NTK

CUTTING TOOLS

SWISS TOOLING 8000

Available on the App Store
App for iOS

ANDROID APP ON Google play
App for ANDROID

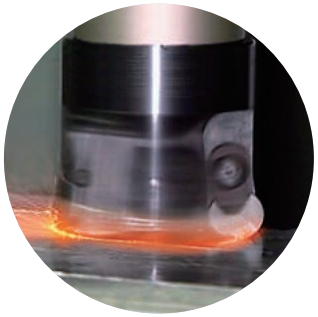
WATCH ON YouTube

NTKCUTTINGTOOLS.com
youtube.com/NTKCUTTINGTOOLS

NTK TECHNOLOGY

- HRSA Materials






- Gray / Ductile Cast Iron




- Hardened Steels




- Mill Rolls



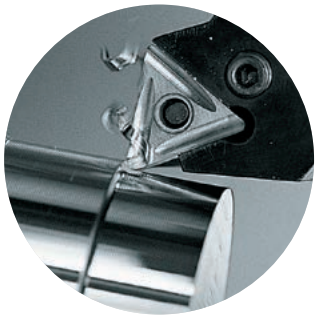

- Grooving




- Tooling For Swiss Type Lathes




- Steel Machining

- High Speed Machining of Aluminum


General Catalog

Advanced Cutting Tools

Swiss Tooling

NTK CUTTING TOOLS

Cutting tools play an integral part in any manufacturing process.

NTK offers a wide range of tooling products and inserts from Ceramics, CBNs, PCDs, Carbides to new materials like BIDEMICS.

Guidelines for Catalog

- This catalog lists products as of September 2018.
- Please note that specifications of the products listed in this catalog may be changed without notice due to continuous research & development and product improvements.
- This catalog contains the major features and relevant information on all of our products. Please contact our sales representatives or dealers if more detailed information is needed.
- Stock Status Symbols

  ● : Standard stock available for Right-Hand, Left-Hand and neutral products
  R : Stock available only in Right-Hand
  L : Stock available only in Left-Hand
  ○ : 1-2 weeks delivery
  Ⓡ : 1-2 weeks delivery only in Right-Hand
  Ⓛ : 1-2 weeks delivery only in Left-Hand
  ■ : While stock lasts
  No symbol : Not stocked

  Non-returnable items

- Please note that this catalog was prepared based on products intended mainly for sale in North and South America.

■ Standard

1) Holder Type	Package quantity	Notes
Turning holder	1 pc/case	
Milling cutter	1 pc/case	
2) Spare parts	**Package quantity**	**Notes**
Screw	10 pcs/case	Clamp screw, Clamp bolt, Double screw, Button screw
Seat	10 pcs/case	Shim seat
Clamp	10 pcs/case	Clamp
Wrench and cutter parts (such as cartridges)	5 pcs/case	Wrench, bit, cutter product
Blade	1 pc/case	
Handle, Hose	1 pc/case	Handle with magnet, handle and bit
3) Insert Type	**Package quantity**	**Notes**
BIDEMICS (Brazed)	1 pc/case	JP2
End mill	1 pc/case	SX9 Ceramic end mill
CBN	1 pc/case	B23, B30, B36, B40, B52, B5K, B6K, B99
PCD, Diamond coating	1 pc/case	PD1, PD2, UC1
CTPW insert for cut-off	5 pcs/case	CTPW series
STICK DUO Solid carbide bar	1 pc/case	SHFS, SHFB, SBFS, SBFB, SBB, SBG, SBT, SSP
All others	10 pcs/case	

＊Packaging may vary depending on the product size.
For more information, please contact your nearest distributor or our sales office.

Contents

NTK New and Unique Swiss Tooling

Keep edge cool, smooth chip evacuation

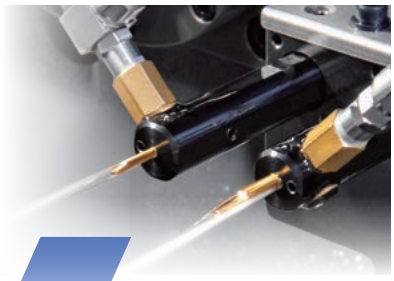
Splash Series

➡04 WATCH ON YouTube

Coolant through Cut-Off for up to 1"

Cut Duo Splash

➡04 WATCH ON YouTube



Coolant through boring sleeves

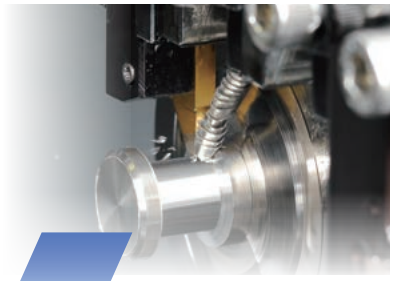
STICK DUO SPLASH

➡05 WATCH ON YouTube

3D chipbreaker is now available with CTP/CTPA series

CTP / CTPA-CX

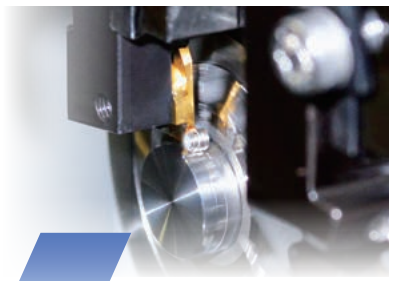
➡027 WATCH ON YouTube



New molded chipbreaker for TBP/TBPA

TBP / TBPA-BM

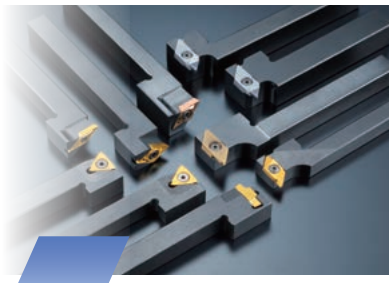
➡028 WATCH ON YouTube



New molded chipbreaker for GTM32 grooving

GTMH-GX

➡029 WATCH ON YouTube



Chip controlled by gravity

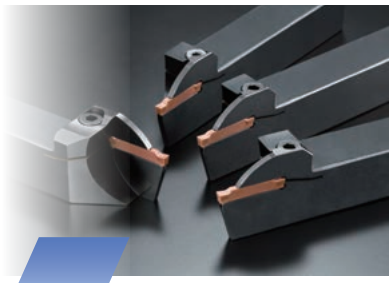
Y-axis Toolholders

➡030 WATCH ON YouTube

Tools for sub-spindle machining

DS-ACH / DS Toolholders / DS Sleeves

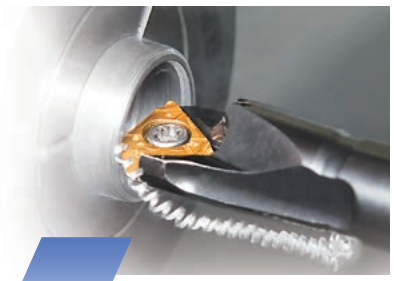
➡038 • 047 WATCH ON YouTube



Cut off tool for up to 1.65" bar stock

CUT MAX

➡037 WATCH ON YouTube



High rigidity boring bars

Mogul Bar

➡055 WATCH ON YouTube

Toolholders for extended guide-bushing

Shifted Toolholders

➡057 WATCH ON YouTube

Multi-lead thread machining capability

Thread Whirling

➡O26 WATCH ON YouTube

■Hexalobular Socket

NEW design

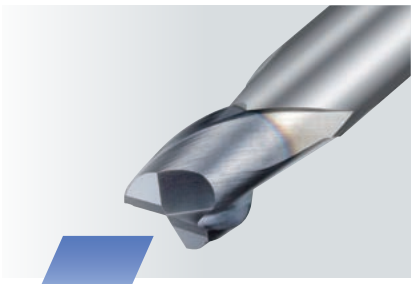
■Hexagon Socket

■Square Socket

For Hexalobular, HEX and Square socket

SHAPER DUO

➡O22 WATCH ON YouTube



Sharp carbide endmill for Swiss machine

S-MILL

➡O19 WATCH ON YouTube NEW

Perfect combination of sharpness and chip control

YL Chipbreaker

➡O48 WATCH ON YouTube

Very sharp edge with good chip control

CL Chipbreaker

➡O48 WATCH ON YouTube

Best grade for 304 SS

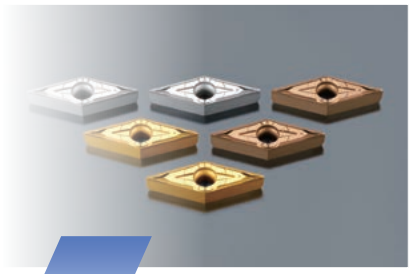
ST4 Coating

➡O48 WATCH ON YouTube NEW

6 corner insert for Swiss machines

UL Chipbreaker

➡O49 WATCH ON YouTube



Developed for Swiss machines

VBGT Tooling

➡O50 WATCH ON YouTube

Front turning for large DOC

TFX Series

➡O21 WATCH ON YouTube NEW

Interchangeable tools

CSV Series

➡O51

Face turning / grooving tools

Saturn DUO

➡O57 WATCH ON YouTube

Wide grooving tool for Swiss machines

Groove Duo

➡O56 WATCH ON YouTube

SPLASH Series Coolant through toolholders

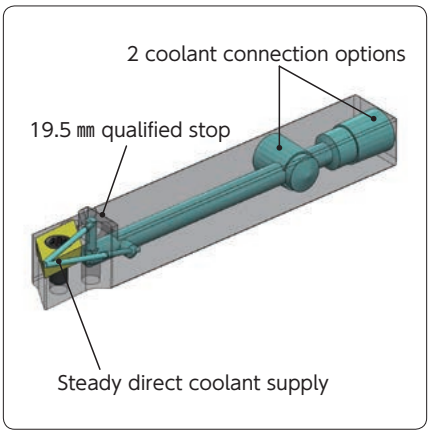
WATCH ON YouTube

Features

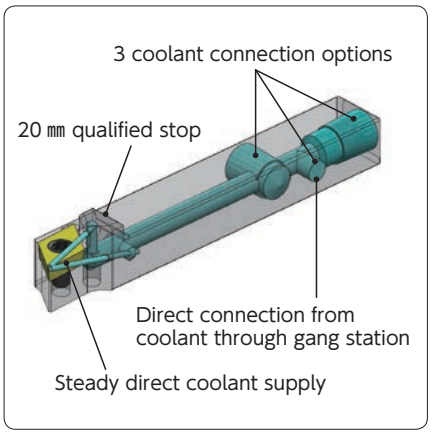
- Evacuates chips away from the cutting edge
- Reduces cutting tool temperature and helps keep the edge sharp
- Y-axis toolholders are available
- Improves part tolerance by steady coolant supply to the edge
- 19.5mm and 20mm qualified stop ensures repeatability

Square Shank Toolholders

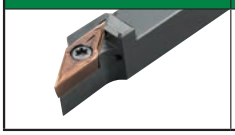
OH Series



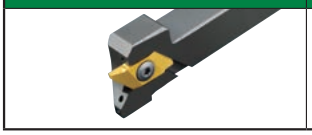
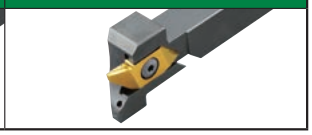
OH2 Series NEW



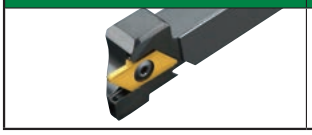
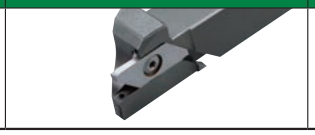
Front Turning

SCLC-OH2 / OH	SDJC-OH2 / OH	Y-SDJC-OH2 / OH	
			
SVJB-OH2 / OH	**SVJC-OH2 / OH**	**Y-SVJC-OH2 / OH**	**TFT-OH2**
			

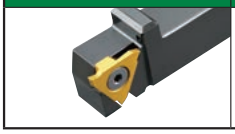
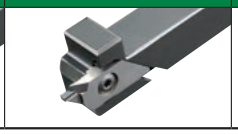
Back Turning

TBP-OH2 / OH	Y-TBP-OH2 / OH	TBPA-OH • CTPA-OH2 / OH
		

Cut Off

CTP-OH2 / OH	CTPA-OH2 / OH	CTDP-OH2 / OH
		

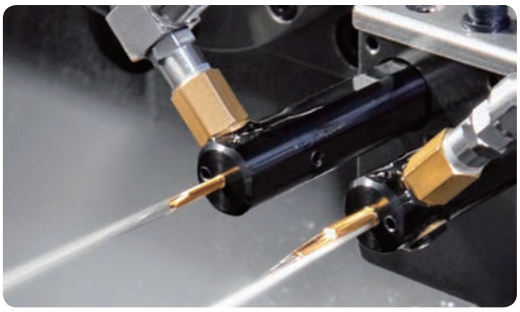
Grooving / Side Turning

GTT-OH2 / OH	Y-GTT-OH2 / OH	GTPA-OH	Y-GTPA-OH
			

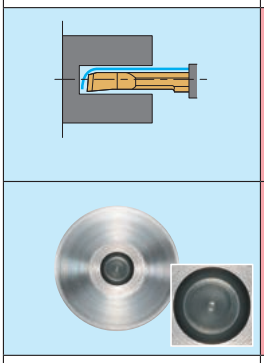
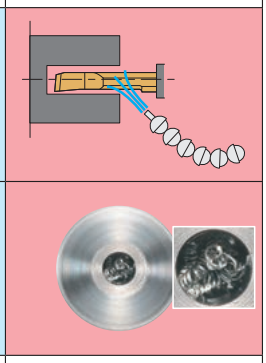
- Coolant through sleeves for ID Boring with Adjustable Overhang Mechanism -

Features

- Good chip control evacuation in ID machining
- Three coolant connection options
- Can choose from 2 coolant directions
- Adjustable overhang length

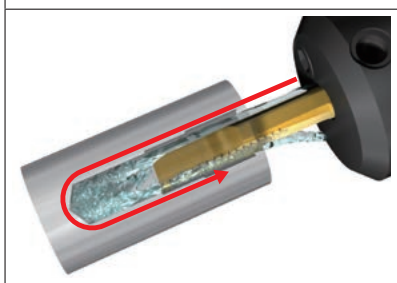
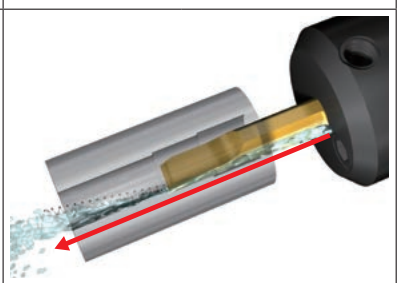
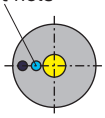
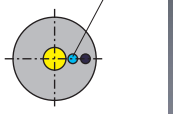
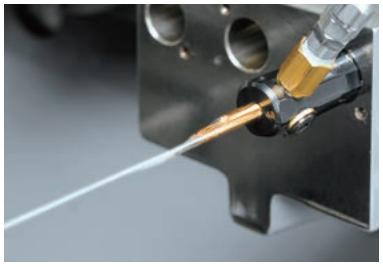


■No chip problems

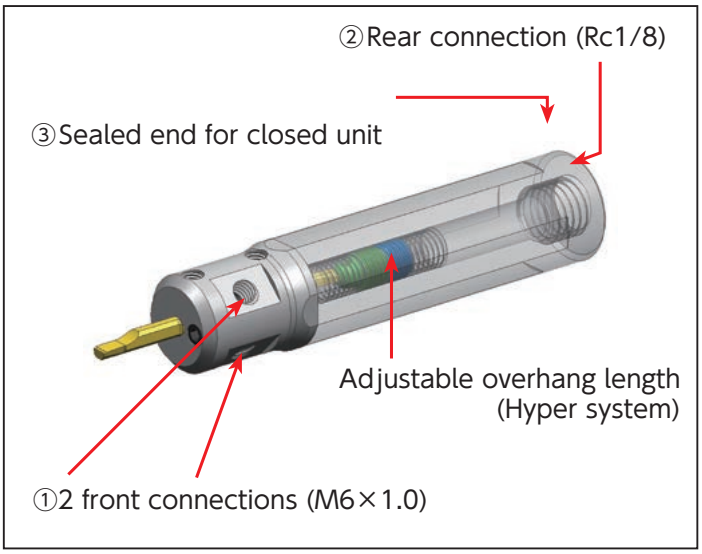
STICK DUO SPLASH	External coolant
	
No chip inside hole	*Chip packed*

Material	: 4140
Insert bar	: SHFS040R005S
Hole depth	: .590"(15㎜)
Pilot hole	: ϕ.201"×1.102"L(ϕ5.1×28.0㎜ L)
Coolant Pressure	: 725psi(5MPa)

■Choose from 2 coolant directions

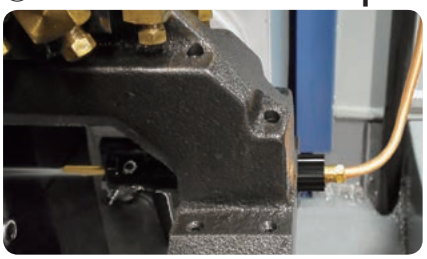
Ⅰ) For Blind hole	Ⅱ) For Through hole
	
 	 
	
Just rotated 180 degrees	

■3 coolant connection options

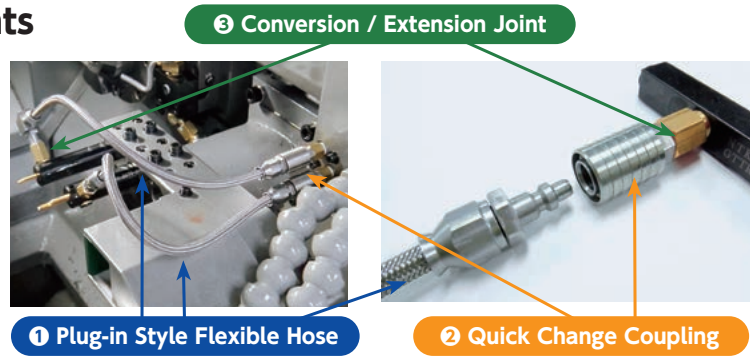


①Front Connection example

②Rear Connection example



Quick-change Coolant Components



- ***Up to 2900psi***
- ***High quality flexible stainless steel braided hose***
- ***Reduce machine downtime***

① Plug-in Style Flexible Hose

QC connector (Straight style)

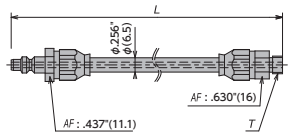


Figure-1

Single-Side (L-style)

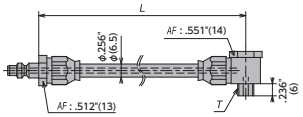


Figure-2

Single-Side 45 degrees

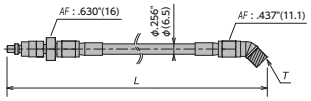


Figure-3

For Turret Machine

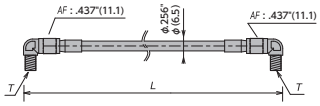
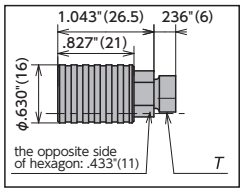


Figure-4

Item Number	Figure	Stock	L (Inch) (mm)	End A	End B (T)	Comes with
HOSE-ST-1/8NPT-6IN	1	●	6.0	Quick change connector	NPT1/8	–
HOSE-ST-1/8NPT-10IN	1	●	10.0	Quick change connector	NPT1/8	–
HOSE-ST-M8*1	1	●	11.8 300	Quick change connector	M8x1	Conversion adapters (M8x1 to M10x1) and b (M8x1 to G1/8)
HOSE-ST-1/8NPT-18IN	1		18.0	Quick change connector	NPT1/8	–
HOSE-AN-M8*1	2	●	11.9 302	Quick change connector	M8x1	Conversion adapter a(M8x1 to M10x1) and b(M8x1 to G1/8)
HOSE-45DEG-1/8NPT-7IN	3	●	7.0	Quick change connector	45 Deg x NPT1/8	–
HOSE-DA-1/8NPT2-6IN	4	●	6.0	NPT1/8	NPT1/8	–
HOSE-DA-1/8NPT2-8IN	4	●	8.0	NPT1/8	NPT1/8	–
HOSE-DA-1/8NPT2-10IN	4	●	10.0	NPT1/8	NPT1/8	–

② Quick Change Coupling



Item Number	Stock	End (T)	Comes with
COUP-M10*1	●	M10 × 1	Seal Plug
COUP-NPT1/8	●	NPT 1/8	Seal Plug

③ Conversion / Extension Joint

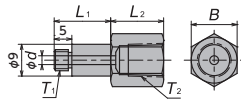
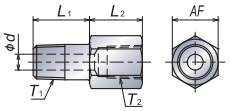
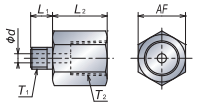


Figure-5



For square shank holders

Figure-6



For sleeves

Figure-7

Item Number	Figure	Stock	T_1 (mm)	T_2 (mm)	L_1 (mm)	L_2 (mm)	AF (mm)	d (mm)
SCJ-M6-RC1/8-L	5	○	M6 × 1	Rc1/8 (PT1/8)	16	15	13	2.5
SCJ-NPT1/8-M10-L	6	●	NPT1/8	M10 × 1	16	12	13	4.5
SCJ-R1/8-M10-L	6	○	R1/8 (PT1/8)	M10 × 1	16	12	13	4.5
SCJ-R1/8-RC1/8-L	6	○	R1/8 (PT1/8)	Rc1/8 (PT1/8)	16	15	13	4.5
SCJ-R1/8-NPT1/8-L	6	●	R1/8 (PT1/8)	NPT1/8	16	15	13	4.5
SCJ-M6-M10	7	○	M6 × 1	M10 × 1	6	15	12	2.5
SCJ-M6-RC1/8	7	○	M6 × 1	Rc1/8 (PT1/8)	6	15	13	2.5
SCJ-M6-NPT1/8	7	●	M6 × 1	NPT1/8	6	15	13	2.5
SCJ-M8-RC1/8	7	○	M8 × 1	Rc1/8 (PT1/8)	6	15	13	3.5
SCJ-R1/8-M10	7	○	R1/8 (PT1/8)	M10 × 1	10	15	12	4.5
SCJ-R1/8-NPT1/8	7	●	R1/8 (PT1/8)	NPT1/8	10	15	13	4.5

Front Turning Toolholders I

SCLC-N-OH2 (Coolant through)

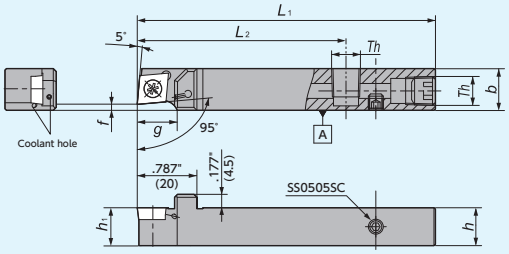
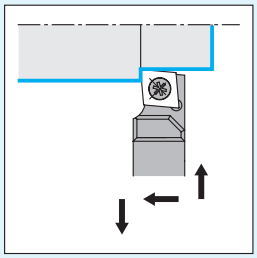


Figure-1

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)



Right-Hand style shown

SCLC-N-OH (Coolant through)

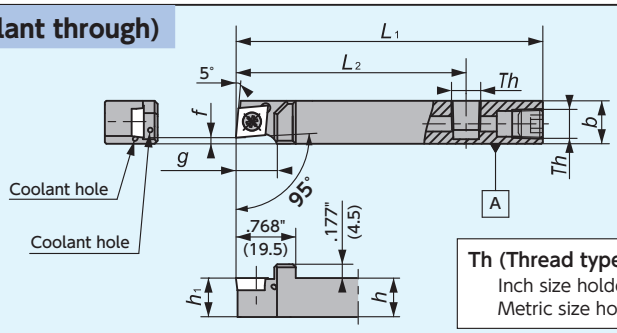
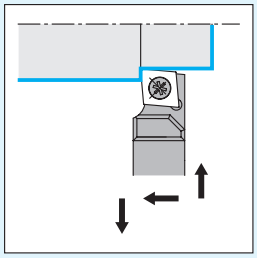


Figure-2

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)



Right-Hand style shown

SCLC

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	g (Inch)	g (mm)	Th	Clamp Screw	Wrench
CC..21.5..	SCLCR/L082H-F079-OH	2	●		1/2		.551	14	1/2		3.937	100	.079	2	2.953	75	.472	12	NPT1/8	LRIS-2.5×7	CLR-15S
CC..32.5..	SCLCR/L083H-F079-OH	2	■		1/2		.551	14	1/2		3.937	100	.079	2	2.953	75	.472	12	NPT1/8	LRIS-4 × 10	LLR-25S
	SCLCR/L083H-F079-OH2	1	●		1/2		.551	14	1/2		3.937	100	.079	2	2.756	70	.472	12	NPT1/8	LRIS-4 × 10	LLR-25S
	SCLCR/L103HL-F079-OH	2	●		5/8		5/8	14	5/8		3.937	100	.079	2	2.953	75	.697	17.7	NPT1/8	LRIS-4 × 10	LLR-25S
	SCLCR/L103XL-F079-OH2	1	●		5/8		5/8	14	5/8		4.724	120	.079	2	2.953	75	.697	17.7	NPT1/8	LRIS-4 × 10	LLR-25S
	SCLCR/L1014F09N-F02OH	2	○		.394	10	.551	14	.394	10	3.150	80	.079	2.0	2.165	55	.472	12	M6 × 1	LRIS-4 × 10	LLR-25S
	SCLCR/L1214H09N-F02OH	2	□		.472	12	.551	14	.472	12	3.937	100	.079	2.0	2.953	75	.472	12	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SCLCR/L1214H09N-F02OH2	1	●		.472	12	.551	14	.472	12	3.937	100	.079	2.0	2.756	70	.472	12	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SCLCR/L1616H09N-F02OH	2	○		.630	16	.630	16	.630	16	3.937	100	.079	2.0	2.953	75	.697	17.7	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SCLCR/L1616X09N-F02OH2	1	●		.630	16	.630	16	.630	16	4.724	120	.079	2.0	2.953	75	.697	17.7	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S

DS-SCL (Coolant through)

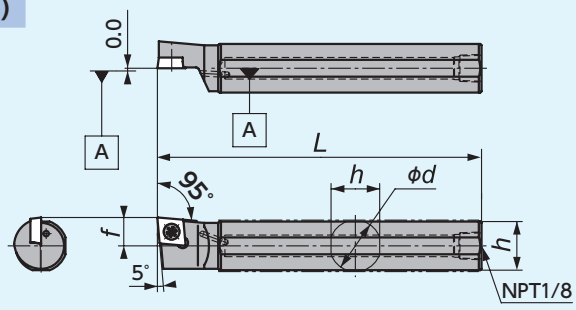
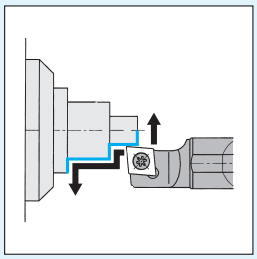


Figure-3



Left-Hand style shown
Takes Right-hand or Neutral insert

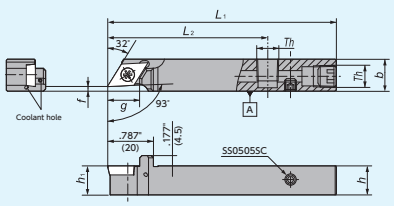
DS-SCL (Takes right-hand or neutral insert)

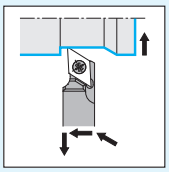
Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
CC..32.5..	DS-SCLL19-09-004	3		●	3/4	19.050	.709	18	.709	18	4.724	120	.413	10.5	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR/L22-09-005	3		●	.866	22.000	.827	21	.827	21	4.724	120	.472	12.0	LRIS-4 × 8	LLR-25S-20 × 65

Inserts ➡Q13

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
RⓁ : 1-2 week delivery (Right / Left-hand only)
RⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

SDJC-N-OH2 (Coolant through)



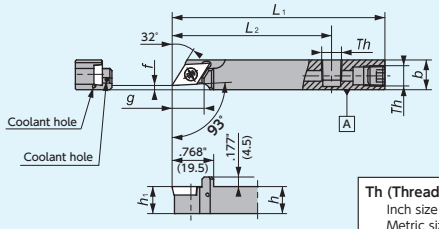


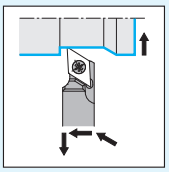
Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

Figure-1

Right-Hand style shown

SDJC-N-OH (Coolant through)





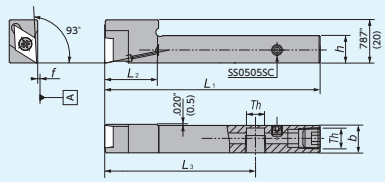
Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

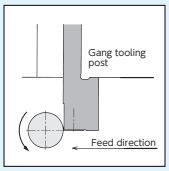
Figure-2

Right-Hand style shown

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	g (Inch)	g (mm)	Th	Clamp Screw	Wrench
DC..21.5../DC..21.5..WP	SDJC R/L082H-F079-OH	2	●		1/2		.551	14	1/2		3.937	100	.079	2	2.953	75	.630	16	NPT1/8	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	SDJC R/L083H-F079-OH	2	■		1/2		.551	14	1/2		3.937	100	.079	2	2.953	75	.630	16	NPT1/8	LRIS-4 × 10	LLR-25S
	SDJC R/L083H-F079-OH2	1	●		1/2		.551	14	1/2		3.937	100	.079	2	2.756	70	.630	16	NPT1/8	LRIS-4 × 10	LLR-25S
	SDJC R/L103HL-F079-OH	2	●		5/8		5/8		5/8		3.937	100	.079	2	2.953	75	.724	18.4	NPT1/8	LRIS-4 × 10	LLR-25S
	SDJC R/L103XL-F079-OH2	1	●		5/8		5/8		5/8		4.724	120	.079	2	2.953	75	.724	18.4	NPT1/8	LRIS-4 × 10	LLR-25S
	SDJC R/L1014F11N-F02OH	2	○		.392	10	.551	14	.394	10	3.150	80	.079	2	2.165	55	.630	16	M6 × 1	LRIS-4 × 10	LLR-25S
	SDJC R/L1214H11N-F02OH	2	■		.472	12	.551	14	.472	12	3.937	100	.079	2	2.953	75	.630	16	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SDJC R/L1214H11N-F02OH2	1	●		.472	12	.551	14	.472	12	3.937	100	.079	2	2.756	70	.630	16	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SDJC R/L1616H11N-F02OH	2	○		.630	16	.630	16	.630	16	3.937	100	.079	2	2.953	75	.724	18.4	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SDJC R/L1616X11N-F02OH2	1	●		.630	16	.630	16	.630	16	4.724	120	.079	2	2.953	75	.724	18.4	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S

Y-SDJC-OH2 (Coolant through)



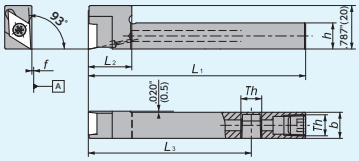


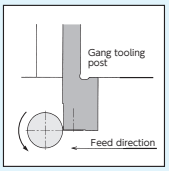
Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Figure-3

Right-Hand style shown
Takes Right-hand or Neutral insert

Y-SDJC-OH (Coolant through)





Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

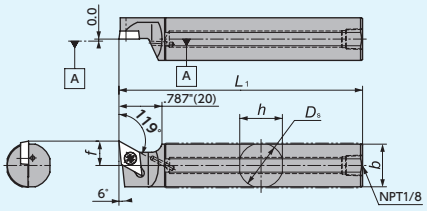
Figure-4

Right-Hand style shown
Takes Right-hand or Neutral insert

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
DC..21.5.. DC..21.5..WP	Y-SDJCR062H-IN-OH	4	●		3/8		3/8		3.937	100	0	0	.984	25	2.953	75	M6 × 1	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR082H-IN-OH	4	●		1/2		1/2		3.937	100	0	0	.984	25	2.953	75	NPT1/8	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	Y-SDJCR083H-IN-OH	4	■		1/2		1/2		3.937	100	0	0	.984	25	2.953	75	NPT1/8	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR083H-IN-OH2	3	●		1/2		1/2		3.937	100	0	0	.984	25	2.756	70	NPT1/8	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR103H-IN-OH	4	●		5/8		5/8		3.937	100	0	0	.984	25	2.953	75	NPT1/8	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR1212H11S-OH	4	■		.472	12.0	.472	12.0	3.937	100	0	0	.787	20	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR1212H11S-OH2	3	●		.472	12.0	.472	12.0	3.937	100	0	0	.787	20	2.756	70	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR1616H11-OH	4	○		.630	16.0	.630	16.0	3.937	100	0	0	.984	25	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S-20 × 65

DS-SDX (Coolant through)

DS-SDXL22-11-006 (Coolant through)



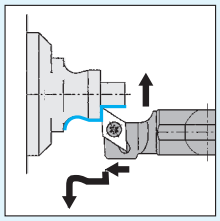


Figure-5

Left-Hand style shown
Takes Right-hand or Neutral insert

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
DC..32.5.. DC..32.5..WP	DS-SDX R/L22-11-006	5		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.472	12.0	LRIS-4 × 10	LLR-25S-20 × 65

Inserts ➡Q20

Front Turning Toolholders Ⅱ

SVJB-OH2 (Coolant through)

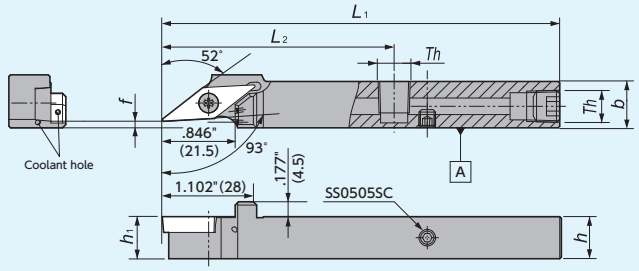


Figure-1

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown

●Left-Hand coolant through holders are designed for Right-Hand machines

SVJB-OH (Coolant through)

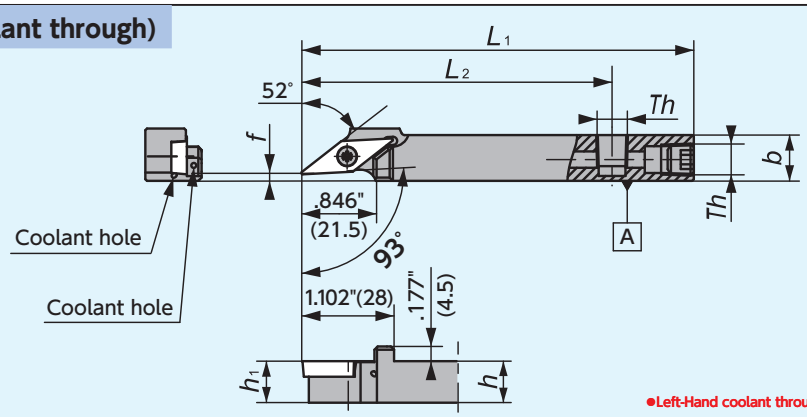


Figure-2

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown

●Left-Hand coolant through holders are designed for Right-Hand machines

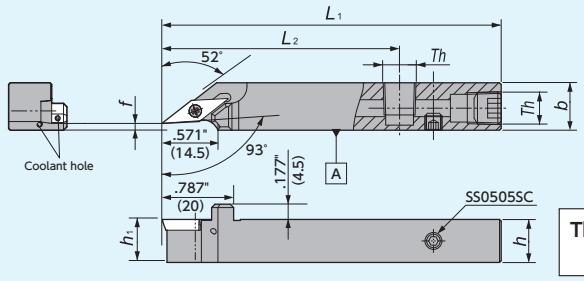
■VBGT33

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	g (Inch)	g (mm)	Th	Clamp Screw	Wrench
 VBGT33..	SVJB R/L083C-F079-OH 💧	2	■	●	1/2		.551	14	1/2		4.724	120	.079	2	3.740	95	.079	2	NPT1/8	LRIS-4 × 10	LLR-25S
	SVJB R/L083C-F079-OH2 💧	1	●		1/2		.551	14	1/2		4.724	120	.079	2	2.756	70	.079	2	NPT1/8	LRIS-4 × 10	LLR-25S
	SVJB R/L103C-F079-OH 💧	2	●	●	5/8		5/8		5/8		4.724	120	.079	2	3.740	95	0	0	NPT1/8	LRIS-4 × 10	LLR-25S
	SVJB R/L103C-F079-OH2 💧	1	●		5/8		5/8		5/8		4.724	120	.079	2	2.953	75	0	0	NPT1/8	LRIS-4 × 10	LLR-25S
	SVJB R/L1214-X16N-F02OH 💧	2	●	●	.472	12	.551	14	.472	12	4.724	120	.079	2	3.740	95	.079	2	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SVJB R/L1616-X16N-F02OH 💧	2	●	●	.630	16	.630	16	.630	16	4.724	120	.079	2	3.740	95	0	0	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S

●Left-Hand coolant through holders are designed for Right-Hand machines

Inserts ➡Q23

SVJC-OH2 (Coolant through)



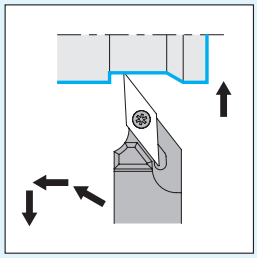
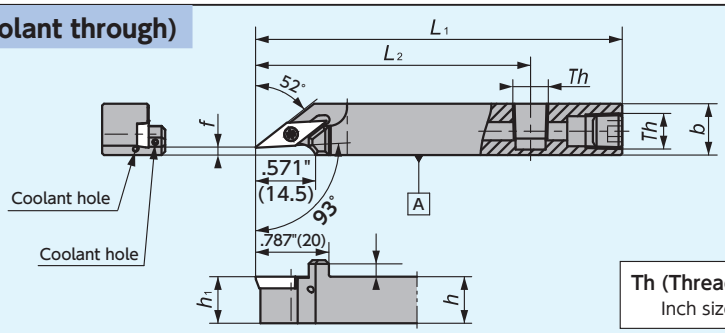


Figure-1

Th (Thread type)
Inch size holder: NPT1/8

Right-Hand style shown

SVJC-OH (Coolant through)



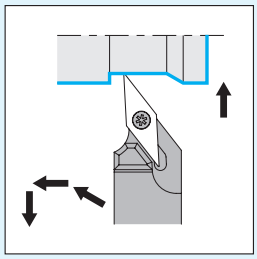


Figure-2

Th (Thread type)
Inch size holder: NPT1/8

Right-Hand style shown

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	L_2 (Inch)	L_2 (mm)	f (Inch)	f (mm)	Th	Clamp Screw	Wrench
			N																
VC..22	SVJCR¾-082H-F079-OH	2	■		1/2		.551	14	1/2		3.937	100	2.953	75	.079	2.0	NPT1/8	LRIS-2.5 × 7	CLR-15S
	SVJCR¾-082H-F079-OH2	1	●		1/2		.551	14	1/2		3.937	100	2.756	70	.079	2.0	NPT1/8	LRIS-2.5 × 7	CLR-15S
	SVJCR¾-102H-F079-OH	2	●		5/8		5/8		5/8		3.937	100	2.953	75	.079	2.0	NPT1/8	LRIS-2.5 × 7	CLR-15S
	SVJCR¾-102X-F079-OH2	1	●		5/8		5/8		5/8		4.724	120	2.953	75	.079	2.0	NPT1/8	LRIS-2.5 × 7	CLR-15S
VC..22	SVJCR1014F11N-F02OH	2	○		.394	10	.551	14	.394	10	3.150	80	2.953	75	.079	2.0	M6 × 1	LRIS-2.5 × 7	CLR-15S
	SVJCR1214H11N-F02OH	2	○		.472	12	.551	14	.472	12	3.937	100	2.953	75	.079	2.0	Rc1/8 (PT1/8)	LRIS-2.5 × 7	CLR-15S
	SVJCR1616H11N-F02OH	2	○		.630	16	.630	16	.630	16	3.937	100	2.953	75	.079	2.0	Rc1/8 (PT1/8)	LRIS-2.5 × 7	CLR-15S

Y-SVJCR-OH2 (Coolant through)

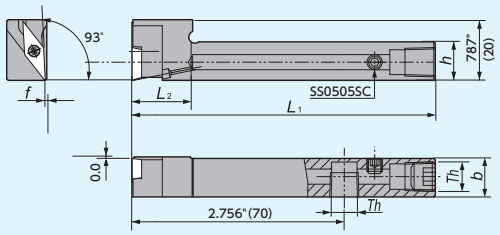


Figure-3

Th (Thread type)
Inch size holder: NPT1/8

Right-Hand style shown
Takes Right-hand or Neutral insert

Y-SVJCR-OH (Coolant through)

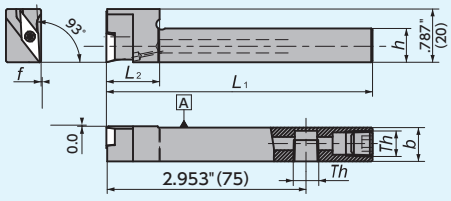


Figure-4

Th (Thread type)
Inch size holder: NPT1/8

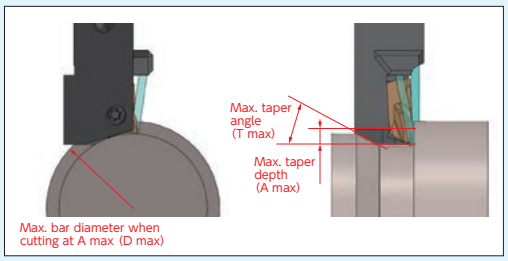
Right-Hand style shown
Takes Right-hand or Neutral insert

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Th	Clamp Screw	Wrench
VC..22..	Y-SVJCR082HS-IN-OH	4	■		1/2		1/2		3.937	100	0.0	0.0	.787	20	NPT1/8	LRIS-2.5 × 7	CLR-15S
	Y-SVJCR082HS-IN-OH2	3	●		1/2		1/2		3.937	100	0.0	0.0	.787	20	NPT1/8	LRIS-2.5 × 7	CLR-15S
	Y-SVJCR102H-IN-OH	4	●		5/8		5/8		3.937	100	0.0	0.0	.984	25	NPT1/8	LRIS-2.5 × 7	CLR-15S
VC..22..	Y-SVJCR1212H11S-OH	4	□		.472	12	.472	12	3.937	100	0.0	0.0	.787	20	RC1/8 (PT1/8)	LRIS-2.5 × 7	CLR-15S
	Y-SVJCR1212H11S-OH2	3	●		.472	12	.472	12	3.937	100	0.0	0.0	.787	20	RC1/8 (PT1/8)	LRIS-2.5 × 7	CLR-15S
	Y-SVJCR1616H11S-OH	4	○		.630	16	.630	16	3.937	100	0.0	0.0	.787	20	RC1/8 (PT1/8)	LRIS-2.5 × 7	CLR-15S

Inserts ➡Q27

TFT-OH2 (Coolant through)

Screw accessible from both sides



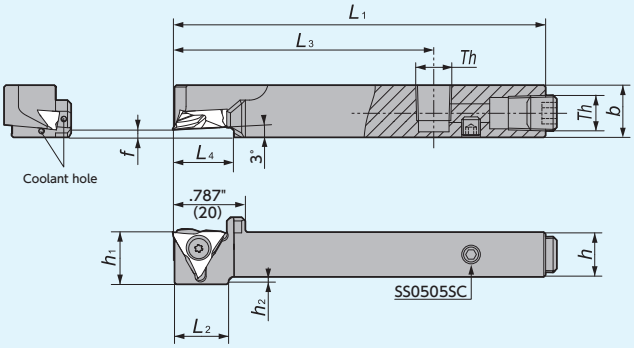


Figure-1

Right-Hand style shown

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h1 (Inch)	h1 (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	L2 (Inch)	L2 (mm)	h2 (Inch)	h2 (mm)	L3 (Inch)	L3 (mm)	L4 (Inch)	L4 (mm)	Th	Max. DOC inch/side	Taper cut capability D max	Taper cut capability A max	Taper cut capability T max
 TFX33	TFTR/L06H-IN-OH2	1	●			3/8	.551	14		3/8	3.937	100	.079	2.0	.591	15	.157	4	2.756	70	.591	15	M6 × 1.0	.197	.787	.098	30°
	TFTR/L08H-IN-OH2	1	●			1/2	.551	14		1/2	3.937	100	.079	2.0	.591	15	.079	2	2.756	70	.591	15	NPT1/8		1.181		
	TFTR/L10X-IN-OH2	1	●			5/8		5/8		5/8	4.724	120	.079	2.0	0	0	0	0	2.756	70	.689	17.5	NPT1/8		1.574		
	TFTR/L1014H-OH2	1	○		.394	10	.551	14	.394	10	3.937	100	.079	2.0	.591	15	.157	4	2.756	70	.591	15	M6 × 1.0		.787		
	TFTR/L1214H-OH2	1	●		.472	12	.551	14	.472	12	3.937	100	.079	2.0	.591	15	.079	2	2.756	70	.591	15	Rc1/8(PT1/8)		1.181		
	TFTR/L1616X-OH2	1	○		.630	16	.630	16	.630	16	4.724	120	.079	2.0	0	0	0	0	2.756	70	.689	17.5	Rc1/8(PT1/8)		1.574		

Inserts ➡Q33

● : Stock
● : Stock (Newly added)
■ □R□L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Back Turning Toolholders

TBP-OH2 (Coolant through)

Screw accessible from both sides

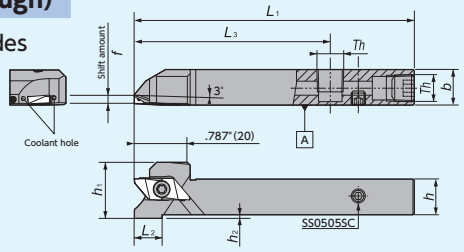
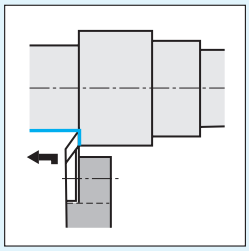


Figure-1

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder : Rc1/8 (PT1/8)



Right-Hand style shown

TBP-OH (Coolant through)

Screw accessible from both sides

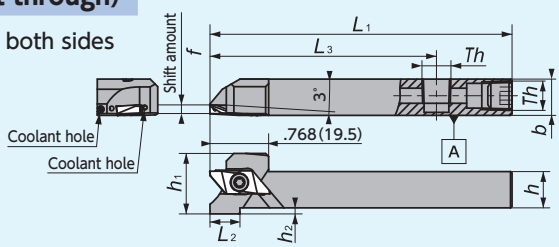
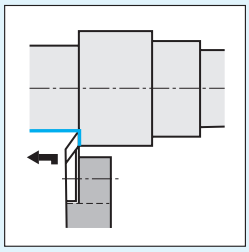


Figure-2

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder : Rc1/8 (PT1/8)



Right-Hand style shown

Y-TBP-OH2 (Coolant through)

Screw accessible from both sides

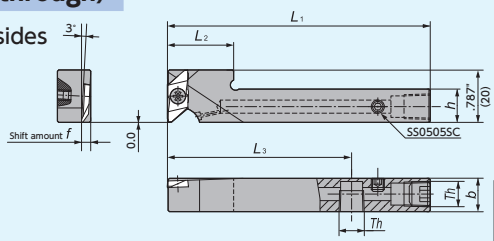
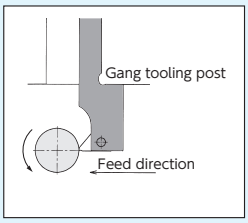


Figure-3

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)



Right-Hand style shown
Takes Right-hand Insert

Y-TBP-OH (Coolant through)

Screw accessible from both sides

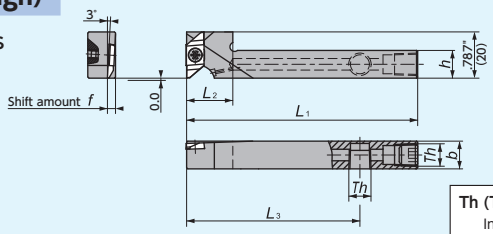
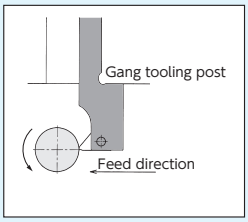


Figure-4

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)



Right-Hand style shown
Takes Right-hand Insert

TBP

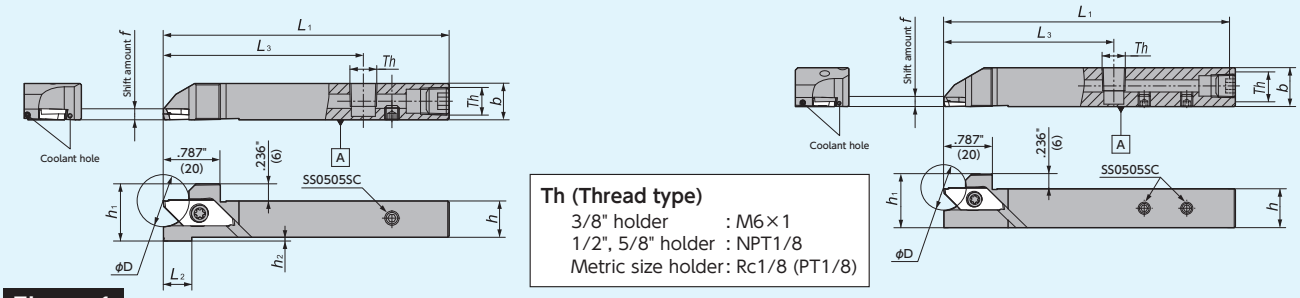
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	h_2 (Inch)	h_2 (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
 TBP..	TBP3/4 06H-IN-OH	2	●		3/8		.472	12	3/8		3.937	100	.138	3.5	.748	19	.176	4.475	2.953	75	M6 × 1	LRIS-4 × 10PW	CLR-15S
	TBP3/4 08H-IN-OH	2	■		1/2		1/2		1/2		3.937	100	.138	3.5	.394	10	.051	1.3	2.953	75	NPT1/8	LRIS-4 × 12PW	CLR-15S
	TBP3/4 08H-IN-OH2	1	●		1/2		1/2		1/2		3.937	100	.138	3.5	.394	10	.051	1.3	2.756	70	NPT1/8	LRIS-4 × 12PW	CLR-15S
	TBP3/4 10H-IN-OH	2	●		5/8		5/8		5/8		3.937	100	.138	3.5	0	0	0	0	2.953	75	NPT1/8	LRIS-4 × 12PW	CLR-15S
	TBP3/4 10X-IN-OH2	1	●		5/8		5/8		5/8		4.724	120	.138	3.5	0	0	0	0	2.953	75	NPT1/8	LRIS-4 × 12PW	CLR-15S
	TBP3/4 1012H-OH	1	○		.394	10	.472	12	.394	10	3.937	100	.138	3.5	.748	19	.176	4.475	2.953	75	M6 × 1	LRIS-4 × 10PW	CLR-15S
	TBP3/4 12H-OH	2	■		.472	12	.472	12	.472	12	3.937	100	.138	3.5	.394	10	.051	1.3	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	TBP3/4 12H-OH2	1	●		.472	12	.472	12	.472	12	3.937	100	.138	3.5	.394	10	.051	1.3	2.756	70	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	TBP3/4 16H-OH	2	○		.630	16	.630	16	.630	16	3.937	100	.138	3.5	0	0	0	0	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	TBP3/4 16X-OH2	1	●		.630	16	.630	16	.630	16	4.724	120	.138	3.5	0	0	0	0	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	Y-TBP3/4 08H-IN-OH	4	■		1/2		1/2		—	—	3.937	100	.138	3.5	.984	25	—	—	2.953	75	NPT1/8	LRIS-4 × 12PW	CLR-15S
	Y-TBP3/4 08H-IN-OH2	3	●		1/2		1/2		—	—	3.937	100	.138	3.5	.984	25	—	—	2.756	70	NPT1/8	LRIS-4 × 12PW	CLR-15S
	Y-TBP3/4 12HS-OH	4	■		.472	12	.472	12	—	—	3.937	100	.138	3.5	.787	20	—	—	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	Y-TBP3/4 12HS-OH2	3	●		.472	12	.472	12	—	—	3.937	100	.138	3.5	.787	20	—	—	2.756	70	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	Y-TBP3/4 16H-OH	4	○		.630	16	.630	16	—	—	3.937	100	.138	3.5	.984	25	—	—	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S

Inserts ➡R9

CTPA-OH2 (Coolant through)

Screw accessible from both sides

CTPA R/L 10X, CTPA R/L 16X



Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

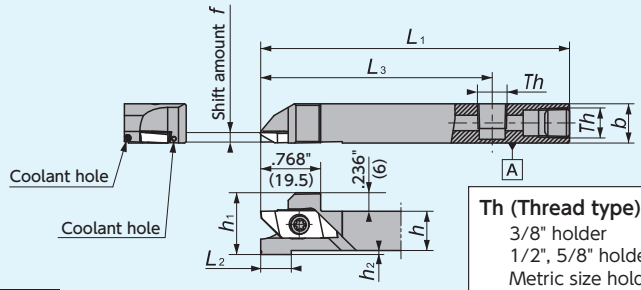
Figure-1

● Left-Hand coolant through holders are designed for Right-Hand machines.

Right-Hand style shown

CTPA-OH / TBPA-OH (Coolant through)

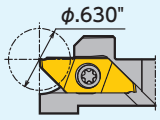
Screw accessible from both sides



Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Max Bar Dia at Max DOC

CTPA-OH



TBPA-OH

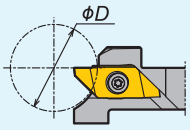


Figure-2

● Left-Hand coolant through holders are designed for Right-Hand machines.

Right-Hand style shown

■CTPA (Compatible with TBPA & CTPA Inserts)

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Bar Dia. φD (Inch)	Max. Bar Dia. φD (mm)	h (Inch)	h (mm)	h1 (Inch)	h1 (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	h2 (Inch)	h2 (mm)	L2 (Inch)	L2 (mm)	L3 (Inch)	L3 (mm)	Th	f (Inch)	f (mm)	Clamp Screw	Wrench
 TBPA..	CTPA R/L 06H-IN-OH 💧	2	●	●	.630	16	3/8		3/8		3/8		3.937	100	.176	4.475	.787	20	2.165	55	M6×1	.134	3.4	LRIS-4×10PW	CLR-15S
	CTPA R/L 08H-IN-OH 💧	2	■	■	.630	16	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.953	75	NPT1/8	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA R/L 08H-IN-OH2 💧	1	●	●	.630	16	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.756	70	NPT1/8	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA R/L 10H-IN-OH 💧	2	●	●	.630	16	5/8		5/8		5/8		3.937	100	0	0	0	0	2.953	75	NPT1/8	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA R/L 10X-IN-OH2 💧	1	●	●	.630	16	5/8		5/8		5/8		4.724	120	0	0	0	0	2.953	75	NPT1/8	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA R/L 12H-OH 💧	2	■	■	.630	16	.472	12	.472	12	.472	12	3.937	100	.079	2	.394	10	2.953	75	Rc1/8(PT1/8)	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA R/L 12H-OH2 💧	1	●	●	.630	16	.472	12	.472	12	.472	12	3.937	100	.079	2	.394	10	2.756	70	Rc1/8(PT1/8)	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA R/L 16H-OH 💧	2	○	○	.630	16	.630	16	.630	16	.630	16	3.937	100	0	0	—	0	2.953	75	Rc1/8(PT1/8)	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA R/L 16X-OH2 💧	1	●	●	.630	16	.630	16	.630	16	.630	16	4.724	120	0	0	—	0	2.756	70	Rc1/8(PT1/8)	.134	3.4	LRIS-4×12PW	CLR-15S

■TBPA (Optimized for TBPA Inserts)

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Bar Dia. φD (Inch)	Max. Bar Dia. φD (mm)	h (Inch)	h (mm)	h1 (Inch)	h1 (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	h2 (Inch)	h2 (mm)	L2 (Inch)	L2 (mm)	L3 (Inch)	L3 (mm)	Th	f (Inch)	f (mm)	Clamp Screw	Wrench
 TBPA..	TBPA R/L 12H-OH 💧	2	○		.984	25	.472	12	.472	12	.472	12	3.937	100	.157	4	.394	10	2.513	75	Rc1/8(PT1/8)	.134	3.4	LRIS-4X12PW	CLR-15S
	TBPA R/L 16H-OH 💧	2	○		1.378	35	.630	16	.630	16	.630	16	3.937	100	.079	2	1	10	2.513	75	Rc1/8(PT1/8)	.134	3.4	LRIS-4X12PW	CLR-15S
	TBPA R/L 20H-OH 💧	2	○		1.969	50	.787	20	.787	20	.787	20	3.937	100	0	0	0	0	2.513	75	Rc1/8(PT1/8)	.134	3.4	LRIS-4X12PW	CLR-15S

Inserts ➡R11

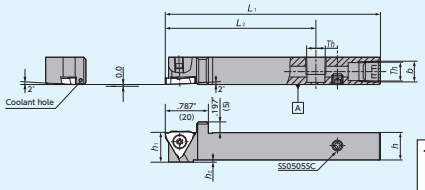
● : Stock
● : Stock (Newly added)
■ □R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
RⓁ : 1-2 week delivery (Right / Left-hand only)
RⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

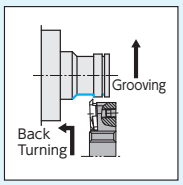
NTK New and Unique Swiss Tooling

Back Turning / Grooving / Side Turning Toolholders

GTT-OH2 (Coolant through)

Screw accessible from both sides





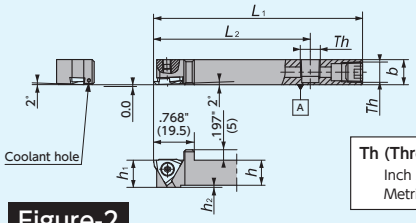
Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

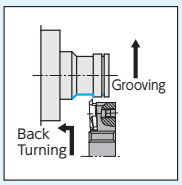
Figure-1

Right-Hand style shown

GTT-OH (Coolant through)

Screw accessible from both sides





Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

Figure-2

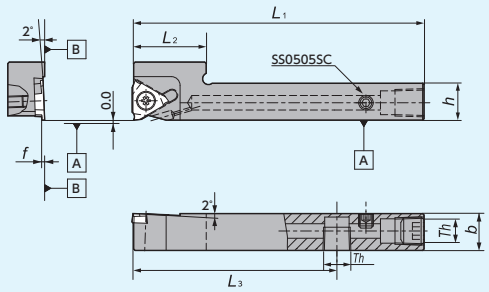
Right-Hand style shown

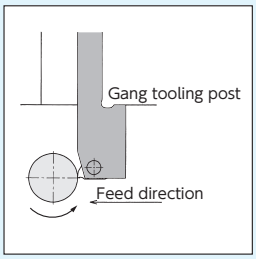
GTT

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	a_r (Inch)	a_r (mm)	h_2 (Inch)	h_2 (mm)	Th	Clamp Screw	Wrench
 TBMH32..	GTT R/L 08HA-IN-OH	2	■		1/2		1/2		1/2		3.937	100	.000	0	2.953	75	.071	1.8	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTT R/L 08HA-IN-OH2	1	●		1/2		1/2		1/2		3.937	100	.000	0	2.756	70	.071	1.8	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTT R/L 08HB-IN-OH	2	■		1/2		1/2		1/2		3.937	100	.000	0	2.953	75	.106	2.7	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTT R/L 08HB-IN-OH2	1	●		1/2		1/2		1/2		3.937	100	.000	0	2.756	70	.106	2.7	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTT R/L 10HA-IN-OH	2	●		5/8		5/8		5/8		3.937	100	.000	0	.768	19.5	.071	1.8	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTT R/L 10XA-IN-OH2	1	●		5/8		5/8		5/8		4.724	120	.000	0	.768	19.5	.071	1.8	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTT R/L 10HB-IN-OH	2	●		5/8		5/8		5/8		3.937	100	.000	0	.768	19.5	.106	2.7	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTT R/L 10XB-IN-OH2	1	●		5/8		5/8		5/8		4.724	120	.000	0	.768	19.5	.106	2.7	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTT R/L 1012H00-OH	2	○		.394	10	.472	12	.394	10	3.937	100	.000	0	.768	19.5	.071	1.8	.039	1	M6×1	LR-S-4×10PW	CLR-15S
	GTT R/L 12H00-OH	2	■		.472	12	.472	12	.472	12	3.937	100	.000	0	.768	19.5	.071	1.8	.039	1	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	GTT R/L 12H00-OH2	1	●		.472	12	.472	12	.472	12	3.937	100	.000	0	2.756	70	.071	1.8	.039	1	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	GTT R/L 16H00-OH	2	○		.630	16	.630	16	.630	16	3.937	100	.000	0	.768	19.5	.071	1.8	0	0	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	GTT R/L 16X00-OH2	1	●		.630	16	.630	16	.630	16	4.724	120	.000	0	.768	19.5	.071	1.8	0	0	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S

Y-GTT-OH2 (Coolant through)

Screw accessible from both sides





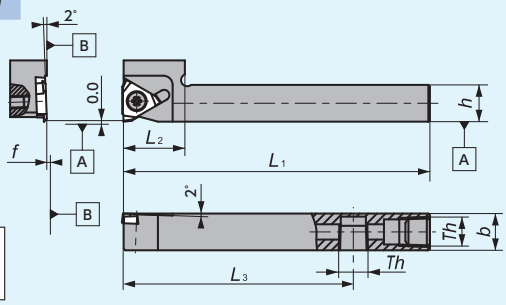
Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

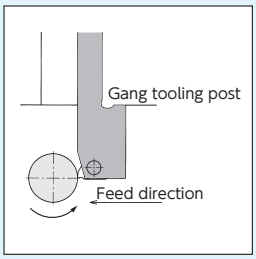
Figure-3

Right-Hand style shown
Takes Right-hand Insert

Y-GTT-OH (Coolant through)

Screw accessible from both sides





Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Figure-4

Right-Hand style shown
Takes Right-hand Insert

GTT

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	a_r (Inch)	a_r (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
 TBMH32..	Y-GTT R/L 08H-IN-OH	4	■		1/2		1/2		–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.756	70	NPT1/8	LR-S-4×10PW	CLR-15S
	Y-GTT R/L 08H-IN-OH2	3	●		1/2		1/2		–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.953	75	NPT1/8	LR-S-4×10PW	CLR-15S
	Y-GTT R/L 12H00S-OH	4	■		.472	12	.472	12	–	–	3.937	100	.000	0	.787	20.0	.063	1.6	2.756	70	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	Y-GTT R/L 12H00S-OH2	3	●		.472	12	.472	12	–	–	3.937	100	.000	0	.787	20.0	.063	1.6	2.953	75	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	Y-GTT R/L 16H00-OH	4	○		.630	16	.472	16	–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.953	75	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S

Inserts ➡R20・T12

GTPA-OH (Coolant through)

Screw Accessible from both sides

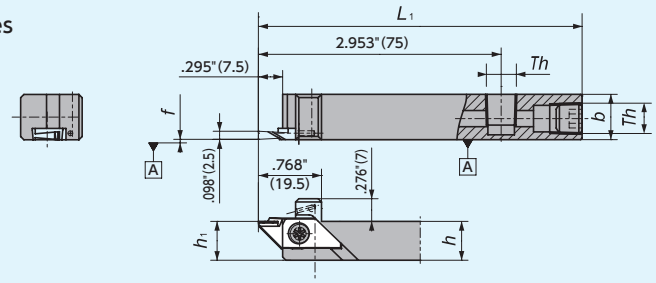


Figure-1

Th (Thread type)
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown

Y-GTPA-OH (Coolant through)

Screw Accessible from both sides

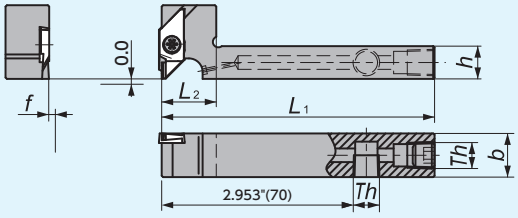


Figure-2

Th (Thread type)
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown

GTPA

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Th	Clamp Screw	Wrench
 GTPA	**GTPA®1214H-OH** 💧	1	○		.472	12	.551	14	.472	12	3.937	100	.004	0.1	–	–	Rc1/8(PT1/8)	LR1S-4 × 12PW	CLR-15S
	Y-GTPA®1014FSS-OH 💧	2	○		.394	10	.551	14	–	–	3.150	80	.004	0.1	.591	15	Rc1/8(PT1/8)	LR1S-4 × 12PW	CLR-15S
	Y-GTPA®1216HS-OH 💧	2	○		.472	12	.630	16	–	–	3.937	100	.004	0.1	.787	20	Rc1/8(PT1/8)	LR1S-4 × 12PW	CLR-15S
	Y-GTPA®1216H-OH 💧	2	○		.630	16	.630	16	–	–	3.937	100	.004	0.1	.984	25	Rc1/8(PT1/8)	LR1S-4 × 12PW	CLR-15S

Inserts ➡T22

● : Stock
● : Stock (Newly added)
■ □R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Cut-off Toolholders

CTP-OH2 (Coolant through)

Screw Accessible from both sides

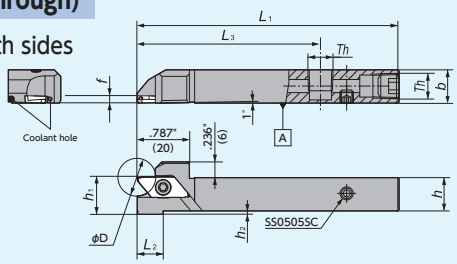
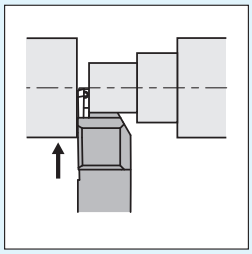


Figure-1

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)



Right-Hand style shown

CTP-OH (Coolant through)

Screw Accessible from both sides

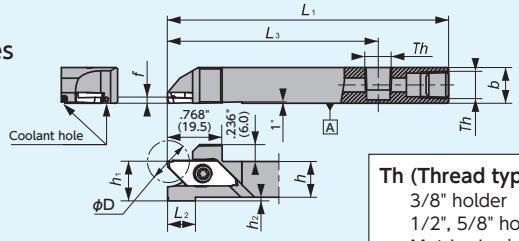
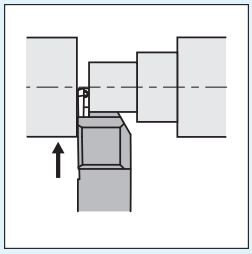


Figure-2

●Left-Hand holders are designed for Right-Hand machines

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)



Right-Hand style shown

CTPA-OH2 (Coolant through)

Screw Accessible from both sides

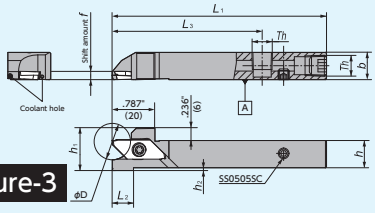
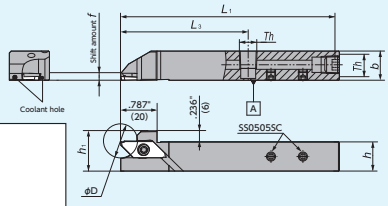
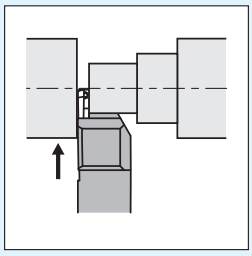


Figure-3

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

CTPA R/L 10X, CTPA R/L 16X





Right-Hand style shown

CTPA-OH (Coolant through)

Screw Accessible from both sides

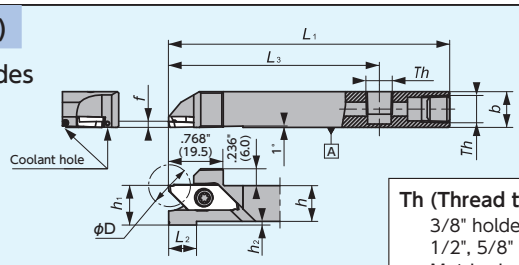
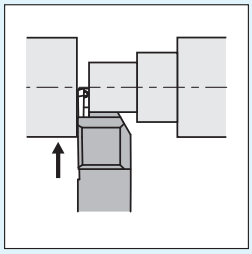


Figure-4

●Left-Hand holders are designed for Right-Hand machines

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)



Right-Hand style shown

CTP

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Cut-off Dia. ϕD* (Inch)	ϕD* (mm)	h (Inch)	h (mm)	h1 (Inch)	h1 (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	h2 (Inch)	h2 (mm)	L2 (Inch)	L2 (mm)	L3 (Inch)	L3 (mm)	Th	f (Inch)	f (mm)	Clamp Screw	Wrench
 CTP FR../FL..	CTPR/L06H-IN-OH	2	●	●	.472	12	3/8		.472	12	3/8		3.937	100	.176	4.475	.748	19	2.953	75	M6 × 1	0.0	0.0	LRIS-4×10PW	CLR-15S
	CTPR/L08H-IN-OH	2	■	■	.472	12	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.953	75	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPR/L08H-IN-OH2	1	●	●	.472	12	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.756	70	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPR/L1012H-OH	2	○	○	.472	12	.394	10	.472	12	.394	10	3.937	100	.176	4.475	.748	19	2.953	75	M6 × 1	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPR/L12H-OH	2	■	■	.472	12	.472	12	.472	12	.472	12	3.937	100	.051	1.3	.394	10	2.953	75	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPR/L12H-OH2	1	●	●	.472	12	.472	12	.472	12	.472	12	3.937	100	.051	1.3	.394	10	2.756	70	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPR/L16H-OH	2	○	○	.472	12	.630	16	.630	16	.630	16	3.937	100	0	0	—		2.953	75	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S

●Left-Hand coolant through holders are designed for Right-Hand machines

*Would be changed by insert

CTPA

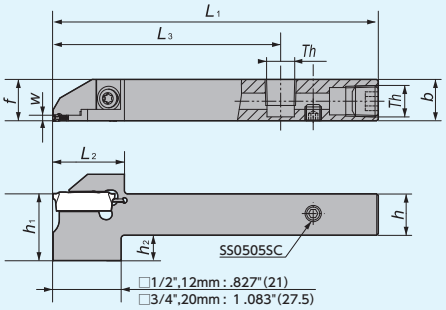
Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Cut-off Dia. ϕD* (Inch)	ϕD* (mm)	h (Inch)	h (mm)	h1 (Inch)	h1 (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	h2 (Inch)	h2 (mm)	L2 (Inch)	L2 (mm)	L3 (Inch)	L3 (mm)	Th	f (Inch)	f (mm)	Clamp Screw	Wrench
 CTPA FR../FL..	CTPA R/L06H-IN-OH	4	●	●	.630	16	3/8		.472	12	3/8		3.937	100	.176	4.475	.787	20	2.953	75	M6 × 1	0.0	0.0	LRIS-4×10PW	CLR-15S
	CTPA R/L08H-IN-OH	4	■	■	.630	16	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.953	75	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L08H-IN-OH2	3	●	●	.630	16	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.756	70	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L10H-IN-OH	4	●	●	.630	16	5/8		5/8		5/8		3.937	100	0	0	—		2.953	75	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L10X-IN-OH2	3	●	●	.630	16	5/8		5/8		5/8		4.724	120	0	0	—		2.756	70	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L12H-OH	4	■	■	.630	16	.472	12	.472	12	.472	12	3.937	100	.079	2	.394	10	2.953	75	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L12H-OH2	3	●	●	.630	16	.472	12	.472	12	.472	12	3.937	100	.079	2	.394	10	2.756	70	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L16H-OH	4	○	○	.630	16	.630	16	.630	16	.630	16	3.937	100	0	0	0	0	2.953	75	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L16X-OH2	3	●	●	.630	16	.630	16	.630	16	.630	16	4.724	120	0	0	0	0	2.756	70	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S

●Left-Hand coolant through holders are designed for Right-Hand machines

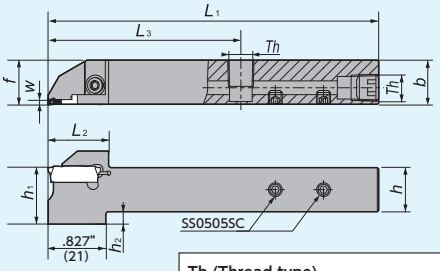
*Would be changed by insert

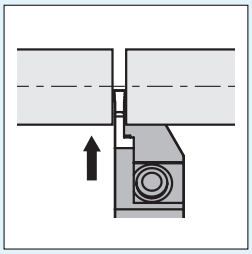
Inserts ➡S10・S14

CTDP-OH2 (Coolant through)



CTDP R/L 10-IN, CTDP R/L 16



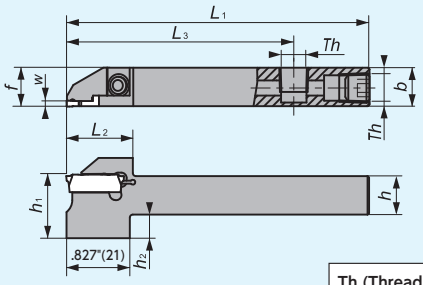


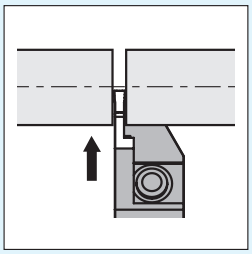
Th (Thread type)
Inch size holder : NPT1/8
Metric size holder : Rc1/8(PT1/8)

Figure-1 ●Left-Hand holders are designed for Right-Hand machines

Right-Hand style shown

CTDP-OH (Coolant through)





Th (Thread type)
Inch size holder : NPT1/8
Metric size holder : Rc1/8(PT1/8)

Figure-2 ●Left-Hand holders are designed for Right-Hand machines

Right-Hand style shown

■CTDP

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Cut-off Dia. D_m (Inch)	(mm)	w (Inch)	(mm)	h (Inch)	(mm)	b (Inch)	(mm)	h_1 (Inch)	(mm)	L_1 (Inch)	(mm)	h_2 (Inch)	(mm)	L_2 (Inch)	(mm)	L_3 (Inch)	(mm)	Th	f (Inch)	(mm)	Clamp Screw	Wrench
CTDP20	CTDP R/L 08-IN-20D25-OH	2	■	■	1.000	25.4	.079	2.0	1/2		1/2		.807	20.5	3.937	100	.307	7.8	.866	22.0	2.953	75	NPT1/8	.506	12.85	LRIS-4 × 12	LLR-25S
	CTDP R/L 08-IN-20D25-OH2	1	●	●	1.000	25.4	.079	2.0	1/2		1/2		.807	20.5	3.937	100	.307	7.8	.866	22.0	2.756	70	NPT1/8	.506	12.85	LRIS-4 × 12	LLR-25S
	CTDP R/L 10-IN-20D25-OH	2	●	●	1.000	25.4	.079	2.0	5/8		5/8		.807	20.5	3.937	100	.182	4.625	.866	22.0	2.953	75	NPT1/8	.631	16.025	LRIS-4 × 12	LLR-25S
	CTDP R/L 10-IN-20D25-OH2	1	●	●	1.000	25.4	.079	2.0	5/8		5/8		.807	20.5	4.729	120	.182	4.625	.866	22.0	2.756	70	NPT1/8	.631	16.025	LRIS-4 × 12	LLR-25S
	CTDP R/L 12-20D25-OH	2	■	■	1.000	25.4	.079	2.0	.472	12	.472	12	.807	20.5	3.937	100	.335	8.5	.866	22.0	2.953	75	Rc1/8(PT1/8)	.478	12.15	LRIS-4 × 12	LLR-25S
	CTDP R/L 12-20D25-OH2	1	●	●	1.000	25.4	.079	2.0	.472	12	.472	12	.807	20.5	3.937	100	.335	8.5	.866	22.0	2.756	70	Rc1/8(PT1/8)	.478	12.15	LRIS-4 × 12	LLR-25S
	CTDP R/L 16-20D25-OH	2	●	●	1.000	25.4	.079	2.0	.630	16	.630	16	.807	20.5	3.937	100	.177	4.5	.866	22.0	2.953	75	Rc1/8(PT1/8)	.636	16.15	LRIS-4 × 12	LLR-25S
	CTDP R/L 16-20D25-OH2	1	●	●	1.000	25.4	.079	2.0	.630	12	.630	16	.807	20.5	4.729	120	.177	4.5	.866	22.0	2.756	70	Rc1/8(PT1/8)	.636	16.15	LRIS-4 × 12	LLR-25S
CTDP25	CTDP R/L 12-IN-25D32-OH2	1	●	●	1.260	32.0	.098	2.5	3/4		3/4		.945	24.0	4.729	120	.195	4.95	1.122	28.5	2.953	75	NPT1/8	.756	19.2	CS0516LSH	LW-3
	CTDP R/L 20-IN-25D34A-OH2	1	●	●	1.260	32.0	.098	2.5	.787	20	.787	20	.945	24.0	4.729	120	.157	4.0	1.122	28.5	2.953	75	Rc1/8(PT1/8)	.793	20.15	CS0516LSH	LW-3

Inserts ➡S17

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

ID Tooling - STICK DUO SPLASH -

HY-NBH-OH (Coolant through)

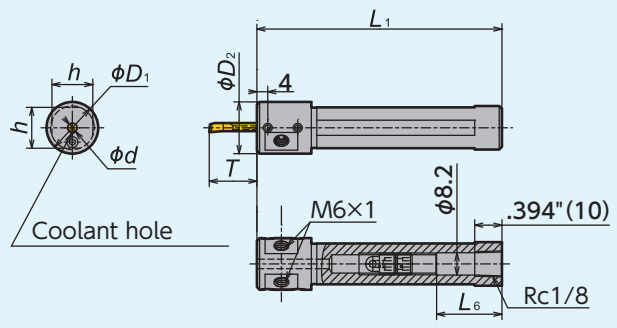


Figure-1

HY-NBH-OH (Coolant through)

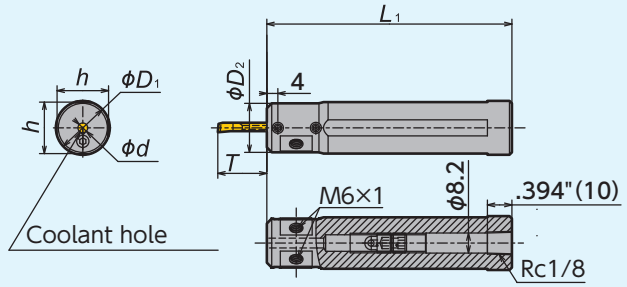


Figure-2

Item Number	Stock	Figure	ϕ d		ϕD1		ϕD2	h	L1	Overhang Length of Bar T			
										Min.		Max.	
			(Inch)	(mm)	(Inch)	(mm)	(mm)	(mm)	(mm)	(Inch)	(mm)	(Inch)	(mm)
HY-NBH02016G-OH	●	1	.079	2.0	.630	16.0	19	15	90	.197	5.0	.709	18.0
HY-NBH02516G-OH	●	1	.098	2.5	.630	16.0	19	15	90	.248	6.3	.768	19.5
HY-NBH03016G-OH	●	1	.118	3.0	.630	16.0	19	15	90	.295	7.5	.827	21.0
HY-NBH03516G-OH	●	1	.138	3.5	.630	16.0	19	15	90	.346	8.8	.965	24.5
HY-NBH04016G-OH	●	1	.157	4.0	.630	16.0	19	15	90	.394	10.0	1.102	28.0
HY-NBH05016G-OH	●	1	.197	5.0	.630	16.0	19	15	90	.492	12.5	1.378	35.0
HY-NBH02019J-OH	●	2	.079	2.0	3/4	19.05	19.05	18	110	.197	5.0	.709	18.0
HY-NBH02519J-OH	●	2	.098	2.5	3/4	19.05	19.05	18	110	.248	6.3	.768	19.5
HY-NBH03019J-OH	●	2	.118	3.0	3/4	19.05	19.05	18	110	.295	7.5	.827	21.0
HY-NBH03519J-OH	●	2	.138	3.5	3/4	19.05	19.05	18	110	.346	8.8	.965	24.5
HY-NBH04019J-OH	●	2	.157	4.0	3/4	19.05	19.05	18	110	.394	10.0	1.102	28.0
HY-NBH05019J-OH	●	2	.197	5.0	3/4	19.05	19.05	18	110	.492	12.5	1.378	35.0
HY-NBH06019J-OH	●	2	.236	6.0	3/4	19.05	19.05	18	110	.591	15.0	1.654	42.0
HY-NBH02020J-OH	●	2	.079	2.0	.787	20.0	20	19	110	.197	5.0	.709	18.0
HY-NBH02520J-OH	●	2	.098	2.5	.787	20.0	20	19	110	.248	6.3	.768	19.5
HY-NBH03020J-OH	●	2	.118	3.0	.787	20.0	20	19	110	.295	7.5	.827	21.0
HY-NBH03520J-OH	●	2	.138	3.5	.787	20.0	20	19	110	.346	8.8	.965	24.5
HY-NBH04020J-OH	●	2	.157	4.0	.787	20.0	20	19	110	.394	10.0	1.102	28.0
HY-NBH05020J-OH	●	2	.197	5.0	.787	20.0	20	19	110	.492	12.5	1.378	35.0
HY-NBH06020J-OH	●	2	.236	6.0	.787	20.0	20	19	110	.591	15.0	1.654	42.0
HY-NBH02022X-OH	●	2	.079	2.0	.866	22.0	20	21	120	.197	5.0	.709	18.0
HY-NBH02522X-OH	●	2	.098	2.5	.866	22.0	20	21	120	.248	6.3	.768	19.5
HY-NBH03022X-OH	●	2	.118	3.0	.866	22.0	20	21	120	.295	7.5	.827	21.0
HY-NBH03522X-OH	●	2	.138	3.5	.866	22.0	20	21	120	.346	8.8	.965	24.5
HY-NBH04022X-OH	●	2	.157	4.0	.866	22.0	20	21	120	.394	10.0	1.102	28.0
HY-NBH05022X-OH	●	2	.197	5.0	.866	22.0	20	21	120	.492	12.5	1.378	35.0
HY-NBH06022X-OH	●	2	.236	6.0	.866	22.0	20	21	120	.591	15.0	1.654	42.0
HY-NBH02025.0K-OH	●	2	.079	2.0	.984	25.0	20	24	125	.197	5.0	.709	18.0
HY-NBH02525.0K-OH	●	2	.098	2.5	.984	25.0	20	24	125	.248	6.3	.768	19.5
HY-NBH03025.0K-OH	●	2	.118	3.0	.984	25.0	20	24	125	.295	7.5	.827	21.0
HY-NBH03525.0K-OH	●	2	.138	3.5	.984	25.0	20	24	125	.346	8.8	.965	24.5
HY-NBH04025.0K-OH	●	2	.157	4.0	.984	25.0	20	24	125	.394	10.0	1.102	28.0
HY-NBH05025.0K-OH	●	2	.197	5.0	.984	25.0	20	24	125	.492	12.5	1.378	35.0
HY-NBH06025.0K-OH	●	2	.236	6.0	.984	25.0	20	24	125	.591	15.0	1.654	42.0
HY-NBH02025.4K-OH	●	2	.079	2.0	1	25.4	20	24	125	.197	5.0	.709	18.0
HY-NBH02525.4K-OH	●	2	.098	2.5	1	25.4	20	24	125	.248	6.3	.768	19.5
HY-NBH03025.4K-OH	●	2	.118	3.0	1	25.4	20	24	125	.295	7.5	.827	21.0
HY-NBH03525.4K-OH	●	2	.138	3.5	1	25.4	20	24	125	.346	8.8	.965	24.5
HY-NBH04025.4K-OH	●	2	.157	4.0	1	25.4	20	24	125	.394	10.0	1.102	28.0
HY-NBH05025.4K-OH	●	2	.197	5.0	1	25.4	20	24	125	.492	12.5	1.378	35.0
HY-NBH06025.4K-OH	●	2	.236	6.0	1	25.4	20	24	125	.591	15.0	1.654	42.0

S-MILL / Solid Carbide End-mill

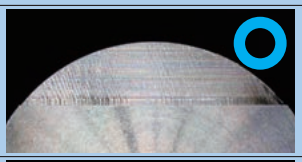
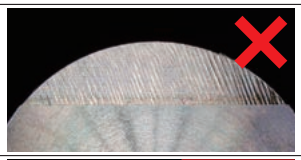
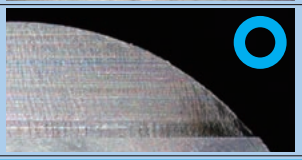
Features

- The tool's sharpness creates a remarkable finish on machined surface.
- 2, 3, and 4 flute designs with a selection of diameters to cover a variety of applications. (2 flute available in 2mmϕ)
- 40, 45, and 50mm lengths ideal for automatic lathes.

Two style

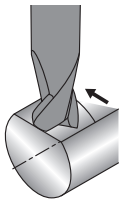
Three flute options

Surface finish

	NTK (S-MILL)	Competitor A	Competitor B
Magnified work material (side face)			
Magnified work material			
	Excellent surface finish	Bad surface finish	
304 SS (Φ16mm) ϕ6mm -2 flute 3,000 rpm, 11.8 IPM, 118" DOC, .047" width			

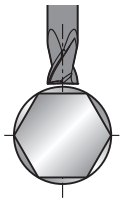
Field Result

316 SS (D-cut)
ϕ6mm-2 flute

3,200 rpm	
5.5 IPM	
.024 DOC	
WET	
NTK : **S-MILL**	12,000 pcs/corner+α
Competitor's solid endmill	10,000 pcs/corner

The competitor's end mill showed an obvious decrease in surface finish quality as it reached the end of its tool life. NTK's S-MILL maintained a quality surface finish throughout the extent of its longer tool life.

1045 (AF 8mm HEX)
ϕ6mm-2 flute

2,600 rpm	
18.9 IPM	
.039 DOC	
WET	
NTK : **S-MILL**	70 pcs/corner+α
Competitor's solid endmill	50 pcs/corner

The S-MILL sharpness reduces the occurance of burrs and tool life is increased; clear improvements over the competitor's tool. The sharp cutting edge also produces noticeably less sound than the current tooling.

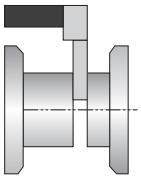
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

ST4

New coating optimized for 304SS

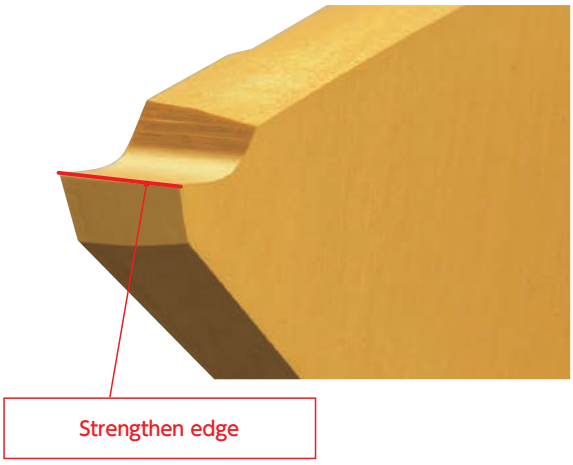
Features

- Optimized for 304SS
- Excellent adhesion and wear resistance

Field Result	
Dia .236" (6mm)	
304SS	
-187 SFM	
10006 IPR	
NTK : **ST4**	27,000 pcs
Competitor's coated carbide	18,000 pcs

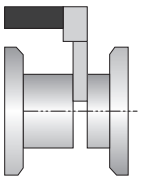
CTP-TH

Cut off style optimized for Stainless Steel

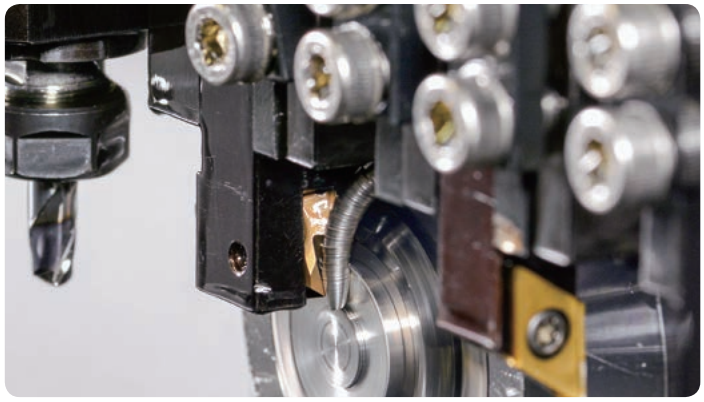


Features

- Specially designed cut off insert for stainless steel
- The combination of ST4 and CTP-TH provides best performance on 304 SS

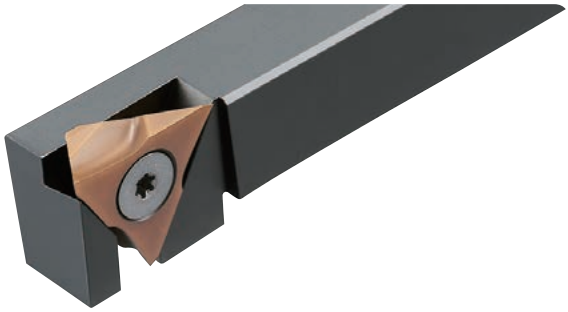
Field Result	
Dia .236" (6mm)	
304SS	
-187 SFM	
10006 IPR	
NTK : **ST4**	27,000 pcs
Competitor's coated carbide	18,000 pcs

Front turning insert for large DOC



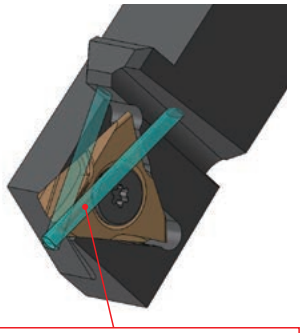
Features

- Up to .197" DOC capability
- Specially designed chipbreaker provides excellent chip control and sharpness
- Coolant through toolholder helps to evacuate chips

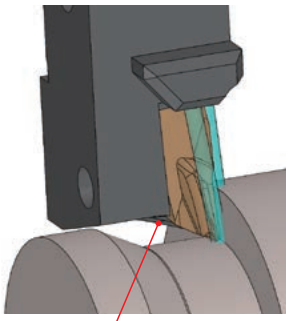


Available in wiper insert

Rigid side clamp

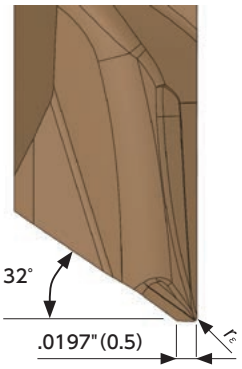


Coolant thrugh tool holder is avaialable

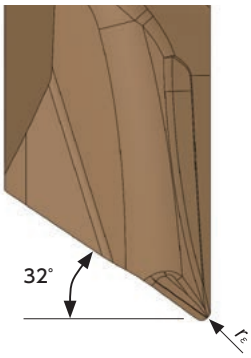


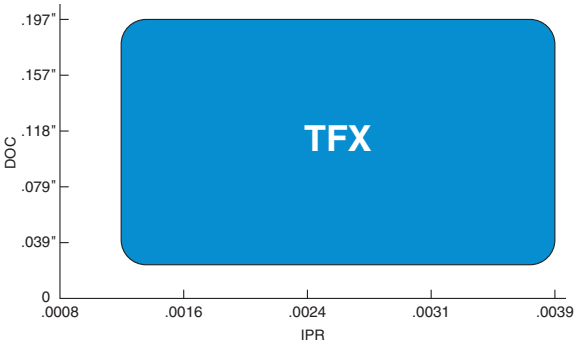
Can take 30° taper

With wiper



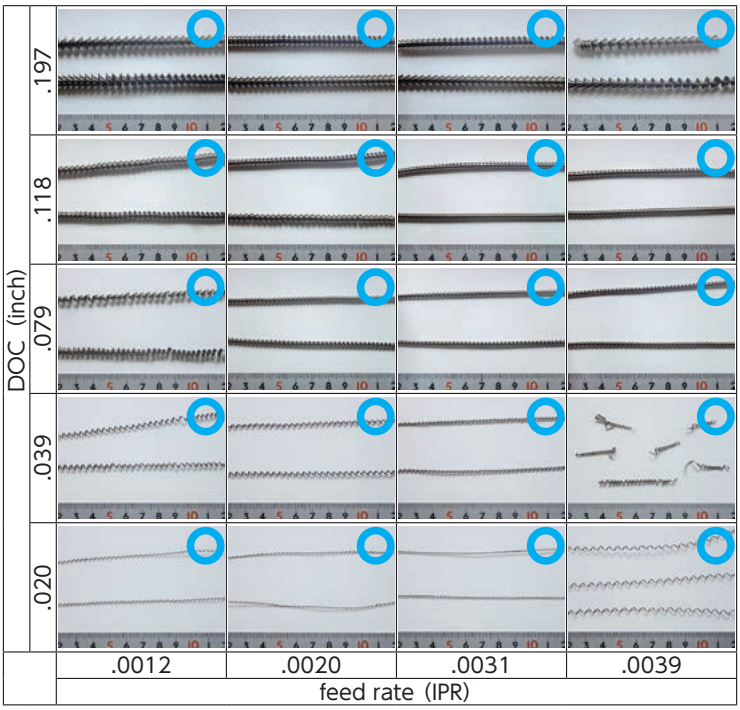
No wiper





Excellent chip control

304 SS dia 16mm material, 260 SFM



SHAPER DUO

WATCH ON YouTube

■Hexalobular Socket

■Hexagon Socket

■Square Socket

- Now available for Hexalobular(6-lobe) Socket
- Perfect fit for back spindle of Swiss machine
- Achieves good corner edge sharpness

- Less tool pressure than Rotary-Broaching
- Easy to adjust for correct dimension
- Economical double-ended insert bar (Except for Hexalobular)

Comparison Chart of Hexalobular Socket Machining

	Tool Pressure	Cycle Time	Tool Cost	High speed spindle	Program	
Shaper Duo 	◎	◎	◎	Not necessary	Simple	● No high speed spindle needed ● A lot less cycle time
End milling	○	×	△	Necessary	Complicated	● Need high speed spindle ● Time consuming process

- Small diameter endmill driven by high-speed spindle is popular way to create Hexalobular(6-lobe) socket. It has some flexibility but needs high speed spindle unit and it is a time consuming process.
- SHAPER DUO can make Hexalobular(6-lobe) socket faster and simpler.

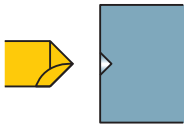
Comparison Chart of HEX Socket Machining

	Tool Pressure	Cycle Time	Flexibility	Tool Cost	
Shaper Duo 	◎	△ *Can be off-set by over-wrapping operation	○	◎	● Less tool pressure-especially on small diameter parts ● One size can cover several socket sizes
Broach Tool	△	○	×	△	● Need to have tools for each socket size

- Rotary-broach is an efficient way for Hexagon socket.
  But tool pressure is high and often times it pushes part too hard.
- SHAPER DUO system enables less tool pressure and provides better tolerance with less cost.

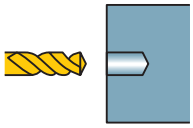
Process Chart

① Center drilling



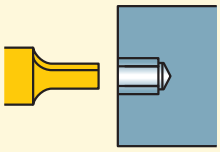
Make a center hole which is smaller than pilot hole drill.

② Drilling (Pilot hole)



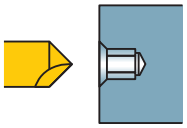
Select a drill with same or smaller (0～-0.1mm) dia. as AF and machine a bit deeper because burrs may cause chipping on shaper insert

③ Shaper tool



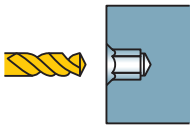
Machine socket rotating 60 degrees 6 times

④ Chamfering



Chamfer with the same pilot hole drill as ①

⑤ Deburring



Finish and deburr with the same drill as in process②
☆Reduce cutting conditions due to heavy interruption

SHAPER DUO Process Chart -Hexalobular-

Socket Size	Tool	Pilot bore Dia. (mm)	Starting "X" position (mm)	Number of passes: Final "X" position (mm)	Number of passes: Roughing pass 0.025mm	Number of passes: Finishing pass 0.005mm	Estimated cycle time *: ISO10664 Stadard depth of Hexalobular hole (mm)	Estimated cycle time *: Whole process ①-⑤	Estimated cycle time *: Process④ Shaper
T6	**SSP050N25T06**	1.15	1.14	1.75	13	1	1.82	51 sec	23.2 sec
T7	**SSP050N31T07**	1.38	1.35	2.06	15	1	2.44	59 sec	28.2 sec
T8	**SSP050N36T08**	1.62	1.59	2.40	17	1	3.05	67 sec	33.8 sec
T10	**SSP050N41T10**	1.92	1.89	2.80	19	1	3.56	75 sec	39.5 sec
T15	**SSP050N43T15**	2.30	2.29	3.35	22	1	3.81	84 sec	46.2 sec
T20	**SSP050N46T20**	2.71	2.69	3.95	26	1	4.07	94 sec	55.4 sec
T25	**SSP050N50T25**	3.13	3.09	4.50	29	1	4.45	105 sec	63.8 sec
T27	**SSP050N55T27**	3.52	3.51	5.07	32	1	4.70	115 sec	71.8 sec
T30	**SSP050N55T30**	3.91	3.89	5.60	35	1	4.95	125 sec	80.2 sec

＊Using Carbide drill

＊Shaper cutting conditions
Feed : 3000 mm/min
DOC : 0.025 mm (Roughing), 0.005 mm (Finishing)

SHAPER DUO Process Chart -Hexagonal-

HEX Standard	Tool	Pilot bore Dia. (mm)	Starting "X" position (mm)	Number of passes: Final "X" position (mm)	Number of passes: Roughing pass 0.025mm	Number of passes: Finishing pass 0.005mm	Estimated cycle time *: ISO 2936 standard depth of Hex hole (mm)	Estimated cycle time *: Whole process ①-⑤	Estimated cycle time *: Process④ Shaper
HEX 1.5	**SSP020N1130H**	1.5	1.47	1.73	6	1	2	39 sec	14 sec
HEX 2.0	**SSP020N1430H**	2.0	1.95	2.31	8	1	2.5	44 sec	16 sec
HEX 2.5	**SSP030N1940H**	2.5	2.48	2.89	9	1	3	50 sec	20 sec
HEX 3.0	**SSP030N1940H**	3.0	2.95	3.46	11	1	3.5	55 sec	23 sec
HEX 4.0	**SSP040N2450H**	4.0	3.96	4.62	14	1	5	73 sec	33 sec
HEX 5.0	**SSP050N3260H**	5.0	4.96	5.77	17	1	6	90 sec	46 sec
HEX 6.0	**SSP060N42120H**	6.0	5.97	6.93	20	1	8	117 sec	63 sec
HEX 8.0	**SSP080N62160H**	8.0	7.98	9.24	26	1	10	155 sec	92 sec

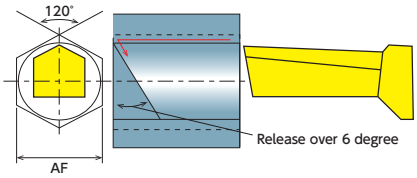
＊Pilot bore diameter is same or smaller(0-0.1mm) as AF.
＊Using Carbide drill

＊Shaper cutting conditions
Feed : 3000 mm/min
DOC : 0.025 mm (Roughing), 0.005 mm (Finishing)

Recommended Cutting Conditions

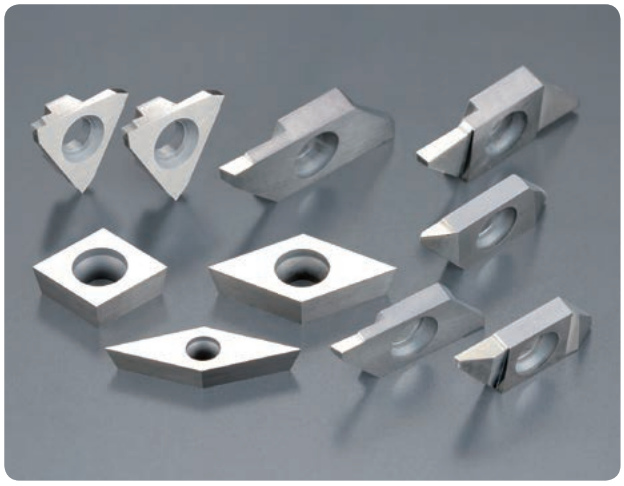
Feed : 3000 mm/min (120 IPM)
DOC : Roughing ··· 0.025 mm (.0010") + Finishing ··· 0.005 mm (.0002")

Program Example ➡W6



KM1

Best tool for PEEK material



Features

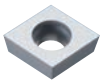
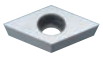
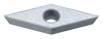
- NTK's KM1 inserts are designed for other non-ferrous materials such as PEEK
- Extremely up-sharp edge and mirror insert surface creates excellent surface finishes
- R 0.0 corner radius inserts are available

Cover all applications

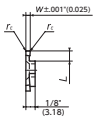
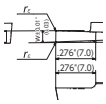
Front turning	Back turning	Cut-off	Grooving / side turning	Threading
				
CC DC VC	TBP	CTP CTPA	GTMH GTPA	TTP

Grade	Wark material	Application	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)	DRY	WET
KM1	PEEK Copper Brass Aluminum Plastics	Turning	160-300 (160-650)	.0004-.004	-.100	●	●

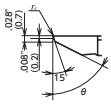
Front turning

Shape	Item Number	ISO Item Number	IC	R	KM1
 CCGW..	CCGW 21.501 H Ⓜ	CCGW 060200 H	1/4	.001	●
	CCGW 21.504 H Ⓜ	CCGW 060201 H	1/4	.004	●
	CCGW 21.508 H Ⓜ	CCGW 060202 H	1/4	.008	●
	CCGW 32.501 H Ⓜ	CCGW 09T300 H	3/8	.001	●
	CCGW 32.504 H Ⓜ	CCGW 09T301 H	3/8	.004	●
	CCGW 32.508 H Ⓜ	CCGW 09T302 H	3/8	.008	●
 DCGW..	DCGW 21.501 H Ⓜ	DCGW 070200 H	1/4	.001	●
	DCGW 21.504 H Ⓜ	DCGW 070201 H	1/4	.004	●
	DCGW 21.508 H Ⓜ	DCGW 070202 H	1/4	.008	●
	DCGW 32.501 H Ⓜ	DCGW 11T300 H	3/8	.001	●
	DCGW 32.504 H Ⓜ	DCGW 11T301 H	3/8	.004	●
	DCGW 32.508 H Ⓜ	DCGW 11T302 H	3/8	.008	●
 VCGW..	VCGW 2201 H Ⓜ	VCGW 110300 H	1/4	.001	●
	VCGW 2204 H Ⓜ	VCGW 110301 H	1/4	.004	●
	VCGW 2208 H Ⓜ	VCGW 110302 H	1/4	.008	●

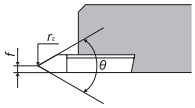
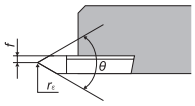
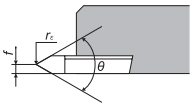
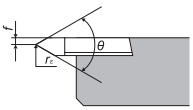
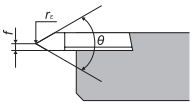
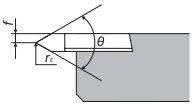
Grooving / Side turning

Shape	Item Number	Groove Width W (Inch)	Groove Width W (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	r_ε (Inch)	KM1
 GTMH.. 	GTMH32100R/LSSH Ⓜ	.039	1.00	.063	1.6	.002	●
	GTMH32150R/LSSH Ⓜ	.059	1.50	.106	2.7	.002	●
	GTMH32200R/LSSH Ⓜ	.079	2.00	.106	2.7	.002	●
 GTPA..	GTPA20FRN01	.079	2.00	.236	6.0	-.004	○
	GTPA25FRN01	.098	2.50	.236	6.0	-.004	○

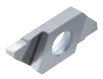
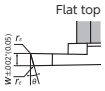
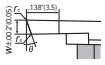
Back turning

Shape	Item Number	Max Depth of Cut b (Inch)	Max Depth of Cut b (mm)	θ	r_ε (Inch)	KM1 R	KM1 L
 TBP.. 	TBP60FR/LV Ⓜ	.209	5.3	60°	0.00	●	
	TBP60FR/LV05 Ⓜ	.209	5.3	60°	.002	●	
	TBP60FR/LV10 Ⓜ	.209	5.3	60°	.004	●	

Threading

Shape	Item Number	Hand	θ	f	r_ε (Inch)	Pitch (TPI)	Pitch (mm)	KM1
	TTP60FR4AS Ⓜ	Right	60°	.016	(.002) MAX Flat	127-34	0.2-0.75	○
	TTP60FR8AS Ⓜ		60°	.031	(R.002)	63-21	0.4-1.25	○
	TTP60FR4BS Ⓜ		60°	.016	(.002) MAX Flat	127-34	0.2-0.75	○
	TTP60FR8BS Ⓜ		60°	.031	(R.002)	63-21	0.4-1.25	○
	TTP60FR-NS Ⓜ		60°	.049	(R.004)	25-17	1.0-1.5	○
	TTP60FL4AS Ⓜ	Left	60°	.016	(.002) MAX Flat	127-34	0.2-0.75	○
	TTP60FL8AS Ⓜ		60°	.031	(R.002)	63-21	0.4-1.25	○
	TTP60FL4BS Ⓜ		60°	.016	(.002) MAX Flat	127-34	0.2-0.75	○
	TTP60FL8BS Ⓜ		60°	.031	(R.002)	63-21	0.4-1.25	○
	TTP60FL-NS Ⓜ		60°	.049	(R.004)	25-17	1.0-1.5	○

Cut off

Shape	Item Number	Hand	Max. Cut-off Dia. φD (Inch)	Max. Cut-off Dia. φD (mm)	w (Inch)	θ	r_ε (Inch)	KM1
 CTP FR../FL..	CTP10FRV Ⓜ	Right	.472	12.0	.039	20°	0.0	●
	CTP15FRV Ⓜ		.472	12.0	.059	20°	0.0	●
	CTP20FRV Ⓜ		.472	12.0	.079	20°	0.0	●
	CTP15FRNV Ⓜ		.472	12.0	.059	0°	0.0	●
	CTP20FRNV Ⓜ		.472	12.0	.079	0°	0.0	●
Right-Hand Flat top 	CTP15FLKV Ⓜ	Left	.433	11.0	.059	20°	0.0	●
	CTP15FLNV Ⓜ		.472	12.0	.059	0°	0.0	●
	CTP20FLNV Ⓜ		.472	12.0	.079	0°	0.0	●
Left-Hand Flat top 	CTPA20FRV Ⓜ	Right	.630	16.0	.079	20°	0.0	●
	CTPA20FRNV Ⓜ		.630	16.0	.079	0°	0.0	●
	CTPA20FLKV Ⓜ	Left	.571	14.5	.079	20°	0.0	●
	CTPA20FLNV Ⓜ		.630	16.0	.079	0°	0.0	●

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

Thread Whirling

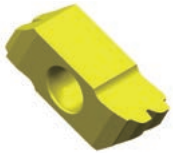
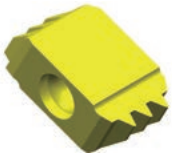
Features

New Double-lead video is on WATCH ON YouTube

- NTK's unique patented design technology makes precise and correct inserts the first time, *without any redesign or remanufacture even if it is a multiple-lead thread*
- Sharp cutting edges produce a better surface finish and longer tool life than competitor's inserts

Form Double-lead or Multiple-lead with Single Pass

Patented

	Double-lead threads	Triple-lead threads
Work	Bone screw	Worm gear
Work material	Ti-6Al-4V ELI	brass
Work appearance		
Insert appearance		
Major Dia.	ϕ.157"(4.0mm)	ϕ.278"(7.0mm)
Minor Dia.	ϕ.094"(2.4mm)	ϕ.185"(4.7mm)
Lead [Pitch×No. of Lead]	.135"(3.42mm) [.067"×2(1.71mm×2)]	.193"(4.9mm) [.064"×3(1.63mm×3)]

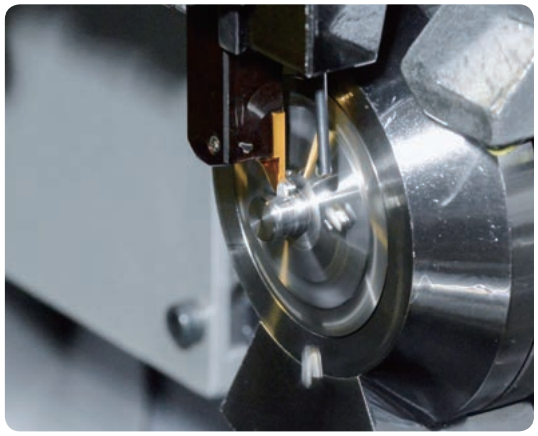
- Can reduce cycle time by more than half
- NTK can achieve what other competitors cannot

Double-lead Bone Screw Process Example

1. 1st thread whirl at taper part
2. Rotate the bar 180° and whirl the 2nd thread on same part as 1
3. Thread whirl whole straight part
4. Thread whirl at very last part to get two-exits, after back of bar has been backed up a half lead (one pitch) and rotated 180°

Information ➡U16

CTP-CX / CTPA-CX for Cut-off



Features

WATCH ON YouTube

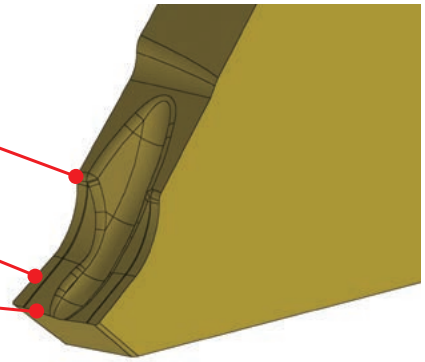
- New 3D molded chipbreaker on CTP style inserts
- Excellent chip control and straight-line stability with proprietary designed CX chipbreaker.
- Fold chips strongly from both ends result superior machined surface finish

1 Fold chips from both ends strongly.

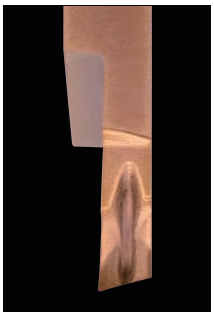
2 Up-sharp edge like ground inserts (15˚)

3 2 step V shape to keep nose-R shape and fold chips.

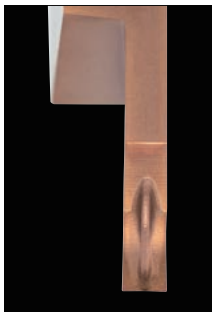
PAT.P



With lead angle



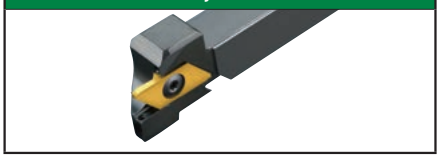
Neutral

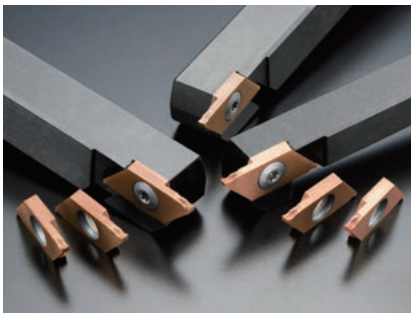


Best Solution for Chip Control

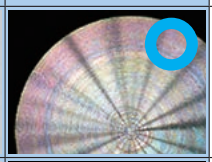
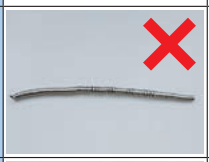
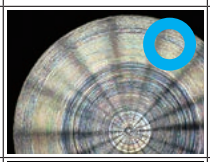
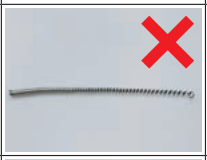
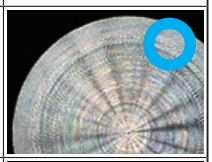
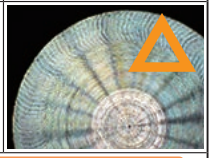
Coolant through toolholders now available

CTP-OH2 / OH, CTPA-OH2 / OH





Superior Surface Finish and Excellent Chip control

Feed IPR	CX chipbreaker		Conventional (ground chipbreaker)		Competitor (3D chipbreaker)	
	Chip	Surface finish	Chip	Surface finish	Chip	Surface finish
.0008						
.0020						
	Excellent machined surface finish		*Rough surface finish*		*Vibration occurs by low rigidity*	

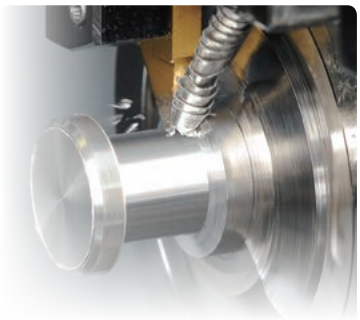
Material : 304 SS (ϕ.315") , 260 SFM , WET Holder : CTPR12 Insert : CTP15FRN-CX DM4

TBP-BM / TBPA-BM for Back Turning

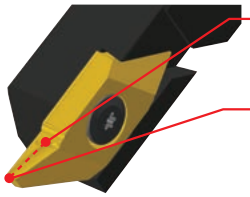
Features

WATCH ON YouTube

- "Single Pass Back Turning" offers excellent surface finishes
- Up-right style insert and screw clamping provides high rigidity
- Wiper flat on cutting edge offers excellent surface finishes even under high feed cutting conditions



New BM chipbreaker

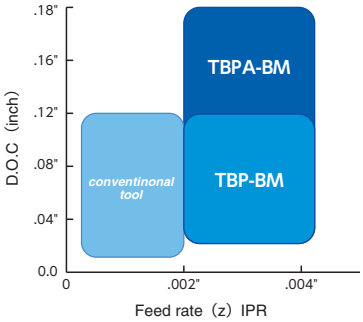


- Prevents the rough end face from hitting the chip
- Wiper flat on cutting edge creates excellent surface finishes

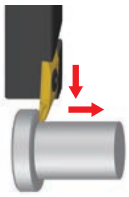
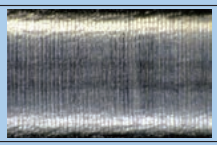
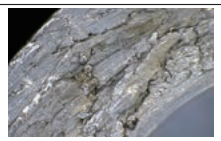
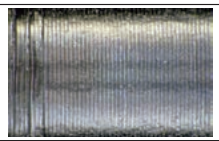
Best Solution for Chip Control

Coolant through toolholders now available

TBP-OH2 / OH TBPA-OH	Y-TBP-OH2 / OH
	

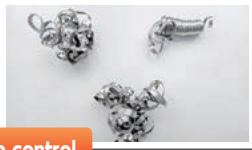
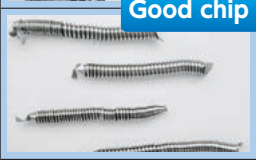


Superior Surface Finish

1Pass	BM chipbreaker		Competitor's tool	
	End face	OD	End face	OD
				
	Excellent surface	Ra : 0.72 μm Rz : 4.46 μm	Rough surface	Ra : 1.65 μm Rz : 6.01 μm

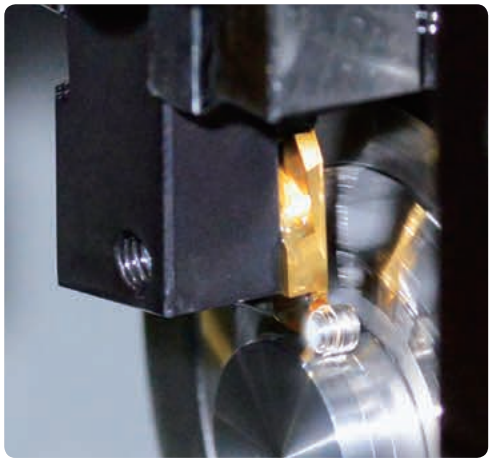
Material : 304 SS (ϕ.630") , 260 SFM , Feed X : .0008 IPR , Feed Z : .0031 IPR , .118"DOC , WET

Excellent Chip Control

	BM chipbreaker		Competitor	
Feed rate (IPR) / D.O.C (inch)	.002"	.003"	.002"	.003"
.020"				
.120"				
	Good chip control		Unstable chip control	

Material : 304 SS (ϕ.630") , 260 SFM , WET

GTMH-GX for Grooving / Side Turning



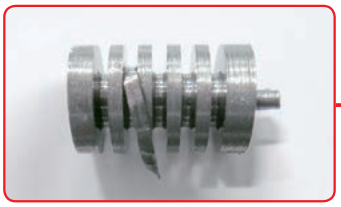
Features

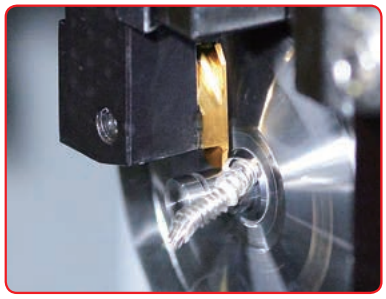
WATCH ON YouTube

- Can solve the problem of chips remaining in the grooves and bird's nest of chips
- Good surface finishes on groove side faces
- Up to .078" DOC side turning capability

Typical Grooving Problems

- Chips remain at the bottom of groove
- Bird's nest of chips

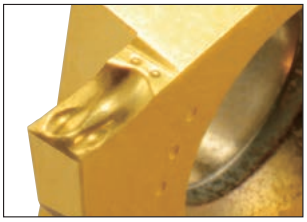




GX chipbreaker can solve these problems

Excellent Chip Control

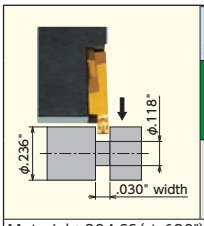
- Chipbreakers



Groove width .059"～

Groove width ～.039"

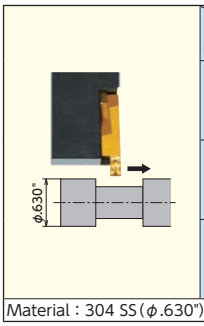
- Grooving

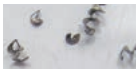


DOC \ Feed rate (IPR)	.0004"	.0011"	.0020"
GX chipbreaker			
Competiton's chipbreaker			

Material : 304 SS(φ.630"), 260 SFM, .059", DOC

- Side Turning



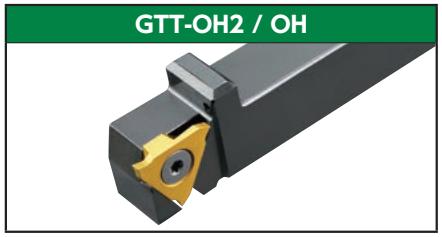
DOC \ Feed rate (IPR)	.0004"	.0011"	.0020"	.0031"
.010"				
.020"				
.030"				

Material : 304 SS(φ.630"), 260 SFM, .030" width insert

Best Solution for Chip Control

Coolant through toolholders now available

GTT-OH2 / OH



Y-GTT-OH2 / OH

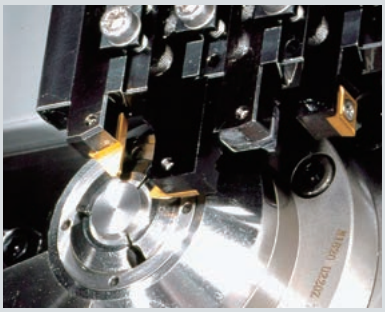
Y-axis Toolholders

Chip control by gravity

Features

WATCH ON YouTube

- Chip drops down to the bed of the machine due to gravity, and chip control problem is solved
- Available in coolant through style
- Front turning, grooving, and back turning operations can be performed by utilizing Y-axis control



- Perfect solution for chip problems
- Less wear, more stable dimensions

Programming guidance

Regular Toolholder					Y-axis Toolholder				
①T300				Select tool	①T300				
②G0	X .450	Z .000	T3	Position tool	②G0		Y .450	Z .000	T3
③					③	X .000			
④G1	X .300		F .003	Move to OD to cut	④G1		Y .300		F .003
⑤		Z .200	F .002	Cut .200" length	⑤			Z .200	F .002
⑥	X .400			Cut face	⑥		Y .450		
⑦G0	X .450				⑦G0	X .450			
Cut by X-axis					Cut by Y-axis				

Note: Need Y-offset for holder shank size.

Front Torning

DC.. Series - Toolholders

Y-SDJC

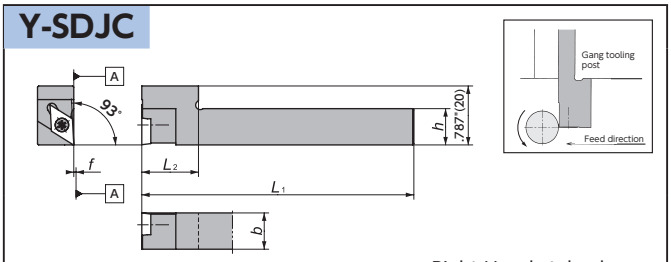


Figure-1

Right-Hand style shown
Takes Right-hand or Neutral insert

Y-SDNC

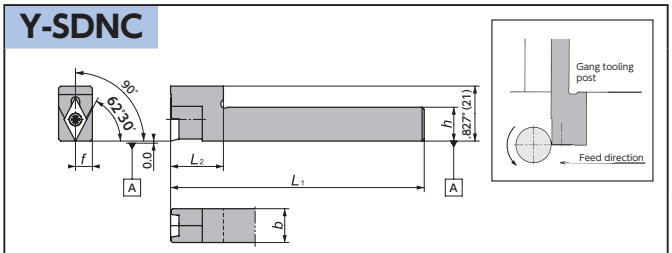
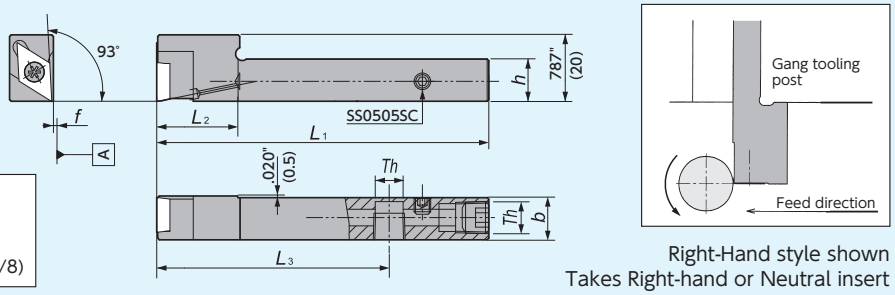


Figure-4

Takes Right-hand or Neutral insert

Y-SDJC-OH2 (Coolant through)

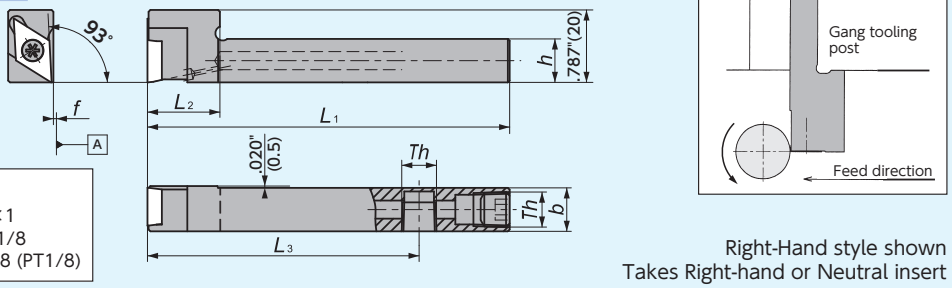


Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder : Rc1/8 (PT1/8)

Figure-2

Right-Hand style shown
Takes Right-hand or Neutral insert

Y-SDJC-OH (Coolant through)



Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder : Rc1/8 (PT1/8)

Figure-3

Right-Hand style shown
Takes Right-hand or Neutral insert

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
			N																
DC..21.5.. DC..21.5..WP	Y-SDJCR062-IN	1	●		3/8		3/8		4.724	120	0	0	.984	25	–	–	–	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR082-IN	1	●		1/2		1/2		4.724	120	0	0	.984	25	–	–	–	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR10-07S	1	○		.394	10.0	.394	10	4.724	120	0	0	.787	20	–	–	–	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR12-07S	1	○		.472	12.0	.472	12	4.724	120	0	0	.787	20	–	–	–	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	Y-SDJCR083-IN	1	●		1/2		1/2		4.724	120	0	0	.984	25	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR103-IN	1	●		5/8		5/8		4.724	120	0	0	.984	25	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR10-11MS	2	○		.394	10.0	.394	10	4.724	120	0	0	.866	22	–	–	–	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR10-11S	2	○		.394	10.0	.394	10	4.724	120	0	0	.787	20	–	–	–	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR12-11MS	2	○		.472	12.0	.630	16	4.724	120	0	0	.866	22	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR12-11S	1	○		.472	12.0	.630	16	4.724	120	0	0	.787	20	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR16-11S	1	○		.630	16.0	.630	16	4.724	120	0	0	.787	20	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
DC..21.5.. DC..21.5..WP	Y-SDJCR062H-IN-OH 💧	3	●		3/8		3/8		3.937	100	0	0	.984	25	2.953	75	M6 × 1	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR082H-IN-OH 💧	3	●		1/2		1/2		3.937	100	0	0	.984	25	2.953	75	NPT1/8	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	Y-SDJCR083H-IN-OH 💧	3	■		1/2		1/2		3.937	100	0	0	.984	25	2.953	75	NPT1/8	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR083H-IN-OH2 💧	2	●		1/2		1/2		3.937	100	0	0	.984	25	2.756	70	NPT1/8	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR103H-IN-OH 💧	3	●		5/8		5/8		3.937	100	0	0	.984	25	2.953	75	NPT1/8	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR1212H11S-OH 💧	3	■		.472	12.0	.472	12.0	3.937	100	0	0	.787	20	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR1212H11S-OH2 💧	2	●		.472	12.0	.472	12.0	3.937	100	0	0	.787	20	2.756	70	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR1616H11-OH 💧	3	○		.630	16.0	.630	16.0	3.937	100	0	0	.984	25	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S-20 × 65
DC..32.5..	Y-SDNCN083-IN	4	●		1/2		1/2		4.724	120	1/4	6.35	.984	25	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDNCN12-11S	4	○		.472	12.0	.472	12	4.724	120	.236	6.0	.787	20	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDNCN16-11S	4	○		.630	16.0	.630	16	4.724	120	.315	8.0	.787	20	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65

Inserts ➡Q20

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

VC.. Series - Toolholders

Y-SVJCR

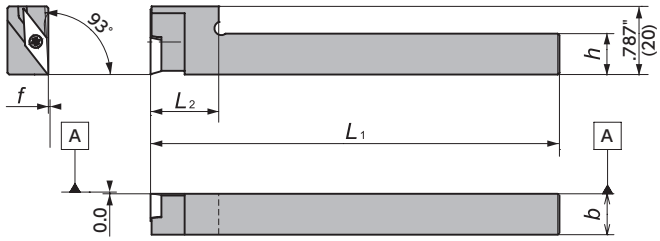


Figure-1

Right-Hand style shown
Takes Right-hand or Neutral insert

Y-SVJCR-OH2 (Coolant through)

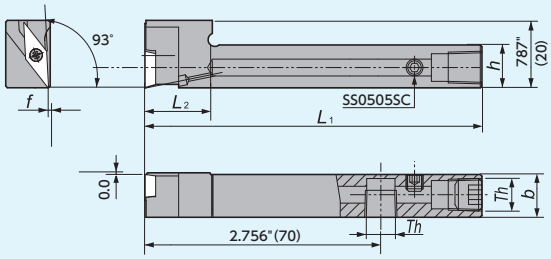


Figure-2

Th (Thread type)
Inch size holder: NPT1/8

Right-Hand style shown
Takes Right-hand or Neutral insert

Y-SVJCR-OH (Coolant through)

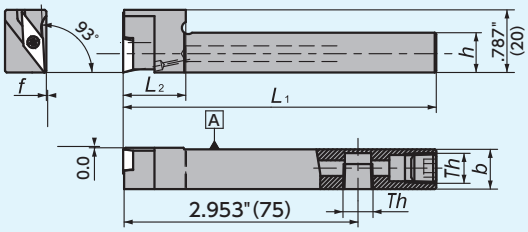


Figure-3

Th (Thread type)
Inch size holder: NPT1/8

Right-Hand style shown
Takes Right-hand or Neutral insert

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Th	Clamp Screw	Wrench
VC..22..	**Y-SVJCR062-IN**	1	●		3/8		3/8		4.724	120	0.0	0.0	.787	20	–	LRIS-2.5 × 7	CLR-15S
	Y-SVJCR082-IN	1	●		1/2		1/2		4.724	120	0.0	0.0	.787	20	–	LRIS-2.5 × 7	CLR-15S
	Y-SVJCR102-IN	1	●		5/8		5/8		4.724	120	0.0	0.0	.984	25	–	LRIS-2.5 × 7	CLR-15S
VC..22..	**Y-SVJCR082HS-IN-OH** 💧	3	■		1/2		1/2		3.937	100	0.0	0.0	.787	20	NPT1/8	LRIS-2.5 × 7	CLR-15S
	Y-SVJCR082HS-IN-OH2 💧	2	●		1/2		1/2		3.937	100	0.0	0.0	.787	20	NPT1/8	LRIS-2.5 × 7	CLR-15S
	Y-SVJCR102H-IN-OH 💧	3	●		5/8		5/8		3.937	100	0.0	0.0	.984	25	NPT1/8	LRIS-2.5 × 7	CLR-15S
VC..22..	**Y-SVJCR1212H11S-OH** 💧	3	□		.472	12	.472	12	3.937	100	0.0	0.0	.787	20	RC1/8(PT1/8)	LRIS-2.5 × 7	CLR-15S
	Y-SVJCR1212H11S-OH2 💧	2	●		.472	12	.472	12	3.937	100	0.0	0.0	.787	20	RC1/8(PT1/8)	LRIS-2.5 × 7	CLR-15S
	Y-SVJCR1616H11S-OH 💧	3	○		.630	16	.630	16	3.937	100	0.0	0.0	.787	20	RC1/8(PT1/8)	LRIS-2.5 × 7	CLR-15S

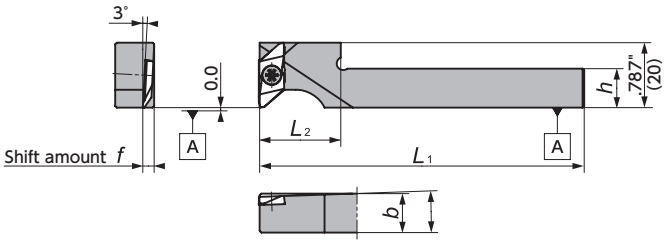
Inserts ➡Q27

Back Turning

TBP Series - Toolholders

Y-TBP

Screw accessible from both sides



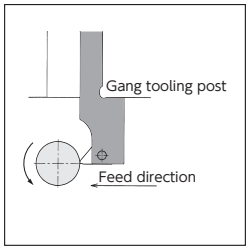
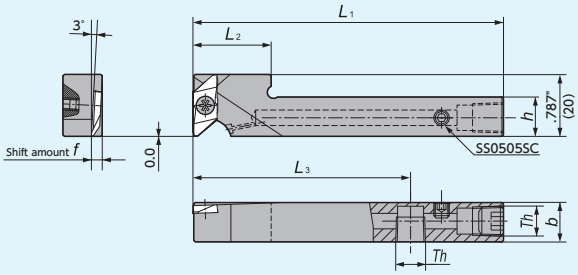


Figure-1

Right-Hand style shown
Takes Right-hand Insert

Y-TBP-OH2 (Coolant through)

Screw accessible from both sides



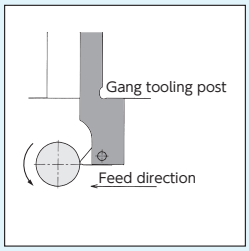


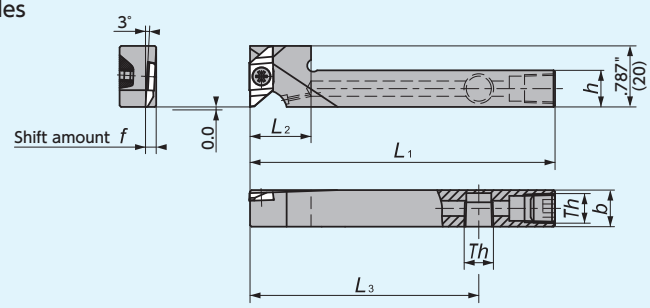
Figure-2

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

Right-Hand style shown
Takes Right-hand Insert

Y-TBP-OH (Coolant through)

Screw accessible from both sides



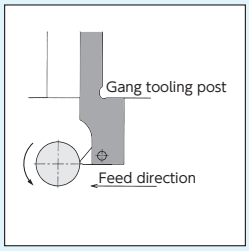


Figure-3

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

Right-Hand style shown
Takes Right-hand Insert

TBP Series - Toolholders

TBP

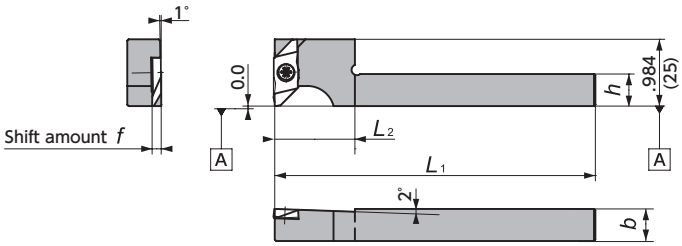
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	h_2 (Inch)	h_2 (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
 TBP..	Y-TBPR/L06-IN	1	●		3/8		3/8		—	—	2.756	70	.138	3.5	.984	25	—	—	—	—	—	LRIS-4 × 10PW	CLR-15S
	Y-TBPR/L08-IN	1	●		1/2		1/2		—	—	2.756	70	.138	3.5	.984	25	—	—	—	—	—	LRIS-4 × 12PW	CLR-15S
	Y-TBPR/L10-IN	1	●		5/8		5/8		—	—	2.756	70	.138	3.5	.984	25	—	—	—	—	—	LRIS-4 × 12PW	CLR-15S
	Y-TBPR/L10MS	1	○		.394	10	.394	10	—	—	4.724	120	.138	3.5	.866	22	—	—	—	—	—	LRIS-4 × 10PW	CLR-15S
	Y-TBPR/L10S	1	○		.394	10	.394	10	—	—	4.724	120	.138	3.5	.787	20	—	—	—	—	—	LRIS-4 × 10PW	CLR-15S
	Y-TBPR/L12MS	1	○		.472	12	.472	12	—	—	4.724	120	.138	3.5	.866	22	—	—	—	—	—	LRIS-4 × 12PW	CLR-15S
	Y-TBPR/L12S	1	○		.472	12	.472	12	—	—	4.724	120	.138	3.5	.787	20	—	—	—	—	—	LRIS-4 × 12PW	CLR-15S
	Y-TBPR/L08H-IN-OH 💧	3	■		1/2		1/2		—	—	3.937	100	.138	3.5	.984	25	—	—	2.953	75	NPT1/8	LRIS-4 × 12PW	CLR-15S
	Y-TBPR/L08H-IN-OH2 💧	2	●		1/2		1/2		—	—	3.937	100	.138	3.5	.984	25	—	—	2.756	70	NPT1/8	LRIS-4 × 12PW	CLR-15S
	Y-TBPR/L12HS-OH 💧	3	■		.472	12	.472	12	—	—	3.937	100	.138	3.5	.787	20	—	—	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	Y-TBPR/L12HS-OH2 💧	2	●		.472	12	.472	12	—	—	3.937	100	.138	3.5	.787	20	—	—	2.756	70	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	Y-TBPR/L16H-OH 💧	3	○		.630	16	.630	16	—	—	3.937	100	.138	3.5	.984	25	—	—	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
RL : 1-2 week delivery (Right / Left-hand only)
RL : 1-2 week delivery (Right / Left-hand only, Newly added)

TBPA (CTPA) Series - Toolholders

Y-CTPA

Screw accessible from both sides



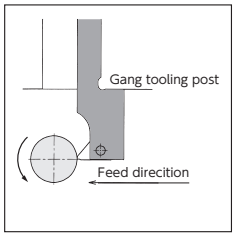


Figure-1

Right-Hand style shown
Takes Right-hand Insert

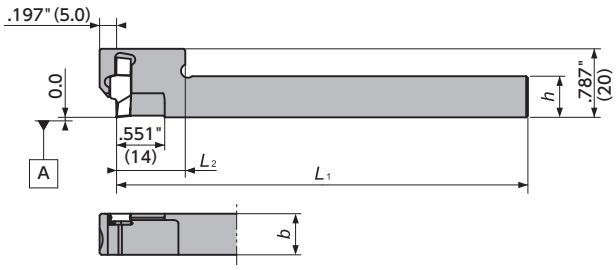
CTPA

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	h_2 (Inch)	h_2 (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
 TBPA..	**Y-CTPA¾08L-IN**	1	●		1/2		1/2		–	–	4.724	120	1.34	34	1.181	30	–	–	–	–	–	LRIS-4 × 12PW	CLR-15S

Inserts ➡R9

TBDP Series - Toolholders

Y-TBDP



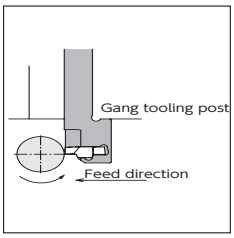


Figure-1

Right-Hand style shown

TBDP

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	h_2 (Inch)	h_2 (mm)	L_3 (Inch)	L_3 (mm)	Clamp Screw	Wrench
 TBDP..	**Y-TBDPR12S**	1	○		.472	12	.472	12	–	–	4.724	120	.081	2.05	.787	20	–	–	–	–	LRIS-4 × 12	LLR-25S

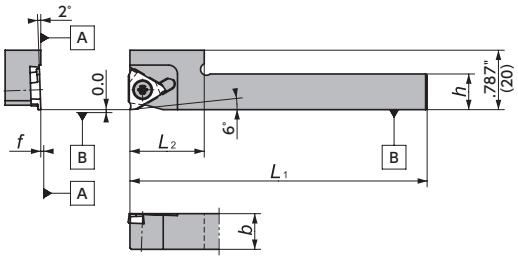
Inserts ➡R12

Grooving / Side turning / Back turning

GTT Series - Inserts

Y-GTT

Screw accessible from both sides



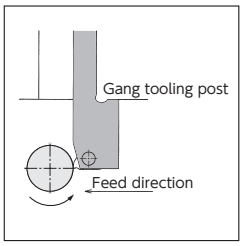
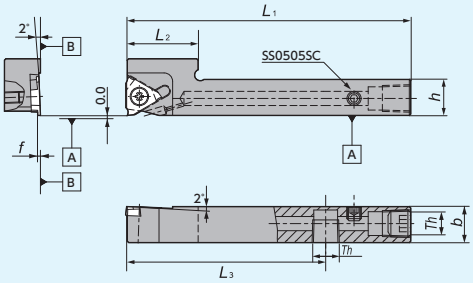


Figure-1

Right-Hand style shown
Takes Right-hand Insert

Y-GTT-OH2 (Coolant through)

Screw accessible from both sides



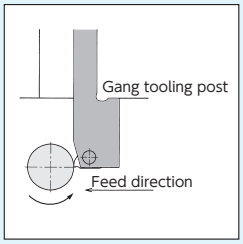


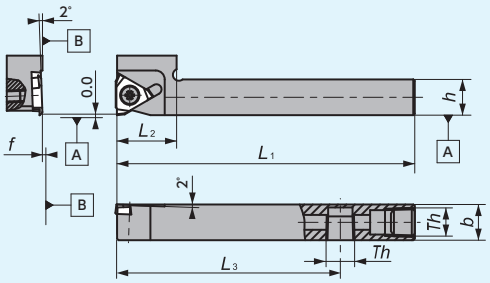
Figure-2

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown
Takes Right-hand Insert

Y-GTT-OH (Coolant through)

Screw accessible from both sides



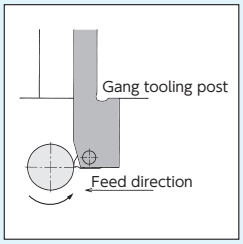


Figure-3

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown
Takes Right-hand Insert

GTT

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	a_r (Inch)	a_r (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
 TBMH32..	Y-GTTR5/16-IN	1	●		3/8		3/8		–	–	4.724	120	.000	0	.984	25.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTTR3/8-IN	1	●		1/2		1/2		–	–	4.724	120	.000	0	.984	25.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTTR5/8-IN	1	●		5/8		5/8		–	–	4.724	120	.000	0	.984	25.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT5/16MS	3	○		.394	10	.394	10	–	–	4.724	120	.000	0	.866	22.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT5/16S	1	○		.394	10	.394	10	–	–	4.724	120	.000	0	.787	20.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT3/8MS	3	○		.472	12	.472	12	–	–	4.724	120	.000	0	.866	22.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT3/8S	1	○		.472	12	.472	12	–	–	4.724	120	.000	0	.787	20.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT5/16H-IN-OH 💧	3	■		1/2		1/2		–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.756	70	NPT1/8	LR-S-4×10PW	CLR-15S
	Y-GTT5/16H-IN-OH2 💧	2	●		1/2		1/2		–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.953	75	NPT1/8	LR-S-4×10PW	CLR-15S
	Y-GTT5/16H00S-OH 💧	3	■		.472	12	.472	12	–	–	3.937	100	.000	0	.787	20.0	.063	1.6	2.756	70	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	Y-GTT5/16H00S-OH2 💧	2	●		.472	12	.472	12	–	–	3.937	100	.000	0	.787	20.0	.063	1.6	2.953	75	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	Y-GTT5/16H00-OH 💧	3	○		.630	16	.472	16	–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.953	75	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S

Inserts ➡R20・T12

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

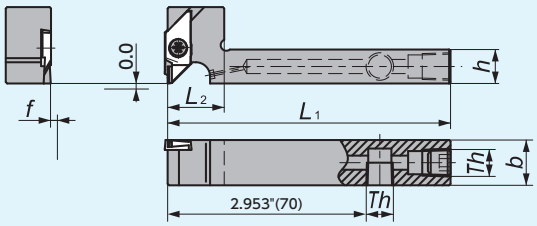
NTK New and Unique Swiss Tooling

Multi-functional Grooving for non-ferrous material

GTPA Series - Inserts

Y-GTPA-OH (Coolant through)

Screw Accessible from both sides



Th (Thread type)
Metric size holder:
Rc1/8 (PT1/8)

Figure-1

Right-Hand style shown

Y-GTPA

Screw Accessible from both sides

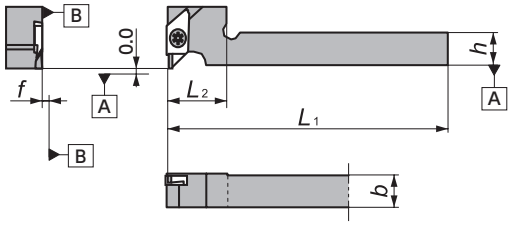


Figure-2

Right-Hand style shown

GTPA

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Th	Clamp Screw	Wrench
 GTPA	**Y-GTPA⅝1216HS-OH**	1	○		.472	12	.630	16	–	–	2.756	70	.004	0.1	.787	20	Rc1/8(PT1/8)	LR1S-4 × 12PW	CLR-15S
	Y-GTPA⅝1216H-OH	1	○		.630	16	.630	16	–	–	2.756	70	.004	0.1	.984	25	Rc1/8(PT1/8)	LR1S-4 × 12PW	CLR-15S
	Y-GTPA⅝1216	2	○		.472	12	.630	16	–	–	4.724	120	.004	0.1	.787	20	–	LR1S-4 × 12PW	CLR-15S

Inserts ➡T22

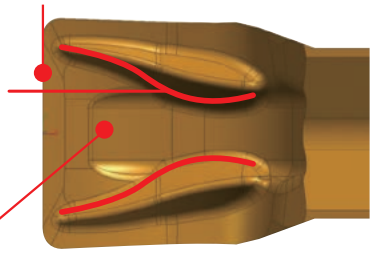
CUT MAX

Features

- New double-edge cut-off tools with 3mm width for max. cut-off diameter of 42mm
- Original 'S' shape chipbreaker provides controlled chip evacuation

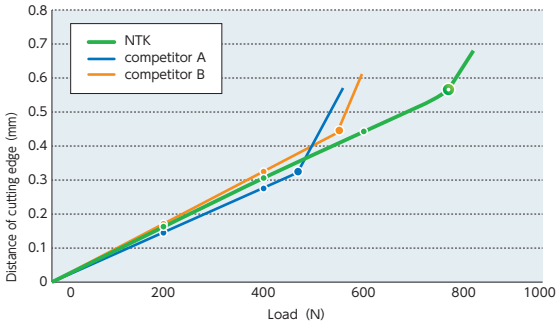
1 Chip control

- Straight design improves toughness of cutting edge
- Folds chips from both ends strongly



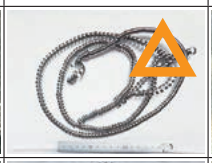
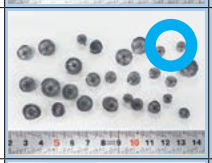
- High rake angle for up-sharp edge

2 High rigidity



- Improved reliability and productivity on high-load cut-off application

Case study

Feed IPR	CUT MAX Chip	CUT MAX Surface finish	Competitor A (3D molded low cutting force type chipbreaker) Chip	Competitor A Surface finish	Competitor B (3D molded rigid type chipbreaker) Chip	Competitor B Surface finish
.0012	 ○	 ○	 ✕	 ○	 △	 △
.0020	 ○	 ○	 △	 ○	 △	 △
.0039	 ○	 ○	 ○	 ✕	 ✕	 ○
	Excellent machined surface finish		In high feed rate area, rough surface finish		In low feed rate area, rough surface finish	

Cutting condition : 330SFM WET Material : 1045 (ϕ1.653")
Holder : CTWPR2020K-3D42 Insert : GWPFM300N02-GT DM4

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

DS-ACH Toolholders

Features

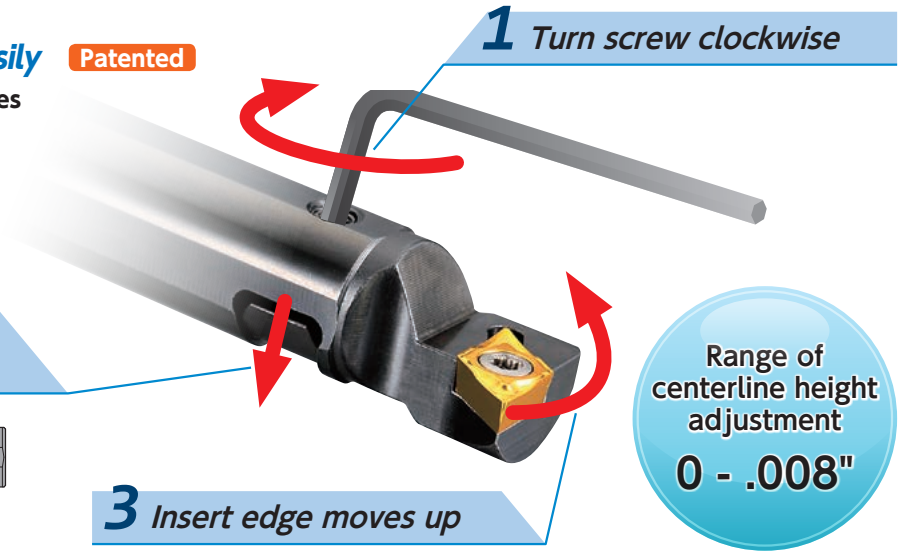
WATCH ON YouTube

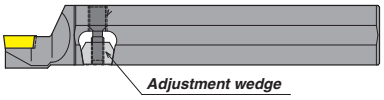
- Adjust centerline height simply with a wrench

1 Adjust centerline height easily

Patented

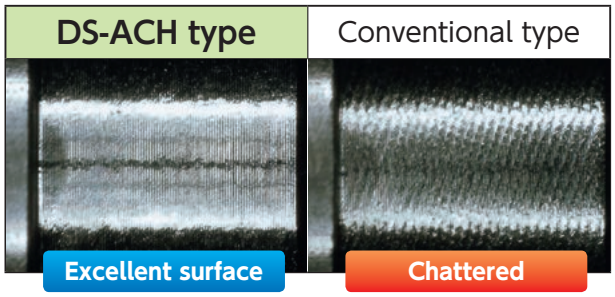
- Eliminate center boss on end faces
- Provide constant OD dimension
- Adjust easily in machine





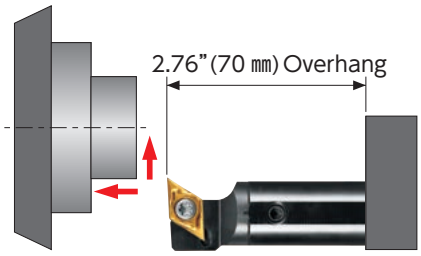
2 Optimized design reduces vibration

Improved chatter resistance.



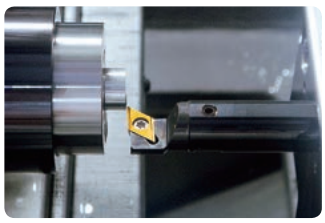
Tested cutting conditions (304 SS)

Work material : 304 SS
Holder : DS-SDUL19-11-ACH
Insert : DCGT32.508MCL TM4
Cutting condition : 250 SFM .002 IPR .079" DOC WET

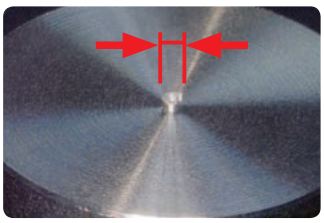


How to use

Insert moves in an upward direction only. (Loosen wedge screw before making any adjustment)

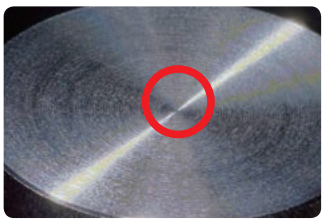


①Install the holder slightly below centerline. Then take a facing test cut.



②Measure the diameter of the centerboss.

③Raise the center height by one half of the diameter of the boss. Adjustment references are available in the tool case.



④Re-machine the end face.

*Adjustment instructions are supplied in the tool case

DS Toolholders

Make the most of vacant drill sleeves

DS / DS-ACH Toolholders

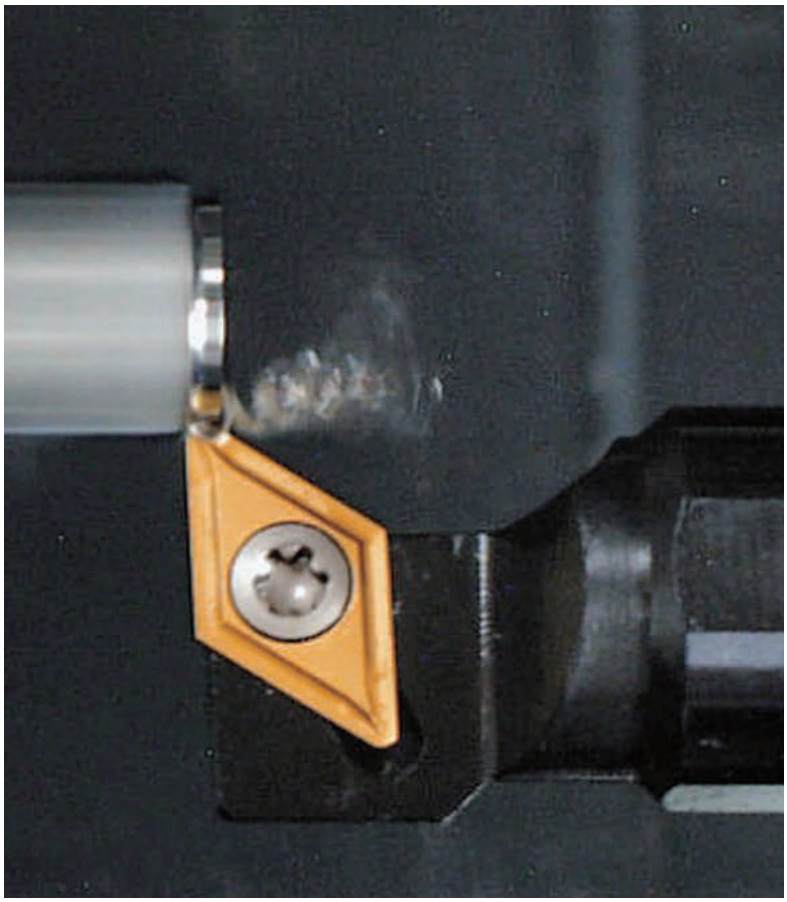
Industry Proven Concept

Are you satisfied with the number of tool positions in your machine?

NTK DS type toolholders are useful when additional tool positions are required

Front turning, Back turning, Grooving, Threading, and Small boring which fit into the machines' vacant drill sleeves

DS Series toolholders can be used with both Swiss or non-Swiss type CNC lathes



Features

- More turning tools without any hassle
- Available for Front turning, Back turning, Grooving, Threading, Micro-boring, and interchangeable tooling
- Available shank size range: from .511"(14㎜) to 1"(25.4㎜)

NTK New and Unique Swiss Tooling

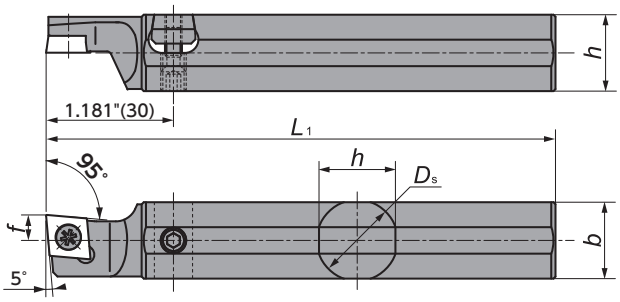
Front Turning

CC.. Series - Toolholders

DS-SCLL-ACH (Adjustable centerline height)

〈Parts〉

Shank	Wedge	Screw for Wedge
ϕ.630" (16)	ACH-W18 (5805601)	WS060415-003 (5795539)
ϕ3/4" (19.05)		
ϕ.787" (20)		WS060419-004 (5799226)
ϕ.866" (22)		
ϕ1" (25.4)	ACH-W24 (5805619)	



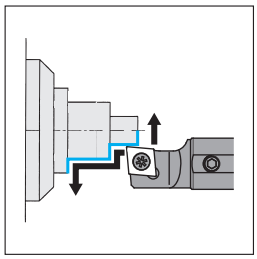


Figure-1

Left-Hand style shown
Takes Right-hand or Neutral insert

DS-SCL

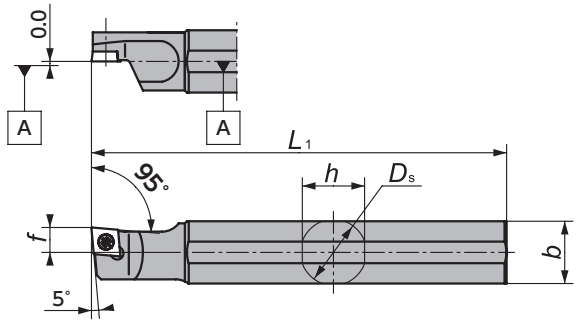


Figure-2

DS-SCL (Coolant through)

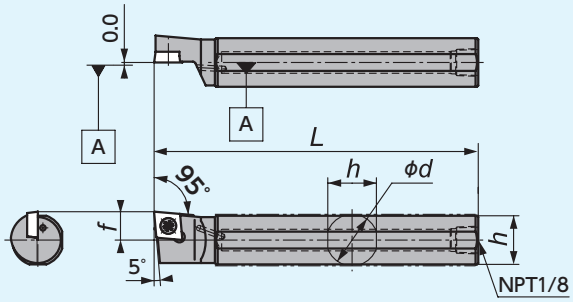


Figure-3

Left-Hand style shown
Takes Right-hand or Neutral insert

DS-SCL (Takes right-hand or neutral insert)

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
CC..21.5..	DS-SCL⅝14F-06	2		○	.551	14.000	.512	13	.512	13	3.150	80	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCL⅝15H-06	2		○	5/8	15.875	.591	15	.591	15	3.937	100	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCL⅝16F-06	2		○	.630	16.000	.591	15	.591	15	3.150	80	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCL¾19-06	2		●	3/4	19.050	.709	18	.709	18	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCL¾20X-06	2		○	.787	20.000	.748	19	.748	19	3.740	95	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCL¾20-06	2		●	.787	20.000	.748	19	.748	19	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCL⅞22-06	2		○	.866	22.000	.827	21	.827	21	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCL⅞25-06MET	2		●	.984	25.000	.945	24	.945	24	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCL⅞25-06	2		●	1	25.400	.945	24	.945	24	5.906	150	.236	6.0	LRIS-2.5 × 7	CLR-15S
CC..32.5..	DS-SCL⅝14F-09	2		○	.551	14.000	.512	13	.512	13	3.150	80	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅝15H-09	2		○	5/8	15.875	.591	15	.591	15	3.937	100	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅝16F-09	2		○	.630	16.000	.591	15	.591	15	3.150	80	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL¾19GX-09	2		○	3/4	19.050	.709	18	.709	18	3.346	85	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL¾19-09	2		●	3/4	19.050	.709	18	.709	18	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL¾19-09-004	3		●	3/4	19.050	.709	18	.709	18	4.724	120	.413	10.5	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL¾20X-09	2		○	.787	20.000	.748	19	.748	19	3.740	95	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL¾20-09	2		●	.787	20.000	.748	19	.748	19	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅞22-09	2		●	.866	22.000	.827	21	.827	21	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅞22-09-005	3		●	.866	22.000	.827	21	.827	21	4.724	120	.472	12.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅞25-09MET	2		○	.984	25.000	.945	24	.945	24	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅞25-09	2		●	1	25.400	.945	24	.945	24	5.906	150	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅞32-09	2		○	1.260	32.000	1.181	30	1.181	30	5.906	150	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅝16F-09-ACH	1		●	.630	16.000	.610	15.5	.610	15.5	3.150	80	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL¾19-09-ACH	1		●	3/4	19.050	.709	18.0	.709	18.0	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL¾20-09-ACH	1		●	.787	20.000	.748	19.0	.748	19.0	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅞22-09-ACH	1		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅞25-09MET-ACH	1		●	.984	25.000	.945	24.0	.945	24.0	5.906	150	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCL⅞25-09-ACH	1		●	1	25.400	.945	24.0	.945	24.0	5.906	150	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65

Inserts ➡Q13

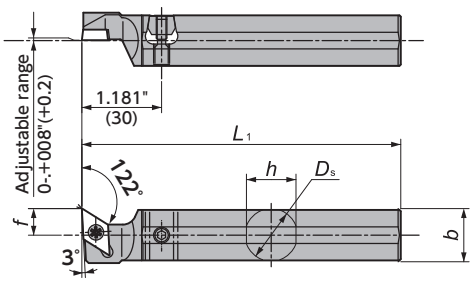
DC.. Series - Toolholders

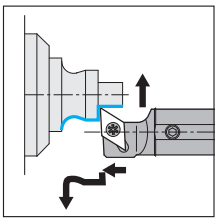
DS-SDU-ACH (Adjustable centerline height)

〈Parts〉

Shank	Wedge	Screw for Wedge
ϕ.630" (16)	ACH-W18 (5805601)	WS060415-003 (5795539)
ϕ3/4" (19.05)		
ϕ.787" (20)		WS060419-004 (5799226)
ϕ.866" (22)		
ϕ1" (25.4)	ACH-W24 (5805619)	

Figure-1

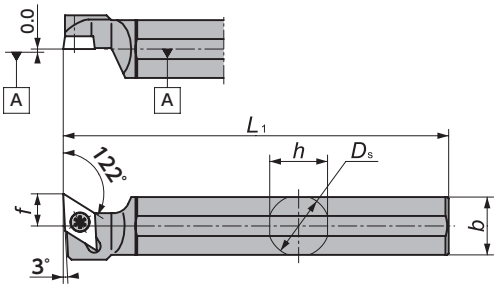


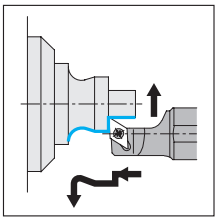


Left-Hand style shown
Takes Right-hand or Neutral insert

DS-SDU

Figure-2





Left-Hand style shown
Takes Right-hand or Neutral insert

DS-SDX / DS-SDX (Coolant through)

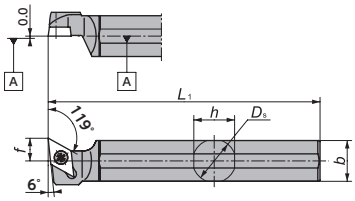


Figure-3

DS-SDXL22-11-006 (Coolant through)

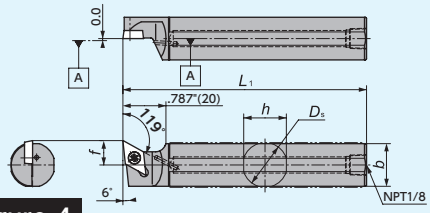
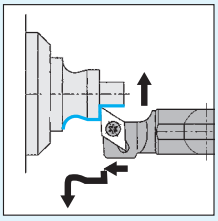


Figure-4



Left-Hand style shown
Takes Right-hand or Neutral insert

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
DC..21.5.. DC..21.5..WP	DS-SDU⅝14F-07	2		○	.551	14.000	.512	13.0	.512	13.0	3.150	80	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDU⅝15H-07	2		○	5/8	15.875	.591	15.0	.591	15.0	3.937	100	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDU⅝16F-07	2		○	.630	16.000	.591	15.0	.591	15.0	3.150	80	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDU⅝16X-07	2		○	.630	16.000	.591	15.0	.591	15.0	3.740	95	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDU⅝19-07	2		○	3/4	19.050	.709	18.0	.709	18.0	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDU⅝20X-07	2		○	.787	20.000	.748	19.0	.748	19.0	3.740	95	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDU⅝20-07	2		●	.787	20.000	.748	19.0	.748	19.0	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDU⅝22-07	2		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	DS-SDU⅝14F-11	2		○	.551	14.000	.512	13.0	.512	13.0	3.150	80	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝16F-11	2		○	.630	16.000	.591	15.0	.591	15.0	3.150	80	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝19-11	2		●	3/4	19.050	.709	18.0	.709	18.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝19-11SPL	2		○	3/4	19.050	.709	18.0	.709	18.0	6.300	160	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝20X-11	2		○	.787	20.000	.748	19.0	.748	19.0	3.740	95	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝20-11	2		●	.787	20.000	.748	19.0	.748	19.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝22-11	2		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝23-11-007	2		○	.906	23.000	.866	22.0	.866	22.0	2.756	70	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝25-11MET	2		●	.984	25.000	.945	24.0	.945	24.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝25-11	2		●	1	25.400	.945	24.0	.945	24.0	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝25-11SPL	2		○	1	25.400	.945	24.0	.945	24.0	5.906	150	.492	12.5	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝16F-11-ACH	1	●	●	.630	16.000	.610	15.5	.610	15.5	3.150	80	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝19-11-ACH	1		●	3/4	19.050	.709	18.0	.709	18.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝20-11-ACH	1		●	.787	20.000	.748	19.0	.748	19.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝22-11-ACH	1		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝25-11MET-ACH	1		●	.984	25.000	.945	24.0	.945	24.0	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDU⅝25-11-ACH	1		●	1	25.400	.945	24.0	.945	24.0	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDX⅝22-11-006 💧	4		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.472	12.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDX⅝19-11	3		○	3/4	19.050	.709	18.0	.709	18.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDX⅝20X-11	3		○	.787	20.000	.748	19.0	.748	19.0	3.740	95	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDX⅝20-11	3		○	.787	20.000	.748	19.0	.748	19.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDX⅝25-11MET	3		○	.984	25.000	.945	24.0	.945	24.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDX⅝32-11	3		○	1.260	32.000	1.181	30.0	1.181	30.0	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65

Inserts ➡Q20

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

NTK New and Unique Swiss Tooling

VC.. Series - Toolholders

DS-SVX

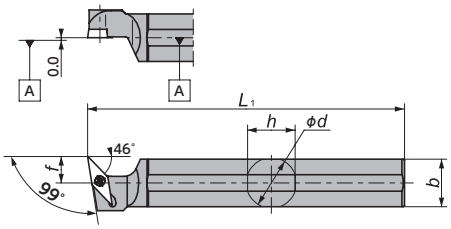


Figure-1

Gage Insert	Item Number	Figure	Stock R	Stock L	ϕ d (Inch)	ϕ d (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
VC..22..	DS-SVXR/L14F-11	1		○	.551	14.000	.512	13	.512	13	3.150	80	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVXR/L15H-11	1		○	5/8	15.875	.591	15	.591	15	3.937	100	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVXR/L16F-11	1		●	.630	16.000	.591	15	.591	15	3.150	80	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVXR/L19-11	1		●	3/4	19.050	.709	18	.709	18	4.724	120	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVXR/L19-11SPL	1		○	3/4	19.050	.709	18	.709	18	6.299	160	.433	11.0	LRIS-2.5 × 7	CLR-15S
	DS-SVXR/L20X-11	1		○	.787	20.000	.748	19	.748	19	3.740	95	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVXR/L20-11	1		●	.787	20.000	.748	19	.748	19	4.724	120	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVXR/L22-11	1		●	.866	22.000	.827	21	.827	21	4.724	120	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVXR/L25-11MET	1		○	.984	25.000	.945	24	.945	24	5.906	150	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVXR/L25-11	1		●	1	25.400	.945	24	.945	24	5.906	150	.394	10.0	LRIS-2.5 × 7	CLR-15S

Inserts ➡Q27

VP..08 Series - Toolholders

DS-SVXP

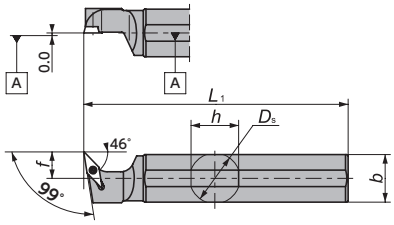
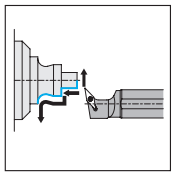


Figure-2



Left-Hand style shown
Takes Right-hand or Neutral insert

Gage Insert	Item Number	Figure	Stock R	Stock L	Ds (Inch)	Ds (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 VP..0802	DS-SVXPR/L19-08	2		○	3/4	19.050	.709	18	.709	18	4.724	120	.394	10	LRIS-2 × 6	CLR-13S
	DS-SVXPR/L20-08	2		○	.787	20.000	.748	19	.748	19	4.724	120	.394	10	LRIS-2 × 6	CLR-13S
	DS-SVXPR/L22-08	2		○	.866	22.000	.827	21	.827	21	4.724	120	.394	10	LRIS-2 × 6	CLR-13S
	DS-SVXPR/L25-08	2		○	1	25.400	.945	24	.945	24	5.906	150	.394	10	LRIS-2 × 6	CLR-13S

Inserts ➡Q29

VP..22 Series - Toolholders

DS-SVVP-ACH (Adjustable centerline height)

〈Parts〉

Shank	Wedge	Screw for Wedge
ϕ.630" (16)	ACH-W18 (5805601)	WS060415-003 (5795539)
ϕ3/4" (19.05)		
ϕ.787" (20)		WS060419-004 (5799226)
ϕ.866" (22)		
ϕ1" (25.4)	ACH-W24 (5805619)	

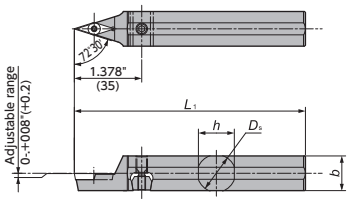


Figure-3

DS-SVVP

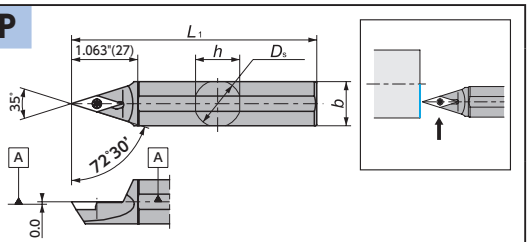


Figure-4

Gage Insert	Item Number	Figure	Stock Neutral	Ds (Inch)	Ds (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	Clamp Screw	Wrench
 VP..22	DS-SVVPN19-11	4	○	3/4	19.050	.709	18.0	.709	18	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN22-11	4	○	.866	22.000	.827	21.0	.827	21	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN16-11-ACH	3	●	.630	16.000	.610	15.5	.610	15	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN19-11-ACH	3	●	3/4	19.050	.709	18.0	.709	18	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN20-11-ACH	3	●	.787	20.000	.748	19.0	.748	19	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN22-11-ACH	3	●	.866	22.000	.827	21.0	.827	21	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN25-11-ACH	3	●	1	25.400	.945	24.0	.945	24	5.906	150	LRIS-2.5 × 7	CLR-15S

Inserts ➡Q30

TN.. Series - Toolholders

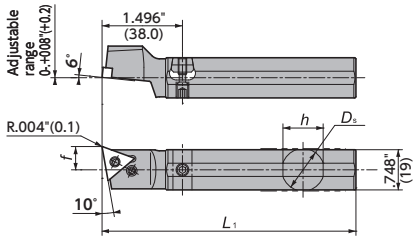
DS-PTX-ACH (Adjustable centerline height)

〈Parts〉

Shank	Wedge	Screw for Wedge
φ.630" (16)	ACH-W18 (5805601)	WS060415-003 (5795539)
φ3/4" (19.05)		
φ.787" (20)		WS060419-004 (5799226)
φ.866" (22)		
φ1" (25.4)	ACH-W24 (5805619)	

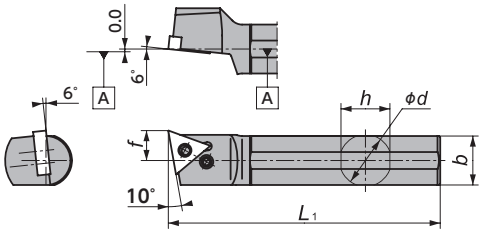
Shim	Clamp Pin	Spring
—	LCL33N	—

Figure-1



Left-Hand style shown
Takes Right-hand or Neutral insert.

DS-PTX



Shim	Clamp Pin	Spring
—	LCL33N	—

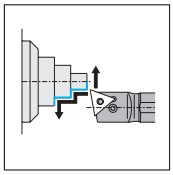


Figure-2

Left-Hand style shown
Takes Right-hand or Neutral insert.

■DS-PTX / DS-PTX-ACH

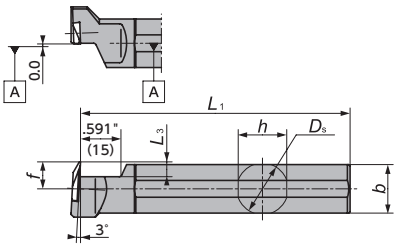
Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
TN..33..	DS-PTXR/L19-33	2		○	3/4	19.050	.709	18.0	.709	18	4.724	120	.433	11.0	LCS33	LW-2
	DS-PTXR/L20-33	2		○	.787	20.000	.748	19.0	.748	19	4.724	120	.433	11.0	LCS33	LW-2
	DS-PTXR/L22-33	2		○	.866	22.000	.827	21.0	.827	21	4.724	120	.472	12.0	LCS33	LW-2
	DS-PTXR/L25M-33	2		○	1	25.400	.945	24.0	.945	24	5.906	150	.512	13.0	LCS33	LW-2
TN..33..	DS-PTXR/L16-33-ACH	1		●	.630	16.000	.610	15.5	.591	15	4.724	120	.433	11.0	LCS33	LW-2
	DS-PTXR/L19-33-ACH	1		●	3/4	19.050	.709	18.0	.709	18	4.724	120	.433	11.0	LCS33	LW-2
	DS-PTXR/L20-33-ACH	1		●	.787	20.000	.748	19.0	.748	19	4.724	120	.433	11.0	LCS33	LW-2
	DS-PTXR/L22-33-ACH	1		●	.866	22.000	.827	21.0	.827	21	4.724	120	.472	12.0	LCS33	LW-2
	DS-PTXR/L25-33MET-ACH	1		●	1	25.000	.945	24.0	.945	24	5.906	150	.512	13.0	LCS33	LW-2
	DS-PTXR/L25-33-ACH	1		●	1	25.400	.945	24.0	.945	24	5.906	150	.512	13.0	LCS33	LW-2

Inserts ➡Q36

■ Back Turning

TBP.. Series - Toolholders

DS-TBP



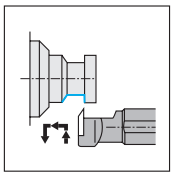


Figure-1

Left-Hand style shown
Takes Right-hand Insert

■DS-TBP (Takes right-hand inserts)

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_3 (Inch)	L_3 (mm)	Clamp Screw	Wrench
 TBP..FR..	DS-TBPR/L19	1		○	3/4	19.050	.709	18	.709	18	4.724	120	.433	11.0	.217	5.5	LRIS-4 × 10	LLR-25S-20×65
	DS-TBPR/L20	1		○	.787	20.000	.748	19	.748	19	4.724	120	.433	11.0	.217	5.5	LRIS-4 × 10	LLR-25S-20×65
	DS-TBPR/L25	1		○	1.00	25.400	.945	24	.945	24	5.906	150	.512	13.0	.217	5.5	LRIS-4 × 10	LLR-25S-20×65

Inserts ➡R9

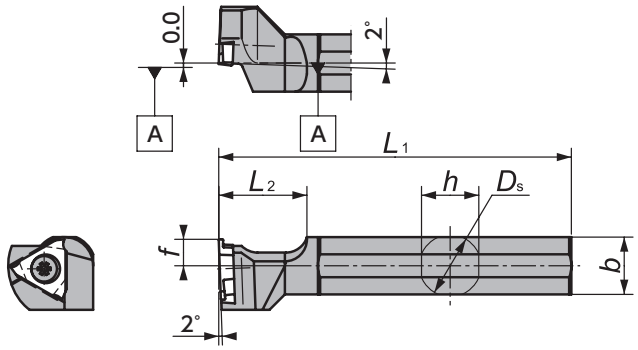
● : Stock
● : Stock (Newly added)
■ □R□L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

NTK New and Unique Swiss Tooling

Grooving / Side Turning / Back Turning

GTT.. Series - Toolholders

DS-GTT



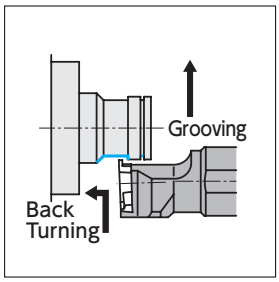


Figure-1

Left-Hand style shown
Takes Right-hand Insert

DS-GTT

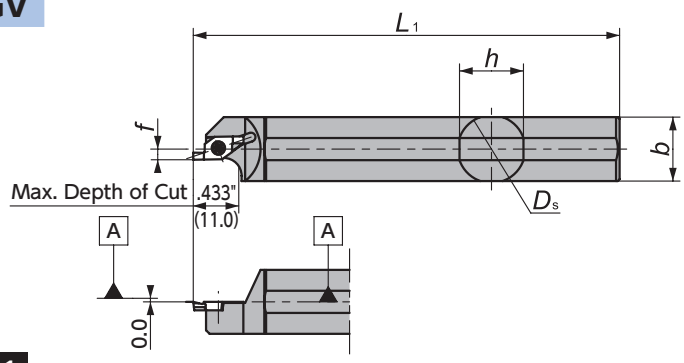
Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Clamp Screw	Wrench
 TBMH32.. GTM.32 TMG32	DS-GTT8¼14F	1		○	.551	14.000	.512	13	.512	13	3.150	80	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT8¼15H	1		○	5/8	15.875	.591	15	.591	15	3.937	100	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT8¼16X	1		●	.630	16.000	.591	15	.591	15	3.740	95	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT8¼19	1		●	3/4	19.050	.709	18	.709	18	4.724	120	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT8¼20	1		●	.787	20.000	.748	19	.748	19	4.724	120	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT8¼22	1		●	.866	22.000	.827	21	.827	21	4.724	120	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT8¼25-MET	1		○	.984	25.000	.945	24	.945	24	4.724	120	.394	10	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT8¼25	1		●	1	25.400	.945	24	.945	24	5.906	150	.394	10	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT8¼32	1		○	1.260	32.000	1.181	30	1.181	30	5.906	150	.394	10	.787	20	LR-S-4 × 9	RLR-20S

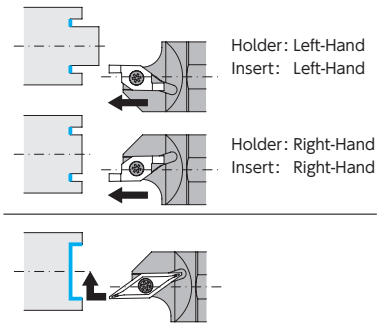
Inserts ➡R20 • T12

Face Grooving

FGV.. Series - Toolholders

DS-FGV





Only right hand holder is available when using FBV insert

Figure-1

Right-Hand with FGV style shown

DS-FGV

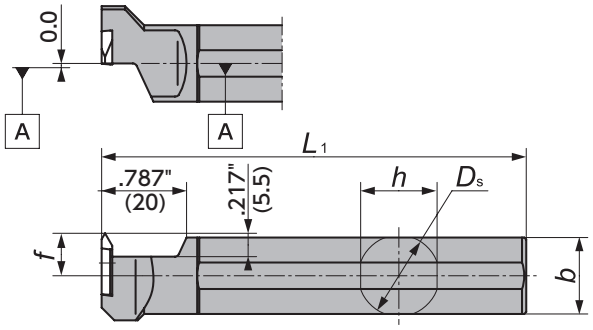
Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 FGV FBV	DS-FGV8¼16-012	1	○	○	.630	16.000	.591	15	.591	15	3.150	80	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV8¼19	1	○	○	3/4	19.050	.709	18	.709	18	4.724	120	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV8¼20	1	○	○	.787	20.000	.748	19	.748	19	4.724	120	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV8¼22	1	○	○	.866	22.000	.827	21	.827	21	4.724	120	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV8¼22M	1	○	○	.866	22.000	.827	21	.827	21	5.906	150	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV8¼25-MET	1	○	○	.984	25.000	.945	24	.945	24	5.906	150	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV8¼25	1	○	○	1	25.400	.965	24.5	.965	24.5	4.724	120	.118	3.0	LRIS-2.5 × 7	CLR-15S

Inserts ➡T21

Threading

TTP.. Series - Toolholders

DS-TTP



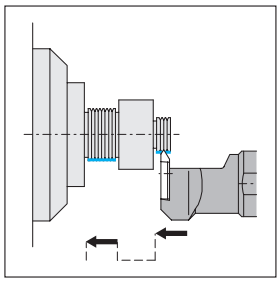


Figure-1

Left-Hand style shown
Takes Right-Hand insert.

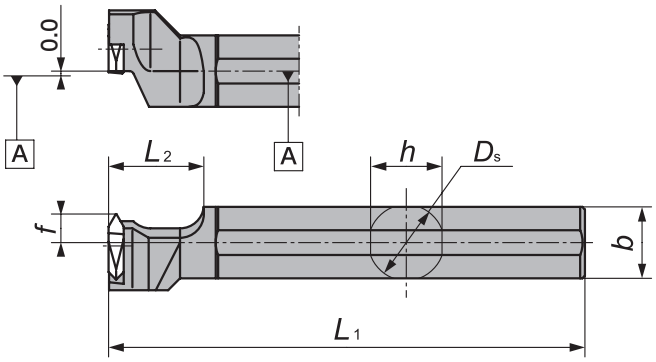
DS-TTP

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 TTP..	DS-TTP R/L 16F	1		○	.630	16.000	.591	15	.591	15	3.150	80	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-TTP R/L 19	1		●	3/4	19.050	.709	18	.709	18	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-TTP R/L 20	1		●	.787	20.000	.748	19	.748	19	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-TTP R/L 22	1		●	.866	22.000	.827	21	.827	21	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-TTP R/L 25-MET	1		○	.984	25.000	.945	24	.945	24	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-TTP R/L 25	1		●	1	25.400	.945	24	.945	24	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65

Inserts ➡U11

STTN.. Series - Toolholders

DS-STT



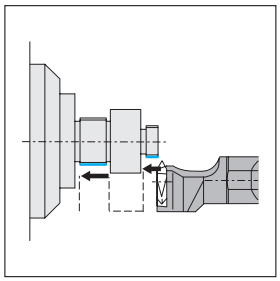


Figure-2

Left-Hand style shown
Takes Right-Hand insert.

DS-STT R/L

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 TTMH3260	DS-STT R/L 14F	2		○	.551	14.000	.512	13	.512	13	3.150	80	.236	6.0	LR-S-4 × 9	RLR-20S
	DS-STT R/L 15H	2		○	5/8	15.875	591	15	591	15	3.937	100	.236	6.0	LR-S-4 × 9	RLR-20S
	DS-STT R/L 16X*	2		○	.630	16.000	591	15	591	15	3.346	85	.236	6.0	LR-S-4 × 9	RLR-20S

Inserts ➡U14

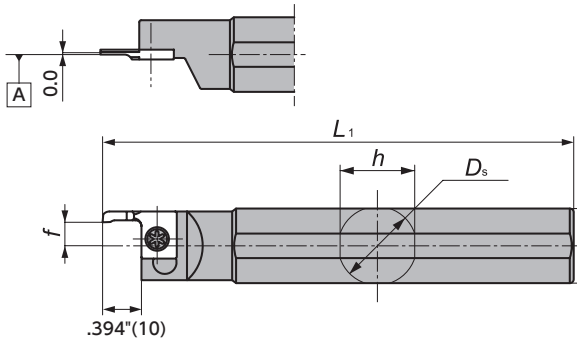
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

NTK New and Unique Swiss Tooling

ID Boring

LBM.. Series - Toolholders

DS-LBMB



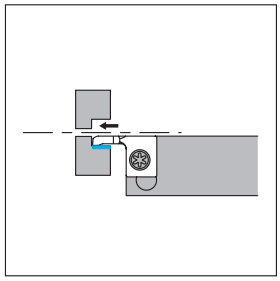


Figure-1

Left-Hand style shown

LBMAR / CH-TTPL

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 Long type	**DS-LBMBL14F**	1		○	.551	14.000	.512	13	.512	13	–	–	3.150	80 ＊1	＊3	＊3	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL15H	1		○	5/8	15.875	.591	15	.591	15	–	–	3.937	100 ＊1	＊3	＊3	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL16X	1		●	.630	16.000	.591	15	.591	15	–	–	3.740	95 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL19	1		●	3/4	19.050	.709	18	.709	18	–	–	4.724	120 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL20	1		●	.787	20.000	.748	19	.748	19	–	–	4.724	120 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL22	1		●	.866	22.000	.827	21	.827	21	–	–	4.724	120 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL25-MET	1		○	.984	25.000	.945	24	.945	24	–	–	4.724	120 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL25	1		○	1	25.400	.945	24	.945	24	–	–	5.906	150 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S

Inserts ➡V7

Interchangenable Tooling

CSV.. Series - Toolholders

DS-CSVL

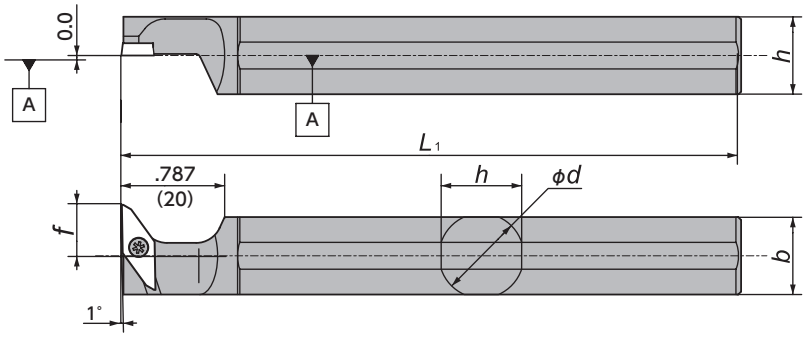


Figure-1

Left-Hand style shown
Takes right-hand inserts

DS-CSVL (Takes right-hand insert)

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 CSV..11FR..	**DS-CSVL15**	1		●	5/8	15.875	.591	15	.591	15	4.724	120	.394	10	LRIS-2.5 × 7	CLR-15S

Inserts ➡O53

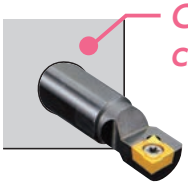
DS Sleeve

Features

WATCH ON YouTube

- Prevents coolant and chips from damaging live tool stations
- Accepts DS Series holders to perform various back working
- Designed exclusively for 22mm(.886") and 34mm(1.339") round shank stations
- Compatible with 16mm(.630") / 22mm(.886") round shank DS Series holders

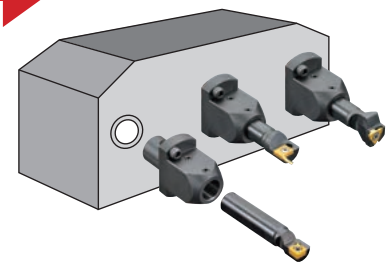
First Recommendation for Turning



Coolant and chips sneak in.

When DS holders are used directly in live tool stations, coolant and chips sneak in from the flat of holders to damage the live stations

How it works

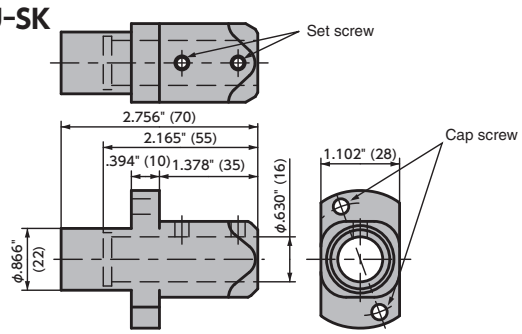


Stop coolant and chips from damaging live tool stations.

By using the DS Sleeve, you can use the DS Series holders without any worry about damaging live stations

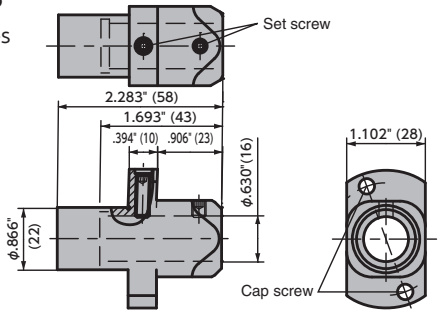
For Back 4-spindle unit

SS-DSU-SK



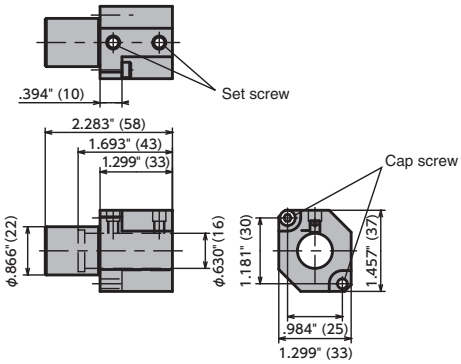
SS-DSU-L23

For DS-ACH series

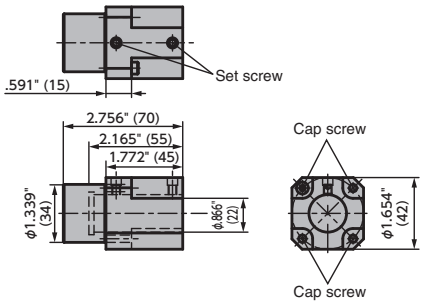


For Back 8-spindle unit

SS-DSU-B8L23



SS-DSU-B8D34



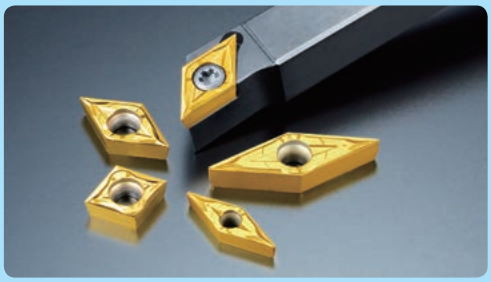
Item number	Stock	Spare parts				Coment
		Cap screw	Wrench	Set screw	Wrench	
SS-DSU-SK	●	CS0520	LW-4	SS0506	LW-2.5	
SS-DSU-L23	●	CS0520	LW-4	SS0506 SS0515	LW-2.5	For DS-ACH Series
SS-DSU-B8L23	●	CS0420	LW-3	SS0506	LW-2.5	Can take DS-ACH Series
SS-DSU-B8D34	●	CS0425	LW-3	SS0506	LW-2.5	

Machine Information ➡Y29

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

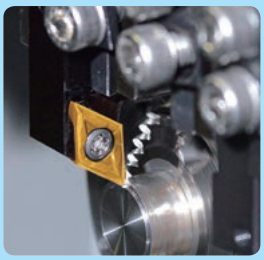
Front Turning Chipbreaker Quartet

YL Chipbreaker

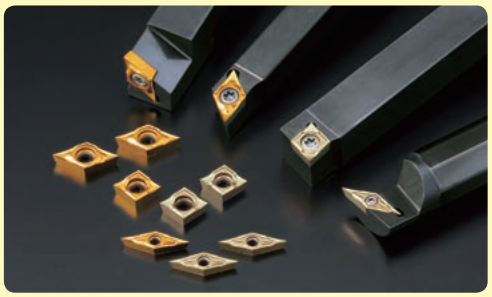


- Great combination of sharpness and toughness
- Covers extremely wide range
- Excellent chip control

WATCH ON YouTube

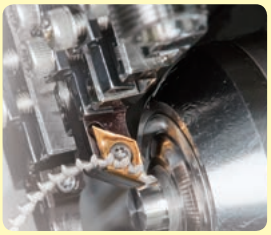


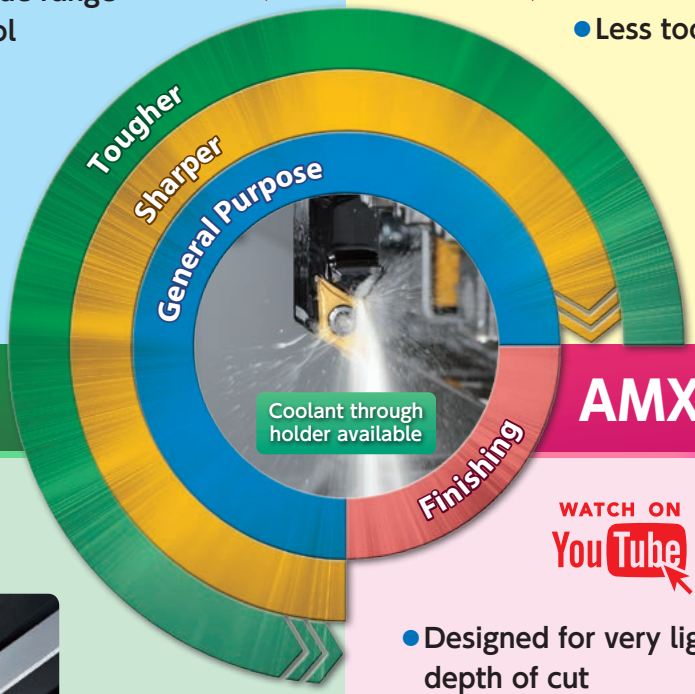
CL Chipbreaker



WATCH ON YouTube

- Sharpest molded Chipbreaker
- Excellent chip control
- Less tool pressure





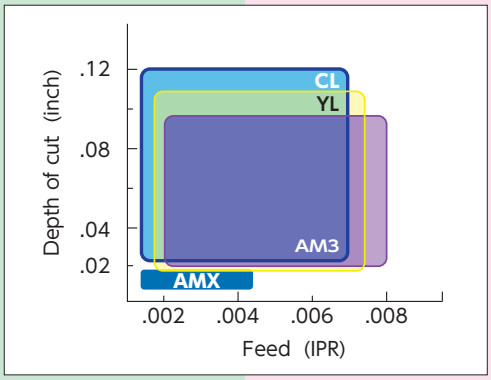
AM3 Chipbreaker

- All purpose chipbreaker
- Sharp edge with toughness

AMX Chipbreaker

WATCH ON YouTube

- Designed for very light depth of cut
- Exceptional sharpness



UL Chipbreaker

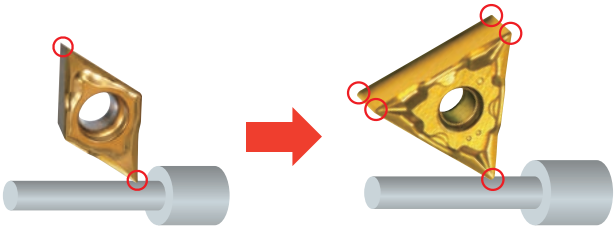
6 corner insert for Swiss machines

Features

WATCH ON YouTube

- First negative style insert designed for Swiss machines
- Less tool pressure and good chip control

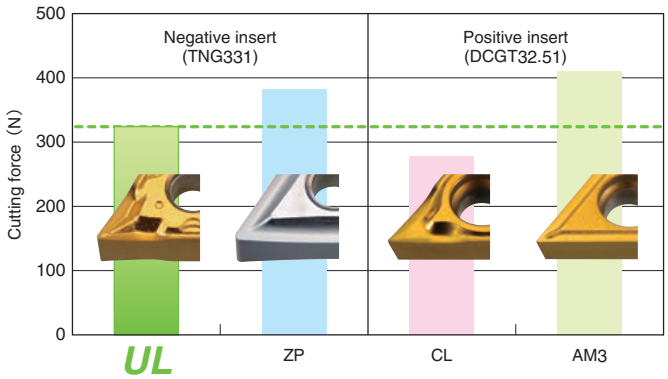
Reduce Cost in Swiss Machining



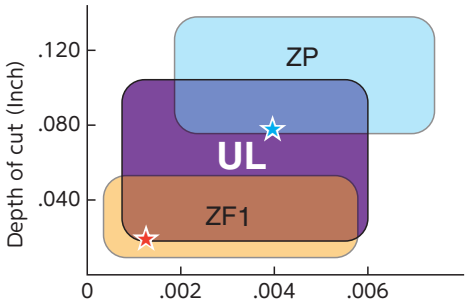
Positive insert with sharp cutting edge is required for Swiss machining.

With UL chipbreaker, negative insert provides sharp cutting edge AND more corners.

Cuts Like Positive Inserts

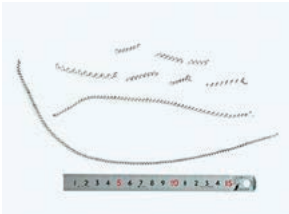


Covers a Wide Range of Cutting Conditions with Good Chip Control

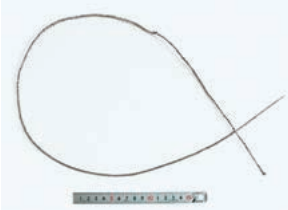


《304 SS》 260 SFM WET

★ .001 IPR .020" DOC



★ .004 IPR .079" DOC

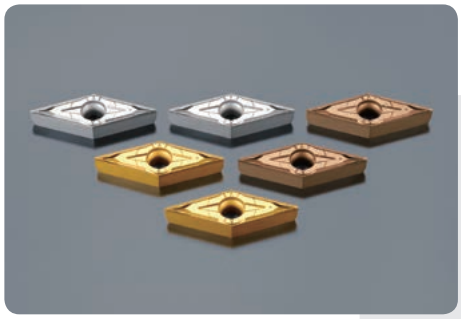


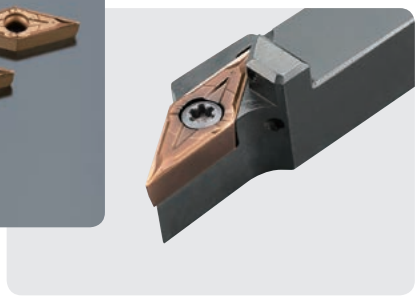
Toolholders for Swiss Machines

Available in ACH (Adjustable centerline height) toolholder

Holders ➡Q34
Inserts ➡Q36

VBGT Tooling

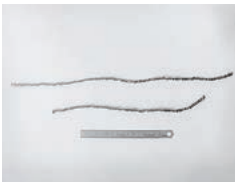
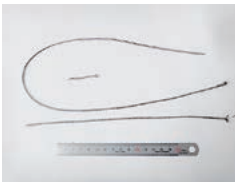
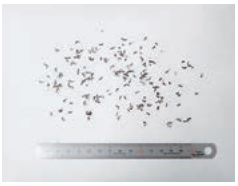




Features

- NTK developed the "VB" style chipbreaker with a unique combination of both sharpness and toughness
- Excellent chip control and covers a wide range of cutting conditions
- "G" tolerance inserts provide great surface finishes and stable part tolerances

Wide Chip Control Range

304SS (ϕ.630") 260SFM		Feed (IPR)		
		.002"	.003"	.005"
Depth of cut (inch)	.118"			
	.079"			
	.039"			
	.020"			

Coolant Through Toolholders Available

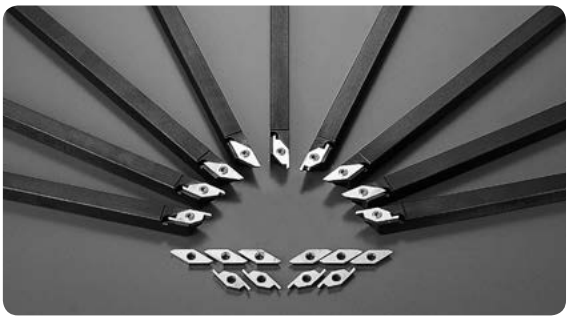
- Evacuates chips away from the cutting edge
- Reduces cutting tool temperature and keeps edge sharp even large depth of cut conditions
- Improves part tolerance by steady coolant supply to the edge

* Left-hand holders (SVJBL) are designed for Right-hand machines

CSV Series

Tooling for small diameter parts

Best tool for up to .200" diameter materials



Features

- Very up- sharp edge with mirror finish provides superior precise machining
- Interchangeable tool：
  All the inserts can use the same toolholder
- Specially designed edge shape for small diameter machining

CSV toolholder

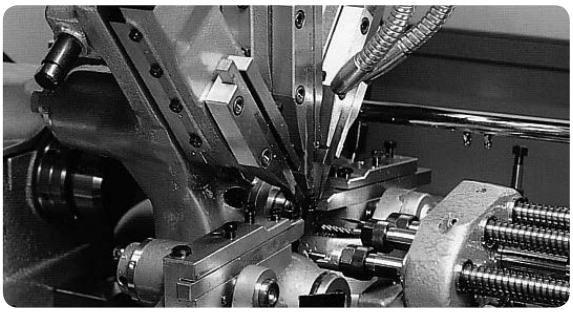
Front turning

Threading

Back turning

Cut-off

Grooving



- Holders for Cam-style machine also available

CSV Series - Toolholders

Best for up to .200" diameter material

CSV-NC

For Gang-style machine

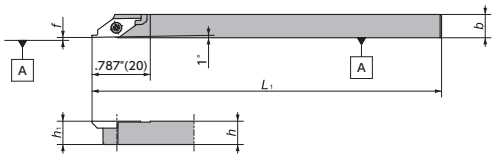


Figure-1

Right-Hand style shown

CSV

For Cam-style machine

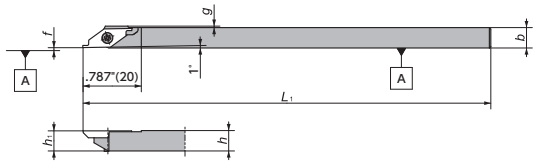


Figure-2

Right-Hand style shown

DS-CSVL

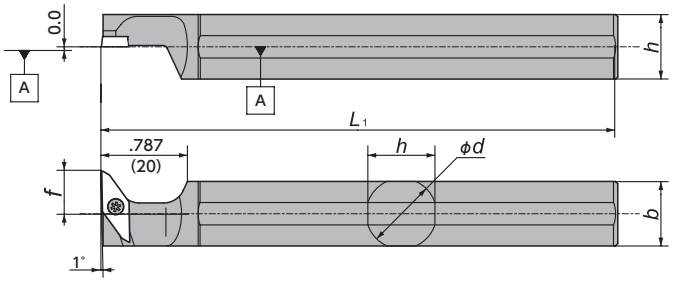


Figure-3

Left-Hand style shown
Takes right-hand inserts

CSV Series - Toolholders

■CSVR/L / CSVR/L-NC

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	g (Inch)	g (mm)	Clamp Screw	Wrench
 CSV..11..	**CSVR/L06-IN-NC**	1	●	●	3/8		3/8		3/8		4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08-IN-NC	1	●	●	1/2		1/2		1/2		4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08NC	1	○	○	.315	8	.315	8	.315	8	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08NC-F	1	○		.315	8	.315	8	.315	8	4.724	120	0-.004	0.0-0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L10GXNC	1	○		.394	10	.394	10	.394	10	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L10NC	1	○	○	.394	10	.394	10	.394	10	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12NC	1	●	●	.472	12	.472	12	.472	12	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L07GX	2	○		.275	7	.275	7	.275	7	3.346	85	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSVR/L07	2	○	●	.275	7	.275	7	.275	7	5.512	140	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSVR/L08GX	2	○		.315	8	.315	8	.315	8	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08	2	●	●	.315	8	.315	8	.315	8	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L095	2	○		.374	9.5	.374	9.5	.374	9.5	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L10	2	●	○	.394	10	.394	10	.394	10	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12GX	2	○		.472	12	.472	12	.472	12	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12	2	●		.472	12	.472	12	.472	12	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S

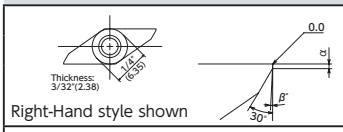
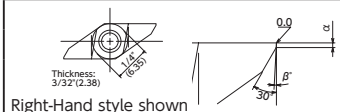
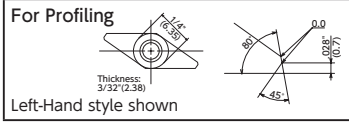
■DS-CSVL (Takes right-hand insert)

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 CSV..11FR..	**DS-CSVL15**	3		●	5/8	15.875	.591	15	.591	15	4.724	120	.394	10	LRIS-2.5 × 7	CLR-15S

CSV Series - Inserts

Front turning

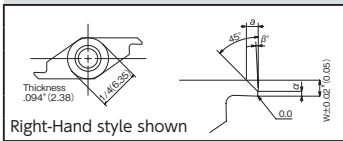
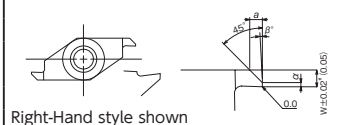
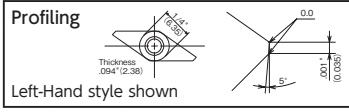
■CSVF Mirror finish

Shape	Item Number	Chip-breaker	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	Edge Geometry (α × β°) (Inch)	Edge Geometry (α × β°) (mm)	Coated Carbide DT4 R	DT4 L	VM1 R	VM1 L	ZM3 R	ZM3 L
 Right-Hand style shown	CSVF11F R/L V Ⓜ	No	–	–	.012 × 5°	0.3 × 5°			○	○		
	CSVF11F R/L V-A Ⓜ		–	–	.012 × 2°	0.3 × 2°			○			
	CSVF11F R/L V-M Ⓜ		–	–	.006 × 2°	0.15 × 2°	●		●	●	○	
	CSVF11F R/L V-C Ⓜ		–	–	.006 × 5°	0.15 × 5°			○			
 Right-Hand style shown	CSVF11F R/L VB Ⓜ	Yes	.118	3	.012 × 5°	0.3 × 5°			●	○		
	CSVF11F R/L VB-A Ⓜ		.118	3	.012 × 2°	0.3 × 2°			○			
	CSVF11F R/L VB-M Ⓜ		.118	3	.006 × 2°	0.15 × 2°	●		●	●	○	
	CSVF11F R/L VB-C Ⓜ		.118	3	.006 × 5°	0.15 × 5°			○			
For Profiling  Left-Hand style shown	CSVF11F R/L VX Ⓜ	No	–	–						○		

Note: All angles shown are obtained when insert is set in the holder

Back turning

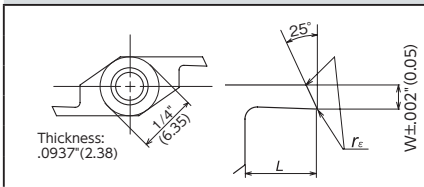
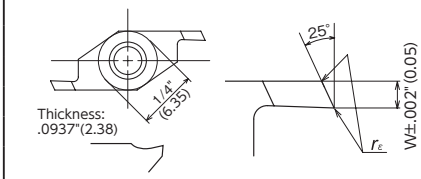
■CSVB Mirror finish

Shape	Item Number	Chip-breaker	Length of Blade (Inch)	Length of Blade (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	W (Inch)	W (mm)	Edge Geometry (α × β°) (Inch)	Edge Geometry (α × β°) (mm)	Coated Carbide DT4 R	DT4 L	VM1 R	VM1 L	ZM3 R	ZM3 L
 Right-Hand style shown	CSVB11F R/L V Ⓜ	No	.028	0.7	.079	2.0	.039	1.00	.012 × 5°	0.3 × 5°			○	○		
	CSVB11F R/L V-A Ⓜ	No	.028	0.7	.079	2.0	.039	1.00	.012 × 2°	0.3 × 2°			○			
	CSVB11F R/L V-M Ⓜ	No	.028	0.7	.079	2.0	.039	1.00	.006 × 2°	0.15 × 2°	●		●	○	○	
	CSVB11F R/L V-C Ⓜ	No	.028	0.7	.079	2.0	.039	1.00	.006 × 5°	0.15 × 5°			○			
	CSVB11F R/L V12 Ⓜ	No	.031	0.8	.079	2.0	.047	1.20	.012 × 5°	0.3 × 5°			○			
	CSVB11F R/L V14 Ⓜ	No	.039	1.0	.079	2.0	.055	1.40	.012 × 5°	0.3 × 5°			○			
 Right-Hand style shown	CSVB11F R/L VB Ⓜ	Yes	.028	0.7	.079	2.0	.039	1.00	.012 × 5°	0.3 × 5°			○			
	CSVB11F R/L VB-A Ⓜ	Yes	.028	0.7	.079	2.0	.039	1.00	.012 × 2°	0.3 × 2°			○			
	CSVB11F R/L VB-M Ⓜ	Yes	.028	0.7	.079	2.0	.039	1.00	.006 × 2°	0.15 × 2°	●		●	○	○	
	CSVB11F R/L VB-C Ⓜ	Yes	.028	0.7	.079	2.0	.039	1.00	.006 × 5°	0.15 × 5°			○			
	CSVB11F R/L VB12 Ⓜ	Yes	.031	0.8	.079	2.0	.047	1.20	.012 × 2°	0.3 × 5°			○			
	CSVB11F R/L VB14 Ⓜ	Yes	.039	1.0	.079	2.0	.055	1.40	.012 × 2°	0.3 × 5°			○			
Profiling  Left-Hand style shown	CSVB11F R/L VX Ⓜ	No	–	–	–	–	–	–						○		

Note: All angles shown are obtained when insert is set in the holder

Cut-off

■CSVC Mirror finish

Shape	Item Number	Chip-breaker	Max. Cut-off Dia. φD (Inch)	Max. Cut-off Dia. φD (mm)	w (Inch)	w (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	VM1 R	VM1 L
 Right-Hand style shown	CSVC11F R/L V06 Ⓜ	No	.118	3.0	.024	0.6	.079	2.0	0	0.0	○	
	CSVC11F R/L V07 Ⓜ	No	.157	4.0	.028	0.7	.098	2.5	0	0.0	●	●
	CSVC11F R/L V08 Ⓜ	No	.157	4.0	.031	0.8	.098	2.5	0	0.0	○	○
	CSVC11F R/L V09 Ⓜ	No	.157	4.0	.035	0.9	.098	2.5	0	0.0	○	
	CSVC11F R/L V10 Ⓜ	No	.197	5.0	.039	1.0	.118	3.0	0	0.0	●	●
	CSVC11F R/L V13 Ⓜ	No	.197	5.0	.051	1.3	.118	3.0	0	0.0	●	○
	CSVC11F R/L V15 Ⓜ	No	.197	5.0	.059	1.5	.118	3.0	0	0.0	○	○
 Right-Hand style shown	CSVC11F R/L VB06 Ⓜ	Yes	.118	3.0	.024	0.6	.079	2.0	0	0.0	○	
	CSVC11F R/L VB07 Ⓜ	Yes	.157	4.0	.028	0.7	.098	2.5	0	0.0	●	
	CSVC11F R/L VB08 Ⓜ	Yes	.157	4.0	.031	0.8	.098	2.5	0	0.0	○	
	CSVC11F R/L VB09 Ⓜ	Yes	.157	4.0	.035	0.9	.098	2.5	0	0.0	○	
	CSVC11F R/L VB10 Ⓜ	Yes	.197	5.0	.039	1.0	.118	3.0	0	0.0	●	
	CSVC11F R/L VB13 Ⓜ	Yes	.197	5.0	.051	1.3	.118	3.0	0	0.0	○	
	CSVC11F R/L VB15 Ⓜ	Yes	.197	5.0	.059	1.5	.118	3.0	0	0.0	○	

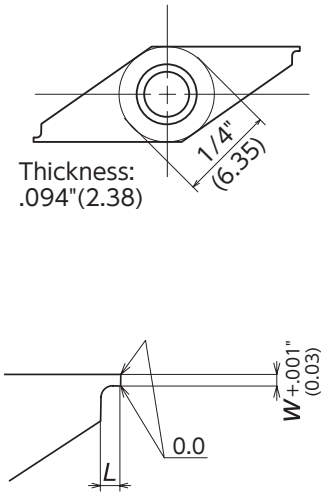
Note: All angles shown are obtained when insert is set in the holder

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

NTK New and Unique Swiss Tooling

Grooving

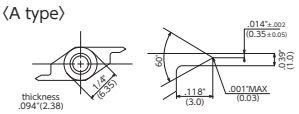
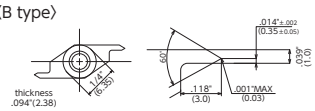
■CSVG Mirror finish



Shape	Item Number	Chip-breaker	Groove Width W (Inch)	Groove Width W (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	Coated Carbide VM1 R	Coated Carbide VM1 L
	CSVG11F⅜V025 Ⓜ	No	.010	0.25	.006	0.15	.020	0.50	0.0	0.0	●	
	CSVG11F⅜V030 Ⓜ	No	.012	0.30	.006	0.15	.020	0.50	0.0	0.0	●	
	CSVG11F⅜V035 Ⓜ	No	.014	0.35	.006	0.15	.020	0.50	0.0	0.0	●	
	CSVG11F⅜V040 Ⓜ	No	.016	0.40	.006	0.15	.020	0.50	0.0	0.0	●	
	CSVG11F⅜V045 Ⓜ	No	.018	0.45	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⅜V050 Ⓜ	No	.020	0.50	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⅜V055 Ⓜ	No	.022	0.55	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⅜V060 Ⓜ	No	.024	0.60	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⅜V065 Ⓜ	No	.026	0.65	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⅜V070 Ⓜ	No	.028	0.70	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⅜V075 Ⓜ	No	.030	0.75	.050	1.40	.079	2.00	0.0	0.0	●	○
	CSVG11F⅜V080 Ⓜ	No	.031	0.80	.050	1.40	.079	2.00	0.0	0.0	●	
	CSVG11F⅜V085 Ⓜ	No	.033	0.85	.050	1.40	.079	2.00	0.0	0.0	●	
	CSVG11F⅜V090 Ⓜ	No	.035	0.90	.050	1.40	.079	2.00	0.0	0.0	●	
	CSVG11F⅜V095 Ⓜ	No	.037	0.95	.050	1.40	.079	2.00	0.0	0.0	●	○
	CSVG11F⅜V100 Ⓜ	No	.039	1.00	.050	1.40	.079	2.00	0.0	0.0	●	
	CSVG11F⅜V110 Ⓜ	No	.043	1.10	.102	2.60	.102	2.60	0.0	0.0	●	
	CSVG11F⅜V120 Ⓜ	No	.047	1.20	.102	2.60	.102	2.60	0.0	0.0	●	○
	CSVG11F⅜V130 Ⓜ	No	.051	1.30	.102	2.60	.102	2.60	0.0	0.0	●	
	CSVG11F⅜V140 Ⓜ	No	.055	1.40	.102	2.60	.102	2.60	0.0	0.0	●	
Right-Hand style shown	CSVG11F⅜V150 Ⓜ	No	.059	1.50	.102	2.60	.102	2.60	0.0	0.0	●	

Threading

■CSVT Mirror finish

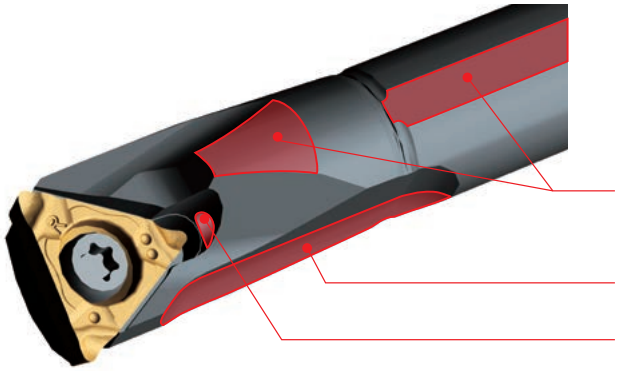
Shape	Item Number	Chip-breaker	r_ε (TPI)	r_ε (mm)	Pitch (TPI)	Pitch (mm)	Coated Carbide VM1 R	Coated Carbide VM1 L
〈A type〉  Right-Hand style shown	CSVT11F⅜P60-035A Ⓜ	No	-R.001	R0.03 MAX	127 - 51	0.2 - 0.5	●	●
〈B type〉  Right-Hand style shown	CSVT11F⅜P60-035B Ⓜ	No	-R.001	R0.03 MAX	127 - 51	0.2 - 0.5	●	●

Note: All angles shown are obtained when insert is set in the holder

Mogul Bar

High rigidity boring bars

WATCH ON YouTube



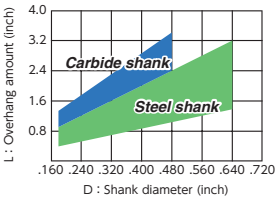
Features

- ***High rigidity + Minimal flat widths Reduce vibration***
- ***Large clearance for improved chip evacuation***
- ***All Mogul Bar boring bars are coolant through***

Recommended amount of overhang

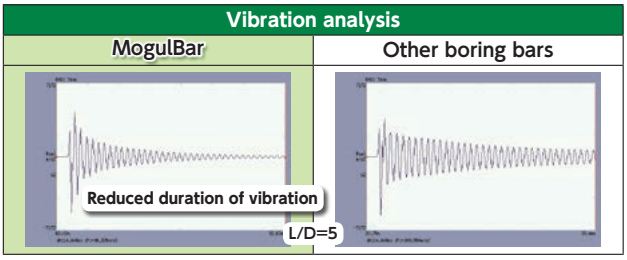
Steel Shank	L/D≦5
Carbide Shank	L/D≦7

L : Overhang
D: Shank diameter



[Cutting condition example]
Work materials: Alloy steel, stainless
260 SFM, .002 - .004 IPR, .004" - .020" DOC WET

Vibration analysis

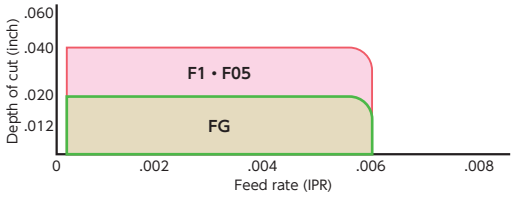


Note: Assuming a 100N load is applied. An equal amount of force was applied to both bars for vibration analysis.
Boring bar used in above analysis: S08H-STUPR09D10-OH

F Chipbreakers - Evacuate chips BACKWARD

- F chipbreakers allow chips to evacuate backward
- Combination of the F-chipbreakers and Mogul Bar delivers the best performance

Recommended Cutting Condition Range



F Chipbreakers - Features

	DOC (inch)	Feed (IPR) .002	Feed (IPR) .004
FG Chipbreaker  • Best for finishing • Works for small DOC (.020" or less) • High rake angle	.004		
	.012		
F1/F05 Chipbreakers  • Cover wide condition range • Ground chipbreaker	.020		

Note: Right-hand inserts with FG and F1 chipbreakers should be used with right-hand holders

[Cutting condition example]
4140 Carbon Steel Diameter : ϕ.472"
260 SFM Depth of Bore : .787" Wet
Holder : S10K-STUPR11D12-OH Insert : TPGH221

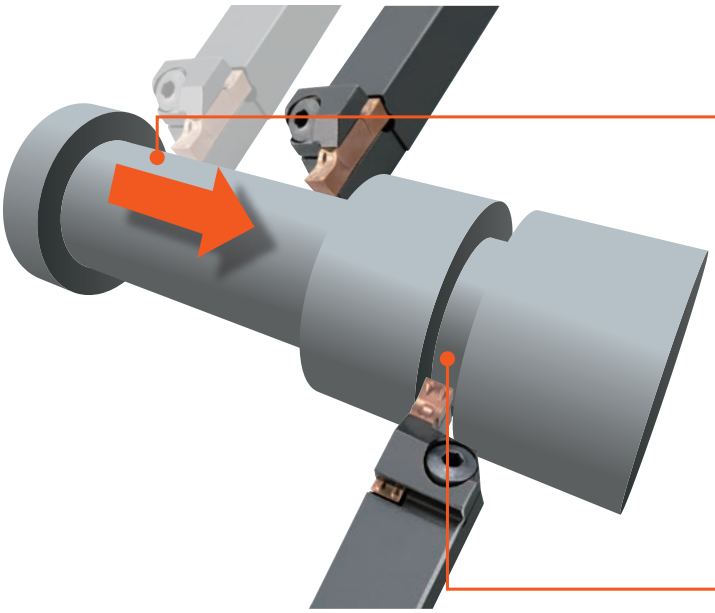
Holders ➡V22

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

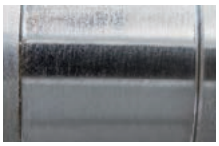
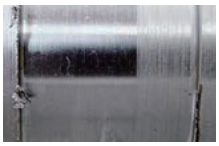
Groove Duo

Features

- Grooving and side turning tools with highly rigid design
- 3D design chipbreakers result in less tool pressure and excellent chip control

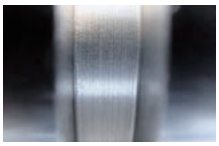
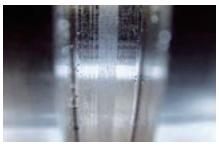


Side-turning

	NTK:GW chipbreaker	Competitor
Chip		
Surface finish		

Material : 4135, 500SFM, .004IPR, .040DOC

Grooving

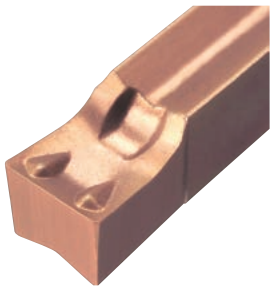
	NTK:GW chipbreaker	Competitor
Chip		
Surface finish		

Material : 4135, 500SFM, .004IPR, .275DOC

Chipbreaker

For Grooving / Side-turning

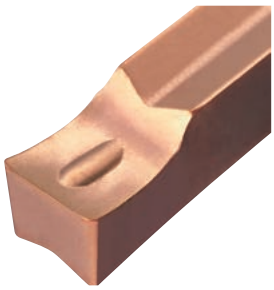
GW



- *Excellent chip control*
- *Good sharpness*
- *Side turning capability*

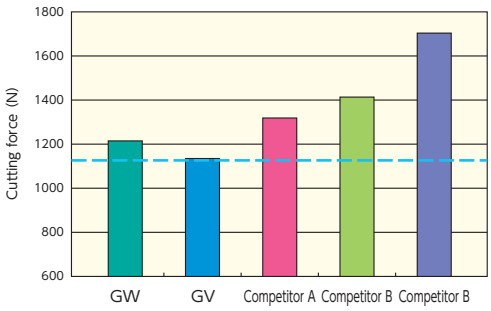
Less tool pressure

GV



- *Superior sharp edge*

Tool pressure comparison when grooving



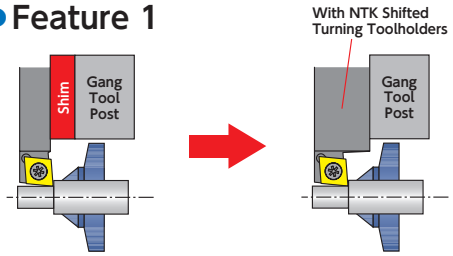
Shifted Toolholders Toolholders for extended guide-bushing

Two Major Features

WATCH ON YouTube

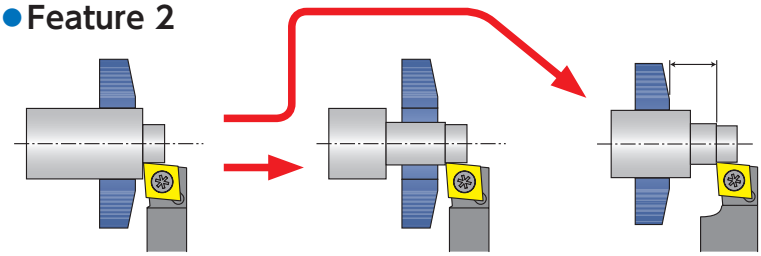
1. Eliminate shims for turning holders when extended guide bushing is used (especially in thread whirling)
2. Performs finish cut without retracting roughed section (bar) from guide bushing

● Feature 1



No shims required during thread whirling operation with an extended guide bushing

● Feature 2



Typical turning

With Conventional Holders: Roughed bar comes out when retracted for finish turn

With Shifted Holders: Finish turn can be done without retracting the roughed bar

➡Q10・Q16・Q24

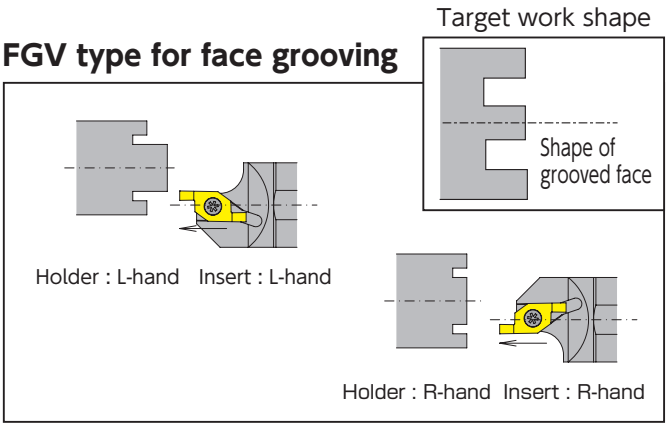
SATURN DUO Face turning / grooving tools

Features

WATCH ON YouTube

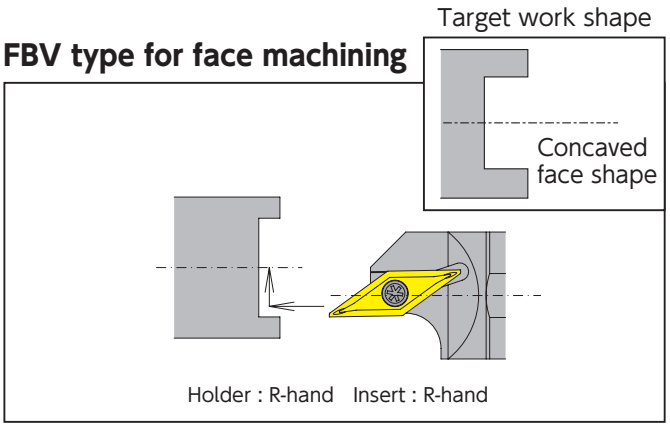
- FGV type for face grooving and FBV type for face machining
- Economical double-corner specification
- Improved tool rigidity by optimizing the overhang and holder shape
- Selection includes : gang-type, front-gang-type and sleeve holder type

FGV type for face grooving



- Grooving possible under a wide range of cutting conditions due to strengthened rigidity of both insert and holder
- Minimum machining diameter of ϕ .236", and groove width of .039"
- Left-hand types available for machining work with a boss

FBV type for face machining

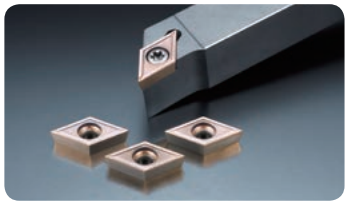


- Further improved face machining efficiency
- Minimum machining diameter of ϕ .315"

➡T18

WP Series

Wiper insert with ISO style



Features

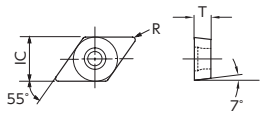
- Wiper shape provides superior surface finish
- Higher feed rate brings shorter cycle time and good chip control
- AM3 chipbreaker is now available on DCGT style

WATCH ON YouTube

(inch)	IC	T
DC..21.5	1/4	3/32
DC..32.5	3/8	5/32

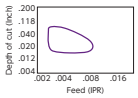
DCGT-WP(55°) 〈TFD style〉

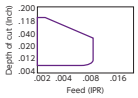
*Can be used in SDJC and SDUC toolholders ● : 1st Choice ● : 2nd choice

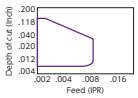


		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
wiper insert	DCGT 32.502 AM3-WP*	TFD 11FR05AM3	3/8	.002			●	○						
	DCGT 32.506 AM3-WP*	TFD 11FR15AM3	3/8	.006			●	○						
wiper insert	DCGT 21.502 R/L S-WP*	TFD 07FR/L05	1/4	.002				R		Ⓡ	ⓇⓁ			
	DCGT 21.506 R/L S-WP*	TFD 07FR/L15	1/4	.006				R			ⓇⓁ			
	DCGT 32.502 R/L S-WP*	TFD 11FR/L05	3/8	.002				R		Ⓡ	Ⓡ			
	DCGT 32.506 R/L S-WP*	TFD 11FR/L15	3/8	.006				R			Ⓡ			
wiper insert	DCGT 21.502 R/L U-WP*	TFD 07FR/L05U	1/4	.002				Ⓡ		Ⓡ	Ⓡ			
	DCGT 21.506 R/L U-WP*	TFD 07FR/L15U	1/4	.006				Ⓡ			Ⓡ			
	DCGT 32.502 R/L U1-WP*	TFD 11FR/L05U1	3/8	.002				Ⓡ		Ⓡ	Ⓡ			
	DCGT 32.506 R/L U1-WP*	TFD 11FR/L15U1	3/8	.006				Ⓡ			Ⓡ			
wiper insert	DCGW 21.502RH-WP* Ⓜ	TFD 07FR05H	1/4	.002								○		
	DCGW 32.502RH-WP* Ⓜ	TFD 11FR05H	3/8	.006								○		







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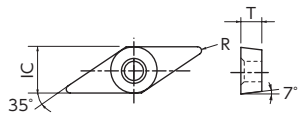
VCGT-WP(35°) 〈TFV style〉

*Can be used in SVAC toolholders ● : 1st Choice ● : 2nd choice

(inch)	IC	T
VC..22	1/4	1/8



		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

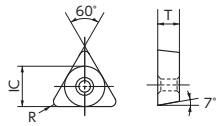
Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
wiper insert	VCGT 2202 R/L S-WP*	TFV 11F R/L05SX	1/4	.002						R	Ⓡ			
	VCGT 2204 R/L S-WP*	TFV 11F R/L10SX	1/4	.004						R	Ⓡ			
wiper insert	VCGT 2202 R/L U-WP*	TFV 11FR/L05U	1/4	.002						Ⓡ	Ⓡ			
	VCGT 2204 R/L U-WP*	TFV 11FR/L10U	1/4	.004						Ⓡ	Ⓡ			

TCGT-WP(60°) 〈TFT style〉

*Can be used in STAC toolholders ● : 1st Choice ● : 2nd choice

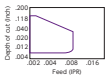
(inch)	IC	T
TC..21	1/4	3/32

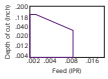
(inch)	IC	T
TC..73	7/32	3/32



		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
wiper insert	TCGT 7302 R/L S-WP*	TFT 09FR/L05	7/32	.002							Ⓡ			
	TCGT 7306 R/L S-WP*	TFT 09FR/L15	7/32	.006							Ⓡ			
	TCGT 21.502 R/L S-WP*	TFT 11FR/L05	1/4	.002							Ⓡ			
	TCGT 21.506 R/L S-WP*	TFT 11FR/L15	1/4	.006							Ⓡ			
wiper insert	TCGT 7302 R/L U-WP*	TFT 09FR/L05U	7/32	.002							Ⓡ			
	TCGT 7306 R/L U-WP*	TFT 09FR/L15U	7/32	.006							Ⓡ			
	TCGT 21.502 R/L U1-WP*	TFT 11FR/L05U1	1/4	.002							Ⓡ			
	TCGT 21.506 R/L U1-WP*	TFT 11FR/L15U1	1/4	.006							Ⓡ			





● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

P

Tooling for Swiss-type Lathes

NTK's Recommendation for Swiss Tooling

Specific Application

304SS	For up to .200" diameter material	PEEK / Non-ferrous material	Double / Triple lead Screw	HEXALOBULAR / HEX / SQUARE socket
ST4 Coating	CSV Series	KM1 insert	Thread Whirling	Shaper Duo


➡O48


➡O51


➡O24


➡O26


➡O22

General Tooling for Popular Materials

- Titanium
- 304SS
- Ti-6Al-4V
- 316SS
- Carbon steels
- Alloy steels
- Cobalt Chrome
- HRSA materials

Front Turning

Cutting Conditions ➡P16

General Purpose

DM4-YL

Up to .020 DOC

DM4-AMX

+

Splash Series

Y-axis with Coolant Through

=

- DM4 has excellent heat resistance. It is the best grade to machine for Titanium Alloys, Cobalt Chrome, and HRSA materials.
- YL chipbreaker is designed for both sharpness and chip control. It can hold dimensions very well and evacuate chips smooth.
- AMX chipbreaker is optimized for very small DOC operations. It can perform very well in thin chip control situations.
- Use with a coolant through tool holder to help with chip evacuation. Y-axis coolant through toolholder is the best solution for chip control problems.

Cut-Off

Cutting Conditions ➡P17

Up to .472"

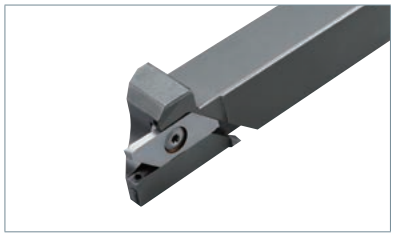
DM4-CTP-CX

Up to .630"

DM4-CTPA-CX

+

Splash series



=

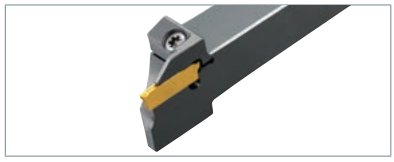
- CTP/CTPA style cut-off tool is a best-seller in the Swiss market. They have excellent rigidity and sharpness. Now NTK added the CX chipbreaker to them. 3D shaped CX chipbreaker can control chips extremely well.
- Use with coolant through toolholder for better chip evacuation.
- CTP style is designed for up to .472" material and CTPA is for up to .630".

Up to 1.00"

CUT DUO

+

Splash series



=

- NTK recently added another coolant through cut-off toolholder for larger diameter materials.
- CTDP-OH toolholder can cut up to 1" materials and can control chips very well.

Back Turning

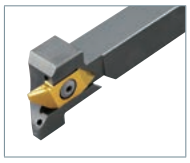
Cutting Conditions ➡P16

General Purpose

DM4-TBP / TBPA-BM

+

Splash Series



Y-axis with Coolant through

=

- NTK's TBP/TBPA back turning tools are solid and can provide stable machining even with heavy DOC operations.
- Now, NTK added a 3D chipbreaker named BM to this series. BM chipbreaker can manage chip direction. Just one pass is needed to get excellent face/OD finish.
- Use with coolant through tool holder to help with chip evacuation and the Y-axis coolant through toolholder is the best solution for chip problems.

Grooving

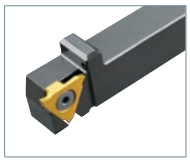
Cutting Conditions ➡P18

General Purpose

DM4-GX

+

Splash Series



Y-axis with Coolant through

=

- NTK is expanding its triangle style grooving tools. Now NTK accommodates wide grooving widths from .012" to .125".
- GX chipbreaker can control chips very well, not only for grooving but also side-turning operations.
- Use with coolant through tool holder to help with chip evacuation and the Y-axis coolant through toolholder is the best solution for chip problems.

Threading

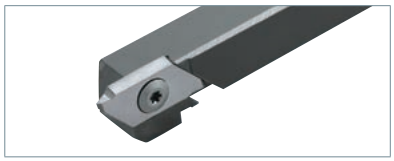
Cutting Conditions ➡P19

General Purpose

QM3-TTP

+

TTP



=

- NTK's side-clamping TTP inserts are rigid and produces high quality good threads. Various lineups are available for each specific threading operations.
- QM3 has good wear resistance and toughness and can cut most materials.

ID Boring

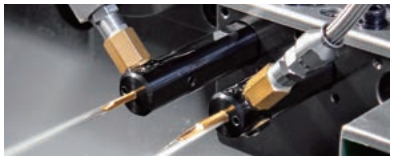
Cutting Conditions ➡P19

General Purpose

STICK DUO Hyper

+

STICK DUO SPLASH



=

- Stick Duo Splash are coolant through sleeves for ID operations. NTK has a variety of ID tooling inserts, bars for ID boring, ID back turning, ID grooving and ID threading to use with Stick Duo Splash.
- The sleeves are equipped with an adjustable overhang mechanism that allow you to index bars easily without length adjustment.

Mogul Bar

=

- Mogul Bar is a series name for boring tools with indexable inserts. The series starts from .197" minimum bore diameter and ID and use with F-style chipbreaker which makes chip evacuate backward.
- They include a coolant through system that ensures better chip evacuation.

Endmill

Cutting Conditions ➡X4

General Purpose

DM4-BL

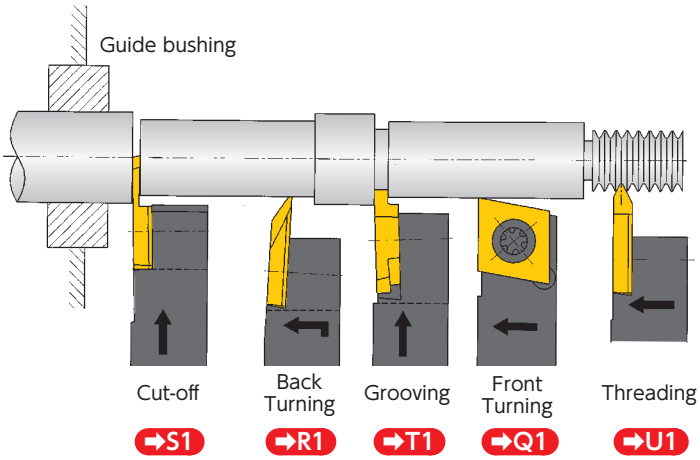
+

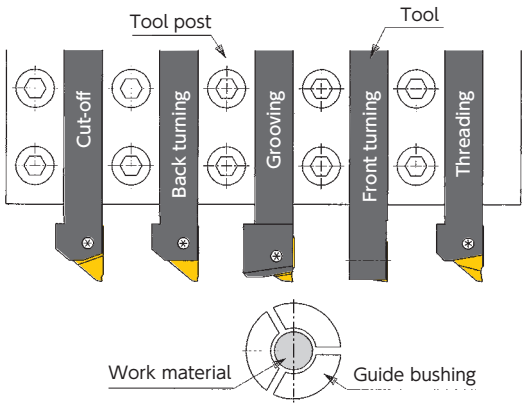
Indexable Endmill

=

- NTK has a variety of indexable type endmill tools for Swiss machines. The big head endmills can cut in close proximity to the Guide-bushing and provide excellent rigidity. Due to the big diameter, you can also run faster than small diameter endmills.

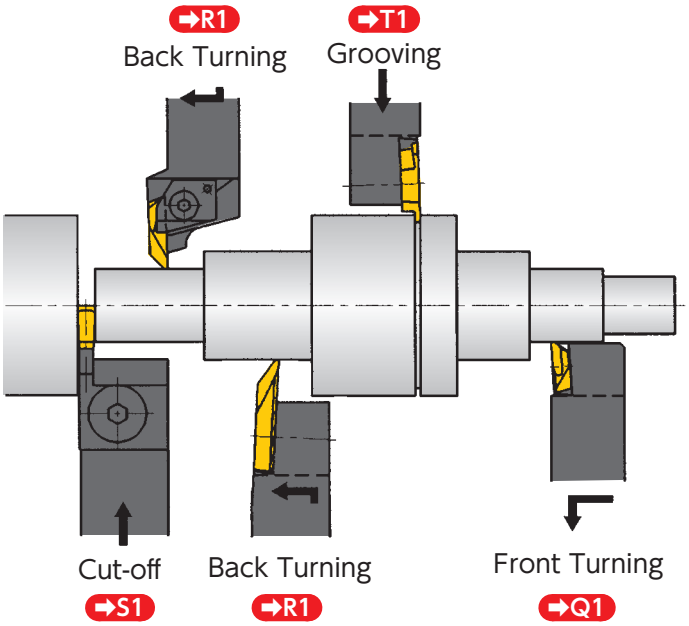
Tooling example for a small CNC automatic lathe (gang type)

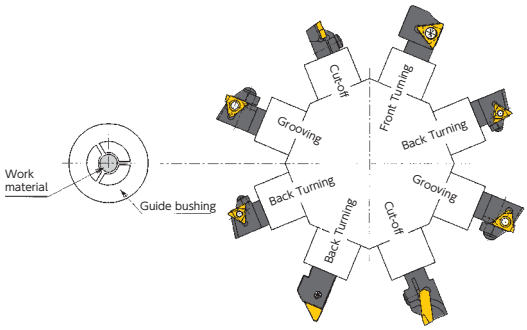




Tooling for gang type tool post

Tooling example for a small CNC automatic lathe (turret type)

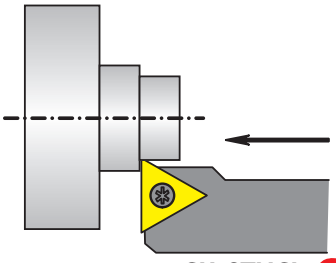




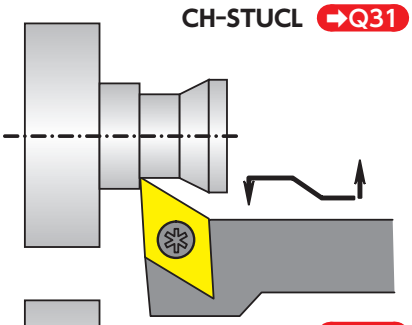
Tooling for turret type tool post

Tooling example for a small CNC automatic lathe (horizontal gang style)

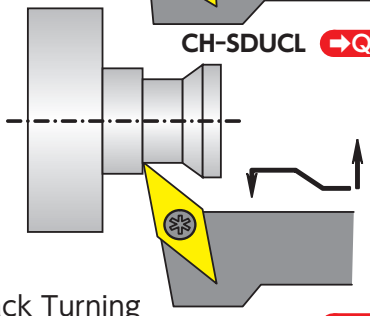
■Front Turning



CH-STUCL ➡Q31

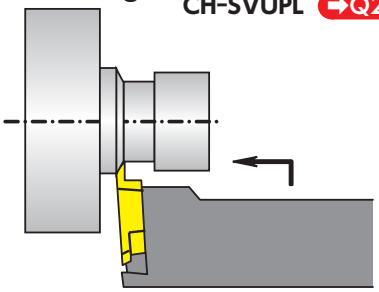


CH-SDUCL ➡Q17



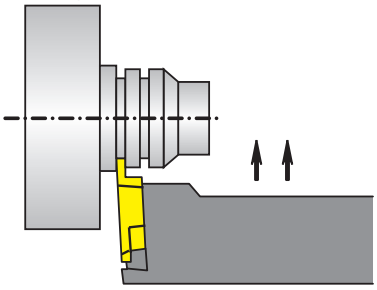
CH-SVUPL ➡Q29

■back Turning



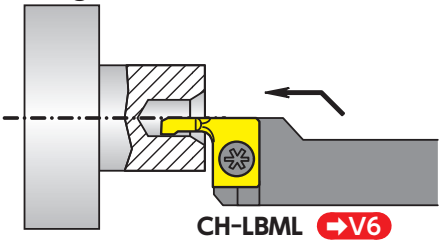
CH-GTTL ➡R18

■Grooving

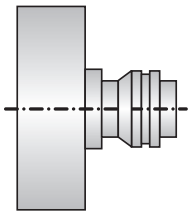


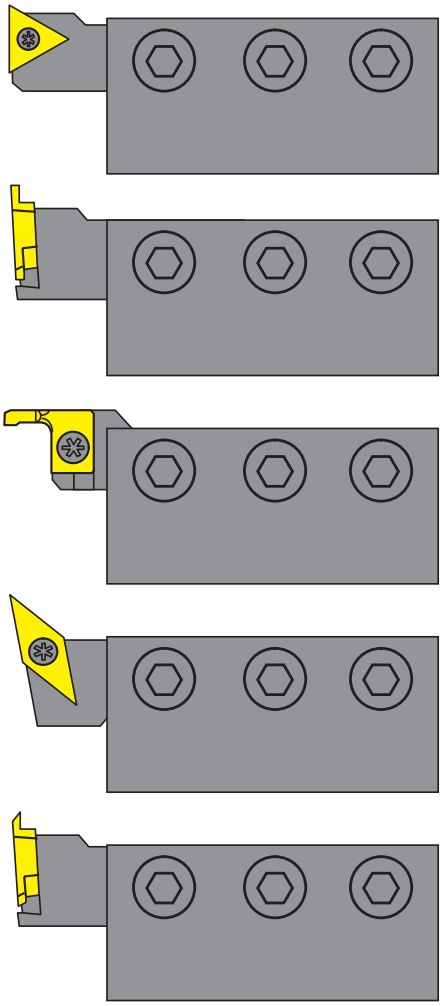
CH-GTTL ➡T10

■ID Boring



CH-LBML ➡V6



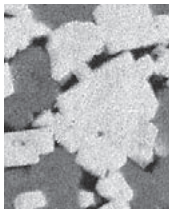


Micro-grain Carbide and PVD/CVD-coated Carbide

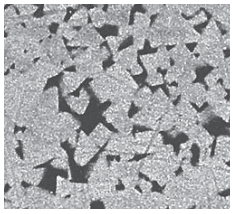
Excellence in precision machining and machining of hard-to-cut materials

These material grades use WC micro-grain carbide, the hard layer of which is granulated to a micro size 1 μm as the substrate. Furthermore, the substrate is coated by the PVD method with TiN, TiCN, and/or TiAlN. The end results are materials that are suitable for precision machining and machining of difficult-to-cut materials. Inserts in these grades are tougher and harder than carbide and come with precision sharp cutting edges. They even have superior toughness and sharper cutting edges than ultra micro-grain carbide grades, with excellent wear resistance and thermal crack resistance.

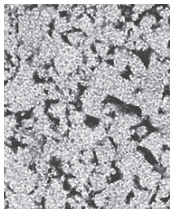
Carbide grade



General carbide structure



Micro-grain carbide structure

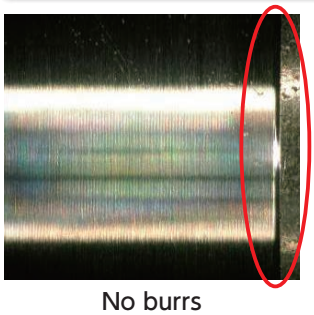


Super micro-grain carbide structure

The result of intensive reseach and development for improving carbide grades

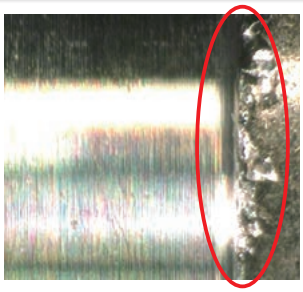
The NTK carbide grade series shows very stable performance under a wide range of conditions. NTK uses micro-grain carbide well balanced between wear resistance and toughness, as substrate.

Features Superior cutting performance



No burrs

Machined with our insert with a sharp cutting edge



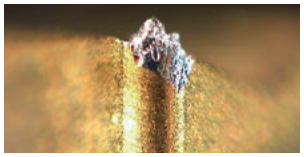
Burrs

Machined with a competitor's product with a honed cutting edge

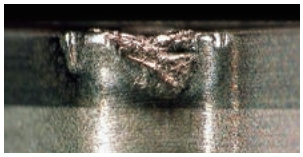
Relentless pursuit of better cutting performance

NTK takes pride in its carbide grade series for their outstanding cutting performance as a result of grinding ultra sharp cutting edges. This outstanding cutting performance benefits in better burr control, lower tool pressure, stabilized dimensions and improved work hardening control.

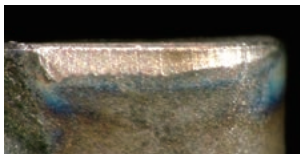
Features Precise analysis on insert wear patterns



Build-up edge



Chipping / fracture

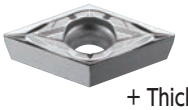
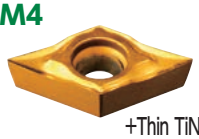
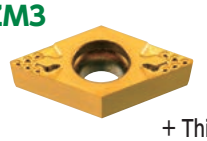
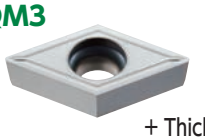
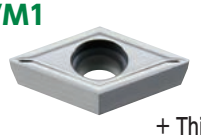
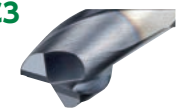
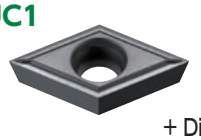


Flank wear

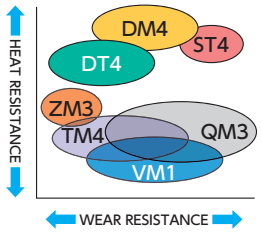
Wear on rake

Continuous research on insert tool life

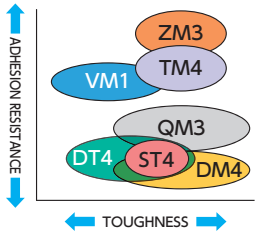
Damage to insert cutting edges varies depending on the machining process and the work material. There are various types of coatings that reduce such damage to prolong the tool life. NTK carbide series offers a variety of coated insert grades which have been developed to improve their resistance characteristics, including wear, fracture, adhesion, oxidation and the like, by utilizing our state-of-the-art technologies.

	Grade / Coating	Applications / Features	Physical properties*						Applications map
			Density g/cm³	Hardness HRA	Bending strength MPa	Young's modulus GPa	Thermal expansion coefficient X10⁻⁶/K	Thermal conductivity W/m・K	
PVD coated	**ST4** NEW  Micro-grain carbide + Thick CrAlN coat	P M S H ●Best grade for 304 SS	14.4	91.0	3000	580	5.8	63	
PVD coated	**DM4**  Micro-grain carbide + Thick TiN-TiCN-TiAlN coat	P M S H ●Best oxidation resistance enable high temperature machining	14.4	91.0	3000	580	5.8	63	
PVD coated	**DT4**  Micro-grain carbide + Thin TiN-TiCN-TiAlN coat	P M S H ●Excellent oxidation resistance for Swiss-type lathes	14.4	91.0	3000	580	5.8	63	
PVD coated	**TM4**  Micro-grain carbide +Thin TiN-TiCN-TiN coat	P M N S ●Best combination of wear resistance and toughness and adhesion resistance for Swiss-type lathes	14.4	91.0	3000	580	5.8	63	
PVD coated	**ZM3**  Micro-grain carbide + Thick TiN coat	P M N ●Best Adhesion resistance enables high accuracy machining	14.4	91.0	3000	580	5.8	63	
PVD coated	**QM3**  Micro-grain carbide + Thick TiCN coat	P M S H ●Best wear resistance enable stable machining	14.4	91.0	3000	580	5.8	63	
PVD coated	**VM1**  Micro-grain carbide + Thin TiCN coat	P M N ●Best edge sharpness and good wear resistance	14.8	92.0	2500	640	5.7	84	
PVD coated	**AC3** NEW  Micro-grain carbide + Thin TiACrN-TiAlN coat	P M N S ●Developed for solid carbide endmill	14.2	91.0	3000	560	6.1	49	
PVD coated	**UC1**  Micro-grain carbide + Diamond coat	N ●Pure and hard diamond coating.	14.8	92.0	2500	640	5.7	84	
Uncoated	**KM1**  Micro-grain carbide	P M N ●Best for non-ferrous material with mirror finish	14.8	92.0	2500	640	5.7	84	

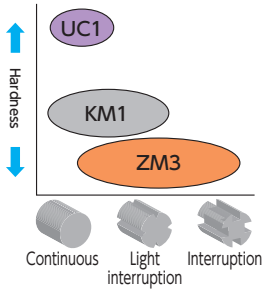
■Correlation chart 1



■Correlation chart 2



■Aluminum / Brass



※For products with coating, the values of the base material are indicated.

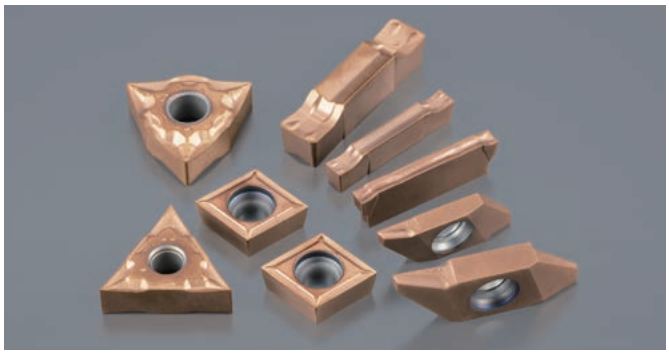
NEW ST4 — Best grade for 304SS

Features

- *Best grade for 304SS thanks to New ST coating*
- *Excellent adhesion and wear resistance*

Best for	Optimized for	Excellent in
● Stainless steels	Conventional lathes Swiss-type lathes	Adhesion resistance

DM4 — Excellent oxidation resistance

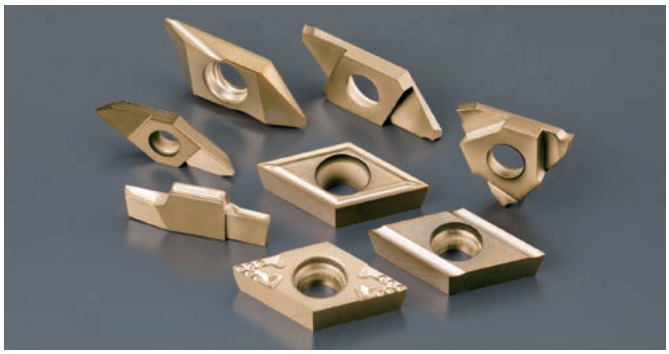


Features

- *Best oxidation resistance for high temperature machining*
- *Optimized for Conventional / Swiss-type lathes*

Best for	Optimized for	Excellent in
● Titanium alloys ● Stainless steels ● Alloy steels ● Carbon steels ● Heat resistant alloys	Conventional lathes Swiss-type lathes	Oxidation Heat resistance

DT4 — Excellent heat resistance for Swiss-type lathes

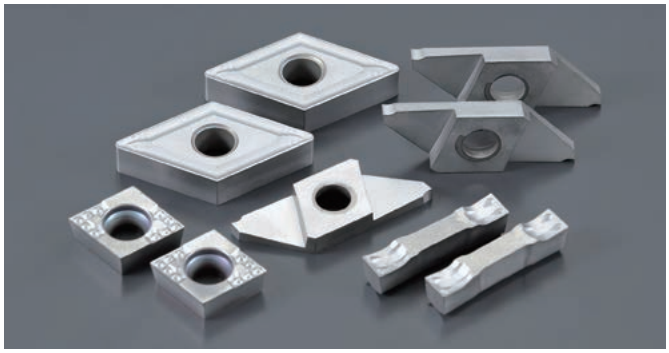


Features

- *Excellent oxidation resistance for Swiss-type lathes*

Best for	Optimized for	Excellent in
● Titanium alloys ● Stainless steels ● Alloy steels ● Carbon steels ● Heat resistant alloys	Swiss-type lathes	Oxidation Heat resistance

QM3 — Superb wear resistance and fracture resistance in interrupted cutting



Features

- *Excellent toughness and wear resistance for wide speed range*
- *Stable interrupted machining of steel*

Best for	Optimized for	Excellent in
● Carbon steels ● Stainless steels ● Alloy steels ● Heat resistant alloys	Swiss-type lathes Conventional lathes	Wear resistance

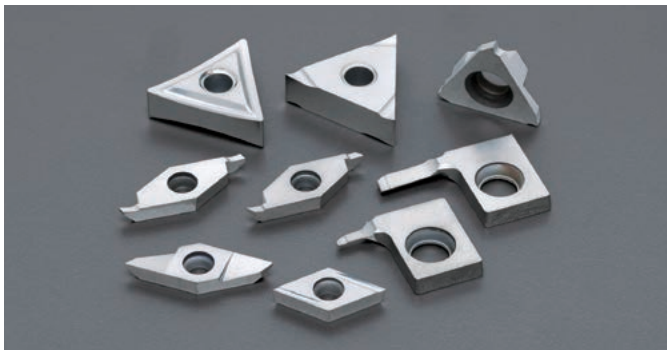
TM4 Next generation standard insert grade for Swiss-type lathes

Features

- *Excellent dimensional stability and tool life thanks to triple titanium layers with excellent adherence to insert substrate*

Best for	Optimized for	Excellent in
● Carbon steels ● Stainless steels ● Alloy steels	Swiss-type lathes	Balance

VM1 High precision machining of small diameter parts

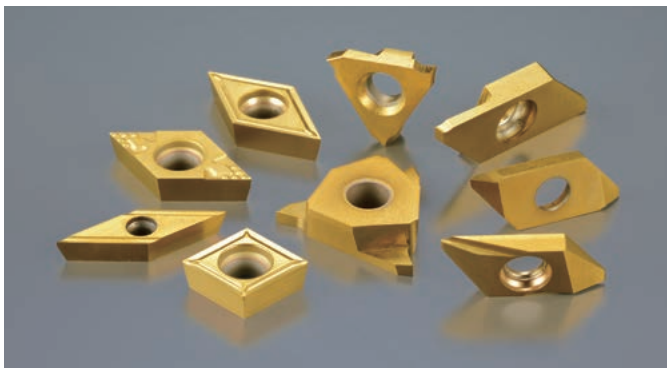


Features

- *Especially for machining free cutting steels (SUM materials)*
- *For high-precision machining with longer tool life even in the high-speed machining range*

Best for	Optimized for	Excellent in
● Carbon steels ● Stainless steels ● Alloy steels	Swiss-type lathes	Edge sharpness

ZM3 The best selling grade for Swiss-type lathes



Features

- *Stabilizes machining dimensions thanks to the coating being firmly adhered to the substrate*
- *A wide range of cutting tools in various sizes available for Swiss-type lathes*

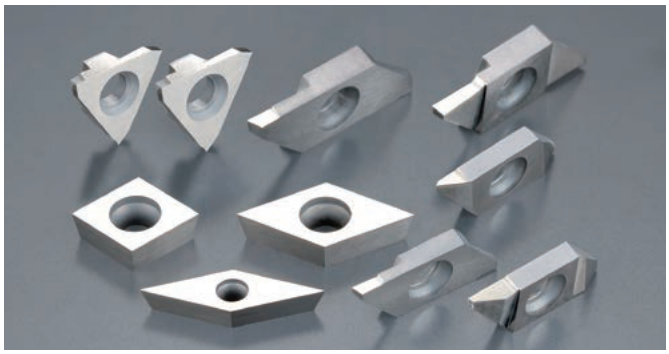
Best for	Optimized for	Excellent in
● Carbon steels ● Stainless steels ● Alloy steels ● Non-ferrous materials	Swiss-type lathes Conventional lathes	Adhesion resistance

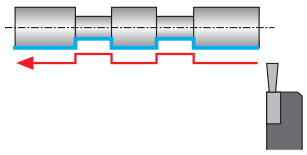
NEW AC3 Developed for soilid carbide endmill

Features

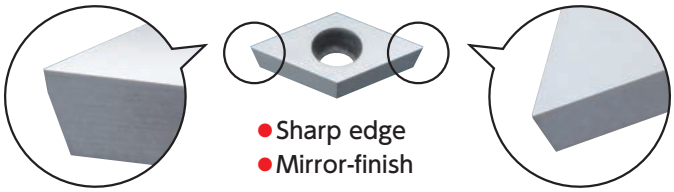
- *Newly developed for Carbide endmill*
- *Excellent sharpness and great wear resistance*

KM1 Good for non-ferrous materials like PEEK, Brass, Aluminum and Copper



Spool machining	
5056 (Aluminium)	
300 ~ 560 SFM	
.0016 IPR	
.02"-.20" DOC	
WET	
NTK : **KM1**	300 pcs
Competitor's PVD-coated carbide	200 pcs

Best for	Optimized for	Excellent in
● Aluminium ● Plastic ● Non-ferrous materials	Swiss-type lathes	Edge sharpness



Features

- ***Very sharp cutting edges with uncoated Micro-grain carbide***
- ***Excellent adhesion resistance because of mirror-finish***
- ***A wide range of cutting tools in various types available for Swiss-type lathes***

PVD Coatings for Turning

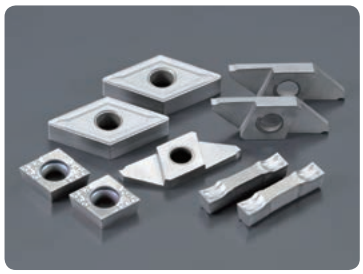
NEW ST4 — ST-Coat

Best grade for 304SS

- *Stainless steel*

➡P8

QM3 — Q-Coat

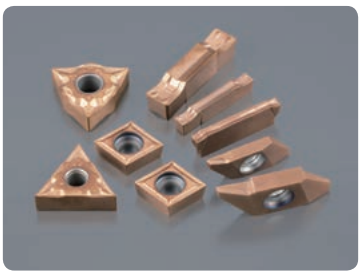


Best wear resistance

- *Stainless steel*
- *Carbon steel*
- *Alloy steel*

➡P8

DM4 — DM-Coat



Best heat resistance

- *Heat resistant alloy*
- *Stainless steel*
- *Hardened material*

➡P8

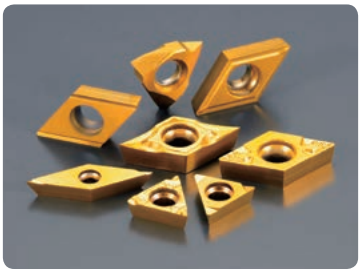
DT4 — DT-Coat

Best balance of heat resistance and sharp edges

- *Titanium alloy*
- *Heat resistant alloy*
- *Stainless steel*
- *Hardened material*

➡P8

TM4 — TM-Coat

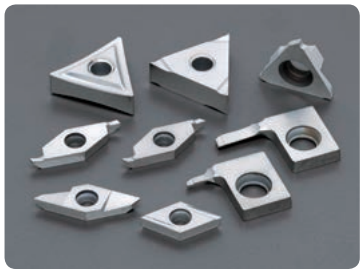


Best balance of wear resistance and adhesion resistance

- *For small part machining in general*

➡P9

VM1 — V-Coat



Best edge sharpness

- *Titanium alloy*
- *Non-ferrous material*
- *Stainless steel*
- *Plastic*

➡P9

ZM3 — Z-Coat

Best adhesion resistance

- *General purpose machining*

➡P9

Coating Specifications

	ST-Coat	Q-Coat	DM-Coat	DT-Coat	TM-Coat	V-Coat	Z-Coat
Thickness	Thick	Thick	Thick	Thin	Thin	Thin	Thick
Wear Resistance	○	◎	○	○	○	○	
Heat Resistance	○		◎	◎			○
Adhesion Resistance	○				○		◎
Edge Sharpness				○	○	◎	
Composition	CrAlN	TiCN	Multilayer	Multilayer	Multilayer	TiCN	TiN

◎1st choice ○2nd choice

EZ CUBE

Excellent performance with superb versatility at a low price

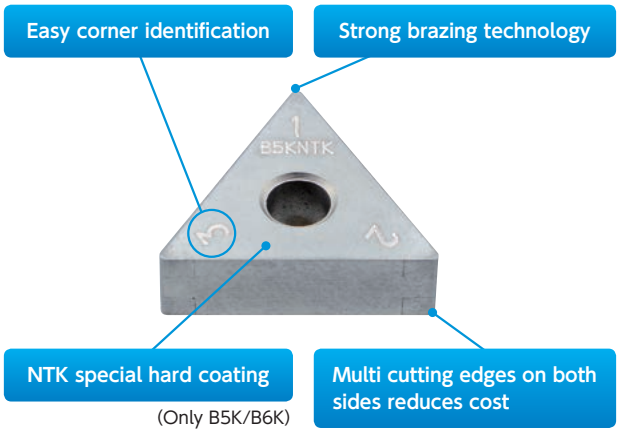
CBN (Cubic Boron Nitride)

Features

- ***Seven grades available to cover a variety of work materials***
- ***A wide selection in geometries***
- ***Multiple corners on both insert sides contributes to cost reduction***

● **NTK*EZCUBE*** / **EZ CUBE**

Material grade	Main binder	CBN content	Major application
B23	Ti-base	90%	High-speed semi roughing of cast iron/sintered alloys
B30	Ti-base	95%	High-speed finishing of cast iron
B6K/B36	TiCN-base	65%	Semi-interrupted to interrupted machining of hardened materials
B40	TiN-base	65%	Interrupted machining of highly hardened materials
B5K/B52	TiC-base	50%	Finishing of ductile cast iron and continuous machining of highly hardened materials



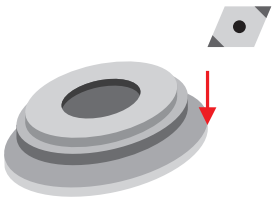
B23

Features

- ***Excellent wear resistance thanks to high CBN content***
- ***Ideal for roughing cast iron and machining sintered materials***

【Recommended cutting conditions】

Work material	Application	Purpose	Cutting speed (SFM)	Feed (IPR)	Depth of cut (inch)	DRY	WET
Cast iron	Turning	Rough Semi finish	1300–3300	.004–.020	.008–.080	○	●
Sintered alloy	Turning	Rough–Finish	150–1000	.001–.008	.002–.020	●	●

Brake rotor	
Gray cast iron	
820 SFM	
.0079 IPR	
.079" DOC	
WET	
NTK : **B23**	210 pcs
Competitor's CBN	70 pcs

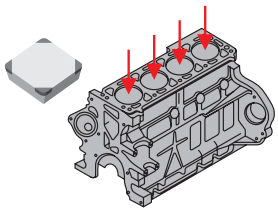
B30

Features

- ***Excellent wear resistance thanks to high CBN content***
- ***Designed for finishing cast iron***

【Recommended cutting conditions】

Work material	Application	Purpose	Cutting speed (SFM)	Feed (IPR)	Depth of cut (inch)	DRY	WET
Cast iron	Turning	Semi finish Finish	1300–3300	.004–.020	.008–.080	○	●

Cylinder block	
Cast iron	
2600 SFM	
.012 IPR	
.004" DOC	
WET	
NTK : **B30**	800 pcs
Competitor's CBN	500 pcs

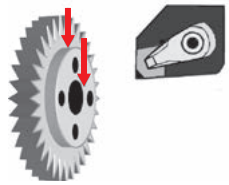
B6K/B36

Features

- ***Excellent combination of wear resistance and toughness due to special TiCN binders***
- ***Best for semi-interrupted cutting of hardened materials***

【Recommended cutting conditions】

Work material	Application	Purpose	Cutting speed (SFM)	Feed (IPR)	Depth of cut (inch)	DRY	WET
Hardened material	Turning (Light interrupted)	Rough-Finish	130-800	.002-.008	.004-.040	●	●

Gear (HRC61-65)	
5120H	
430 SFM	
.006 IPR	
.004" DOC	
DRY	
NTK : **B36**	50 pcs
Competitor's CBN	20 pcs

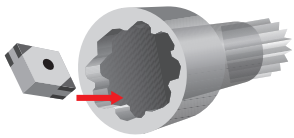
B40

Features

- ***Exceptional toughness thanks to special TiN binders***
- ***Designed for severely interrupted cutting of hardened materials***

【Recommended cutting conditions】

Work material	Application	Purpose	Cutting speed (SFM)	Feed (IPR)	Depth of cut (inch)	DRY	WET
Hardened material	Turning (Heavy interrupted)	Rough-Finish	100-500	.002-.008	.004-.040	●	○

Universal joint (HRC62)	
1055	
360 SFM	
.0055 IPR	
.0059" DOC	
DRY	
NTK : **B40**	2300 pcs
Competitor's CBN	1500 pcs

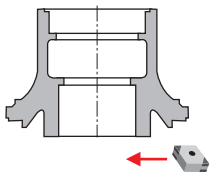
B5K/B52

Features

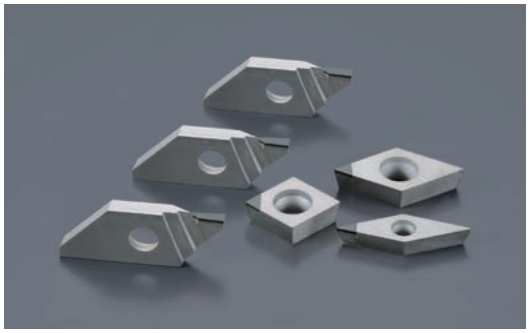
- ***Excellent wear resistance due to optimum CBN content with special TiC binders***
- ***Ideal for finishing ductile cast iron and continuous cuts for finishing hardened materials***

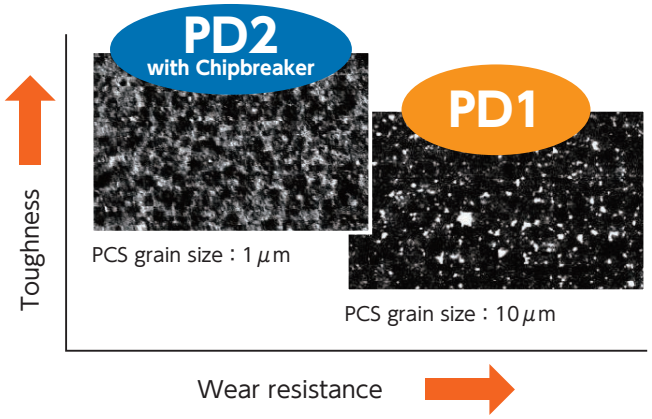
【Recommended cutting conditions】

Work material	Application	Purpose	Cutting speed (SFM)	Feed (IPR)	Depth of cut (inch)	DRY	WET
Ductile cast iron	Turning	Finish	300-1600	.004-.016	.012-.080	○	●
Hardened material	Turning (Continuous)	Rough-Finish	300-1000	.004-.020	.004-.040	○	●

Hub	
Ductile cast iron	
1150-1130 SFM	
.003 IPR	
.0079" DOC	
WET	
NTK : **B52**	60 pcs
Competitor's CBN	30 pcs

PCD (Polycrystalline Diamond)





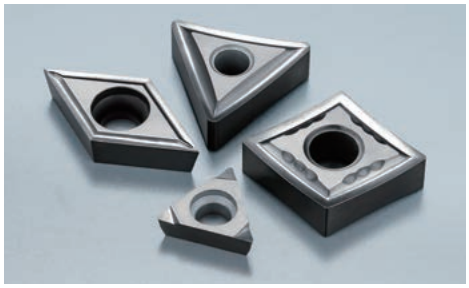
Features

- ***Faster cutting speed than carbide***
- ***Recommended for cutting aluminum and copper alloys thanks to its excellent adhesion resistance***
- ***Incorporates a very sharp cutting edge***
- ***Available for general turning and cut-off as well as inserts for milling cutters***

【Recommended cutting conditions】

Work material	Application	Purpose	Cutting speed (SFM)	Feed (IPR/IPT)	Depth of cut (inch)	DRY	WET
Aluminum alloy Non-ferrous material	Turning	Rough-Finish	-6500	-.006	-.200		●
	Milling	Rough-Finish	-25000	-.008	-.200		●

UC1 (Diamond Coating)



	DLC	PCD	UC1
Crystal structure	Amorohous	Diamond	Diamond
Binder	None	Co, Ni	None
Diamond grain size	Amorohous	10 μm	<0.1 μm
Diamond surface roughness	0.2S	0.2S	2S
Hardness (GPa)	10	75	90

Features

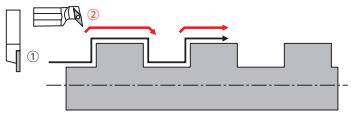
- ***Pure and hard fine particle diamond coating, so it has better wear resistance compared to past PCD tools***
- ***NTK's carbide base material and state of the art surface treatment ensures good coating adherence to reduce flaking which provides stable cutting and long tool life.***
- ***Molded chipbreakers provide excellent chip control reducing machine downtime***
- ***Multiple insert edges reduces machining costs***

Work material	Application	Purpose	Cutting speed (SFM)	Feed (IPR/IPT)	Depth of cut (inch)	DRY	WET
Aluminum alloy Non-ferrous material	Turning	Rough−Finish	-5000	-.010	-.160		●
Copper	Turning	Rough−Finish	-3000	-.010	-.160		●
Carbon	Turning	Rough−Finish	-1000	-.010	-.160	○	●

PD1

Features

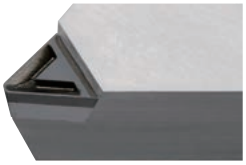
- *Sharp cutting edges*
- *Enables high precision and stable machining by controlling the potential for built-up edge*

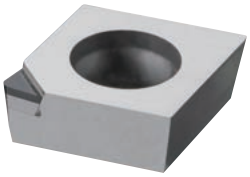
Spool		
①Rough	②Finish	
A6061	A6061	
660 SFM	660 SFM	
.004 IPR	.002 IPR	
.200 DOC	.008 DOC	
①NTK : **PD1**		30,000 pcs
②NTK : **PD1**		30,000 pcs

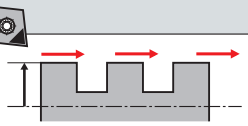
PD2

Features

- *Super micro grain PCD maintains sharp cutting edges with increased chipping resistance*
- *Good chip control due to the high rake angle on the insert*
- *3D Chipbreaker is now available*



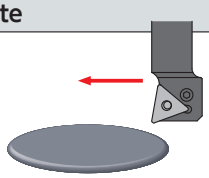


Spoo	
A6061	
560 SFM	
.002 IPR	
.006 DOC	
NTK : **PD2**	15,000 pcs
Competitor's PCD	10,000 pcs

UC1

Features

- *Improved wear resistance due to the sharp standard chipbreaker, and long tool life*
- *Multiple insert edges contributes to cost reduction*

Carbon Plate	
Carbon	
1000 SFM	
.004-.016 IPR	
.040 DOC	
DRY	
NTK : **UC1**	4 pcs/corner
Competitor's diamond coating	3 pcs/corner

Recommended Insert Grade and Cutting Conditions

Front Turning

CSVF / CC.. / DC.. / VC.. / VB.. / TN.. / TF

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels Hard to cut		Stainless Steels Free cutting	Alloy Steels	Carbon Steels
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (SFM)		75 125 225	100 200 275		130 230 330		150 300 600	150 300 500	
	≤.004 DOC	AMX KHG .0004 .0008 .0012					AMX KHG .0004 .0012 .0016		
	.004 to .060 DOC	YL CL AM3 S .0008 .0016 .0024					YL CL AM3 AZ7 S U/U1 UL .0008 .0020 .0032		
	≥ .060 DOC	YL CL AM3 S .0008 .0015 .0025					YL CL AM3 ZP .0012 .0024 .0040		

Back Turning

CSVB

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels Hard to cut	Stainless Steels Free cutting	Alloy Steels	Carbon Steels
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4					VM1	
	2nd choice	VM1					DM4 / DT4	
Cutting Speed (SFM)		75 125 225	100 200 275			100 200 300		
Feed Rate (IPR)	X Direction	.0004 .0008 .0012						
	Z Direction	.0004 .0012 .0016						

TBDP / TBMH / TBP / TBPA / TBVC

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels Hard to cut		Stainless Steels Free cutting	Alloy Steels	Carbon Steels
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4 QM3	TM4	QM3	
	2nd choice	TM4 / QM3			VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (SFM)		75 125 225	100 200 275				150 300 500		
Feed Rate (IPR)	X Direction	.0004 .0008 .0012					.0004 .0008 .0016		
	Z Direction	.0008 .0016 .0024					.0008 .0016 .0031		

TB32 / TB43

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels Hard to cut	Stainless Steels Free cutting	Alloy Steels	Carbon Steels
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice 2nd choice	ZM3					ZM3	
Cutting Speed (SFM)		50 100 150				ZM3 150 300 425 Z15 400 600 800		
Feed Rate (IPR)	X Direction	.0004 .0012 .0020				.0004 .0012 .0020		
	Z Direction	.0016 .0020 .0031				.0016 .0031 .0059		

Cut Off

CSVT

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4					VM1	
	2nd choice	VM1					DM4 / DT4	
Cutting Speed (SFM)		100 160 230				100 200 300		
Feed Rate (IPR)		.0004 .0008 .0012				.0004 .0012 .0020		

CTP / CTPA / CTPS / CTPW

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (SFM)		100 160 230					100 200 300		
Feed Rate (IPR)		.0008 .0012 .0020					.0008 .0016 .0024		

CTDP / CTWP / CTV

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3					QM3	TM4 / DM4	
Cutting Speed (SFM)		100 160 230					100 200 300		
Feed Rate (IPR)		.0012 .0020 .0031					.0016 .0031 .0047		

Recommended Insert Grade and Cutting Conditions

Grooving

CSV / GTG / GTMH / GTMT / GTMX / SBG

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (SFM)		75 125 225	100 200 275		130 230 330		150 300 600	150 300 500	
Feed Rate (IPR) A. Grooving B. Side turning*	Width .010-.020	A. .0002 - .0012							
		B. .0001 - .0002							
	.020-.040	A. .0008 - .0024							A. .0008 - .0028
		B. .0002 - .0004							B. .0002 - .0004
	.040-.080	A. .0012 - .0028							A. .0012 - .0031
		B. .0008 - .0020							B. .0012 - .0024
	> .080	A. .0012 - .0079							
		B. .0012 - .0024							

*When side turining, Max. DOC is under .0079". Under .016" width side turning impossible

GVW / Groove Duo

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	QM3						
	2nd choice							
Cutting Speed (SFM)		75 125 225	100 200 275		130 230 330	150 300 600	150 300 500	
Feed Rate (IPR) A. Grooving B. Side turning*	Width .118-.157	A. .0020 - .0059						
	.157-.197	A. .0039 - .0079					A. .0039 - .0098	
							B. .0059 - .0118	
	> .197	A. .0059 - .0138						

*Max DOC is 80% of width

GTPA

Work Material		Aluminum Alloy
Common Name		ASTM 5056 ASTM 6061
Grade	1st choice	PD1
	2nd choice	KM1
Cutting Speed (SFM)		PD1 330 650 1000 KM1 160 330 650
Feed Rate (IPR) A. Grooving B. Side turning		A. .0020 - .0079
		B. .0039 - .0079

Threading

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	VM1			VM1 / ZM3		QM3	
	2nd choice	ZM3			QM3		VM1 / ZM3	
Cutting Speed (SFM)		75 125 225	100 200 275		130 230 330	150 300 600	150 300 500	

*Unless your machine is equipped with high speed threading program, please set the feed rate to 80 IPM or lower to prevent making incomplete threads

ID Boring

diameter ≤ .240" (LBM / STICK DUO)

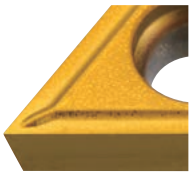
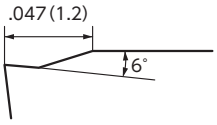
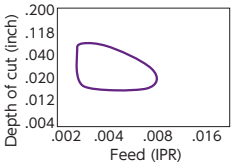
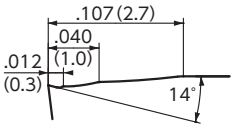
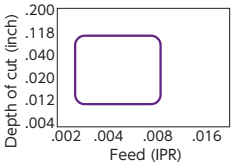
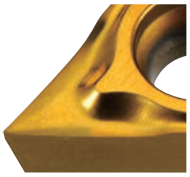
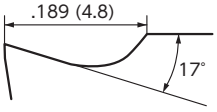
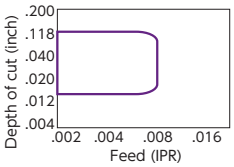
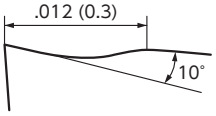
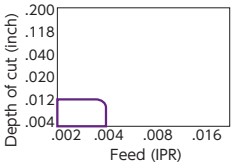
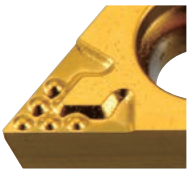
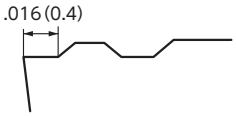
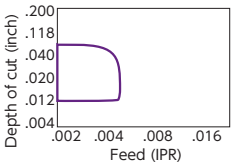
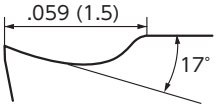
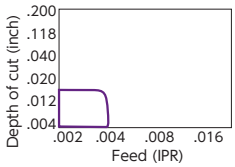
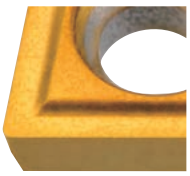
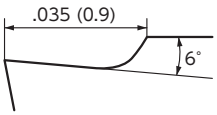
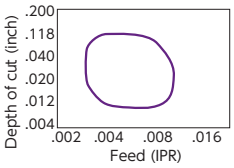
Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4					VM1 / TM4	
	2nd choice	VM1 / ZM3					ZM3	
Cutting Speed (SFM)		60 160 230				100 200 300		
Feed Rate (IPR)		.0004 .0012 .0020						
Depth Of Cut (DOC)		.0020 .0031 .0039						

diameter > .240"

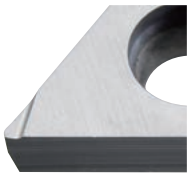
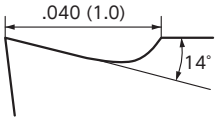
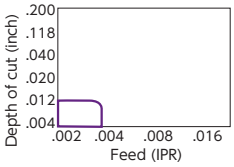
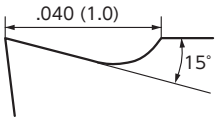
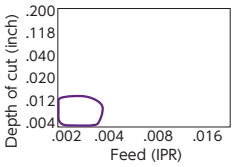
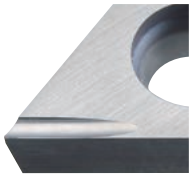
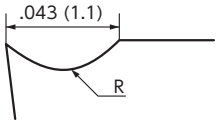
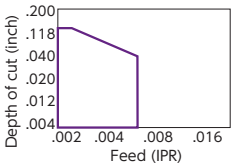
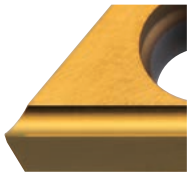
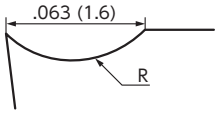
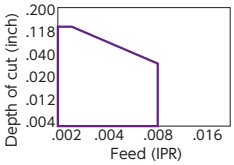
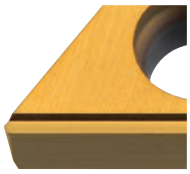
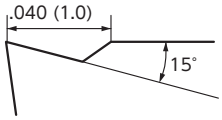
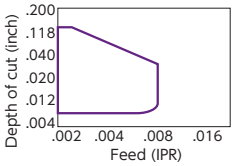
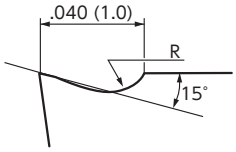
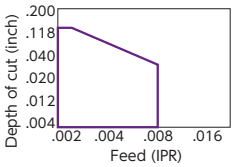
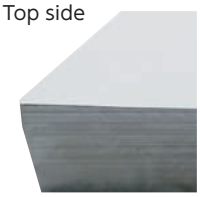
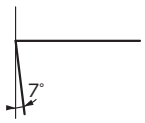
Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4			QM3 / TM4		QM3	TM4 / DT4	
Cutting Speed (SFM)		150 230 330			130 230 330		150 300 600	150 300 500	
Feed Rate (IPR)		.0008 .0024 .0047							
Depth Of Cut (DOC)		.0039 .0197 .0787							

Chipbreakers for Positive Inserts

Molded Chipbreakers for Positive Inserts

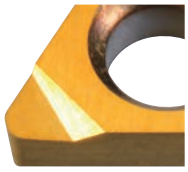
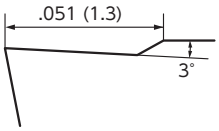
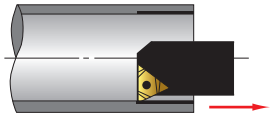
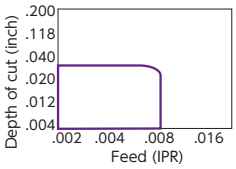
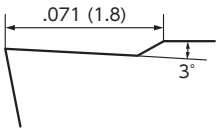
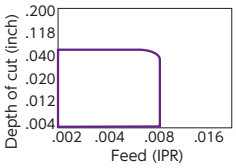
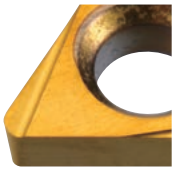
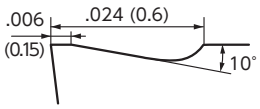
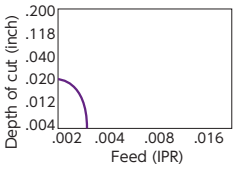
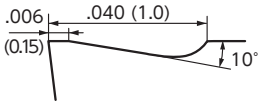
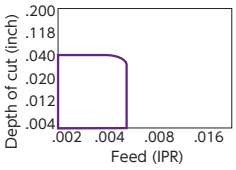
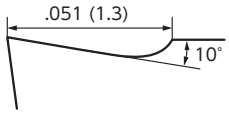
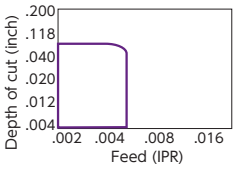
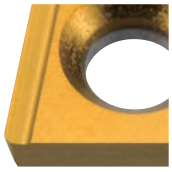
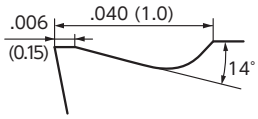
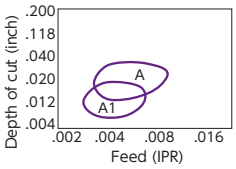
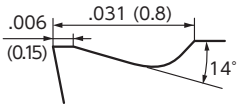
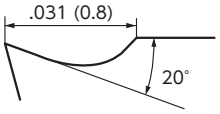
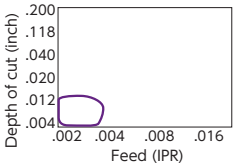
Name	Chipbreaker Geometry		Features	Chip Control Range
AM3	 ➡O48	 DCGT32.508 shown	●All purpose chipbreaker ●Sharp edge with toughness	
YL	 WATCH ON YouTube ➡O48	 DCGT11T302MYL	●Great combination of sharpness and toughness ●Covers extremely wide range ●Excellent chip control	
CL	 WATCH ON YouTube ➡O48	 DCGT32.508M shown	●Sharpest molded Chipbreaker ●Excellent chip control ●Less tool pressure	
AMX	 WATCH ON YouTube ➡O48	 DCGT32.508M shown	●Designed for very light depth of cut ●Good sharpness	
AZ7	 WATCH ON YouTube	 DCGT32.508M shown	●Excellent chip control at light feed and light depth of cut	
FG	 ➡O55	 TPGH221 shown	●Exclusively designed for ID boring ●Evacuates chips BACKWARD at light depth of cut ●Sharp cutting edge with high rake angle	
AM5		 CPGH21.508 shown	●Chipbreaker for boring ●Provides both good cutting performance and chip control	

Ground Chipbreakers for Positive Inserts

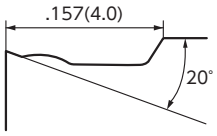
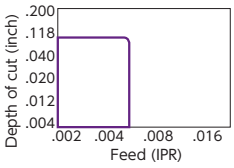
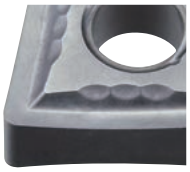
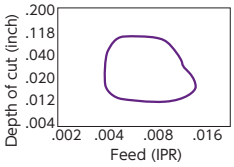
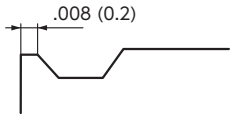
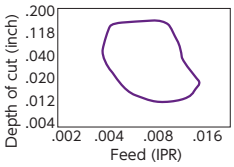
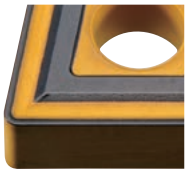
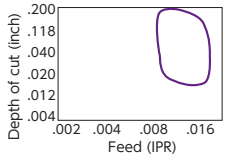
Name	Chipbreaker Geometry		Features	Chip Control Range
KHG		 DCET32.508 shown	●Excellent chip control on finishing cuts ●For super high-precision machining * Precision tolerance in corner radius: ±.0004"	
K		 TPGHP7308 shown	●Superb chip control on finishing applications ●Sharp cutting edge with the high rake angle	
UHG		 DCET32.504M shown	●Sharp cutting edge ●Covers wide cutting condition range * Precision tolerance in corner radius: ±.0004"	
U/U1		 DCGT32.508 shown	●Sharp cutting edge prevents materials from work hardening	
S		 DCGT32.508 shown	●Standard ground chipbreaker with wide cutting condition coverage ●Sharp cutting edge with excellent chip control	
AT		 DCGT32.508 shown	●Excellent adhesion resistance with dimensional stability ●Best for small diameter parts and for machining low carbon steels	
V **P** **H**	Top side  Flank side		●Very up-sharp edge with mirror finish V: Mirror finish on Top and Flank side with R0 nose radius P: Mirror finish on Top and Flank side H: Mirror finish on Top side	—

Chipbreakers for Positive Inserts

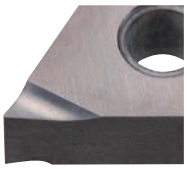
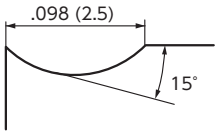
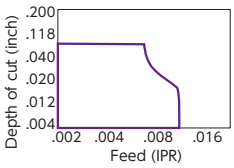
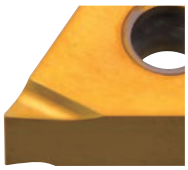
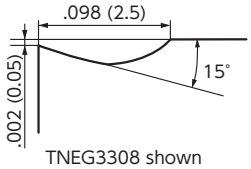
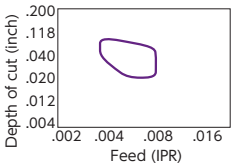
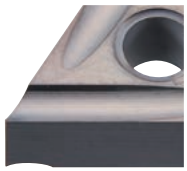
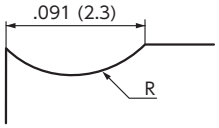
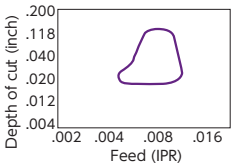
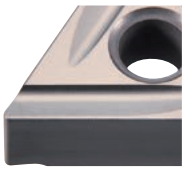
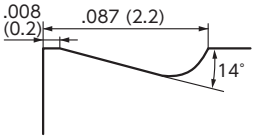
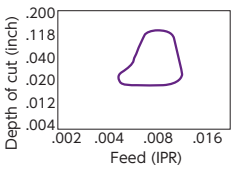
Ground Chipbreakers for Positive Inserts (continued)

Name	Chipbreaker Geometry		Features	Chip Control Range
F05	 ➡O55	 TPGP5208 shown	●Exclusively designed for ID boring ●Evacuates chips BACKWARD ●Excellent choice for blind hole machining 	
F1	 ➡O55	 TPGP2208 shown		
B1		 TCGP5208 shown	●Stable cutting when boring thanks to sharp and tough cutting edge	
B2		 TPGP7308 shown		
B3		 TPGP6308 shown		
A		 CPGP0308 shown	●Tough cutting edge and good chip control ●General-purpose ID chipbreaker	
A1		 CPGP8308 shown		
A2		 ERGP52Y shown	●Control chips at light feed and light depth of cut ●Sharp cutting edge due to large rake angle	

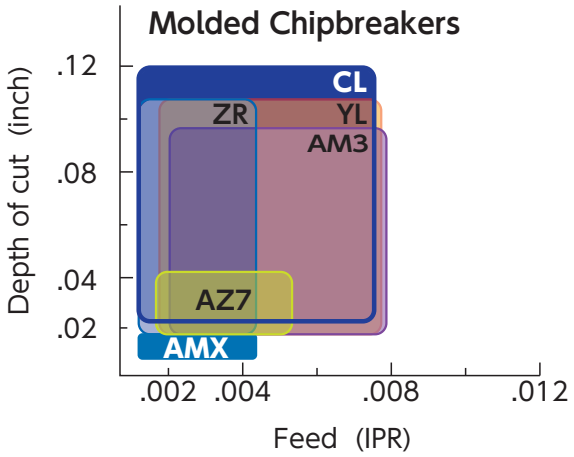
Molded Chipbreakers for Negative Inserts

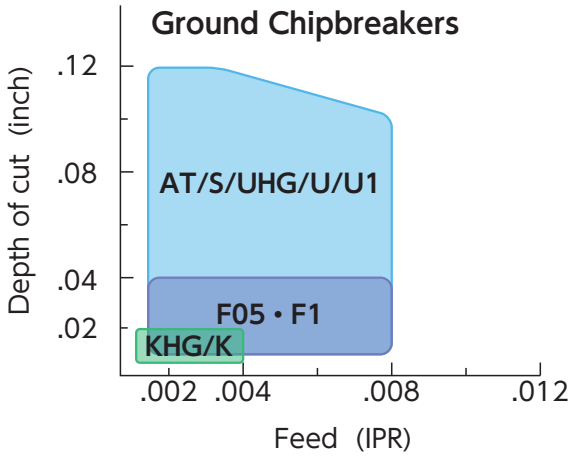
Name	Chipbreaker Geometry		Features	Chip Control Range
UL	 WATCH ON YouTube ➡O49	 TNGG3304M shown	●Negative insert with a positive insert's chipbreaker ●Reduced burr ●Improved microfinish ●Superb advantage in cost per corner over positive inserts	
ZP		 CNMG432 shown	●Double-positive rake and sharp cutting edge ●Low tool pressure even at heavy depth of cut	
Z5		 CNMG432 shown	●Very tough insert ●Designed for machining with heavy interruption	
G		 CNMG432 shown	●Tough chipbreaker for roughing with exceptional stability	

Ground Chipbreakers for Negative Inserts

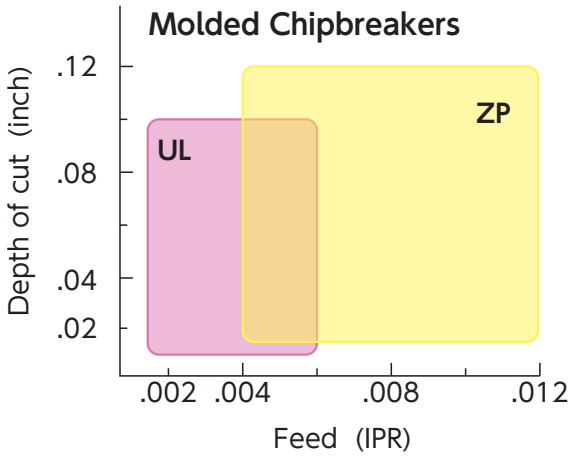
Name	Chipbreaker Geometry		Features	Chip Control Range
DA		 TNGG3304 shown	●Excellent chip control and sharp cutting edge	
D1		 TNEG3308 shown		
U2		 TNGG3308 shown	●Reduced burr and work hardening due to high rake design	
C		 TNGG3308 shown	●General-purpose chipbreaker with excellent toughness and chip control	

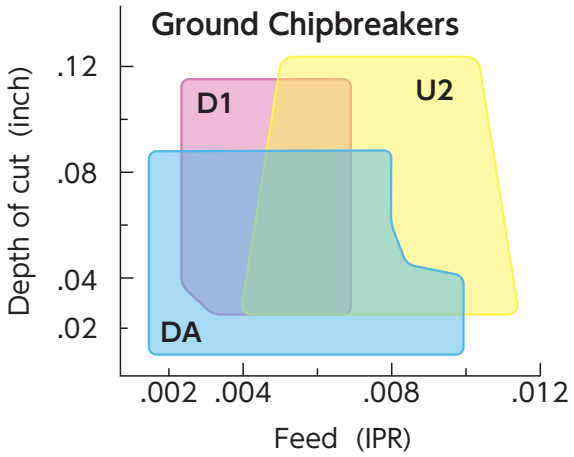
Positive Inserts

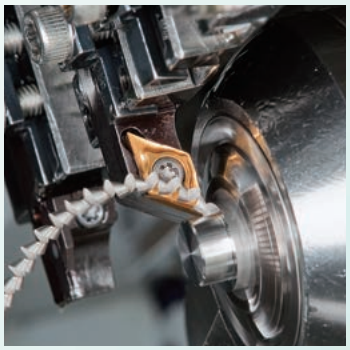




Negative Inserts

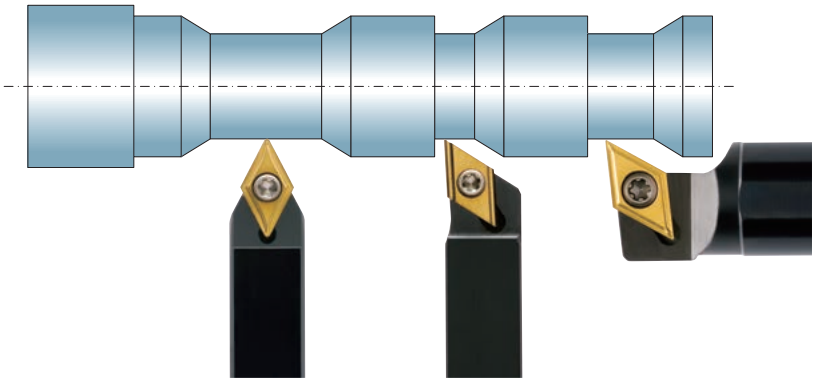


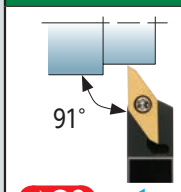
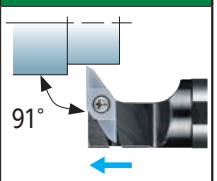


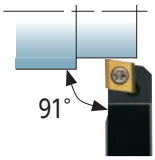
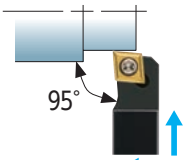
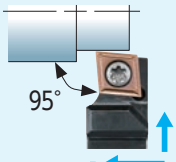
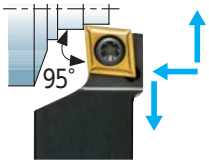
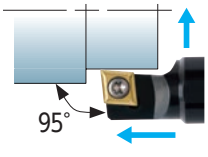
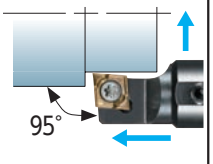


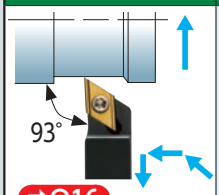
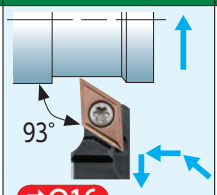
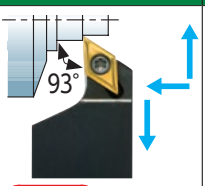
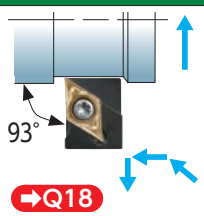
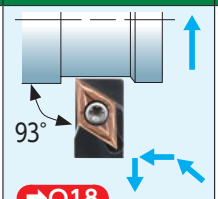
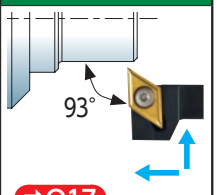
General Turning / Front Turning

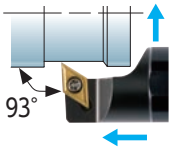
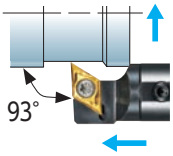
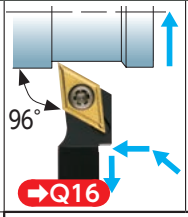
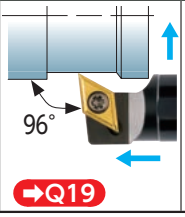
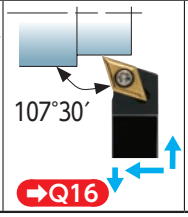
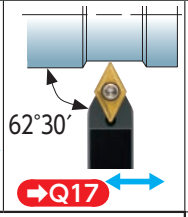
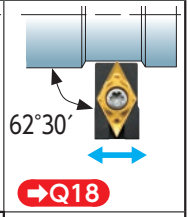
NTK General / Front Turning Tools - Product Lines

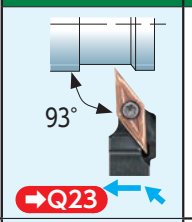
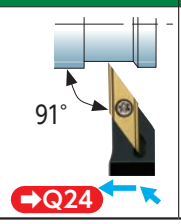
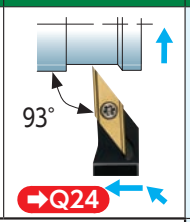
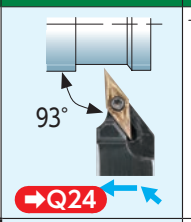
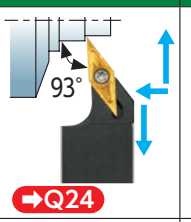
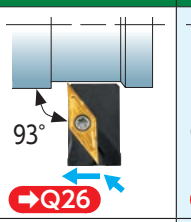
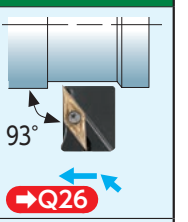


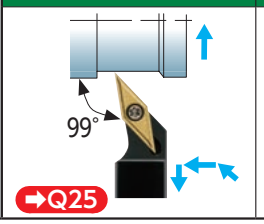
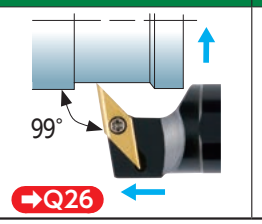
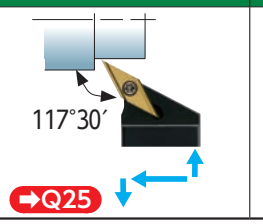
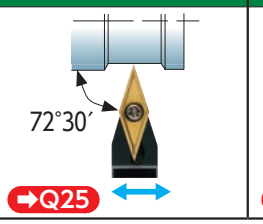
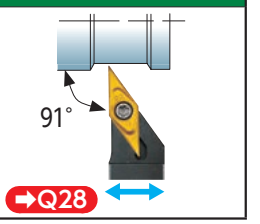
Insert	CSVF ➡Q9	
Holder	CSV	DS-CSV
	 ➡Q8	 ➡Q8

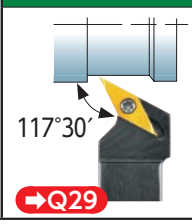
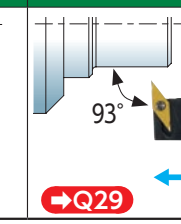
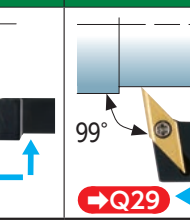
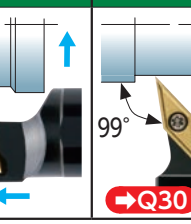
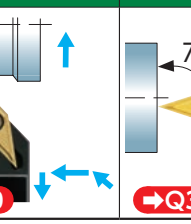
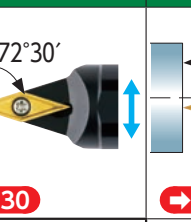
Insert	CC..21/32.5.. ➡Q13					
Holder	SCAC	SCLC	SCLC-OH2/OH	SCLC-F	DS-SCLL	DS-SCLL-ACH
	 ➡Q10	 ➡Q10	 ➡Q10	 ➡Q10	 ➡Q11	 ➡Q11
			Coolant through	Shifted		DS-ACH

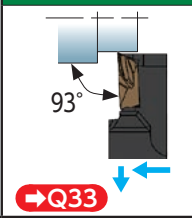
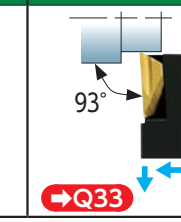
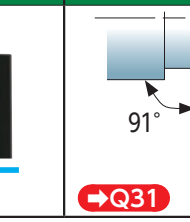
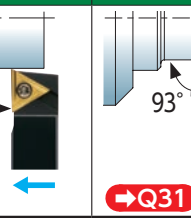
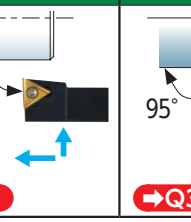
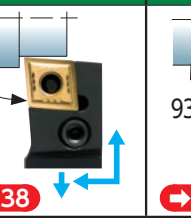
Insert	DC..21/32.5.. DC..21/32.5..WP.. ➡Q20					
Holder	SDJC	SDJC-OH2/OH	SDJC-F	Y-SDJC	Y-SDJC-OH2/OH	CH-SDUC
	 ➡Q16	 ➡Q16	 ➡Q16	 ➡Q18	 ➡Q18	 ➡Q17
		Coolant through	Shifted	Y-axis	Y-axis w/ Coolant through	

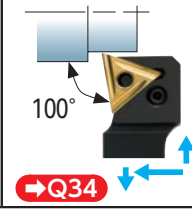
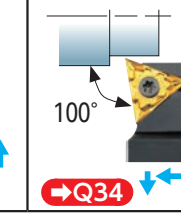
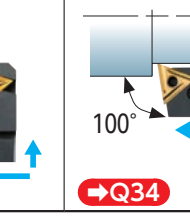
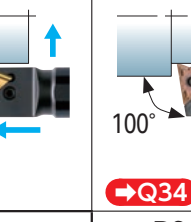
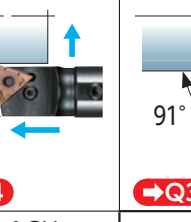
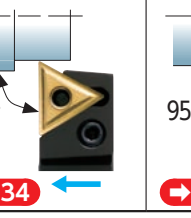
Insert	DC..21/32.5..WP.. ➡Q20		DC..21/32.5.. ➡Q20				
Holder	DS-SDUL	DS-SDUL-ACH	SDXC	DS-SDX	SDQC	SDNC	Y-SDNC
	 ➡Q19	 ➡Q19	 ➡Q16	 ➡Q19	 ➡Q16	 ➡Q17	 ➡Q18
		DS-ACH					Y-axis

Insert	VB..33 ➡Q23	VC..22..-WP	VC..22.. ➡Q27				
Holder	SVJB-OH2/OH	SVAC	SVJC	SVJC-OH2/OH	SVJC-F	Y-SVJC	Y-SVJC-OH2/OH
							
	Coolant through			Coolant through	Shifted	Y-axis	Y-axis w/ Coolant through

Insert	VC..22.. ➡Q27				VCGT21.5.. ➡Q28
Holder	SVXC	DS-SVXC	SVQC	SVVCN	SVAC-1L
					

Insert	VP..08020.. ➡Q29			VP..22.. ➡Q30		
Holder	SVQP	CH-SVUP	DS-SVXP	SVXP	DS-SVVPN	DS-SVVPN-ACH
						
						DS-ACH

Insert	TFX33..	TF33.. ➡Q38	TC..73../..21..-WP	TC..73../..21.. ➡Q31	CN..43.. ➡Q38	DN..43.. ➡Q40
Holder	TFX-OH	TFT	STAC	CH-STUC	PCLN	PDJN
						

Insert	TN..33.. ➡Q36					
Holder	PTXN	STXN	DS-PTX	DS-PTX-ACH	PTAN	PTLN
						
				DS-ACH		

Recommended Insert Grade and Cutting Conditions

Front Turning

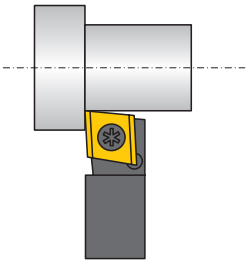
CSVF / CC.. / DC.. / VC.. / VB.. / TN.. / TF

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels Hard to cut		Stainless Steels Free cutting	Alloy Steels	Carbon Steels
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (SFM)		75 125 225	100 200 275		130 230 330		150 300 600	150 300 500	
Recommended Chipbreaker Feed Rate (IPR)	≤.004 DOC	AMX KHG					AMX KHG		
		.0004 .0008 .0012					.0004 .0012 .0016		
	.004 to .060 DOC	YL CL AM3 S					YL CL AM3 AZ7 S U/U1 UL		
		.0008 .0016 .0024					.0008 .0020 .0032		
	≥ .060 DOC	YL CL AM3 S					YL CL AM3 ZP		
		.0008 .0015 .0025					.0012 .0024 .0040		

General Turning Inserts Explained

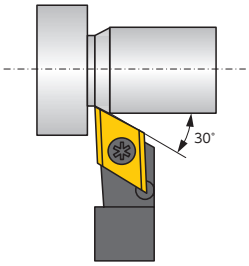
Advantage for each geometry

CC.. Style (80°)



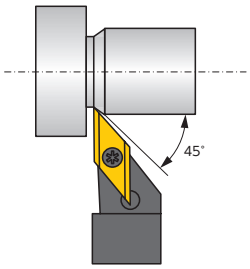
- Increased toughness. Cutting edge is close to insert pocket.
- Not applicable to undercut

DC.. Style (55°)



- Versatile geometry. Toughness of CC.. with flexibility of VC..
- Up to 30 deg. undercuts

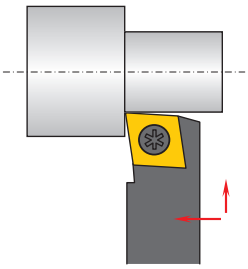
VB / VC / VP Style (35°)



- Wide coverage in work geometry.
- Up to 45 deg. undercuts

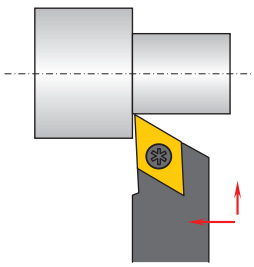
Chip Control and Finish

SCLCR ➡Q10



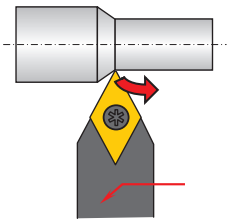
Rigid clamping
High dimensional repeatability

SDJCR ➡Q16



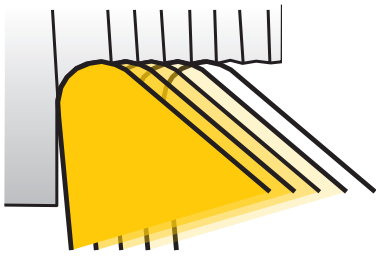
Increased room for chip evacuation creates better surface finish

SDNCN ➡Q17

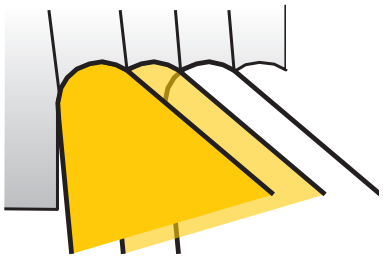


Chips flow away from the work

Surface Finish in General Turning Using Inserts with Wiper Flat

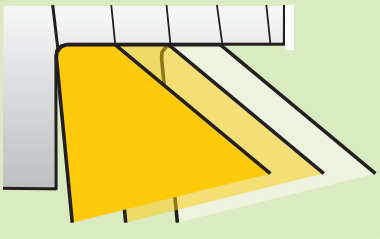


Slower feed rates create better finishes but sacrifices cycle time, chip control, and tool life.



Fast feed rates improve chip control but produce a bad surface finish.

Inserts with wiper



Inserts with a wiper flat create good chip control and surface finish when feed rates are increased.

Wiper Flat Insert - WP series

DCGT.. -WP (TFD) ➡Q20·Q21

for SDJC toolholders

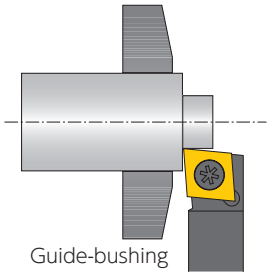
TCGT.. -WP (TFT) ➡Q31

for STAC toolholders

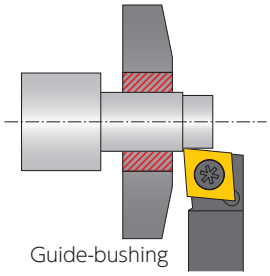
VCGT.. -WP (TFV) ➡Q27

for SVAC toolholders

Roughing and Finishing Long Work on Swiss Lathes

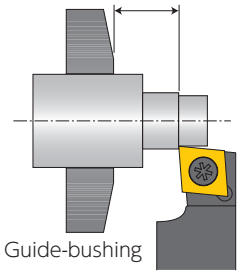


Single pass machining is common in Swiss front turning operations.



Conventional toolholders are not suitable for roughing or finishing of long parts. The guide-bushing cannot hold machined bar stock.

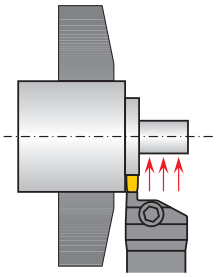
●Shifted Holders



Shifted Holders make a finishing process possible without worrying about the bar stock coming out of the guide-bushing.
Coolant flows effectively which improves chip control thanks to the increased room between the tools and guide-bushing.

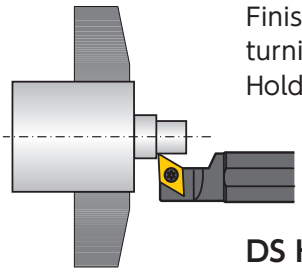
SCLC-N-F ➡Q10
SDJC-N-F ➡Q16
SVJC-N-F ➡Q24

●Combination of Grooving Tool and DS Holders



Rough with grooving tool for good chip control

GTWP Holders ➡T9

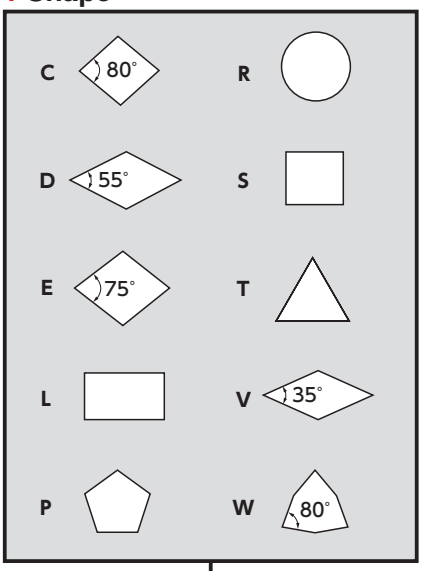


Finish by using general turning inserts with DS Holders

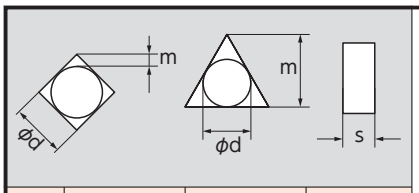
DS Holders

ANSI / ISO Insert Nomenclature

1 Shape



3 Tolerance Class



Symbol	d (inch)	m (inch)	s (inch)
A	±.0010	±.0002	±.0010
F	±.0050	±.0002	±.0010
C	±.0010	±.0005	±.0010
H	±.0050	±.0005	±.0010
E	±.0010	±.0010	±.0010
G	±.0010	±.0010	±.0050
J	±.0020	±.0020	±.0050
K	±.002 ~ ±.005	±.0005	±.0010
L	±.002 ~ ±.005	±.0010	±.0010
M	±.002 ~ ±.005	±.003 ~ ±.007	±.0050
N	±.002 ~ ±.005	±.003 ~ ±.007	±.0010
U	±.003 ~ ±.010	±.005 ~ ±.015	±.0050

C S T — M tolerance

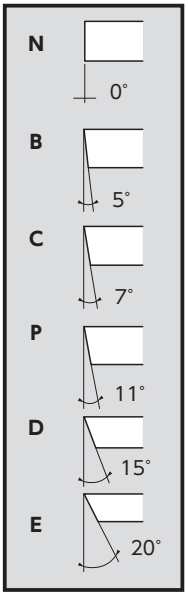
Inscribed Circle	d (inch)	m (inch)
1/4	±.002	±.003
3/8	±.002	±.003
1/2	±.003	±.005
5/8	±.004	±.006
3/4	±.004	±.006
1	±.005	±.007

D K — M tolerance

Inscribed Circle	d (inch)	m (inch)
1/4	±.002	±.004
3/8	±.002	±.004
1/2	±.003	±.006
5/8	±.004	±.006
3/4	±.004	±.007

	1	2	3	4
Inch	C	C	G	T
Metric	C	C	G	T

2 Clearances



4 Type

Type	Symbol	Type	Symbol
	N (E)	70°–90°	H
	F		
	R	70°–90°	B
	A		
	G	40°–60°	T
	M	40°–60°	W
Special design	X		

6 Thickness

Thickness S(inch)	Inch	Metric
3/32	1.5	02
1/8	2	03
5/32	2.5	T3
3/16	3	04
1/4	4	06
5/16	5	07
3/8	6	09
1/2	8	12

5 Cutting Edge Length

Inch		Metric					
Inscribed Circle		C	D	R	S	T	V	W
1/4	2	06	07	06	11	11	04
3/8	3	09	11	09	16	16	06
1/2	4	12	15	12	22	22	08
5/8	5	16	19	15	27	27	10
3/4	6	19	23	19	33	33	13
1	8	25	31	25	44	44	17

7 Nose Radius

Corner Radius	Inch	Metric
.001	01	00
.003	04M	01M
.004	04	01
.007	08M	02M
.008	08	02
.015	1M	04M
.016 (1/64)	1	04
.031 (1/32)	2	08

5	6	7	8	9	10
3	2.5	08M	F	N	AM3
09	T3	02M	F	N	AM3

8 Edge Sharpness

F	Up-sharp edge (without any edge preparation)
(Blank)	Non up-sharp edge

9 Hand of Chipbreaker

N	Neutral*
R	Right-hand
L	Left-hand

* Omitted when edge is not "up-sharp"

10 Type of Chipbreaker

See page P20 to P23 for chipbreaker information

11 Wiper insert

"-WP" after chipbreaker

CSV Series

Best for up to .200" diameter material

CSV-NC

For Gang-style machine

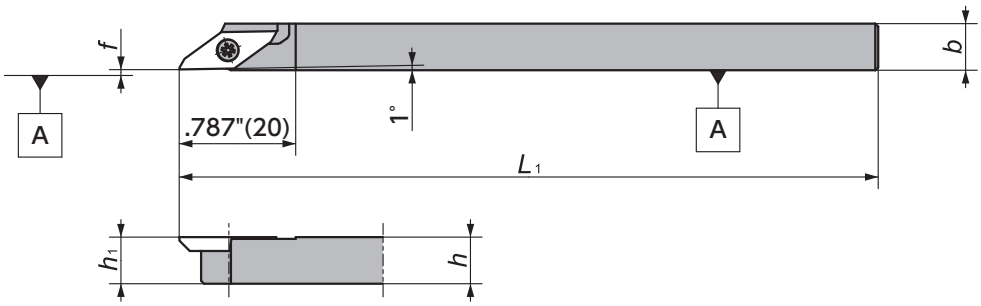


Figure-1

Right-Hand style shown

CSV

For Cam-style machine

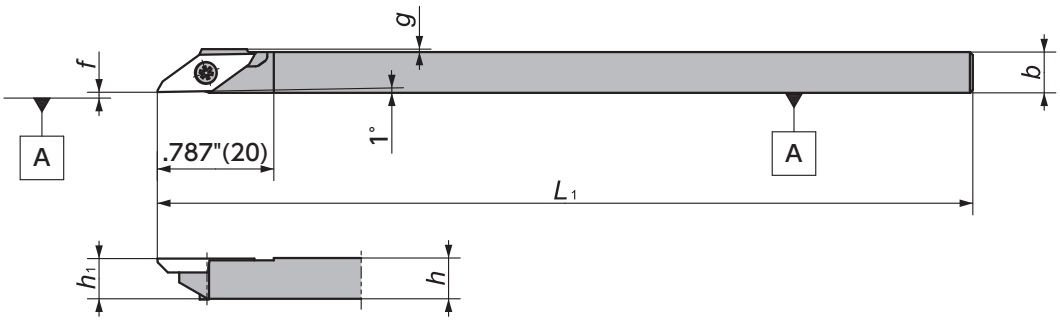


Figure-2

Right-Hand style shown

DS-CSVL

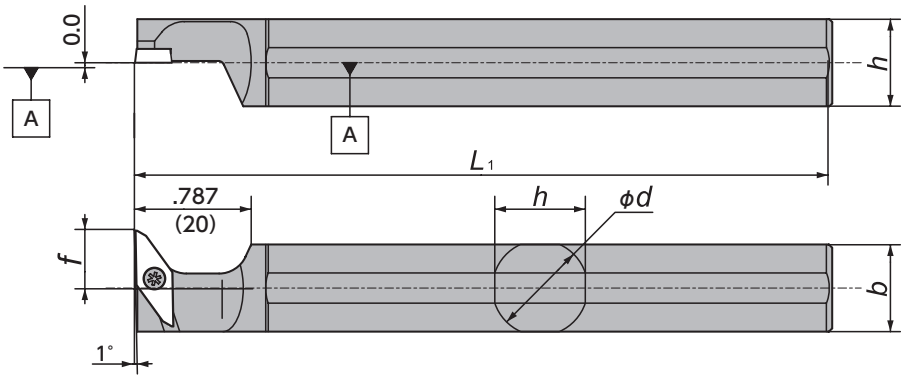


Figure-3

Left-Hand style shown
Takes Right-hand insert

CSV Series - Toolholders

■CSVR/L / CSVR/L-NC

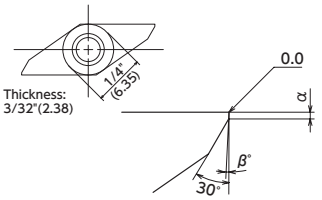
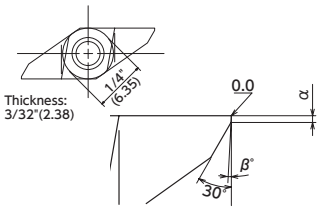
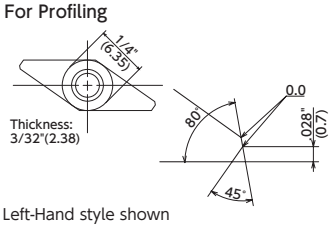
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	g (Inch)	g (mm)	Clamp Screw	Wrench
 CSV..11..	CSVR/L06-IN-NC	1	●	●	3/8		3/8		3/8		4.724	120	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSVR/L08-IN-NC	1	●	●	1/2		1/2		1/2		4.724	120	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSVR/L08NC	1	○	○	.315	8	.315	8	.315	8	4.724	120	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSVR/L08NC-F	1	○		.315	8	.315	8	.315	8	4.724	120	0-.004	0.0-0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSVR/L10GXNC	1	○		.394	10	.394	10	.394	10	3.346	85	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSVR/L10NC	1	○	○	.394	10	.394	10	.394	10	4.724	120	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSVR/L12NC	1	●	●	.472	12	.472	12	.472	12	4.724	120	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSVR/L07GX	2	○		.275	7	.275	7	.275	7	3.346	85	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSVR/L07	2	○	●	.275	7	.275	7	.275	7	5.512	140	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSVR/L08GX	2	○		.315	8	.315	8	.315	8	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08	2	●	●	.315	8	.315	8	.315	8	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L095	2	○		.374	9.5	.374	9.5	.374	9.5	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L10	2	●	○	.394	10	.394	10	.394	10	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12GX	2	○		.472	12	.472	12	.472	12	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12	2	●		.472	12	.472	12	.472	12	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S

■DS-CSVL (Takes right-hand insert)

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 CSV..11FR..	DS-CSVL15	3		●	5/8	15.875	.591	15	.591	15	4.724	120	.394	10	LRIS-2.5 × 7	CLR-15S

CSV Series - Inserts

■CSVF - Front Turning Mirror finish

Shape	Item Number	Chip-breaker	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	Edge Geometry (α × β°) (Inch)	Edge Geometry (α × β°) (mm)	Coated Carbide DT4 R	DT4 L	VM1 R	VM1 L	ZM3 R	ZM3 L
 Right-Hand style shown	CSVF11FR/L V Ⓜ	No	–	–	.012 × 5°	0.3 × 5°			○	○		
	CSVF11FR/L V-A Ⓜ		–	–	.012 × 2°	0.3 × 2°			○			
	CSVF11FR/L V-M Ⓜ		–	–	.006 × 2°	0.15 × 2°	●		●	●	○	
	CSVF11FR/L V-C Ⓜ		–	–	.006 × 5°	0.15 × 5°			○			
 Right-Hand style shown	CSVF11FR/L VB Ⓜ	Yes	.118	3	.012 × 5°	0.3 × 5°			●	○		
	CSVF11FR/L VB-A Ⓜ		.118	3	.012 × 2°	0.3 × 2°			○			
	CSVF11FR/L VB-M Ⓜ		.118	3	.006 × 2°	0.15 × 2°	●		●	●	○	
	CSVF11FR/L VB-C Ⓜ		.118	3	.006 × 5°	0.15 × 5°			○			
For Profiling  Left-Hand style shown	CSVF11FR/L VX Ⓜ	No	–	–						○		

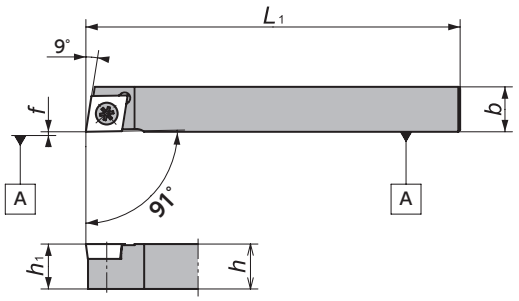
Note: All angles shown are obtained when insert is set in the holder

CSV series ➡O51 Cutting condition ➡Q4

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Toolholders for CC.. Inserts

SCAC-N



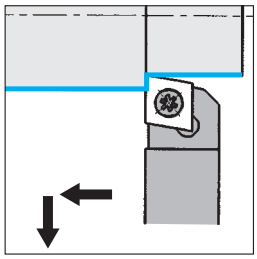
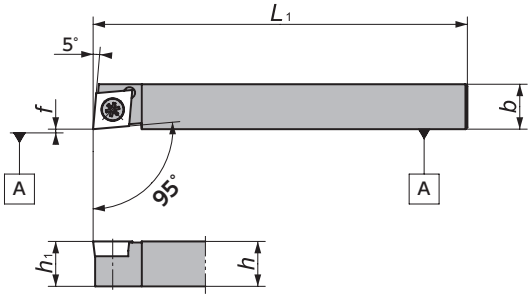


Figure-1

Right-Hand style shown

SCLC-N



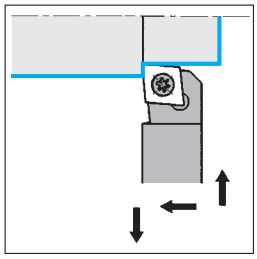
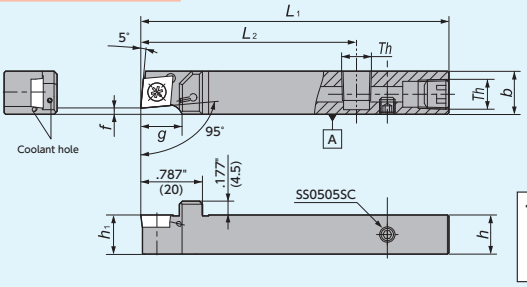


Figure-2

Right-Hand style shown

SCLC-N-OH2 (Coolant through)



Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

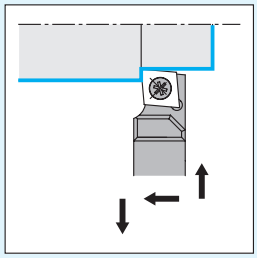
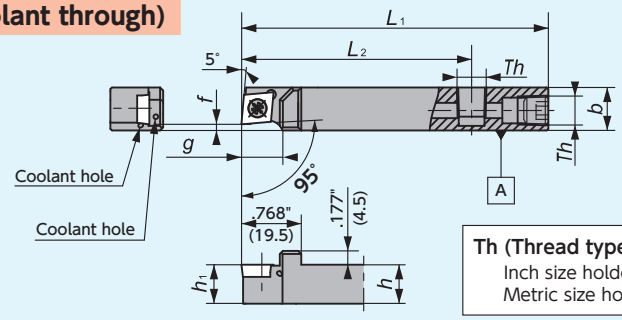


Figure-3

Right-Hand style shown

SCLC-N-OH (Coolant through)



Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

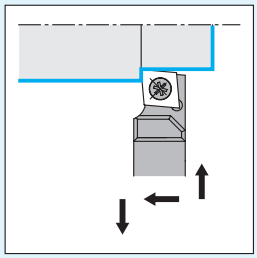
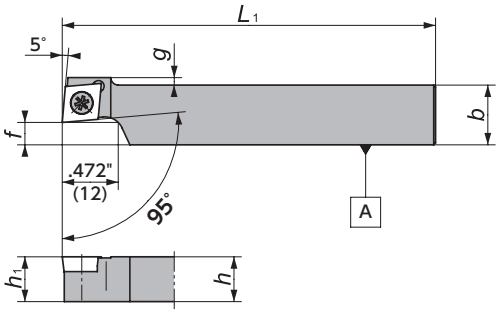


Figure-4

Right-Hand style shown

SCLC-N-F (Shifted)



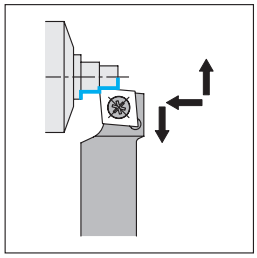


Figure-5

Right-Hand style shown

CC.. Series - Toolholders

SCAC

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	g (Inch)	g (mm)	Clamp Screw	Wrench
CC..21.5..	SCAC⅝0808X06N	1	○	○	.315	8	.315	8	.315	8	4.724	120	0.0	0.0	–	–	LRIS-2.5 × 7	CLR-15S
	SCAC⅝1010X06N	1	○	○	.394	10	.394	10	.394	10	4.724	120	0.0	0.0	–	–	LRIS-2.5 × 7	CLR-15S
CC..32.5..	SCAC⅝1212GX09N	1	○		.472	12	.472	12	.472	12	3.346	85	0.0	0.0	–	–	LRIS-4 × 10	LLR-25S
	SCAC⅝1212X09N	1	○	○	.472	12	.472	12	.472	12	4.724	120	0.0	0.0	–	–	LRIS-4 × 10	LLR-25S

SCLC

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	g (Inch)	g (mm)	Th	Clamp Screw	Wrench
CC..21.5..	SCLC⅝-062C	2	●	●	3/8		3/8		3/8		4.724	120	0.0	0.0	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SCLC⅝-082C	2	●	●	1/2		1/2		1/2		4.724	120	0.0	0.0	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SCLC⅝0808X06N	2	○	●	.315	8	.315	8	.315	8	4.724	120	0.0	0.0	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SCLC⅝1010X06N	2	○	○	.394	10	.394	10	.394	10	4.724	120	0.0	0.0	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
CC..32.5..	SCLC⅝-083C	2	●	●	1/2		1/2		1/2		4.724	120	0.0	0.0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SCLC⅝-103C	2	●	●	5/8		5/8		5/8		4.724	120	0.0	0.0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SCLC⅝1010H09N	2	○		.394	10	.394	10	.394	10	3.937	100	0.0	0.0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SCLC⅝1010X09N	2	○	○	.394	10	.394	10	.394	10	4.724	120	0.0	0.0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SCLC⅝1212GX09N	2	○	○	.472	12	.472	12	.472	12	3.346	85	0.0	0.0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SCLC⅝1212X09N	2	●	●	.472	12	.472	12	.472	12	4.724	120	0.0	0.0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SCLC⅝1616X09N	2	○	○	.630	16	.630	16	.630	16	4.724	120	0.0	0.0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
CC..21.5..	SCLC⅝082H-F079-OH 💧	4	●		1/2		.551	14	1/2		3.937	100	.079	2	2.953	75	.472	12	NPT1/8	LRIS-2.5×7	CLR-15S
CC..32.5..	SCLC⅝083H-F079-OH 💧	4	■		1/2		.551	14	1/2		3.937	100	.079	2	2.953	75	.472	12	NPT1/8	LRIS-4 × 10	LLR-25S
	SCLC⅝083H-F079-OH2 💧	3	●		1/2		.551	14	1/2		3.937	100	.079	2	2.756	70	.472	12	NPT1/8	LRIS-4 × 10	LLR-25S
	SCLC⅝103HL-F079-OH 💧	4	●		5/8		5/8	14	5/8		3.937	100	.079	2	2.953	75	.697	17.7	NPT1/8	LRIS-4 × 10	LLR-25S
	SCLC⅝103XL-F079-OH2 💧	3	●		5/8		5/8	14	5/8		4.724	120	.079	2	2.953	75	.697	17.7	NPT1/8	LRIS-4 × 10	LLR-25S
	SCLC⅝1014F09N-F02OH 💧	4	○		.394	10	.551	14	.394	10	3.150	80	.079	2.0	2.165	55	.472	12	M6 × 1	LRIS-4 × 10	LLR-25S
	SCLC⅝1214H09N-F02OH 💧	4	□		.472	12	.551	14	.472	12	3.937	100	.079	2.0	2.953	75	.472	12	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SCLC⅝1214H09N-F02OH2 💧	3	●		.472	12	.551	14	.472	12	3.937	100	.079	2.0	2.756	70	.472	12	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SCLC⅝1616H09N-F02OH 💧	4	○		.630	16	.630	16	.630	16	3.937	100	.079	2.0	2.953	75	.697	17.7	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SCLC⅝1616X09N-F02OH2 💧	3	●		.630	16	.630	16	.630	16	4.724	120	.079	2.0	2.953	75	.697	17.7	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SCLC⅝083C-F250	5	●		1/2		.984	25	1/2		4.724	120	1/4		–	–	0	0	–	LRIS-4 × 10	LLR-25S
	SCLC⅝083C-F500	5	●		1/2		.984	25	1/2		4.724	120	1/2		–	–	0	0	–	LRIS-4 × 10	LLR-25S
	SCLC⅝1015X09N-F05	5	○		.394	10	.591	15	.394	10	4.724	120	.197	5	–	–	.079	2	–	LRIS-4 × 10	LLR-25S
	SCLC⅝1020X09N-F10	5	○		.394	10	.787	20	.394	10	4.724	120	.394	10	–	–	.079	2	–	LRIS-4 × 10	LLR-25S
	SCLC⅝1218X09N-F06	5	●		.472	12	.709	18	.472	12	4.724	120	.236	6	–	–	0	0	–	LRIS-4 × 10	LLR-25S
	SCLC⅝1224X09N-F12	5	●		.472	12	.945	24	.472	12	4.724	120	.472	12	–	–	0	0	–	LRIS-4 × 10	LLR-25S

Inserts ➡Q13 Cutting condition ➡Q4

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Toolholders for CC.. Inserts

DS-SCL

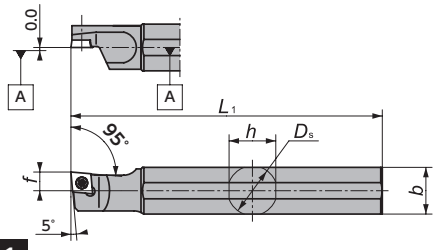


Figure-1

DS-SCL (Coolant through)

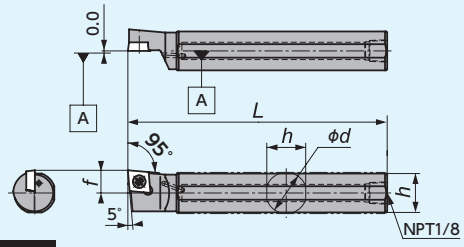
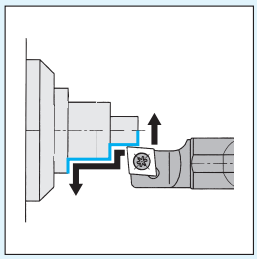


Figure-2



Left-Hand style shown
Takes Right-hand or Neutral insert

DS-SCLL-ACH (Adjustable centerline height)

〈Parts〉

Shank	Wedge	Screw for Wedge
φ.630" (16)	ACH-W18 (5805601)	WS060415-003 (5795539)
φ3/4" (19.05)		
φ.787" (20)		WS060419-004 (5799226)
φ.866" (22)		
φ1" (25.4)	ACH-W24 (5805619)	

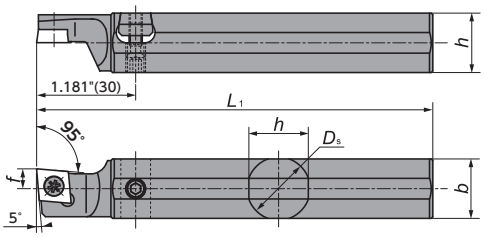
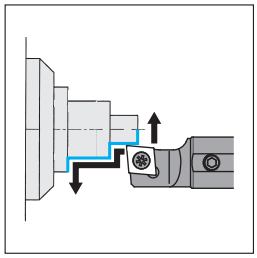


Figure-3



Left-Hand style shown
Takes Right-hand or Neutral insert

CC.. Series - Toolholders

DS-SCL (Takes right-hand or neutral insert)

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
CC..21.5..	DS-SCLR¼14F-06	1		○	.551	14.000	.512	13	.512	13	3.150	80	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCLR⅝15H-06	1		○	5/8	15.875	.591	15	.591	15	3.937	100	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCLR⅝16F-06	1		○	.630	16.000	.591	15	.591	15	3.150	80	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCLR¾19-06	1		●	3/4	19.050	.709	18	.709	18	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCLR⅞20X-06	1		○	.787	20.000	.748	19	.748	19	3.740	95	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCLR⅞20-06	1		●	.787	20.000	.748	19	.748	19	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCLR⅞22-06	1		○	.866	22.000	.827	21	.827	21	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCLR⅞25-06MET	1		●	.984	25.000	.945	24	.945	24	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SCLR⅞25-06	1		●	1	25.400	.945	24	.945	24	5.906	150	.236	6.0	LRIS-2.5 × 7	CLR-15S
CC..32.5..	DS-SCLR¼14F-09	1		○	.551	14.000	.512	13	.512	13	3.150	80	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅝15H-09	1		○	5/8	15.875	.591	15	.591	15	3.937	100	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅝16F-09	1		○	.630	16.000	.591	15	.591	15	3.150	80	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR¾19GX-09	1		○	3/4	19.050	.709	18	.709	18	3.346	85	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR¾19-09	1		●	3/4	19.050	.709	18	.709	18	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLL19-09-004	2		●	3/4	19.050	.709	18	.709	18	4.724	120	.413	10.5	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞20X-09	1		○	.787	20.000	.748	19	.748	19	3.740	95	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞20-09	1		●	.787	20.000	.748	19	.748	19	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞22-09	1		●	.866	22.000	.827	21	.827	21	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞22-09-005	2		●	.866	22.000	.827	21	.827	21	4.724	120	.472	12.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞25-09MET	1		○	.984	25.000	.945	24	.945	24	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞25-09	1		●	1	25.400	.945	24	.945	24	5.906	150	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞32-09	1		○	1.260	32.000	1.181	30	1.181	30	5.906	150	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅝16F-09-ACH	3		●	.630	16.000	.610	15.5	.610	15.5	3.150	80	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR¾19-09-ACH	3		●	3/4	19.050	.709	18.0	.709	18.0	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞20-09-ACH	3		●	.787	20.000	.748	19.0	.748	19.0	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞22-09-ACH	3		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞25-09MET-ACH	3		●	.984	25.000	.945	24.0	.945	24.0	5.906	150	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65
	DS-SCLR⅞25-09-ACH	3		●	1	25.400	.945	24.0	.945	24.0	5.906	150	.236	6.0	LRIS-4 × 8	LLR-25S-20 × 65

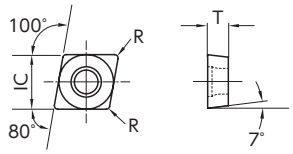
Inserts ➡Q13 Cutting condition ➡Q4

CC.. inserts - Carbide

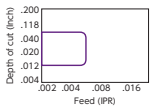
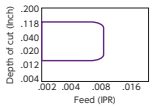
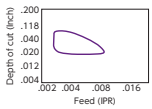
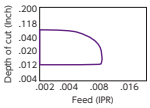
[Molded Chipbreakers]

(inch)	IC	T
CC..21.5	1/4	3/32
CC..32.5	3/8	5/32

🔴 : 1st Choice 🔵 : 2nd choice



		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔵		
Stainless Steel	M	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔵		
Cast Iron	K									🔴	
Non-Ferrous Material	N					🔵	🔵	🔵	🔴		🔴
Heat Resistant Alloy	S	🔵	🔴	🔴	🔴	🔵					
Hardened Material	H	🔵	🔴	🔵	🔴						

Shape	Item Number	ISO Item Number	IC	R	Carbide										
					PVD Coated								CVD	Diamond Coating	
					ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1	
	CCGT 32.501 YL	CCGT 09T300 YL	3/8	.001			●		●						
	CCGT 32.504M YL	CCGT 09T301M YL	3/8	.003	🔴	●	⭕	🔴	○						
	CCGT 32.508M YL	CCGT 09T302M YL	3/8	.007	🔴	●	⭕	🔴	○						
	CCGT 32.51M YL	CCGT 09T304M YL	3/8	.015	🔴	●	⭕	🔴	○						
	CCGT 32.52M YL	CCGT 09T308M YL	3/8	.031	🔴	●	⭕	🔴	○						
	CCGT 21.504M CL	CCGT 060201M CL	1/4	.003	⭕	○	●	🔴	●						
	CCGT 21.508M CL	CCGT 060202M CL	1/4	.007	⭕	○	●	●	●						
	CCGT 32.501 CL	CCGT 09T300 CL	3/8	.001			⭕		⭕						
	CCGT 32.504M CL	CCGT 09T301M CL	3/8	.003	⭕	○	●	🔴	●						
	CCGT 32.508M CL	CCGT 09T302M CL	3/8	.007	⭕	○	●	🔴	●						
	CCGT 32.51M CL	CCGT 09T304M CL	3/8	.015	⭕	○	●	●	●						
	CCGT 21.501 FNAM3	CCGT 060200 FNAM3	1/4	.001			●	●	⭕	○					
	CCGT 21.504M FNAM3	CCGT 060201M FNAM3	1/4	.003	⭕		🔴	●	⭕						
	CCGT 21.508M FNAM3	CCGT 060202M FNAM3	1/4	.007	⭕		●	●	⭕						
	CCGT 21.508 FNAM3	CCGT 060202 FNAM3	1/4	.008						○	○				
	CCGT 21.51M FNAM3	CCGT 060204M FNAM3	1/4	.015	⭕		●	●	⭕						
	CCGT 32.501 FNAM3	CCGT 09T300 FNAM3	3/8	.001			●	●	○	○					
	CCGT 32.504M FNAM3	CCGT 09T301M FNAM3	3/8	.003	⭕		●	●	○	○	○				
	CCGT 32.508M FNAM3	CCGT 09T302M FNAM3	3/8	.007	⭕		●	●	○	○	○				
	CCGT 32.508 FNAM3	CCGT 09T302 FNAM3	3/8	.008				●		○					
	CCGT 32.51M FNAM3	CCGT 09T304M FNAM3	3/8	.015	⭕		●	●	○	○	○				
	CCGT 32.51 FNAM3	CCGT 09T304 FNAM3	3/8	.016				●		○					
	CCGT 32.52 FNAM3	CCGT 09T308 FNAM3	3/8	.031				●							
	CCMT 21.508 FNAM3	CCMT 060202 FNAM3	1/4	.008		○									
	CCMT 21.51 FNAM3	CCMT 060204 FNAM3	1/4	.016		○									
	CCMT 32.508 FNAM3	CCMT 09T302 FNAM3	3/8	.008		○									
	CCMT 32.51 FNAM3	CCMT 09T304 FNAM3	3/8	.016		○									
	CCMT 32.52 FNAM3	CCMT 09T308 FNAM3	3/8	.031		○									
	CCGT 21.501 AZ7	CCGT 060200 AZ7	1/4	.001				○							
	CCGT 21.504M AZ7	CCGT 060201M AZ7	1/4	.003				○							
	CCGT 21.508M AZ7	CCGT 060202M AZ7	1/4	.007				○							
	CCGT 32.501 AZ7	CCGT 09T300 AZ7	3/8	.001		○	○	●	○		○				
	CCGT 32.504M AZ7	CCGT 09T301M AZ7	3/8	.003		○	○	●	○		○				
	CCGT 32.508M AZ7	CCGT 09T302M AZ7	3/8	.007		○	○	●	○		○				
	CCGT 32.51M AZ7	CCGT 09T304M AZ7	3/8	.015		○	○	●	○		○				

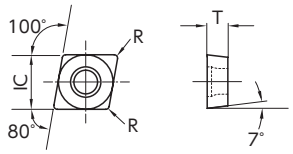
Holders ➔Q10
Cutting condition ➔Q4
Chipbreaker ➔P20

● : Stock
🔴 : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
⭕ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

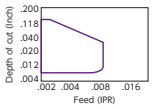
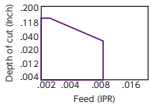
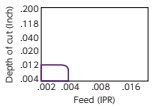
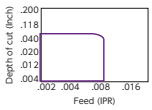
[Ground Chipbreakers]

(inch)	IC	T
CC..21.5	1/4	3/32
CC..32.5	3/8	5/32

● : 1st Choice • : 2nd choice



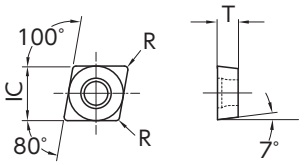
		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	•		
Stainless Steel	M	●	●	●	●	●	●	●	•		
Cast Iron	K									●	
Non-Ferrous Material	N					•	•	•	●		●
Heat Resistant Alloy	S	•	●	●	●	•					
Hardened Material	H	•	●	•	●						

Shape	Item Number	ISO Item Number	IC	R	Carbide										
					PVD Coated								CVD	Diamond Coating	
					ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1	
	CCGT 21.501 R/L S	CCGT 060200 R/L S	1/4	.001			Ⓡ	R		ⓇⓁ	ⓇL				
	CCGT 21.504M R/L S	CCGT 060201M R/L S	1/4	.003			Ⓡ	R							
	CCGT 21.504 R/L S	CCGT 060201 R/L S	1/4	.004						ⓇⓁ	RⓁ				
	CCGT 21.508M R/L S	CCGT 060202M R/L S	1/4	.007			Ⓡ	R							
	CCGT 21.508 R/L S	CCGT 060202 R/L S	1/4	.008						RⓁ	ⓇⓁ				
	CCGT 21.51 R/L S	CCGT 060204 R/L S	1/4	.016				R							
	CCGT 32.501 R/L S	CCGT 09T300 R/L S	3/8	.001			R	R	R	ⓇⓁ	Ⓡ				
	CCGT 32.504M R/L S	CCGT 09T301M R/L S	3/8	.003			R	Ⓡ	R						
	CCGT 32.504 R/L S	CCGT 09T301 R/L S	3/8	.004				R		ⓇⓁ	ⓇⓁ				
	CCGT 32.508M R/L S	CCGT 09T302M R/L S	3/8	.007			R	Ⓡ	R						
	CCGT 32.508 R/L S	CCGT 09T302 R/L S	3/8	.008				R		RⓁ	Ⓡ				
	CCGT 32.51M R/L S	CCGT 09T304M R/L S	3/8	.015			Ⓡ	Ⓡ	R						
	CCGT 32.51 R/L S	CCGT 09T304 R/L S	3/8	.016				R							
	CCGT 21.501 R/L U	CCGT 060200 R/L U	1/4	.001			Ⓡ				Ⓡ				
	CCGT 21.504 R/L U	CCGT 060201 R/L U	1/4	.004			Ⓡ				ⓇⓁ				
	CCGT 21.508 R/L U	CCGT 060202 R/L U	1/4	.008			Ⓡ				ⓇⓁ				
	CCGT 32.501 R/L U1	CCGT 09T300 R/L U1	3/8	.001			Ⓡ		Ⓡ		ⓇⓁ				
	CCGT 32.504 R/L U1	CCGT 09T301 R/L U1	3/8	.004			Ⓡ		Ⓡ		ⓇⓁ				
	CCGT 32.508 R/L U1	CCGT 09T302 R/L U1	3/8	.008			Ⓡ		Ⓡ		ⓇⓁ				
	CCGT 32.51 R/L U1	CCGT 09T304 R/L U1	3/8	.016			Ⓡ		Ⓡ		ⓇⓁ				
	CCET 21.502 R/L KHG	CCET 0602005 R/L KHG	1/4	.002						ⓇⓁ					
	CCET 21.503 R/L KHG	CCET 0602008 R/L KHG	1/4	.003						ⓇⓁ					
	CCET 21.507 R/L KHG	CCET 0602018 R/L KHG	1/4	.007						ⓇⓁ					
	CCET 21.508 R/L KHG	CCET 060202 R/L KHG	1/4	.008						ⓇⓁ					
	CCET 32.502 R/L KHG	CCET 09T3005 R/L KHG	3/8	.002					Ⓡ	ⓇⓁ					
	CCET 32.503 R/L KHG	CCET 09T3008 R/L KHG	3/8	.003					Ⓡ	ⓇⓁ					
	CCET 32.507 R/L KHG	CCET 09T3018 R/L KHG	3/8	.007					Ⓡ	ⓇⓁ					
	CCET 32.508 R/L KHG	CCET 09T302 R/L KHG	3/8	.008					Ⓡ	ⓇⓁ					
	CCGT 21.504 F R/L F1	CCGT 060201 F R/L F1	1/4	.004	Ⓡ			Ⓡ	R						
	CCGT 21.508 F R/L F1	CCGT 060202 F R/L F1	1/4	.008	Ⓡ			Ⓡ	R						
	CCGT 21.51 F R/L F1	CCGT 060204 F R/L F1	1/4	.016	Ⓡ			Ⓡ	R						
	CCGT 32.508 F R/L F1	CCGT 09T302 F R/L F1	3/8	.008	Ⓡ			Ⓡ	Ⓡ						
	CCGT 32.51 F R/L F1	CCGT 09T304 F R/L F1	3/8	.016	Ⓡ			Ⓡ	Ⓡ						
	CCGW 21.501 FN	CCGW 060200 FN	1/4	.001							○				—
	CCGW 21.501 H Ⓜ	CCGW 060200 H	1/4	.001								●			
	CCGW 21.504 FN	CCGW 060201 FN	1/4	.004							○				
	CCGW 21.504 H Ⓜ	CCGW 060201 H	1/4	.004								●			
	CCGW 21.508 H Ⓜ	CCGW 060202 H	1/4	.008								●			
	CCGW 21.51 FN	CCGW 060204 FN	1/4	.016							○				
	CCGW 21.52 FN	CCGW 060208 FN	1/4	.031							■				
	CCGW 32.500 V Ⓜ	CCGW 09T30 V	3/8	.001						○					
	CCGW 32.501 FN	CCGW 09T300 FN	3/8	.001							○				
	CCGW 32.501 H Ⓜ	CCGW 09T300 H	3/8	.001								●			
	CCGW 32.504 FN	CCGW 09T301 FN	3/8	.004							○				
	CCGW 32.504 H Ⓜ	CCGW 09T301 H	3/8	.004								●			
	CCGW 32.504 P Ⓜ	CCGW 09T301 P	3/8	.004						○					
	CCGW 32.508M P Ⓜ	CCGW 09T302M P	3/8	.007			○								
	CCGW 32.508 H Ⓜ	CCGW 09T302 H	3/8	.008								●			
	CCGW 32.508 P Ⓜ	CCGW 09T302 P	3/8	.008						○					

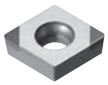
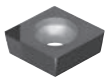
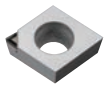
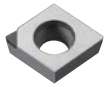
CC.. inserts - CBN / PCD

(inch)	IC	T
CC.. 21	1/4	3/32
CC.. 32	3/8	5/32

● : 1st Choice ● : 2nd choice



		JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
Steel	P												
Stainless Steel	M												
Cast Iron	K		●	●	●				●	●			
Non-Ferrous Material	N										●	●	●
Heat Resistant Alloy	S	●											
Hardened Material	H		●	●	●	●	●	●					

Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	JP2 (BIDEMICS Coated)	B99 (Solid CBN)	B5K (CBN Coated)	B52	B6K (CBN Coated)	B36	B40	B23	B30	PD1 (PCD)	PD2 (PCD)	UC1 (Diamond Coating)
	CCGW 21.508 PD FNX	CCGW 060202 PD FNX	None	1/4	.008	2	.091				○					○			
	CCGW 21.508 PD S0415	CCGW 060202 PD S01015	S0415	1/4	.008	2	.091				○		○	○					
	CCGW 21.508 PD S0525	CCGW 060202 PD S01325	S0525	1/4	.008	2	.091				○		○						
	CCGW 21.508 PD S0635	CCGW 060202 PD S01535	S0635	1/4	.008	2	.091				○		○						
	CCGW 21.51 PD FNX	CCGW 060204 PD FNX	None	1/4	.016	2	.091									○			
	CCGW 21.51 PD S0415	CCGW 060204 PD S01015	S0415	1/4	.016	2	.091				●		○	○					
	CCGW 21.51 PD S0525	CCGW 060204 PD S01325	S0525	1/4	.016	2	.091				○		○						
	CCGW 21.51 PD S0635	CCGW 060204 PD S01535	S0635	1/4	.016	2	.091				○		○						
	CCGW 21.52 PD FNX	CCGW 060208 PD FNX	None	1/4	.031	2	.087				○								
	CCGW 21.52 PD S0415	CCGW 060208 PD S01015	S0415	1/4	.031	2	.087				○		○	○					
	CCGW 21.52 PD S0525	CCGW 060208 PD S01325	S0525	1/4	.031	2	.087				○		○	○					
	CCGW 21.52 PD T0620	CCGW 060208 PD T01520	T0620	1/4	.031	2	.087						○						
	CCGW 21.52 PD S0635	CCGW 060208 PD S01535	S0635	1/4	.031	2	.087				○		○	○					
	CCGW 32.508 PD FNX	CCGW 09T302 PD FNX	None	3/8	.008	2	.091				○					○			
	CCGW 32.508 PD S0415	CCGW 09T302 PD S01015	S0415	3/8	.008	2	.091				●		○	○					
	CCGW 32.508 PD S0525	CCGW 09T302 PD S01325	S0525	3/8	.008	2	.091				○		○	○					
	CCGW 32.508 PD S0635	CCGW 09T302 PD S01535	S0635	3/8	.008	2	.091				○		○	●					
	CCGW 32.51 PD FNX	CCGW 09T304 PD FNX	None	3/8	.016	2	.091				○					○			
	CCGW 32.51 PD S0415	CCGW 09T304 PD S01015	S0415	3/8	.016	2	.091				●		○	○					
	CCGW 32.51 PD S0525	CCGW 09T304 PD S01325	S0525	3/8	.016	2	.091				○		○	○					
	CCGW 32.51 PD S0635	CCGW 09T304 PD S01535	S0635	3/8	.016	2	.091				○		○	●					
	CCGW 32.52 PD FNX	CCGW 09T308 PD FNX	None	3/8	.031	2	.087									○			
	CCGW 32.52 PD S0415	CCGW 09T308 PD S01015	S0415	3/8	.031	2	.087				●			○					
	CCGW 32.52 PD S0525	CCGW 09T308 PD S01325	S0525	3/8	.031	2	.087				○		○	○					
	CCGW 32.52 PD S0635	CCGW 09T308 PD S01535	S0635	3/8	.031	2	.087				○		○	●					
	CCGW 32.53 PD FNX	CCGW 09T312 PD FNX	None	3/8	.047	2	.063				○								
	CCGW 32.53 PD S0415	CCGW 09T312 PD S01015	S0415	3/8	.047	2	.063				○								
	CCGW 32.53 PD S0525	CCGW 09T312 PD S01325	S0525	3/8	.047	2	.063						○						
	CCMW 32.504	CCMW 09T301	None	3/8	.004	1	—										○		
	CCMW 32.508	CCMW 09T302	None	3/8	.008	1	—										○		
	CCMW 32.51	CCMW 09T304	None	3/8	.016	1	—										○		
	CCMW 32.52	CCMW 09T308	None	3/8	.031	1	—										○		
 with 3D chipbreaker	CCMT 21.504 PBF	CCMT 060201 PBF	None	1/4	.004	1	—											○	
	CCMT 21.508 PBF	CCMT 060202 PBF	None	1/4	.008	1	—											○	
	CCMT 21.51 PBF	CCMT 060204 PBF	None	1/4	.016	1	—											○	
	CCMT 32.504 PBF	CCMT 09T301 PBF	None	3/8	.004	1	—											○	
	CCMT 32.508 PBF	CCMT 09T302 PBF	None	3/8	.008	1	—											○	
	CCMT 32.51 PBF	CCMT 09T304 PBF	None	3/8	.016	1	—											○	
 with chipbreaker	CCMT 32.508 PF	CCMT 09T302 PF	None	3/8	.008	1	—											●	
	CCMT 32.51 PF	CCMT 09T304 PF	None	3/8	.016	1	—											●	

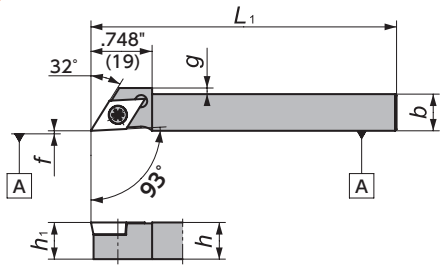
Front Turning

Holders ➡Q10
Cutting condition ➡Q4
Chipbreaker ➡P20

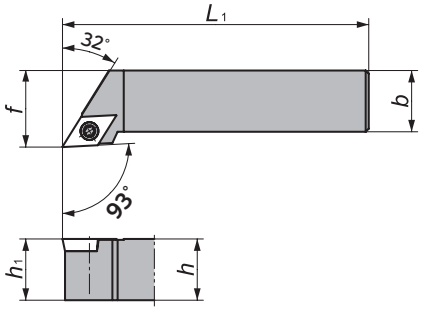
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
RⓁ : 1-2 week delivery (Right / Left-hand only)
RⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Toolholders for DC.. Inserts

SDJC-N



SDJCR/L20-X11



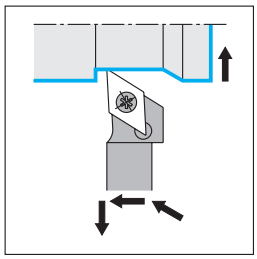
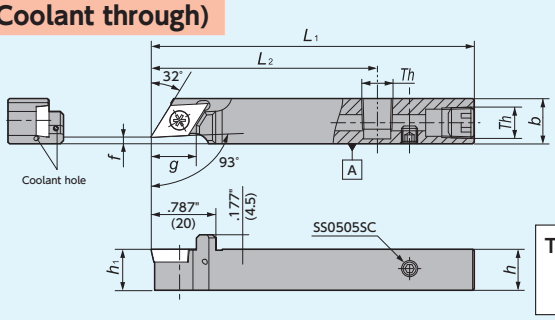


Figure-1

Right-Hand style shown

SDJC-N-OH2 (Coolant through)



Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

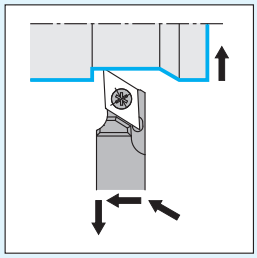
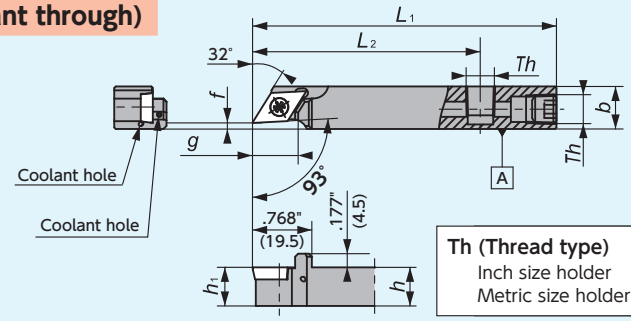


Figure-2

Right-Hand style shown

SDJC-N-OH (Coolant through)



Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

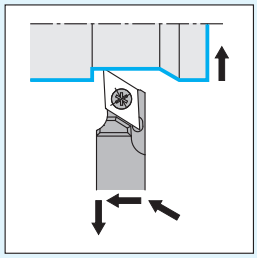
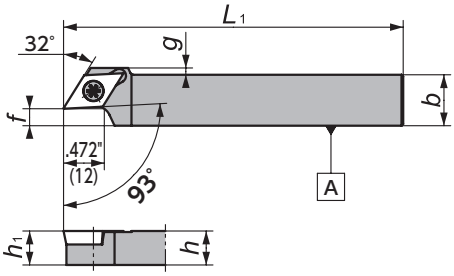


Figure-3

Right-Hand style shown

SDJC-N-F (Shifted)



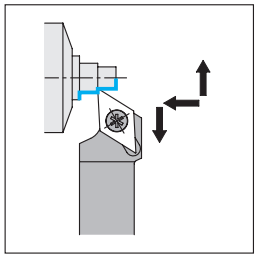
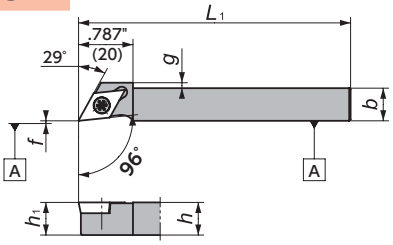


Figure-4

Right-Hand style shown

SDXC-N



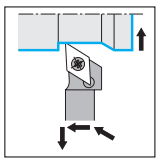
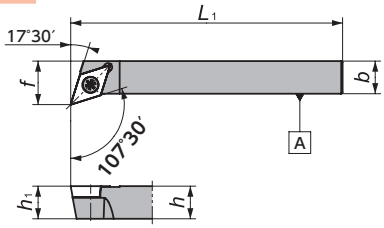


Figure-5

Right-Hand style shown

SDQC



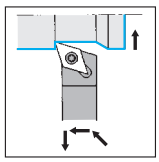


Figure-6

Right-Hand style shown

SDNC

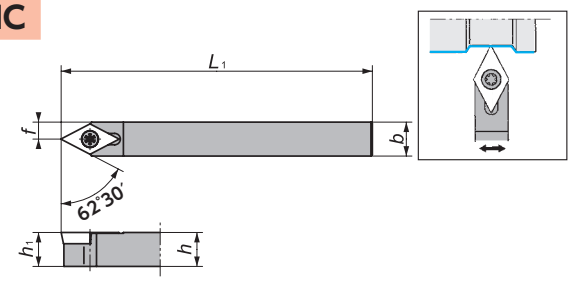


Figure-7

CH-SDUC

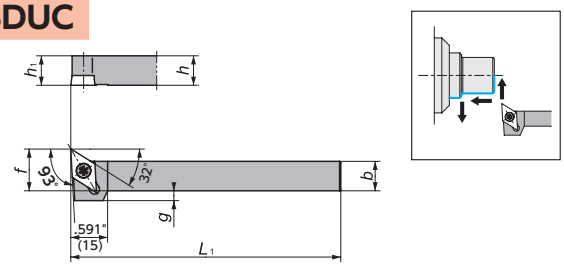
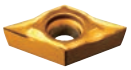


Figure-8

Left-Hand style shown
Takes Right-hand or Neutral insert

DC.. Series - Toolholders I



Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	g (Inch)	g (mm)	Th	Clamp Screw	Wrench
			N																		
DC..21.5.. DC..21.5..WP	SDJC℞-062C	1	●	●	3/8		3/8		3/8		4.724	120	0	0	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SDJC℞-082C	1	●	●	1/2		1/2		1/2		4.724	120	0	0	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SDJC℞0808X07N	1	○	○	.315	8	.315	8	.315	8	4.724	120	0	0	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SDJC℞1010GX07N	1	○		.394	10	.394	10	.394	10	3.346	85	0	0	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SDJC℞1010X07N	1	○	○	.394	10	.394	10	.394	10	4.724	120	0	0	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	SDJC℞-083C	1	●	●	1/2		1/2		1/2		4.724	120	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞-103C	1	●	●	5/8		5/8		5/8		4.724	120	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞1010H11N	1	○		.394	10	.394	10	.394	10	3.937	100	0	0	–	–	.079	2	–	LRIS-4 × 10	LLR-25S
	SDJC℞1010X11N	1	○	○	.394	10	.394	10	.394	10	4.724	120	0	0	–	–	.079	2	–	LRIS-4 × 10	LLR-25S
	SDJC℞1012X11N	1	○		.394	10	.472	12	.394	10	4.724	120	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞1212GX11N	1	○	○	.472	12	.472	12	.472	12	3.346	85	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞1216GX11N	1	○		.472	12	.630	16	.472	12	3.346	85	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞1212X11N	1	●	●	.472	12	.472	12	.472	12	4.724	120	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞1616X11N	1	○	○	.630	16	.630	16	.630	16	4.724	120	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞20-X11	1	○	○	.787	20	.787	20	.787	20	4.724	120	.984	25	–	–	–	–	–	LRIS-4 × 10	LLR-25S
DC..21.5../DC..21.5..WP	SDJC℞082H-F079-OH 💧	3	●		1/2		.551	14	1/2		3.937	100	.079	2	2.953	75	.630	16	NPT1/8	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	SDJC℞083H-F079-OH 💧	3	■		1/2		.551	14	1/2		3.937	100	.079	2	2.953	75	.630	16	NPT1/8	LRIS-4 × 10	LLR-25S
	SDJC℞083H-F079-OH2 💧	2	●		1/2		.551	14	1/2		3.937	100	.079	2	2.756	70	.630	16	NPT1/8	LRIS-4 × 10	LLR-25S
	SDJC℞103HL-F079-OH 💧	3	●		5/8		5/8		5/8		3.937	100	.079	2	2.953	75	.724	18.4	NPT1/8	LRIS-4 × 10	LLR-25S
	SDJC℞103XL-F079-OH2 💧	2	●		5/8		5/8		5/8		4.724	120	.079	2	2.953	75	.724	18.4	NPT1/8	LRIS-4 × 10	LLR-25S
	SDJC℞1014F11N-F02OH 💧	3	○		.392	10	.551	14	.394	10	3.150	80	.079	2	2.165	55	.630	16	M6 × 1	LRIS-4 × 10	LLR-25S
	SDJC℞1214H11N-F02OH 💧	3	■		.472	12	.551	14	.472	12	3.937	100	.079	2	2.953	75	.630	16	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SDJC℞1214H11N-F02OH2 💧	2	●		.472	12	.551	14	.472	12	3.937	100	.079	2	2.756	70	.630	16	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SDJC℞1616H11N-F02OH 💧	3	○		.630	16	.630	16	.630	16	3.937	100	.079	2	2.953	75	.724	18.4	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SDJC℞1616X11N-F02OH2 💧	2	●		.630	16	.630	16	.630	16	4.724	120	.079	2	2.953	75	.724	18.4	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
DC..21.5.. DC..21.5..WP	SDJC℞1015X07N-F05	4	○		.394	10	.591	15	.394	10	4.724	120	.197	5	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SDJC℞1020X07N-F10	4	○		.394	10	.787	20	.394	10	4.724	120	.394	10	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	SDJC℞083C-F250	4	●		1/2		.728	18.5	1/2		4.724	120	1/4		–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞083C-F500	4	●		1/2		1		1/2		4.724	120	1/2		–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞1015X11N-F05	4	○		.394	10	.591	15	.394	10	4.724	120	.197	5	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞1020X11N-F10	4	○		.394	10	.787	20	.394	10	4.724	120	.394	10	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞1218X11N-F06	4	●		.472	12	.709	18	.472	12	4.724	120	.236	6	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDJC℞1224X11N-F12	4	●		.472	12	.945	24	.472	12	4.724	120	.472	12	–	–	–	–	–	LRIS-4 × 10	LLR-25S
DC..32.5..	SDXC℞1010X11N	5	○		.394	10	.394	10	.394	10	4.724	120	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDXC℞1016X11N	5	○		.394	10	.630	16	.394	10	4.724	120	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDXC℞1212X11N	5	○		.472	12	.472	12	.472	12	4.724	120	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDXC℞1216X11N	5	○		.472	12	.630	16	.472	12	4.724	120	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDXC℞1616X11N	5	○		.630	16	.630	16	.630	16	4.724	120	0	0	–	–	–	–	–	LRIS-4 × 10	LLR-25S
DC..21.5..	SDQC℞10-X07	6	○	○	.394	10	.394	10	.394	10	4.724	120	.472	12	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
DC..32.5..	SDQC℞12-X11	6	○	○	.472	12	.472	12	.472	12	4.724	120	.630	16	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDQC℞16-X11	6	○	○	.630	16	.630	16	.630	16	4.724	120	.787	20	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDQC℞20-X11	6	○		.787	20	.787	20	.787	20	4.724	120	.984	25	–	–	–	–	–	LRIS-4 × 10	LLR-25S
DC..21.5..	SDNCN-062	7	●		3/8		3/8		3/8		2.5	63.5	3/16		–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SDNCN-082	7	●		1/2		1/2		1/2		3.5	88.9	1/4		–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SDNCN08-X07	7	○		.315	8	.315	8	.315	8	4.724	120	.157	4	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
	SDNCN10-X07	7	○		.394	10	.394	10	.394	10	4.724	120	.197	5	–	–	–	–	–	LRIS-2.5 × 7	CLR-15S
DC..32.5..	SDNCN-083	7	●		1/2		1/2		1/2		3.937	100	1/4		–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDNCN-103	7	●		5/8		5/8		5/8		3.937	100	5/16		–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDNCN12-X11	7	○		.472	12	.472	12	.472	12	4.724	120	.236	6	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDNCN16-X11	7	○		.630	16	.630	16	.630	16	4.724	120	.315	8	–	–	–	–	–	LRIS-4 × 10	LLR-25S
	SDNCN20-X11	7	○		.787	20	.787	20	.787	20	4.724	120	.394	10	–	–	–	–	–	LRIS-4 × 10	LLR-25S
DC..32.5.. DC..32.5..WP	CH-SDUC℞1010H11	8		○	.394	10	.394	10	.394	10	3.937	100	.591	15	–	–	–	–	–	LRIS-4 × 10PW	CLR-15S
	CH-SDUC℞1212H11	8		○	.472	12	.472	12	.472	12	3.937	100	.669	17	–	–	–	–	–	LRIS-4 × 10PW	CLR-15S

Inserts ➡Q20 Cutting condition ➡Q4

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

Y-Axis Holders for DC.. Inserts

Y-SDJC

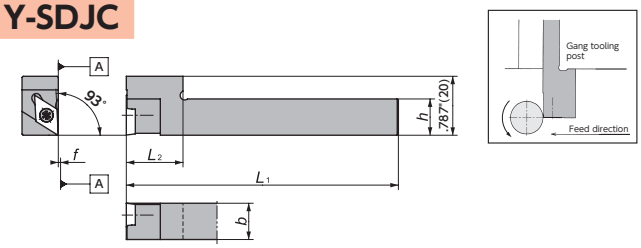


Figure-1

Right-Hand style shown
Takes Right-hand or Neutral insert

Y-SDNC

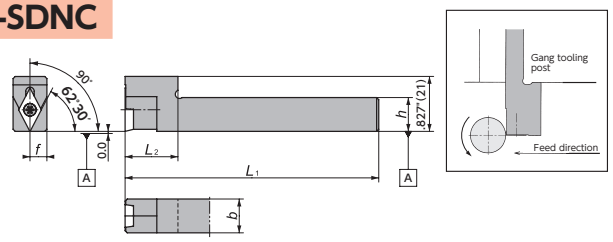
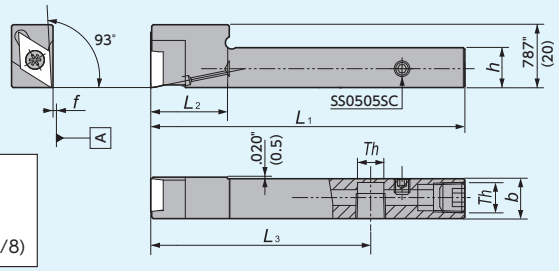


Figure-4

Takes Right-hand or Neutral insert

Y-SDJC-OH2 (Coolant through)



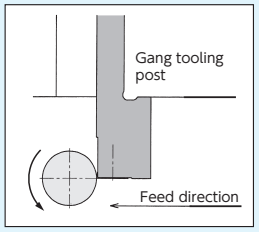
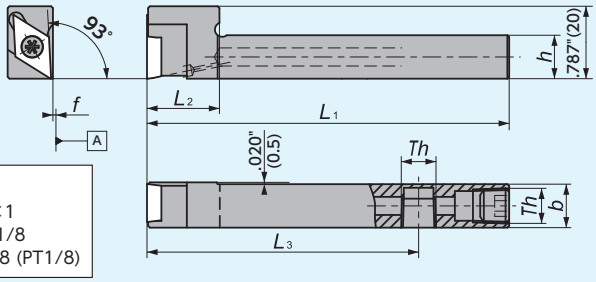


Figure-2

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown
Takes Right-hand or Neutral insert

Y-SDJC-OH (Coolant through)



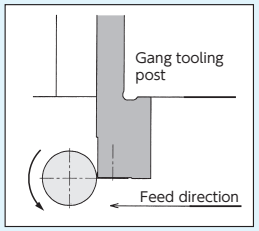
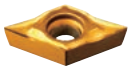


Figure-3

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown
Takes Right-hand or Neutral insert

DC.. Series - Toolholders Ⅱ



Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
			N																
DC..21.5.. DC..21.5..WP	Y-SDJCR062-IN	1	●		3/8		3/8		4.724	120	0	0	.984	25	–	–	–	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR082-IN	1	●		1/2		1/2		4.724	120	0	0	.984	25	–	–	–	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR10-07S	1	○		.394	10.0	.394	10	4.724	120	0	0	.787	20	–	–	–	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR12-07S	1	○		.472	12.0	.472	12	4.724	120	0	0	.787	20	–	–	–	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	Y-SDJCR083-IN	1	●		1/2		1/2		4.724	120	0	0	.984	25	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR103-IN	1	●		5/8		5/8		4.724	120	0	0	.984	25	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR10-11MS	2	○		.394	10.0	.394	10	4.724	120	0	0	.866	22	–	–	–	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR10-11S	2	○		.394	10.0	.394	10	4.724	120	0	0	.787	20	–	–	–	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR12-11MS	2	○		.472	12.0	.630	16	4.724	120	0	0	.866	22	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR12-11S	1	○		.472	12.0	.630	16	4.724	120	0	0	.787	20	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR16-11S	1	○		.630	16.0	.630	16	4.724	120	0	0	.787	20	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
DC..21.5.. DC..21.5..WP	Y-SDJCR062H-IN-OH 💧	3	●		3/8		3/8		3.937	100	0	0	.984	25	2.953	75	M6 × 1	LRIS-2.5 × 7	CLR-15S
	Y-SDJCR082H-IN-OH 💧	3	●		1/2		1/2		3.937	100	0	0	.984	25	2.953	75	NPT1/8	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	Y-SDJCR083H-IN-OH 💧	3	■		1/2		1/2		3.937	100	0	0	.984	25	2.953	75	NPT1/8	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR083H-IN-OH2 💧	2	●		1/2		1/2		3.937	100	0	0	.984	25	2.756	70	NPT1/8	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR103H-IN-OH 💧	3	●		5/8		5/8		3.937	100	0	0	.984	25	2.953	75	NPT1/8	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR1212H11S-OH 💧	3	■		.472	12.0	.472	12.0	3.937	100	0	0	.787	20	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR1212H11S-OH2 💧	2	●		.472	12.0	.472	12.0	3.937	100	0	0	.787	20	2.756	70	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDJCR1616H11-OH 💧	3	○		.630	16.0	.630	16.0	3.937	100	0	0	.984	25	2.953	75	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S-20 × 65
DC..32.5..	Y-SDNCN083-IN	4	●		1/2		1/2		4.724	120	1/4	6.35	.984	25	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDNCN12-11S	4	○		.472	12.0	.472	12	4.724	120	.236	6.0	.787	20	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	Y-SDNCN16-11S	4	○		.630	16.0	.630	16	4.724	120	.315	8.0	.787	20	–	–	–	LRIS-4 × 10	LLR-25S-20 × 65

DS Toolholders for DC.. Inserts

DS-SDU

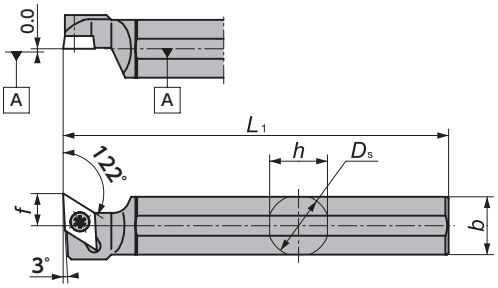
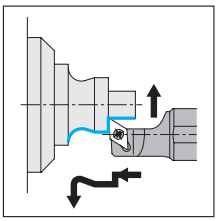


Figure-4



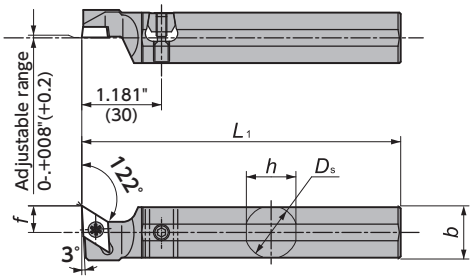
Left-Hand style shown
Takes Right-hand or Neutral insert

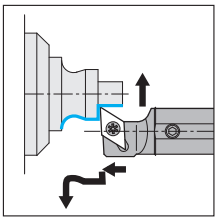
DS-SDU-ACH (Adjustable centerline height)

〈Parts〉

Shank	Wedge	Screw for Wedge
φ.630" (16)	ACH-W18 (5805601)	WS060415-003 (5795539)
φ3/4" (19.05)		
φ.787" (20)		WS060419-004 (5799226)
φ.866" (22)		
φ1" (25.4)	ACH-W24 (5805619)	

Figure-5





Left-Hand style shown
Takes Right-hand or Neutral insert

DS-SDX / DS-SDX (Coolant through)

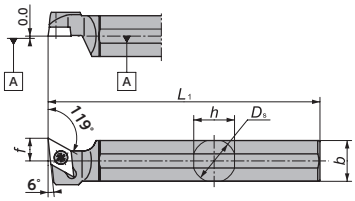
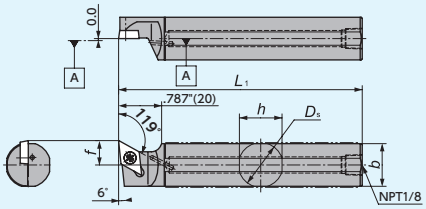
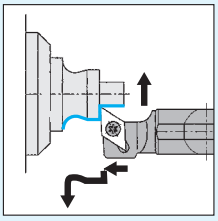


Figure-6

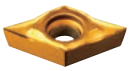
DS-SDXL22-11-006 (Coolant through)





Left-Hand style shown
Takes Right-hand or Neutral insert

DC.. Series - Toolholders Ⅲ



Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
DC..21.5.. DC..21.5..WP	DS-SDUR/L14F-07	4		○	.551	14.000	.512	13.0	.512	13.0	3.150	80	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDUR/L15H-07	4		○	5/8	15.875	.591	15.0	.591	15.0	3.937	100	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDUR/L16F-07	4		○	.630	16.000	.591	15.0	.591	15.0	3.150	80	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDUR/L16X-07	4		○	.630	16.000	.591	15.0	.591	15.0	3.740	95	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDUR/L19-07	4		○	3/4	19.050	.709	18.0	.709	18.0	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDUR/L20X-07	4		○	.787	20.000	.748	19.0	.748	19.0	3.740	95	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDUR/L20-07	4		●	.787	20.000	.748	19.0	.748	19.0	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
	DS-SDUR/L22-07	4		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.236	6.0	LRIS-2.5 × 7	CLR-15S
DC..32.5.. DC..32.5..WP	DS-SDUR/L14F-11	4		○	.551	14.000	.512	13.0	.512	13.0	3.150	80	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L16F-11	4		○	.630	16.000	.591	15.0	.591	15.0	3.150	80	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L19-11	4		●	3/4	19.050	.709	18.0	.709	18.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L19-11SPL	4		○	3/4	19.050	.709	18.0	.709	18.0	6.300	160	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L20X-11	4		○	.787	20.000	.748	19.0	.748	19.0	3.740	95	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L20-11	4		●	.787	20.000	.748	19.0	.748	19.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L22-11	4		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L23-11-007	4		○	.906	23.000	.866	22.0	.866	22.0	2.756	70	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L25-11MET	4		●	.984	25.000	.945	24.0	.945	24.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L25-11	4		●	1	25.400	.945	24.0	.945	24.0	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L25-11SPL	4		○	1	25.400	.945	24.0	.945	24.0	5.906	150	.492	12.5	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L16F-11-ACH	5	●	●	.630	16.000	.610	15.5	.610	15.5	3.150	80	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L19-11-ACH	5		●	3/4	19.050	.709	18.0	.709	18.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L20-11-ACH	5		●	.787	20.000	.748	19.0	.748	19.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L22-11-ACH	5		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L25-11MET-ACH	1		●	.984	25.000	.945	24.0	.945	24.0	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDUR/L25-11-ACH	5		●	1	25.400	.945	24.0	.945	24.0	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDXR/L22-11-006 💧	6		●	.866	22.000	.827	21.0	.827	21.0	4.724	120	.472	12.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDXR/L19-11	6		○	3/4	19.050	.709	18.0	.709	18.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDXR/L20X-11	6		○	.787	20.000	.748	19.0	.748	19.0	3.740	95	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDXR/L20-11	6		○	.787	20.000	.748	19.0	.748	19.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDXR/L25-11MET	6		○	.984	25.000	.945	24.0	.945	24.0	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-SDXR/L32-11	6		○	1.260	32.000	1.181	30.0	1.181	30.0	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65

Inserts ➡Q20 Cutting condition ➡Q4

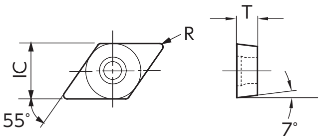
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
R L : 1-2 week delivery (Right / Left-hand only)
R L : 1-2 week delivery (Right / Left-hand only, Newly added)

Front Turning

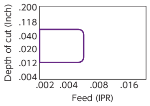
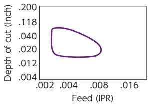
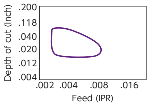
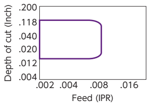
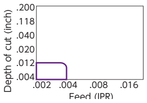
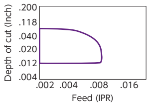
DC.. Inserts - Carbide

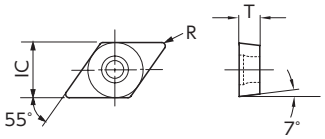
(inch)	IC	T
DC..21.5	1/4	3/32
DC..32.5	3/8	5/32

🔴 : 1st Choice 🔵 : 2nd choice

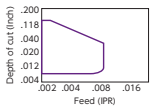
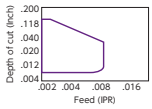
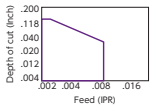
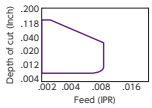
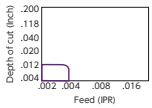
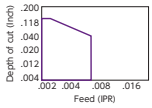


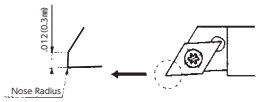
Steel	P	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔵		
Stainless Steel	M	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔵		
Cast Iron	K									🔴	
Non-Ferrous Material	N					🔵	🔵	🔵	🔴		🔴
Heat Resistant Alloy	S	🔵	🔴	🔴	🔴	🔵					
Hardened Material	H	🔵	🔴	🔵	🔴						

Shape	Item Number	ISO Item Number	IC	R	Carbide										
					PVD Coated								CVD	Diamond Coating	
					ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1	
	DCGT 21.504M YL	DCGT 070201M YL	1/4	.003		●		🔴							
	DCGT 21.508M YL	DCGT 070202M YL	1/4	.007		●		🔴							
	DCGT 21.51M YL	DCGT 070204M YL	3/8	.015		🔴		🔴							
	DCGT 32.501 YL	DCGT 11T300 YL	3/8	.001			●		●						
	DCGT 32.504M YL	DCGT 11T301M YL	3/8	.003	🔴	●	⭕	🔴	○						
	DCGT 32.508M YL	DCGT 11T302M YL	3/8	.007	🔴	●	⭕	🔴	○						
	DCGT 32.51M YL	DCGT 11T304M YL	3/8	.015	🔴	●	⭕	🔴	○						
	DCGT 32.52M YL	DCGT 11T308M YL	3/8	.031	🔴	🔴	⭕	🔴	○						
	DCGT 21.501 FNAM3	DCGT 070200 FNAM3	1/4	.001			●	●	⭕	○	○				
	DCGT 21.504M FNAM3	DCGT 070201 MFNAM3	1/4	.003	⭕		●	●	⭕						
	DCGT 21.504 FNAM3	DCGT 070201 FNAM3	1/4	.004						○	○				
	DCGT 21.508M FNAM3	DCGT 070202 MFNAM3	1/4	.007	⭕		●	●	⭕						
	DCGT 21.508 FNAM3	DCGT 070202 FNAM3	1/4	.008						○	○				
	DCGT 21.51M FNAM3	DCGT 070204 MFNAM3	1/4	.015	⭕		●	●	⭕						
	DCGT 21.51 FNAM3	DCGT 070204 FNAM3	1/4	.016						○	○				
	DCGT 32.501 FNAM3	DCGT 11T300 FNAM3	3/8	.001			●	●	○	○	●				
	DCGT 32.504M FNAM3	DCGT 11T301 MFNAM3	3/8	.003	⭕		●	●	○	○	○				
	DCGT 32.508M FNAM3	DCGT 11T302 MFNAM3	3/8	.007	⭕		●	●	○	○	○				
	DCGT 32.508 FNAM3	DCGT 11T302 FNAM3	3/8	.008				●		○	●				
	DCGT 32.51M FNAM3	DCGT 11T304 MFNAM3	3/8	.015	⭕		●	●	○	○	○				
	DCGT 32.51 FNAM3	DCGT 11T304 FNAM3	3/8	.016				●		○	●				
	DCGT 32.52 FNAM3	DCGT 11T308 FNAM3	3/8	.031				●							
	DCMT 21.508 FNAM3	DCMT 070202 FNAM3	1/4	.008		○									
	DCMT 21.51 FNAM3	DCMT 070204 FNAM3	1/4	.016		○									
	DCMT 32.508 FNAM3	DCMT 11T302 FNAM3	3/8	.008		○									
	DCMT 32.51 FNAM3	DCMT 11T304 FNAM3	3/8	.016		○									
	DCMT 32.52 FNAM3	DCMT 11T308 FNAM3	3/8	.031		○									
 wiper insert	DCGT 32.502 AM3-WP*	TFD 11FR05AM3	3/8	.002			●	⭕							
	DCGT 32.506 AM3-WP*	TFD 11FR15AM3	3/8	.006			●	⭕							
	DCGT 21.504M CL	DCGT 070201M CL	1/4	.003	⭕	○	●	⭕	○						
	DCGT 21.508M CL	DCGT 070202M CL	1/4	.007	⭕	○	●	⭕	○						
	DCGT 21.51M CL	DCGT 070204M CL	1/4	.015	⭕	○	●	⭕	○						
	DCGT 32.504M CL	DCGT 11T301M CL	3/8	.003	⭕	○	●	⭕	●						
	DCGT 32.508M CL	DCGT 11T302M CL	3/8	.007	⭕	○	●	●	●						
	DCGT 32.51M CL	DCGT 11T304M CL	3/8	.015	⭕	○	●	●	●						
	DCGT 21.504M AMX	DCGT 070201M AMX	1/4	.003		⭕	⭕		●						
	DCGT 21.508M AMX	DCGT 070202M AMX	1/4	.007		⭕	⭕		●						
	DCGT 21.51M AMX	DCGT 070204M AMX	1/4	.015		⭕	⭕		⭕						
	DCGT 32.504M AMX	DCGT 11T301M AMX	3/8	.003		●	⭕		●						
	DCGT 32.508M AMX	DCGT 11T302M AMX	3/8	.007		●	⭕		●						
	DCGT 32.51M AMX	DCGT 11T304M AMX	3/8	.015		●	⭕		●						
	DCGT 21.501 AZ7	DCGT 070200 AZ7	1/4	.001				○							
	DCGT 21.504M AZ7	DCGT 070201M AZ7	1/4	.003				○							
	DCGT 21.508M AZ7	DCGT 070202M AZ7	1/4	.007				○							
	DCGT 32.501 AZ7	DCGT 11T300 AZ7	3/8	.001			○	●	○		○				
	DCGT 32.504M AZ7	DCGT 11T301M AZ7	3/8	.003			○	●	○		○				
	DCGT 32.508M AZ7	DCGT 11T302M AZ7	3/8	.007			○	●	○		○				
	DCGT 32.51M AZ7	DCGT 11T304M AZ7	3/8	.015			○	●	○		○				
	DCGT 32.52 AZ7	DCGT 11T308 AZ7	3/8	.031			○	●			○				



		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1	
					Carbide										
					PVD Coated								CVD	Diamond Coating	
	DCGT 21.501 R/L S	DCGT 070200 R/L S	1/4	.001			Ⓡ	R		ⓇⓁ	RⓁ				
	DCGT 21.504M R/L S	DCGT 070201M R/L S	1/4	.003			R	R							
	DCGT 21.504 R/L S	DCGT 070201 R/L S	1/4	.004						RⓁ	RⓁ				
	DCGT 21.508M R/L S	DCGT 070202M R/L S	1/4	.007			R	R							
	DCGT 21.508 R/L S	DCGT 070202 R/L S	1/4	.008						ⓇⓁ	RⓁ				
	DCGT 21.51 R/L S	DCGT 070204 R/L S	1/4	.016				R		Ⓡ					
	DCGT 32.501 R/L S	DCGT 11T300 R/L S	3/8	.001			R	R	R	ⓇⓁ	R				
	DCGT 32.504M R/L S	DCGT 11T301M R/L S	3/8	.003			R	R	R						
	DCGT 32.504 R/L S	DCGT 11T301 R/L S	3/8	.004				Ⓡ		ⓇⓁ	R				
	DCGT 32.508M R/L S	DCGT 11T302M R/L S	3/8	.007			R	Ⓡ	Ⓡ						
	DCGT 32.508 R/L S	DCGT 11T302 R/L S	3/8	.008				R		ⓇⓁ	R				
	DCGT 32.51M R/L S	DCGT 11T304M R/L S	3/8	.015			Ⓡ	Ⓡ	R						
	DCGT 32.51 R/L S	DCGT 11T304 R/L S	3/8	.016				R							
 wiper insert	DCGT 21.502 R/L S-WP*	TFD 07FR/L05	1/4	.002				R		Ⓡ	ⓇⓁ				
	DCGT 21.506 R/L S-WP*	TFD 07FR/L15	1/4	.006				R			ⓇⓁ				
	DCGT 32.502 R/L S-WP*	TFD 11FR/L05	3/8	.002				R		Ⓡ	Ⓡ				
	DCGT 32.506 R/L S-WP*	TFD 11FR/L15	3/8	.006				R			Ⓡ				
	DCGT 21.501 R/L U	DCGT 070200 R/L U	1/4	.001						Ⓡ	Ⓡ				
	DCGT 21.504 R/L U	DCGT 070201 R/L U	1/4	.004						Ⓡ	Ⓡ				
	DCGT 21.508 R/L U	DCGT 070202 R/L U	1/4	.008						Ⓡ	ⓇⓁ				
	DCGT 32.501 R/L U1	DCGT 11T300 R/L U1	3/8	.001			Ⓡ		Ⓡ	Ⓡ	ⓇⓁ				
	DCGT 32.504 R/L U1	DCGT 11T301 R/L U1	3/8	.004			Ⓡ		Ⓡ	Ⓡ	ⓇⓁ				
	DCGT 32.508 R/L U1	DCGT 11T302 R/L U1	3/8	.008			Ⓡ		Ⓡ	Ⓡ	ⓇⓁ				
	DCGT 32.51 R/L U1	DCGT 11T304 R/L U1	3/8	.016			Ⓡ		Ⓡ	Ⓡ	ⓇⓁ				
 wiper insert	DCGT 21.502 R/L U-WP*	TFD 07FR/L05U	1/4	.002				Ⓡ		Ⓡ	Ⓡ				
	DCGT 21.506 R/L U-WP*	TFD 07FR/L15U	1/4	.006				Ⓡ			Ⓡ				
	DCGT 32.502 R/L U1-WP*	TFD 11FR/L05U1	3/8	.002				Ⓡ		Ⓡ	Ⓡ				
	DCGT 32.506 R/L U1-WP*	TFD 11FR/L15U1	3/8	.006				Ⓡ			Ⓡ				
	DCET 21.502 R/L KHG	DCET 0702005 R/L KHG	1/4	.002						ⓇⓁ					
	DCET 21.503 R/L KHG	DCET 0702008 R/L KHG	1/4	.003						ⓇⓁ					
	DCET 21.507 R/L KHG	DCET 0702018 R/L KHG	1/4	.007						ⓇⓁ					
	DCET 21.508 R/L KHG	DCET 070202 R/L KHG	1/4	.008						ⓇⓁ					
	DCET 32.502 R/L KHG	DCET 11T3005 R/L KHG	3/8	.002					Ⓡ	ⓇⓁ					
	DCET 32.503 R/L KHG	DCET 11T3008 R/L KHG	3/8	.003					Ⓡ	ⓇⓁ					
	DCET 32.507 R/L KHG	DCET 11T3018 R/L KHG	3/8	.007					Ⓡ	ⓇⓁ					
	DCET 32.508 R/L KHG	DCET 11T302 R/L KHG	3/8	.008					Ⓡ	ⓇⓁ					
	DCET 21.503 UHG	DCET 0702008 R/L UHG	1/4	.003						Ⓡ					
	DCET 32.503 UHG	DCET 11T3008 R/L UHG	3/8	.003						Ⓡ					
	DCGW 21.500 V Ⓜ	DCGW 07020 V	1/4	.001						○					—
	DCGW 21.501 FN	DCGW 070200 FN	1/4	.001							○				
	DCGW 21.501 H Ⓜ	DCGW 070200 H	1/4	.001								●			
	DCGW 21.504 FN	DCGW 070201 FN	1/4	.004							○				
	DCGW 21.504 H Ⓜ	DCGW 070201 H	1/4	.004								●			
	DCGW 21.508 H Ⓜ	DCGW 070202 H	1/4	.008								●			
	DCGW 32.500 V Ⓜ	DCGW 11T30 V	3/8	.001						○					
	DCGW 32.501 FN	DCGW 11T300 FN	3/8	.001							○				
	DCGW 32.501 H Ⓜ	DCGW 11T300 H	3/8	.001								●			
	DCGW 32.504 FN	DCGW 11T301 FN	3/8	.004							○				
	DCGW 32.504 H Ⓜ	DCGW 11T301 H	3/8	.004								●			
	DCGW 32.508 H Ⓜ	DCGW 11T302 H	3/8	.008								●			
 wiper insert	DCGW 21.502RH-WP* Ⓜ	TFD 07FR05H	1/4	.002								○			—
	DCGW 32.502RH-WP* Ⓜ	TFD 11FR05H	3/8	.006								○			



*Note: NTK WP style inserts have a wiper facet design.
The insert has a 0.3mm (.012") flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface when feed rates are increased.
WP style inserts can be used in toolholders: SDJC, CH-SDUL and DS-SDUL.

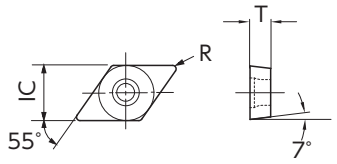
Holders ➡Q16
Cutting condition ➡Q4
Chipbreaker ➡P20

● : Stock
● : Stock (Newly added)
■□RⓁ : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

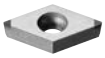
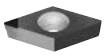
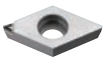
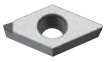
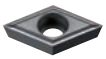
DC.. inserts - CBN / PCD

(inch)	IC	T
DC.. 21	1/4	3/32
DC.. 32	3/8	5/32

● : 1st Choice ● : 2nd choice

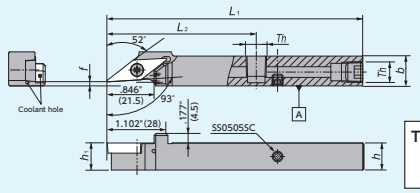


		JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
Steel	P												
Stainless Steel	M												
Cast Iron	K		●	●	●				●	●			
Non-Ferrous Material	N										●	●	●
Heat Resistant Alloy	S	●											
Hardened Material	H		●	●	●	●	●	●					

Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	JP2 (BIDEMICS Coated)	B99 (Solid CBN)	B5K (CBN Coated)	B52 (CBN)	B6K (CBN Coated)	B36 (CBN)	B40 (CBN)	B23 (CBN)	B30 (CBN)	PD1 (PCD)	PD2 (PCD)	UC1 (Diamond Coating)
	DCGW 21.508 PD FNX	DCGW 070202 PD FNX	None	1/4	.008	2	.094				○								
	DCGW 21.508 PD S0415	DCGW 070202 PD S01015	S0415	1/4	.008	2	.094				●								
	DCGW 21.508 PD S0635	DCGW 070202 PD S01535	S0635	1/4	.008	2	.094							○					
	DCGW 21.51 PD FNX	DCGW 070204 PD FNX	None	1/4	.016	2	.087				○					○			
	DCGW 21.51 PD S0415	DCGW 070204 PD S01015	S0415	1/4	.016	2	.087				●								
	DCGW 21.51 PD S0635	DCGW 070204 PD S01535	S0635	1/4	.016	2	.087							●					
	DCGW 21.52 PD FNX	DCGW 070208 PD FNX	None	1/4	.031	2	.075				○								
	DCGW 21.52 PD S0415	DCGW 070208 PD S01015	S0415	1/4	.031	2	.075				●			○					
	DCGW 21.52 PD S0525	DCGW 070208 PD S01325	S0525	1/4	.031	2	.075							○					
	DCGW 21.52 PD S0635	DCGW 070208 PD S01535	S0635	1/4	.031	2	.075							○					
	DCGW 32.504 PD S0415	DCGW 11T301 PD S01015	S0415	3/8	.004	2	.091				○								
	DCGW 32.508 PD FNX	DCGW 11T302 PD FNX	None	3/8	.008	2	.094				○					○			
	DCGW 32.508 PD S0415	DCGW 11T302 PD S01015	S0415	3/8	.008	2	.094			●	●		○	○					
	DCGW 32.508 PD S0525	DCGW 11T302 PD S01325	S0525	3/8	.008	2	.094				○		○	○					
	DCGW 32.508 PD S0635	DCGW 11T302 PD S01535	S0635	3/8	.008	2	.094				○		○	●					
	DCGW 32.51 PD FNX	DCGW 11T304 PD FNX	None	3/8	.016	2	.087				○					○			
	DCGW 32.51 PD T0415	DCGW 11T304 PD T01015	T0415	3/8	.016	2	.087						○						
	DCGW 32.51 PD S0415	DCGW 11T304 PD S01015	S0415	3/8	.016	2	.087			●	●		○	○					
	DCGW 32.51 PD S0525	DCGW 11T304 PD S01325	S0525	3/8	.016	2	.087				○		○	○					
	DCGW 32.51 PD S0635	DCGW 11T304 PD S01535	S0635	3/8	.016	2	.087				○		○	●					
	DCGW 32.52 PD FNX	DCGW 11T308 PD FNX	None	3/8	.031	2	.075				○								
	DCGW 32.52 PD S0415	DCGW 11T308 PD S01015	S0415	3/8	.031	2	.075				●			○					
	DCGW 32.52 PD S0525	DCGW 11T308 PD S01325	S0525	3/8	.031	2	.075				○			○					
	DCGW 32.52 PD S0635	DCGW 11T308 PD S01535	S0635	3/8	.031	2	.075				○			●					
	DCGW 32.53 PD S0415	DCGW 11T312 PD S01015	S0415	3/8	.047	2	.102				○								
	DCMW 32.504	DCMW 11T301	None	3/8	.004	1	—										○		
	DCMW 32.508	DCMW 11T302	None	3/8	.008	1	—										○		
	DCMW 32.51	DCMW 11T304	None	3/8	.016	1	—										○		
	DCMW 32.52	DCMW 11T308	None	3/8	.031	1	—										○		
 with 3D chipbreaker	DCMT 21.504 PBF	DCMT 070201 PBF	None	1/4	.004	1	—											○	
	DCMT 21.508 PBF	DCMT 070202 PBF	None	1/4	.008	1	—											○	
	DCMT 32.504 PBF	DCMT 11T301 PBF	None	3/8	.004	1	—											○	
	DCMT 32.508 PBF	DCMT 11T302 PBF	None	3/8	.008	1	—											○	
	DCMT 32.51 PBF	DCMT 11T304 PBF	None	3/8	.016	1	—											○	
 with chipbreaker	DCMT 21.504 PF	DCMT 070201 PF	None	1/4	.004	1	—											○	
	DCMT 21.508 PF	DCMT 070202 PF	None	1/4	.008	1	—											○	
	DCMT 32.508 PF	DCMT 11T302 PF	None	3/8	.008	1	—											●	
	DCMT 32.51 PF	DCMT 11T304 PF	None	3/8	.016	1	—											●	
	DCMT 32.504 FNAM3	DCMT 11T301 FNAM3	None	3/8	.004	2	—												●
	DCMT 32.508 FNAM3	DCMT 11T302 FNAM3	None	3/8	.008	2	—												●
	DCMT 32.51 FNAM3	DCMT 11T304 FNAM3	None	3/8	.016	2	—												●

Toolholders for VB.. Inserts

SVJB-OH2 (Coolant through)



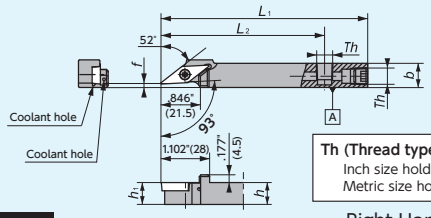
Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Figure-1

Right-Hand style shown

●Left-Hand coolant through holders are designed for Right-Hand machines

SVJB-OH (Coolant through)



Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Figure-2

Right-Hand style shown

●Left-Hand coolant through holders are designed for Right-Hand machines

■VBGT33

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	g (Inch)	g (mm)	Th	Clamp Screw	Wrench
 VBGT33..	SVJB%083C-F079-OH	2	■	●	1/2		.551	14	1/2		4.724	120	.079	2	3.740	95	.079	2	NPT1/8	LRIS-4 × 10	LLR-25S
	SVJB%083C-F079-OH2	1	●		1/2		.551	14	1/2		4.724	120	.079	2	2.756	70	.079	2	NPT1/8	LRIS-4 × 10	LLR-25S
	SVJB%103C-F079-OH	2	●	●	5/8		5/8		5/8		4.724	120	.079	2	3.740	95	0	0	NPT1/8	LRIS-4 × 10	LLR-25S
	SVJB%103C-F079-OH2	1	●		5/8		5/8		5/8		4.724	120	.079	2	2.953	75	0	0	NPT1/8	LRIS-4 × 10	LLR-25S
	SVJB%1214-X16N-F02OH	2	●	●	.472	12	.551	14	.472	12	4.724	120	.079	2	3.740	95	.079	2	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S
	SVJB%1616-X16N-F02OH	2	●	●	.630	16	.630	16	.630	16	4.724	120	.079	2	3.740	95	0	0	Rc1/8(PT1/8)	LRIS-4 × 10	LLR-25S

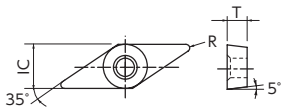
●Left-Hand coolant through holders are designed for Right-Hand machines

VB.. inserts - Carbide

[Molded Chipbreaker]

●: 1st Choice ●: 2nd choice

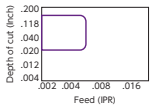
(inch)	IC	T
VB33	3/8	3/16



		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

●: 1st Choice
●: Alternate choice

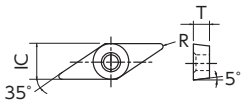
Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
	VBGT 3308 FNYL	VBGT 160402 FNYL	3/8	.008	○	●		●	○					
	VBGT 331 FNYL	VBGT 160404 FNYL	3/8	.016	○	●		●	○					
	VBGT 332 FNYL	VBGT 160408 FNYL	3/8	.031	○	●		●	○					



VB..33 Inserts - CBN / PCD

●: 1st Choice ●: 2nd choice

(inch)	IC	T
VB.. 33	3/8	3/16



		JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
Steel	P												
Stainless Steel	M												
Cast Iron	K		●	●	●				●	●			
Non-Ferrous Material	N										●	●	●
Heat Resistant Alloy	S	●											
Hardened Material	H		●	●	●	●	●	●					

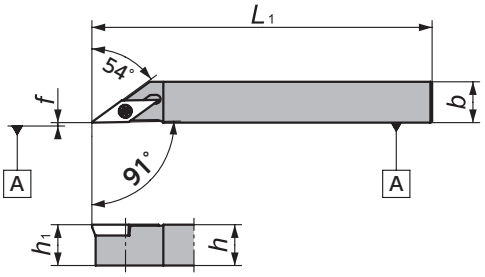
Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
	VBGW 3308 PD S0415	VBGW 160402 PD S01015	S0415	3/8	.008	2	.102				○								
	VBGW 3308 PD S0525	VBGW 160402 PD S01325	S0525	3/8	.008	2	.102				○								
	VBGW 3308 PD S0635	VBGW 160402 PD S01535	S0635	3/8	.008	2	.102				○								
	VBGW 331 PD S0415	VBGW 160404 PD S01015	S0415	3/8	.016	2	.098				○								
	VBGW 331 PD S0525	VBGW 160404 PD S01325	S0525	3/8	.016	2	.098				○								
	VBGW 331 PD S0635	VBGW 160404 PD S01535	S0635	3/8	.016	2	.098				○								
	VBGW 332 PD S0415	VBGW 160408 PD S01015	S0415	3/8	.016	2	.063				○		○						
	VBGW 332 PD S0525	VBGW 160408 PD S01325	S0525	3/8	.016	2	.063				○		○						
	VBGW 332 PD S0635	VBGW 160408 PD S01535	S0635	3/8	.016	2	.063				○		○						
	VBGW 333 PD S0415	VBGW 160412 PD S01015	S0415	3/8	.031	2	.106				○								
	VBGW 333 PD S0525	VBGW 160412 PD S01325	S0525	3/8	.031	2	.106				○								
	VBGW 333 PD S0635	VBGW 160412 PD S01535	S0635	3/8	.031	2	.106				○								

Cutting condition ➡Q4 Chipbreaker ➡P20

●: Stock
●: Stock (Newly added)
■□RL: While stocks last
R L: Stock (Right / Left-hand only)
R L: Stock (Right / Left-hand only, Newly added)
Ⓜ: Mirror finish
○: 1-2 week delivery
○: 1-2 week delivery (Newly added)
💧: Coolant through
ⓇⓁ: 1-2 week delivery (Right / Left-hand only)
ⓇⓁ: 1-2 week delivery (Right / Left-hand only, Newly added)

Toolholders for VC.. Inserts

SVAC-N



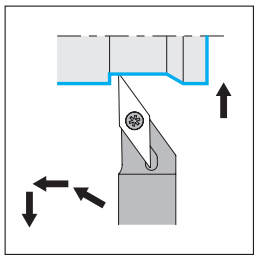
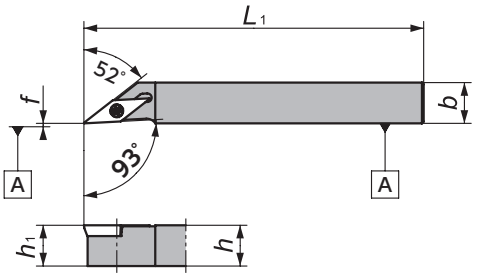


Figure-1

Right-Hand style shown

SVJC



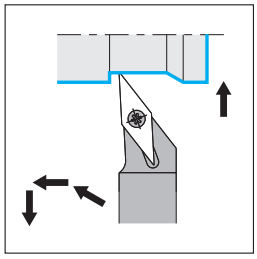
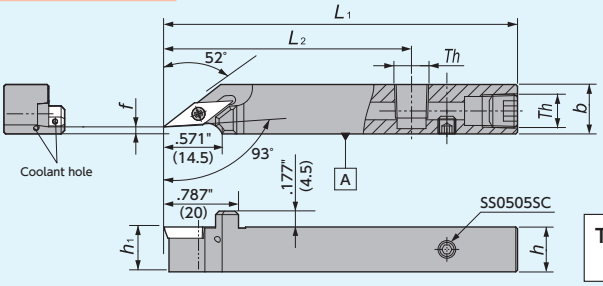
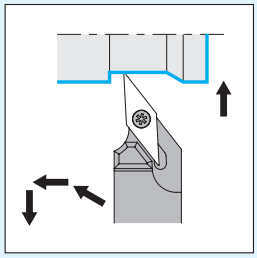


Figure-2

Right-Hand style shown

SVJC-OH2 (Coolant through)



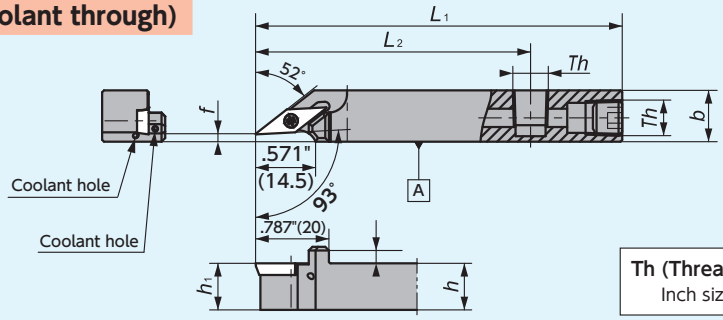


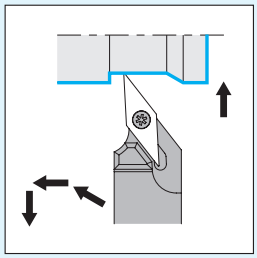
Th (Thread type)
Inch size holder: NPT1/8

Figure-3

Right-Hand style shown

SVJC-OH (Coolant through)



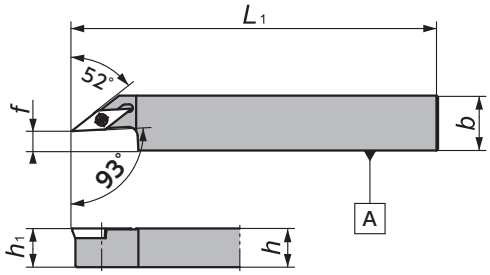


Th (Thread type)
Inch size holder: NPT1/8

Figure-4

Right-Hand style shown

SVJC-F (Shifted)



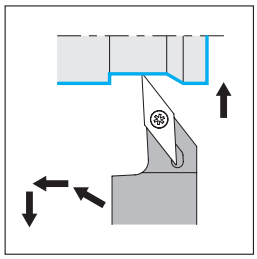


Figure-5

Right-Hand style shown

SVXC-N

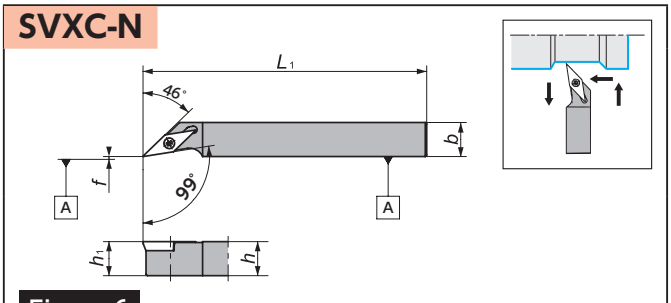


Figure-6

Right-Hand style shown

SVQC

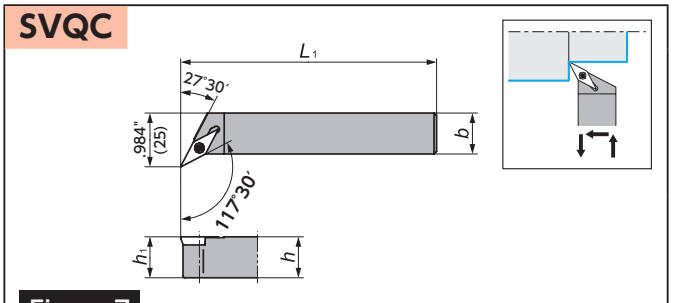


Figure-7

Right-Hand style shown

SVVC-N

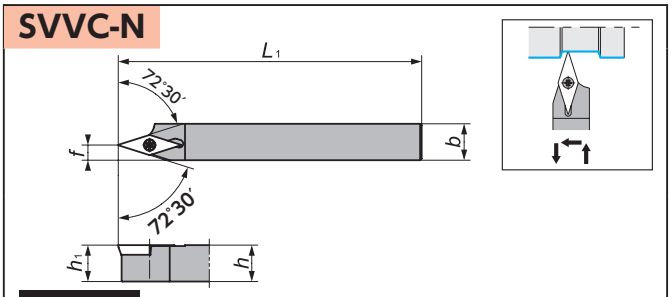


Figure-8

Right-Hand style shown

SVVC-N

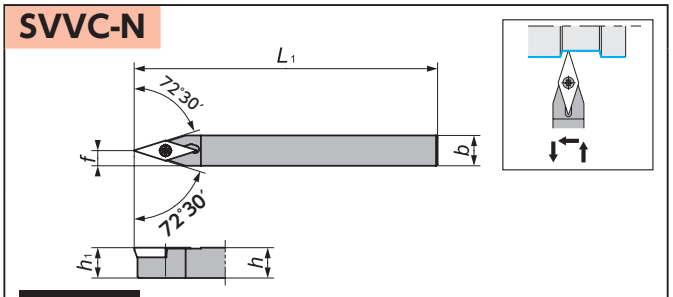
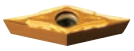


Figure-9

Front Turning

VC.. Series - Toolholders I



Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	L_2 (Inch)	L_2 (mm)	f (Inch)	f (mm)	Th	Clamp Screw	Wrench
			N																
VC..22 VC..22–WP	SVAC⅝0808X11N	1	●	●	.315	8	.315	8	.315	8	4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
	SVAC⅝1010X11N	1	○	○	.394	10	.394	10	.394	10	4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
	SVAC⅝1212X11N	1	○	○	.472	12	.472	12	.472	12	4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
	SVAC⅝1616X11N	1	○		.630	16	.630	16	.630	16	4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
VC..22	SVJC⅝-062C	2	●	●	3/8		3/8		3/8		4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
	SVJC⅝-082C	2	●	●	1/2		1/2		1/2		4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
	SVJC⅝-102C	2	●	●	5/8		5/8		5/8		4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
	SVJC⅝0808H11N	2	○		.315	8	.315	8	.315	8	3.937	100	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
	SVJC⅝1010X11N	2	○	○	.394	10	.394	10	.394	10	4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
	SVJC⅝1212X11N	2	●	○	.472	12	.472	12	.472	12	4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
	SVJC⅝1616X11N	2	○	○	.630	16	.630	16	.630	16	4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
VC..22	SVJC⅝-082H-F079-OH 💧	4	■		1/2		.551	14	1/2		3.937	100	2.953	75	.079	2.0	NPT1/8	LRIS-2.5 × 7	CLR-15S
	SVJC⅝-082H-F079-OH2 💧	3	●		1/2		.551	14	1/2		3.937	100	2.756	70	.079	2.0	NPT1/8	LRIS-2.5 × 7	CLR-15S
	SVJC⅝-102H-F079-OH 💧	4	●		5/8		5/8		5/8		3.937	100	2.953	75	.079	2.0	NPT1/8	LRIS-2.5 × 7	CLR-15S
	SVJC⅝-102X-F079-OH2 💧	3	●		5/8		5/8		5/8		4.724	120	2.953	75	.079	2.0	NPT1/8	LRIS-2.5 × 7	CLR-15S
VC..22	SVJCR1014F11N-F02OH 💧	4	○		.394	10	.551	14	.394	10	3.150	80	2.953	75	.079	2.0	M6 × 1	LRIS-2.5 × 7	CLR-15S
	SVJCR1214H11N-F02OH 💧	4	○		.472	12	.551	14	.472	12	3.937	100	2.953	75	.079	2.0	Rc1/8 (PT1/8)	LRIS-2.5 × 7	CLR-15S
	SVJCR1616H11N-F02OH 💧	4	○		.630	16	.630	16	.630	16	3.937	100	2.953	75	.079	2.0	Rc1/8 (PT1/8)	LRIS-2.5 × 7	CLR-15S
VC..22	SVJC⅝-082C-F250	5	●		1/2		1/2		.709	18	4.724	120	–		1/4		–	LRIS-2.5 × 7	CLR-15S
	SVJC⅝-082C-F500	5	●		1/2		1/2		.984	25	4.724	120	–		1/2		–	LRIS-2.5 × 7	CLR-15S
VC..22	SVXC⅝1012X11N	6	○	○	.394	10	.472	12	.394	10	4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
	SVXC⅝1212X11N	6	○		.472	12	.472	12	.472	12	4.724	120	–		0.0	0.0	–	LRIS-2.5 × 7	CLR-15S
VC..22	SVQC⅝20-X11	7	○		.787	20	.787	20	.787	20	4.724	120	–		–	–	–	LRIS-2.5 × 7	CLR-15S
VC..22	SVVC⅝1212X11N	8	●		.472	12	.472	12	.472	12	4.724	120	–		.197	5	–	LRIS-2.5 × 7	CLR-15S
	SVVC⅝1616X11N	8	○		.630	16	.630	16	.630	16	4.724	120	–		.197	5	–	LRIS-2.5 × 7	CLR-15S
	SVVCN0808H11N	9	○		.315	8	.315	8	.315	8	3.937	100	–		.157	4	–	LRIS-2.5 × 7	CLR-15S
	SVVCN1010X11N	9	○		.394	10	.394	10	.394	10	4.724	120	–		.197	5	–	LRIS-2.5 × 7	CLR-15S
	SVVCN20-X11	9	○		.787	20	.787	20	.787	20	4.724	120	–		.394	10	–	LRIS-2.5 × 7	CLR-15S

Inserts ➡Q27 Cutting condition ➡Q4

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

Y-axis Toolholders for VC.. Inserts

Y-SVJCR

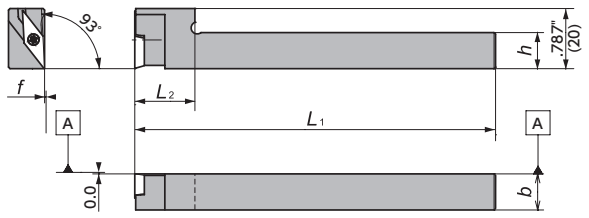


Figure-1

Right-Hand style shown
Takes Right-hand or Neutral insert

Y-SVJCR-OH2 (Coolant through)

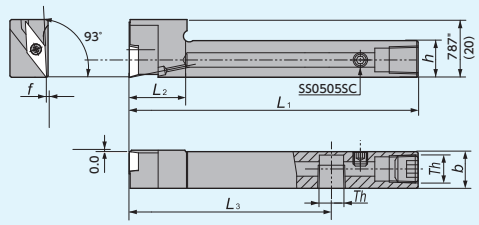


Figure-2

Th (Thread type)
Inch size holder: NPT1/8

Right-Hand style shown
Takes Right-hand or Neutral insert

Y-SVJCR-OH (Coolant through)

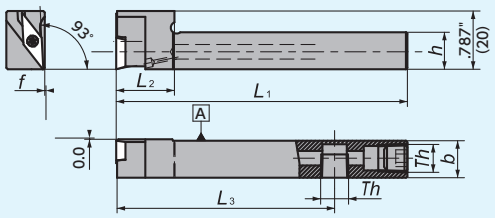


Figure-3

Th (Thread type)
Inch size holder: NPT1/8

Right-Hand style shown
Takes Right-hand or Neutral insert

DS Toolholders for VC.. Inserts

DS-SVX

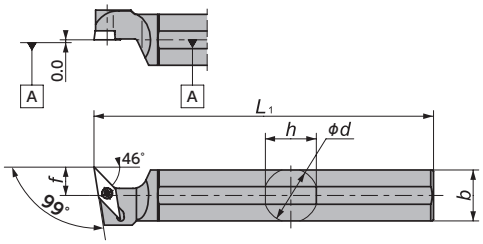
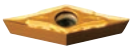


Figure-4

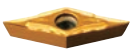
Left-Hand style shown
Takes Right-hand or Neutral insert

VC.. Series - Toolholders Ⅱ



Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
VC..22..	**Y-SVJCR062-IN**	1	●		3/8		3/8		4.724	120	0.0	0.0	.787	20	–		–	LRIS-2.5×7	CLR-15S
	Y-SVJCR082-IN	1	●		1/2		1/2		4.724	120	0.0	0.0	.787	20	–		–	LRIS-2.5×7	CLR-15S
	Y-SVJCR102-IN	1	●		5/8		5/8		4.724	120	0.0	0.0	.984	25	–		–	LRIS-2.5×7	CLR-15S
VC..22..	**Y-SVJCR082HS-IN-OH** 💧	3	■		1/2		1/2		3.937	100	0.0	0.0	.787	20	2.953	75	NPT1/8	LRIS-2.5×7	CLR-15S
	Y-SVJCR082HS-IN-OH2 💧	2	●		1/2		1/2		3.937	100	0.0	0.0	.787	20	2.756	70	NPT1/8	LRIS-2.5×7	CLR-15S
	Y-SVJCR102H-IN-OH 💧	3	●		5/8		5/8		3.937	100	0.0	0.0	.984	25	2.953	75	NPT1/8	LRIS-2.5×7	CLR-15S
VC..22..	**Y-SVJCR1212H11S-OH** 💧	3	□		.472	12	.472	12	3.937	100	0.0	0.0	.787	20	2.953	75	RC1/8(PT1/8)	LRIS-2.5×7	CLR-15S
	Y-SVJCR1212H11S-OH2 💧	2	●		.472	12	.472	12	3.937	100	0.0	0.0	.787	20	2.756	70	RC1/8(PT1/8)	LRIS-2.5×7	CLR-15S
	Y-SVJCR1616H11S-OH 💧	3	○		.630	16	.630	16	3.937	100	0.0	0.0	.787	20	2.953	75	RC1/8(PT1/8)	LRIS-2.5×7	CLR-15S

VC.. Series - Toolholders Ⅲ

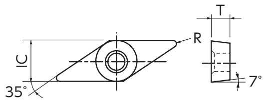


Gage Insert	Item Number	Figure	Stock R	Stock L	ϕd (Inch)	ϕd (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
VC..22..	**DS-SVX⅛14F-11**	4		○	.551	14.000	.512	13	.512	13	3.150	80	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVX⅝15H-11	4		○	5/8	15.875	.591	15	.591	15	3.937	100	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVX⅝16F-11	4		●	.630	16.000	.591	15	.591	15	3.150	80	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVX¾19-11	4		●	3/4	19.050	.709	18	.709	18	4.724	120	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVX¾19-11SPL	4		○	3/4	19.050	.709	18	.709	18	6.299	160	.433	11.0	LRIS-2.5 × 7	CLR-15S
	DS-SVX⅞20X-11	4		○	.787	20.000	.748	19	.748	19	3.740	95	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVX⅞20-11	4		●	.787	20.000	.748	19	.748	19	4.724	120	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVX⅞22-11	4		●	.866	22.000	.827	21	.827	21	4.724	120	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVX⅞25-11MET	4		○	.984	25.000	.945	24	.945	24	5.906	150	.394	10.0	LRIS-2.5 × 7	CLR-15S
	DS-SVX⅞25-11	4		●	1	25.400	.945	24	.945	24	5.906	150	.394	10.0	LRIS-2.5 × 7	CLR-15S

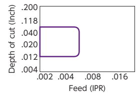
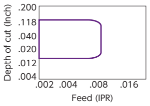
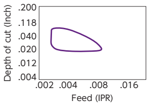
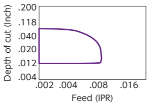
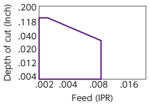
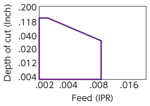
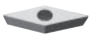
VC.. Inserts - Carbide

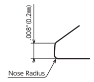
(inch)	IC	T
VC..22	1/4	1/8

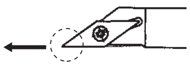
🔴 : 1st Choice 🔵 : 2nd choice



		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔵		
Stainless Steel	M	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔵		
Cast Iron	K									🔴	
Non-Ferrous Material	N					🔵	🔵	🔵	🔴		🔴
Heat Resistant Alloy	S	🔵	🔴	🔴	🔴	🔵					
Hardened Material	H	🔵	🔴	🔵	🔴						

Shape	Item Number	ISO Item Number	IC	R	Carbide										
					PVD Coated								CVD	Diamond Coating	
					ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1	
	VCGT 2204M YL	VCGT 110301M YL	1/4	.003	🔴	●	⭕	🔴	○						
	VCGT 2208M YL	VCGT 110302M YL	1/4	.007	🔴	●	⭕	🔴	○						
	VCGT 221M YL	VCGT 110304M YL	1/4	.015	🔴	●	⭕	🔴	○						
	VCGT 2204M CL	VCGT 110301M CL	1/4	.003	⭕	○	●	⭕	●						
	VCGT 2208M CL	VCGT 110302M CL	1/4	.007	⭕	○	●	⭕	●						
	VCGT 2201 FNAM3	VCGT 110300 FNAM3	1/4	.001			●	●	⭕	●	■				
	VCGT 2204M FNAM3	VCGT 110301M FNAM3	1/4	.003	⭕		●	●	○	○					
	VCGT 2204 FNAM3	VCGT 110301 FNAM3	1/4	.004						●	○				
	VCGT 2208M FNAM3	VCGT 110302M FNAM3	1/4	.007	⭕		●	●	○	○					
	VCGT 2208 FNAM3	VCGT 110302 FNAM3	1/4	.008						●	○				
	VCGT 221M FNAM3	VCGT 110304M FNAM3	1/4	.015	⭕		●	●	○	⭕					
	VCMT 2208 FNAM3	VCGT 110302 FNAM3	1/4	.008		○									
	VCMT 221 FNAM3	VCGT 110304 FNAM3	1/4	.016		○									
	VCGT 2201 AZ7	VCGT 110300 AZ7	1/4	.001				●			○				
	VCGT 2204M AZ7	VCGT 110301M AZ7	1/4	.003				●			○				
	VCGT 2208M AZ7	VCGT 110302M AZ7	1/4	.007				●			○				
	VCGT 221M AZ7	VCGT 110304M AZ7	1/4	.015				●			○				
 wiper insert	VCGT 2202 R/L S-WP*	TFV 11F R/L 05SX	1/4	.002						R	Ⓡ				
	VCGT 2204 R/L S-WP*	TFV 11F R/L 10SX	1/4	.004						R	Ⓡ				
	VCGT 2201 R/L U	VCGT 110300 R/L U	1/4	.001						Ⓡ	Ⓡ				
	VCGT 2204M R/L U	VCGT 110301M R/L U	1/4	.003			Ⓡ								
	VCGT 2204 R/L U	VCGT 110301 R/L U	1/4	.004						Ⓡ	Ⓡ				
	VCGT 2208M R/L U	VCGT 110302M R/L U	1/4	.007			Ⓡ								
	VCGT 2208 R/L U	VCGT 110302 R/L U	1/4	.008						Ⓡ	Ⓡ				
 wiper insert	VCGT 2202 R/L U-WP*	TFV 11F R/L 05U	1/4	.002						Ⓡ	Ⓡ				
	VCGT 2204 R/L U-WP*	TFV 11F R/L 10U	1/4	.004						Ⓡ	Ⓡ				
	VCGW 2201 H Ⓜ	VCGW 110300 H	1/4	.001								●			—
	VCGW 2204 H Ⓜ	VCGW 110301 H	1/4	.004								●			
	VCGW 2208 H Ⓜ	VCGW 110302 H	1/4	.008								●			

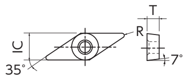




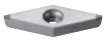
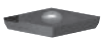
＊Note: NTK WP style inserts have a wiper facet design.
The insert has a 0.2mm (.008") flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface finish when feed rates are increased.
WP style inserts can be used in toolholders: SVAC

Cutting condition ➡Q4 Chipbreaker ➡P20

🔴 : 1st Choice 🔵 : 2nd choice



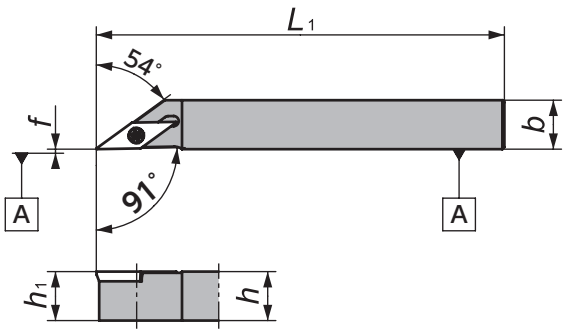
		JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
Steel	P												
Stainless Steel	M												
Cast Iron	K		🔴	🔴	🔴				🔴	🔴			
Non-Ferrous Material	N										🔴	🔴	🔴
Heat Resistant Alloy	S	🔴											
Hardened Material	H		🔵	🔴	🔴	🔴	🔴	🔴					

Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	BIDEMICS Coated	Solid CBN	CBN (Brazed)							PCD		Diamond Coating
										Coated		Coated							
								JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
	VCGW 2208 PD S0415	VCGW 110302 PD S01015	S0415	1/4	.008	2	.102				○			○					
	VCGW 2208 PD S0635	VCGW 110302 PD S01535	S0635	1/4	.008	2	.102				○			○					
	VCGW 221 PD S0415	VCGW 110304 PD S01015	S0415	1/4	.016	2	.098				○			○					
	VCGW 221 PD S0635	VCGW 110304 PD S01535	S0635	1/4	.016	2	.098				○			○					
	VCGW 222 PD S0415	VCGW 110308 PD S01015	S0415	1/4	.031	2	.098				○			○					
	VCGW 222 PD S0635	VCGW 110308 PD S01535	S0635	1/4	.031	2	.098				○			○					
	VCGW 223 PD S0415	VCGW 110312 PD S01015	S0415	1/4	.047	2	.106				○			○					
	VCGW 223 PD S0635	VCGW 110312 PD S01535	S0635	1/4	.047	2	.106				○			○					
	VCMW 2204	VCMW 110301	None	1/4	.004	1	—										○		
	VCMW 2208	VCMW 110302	None	1/4	.008	1	—										○		
	VCMW 221	VCMW 110304	None	1/4	.016	1	—										○		

● : Stock
🔴 : Stock (Newly added)
■□🅁🄻 : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
⭕ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Toolholders for VC.. Inserts

SVAC-N-1L



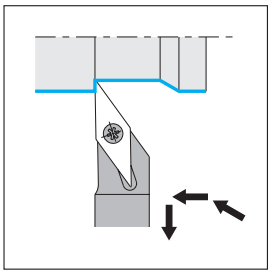


Figure-1

Right-Hand style shown

SVAC-N

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 VCGT21.508	**SVAC R/L 1010X11N-1L**	1	○	○	.394	10	.394	10	.394	10	4.724	120	0.0	0.0	LR1S-2.5 × 7	CLR-15S
	SVAC R/L 1212X11N-1L	1	○	○	.472	12	.472	12	.472	12	4.724	120	0.0	0.0	LR1S-2.5 × 7	RLR-20S

VC..21 Inserts - Carbide

SVAC-N

Shape	Item Number	ISO Item Number	IC (Inch)	IC (mm)	T (Inch)	T (mm)	R (Inch)	R (mm)	Coated Carbide DM4	DT4	QM3	TM4
	**VCGT21.508MCL**	**VCGT110202MCL**	1/4	6.35	3/32	2.38	.007	0.18	○	○	○	○

Cutting condition ➡Q4
Chipbreaker ➡P20

Toolholders VP..08 Inserts

SVQP-N

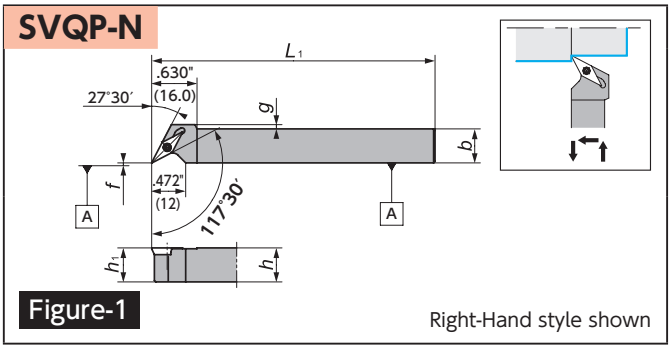


Figure-1

Right-Hand style shown

CH-SVUP

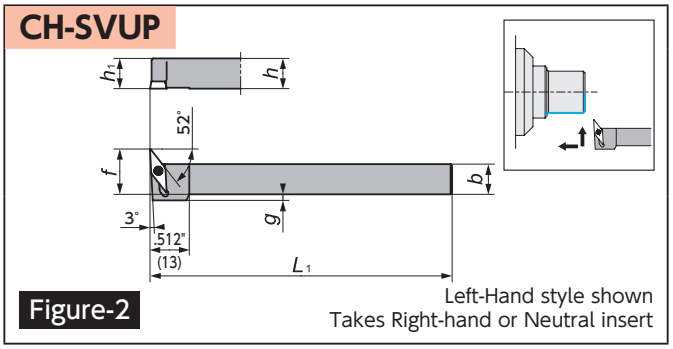


Figure-2

Left-Hand style shown
Takes Right-hand or Neutral insert

DS-SVXP

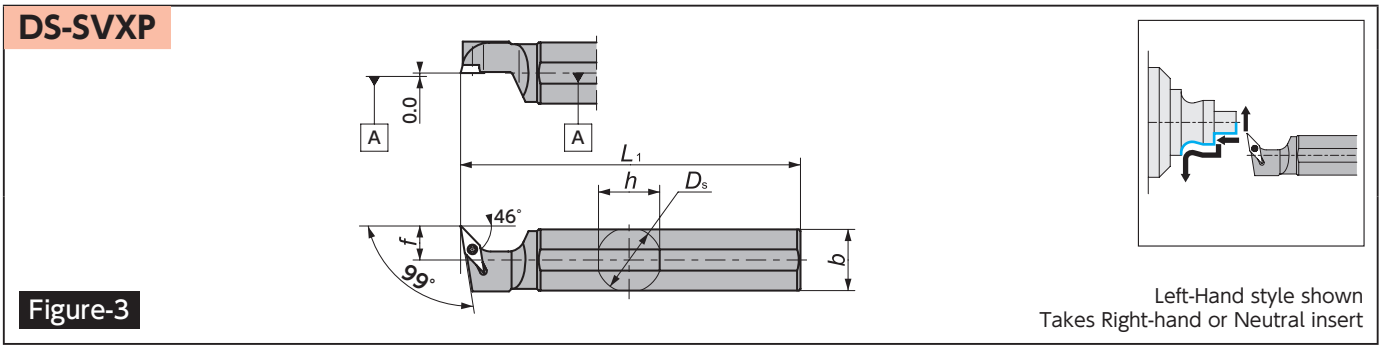


Figure-3

Left-Hand style shown
Takes Right-hand or Neutral insert

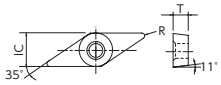
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h1 (Inch)	h1 (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	g (Inch)	g (mm)	Clamp Screw	Wrench
VP..0802	SVQP R/L 1010X08N	1	○	○	.394	10	.394	10	.394	10	4.724	120	0.0	0.0	.138	3.5	LRIS-2 × 6	CLR-13S
	SVQP R/L 1212X08N	1	○	○	.472	12	.472	12	.394	10	4.724	120	0.0	0.0	.059	1.5	LRIS-2 × 6	CLR-13S
	SVQP R/L 1616X08N	1	○	○	.630	16	.630	16	.394	10	4.724	120	0.0	0.0	0	0	LRIS-2 × 6	CLR-13S
	CH-SVUP R/L 1010H08	2		○	.394	10	.394	10	.394	10	3.937	100	.591	15	.079	2	LRIS-2 × 6	CLR-13S
	CH-SVUP R/L 1212H08	2		○	.472	12	.472	12	.472	12	3.937	100	.669	17	0	0	LRIS-2 × 6	CLR-13S

Gage Insert	Item Number	Figure	Stock R	Stock L	Ds (Inch)	Ds (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
VP..0802	DS-SVXP R/L 19-08	3		○	3/4	19.050	.709	18	.709	18	4.724	120	.394	10	LRIS-2 × 6	CLR-13S
	DS-SVXP R/L 20-08	3		○	.787	20.000	.748	19	.748	19	4.724	120	.394	10	LRIS-2 × 6	CLR-13S
	DS-SVXP R/L 22-08	3		○	.866	22.000	.827	21	.827	21	4.724	120	.394	10	LRIS-2 × 6	CLR-13S
	DS-SVXP R/L 25-08	3		○	1	25.400	.945	24	.945	24	5.906	150	.394	10	LRIS-2 × 6	CLR-13S

VP.. Inserts - Carbide

(inch)	IC	T
VP..08	3/16	3/32

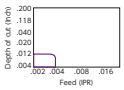
● : 1st Choice ● : 2nd choice

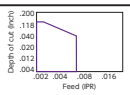


VP__

		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
	Steel P	●	●	●	●	●	●	●	●		
	Stainless Steel M	●	●	●	●	●	●	●	●		
	Cast Iron K									●	
	Non-Ferrous Material N					●	●	●	●		●
	Heat Resistant Alloy S	●	●	●	●	●					
	Hardened Material H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
	VPET 0802005 R/L KHG	VPET 0802005 R/L KHG	.187	.002					Ⓡ	ⓇⓁ				
	VPET 0802008 R/L KHG	VPET 0802008 R/L KHG	.187	.003			Ⓡ		Ⓡ	ⓇⓁ				
	VPET 0802018 R/L KHG	VPET 0802018 R/L KHG	.187	.007					Ⓡ	ⓇⓁ				
	VPET 080202 R/L KHG	VPET 080202 R/L KHG	.187	.008					Ⓡ	ⓇⓁ				
	VPET 0802008 R/L UHG	VPET 0802008 R/L UHG	.187	.003			ⓇⓁ							





Cutting condition ➡Q4
Chipbreaker ➡P20

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Toolholders for VP..22 Inserts

SVXP-N

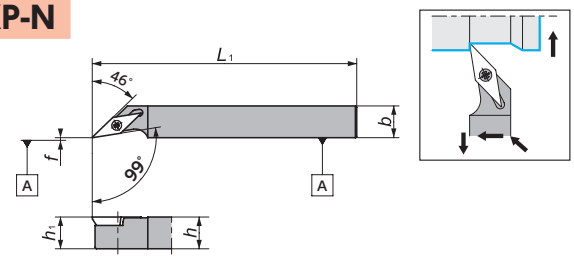


Figure-1

Right-Hand style shown

DS-SVVP

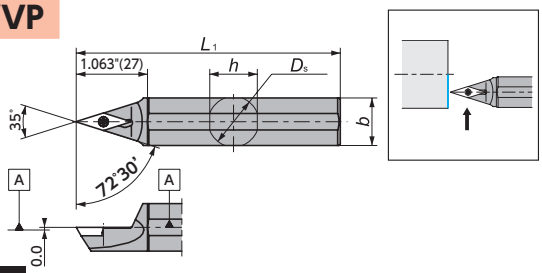


Figure-2

DS-SVVP-ACH (Adjustable centerline height)

〈Parts〉

Shank	Wedge	Screw for Wedge
φ.630" (16)	ACH-W18 (5805601)	WS060415-003 (5795539)
φ3/4" (19.05)		
φ.787" (20)		WS060419-004 (5799226)
φ.866" (22)		
φ1" (25.4)	ACH-W24 (5805619)	

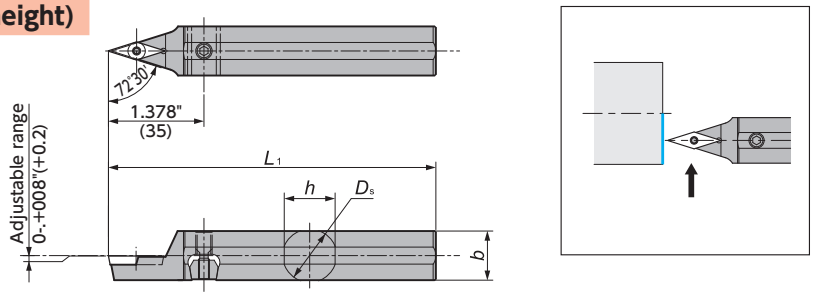


Figure-3

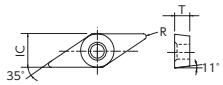
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h1 (Inch)	h1 (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
VP..22	SVXP R/L 1012X11N	1	○	○	.394	10	.472	12	.394	10	4.724	120	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	SVXP R/L 1212X11N	1	○	○	.472	12	.472	12	.472	12	4.724	120	0.0	0.0	LRIS-2.5 × 7	CLR-15S

Gage Insert	Item Number	Figure	Stock Neutral	Ds (Inch)	Ds (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	Clamp Screw	Wrench
VP..22	DS-SVVPN19-11	2	○	3/4	19.050	.709	18.0	.709	18	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN22-11	2	○	.866	22.000	.827	21.0	.827	21	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN16-11-ACH	3	●	.630	16.000	.610	15.5	.610	15	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN19-11-ACH	3	●	3/4	19.050	.709	18.0	.709	18	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN20-11-ACH	3	●	.787	20.000	.748	19.0	.748	19	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN22-11-ACH	3	●	.866	22.000	.827	21.0	.827	21	4.724	120	LRIS-2.5 × 7	CLR-15S
	DS-SVVPN25-11-ACH	3	●	1	25.400	.945	24.0	.945	24	5.906	150	LRIS-2.5 × 7	CLR-15S

VP.. Inserts - Carbide

(inch)	IC	T
VP..22	1/4	1/8

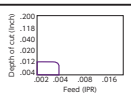
● : 1st Choice ● : 2nd choice

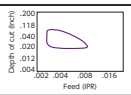


VP__

	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel P	●	●	●	●	●	●	●	●		
Stainless Steel M	●	●	●	●	●	●	●	●		
Cast Iron K									●	
Non-Ferrous Material N					●	●	●	●		●
Heat Resistant Alloy S	●	●	●	●	●					
Hardened Material H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
	VPET 2202 R/L KHG	VPET 1103005 R/L KHG	1/4	.002					Ⓡ	ⓇⓁ				
	VPET 2203 R/L KHG	VPET 1103008 R/L KHG	1/4	.003					Ⓡ	ⓇⓁ				
	VPET 2207 R/L KHG	VPET 1103018 R/L KHG	1/4	.007					Ⓡ	ⓇⓁ				
	VPET 2208 R/L KHG	VPET 110302 R/L KHG	1/4	.008					Ⓡ	ⓇⓁ				
	VPGT 2201 FNAM3	VPGT 110300 FNAM3	1/4	.001			●		○					
	VPGT 2204M FNAM3	VPGT 110301M FNAM3	1/4	.003	○		●	●	○					
	VPGT 2208M FNAM3	VPGT 110302M FNAM3	1/4	.007	○		●	●	○					





Cutting condition ➡Q4
Chipbreaker ➡P20

Toolholders for TC.. Inserts

STAC-N

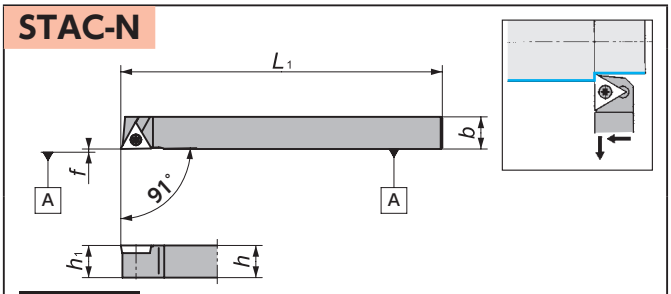


Figure-1

Right-Hand style shown

CH-STUC

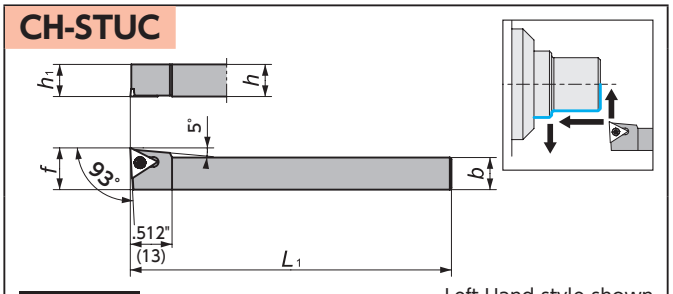


Figure-2

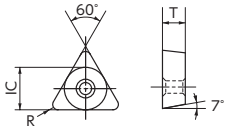
Left-Hand style shown
Takes Right-hand or Neutral insert

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h1 (Inch)	h1 (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
TC..73..	STAC R/L 0808X09N	1	○		.315	8	.315	8	.315	8	4.724	120	0.0	0.0	LR1S-2.2 × 6	CLR-13S
	STAC R/L 1010X09N	1	○	○	.394	10	.394	10	.394	10	4.724	120	0.0	0.0	LR1S-2.2 × 6	CLR-13S
TC..21.5..	STAC R/L 1212X11N	1	○	○	.472	12	.472	12	.472	12	4.724	120	0.0	0.0	LR1S-2.5 × 7	CLR-15S
TC..73..	CH-STUC R/L 1010H09	2		○	.394	10	.394	10	.394	10	3.937	100	.512	13	LR1S-2.2 × 6	CLR-13S
	CH-STUC R/L 1212H09	2		○	.472	12	.472	12	.472	12	3.937	100	.591	15	LR1S-2.2 × 6	CLR-13S

TC.. Inserts - Carbide

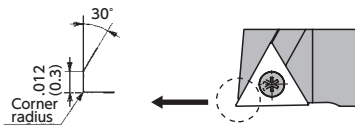
● : 1st Choice ● : 2nd choice

(inch)	IC	T
TC..21	1/4	3/32
TC..73	7/32	3/32



		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
	TCGT 7304 R/L S	TCGT 090201 R/L S	7/32	.004						Ⓡ Ⓛ	Ⓡ			
	TCGT 7308 R/L S	TCGT 090202 R/L S	7/32	.008							Ⓡ			
	TCGT 21.504 R/L S	TCGT 110201 R/L S	1/4	.004						Ⓡ Ⓛ	Ⓡ			
wiper insert	TCGT 7302 R/L S-WP*	TFT 09F R/L 05	7/32	.002							Ⓡ			
	TCGT 7306 R/L S-WP*	TFT 09F R/L 15	7/32	.006							Ⓡ			
	TCGT 21.502 R/L S-WP*	TFT 11F R/L 05	1/4	.002							Ⓡ			
	TCGT 21.506 R/L S-WP*	TFT 11F R/L 15	1/4	.006							Ⓡ			
	TCGT 7304 R/L U	TCGT 090201 R/L U	7/32	.004							Ⓡ			
	TCGT 7308 R/L U	TCGT 090202 R/L U	7/32	.008							Ⓡ			
wiper insert	TCGT 7302 R/L U-WP*	TFT 09F R/L 05 U	7/32	.002							Ⓡ			
	TCGT 7306 R/L U-WP*	TFT 09F R/L 15 U	7/32	.006							Ⓡ			
	TCGT 21.502 R/L U1-WP*	TFT 11F R/L 05 U1	1/4	.002							Ⓡ			
	TCGT 21.506 R/L U1-WP*	TFT 11F R/L 15 U1	1/4	.006							Ⓡ			
	TCGW 7301 FN	TCGW 090200 FN	7/32	.001							○			
	TCGW 7304 FN	TCGW 090201 FN	7/32	.004							○			
	TCGW 21.501 FN	TCGW 110200 FN	1/4	.001							○			
	TCGW 21.504 FN	TCGW 110201 FN	1/4	.004							○			

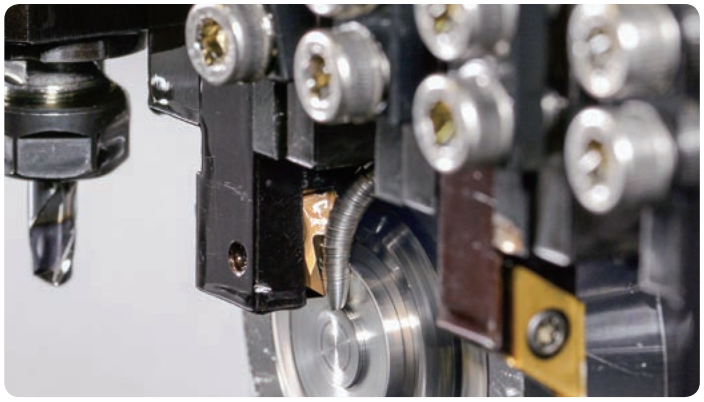


*Note: NTK WP style inserts have a wiper facet design.
The insert has a 0.3mm (.012") flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface finish when feed rates are increased.
WP style inserts can be used in toolholders: STAC

Cutting condition ➡Q4
Chipbreaker ➡P20

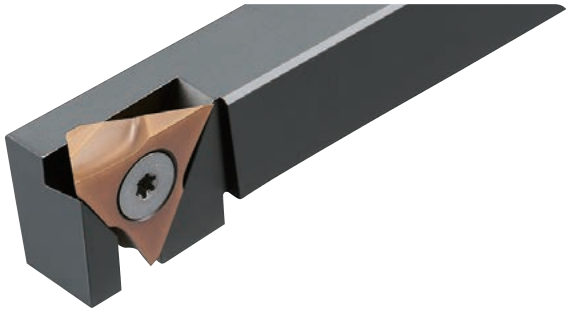
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

Front turning insert for large DOC



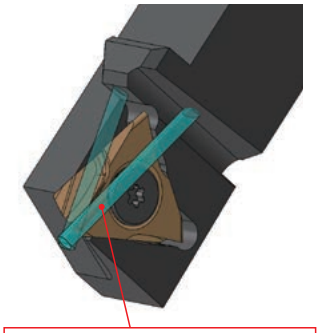
Features

- Up to .197" DOC capability
- Specially designed chipbreaker provides excellent chip control and sharpness
- Coolant through toolholder helps to evacuate chips

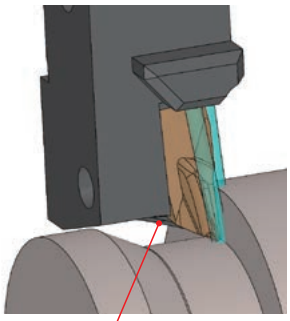


Available in wiper insert

Rigid side clamp

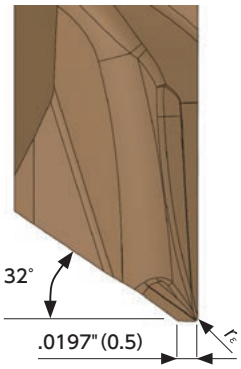


Coolant thrugh tool holder is available

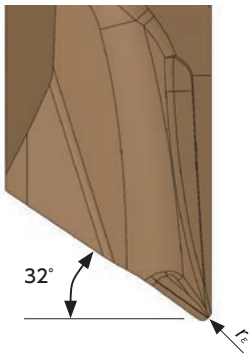


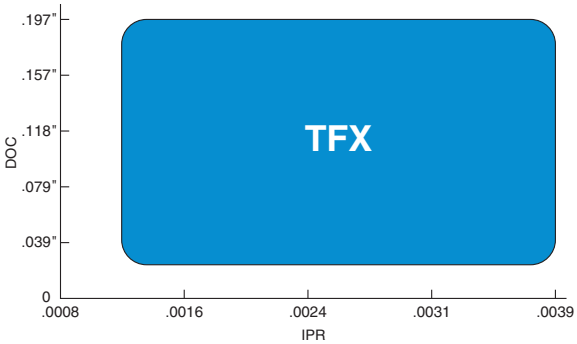
Can take 30° taper

With wiper



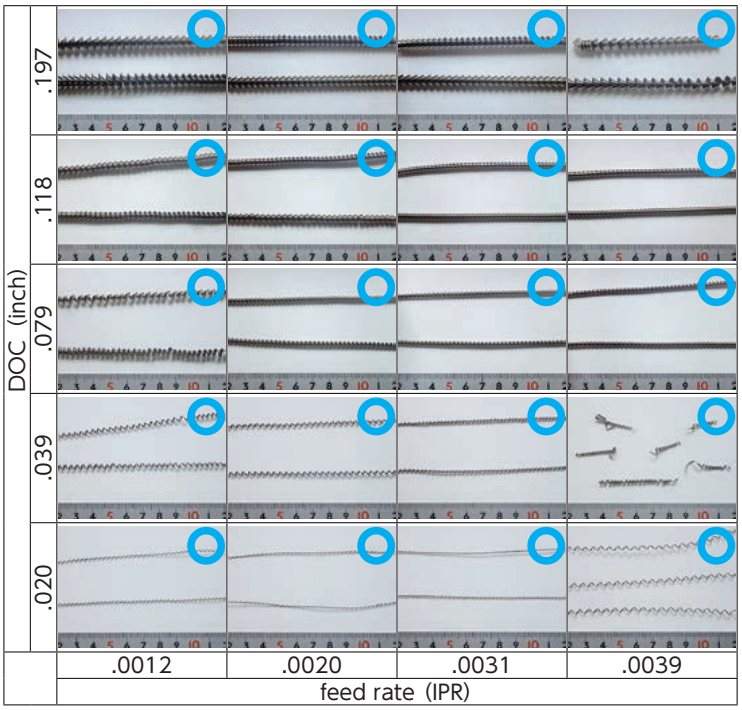
No wiper





Excellent chip control

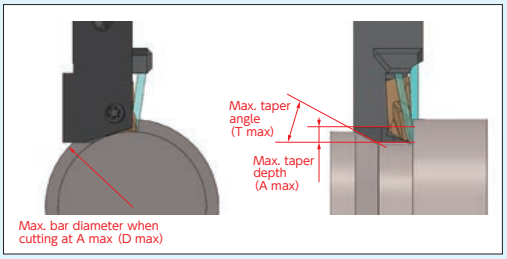
304 SS dia 16mm material, 260 SFM



Toolholders for TFT series

TFT-OH2 (Coolant through)

Screw accessible from both sides



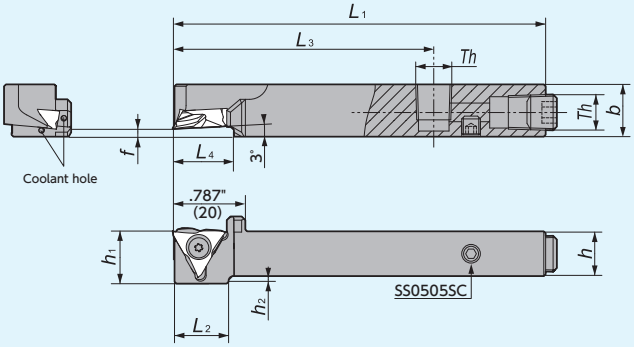
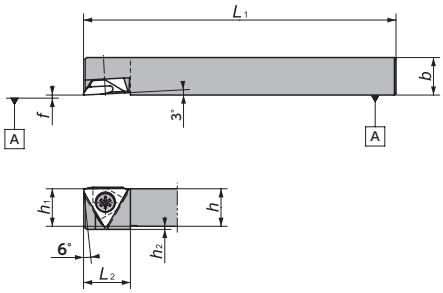


Figure-1

Right-Hand style shown

TFT

Screw accessible from both sides



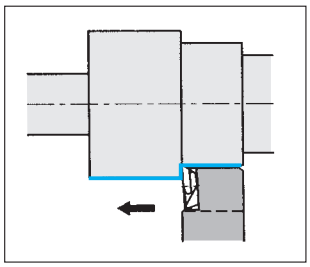
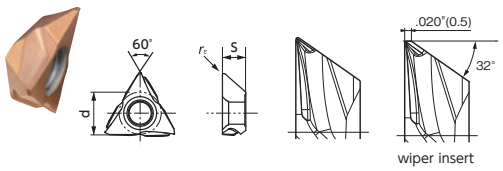
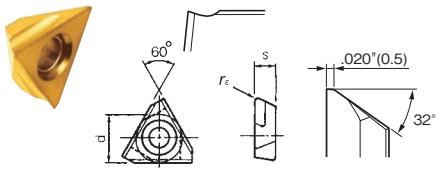


Figure-2

Right-Hand style shown

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	h_2 (Inch)	h_2 (mm)	L_3 (Inch)	L_3 (mm)	L_4 (Inch)	L_4 (mm)	Th	Max. DOC inch/side	Taper cut capability D max	Taper cut capability A max	Taper cut capability T max
 TFX33	TFT R/L06H-IN-OH2	1	●			3/8	.551	14		3/8	3.937	100	.079	2.0	.591	15	.157	4	2.756	70	.591	15	M6 × 1.0	.197 (TFX) .157 (TF)	.787	.098	30°
	TFT R/L08H-IN-OH2	1	●			1/2	.551	14		1/2	3.937	100	.079	2.0	.591	15	.079	2	2.756	70	.591	15	NPT1/8		1.181		
	TFT R/L10X-IN-OH2	1	●			5/8		5/8		5/8	4.724	120	.079	2.0	0	0	0	0	2.756	70	.689	17.5	NPT1/8		1.574		
	TFT R/L1014H-OH2	1	○		.394	10	.551	14	.394	10	3.937	100	.079	2.0	.591	15	.157	4	2.756	70	.591	15	M6 × 1.0		.787		
	TFT R/L1214H-OH2	1	●		.472	12	.551	14	.472	12	3.937	100	.079	2.0	.591	15	.079	2	2.756	70	.591	15	Rc1/8(PT1/8)		1.181		
	TFT R/L1616X-OH2	1	○		.630	16	.630	16	.630	16	4.724	120	.079	2.0	0	0	0	0	2.756	70	.689	17.5	Rc1/8(PT1/8)		1.574		
 TF33	TFT R/L06-IN	2	●		3/8		3/8		3/8		4.724	120	0.0	0.0	.591	15	.118	3	—	—	—	—	—		No capability for taper cut		
	TFT R/L08-IN	2	●		1/2		1/2		1/2		4.724	120	0.0	0.0	.591	15	.039	1	—	—	—	—	—				
	TFT R/L10	2	○		.394	10	.394	10	.394	10	4.724	120	0.0	0.0	.591	15	.118	3	—	—	—	—	—				
	TFT R/L12	2	○		.472	12	.472	12	.472	12	4.724	120	0.0	0.0	.591	15	.039	1	—	—	—	—	—				
	TFT R/L16	2	○		.630	16	.630	16	.630	16	4.724	120	0.0	0.0	0	0	0.0	0	—	—	—	—	—				
	TFT R/L20	2	○		.787	20	.787	20	.787	20	4.724	120	0.0	0.0	0	0	0.0	0	—	—	—	—	—				

TFX / TFT Series - Inserts

Shape	Item Number	Wiper	Max. DOC (Inch)	d (Inch)	d (mm)	s (Inch)	s (mm)	r_ε (Inch)	r_ε (mm)	DM4 R	DM4 L	ST4 R	ST4 L	ZM3 R	ZM3 L
 Right-Hand style shown. Note: Up to .197"(5.0mm) D.O.C. All angles shown are obtained when insert is set in the holder.	TFX3301MR	No	.197	3/8	9.525	3/16	4.76	.003	0.08	●		●			
	TFX3302MR	No	.197	3/8	9.525	3/16	4.76	.007	0.18	●		●			
	TFX3304MR	No	.197	3/8	9.525	3/16	4.76	.015	0.38	●		●			
	TFX3301MRW	Yes	.197	3/8	9.525	3/16	4.76	.003	0.08	●		●			
	TFX3302MRW	Yes	.197	3/8	9.525	3/16	4.76	.007	0.18	●		●			
	TFX3304MRW	Yes	.197	3/8	9.525	3/16	4.76	.015	0.38	●		●			
 Right-Hand style shown. Note: Up to .157"(4.0mm) D.O.C. All angles shown are obtained when insert is set in the holder.	TF3300R/L	Yes	.157	3/8	9.525	3/16	4.76	0	0					●	
	TF3305R/L	Yes	.157	3/8	9.525	3/16	4.76	.002	0.05					●	
	TF3315R/L	Yes	.157	3/8	9.525	3/16	4.76	.006	0.15					●	
	TF3320R/L	Yes	.157	3/8	9.525	3/16	4.76	.008	0.2					○	

Cutting condition ➡Q4

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

Toolholders for TN.. Inserts

PTXN-N

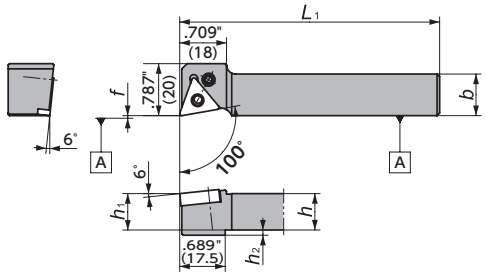
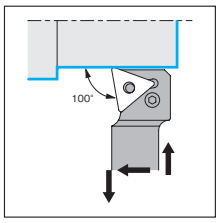


Figure-1

Shim	Clamp Pin	Spring
–	LCL33N	–



Right-Hand style shown

STXNR-N

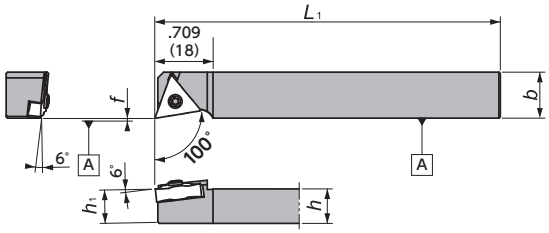
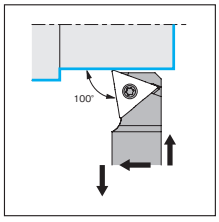


Figure-2

＊Only for UL Chipbreaker



Right-Hand style shown

PTAN-N

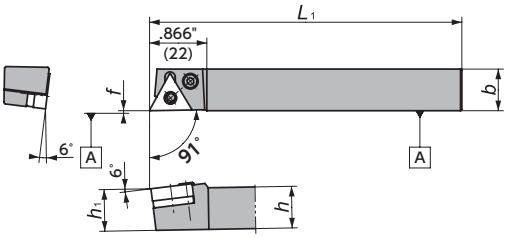
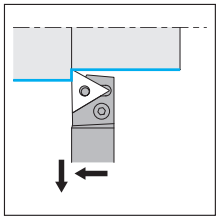


Figure-3

Shim	Clamp Pin	Spring
LST317	LCL3	LSP3



Right-Hand style shown

PTLN

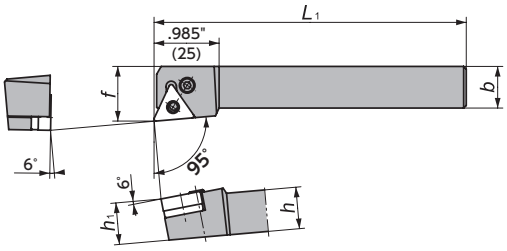
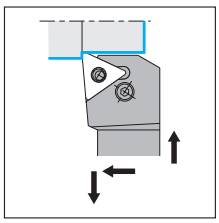


Figure-4

Shim	Clamp Pin	Spring
LST317	LCL3	LSP3



Right-Hand style shown

DS-PTX

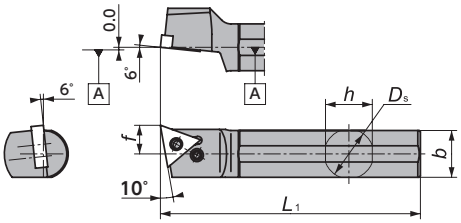
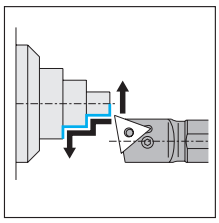


Figure-5

Shim	Clamp Pin	Spring
–	LCL33N	–



Left-Hand style shown
Takes Right-hand or Neutral insert

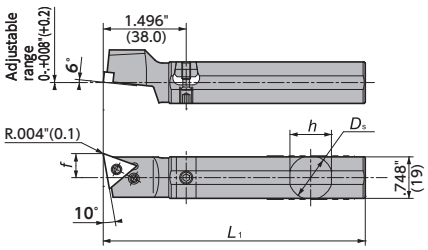
DS-PTX-ACH (Adjustable centerline height)

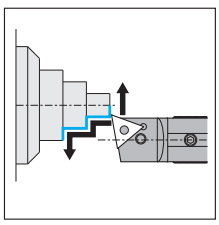
〈Parts〉

Shank	Wedge	Screw for Wedge
ϕ.630" (16)	ACH-W18 (5805601)	WS060415-003 (5795539)
ϕ3/4" (19.05)		
ϕ.787" (20)		WS060419-004 (5799226)
ϕ.866" (22)		
ϕ1" (25.4)	ACH-W24 (5805619)	

Figure-6

Shim	Clamp Pin	Spring
–	LCL33N	–





Left-Hand style shown
Takes Right-hand or Neutral insert

TN.. Series - Toolholders

■PTXN-N / PTAN-N / PTLN

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	h_2 (Inch)	h_2 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
TN..33..	PTXN®/ℓ063C	1	●		3/8		5/8		3/8		4.724	120	.097	2.475	0.0	0.0	LCS33	LW-2
	PTXN®/ℓ083C	1	●		1/2		5/8		1/2		4.724	120	–	–	0.0	0.0	LCS33	LW-2
	PTXN®/ℓ103C	1	●		5/8		5/8		5/8		4.724	120	–	–	0.0	0.0	LCS33	LW-2
TN..33..	PTXN®/ℓ1016X33N	1	○		.394	10.0	.630	16	.394	10	4.724	120	.079	2	0.0	0.0	LCS33	LW-2
	PTXN®/ℓ1216X33N	1	●		.472	12.0	.630	16	.472	12	4.724	120	–	–	0.0	0.0	LCS33	LW-2
	PTXN®/ℓ1616X33N	1	○		.630	16.0	.630	16	.630	16	4.724	120	–	–	0.0	0.0	LCS33	LW-2
	PTXN®/ℓ2020X33N	1	○		.787	20.0	.787	20	.787	20	4.724	120	–	–	0.0	0.0	LCS33	LW-2
TN..33..	STXNR1016X33N	2	○		.394	10.0	.630	16.0	.394	10.0	4.724	120	–	–	0.0	0.0	LR-5 3.5 × 10	LLR-20S
	STXNR1216X33N	2	○		.472	12.0	.630	16.0	.472	12.0	4.724	120	–	–	0.0	0.0	LR-5 3.5 × 10	LLR-20S
	STXNR1616X33N	2	○		.630	16.0	.630	16.0	.630	16.0	4.724	120	–	–	0.0	0.0	LR-5 3.5 × 10	LLR-20S
TN..33..	PTAN®/ℓ1616X33N	3	○		.630	16.0	.630	16	.630	16	4.724	120	–	–	0.0	0.0	LCS3	LW-2.5
TN..33..	PTLN®/ℓ2020L33	4	○	○	.787	20.0	.787	20	.787	20	5.512	140	–	–	.984	25	LCS3	LW-2.5

■DS-PTX / DS-PTX-ACH

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
TN..33..	DS-PTX®/ℓ19-33	5		○	3/4	19.050	.709	18.0	.709	18	4.724	120	.433	11.0	LCS33	LW-2
	DS-PTX®/ℓ20-33	5		○	.787	20.000	.748	19.0	.748	19	4.724	120	.433	11.0	LCS33	LW-2
	DS-PTX®/ℓ22-33	5		○	.866	22.000	.827	21.0	.827	21	4.724	120	.472	12.0	LCS33	LW-2
	DS-PTX®/ℓ25M-33	5		○	1	25.400	.945	24.0	.945	24	5.906	150	.512	13.0	LCS33	LW-2
TN..33..	DS-PTX®/ℓ16-33-ACH	6		●	.630	16.000	.610	15.5	.591	15	4.724	120	.433	11.0	LCS33	LW-2
	DS-PTX®/ℓ19-33-ACH	6		●	3/4	19.050	.709	18.0	.709	18	4.724	120	.433	11.0	LCS33	LW-2
	DS-PTX®/ℓ20-33-ACH	6		●	.787	20.000	.748	19.0	.748	19	4.724	120	.433	11.0	LCS33	LW-2
	DS-PTX®/ℓ22-33-ACH	6		●	.866	22.000	.827	21.0	.827	21	4.724	120	.472	12.0	LCS33	LW-2
	DS-PTX®/ℓ25-33MET-ACH	1		●	1	25.000	.945	24.0	.945	24	5.906	150	.512	13.0	LCS33	LW-2
	DS-PTX®/ℓ25-33-ACH	6		●	1	25.400	.945	24.0	.945	24	5.906	150	.512	13.0	LCS33	LW-2

Note: All angles shown are obtained when insert is set in the holder

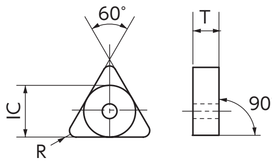
Inserts ➡Q36
Cutting condition ➡Q4

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

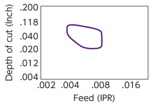
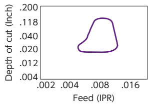
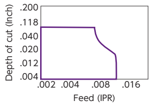
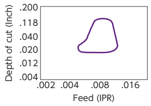
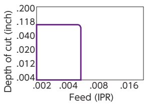
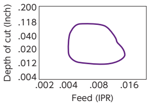
TN..33 inserts - Carbide

(inch)	IC	T
TN..33	3/8	3/16

● : 1st Choice • : 2nd choice



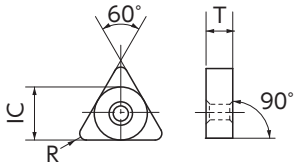
Material		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	•		
Stainless Steel	M	●	●	●	●	●	●	●	•		
Cast Iron	K									●	
Non-Ferrous Material	N					•	•	•	●		●
Heat Resistant Alloy	S	•	●	●	●	•					
Hardened Material	H	•	●	•	●						

Shape	Item Number	ISO Item Number	IC	R	Carbide										
					PVD Coated								CVD	Diamond Coating	
					ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1	
	**TNEG 3308 F R/L D1**	TNEG 160402 F R/L D1	3/8	.008					ⓇⓁ						
	TNEG 331 F R/L D1	TNEG 160404 F R/L D1	3/8	.016					ⓇⓁ						
	TNEG 332 F R/L D1	TNEG 160408 F R/L D1	3/8	.031					ⓇⓁ						
	**TNGG 3308 F R/L C**	TNGG 160402 F R/L C	3/8	.008							Ⓡ				
	**TNGG 3304 F R/L DA**	TNGG 160401 F R/L DA	3/8	.004						Ⓡ	Ⓡ				
	**TNGG 3304 F R/L U2**	TNGG 160401 F R/L U2	3/8	.004						Ⓡ	Ⓡ				
	TNGG 3308 F R/L U2	TNGG 160402 F R/L U2	3/8	.008		ⓇⓁ					RⓁ				
	TNGG 331 F R/L U2	TNGG 160404 F R/L U2	3/8	.016		ⓇⓁ					RⓁ				
	TNGG 332 F R/L U2	TNGG 160408 F R/L U2	3/8	.031							RⓁ				
	**TNGG 3304M FNUL**	TNGG 160401M FNUL	3/8	.003	○	●		○	●						
	TNGG 3308M FNUL	TNGG 160402M FNUL	3/8	.007	○	●		○	●						
	TNGG 331M FNUL	TNGG 160404M FNUL	3/8	.015	○	●		○	●						
	TNGG 332M FNUL	TNGG 160408M FNUL	3/8	.031	○	●		○	●						
	**TNGG 3308 FNZP**	TNGG 160402 FNZP	3/8	.008		○		○		○	○				
	TNGG 331 FNZP	TNGG 160404 FNZP	3/8	.016		○		●		○	●				
	TNGG 332 FNZP	TNGG 160408 FNZP	3/8	.031		○		●		○	●				

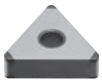
TN..33 Inserts - CBN / PCD

● : 1st Choice ● : 2nd choice

(inch)	IC	T
TN.. 33	3/8	3/16



		JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
Steel	P												
Stainless Steel	M												
Cast Iron	K		●	●	●				●	●			
Non-Ferrous Material	N										●	●	●
Heat Resistant Alloy	S	●											
Hardened Material	H		●	●	●	●	●	●					

Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	JP2 (BIDEMICS Coated)	B99 (Solid CBN)	B5K (CBN (Brazed) Coated)	B52	B6K (CBN (Brazed) Coated)	B36	B40	B23	B30	PD1 (PCD)	PD2 (PCD)	UC1 (Diamond Coating)
	TNGA 3304 PH FNX	TNGA 160401 PH FNX	None	3/8	.004	6	.083				○								
	TNGA 3304 PH S0415	TNGA 160401 PH S01015	S0415	3/8	.004	6	.083			○	●	○		○					
	TNGA 3304 PH S0525	TNGA 160401 PH S01325	S0525	3/8	.004	6	.083			○	○	○		○					
	TNGA 3304 PH S0635	TNGA 160401 PH S01535	S0635	3/8	.004	6	.083				○			○					
	TNGA 3308 PT FNX	TNGA 160402 PT FNX	None	3/8	.008	3	.087									○			
	TNGA 3308 PH FNX	TNGA 160402 PH FNX	None	3/8	.008	6	.087				○					○			
	TNGA 3308 PH S0415	TNGA 160402 PH S01015	S0415	3/8	.008	6	.087			●	●	○	○	○					
	TNGA 3308 PH S0525	TNGA 160402 PH S01325	S0525	3/8	.008	6	.087			○	○	○	○	○					
	TNGA 3308 PH S0635	TNGA 160402 PH S01535	S0635	3/8	.008	6	.087			○	○		○	●					
	TNGA 331 PH FNX	TNGA 160404 PH FNX	None	3/8	.016	3	.079				○								
	TNGA 331 PT FNX	TNGA 160404 PT FNX	None	3/8	.016	3	.079									○			
	TNGA 331 PH S0415	TNGA 160404 PH S01015	S0415	3/8	.016	6	.079			●	●	○	○	○					
	TNGA 331 PH S0420	TNGA 160404 PH S01020	S0420	3/8	.016	6	.079								○				
	TNGA 331 PH S0525	TNGA 160404 PH S01325	S0525	3/8	.016	6	.079			○	○	●	○	○					
	TNGA 331 PH S0635	TNGA 160404 PH S01535	S0635	3/8	.016	6	.079			○	○	○	○	●		○			
	TNGA 331 PH T0420	TNGA 160404 PH T01020	T0420	3/8	.016	6	.079									○			
	TNGA 332 PT FNX	TNGA 160408 PT FNX	None	3/8	.031	3	.067									○			
	TNGA 332 PH FNX	TNGA 160408 PH FNX	None	3/8	.031	6	.067				○								
	TNGA 332 PH S0415	TNGA 160408 PH S01015	S0415	3/8	.031	6	.067			●	●	○	○	○					
	TNGA 332 PH T0420	TNGA 160408 PH T01020	T0420	3/8	.031	6	.067									○			
	TNGA 332 PH S0420	TNGA 160408 PH S01020	S0420	3/8	.031	6	.067								○				
	TNGA 332 PH S0525	TNGA 160408 PH S01325	S0525	3/8	.031	6	.067			○	○	●	○	○					
	TNGA 332 PH S0635	TNGA 160408 PH S01535	S0635	3/8	.031	6	.067			○	○	○	○	●		○			
	TNGA 333 PT FNX	TNGA 160412 PT FNX	None	3/8	.047	3	.091									○			
	TNGA 333 PH FNX	TNGA 160412 PH FNX	None	3/8	.047	6	.091				○					○			
	TNGA 333 PH S0415	TNGA 160412 PH S01015	S0415	3/8	.047	6	.091			○	●	○	○	○					
	TNGA 333 PH T0420	TNGA 160412 PH T01020	T0420	3/8	.047	6	.091									○			
	TNGA 333 PH S0420	TNGA 160412 PH S01020	S0420	3/8	.047	6	.091								○				
	TNGA 333 PH S0525	TNGA 160412 PH S01325	S0525	3/8	.047	6	.091			○	○	○	○	○					
	TNGA 333 PH S0635	TNGA 160412 PH S01535	S0635	3/8	.047	6	.091			○	○	○	○	●		○			
	TNGA 334 PH S0415	TNGA 160416 PH S01015	S0415	3/8	.063	6	.083			○	○	○							
	TNGA 334 PH T0420	TNGA 160416 PH T01020	T0420	3/8	.063	6	.083									○			
	TNGA 334 PH S0525	TNGA 160416 PH S01325	S0525	3/8	.063	6	.083			○		○	○						
	TNGA 334 PH S0635	TNGA 160416 PH S01535	S0635	3/8	.063	6	.083			○		○	○						
	TNGA 433 PH S0415	TNGA 220412 PH S01015	S0415	1/2	.047	6	.091							○					
	TNGA 433 PH S0635	TNGA 220412 PH S01535	S0635	1/2	.047	6	.091							○					
 with chipbreaker	TNMX 331 PF	TNMX 160404 PF	None	3/8	.016	1	—											●	
	TNMX 332 PF	TNMX 160408 PF	None	3/8	.031	1	—											●	
	TNMG 3308 FNZP	TNMG 160402 FNZP	None	3/8	.008	6	—												●
	TNMG 331 FNZP	TNMG 160404 FNZP	None	3/8	.016	6	—												●
	TNMG 332 FNZP	TNMG 160408 FNZP	None	3/8	.031	6	—												●

Holders ➡Q34 Cutting condition ➡Q4
Chipbreaker ➡P23

● : Stock
● : Stock (Newly added)
■ □R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Toolholders for CN.. Inserts

PCLN-N

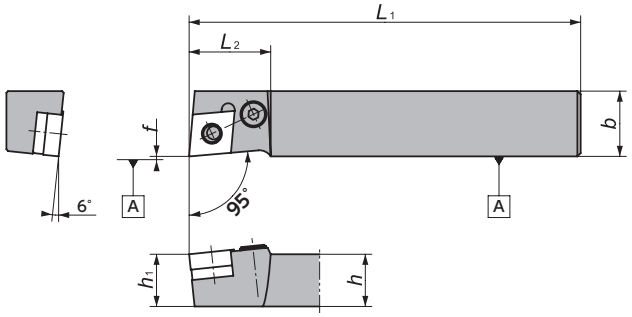
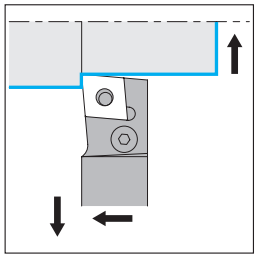


Figure-1



Right-Hand style shown

PCLN

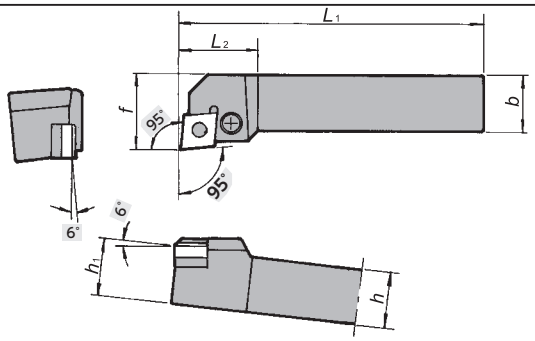
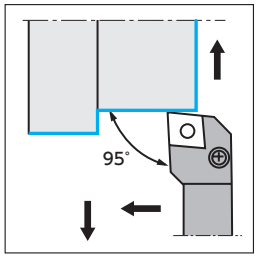


Figure-2



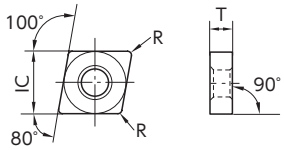
Right-Hand style shown

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Shim	Clamp Pin	Clamp Screw	Spring	Wrench
 CN..43..	PCLN℞1620X43N	1	○		.630	16	.787	20	.630	16	4.724	120	0.0	0.0	.984	25	LSC42	LCL4	LCS4CA	LSP4	LW-3
	PCLN℞2020K43	2	○	○	.787	20	.787	20	.787	20	4.921	125	.984	25	1.102	28	LSD42	LCL4	LCS4	LSP4	LW-3
	PCLN℞2525M43	2	○	○	.984	25	.984	25	.984	25	5.906	150	1.260	32	1.102	28	LSD42	LCL4	LCS4	LSP4	LW-3

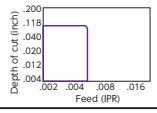
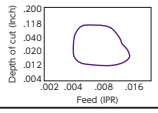
CN..43 Inserts - Carbide

(inch)	IC	T
CN..43	1/2	3/16

● : 1st Choice ● : 2nd choice



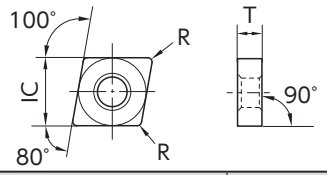
		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1	
	CNGG 431 FNUL	CNGG 120404 FNUL	1/2	.016		●		●	○						
	CNGG 432 FNUL	CNGG 120408 FNUL	1/2	.031		●		●	○						
	CNGG 431 FNZP	CNGG 120404 FNZP	1/2	.016		●		●			●				
	CNGG 432 FNZP	CNGG 120408 FNZP	1/2	.031		●		●			●				

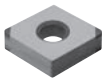
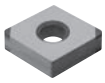
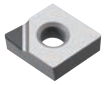
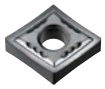
CN..43 Inserts - CBN / PCD

(inch)	IC	T
CN.. 43	1/2	3/16

● : 1st Choice ● : 2nd choice



		JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
Steel	P												
Stainless Steel	M												
Cast Iron	K		●	●	●				●	●			
Non-Ferrous Material	N										●	●	●
Heat Resistant Alloy	S	●											
Hardened Material	H		●	●	●	●	●	●					

Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	JP2 (BIDEMICS Coated)	B99 (Solid CBN)	B5K (CBN Coated)	B52	B6K (CBN Coated)	B36	B40	B23	B30	PD1 (PCD)	PD2 (PCD)	UC1 (Diamond Coating)
	CNGA 4308 PQ S0415	CNGA 120402 PQ S01015	S0415	1/2	.008	4	.091				●		○	○					
	CNGA 4308 PQ T0420	CNGA 120402 PQ T01020	T0420	1/2	.008	4	.091									○			
	CNGA 4308 PQ S0525	CNGA 120402 PQ S01325	S0525	1/2	.008	4	.091				○		○	○					
	CNGA 4308 PQ S0635	CNGA 120402 PQ S01535	S0635	1/2	.008	4	.091				○		○	●					
	CNGA 431 PD FNX	CNGA 120404 PD FNX	None	1/2	.016	2	.091				○					○			
	CNGA 431 PQ FNX	CNGA 120404 PQ FNX	None	1/2	.016	4	.091				○					○			
	CNGA 431 PQ S0415	CNGA 120404 PQ S01015	S0415	1/2	.016	4	.091			●	●	○	○	○					
	CNGA 431 PQ T0420	CNGA 120404 PQ T01020	T0420	1/2	.016	4	.091									○			
	CNGA 431 PQ S0420	CNGA 120404 PQ S01020	S0420	1/2	.016	4	.091								○				
	CNGA 431 PQ S0525	CNGA 120404 PQ S01325	S0525	1/2	.016	4	.091			○	○	●	○	○					
	CNGA 431 PQ S0635	CNGA 120404 PQ S01535	S0635	1/2	.016	4	.091			○	○	○	○	●					
	CNGA 432 PD FNX	CNGA 120408 PD FNX	None	1/2	.031	2	.106									○			
	CNGA 432 PQ FNX	CNGA 120408 PQ FNX	None	1/2	.031	4	.106				○					○			
	CNGA 432 PQ T0215	CNGA 120408 PQ T00515	T0215	1/2	.031	4	.106						○						
	CNGA 432 PQ S0415	CNGA 120408 PQ S01015	S0415	1/2	.031	4	.106			●	●	○	○	○					
	CNGA 432 PQ T0420	CNGA 120408 PQ T01020	T0420	1/2	.031	4	.106									○			
	CNGA 432 PQ S0420	CNGA 120408 PQ S01020	S0420	1/2	.031	4	.106								○				
	CNGA 432 PQ S0525	CNGA 120408 PQ S01325	S0525	1/2	.031	4	.106			○	○	●	○	○					
	CNGA 432 PQ S0635	CNGA 120408 PQ S01535	S0635	1/2	.031	4	.106			○	○	○	○	●					
	CNGA 433 PD FNX	CNGA 120412 PD FNX	None	1/2	.047	2	.106									○			
	CNGA 433 PQ FNX	CNGA 120412 PQ FNX	None	1/2	.047	4	.106				○					○			
	CNGA 433 PQ T0215	CNGA 120412 PQ T00515	T0215	1/2	.047	4	.106						○						
	CNGA 433 PQ S0415	CNGA 120412 PQ S01015	S0415	1/2	.047	4	.106			●	●	○	○	○					
	CNGA 433 PQ T0420	CNGA 120412 PQ T01020	T0420	1/2	.047	4	.106									○			
	CNGA 433 PQ S0420	CNGA 120412 PQ S01020	S0420	1/2	.047	4	.106								○				
	CNGA 433 PQ S0525	CNGA 120412 PQ S01325	S0525	1/2	.047	4	.106			○	○	○	○	○					
	CNGA 433 PQ S0635	CNGA 120412 PQ S01535	S0635	1/2	.047	4	.106			○	○	○	○	●					
	CNGA 434 PQ S0415	CNGA 120416 PQ S01015	S0415	1/2	.063	4	.102				○		○	○					
	CNGA 434 PQ T0420	CNGA 120416 PQ T01020	T0420	1/2	.063	4	.102									○			
	CNGA 434 PQ S0420	CNGA 120416 PQ S01020	S0420	1/2	.063	4	.102								○				
	CNGA 434 PQ S0525	CNGA 120416 PQ S01325	S0525	1/2	.063	4	.102				○	○	○	○					
	CNGA 434 PQ S0635	CNGA 120416 PQ S01535	S0635	1/2	.063	4	.102				○		○	○					
	CNGA 435 PQ S0415	CNGA 120420 PQ S01015	S0415	1/2	.079	4	.102				○		○	○					
	CNGA 435 PQ T0420	CNGA 120420 PQ T01020	T0420	1/2	.079	4	.102									○			
	CNGA 435 PQ S0420	CNGA 120420 PQ S01020	S0420	1/2	.079	4	.102								○				
	CNGA 435 PQ S0525	CNGA 120420 PQ S01325	S0525	1/2	.079	4	.102				○	○	○	○					
	CNGA 435 PQ S0635	CNGA 120420 PQ S01535	S0635	1/2	.079	4	.102				○	○	○	○					
 with wiper	CNGA 431 PQW S0415	CNGA 120404 PQW S01015	S0415	1/2	.016	4	.102				●		○	○					
	CNGA 431 PQW S0635	CNGA 120404 PQW S01535	S0635	1/2	.016	4	.102				○		○	●					
	CNGA 432 PQW S0415	CNGA 120408 PQW S01015	S0415	1/2	.031	4	.102				●		○	○					
	CNGA 432 PQW S0635	CNGA 120408 PQW S01535	S0635	1/2	.031	4	.102				○		○	●					
	CNGA 433 PQW S0415	CNGA 120412 PQW S01015	S0415	1/2	.047	4	.102				●		○	○					
	CNGA 433 PQW S0635	CNGA 120412 PQW S01535	S0635	1/2	.047	4	.102				○		○	●					
 with chipbreaker	CNMX 431 PF	CNMX 120404 PF	None	1/2	.016	1	—											●	
	CNMX 432 PF	CNMX 120408 PF	None	1/2	.031	1	—											●	
	CNMG 431 FNZP	CNMG 120404 FNZP	None	1/2	.016	4	—												●
	CNMG 432 FNZP	CNMG 120408 FNZP	None	1/2	.031	4	—												●

Cutting condition ➡Q4
Chipbreaker ➡P23

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
RⓁ : 1-2 week delivery (Right / Left-hand only)
RⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Toolholders for DN.. Inserts

PDJN-N

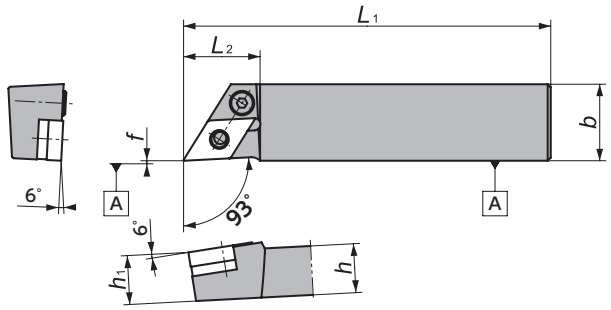
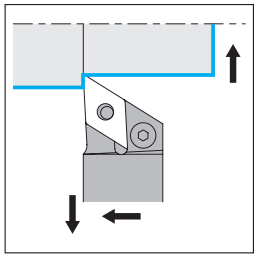


Figure-1



Right-Hand style shown

PDJN

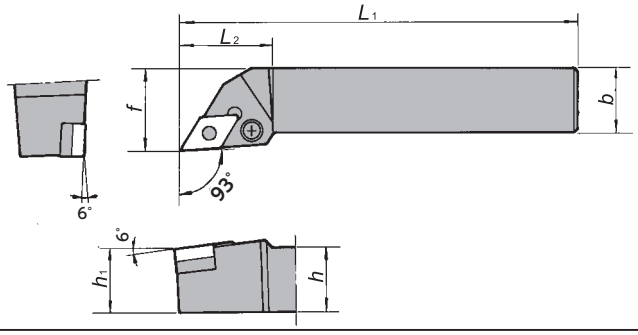
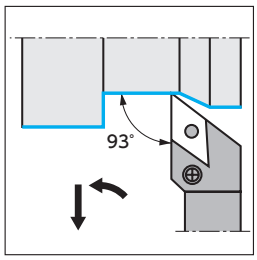
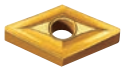


Figure-2



Right-Hand style shown

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Shim	Clamp Pin	Clamp Screw	Spring	Wrench
 DN..43..	PDJN%1625X43N	1	○		.630	16	.984	25	.630	16	4.724	120	0.0	0.0	.984	25	LSD42	LCL4	LCS4CA	LSP4	LW-3
	PDJN%2020K43	2	○	○	.787	20	.787	20	.787	20	4.921	125	.984	25	1.260	32	LSD42	LCL4	LCS4	LSP4	LW-3
	PDJN%2525M43	2	○		.984	25	.984	25	.984	25	5.906	150	1.260	32	1.260	32	LSD42	LCL4	LCS4	LSP4	LW-3

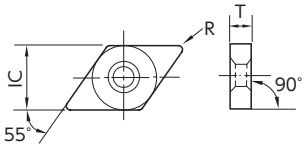
Note: All angles shown are obtained when insert is set in the holder

DN.. Inserts - Carbide

[Molded Chipbreakers]

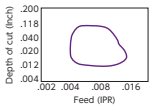
(inch)	IC	T
DN..43	1/2	3/16

● : 1st Choice ● : 2nd choice



		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
		Carbide									
		PVD Coated								CVD	Diamond Coating
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
	DNGG 431 FNZP	DNGG 150404 FNZP	1/2	.016		●		●			●			
	DNGG 432 FNZP	DNGG 150408 FNZP	1/2	.031		●		●			●			

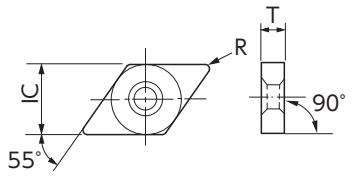


Cutting condition ➡Q4 Chipbreaker ➡P23

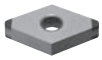
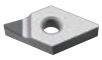
DN.. Inserts - CBN / PCD

(inch)	IC	T
DN.. 43	1/2	3/16

● : 1st Choice ● : 2nd choice



		B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
Steel	P											
Stainless Steel	M											
Cast Iron	K	●	●	●				●	●			
Non-Ferrous Material	N									●	●	●
Heat Resistant Alloy	S											
Hardened Material	H	●	●	●	●	●	●					

Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	Solid CBN B99	CBN (Brazed) Coated B5K	B52	Coated B6K	B36	B40	B23	B30	PCD PD1	PD2	Diamond Coating UC1
	DNGA 4308 PQ S0415	DNGA 150402 PQ S01015	S0415	1/2	.008	4	.094			●			○					
	DNGA 4308 PQ T0420	DNGA 150402 PQ T01020	T0420	1/2	.008	4	.094								○			
	DNGA 4308 PQ S0525	DNGA 150402 PQ S01325	S0525	1/2	.008	4	.094			○			○					
	DNGA 4308 PQ S0635	DNGA 150402 PQ S01535	S0635	1/2	.008	4	.094			○			●					
	DNGA 4308 PQ T0420	DNGA 150402 PQ T01020	T0420	1/2	.008	4	.094								○			
	DNGA 431 PD FNX	DNGA 150404 PD FNX	None	1/2	.016	2	.087								○			
	DNGA 431 PQ FNX	DNGA 150404 PQ FNX	None	1/2	.016	4	.087			○					○			
	DNGA 431 PQ S0415	DNGA 150404 PQ S01015	S0415	1/2	.016	4	.087		●	●	○	○	○					
	DNGA 431 PQ T0420	DNGA 150404 PQ T01020	T0420	1/2	.016	4	.087								○			
	DNGA 431 PQ S0420	DNGA 150404 PQ S01020	S0420	1/2	.016	4	.087							○				
	DNGA 431 PQ S0525	DNGA 150404 PQ S01325	S0525	1/2	.016	4	.087		○	○	●	○	○					
	DNGA 431 PQ S0635	DNGA 150404 PQ S01535	S0635	1/2	.016	4	.087		○	○	○	○	●					
	DNGA 431 PQ T0420	DNGA 150404 PQ T01020	T0420	1/2	.016	4	.087								○			
	DNGA 432 PD FNX	DNGA 150408 PD FNX	None	1/2	.031	2	.075								○			
	DNGA 432 PQ FNX	DNGA 150408 PQ FNX	None	1/2	.031	4	.075			○					○			
	DNGA 432 PQ S0415	DNGA 150408 PQ S01015	S0415	1/2	.031	4	.075		●	●	○	○	○					
	DNGA 432 PQ T0420	DNGA 150408 PQ T01020	T0420	1/2	.031	4	.075								○			
	DNGA 432 PQ S0420	DNGA 150408 PQ S01020	S0420	1/2	.031	4	.075							○				
	DNGA 432 PQ S0525	DNGA 150408 PQ S01325	S0525	1/2	.031	4	.075		○	○	●	○	○					
	DNGA 432 PQ S0635	DNGA 150408 PQ S01535	S0635	1/2	.031	4	.075		○	○	○	○	●					
	DNGA 433 PD FNX	DNGA 150412 PD FNX	None	1/2	.047	2	.102								○			
	DNGA 433 PQ FNX	DNGA 150412 PQ FNX	None	1/2	.047	4	.102			○								
	DNGA 433 PQ S0415	DNGA 150412 PQ S01015	S0415	1/2	.047	4	.102		○	●	○	○	○					
	DNGA 433 PQ T0420	DNGA 150412 PQ T01020	T0420	1/2	.047	4	.102								○			
	DNGA 433 PQ S0420	DNGA 150412 PQ S01020	S0420	1/2	.047	4	.102							○				
	DNGA 433 PQ S0525	DNGA 150412 PQ S01325	S0525	1/2	.047	4	.102		○	○	○	○	○					
	DNGA 433 PQ S0635	DNGA 150412 PQ S01535	S0635	1/2	.047	4	.102		○	○	○	○	●					
	DNMA 433 PQ S0635	DNMA 150412 PQ S01535	S0635	1/2	.047	4	.102					○						
	DNGA 434 OQ S0525	DNGA 150416 PQ S01325	S0525	1/2	.063	4	.087			○			○					
	DNGA 434 PQ S0415	DNGA 150416 PQ S01015	S0415	1/2	.063	4	.087		○	○	○	○	○					
	DNGA 434 PQ T0420	DNGA 150416 PQ T01020	T0420	1/2	.063	4	.087								○			
	DNGA 434 PQ S0420	DNGA 150416 PQ S01020	S0420	1/2	.063	4	.087							○				
	DNGA 434 PQ S0525	DNGA 150416 PQ S01325	S0525	1/2	.063	4	.087		○		○	○						
	DNGA 434 PQ S0635	DNGA 150416 PQ S01535	S0635	1/2	.063	4	.087		○	○	○	○	○					
	DNGA 435 PQ S0415	DNGA 150420 PQ S01015	S0415	1/2	.079	4	.094				○	○						
	DNGA 435 PQ S0525	DNGA 150420 PQ S01325	S0525	1/2	.079	4	.094				○							
	DNGA 435 PQ S0635	DNGA 150420 PQ S01535	S0635	1/2	.079	4	.094				○							
	DNGA 4408 PQ S0415	DNGA 150602 PQ S01015	S0415	1/2	.008	4	.091			○								
	DNGA 441 PQ S0415	DNGA 150604 PQ S01015	S0415	1/2	.016	4	.094			○								
	DNGA 441 PQ T0420	DNGA 150604 PQ T01020	T0420	1/2	.016	4	.094								○			
	DNGA 441 PQ S0525	DNGA 150604 PQ S01325	S0525	1/2	.016	4	.094					○						
	DNGA 442 PQ S0415	FNGA 150608 PQ S01015	S0415	1/2	.031	4	.075			○								
	DNGA 442 PQ T0420	FNGA 150608 PQ T01020	T0420	1/2	.031	4	.075								○			
	DNGA 442 PQ S0525	FNGA 150608 PQ S01325	S0525	1/2	.031	4	.075					○						
	DNGA 443 PQ S0415	DNGA 150612 PQ S01015	S0415	1/2	.047	4	.102			○								
	DNGA 443 PQ T0420	DNGA 150612 PQ T01020	T0420	1/2	.047	4	.102								○			
	DNGA 443 PQ S0525	DNGA 150612 PQ S01325	S0525	1/2	.047	4	.102					○						
	DNGA 444 PQ S0415	DNGA 150616 PQ S01015	S0415	1/2	.063	4	.087			○								
	DNGA 444 PQ T0420	DNGA 150616 PQ T01020	T0420	1/2	.063	4	.087								○			
	DNGA 444 PQ S0525	DNGA 150616 PQ S01325	S0525	1/2	.063	4	.087					○						
 with chipbreaker	DNMX 431 PF	DNMX 150404 PF	None	1/2	.016	1	—										●	
	DNMX 432 PF	DNMX 150408 PF	None	1/2	.031	1	—										●	

Front Turning

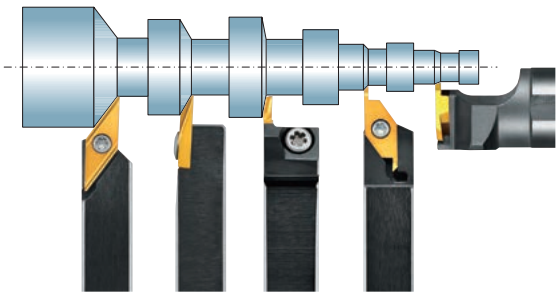
● : Stock
● : Stock (Newly added)
■ □R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

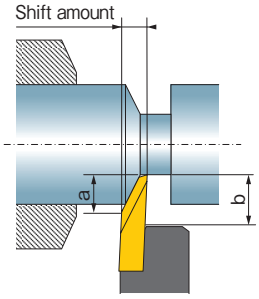
MEMO

R

Back Turning

NTK Back Turning Tools - Product Lines

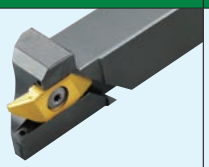
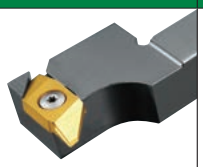




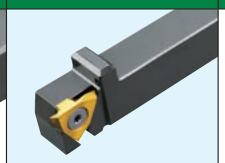
a: Length of Blade
b: Max Depth of Cut

Insert	CSVB ➡R6	
Holder	CSV-NC	DS-CSV
	 ➡R6	 ➡R6
a	~.039" (~1.0㎜)	
b	~.079" (~2.0㎜)	
Shift amount	.043"-.055" (1.1-1.5㎜)	

Insert	TBPS ➡R7	TBP ➡R9				
Holder	CTPS	TBP	TBP-OH2/OH	Y-TBP	Y-TBP-OH2/OH	DS-TBP
	 ➡R7	 ➡R8	 ➡R8 Coolant through	 ➡R8 Y-axis	 ➡R8 Y-axis w/ Coolant through	 ➡R9
a	~.189" (~4.8㎜)	~.189" (~4.8㎜)				
b	~.189" (~4.8㎜)	~.209" (~5.3㎜)				
Shift amount	.094" (2.4㎜)	.138" (3.5㎜)				

Insert	TBPA ➡R11				
Holder	CTPA	CTPA-OH2/OH	TBPA-OH	Y-CTPA	CH-TBPA
	 ➡R10	 ➡R10 Coolant through	 ➡R10 Coolant through	 ➡R10 Y-axis	 ➡R10
a	~.248" (~6.3㎜)				
b	~.268" (~6.8㎜)				
Shift amount	.134" (3.4㎜)				

Insert	TBDP ➡R13		TB ➡R17	VC..22 ➡R15	
				TBVC ➡R14	
Holder	TBDP	Y-TBDP	TB	TBVC	CH-SVXCL
	 ➡R12	 ➡R12 Y-axis	 ➡R16	 ➡R14	 ➡R14
a	.138" (3.5㎜)		~.157" (~4.0㎜)	.315" (8.0㎜)	—
b	~.204" (~5.0㎜)		~.335" (~8.8㎜)	.315" (8.0㎜)	—
Shift amount	.081" (2.05㎜)		.157" (4.0㎜)	.295"/.394" (7.5/10㎜)	.394" (10㎜)

Insert	TBMH ➡R20					
Holder	GTT	GTT-OH2/OH	Y-GTT	Y-GTT-OH2/OH	DS-GTT	CH-GTT
	 ➡R18	 ➡R18 Coolant through	 ➡R19 Y-axis	 ➡R19 Y-axis w/ Coolant through	 ➡R20	 ➡R20
a	~.051" (~1.3㎜)					
b	~.106" (~2.7㎜)					
Shift amount	.039"/.059" (1.0/1.5㎜)					

Recommended Cutting conditions

Back Turning

CSVB

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels Hard to cut	Stainless Steels Free cutting	Alloy Steels	Carbon Steels
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4					VM1	
	2nd choice	VM1					DM4 / DT4	
Cutting Speed (SFM)		75 125 225	100 200 275			100 200 300		
Feed Rate (IPR)	X Direction	.0004 .0008 .0012						
	Z Direction	.0004 .0012 .0016						

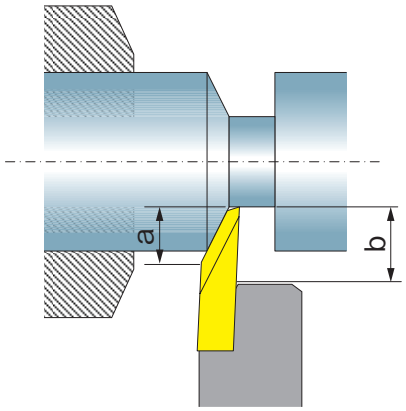
TBDP / TBMH / TBP / TBPA / TBVC

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels Hard to cut		Stainless Steels Free cutting	Alloy Steels	Carbon Steels
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4 QM3	TM4	QM3	
	2nd choice	TM4 / QM3			VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (SFM)		75 125 225	100 200 275				150 300 500		
Feed Rate (IPR)	X Direction	.0004 .0008 .0012					.0004 .0008 .0016		
	Z Direction	.0008 .0016 .0024					.0008 .0016 .0031		

TB32 / TB43

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels Hard to cut	Stainless Steels Free cutting	Alloy Steels	Carbon Steels
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	ZM3					ZM3	
	2nd choice							
Cutting Speed (SFM)		50 100 150				ZM3 150 300 425 Z15 400 600 800		
Feed Rate (IPR)	X Direction	.0004 .0012 .0020				.0004 .0012 .0020		
	Z Direction	.0016 .0020 .0031				.0016 .0031 .0059		

Back Turning



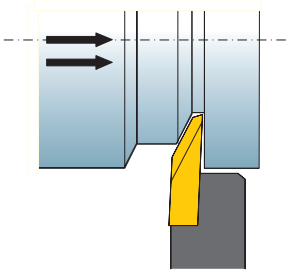
Recommended max. depth of cut for each pass

(Multiply this ratio by the length of blade (a) to obtain the max. depth of cut for each pass)

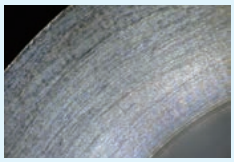
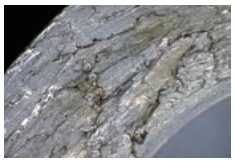
Grade / Work material	PVD Coated Carbide ST4·QM3·DT4·DM4·TM4·VM1·ZM3
Steel	0.7
Stainless Steel	0.6
Non-ferrous material	0.9
Plastic	0.9

a : Length of Blade　b : Max. Depth of Cut

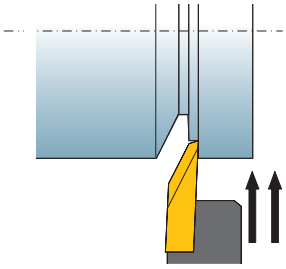
When the length of blade (a) is not long enough



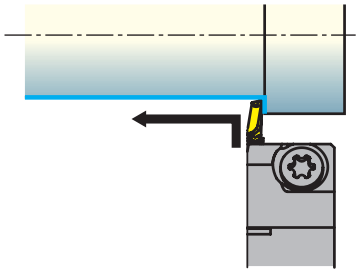
Back turning can be performed multiple times until the total depth of cut reaches (b).

End face	
NTK BM-chipbreaker	Competitor
	
Excellent surface	Rough surface

When experiencing rough finish on shoulder



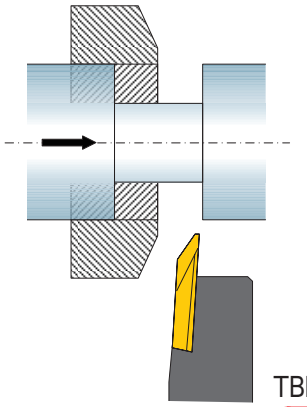
Turning the shoulder twice can improve the finish.
This problem can be solved by using TBP-BM, TBPA-BM, TBDP inserts without increasing the number of passes



TBP-BM, TBPA-BM, TBDP come with NTK's uniquely designed molded chipbreaker providing single pass machining. These inserts can provide excellent surface finish.

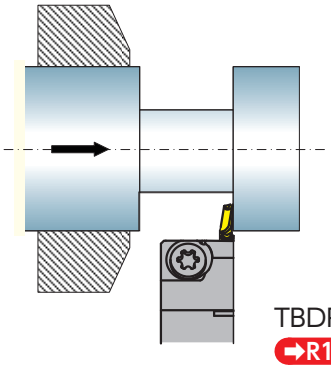
TBP-BM ➡R9
TBPA-BM ➡R11
TBDP ➡R13

Finishing cut



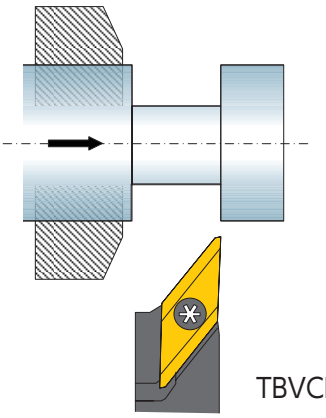
Roughed section goes into the guide bushing when performing finish cuts. (Deburring may be needed upon roughing)

TBP
➡R8



TBDP-L
➡R12

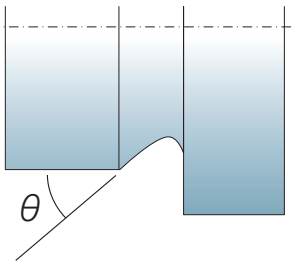
TBDP Left-hand toolholder will eliminate the risky process of pulling back the turned bar stock into the guide-bushing for finishing process, because its cutting point is away from the guide-bushing.



TBVCR··F10
➡R14

Cutting edge is located away from the guide-bushing. Roughing can be performed without retracting roughed part from guide-bushing.

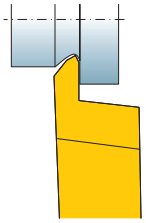
Undercut



Assume undercut exists on back turning section

$\theta = 22^\circ$ type

$\theta = 45^\circ$ type



TBMH style inserts should be used to cut the undercut

Inserts ➡R20
Holders ➡R18

CSV Series

Best for up to .200" diameter material

CSV-NC

For Gang-style machine

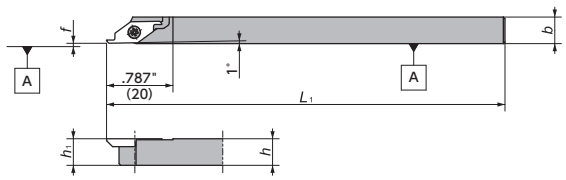


Figure-1

Right-Hand style shown

CSV

For Cam-style machine

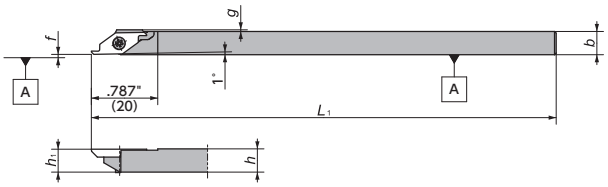


Figure-2

Right-Hand style shown

DS-CSVL

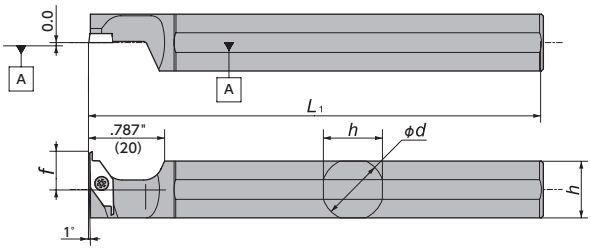


Figure-3

Left-Hand style shown
Takes Right-hand insert

CSV R/L / CSV R/L-NC

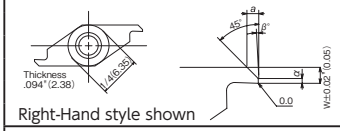
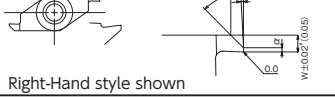
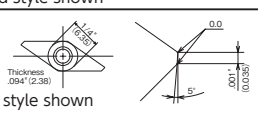
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	g (Inch)	g (mm)	Clamp Screw	Wrench
 CSV..11..	CSV R/L06-IN-NC	1	●	●	3/8		3/8		3/8		4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L08-IN-NC	1	●	●	1/2		1/2		1/2		4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L08NC	1	○	○	.315	8	.315	8	.315	8	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L08NC-F	1	○		.315	8	.315	8	.315	8	4.724	120	0-.004	0.0-0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L10GXNC	1	○		.394	10	.394	10	.394	10	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L10NC	1	○	○	.394	10	.394	10	.394	10	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L12NC	1	●	●	.472	12	.472	12	.472	12	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L07GX	2	○		.275	7	.275	7	.275	7	3.346	85	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSV R/L07	2	○	●	.275	7	.275	7	.275	7	5.512	140	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSV R/L08GX	2	○		.315	8	.315	8	.315	8	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L08	2	●	●	.315	8	.315	8	.315	8	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L095	2	○		.374	9.5	.374	9.5	.374	9.5	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L10	2	●	○	.394	10	.394	10	.394	10	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L12GX	2	○		.472	12	.472	12	.472	12	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L12	2	●		.472	12	.472	12	.472	12	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S

DS-CSVL (Takes right-hand insert)

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 CSV..11FR..	DS-CSVL15	3		●	5/8	15.875	.591	15	.591	15	4.724	120	.394	10	LRIS-2.5 × 7	CLR-15S

CSVB - Back Turning

Mirror finish

Shape	Item Number		Chip-breaker	Length of Blade (Inch)	Length of Blade (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	W (Inch)	W (mm)	Edge Geometry (α × β°) (Inch)	Edge Geometry (α × β°) (mm)	Coated Carbide DT4 R	DT4 L	VM1 R	VM1 L	ZM3 R	ZM3 L
 Right-Hand style shown	CSVB11F R/L V	M	No	.028	0.7	.079	2.0	.039	1.00	.012 × 5°	0.3 × 5°			○	○		
	CSVB11F R/L V-A	M	No	.028	0.7	.079	2.0	.039	1.00	.012 × 2°	0.3 × 2°			○			
	CSVB11F R/L V-M	M	No	.028	0.7	.079	2.0	.039	1.00	.006 × 2°	0.15 × 2°	●		●	○	○	
	CSVB11F R/L V-C	M	No	.028	0.7	.079	2.0	.039	1.00	.006 × 5°	0.15 × 5°			○			
	CSVB11F R/L V12	M	No	.031	0.8	.079	2.0	.047	1.20	.012 × 5°	0.3 × 5°			○			
	CSVB11F R/L V14	M	No	.039	1.0	.079	2.0	.055	1.40	.012 × 5°	0.3 × 5°			○			
 Right-Hand style shown	CSVB11F R/L VB	M	Yes	.028	0.7	.079	2.0	.039	1.00	.012 × 5°	0.3 × 5°			○			
	CSVB11F R/L VB-A	M	Yes	.028	0.7	.079	2.0	.039	1.00	.012 × 2°	0.3 × 2°			○			
	CSVB11F R/L VB-M	M	Yes	.028	0.7	.079	2.0	.039	1.00	.006 × 2°	0.15 × 2°	●		●	○	○	
	CSVB11F R/L VB-C	M	Yes	.028	0.7	.079	2.0	.039	1.00	.006 × 5°	0.15 × 5°			○			
	CSVB11F R/L VB12	M	Yes	.031	0.8	.079	2.0	.047	1.20	.012 × 2°	0.3 × 5°			○			
	CSVB11F R/L VB14	M	Yes	.039	1.0	.079	2.0	.055	1.40	.012 × 2°	0.3 × 5°			○			
Profiling  Left-Hand style shown	CSVB11F R/L VX	M	No	–	–	–	–	–	–						○		

Note: All angles shown are obtained when insert is set in the holder

CSV series ➡O51

CTPS Series

CTPS

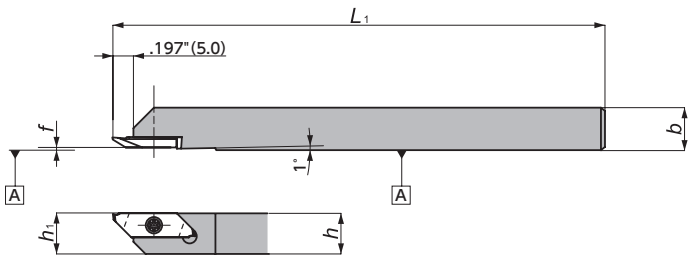


Figure-1

Right-Hand style shown

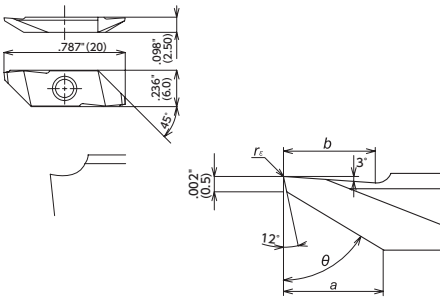
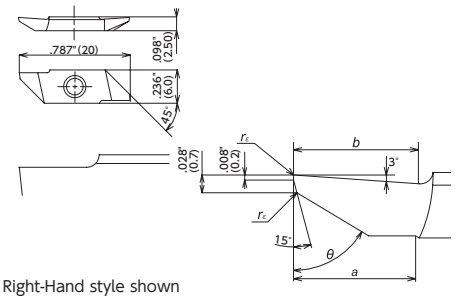
CTPS Series - Toolholders

■CTPS

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h1 (Inch)	h1 (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 TBPS..	CTPS R/L 06-IN	1	●		3/8		3/8		3/8		4.724	120	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPS R/L 08-IN	1	●		1/2		1/2		1/2		4.724	120	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPS R/L 10	1	○		.394	10	.394	10	.394	10	4.724	120	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPS R/L 12	1	○		.472	12	.472	12	.472	12	4.724	120	0.0	0.0	LRIS-2.5 × 7	CLR-15S

TBPS Series - Inserts

■TBPS – Back Turning

Shape	Item Number	Chip-breaker	Length of Blade a (Inch)	Length of Blade a (mm)	Max Depth of Cut b (Inch)	Max Depth of Cut b (mm)	θ	rε (Inch)	rε (mm)	Coated Carbide VM1	Coated Carbide ZM3
with Chipbreaker  Right-Hand style shown	TBPS60FR00	Yes	.122	3.1	.138	3.5	60°	0.0	0.0	○	○
	TBPS60FR10	Yes	.122	3.1	.138	3.5	60°	.004	0.1	○	○
without Chipbreaker Mirror finish  Right-Hand style shown	TBPS60FRV Ⓜ	No	.189	4.8	.189	4.8	60°	0.0	0.0	○	○

Note: All angles shown are obtained when insert is set in the holder

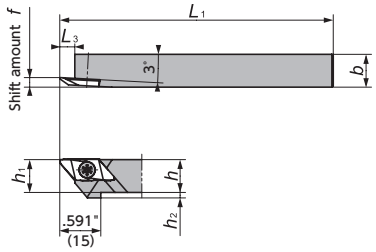
Cutting condition ➡R3

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

TBP Series

TBP

Screw accessible from both sides



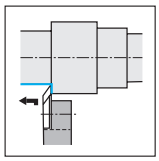
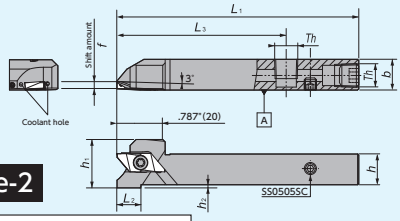


Figure-1

Right-Hand style shown

TBP-OH2 (Coolant through)

Screw accessible from both sides



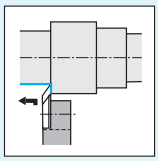


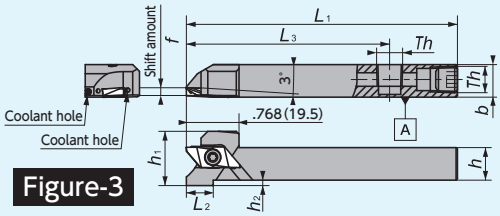
Figure-2

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder : Rc1/8 (PT1/8)

Right-Hand style shown

TBP-OH (Coolant through)

Screw accessible from both sides



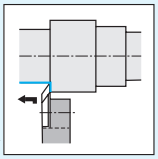


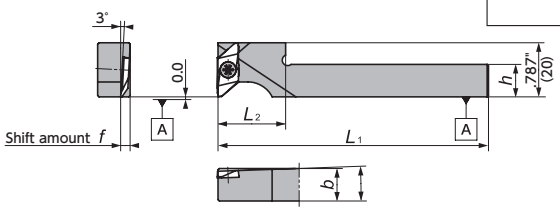
Figure-3

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder : Rc1/8 (PT1/8)

Right-Hand style shown

Y-TBP

Screw accessible from both sides



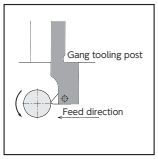
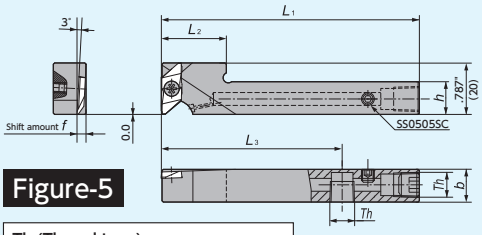


Figure-4

Right-Hand style shown
Takes Right-hand Insert

Y-TBP-OH2 (Coolant through)

Screw accessible from both sides



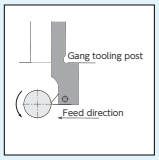


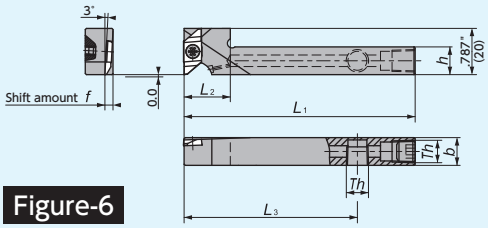
Figure-5

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

Right-Hand style shown
Takes Right-hand Insert

Y-TBP-OH (Coolant through)

Screw accessible from both sides



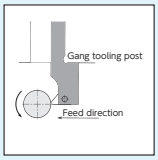
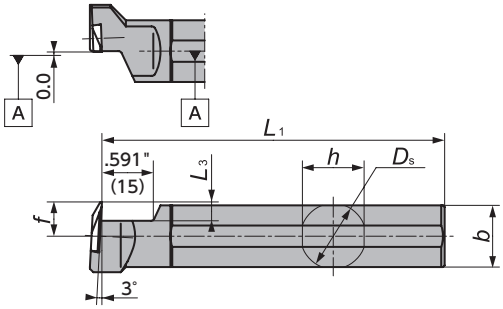


Figure-6

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

Right-Hand style shown
Takes Right-hand Insert

DS-TBP



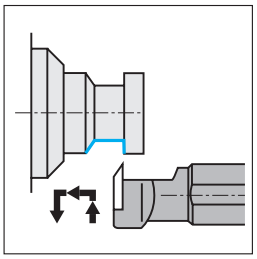


Figure-7

Left-Hand style shown
Takes Right-hand Insert

Cutting condition ➡R3

TBP Series - Toolholders

TBP

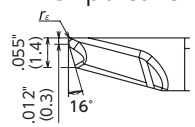
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	h_2 (Inch)	h_2 (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
 TBP..	TBPR/L06-IN	1	●		3/8		3/8		3/8		4.724	120	.138	3.5	–	–	.079	2	.217	5.5	–	LRIS-4×10PW	CLR-15S
	TBPR/L08-IN	1	●		1/2		1/2		1/2		4.724	120	.138	3.5	–	–	0	0	.217	5.5	–	LRIS-4×12PW	CLR-15S
	TBPR/L10-IN	1	●		5/8		5/8		5/8		4.724	120	.138	3.5	–	–	0	0	.217	5.5	–	LRIS-4×12PW	CLR-15S
	TBPR/L08	1	○	○	.315	8	.394	10	.315	8	4.724	120	.138	3.5	–	–	.157	4	.217	5.5	–	LRIS-4×10PW	CLR-15S
	TBPR/L10H	1	○		.394	10	.394	10	.394	10	3.937	100	.138	3.5	–	–	.394	2	.217	5.5	–	LRIS-4×10PW	CLR-15S
	TBPR/L10	1	○	○	.394	10	.394	10	.394	10	4.724	120	.138	3.5	–	–	.394	2	.217	5.5	–	LRIS-4×10PW	CLR-15S
	TBPR/L12GX	1	○		.472	12	.472	12	.472	12	3.346	85	.138	3.5	–	–	0	0	.217	5.5	–	LRIS-4×12PW	CLR-15S
	TBPR/L12	1	●	○	.472	12	.472	12	.472	12	4.724	120	.138	3.5	–	–	0	0	.217	5.5	–	LRIS-4×12PW	CLR-15S
	TBPR/L13	1	○		.512	13	.512	13	.512	13	4.724	120	.138	3.5	–	–	0	0	.217	5.5	–	LRIS-4×12PW	CLR-15S
	TBPR/L16H	1	○		.630	16	.630	16	.630	16	3.937	100	.138	3.5	–	–	0	0	.217	5.5	–	LRIS-4×12PW	CLR-15S
	TBPR/L16	1	○	○	.630	16	.630	16	.630	16	4.724	120	.138	3.5	–	–	0	0	.217	5.5	–	LRIS-4×12PW	CLR-15S
	TBPR/L06H-IN-OH 💧	3	●		3/8		.472	12	3/8		3.937	100	.138	3.5	.748	19	.176	4.475	2.953	75	M6×1	LRIS-4×10PW	CLR-15S
	TBPR/L08H-IN-OH 💧	3	■		1/2		1/2		1/2		3.937	100	.138	3.5	.394	10	.051	1.3	2.953	75	NPT1/8	LRIS-4×12PW	CLR-15S
	TBPR/L08H-IN-OH2 💧	2	●		1/2		1/2		1/2		3.937	100	.138	3.5	.394	10	.051	1.3	2.756	70	NPT1/8	LRIS-4×12PW	CLR-15S
	TBPR/L10H-IN-OH 💧	3	●		5/8		5/8		5/8		3.937	100	.138	3.5	0	0	0	0	2.953	75	NPT1/8	LRIS-4×12PW	CLR-15S
	TBPR/L10X-IN-OH2 💧	2	●		5/8		5/8		5/8		4.724	120	.138	3.5	0	0	0	0	2.953	75	NPT1/8	LRIS-4×12PW	CLR-15S
	TBPR/L1012H-OH 💧	3	○		.394	10	.472	12	.394	10	3.937	100	.138	3.5	.748	19	.176	4.475	2.953	75	M6×1	LRIS-4×10PW	CLR-15S
	TBPR/L12H-OH 💧	3	■		.472	12	.472	12	.472	12	3.937	100	.138	3.5	.394	10	.051	1.3	2.953	75	Rc1/8(PT1/8)	LRIS-4×12PW	CLR-15S
	TBPR/L12H-OH2 💧	2	●		.472	12	.472	12	.472	12	3.937	100	.138	3.5	.394	10	.051	1.3	2.756	70	Rc1/8(PT1/8)	LRIS-4×12PW	CLR-15S
	TBPR/L16H-OH 💧	3	○		.630	16	.630	16	.630	16	3.937	100	.138	3.5	0	0	0	0	2.953	75	Rc1/8(PT1/8)	LRIS-4×12PW	CLR-15S
	TBPR/L16X-OH2 💧	2	●		.630	16	.630	16	.630	16	4.724	120	.138	3.5	0	0	0	0	2.953	75	Rc1/8(PT1/8)	LRIS-4×12PW	CLR-15S
	Y-TBPR/L06-IN	4	●		3/8		3/8		–	–	2.756	70	.138	3.5	.984	25	–	–	–	–	–	LRIS-4×10PW	CLR-15S
	Y-TBPR/L08-IN	4	●		1/2		1/2		–	–	2.756	70	.138	3.5	.984	25	–	–	–	–	–	LRIS-4×12PW	CLR-15S
	Y-TBPR/L10-IN	4	●		5/8		5/8		–	–	2.756	70	.138	3.5	.984	25	–	–	–	–	–	LRIS-4×12PW	CLR-15S
	Y-TBPR/L10MS	4	○		.394	10	.394	10	–	–	4.724	120	.138	3.5	.866	22	–	–	–	–	–	LRIS-4×10PW	CLR-15S
	Y-TBPR/L10S	4	○		.394	10	.394	10	–	–	4.724	120	.138	3.5	.787	20	–	–	–	–	–	LRIS-4×10PW	CLR-15S
	Y-TBPR/L12MS	4	○		.472	12	.472	12	–	–	4.724	120	.138	3.5	.866	22	–	–	–	–	–	LRIS-4×12PW	CLR-15S
	Y-TBPR/L12S	4	○		.472	12	.472	12	–	–	4.724	120	.138	3.5	.787	20	–	–	–	–	–	LRIS-4×12PW	CLR-15S
	Y-TBPR/L08H-IN-OH 💧	6	■		1/2		1/2		–	–	3.937	100	.138	3.5	.984	25	–	–	2.953	75	NPT1/8	LRIS-4×12PW	CLR-15S
	Y-TBPR/L08H-IN-OH2 💧	5	●		1/2		1/2		–	–	3.937	100	.138	3.5	.984	25	–	–	2.756	70	NPT1/8	LRIS-4×12PW	CLR-15S
	Y-TBPR/L12HS-OH 💧	6	■		.472	12	.472	12	–	–	3.937	100	.138	3.5	.787	20	–	–	2.953	75	Rc1/8(PT1/8)	LRIS-4×12PW	CLR-15S
	Y-TBPR/L12HS-OH2 💧	5	●		.472	12	.472	12	–	–	3.937	100	.138	3.5	.787	20	–	–	2.756	70	Rc1/8(PT1/8)	LRIS-4×12PW	CLR-15S
	Y-TBPR/L16H-OH 💧	6	○		.630	16	.630	16	–	–	3.937	100	.138	3.5	.984	25	–	–	2.953	75	Rc1/8(PT1/8)	LRIS-4×12PW	CLR-15S

DS-TBP (Takes right-hand inserts)

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_3 (Inch)	L_3 (mm)	Clamp Screw	Wrench
 TBP..FR..	DS-TBPR/L19	7		○	3/4	19.050	.709	18	.709	18	4.724	120	.394	10.0	.217	5.5	LRIS-4×10	LLR-25S-20×65
	DS-TBPR/L20	7		○	.787	20.000	.748	19	.748	19	4.724	120	.394	10.0	.217	5.5	LRIS-4×10	LLR-25S-20×65
	DS-TBPR/L25	7		○	1.00	25.400	.945	24	.945	24	5.906	150	.394	10.0	.217	5.5	LRIS-4×10	LLR-25S-20×65

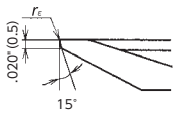
TBP Series - Inserts

with BM-Chipbreaker



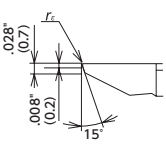
Right-Hand style shown

with Chipbreaker

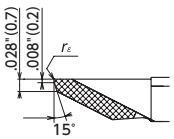


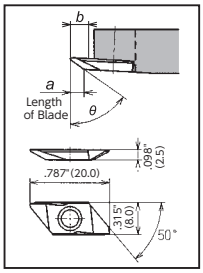
without Chipbreaker

Mirror finish



〈PD1〉 PCD tipped





TBP – Back Turning

Item Number	Chip-breaker	Length of Blade a (Inch)	Length of Blade a (mm)	Max Depth of Cut b (Inch)	Max Depth of Cut b (mm)	θ	r_ε (Inch)	r_ε (mm)	Wiper Length α (Inch)	Wiper Length α (mm)	Coated Carbide ST4 R	ST4 L	DM4 R	DM4 L	DT4 R	DT4 L	QM3 R	QM3 L	TM4 R	TM4 L	VM1 R	VM1 L	ZM3 R	ZM3 L	Carbide KM1 R	KM1 L	PCD PD1 R	PD1 L
TBP 72FR/L05-BM	Yes-BM	.138	3.5	.209	5.3	72°	.002	0.05	.012	0.3	●		●						○									
TBP 72FR/L10M-BM	Yes-BM	.138	3.5	.209	5.3	72°	.003	0.08	.012	0.3	●		●						○									
TBP 72FR/L20M-BM	Yes-BM	.138	3.5	.209	5.3	72°	.007	0.18	.012	0.3	●		●						○									
TBP 55FR/L00	Yes	.118	3.0	.209	5.3	55°	0.00	0.00	.020	0.5											○		●	○				
TBP 55FR/L10	Yes	.118	3.0	.209	5.3	55°	.004	0.10	.020	0.5											○		●	○				
TBP 60FR/L00	Yes	.146	3.7	.209	5.3	60°	0.00	0.00	.020	0.5					●		●		○		○		●	○				
TBP 60FR/L05	Yes	.146	3.7	.209	5.3	60°	.002	0.05	.020	0.5																		
TBP 60FR/L10	Yes	.146	3.7	.209	5.3	60°	.004	0.10	.020	0.5							●		○		●		●	○				
TBP 60FR/L10M	Yes	.146	3.7	.209	5.3	60°	.003	0.08	.020	0.5					●		●				○							
TBP 60FR/L20	Yes	.146	3.7	.209	5.3	60°	.008	0.20	.020	0.5									○									
TBP 60FR/L V Ⓜ	No	.189	4.8	.209	5.3	60°	0.00	0.00	.008	0.2											○	○	○		●			
TBP 60FR/L V00-P	No	.157	4.0	.209	5.3	60°	0.00	0.00	.008	0.2																	○	
TBP 60FR/L V05 Ⓜ	No	.189	4.8	.209	5.3	60°	.002	0.05	.008	0.2											○				●			
TBP 60FR/L V10 Ⓜ	No	.189	4.8	.209	5.3	60°	.004	0.10	.008	0.2											○		○		●			
TBP 60FR/L V10-P	No	.157	4.0	.209	5.3	60°	.004	0.10	.008	0.2																	○	

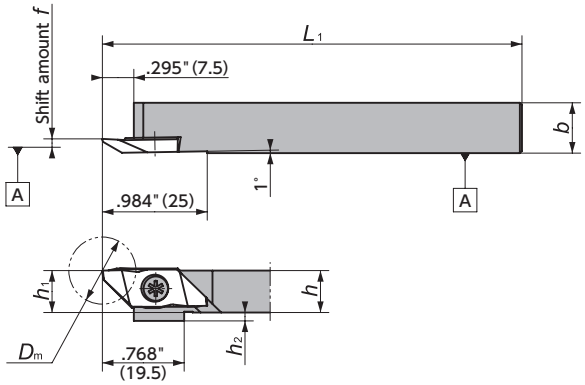
Note: All angles shown are obtained when insert is set in the holder

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
R L : 1-2 week delivery (Right / Left-hand only)
R L : 1-2 week delivery (Right / Left-hand only, Newly added)

TBPA (CTPA Series) *Can use same holder with CTPA inserts.

CTPA

Screw accessible from both sides



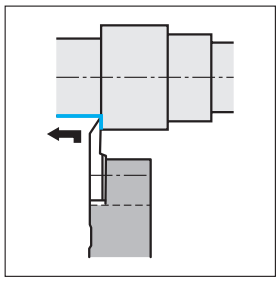


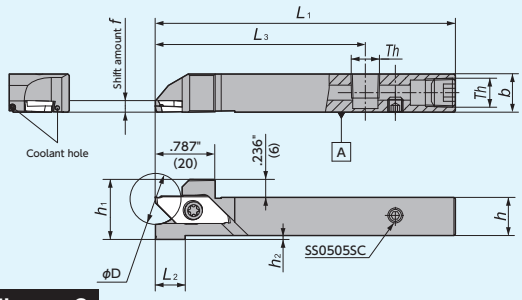
Figure-1

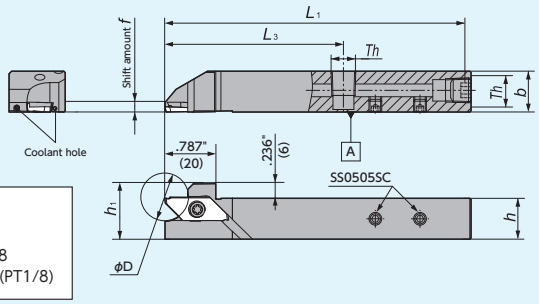
Right-Hand style shown

CTPA-OH2 (Coolant through)

Screw accessible from both sides

CTPA R/L 10X, CTPA R/L 16X





Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder : Rc1/8 (PT1/8)

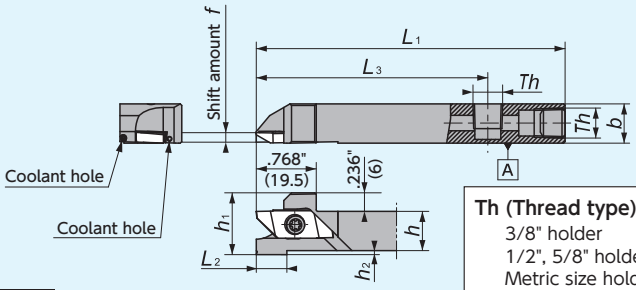
Figure-2

●Left-Hand coolant through holders are designed for Right-Hand machines.

Right-Hand style shown

CTPA-OH / TBPA-OH (Coolant through)

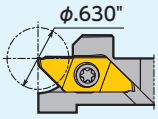
Screw accessible from both sides



Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder : Rc1/8 (PT1/8)

Max Bar Dia at Max DOC

CTPA-OH



TBPA-OH

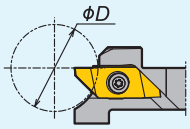


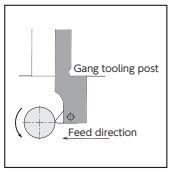
Figure-3

●Left-Hand coolant through holders are designed for Right-Hand machines.

Right-Hand style shown

Y-CTPA

Screw accessible from both sides



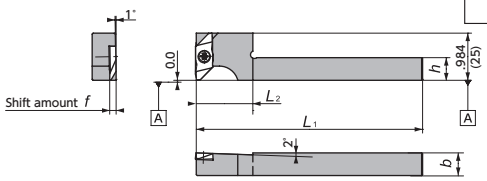
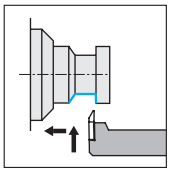


Figure-4

Right-Hand style shown
Takes Right-hand Insert

CH-TBPA



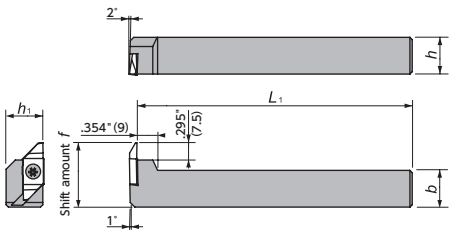


Figure-5

Left-Hand style shown
Takes Right-hand Insert

TBPA (CTPA) Series - Toolholders

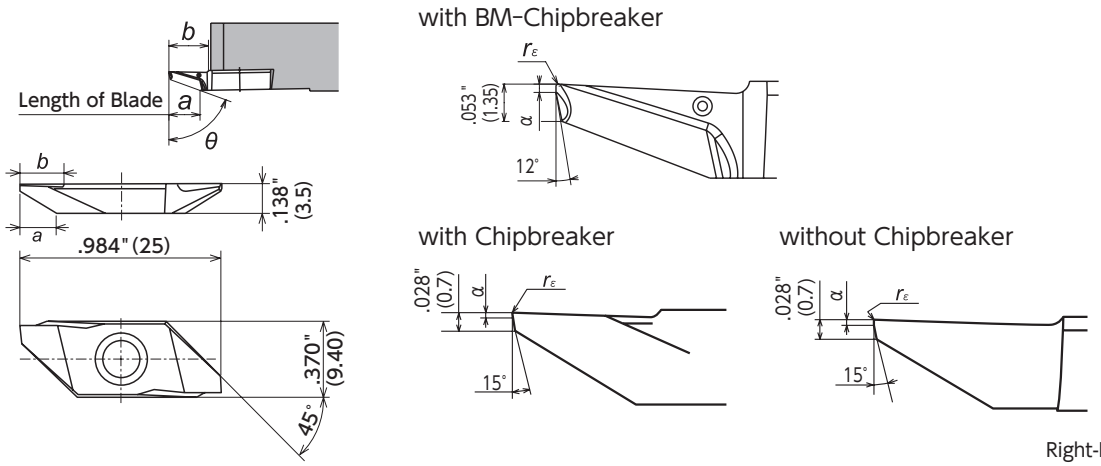
■CTPA (Compatible with TBPA & CTPA Inserts)

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Bar Dia. φD (Inch)	Max. Bar Dia. φD (mm)	h (Inch)	h (mm)	h1 (Inch)	h1 (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	h2 (Inch)	h2 (mm)	L2 (Inch)	L2 (mm)	L3 (Inch)	L3 (mm)	Th	f (Inch)	f (mm)	Clamp Screw	Wrench
 TBPA..	CTPA⅝06-IN	1	●	●	—	—	3/8		3/8		3/8		4.724	120	0	0	—	—	—	—	—	.134	3.4	LRIS-4×10PW	CLR-15S
	CTPA⅝08-IN	1	●	●	—	—	1/2		1/2		1/2		4.724	120	0	0	—	—	—	—	—	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝10-IN	1	●	●	—	—	5/8		5/8		5/8		4.724	120	0	0	—	—	—	—	—	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝10	1	○	○	—	—	.394	10	.394	10	.394	10	4.724	120	.790	2	—	—	—	—	—	.134	3.4	LRIS-4×10PW	CLR-15S
	CTPA⅝12	1	●	●	—	—	.472	12	.472	12	.472	12	4.724	120	0	0	—	—	—	—	—	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝16	1	○	○	—	—	.630	16	.630	16	.630	16	4.724	120	0	0	—	—	—	—	—	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝20F	1	○	○	—	—	.787	20	.787	20	.787	20	3.150	80	0	0	—	—	—	—	—	.134	3.4	LRIS-4×10	LLR-15S
	CTPA⅝06H-IN-OH 💧	3	●	●	.630	16	3/8		3/8		3/8		3.937	100	.176	4.475	.787	20	2.165	55	M6×1	.134	3.4	LRIS-4×10PW	CLR-15S
	CTPA⅝08H-IN-OH 💧	3	■	■	.630	16	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.953	75	NPT1/8	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝08H-IN-OH2 💧	2	●	●	.630	16	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.756	70	NPT1/8	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝10H-IN-OH 💧	3	●	●	.630	16	5/8		5/8		5/8		3.937	100	0	0	0	0	2.953	75	NPT1/8	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝10X-IN-OH2 💧	2	●	●	.630	16	5/8		5/8		5/8		4.724	120	0	0	0	0	2.953	75	NPT1/8	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝12H-OH 💧	3	■	■	.630	16	.472	12	.472	12	.472	12	3.937	100	.079	2	.394	10	2.953	75	Rc1/8(PT1/8)	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝12H-OH2 💧	2	●	●	.630	16	.472	12	.472	12	.472	12	3.937	100	.079	2	.394	10	2.756	70	Rc1/8(PT1/8)	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝16H-OH 💧	3	○	○	.630	16	.630	16	.630	16	.630	16	3.937	100	0	0	—	0	2.953	75	Rc1/8(PT1/8)	.134	3.4	LRIS-4×12PW	CLR-15S
	CTPA⅝16X-OH2 💧	2	●	●	.630	16	.630	16	.630	16	.630	16	4.724	120	0	0	—	0	2.756	70	Rc1/8(PT1/8)	.134	3.4	LRIS-4×12PW	CLR-15S
	Y-CTPA⅝08L-IN	4	●		—	—	1/2		—	—	1/2		4.724	120	—	—	1.181	30	—	—	—	1.34	34	LRIS-4×12PW	CLR-15S
	CH-TBPAL16	5		○	—	—	.630	16	.630		.630	16	4.724	120	—	—	—	—	—	—	—	1.102	28	LRIS-4×10	LLR-15S
	CH-TBPAL20	5		○	—	—	.787	20	.787		.787	20	4.724	120	—	—	—	—	—	—	—	1.260	32	LRIS-4×10	LLR-15S

■TBPA (Optimized for TBPA Inserts)

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Bar Dia. φD (Inch)	Max. Bar Dia. φD (mm)	h (Inch)	h (mm)	h1 (Inch)	h1 (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	h2 (Inch)	h2 (mm)	L2 (Inch)	L2 (mm)	L3 (Inch)	L3 (mm)	Th	f (Inch)	f (mm)	Clamp Screw	Wrench
 TBPA..	TBPA⅝12H-OH 💧	3	○		.984	25	.472	12	.472	12	.472	12	3.937	100	.157	4	.394	10	2.513	75	Rc1/8(PT1/8)	.134	3.4	LRIS-4X12PW	CLR-15S
	TBPA⅝16H-OH 💧	3	○		1.378	35	.630	16	.630	16	.630	16	3.937	100	.079	2	1	10	2.513	75	Rc1/8(PT1/8)	.134	3.4	LRIS-4X12PW	CLR-15S
	TBPA⅝20H-OH 💧	3	○		1.969	50	.787	20	.787	20	.787	20	3.937	100	0	0	0	0	2.513	75	Rc1/8(PT1/8)	.134	3.4	LRIS-4X12PW	CLR-15S

TBPA Series - Inserts



Right-Hand style shown

■TBPA - Back Turning

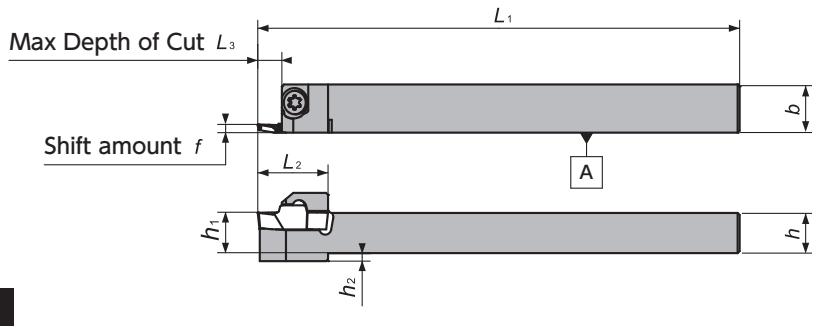
Item Number	Chip-breaker	Length of Blade a (Inch)	Length of Blade a (mm)	Max Depth of Cut b (Inch)	Max Depth of Cut b (mm)	θ	rε (Inch)	rε (mm)	Wiper Length α (Inch)	Wiper Length α (mm)	Coated Carbide ST4 R	ST4 L	DM4 R	DM4 L	DT4 R	DT4 L	QM3 R	QM3 L	TM4 R	TM4 L	VM1 R	VM1 L	ZM3 R	ZM3 L
TBPA70F⅝05-BM	Yes-BM	.217	5.5	.256	6.5	70°	.002	0.05	.012	0.3	●		●						○					
TBPA70F⅝10M-BM	Yes-BM	.217	5.5	.256	6.5	70°	.003	0.08	.012	0.3	●		●						○					
TBPA70F⅝20M-BM	Yes-BM	.217	5.5	.256	6.5	70°	.007	0.18	.012	0.3	●		●						○					
TBPA60F⅝VB Ⓜ	Yes	.177	4.5	.209	5.3	60°	.000	0.00	.008	0.2					○						○		●	○
TBPA60F⅝10M	Yes	.177	4.5	.209	5.3	60°	.003	0.08	.012	0.3							●							
TBPA60F⅝PB10M Ⓜ	Yes	.177	4.5	.209	5.3	60°	.003	0.08	.012	0.3					●						○			
TBPA60F⅝PB10 Ⓜ	Yes	.177	4.5	.209	5.3	60°	.004	0.10	.012	0.3											○		○	○
TBPA60F⅝PB20M Ⓜ	Yes	.177	4.5	.209	5.3	60°	.007	0.18	.012	0.3					●									
TBPA60F⅝V Ⓜ	No	.248	6.3	.268	6.8	60°	.000	0.00	.008	0.2											○		○	○

Cutting condition ➡R3

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

TBDP (Back Duo) Series

TBDP



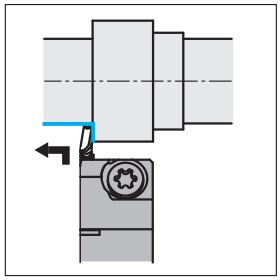
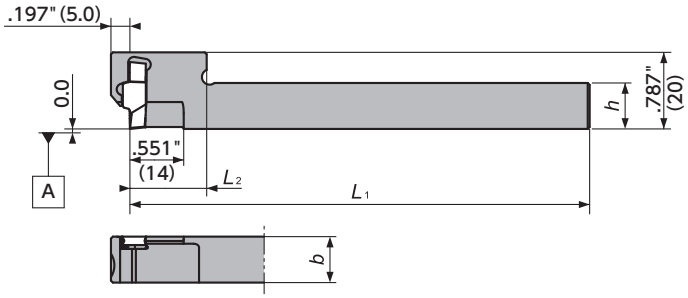


Figure-1

Right-Hand style shown

Y-TBDP



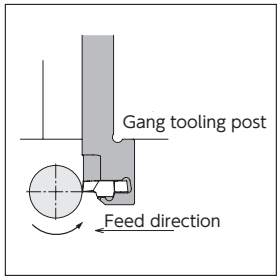


Figure-2

Right-Hand style shown

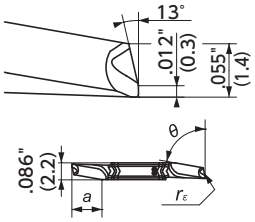
TBDP Series - Toolholders

TBDP

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	L_3 (Inch)	L_3 (mm)	h_2 (Inch)	h_2 (mm)	Clamp Screw	Wrench
 TBDP..	**TBDP⅜06-IN**	1	●		3/8		.472	12	3/8		4.724	120	.081	2.05	.571	14.5	.118	3	.079	2	LRIS-4 × 12	LLR-25S
	TBDP⅜08-IN	1	●		1/2		1/2		1/2		4.724	120	.081	2.05	.689	17.5	.197	5	0	0	LRIS-4 × 12	LLR-25S
	TBDP⅜10-IN	1	●		5/8		5/8		5/8		4.724	120	.081	2.05	.768	19.5	.197	5	0	0	LRIS-4 × 12	LLR-25S
	TBDP⅜1012H	1	○		.394	10	.472	12	.394	10	3.937	100	.081	2.05	.591	15	.118	3	.079	2	LRIS-4 × 12	LLR-25S
	TBDP⅜1012	1	○	○	.394	10	.472	12	.394	10	4.724	120	.081	2.05	.591	15	.118	3	.079	2	LRIS-4 × 12	LLR-25S
	TBDP⅜12	1	●	○	.472	12	.472	12	.472	12	4.724	120	.081	2.05	.709	18	.197	5	0	0	LRIS-4 × 12	LLR-25S
	TBDP⅜16	1	○	○	.630	16	.630	16	.630	16	4.724	120	.081	2.05	.768	19.5	.197	5	0	0	LRIS-4 × 12	LLR-25S
	TBDP⅜20	1	○		.787	20	.787	20	.787	20	4.724	120	.081	2.05	.768	19.5	.197	5	0	0	LRIS-4 × 12	LLR-25S
	Y-TBDP⅜12S	2	○		.472	12	.472	12	–	–	4.724	120	.081	2.05	.787	20	–	–	–	–	LRIS-4 × 12	LLR-25S

TBDP Series - Inserts

TBDP

Shape	Item Number	Length of Blade a (Inch)	Length of Blade a (mm)	θ	r_ε (Inch)	r_ε (mm)	Coated Carbide QM3	Coated Carbide DM4	Coated Carbide TM4
	**TBDP22005R**	.138	3.5	80	.002	0.05	●	○	●
	TBDP2201MR	.138	3.5	80	.003	0.08	●	○	●
	TBDP2202MR	.138	3.5	80	.007	0.18	●	○	●

Back Turning

Cutting condition ➡R3

● : Stock
● : Stock (Newly added)
■ □R□L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

TBVC Series

TBVC

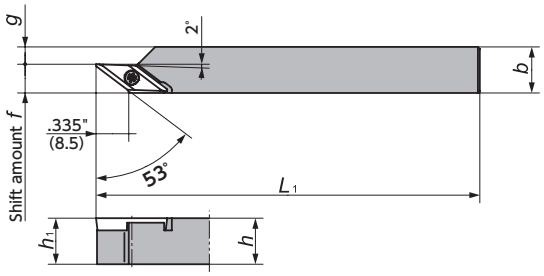
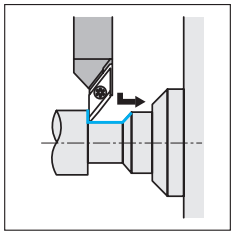


Figure-1



Right-Hand style shown
For non - ferrous materials

TBVC-F10

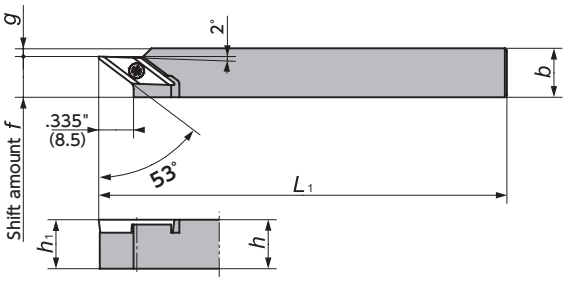
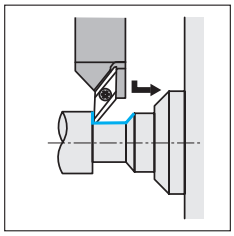


Figure-2



Right-Hand style shown
For steel materials

CH-SVXCL

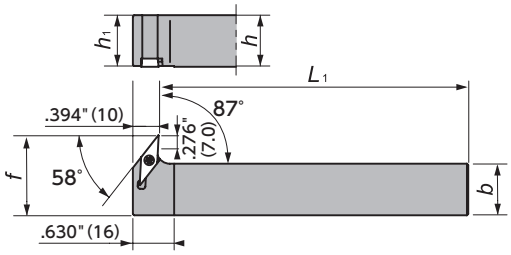
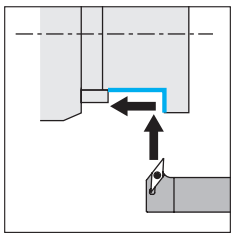


Figure-3

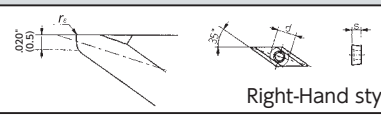


Left-Hand style shown
Takes Right-hand or Neutral chip breaker

TBVC Series - Toolholders

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	g (Inch)	g (mm)	Clamp Screw	Wrench
 TBVC VC..22	**TBVC3/8 10**	1	○		.394	10	.394	10	.394	10	4.724	120	.295	7.5	.098	2.5	LRIS-2.5 × 7	CLR-15S
	TBVC3/8 12	1	○		.472	12	.472	12	.472	12	4.724	120	.295	7.5	.098	4.5	LRIS-2.5 × 7	CLR-15S
	TBVC3/8 16	1	○		.630	16	.630	16	.630	16	4.724	120	.295	7.5	.098	8.5	LRIS-2.5 × 7	CLR-15S
	TBVC3/8 08-F10-IN	2	●		1/2		1/2		1/2		4.724	120	.394	10	0	0	LRIS-2.5 × 7	CLR-15S
	TBVC3/8 10-F10	2	○		.394	10	.394	10	.394	10	4.724	120	.394	10	0	0	LRIS-2.5 × 7	CLR-15S
	TBVC3/8 12GX-F10	2	○		.472	12	.472	12	.472	12	3.346	85	.394	10	.079	2	LRIS-2.5 × 7	CLR-15S
	TBVC3/8 12-F10	2	●		.472	12	.472	12	.472	12	4.724	120	.394	10	.079	2	LRIS-2.5 × 7	CLR-15S
	TBVC3/8 16H-F10	2	○		.630	16	.630	16	.630	16	3.150	100	.394	10	.234	6	LRIS-2.5 × 7	CLR-15S
	TBVC3/8 16-F10	2	●		.630	16	.630	16	.630	16	4.724	120	.394	10	.234	6	LRIS-2.5 × 7	CLR-15S
	TBVC3/8 20F-F10	2	○		.787	20	.787	20	.787	20	3.150	80	.394	10	.394	10	LRIS-2.5 × 7	CLR-15S
	CH-SVXC3/8 1616 × 11	3		○	.630	16	.630	16	.787	20	4.724	120	1.063	27	—	—	LRIS-2.5 × 7	CLR-15S
	CH-SVXC3/8 2020 × 11	3		○	.630	16	.630	16	.787	20	4.724	120	1.220	31	—	—	LRIS-2.5 × 7	CLR-15S

TBVC Series - Inserts

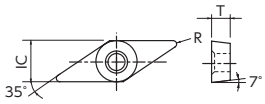
Shape	Item Number	d (Inch)	d (mm)	s (Inch)	s (mm)	r_ε (Inch)	r_ε (mm)	Coated Carbide VM1 R	VM1 L	ZM3 R	ZM3 L
 Right-Hand style shown	**TBVC11F3/8 05U**	1/4	6.35	1/8	3.18	.002	0.05			●	
	TBVC11F3/8 10U	1/4	6.35	1/8	3.18	.004	0.10	●		●	
	TBVC11F3/8 10S	1/4	6.35	1/8	3.18	.004	0.10			●	

Cutting condition ➡R3

VC.. Inserts - Carbide

(inch)	IC	T
VC..22	1/4	1/8

● : 1st Choice ● : 2nd choice

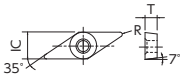


		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
					Carbide									
					PVD Coated								CVD	Diamond Coating
	VCGT 2204M YL	VCGT 110301M YL	1/4	.003	●	●	○	●	○					
	VCGT 2208M YL	VCGT 110302M YL	1/4	.007	●	●	○	●	○					
	VCGT 221M YL	VCGT 110304M YL	1/4	.015	●	●	○	●	○					
	VCGT 2204M CL	VCGT 110301M CL	1/4	.003	○	○	●	○	●					
	VCGT 2208M CL	VCGT 110302M CL	1/4	.007	○	○	●	○	●					
	VCGT 2201 FNAM3	VCGT 110300 FNAM3	1/4	.001			●	●	○	●	■			
	VCGT 2204M FNAM3	VCGT 110301M FNAM3	1/4	.003	○		●	●	○	○				
	VCGT 2204 FNAM3	VCGT 110301 FNAM3	1/4	.004						●	○			
	VCGT 2208M FNAM3	VCGT 110302M FNAM3	1/4	.007	○		●	●	○	○				
	VCGT 2208 FNAM3	VCGT 110302 FNAM3	1/4	.008						●	○			
	VCGT 221M FNAM3	VCGT 110304M FNAM3	1/4	.015	○		●	●	○	○				
	VCMT 2208 FNAM3	VCGT 110302 FNAM3	1/4	.008		○								
	VCMT 221 FNAM3	VCGT 110304 FNAM3	1/4	.016		○								
	VCGT 2201 AZ7	VCGT 110300 AZ7	1/4	.001				●			○			
	VCGT 2204M AZ7	VCGT 110301M AZ7	1/4	.003				●			○			
	VCGT 2208M AZ7	VCGT 110302M AZ7	1/4	.007				●			○			
	VCGT 221M AZ7	VCGT 110304M AZ7	1/4	.015				●			○			
 wiper insert	VCGT 2202 R/L S-WP*	TFV 11F R/L 05SX	1/4	.002						R	Ⓡ			
	VCGT 2204 R/L S-WP*	TFV 11F R/L 10SX	1/4	.004						R	Ⓡ			
	VCGT 2201 R/L U	VCGT 110300 R/L U	1/4	.001						Ⓡ	Ⓡ			
	VCGT 2204M R/L U	VCGT 110301M R/L U	1/4	.003			Ⓡ							
	VCGT 2204 R/L U	VCGT 110301 R/L U	1/4	.004						Ⓡ	Ⓡ			
	VCGT 2208M R/L U	VCGT 110302M R/L U	1/4	.007			Ⓡ							
	VCGT 2208 R/L U	VCGT 110302 R/L U	1/4	.008						Ⓡ	Ⓡ			
 wiper insert	VCGT 2202 R/L U-WP*	TFV 11F R/L 05U	1/4	.002						Ⓡ	Ⓡ			
	VCGT 2204 R/L U-WP*	TFV 11F R/L 10U	1/4	.004						Ⓡ	Ⓡ			
	VCGW 2201 H Ⓜ	VCGW 110300 H	1/4	.001								●		
	VCGW 2204 H Ⓜ	VCGW 110301 H	1/4	.004								●		
	VCGW 2208 H Ⓜ	VCGW 110302 H	1/4	.008								●		

*Note: NTK WP style inserts have a wiper facet design.
The insert has a 0.2mm (.008") flat on the cutting edge when the insert is set into the toolholder.
The flat on the cutting edge ensures a superior surface finish when feed rates are increased.
WP style inserts can be used in toolholders: SVAC

● : 1st Choice ● : 2nd choice



		JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
		BIDEMICS Coated	Solid CBN	CBN (Brazed) Coated		CBN (Brazed) Coated					PCD		Diamond Coating
Steel	P												
Stainless Steel	M												
Cast Iron	K		●	●	●				●	●			
Non-Ferrous Material	N										●	●	●
Heat Resistant Alloy	S	●											
Hardened Material	H		●	●	●	●	●	●					

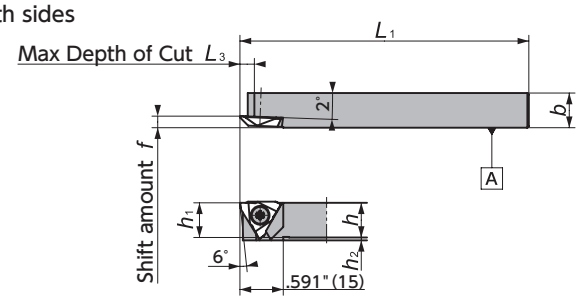
Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
	VCGW 2208 PD S0415	VCGW 110302 PD S01015	S0415	1/4	.008	2	.102				○			○					
	VCGW 2208 PD S0635	VCGW 110302 PD S01535	S0635	1/4	.008	2	.102				○			○					
	VCGW 221 PD S0415	VCGW 110304 PD S01015	S0415	1/4	.016	2	.098				○			○					
	VCGW 221 PD S0635	VCGW 110304 PD S01535	S0635	1/4	.016	2	.098				○			○					
	VCGW 222 PD S0415	VCGW 110308 PD S01015	S0415	1/4	.031	2	.098				○			○					
	VCGW 222 PD S0635	VCGW 110308 PD S01535	S0635	1/4	.031	2	.098				○			○					
	VCGW 223 PD S0415	VCGW 110312 PD S01015	S0415	1/4	.047	2	.106				○			○					
	VCGW 223 PD S0635	VCGW 110312 PD S01535	S0635	1/4	.047	2	.106				○			○					
	VCMW 2204	VCMW 110301	None	1/4	.004	1	—										○		
	VCMW 2208	VCMW 110302	None	1/4	.008	1	—										○		
	VCMW 221	VCMW 110304	None	1/4	.016	1	—										○		

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

TB Series

TBT

Screw accessible from both sides



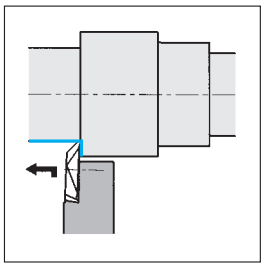
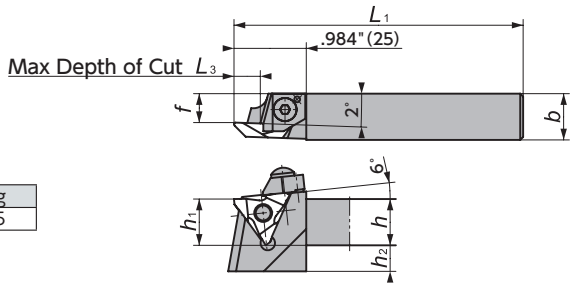


Figure-1

Right-Hand style shown

TB-N



〈Parts〉

Clamp	Clamp Bolt	Spring
CPR/L5S	AOS-5∗25	ASG-5

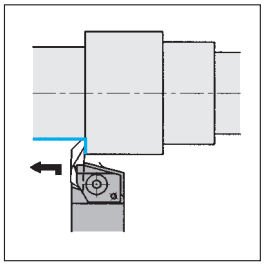
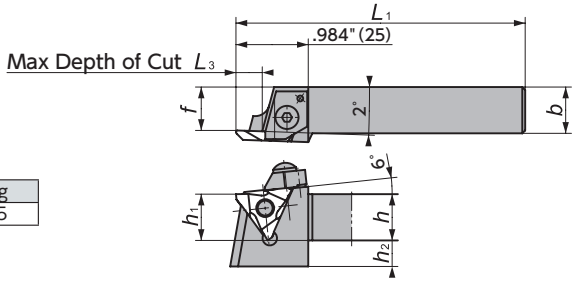


Figure-2

Right-Hand style shown

TB-F



〈Parts〉

Clamp	Clamp Bolt	Spring
CPR/L5S	AOS-5∗25	ASG-5

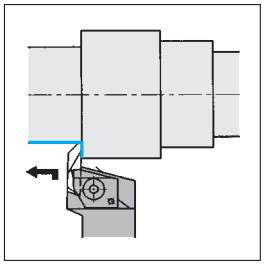


Figure-3

Right-Hand style shown

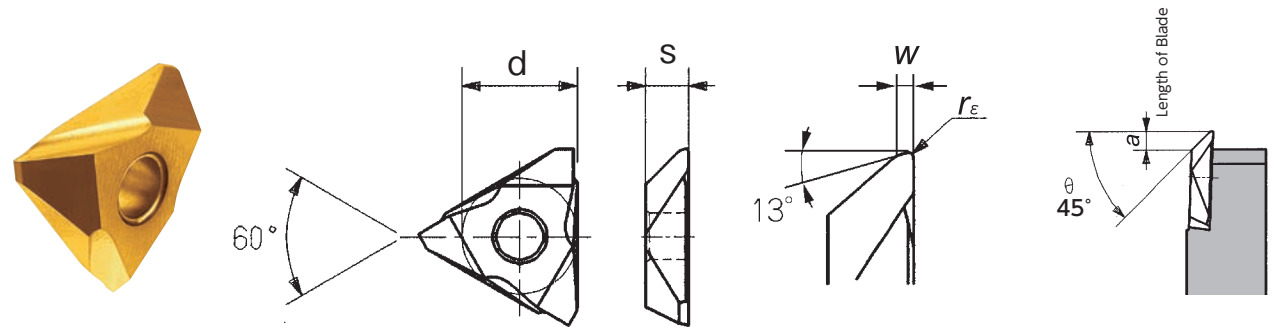
TB Series - Toolholders

TB

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	h_2 (Inch)	h_2 (mm)	f (Inch)	f (mm)	L_3 (Inch)	L_3 (mm)	Clamp Screw	Wrench
 TB32	**TBT⅜06-IN**	1	●		3/8		3/8		3/8		4.724	120	.118	3	.157	4	.197	5.0	LR-S-4 × 10PW	CLR-15S
	TBT⅜08-IN	1	●		1/2		1/2		1/2		4.724	120	.039	1	.157	4	.197	5.0	LR-S-4 × 10PW	CLR-15S
	TBT⅜08F	1	○	○	.315	8	.315	8	.315	8	3.150	80	.157	5	.157	4	.197	5.0	LR-S-4 × 10PW	CLR-15S
	TBT⅜08K	1	○	○	.315	8	.315	8	.315	8	4.724	120	.157	5	.157	4	.197	5.0	LR-S-4 × 10PW	CLR-15S
	TBT⅜10F	1	○	○	.394	10	.394	10	.394	10	3.150	80	.118	3	.157	4	.197	5.0	LR-S-4 × 10PW	CLR-15S
	TBT⅜10K	1	○	○	.394	10	.394	10	.394	10	4.724	120	.118	3	.157	4	.197	5.0	LR-S-4 × 10PW	CLR-15S
	TBT⅜12F	1	○	○	.472	12	.472	12	.472	12	3.150	80	.039	1	.157	4	.197	5.0	LR-S-4 × 10PW	CLR-15S
	TBT⅜12K	1	○	○	.472	12	.472	12	.472	12	4.724	120	.039	1	.157	4	.197	5.0	LR-S-4 × 10PW	CLR-15S
TB42	**TB⅝16N-42**	2	○		.630	16	.630	16	.630	16	3.071	78	.354	9	.453	11.5	.354	9.0	–	LW-2.5
TB43	**TB⅝16NS**	2	○		.630	16	.630	16	.630	16	3.071	78	.354	9	.394	10	.197	5.0	–	LW-2.5
	TB⅝16N	2	○	○	.630	16	.630	16	.630	16	3.071	78	.354	9	.394	10	.354	9.0	–	LW-2.5
	TB⅝16N-H	2	○		.630	16	.630	16	.630	16	3.937	100	.354	9	.394	10	.354	9.0	–	LW-2.5
	TB⅝16N-K	2	○		.630	16	.630	16	.630	16	4.921	125	.354	9	.394	10	.354	9.0	–	LW-2.5
	TB⅝20N	2	○	○	.787	20	.787	20	.787	20	3.937	100	.157	5	.394	10	.354	9.0	–	LW-2.5
	TB⅝25N	2		○	.984	25	.984	25	.984	25	5.906	150	0	0	.394	10	.354	9.0	–	LW-2.5
	TB⅝16FS	3	○		.630	16	.630	16	.630	16	3.937	100	.354	9	.591	15	.197	5.0	–	LW-2.5
	TB⅝16F	3	○		.630	16	.630	16	.630	16	3.937	100	.354	9	.591	15	.354	9.0	–	LW-2.5
	TB⅝20FS	3	○		.787	20	.787	20	.787	20	3.937	100	.157	5	.787	20	.197	5.0	–	LW-2.5
	TB⅝20F	3	○		.787	20	.787	20	.787	20	3.937	100	.157	5	.787	20	.354	9.0	–	LW-2.5
	TB⅝25F	3	○		.984	25	.984	25	.984	25	5.906	150	0	0	.984	25	.354	9.0	–	LW-2.5

TB32 • 42 • 43 - Inserts

TB32 • 42 • 43



Right-Hand style shown

Item Number	Chip-breaker	a (Inch)	a (mm)	θ	r_ε (Inch)	r_ε (mm)	w (Inch)	w (mm)	d (Inch)	d (mm)	s (Inch)	s (mm)	Coated Carbide ZM3 R	Coated Carbide ZM3 L
TB3200®Ⓛ	Yes	.106	2.7	45°	0	0.00	.020	0.5	3/8	9.525	1/8	3.18	●	
TB3205®Ⓛ	Yes	.106	2.7	45°	.002	0.05	.020	0.5	3/8	9.525	1/8	3.18	●	○
TB3215®Ⓛ	Yes	.106	2.7	45°	.006	0.15	.020	0.5	3/8	9.525	1/8	3.18	●	○
TB3220®Ⓛ	Yes	.106	2.7	45°	.008	0.20	.020	0.5	3/8	9.525	1/8	3.18	○	
TB4215®Ⓛ	Yes	.091	2.3	45°	.006	0.15	.040	1.0	1/2	12.70	1/8	3.18	○	
TB4305®Ⓛ	Yes	.157	4.0	45°	.002	0.05	.040	1.0	1/2	12.70	3/16	4.76	●	
TB4315®Ⓛ	Yes	.157	4.0	45°	.006	0.15	.040	1.0	1/2	12.70	3/16	4.76	●	
TB4340®Ⓛ	Yes	.154	3.9	45°	.016	0.40	.040	1.0	1/2	12.70	3/16	4.76	●	

Note: All angles shown are obtained when insert is set in the holder

Cutting condition ➡R3

GTT Series

GTT
Screw accessible from both sides

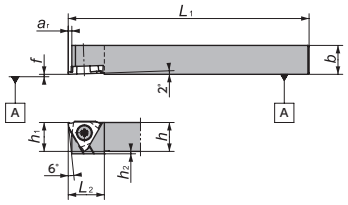
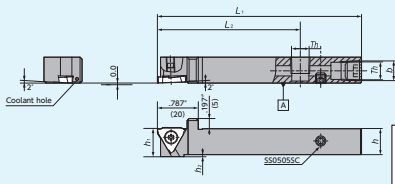
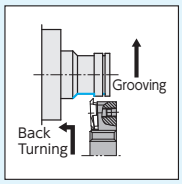


Figure-1

Right-Hand style shown

GTT-OH2 (Coolant through)
Screw accessible from both sides



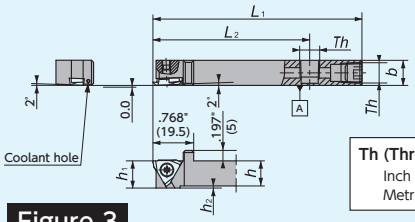


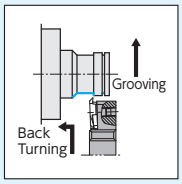
Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

Figure-2

Right-Hand style shown

GTT-OH (Coolant through)
Screw accessible from both sides



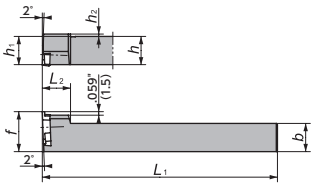


Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

Figure-3

Right-Hand style shown

CH-GTT



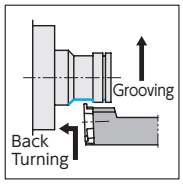


Figure-4

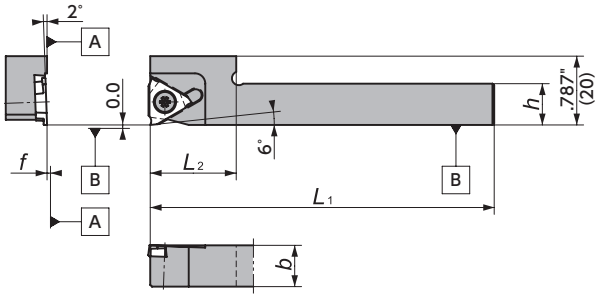
Left-Hand style shown
Takes Right-hand Insert

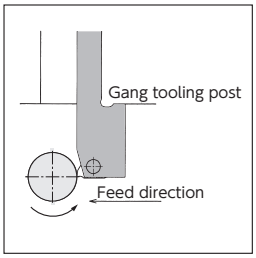
GTT

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	a_r (Inch)	a_r (mm)	h_2 (Inch)	h_2 (mm)	Th	Clamp Screw	Wrench
 TBMH32..	GTTR/L06A-IN	1	●	●	3/8		3/8		3/8		4.724	120	.000	0	.591	15.0	.071	1.8	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L06B-IN	1	●	●	3/8		3/8		3/8		4.724	120	.000	0	.591	15.0	.106	2.7	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L08A-IN	1	●	●	1/2		1/2		1/2		4.724	120	.000	0	.591	15.0	.071	1.8	.039	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L08B-IN	1	●	●	1/2		1/2		1/2		4.724	120	.000	0	.591	15.0	.106	2.7	.039	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L10A-IN	1	●	●	5/8		5/8		5/8		4.724	120	.000	0	.591	15.0	.071	1.8	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L10B-IN	1	●	●	5/8		5/8		5/8		4.724	120	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L12A-IN	1	●	●	3/4		3/4		3/4		4.724	120	.000	0	.591	15.0	.071	1.8	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L12B-IN	1	●		3/4		3/4		3/4		4.724	120	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L08F00	1	○	○	.315	8	.315	8	.315	8	3.150	80	.000	0	.591	15.0	.071	1.8	.157	5	–	R:LR-S-4×10PW L:LR-S-4×5.8	CLR-15S
	GTTR/L0810F00	1	○	○	.315	8	.394	10	.315	8	3.150	80	.000	0	.591	15.0	.071	1.8	.157	5	–	LR-S-4×10PW	CLR-15S
	GTTR/L08K00	1	○	○	.315	8	.315	8	.315	8	4.724	120	.000	0	.591	15.0	.071	1.8	.157	5	–	R:LR-S-4×10PW L:LR-S-4×5.8	CLR-15S
	GTTR/L0810K00	1	○	○	.315	8	.394	10	.315	8	4.724	120	.000	0	.591	15.0	.071	1.8	.157	5	–	LR-S-4×10PW	CLR-15S
	GTTR/L10F00	1	○		.394	10	.394	10	.394	10	3.150	80	.000	0	.591	15.0	.071	1.8	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L10K00	1	○		.394	10	.394	10	.394	10	4.724	120	.000	0	.591	15.0	.071	1.8	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L12F00	1	○	○	.472	12	.472	12	.472	12	3.150	80	.000	0	.591	15.0	.071	1.8	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L12K00	1	●	○	.472	12	.472	12	.472	12	4.724	120	.000	0	.591	15.0	.071	1.8	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L16H00	1	○	○	.630	16	.630	16	.630	16	3.937	100	.000	0	.591	15.0	.071	1.8	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L16K00	1	○	○	.630	16	.630	16	.630	16	4.724	120	.000	0	.591	15.0	.071	1.8	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L20K00	1	○	○	.787	20	.787	20	.787	20	4.921	125	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L25M00	1	○	○	.984	25	.984	25	.984	25	5.906	150	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L10F15	1	○	○	.394	10	.394	10	.394	10	3.150	80	.000	0	.591	15.0	.106	2.7	.118	3	–	LR-S-4×10PW	CLR-15S
	GTT 10K15	1	○	○	.394	10	.394	10	.394	10	4.724	120	.000	0	.591	15.0	.106	2.7	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L12F15	1	○	○	.472	12	.472	12	.472	12	3.150	80	.000	0	.591	15.0	.106	2.7	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L12K15	1	○	○	.472	12	.472	12	.472	12	4.724	120	.000	0	.591	15.0	.106	2.7	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L16H15	1	○	○	.630	16	.630	16	.630	16	3.937	100	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L16K15	1	●	○	.630	16	.630	16	.630	16	4.724	120	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L10F25	1	○	○	.394	10	.394	10	.394	10	3.150	80	.000	0	.591	15.0	.106	2.7	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L10K25	1	○	○	.394	10	.394	10	.394	10	4.724	120	.000	0	.591	15.0	.106	2.7	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L12F25	1	○	○	.472	12	.472	12	.472	12	3.150	80	.000	0	.591	15.0	.106	2.7	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L12K25	1	○	○	.472	12	.472	12	.472	12	4.724	120	.000	0	.591	15.0	.106	2.7	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L16H25	1	○	○	.630	16	.630	16	.630	16	3.937	100	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L16K25	1	○	○	.630	16	.630	16	.630	16	4.724	120	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L08HA-IN-OH	3	■		1/2		1/2		1/2		3.937	100	.000	0	2.953	75	.071	1.8	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L08HA-IN-OH2	2	●		1/2		1/2		1/2		3.937	100	.000	0	2.756	70	.071	1.8	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L08HB-IN-OH	3	■		1/2		1/2		1/2		3.937	100	.000	0	2.953	75	.106	2.7	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L08HB-IN-OH2	2	●		1/2		1/2		1/2		3.937	100	.000	0	2.756	70	.106	2.7	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L10HA-IN-OH	3	●		5/8		5/8		5/8		3.937	100	.000	0	.768	19.5	.071	1.8	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L10XA-IN-OH2	2	●		5/8		5/8		5/8		4.724	120	.000	0	.768	19.5	.071	1.8	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L10HB-IN-OH	3	●		5/8		5/8		5/8		3.937	100	.000	0	.768	19.5	.106	2.7	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L10XB-IN-OH2	2	●		5/8		5/8		5/8		4.724	120	.000	0	.768	19.5	.106	2.7	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L1012H00-OH	3	○		.394	10	.472	12	.394	10	3.937	100	.000	0	.768	19.5	.071	1.8	.039	1	M6×1	LR-S-4×10PW	CLR-15S
	GTTR/L12H00-OH	3	■		.472	12	.472	12	.472	12	3.937	100	.000	0	.768	19.5	.071	1.8	.039	1	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	GTTR/L12H00-OH2	2	●		.472	12	.472	12	.472	12	3.937	100	.000	0	2.756	70	.071	1.8	.039	1	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	GTTR/L16H00-OH	3	○		.630	16	.630	16	.630	16	3.937	100	.000	0	.768	19.5	.071	1.8	0	0	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	GTTR/L16X00-OH2	2	●		.630	16	.630	16	.630	16	4.724	120	.000	0	.768	19.5	.071	1.8	0	0	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	CH-GTTR/L10H00	4		○	.394	10	.394	10	.394	10.0	4.724	120	.591	15	.472	12.0	.059	1.5	.118	3	–	LR-S-4×10PW	CLR-15S
	CH-GTTR/L12H00	4		○	.472	12	.472	12	.472	12.0	4.724	120	.669	17	.472	12.0	.059	1.5	.040	1	–	LR-S-4×10PW	CLR-15S

Y-GTT

Screw accessible from both sides



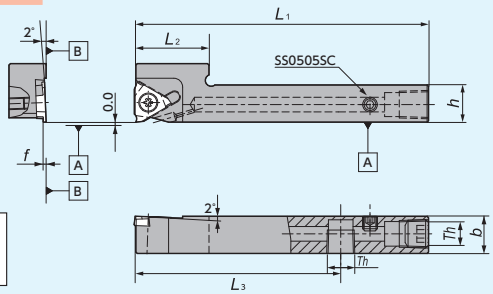


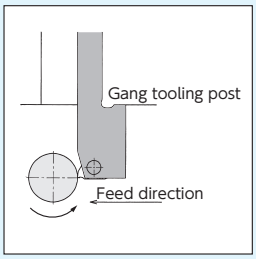
Right-Hand style shown
Takes Right-hand Insert

Figure-5

Y-GTT-OH2 (Coolant through)

Screw accessible from both sides





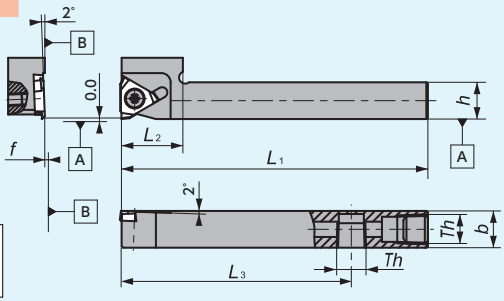
Right-Hand style shown
Takes Right-hand Insert

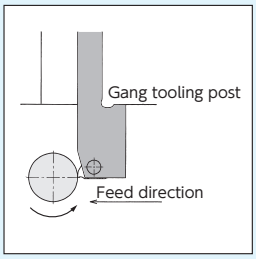
Figure-6

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Y-GTT-OH (Coolant through)

Screw accessible from both sides





Right-Hand style shown
Takes Right-hand Insert

Figure-7

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

GTT

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	a_r (Inch)	a_r (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
 TBMH32..	Y-GTTR 06-IN	5	●		3/8		3/8		–	–	4.724	120	.000	0	.984	25.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTTR⅜08-IN	5	●		1/2		1/2		–	–	4.724	120	.000	0	.984	25.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTTR⅝10-IN	5	●		5/8		5/8		–	–	4.724	120	.000	0	.984	25.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT⅜10MS	7	○		.394	10	.394	10	–	–	4.724	120	.000	0	.866	22.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT⅜10S	5	○		.394	10	.394	10	–	–	4.724	120	.000	0	.787	20.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT⅜12MS	7	○		.472	12	.472	12	–	–	4.724	120	.000	0	.866	22.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT⅜12S	5	○		.472	12	.472	12	–	–	4.724	120	.000	0	.787	20.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT⅜08H-IN-OH 💧	7	■		1/2		1/2		–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.756	70	NPT1/8	LR-S-4×10PW	CLR-15S
	Y-GTT⅜08H-IN-OH2 💧	6	●		1/2		1/2		–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.953	75	NPT1/8	LR-S-4×10PW	CLR-15S
	Y-GTT⅜12H00S-OH 💧	7	■		.472	12	.472	12	–	–	3.937	100	.000	0	.787	20.0	.063	1.6	2.756	70	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	Y-GTT⅜12H00S-OH2 💧	6	●		.472	12	.472	12	–	–	3.937	100	.000	0	.787	20.0	.063	1.6	2.953	75	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	Y-GTT⅝16H00-OH 💧	7	○		.630	16	.472	16	–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.953	75	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S

Cutting condition ➡R3

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

DS-GTT

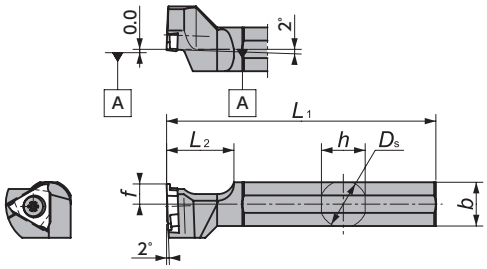
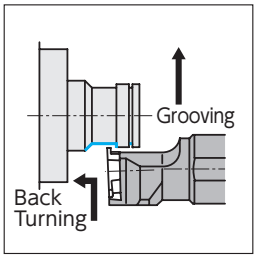


Figure-8



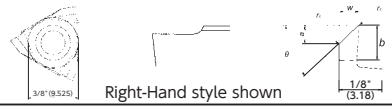
Left-Hand style shown
Takes Right-hand Insert

DS-GTT

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Clamp Screw	Wrench
 TBMH32..	DS-GTTR/L14F	8		○	.551	14.000	.512	13	.512	13	3.150	80	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTTR/L15H	8		○	5/8	15.875	.591	15	.591	15	3.937	100	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTTR/L16X	8		●	.630	16.000	.591	15	.591	15	3.740	95	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTTR/L19	8		●	3/4	19.050	.709	18	.709	18	4.724	120	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTTR/L20	8		●	.787	20.000	.748	19	.748	19	4.724	120	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTTR/L22	8		●	.866	22.000	.827	21	.827	21	4.724	120	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTTR/L25-MET	8		○	.984	25.000	.945	24	.945	24	4.724	120	.394	10	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTTR/L25	8		●	1	25.400	.945	24	.945	24	5.906	150	.394	10	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTTR/L32	8		○	.984	25.000	.945	24	.945	24	5.906	150	.394	10	.787	20	LR-S-4 × 9	RLR-20S

GTT Series - Inserts

TBMH32

Shape	Item Number	Chip-breaker	Length of Blade a (Inch)	Length of Blade a (mm)	Max Depth of Cut b (Inch)	Max Depth of Cut b (mm)	w (Inch)	w (mm)	θ	r_ε (Inch)	r_ε (mm)	Coated Carbide ZM3 R	Coated Carbide ZM3 L
 Right-Hand style shown	TBMH32100R/L05-22	Yes	.012	0.3	.071	1.8	.039	1.0	22°	.002	0.05	●	
	TBMH32100R/L05-45	Yes	.035	0.9	.071	1.8	.039	1.0	45°	.002	0.05	●	
	TBMH32150R/L05-22	Yes	.020	0.5	.106	2.7	.059	1.5	22°	.002	0.05	●	
	TBMH32150R/L05-45	Yes	.051	1.3	.102	2.6	.059	1.5	45°	.002	0.05	●	

Note: All angles shown are obtained when insert is set in the holder

Cutting condition ➜R3

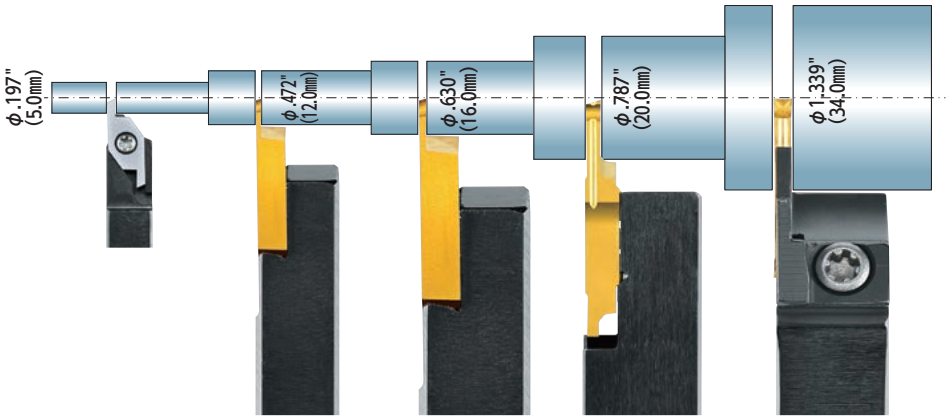
● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

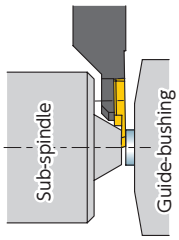
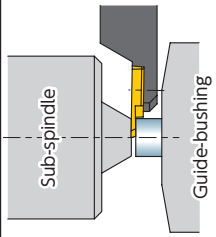
S

Cut-off / Parting

NTK Cut-off Tools - Product Lines

NTK offers a variety of cut-off tools with as narrow a width as .020" (0.5mm)
NTK cut-off tools are specialized for small part applications



CTP.R-SUB	CTP.L-SUB
	

Insert	CSV ➡S6	CTPS ➡S7	CTPS-001 ➡S7
Holder	CSV-NC  ➡S6	CTPS  ➡S7	CTPSR-SUB  ➡S7
Max Cut-off Diameter	~ϕ.197" (~5.0mm)	~ϕ.394" (~10.0mm)	~ϕ.157" (~4.0mm)
Blade width	.024" - .059" (0.6 - 1.5mm)	.047" - .079" (1.2 - 2.0mm)	.028" (0.7mm)

Insert	CTP ➡S10・S11			
Holder	CTP  ➡S8	CTP-OH2/OH  ➡S8 Coolant through	CTPR-SUB  ➡S8	CTPL-SUB  ➡S8
Max Cut-off Diameter	~ϕ.472" (~12.0mm)			
Blade width	.020" - .079" (0.5 - 2.0mm)			

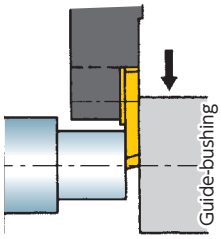
Insert	CTPA ➡S14・S15			
Holder	CTPA  ➡S12	CTPA-OH2/OH  ➡S12 Coolant through	CTPAR-SUB  ➡S12	CTPAL-SUB  ➡S12
Max Cut-off Diameter	~ϕ.630" (~16.0mm)			
Blade width	.028" - .118" (0.7 - 3.0mm)			

Insert	CTPW ➡S18	CTDP ➡S17	GWPFM ➡S19
Holder	CTPW  ➡S18	CTDP  ➡S16	CTWP  ➡S19
Max Cut-off Diameter	~ϕ.787" (~20.0mm)	~ϕ1.339" (~34.0mm)	~ϕ1.653" (~42.0mm)
Blade width	.098" (2.5mm)	.079"•.098" (2.0•2.5mm)	.118" (3.0mm)

Insert	CTV-S ➡S20		CTV ➡S22		
Holder	CTV-K2  ➡S20	CTVN-K2  ➡S20	CTV-S  ➡S21	CTV-M (B)  ➡S21	CTV-X  ➡S21
Max Cut-off Diameter	~ϕ.787" (~20.0mm)		~ϕ1.378" (~35.0mm)	~ϕ1.772" (~45.0mm)	~1.378" (~35.0mm)
Blade width	.087" - .098" (2.2 - 2.5mm)		.098"•.118" (2.5•3.0mm)	.098"•.118" (2.5•3.0mm)	.118" (3.0mm)

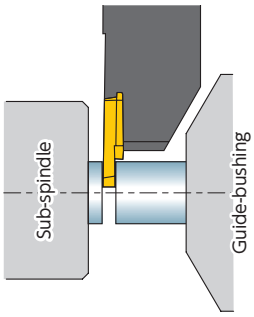
■ CTP/CTPA/CTPS/CTPW selection guide : Right hand? Or Left hand?

Right-hand recommended



R-hand Toolholder using a R-hand insert with lead angle

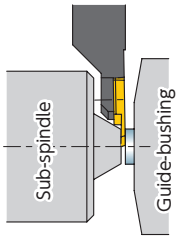
Left-hand recommended



L-hand Toolholder with a non-lead angle insert when the bar stock is held by sub-spindle

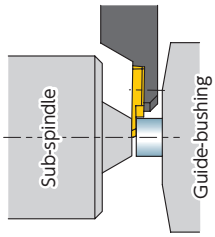
■ CTP/CTPA-SUB selection guide Right hand? Or Left hand?

Right-hand recommended



R-hand Toolholder with R-hand insert with lead angle for longer parts or small diameter part. When part length is too short for sub-spindle to hold, use L-hand with slower speed.

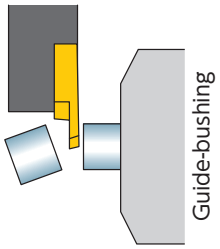
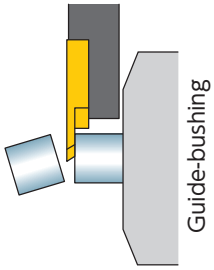
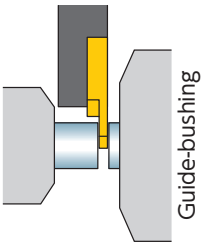
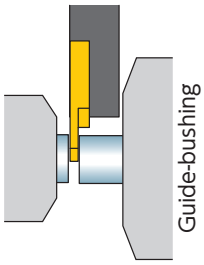
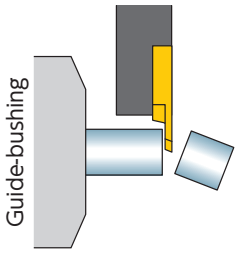
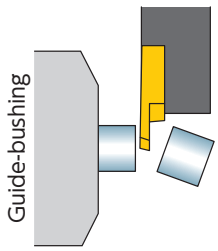
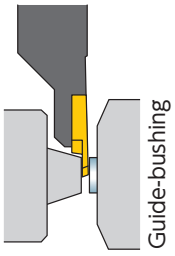
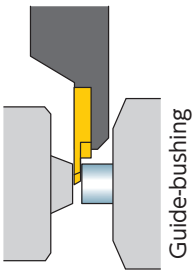
Left-hand recommended



L-hand with L-hand insert with lead angle for short part

More information ➡S4

Cut-off Tool Selection Guide

Right-hand combination		Left-hand combination	
FR, FRFT, FRV Style		**FLK, FLKFT, FLKV Style**	
 FRFT: Flat top FRV : Flat top with mirror finish	● Common geometry in cut-off ● Lead angle minimizes center-boss ● End face is likely to get scratched from chip control because of lead angle and chip-breaker configuration ● Good for small diameter machining as it cuts near guide-bushing	 FLKFT: Flat top FLKV : Flat top with mirror finish	● Can cut-off closer to the sub-spindle ● Less burrs with hollow work ● Sub-spindle should hold the work
FRN, FRS,FRNV Style		**FLN, FLS Style**	
 FRS : Flat top FRNV: Flat top with mirror finish	● Good for small diameter machining as it cuts near guide-bushing ● 1st recommendation when sub-spindle holds the part ● No lead angle helps to prevent scratches on both faces	 FLS: Flat top	● Recommended when required to cut-off close to the sub-spindle due to short part length ● Good for big diameter part ● No lead angle helps to prevent scratches on both faces ● Sub-spindle should hold the work
FRK Style		**FL, FLV Style**	
	● Used with inverse spindle rotation ● Short part length and using sub-spindle ● Less burrs with hollow work	 FLV: Flat top with mirror finish	● Used with inverse spindle rotation ● Without sub-spindle ● Less burrs with hollow work
CTP. R-SUB		**CTP. L-SUB**	
	● Recommended when cut-off point is close to guide-bushing for small and thin parts ● When the part length is short, extended sub-spindle guide-bushing is generally used		● Recommended when required to cut-off close to the sub-spindle especially with small diameters ● Can cut much closer to the sub-spindle than the other left-handed tool holders ● Sub-spindle should hold the work

Recommended Cutting Conditions

Cut Off

CSVT

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4					VM1	
	2nd choice	VM1					DM4 / DT4	
Cutting Speed (SFM)		100 160 230				100 200 300		
Feed Rate (IPR)		.0004 .0008 .0012				.0004 .0012 .0020		

CTP / CTPA / CTPS / CTPW

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (SFM)		100 160 230					100 200 300		
Feed Rate (IPR)		.0008 .0012 .0020					.0008 .0016 .0024		

CTDP / CTWP / CTV

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3					QM3	TM4 / DM4	
Cutting Speed (SFM)		100 160 230					100 200 300		
Feed Rate (IPR)		.0012 .0020 .0031					.0016 .0031 .0047		

1st Recommendation style for Cut-off Diameter

Cut-off diameter (ϕ)		
-.197"	CSV style ➡S6	
.197"-.472"	CTP style ➡S8	
.472"-.630"	CTPA style ➡S12	
	CTDP style ➡S16	
.630"-1.340"	CTDP style ➡S16	
1.340"-	CTWP style ➡S19	

CSV Series

Best for up to .200" diameter material

CSV-NC For Gang-style machine

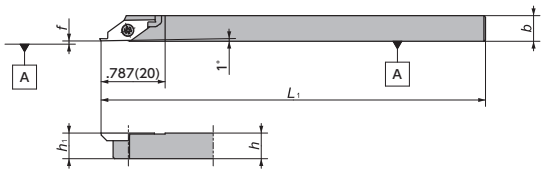


Figure-1

Right-Hand style shown

CSV For Cam-style machine

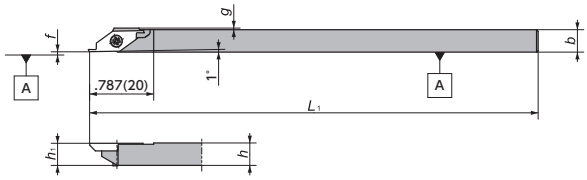


Figure-2

Right-Hand style shown

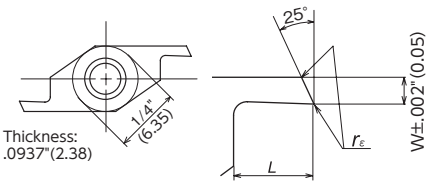
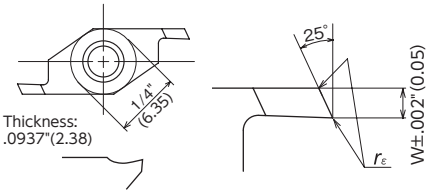
CSV Series - Toolholders

■CSV R/L / CSV R/L-NC

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	g (Inch)	g (mm)	Clamp Screw	Wrench
 CSV..11..	CSVR/L06-IN-NC	1	●	●	3/8		3/8		3/8		4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08-IN-NC	1	●	●	1/2		1/2		1/2		4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08NC	1	○	○	.315	8	.315	8	.315	8	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08NC-F	1	○		.315	8	.315	8	.315	8	4.724	120	0-.004	0.0-0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L10GXNC	1	○		.394	10	.394	10	.394	10	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L10NC	1	○	○	.394	10	.394	10	.394	10	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12NC	1	●	●	.472	12	.472	12	.472	12	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L07GX	2	○		.275	7	.275	7	.275	7	3.346	85	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSVR/L07	2	○	●	.275	7	.275	7	.275	7	5.512	140	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSVR/L08GX	2	○		.315	8	.315	8	.315	8	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08	2	●	●	.315	8	.315	8	.315	8	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L095	2	○		.374	9.5	.374	9.5	.374	9.5	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L10	2	●	○	.394	10	.394	10	.394	10	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12GX	2	○		.472	12	.472	12	.472	12	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12	2	●		.472	12	.472	12	.472	12	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S

CSV Series - Inserts

■CSVC - Cut-off Mirror finish

Shape	Item Number	Chip-breaker	Max. Cut-off Dia. φD (Inch)	φD (mm)	w (Inch)	w (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	VM1 R	VM1 L
 Thickness: .0937"(2.38) Right-Hand style shown	CSVC11FR/LV06 Ⓜ	No	.118	3.0	.024	0.6	.079	2.0	0	0.0	○	
	CSVC11FR/LV07 Ⓜ	No	.157	4.0	.028	0.7	.098	2.5	0	0.0	●	●
	CSVC11FR/LV08 Ⓜ	No	.157	4.0	.031	0.8	.098	2.5	0	0.0	○	○
	CSVC11FR/LV09 Ⓜ	No	.157	4.0	.035	0.9	.098	2.5	0	0.0	○	
	CSVC11FR/LV10 Ⓜ	No	.197	5.0	.039	1.0	.118	3.0	0	0.0	●	●
	CSVC11FR/LV13 Ⓜ	No	.197	5.0	.051	1.3	.118	3.0	0	0.0	●	○
	CSVC11FR/LV15 Ⓜ	No	.197	5.0	.059	1.5	.118	3.0	0	0.0	○	○
 Thickness: .0937"(2.38) Right-Hand style shown	CSVC11FR/LVB06 Ⓜ	Yes	.118	3.0	.024	0.6	.079	2.0	0	0.0	○	
	CSVC11FR/LVB07 Ⓜ	Yes	.157	4.0	.028	0.7	.098	2.5	0	0.0	●	
	CSVC11FR/LVB08 Ⓜ	Yes	.157	4.0	.031	0.8	.098	2.5	0	0.0	○	
	CSVC11FR/LVB09 Ⓜ	Yes	.157	4.0	.035	0.9	.098	2.5	0	0.0	○	
	CSVC11FR/LVB10 Ⓜ	Yes	.197	5.0	.039	1.0	.118	3.0	0	0.0	●	
	CSVC11FR/LVB13 Ⓜ	Yes	.197	5.0	.051	1.3	.118	3.0	0	0.0	○	
	CSVC11FR/LVB15 Ⓜ	Yes	.197	5.0	.059	1.5	.118	3.0	0	0.0	○	

Note: All angles shown are obtained when insert is set in the holder

CSV series ➡O51

CTPS Series

CTPS Max. Cut-off Dia. .394" (10.0mm)

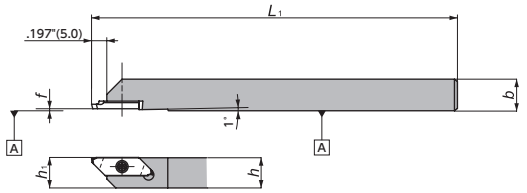


Figure-1

Right-Hand style shown

CTPSR-SUB Max. Cut-off Dia. .157" (4.0mm)

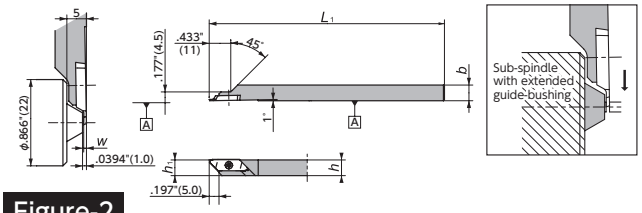


Figure-2

Right-Hand style shown

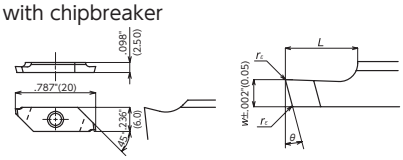
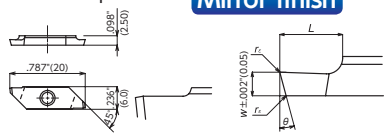
CTPS Series - Toolholders

CTPS / CTPSR-SUB

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Cut-off Dia. φD (Inch)	Max. Cut-off Dia. φD (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	h1 (Inch)	h1 (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 CTPS..	CTPSR/L06-IN	1	●		.394	10.0	3/8		3/8		3/8		4.724	120	0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPSR/L08-IN	1	●		.394	10.0	1/2		1/2		1/2		4.724	120	0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPSR/L10	1	○		.394	10.0	.394	10	.394	10	.394	10	4.724	120	0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPSR/L12	1	○		.394	10.0	.472	12	.472	12	.472	12	4.724	120	0	0.0	LRIS-2.5 × 7	CLR-15S
CTPS-001	CTPSR/L08-SUB04	2	○		.157	4.0	.315	8	.315	8	.315	8	4.724	120	—		LRIS-2.5 × 5	CLR-15S

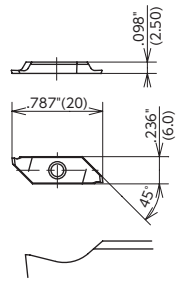
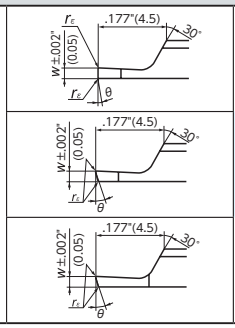
CTPS Series - Inserts

CTPS - Cut-off

Shape	Item Number	Chip-breaker	Max. Cut-off Dia. φD (Inch)	Max. Cut-off Dia. φD (mm)	w (Inch)	w (mm)	L (Inch)	L (mm)	θ	rε (Inch)	rε (mm)	Coated Carbide VM1 R	VM1 L	ZM3 R	ZM3 L
with chipbreaker  Right-Hand style shown	CTPS12FR	Yes	.157	4.0	.047	1.2	.138	3.5	16°	.002	0.05	○		●	
	CTPS15FR	Yes	.197	5.0	.059	1.5	.157	4.0	16°	.002	0.05	○		●	
	CTPS18FR	Yes	.335	8.5	.071	1.8	.217	5.5	16°	.002	0.05	○		●	
	CTPS20FR	Yes	.394	10.0	.079	2.0	.236	6.0	16°	.002	0.05	○		○	
without chipbreaker Mirror finish  Right-Hand style shown	CTPS12FRV Ⓜ	No	.157	4.0	.047	1.2	.138	3.5	20°	0	0.0	●		○	
	CTPS15FRV Ⓜ	No	.197	5.0	.059	1.5	.157	4.0	20°	0	0.0	○		○	
	CTPS18FRV Ⓜ	No	.335	8.5	.071	1.8	.217	5.5	20°	0	0.0	○		○	
	CTPS20FRV Ⓜ	No	.394	10.0	.079	2.0	.236	6.0	20°	0	0.0	○		○	

Note: All angles shown are obtained when insert is set in the holder

CTPS-001 - Cut-off

Shape	Item Number	Chip-breaker	Max. Cut-off Dia. φD (Inch)	Max. Cut-off Dia. φD (mm)	w (Inch)	w (mm)	θ	rε (Inch)	rε (mm)	Coated Carbide ZM3 R	ZM3 L
 Right-Hand style shown 	CTPS07FRN-001	Yes	.157	4.0	.028	0.7	0°	.002	0.05	○	
	CTPS07FR-001	Yes	.157	4.0	.028	0.7	16°	.002	0.05	○	
	CTPS07FRV-001 Ⓜ	No	.157	4.0	.028	0.7	20°	0	0.0	○	

Note: All angles shown are obtained when insert is set in the holder

Cutting condition ➜S5

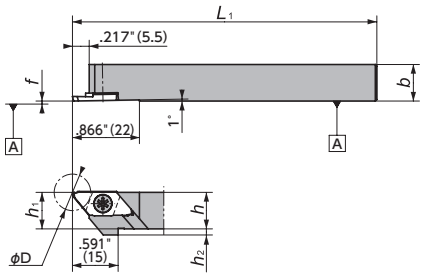
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
RⓁ : 1-2 week delivery (Right / Left-hand only)
RⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

CTP Series - Toolholders

Max. Cut-off Dia. -ϕ.472"(12.0mm)

CTP

Screw Accessible from both sides



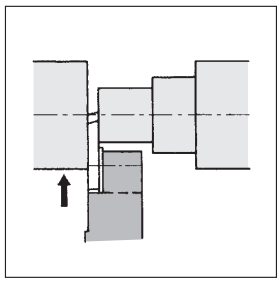
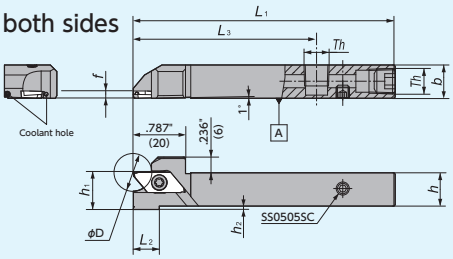


Figure-1

Right-Hand style shown

CTP-OH2 (Coolant through)

Screw Accessible from both sides



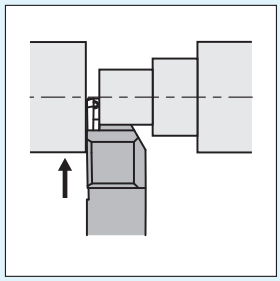


Figure-2

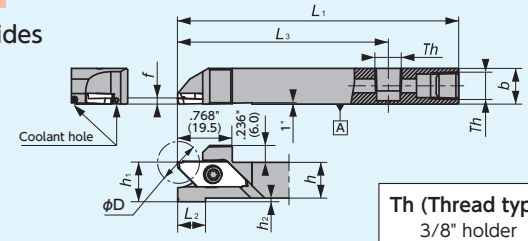
●Left-Hand holders are designed for Right-Hand machines

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown

CTP-OH (Coolant through)

Screw Accessible from both sides



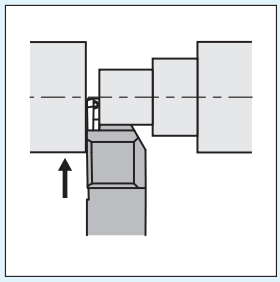


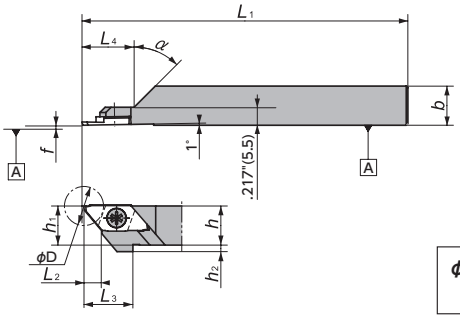
Figure-3

●Left-Hand holders are designed for Right-Hand machines

Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown

CTPR-SUB



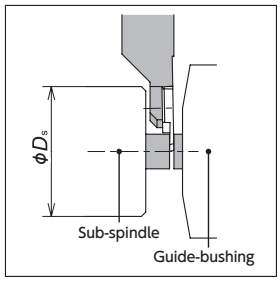
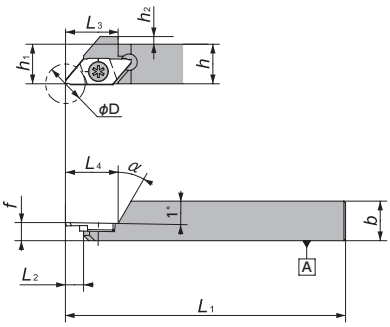


Figure-4

ϕDs
CTPR-SUB: ϕ1.18" (ϕ30mm)

CTPL-SUB



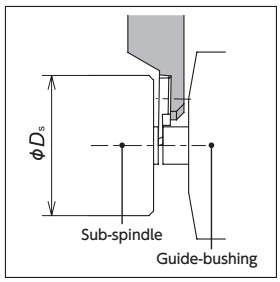


Figure-5

ϕDs
CTPL-SUB: ϕ1.18" (ϕ30mm)

CTP

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Cut-off Dia. φD* (Inch)	(mm)	h (Inch)	(mm)	h1 (Inch)	(mm)	b (Inch)	(mm)	L1 (Inch)	(mm)	h2 (Inch)	(mm)	L2 (Inch)	(mm)	L3 (Inch)	(mm)	Th	f (Inch)	(mm)	Clamp Screw	Wrench
 CTP FR../FL..	CTP®%06-IN	1	●	●	.472	12	3/8		3/8		3/8		4.724	120	.079	2	–		–		–	0.0	0.0	LRIS-4×10PW	CLR-15S
	CTP®%08-IN	1	●	●	.472	12	1/2		1/2		1/2		4.724	120	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%10-IN	1	●	●	.472	12	5/8		5/8		5/8		4.724	120	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%08	1	●	●	.472	12	.315	8	.315	8	.394	10	4.724	120	.157	4	–		–		–	0.0	0.0	LRIS-4×10PW	CLR-15S
	CTP®%10H	1	○	○	.472	12	.394	10	.394	10	.394	10	3.937	100	.079	2	–		–		–	0.0	0.0	LRIS-4×10PW	CLR-15S
	CTP®%10	1	○	○	.472	12	.394	10	.394	10	.394	10	4.724	120	.079	2	–		–		–	0.0	0.0	LRIS-4×10PW	CLR-15S
	CTP®%12GX	1	○	○	.472	12	.472	12	.472	12	.472	12	3.346	85	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%12	1	○	○	.472	12	.472	12	.472	12	.472	12	4.724	120	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%13	1	○	○	.472	12	.519	13	.519	13	.519	13	4.724	120	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%16H	1	○		.472	12	.630	16	.630	16	.630	16	3.937	100	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%16	1	○	○	.472	12	.630	16	.630	16	.630	16	4.724	120	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%06H-IN-OH 💧	3	●	●	.472	12	3/8		.472	12	3/8		3.937	100	.176	4.475	.748	19	2.953	75	M6 × 1	0.0	0.0	LRIS-4×10PW	CLR-15S
	CTP®%08H-IN-OH 💧	3	■	■	.472	12	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.953	75	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%08H-IN-OH2 💧	2	●	●	.472	12	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.756	70	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%1012H-OH 💧	3	○	○	.472	12	.394	10	.472	12	.394	10	3.937	100	.176	4.475	.748	19	2.953	75	M6 × 1	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%12H-OH 💧	3	■	■	.472	12	.472	12	.472	12	.472	12	3.937	100	.051	1.3	.394	10	2.953	75	Rc1/8 (PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%12H-OH2 💧	2	●	●	.472	12	.472	12	.472	12	.472	12	3.937	100	.051	1.3	.394	10	2.756	70	Rc1/8 (PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTP®%16H-OH 💧	3	○	○	.472	12	.630	16	.630	16	.630	16	3.937	100	0	0	–		2.953	75	Rc1/8 (PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S

● Left-Hand coolant through holders are designed for Right-Hand machines

＊Would be changed by insert

CTPR-SUB

Gage Insert	Item Number	Figure	Stock R	Max. Cut-off Dia. φD* (Inch)	(mm)	h (Inch)	(mm)	h1 (Inch)	(mm)	b (Inch)	(mm)	L1 (Inch)	(mm)	h2 (Inch)	(mm)	L2 (Inch)	(mm)	L3 (Inch)	(mm)	L4 (Inch)	(mm)	α	f (Inch)	(mm)	Clamp Screw	Wrench
 CTP..FR..	CTPR06-IN-SUB	4	●	.472	12	3/8		3/8		3/8		4.724	120	.079	2	.217	5.5	.591	15	.630	16	45°	.217	5.5	LRIS-4×5	LLR-25S
	CTPR08-IN-SUB	4	●	.472	12	1/2		1/2		1/2		4.724	120	0	0	.217	5.5	.591	15	.630	16	45°	.217	5.5	LRIS-4×5	LLR-25S
	CTPR10-IN-SUB	4	●	.472	12	5/8		5/8		5/8		4.724	120	0	0	.217	5.5	.591	15	.630	16	45°	.217	5.5	LRIS-4×5	LLR-25S
	CTPR08-SUB	4	○	.472	12	.315	8	.315	8	.315	8	4.724	120	.157	4	.217	5.5	.591	15	.630	16	45°	.217	5.5	LRIS-4×5	LLR-25S
	CTPR08J-SUB	4	○	.472	12	.315	8	.315	8	.315	8	4.331	110	.157	4	.217	5.5	.591	15	.630	16	45°	.217	5.5	LRIS-4×5	LLR-25S
	CTPR10F-SUB	4	○	.472	12	.394	10	.394	10	.394	10	3.150	80	.079	2	.217	5.5	.591	15	.630	16	45°	.217	5.5	LRIS-4×5	LLR-25S
	CTPR10KX-SUB	4	○	.472	12	.394	10	.394	10	.394	10	4.724	120	.079	2	.217	5.5	.591	15	.630	16	45°	.217	5.5	LRIS-4×5	LLR-25S
	CTPR12GX-SUB	4	○	.472	12	.472	12	.472	12	.472	12	3.346	85	0	0	.217	5.5	.591	15	.630	16	45°	.217	5.5	LRIS-4×5	LLR-25S
	CTPR12-SUB	4	○	.472	12	.472	12	.472	12	.472	12	4.724	120	0	0	.217	5.5	.591	15	.630	16	45°	.217	5.5	LRIS-4×5	LLR-25S

＊Would be changed by insert

CTPL-SUB

Gage Insert	Item number	Figure	Stock L	Max. Cut-off Dia. φD* (Inch)	(mm)	h (Inch)	(mm)	h1 (Inch)	(mm)	b (Inch)	(mm)	L1 (Inch)	(mm)	h2 (Inch)	(mm)	L2 (Inch)	(mm)	L3 (Inch)	(mm)	L4 (Inch)	(mm)	α	f (Inch)	(mm)	Clamp screw	Wrench
 CTP..FL..	CTPL08-SUB	5	○	.472	12	.315	8	.315	8	.394	10	4.724	120	.157	4	.217	5.5	.591	15	.630	16	30°	.217	5.5	LRIS-4×5	LLR-25S
	CTPL08J-SUB	5	○	.472	12	.315	8	.315	8	.315	8	4.331	110	.157	4	.217	5.5	.591	15	.630	16	30°	.217	5.5	LRIS-4×5	LLR-25S
	CTPL10GX-SUB	5	○	.472	12	.394	10	.394	10	.394	10	3.346	85	.079	2	.217	5.5	.591	15	.630	16	30°	.217	5.5	LRIS-4×5	LLR-25S
	CTPL12GX-SUB	5	○	.472	12	.472	12	.472	12	.472	12	3.346	85	0	0	.217	5.5	.591	15	.630	16	30°	.217	5.5	LRIS-4×5	LLR-25S

＊Would be changed by insert

Cutting condition ➡S5
Inserts (Right-hand) ➡S10 Inserts (Left-hand) ➡S11

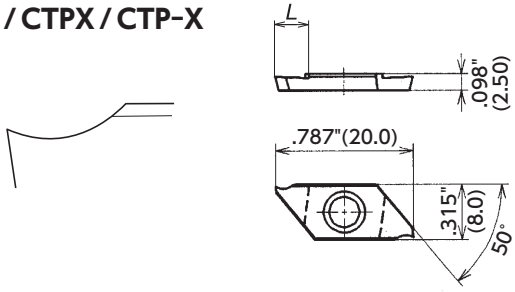
● : Stock
● : Stock (Newly added)
■ □R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

CTP Series Inserts (Right-Hand)

Two-sided insert

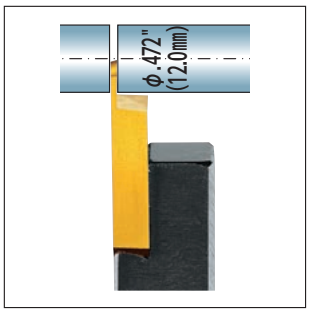
Max. Cut-off Dia. -ϕ.472"(12.0mm)

CTP / CTPX / CTP-X



All angles shown are obtained when insert is set in the holder.

CX-Chipbreaker



Right-Hand style shown

FR

Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	(mm)	w (Inch)	(mm)	L (Inch)	(mm)	θ	$r_{\varepsilon 1}$ (Inch)	(mm)	Coated Carbide ST4	DM4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
Figure-1	CTP05FR-SH	1	Yes	.197	5.0	.020	0.5	.110	2.8	15°	.001	0.03						●		
	CTP07FR	1	Yes	.315	8.0	.028	0.7	.177	4.5	16°	.002	0.05						●		
	CTP10FR-SH	1	Yes	.275	7.0	.039	1.0	.161	4.1	15°	.002	0.05			○			○		
	CTP10FR	1	Yes	.472	12.0	.039	1.0	.264	6.7	16°	.002	0.05			●		●	●		
	CTP10FR-CX	2	Yes-CX	.472	12.0	.039	1.0	.264	6.7	16°	.002	0.05	●	●						
	CTP10FR-TH	1	Yes	.472	12.0	.039	1.0	.264	6.7	16°	.002	0.05	●							
Figure-2	CTP10FRFT	4	No	.472	12.0	.039	1.0	.264	6.7	16°	.002	0.05				●				
	CTP10FRV Ⓜ	3	No	.472	12.0	.039	1.0	.264	6.7	20°	0.0	0.0			○		●	●	●	
	CTP13FR-CX	2	Yes-CX	.472	12.0	.051	1.3	.264	6.7	16°	.002	0.05	●	●						
	CTP15FR	1	Yes	.472	12.0	.059	1.5	.264	6.7	16°	.002	0.05					●	●		
Figure-3 Flat top	CTPX15FR	1	Yes	.472	12.0	.059	1.5	.264	6.7	16°	.002	0.05			●	●		○		
	CTP15FRX	1	Yes	.472	12.0	.059	1.5	.264	6.7	16°	.002	0.05						○		
	CTP15FR-CX	2	Yes-CX	.472	12.0	.059	1.5	.264	6.7	16°	.002	0.05	●	●						
	CTP15FR-TH	1	Yes	.472	12.0	.059	1.5	.264	6.7	16°	.002	0.05	●							
Figure-4 Flat top	CTP15FRV Ⓜ	3	No	.472	12.0	.059	1.5	.264	6.7	20°	0.0	0.0					●	●	●	
	CTP20FR	1	Yes	.472	12.0	.079	2.0	.264	6.7	16°	.002	0.05					●	●		
	CTPX20FR	1	Yes	.472	12.0	.079	2.0	.264	6.7	16°	.002	0.05			●	●		○		
	CTP20FRX	1	Yes	.472	12.0	.079	2.0	.264	6.7	16°	.002	0.05						○		
	CTP20FR-TH	1	Yes	.472	12.0	.079	2.0	.264	6.7	16°	.002	0.05	●							
	CTP20FRV Ⓜ	3	No	.472	12.0	.079	2.0	.264	6.7	20°	0.0	0.0					●	●	●	

FRN

Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	(mm)	w (Inch)	(mm)	L (Inch)	(mm)	θ	$r_{\varepsilon 1}$ (Inch)	(mm)	Coated Carbide ST4	DM4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
	CTP05FRN-SH	1	Yes	.197	5.0	.020	0.5	.110	2.8	0°	.001	0.03						●		
Figure-1	CTP10FRN-SH	1	Yes	.275	7.0	.039	1.0	.161	4.1	0°	.002	0.05			○			○		
	CTP10FRN	1	Yes	.472	12.0	.039	1.0	.264	6.7	0°	.002	0.05			●			●		
	CTP10FRN-CX	2	Yes-CX	.472	12.0	.039	1.0	.264	6.7	0°	.002	0.05	●	●						
	CTP10FRN-TH	1	Yes	.472	12.0	.039	1.0	.264	6.7	0°	.002	0.05	●							
	CTP13FRN-CX	2	Yes-CX	.472	12.0	.051	1.3	.264	6.7	0°	.002	0.05	●	●						
	CTP13FRN02-CX	2	Yes-CX	.472	12.0	.051	1.3	.264	6.7	0°	.008	0.2	●	●						
Figure-2	CTP15FRN-CX	2	Yes-CX	.472	12.0	.059	1.5	.264	6.7	0°	.002	0.05	●	●						
	CTP15FRN02-CX	2	Yes-CX	.472	12.0	.059	1.5	.264	6.7	0°	.008	0.2	●	●						
	CTP15FRN	1	Yes	.472	12.0	.059	1.5	.264	6.7	0°	.002	0.05					●	●		
	CTPX15FRN	1	Yes	.472	12.0	.059	1.5	.264	6.7	0°	.002	0.05			●	●				
	CTP15FRNX	1	Yes	.472	12.0	.059	1.5	.264	6.7	0°	.002	0.05						○		
Figure-3 Flat top	CTP15FRN-TH	1	Yes	.472	12.0	.059	1.5	.264	6.7	0°	.002	0.05	●							
	CTP15FRNV Ⓜ	3	No	.472	12.0	.059	1.5	.264	6.7	0°	0.0	0.0							●	
	CTP20FRN	1	Yes	.472	12.0	.079	2.0	.264	6.7	0°	.002	0.05					●	●		
	CTPX20FRN	1	Yes	.472	12.0	.079	2.0	.264	6.7	0°	.002	0.05			●	●				
	CTP20FRNX	1	Yes	.472	12.0	.079	2.0	.264	6.7	0°	.002	0.05						○		
	CTP20FRN-TH	1	Yes	.472	12.0	.079	2.0	.264	6.7	0°	.002	0.05	●							
	CTP20FRNV Ⓜ	3	No	.472	12.0	.079	2.0	.264	6.7	0°	0.0	0.0							●	

FRK

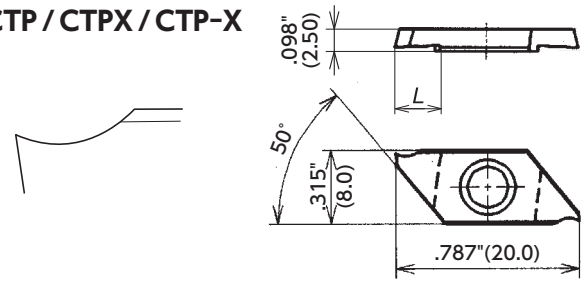
Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	(mm)	w (Inch)	(mm)	L (Inch)	(mm)	θ	$r_{\varepsilon 1}$ (Inch)	(mm)	Coated Carbide ST4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
Figure-1	CTP10FRK	1	Yes	.433	11.0	.039	1.0	.264	6.7	16°	.002	0.05					○		
	CTP15FRK	1	Yes	.433	11.0	.059	1.5	.264	6.7	16°	.002	0.05					○		
	CTP20FRK	1	Yes	.433	11.0	.079	2.0	.264	6.7	16°	.002	0.05					○		

CTP Series Inserts (Left-Hand)

Two-sided insert

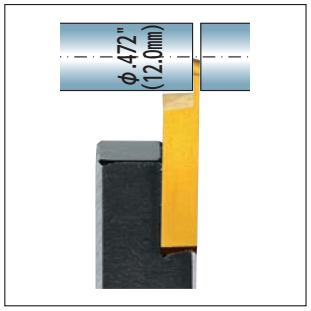
Max. Cut-off Dia. -ϕ.472"(12.0mm)

CTP / CTPX / CTP-X



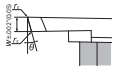
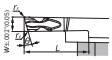
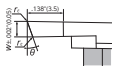
All angles shown are obtained when insert is set in the holder.

CX-Chipbreaker
(Right-hand shown)

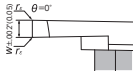
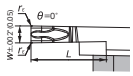
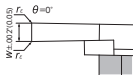


Left-Hand style shown

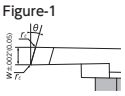
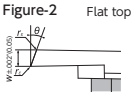
FLK

Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	(mm)	w (Inch)	(mm)	L (Inch)	(mm)	θ	$r_{\varepsilon 1}$ (Inch)	(mm)	Coated Carbide ST4	DM4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
Figure-1 	CTP05FLK-SH	1	Yes	.197	5.0	.020	0.5	.110	2.8	17°	.001	0.03						●		
	CTP10FLK-SH	1	Yes	.275	7.0	.039	1.0	.161	4.1	17°	.002	0.05			○			○		
	CTP10FLK	1	Yes	.433	11.0	.039	1.0	.264	6.7	16°	.002	0.05			●			●		
	CTP10FLK-CX	2	Yes-CX	.433	11.0	.039	1.0	.264	6.7	16°	.002	0.05	●	●						
	CTP10FLK-TH	1	Yes	.433	11.0	.039	1.0	.264	6.7	16°	.002	0.05	●							
	CTP10FLK-211	1	Yes	.472	12.0	.039	1.0	.295	7.5	16°	.002	0.05					●			
Figure-2 	CTP13FLK-CX	2	Yes-CX	.472	12.0	.051	1.3	.264	6.7	16°	.002	0.05	●	●						
	CTP15FLK	1	Yes	.433	11.0	.059	1.5	.264	6.7	16°	.002	0.05					○	●		
	CTP15FLKB	1	Yes	.433	11.0	.059	1.5	.264	6.7	16°	.002	0.05						○		
	CTPX15FLK	1	Yes	.433	11.0	.059	1.5	.264	6.7	16°	.002	0.05			●	●				
	CTP15FLK-CX	2	Yes-CX	.433	11.0	.059	1.5	.264	6.7	16°	.002	0.05	●	●						
	CTP15FLK-TH	1	Yes	.433	11.0	.059	1.5	.264	6.7	16°	.002	0.05	●							
Figure-3 Flat top 	CTP15FLKV Ⓜ	3	No	.433	11.0	.059	1.5	.264	6.7	20°	0.0	0.0					●		●	
	CTP20FLK	1	Yes	.433	11.0	.079	2.0	.264	6.7	16°	.002	0.05					○	●		
	CTPX20FLK	1	Yes	.433	11.0	.079	2.0	.264	6.7	16°	.002	0.05			●	●				
	CTP20FLK-TH	1	Yes	.433	11.0	.079	2.0	.264	6.7	16°	.002	0.05	●							

FLN

Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	(mm)	w (Inch)	(mm)	L (Inch)	(mm)	θ	$r_{\varepsilon 1}$ (Inch)	(mm)	Coated Carbide ST4	DM4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
Figure-1 	CTP05FLN-SH	1	Yes	.197	5.0	.020	0.5	.110	2.8	0°	.001	0.03						●		
	CTP10FLN-SH	1	Yes	.275	7.0	.039	1.0	.161	4.1	0°	.002	0.05			○			○		
	CTP10FLN	1	Yes	.472	12.0	.039	1.0	.264	6.7	0°	.002	0.05			●			●		
	CTP10FLN-CX	2	Yes-CX	.472	12.0	.039	1.0	.264	6.7	0°	.002	0.05	●	●						
	CTP10FLN-TH	1	Yes	.472	12.0	.039	1.0	.264	6.7	0°	.002	0.05	●							
Figure-2 	CTP13FLN-CX	2	Yes-CX	.472	12.0	.051	1.3	.264	6.7	0°	.002	0.05	●	●						
	CTP13FLN02-CX	2	Yes-CX	.472	12.0	.051	1.3	.264	6.7	0°	.008	0.2	●	●						
	CTP15FLN-CX	2	Yes-CX	.472	12.0	.059	1.5	.264	6.7	0°	.002	0.05	●	●						
	CTP15FLN02-CX	2	Yes-CX	.472	12.0	.059	1.5	.264	6.7	0°	.008	0.2	●	●						
	CTP15FLN	1	Yes	.472	12.0	.059	1.5	.264	6.7	0°	.002	0.05					○	●		
	CTPX15FLN	1	Yes	.472	12.0	.059	1.5	.264	6.7	0°	.002	0.05			●	●				
	CTP15FLN-TH	1	Yes	.472	12.0	.059	1.5	.264	6.7	0°	.002	0.05	●							
Figure-3 Flat top 	CTP15FLNV Ⓜ	3	No	.472	12.0	.059	1.5	.264	6.7	0°	0.0	0.0							●	
	CTP20FLN	1	Yes	.472	12.0	.079	2.0	.264	6.7	0°	.002	0.05					○	●		
	CTPX20FLN	1	Yes	.472	12.0	.079	2.0	.264	6.7	0°	.002	0.05			●	●				
	CTP20FLN-TH	1	Yes	.472	12.0	.079	2.0	.264	6.7	0°	.002	0.05	●							
	CTP20FLNV Ⓜ	3	No	.472	12.0	.079	2.0	.264	6.7	0°	0.0	0.0							●	

FL

Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	(mm)	w (Inch)	(mm)	L (Inch)	(mm)	θ	$r_{\varepsilon 1}$ (Inch)	(mm)	Coated Carbide ST4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
Figure-1 	CTP07FL	1	Yes	.315	8.0	.028	0.7	.177	4.5	16°	.002	0.05					●		
	CTP10FL	1	Yes	.472	12.0	.039	1.0	.264	6.7	16°	.002	0.05					●		
	CTP10FLV Ⓜ	2	No	.472	12.0	.039	1.0	.264	6.7	20°	0.0	0.0				○	○		
	CTP15FL	1	Yes	.472	12.0	.059	1.5	.264	6.7	16°	.002	0.05					○		
	CTPX15FL	1	Yes	.472	12.0	.059	1.5	.264	6.7	16°	.002	0.05		●					
Figure-2 Flat top 	CTP15FLV Ⓜ	2	No	.472	12.0	.059	1.5	.264	6.7	20°	0.0	0.0				○	○		
	CTP20FL	1	Yes	.472	12.0	.079	2.0	.264	6.7	16°	.002	0.05					●		
	CTPX20FL	1	Yes	.472	12.0	.079	2.0	.264	6.7	16°	.002	0.05		●					
	CTP20FLV Ⓜ	2	No	.472	12.0	.079	2.0	.264	6.7	20°	0.0	0.0				○	○		

Holders ➡S8 Tool selection guide ➡S4 Cutting Condition ➡S5

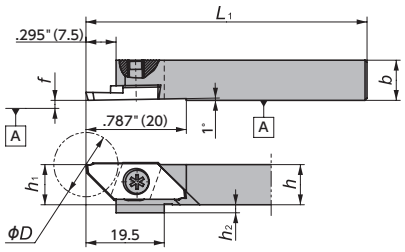
● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

CTPA Series - Toolholders

Max. Cut-off Dia. -ϕ.630"(16.0㎜)

CTPA

Screw Accessible from both sides



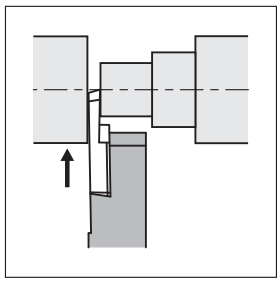
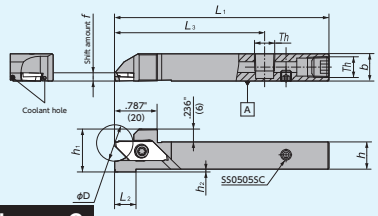


Figure-1

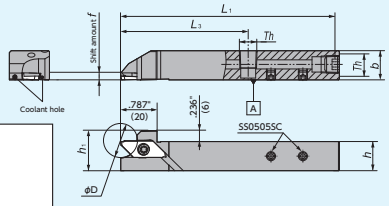
Right-Hand style shown

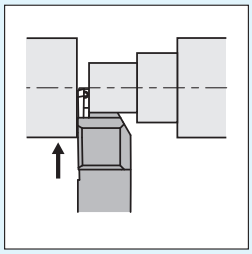
CTPA-OH2 (Coolant through)

Screw Accessible from both sides



CTPA R/L 10X, CTPA R/L 16X





Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

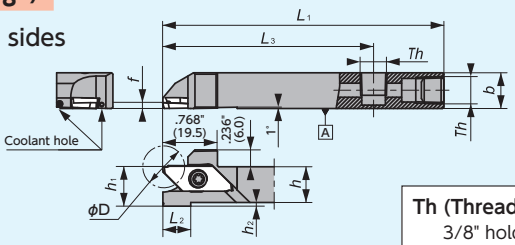
Figure-2

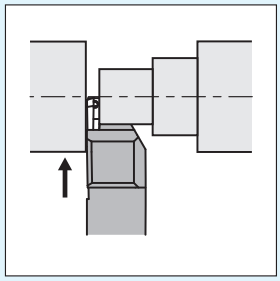
●Left-Hand holders are designed for Right-Hand machines

Right-Hand style shown

CTPA-OH (Coolant through)

Screw Accessible from both sides





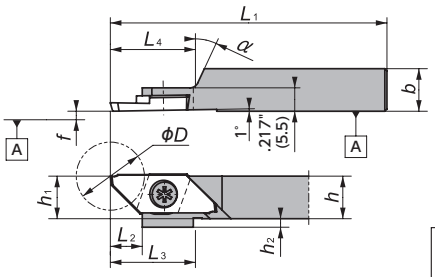
Th (Thread type)
3/8" holder : M6×1
1/2", 5/8" holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

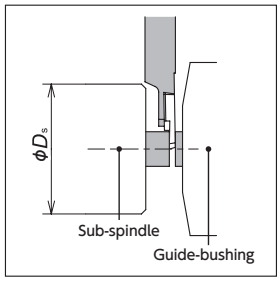
Figure-3

●Left-Hand holders are designed for Right-Hand machines

Right-Hand style shown

CTPAR-SUB

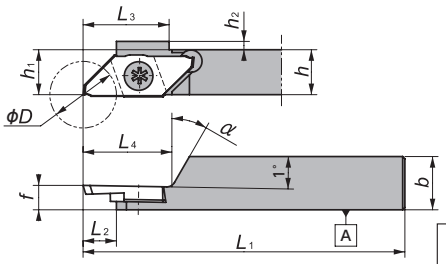


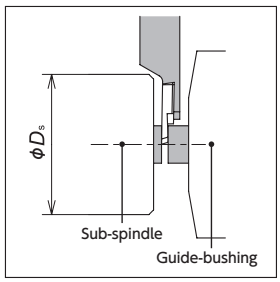


ϕDs
CTPAR-SUB: ϕ1.42" (ϕ36㎜)

Figure-4

CTPAL-SUB





ϕDs
CTPAL-SUB: ϕ1.42" (ϕ36㎜)

Figure-5

CTPA

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Cut-off Dia. φD* (Inch)	φD* (mm)	h (Inch)	h (mm)	h1 (Inch)	h1 (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	h2 (Inch)	h2 (mm)	L2 (Inch)	L2 (mm)	L3 (Inch)	L3 (mm)	Th	f (Inch)	f (mm)	Clamp Screw	Wrench
 CTPA FR../FL..	CTPA R/L06-IN	1	●	●	.630	16	3/8		3/8		3/8		4.724	120	.079	2	–		–		–	0.0	0.0	LRIS-4×10PW	CLR-15S
	CTPA R/L08-IN	1	●	●	.630	16	1/2		1/2		1/2		4.724	120	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L10-IN	1	●	●	.630	16	5/8		5/8		5/8		4.724	120	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L10	1	○	○	.630	16	.394	10	.394	10	.394	10	4.724	120	.079	2	–		–		–	0.0	0.0	LRIS-4×10PW	CLR-15S
	CTPA R/L12	1	●	●	.630	16	.472	12	.472	12	.472	12	4.724	120	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L16	1	○	○	.630	16	.630	16	.630	16	.630	16	4.724	120	0	0	–		–		–	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L20F	1	○	○	.630	16	.787	20	.787	20	.787	20	3.150	80	0	0	–		–		–	0.0	0.0	LRIS-4×10	LLR-25S
	CTPA R/L06H-IN-OH 💧	3	●	●	.630	16	3/8		.472	12	3/8		3.937	100	.176	4.475	.787	20	2.953	75	M6 × 1	0.0	0.0	LRIS-4×10PW	CLR-15S
	CTPA R/L08H-IN-OH 💧	3	■	■	.630	16	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.953	75	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L08H-IN-OH2 💧	2	●	●	.630	16	1/2		1/2		1/2		3.937	100	.051	1.3	.394	10	2.756	70	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L10H-IN-OH 💧	3	●	●	.630	16	5/8		5/8		5/8		3.937	100	0	0	–		2.953	75	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L10X-IN-OH2 💧	2	●	●	.630	16	5/8		5/8		5/8		4.724	120	0	0	–		2.756	70	NPT1/8	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L12H-OH 💧	3	■	■	.630	16	.472	12	.472	12	.472	12	3.937	100	.079	2	.394	10	2.953	75	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L12H-OH2 💧	2	●	●	.630	16	.472	12	.472	12	.472	12	3.937	100	.079	2	.394	10	2.756	70	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L16H-OH 💧	3	○	○	.630	16	.630	16	.630	16	.630	16	3.937	100	0	0	0	0	2.953	75	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S
	CTPA R/L16X-OH2 💧	2	●	●	.630	16	.630	16	.630	16	.630	16	4.724	120	0	0	0	0	2.756	70	Rc1/8(PT1/8)	0.0	0.0	LRIS-4×12PW	CLR-15S

● Left-Hand coolant through holders are designed for Right-Hand machines

＊Would be changed by insert

CTPAR-SUB

Gage Insert	Item Number	Figure	Stock R	Max. Cut-off Dia. φD* (Inch)	φD* (mm)	h (Inch)	h (mm)	h1 (Inch)	h1 (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	h2 (Inch)	h2 (mm)	L2 (Inch)	L2 (mm)	L3 (Inch)	L3 (mm)	L4 (Inch)	L4 (mm)	α	f (Inch)	f (mm)	Clamp Screw	Wrench
 CTPA..FR..	CTPAR06-IN-SUB	4	●	.630	16	3/8		3/8		3/8		4.724	120	.079	2	.295	7.5	.768	19.5	.787	20	25°	0	0.0	LRIS-4×5	LLR-25S
	CTPAR08-IN-SUB	4	●	.630	16	1/2		1/2		1/2		4.724	120	0	0	.295	7.5	.768	19.5	.787	20	25°	0	0.0	LRIS-4×5	LLR-25S
	CTPAR10-IN-SUB	4	●	.630	16	5/8		5/8		5/8		4.724	120	0	0	.295	7.5	.768	19.5	.787	20	25°	0	0.0	LRIS-4×5	LLR-25S
	CTPAR10GX-SUB	4	○	.630	16	.394	10	.394	10	.394	10	3.346	85	.079	2	.787	20	.768	19.5	.787	20	25°	0	0.0	LRIS-4×5	LLR-25S
	CTPAR12GX-SUB	4	○	.630	16	.472	12	.472	12	.472	12	3.346	85	0	0	.787	20	.768	19.5	.787	20	25°	0	0.0	LRIS-4×5	LLR-25S
	CTPAR12KX-SUB	4	○	.630	16	.472	12	.472	12	.472	12	4.724	120	0	0	.787	20	.768	19.5	.787	20	25°	0	0.0	LRIS-4×5	LLR-25S

＊Would be changed by insert

CTPAL-SUB

Gage Insert	Item number	Figure	Stock L	Max. Cut-off Dia. φD* (Inch)	φD* (mm)	h (Inch)	h (mm)	h1 (Inch)	h1 (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	h2 (Inch)	h2 (mm)	L2 (Inch)	L2 (mm)	L3 (Inch)	L3 (mm)	L4 (Inch)	L4 (mm)	α	f (Inch)	f (mm)	Clamp screw	Wrench
 CTPA..FL..	CTPAL06-IN-SUB	5	●	.630	16	3/8		3/8		3/8		4.724	120	.079	2	.295	7.5	.768	19.5	.787	20	30°	.217	5.5	LRIS-4×5	LLR-25S
	CTPAL08-IN-SUB	5	●	.630	16	1/2		1/2		1/2		4.724	120	0	0	.295	7.5	.768	19.5	.787	20	30°	.217	5.5	LRIS-4×5	LLR-25S
	CTPAL10-IN-SUB	5	●	.630	16	5/8		5/8		5/8		4.724	120	0	0	.295	7.5	.768	19.5	.787	20	30°	.217	5.5	LRIS-4×5	LLR-25S
	CTPAL10GX-SUB	5	○	.630	16	.394	10	.394	10	.394	10	3.346	85	.079	2	.787	20	.768	19.5	.787	20	30°	.217	5.5	LRIS-4×5	LLR-25S
	CTPAL12GX-SUB	5	○	.630	16	.472	12	.472	12	.472	12	3.346	85	0	0	.787	20	.768	19.5	.787	20	30°	.217	5.5	LRIS-4×5	LLR-25S
	CTPAL12KX-SUB	5	○	.630	16	.472	12	.472	12	.472	12	4.724	120	0	0	.787	20	.768	19.5	.787	20	30°	.217	5.5	LRIS-4×5	LLR-25S
	CTPAL16GX-SUB	5	○	.630	16	.630	16	.630	16	.630	16	3.346	85	0	0	1.102	28	.768	19.5	1.102	28	30°	.217	5.5	LRIS-4×5	LLR-25S

＊Would be changed by insert

Cutting condition ➡S5
Inserts (Right-hand) ➡S14 Inserts (Left-hand) ➡S15

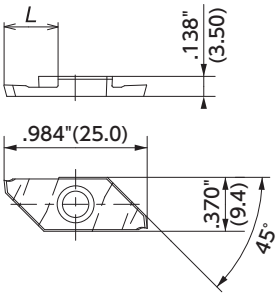
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

CTPA Series Inserts (Right-Hand)

Two-sided insert

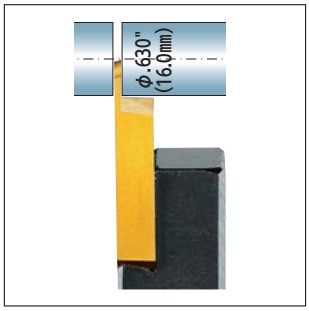
Max. Cut-off Dia. -ϕ.630"(16.0㎜)

CTPA / CTPAX



All angles shown are obtained when insert is set in the holder.

CX-Chipbreaker



Right-Hand style shown

FR

Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	Max. Cut-off Dia. ϕD (㎜)	w (Inch)	w (㎜)	L (Inch)	L (㎜)	θ	$r_{\varepsilon 1}$ (Inch)	$r_{\varepsilon 1}$ (㎜)	Coated Carbide ST4	DM4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
Figure-1	CTPA07FR	1	Yes	.315	8.0	.028	0.7	.177	4.5	16°	.002	0.05						●		
	CTPA10FR	1	Yes	.472	12.0	.039	1.0	.264	6.7	16°	.002	0.05				●	●	●		
Figure-2 Flat top	CTPA10FRFT	4	No	.472	12.0	.039	1.0	.264	6.7	20°	.002	0.05				●				
	CTPA15FR	1	Yes	.630	16.0	.059	1.5	.362	9.2	16°	.002	0.05			●	●	●	●		
	CTPA15FR-CX	2	Yes-CX	.630	16.0	.059	1.5	.362	9.2	16°	.002	0.05	●	●						
Figure-3 Flat top	CTPA15FR-TH	1	Yes	.630	16.0	.059	1.5	.362	9.2	16°	.002	0.05	●							
	CTPA15FRFT	4	No	.630	16.0	.059	1.5	.362	9.2	20°	.002	0.05				●				
Figure-4 Flat top	CTPA20FR	1	Yes	.630	16.0	.079	2.0	.362	9.2	16°	.002	0.05			●	●	●	●		
	CTPA20FR-TH	1	Yes	.630	16.0	.079	2.0	.362	9.2	16°	.002	0.05	●							
	CTPA20FRV Ⓜ	3	No	.630	16.0	.079	2.0	.362	9.2	20°	0.0	0.0					○		●	

FRN

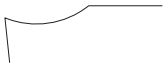
Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	Max. Cut-off Dia. ϕD (㎜)	w (Inch)	w (㎜)	L (Inch)	L (㎜)	θ	$r_{\varepsilon 1}$ (Inch)	$r_{\varepsilon 1}$ (㎜)	Coated Carbide ST4	DM4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
Figure-1	CTPA07FRN	1	Yes	.315	8.0	.028	0.7	.177	4.5	0°	.002	0.05						●		
	CTPA10FRN	1	Yes	.472	12.0	.039	1.0	.264	6.7	0°	.002	0.05				●		●		
	CTPA10FRS	3	No	.630	16.0	.039	1.0	.362	9.2	0°	.002	0.05				●				
Figure-2	CTPA15FRN	1	Yes	.630	16.0	.059	1.5	.362	9.2	0°	.002	0.05			●	●	●	●		
	CTPA15FRN-CX	2	Yes-CX	.630	16.0	.059	1.5	.362	9.2	0°	.002	0.05	●	●						
	CTPA15FRN-TH	1	Yes	.630	16.0	.059	1.5	.362	9.2	0°	.002	0.05	●							
	CTPA15FRS	3	No	.630	16.0	.059	1.5	.362	9.2	0°	.002	0.05				●				
Figure-3 Flat top	CTPA20FRN	1	Yes	.630	16.0	.079	2.0	.362	9.2	0°	.002	0.05			●	●	●	●		
	CTPA20FRN-TH	1	Yes	.630	16.0	.079	2.0	.362	9.2	0°	.002	0.05	●							
	CTPA20FRS	3	No	.630	16.0	.079	2.0	.362	9.2	0°	.002	0.05				●		○		
Figure-4 PCD tipped	CTPA20FRNV Ⓜ	3	No	.630	16.0	.079	2.0	.362	9.2	0°	0.0	0.0							●	
	CTPA20FRN-P	4	Yes	.630	16.0	.079	2.0	.362	9.2	0°	.004	0.1								○
	CTPA30FRN	1	Yes	.630	16.0	.118	3.0	.362	9.2	0°	.002	0.05				○				

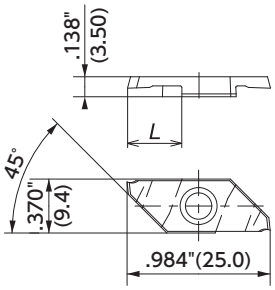
CTPA Series Inserts (Left-Hand)

Two-sided insert

Max. Cut-off Dia. -ϕ.630"(16.0mm)

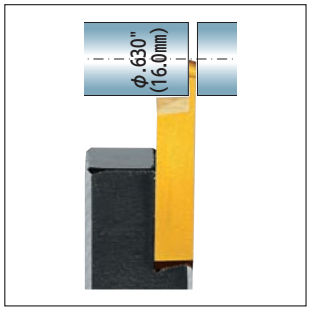
■CTPA / CTPAX





All angles shown are obtained when insert is set in the holder.

CX-Chipbreaker
(Right-hand shown)



Left-Hand style shown

■FLK

Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	(mm)	w (Inch)	(mm)	L (Inch)	(mm)	θ	$r_{\varepsilon 1}$ (Inch)	(mm)	Coated Carbide ST4	DM4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
Figure-1	CTPA07FLK	1	Yes	.256	6.5	.028	0.7	.177	4.5	16°	.002	0.05						●		
	CTPA10FLK	1	Yes	.433	11.0	.039	1.0	.264	6.7	16°	.002	0.05				●	●	●		
	CTPA10FLKD	1	Yes	.630	16.0	.039	1.0	.362	9.2	16°	.002	0.05						○		
	CTPA10FLKFT	3	No	.472	12.0	.039	1.0	.311	7.9	16°	.0.0	0.0				●				
Figure-2	CTPA15FLK	1	Yes	.571	14.5	.059	1.5	.362	9.2	16°	.002	0.05			●	●	●	●		
	CTPA15FLK-CX	2	Yes-CX	.571	14.5	.059	1.5	.362	9.2	16°	.002	0.05	●	●						
	CTPA15FLK-TH	1	Yes	.571	14.5	.059	1.5	.362	9.2	16°	.002	0.05	●							
	CTPA15FLKFT	3	No	.630	16.0	.059	1.5	.394	10.0	16°	0.0	0.0				●				
Figure-3 Flat top	CTPA15FLKV Ⓜ	3	No	.571	14.5	.059	1.5	.362	9.2	20°	0.0	0.0				●				
	CTPA20FLK	1	Yes	.571	14.5	.079	2.0	.362	9.2	16°	.002	0.05			●	●	●	●		
	CTPA20FLK-TH	1	Yes	.571	14.5	.079	2.0	.362	9.2	16°	.002	0.05	●							
	CTPA20FLKV Ⓜ	3	No	.571	14.5	.079	2.0	.362	9.2	20°	0.0	0.0					○		●	

■FLN

Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	(mm)	w (Inch)	(mm)	L (Inch)	(mm)	θ	$r_{\varepsilon 1}$ (Inch)	(mm)	Coated Carbide ST4	DM4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
Figure-1	CTPA10FLN	1	Yes	.472	12.0	.039	1.0	.264	6.7	0°	.002	0.05				●		●		
	CTPA10FLND	1	Yes	.630	16.0	.039	1.0	.362	9.2	0°	.002	0.05						○		
	CTPA10FLS	3	No	.630	16.0	.039	1.0	.362	9.2	0°	.002	0.05				●				
Figure-2	CTPA15FLN	1	Yes	.630	16.0	.059	1.5	.362	9.2	0°	.002	0.05			●	●	○	●		
	CTPA15FLN-CX	2	Yes-CX	.630	16.0	.059	1.5	.362	9.2	0°	.002	0.05	●	●						
	CTPA15FLN-TH	1	Yes	.630	16.0	.059	1.5	.362	9.2	0°	.002	0.05	●							
	CTPA15FLS	3	No	.630	16.0	.059	1.5	.362	9.2	0°	.002	0.05				●				
Figure-3 Flat top	CTPA20FLN	1	Yes	.630	16.0	.079	2.0	.362	9.2	0°	.002	0.05			●	●	○	●		
	CTPA20FLN-TH	1	Yes	.630	16.0	.079	2.0	.362	9.2	0°	.002	0.05	●							
	CTPA20FLS	3	No	.630	16.0	.079	2.0	.362	9.2	0°	.002	0.05				●		○		
Figure-4 PCD tipped	CTPA20FLNV Ⓜ	3	No	.630	16.0	.079	2.0	.362	9.2	0°	0.0	0.0							●	
	CTPA20FLN-P	4	Yes	.630	16.0	.079	2.0	.362	9.2	0°	.004	0.1								○
	CTPA30FLN	1	Yes	.630	16.0	.118	3.0	.362	9.2	0°	.002	0.05				○				

■FL

Shape	Item Number	Figure	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	(mm)	w (Inch)	(mm)	L (Inch)	(mm)	θ	$r_{\varepsilon 1}$ (Inch)	(mm)	Coated Carbide ST4	DT4	QM3	VM1	ZM3	Carbide KM1	PCD PD1
Figure-1	CTPA07FL	1	Yes	.315	8.0	.028	0.7	.177	4.5	16°	.002	0.05					○		
	CTPA10FL	1	Yes	.472	12.0	.039	1.0	.264	6.7	16°	.002	0.05					○		
Figure-2 Flat top	CTPA15FL	1	Yes	.630	16.0	.059	1.5	.362	9.2	16°	.002	0.05		●			○		
	CTPA20FL	1	Yes	.630	16.0	.079	2.0	.362	9.2	16°	.002	0.05		●			○		
	CTPA20FLV Ⓜ	2	No	.630	16.0	.079	2.0	.362	9.2	20°	0.0	0.0				○			

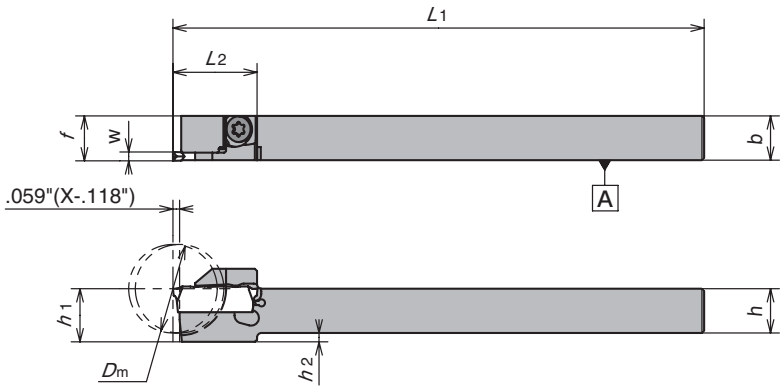
Holders ➡S12 Tool selection guide ➡S4 Cutting Condition ➡S5

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

CTDP (Cut Duo) Series

Max. Cut-off Dia. -ϕ.787"(20.0mm), -ϕ1.339"(34.0mm)

CTDP



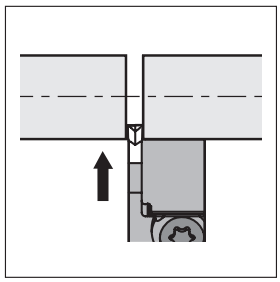
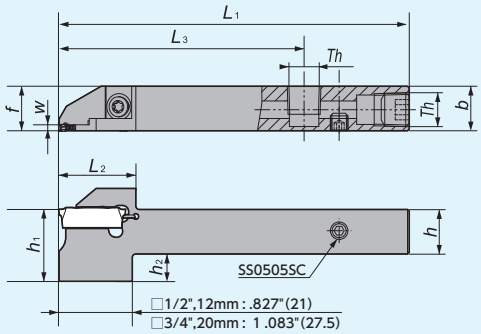


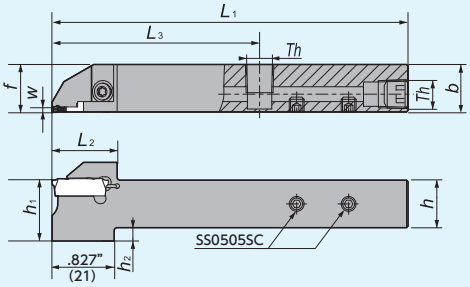
Figure-1

Right-Hand style shown

CTDP-OH2 (Coolant through)



CTDPR/L10-IN, CTDPR/L16



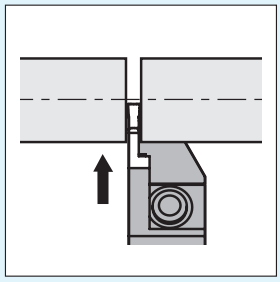


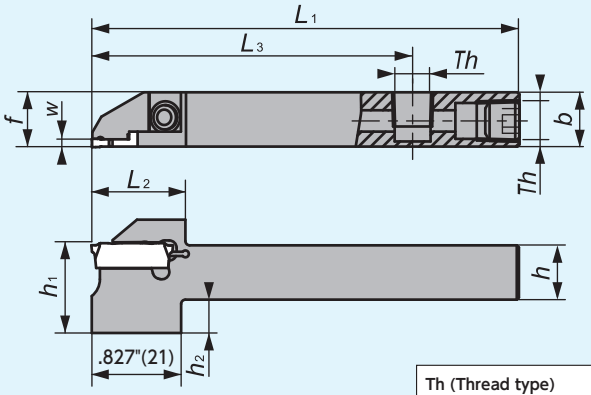
Figure-2

●Left-Hand holders are designed for Right-Hand machines

Th (Thread type)	
Inch size holder	: NPT1/8
Metric size holder	: Rc1/8(PT1/8)

Right-Hand style shown

CTDP-OH (Coolant through)



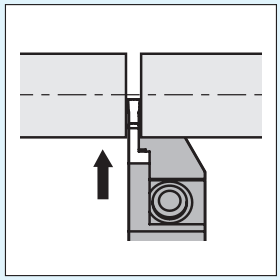


Figure-3

●Left-Hand holders are designed for Right-Hand machines

Th (Thread type)	
Inch size holder	: NPT1/8
Metric size holder	: Rc1/8(PT1/8)

Right-Hand style shown

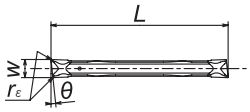
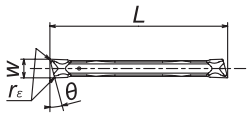
CTDP Series - Toolholders

■CTDP

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Cut-off Dia. D_m (Inch)	(mm)	w (Inch)	(mm)	h (Inch)	(mm)	b (Inch)	(mm)	h_1 (Inch)	(mm)	L_1 (Inch)	(mm)	h_2 (Inch)	(mm)	L_2 (Inch)	(mm)	L_3 (Inch)	(mm)	Th	f (Inch)	(mm)	Clamp Screw	Wrench
CTDP20	CTDP R/L 06-IN-20D20	1	●	●	.787	20.0	.079	2.0	3/8		.394	10	3/8		4.729	120	.019	0.5	.748	19.0	–		–	.400	10.150	LRIS-4 × 12	LLR-25S
	CTDP R/L 08-IN-20D25	1	●	●	.984	25.0	.079	2.0	1/2		1/2		1/2		4.729	120	0	0	.866	22.0	–		–	.506	12.850	LRIS-4 × 12	LLR-25S
	CTDP R/L 10-IN-20D32	1	●	●	1.260	32.0	.079	2.0	5/8		5/8		5/8		4.729	120	0	0	1.083	27.5	–		–	.631	16.025	LRIS-5 × 10	LLR-28S
	CTDP R/L 12-IN-20D32	1	●	●	1.260	32.0	.079	2.0	3/4		3/4		3/4		4.729	120	0	0	1.083	27.5	–		–	.756	19.200	LRIS-5 × 10	LLR-28S
	CTDP R/L 10-20D20	1	○	○	.787	20.0	.079	2.0	.394	10	.394	10	.394	10	4.724	120	.079	2	.748	19.0	–		–	.400	10.15	LRIS-4 × 12	LLR-25S
	CTDP R/L 12-20D20	1	○	○	.787	20.0	.079	2.0	.472	12	.472	12	.472	12	4.724	120	0	0	.748	19.0	–		–	.478	12.15	LRIS-4 × 12	LLR-25S
	CTDP R/L 12-20D25	1	●	○	1.000	25.4	.079	2.0	.472	12	.472	12	.472	12	4.724	120	0	0	.866	22.0	–		–	.478	12.15	LRIS-4 × 12	LLR-25S
	CTDP R/L 16-20D25	1	●	○	1.000	25.4	.079	2.0	.630	16	.630	16	.630	16	4.724	120	0	0	.866	22.0	–		–	.636	16.15	LRIS-4 × 12	LLR-25S
	CTDP R/L 16-20D32A	1	○	○	1.260	32.0	.079	2.0	.630	16	.630	16	.630	16	4.724	120	0	0	1.083	27.5	–		–	.636	16.15	LRIS5 × 10	LLR-28S
	CTDP R/L 2012-20D32A	1	○	○	1.260	32.0	.079	2.0	.787	20	.472	12	.787	20	4.724	120	0	0	1.161	29.5	–		–	.478	12.15	LRIS5 × 10	LLR-28S
	CTDP R/L 20-20D32A	1	○	○	1.260	32.0	.079	2.0	.787	20	.787	20	.787	20	4.724	120	0	0	1.161	29.5	–		–	.793	20.15	LRIS5 × 10	LLR-28S
	CTDP R/L 08-IN-20D25-OH 💧	3	■	■	1.000	25.4	.079	2.0	1/2		1/2		.807	20.5	3.937	100	.307	7.8	.866	22.0	2.953	75	NPT1/8	.506	12.85	LRIS-4 × 12	LLR-25S
	CTDP R/L 08-IN-20D25-OH2 💧	2	●	●	1.000	25.4	.079	2.0	1/2		1/2		.807	20.5	3.937	100	.307	7.8	.866	22.0	2.756	70	NPT1/8	.506	12.85	LRIS-4 × 12	LLR-25S
	CTDP R/L 10-IN-20D25-OH 💧	3	●	●	1.000	25.4	.079	2.0	5/8		5/8		.807	20.5	3.937	100	.182	4.625	.866	22.0	2.953	75	NPT1/8	.631	16.025	LRIS-4 × 12	LLR-25S
	CTDP R/L 10-IN-20D25-OH2 💧	2	●	●	1.000	25.4	.079	2.0	5/8		5/8		.807	20.5	4.729	120	.182	4.625	.866	22.0	2.756	70	NPT1/8	.631	16.025	LRIS-4 × 12	LLR-25S
	CTDP R/L 12-20D25-OH 💧	3	■	■	1.000	25.4	.079	2.0	.472	12	.472	12	.807	20.5	3.937	100	.335	8.5	.866	22.0	2.953	75	Rc1/8(PT1/8)	.478	12.15	LRIS-4 × 12	LLR-25S
	CTDP R/L 12-20D25-OH2 💧	2	●	●	1.000	25.4	.079	2.0	.472	12	.472	12	.807	20.5	3.937	100	.335	8.5	.866	22.0	2.756	70	Rc1/8(PT1/8)	.478	12.15	LRIS-4 × 12	LLR-25S
	CTDP R/L 16-20D25-OH 💧	3	●	●	1.000	25.4	.079	2.0	.630	16	.630	16	.807	20.5	3.937	100	.177	4.5	.866	22.0	2.953	75	Rc1/8(PT1/8)	.636	16.15	LRIS-4 × 12	LLR-25S
	CTDP R/L 16-20D25-OH2 💧	2	●	●	1.000	25.4	.079	2.0	.630	12	.630	16	.807	20.5	4.729	120	.177	4.5	.866	22.0	2.756	70	Rc1/8(PT1/8)	.636	16.15	LRIS-4 × 12	LLR-25S
CTDP25	CTDP R/L 16-25D34A	1	●	○	1.339	34.0	.098	2.5	.630	16	.630	16	.630	16	4.724	120	0	0	1.122	28.5	–		–	.636	16.15	CS0516LSH	LW-3
	CTDP R/L 2012-25D34A	1	○	○	1.339	34.0	.098	2.5	.787	20	.472	12	.787	20	4.724	120	0	0	1.161	29.5	–		–	.478	12.15	CS0516LSH	LW-3
	CTDP R/L 20-25D34A	1	○	○	1.339	34.0	.098	2.5	.787	20	.787	20	.787	20	4.724	120	0	0	1.161	29.5	–		–	.793	20.15	CS0516LSH	LW-3
	CTDP R/L 12-IN-25D32-OH2 💧	2	●	●	1.260	32.0	.098	2.5	3/4		3/4		.945	24	4.729	120	.195	4.95	1.122	28.5	2.953	75	NPT1/8	.756	19.2	CS0516LSH	LW-3
	CTDP R/L 20-IN-25D34A-OH2 💧	2	●	●	1.260	32.0	.098	2.5	.787	20	.787	20	.945	24	4.729	120	.157	4.0	1.122	28.5	2.953	75	Rc1/8(PT1/8)	.793	20.15	CS0516LSH	LW-3

CTDP Series - Inserts

■CTDP

Shape		Item Number	w (Inch)	(mm)	L (Inch)	(mm)	θ	r_ε (Inch)	(mm)	Coated Carbide DM4	QM3	TM4
 Two-sided	 Neutral style shown	CTDP20N	.079	2.0	.752	19.1	0°	.002	0.05	●	●	○
		CTDP20N02	.079	2.0	.752	19.1	0°	.008	0.2	●	●	○
		CTDP20R6	.079	2.0	.752	19.1	6°	.002	0.05	●	●	○
		CTDP20R15	.079	2.0	.752	19.1	15°	.002	0.05	●	●	○
	 Right-Hand style shown	CTDP25N	.098	2.5	.835	21.2	0°	.002	0.05	●	●	○
		CTDP25N02	.098	2.5	.835	21.2	0°	.008	0.2	●	●	○
		CTDP25R6	.098	2.5	.835	21.2	6°	.002	0.05	●	●	○
		CTDP25R15	.098	2.5	.835	21.2	15°	.002	0.05	●	●	○

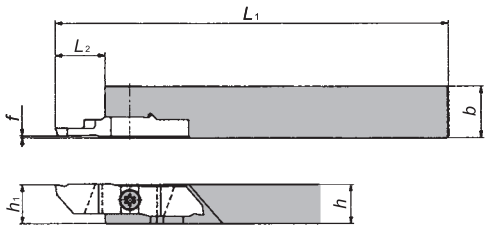
Cutting Condition ➜S5

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

CTPW Series - Toolholders

Max. Cut-off Dia. -ϕ.787"(20.0㎜)

CTPW



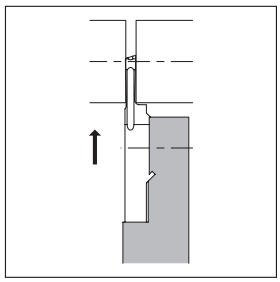


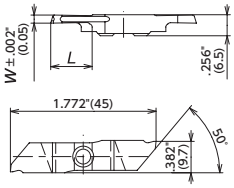
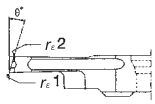
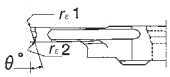
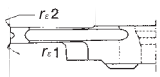
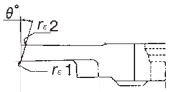
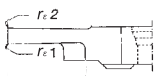
Figure-1

Right-Hand style shown

CTPW

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Cut-off Dia. ϕD (Inch)	(㎜)	h (Inch)	(㎜)	h_1 (Inch)	(㎜)	b (Inch)	(㎜)	L_1 (Inch)	(㎜)	h_2 (Inch)	(㎜)	L_2 (Inch)	(㎜)	L_3 (Inch)	(㎜)	Th	f (Inch)	(㎜)	Clamp Screw	Wrench
 CTPW FR../FL..	CTPW$^{R}_{L}$08-IN	1	●	●	.787	20	1/2		.498		.630	16	4.724	120	–	–	.591	15	–	–	–	0.0	0.0	LRIS-4×10	LLR-25S
	CTPW$^{R}_{L}$10-IN	1	●	●	.787	20	5/8		.623		.630	16	4.724	120	–	–	.591	15	–	–	–	0.0	0.0	LRIS-4×10	LLR-25S
	CTPW$^{R}_{L}$10A	1		○	.787	20	.394	10	.392	9.95	.630	16	4.724	120	–	–	.591	15	–	–	–	0.0	0.0	LRIS-4×10	LLR-25S
	CTPW$^{R}_{L}$10	1	○		.787	20	.394	10	.392	9.95	.472	12	4.724	120	–	–	.591	15	–	–	–	0.0	0.0	LRIS-4×10	LLR-25S
	CTPW$^{R}_{L}$12A	1		○	.787	20	.472	12	.470	11.95	.630	16	4.724	120	–	–	.591	15	–	–	–	0.0	0.0	LRIS-4×10	LLR-25S
	CTPW$^{R}_{L}$12	1	○		.787	20	.472	12	.470	11.95	.472	12	4.724	120	–	–	.591	15	–	–	–	0.0	0.0	LRIS-4×10	LLR-25S
	CTPW$^{R}_{L}$16	1	○	○	.787	20	.630	16	.628	15.95	.630	16	4.724	120	–	–	.591	15	–	–	–	0.0	0.0	LRIS-4×10	LLR-25S
	CTPW$^{R}_{L}$20	1	○	○	.787	20	.787	20	.785	19.95	.787	20	4.724	120	–	–	.591	15	–	–	–	0.0	0.0	LRIS-4×10	LLR-25S

CTPW Series Inserts

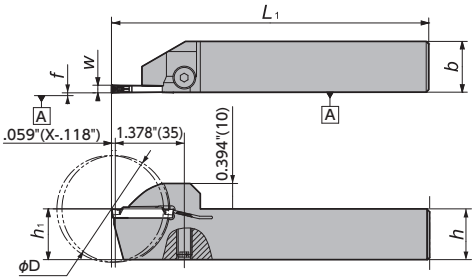
Shape		Item Number	Chip-breaker	Max. Cut-off Dia. ϕD (Inch)	(㎜)	w (Inch)	(㎜)	L (Inch)	(㎜)	θ	$r_{\varepsilon 1}$ (Inch)	(㎜)	$r_{\varepsilon 2}$ (Inch)	(㎜)	Coated Carbide ZM3 R	Coated Carbide ZM3 L
		CTPW25F$^{R}_{L}$	Yes	.787	20.0	.098	2.5	.472	12	17°	.002	0.05	.008	0.20	●	○
		CTPW25F$^{R}_{L}$K	Yes	.787	20.0	.098	2.5	.472	12	17°	.002	0.05	.008	0.20		●
		CTPW25F$^{R}_{L}$N	Yes	.787	20.0	.098	2.5	.472	12	0°	.002	0.05	.002	0.05	●	●
		CTPW25F$^{R}_{L}$P Ⓜ	No	.787	20.0	.098	2.5	.472	12	17°	.002	0.05	.008	0.20	○	○
		CTPW25F$^{R}_{L}$NV Ⓜ	No	.787	20.0	.098	2.5	.472	12	0°	0.0	0.0	0.00	0.00	●	●

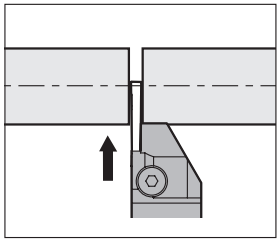
Cutting condition ➡S5

CTWP Series

Max. Cut-off Dia. -ϕ1.653"(42.0mm)

CTWP





Right-Hand style shown

CTWP Series - Toolholders

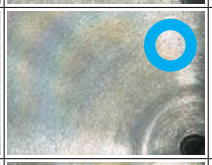
■CTWP

Gage Insert	Item Number	Stock R	Stock L	Max. Cut-off Dia. D_m (Inch)	(mm)	w (Inch)	(mm)	h (Inch)	(mm)	b (Inch)	(mm)	h_1 (Inch)	(mm)	L_1 (Inch)	(mm)	f (Inch)	(mm)	Clamp Screw	Wrench
GWPFM300	CTWPR/L12-IN-3D42	●	●	1.653	42.0	.118	3.0	3/4		3/4		3/4		5.0	127	.760	19.30	CS0619LSHW	LW-3
	CTWPR/L16-IN-3D42	●	●	1.653	42.0	.118	3.0	1		1		1		6.0	152.4	1.010	25.65	CS0623LSHW	LW-4
	CTWPR/L2012K-3D42	○	○	1.653	42.0	.118	3.0	.787	20	.472	12	.787	20	4.921	125	.482	12.25	CS0623LSHW	LW-5
	CTWPR/L2020K-3D42	●	●	1.653	42.0	.118	3.0	.787	20	.787	20	.787	20	4.921	125	.797	20.25	CS0623LSHW	LW-6
	CTWPR/L2525M-3D42	●	●	1.653	42.0	.118	3.0	.984	25	.984	25	.984	25	5.906	150	.994	25.25	CS0623LSHW	LW-7

CTWP Series - Inserts

■CTWP

Shape	Item Number	w (Inch)	(mm)	r_ε (Inch)	(mm)	M (Inch)	(mm)	L (Inch)	(mm)	Coated Carbide DM4
	GWPFM300N02-GT	.118	3.0	.008	0.2	.087	2.2	.965	24.5	●
	GWPFM300N04-GT	.118	3.0	.016	0.4	.087	2.2	.965	24.5	●

Feed IPR	CUT MAX Chip	CUT MAX Surface finish	Competitor A (3D molded low cutting force type chipbreaker) Chip	Competitor A Surface finish	Competitor B (3D molded rigid type chipbreaker) Chip	Competitor B Surface finish
.0012						
.0020						
.0039						
	Excellent machined surface finish		In high feed rate area, rough surface finish		In low feed rate area, rough surface finish	

Cutting condition : 330SFM WET Material : 1045 (ϕ1.653")
Holder : CTWPR2020K-3D42 Insert : GWPFM300N02-GT DM4

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

CTV Series

Max. Cut-off Dia. -ϕ.787"(20.0㎜)

CTV-K2

Screw Accessible from both sides

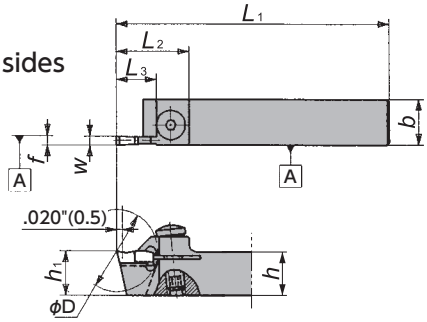
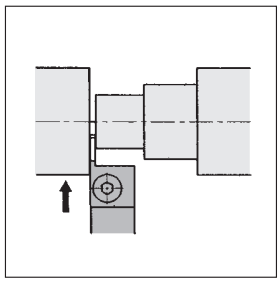


Figure-1



Right-Hand style shown

CTVN-K2

Screw Accessible from both sides

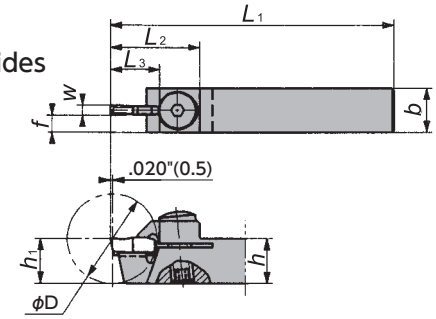
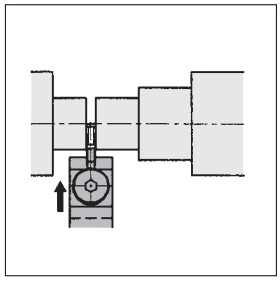


Figure-2



CTV Series - Toolholders

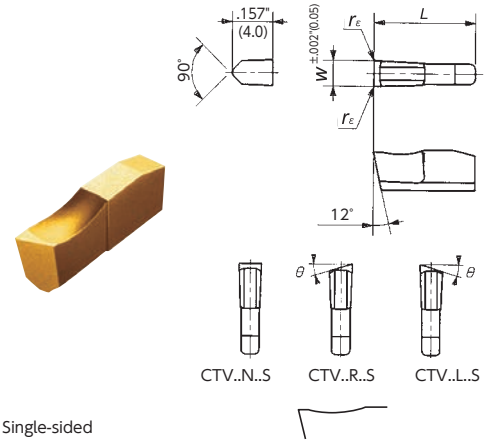
■CTV

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Cut-off Dia. ϕD (Inch)	Max. Cut-off Dia. ϕD (㎜)	w (Inch)	w (㎜)	h (Inch)	h (㎜)	b (Inch)	b (㎜)	h_1 (Inch)	h_1 (㎜)	L_1 (Inch)	L_1 (㎜)	L_2 (Inch)	L_2 (㎜)	L_3 (Inch)	L_3 (㎜)	f (Inch)	f (㎜)	Clamp Screw	Wrench
 CTV-S	CTV型10K2	1	○	○	.787	20.0	.087(.098)	2.2(2.5)	.394	10	.394	10	.394	10	4.724	120	.787	20.0	.433	11	0.0	0.0	A0S-5 × 16	LW-2.5S
	CTV型12GX2	1		○	.787	20.0	.087(.098)	2.2(2.5)	.472	12	.472	12	.472	12	3.346	85	.787	20.0	.433	11	0.0	0.0	A0S-5 × 16	LW-2.5S
	CTV型12K2	1	○	○	.787	20.0	.087(.098)	2.2(2.5)	.472	12	.472	12	.472	12	4.724	120	.787	20.0	.433	11	0.0	0.0	A0S-5 × 16	LW-2.5S
	CTVN10K2	2	○		.787	20.0	.087(.098)	2.2(2.5)	.394	10	.394	10	.394	10	4.724	120	.768	19.5	.433	11	.154	3.9	A0S-5 × 16	LW-2.5S
	CTVN12K2	2	○		.787	20.0	.087(.098)	2.2(2.5)	.472	12	.472	12	.472	12	4.724	120	.768	19.5	.433	11	.193	4.9	A0S-5 × 16	LW-2.5S

Note: *f* shows when takes CTV22.. insert

CTV Series - Inserts

■CTV-S

Shape	Item Number	w (Inch)	w (㎜)	L (Inch)	L (㎜)	θ	r_ε (Inch)	r_ε (㎜)	Coated Carbide ZM3
	CTV22N05S	.087	2.2	.394	10	0°	.002	0.05	○
	CTV22N10S	.087	2.2	.394	10	0°	.004	0.10	○
	CTV25N05S	.098	2.5	.394	10	0°	.002	0.05	○
	CTV25N10S	.098	2.5	.394	10	0°	.004	0.10	○
	CTV22R05S	.087	2.2	.394	10	17°	.002	0.05	○
	CTV22R10S	.087	2.2	.394	10	17°	.004	0.10	○
	CTV25R05S	.098	2.5	.394	10	17°	.002	0.05	○
	CTV25R10S	.098	2.5	.394	10	17°	.004	0.10	○
	CTV22L05S	.087	2.2	.394	10	17°	.002	0.05	○
	CTV22L10S	.087	2.2	.394	10	17°	.004	0.10	○
	CTV25L05S	.098	2.5	.394	10	17°	.002	0.05	○
	CTV25L10S	.098	2.5	.394	10	17°	.004	0.10	○

Cutting condition ➡S5

CTV Series

Max. Cut-off Dia. -ϕ1.772"(45.0㎜)

CTV (-S)

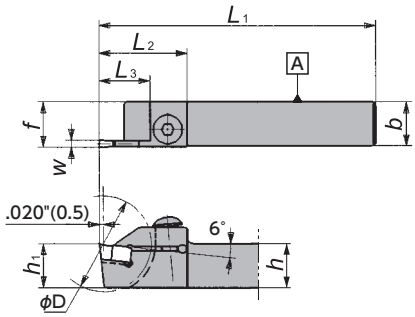
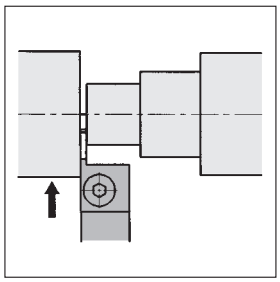


Figure-1



Right-Hand style shown

CTV-X

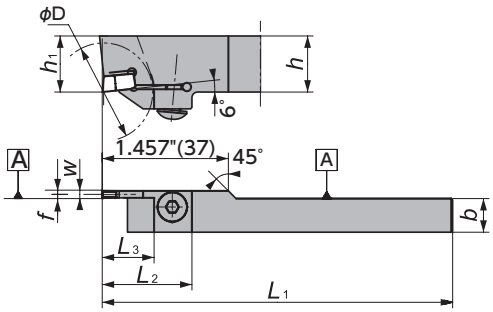
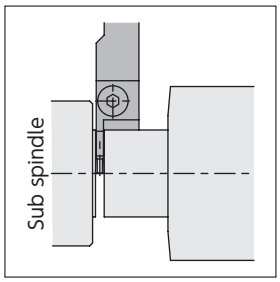


Figure-2



Left-Hand style shown

CTV-M (B)

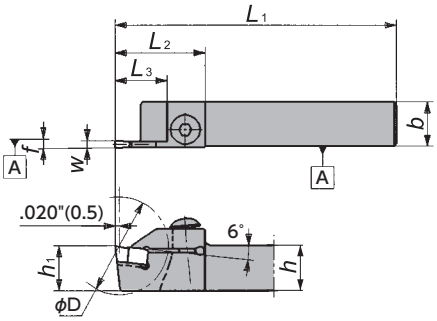
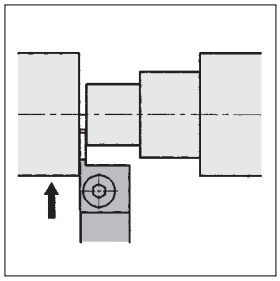


Figure-3



Right-Hand style shown

CTV Series - Toolholders

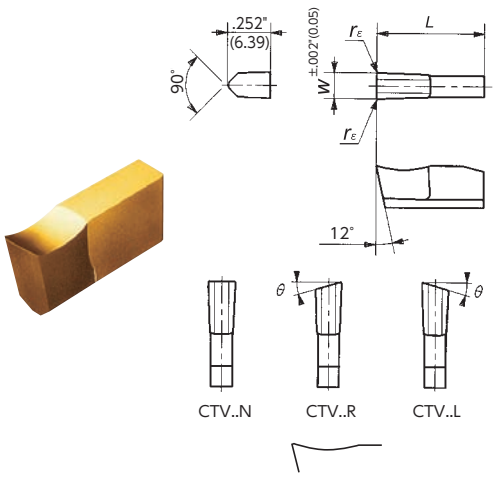
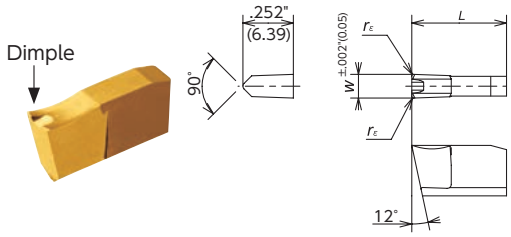
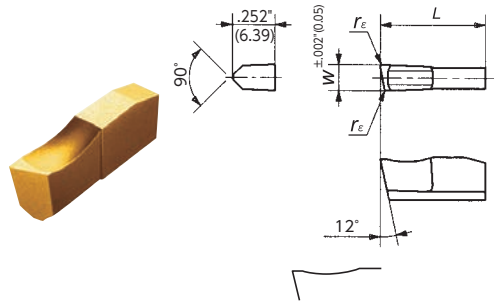
■CTV

Gage Insert	Item Number	Figure	Stock R	Stock L	Max. Cut-off Dia. D_m (Inch)	D_m (㎜)	w (Inch)	w (㎜)	h (Inch)	h (㎜)	b (Inch)	b (㎜)	h_1 (Inch)	h_1 (㎜)	L_1 (Inch)	L_1 (㎜)	L_2 (Inch)	L_2 (㎜)	L_3 (Inch)	L_3 (㎜)	f (Inch)	f (㎜)	Clamp Screw	Wrench
CTV25	CTVR/L08B	1	●		.900	22.9	.098	2.5	1/2		1/2		1/2		4.5	114	.945	24	.480	12.2	.520	13.2	BS0620	LW-4
	CTVR/L16K25	1	●	●	1.378	35.0	.098	2.5	.630	16	.630	16	.630	16	4.921	125	1.260	32	.728	18.5	.650	16.5	BS0620	LW-4
	CTVR/L16K25S	1	○		.906	23.0	.098	2.5	.630	16	.630	16	.630	16	4.921	125	.945	24	.480	12.2	.650	16.5	BS0620	LW-4
	CTVR/L16-25M	3	○		1.102	28.0	.098	2.5	.630	16	.630	16	.630	16	4.724	120	1.004	25.5	.591	15	.020	0.5	BS0520	LW-3
	CTVR/L20K25	1	●	○	1.378	35.0	.098	2.5	.787	20	.787	20	.787	20	4.921	125	1.260	32	.728	18.5	.807	20.5	BS0620	LW-4
	CTVR/L20K25S	1	○		.906	23.0	.098	2.5	.787	20	.787	20	.787	20	4.921	125	.945	24	.480	12.2	.807	20.5	BS0620	LW-4
	CTVR/L20-25M	3	○		1.102	28.0	.098	2.5	.787	20	.787	20	.787	20	4.724	120	1.004	25.5	.591	15	.020	0.5	BS0520	LW-3
	CTVR/L1913L25	1	○	○	1.378	35.0	.098	2.5	.748	19	.512	13	.748	19	5.512	140	1.260	32	.728	18.5	.512	13.0	BS0620	LW-4
CTV30	CTVR/L16K30	1	○	○	1.378	35.0	.118	3.0	.630	16	.630	16	.630	16	4.921	125	1.260	32	.728	18.5	.650	16.5	BS0620	LW-4
	CTVR/L16K30S	1	○		.906	23.0	.118	3.0	.630	16	.630	16	.630	16	4.921	125	.945	24	.480	12.2	.650	16.5	BS0620	LW-4
	CTVR/L16-30M	3	○		1.102	28.0	.118	3.0	.630	16	.630	16	.630	16	4.724	120	1.004	25.5	.591	15	.020	0.5	BS0520	LW-3
	CTVR/L20K30	1	○	○	1.378	35.0	.118	3.0	.787	20	.787	20	.787	20	4.921	125	1.260	32	.728	18.5	.807	20.5	BS0620	LW-4
	CTVR/L20K30S	1	○		.906	23.0	.118	3.0	.787	20	.787	20	.787	20	4.921	125	.945	24	.480	12.2	.807	20.5	BS0620	LW-4
	CTVR/L20-30M	3	○		1.102	28.0	.118	3.0	.787	20	.787	20	.787	20	4.724	120	1.004	25.5	.591	15	.020	0.5	BS0520	LW-3
	CTVR/L25-30B	3	○	○	1.772	45.0	.118	3.0	.984	25	.984	25	.984	25	5.906	150	1.358	34.5	.925	23.5	.020	0.5	BS0625	LW-4
	CTVR/L1913L30	1	○	○	1.378	35.0	.118	3.0	.748	19	.512	13	.748	19	5.512	140	1.260	32	.728	18.5	.512	13.0	BS0620	LW-4
	CTVR/L2012K30X-1	2		○	1.378	35.0	.118	3.0	.787	20	.472	12	.787	20	4.921	125	1.260	32	.728	18.5	.118	3.0	BS0620	LW-4

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

CTV Series - Inserts

CTV

Shape	Item Number	w (Inch)	w (mm)	L (Inch)	L (mm)	θ	r_ε (Inch)	r_ε (mm)	Coated Carbide QM3	Coated Carbide ZM3
 Single-sided	**CTV25N**	.098	2.5	.472	12	0°	.008	0.20		○
	CTV30N	.118	3.0	.472	12	0°	.008	0.20	○	○
	CTV25R	.098	2.5	.472	12	8°	.008	0.20		●
	CTV30R	.118	3.0	.472	12	8°	.008	0.20		○
	CTV30L	.118	3.0	.472	12	8°	.008	0.20		○
 Single-sided	**CTV30N038**	.118	3.0	.472	12	0°	.008	0.20		○
 Single-sided	**CTV25R00A**	.098	2.5	.472	12	8°	.002 MAX.	0.05 max.		●
	CTV30R00A	.118	3.0	.472	12	8°	.002 MAX.	0.05 max.		○
	CTV25R00B	.098	2.5	.472	12	17°	.002 MAX.	0.05 max.		●
	CTV30R00B	.118	3.0	.472	12	17°	.002 MAX.	0.05 max.		○

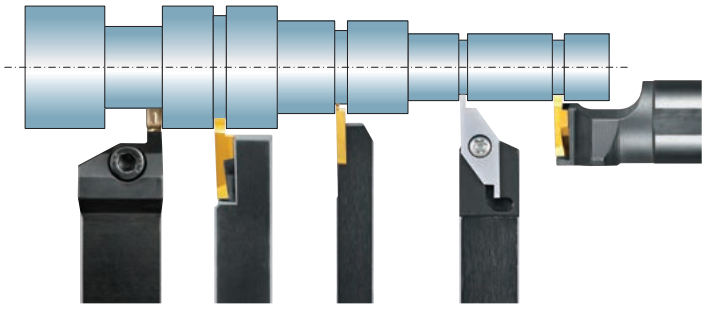
Cutting condition ➡S5

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

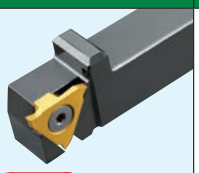
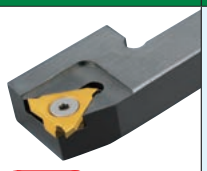
T

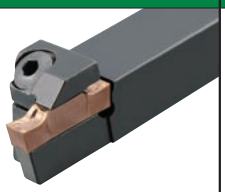
Grooving / Side Turning

NTK Grooving / Side Turning Tools - Product Lines

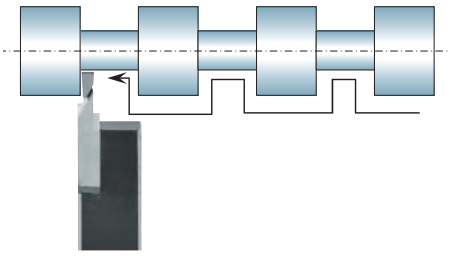


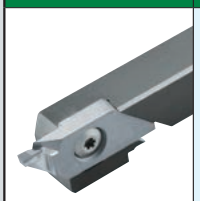
Insert	CSVG ➡T7		GTPS ➡T8
Holder	CSV	DS-CSV	CTPS
	 ➡T6	 ➡T6	 ➡T8
Blade width	.010" - .059" (0.25 - 1.50mm)		.030" - .079" (0.75 - 2.0mm)
Depth of cut	~.102" (~2.59mm)		~.098" (~2.50mm)

Insert	GTMH32 / GTMX32 / GTM32 / TMG32 ➡T12					
Holder	GTT	GTT-OH2/OH	Y-GTT	Y-GTT-OH2/OH	DS-GTT	CH-GTT
	 ➡T10	 ➡T10 Coolant through	 ➡T11 Y-axis	 ➡T11 Y-axis w/ Coolant through	 ➡T11	 ➡T10
Blade width	.012" - .118" (0.3 - 3.0mm)					
Depth of cut	~.106" (~2.69mm)					

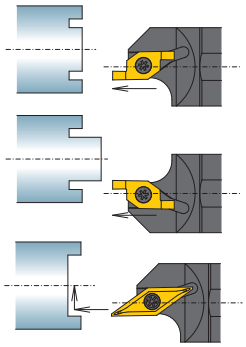
Insert	GWP ➡T9	GTM43 / GTMA43 / GTMT43 ➡T17		TWG ➡T16
Holder	GTWP	NGTN	NGTB	TWG
	 ➡T9	 ➡T17	 ➡T17	 ➡T16
Blade width	.118" - .236" (3.0 - 5.9mm)	.039" - .216" (1.0 - 5.49mm)		.079" - .118" (2.0 - 3.0mm)
Depth of cut	~.354" (~9.0mm)	.177" (4.50mm)		~.118" (~3.0mm)

Multifunctional Grooving for non-ferrous material



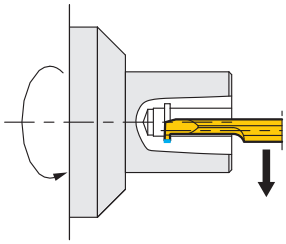
Insert	GTPA ➡T22			
Holder	GTPA	GTPA-OH	Y-GTPA	Y-GTPA-OH
	 ➡T22	 ➡T22 Coolant through	 ➡T22 Y-axis	 ➡T22 Y-axis w/ Coolant through
Blade width	.079" - .098" (2.0 - 2.50mm)			
Depth of cut	~.236" (~6.0mm)			

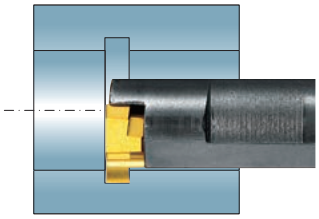
Face Grooving



Insert	FGV ➡T21	FBV ➡T21	
Holder	FGV	DS-FGV	CH-FGV
	 ➡T20	 ➡T20	 ➡T20
Blade width	.039" - .079" (1.0㎜ - 2.0㎜)		
Depth of cut	~.118" (~3.0㎜)	FGV : ~.118" (~3.0㎜)	
		FBV : ~.157" (~4.0㎜)	

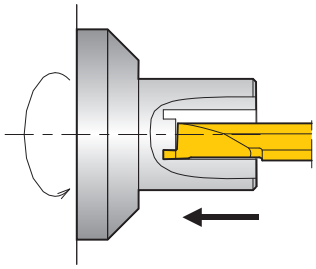
ID Grooving





Insert	SBG ➡V18	GTG ➡V19
Holder	NBH	S-BG / BG
	 ➡V14	 ➡V19
Blade width	.020" - .079" (0.5 - 2.0㎜)	.020" - .079" (0.5 - 2.0㎜)
Depth of cut	~.079" (~2.0㎜)	~.118" (~3.0㎜)

ID Face Grooving



Insert	SFG ➡V18
Holder	NBH
	 ➡V14
Blade width	.039" - .118" (1.0 - 3.0㎜)
Depth of cut	~.110" (~2.79㎜)

Recommended Cutting Conditions

Grooving

CSV / GTG / GTMH / GTMT / GTMX / SBG

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1		QM3	TM4 / DM4 / DT4	
Cutting Speed (SFM)		75 125 225	100 200 275		130 230 330		150 300 600	150 300 500	
Feed Rate (IPR) A. Grooving B. Side turning*	Width .010-.020	A. .0002 - .0012							
		B. .0001 - .0002							
	.020-.040	A. .0008 - .0024							A. .0008 - .0028
		B. .0002 - .0004							B. .0002 - .0004
	.040-.080	A. .0012 - .0028							A. .0012 - .0031
		B. .0008 - .0020							B. .0012 - .0024
	> .080	A. .0012 - .0079							
		B. .0012 - .0024							

*When side turining, Max. DOC is under .0079". Under .016" width side turning impossible

GVW / Groove Duo

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	QM3						
	2nd choice							
Cutting Speed (SFM)		75 125 225	100 200 275		130 230 330	150 300 600	150 300 500	
Feed Rate (IPR) A. Grooving B. Side turning*	Width .118-.157	A. .0020 - .0059						
	.157-.197	A. .0039 - .0079					A. .0039 - .0098	
							B. .0059 - .0118	
	> .197	A. .0059 - .0138						

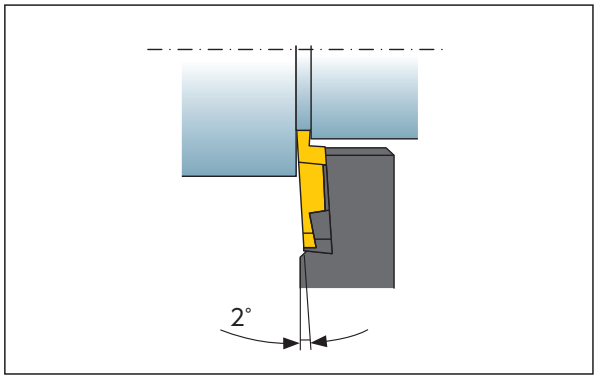
*Max DOC is 80% of width

GTPA

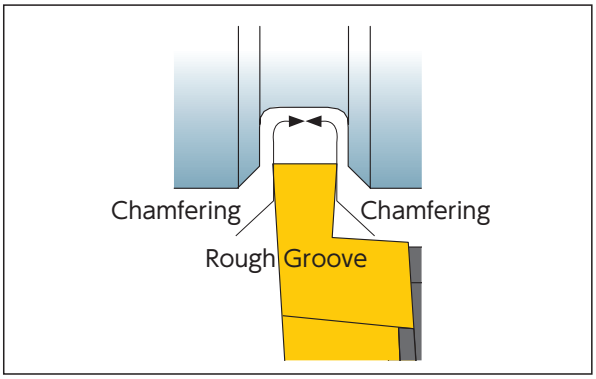
Work Material		Aluminum Alloy
Common Name		ASTM 5056 ASTM 6061
Grade	1st choice	PD1
	2nd choice	KM1
Cutting Speed (SFM)		PD1 330 650 1000 KM1 160 330 650
Feed Rate (IPR) A. Grooving B. Side turning		A. .0020 - .0079
		B. .0039 - .0079

OD Grooving

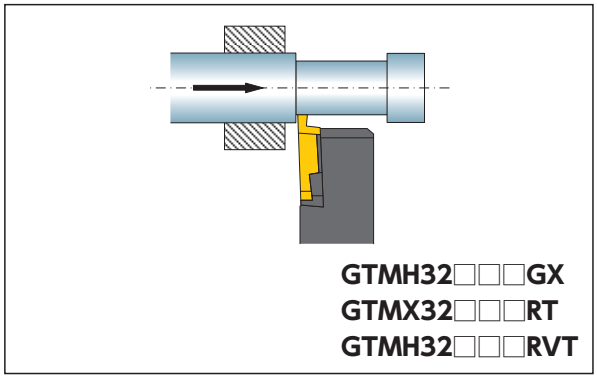
NTK GTMT / GTMH series can be used for uneven diameter grooving thanks to the 2 degree slanted insert mounting on the toolholder



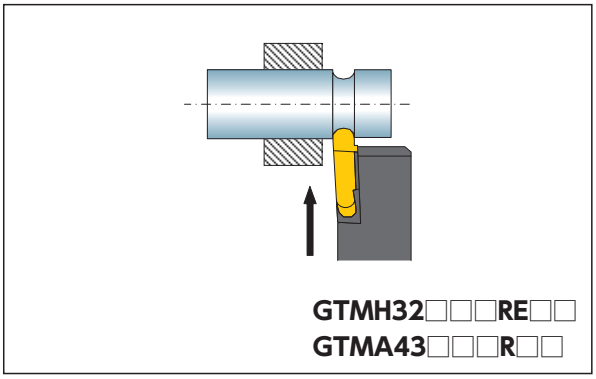
Chamfering and radius machining can be done after the rough grooving process at the center of the groove



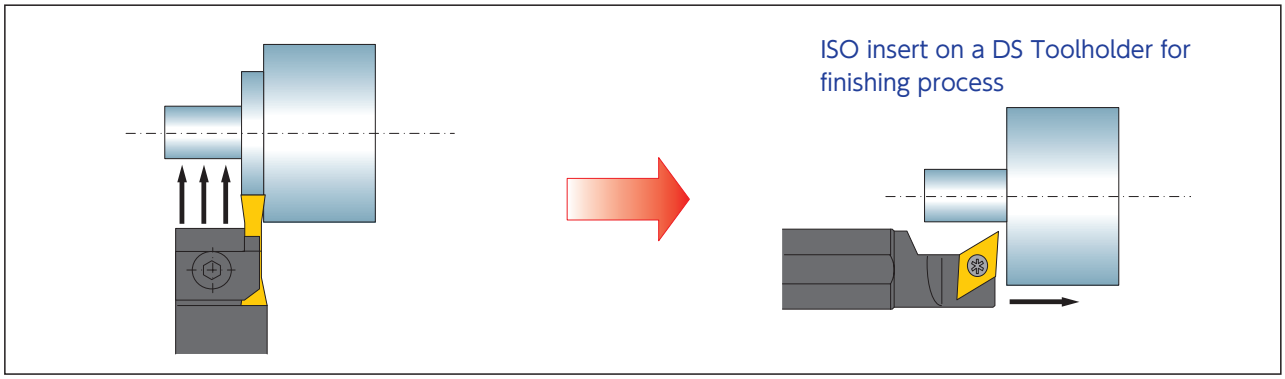
Side Turning



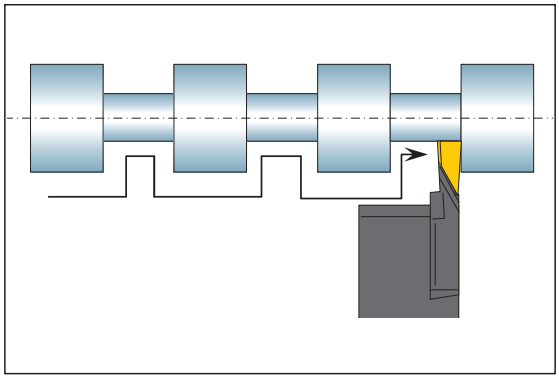
Full Radius



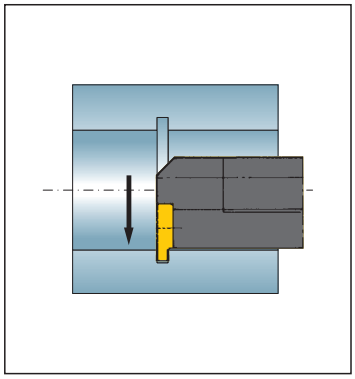
Rough Plunging for OD Turning



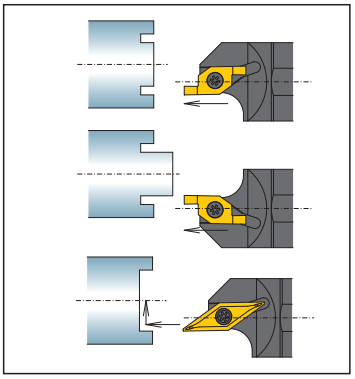
Spool Grooving



ID Grooving



Face Grooving



CSV Series

Best for up to .200" diameter material

CSV-NC

For Gang-style machine

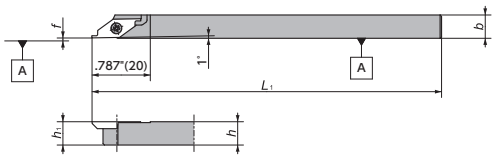


Figure-1

Right-Hand style shown

CSV

For Cam-style machine

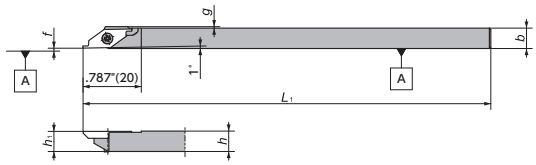


Figure-2

Right-Hand style shown

DS-CSVL

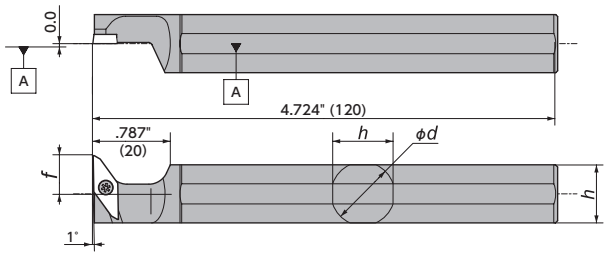


Figure-3

Left-Hand style shown
Takes Right-hand insert

CSV Series - Toolholders

CSVR/L / CSVR/L-NC

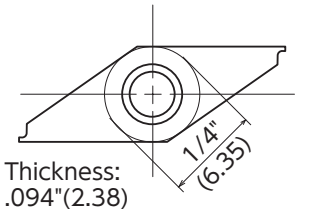
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h1 (Inch)	h1 (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	g (Inch)	g (mm)	Clamp Screw	Wrench
 CSV..11..	CSVR/L06-IN-NC	1	●	●	3/8		3/8		3/8		4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08-IN-NC	1	●	●	1/2		1/2		1/2		4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08NC	1	○	○	.315	8	.315	8	.315	8	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08NC-F	1	○		.315	8	.315	8	.315	8	4.724	120	0-.004	0.0-0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L10GXNC	1	○		.394	10	.394	10	.394	10	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L10NC	1	○	○	.394	10	.394	10	.394	10	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12NC	1	●	●	.472	12	.472	12	.472	12	4.724	120	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L07GX	2	○		.275	7	.275	7	.275	7	3.346	85	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSVR/L07	2	○	●	.275	7	.275	7	.275	7	5.512	140	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSVR/L08GX	2	○		.315	8	.315	8	.315	8	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L08	2	●	●	.315	8	.315	8	.315	8	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L095	2	○		.374	9.5	.374	9.5	.374	9.5	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L10	2	●	○	.394	10	.394	10	.394	10	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12GX	2	○		.472	12	.472	12	.472	12	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSVR/L12	2	●		.472	12	.472	12	.472	12	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S

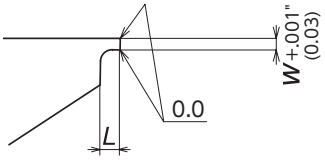
DS-CSVL (Takes right-hand insert)

Gage Insert	Item Number	Figure	Stock R	Stock L	Ds (Inch)	Ds (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 CSV..11FR..	DS-CSVL15	3		●	5/8	15.875	.591	15	.591	15	4.724	120	.394	10	LRIS-2.5 × 7	CLR-15S

CSV Series - Inserts

CSVG - Grooving Mirror finish





Shape	Item Number	Chip-breaker	Groove Width W (Inch)	Groove Width W (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	Coated Carbide VM1 R	Coated Carbide VM1 L
	CSVG11F⁸⁄₁V025 Ⓜ	No	.010	0.25	.006	0.15	.020	0.50	0.0	0.0	●	
	CSVG11F⁸⁄₁V030 Ⓜ	No	.012	0.30	.006	0.15	.020	0.50	0.0	0.0	●	
	CSVG11F⁸⁄₁V035 Ⓜ	No	.014	0.35	.006	0.15	.020	0.50	0.0	0.0	●	
	CSVG11F⁸⁄₁V040 Ⓜ	No	.016	0.40	.006	0.15	.020	0.50	0.0	0.0	●	
	CSVG11F⁸⁄₁V045 Ⓜ	No	.018	0.45	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⁸⁄₁V050 Ⓜ	No	.020	0.50	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⁸⁄₁V055 Ⓜ	No	.022	0.55	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⁸⁄₁V060 Ⓜ	No	.024	0.60	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⁸⁄₁V065 Ⓜ	No	.026	0.65	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⁸⁄₁V070 Ⓜ	No	.028	0.70	.018	0.45	.039	1.00	0.0	0.0	●	
	CSVG11F⁸⁄₁V075 Ⓜ	No	.030	0.75	.050	1.40	.079	2.00	0.0	0.0	●	○
	CSVG11F⁸⁄₁V080 Ⓜ	No	.031	0.80	.050	1.40	.079	2.00	0.0	0.0	●	
	CSVG11F⁸⁄₁V085 Ⓜ	No	.033	0.85	.050	1.40	.079	2.00	0.0	0.0	●	
	CSVG11F⁸⁄₁V090 Ⓜ	No	.035	0.90	.050	1.40	.079	2.00	0.0	0.0	●	
	CSVG11F⁸⁄₁V095 Ⓜ	No	.037	0.95	.050	1.40	.079	2.00	0.0	0.0	●	○
	CSVG11F⁸⁄₁V100 Ⓜ	No	.039	1.00	.050	1.40	.079	2.00	0.0	0.0	●	
	CSVG11F⁸⁄₁V110 Ⓜ	No	.043	1.10	.102	2.60	.102	2.60	0.0	0.0	●	
	CSVG11F⁸⁄₁V120 Ⓜ	No	.047	1.20	.102	2.60	.102	2.60	0.0	0.0	●	○
	CSVG11F⁸⁄₁V130 Ⓜ	No	.051	1.30	.102	2.60	.102	2.60	0.0	0.0	●	
	CSVG11F⁸⁄₁V140 Ⓜ	No	.055	1.40	.102	2.60	.102	2.60	0.0	0.0	●	
Right-Hand style shown	CSVG11F⁸⁄₁V150 Ⓜ	No	.059	1.50	.102	2.60	.102	2.60	0.0	0.0	●	

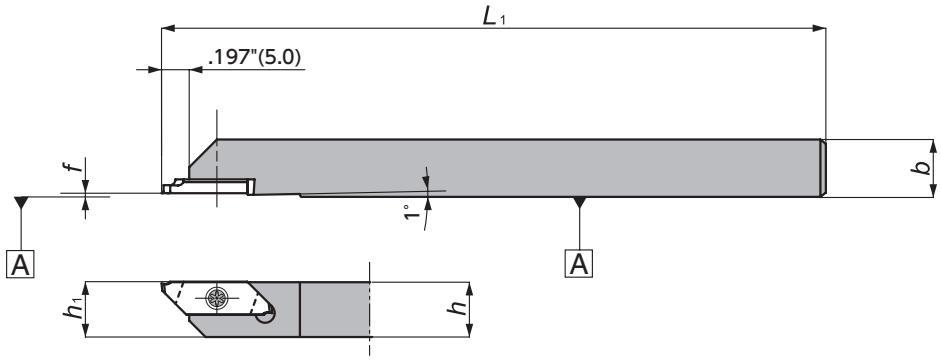
CSV series ➜O51 Cutting condition ➜T4

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

CTPS Series

CTPS

For Cam-style machine



Right-Hand style shown

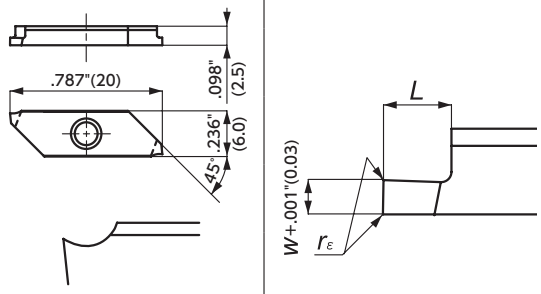
CTPS - Toolholders

CTPS

Gage Insert	Item Number	Figure	Stock R	Stock L	Groove Width Range w (Inch)	Groove Width Range w (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	h1 (Inch)	h1 (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 GTPS	CTPS R/L06-IN	1	●		.030-.079	0.75-2.00	3/8		3/8		3/8		4.724	120	0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPS R/L08-IN	1	●		.030-.079	0.75-2.00	1/2		1/2		1/2		4.724	120	0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPS R/L10	1	○		.030-.079	0.75-2.00	.394	10	.394	10	.394	10	4.724	120	0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPS R/L R12	1	○		.030-.079	0.75-2.00	.472	12	.472	12	.472	12	4.724	120	0	0.0	LRIS-2.5 × 7	CLR-15S

CTPS Series - Inserts

GTPS – Grooving

Shape	Item Number	Groove Width w (Inch)	Groove Width w (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	rε (Inch)	rε (mm)	L (Inch)	L (mm)	Coated Carbide VM1	Coated Carbide ZM3
 Right-Hand style shown	GTPS075FR	.030	0.75	.039	1.0	0.0	0.0	.059	1.5	○	○
	GTPS095FR	.037	0.95	.059	1.5	0.0	0.0	.079	2.0	○	○
	GTPS100FR	.039	1.00	.059	1.5	0.0	0.0	.079	2.0	○	○
	GTPS120FR	.047	1.20	.098	2.5	0.0	0.0	.118	3.0	○	○
	GTPS150FR	.059	1.50	.098	2.5	0.0	0.0	.118	3.0	○	○
	GTPS200FR	.079	2.00	.098	2.5	0.0	0.0	.118	3.0	○	○

Cutting condition ➡T4

GTW (GROOVE DUO) Series

GTWP

Side Turning Capable
For Swiss Machine

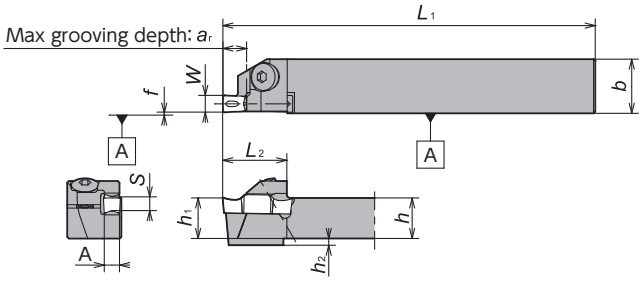
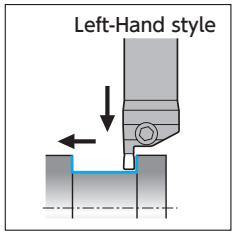


Figure-1



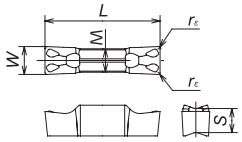
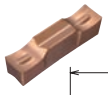
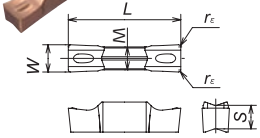
Right-Hand style shown

GTW Series - Toolholders

GWP

Gage Insert	Item Number	Figure	Stock R	Stock L	Groove Width w (Inch)	(mm)	a_r (Inch)	(mm)	h (Inch)	(mm)	b (Inch)	(mm)	h_1 (Inch)	(mm)	L_1 (Inch)	(mm)	h_2 (Inch)	(mm)	f (Inch)	(mm)	L_2 (Inch)	(mm)	A (Inch)	(mm)	Seat Size s	Clamp Screw	Wrench
GWP ○ 300	GTWP℞08-IN3D07	1	●		.118	3	.275	7	1/2		.630	16	1/2		4.724	120	0	0	.012	0.3	.748	19	.102	2.6	D	AOB-5 × 14	LW-3S
	GTWP℞10-IN3D09	1	●		.118	3	.354	9	5/8		.630	16	5/8		4.724	120	0	0	.012	0.3	.866	22	.102	2.6	D	AOB-5 × 16	LW-3S
	GTWP℞1016-3D07	1	○		.118	3	.275	7	.394	10	.630	16	.472	12	4.724	120	.079	2	.012	0.3	.748	19	.102	2.6	D	AOB-5 × 14	LW-3S
	GTWP℞1216-3D07	1	●	○	.118	3	.275	7	.472	12	.630	16	.472	12	4.724	120	0	0	.012	0.3	.768	19.5	.102	2.6	D	AOB-5 × 16	LW-3S
	GTWP℞1616-3D09	1	○	○	.118	3	.354	9	.630	16	.630	16	.630	16	4.724	120	0	0	.012	0.3	.866	22	.102	2.6	D	AOB-5 × 16	LW-3S
GWP ○ 400	GTWP℞08-IN4E07	1	●		.157	4	.275	7	1/2		.630	16	1/2		4.724	120	0	0	.012	0.3	.748	19	.138	3.5	E	AOB-5 × 14	LW-3S
	GTWP℞10-IN4E09	1	●		.157	4	.354	9	5/8		.630	16	5/8		4.724	120	0	0	.012	0.3	.866	22	.138	3.5	E	AOB-5 × 16	LW-3S
	GTWP℞1016-4E07	1	○		.157	4	.275	7	.394	10	.630	16	.472	12	4.724	120	.079	2	.012	0.3	.748	19	.138	3.5	E	AOB-5 × 14	LW-3S
	GTWP℞1216-4E07	1	●	○	.157	4	.275	7	.472	12	.630	16	.472	12	4.724	120	0	0	.012	0.3	.768	19.5	.138	3.5	E	AOB-5 × 16	LW-3S
	GTWP℞1616-4E09	1	○	○	.157	4	.354	9	.630	16	.630	16	.630	16	4.724	120	0	0	.012	0.3	.866	22	.138	3.5	E	AOB-5 × 16	LW-3S
GWP ○ 500	GTWP℞1016-5F07	1	○		.197	5	.275	7	.394	10	.630	16	.472	12	4.724	120	.079	2	.012	0.3	.748	19	.177	4.5	F	AOB-5 × 14	LW-3S
	GTWP℞1216-5F07	1	○	○	.197	5	.275	7	.472	12	.630	16	.472	12	4.724	120	0	0	.012	0.3	.768	19.5	.177	4.5	F	AOB-5 × 16	LW-3S
	GTWP℞1616-5F09	1	○	○	.197	5	.354	9	.630	16	.630	16	.630	16	4.724	120	0	0	.012	0.3	.866	22	.177	4.5	F	AOB-5 × 16	LW-3S
GWP ○ 600	GTWP℞1020-6G07	1	○		.236	6	.275	7	.394	10	.787	20	.394	10	4.724	120	.079	2	.012	0.3	.866	22	.209	5.3	G	AOB-5 × 14	LW-3S
	GTWP℞1220-6G07	1	○		.236	6	.275	7	.472	12	.787	20	.472	12	4.724	120	0	0	.012	0.3	.886	22.5	.209	5.3	G	AOB-5 × 16	LW-3S
	GTWP℞1620-6G09	1	○	○	.236	6	.354	9	.630	16	.787	20	.630	16	4.724	120	0	0	.012	0.3	.984	25	.209	5.3	G	AOB-5 × 16	LW-3S

GTW Series - Inserts

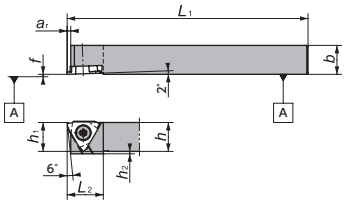
Shape	Item Number	w Groove Width (Inch)	(mm)	w Width Tolerance (Inch)	(mm)	r_ε (Inch)	(mm)	M (Inch)	(mm)	L (Inch)	(mm)	Seat Size s	Coated Carbide DM4
  GWPG: Outside ground GWPM: Full-molded ●Excellent chip control ●Best for side turning	GWPG300N02D-GW	.118	3.0	.001	± 0.025	.008	0.2	.098	2.5	.811	20.6	D	●
	GWPG300N04D-GW	.118	3.0	.001	± 0.025	.016	0.4	.098	2.5	.811	20.6	D	●
	GWPG400N02E-GW	.157	4.0	.001	± 0.025	.008	0.2	.134	3.4	.811	20.6	E	●
	GWPG400N04E-GW	.157	4.0	.001	± 0.025	.016	0.4	.134	3.4	.811	20.6	E	●
	GWPG400N08E-GW	.157	4.0	.001	± 0.025	.031	0.8	.134	3.4	.811	20.6	E	●
	GWPG500N02F-GW	.197	5.0	.001	± 0.025	.008	0.2	.169	4.3	.811	20.6	F	○
	GWPG500N04F-GW	.197	5.0	.001	± 0.025	.016	0.4	.169	4.3	.811	20.6	F	○
	GWPG500N08F-GW	.197	5.0	.001	± 0.025	.031	0.8	.169	4.3	.811	20.6	F	○
	GWPG600N02G-GW	.236	6.0	.001	± 0.025	.008	0.2	.205	5.2	1.008	25.6	G	○
	GWPG600N04G-GW	.236	6.0	.001	± 0.025	.016	0.4	.205	5.2	1.008	25.6	G	○
	GWPG600N08G-GW	.236	6.0	.001	± 0.025	.031	0.8	.205	5.2	1.008	25.6	G	○
	GWPM300N04D-GW	.118	3.0	.002	± 0.05	.016	0.4	.098	2.5	.811	20.6	D	○
	GWPM400N04E-GW	.157	4.0	.002	± 0.05	.016	0.4	.134	3.4	.811	20.6	E	○
	GWPM500N04F-GW	.197	5.0	.002	± 0.05	.016	0.4	.169	4.3	.811	20.6	F	○
	GWPM600N04G-GW	.236	6.0	.002	± 0.05	.016	0.4	.205	5.2	1.008	25.6	G	○
  ●Less tool pressure design	GWPG300N02D-GV	.118	3.0	.001	± 0.025	.008	0.2	.205	2.5	.811	20.6	D	●
	GWPG300N04D-GV	.118	3.0	.001	± 0.025	.016	0.4	.205	2.5	.811	20.6	D	●
	GWPG400N02E-GV	.157	4.0	.001	± 0.025	.008	0.2	.169	4.3	.811	20.6	E	●
	GWPG400N04E-GV	.157	4.0	.001	± 0.025	.016	0.4	.169	4.3	.811	20.6	E	●
	GWPG500N02F-GV	.197	5.0	.001	± 0.025	.008	0.2	.169	4.3	.811	20.6	F	○
	GWPG500N04F-GV	.197	5.0	.001	± 0.025	.016	0.4	.169	4.3	.811	20.6	F	○
	GWPG600N02G-GV	.236	6.0	.001	± 0.025	.008	0.2	.169	4.3	1.008	25.6	G	○
	GWPG600N04G-GV	.236	6.0	.001	± 0.025	.016	0.4	.169	4.3	1.008	25.6	G	○

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

GTT Series

GTT

Screw accessible from both sides



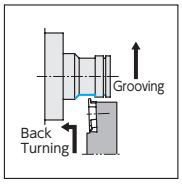
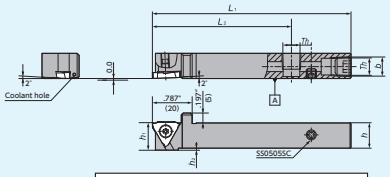


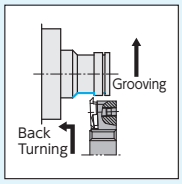
Figure-1

Right-Hand style shown

GTT-OH2 (Coolant through)

Screw accessible from both sides





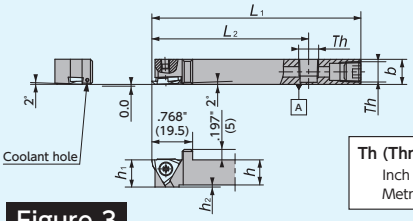
Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

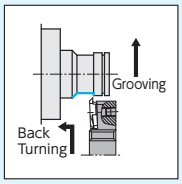
Figure-2

Right-Hand style shown

GTT-OH (Coolant through)

Screw accessible from both sides



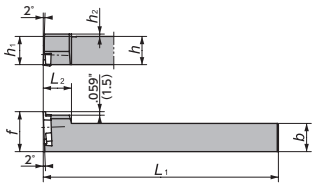


Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: M6, Rc1/8 (PT1/8)

Figure-3

Right-Hand style shown

CH-GTT



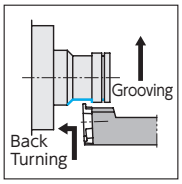


Figure-4

Left-Hand style shown
Takes Right-hand Insert

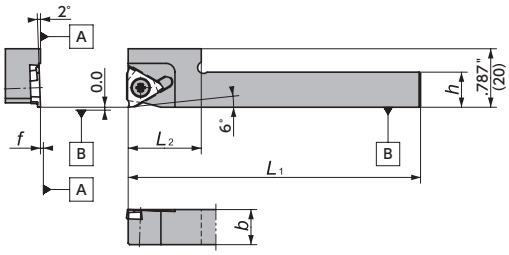
GTT

Gage Insert	Item Number	Figure	Stock R	Stock L	Groove Width W (Inch)	Groove Width W (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	a_r (Inch)	a_r (mm)	h_2 (Inch)	h_2 (mm)	Th	Clamp Screw	Wrench
 GTM..32 TMG32	GTTR/L06A-IN	1	●	●	.012-.125	0.30-3.17	3/8		3/8		3/8		4.724	120	.000	0	.591	15.0	.071	1.8	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L06B-IN	1	●	●	.057-.125	1.45-3.17	3/8		3/8		3/8		4.724	120	.000	0	.591	15.0	.106	2.7	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L08A-IN	1	●	●	.012-.125	0.30-3.17	1/2		1/2		1/2		4.724	120	.000	0	.591	15.0	.071	1.8	.039	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L08B-IN	1	●	●	.057-.125	1.45-3.17	1/2		1/2		1/2		4.724	120	.000	0	.591	15.0	.106	2.7	.039	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L10A-IN	1	●	●	.012-.125	0.30-3.17	5/8		5/8		5/8		4.724	120	.000	0	.591	15.0	.071	1.8	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L10B-IN	1	●	●	.057-.125	1.45-3.17	5/8		5/8		5/8		4.724	120	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L12A-IN	1	●	●	.012-.125	0.30-3.17	3/4		3/4		3/4		4.724	120	.000	0	.591	15.0	.071	1.8	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L12B-IN	1	●		.057-.125	1.45-3.17	3/4		3/4		3/4		4.724	120	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L08F00	1	○	○	.012-.125	0.30-3.17	.315	8	.315	8	.315	8	3.150	80	.000	0	.591	15.0	.071	1.8	.157	5	–	R:LR-S-4×10PW L:LR-S-4×5.8	CLR-15S
	GTTR/L0810F00	1	○	○	.012-.125	0.30-3.17	.315	8	.394	10	.315	8	3.150	80	.000	0	.591	15.0	.071	1.8	.157	5	–	LR-S-4×10PW	CLR-15S
	GTTR/L08K00	1	○	○	.012-.125	0.30-3.17	.315	8	.315	8	.315	8	4.724	120	.000	0	.591	15.0	.071	1.8	.157	5	–	R:LR-S-4×10PW L:LR-S-4×5.8	CLR-15S
	GTTR/L0810K00	1	○	○	.012-.125	0.30-3.17	.315	8	.394	10	.315	8	4.724	120	.000	0	.591	15.0	.071	1.8	.157	5	–	LR-S-4×10PW	CLR-15S
	GTTR/L10F00	1	○		.012-.125	0.30-3.17	.394	10	.394	10	.394	10	3.150	80	.000	0	.591	15.0	.071	1.8	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L10K00	1	○		.012-.125	0.30-3.17	.394	10	.394	10	.394	10	4.724	120	.000	0	.591	15.0	.071	1.8	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L12F00	1	○	○	.012-.125	0.30-3.17	.472	12	.472	12	.472	12	3.150	80	.000	0	.591	15.0	.071	1.8	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L12K00	1	●	○	.012-.125	0.30-3.17	.472	12	.472	12	.472	12	4.724	120	.000	0	.591	15.0	.071	1.8	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L16H00	1	○	○	.012-.125	0.30-3.17	.630	16	.630	16	.630	16	3.937	100	.000	0	.591	15.0	.071	1.8	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L16K00	1	○	○	.012-.125	0.30-3.17	.630	16	.630	16	.630	16	4.724	120	.000	0	.591	15.0	.071	1.8	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L20K00	1	○	○	.012-.125	0.30-3.17	.787	20	.787	20	.787	20	4.921	125	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L25M00	1	○	○	.012-.125	0.30-3.17	.984	25	.984	25	.984	25	5.906	150	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L10F15	1	○	○	.057-.125	1.45-3.17	.394	10	.394	10	.394	10	3.150	80	.000	0	.591	15.0	.106	2.7	.118	3	–	LR-S-4×10PW	CLR-15S
	GTT 10K15	1	○	○	.057-.125	1.45-3.17	.394	10	.394	10	.394	10	4.724	120	.000	0	.591	15.0	.106	2.7	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L12F15	1	○	○	.057-.125	1.45-3.17	.472	12	.472	12	.472	12	3.150	80	.000	0	.591	15.0	.106	2.7	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L12K15	1	○	○	.057-.125	1.45-3.17	.472	12	.472	12	.472	12	4.724	120	.000	0	.591	15.0	.106	2.7	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L16H15	1	○	○	.057-.125	1.45-3.17	.630	16	.630	16	.630	16	3.937	100	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L16K15	1	●	○	.057-.125	1.45-3.17	.630	16	.630	16	.630	16	4.724	120	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L10F25	1	○	○	.098-.125	2.50-3.17	.394	10	.394	10	.394	10	3.150	80	.000	0	.591	15.0	.106	2.7	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L10K25	1	○	○	.098-.125	2.50-3.17	.394	10	.394	10	.394	10	4.724	120	.000	0	.591	15.0	.106	2.7	.118	3	–	LR-S-4×10PW	CLR-15S
	GTTR/L12F25	1	○	○	.098-.125	2.50-3.17	.472	12	.472	12	.472	12	3.150	80	.000	0	.591	15.0	.106	2.7	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L12K25	1	○	○	.098-.125	2.50-3.17	.472	12	.472	12	.472	12	4.724	120	.000	0	.591	15.0	.106	2.7	.040	1	–	LR-S-4×10PW	CLR-15S
	GTTR/L16H25	1	○	○	.098-.125	2.50-3.17	.630	16	.630	16	.630	16	3.937	100	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L16K25	1	○	○	.098-.125	2.50-3.17	.630	16	.630	16	.630	16	4.724	120	.000	0	.591	15.0	.106	2.7	.000	0	–	LR-S-4×10PW	CLR-15S
	GTTR/L08HA-IN-OH	3	■		.012-.125	0.30-3.17	1/2		1/2		1/2		3.937	100	.000	0	2.953	75	.071	1.8	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L08HA-IN-OH2	2	●		.012-.125	0.30-3.17	1/2		1/2		1/2		3.937	100	.000	0	2.756	70	.071	1.8	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L08HB-IN-OH	3	■		.057-.125	1.45-3.17	1/2		1/2		1/2		3.937	100	.000	0	2.953	75	.106	2.7	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L08HB-IN-OH2	2	●		.057-.125	1.45-3.17	1/2		1/2		1/2		3.937	100	.000	0	2.756	70	.106	2.7	.039	1	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L10HA-IN-OH	3	●		.012-.125	0.30-3.17	5/8		5/8		5/8		3.937	100	.000	0	.768	19.5	.071	1.8	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L10XA-IN-OH2	2	●		.012-.125	0.30-3.17	5/8		5/8		5/8		4.724	120	.000	0	.768	19.5	.071	1.8	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L10HB-IN-OH	3	●		.057-.125	1.45-3.17	5/8		5/8		5/8		3.937	100	.000	0	.768	19.5	.106	2.7	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L10XB-IN-OH2	2	●		.057-.125	1.45-3.17	5/8		5/8		5/8		4.724	120	.000	0	.768	19.5	.106	2.7	.000	0	NPT1/8	LR-S-4×10PW	CLR-15S
	GTTR/L1012H00-OH	3	○		.012-.125	0.30-3.17	.394	10	.472	12	.394	10	3.937	100	.000	0	.768	19.5	.071	1.8	.039	1	M6 × 1	LR-S-4×10PW	CLR-15S
	GTTR/L12H00-OH	3	■		.012-.125	0.30-3.17	.472	12	.472	12	.472	12	3.937	100	.000	0	.768	19.5	.071	1.8	.039	1	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	GTTR/L12H00-OH2	2	●		.012-.125	0.30-3.17	.472	12	.472	12	.472	12	3.937	100	.000	0	2.756	70	.071	1.8	.039	1	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	GTTR/L16H00-OH	3	○		.012-.125	0.30-3.17	.630	16	.630	16	.630	16	3.937	100	.000	0	.768	19.5	.071	1.8	0	0	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	GTTR/L16X00-OH2	2	●		.012-.125	0.30-3.17	.630	16	.630	16	.630	16	4.724	120	.000	0	.768	19.5	.071	1.8	0	0	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	CH-GTTR/L10H00	4		○	.012-.125	0.30-3.17	.394	10	.394	10	.394	10.0	4.724	120	.591	15	.472	12.0	.059	1.5	.118	3	–	LR-S-4×10PW	CLR-15S
	CH-GTTR/L12H00	4		○	.012-.125	0.30-3.17	.472	12	.472	12	.472	12.0	4.724	120	.669	17	.472	12.0	.059	1.5	.040	1	–	LR-S-4×10PW	CLR-15S

Inserts ➡T12 Cutting condition ➡T4

Y-GTT

Screw accessible from both sides



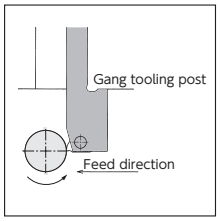
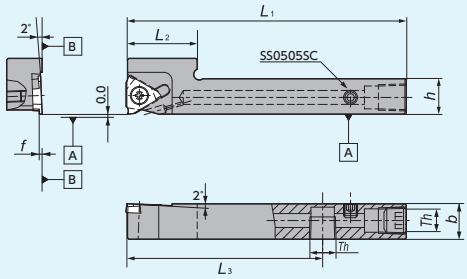


Figure-5

Right-Hand style shown
Takes Right-hand Insert

Y-GTT-OH2 (Coolant through)

Screw accessible from both sides



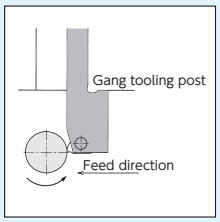


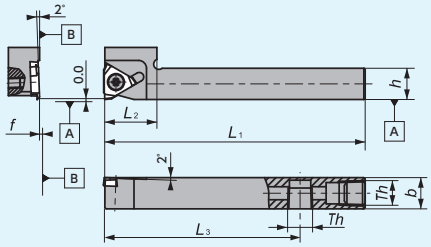
Figure-6

Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown
Takes Right-hand Insert

Y-GTT-OH (Coolant through)

Screw accessible from both sides



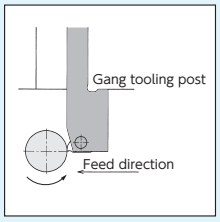


Figure-7

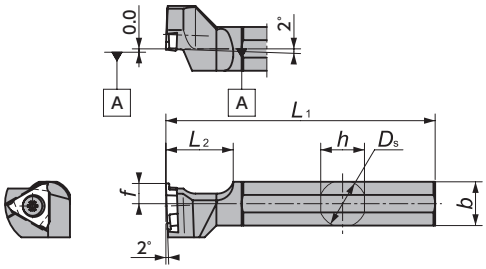
Th (Thread type)
Inch size holder : NPT1/8
Metric size holder: Rc1/8 (PT1/8)

Right-Hand style shown
Takes Right-hand Insert

GTT

Gage Insert	Item Number	Figure	Stock R	Stock L	Groove Width W (Inch)	Groove Width W (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	a_r (Inch)	a_r (mm)	L_3 (Inch)	L_3 (mm)	Th	Clamp Screw	Wrench
 GTM..32 TMG32	Y-GTTR 06-IN	5	●		.012-.125	0.30-3.17	3/8		3/8		–	–	4.724	120	.000	0	.984	25.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTTR⅝08-IN	5	●		.012-.125	0.30-3.17	1/2		1/2		–	–	4.724	120	.000	0	.984	25.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTTR⅝10-IN	5	●		.012-.125	0.30-3.17	5/8		5/8		–	–	4.724	120	.000	0	.984	25.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT⅝10MS	7	○		.012-.125	0.30-3.17	.394	10	.394	10	–	–	4.724	120	.000	0	.866	22.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT⅝10S	5	○		.012-.125	0.30-3.17	.394	10	.394	10	–	–	4.724	120	.000	0	.787	20.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT⅝12MS	7	○		.012-.125	0.30-3.17	.472	12	.472	12	–	–	4.724	120	.000	0	.866	22.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT⅝12S	5	○		.012-.125	0.30-3.17	.472	12	.472	12	–	–	4.724	120	.000	0	.787	20.0	.063	1.6	–	–	–	LR-S-4×10PW	CLR-15S
	Y-GTT⅝08H-IN-OH 💧	7	■		.012-.125	0.30-3.17	1/2		1/2		–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.756	70	NPT1/8	LR-S-4×10PW	CLR-15S
	Y-GTT⅝08H-IN-OH2 💧	6	●		.012-.125	0.30-3.17	1/2		1/2		–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.953	75	NPT1/8	LR-S-4×10PW	CLR-15S
	Y-GTT⅝12H00S-OH 💧	7	■		.012-.125	0.30-3.17	.472	12	.472	12	–	–	3.937	100	.000	0	.787	20.0	.063	1.6	2.756	70	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	Y-GTT⅝12H00S-OH2 💧	6	●		.012-.125	0.30-3.17	.472	12	.472	12	–	–	3.937	100	.000	0	.787	20.0	.063	1.6	2.953	75	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S
	Y-GTT⅝16H00-OH 💧	7	○		.012-.125	0.30-3.17	.630	16	.472	16	–	–	3.937	100	.000	0	.984	25.0	.063	1.6	2.953	75	Rc1/8(PT1/8)	LR-S-4×10PW	CLR-15S

DS-GTT



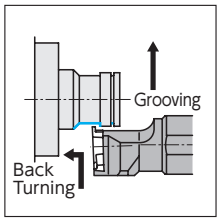


Figure-8

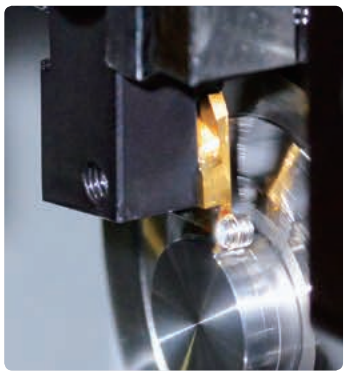
Left-Hand style shown
Takes Right-hand Insert

DS-GTT

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Clamp Screw	Wrench
 GTM..32 TMG32	DS-GTT⅝14F	8		○	.551	14.000	.512	13	.512	13	3.150	80	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT⅝15H	8		○	5/8	15.875	.591	15	.591	15	3.937	100	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT⅝16X	8		●	.630	16.000	.591	15	.591	15	3.740	95	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT⅝19	8		●	3/4	19.050	.709	18	.709	18	4.724	120	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT⅝20	8		●	.787	20.000	.748	19	.748	19	4.724	120	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT⅝22	8		●	.866	22.000	.827	21	.827	21	4.724	120	.236	6	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT⅝25-MET	8		○	.984	25.000	.945	24	.945	24	4.724	120	.394	10	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT⅝25	8		●	1	25.400	.945	24	.945	24	5.906	150	.394	10	.787	20	LR-S-4 × 9	RLR-20S
	DS-GTT⅝32	8		○	.984	25.000	.945	24	.945	24	5.906	150	.394	10	.787	20	LR-S-4 × 9	RLR-20S

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

GTMH-GX Chipbreaker for Grooving / Side Turning



Groove width .059"～

Groove width ～.039"

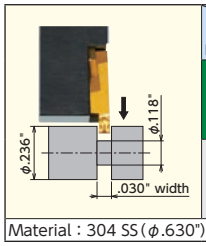
WATCH ON YouTube

Features

- Can solve the problem of chips remaining in the grooves and bird's nest of chips
- Good surface finishes on groove side faces
- UP to .078" DOC side turning capability

Excellent Chip Control

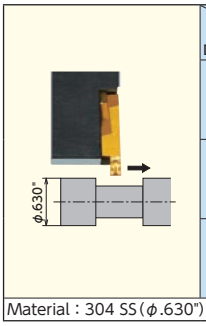
Grooving

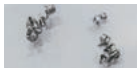
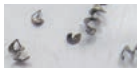


DOC \ Feed rate (IPR)	.0004"	.0011"	.0020"
GX chipbreaker			
Competiton's chipbreaker			

Material : 304 SS(ϕ.630"), 260 SFM, .059", DOC

Side Turning



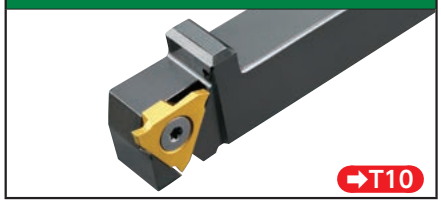
DOC \ Feed rate (IPR)	.0004"	.0011"	.0020"	.0031"
.010"				
.020"				
.030"				

Material : 304 SS(ϕ.630"), 260 SFM, .030" width insert

Best Solution for Chip Control

Coolant through toolholders now available

GTT-OH2/OH



➡T10

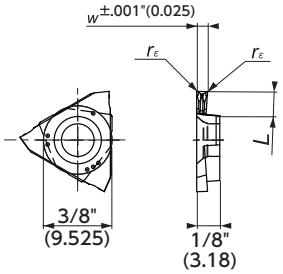
Y-GTT-OH2/OH

➡T10

GTMH32.. Inserts - Carbide

GTMH32-GX

Side Turning Capable

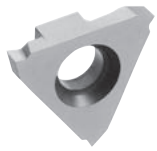


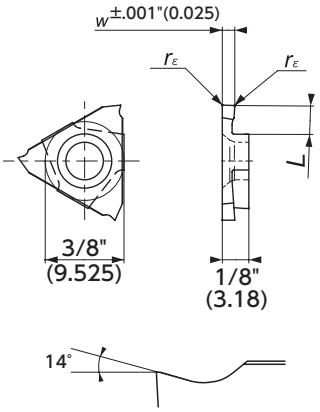
Right-Hand style shown

Shape	Item Number	Groove Width W (Inch)	Groove Width W (mm)	Max Depth of Cut Grooving (Inch)	Max Depth of Cut Grooving (mm)	Max Depth of Cut Side turning (Inch)	Max Depth of Cut Side turning (mm)	L (Inch)	L (mm)	rε (Inch)	rε (mm)	Coated Carbide ST4 R	ST4 L	DM4 R	DM4 L	TM4 R	TM4 L
Side Turning Capable	GTMH32033RGX	.013	0.33	.024	0.6	–	–	.010	0.25	.002	0.05	●					
	GTMH32043RGX	.017	0.43	.047	1.2	–	–	.035	0.90	.002	0.05	●					
	GTMH32050RGX	.020	0.50	.047	1.2	–	–	.035	0.90	.002	0.05	●					
	GTMH32053RGX	.021	0.53	.047	1.2	–	–	.035	0.90	.002	0.05	●					
	GTMH32075RGX	.030	0.75	.063	1.6	.030	0.75	.079	2.00	.002	0.05	●		●		○	
	GTMH32095RGX	.037	0.95	.063	1.6	.059	1.50	.079	2.00	.002	0.05	●		●		○	
	GTMH32100RGX	.039	1.00	.063	1.6	.059	1.50	.079	2.00	.002	0.05	●		●		○	
	GTMH32100RGX01	.039	1.00	.063	1.6	.059	1.50	.079	2.00	.004	0.1	●		●		○	
	GTMH32150RGX	.059	1.50	.106	2.7	.079	2.00	.118	3.00	.002	0.05	●		●		○	
	GTMH32150RGX01	.059	1.50	.106	2.7	.079	2.00	.118	3.00	.004	0.1	●		●		○	
	GTMH32150RGX02	.059	1.50	.106	2.7	.079	2.00	.118	3.00	.008	0.2	●		●		○	
	GTMH32200RGX	.079	2.00	.106	2.7	.079	2.00	.118	3.00	.002	0.05	●		●		○	
	GTMH32200RGX01	.079	2.00	.106	2.7	.079	2.00	.118	3.00	.004	0.1	●		●		○	
	GTMH32200RGX02	.079	2.00	.106	2.7	.079	2.00	.118	3.00	.008	0.2	●		●		○	
	GTMH32300RGX	.118	3.00	.106	2.7	.079	2.00	.118	3.00	.002	0.05	●		●		○	
	GTMH32300RGX02	.118	3.00	.106	2.7	.079	2.00	.118	3.00	.008	0.2	●		●		○	

GTMX32

Side Turning Capable



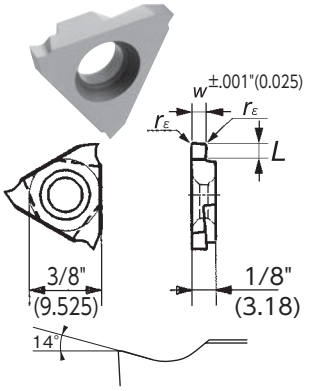


Right-Hand style shown

Shape	Item Number	Groove Width W (Inch)	Groove Width W (mm)	Max Depth of Cut Grooving (Inch)	Max Depth of Cut Grooving (mm)	L (Inch)	L (mm)	rε (Inch)	rε (mm)	Coated Carbide DT4 R	Coated Carbide DT4 L	Coated Carbide QM3 R	Coated Carbide QM3 L
Side Turning Capable	GTMX32030R/LT	.012	0.30	.010	0.25	.024	0.6	.002	0.05	○		●	
	GTMX32033R/LT	.013	0.33	.010	0.25	.024	0.6	.002	0.05			●	
	GTMX32043R/LT	.017	0.43	.035	0.9	.047	1.2	.002	0.05	○		●	
	GTMX32050R/LT	.020	0.50	.035	0.9	.047	1.2	.002	0.05	○		●	■
	GTMX32053R/LT	.021	0.53	.035	0.9	.047	1.2	.002	0.05			●	
	GTMX32065R/LT	.026	0.65	.035	0.9	.047	1.2	.002	0.05	○		●	
	GTMX32075R/LT	.030	0.75	.063	1.6	.079	2.0	.002	0.05	○	○	●	●
	GTMX32080R/LT	.031	0.80	.063	1.6	.079	2.0	.002	0.05	○		●	■
	GTMX32095R/LT	.037	0.95	.063	1.6	.079	2.0	.002	0.05	○	○	○	○
	GTMX32100R/LT	.039	1.00	.063	1.6	.079	2.0	.002	0.05	○		●	
	GTMX32100R/LT01	.039	1.00	.063	1.6	.079	2.0	.004	0.1	○		●	
	GTMX32110R/LT	.043	1.10	.063	1.6	.079	2.0	.002	0.05			○	
	GTMX32120R/LT	.047	1.20	.063	1.6	.079	2.0	.002	0.05	○		●	
	GTMX32120R/LT01	.047	1.20	.063	1.6	.079	2.0	.004	0.1	○		●	
	GTMX32125R/LT	.049	1.25	.063	1.6	.079	2.0	.002	0.05	○		●	
	GTMX32130R/LT	.051	1.30	.063	1.6	.079	2.0	.002	0.05	○		○	
	GTMX32140R/LT	.055	1.40	.063	1.6	.079	2.0	.002	0.05	○		○	
	GTMX32145R/LT	.057	1.45	.106	2.7	.118	3.0	.002	0.05			○	
	GTMX32150R/LT	.059	1.50	.106	2.7	.118	3.0	.002	0.05	○	○	●	●
	GTMX32150R/LT01	.059	1.50	.106	2.7	.118	3.0	.004	0.1	○		●	
	GTMX32150R/LT02	.059	1.50	.106	2.7	.118	3.0	.008	0.2	○		●	
	GTMX32160R/LT	.063	1.60	.106	2.7	.118	3.0	.002	0.05	○		●	
	GTMX32175R/LT	.069	1.75	.106	2.7	.118	3.0	.002	0.05	○		○	●
	GTMX32180R/LT	.071	1.80	.106	2.7	.118	3.0	.002	0.05	○		○	□
	GTMX32200R/LT	.079	2.00	.106	2.7	.118	3.0	.002	0.05	○	○	●	●
	GTMX32200R/LT01	.079	2.00	.106	2.7	.118	3.0	.004	0.1	○	○	○	○
	GTMX32200R/LT02	.079	2.00	.106	2.7	.118	3.0	.008	0.2	○		●	
	GTMX32250R/LT	.098	2.50	.106	2.7	.118	3.0	.002	0.05	○	○	●	○
	GTMX32250R/LT01	.098	2.50	.106	2.7	.118	3.0	.004	0.1	○		○	
	GTMX32250R/LT02	.098	2.50	.106	2.7	.118	3.0	.008	0.2	○		○	
	GTMX32300R/LT	.118	3.00	.106	2.7	.118	3.0	.002	0.05	○		●	
	GTMX32300R/LT02	.118	3.00	.106	2.7	.118	3.0	.008	0.2	○		●	

GTMH32 - VT Mirror finish

Side Turning Capable



Right-Hand style shown

Shape	Item Number	Groove Width W (Inch)	Groove Width W (mm)	Max Depth of Cut Grooving (Inch)	Max Depth of Cut Grooving (mm)	L (Inch)	L (mm)	rε (Inch)	rε (mm)	Coated Carbide VM1 R	Coated Carbide VM1 L
Side Turning Capable	GTMH32033R/LVT Ⓜ	.013	0.33	.010	0.25	.024	0.6	0.0	0.0	●	
	GTMH32043R/LVT Ⓜ	.017	0.43	.035	0.9	.047	1.2	0.0	0.0	●	
	GTMH32053R/LVT Ⓜ	.021	0.53	.063	1.6	.079	2.0	0.0	0.0	●	
	GTMH32065R/LVT Ⓜ	.026	0.65	.063	1.6	.079	2.0	0.0	0.0	●	
	GTMH32075R/LVT Ⓜ	.030	0.75	.063	1.6	.079	2.0	0.0	0.0	●	
	GTMH32080R/LVT Ⓜ	.031	0.80	.063	1.6	.079	2.0	0.0	0.0	○	
	GTMH32085R/LVT Ⓜ	.033	0.85	.063	1.6	.079	2.0	0.0	0.0	○	
	GTMH32095R/LVT Ⓜ	.037	0.95	.063	1.6	.079	2.0	0.0	0.0	○	
	GTMH32100R/LVT Ⓜ	.039	1.00	.063	1.6	.079	2.0	0.0	0.0	●	
	GTMH32110R/LVT Ⓜ	.043	1.10	.063	1.6	.079	2.0	0.0	0.0	○	
	GTMH32120R/LVT Ⓜ	.047	1.20	.063	1.6	.079	2.0	0.0	0.0	○	
	GTMH32130R/LVT Ⓜ	.051	1.30	.063	1.6	.079	2.0	0.0	0.0	○	
	GTMH32140R/LVT Ⓜ	.055	1.40	.063	1.6	.079	2.0	0.0	0.0	○	
	GTMH32150R/LVT Ⓜ	.059	1.50	.106	2.7	.118	3.0	0.0	0.0	●	
	GTMH32200R/LVT Ⓜ	.079	2.00	.106	2.7	.118	3.0	0.0	0.0	●	

Side turning instruction for GTMH-GX / GTMX-T / GTMH-VT

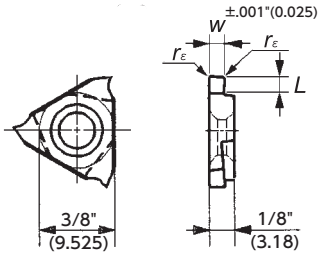
①To perform side turning with an insert whose groove width is greater than .017" set side turning feed rate to .001 IPR or smaller.

②When performing side turning with an insert whose groove width is greater than .017" and the feed rate is over .001 IPR (.004 IPR max), it is likely that chips will damage grooved sides. In this case, please perform grooving in two or more passes to make room for chips before performing side turning.

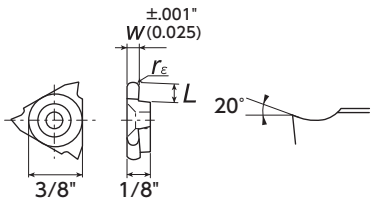
Holders ➡T10 Cutting condition ➡T4

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
RL : 1-2 week delivery (Right / Left-hand only)
RL : 1-2 week delivery (Right / Left-hand only, Newly added)

GTMH32 - E

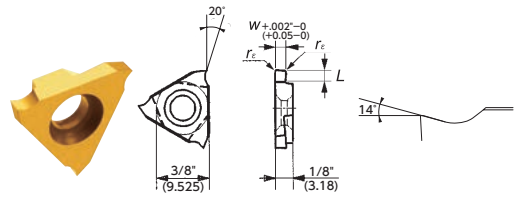
Shape	Item Number	Groove width W (Inch)	Groove width W (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	Coated Carbide ZM3 R	Coated Carbide ZM3 L
   Right-Hand style shown	GTMH32033R/LE	.013	0.33	.012	0.3	.024	0.6	.001	0.03	○	○
	GTMH32043R/LE	.017	0.43	.035	0.9	.047	1.2	.001	0.03	●	○
	GTMH32053R/LE	.021	0.53	.035	0.9	.047	1.2	.002	0.05	○	○
	GTMH32075R/LE	.030	0.75	.063	1.6	.079	2.0	.002	0.05	○	○
	GTMH32077R/LE	.030	0.77	.063	1.6	.079	2.0	.002	0.05	○	
	GTMH32095R/LE	.037	0.95	.063	1.6	.079	2.0	.002	0.05	○	○
	GTMH32097R/LE	.038	0.97	.063	1.6	.079	2.0	.002	0.05	○	
	GTMH32100R/LE	.039	1.00	.063	1.6	.079	2.0	.002	0.05	○	○
	GTMH32100R/LE01	.039	1.00	.063	1.6	.079	2.0	.004	0.1	○	○
	GTMH32120R/LE	.047	1.20	.063	1.6	.079	2.0	.002	0.05	●	○
	GTMH32120R/LE01	.047	1.20	.063	1.6	.079	2.0	.004	0.1	○	○
	GTMH32125R/LE	.049	1.25	.063	1.6	.079	2.0	.002	0.05	○	
	GTMH32140R/LE	.055	1.40	.063	1.6	.079	2.0	.002	0.05	○	○
	GTMH32145R/LE	.057	1.45	.063	1.6	.079	2.0	.002	0.05	○	
	GTMH32150R/LE	.059	1.50	.106	2.7	.118	3.0	.002	0.05	○	○
	GTMH32150R/LE01	.059	1.50	.106	2.7	.118	3.0	.004	0.1	○	○
	GTMH32175R/LE	.069	1.75	.106	2.7	.118	3.0	.002	0.05	○	
	GTMH32180R/LE	.071	1.80	.106	2.7	.118	3.0	.002	0.05	○	○
	GTMH32200R/LE	.079	2.00	.106	2.7	.118	3.0	.002	0.05	○	○
	GTMH32200R/LE01	.079	2.00	.106	2.7	.118	3.0	.004	0.1	○	○
	GTMH32225R/LE	.089	2.25	.106	2.7	.118	3.0	.002	0.05	○	○
	GTMH32250R/LE	.098	2.50	.106	2.7	.118	3.0	.002	0.05	○	○
	GTMH32275R/LE	.108	2.75	.106	2.7	.118	3.0	.002	0.05	○	○
	GTMH32300R/LE	.118	3.00	.106	2.7	.118	3.0	.002	0.05	○	○

GTMH32 (Full radius style)

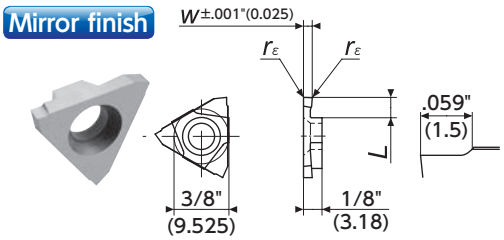
Shape	Item Number	Groove Width W (Inch)	Groove Width W (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	Coated Carbide QM3 R	Coated Carbide QM3 L	Coated Carbide ZM3 R	Coated Carbide ZM3 L
  Right-Hand style shown	GTMH32050R/LE025	.020	0.50	.035	0.9	.047	1.2	.010	0.25	●		●	
	GTMH32070R/LE035	.028	0.70	.063	1.6	.079	2.0	.014	0.35	●		●	
	GTMH32100R/LE05	.039	1.00	.063	1.6	.079	2.0	.020	0.50	●		●	
	GTMH32150R/LE075	.059	1.50	.106	2.7	.118	3.0	.030	0.75	●			
	GTMH32200R/LE10	.079	2.00	.106	2.7	.118	3.0	.039	1.00	●		○	
	GTMH32300R/LE15	.118	3.00	.106	2.7	.118	3.0	.059	1.50	●		○	

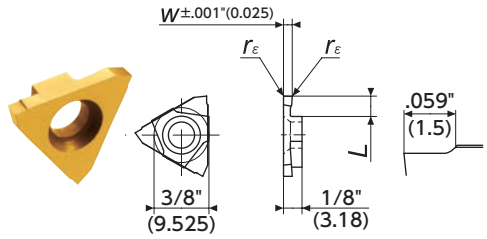
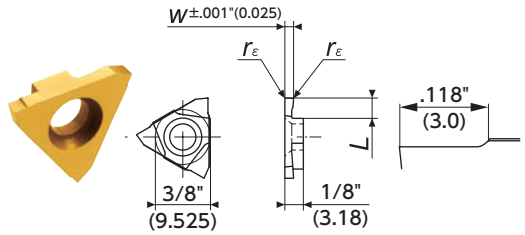
Holders ➡T10 Cutting condition ➡T4

TMG32-E

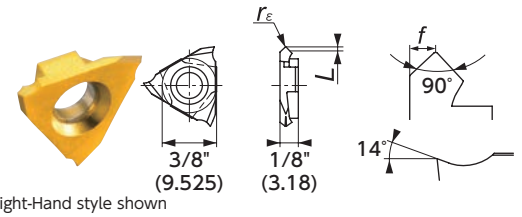
Shape	Item Number	Groove Width w (Inch)	Groove Width w (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	Coated Carbide ZM3 R	Coated Carbide ZM3 L
 Right-Hand style shown	TMG32031R/L E01	.031	0.79	.063	1.6	.079	2.0	.004	0.1	●	
	TMG32039R/L E01	.039	1.00	.063	1.6	.079	2.0	.004	0.1	●	●
	TMG32049R/L E01	.049	1.25	.063	1.6	.079	2.0	.004	0.1	●	
	TMG32062R/L E02	.062	1.57	.106	2.7	.118	3.0	.008	0.2	●	
	TMG32079R/L E02	.079	2.00	.106	2.7	.118	3.0	.008	0.2	●	
	TMG32094R/L E02	.094	2.39	.106	2.7	.118	3.0	.008	0.2	●	
	TMG32125R/L E02	.125	3.18	.106	2.7	.118	3.0	.008	0.2	●	

GTMH • X32 (Flat top chipbreaker)

Shape	Item Number	Groove Width w (Inch)	Groove Width w (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	Carbide KM1 R	Carbide KM1 L
Mirror finish  Right-Hand style shown	GTMH32100R/L SSH Ⓜ	.039	1.00	.063	1.6	.079	2.0	.002	0.05	●	
	GTMH32150R/L SSH Ⓜ	.059	1.50	.106	2.7	.118	3.0	.002	0.05	●	
	GTMH32200R/L SSH Ⓜ	.079	2.00	.106	2.7	.118	3.0	.002	0.05	●	

Shape	Item Number	Groove Width w (Inch)	Groove Width w (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	Coated Carbide ZM3 R	Coated Carbide ZM3 L
 Right-Hand style shown	GTMX32100R/L SS	.039	1.00	.063	1.6	.079	2.0	.002	0.05	○	
	GTMX32150R/L SS	.059	1.50	.106	2.7	.118	3.0	.002	0.05	○	
	GTMX32200R/L SS	.079	2.00	.106	2.7	.118	3.0	.002	0.05	○	
 Right-Hand style shown	GTMX32100R/L LS	.039	1.00	.063	1.6	.079	2.0	.002	0.05	○	
	GTMX32150R/L LS	.059	1.50	.106	2.7	.118	3.0	.002	0.05	○	
	GTMX32200R/L LS	.079	2.00	.106	2.7	.118	3.0	.002	0.05	○	

GTMX32 (90 Degree V-style)

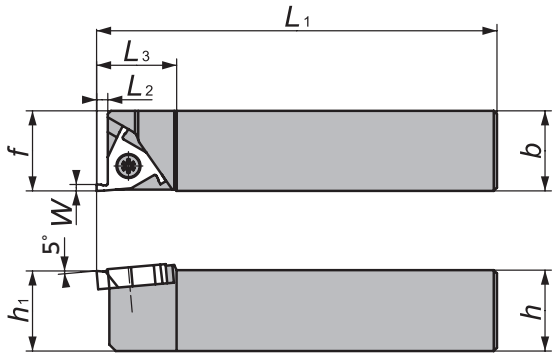
Shape	Item Number	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	Edge Geometry	r_ε (Inch)	r_ε (mm)	L (Inch)	L (mm)	Coated Carbide TM4 R	Coated Carbide TM4 L
 Right-Hand style shown	GTMX32V90R/L 005	.020	0.5	90°	.002	0.05	.020	0.5	○	
	GTMX32V90R/L 010	.028	0.7	90°	.004	0.1	.040	1.0	○	

● : Stock
● : Stock (Newly added)
■ □R□L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

TWG Series

TWG

Side Turning Capable
Up to .059"(1.5㎜) doc.



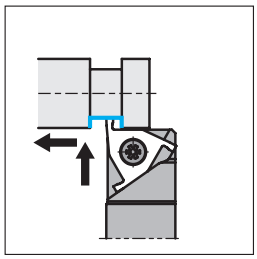


Figure-1

Right-Hand style shown

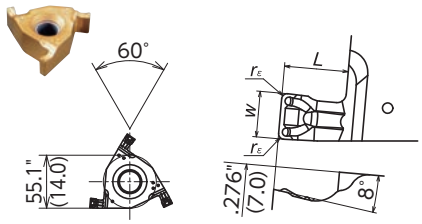
TWG Series - Toolholders

TWG

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (㎜)	b (Inch)	b (㎜)	h_1 (Inch)	h_1 (㎜)	L_1 (Inch)	L_1 (㎜)	f (Inch)	f (㎜)	L_2 (Inch)	L_2 (㎜)	L_3 (Inch)	L_3 (㎜)	Clamp Screw	Wrench
 TWG	**TWG2012X**	1	○		.472	12	.787	20	.472	12	4.724	120	.787	20	.138	3.5	.984	25	FSS25-5.0 × 10	RLR-20S
	TWG2016X	1	○		.630	16	.787	20	.630	16	4.724	120	.787	20	.138	3.5	.984	25	FSS10-5.0 × 14	LLR-20S
	TWG℞2020K	1	○	○	.787	20	.787	20	.787	20	4.921	125	.787	20	.138	3.5	.984	25	FSS10-5.0 × 14	RLR-20S
	TWG℞2525K	1	○	○	.984	25	.984	25	.984	25	4.921	125	.984	25	.138	3.5	.984	25	FSS10-5.0 × 14	RLR-20S

TWG Series - Inserts

TWG

Shape	Item Number	Groove Width w (Inch)	Groove Width w (㎜)	Max Depth of Cut (Inch)	Max Depth of Cut (㎜)	L (Inch)	L (㎜)	r_ε (Inch)	r_ε (㎜)	Coated Carbide TM1 R	Coated Carbide TM1 L
 Right-Hand style shown	**TWG20℞005**	.079	2.0	.118	3.0	.138	3.5	.002	0.05	○	○
	TWG20℞020	.079	2.0	.118	3.0	.138	3.5	.008	0.2	○	○
	TWG25℞010	.098	2.5	.118	3.0	.138	3.5	.004	0.1	○	○
	TWG25℞030	.098	2.5	.118	3.0	.138	3.5	.012	0.3	○	○
	TWG30℞010	.118	3.0	.118	3.0	.138	3.5	.004	0.1	○	○
	TWG30℞030	.118	3.0	.118	3.0	.138	3.5	.012	0.3	○	○

Cutting condition ➡T4

GTM.43 Series - Toolholders

NGTN

No-Offset

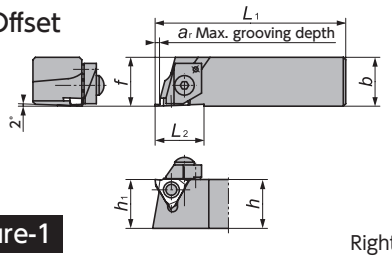


Figure-1

〈Parts〉

Clamp	Spring
CPR/L5S	ASG-5

Right-Hand style shown

NGTB

With Offset

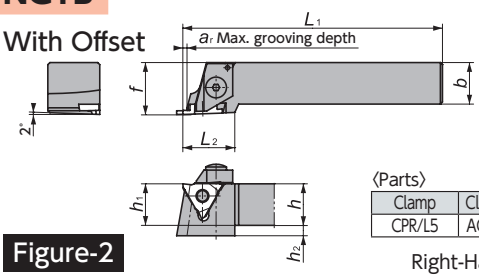


Figure-2

〈Parts〉

Clamp	Clamp Bolt	Spring
CPR/L5	AOS-5*25	ASG-5

Right-Hand style shown

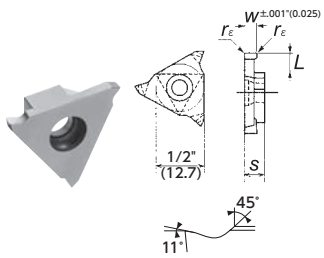
GTM.43 Series - Toolholders

■NGTN / NGTB

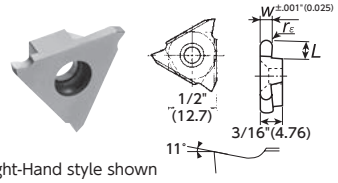
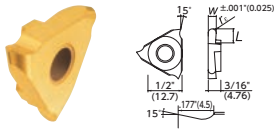
Gage Insert	Item Number	Figure	Stock R	Stock L	Groove Width Range w (Inch)	Groove Width Range w (mm)	a_r (Inch)	a_r (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	h_2 (Inch)	h_2 (mm)	Clamp Screw	Wrench
 GTM43 GTMA43 GTMT43	NGTN®/ℓ161643-20	1	○	○	.079-.137	2.00-3.49	.177	4.5	.630	16	.630	16	.630	16	3.071	78	.630	16	.787	20	.354	9	AOS-5 × 20	LW-2.5
	NGTN®/ℓ161643-35	1	○	○	.138-.217	3.50-5.50	.177	4.5	.630	16	.630	16	.630	16	3.071	78	.630	16	.787	20	.354	9	AOS-5 × 20	LW-2.5
	NGTB®/ℓ161643-00S	2	○	○	.039-.098	1.00-2.49	.118	3.0	.630	16	.630	16	.630	16	3.150	100	.787	20	.984	25	.354	9	AOS-5 × 25	LW-2.5
	NGTB®/ℓ161643-20S	2	○	○	.079-.137	2.00-3.49	.177	4.5	.630	16	.630	16	.630	16	3.150	100	.787	20	.984	25	.354	9	AOS-5 × 25	LW-2.5
	NGTB®/ℓ161643-35S	2	○	○	.138-.217	3.50-5.50	.177	4.5	.630	16	.630	16	.630	16	3.150	100	.787	20	.984	25	.354	9	AOS-5 × 25	LW-2.5

GTMA43.. Inserts - Carbide

■GTMT43 / GTMA43

Shape	Item Number	Groove Width w (Inch)	Groove Width w (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	s (Inch)	s (mm)	Coated Carbide DM4 R	DM4 L	QM3 R	QM3 L
 Right-Hand style shown	GTMT43145®/ℓ	.057	1.45	.118	3.0	.138	3.5	.008	0.2	.187	4.76	○	○	○	○
	GTMT43150®/ℓ	.059	1.50	.118	3.0	.138	3.5	.008	0.2	.187	4.76	○	○	○	○
	GTMT43175®/ℓ	.069	1.75	.118	3.0	.138	3.5	.008	0.2	.187	4.76	○	○	○	○
	GTMT43185®/ℓ	.073	1.85	.118	3.0	.138	3.5	.008	0.2	.187	4.76	○	○	○	○
	GTMT43200®/ℓ	.079	2.00	.118	3.0	.138	3.5	.008	0.2	.187	4.76	○	○	○	○
	GTMT43230®/ℓ	.091	2.30	.118	3.0	.138	3.5	.008	0.2	.187	4.76	○	○	○	○
	GTMT43250®/ℓ	.098	2.50	.169	4.3	.217	5.5	.012	0.3	.187	4.76	○		○	
	GTMT43265®/ℓ	.104	2.65	.169	4.3	.217	5.5	.012	0.3	.187	4.76	○		○	
	GTMT43280®/ℓ	.110	2.80	.169	4.3	.217	5.5	.012	0.3	.187	4.76	○	○	○	○
	GTMT43300®/ℓ	.118	3.00	.169	4.3	.217	5.5	.012	0.3	.187	4.76	○	○	○	○
	GTMT43330®/ℓ	.130	3.30	.169	4.3	.217	5.5	.012	0.3	.187	4.76			○	○
	GTMT43350®/ℓ	.138	3.50	.169	4.3	.217	5.5	.012	0.3	.187	4.76	○	○	○	○
	GTMT43400®/ℓ	.157	4.00	.169	4.3	.217	5.5	.016	0.4	.187	4.76	○	○	○	○
	GTMT43450®/ℓ	.177	4.50	.169	4.3	.217	5.5	.016	0.4	.187	4.76	○		○	○
	GTMT43500®/ℓ	.197	5.00	.169	4.3	.217	5.5	.016	0.4	.227	5.76	○	○	○	○
	GTMT43550®/ℓ	.217	5.50	.169	4.3	.217	5.5	.016	0.4	.227	5.76	○	○	○	○

■GTMA43 (Full Radius style)

Shape	Item Number	Groove Width w (Inch)	Groove Width w (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	L (Inch)	L (mm)	r_ε (Inch)	r_ε (mm)	Coated Carbide QM3 R	QM3 L
 Right-Hand style shown	GTMA43200®/ℓ10R	.079	2.00	.118	3.0	.138	3.5	.039	1.0	○	
	GTMA43300®/ℓ15R	.118	3.00	.177	4.5	.217	5.5	.059	1.5	○	
	GTMA43400 ®/ℓ 20R	.157	4.00	.177	4.5	.217	5.5	.787	2.0	○	
 Right-Hand style shown	GTMA43100®/ℓJ05R	.039	1.00	.063	1.6	.079	2.0	.020	0.50		
	GTMA43150®/ℓJ075R	.059	1.50	.118	3.0	.138	3.5	.030	0.75		
	GTMA43200®/ℓJ10R	.079	2.00	.118	3.0	.138	3.5	.039	1.00		
	GTMA43250®/ℓJ125R	.098	2.50	.157	4.0	.217	5.5	.049	1.25		
	GTMA43300®/ℓJ15R	.118	3.00	.157	4.0	.217	5.5	.059	1.50		

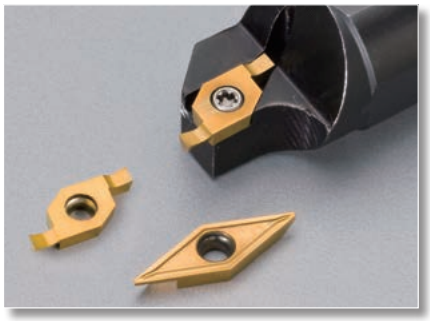
Cutting condition ➡T4

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

SATURN DUO

Face grooving tool

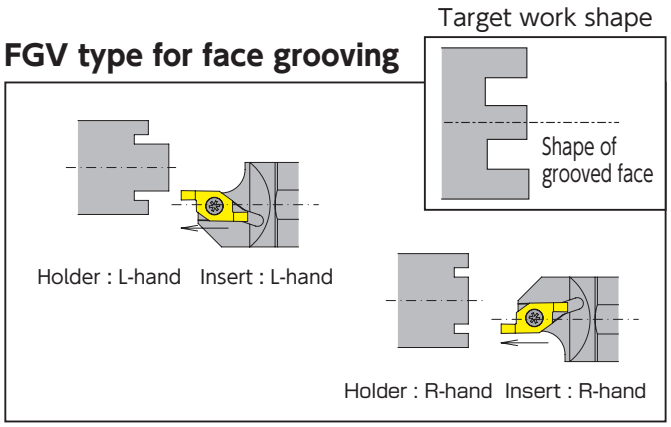
WATCH ON YouTube



Features

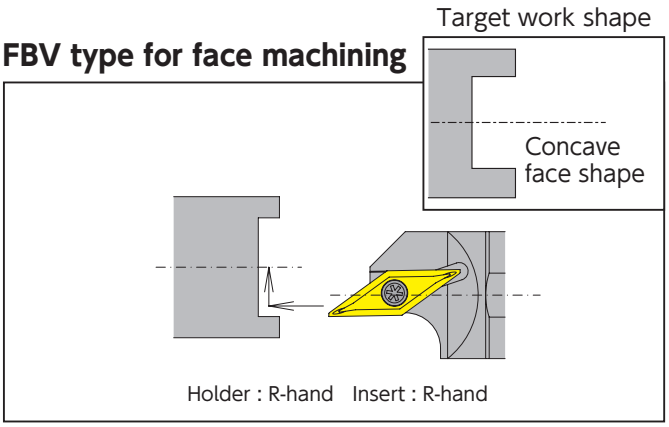
- FGV type for face grooving and FBV type for face machining
- Economical double-corner specification
- Improved tool rigidity by optimizing the overhang and holder shape
- Gang-type, front-gang-type and sleeve holder types available

FGV type for face grooving



- Grooving is possible under a wide range of cutting conditions due to strengthened rigidity of both insert and holder
- Minimum machining diameter of ϕ.236", and groove width of .039"
- Left-hand types available for machining work with a boss

FBV type for face machining



- Further improved face machining efficiency
- Minimum machining diameter of ϕ.315"

■Recommended Cutting Condition for FGV Style Tooling (for Face Grooving)

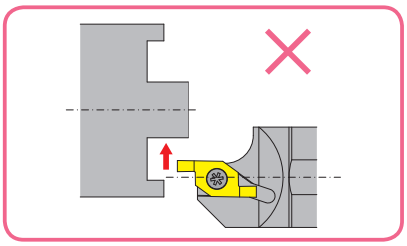
			Steel (Carbon Steel, Alloy Steel)	Stainless Steel (Excluding 303 SS)	Free Cutting Steel (Including 303 SS)	Non-ferrous Metals (Brass, Aluminum, Copper)
Speed (SFM)			160 (100 - 330)	130 (100 - 330)	200 (100 - 330)	260 (160 - 390)
Feed Rate (IPR)	Groove Depth (Inch)	.039	.001 (.0004-.002)	.0008 (.0004-.002)	.002 (.0004-.0025)	.002 (.0004-.0025)
		.059	.0008 (.0004-.002)	.0004 (.0002-.001)	.001 (.0004-.002)	.001 (.0004-.002)
		.079	.0004 (.0002-.001)	.0004 (.0002-.001)	.0008 (.0004-.002)	.0008 (.0004-.002)

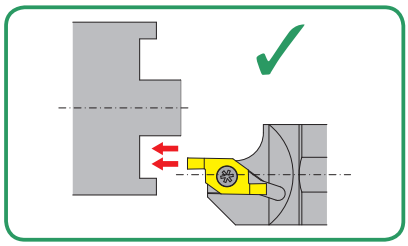
☆Tips for Successful Face Grooving

①Run multiple passes if turning wider grooves.
Make sure to groove from outer diameter to inner diameter to avoid any interference.
②If lines appear on the boss section, slow down feed rate when retracting the tool.
③If scratch appears at the end of the boss, slow down the feed rate.
④If groove surface looks torn, either slow down feed rate or increase speed.
⑤If groove bottom looks torn with a speed and feed condition, increase the speed.

☆Note

Side turning cannot be performed with FGV style tooling





■Recommended Cutting Conditions for FBV Style Tooling (for Face Grooving)

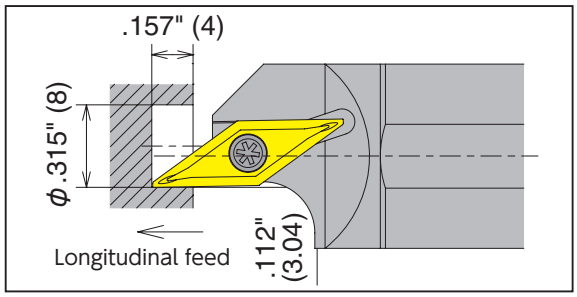
Minimum machining diameter: ϕ .315" (8㎜) WET

			Steel (Carbon Steel, Alloy Steel)	Stainless Steel (Excluding 303 SS)	Free Cutting Steel (Including 303 SS)	Non-ferrous Metals (Brass, Aluminum, Copper)
Speed (SFM)			160 (100 - 330)	130 (100 - 330)	200 (100 - 330)	260 (160 - 390)
Feed Rate (IPR)	Groove Depth (Inch)	.039	.001 (.0004-.002)	.0008 (.0004-.002)	.002 (.0004-.0025)	.002 (.0004-.0025)
		.059	.0008 (.0004-.002)	.0004 (.0002-.001)	.001 (.0004-.002)	.001 (.0004-.002)
		.079	.0004 (.0002-.001)	.0004 (.0002-.001)	.0008 (.0004-.002)	.0008 (.0004-.002)

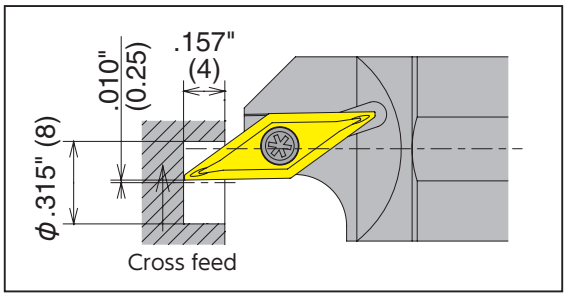
* When machining difficult materials where chip control is problematic (such as 304SS), it is recommended that the machining be carried out in several stages.

☆Machining process

- For materials with good machinability, it is possible to machine up to .157" (4㎜) deep at a low feed rate in a single pass for both longitudinal feed and cross feed.



Cutting in Z direction : Longitudinal feed



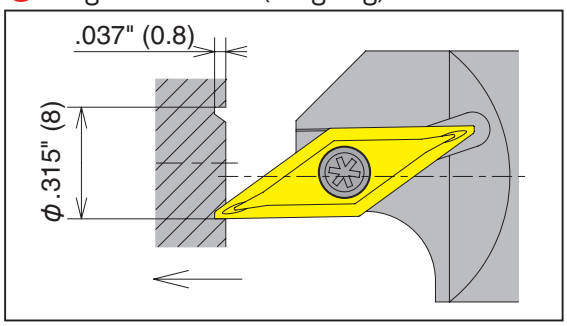
Cutting in X direction : Cross feed

☆Useful tips for machining

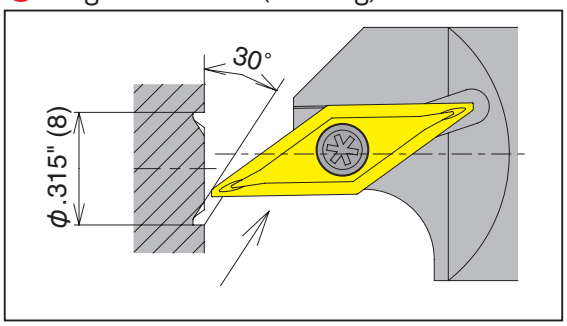
When burrs occur on ID surface, it is recommended to perform the cut in 2 passes, one for roughing and one for finishing as shown in the following procedure:

☆Example of 2-pass machining: Leave .008" (0.2㎜) on roughing then run a finish cut

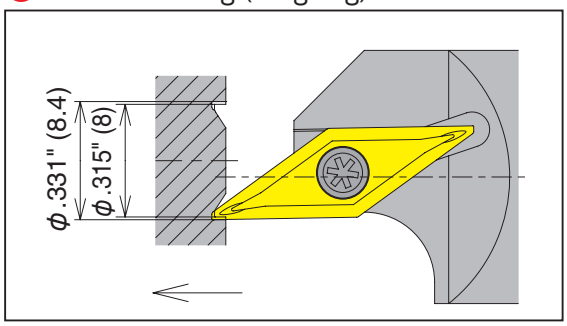
❶ Longitudinal feed (roughing)



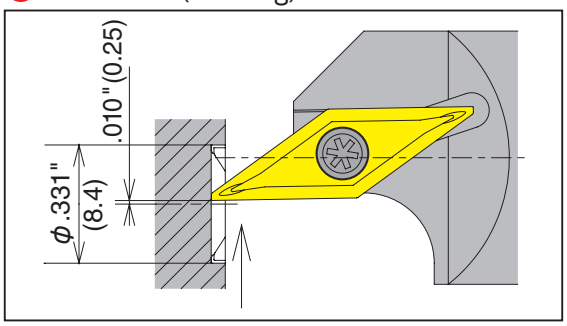
❷ Longitudinal feed (finishing)



❸ Slant machining (roughing)



❹ Cross feed (finishing)



Holders ➡T20 Inserts ➡T21

FGV Series

FGV

For Gang-style machine

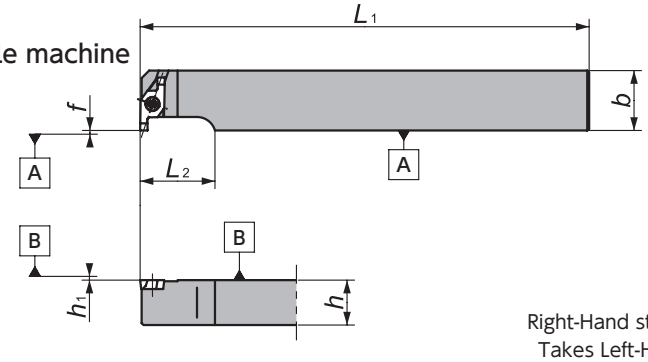
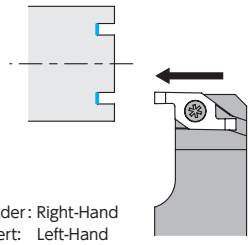


Figure-1

Right-Hand style shown
Takes Left-Hand insert



CH-FGV

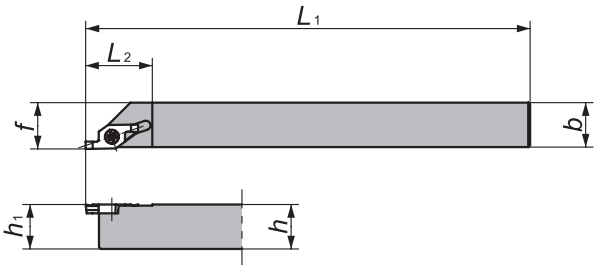
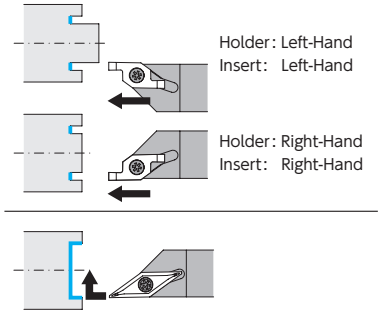


Figure-2

Right-Hand style shown



Only right hand holder is available when using FBV insert

DS-FGV

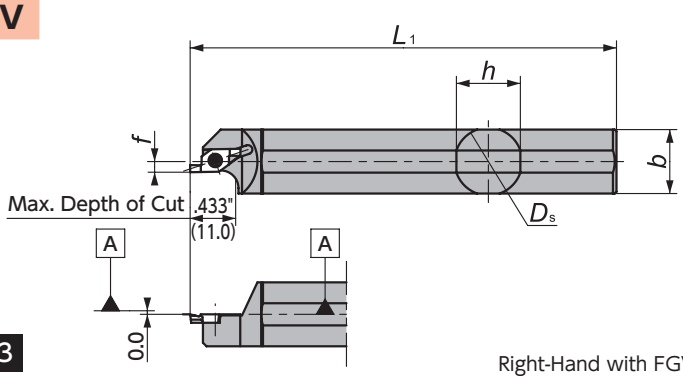
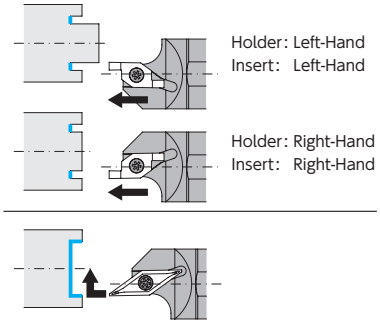


Figure-3

Right-Hand with FGV style shown



Only right hand holder is available when using FBV insert

FGV - Toolholders

FGV

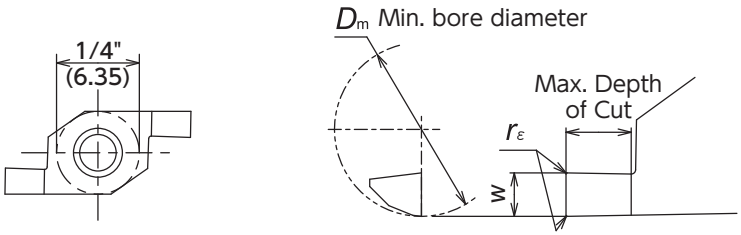
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Clamp Screw	Wrench
FGV...L	FGV⅝1016	1	○		.413	10	.630	16	0	0.0	4.724	120	0	0.0	.787	20	LRIS-2.5 × 7	CLR-15S
	FGV⅝1216	1	○		.472	12	.630	16	0	0.0	4.724	120	0	0.0	.787	20	LRIS-2.5 × 7	CLR-15S
	FGV⅝1616	1	○		.630	16	.630	16	0	0.0	4.724	120	0	0.0	.787	20	LRIS-2.5 × 7	CLR-15S
FGV FBV	CH-FGV⅝1010	2	○	○	.413	10	.394	10	.394	10	4.724	120	.413	10.5	.709	18	LRIS-2.5 × 7	CLR-15S
	CH-FGV⅝1212	2	○	○	.472	12	.472	12	.472	12	4.724	120	.492	12.5	.709	18	LRIS-2.5 × 7	CLR-15S
	CH-FGV⅝1616	2	○	○	.630	16	.630	16	.630	16	4.724	120	.650	16.5	.709	18	LRIS-2.5 × 7	CLR-15S

DS-FGV

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 FGV FBV	DS-FGV⅝16-012	3	○	○	.630	16.000	.591	15	.591	15	3.150	80	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV⅝19	3	○	○	3/4	19.050	.709	18	.709	18	4.724	120	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV⅝20	3	○	○	.787	20.000	.748	19	.748	19	4.724	120	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV⅝22	3	○	○	.866	22.000	.827	21	.827	21	4.724	120	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV⅝22M	1	○	○	.866	22.000	.827	21	.827	21	5.906	150	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV⅝25-MET	3	○	○	.984	25.000	.945	24	.945	24	5.906	150	.118	3.0	LRIS-2.5 × 7	CLR-15S
	DS-FGV⅝25	3	○	○	1	25.400	.965	24.5	.965	24.5	4.724	120	.118	3.0	LRIS-2.5 × 7	CLR-15S

FGV - Inserts

FGV

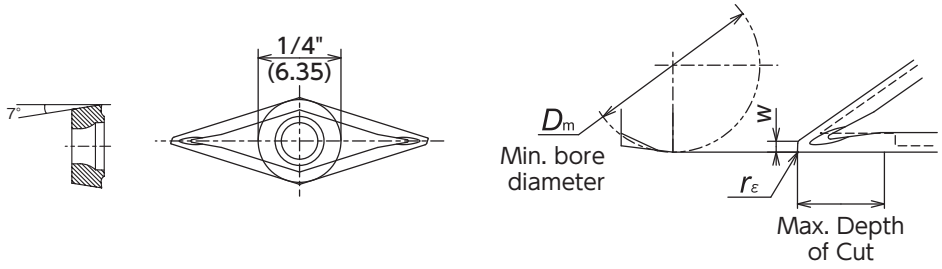


Right-Hand style shown

Shape	Item Number	Groove Width w (Inch)	Groove Width w (mm)	Min. Bore Diameter (Inch)	Min. Bore Diameter (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	Thickness (Inch)	Thickness (mm)	rε (Inch)	rε (mm)	Coated Carbide TM4 R	Coated Carbide TM4 L
 Right-Hand style shown	FGV100RB00D6	.039	1.0	.236	6.0	.059	1.5	3/32	2.38	.000	0.00	○	
	FGV100RB05D6	.039	1.0	.236	6.0	.059	1.5	3/32	2.38	.002	0.05	○	
	FGV150RB00D6	.059	1.5	.236	6.0	.079	2.0	3/32	2.38	.000	0.00	○	
	FGV150RB05D6	.059	1.5	.236	6.0	.079	2.0	3/32	2.38	.002	0.05	○	
	FGV200RB00D6	.079	2.0	.236	6.0	.118	3.0	3/32	2.38	.000	0.00	○	
	FGV200RB05D6	.079	2.0	.236	6.0	.118	3.0	3/32	2.38	.002	0.05	○	
 Left-Hand style shown	FGV100LB00D6	.039	1.0	.236	6.0	.059	1.5	3/32	2.38	.000	0.00		○
	FGV100LB05D6	.039	1.0	.236	6.0	.059	1.5	3/32	2.38	.002	0.05		○
	FGV150LB00D6	.059	1.5	.236	6.0	.079	2.0	3/32	2.38	.000	0.00		○
	FGV150LB05D6	.059	1.5	.236	6.0	.079	2.0	3/32	2.38	.002	0.05		○
	FGV200LB00D6	.079	2.0	.236	6.0	.118	3.0	3/32	2.38	.000	0.00		○
	FGV200LB05D6	.079	2.0	.236	6.0	.118	3.0	3/32	2.38	.002	0.05		○

FBV - Inserts

FBV



Right-Hand style shown

Shape	Item Number	Groove Width w (Inch)	Groove Width w (mm)	Min. Bore Diameter (Inch)	Min. Bore Diameter (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	Thickness (Inch)	Thickness (mm)	rε (Inch)	rε (mm)	Coated Carbide TM4 R	Coated Carbide TM4 L
 Right-Hand style shown	FBV40⅝05D8AM3	.020	0.5	.315	8.0	.157	4.0	.102	2.58	.002	0.05	○	
	FBV40⅝15D8AM3	.020	0.5	.315	8.0	.157	4.0	.102	2.58	.006	0.15	○	

Note: Only CH-FGVR and DS-FGVR can take FBV Right hand insert.

Cutting condition ➡T18

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

GTPA Series

Best tool for Aluminum Spool Machining

GTPA

Screw Accessible from both sides

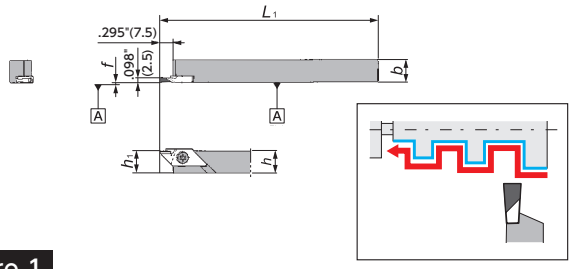
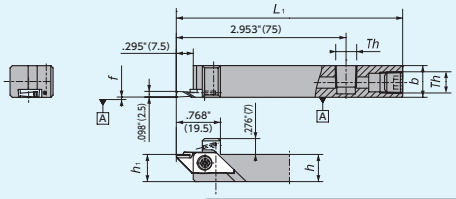


Figure-1

Right-Hand style shown

GTPA-OH (Coolant through)

Screw Accessible from both sides



Th (Thread type)
Metric size holder: Rc1/8 (PT1/8)

Figure-2

Right-Hand style shown

Y-GTPA

Screw Accessible from both sides

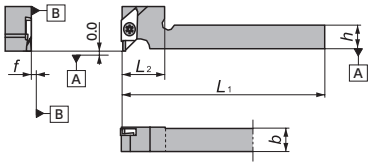
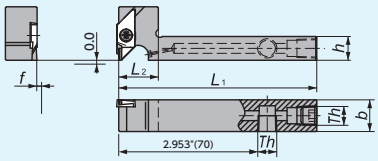


Figure-3

Right-Hand style shown

Y-GTPA-OH (Coolant through)

Screw Accessible from both sides



Th (Thread type)
Metric size holder: Rc1/8 (PT1/8)

Figure-4

Right-Hand style shown

GTPA - Toolholders

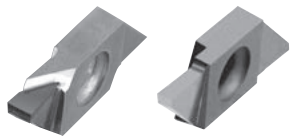
GTPA

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	L_2 (Inch)	L_2 (mm)	Th	Clamp Screw	Wrench
 GTPA	GTPA R/L 1010	1	○		.394	10	.394	10	.394	10	4.724	120	.004	0.1	–	–	–	LRIS-4 × 10PW	CLR-15S
	GTPA R/L 1212	1	○		.472	12	.472	12	.472	12	4.724	120	.004	0.1	–	–	–	LRIS-4 × 10PW	CLR-15S
	GTPA R/L 1616	1	○		.630	16	.630	16	.630	16	4.724	120	.004	0.1	–	–	–	LRIS-4 × 12PW	CLR-15S
	GTPA R/L 1214H-OH 💧	2	○		.472	12	.551	14	.472	12	3.937	100	.004	0.1	–	–	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	Y-GTPA R/L 1216	3	○		.472	12	.630	16	–	–	4.724	120	.004	0.1	.787	20	–	LRIS-4 × 12PW	CLR-15S
	Y-GTPA R/L 1014FSS-OH 💧	4	○		.394	10	.551	14	–	–	3.150	80	.004	0.1	.591	15	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	Y-GTPA R/L 1216HS-OH 💧	4	○		.472	12	.630	16	–	–	3.937	100	.004	0.1	.787	20	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S
	Y-GTPA R/L 1216H-OH 💧	4	○		.630	16	.630	16	–	–	3.937	100	.004	0.1	.984	25	Rc1/8(PT1/8)	LRIS-4 × 12PW	CLR-15S

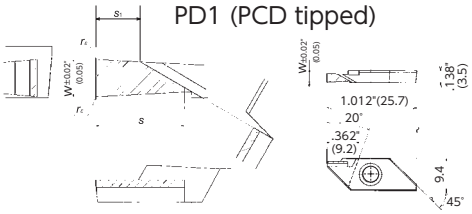
GTPA Series - Inserts

GTPA

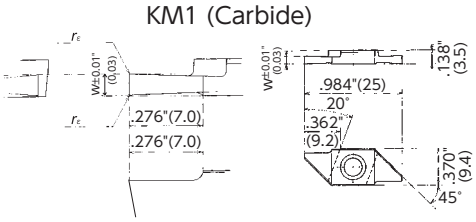
Shape



PD1 (PCD tipped)



KM1 (Carbide)



Item Number	Groove Width w (Inch)	Groove Width w (mm)	Max Depth of Cut (Inch)	Max Depth of Cut (mm)	s (Inch)	s (mm)	s_1 (Inch)	s_1 (mm)	r_ε (Inch)	r_ε (mm)	Carbide KM1	PCD PD1
GTPA20FRN01-082	.079	2.0	.118	3.0	.157	4.0	.079	2.0	-.004	-0.1		○
GTPA20FRN01	.079	2.0	.197	5.0	.236	6.0	.157	4.0	-.004	-0.1		○
GTPA20FRN01	.079	2.0	.236	6.0	–	–	–	–	-.004	-0.1	○	
GTPA25FRN01-081	.098	2.5	.118	3.0	.157	4.0	.024	1.0	-.004	-0.1		○
GTPA25FRN01	.098	2.5	.197	5.0	.236	6.0	.118	3.0	-.004	-0.1		○
GTPA25FRN01	.098	2.5	.236	6.0	–	–	–	–	-.004	-0.1	○	

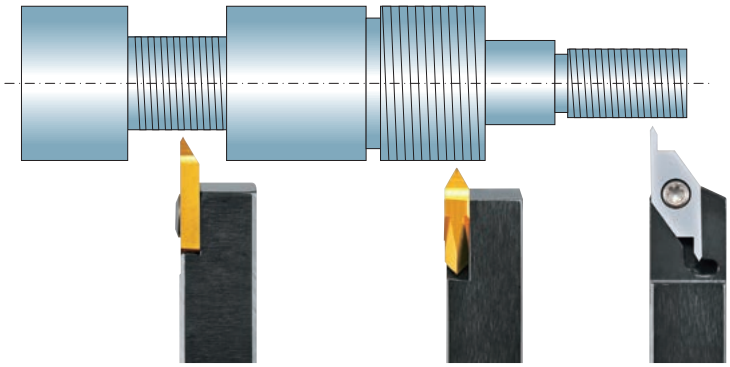
Cutting condition ➡T4

● : Stock
● : Stock (Newly added)
■ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

U

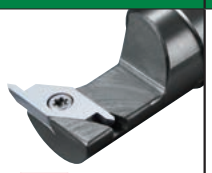
Threading

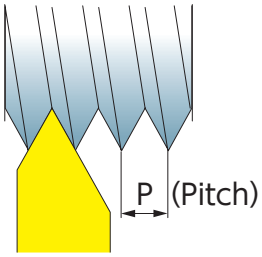
NTK Threading Tools - Product Lines

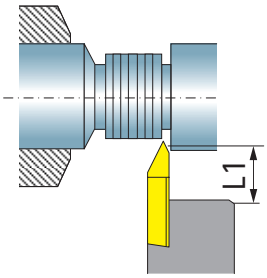


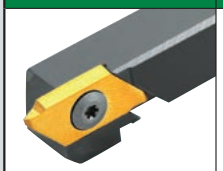
Thread Whirling System

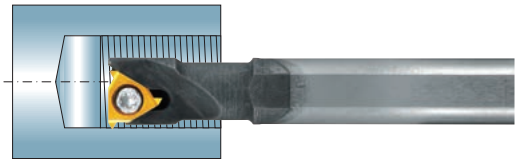
➡U16

Insert	CSVT ➡U6		TTPS ➡U8
Holder	CSV	DS-CSV	CTPS
	 ➡U6	 ➡U6	 ➡U8
Profile	60°		60°
Pitch	127 – 51 TPI (0.2 – 0.5mm)		127 - 17 TPI (0.2 - 1.5mm)
L1	.118" (3.0mm)		.197" (5.0mm)



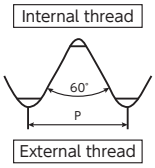
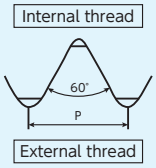
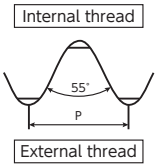
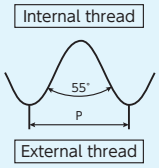
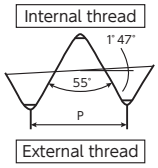
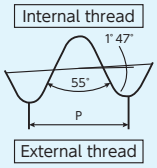
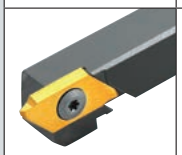


Insert	TTP ➡U11			TTMH32 ➡U14		
Holder	TTP	DS-TTP	CH-TTP	STTN	DS-STT	NTTB
	 ➡U10	 ➡U10	 ➡U10	 ➡U14	 ➡U14	 ➡U14
Profile	60° / 55°			60°		
Pitch	127 – 13 TPI (0.2 – 2.0mm)			31 – 9 TPI (0.8 – 3.0mm)		
L1	.217" (5.5mm)			.157" (4.0mm)	.118" (3.0mm)	.157" (4.0mm)



Insert	SBT ➡V20	TMN ➡V33
Holder	NBH	TGC / HN
	 ➡V14	 ➡V33
Profile	60°	60°
Pitch	51 – 15 TPI (0.5 – 1.75mm)	63 – 34 TPI (0.4 – 0.75mm)
L1	.024" – .071" (0.6 – 1.8mm)	.028" – .039" (0.7 – 1.0mm)

Tools and Thread Standards

Thread Type		ISO Metric	American Unified	Whitworth	Parallel Pipe	American Tapered Pipe	Tapered Pipe
		M	UNC UNE	W	G(PF)	NPT	R(PT)
							
Profile		60°	60°	55°	55°	60°	55°
Tool \ Pitch		mm	TPI	TPI	TPI	TPI	TPI
External Thread	 **CSVT**	0.2 - 0.5	80 - 56	—	—	—	—
	 **TTPS**	0.2 - 1.5	80 - 18	—	—	(18)	—
	 **TTP**	0.2 - 2.0	80 - 13	40/24/20/18/16	(28/19)	(18/14)	(28/19)
	 **TTMH**	0.8 - 3.0	24 - 9	—	—	18/14/11.5	—
Internal Thread	 **SBT**	0.5 - 1.75	36 - 16	—	—	(18)	—
	 **TGC/HN**	0.4 - 0.75	56 - 36	—	—	—	—

(Please check Radius [Flat] shape over inserts)

Recommended Cutting Conditions

Threading

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	VM1			VM1 / ZM3		QM3	
	2nd choice	ZM3			QM3		VM1 / ZM3	
Cutting Speed (SFM)		75 125 225	100 200 275		130 230 330	150 300 600	150 300 500	

*Unless your machine is equipped with high speed threading program, please set the feed rate to 80 IPM or lower to prevent making incomplete threads

Recommended Depth of Cut (DOC) for Each Pass

TTP, TTPS, TTMH, TTMA, CSVT

Thread Type		Pitch (mm)	Total DOC (mm)	Number of pass	1	2	3	4	5	6	7	8	9	10
Metric (60°)	Male thread	0.20	0.20	4	0.08	0.06	0.04	0.02						
		0.25	0.24	4	0.10	0.08	0.04	0.02						
		0.30	0.28	5	0.08	0.07	0.07	0.04	0.02					
		0.35	0.32	5	0.10	0.09	0.07	0.04	0.02					
		0.40	0.35	5	0.12	0.10	0.07	0.04	0.02					
		0.45	0.39	5	0.16	0.10	0.07	0.04	0.02					
		0.50	0.33	5	0.10	0.10	0.07	0.04	0.02					
		0.60	0.40	6	0.10	0.10	0.08	0.06	0.04	0.02				
		0.70	0.48	6	0.10	0.10	0.10	0.10	0.06	0.02				
		0.75	0.52	7	0.10	0.10	0.10	0.08	0.07	0.05	0.02			
		0.80	0.56	7	0.10	0.10	0.10	0.10	0.08	0.06	0.02			
		1.00	0.71	8	0.15	0.15	0.12	0.10	0.08	0.06	0.03	0.02		
		1.25	0.90	9	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.05	0.02	
		1.50	1.09	10	0.22	0.20	0.15	0.12	0.10	0.10	0.08	0.05	0.05	0.02

Thread Type		Pitch (TPI)	Total DOC (inch)	Number of pass	1	2	3	4	5	6	7	8	9	10
American Unified	Male thread	80	.008	4	.003	.003	.002	.001						
		72	.009	4	.004	.003	.002	.001						
		64	.011	5	.003	.003	.002	.002	.001					
		56	.012	5	.004	.003	.002	.002	.001					
		48	.015	5	.005	.004	.003	.002	.001					
		44	.016	6	.005	.004	.003	.002	.002	.001				
		40	.018	6	.005	.004	.004	.003	.002	.001				
		36	.020	6	.005	.005	.004	.003	.002	.001				
		32	.022	7	.005	.005	.004	.003	.002	.002	.001			
		28	.025	7	.006	.005	.004	.004	.003	.002	.001			
		24	.030	8	.007	.006	.005	.004	.003	.002	.002	.001		
		20	.033	9	.007	.006	.005	.004	.003	.003	.002	.002	.001	
		18	.038	9	.008	.007	.006	.005	.004	.003	.002	.002	.001	
		16	.036	9	.007	.007	.006	.005	.004	.003	.002	.002	.001	
		14	.043	10	.008	.008	.007	.006	.005	.003	.002	.002	.002	.001

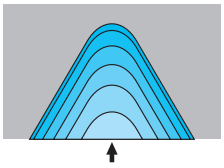
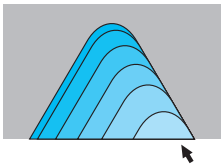
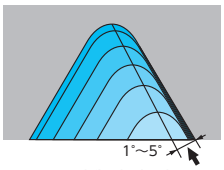
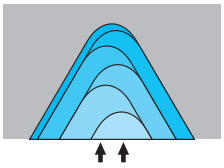
Cutting Conditions for STICK DUO

For 600 - 1500 RPM Recommended Depth of Cut (DOC) for Each Pass

Metric Thread		Number of Pass																				
Pitch (mm)	Total DOC (mm)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
0.5	0.3	0.06	0.05	0.05	0.04	0.04	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—
0.7	0.43	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—	—	—
0.75	0.46	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—	—
0.8	0.49	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—
1.0	0.62	0.07	0.07	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.02	0.01	—	—	—	—	—	—	—
1.25	0.76	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.04	0.03	0.03	0.02	0.01	—	—	—	—	—	—
1.5	0.92	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.01	—	—	—
1.75	1.09	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.01

UNF Thread		Number of Pass																		
Pitch (TPI)	Total DOC (inch)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
36	.017	.002	.002	.002	.002	.002	.002	.001	.001	.0008	.0004	—	—	—	—	—	—	—	—	—
32	.019	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004	—	—	—	—	—	—	—	—
28	.022	.003	.002	.002	.002	.002	.002	.001	.001	.001	.001	.001	.0008	.0004	—	—	—	—	—	—
24	.026	.003	.002	.002	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004	—	—	—	—	—
20	.031	.003	.003	.003	.003	.002	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004	—	—	—
18	.034	.003	.003	.003	.003	.003	.002	.002	.002	.002	.002	.002	.002	.001	.001	.001	.0008	.0004	—	—
16	.039	.003	.003	.003	.003	.003	.003	.003	.002	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004

Infeed Threading Method

	Features	
	Advantage	Disadvantage
 Radial Infeed	●Most popular and easiest method ●Easy to change parameter ●Uniform wear on both sides of insert	●Chip evacuation ●Vibration due to higher cutting force ●Ineffective for large pitch threading
 Flank Infeed	●2nd most popular and easy method ●Effective for larger pitch and gummy material thanks to lower cutting force ●Excellent chip evacuation	●Larger flank wear on right side of the insert ●Difficult to change cutting depth per cut
 Modified Flank Infeed	●Reduce flank wear on right side ●Effective for larger pitch and gummy material thanks to lower cutting force ●Excellent chip evacuation	●Difficult to program ●Difficult to change cutting depth per cut
 Incremental Infeed	●Uniform flank wear ●Effective for larger pitch and gummy material thanks to lower cutting force	●Difficult to program ●Difficult to change cutting depth per cut ●Chip evacuation

CSV Series

Best for up to .200" diameter material

CSV-NC For Gang-style machine

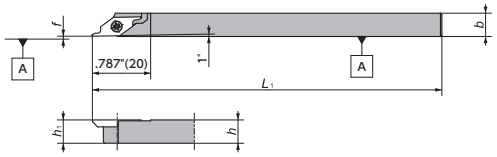


Figure-1

Right-Hand style shown

CSV For Cam-style machine

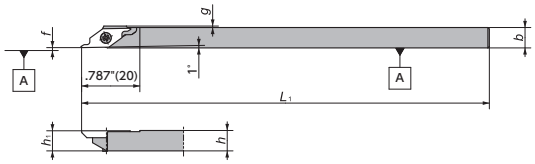


Figure-2

Right-Hand style shown

DS-CSVL

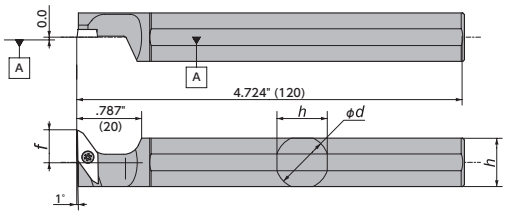


Figure-3

Left-Hand style shown
Takes Right-hand insert

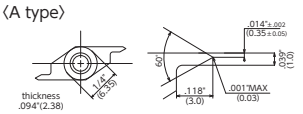
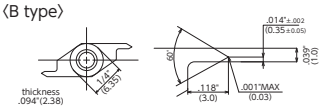
■CSV R/L / CSV R/L-NC

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	g (Inch)	g (mm)	Clamp Screw	Wrench
 CSV..11..	CSV R/L06-IN-NC	1	●	●	3/8		3/8		3/8		4.724	120	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSV R/L08-IN-NC	1	●	●	1/2		1/2		1/2		4.724	120	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSV R/L08NC	1	○	○	.315	8	.315	8	.315	8	4.724	120	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSV R/L08NC-F	1	○		.315	8	.315	8	.315	8	4.724	120	0-.004	0.0-0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSV R/L10GXNC	1	○		.394	10	.394	10	.394	10	3.346	85	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSV R/L10NC	1	○	○	.394	10	.394	10	.394	10	4.724	120	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSV R/L12NC	1	○	○	.472	12	.472	12	.472	12	4.724	120	.004	0.1	–	–	LRIS-2.5 × 7	CLR-15S
	CSV R/L07GX	2	○		.275	7	.275	7	.275	7	3.346	85	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSV R/L07	2	○	●	.275	7	.275	7	.275	7	5.512	140	.004	0.1	.020	0.5	LRIS-2.5 × 7	CLR-15S
	CSV R/L08GX	2	○		.315	8	.315	8	.315	8	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L08	2	●	●	.315	8	.315	8	.315	8	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L095	2	○		.374	9.5	.374	9.5	.374	9.5	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L10	2	●	○	.394	10	.394	10	.394	10	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L12GX	2	○		.472	12	.472	12	.472	12	3.346	85	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CSV R/L12	2	●		.472	12	.472	12	.472	12	5.512	140	.004	0.1	0.0	0.0	LRIS-2.5 × 7	CLR-15S

■DS-CSVL (Takes right-hand insert)

Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 CSV..11FR..	DS-CSV R/L15	3		●	5/8	15.875	.591	15	.591	15	4.724	120	.394	10	LRIS-2.5 × 7	CLR-15S

■CSVT - Threading Mirror finish

Shape	Item Number	Chip-breaker	r_ε (TPI)	r_ε (mm)	Pitch (TPI)	Pitch (mm)	Coated Carbide VM1 R	Coated Carbide VM1 L
〈A type〉  Right-Hand style shown	CSVT11F R/L P60-035A Ⓜ	No	-R.001	R0.03 MAX	127 - 51	0.2 - 0.5	●	●
〈B type〉  Right-Hand style shown	CSVT11F R/L P60-035B Ⓜ	No	-R.001	R0.03 MAX	127 - 51	0.2 - 0.5	●	●

Note: All angles shown are obtained when insert is set in the holder

CSVT Style

Unified Standard (UN, UNF, UNC) Threads

	Thread Type		Pitch			Applicable Inserts
	#1	#2	(TPI)	(inch)	(mm)	
Coarse		No.1-64 UNC	64	.016	0.3969	CSVT11F⅝P60-035A CSVT11F⅝P60-035B
	No.2-56 UNC		56	.018	0.4536	
Fine	No.0-80 UNF		80	.013	0.3175	
		No.1-72 UNF	72	.014	0.3528	
	No.2-64 UNF		64	.016	0.3969	
		No.3-56 UNF	56	.018	0.4536	

Metric (M) Threads / Fine and Coarse

	Pitch (mm)				
	0.50	0.40	0.35	0.25	0.20
M1				Coarse	Fine
M2		Coarse		Fine	
M3	Coarse		Fine		
M4	Fine				
M5					

Recommended Depth of Cut (DOC) for Each Pass (mm)

TTP, TTPS, TTMH, TTMA, CSVT

Thread Type		Pitch (mm)	Total DOC (mm)	Number of pass	1	2	3	4	5	6	7	8	9	10
Metric (60°)	Male thread	0.20	0.20	4	0.08	0.06	0.04	0.02						
		0.25	0.24	4	0.10	0.08	0.04	0.02						
		0.30	0.28	5	0.08	0.07	0.07	0.04	0.02					
		0.35	0.32	5	0.10	0.09	0.07	0.04	0.02					
		0.40	0.35	5	0.12	0.10	0.07	0.04	0.02					
		0.45	0.39	5	0.16	0.10	0.07	0.04	0.02					
		0.50	0.33	5	0.10	0.10	0.07	0.04	0.02					
		0.60	0.40	6	0.10	0.10	0.08	0.06	0.04	0.02				
		0.70	0.48	6	0.10	0.10	0.10	0.10	0.06	0.02				
		0.75	0.52	7	0.10	0.10	0.10	0.08	0.07	0.05	0.02			
		0.80	0.56	7	0.10	0.10	0.10	0.10	0.08	0.06	0.02			
		1.00	0.71	8	0.15	0.15	0.12	0.10	0.08	0.06	0.03	0.02		
		1.25	0.90	9	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.05	0.02	
		1.50	1.09	10	0.22	0.20	0.15	0.12	0.10	0.10	0.08	0.05	0.05	0.02

CSV series ➡O51 Cutting condition ➡U4

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

CTPS Series

CTPS

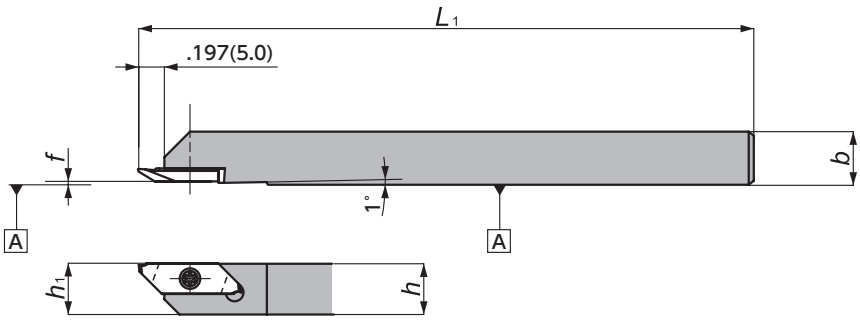


Figure-1

Right-Hand style shown

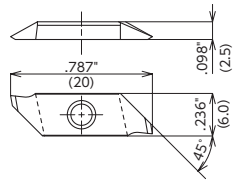
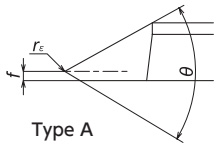
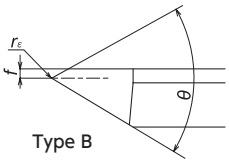
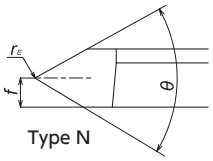
CTPS Series - Toolholders

■CTPS (Takes right-hand inserts)

Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 TTPS	CTPS⅜06-IN	1	●		3/8		3/8		3/8		4.724	120	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPS⅜08-IN	1	●		1/2		1/2		1/2		4.724	120	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPS⅜10	1	○		.394	10	.394	10	.394	10	4.724	120	0.0	0.0	LRIS-2.5 × 7	CLR-15S
	CTPS⅜12	1	○		.472	12	.472	12	.472	12	4.724	120	0.0	0.0	LRIS-2.5 × 7	CLR-15S

CTPS Series - Inserts

■TTPS - Threading

Shape	Item Number	Type	θ	f (Inch)	f (mm)	r_ε (Inch)	r_ε (mm)	Pitch (TPI)	Pitch (mm)	Coated Carbide VM1	Coated Carbide ZM3
	TTPS60FR4A	A	60°	.016	0.4	.002 MAX Flat	(0.05) MAX Flat	127 - 34	0.2 - 0.75	○	○
 Type A	TTPS60FR4B	B	60°	.016	0.4	.002 MAX Flat	(0.05) MAX Flat	127 - 34	0.2 - 0.75	○	○
 Type B	TTPS60FR8A	A	60°	.031	0.8	R.002	(0.05)	63 - 21	0.4 - 1.25	○	○
 Type N	TTPS60FR8B	B	60°	.031	0.8	R.002	(0.05)	63 - 21	0.4 - 1.25	○	○
 Right-Hand style shown	TTPS60FR-N	N	60°	.049	1.25	R.004	(0.1)	25 - 17	1.0 - 1.5	○	○

Note: All angles shown are obtained when insert is set in the holder

TTPS Style

Unified Standard (UN, UNF, UNC) Threads

	Thread Type #1	Thread Type #2	Pitch (TPI)	Pitch (mm)	Applicable Inserts
Coarse		No.1-64 UNC	64	0.397	**TTPS60FR4A (B)**
	No.2-56 UNC		56	0.454	**TTPS60FR4A (B)** **TTPS60FR8A (B)**
		No.3-48 UNC	48	0.529	
	No.4-40 UNC		40	0.635	
	No.5-40 UNC		40	0.635	
	No.6-32 UNC		32	0.794	
	No.8-32 UNC		32	0.794	
	No.10-24 UNC		24	1.058	**TTPS60FR4A (B)** **TTPS60FR8A (B)** **TTPS60FR-N**
		No.12-24 UNC	24	1.058	
	1/4-20 UNC		20	1.270	
	5/16-18 UNC		18	1.411	**TTPS60FR-N**
Fine	No.0-80 UNF		80	0.318	**TTPS60FR4A (B)**
		No.1-72 UNF	72	0.353	
	No.2-64 UNF		64	0.397	
		No.3-56 UNF	56	0.454	**TTPS60FR4A (B)** **TTPS60FR8A (B)**
	No.4-48 UNF		48	0.529	
	No.5-44 UNF		44	0.577	
	No.6-40 UNF		40	0.635	
	No.8-36 UNF		36	0.706	
	No.10-32 UNF		32	0.794	
		No.12-28 UNF	28	0.907	**TTPS60FR8A (B)**
	1/4-28 UNF		28	0.907	
	5/16-24 UNF		24	1.058	**TTPS60FR8A (B)** **TTPS60FR-N**
	3/8-24 UNF		24	1.058	
	7/16-20 UNF		20	1.270	
	1/2-20 UNF		20	1.270	
	9/16-18 UNF		18	1.411	**TTPS60FR-N**
	5/8-18 UNF		18	1.411	

Metric (M) Threads / Fine and Coarse

Thread Type #1	#2	#3	Pitch (mm) 1.50	1.25	1.00	0.80	0.75	0.70	0.50	0.40	0.35	0.25	0.20
M1												Coarse	Fine
M2										Coarse		Fine	
M3									Coarse		Fine		
M4								Coarse	Fine				
M5						Coarse							
M6					Coarse		Fine						
	M7												
M8				Coarse	Fine								
		M9											
M10			Coarse	Fine									
		M11											
M12			Fine	Fine									
	M14												
		M15			Fine								
M16													
		M17											
	M18												
M20			Fine										
	M22												
M24													
		M25											
		M26											
	M27				Fine								
		M28											

Covered Thread Pitch Range

Inserts	Pitch (TPI)	Pitch (mm)
TTPS60FR4A (B)	127 - 34	0.2 - 0.75
TTPS60FR8A (B)	63 - 21	0.4 - 1.25
TTPS60FR-N	25 - 17	1.0 - 1.5

Cutting condition ➡U4

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

TTP Series

TTP

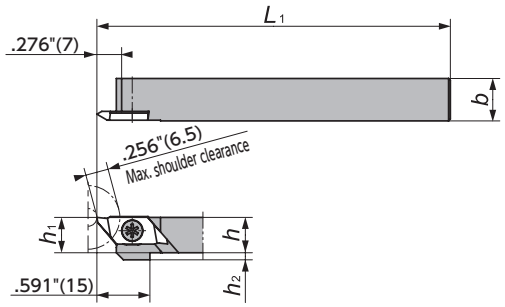
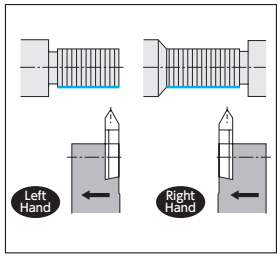


Figure-1



Right-Hand style shown

CH-TTP

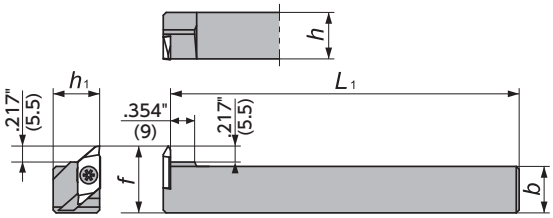
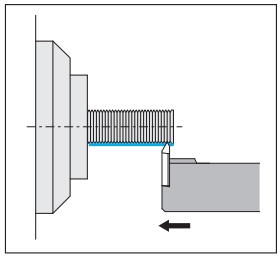


Figure-2



Left-Hand style shown
Takes Right-hand insert

DS-TTP

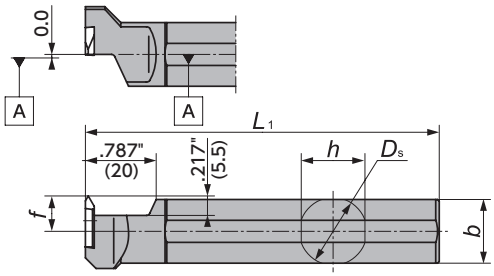
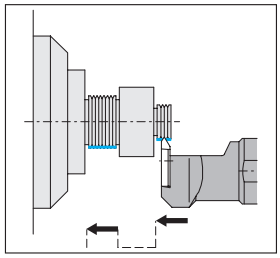


Figure-3



Left-Hand style shown
Takes Right-hand insert

TTP R/L / CH-TTPL

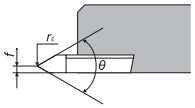
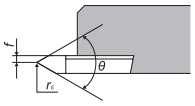
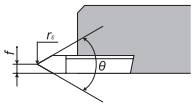
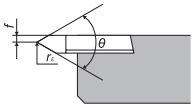
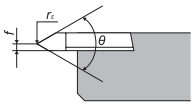
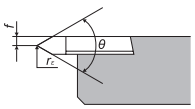
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h_1 (Inch)	h_1 (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	h_2 (Inch)	h_2 (mm)	Clamp Screw	Wrench
 TTP.. TTP..FR	TTPR/L06-IN	1	●	●	3/8		3/8		3/8		4.724	120	–	–	.079	2	LRIS-4 × 10PW	CLR-15S
	TTPR/L08-IN	1	●	●	1/2		1/2		1/2		4.724	120	–	–	0	0	LRIS-4 × 10PW	CLR-15S
	TTPR/L10-IN	1	●	●	5/8		5/8		5/8		4.724	120	–	–	0	0	LRIS-4 × 12PW	CLR-15S
	TTPR/L08	1	○	○	.315	8	.394	10	.315	8	4.724	120	–	–	.157	4	LRIS-4 × 12PW	CLR-15S
	TTPR/L10	1	○	○	.394	10	.394	10	.394	10	4.724	120	–	–	.079	2	LRIS-4 × 12PW	CLR-15S
	TTPR/L12GX	1	○	○	.472	12	.472	12	.472	12	3.346	85	–	–	0	0	LRIS-4 × 12PW	CLR-15S
	TTPR/L12	1	●	●	.472	12	.472	12	.472	12	4.724	120	–	–	0	0	LRIS-2.5 × 7	CLR-15S
	TTPR/L16H	1	○	○	.630	16	.630	16	.630	16	3.937	100	–	–	0	0	LRIS-2.5 × 7	CLR-15S
	TTPR/L16	1	○	○	.630	16	.630	16	.630	16	4.724	120	–	–	0	0	LRIS-2.5 × 7	CLR-15S
	TTPR/L20F	1	○	○	.787	20	.787	20	.787	20	3.150	80	–	–	0	0	LRIS-4 × 10	LLR-25S-20 × 65
	CH-TTPL16	2		○	.630	16	.630	16	.630	16	4.724	120	.906	23	–	–	LRIS-4 × 10	LLR-25S-20 × 65
	CH-TTPL20	2		○	.787	20	.787	20	.787	20	4.724	120	1.063	27	–	–	LRIS-4 × 10	LLR-25S-20 × 65

DS-TTP

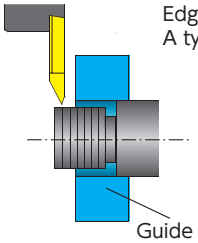
Gage Insert	Item Number	Figure	Stock R	Stock L	D_s (Inch)	D_s (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L_1 (Inch)	L_1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 TTP..	DS-TTPR/L16F	3		○	.630	16.000	.591	15	.591	15	3.150	80	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-TTPR/L19	3		●	3/4	19.050	.709	18	.709	18	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-TTPR/L20	3		●	.787	20.000	.748	19	.748	19	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-TTPR/L22	3		●	.866	22.000	.827	21	.827	21	4.724	120	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-TTPR/L25-MET	3		○	.984	25.000	.945	24	.945	24	5.906	150	.118	3.0	LRIS-4 × 10	LLR-25S-20 × 65
	DS-TTPR/L25	3		●	1	25.400	.945	24	.945	24	5.906	150	.394	10.0	LRIS-4 × 10	LLR-25S-20 × 65

TTP Series - Inserts

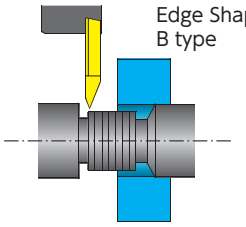
TTP - Threading

	Shape	Item Number	θ	f (Inch)	f (mm)	r_ε (Inch)	r_ε (mm)	Pitch (TPI)	Pitch (mm)	Coated Carbide QM3 R	Coated Carbide QM3 L	Coated Carbide ZM3 R	Coated Carbide ZM3 L	Carbide KM1 R	Carbide KM1 L
Right-Hand	A type 	TTP60FR2A	60°	.008	0.2	(.002) MAX Flat	(0.05) MAX Flat	127 - 72	0.2 - 0.35			○			
		TTP60FR4A	60°	.016	0.4	(.002) MAX Flat	(0.05) MAX Flat	127 - 34	0.2 - 0.75	●		●			
		TTP60FR4AS Ⓜ	60°	.016	0.4	(.002) MAX Flat	(0.05) MAX Flat	127 - 34	0.2 - 0.75					○	
		TTP60FR8A	60°	.031	0.8	(R.002)	(R0.05)	63 - 21	0.4 - 1.25	●		●			
		TTP60FR8AS Ⓜ	60°	.031	0.8	(R.002)	(R0.05)	63 - 21	0.4 - 1.25					○	
		TTP55FR8A	55°	.031	0.8	(R.002)	(R0.05)	48 - 16	–			●			
	B type 	TTP60FR2B	60°	.008	0.2	(.002) MAX Flat	(0.05) MAX Flat	127 - 72	0.2 - 0.35			○			
		TTP60FR4B	60°	.016	0.4	(.002) MAX Flat	(0.05) MAX Flat	127 - 34	0.2 - 0.75	●		●			
		TTP60FR4BS Ⓜ	60°	.016	0.4	(.002) MAX Flat	(0.05) MAX Flat	127 - 34	0.2 - 0.75					○	
		TTP60FR8B	60°	.031	0.8	(R.002)	(R0.05)	63 - 21	0.4 - 1.25	●		●			
		TTP60FR8BS Ⓜ	60°	.031	0.8	(R.002)	(R0.05)	63 - 21	0.4 - 1.25					○	
		TTP55FR8B	55°	.031	0.8	(R.002)	(R0.05)	48 - 16	–			●			
	N type 	TTP60FR-N	60°	.049	1.25	(R.004)	(R0.1)	25 - 17	1.0 - 1.5	●		●			
		TTP60FR-NS Ⓜ	60°	.049	1.25	(R.004)	(R0.1)	25 - 17	1.0 - 1.5					○	
		TTP60FR-N02	60°	.049	1.25	(R.008)	(R0.2)	16 - 13	1.5 - 2.0	●		○			
Left-Hand	A type 	TTP60FL2A	60°	.008	0.2	(.002) MAX Flat	(0.05) MAX Flat	127 - 72	0.2 - 0.35				○		
		TTP60FL4A	60°	.016	0.4	(.002) MAX Flat	(0.05) MAX Flat	127 - 34	0.2 - 0.75		●		●		
		TTP60FL4AS Ⓜ	60°	.016	0.4	(.002) MAX Flat	(0.05) MAX Flat	127 - 34	0.2 - 0.75						○
		TTP60FL8A	60°	.031	0.8	(R.002)	(R0.05)	63 - 21	0.4 - 1.25		●		●		
		TTP60FL8AS Ⓜ	60°	.031	0.8	(R.002)	(R0.05)	63 - 21	0.4 - 1.25						○
		TTP55FL8A	55°	.031	0.8	(R.002)	(R0.05)	48 - 16	–				●		
	B type 	TTP60FL2B	60°	.008	0.2	(.002) MAX Flat	(0.05) MAX Flat	127 - 72	0.2 - 0.35				○		
		TTP60FL4B	60°	.016	0.4	(.002) MAX Flat	(0.05) MAX Flat	127 - 34	0.2 - 0.75		●		●		
		TTP60FL4BS Ⓜ	60°	.016	0.4	(.002) MAX Flat	(0.05) MAX Flat	127 - 34	0.2 - 0.75						○
		TTP60FL8B	60°	.031	0.8	(R.002)	(R0.05)	63 - 21	0.4 - 1.25		○		●		
		TTP60FL8BS Ⓜ	60°	.031	0.8	(R.002)	(R0.05)	63 - 21	0.4 - 1.25						○
		TTP55FL8B	55°	.031	0.8	(R.002)	(R0.05)	48 - 16	–				●		
	N type 	TTP60FL-N	60°	.049	1.25	(R.004)	(R0.1)	25 - 17	1.0 - 1.5		●		●		
		TTP60FL-NS Ⓜ	60°	.049	1.25	(R.004)	(R0.1)	25 - 17	1.0 - 1.5						○
		TTP60FL-N02	60°	.049	1.25	(R.008)	(R0.2)	16 - 13	1.5 - 2.0		●		○		

Right Hand Toolholders

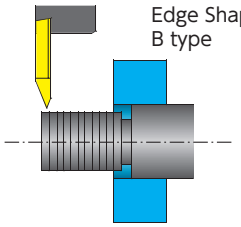


Toolholder	TTPR
Insert	TTP..FR..A

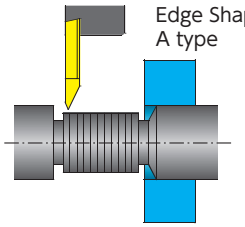


Toolholder	TTPR
Insert	TTP..FR..B

Left Hand Toolholders



Toolholder	TTPL
Insert	TTP..FL..B



Toolholder	TTPL
Insert	TTP..FL..A

Cutting condition ➡U4

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

TTP Style

Unified Standard (UN, UNF, UNC) Threads

	Thread Type		Pitch (TPI)	Pitch (mm)	Applicable Inserts
Coarse (UNC)		No.1-64 UNC	64	0.3969	TTP60F¾2A(B) TTP60F¾4A, AS(B, BS)
	No.2-56 UNC		56	0.4536	TTP60F¾4A, AS(B, BS) TTP60F¾8A, AS(B, BS)
		No.3-48 UNC	48	0.5292	
	No.4-40 UNC		40	0.6350	
	No.5-40 UNC		40	0.6350	
	No.6-32 UNC		32	0.7938	TTP60F¾8A, AS(B, BS)
	No.8-32 UNC		32	0.7938	
	No.10-24 UNC		24	1.0583	TTP60F¾8A, AS(B, BS) TTP60F¾-N(S)
		No.12-24 UNC	24	1.0583	
	1/4-20 UNC		20	1.2700	
	5/16-18 UNC		18	1.4111	TTP60F¾-N(S)
	3/8-16 UNC		16	1.5875	TTP60F¾-N02
	7/16-14 UNC		14	1.8143	
	1/2-13 UNC		13	1.9538	
Fine (UNC)	No.0-80 UNF		80	0.3175	TTP60F¾2A(B) TTP60F¾4A, AS(B, BS)
		No.1-72 UNF	72	0.3528	
	No.2-64 UNF		64	0.3969	
		No.3-56 UNF	56	0.4536	TTP60F¾4A, AS(B, BS) TTP60F¾8A, AS(B, BS)
	No.4-48 UNF		48	0.5292	
	No.5-44 UNF		44	0.5773	
	No.6-40 UNF		40	0.6350	
	No.8-36 UNF		36	0.7056	
	No.10-32 UNF		32	0.7938	TTP60F¾8A, AS(B, BS)
		No.12-28 UNF	28	0.9071	
	1/4-28 UNF		28	0.9071	
	5/16-24 UNF		24	1.0583	TTP60F¾8A, AS(B, BS) TTP60F¾-N(S)
	3/8-24 UNF		24	1.0583	
	7/16-20 UNF		20	1.2700	TTP60F¾-N(S)
	1/2-20 UNF		20	1.2700	
	9/16-18 UNF		18	1.4111	
	5/8-18 UNF		18	1.4111	
	3/4-16 UNF		16	1.5875	TTP60F¾-N02
	7/8-14 UNF		14	1.8143	

Metric (M) Threads / Fine and Coarse

Thread Type			Pitch (mm)											
			2.00	1.50	1.25	1.00	0.80	0.75	0.70	0.50	0.40	0.35	0.25	0.20
M1													Coarse	Fine
M2											Coarse		Fine	
M3										Coarse		Fine		
M4									Coarse	Fine				
M5							Coarse							
M6						Coarse		Fine						
	M7													
M8					Coarse	Fine								
		M9												
M10				Coarse	Fine									
		M11												
M12				Fine	Fine									
	M14		Coarse											
		M15												
M16			Coarse											
		M17												
	M18		Fine	Fine										
M20														
	M22													
M24														
		M25												
		M26												
	M27		Fine			Fine								
		M28												
M30														
		M32												

Covered Thread Pitch Range

Inserts	Pitch	
	(TPI)	(mm)
TTP60F R/L 2A (B)	127 - 63	0.2 - 0.4
TTP60F R/L 4A,AS (B,BS)	127 - 34	0.2 - 0.75
TTP60F R/L 8A,AS (B,BS)	63 - 21	0.4 - 1.25
TTP60F R/L -N (S)	25 - 17	1.0 - 1.5
TTP60F R/L -N02	16 - 13	1.5 - 2.0

TTP60F R/L -N02 can be used up to M150 when the pitch is 2.0 mm

Whitworth

Applicable Insert	Thread Type	Pitch	
		(TPI)	(mm)
TTP55F R/L 8A (B)	W 1/8	40	0.63
	W 3/16	24	1.06
	W 1/4	20	1.27
	W 5/16	18	1.41
	W 3/8	16	1.54

STTN Series

STTN

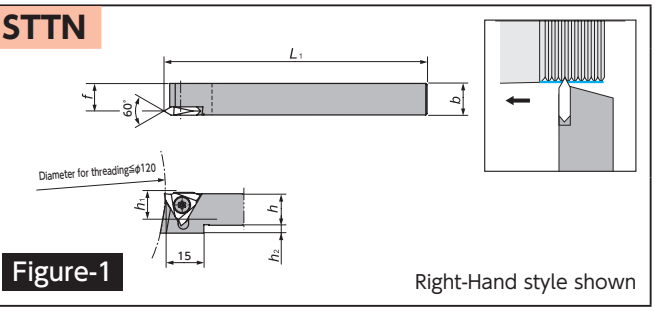


Figure-1

Right-Hand style shown

NTTB

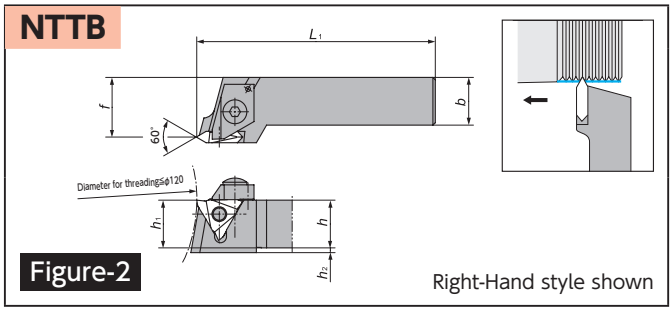
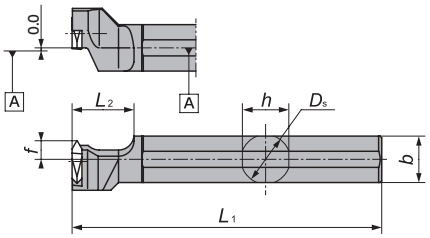


Figure-2

Right-Hand style shown

DS-STT



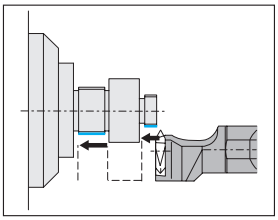


Figure-3

Left-Hand style shown
Takes Right-hand insert

STTNR/L / NTTBR/L

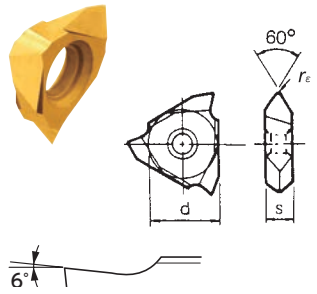
Gage Insert	Item Number	Figure	Stock R	Stock L	h (Inch)	h (mm)	b (Inch)	b (mm)	h1 (Inch)	h1 (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	h2 (Inch)	h2 (mm)	Clamp Screw	Wrench
 TTMH3260	**STTNR/L101032**	1	○		.394	10	.394	10	.394	10	3.150	80	.335	8.5	.197	5.0	LR-S-4 × 9	RLR-20S
	STTNR/L121232	1	○		.472	12	.472	12	.472	12	3.150	80	.413	10.5	.197	5.0	LR-S-4 × 9	RLR-20S
	STTNR/L121232-K	1	○		.472	12	.472	12	.472	12	4.912	125	.413	10.5	.197	5.0	LR-S-4 × 9	RLR-20S
	NTTBR/L161632	2	○		.630	16	.630	16	.630	16	4.724	120	.787	20.0	.157	4.0	–	LW-2.5
	NTTBR/L202032	2	○		.787	20	.787	20	.787	20	5.512	140	.984	25.0	0.0	0.0	–	LW-2.5

DS-STTR/L

Gage Insert	Item Number	Figure	Stock R	Stock L	Ds (Inch)	Ds (mm)	h (Inch)	h (mm)	b (Inch)	b (mm)	L1 (Inch)	L1 (mm)	f (Inch)	f (mm)	Clamp Screw	Wrench
 TTMH3260	**DS-STTR/L14F**	3		○	.551	14.000	.512	13	.512	13	3.150	80	.236	6.0	LR-S-4 × 9	RLR-20S
	DS-STTR/L15H	3		○	5/8	15.875	.591	15	.591	15	3.937	100	.236	6.0	LR-S-4 × 9	RLR-20S
	DS-STTR/L16X*	3		○	.630	16.000	.591	15	.591	15	3.346	85	.236	6.0	LR-S-4 × 9	RLR-20S

STTN Series - Inserts

TTMH

Shape	Item Number	d (Inch)	d (mm)	s (Inch)	s (mm)	rε (Inch)	rε (mm)	Pitch (Inch)	Pitch (mm)	Coated Carbide ZM3 R	Coated Carbide ZM3 L
 Right-Hand style shown	**TTMH3260R010**	3/8	9.525	1/8	3.18	.004	0.10	31 - 9	0.8 - 3.0	○	
	TTMH3260R015	3/8	9.525	1/8	3.18	.006	0.15	25 - 9	1.0 - 3.0	○	
	TTMH3260R020	3/8	9.525	1/8	3.18	.008	0.20	16 - 9	1.5 - 3.0	○	
	TTMH3260R025	3/8	9.525	1/8	3.18	.010	0.25	14 - 9	1.75 - 3.0		

TTMH Style

Unified Standard (UN, UNF, UNC) Threads

	Thread Type #1	Thread Type #2	Pitch (TPI)	Pitch (mm)	Applicable Inserts
Coarse (UNC)	No.10-24 UNC		24	1.0583	TTMH3260R010 TTMH3260R015
		No.12-24 UNC	24	1.0583	
	1/4-20 UNC		20	1.2700	
	5/16-18 UNC		18	1.4111	
	3/8-16 UNC		16	1.5875	TTMH3260R010,R015 TTMH3260R020
	7/16-14 UNC		14	1.8143	TTMH3260R010,R015 TTMH3260R020,R025
	1/2-13 UNC		13	1.9538	
	9/16-12 UNC		12	2.1167	
	5/8-11 UNC		11	2.3091	
	3/4-10 UNC		10	2.5400	
	7/8-9 UNC		9	2.8222	
Fine (UNF)		No.12-28 UNF	28	0.9071	TTMH3260R010
	1/4-28 UNF		28	0.9071	
	5/16-24 UNF		24	1.0583	TTMH3260R010 TTMH3260R015
	3/8-24 UNF		24	1.0583	
	7/16-20 UNF		20	1.2700	
	1/2-20 UNF		20	1.2700	
	9/16-18 UNF		18	1.4111	
	5/8-18 UNF		18	1.4111	
	3/4-16 UNF		16	1.5875	TTMH3260R010,R015 TTMH3260R020
	7/8-14 UNF		14	1.8143	TTMH3260R010,R015 TTMH3260R020,R025
	1-12 UNF		12	2.1167	
	1 1/8-12 UNF		12	2.1167	
	1 1/4-12 UNF		12	2.1167	
	1 3/8-12 UNF		12	2.1167	
	1 1/2-12 UNF		12	2.1167	

Metric (M) Threads / Fine and Coarse

Thread Type #1	#2	#3	Pitch (mm) 3.00	2.50	2.00	1.75	1.50	1.25	1.00	0.80
M5										Coarse
M6									Coarse	
	M7									
M8								Coarse	Fine	
		M9								
M10							Coarse	Fine		
		M11								
M12						Coarse	Fine	Fine		
	M14				Coarse					
		M15								
M16					Coarse					
		M17								
	M18			Coarse	Fine					
M20										
	M22									
M24			Coarse							
		M25								
		M26					Fine			
	M27		Coarse		Fine					
		M28								
M30			Fine							
		M32								
	M33		Fine							
		M35								
M36			Fine		Fine					
		M38								
	M39		Fine		Fine					
		M40								

Covered Thread Pitch Range

Inserts	Pitch (TPI)	Pitch (mm)
TTMH3260R010	31 - 9	0.8 - 3.0
TTMH3260R015	25 - 9	1.0 - 3.0
TTMH3260R020	16 - 9	1.5 - 3.0
TTMH3260R025	14 - 9	1.75 - 3.0

Cutting condition ➡U4

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

Thread Whirling

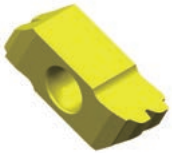
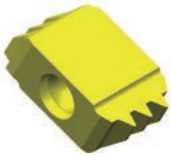
Features

New Double-lead video is on WATCH ON YouTube

- NTK's unique patented design technology makes precise and correct inserts possible the first time, *without any redesign or remanufacturing even if it is a multiple-lead thread*
- The sharper cutting edges produce a better surface finish and longer tool life than competitor's inserts

Form Double-lead or Multiple-lead with Single Pass

Patented

	Double-lead threads	Triple-lead threads
Work	Bone screw	Worm gear
Work material	Ti-6Al-4V ELI	brass
Work appearance		
Insert appearance		
Major Dia.	ϕ.157"(4.0mm)	ϕ.278"(7.0mm)
Minor Dia.	ϕ.094"(2.4mm)	ϕ.185"(4.7mm)
Lead [Pitch×No. of Lead]	.135"(3.42mm) [.067"×2(1.71mm×2)]	.193"(4.9mm) [.064"×3(1.63mm×3)]

- Can reduce cycle time by more than half
- NTK can achieve what other competitors cannot

Double-lead Bone Screw Process Example

1. 1st thread whirl at taper part
2. Rotate the bar 180° and whirl the 2nd thread on same part as 1
3. Thread whirl whole straight part
4. Thread whirl at very last part to get two-exits, after back of bar has been backed up a half lead (one pitch) and rotated 180°

Special Item Capability

- Even though almost all bone screw shapes are special, NTK thread whirling inserts can make the correct shape of thread the first time, without any redesign or remanufacturing
- Basically NTK thread whirling inserts are ground with topping and coated

Recommended Cutting Conditions

Conditions \ No. of teeth		9	6	4	
Main spindle	RPM	**10 - 40**	10 - 25	7 - 15	Faster RPM reduces machining time
	F	**5400 - 14400**	3600 - 9000	2500 - 5400	
Whirling cutter	RPM	**1500 - 4000**			
Feed Rate		**Same as thread-lead**			
Bar stock	ϕ	**~ϕ.400" ***		~ϕ.200"	* For cutter with ϕ12㎜ ID
Work Material		**Ti-6Al-4V ELI / 316SS / Titanium**			

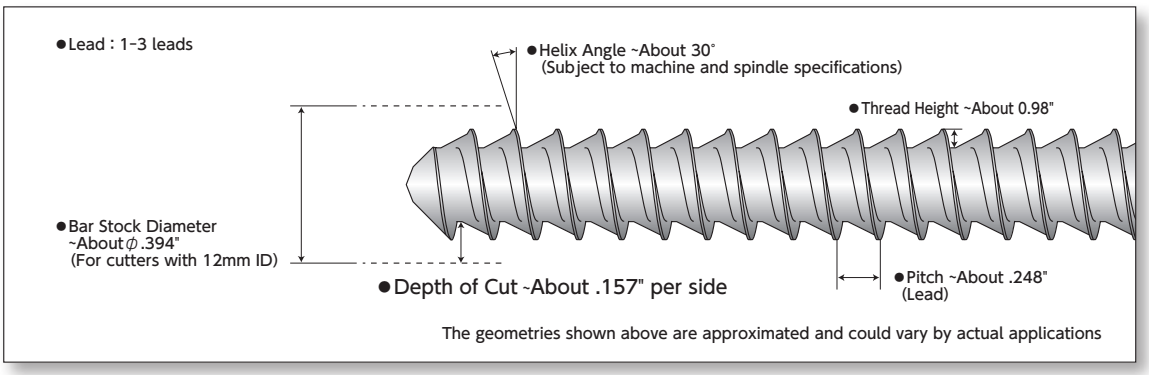
- Formula for calculating thread whirling process time

$$T\ (\text{Seconds}) = \frac{60 \times \text{Thread length}}{\text{Main spindle rpm} \times \text{Feed rate (Thread lead)}}$$

Ex.) Double lead / 2" length / .100" lead (2×.050" pitch) / 30 rpm

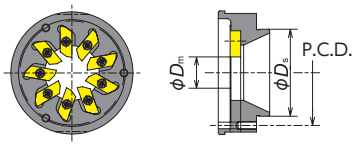
$$T\ (\text{Seconds}) = \frac{60 \times 2}{30 \times .100"} = 40\ \text{Seconds}$$

Applicable Thread Geometry (Approximated)

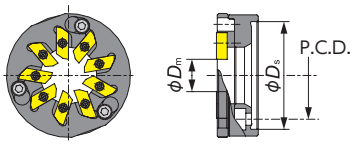


The geometries shown above are approximated and could vary by actual applications

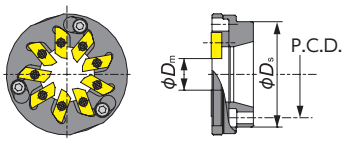
Thread Whirling System



Type 1

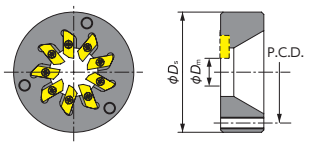


Type 2
Quick-change

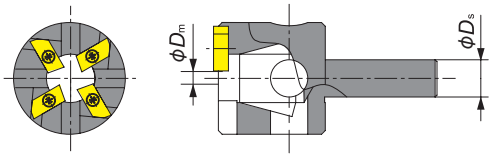


Type 3
Quick-change

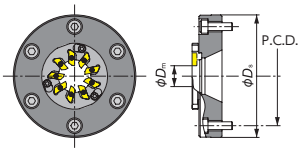
Machine make	Model	Location	Spindle make	Spindle model	Helix angle	NTK Thread whirling system	Stock	No. of tooth	ϕD_m (mm)	Type	ϕD_s	P.C.D.	Mount adapter bolt
CITIZEN	$M_4$32-VIII	Gang	CITIZEN	BTW-4000	0° – 15°	TWC9C0746HP1	●	9	**φ12**	1	φ46	φ35	M3
	L20/L20E/L20X	Gang		BTW-3000 BTW-3100	0° – 15°								
	L32/L32X			BTW-3100	0° – 15°								
	D25	Gang		BTW-6000	±25°	TWC9C1040HP1 TWC6C1040HP1 TWC9C1040HP1-D16	● ● ●	9 6 9	**φ12** **φ12** **φ16**	1	φ33	φ40	M3 (Provided with spindle)
	L32X												
	L20X			BTW-5000	±25°								
	M16				0° – 15°								
	A20			BTW-2000	±25°								
	A32												
	L20/L20X												
	L32/L32X												
	M20												
	M32												
	C32			BTW-1000	±25°								
	L20												
	M20				+20° – -25°								
	$M_3$32				±25°								
	C12/16	Gang	CITIZEN	LTR0170	±15°	TWC9C1037P2	●	9	**φ12**	2	φ37	φ30.5	CS0310(M3)
	M12/16	Turret		LTR0128/LTR0168									
	M12/16III			MSW105									
	M20/32III			KSW110									
	L20	Gang		LTR0183	±15°	TWC9J1040P2	●	9	**φ12**	2	φ40	φ32.5	H-M4 × 12
	M20/32												
	M20/32	Turret		LTR0169									
	K16	Attachment	PCM	GSW-101	±15°	TWC6P1620HP1-D9	●	6	**φ9**	1	φ32	φ26	M4 (Provided with spindle)
	L20	Gang		LSW-101-L20	±10°	TWC9P1340P2	●	9	**φ12**	2	φ40	φ32.5	M4 (Provided with spindle)
	M12/16	Turret		MSW-101									
	M20/M32			KSW-101									
STAR	SW-12	Attachment	STAR	10159	±20°	TWC4S1433HP1	●	4	**φ8**	7	φ38	φ27	CS0310(M3)
	ECAS-12/20			54178	±10°	TWC9S1640P2	●	9	**φ12**	3	φ40	φ33	CS04148S(M4)
	SB-20R			OM171	-20° – 0°								
	SR-20J/20RIII 20RIV/32JII			68172	-20° – 0°								
	ECAS-20T	Turret		59172									
	ECAS-32T			58171	±20°								
	SR-38			10172	±10°								
	ST-38			43156	±20°								
	SV-12			45172	±10°								
	SV-20/SV-20R			42173	±10°								
	SV-32			43172	±10°								
	SV-38R			43156	±20°								
TSUGAMI	BH20/BH38	Turret	TSUGAMI	3263-Y481	±10°	TWC9TS2252P2	●	9	**φ12**	3	φ52	φ42	CS0515(M5)
	BS20	Attachment		3214-Y1371	±10°	TWC9TS20550P2	●	9	**φ16**	3	φ50	φ40	CS0515(M5)
	SS20/SS26/SS32 B0265/B0266-II B0325/B0326-II	Attachment		3268-Y450 3268-Y451	0° – 10°	TWC9TS2244HP1	●	9	**φ12**	4	φ52	φ44	CS0520(M5)
	S205/S206			3281-Y450 3281-Y451	0° – 20°	TWC9TS1944HP1	●	9	**φ12**	4	φ52	φ44	CS0520(M5)
	B0123/B0124/B0125/ B0126-II/III B0203/B0204/B0205/ B0205/B0206-II/III			3220-Y6540 3220-Y6541	0° – 25°	TWC9TS1644HP1	●	9	**φ12**	4	φ52	φ44	CS0515(M5)
					0° – 30°	TWC9TS1044HP1	●	9	**φ12**	4	φ52	φ44	CS0515(M5)
	SS20/SS26/SS32			3268-Y271	0° – 10°	TWC9TS1952P2BK	●	9	**φ12**	4	φ52	φ38	CS0515(M5)
					0° – 20°	TWC9TS1652P2BK	●	9	**φ12**	4	φ52	φ38	CS0515(M5)
	SS207/SS267/SS327	—	Using B-axis		0° – 15°	TWC4TS3010HP1	●	4	**φ7**	5	φ10	For single-corner inserts only	



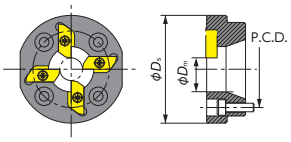
Type 4



Type 5



Type 6
Quick-change



Type 7

Machine make	Model	Location	Spindle make	Spindle model	Helix angle	NTK Thread whirling system	Stock	No. of tooth	φD_m (mm)	Type	φD_s	P.C.D.	Mount adapter bolt
TORNOS	DECO 10/10a	Attachment	TORNOS	224-1900	±15°	**TWC6TO11542HP1**	●	**6**	**φ12**	**4**	φ42	φ32	CS0410(M4)
	Evo DECO 10/10			242-1900									
	DECO 13a/13e			226-1900	±15°	**TWC9TO10540P2**	●	**9**	**φ12**	**3**	φ40	φ31	CS0410(M4)
	Evo DECO 16/10			243-1900									
	Swiss ST26			246-1900									
	DECO 20a			223-1900									
	DECO 26a			225-1900									
	Sigma 20			234-2750	±25°	**TWC9TO12050P2-D18**	●	**9**	**φ18**	**3**	φ50	φ40	CS0410(M4)
	Sigma 32			236-2750									
HASEGAWA	JS-1W	—	HASEGAWA	—	0° - 20°	**TWC9HA22594P2**		**9**	**φ16**	**6**	φ94	φ76	CS0620(M6)

■Spare Insert Holder (Cartridge)

Item number	No. of tooth	φD_m (mm)	Compatible cutters
TWC6HP2	6	12	For Type 2 and Type 3*
TWC9HP2	9	12	For Type 2 and Type 3*
TWC9HP2-D16	9	12	For Type 6

Note: Insert holder comes with insert screws and wrench
Insert holder mounting screw is not included
*Cannot be used for TWC9TS20550P2, TWC9TO12050P2-D18 and TWC9HA22594P2

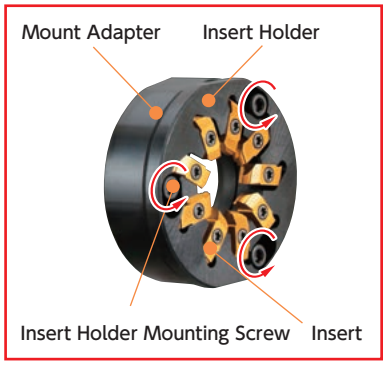
■Spare Parts

Description		Item number
Insert Screw	For 4mm thick inserts	**FSI17-2.2×6.0**
	For 6.5mm thick inserts	**FSI24-2.2×7.9**
Wrench		**T-07**
Insert Holder Mounting Bolt		**CS0309-TW**

Threading

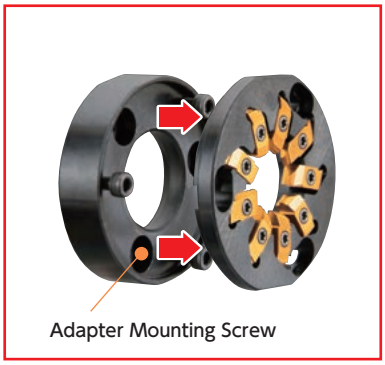
NTK's Unique Attachment System

NTK' s whirling insert holder can be attached and detached without removing mounting screws



① Loosen the Mounting Screws

② Rotate the Insert Holder 10 degrees

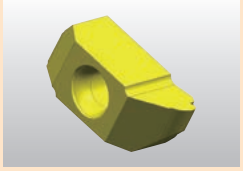


③ Detach the Insert Holder without removing the Mounting Screws

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

Basic Insert Grade

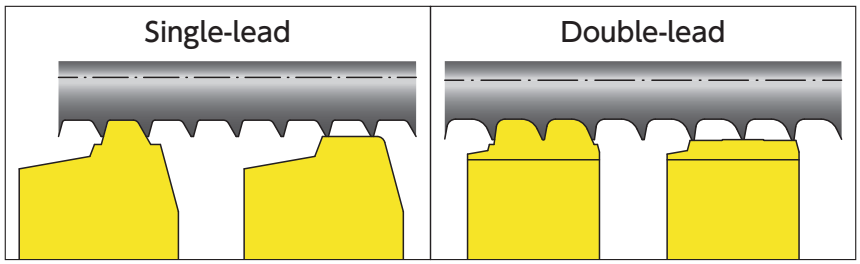
ZM3



- ZM3 is our basic grade for NTK thread whirling
- ZM3 offers excellent surface finish
- NTK can make inserts with other coatings to meet customers demands

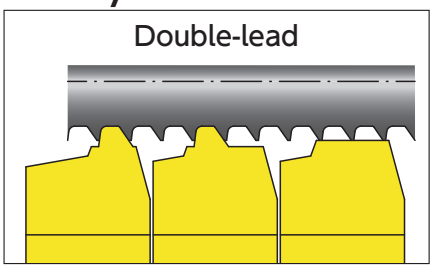
NTK Experiences and Solutions Example

For absolute flat on OD



- Two insert combination brings absolute flat on OD to meet the drawing

For tiny thread

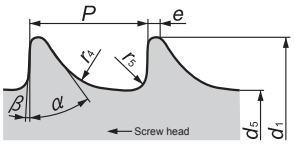


- NTK's Thread Whirling system can machine small diameter multi-lead screws to spec, with lower tool pressure, by using several types of specially designed and accurately ground inserts on the cutter.

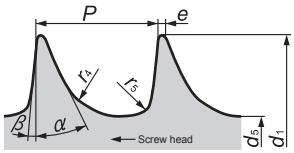
Standard Thread Whirling Inserts (two-sided) for Medical ISO Style Threads

4mm thickness insert

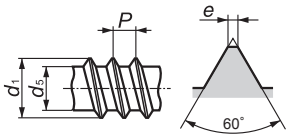
(Note: Must use Thread whirling cutters with 12㎜ ϕDm dimension. See page U18-19 to find ϕDm for each cutter.)



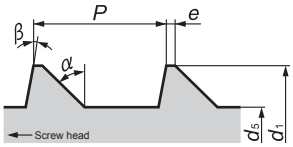
ISO5835 HA



ISO5835 HB



ISO9268 HC



ISO9268 HD

Metric dimensions

Item number	ISO Standard		d_1	d_5	P	e	r_4	r_5	α	β	Supposition material Dia.	Coated Carbide ZM3
TW5835-HA1.5-D12	ISO5835	HA1.5	$1.5^{0}_{-0.15}$	$1.1^{0}_{-0.1}$	0.5	0.1	0.3	0.1	35°	3°	ϕ8	○
TW5835-HA2.0-D12		HA2.0	$2.0^{0}_{-0.15}$	$1.3^{0}_{-0.1}$	0.6	0.1	0.4	0.1	35°	3°		○
TW5835-HA2.7-D12		HA2.7	$2.7^{0}_{-0.15}$	$1.9^{0}_{-0.15}$	1	0.1	0.6	0.2	35°	3°		○
TW5835-HA3.5-D12		HA3.5	$3.5^{0}_{-0.15}$	$2.4^{0}_{-0.15}$	1.25	0.1	0.8	0.2	35°	3°		○
TW5835-HA4.0-D12		HA4.0	$4.0^{0}_{-0.15}$	$2.9^{0}_{-0.15}$	1.5	0.1	0.8	0.2	35°	3°		○
TW5835-HA4.5-D12		HA4.5	$4.5^{0}_{-0.15}$	$3.0^{0}_{-0.15}$	1.75	0.1	1	0.3	35°	3°		○
TW5835-HA5.0-D12		HA5.0	$5.0^{0}_{-0.15}$	$3.5^{0}_{-0.15}$	1.75	0.1	1	0.3	35°	3°	ϕ10	○
TW5835-HB4.0-D12		HB4.0	$4.0^{0}_{-0.15}$	$1.9^{0}_{-0.15}$	1.75	0.1	0.8	0.3	25°	5°	ϕ8	○
TW5835-HB6.5-D12		HB6.5	$6.5^{0}_{-0.15}$	$3.0^{0}_{-0.15}$	2.75	0.2	1.2	0.8	25°	5°	ϕ10	○
TW9268-HC2.9-D12	ISO9268	HC2.9	2.79 to 2.9	2.03 to 2.18	1.06	0.1max	—	—	—	—	ϕ8	
TW9268-HC3.5-D12		HC3.5	3.43 to 3.53	2.51 to 2.64	1.27	0.1max	—	—	—	—		
TW9268-HC3.9-D12		HC3.9	3.78 to 3.91	2.77 to 2.92	1.27	0.1max	—	—	—	—		
TW9268-HC4.2-D12		HC4.2	4.09 to 4.22	2.95 to 3.25	1.27	0.1max	—	—	—	—		
TW9268-HD4.0-D12		HD4.0	4.0±0.03	2.92±0.03	1.59	0.1	—	—	45°	10°		
TW9268-HD4.5-D12		HD4.5	4.5±0.03	2.92±0.03	2.18	0.1	—	—	45°	10°		

Application Examples

Double-lead Bone Screw

Work Material : Ti-6Al-4v ELI			
Bar Stock Dia.	ϕ.375	Number of start	2
Major Dia.	ϕ.157	Helix Angle	28.5°
Minor Dia.	ϕ.098	Hand of thread	Right
Cutting condition			
Main Spindle Speed (rpm)	15	Speed of whirling cutter (rpm)	3,500
Lead = Feed (IPR)	.217	Result	OK

NTK Thread Whirling	Dramatically improved productivity
Competitor's Thread Whirling	*Cannot complete with single pass. Requires feeding stock multiple times and two passes for threading each time.*

NTK thread whirling succeeded in double lead screw machining when one of the major thread whirling suppliers has failed many times.

Double-lead Bone Screw

Work Material : Ti-6Al-4v ELI			
Bar Stock Dia.	ϕ.350	Number of start	2
Major Dia.	ϕ.180	Helix Angle	23.0°
Minor Dia.	ϕ.120	Hand of thread	Right
Cutting condition			
Main Spindle Speed (rpm)	12	Speed of whirling cutter (rpm)	2,500
Lead = Feed (IPR)	.200	Result	OK

NTK Thread Whirling	Dramatically improved productivity
Competitor's Thread Whirling	*Cannot complete with single pass. Requires feeding stock multiple times and two passes for threading each time.*

The customer could not get perfect double lead thread form in single pass from other manufacturers. NTK got perfect thread form with a single pass on first trial saving cycle time.

Double-lead Bone Screw

Work Material : Ti-6Al-4v ELI			
Bar Stock Dia.	ϕ.250	Number of start	2
Major Dia.	ϕ.118	Helix Angle	15.4°
Minor Dia.	ϕ.083	Hand of thread	Right
Cutting condition			
Main Spindle Speed (rpm)	11	Speed of whirling cutter (rpm)	2,200
Lead = Feed (IPR)	.087	Result	OK

NTK Thread Whirling	Dramatically improved productivity
Competitor's Thread Whirling	*Cannot complete with single pass. Requires feeding stock multiple times and two passes for threading each time.*

Customer was concerned with stock rigidity and long cycle time. NTK applied three geometry inserts to achieve single pass machining, in dramatically short time. The up-sharp cutting edges and low cutting pressure produced "excellent" surface finish.

Single-lead Bone Screw

Work Material : 316SS			
Bar Stock Dia.	ϕ.315	Number of start	1
Major Dia.	ϕ.138	Helix Angle	7.5°
Minor Dia.	ϕ.098	Hand of thread	Right
Cutting condition			
Main Spindle Speed (rpm)	23	Speed of whirling cutter (rpm)	2,000
Pitch = Feed (IPR)	.049	Result	OK

NTK Thread Whirling	2600 pcs
Competitor's Thread Whirling	1000 pcs

Some thread whirling manufacturers offer 6-teeth or 12-teeth systems, too many teeth cause chip packing issues and more tool pressure. Fewer teeth means greater cycle time. NTK concluded that 9-teeth is the best configuration. Our customers can run 1.5 times faster and get longer tool life.

Single-lead Bone Screw

Work Material : Ti-6Al-4v ELI			
Bar Stock Dia.	ϕ.197	Number of start	1
Major Dia.	ϕ.091	Helix Angle	5.3°
Minor Dia.	ϕ.067	Hand of thread	Right
Cutting condition			
Main Spindle Speed (rpm)	30	Speed of whirling cutter (rpm)	3,100
Pitch = Feed (IPR)	.023	Result	OK

NTK Thread Whirling	2200 pcs

This thread is up to 1.26" length with a small pitch. Cycle time could be increased with a single-point threading tool. NTK's inserts, designed for lower tool pressure, ran 2,200 pcs/corner at 30 rpm of bar stock (F10,800). It only took 110 seconds to finish a 1.26" length thread.

Triple-lead Worm Gear

Work Material : Brass			
Bar Stock Dia.	ϕ.315	Number of start	3
Major Dia.	ϕ.276	Helix Angle	14.6°
Minor Dia.	ϕ.185	Hand of thread	Left
Cutting condition			
Main Spindle Speed (rpm)	20	Speed of whirling cutter (rpm)	3,500
Lead = Feed (IPR)	.189	Result	OK

Multi-lead threads, common in the Worm Gear industry are made by a forming or cutting process. The large helix angle is difficult to machine with single-point threading.
NTK now makes thread whilring inserts for multi-lead threads. Cycle time is reduced with a one pass process and thread form dimensions are stable with the low tool pressure.

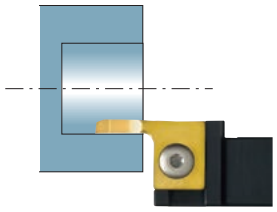
MEMO

V

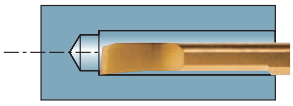
ID Tooling

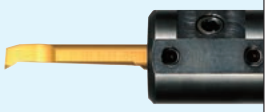
NTK ID Tooling - Product Lines

ID Boring

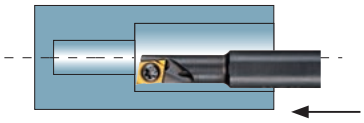


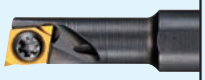
Insert	LBM ➡V7		
Holder	LBMA	DS-LBMB	CH-LBM
	 ➡V6	 ➡V6	 ➡V6
Min. Bore Dia.	ϕ.039"(1.0mm)		

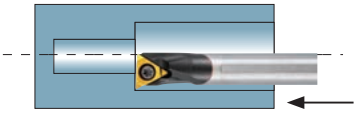


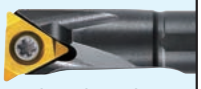
Insert	SHFS • SHFB • SBFS • SBFB ➡V12 • V16		
Holder	HY-NBH-OH	HY-NBH	NBH
	 ➡V9 STICK DUO HYPER with Coolant through	 ➡V11 STICK DUO HYPER	 ➡V14
Min. Bore Dia.	ϕ.079"(2.0mm)		

	Holder / Insert	HY-NBH-OH STICK DUO HYPER with Coolant through	HY-NBH STICK DUO HYPER	NBH STICK DUO
"S" chip breaker  Sharp cutting edge	SHFS-S High Precision Insert	Best fit	Best fit	2nd OPT.
	SBFS-S	2nd OPT.	2nd OPT.	Best fit
"F" chip breaker  Evacuates chips BACKWARD	SHFB-F High Precision Insert	Best fit	Best fit	2nd OPT.
	SBFB-F	2nd OPT.	2nd OPT.	Best fit
"H" Flat type  Mirror finish edge	SHFS-H High Precision Insert	Best fit	Best fit	2nd OPT.
	SBFS-H	2nd OPT.	2nd OPT.	Best fit
Back turning	SBB	2nd OPT.	2nd OPT.	Best fit
Grooving	SBG	2nd OPT.	2nd OPT.	Best fit
Threading	SBT	2nd OPT.	2nd OPT.	Best fit

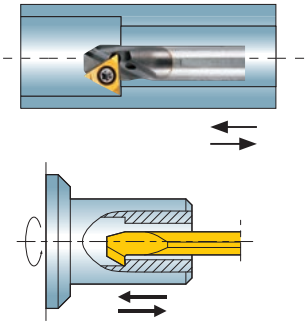


Insert	MBL ➡V22		ERGP ➡V23	
Holder	C-MBR (Carbide shank)	S-MBR (Steel shank)	C-SEXR (Carbide shank)	S-SEXR (Steel shank)
	 ➡V22 Coolant through	 ➡V22 Coolant through	 ➡V23 Coolant through	 ➡V23 Coolant through
Min. Bore Dia.	ϕ.197"(5.0mm)		ϕ.236"(6.0mm)	



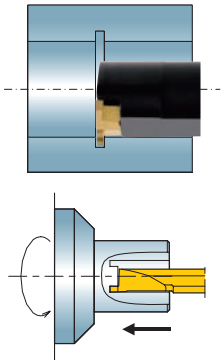
Insert	CC/CP ➡V24・V30		TC/TP ➡V25・V26・V28	
Holder	C-SCLC/P (Carbide shank)	S-SCLC/P (Steel shank)	C-STUC/P (Carbide shank)	S-STUC/P (Steel shank)
	 Coolant through ➡V24・V30	 Coolant through ➡V24・V30	 Coolant through ➡V25・V26・V28	 Coolant through ➡V25・V26・V28
Min. Bore Dia.	ϕ.276"(7.0mm)		ϕ.315"(8.0mm)	

ID Back Turning



Insert	SBB ➡V17		TC/TP ➡V25・V26・V28
Holder	HY-NBH-OH	NBH	C-STZP/C (Carbide shank)
	 ➡V9 Coolant through	 ➡V14	 ➡V25・V26・V28
Min. Bore Dia.	ϕ.118"(3.0mm)		ϕ.394"(10mm)

ID Grooving



Insert	SBG ➡V18		SFG ➡V18	GTG ➡V19
Holder	HY-NBH-OH	NBH	NBH	S-BGR/BGR
	 ➡V9 Coolant through	 ➡V14	 ➡V14	 ➡V19
Min. Bore Dia.	ϕ.118"(3.0mm)		ϕ.118"(3.0mm)	ϕ.394"(10mm)

ID Threading

Insert	SBT ➡V20		TMN ➡V34
Holder	HY-NBH-OH	NBH	TGC/HN
	 ➡V9 Coolant through	 ➡V14	 ➡V33
Min. Bore Dia.	ϕ.118"(3.0mm)		ϕ.315"(8.0mm)

Recommended Cutting Conditions

ID Boring

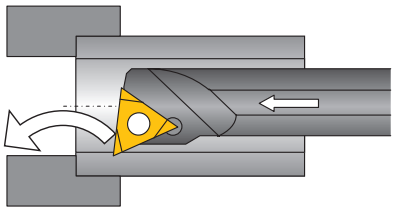
diameter ≤ .240" (LBM / STICK DUO)

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4					VM1 / TM4	
	2nd choice	VM1 / ZM3					ZM3	
Cutting Speed (SFM)		60 160 230				100 200 300		
Feed Rate (IPR)		.0004 .0012 .0020						
Depth Of Cut (DOC)		.0020 .0031 .0039						

diameter > .240"

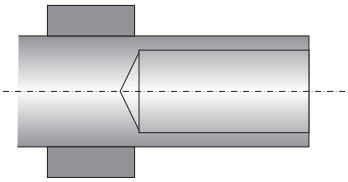
Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels			Alloy Steels	Carbon Steels
					Hard to cut		Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304	316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DM4 / DT4			ST4 DM4	DM4 DT4	TM4	QM3	
	2nd choice	TM4			QM3 / TM4		QM3	TM4 / DT4	
Cutting Speed (SFM)		150 230 330			130 230 330		150 300 600	150 300 500	
Feed Rate (IPR)		.0008 .0024 .0047							
Depth Of Cut (DOC)		.0039 .0197 .0787							

Through hole

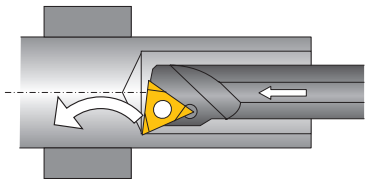


For chip control : chips can be evacuated forward

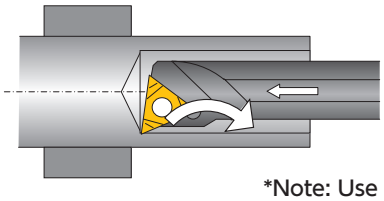
Blind hole



Blind hole due to bar stock



Typical inserts direct flow chips forward. Then packed chips damage and break cutting edge



F05, F1, and FG chipbreakers will direct chips backwards and eliminate chipping on inserts

*Note: Use right-hand inserts with F05, F1 and FG chipbreaker for right-hand boring bars

ID Grooving

GTG / SBG

Work Material		High Temperature Alloys	Titanium Alloys	Cobalt Chrome Alloys	Stainless Steels		Alloy Steels	Carbon Steels
					Hard to cut	Free cutting		
Common Name		Inconel Hastelloy MP35N	Ti-6Al-4V	ASTM F-75	304 316 17-4PH	303 430F	5120 4137	1045 1046
Grade	1st choice	DT4			DM4 / DT4	TM4	QM3	
	2nd choice	TM4 / QM3			QM3 / VM1	QM3	TM4 / DT4 / C7Z(X)	
Cutting Speed (SFM)		75 125 225	100 200 275		130 230 330	150 300 600	Carbide 150 300 500 C7Z(X) 400 500 800	
Feed Rate (IPR) A. Grooving B. Side turning*	Width .010-.020	A. .0002 - .0012						
		B. .0001 - .0002						
	.020-.040	A. .0008 - .0024						A. .0008 - .0028
		B. .0002 - .0004						B. .0002 - .0004
	.040-.080	A. .0012 - .0028						A. .0012 - .0031
		B. .0008 - .0020						B. .0012 - .0024
	> .080	A. .0012 - .0079						
		B. .0012 - .0024						

*When side turining, Max. DOC is under .0079". Under .016" width side turning impossible

ID Threading

●Threading

For 600 - 1500 RPM Recommended Depth of Cut (DOC) for Each Pass

UNF Thread		Number of Pass																		
Pitch (TPI)	Total DOC (inch)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
36	0.43	.002	.002	.002	.002	.002	.002	.001	.001	.0008	.0004	—	—	—	—	—	—	—	—	—
32	0.49	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004	—	—	—	—	—	—	—	—
28	0.56	.003	.002	.002	.002	.002	.002	.001	.001	.001	.001	.001	.0008	.0004	—	—	—	—	—	—
24	0.66	.003	.002	.002	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004	—	—	—	—	—
20	0.78	.003	.003	.003	.003	.002	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004	—	—	—
18	0.87	.003	.003	.003	.003	.003	.002	.002	.002	.002	.002	.002	.002	.001	.001	.001	.0008	.0004	—	—
16	0.98	.003	.003	.003	.003	.003	.003	.003	.002	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004

Metric Thread		Number of Pass																				
Pitch (mm)	Total DOC (mm)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
0.5	0.3	0.06	0.05	0.05	0.04	0.04	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—
0.7	0.43	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—	—	—
0.75	0.46	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—	—
0.8	0.49	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—
1.0	0.62	0.07	0.07	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.02	0.01	—	—	—	—	—	—	—
1.25	0.76	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.04	0.03	0.03	0.02	0.01	—	—	—	—	—	—
1.5	0.92	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.01	—	—	—
1.75	1.09	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.01

LBM Series

Minimum bore diameter ϕ.039"(1.0㎜)-ϕ.118"(3.0㎜)

LBMA / LBMA-S

LBMAR□□-S

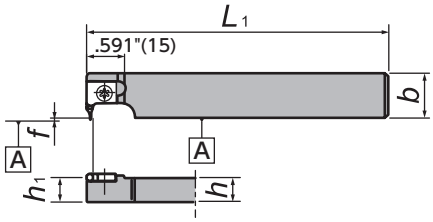


Figure-1

LBMAR□□

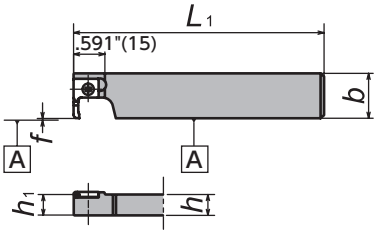


Figure-2

LBMAR□□-F

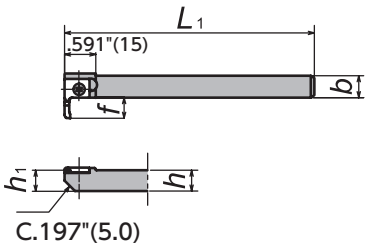


Figure-3

Right-Hand style shown

DS-LBMB

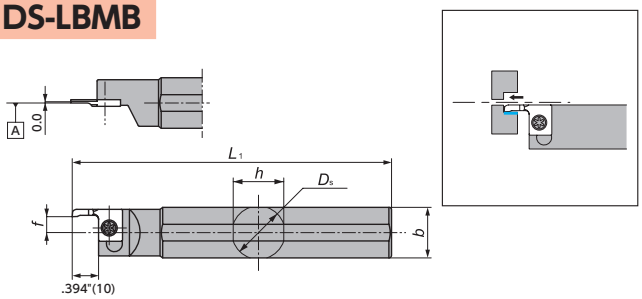


Figure-4

Left-Hand style shown

CH-LBM

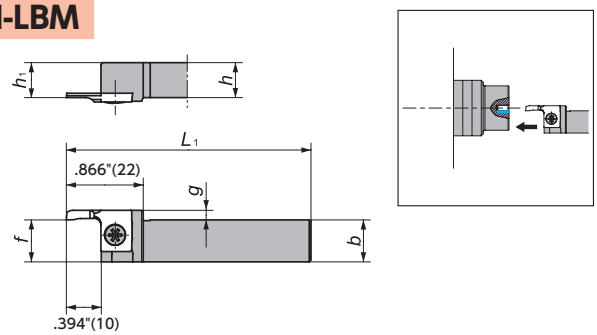


Figure-5

Left-Hand style shown

LBMAR / CH-TTPL

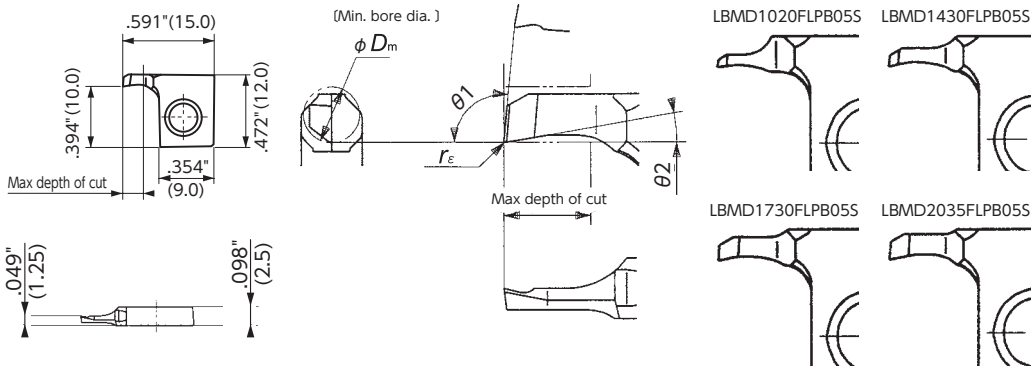
Gage Insert	Item Number	Figure	Stock	D_s (Inch)	D_s (㎜)	h (Inch)	h (㎜)	b (Inch)	b (㎜)	h_1 (Inch)	h_1 (㎜)	L_1 (Inch)	L_1 (㎜)	f (Inch)	f (㎜)	Clamp Screw	Wrench
Short type	LBMAR10SGX	1	○	–	–	.394	10	.709	18	.394	10	3.346	85	0	0.0	LRIS-4 × 10PW	CLR-15S
	LBMAR10S	1	○	–	–	.394	10	.709	18	.394	10	4.724	120	0	0.0	LRIS-4 × 10PW	CLR-15S
	LBMAR12S	1	○	–	–	.472	12	.709	18	.472	12	4.724	120	0	0.0	LRIS-4 × 12PW	CLR-15S
Long type	LBMAR06-IN	2	●	–	–	3/8		3/8		3/8		4.724	120	0	0.0	LRIS-4 × 10PW	CLR-15S
	LBMAR08-IN	2	●	–	–	1/2		1/2		1/2		4.724	120	0	0.0	LRIS-4 × 12PW	CLR-15S
	LBMAR10-IN	2	●	–	–	5/8		5/8		5/8		4.724	120	0	0.0	LRIS-4 × 12PW	CLR-15S
	LBMAR08	2	○	–	–	.315	8	.846	21.5	.315	8	4.724	120	0	0.0	LRIS-4 × 10	LLR-25S
	LBMAR10	2	○	–	–	.394	10	.846	21.5	.394	10	4.724	120	0	0.0	LRIS-4 × 10PW	CLR-15S
	LBMAR12	2	○	–	–	.472	12	.846	21.5	.472	12	4.724	120	0	0.0	LRIS-4 × 10PW	CLR-15S
	LBMAR16	2	○	–	–	630	16	.846	21.5	630	16	4.724	120	0	0.0	LRIS-4 × 12PW	CLR-15S
Long type	LBMAR10-F	3	○	–	–	.394	10	.394	10.0	.394	10	4.724	120	.394	10.0	LRIS-4 × 12PW	CLR-15S
 Long type	DS-LBMBL14F	4	○	.551	14.000	.512	13	.512	13	–	–	3.150	80 ＊1	＊3	＊3	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL15H	4	○	5/8	15.875	.591	15	.591	15	–	–	3.937	100 ＊1	＊3	＊3	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL16X	4	●	.630	16.000	.591	15	.591	15	–	–	3.740	95 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL19	4	●	3/4	19.050	.709	18	.709	18	–	–	4.724	120 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL20	4	●	.787	20.000	.748	19	.748	19	–	–	4.724	120 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL22	4	●	.866	22.000	.827	21	.827	21	–	–	4.724	120 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL25-MET	4	○	.984	25.000	.945	24	.945	24	–	–	4.724	120 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
	DS-LBMBL25	4	○	1	25.400	.945	24	.945	24	–	–	5.906	150 ＊1	＊2	＊2	LRIS-4 × 10PW	CLR-15S
Short type	CH-LBML1012H	5	○	–	–	.394	10	.472	12	.394	10	3.937	100	＊3	＊3	LRIS-4 × 10PW	CLR-15S
	CH-LBML1212H	5	○	–	–	.472	12	.472	12	.472	12	3.937	100	＊3	＊3	LRIS-4 × 10PW	CLR-15S

LBM Series - Toolholders

LBMD-S

Short type

Mirror finish

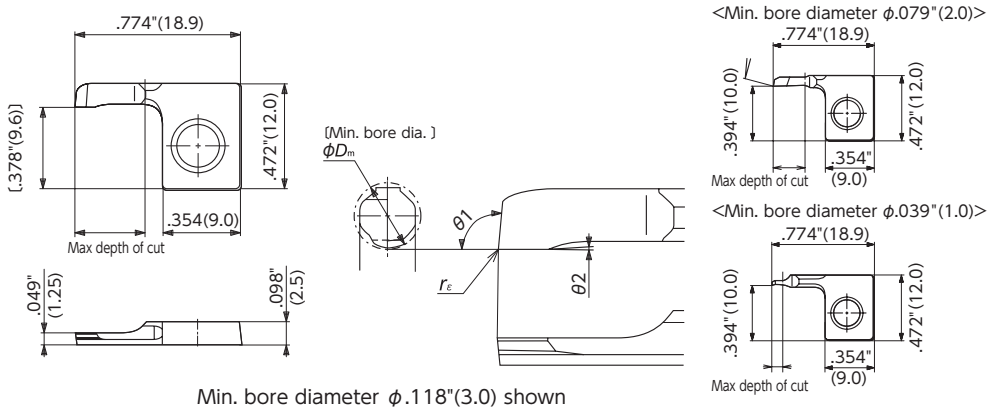


LBMD2335FLPB05S shown

DS-LBMB

Long type

Mirror finish



Min. bore diameter ϕ.118"(3.0) shown

LBM Mirror finish

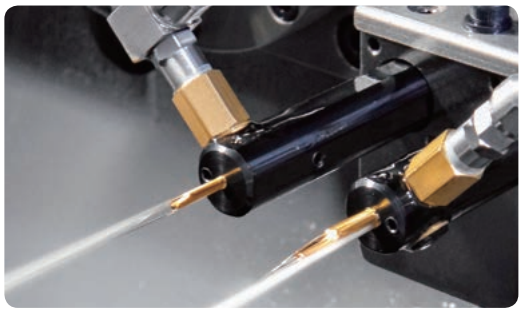
Insert type	Item Number		Chip-breaker	Min. Bore Dia. ϕDm (Inch)	(mm)	Max. Depth (Inch)	(mm)	θ1	θ2	rε (Inch)	(mm)	Coated Carbide VM1	ZM3
Short type	LBMD1020FLVBS	Ⓜ	Yes	.039	1.0	.079	2.0	95°	10°	.000	0.00	○	
	LBMD1020FLPB05S	Ⓜ	Yes	.039	1.0	.079	2.0	95°	10°	.002	0.05	○	
	LBMD1430FLVBS	Ⓜ	Yes	.055	1.4	.118	3.0	95°	10°	.000	0.00	○	
	LBMD1430FLPB05S	Ⓜ	Yes	.055	1.4	.118	3.0	95°	10°	.002	0.05	●	
	LBMD1730FLVBS	Ⓜ	Yes	.067	1.7	.118	3.0	95°	10°	.000	0.00	○	
	LBMD1730FLPB05S	Ⓜ	Yes	.067	1.7	.118	3.0	95°	10°	.002	0.05	○	
	LBMD2035FLVBS	Ⓜ	Yes	.079	2.0	.138	3.5	95°	10°	.000	0.00	○	
	LBMD2035FLPB05S	Ⓜ	Yes	.079	2.0	.138	3.5	95°	10°	.002	0.05	○	
	LBMD2335FLVBS	Ⓜ	Yes	.091	2.3	.138	3.5	95°	10°	.000	0.00	○	
	LBMD2335FLPB05S	Ⓜ	Yes	.091	2.3	.138	3.5	95°	10°	.002	0.05	●	
Long type	LBMD1020FLVB	Ⓜ	Yes	.039	1.0	.079	2.0	95°	10°	.000	0.00	●	
	LBMD1020FLPB05	Ⓜ	Yes	.039	1.0	.079	2.0	95°	10°	.002	0.05	●	
	LBMD2060FLVB	Ⓜ	Yes	.079	2.0	.236	6.0	95°	10°	.000	0.00	●	
	LBMD2060FLPB05	Ⓜ	Yes	.079	2.0	.236	6.0	95°	10°	.002	0.05	●	
	LBME2060FLV	Ⓜ	No	.079	2.0	.236	6.0	105°	2°	.000	0.00	○	
	LBME2060FLP05	Ⓜ	No	.079	2.0	.236	6.0	105°	2°	.002	0.05	○	
	LBME2060FLVB	Ⓜ	Yes	.079	2.0	.236	6.0	105°	2°	.000	0.00	○	
	LBME2060FLPB05	Ⓜ	Yes	.079	2.0	.236	6.0	105°	2°	.002	0.05	○	
	LBMC3080FLV	Ⓜ	No	.118	3.0	.315	8.0	95°	2°	.000	0.00	○	○
	LBMC3080FLP05	Ⓜ	No	.118	3.0	.315	8.0	95°	2°	.002	0.05	○	○
	LBM3080FLVB	Ⓜ	Yes	.118	3.0	.315	8.0	90°	2°	.000	0.00	●	
	LBM3080FLPB05	Ⓜ	Yes	.118	3.0	.315	8.0	90°	2°	.002	0.05	●	
	LBMC3080FLVB	Ⓜ	Yes	.118	3.0	.315	8.0	95°	2°	.000	0.00	○	○
	LBMC3080FLPB05	Ⓜ	Yes	.118	3.0	.315	8.0	95°	2°	.002	0.05	○	○

Cutting condition ➡V4

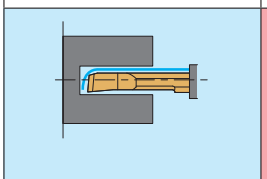
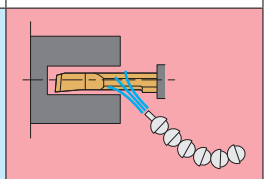
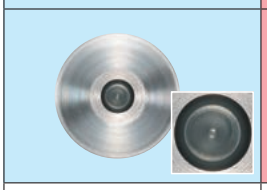
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

STICK DUO SPLASH

- Coolant through sleeves for ID Boring with Adjustable Overhang Mechanism -

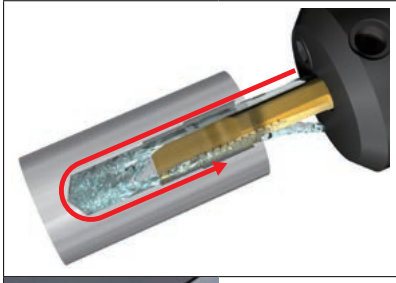
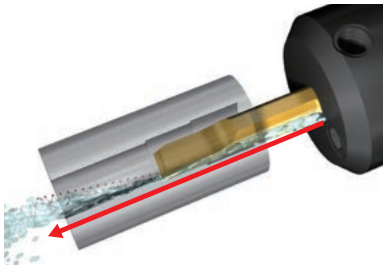
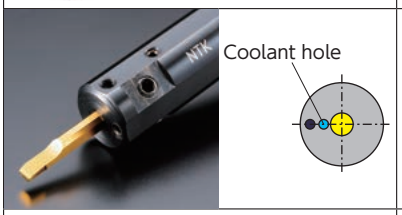
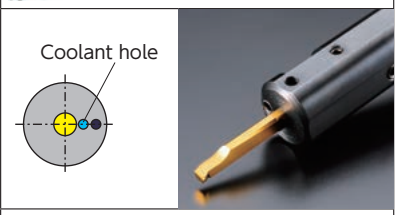
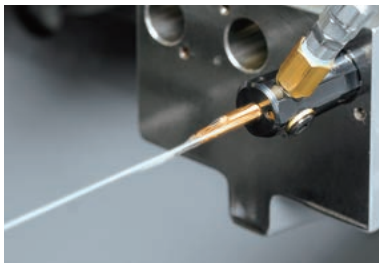


■No chip problems

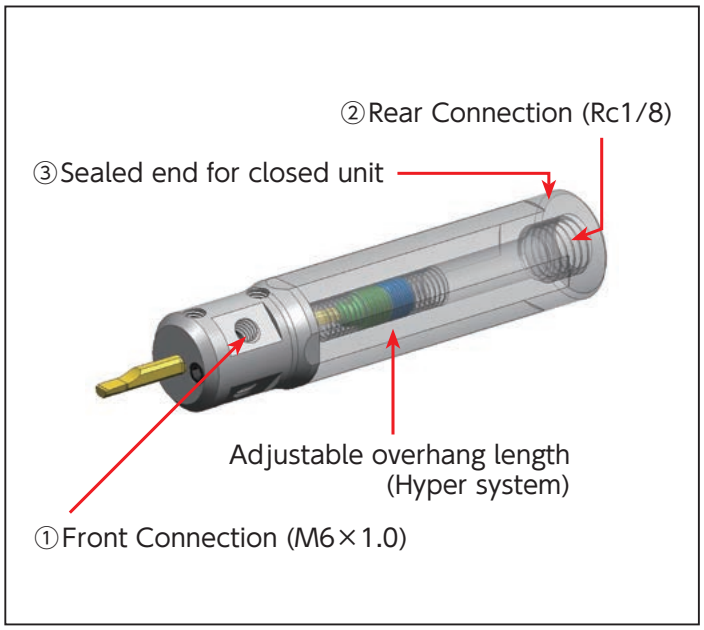
STICK DUO SPLASH	External coolant
	
	
No chip inside hole	*Chip packed*

Material : 4140
Insert bar : SHFS040R005S
Hole depth : .590"(15㎜)
Pilot hole : φ.201"×1.102"L(φ5.1×28.0㎜L)
Coolant Pressure : 725psi(5MPa)

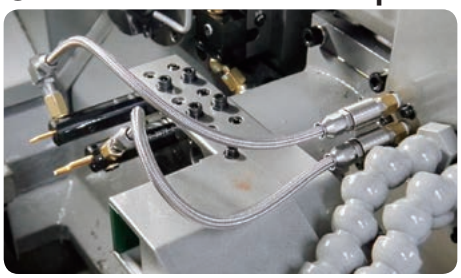
■Choose from 2 coolant directions

Ⅰ) For Blind hole	Ⅱ) For Through hole
	
	
	
Just rotated 180 degrees	

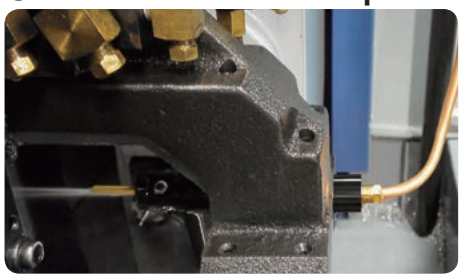
■3 coolant connection options



①Front Connection example



②Rear Connection example



STICK DUO SPLASH - Stick Duo Hyper with Coolant through -

HY-NBH-OH (Coolant through)

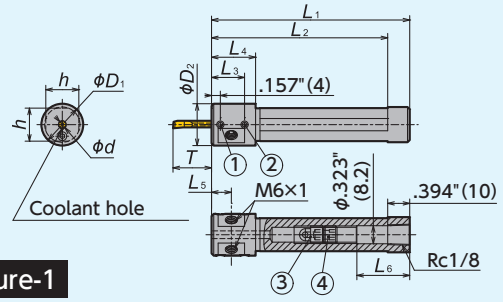


Figure-1

HY-NBH-OH (Coolant through)

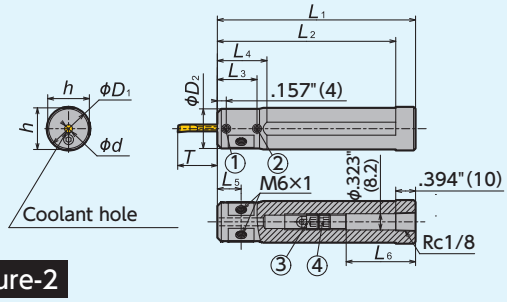
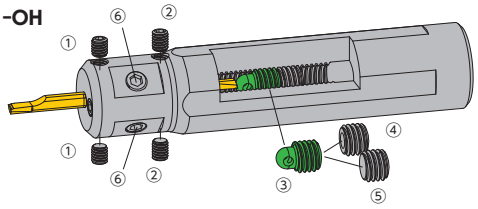


Figure-2

Item Number	Stock	Figure	ϕ d		ϕD1		ϕD2	h	L1	L2	L3	L4	L5	L6	Overhang Length of Bar T			
															Min.		Max.	
			(Inch)	(mm)	(Inch)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(Inch)	(mm)	(Inch)	(mm)
HY-NBH02016G-OH	●	1	.079	2.0	.630	16.0	19	15	90	80	15	19	9.5	29	.197	5.0	.709	18.0
HY-NBH02516G-OH	●	1	.098	2.5	.630	16.0	19	15	90	80	15	19	9.5	30	.248	6.3	.768	19.5
HY-NBH03016G-OH	●	1	.118	3.0	.630	16.0	19	15	90	80	15	19	9.5	31	.295	7.5	.827	21.0
HY-NBH03516G-OH	●	1	.138	3.5	.630	16.0	19	15	90	80	15	19	9.5	23	.346	8.8	.965	24.5
HY-NBH04016G-OH	●	1	.157	4.0	.630	16.0	19	15	90	80	20	24	12	23	.394	10.0	1.102	28.0
HY-NBH05016G-OH	●	1	.197	5.0	.630	16.0	19	15	90	80	20	24	12	16	.492	12.5	1.378	35.0
HY-NBH02019J-OH	●	2	.079	2.0	3/4	19.05	19.05	18	110	100	15	—	9.5	49	.197	5.0	.709	18.0
HY-NBH02519J-OH	●	2	.098	2.5	3/4	19.05	19.05	18	110	100	15	—	9.5	50	.248	6.3	.768	19.5
HY-NBH03019J-OH	●	2	.118	3.0	3/4	19.05	19.05	18	110	100	15	—	9.5	51	.295	7.5	.827	21.0
HY-NBH03519J-OH	●	2	.138	3.5	3/4	19.05	19.05	18	110	100	15	—	9.5	43	.346	8.8	.965	24.5
HY-NBH04019J-OH	●	2	.157	4.0	3/4	19.05	19.05	18	110	100	20	—	12	43	.394	10.0	1.102	28.0
HY-NBH05019J-OH	●	2	.197	5.0	3/4	19.05	19.05	18	110	100	20	—	12	36	.492	12.5	1.378	35.0
HY-NBH06019J-OH	●	2	.236	6.0	3/4	19.05	19.05	18	110	100	20	—	12	28.5	.591	15.0	1.654	42.0
HY-NBH02020J-OH	●	2	.079	2.0	.787	20.0	20	19	110	100	15	—	9.5	49	.197	5.0	.709	18.0
HY-NBH02520J-OH	●	2	.098	2.5	.787	20.0	20	19	110	100	15	—	9.5	50	.248	6.3	.768	19.5
HY-NBH03020J-OH	●	2	.118	3.0	.787	20.0	20	19	110	100	15	—	9.5	51	.295	7.5	.827	21.0
HY-NBH03520J-OH	●	2	.138	3.5	.787	20.0	20	19	110	100	15	—	9.5	43	.346	8.8	.965	24.5
HY-NBH04020J-OH	●	2	.157	4.0	.787	20.0	20	19	110	100	20	—	12	43	.394	10.0	1.102	28.0
HY-NBH05020J-OH	●	2	.197	5.0	.787	20.0	20	19	110	100	20	—	12	36	.492	12.5	1.378	35.0
HY-NBH06020J-OH	●	2	.236	6.0	.787	20.0	20	19	110	100	20	—	12	28.5	.591	15.0	1.654	42.0
HY-NBH02022X-OH	●	2	.079	2.0	.866	22.0	20	21	120	110	15	25	9.5	59	.197	5.0	.709	18.0
HY-NBH02522X-OH	●	2	.098	2.5	.866	22.0	20	21	120	110	15	25	9.5	60	.248	6.3	.768	19.5
HY-NBH03022X-OH	●	2	.118	3.0	.866	22.0	20	21	120	110	15	25	9.5	61	.295	7.5	.827	21.0
HY-NBH03522X-OH	●	2	.138	3.5	.866	22.0	20	21	120	110	15	25	9.5	53	.346	8.8	.965	24.5
HY-NBH04022X-OH	●	2	.157	4.0	.866	22.0	20	21	120	110	20	25	12	53	.394	10.0	1.102	28.0
HY-NBH05022X-OH	●	2	.197	5.0	.866	22.0	20	21	120	110	20	25	12	46	.492	12.5	1.378	35.0
HY-NBH06022X-OH	●	2	.236	6.0	.866	22.0	20	21	120	110	20	25	12	28.5	.591	15.0	1.654	42.0
HY-NBH02025.0K-OH	●	2	.079	2.0	.984	25.0	20	24	125	115	15	25	9.5	64	.197	5.0	.709	18.0
HY-NBH02525.0K-OH	●	2	.098	2.5	.984	25.0	20	24	125	115	15	25	9.5	65	.248	6.3	.768	19.5
HY-NBH03025.0K-OH	●	2	.118	3.0	.984	25.0	20	24	125	115	15	25	9.5	66	.295	7.5	.827	21.0
HY-NBH03525.0K-OH	●	2	.138	3.5	.984	25.0	20	24	125	115	15	25	9.5	58	.346	8.8	.965	24.5
HY-NBH04025.0K-OH	●	2	.157	4.0	.984	25.0	20	24	125	115	20	25	12	58	.394	10.0	1.102	28.0
HY-NBH05025.0K-OH	●	2	.197	5.0	.984	25.0	20	24	125	115	20	25	12	51	.492	12.5	1.378	35.0
HY-NBH06025.0K-OH	●	2	.236	6.0	.984	25.0	20	24	125	115	20	25	12	28.5	.591	15.0	1.654	42.0
HY-NBH02025.4K-OH	●	2	.079	2.0	1.000	25.4	20	24	125	115	15	25	9.5	64	.197	5.0	.709	18.0
HY-NBH02525.4K-OH	●	2	.098	2.5	1.000	25.4	20	24	125	115	15	25	9.5	65	.248	6.3	.768	19.5
HY-NBH03025.4K-OH	●	2	.118	3.0	1.000	25.4	20	24	125	115	15	25	9.5	66	.295	7.5	.827	21.0
HY-NBH03525.4K-OH	●	2	.138	3.5	1.000	25.4	20	24	125	115	15	25	9.5	58	.346	8.8	.965	24.5
HY-NBH04025.4K-OH	●	2	.157	4.0	1.000	25.4	20	24	125	115	20	25	12	58	.394	10.0	1.102	28.0
HY-NBH05025.4K-OH	●	2	.197	5.0	1.000	25.4	20	24	125	115	20	25	12	51	.492	12.5	1.378	35.0
HY-NBH06025.4K-OH	●	2	.236	6.0	1.000	25.4	20	24	125	115	20	25	12	28.5	.591	15.0	1.654	42.0

Parts for STICK DUO SPLASH

Item Number	Clamp Screw		Overhang Adjustment		
	①	②	③	④	⑤
HY-NBH ... -OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH (Through hole)	SS0806F
	M6 Screw		Wrench		
	⑥		for ①②	for ③④⑤	for ⑥
	SS0605SC		LW-2	LW-4×104	LW-3



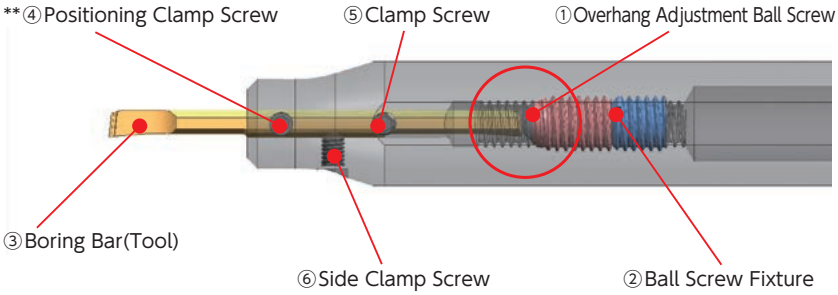
Insert bars ➡V12

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
RⓁ : 1-2 week delivery (Right / Left-hand only)
RⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

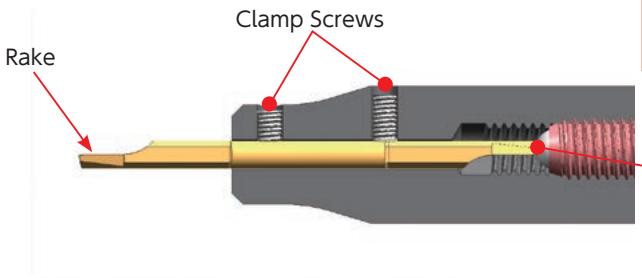
STICK DUO HYPER

- Sleeves for ID Boring with Adjustable Overhang Mechanism -

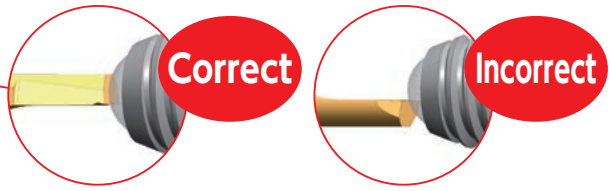
■Can Index boring bars like inserts

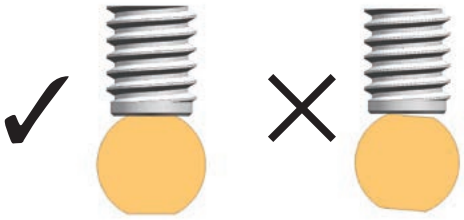


■Installation Procedure for STICK DUO Hyper



Caution: Improper installation dramatically increases the chance of chipping cutting edge

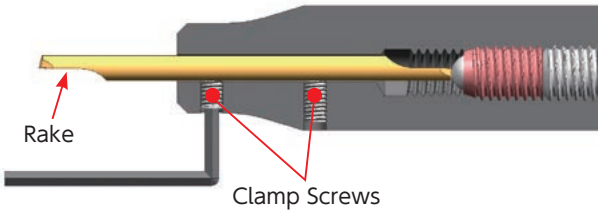




Improper clamping of boring bar causes unstable centerline height and offset

①Position the overhang adjustment ball screw to determine overhang amount
②Slide the ball screw fixture to secure the ball screw location
③Insert a boring bar (tool)
Note: Make sure to insert the boring bar correctly so that the rake face is toward the side where the clamp screws are located
④Secure the boring bar by tightening the positioning clamp screw ▶Recommended Clamping Torque:17.7 lb in
** Make sure to clamp the boring bar so that the flat surface of the bar makes proper contact with clamp screws
⑤Secure the boring bar by tightening the remaining clamp screws ▶Recommended Clamping Torque:17.7 lb in
⑥Even if 4 and 5 cannot be performed due to tool clearance and layout, the tool can be used by only securing the side clamp screw
Once the initial setup is complete, repeat the above procedures 3 thru 5 for each index

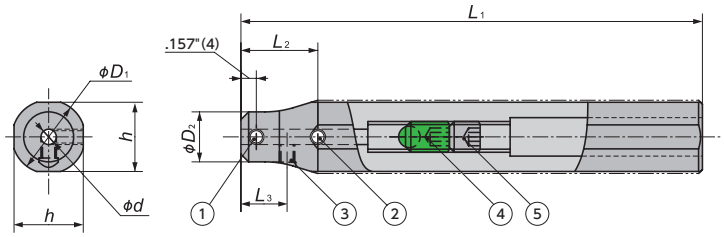
■When the tool is installed upside down



Toolholder must be installed so that clamp screws and rake of the tool face toward the same side

STICK DUO HYPER

HY-NBH



Please refer to ϕd to find correct-size inserts (bars)

Item Number	Stock	φd (Inch)	φd (mm)	φD1 (Inch)	φD1 (mm)	φD2 (mm)	h (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Clamp Screws ①	Clamp Screws ②	Clamp Screws ③
HY-NBH02016H	○	.079	2.0	.630	16.0	11	15	100	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02516H	○	.098	2.5	.630	16.0	11.5	15	100	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03016H	○	.118	3.0	.630	16.0	12	15	100	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03516H	○	.138	3.5	.630	16.0	12.5	15	100	20	12	SS04045FS	SS0404F	SS0404F
HY-NBH04016H	○	.157	4.0	.630	16.0	13	15	100	20	12	SS04045FS	SS0404F	SS0404F
HY-NBH05016H	○	.197	5.0	.630	16.0	14	15	100	20	12	SS04045FS	SS0404F	SS0404F
HY-NBH02019K	●	.079	2.0	3/4	19.05	11	18	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02519K	●	.098	2.5	3/4	19.05	11.5	18	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03019K	●	.118	3.0	3/4	19.05	12	18	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03519K	●	.138	3.5	3/4	19.05	12.5	18	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04019K	●	.157	4.0	3/4	19.05	13	18	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05019K	●	.197	5.0	3/4	19.05	14	18	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02020K	○	.079	2.0	.787	20.0	11	19	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02520K	○	.098	2.5	.787	20.0	11.5	19	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03020K	○	.118	3.0	.787	20.0	12	19	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03520K	○	.138	3.5	.787	20.0	12.5	19	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04020K	○	.157	4.0	.787	20.0	13	19	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05020K	○	.197	5.0	.787	20.0	14	19	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02022K	●	.079	2.0	.866	22.0	11	21	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02522K	●	.098	2.5	.866	22.0	11.5	21	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03022K	●	.118	3.0	.866	22.0	12	21	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03522K	●	.138	3.5	.866	22.0	12.5	21	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04022K	●	.157	4.0	.866	22.0	13	21	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05022K	●	.197	5.0	.866	22.0	14	21	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02025K-MET	○	.079	2.0	.984	25.0	11	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02525K-MET	○	.098	2.5	.984	25.0	11.5	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03025K-MET	○	.118	3.0	.984	25.0	12	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03525K-MET	○	.138	3.5	.984	25.0	12.5	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04025K-MET	○	.157	4.0	.984	25.0	13	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05025K-MET	○	.197	5.0	.984	25.0	14	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02025K	●	.079	2.0	1.000	25.4	11	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02525K	●	.098	2.5	1.000	25.4	11.5	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03025K	●	.118	3.0	1.000	25.4	12	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03525K	●	.138	3.5	1.000	25.4	12.5	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04025K	●	.157	4.0	1.000	25.4	13	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05025K	●	.197	5.0	1.000	25.4	14	24	125	20	12	SS04045FS	SS0406F	SS0404F

Spare Parts

Item Number	Overhang Adjustment ④	Overhang Adjustment ⑤	Wrench for ①②③	Wrench for ④⑤
HY-NBH ... K	SS0812R	SS0808F	LW-2	LW-4×104

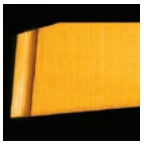
Insert bars ➡V12

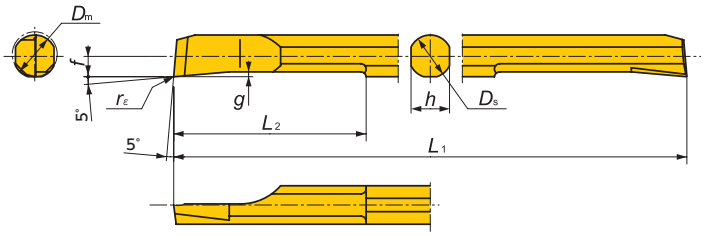
● : Stock
● : Stock (Newly added)
■ □R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

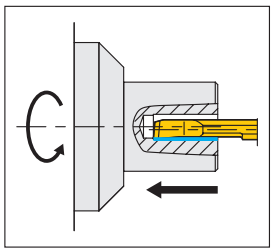
Bars for STICK DUO SPLASH / STICK DUO HYPER

SHFS-S type (for ID Boring)

Minimum Bore Diameter .087" (2.2㎜)

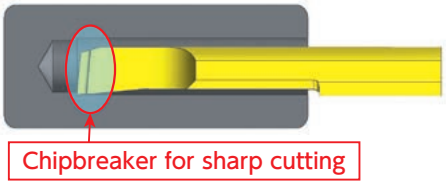




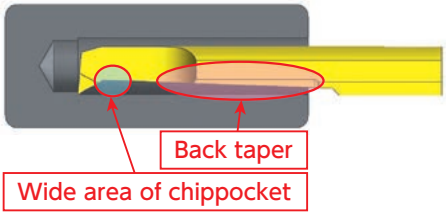


Item Number	D_s (Inch)	D_s (㎜)	Min Bore Dia. D_m (Inch)	Min Bore Dia. D_m (㎜)	L_1 (㎜)	L_2 (㎜)	f (㎜)	h (㎜)	g (㎜)	r_ε (Inch)	r_ε (㎜)	Chipbreaker	Coated Carbide TM4
SHFS020R005S	.079	2	**.087**	**2.2**	50	10	0.9	1.8	0.25	.002	0.05	Type S	●
SHFS025R005S	.098	2.5	**.106**	**2.7**	50	12.5	1.15	2.3	0.30	.002	0.05	Type S	●
SHFS025R015S	.098	2.5	**.106**	**2.7**	50	12.5	1.15	2.3	0.30	.006	0.15	Type S	●
SHFS030R005S	.118	3	**.126**	**3.2**	50	15	1.4	2.7	0.40	.002	0.05	Type S	●
SHFS030R015S	.118	3	**.126**	**3.2**	50	15	1.4	2.7	0.40	.006	0.15	Type S	●
SHFS035R005S	.138	3.5	**.146**	**3.7**	60	17.5	1.65	3.2	0.40	.002	0.05	Type S	●
SHFS035R015S	.138	3.5	**.146**	**3.7**	60	17.5	1.65	3.2	0.40	.006	0.15	Type S	●
SHFS040R005S	.157	4	**.165**	**4.2**	60	20	1.9	3.6	0.45	.002	0.05	Type S	●
SHFS040R015S	.157	4	**.165**	**4.2**	60	20	1.9	3.6	0.45	.006	0.15	Type S	●
SHFS050R005S	.197	5	**.205**	**5.2**	70	25	2.4	4.5	0.50	.002	0.05	Type S	●
SHFS050R015S	.197	5	**.205**	**5.2**	70	25	2.4	4.5	0.50	.006	0.15	Type S	●

S.FS-S type

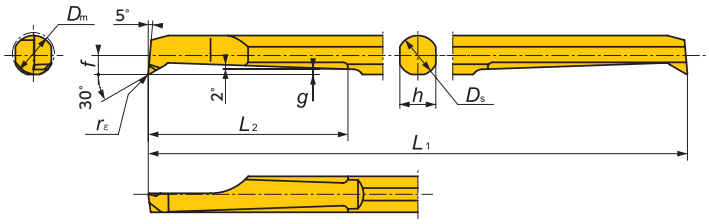


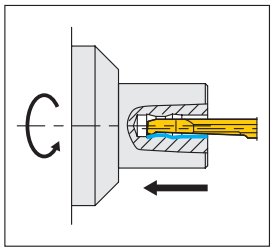
S.FB-F type



SHFB-F type (for ID Boring)

Minimum Bore Diameter .087" (2.2㎜)

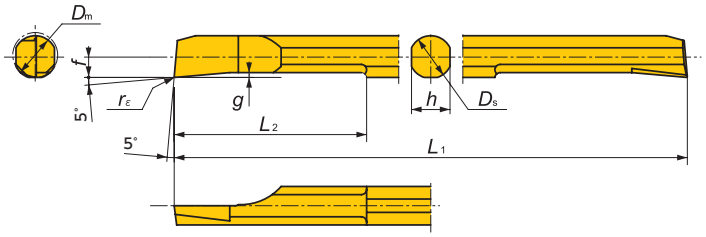


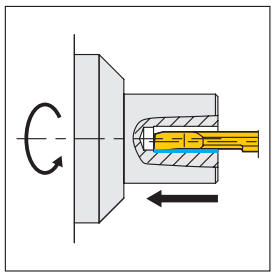


Evacuate chips backward

Item Number	D_s (Inch)	D_s (㎜)	Min Bore Dia. D_m (Inch)	Min Bore Dia. D_m (㎜)	L_1 (㎜)	L_2 (㎜)	f (㎜)	h (㎜)	g (㎜)	r_ε (Inch)	r_ε (㎜)	Chipbreaker	Coated Carbide TM4
SHFB020R005F	.087	2	**.087**	**2.2**	50	8	0.95	1.8	0.25	.002	0.05	Type F	●
SHFB025R005F	.098	2.5	**.106**	**2.7**	50	12.5	1.2	2.3	0.30	.002	0.05	Type F	●
SHFB025R015F	.098	2.5	**.106**	**2.7**	50	12.5	1.2	2.3	0.30	.006	0.15	Type F	●
SHFB030R005F	.118	3	**.126**	**3.2**	50	15	1.4	2.7	0.45	.002	0.05	Type F	●
SHFB030R015F	.118	3	**.126**	**3.2**	50	15	1.4	2.7	0.45	.006	0.15	Type F	●
SHFB035R005F	.138	3.5	**.146**	**3.7**	60	17.5	1.65	3.2	0.50	.002	0.05	Type F	●
SHFB035R015F	.138	3.5	**.146**	**3.7**	60	17.5	1.65	3.2	0.50	.006	0.15	Type F	●
SHFB040R005F	.157	4	**.165**	**4.2**	60	20	1.9	3.6	0.50	.002	0.05	Type F	●
SHFB040R015F	.157	4	**.165**	**4.2**	60	20	1.9	3.6	0.50	.006	0.15	Type F	●
SHFB050R005F	.197	5	**.205**	**5.2**	70	25	2.4	4.5	0.70	.002	0.05	Type F	●
SHFB050R015F	.197	5	**.205**	**5.2**	70	25	2.4	4.5	0.70	.006	0.15	Type F	●

SHFS-H type (for ID Boring) Minimum Bore Diameter .087" (2.2mm)

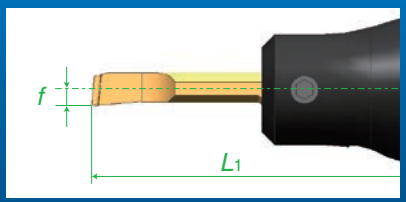




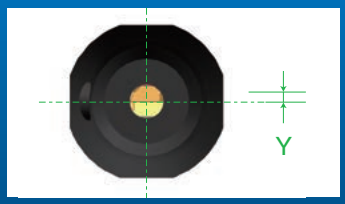
Mirror finish

Item Number	Ds (Inch)	Ds (mm)	Min Bore Dia. Dm (Inch)	Min Bore Dia. Dm (mm)	L1 (mm)	L2 (mm)	f (mm)	h (mm)	g (mm)	rε (Inch)	rε (mm)	Chipbreaker	Coated Carbide TM4
SHFS020R005H Ⓜ	.079	2	.087	2.2	50	10	0.9	1.8	0.25	.002	0.05	None	●
SHFS025R005H Ⓜ	.098	2.5	.106	2.7	50	12.5	1.15	2.3	0.30	.002	0.05	None	●
SHFS025R015H Ⓜ	.098	2.5	.106	2.7	50	12.5	1.15	2.3	0.30	.006	0.15	None	●
SHFS030R005H Ⓜ	.118	3	.126	3.2	50	15	1.4	2.7	0.40	.002	0.05	None	●
SHFS030R015H Ⓜ	.118	3	.126	3.2	50	15	1.4	2.7	0.40	.006	0.15	None	●
SHFS035R005H Ⓜ	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.40	.002	0.05	None	●
SHFS035R015H Ⓜ	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.40	.006	0.15	None	●
SHFS040R005H Ⓜ	.157	4	.165	4.2	60	20	1.9	3.6	0.45	.002	0.05	None	●
SHFS040R015H Ⓜ	.157	4	.165	4.2	60	20	1.9	3.6	0.45	.006	0.15	None	●
SHFS050R005H Ⓜ	.197	5	.205	5.2	70	25	2.4	4.5	0.50	.002	0.05	None	●
SHFS050R015H Ⓜ	.197	5	.205	5.2	70	25	2.4	4.5	0.50	.006	0.15	None	●

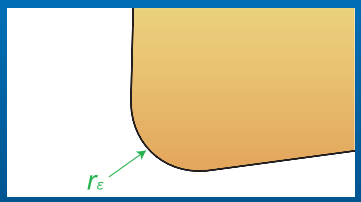
■Tolerance of SHFS-S/SHFB-F/SHFS-H bars



Offset f : ±.0006"
Tool Length L_1 : ±.0008"

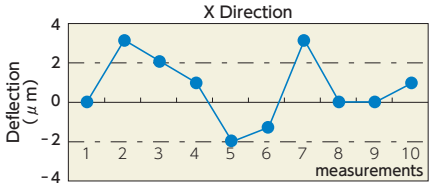


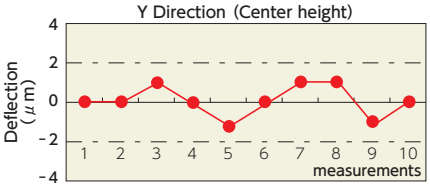
Centerline Y : +.002"/−.000"

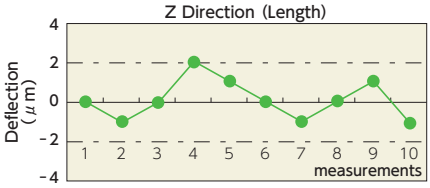


Corner r_ε : ±.0006"

■Repeatability of (STICK DUO SPLASH / STICK DUO Hyper) with (SHFS / SHFB) bars







Sleeves ➡V9・11 Cutting condition ➡V4

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

STICK DUO - Sleeves for ID machining -

NBH

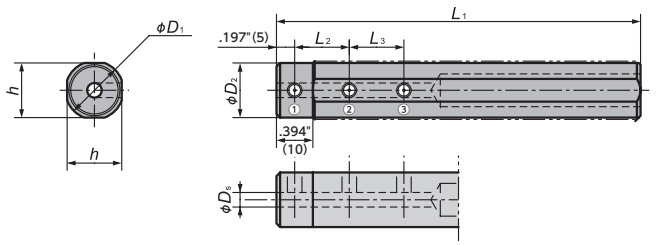


Figure-1

NBH

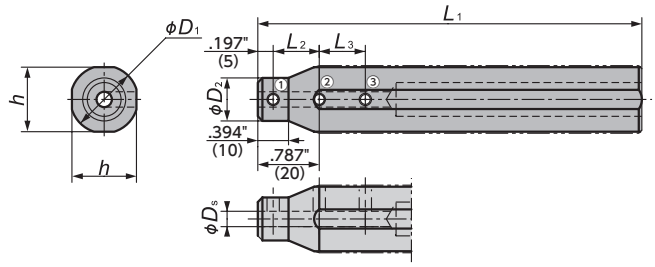


Figure-2

Item number	Figure	Stock	ϕDs (Inch)	ϕDs (mm)	ϕD1 (Inch)	ϕD1 (mm)	ϕD2 (mm)	h (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Clamp screw ①	Clamp screw ②	Clamp screw ③	Wrench
NBH02015H	1	○	.079	2.0	5/8	15.875	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH02515H	1	○	.098	2.5	5/8	15.875	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH03015H	1	○	.118	3.0	5/8	15.875	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH03515H	1	○	.138	3.5	5/8	15.875	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH04015H	1	○	.157	4.0	5/8	15.875	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH04515H	1	○	.177	4.5	5/8	15.875	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH05015H	1	○	.197	5.0	5/8	15.875	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH06015H	1	○	.236	6.0	5/8	15.875	15	15	100	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH08015H	1	○	.315	8.0	5/8	15.875	15	15	100	20	20	SS0403F	SS0403F	SS0403F	LW-2
NBH02016H	1	○	.079	2.0	.630	16.0	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH02516H	1	○	.098	2.5	.630	16.0	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH03016H	1	○	.118	3.0	.630	16.0	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH03516H	1	○	.138	3.5	.630	16.0	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH04016H	1	○	.157	4.0	.630	16.0	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH04516H	1	○	.177	4.5	.630	16.0	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH05016H	1	○	.197	5.0	.630	16.0	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH06016H	1	●	.236	6.0	.630	16.0	15	15	100	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH07016H	1	○	.276	7.0	.630	16.0	15	15	100	20	20	SS0403F	SS0404F	SS0404F	LW-2
NBH08016H	1	●	.315	8.0	.630	16.0	15	15	100	20	20	SS0403F	SS0403F	SS0403F	LW-2
NBH02019K	1	○	.079	2.0	3/4	19.05	18	18	125	10	—	SS0408F	SS0408F	—	LW-2
NBH02519K	1	○	.098	2.5	3/4	19.05	18	18	125	10	—	SS0408F	SS0408F	—	LW-2
NBH03019K	1	○	.118	3.0	3/4	19.05	18	18	125	10	10	SS0406F	SS0406F	SS0406F	LW-2
NBH03519K	1	○	.138	3.5	3/4	19.05	18	18	125	10	10	SS0406F	SS0406F	SS0406F	LW-2
NBH04019K	1	○	.157	4.0	3/4	19.05	18	18	125	15	15	SS0406F	SS0406F	SS0406F	LW-2
NBH04519K	1	○	.177	4.5	3/4	19.05	18	18	125	15	15	SS0406F	SS0406F	SS0406F	LW-2
NBH05019K	1	○	.197	5.0	3/4	19.05	18	18	125	15	15	SS0406F	SS0406F	SS0406F	LW-2
NBH06019K	1	●	.236	6.0	3/4	19.05	18	18	125	20	20	SS0406F	SS0406F	SS0406F	LW-2
NBH07019K	1	○	.276	7.0	3/4	19.05	18	18	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH08019K	1	●	.315	8.0	3/4	19.05	18	18	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH10019K	1	○	.394	10.0	3/4	19.05	18	18	125	20	20	SS0403F	SS0404F	SS0404F	LW-2
NBH02020K	2	○	.079	2.0	.787	20.0	11	19	125	10	—	SS0404F	SS0404F	—	LW-2
NBH02520K	2	○	.098	2.5	.787	20.0	11	19	125	10	—	SS0404F	SS0404F	—	LW-2
NBH03020K	2	○	.118	3.0	.787	20.0	12	19	125	10	10	SS0404F	SS0404F	SS0406F	LW-2
NBH03520K	2	○	.138	3.5	.787	20.0	12	19	125	10	10	SS0404F	SS0404F	SS0406F	LW-2
NBH04020K	2	○	.157	4.0	.787	20.0	13	19	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH04520K	2	○	.177	4.5	.787	20.0	13	19	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH05020K	2	○	.197	5.0	.787	20.0	14	19	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH06020K	2	●	.236	6.0	.787	20.0	15	19	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH07020K	2	○	.276	7.0	.787	20.0	16	19	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH08020K	2	●	.315	8.0	.787	20.0	17	19	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH10020K	2	○	.394	10.0	.787	20.0	19	19	125	20	20	SS0404F	SS0404F	SS0404F	LW-2

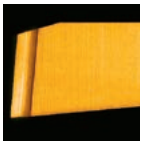
Item number	Figure	Stock	ϕD_s (Inch)	ϕD_s (mm)	ϕD_1 (Inch)	ϕD_1 (mm)	ϕD_2 (mm)	h_1 (mm)	L_1 (mm)	L_2 (mm)	L_3 (mm)	Clamp screw ①	Clamp screw ②	Clamp screw ③	Wrench
NBH02022K	2	○	.079	2.0	.866	22.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02522K	2	○	.098	2.5	.866	22.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03022K	2	○	.118	3.0	.866	22.0	12	21	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03522K	2	○	.138	3.5	.866	22.0	12	21	125	10	10	SS0404F	SS0406F	SS0406F	LW-2
NBH04022K	2	○	.157	4.0	.866	22.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH04522K	2	○	.177	4.5	.866	22.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH05022K	2	○	.197	5.0	.866	22.0	14	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH06022K	2	●	.236	6.0	.866	22.0	15	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH07022K	2	○	.276	7.0	.866	22.0	16	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH08022K	2	●	.315	8.0	.866	22.0	17	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10022K	2	○	.394	10.0	.866	22.0	19	21	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH12022K	2	○	.472	12.0	.866	22.0	21	21	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH02023K	2	○	.079	2.0	.906	23.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02523K	2	○	.098	2.5	.906	23.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03023K	2	○	.118	3.0	.906	23.0	12	21	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03523K	2	○	.138	3.5	.906	23.0	12	21	125	10	10	SS0404F	SS0406F	SS0406F	LW-2
NBH04023K	2	○	.157	4.0	.906	23.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH04523K	2	○	.177	4.5	.906	23.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH05023K	2	○	.197	5.0	.906	23.0	14	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH06023K	2	○	.236	6.0	.906	23.0	15	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH08023K	2	○	.315	8.0	.906	23.0	17	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10023K	2	○	.394	10.0	.906	23.0	19	21	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH12023K	2	○	.472	12.0	.906	23.0	21	21	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH02025K-MET	2	○	.079	2.0	.984	25.0	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02525K-MET	2	○	.098	2.5	.984	25.0	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03025K-MET	2	○	.118	3.0	.984	25.0	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K-MET	2	○	.138	3.5	.984	25.0	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K-MET	2	○	.157	4.0	.984	25.0	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH04525K-MET	2	○	.177	4.5	.984	25.0	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K-MET	2	○	.197	5.0	.984	25.0	14	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K-MET	2	●	.236	6.0	.984	25.0	15	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH07025K-MET	2	○	.276	7.0	.984	25.0	16	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K-MET	2	●	.315	8.0	.984	25.0	17	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10025K-MET	2	○	.394	10.0	.984	25.0	19	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH12025K-MET	2	○	.472	12.0	.984	25.0	21	24	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH02025K	2	○	.079	2.0	1.000	25.4	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02525K	2	○	.098	2.5	1.000	25.4	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03025K	2	○	.118	3.0	1.000	25.4	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K	2	○	.138	3.5	1.000	25.4	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K	2	○	.157	4.0	1.000	25.4	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH04525K	2	○	.177	4.5	1.000	25.4	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K	2	○	.197	5.0	1.000	25.4	14	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K	2	●	.236	6.0	1.000	25.4	15	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH07025K	2	○	.276	7.0	1.000	25.4	16	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K	2	●	.315	8.0	1.000	25.4	17	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10025K	2	○	.394	10.0	1.000	25.4	19	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH12025K	2	○	.472	12.0	1.000	25.4	21	24	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH04532K	2	○	.177	4.5	1.260	32.0	13	30	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH05032K	2	○	.197	5.0	1.260	32.0	14	30	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH06032K	2	○	.236	6.0	1.260	32.0	15	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH07032K	2	○	.276	7.0	1.260	32.0	16	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH08032K	2	○	.315	8.0	1.260	32.0	17	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH10032K	2	○	.394	10.0	1.260	32.0	19	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH12032K	2	○	.472	12.0	1.260	32.0	21	30	125	25	25	SS0404F	SS0406F	SS0406F	LW-2
NBH14032K	2	○	.551	14.0	1.260	32.0	23	30	125	25	25	SS0504	SS0506	SS0506	LW-2.5
NBH16032K	2	○	.630	16.0	1.260	32.0	25	30	125	25	25	SS0504	SS0506	SS0506	LW-2.5

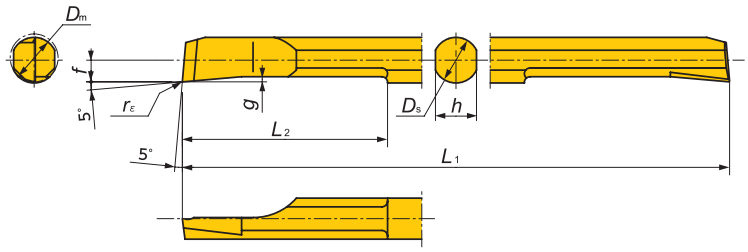
Insert bars ➡V16

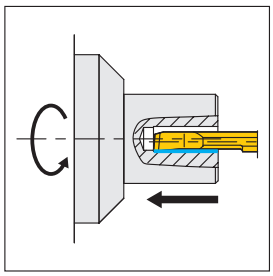
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only)
Ⓡ Ⓛ : 1-2 week delivery (Right / Left-hand only, Newly added)

SBFS-S type (for ID Boring)

Minimum Bore Diameter .087" (2.2mm)



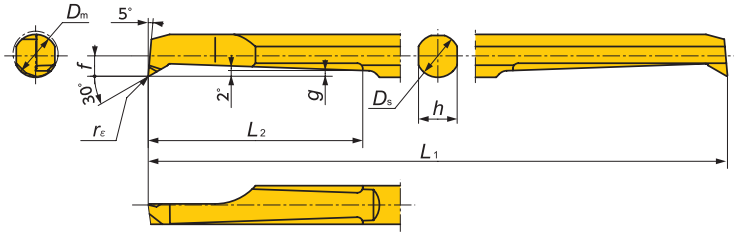


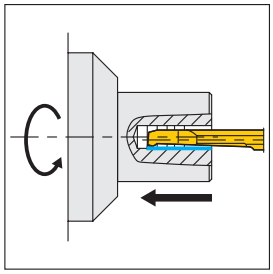


Item Number	Ds (Inch)	Ds (mm)	Min Bore Dia. Dm (Inch)	Min Bore Dia. Dm (mm)	L1 (mm)	L2 (mm)	f (mm)	h (mm)	g (mm)	rε (Inch)	rε (mm)	Chipbreaker	Coated Carbide DT4	Coated Carbide ZM3
SBFS020R005S	.079	2	.087	2.2	50	10	0.9	1.8	0.25	.002	0.05	Type S	○	○
SBFS025R005S	.098	2.5	.106	2.7	50	12.5	1.15	2.3	0.30	.002	0.05	Type S	○	○
SBFS025R015S	.098	2.5	.106	2.7	50	12.5	1.15	2.3	0.30	.006	0.15	Type S	○	○
SBFS030R005S	.118	3	.126	3.2	50	15	1.4	2.7	0.40	.002	0.05	Type S	○	○
SBFS030R015S	.118	3	.126	3.2	50	15	1.4	2.7	0.40	.006	0.15	Type S	○	○
SBFS035R005S	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.40	.002	0.05	Type S	○	○
SBFS035R015S	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.40	.006	0.15	Type S	○	○
SBFS040R005S	.157	4	.165	4.2	60	20	1.9	3.6	0.45	.002	0.05	Type S	○	○
SBFS040R015S	.157	4	.165	4.2	60	20	1.9	3.6	0.45	.006	0.15	Type S	○	○
SBFS050R005S	.197	5	.205	5.2	70	25	2.4	4.5	0.50	.002	0.05	Type S	○	○
SBFS050R015S	.197	5	.205	5.2	70	25	2.4	4.5	0.50	.006	0.15	Type S	○	○
SBFS060R005S	.236	6	.244	6.2	80	30	2.9	5.4	0.60	.002	0.05	Type S	○	○
SBFS060R015S	.236	6	.244	6.2	80	30	2.9	5.4	0.60	.006	0.15	Type S	○	○

SBFB-F type (for ID Boring)

Minimum Bore Diameter .087" (2.2mm)



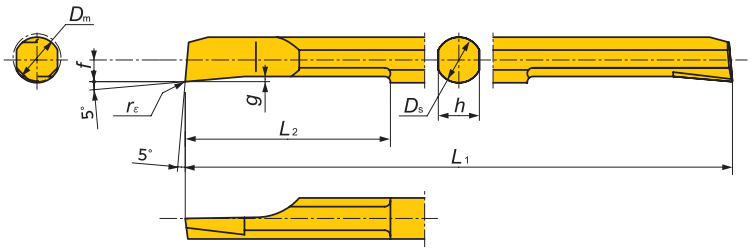


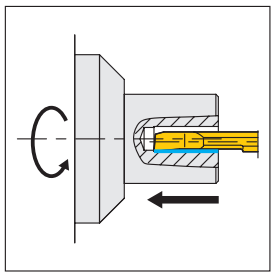
Evacuate chips backward

Item Number	Ds (Inch)	Ds (mm)	Min Bore Dia. Dm (Inch)	Min Bore Dia. Dm (mm)	L1 (mm)	L2 (mm)	f (mm)	h (mm)	g (mm)	rε (Inch)	rε (mm)	Chipbreaker	Coated Carbide DT4	Coated Carbide ZM3
SBFB020R005F	.087	2	.087	2.2	50	8	0.95	1.8	0.25	.002	0.05	Type F	○	○
SBFB025R005F	.098	2.5	.106	2.7	50	12.5	1.2	2.3	0.30	.002	0.05	Type F	○	○
SBFB025R015F	.098	2.5	.106	2.7	50	12.5	1.2	2.3	0.30	.006	0.15	Type F	○	○
SBFB030R005F	.118	3	.126	3.2	50	15	1.4	2.7	0.45	.002	0.05	Type F	○	○
SBFB030R015F	.118	3	.126	3.2	50	15	1.4	2.7	0.45	.006	0.15	Type F	○	○
SBFB035R005F	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.50	.002	0.05	Type F	○	○
SBFB035R015F	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.50	.006	0.15	Type F	○	○
SBFB040R005F	.157	4	.165	4.2	60	20	1.9	3.6	0.50	.002	0.05	Type F	○	○
SBFB040R015F	.157	4	.165	4.2	60	20	1.9	3.6	0.50	.006	0.15	Type F	○	○
SBFB050R005F	.197	5	.205	5.2	70	25	2.4	4.5	0.70	.002	0.05	Type F	○	○
SBFB050R015F	.197	5	.205	5.2	70	25	2.4	4.5	0.70	.006	0.15	Type F	○	○
SBFB060R005F	.236	6	.244	6.2	80	30	2.9	5.4	0.90	.002	0.05	Type F	○	○
SBFB060R015F	.236	6	.244	6.2	80	30	2.9	5.4	0.90	.006	0.15	Type F	○	○

SBFS-H type (for ID Boring)

Minimum Bore Diameter .087" (2.2mm)





Mirror finish

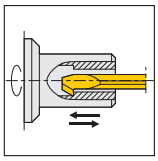
Item Number	Ds (Inch)	Ds (mm)	Min Bore Dia. Dm (Inch)	Min Bore Dia. Dm (mm)	L1 (mm)	L2 (mm)	f (mm)	h (mm)	g (mm)	rε (Inch)	rε (mm)	Chipbreaker	Coated Carbide DT4	Coated Carbide ZM3
SBFS020R005H Ⓜ	.079	2	.087	2.2	50	10	0.9	1.8	0.25	.002	0.05	None		○
SBFS025R005H Ⓜ	.098	2.5	.106	2.7	50	12.5	1.15	2.3	0.30	.002	0.05	None		○
SBFS025R015H Ⓜ	.098	2.5	.106	2.7	50	12.5	1.15	2.3	0.30	.006	0.15	None		○
SBFS030R005H Ⓜ	.118	3	.126	3.2	50	15	1.4	2.7	0.40	.002	0.05	None		○
SBFS030R015H Ⓜ	.118	3	.126	3.2	50	15	1.4	2.7	0.40	.006	0.15	None		○
SBFS035R005H Ⓜ	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.40	.002	0.05	None		○
SBFS035R015H Ⓜ	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.40	.006	0.15	None		○
SBFS040R005H Ⓜ	.157	4	.165	4.2	60	20	1.9	3.6	0.45	.002	0.05	None		○
SBFS040R015H Ⓜ	.157	4	.165	4.2	60	20	1.9	3.6	0.45	.006	0.15	None		○
SBFS050R005H Ⓜ	.197	5	.205	5.2	70	25	2.4	4.5	0.50	.002	0.05	None		○
SBFS050R015H Ⓜ	.197	5	.205	5.2	70	25	2.4	4.5	0.50	.006	0.15	None		○
SBFS060R005H Ⓜ	.236	6	.244	6.2	80	30	2.9	5.4	0.60	.002	0.05	None		○
SBFS060R015H Ⓜ	.236	6	.244	6.2	80	30	2.9	5.4	0.60	.006	0.15	None		○
SBFS080R005H Ⓜ	.315	8	.323	8.2	80	30	3.9	7.3	0.80	.002	0.05	None		○
SBFS080R015H Ⓜ	.315	8	.323	8.2	80	30	3.9	7.3	0.80	.006	0.15	None		○

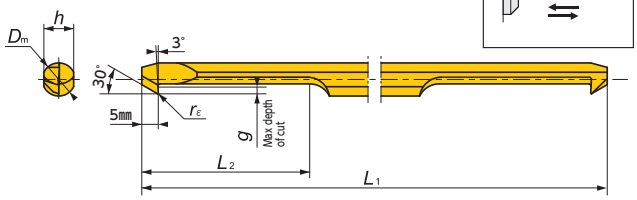
SBB Series

ID Back turning

SBB-S type (for ID Back turning)

Minimum Bore Diameter .118" (3.0mm)

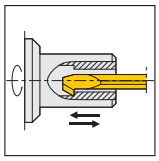


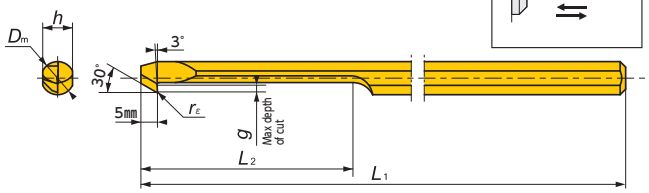


Short type
two-sided

SBB type (for ID Back turning)

Minimum Bore Diameter .118" (3.0mm)





Long type
single-sided

	Item Number	Ds (Inch)	Ds (mm)	Min Bore Dia. Dm (Inch)	Min Bore Dia. Dm (mm)	L1 (mm)	L2 (mm)	f (mm)	h (mm)	g (mm)	rε (Inch)	rε (mm)	Chipbreaker	No. of edge	Coated Carbide ZM3
Short Type	SBB030RB005-S	.118	3	.118	3	50	15	1.3	2.7	0.5	.002	0.05	Yes	2	○
	SBB030RB010-S	.118	3	.118	3	50	15	1.3	2.7	0.5	.004	0.1	Yes	2	○
	SBB040RB005-S	.157	4	.157	4	60	18	1.8	3.6	0.8	.002	0.05	Yes	2	○
	SBB040RB015-S	.157	4	.157	4	60	18	1.8	3.6	0.8	.006	0.15	Yes	2	○
Long Type	SBB030RB005	.118	3	.118	3	50	19	1.3	2.7	0.5	.002	0.05	Yes	1	○
	SBB030RB010	.118	3	.118	3	50	19	1.3	2.7	0.5	.004	0.1	Yes	1	○
	SBB040RB005	.157	4	.157	4	60	24	1.8	3.6	0.8	.002	0.05	Yes	1	○
	SBB040RB015	.157	4	.157	4	60	24	1.8	3.6	0.8	.006	0.15	Yes	1	○

Sleeves ➡V9 • 11 • 14 Cutting condition ➡V4

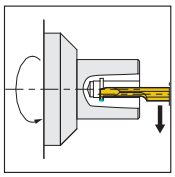
● : Stock
● : Stock (Newly added)
■ □ RⓁ : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

SBG / SFG Series

ID Grooving

SBG (for ID Grooving)

Minimum Bore Diameter .118" (3.0mm)



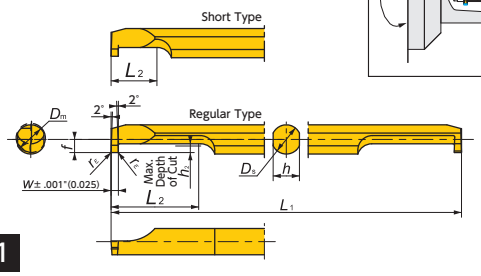
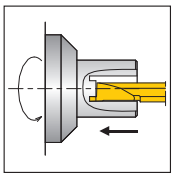


Figure-1

SFG (for ID Face Grooving)

Minimum Bore Diameter .236" (6.0mm)



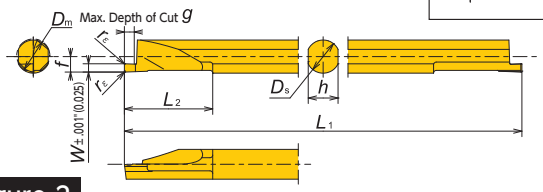


Figure-2

SBG

	Item Number	Groove width W (Inch)	Groove width W (mm)	Min Bore Dia. D_m (Inch)	Min Bore Dia. D_m (mm)	D_s (Inch)	D_s (mm)	L_1 (mm)	L_2 (mm)	f (mm)	h (mm)	h_2 (mm)	r_ε (Inch)	r_ε (mm)	Chip-breaker	Coated Carbide ZM3
Regular type	SBG030050RB	.020	0.50	.118	3	.118	3	50	9	1.3	2.7	0.8	.002	0.05	Yes	●
	SBG030075RB	.030	0.75	.118	3	.118	3	50	9	1.3	2.7	0.8	.002	0.05	Yes	●
	SBG030100RB	.039	1.00	.118	3	.118	3	50	9	1.3	2.7	0.8	.002	0.05	Yes	●
	SBG040050RB	.020	0.50	.157	4	.157	4	60	12	1.8	3.6	1.0	.002	0.05	Yes	●
	SBG040075RB	.030	0.75	.157	4	.157	4	60	12	1.8	3.6	1.0	.002	0.05	Yes	●
	SBG040100RB	.039	1.00	.157	4	.157	4	60	12	1.8	3.6	1.0	.002	0.05	Yes	●
	SBG050050RB	.020	0.50	.197	5	.197	5	70	20	2.3	4.5	1.2	.002	0.05	Yes	●
	SBG050100RB	.039	1.00	.197	5	.197	5	70	20	2.3	4.5	1.2	.002	0.05	Yes	●
	SBG050150RB	.059	1.50	.197	5	.197	5	70	20	2.3	4.5	1.2	.002	0.05	Yes	●
	SBG060100RB	.039	1.00	.236	6	.236	6	80	20	2.8	5.4	1.8	.002	0.05	Yes	●
	SBG060150RB	.059	1.50	.236	6	.236	6	80	20	2.8	5.4	1.8	.002	0.05	Yes	●
	SBG060200RB	.079	2.00	.236	6	.236	6	80	20	2.8	5.4	1.8	.002	0.05	Yes	●
	SBG080100RB	.039	1.00	.315	8	.315	8	80	20	3.8	7.3	2.2	.002	0.05	Yes	●
	SBG080150RB	.059	1.50	.315	8	.315	8	80	20	3.8	7.3	2.2	.002	0.05	Yes	●
	SBG080200RB	.079	2.00	.315	8	.315	8	80	20	3.8	7.3	2.2	.002	0.05	Yes	●
Short type	SBG030050RB-S	.020	0.50	.118	3	.118	3	50	4.5	1.3	2.7	0.8	.002	0.05	Yes	●
	SBG030075RB-S	.030	0.75	.118	3	.118	3	50	4.5	1.3	2.7	0.8	.002	0.05	Yes	○
	SBG030100RB-S	.039	1.00	.118	3	.118	3	50	4.5	1.3	2.7	0.8	.002	0.05	Yes	○
	SBG030150RB-S	.059	1.50	.118	3	.118	3	50	4.5	1.3	2.7	0.8	.002	0.05	Yes	○
	SBG040050RB-S	.020	0.50	.157	4	.157	4	60	6	1.8	3.6	1.0	.002	0.05	Yes	○
	SBG040075RB-S	.030	0.75	.157	4	.157	4	60	6	1.8	3.6	1.0	.002	0.05	Yes	○
	SBG040100RB-S	.039	1.00	.157	4	.157	4	60	6	1.8	3.6	1.0	.002	0.05	Yes	○
	SBG040150RB-S	.059	1.50	.157	4	.157	4	60	6	1.8	3.6	1.0	.002	0.05	Yes	○
	SBG050050RB-S	.020	0.50	.197	5	.197	5	70	7.5	2.3	4.5	1.2	.002	0.05	Yes	○
	SBG050100RB-S	.039	1.00	.197	5	.197	5	70	7.5	2.3	4.5	1.2	.002	0.05	Yes	○
	SBG050150RB-S	.059	1.50	.197	5	.197	5	70	7.5	2.3	4.5	1.2	.002	0.05	Yes	○
	SBG050200RB-S	.079	2.00	.197	5	.197	5	70	7.5	2.3	4.5	1.2	.002	0.05	Yes	○
	SBG060100RB-S	.039	1.00	.236	6	.236	6	80	7.5	2.8	5.4	1.8	.002	0.05	Yes	○
	SBG060150RB-S	.059	1.50	.236	6	.236	6	80	7.5	2.8	5.4	1.8	.002	0.05	Yes	○
	SBG060200RB-S	.079	2.00	.236	6	.236	6	80	7.5	2.8	5.4	1.8	.002	0.05	Yes	○
	SBG080100RB-S	.039	1.00	.315	8	.315	8	80	8.5	3.8	7.3	2.2	.002	0.05	Yes	○
	SBG080150RB-S	.059	1.50	.315	8	.315	8	80	8.5	3.8	7.3	2.2	.002	0.05	Yes	○
	SBG080200RB-S	.079	2.00	.315	8	.315	8	80	8.5	3.8	7.3	2.2	.002	0.05	Yes	○

SFG

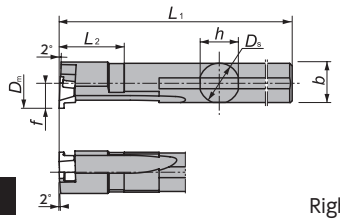
Item Number	Groove width W (Inch)	Groove width W (mm)	Min Bore Dia. D_m (Inch)	Min Bore Dia. D_m (mm)	D_s (Inch)	D_s (mm)	L_1 (mm)	L_2 (mm)	f (mm)	h (mm)	g (mm)	r_ε (Inch)	r_ε (mm)	Chip-breaker	Coated Carbide TM4
SFG060R100B	.039	1.00	.236	6	.236	6	80	16.0	2.8	5.4	1.5	.002	0.05	Yes	○
SFG060R150B	.059	1.50	.236	6	.236	6	80	16.0	2.8	5.4	2.5	.002	0.05	Yes	○
SFG060R200B	.079	2.00	.236	6	.236	6	80	16.0	2.8	5.4	3.0	.002	0.05	Yes	○
SFG080R100B	.039	1.00	.315	8	.315	8	80	16.0	3.8	7.3	1.5	.002	0.05	Yes	○
SFG080R150B	.059	1.50	.315	8	.315	8	80	16.0	3.8	7.3	2.5	.002	0.05	Yes	○
SFG080R200B	.079	2.00	.315	8	.315	8	80	16.0	3.8	7.3	3.0	.002	0.05	Yes	○
SFG080R300B	.118	3.00	.315	8	.315	8	80	16.0	3.8	7.3	3.0	.002	0.05	Yes	○

Sleeves ➜V9 • 11 • 14

BG Series - Toolholders

S-BG (Takes Left-Hand Insert)

Minimum Bore Diameter .394"(10.0㎜)



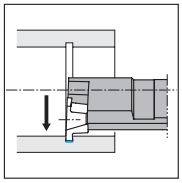
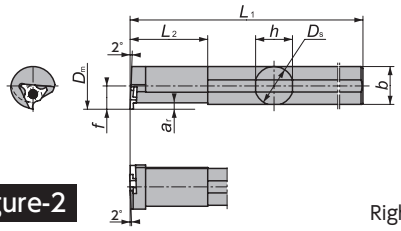


Figure-1

Right-Hand style shown

BG (Takes Left-Hand Insert)

Minimum Bore Diameter .394"(10.0㎜)



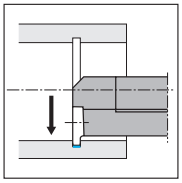


Figure-2

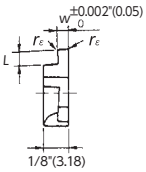
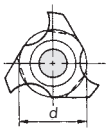
Right-Hand style shown

■S08H-BG / S10K-BG / BG

Gage Insert	Item Number	Figure	Stock R	Stock L	Min. Bore Dia. D_m (Inch)	(㎜)	Max. Depth Of Cut. a_r (Inch)	(㎜)	D_s (Inch)	(㎜)	h (Inch)	(㎜)	b (Inch)	(㎜)	L_1 (Inch)	(㎜)	f (Inch)	(㎜)	L_2 (Inch)	(㎜)	Groove width covered w (Inch)	(㎜)	Clamp Screw	Wrench
 GTG10	S08H-BG®10D10	1	○		.394	10	.039	1.0	.315	8	.303	7.7	.309	7.85	4.724	120	.197	5.0	.787	20	.020-079	0.50-2.00	LR-S-2.5 × 6.8	CLR-15S
	S10K-BG®10D12	1	○		.472	12	.039	1.0	.394	10	.378	9.6	.386	9.8	4.724	120	.236	6.0	.984	25	.020-079	0.50-2.00	LR-S-2.5 × 6.8	CLR-15S
GTG10	BG®08-00S	2	○		.394	10	.039	1.0	.315	8	.276	7.0	.295	7.5	4.921	125	.197	5.0	.787	20	.020-079	0.50-2.00	LR-S-2.5 × 6.8	CLR-15S
	BG®08-10S	2	○		.394	10	.039	1.0	.315	8	.276	7.0	.295	7.5	4.921	125	.197	5.0	.787	20	.059-.079	1.50-2.00	LR-S-2.5 × 6.8	CLR-15S
	BG®10-00S	2	○		.472	12	.079	2.0	.394	10	.354	9.0	.374	9.5	5.906	150	.236	6.0	.984	25	.020-079	0.50-2.00	LR-S-2.5 × 6.8	CLR-15S
	BG®10-10S	2	○		.472	12	.079	2.0	.394	10	.354	9.0	.374	9.5	5.906	150	.236	6.0	.984	25	.059-.079	1.50-2.00	LR-S-2.5 × 6.8	CLR-15S
GTG14	BG®12-00S	2	○		.551	14	.079	2.0	.472	12	.433	11.0	.453	11.5	7.087	180	.276	7.0	1.181	30	.039-.079	1.00-2.00	LR-S-3 × 7.8	RLR-20S
	BG®12-12S	2	○		.551	14	.079	2.0	.472	12	.433	11.0	.453	11.5	7.087	180	.276	7.0	1.181	30	.069-.079	1.75-2.00	LR-S-3 × 7.8	RLR-20S
	BG®14-00S	2	○		.630	16	.118	3.0	.551	14	.512	13.0	.531	13.5	7.087	180	.315	8.0	1.378	35	.039-.079	1.00-2.00	LR-S-3 × 7.8	RLR-20S
	BG®14-12S	2	○		.630	16	.118	3.0	.551	14	.512	13.0	.531	13.5	7.087	180	.315	8.0	1.378	35	.069-.079	1.75-2.00	LR-S-3 × 7.8	RLR-20S
GTG20	BG®16	2	○		.787	20	.118	3.0	.630	16	.591	15.0	.610	15.5	7.874	200	.394	10.0	1.575	40	.059-.079	1.50-2.00	LR-S-3 × 7.8	RLR-20S
	BG®20	2	○		.984	25	.118	3.0	.787	20	.748	19.0	.768	19.5	7.874	200	.472	12.0	1.575	40	.059-.079	1.50-2.00	LR-S-3 × 7.8	RLR-20S

BG Series - Inserts

■GTG

Shape		Item Number	Groove width w (Inch)	(㎜)	Max. Depth Of Cut. a_r (Inch)	(㎜)	L (Inch)	(㎜)	r_ε (Inch)	(㎜)	d (Inch)	(㎜)	Coated Carbide QM3	TM4	ZM3
		GTG10050FL005	0.020	0.50	.039	1.0	.047	1.2	.002	0.05	.219	5.56		○	
		GTG10075FL005	0.030	0.75	.039	1.0	.047	1.2	.002	0.05	.219	5.56		○	
		GTG10100FL005	0.039	1.00	.039	1.0	.047	1.2	.002	0.05	.219	5.56		○	
		GTG10150FL005	0.059	1.50	.039	1.0	.047	1.2	.002	0.05	.219	5.56		○	
		GTG10200FL005	0.079	2.00	.039	1.0	.047	1.2	.002	0.05	.219	5.56		○	
		GTG10050FL00	0.020	0.50	.039	1.0	.047	1.2	.002	0.05	.219	5.56			○
		GTG10065FL00	0.026	0.65	.039	1.0	.047	1.2	.002	0.05	.219	5.56			○
		GTG10075FL00	0.030	0.75	.039	1.0	.047	1.2	.002	0.05	.219	5.56			○
		GTG10100FL00	0.039	1.00	.039	1.0	.047	1.2	.002	0.05	.219	5.56			○
		GTG10125L	0.049	1.25	.039	1.0	.047	1.2	.008	0.2	.219	5.56			
		GTG10150FL00	0.059	1.50	.039	1.0	.047	1.2	.002	0.05	.219	5.56			○
		GTG10200FL01	0.079	2.00	.039	1.0	.047	1.2	.004	0.1	.219	5.56			○
		GTG14100FL00	0.039	1.00	.079	2.0	.087	2.2	.002	0.05	.313	7.94			○
		GTG14145L	0.057	1.45	.079	2.0	.087	2.2	.008	0.2	.313	7.94			
		GTG14150FL00	0.059	1.50	.079	2.0	.087	2.2	.002	0.05	.313	7.94			○
		GTG14175L	0.069	1.75	.079	2.0	.087	2.2	.008	0.2	.313	7.94			
		GTG14200FL01	0.079	2.00	.079	2.0	.087	2.2	.004	0.1	.313	7.94			○
		GTG20150FL	0.059	1.50	.118	3.0	.126	3.2	.008	0.2	.375	9.525	○		
		GTG20175L	0.069	1.75	.118	3.0	.126	3.2	.008	0.2	.375	9.525			
Left-Hand style shown		GTG20200L	0.079	2.00	.118	3.0	.126	3.2	.008	0.2	.375	9.525			
		GTG20200FL	0.079	2.00	.118	3.0	.126	3.2	.008	0.2	.375	9.525	○		

Cutting condition ➡V5

● : Stock
● : Stock (Newly added)
■□RL : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

SBT Series

ID Threading

SBT Minimum Bore Diameter .098" (2.5㎜) ～

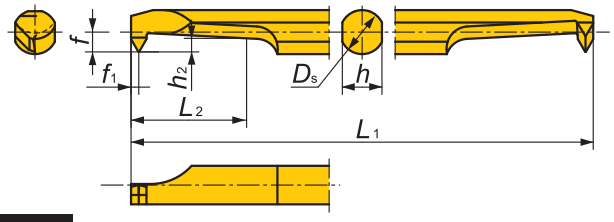


Figure-1

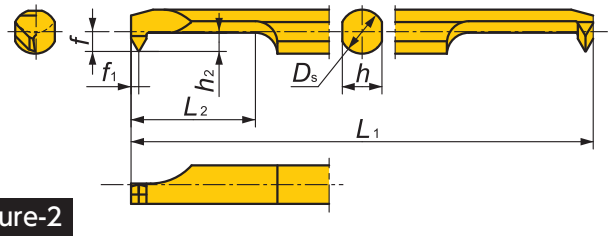
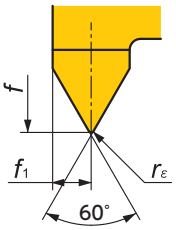
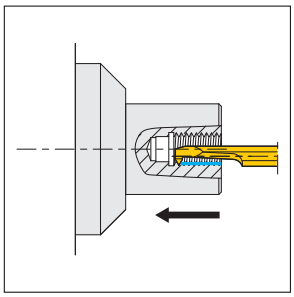


Figure-2





Right-Hand style shown

SBT Insert dimension

Item Number	Figure	Chip-breaker	Min. Bore Dia. D_m (Inch)	(㎜)	D_s (Inch)	(㎜)	L_2 (Inch)	(㎜)	h_2 (Inch)	(㎜)	L_1 (Inch)	(㎜)	f (Inch)	(㎜)	f_1 (Inch)	(㎜)	h (Inch)	(㎜)	r_ε (Inch)	(㎜)	Coated Carbide ZM3
SBT025M3R	1	No	**.098**	**2.5**	.098	2.5	.213	5.4	.024	0.6	1.969	50	.043	1.10	.016	0.40	.091	2.3	.002 MAX Flat	0.05 MAX Flat	●
SBT030M4R	1	No	**.118**	**3.0**	.118	3.0	.295	7.5	.031	0.8	1.969	50	.051	1.30	.020	0.50	.028	2.7	.002 MAX Flat	0.05 MAX Flat	●
SBT030M4RB	1	Yes	**.118**	**3.0**	.118	3.0	.295	7.5	.031	0.8	1.969	50	.051	1.30	.020	0.50	.028	2.7	.002 MAX Flat	0.05 MAX Flat	●
SBT035M5RB	1	Yes	**.138**	**3.5**	.138	3.5	.335	8.5	.039	1.0	2.362	60	.061	1.55	.022	0.55	.013	3.2	.002 MAX Flat	0.05 MAX Flat	●
SBT040M6RB	1	Yes	**.157**	**4.0**	.157	4.0	.413	10.5	.047	1.2	2.362	60	.071	1.80	.028	0.70	.142	3.6	R.002	R0.05	●
SBT050M8RB	2	Yes	**.197**	**5.0**	.197	5.0	.622	15.8	.059	1.5	2.756	70	.091	2.30	.031	0.80	.117	4.5	R.002	R0.05	●
SBT060M10RB	2	Yes	**.236**	**6.0**	.236	6.0	.724	18.4	.071	1.8	3.150	80	.110	2.80	.037	0.95	.213	5.4	R.002	R0.05	●

SBT Applicable Thread

Item Number	Figure	Chip-breaker	Min. Bore Dia. D_m (Inch)	(㎜)	Thread Type: Metric Thread		UNF Thread		Recommended Thread Type: Metric Thread	UNF Thread
SBT025M3R	1	No	**.098**	**2.5**	M3	0.5	—	—	M3 × 0.5	—
SBT030M4R	1	No	**.118**	**3.0**	M4-	0.5-0.8	No.8-32UNC-	36-32	M4 × 0.7	No.8-32UNC
SBT030M4RB	1	Yes	**.118**	**3.0**	M4-	0.5-0.8	No.8-32UNC-	36-32	M4 × 0.7	No.8-32UNC
SBT035M5RB	1	Yes	**.138**	**3.5**	M4.5-	0.5-1.0	No.10-24UNC-	32-24	M5 × 0.8	No.10-24UNC No.12-24UNC
SBT040M6RB	1	Yes	**.157**	**4.0**	M5.5-	0.75-1.25	No.12-24UNC-	28-20	M6 × 1.0	1/4-20UNC
SBT050M8RB	2	Yes	**.197**	**5.0**	M7-	0.75-1.5	1/4-28UNF-	28-18	M8 × 1.25	5/16-18UNC
SBT060M10RB	2	Yes	**.236**	**6.0**	M8-	0.75-1.75	5/16-24UNF-	28-16	M10 × 1.5	3/8-16UNC

Sleeves ➡V9・11・14

Unified Standard

	Thread Type #1	Thread Type #2	Pilot hole (mm)	Pitch TPI	Pitch (mm)	Applicable Inserts
Coarse	No.8-32UNC	–	ϕ3.42	32	0.7938	**SBT030M4R(B)**
	No.10-24UNC	–	ϕ3.83	24	1.0583	**SBT035M5RB**
	–	No.12-24UNC	ϕ4.47	24	1.0583	
	1/4-20UNC	–	ϕ5.12	20	1.2700	**SBT040M6RB**
	5/16-18UNC	–	ϕ6.57	18	1.4111	**SBT050M8RB**
	3/8-16UNC	–	ϕ7.98	16	1.5875	**SBT060M10RB**
Fine	No.8-36UNF	–	ϕ3.51	36	0.7056	**SBT030M4RB**
	No.10-32UNF	–	ϕ4.07	32	0.7938	**SBT035M5RB**
	–	No.12-28UNF	ϕ4.61	28	0.9071	**SBT040M6RB**
	1/4-28UNF	–	ϕ5.47	28	0.9071	
	5/16-24UNF	–	ϕ6.91	24	1.0583	**SBT050M8RB**
	3/8-24UNF	–	ϕ8.51	24	1.0583	**SBT060M10RB**
	7/16-20UNF	–	ϕ9.88	20	1.2700	
	1/2-20UNF	–	ϕ11.47	20	1.2700	
	9/16-18UNF	–	ϕ12.9	18	1.4111	
	5/8-18UNF	–	ϕ14.5	18	1.4111	
	3/4-16UNF	–	ϕ17.5	16	1.5875	

ISO Metric

Thread Type #1	#2	#3	Pitch (mm) 2.0	1.75	1.5	1.25	1.0	0.8	0.75	0.7	0.5
M3											Coarse
M4										Coarse	Fine
	M4.5								Coarse		
M5								Coarse			
		M5.5									
M6							Coarse		Fine		
	M7										
M8						Coarse	Fine				
		M9									
M10					Coarse	Fine					
		M11									
M12				Coarse	Fine	Fine					
	M14		Coarse								
		M15									

Cutting Conditions

●Threading

For 600 - 1500 RPM Recommended Depth of Cut (DOC) for Each Pass

Metric Thread Pitch (mm)	Total DOC (mm)	Number of Pass 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
0.5	0.3	0.06	0.05	0.05	0.04	0.04	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—
0.7	0.43	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—	—	—
0.75	0.46	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—	—
0.8	0.49	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.02	0.01	—	—	—	—	—	—	—	—	—
1.0	0.62	0.07	0.07	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.02	0.01	—	—	—	—	—	—	—
1.25	0.76	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.04	0.03	0.03	0.02	0.01	—	—	—	—	—	—
1.5	0.92	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.01	—	—	—
1.75	1.09	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.01

UNF Thread Pitch (TPI)	Total DOC (inch)	Number of Pass 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
36	.017	.002	.002	.002	.002	.002	.002	.001	.001	.0008	.0004	—	—	—	—	—	—	—	—	—
32	.019	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004	—	—	—	—	—	—	—	—
28	.022	.003	.002	.002	.002	.002	.002	.001	.001	.001	.001	.001	.0008	.0004	—	—	—	—	—	—
24	.026	.003	.002	.002	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004	—	—	—	—	—
20	.031	.003	.003	.003	.003	.002	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004	—	—	—
18	.034	.003	.003	.003	.003	.003	.002	.002	.002	.002	.002	.002	.002	.001	.001	.001	.0008	.0004	—	—
16	.039	.003	.003	.003	.003	.003	.003	.003	.002	.002	.002	.002	.002	.002	.001	.001	.001	.001	.0008	.0004

Mogul Bar for 75° Diamond (MBL style)

Minimum Bore Diameter .197"(5.0㎜)

S-MBR (Coolant through)

Steel shank (tapered type)

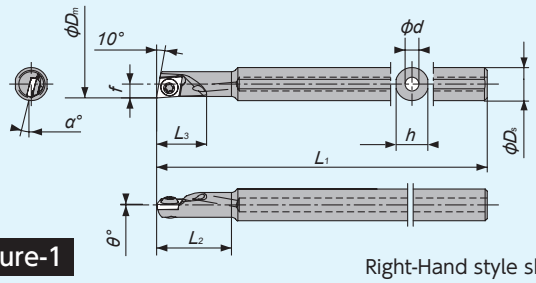
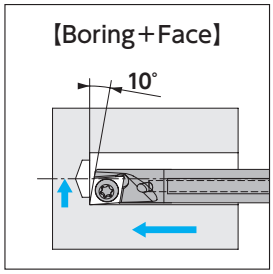


Figure-1

Right-Hand style shown



F1 chipbreakers evacuates chips BACKWARD (S-STUC style shown)

C-MBR (Coolant through)

Carbide shank (straight type)

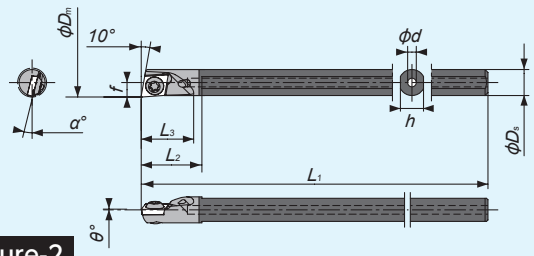


Figure-2

Right-Hand style shown

C-MBR (Coolant through)

Carbide shank (tapered type)

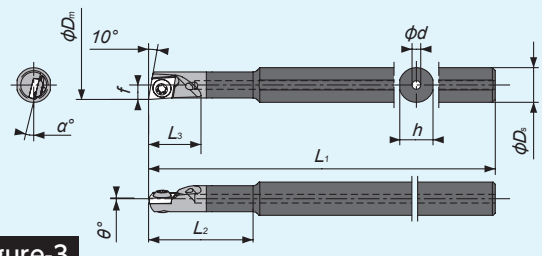


Figure-3

Right-Hand style shown

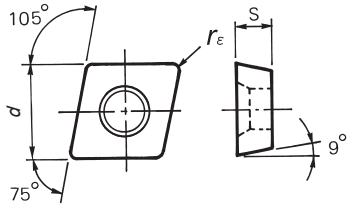
MBL style - Toolholders

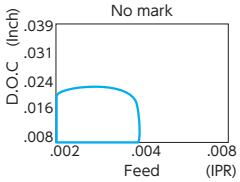
Gage Insert	Item number*	Figure	Stock R	Stock L	ϕDs (inch)	ϕDs (㎜)	Min. bore Dia. ϕDm (inch)	Min. bore Dia. ϕDm (㎜)	h (㎜)	L1 (㎜)	f (㎜)	L2 (㎜)	L3 (㎜)	L4 (㎜)	ϕd (㎜)	θ	α	Std. corner radius rε (inch)	Std. corner radius rε (㎜)	Clamp screw	Wrench
 MBL	S06F-MBRD05-OH	1	●		.236	6.0	.197	5.0	5.7	80	2.5	13.5	9	—	2.5	0°	−13°	.0059	0.15	LR-S-2 × 3.5	CLR-13S
	C045F-MBRD05-OH	2	●		.177	4.5	.197	5.0	4.0	80	2.5	10.5	9	—	1.5	0°	−13°	.0059	0.15	LR-S-2 × 3.5	CLR-13S
	C06F-MBRD05-OH	3	●		.236	6.0	.197	5.0	5.7	80	2.5	18	9	—	1.5	0°	−13°	.0059	0.15	LR-S-2 × 3.5	CLR-13S

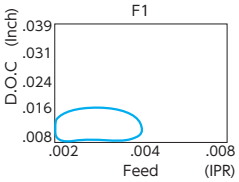
* "S" denotes steel shank, "C" denotes carbide shank

MBL style - Insert

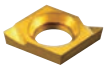
MBL







MBL

	Item Number	d (Inch)	d (㎜)	s (Inch)	s (㎜)	rε (Inch)	rε (㎜)	Coated Carbide ST4 R	ST4 L	QM3 R	QM3 L	TM4 R	TM4 L	ZM3 R	ZM3 L
 L-hand shown	MBL 005 FL	.142	3.6	.039	1.0	.002	0.05				Ⓛ		L		Ⓛ
	MBL 015 FL	.142	3.6	.039	1.0	.006	0.15				Ⓛ		L		Ⓛ
 R-hand shown	MBL 005 FR F1	.142	3.6	.039	1.0	.002	0.05	R		Ⓡ		R			
	MBL 015 FR F1	.142	3.6	.039	1.0	.006	0.15	R		Ⓡ		R			

*For F1 chipbreaker, right-hand inserts fit to right-hand toolholder

Note: F1 chipbreaker evacuates chips BACKWARD

Mogul Bar for 75° Diamond (ERGP style)

Minimum Bore Diameter .236"(6.0㎜)

S-SEXR (Coolant through)

Steel shank (tapered type)

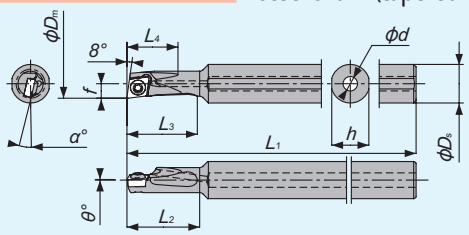
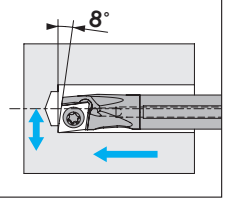


Figure-1

Right-Hand style shown

【Boring+Face】



F1 chipbreakers evacuates chips BACKWARD (S-STUC style shown)

C-SEXR (Coolant through)

Carbide shank (straight type)

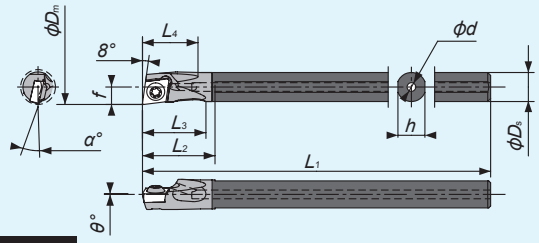


Figure-2

Right-Hand style shown

C-SEXR (Coolant through)

Carbide shank (tapered type)

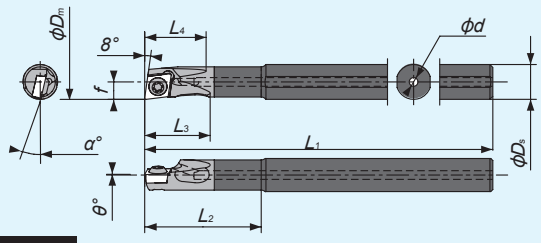
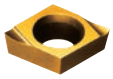


Figure-3

Right-Hand style shown

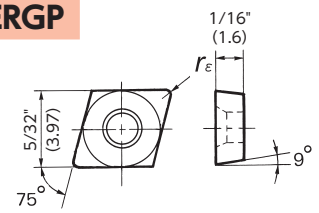
ERGP style - Toolholders

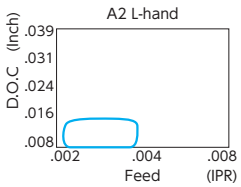
Gage Insert	Item number*	Figure	Stock R	Stock L	φDs (inch)	φDs (㎜)	Min. bore Dia. φDm (inch)	Min. bore Dia. φDm (㎜)	h (㎜)	L1 (㎜)	f (㎜)	L2 (㎜)	L3 (㎜)	L4 (㎜)	φd (㎜)	θ	α	Std. corner radius rε (inch)	Std. corner radius rε (㎜)	Clamp screw	Wrench
 ERGP52..	S08G-SEXR R/L T3D06-OH 💧	1	●		.315	8.0	.236	6.0	7.7	90	3.0	15	15	10	3.0	0°	− 13°	.008	0.2	LR-S-2 × 3.7	CLR-13S
	C05G-SEXR R/L T3D06-OH 💧	2	●	○	.197	5.0	.236	6.0	4.0	90	3.0	12.5	11	10	1.5	0°	− 13°	.008	0.2	LR-S-2 × 3.7	CLR-13S
	C06G-SEXR R/L T3D06-OH 💧	3	●	○	.236	6.0	.236	6.0	5.7	90	3.0	20	11	10	1.5	0°	− 13°	.008	0.2	LR-S-2 × 3.7	CLR-13S

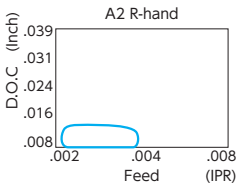
* "S" denotes steel shank, "C" denotes carbide shank

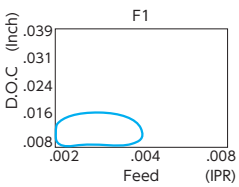
ERGP style - Insert

ERGP



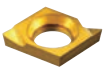






● Right-Hand style shown

■ ERGP

	Item Number	ISO Item Number	IC (Inch)	IC (㎜)	Thickness (Inch)	Thickness (㎜)	rε (Inch)	rε (㎜)	Coated Carbide ST4 R	ST4 L	QM3 R	QM3 L	TM4 R	TM4 L	ZM3 R	ZM3 L
 L-hand shown	ERGP 52Y- FR/L A2	ERGHT 30102 FR A2	5/32	3.97	1/16	1.6	.008	0.2					R	Ⓛ	Ⓡ	Ⓛ
	ERGP 521- FR/L A2	ERGHT 30104 FR A2	5/32	3.97	1/16	1.6	.016	0.4					R	Ⓛ		Ⓛ
 R-hand shown	ERGP 5204 FR-- F1	ERGHT 30101 FR F1	5/32	3.97	1/16	1.6	.004	0.1	Ⓡ		Ⓡ		R			
	ERGP 52Y- FR-- F1	ERGHT 30102 FR F1	5/32	3.97	1/16	1.6	.008	0.2	Ⓡ		Ⓡ		R			
	ERGP 521- FR-- F1	ERGHT 30104 FR F1	5/32	3.97	1/16	1.6	.016	0.4	Ⓡ		Ⓡ		R			

*For F1 chipbreaker, right-hand inserts fit to right-hand toolholder

Note: F1 chipbreaker evacuates chips BACKWARD

Cutting condition ➡V4

● : Stock
● : Stock (Newly added)
■ □R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Mogul Bar for 80° Diamond (CP style)

Minimum Bore Diameter .276"(7.0㎜)

S-SCLP (Coolant through)

Steel shank

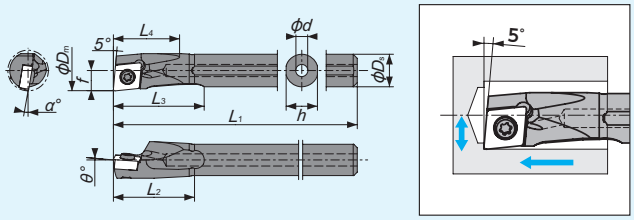


Figure-1

Right-Hand style shown

C-SCLP (Coolant through)

Carbide shank

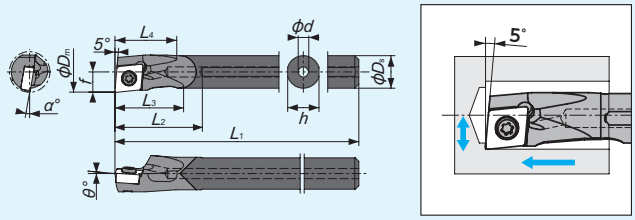


Figure-2

Right-Hand style shown

CP style - Toolholders

Gage Insert	Item number*	Figure	Stock R	Stock L	φDs (inch)	φDs (mm)	Min. bore Dia. φDm (inch)	Min. bore Dia. φDm (mm)	h (mm)	L1 (mm)	f (mm)	L2 (mm)	L3 (mm)	L4 (mm)	φd (mm)	θ	α	Std. corner radius rε (inch)	Std. corner radius rε (mm)	Clamp screw	Wrench
CP..62..	S06F-SCLP R/L 04D07-OH	1	●		.236	6.0	.276	7.0	5.75	80	3.5	14	17.0	12.0	2.5	+ 5°	− 9°	.008	0.2	LR-S-2 × 3.7	CLR-13S
	S07G-SCLP R/L 04D08-OH	1	●		.276	7.0	.315	8.0	6.75	90	4.0	16	19.5	13.5	3.0	+ 5°	− 7°	.008	0.2	LR-S-2 × 3.7	CLR-13S
CP..21.5..	S08H-SCLP R/L 06D10-OH	1	●		.315	8.0	.394	10.0	7.7	100	5.0	20	22.0	16.0	3.0	+ 5°	− 10°	.016	0.4	LR-S-2.5 × 6	CLR-15S
CP..62..	C06H-SCLP R/L 04D07-OH	2	●	○	.236	6.0	.276	7.0	5.75	100	3.5	15.5	11.5	12.0	2.0	+ 5°	− 9°	.008	0.2	LR-S-2 × 3.7	CLR-13S
	C07J-SCLP R/L 04D08-OH	2	●		.276	7.0	.315	8.0	6.75	110	4.0	17.5	13.0	13.5	2.0	+ 5°	− 7°	.008	0.2	LR-S-2 × 3.7	CLR-13S
CP..21.5..	C08K-SCLP R/L 06D10-OH	2	●	○	.315	8.0	.394	10.0	7.7	125	5.0	21.5	16.5	15.0	2.5	+ 5°	− 10°	.016	0.4	LR-S-2.5 × 6	CLR-15S

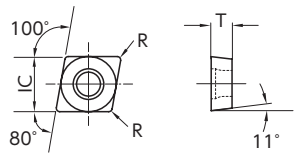
* "S" denotes steel shank, "C" denotes carbide shank

CP style - Insert - Carbide

(inch)	IC	T
CP..21.5	1/4	3/32
CP..2.51.5	5/16	3/32
CP..32.5	3/8	5/32
CP..62	.187	5/32

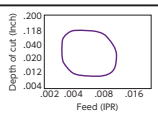
80 degree Diamond Positive type (CP..)

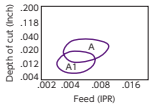
● : 1st Choice ● : 2nd choice

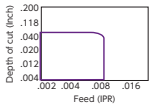


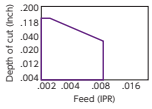
		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
					Carbide									
					PVD Coated								CVD	Diamond Coating
	CPGH 21.508 FNAM5	CPGH 060202 FNAM5	1/4	.008					○		○			
	CPGP 2.51.508 FNAM5	CPGP 080202 FNAM5	5/16	.008					○		○			
	CPGM 3208 FNAM5	CPGM 090302 FNAM5	3/8	.008					○		○			
	CPGM 321 FNAM5	CPGM 090304 FNAM5	3/8	.016					○		○			
	CPGM 322 FNAM5	CPGM 090308 FNAM5	3/8	.031					○		○			
	CPGP 6208 FR/L A1	CPGH 040102 FR/L A1	.187	.008					Ⓛ		Ⓛ			
	CPGP 621 FR/L A1	CPGH 040104 FR/L A1	.187	.016					Ⓛ		Ⓛ			
	CPGP 21.508 FR/L A	CPGH 060202 FR/L A	1/4	.008					Ⓛ		Ⓛ			
	CPGP 21.51 FR/L A	CPGH 060204 FR/L A	1/4	.016					Ⓛ		Ⓛ			
	CPGH 2.51.508 FR/L A	CPGH 080202 FR/L A	5/16	.008					Ⓛ		Ⓛ			
	CPGH 2.51.51 FR/L A	CPGH 080204 FR/L A	5/16	.016					Ⓛ		Ⓛ			
	CPGP 6204 FR/L F1	CPGH 040101 FR/L F1	.187	.004	R			Ⓡ	R					
	CPGP 6208 FR/L F1	CPGH 040102 FR/L F1	.187	.008	R			Ⓡ	R					
	CPGP 621 FR/L F1	CPGH 040104 FR/L F1	.187	.016	R			Ⓡ	R					
	CPGP 21.508 FR/L F1	CPGH 060202 FR/L F1	1/4	.008	R			Ⓡ	R					
	CPGP 21.51 FR/L F1	CPGH 060204 FR/L F1	1/4	.016	R			Ⓡ	R					
	CPGP 6204 R/L S	CPGH 040101 R/L S	.187	.004				Ⓛ	Ⓛ					
	CPGP 6208 R/L S	CPGH 040102 R/L S	.187	.008				Ⓛ	Ⓛ					
	CPGP 621 R/L S	CPGH 040104 R/L S	.187	.016				Ⓛ	Ⓛ					
	CPGP 21.508 R/L S	CPGH 060202 R/L S	1/4	.008				Ⓛ	Ⓛ					
	CPGP 21.51 R/L S	CPGH 060204 R/L S	1/4	.016				Ⓛ	Ⓛ					







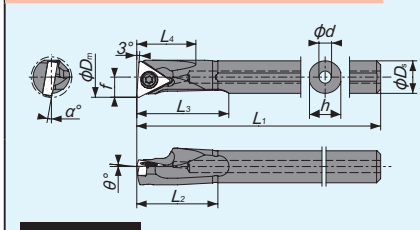


Mogul Bar for 60° Triangle (TC style)

Minimum Bore Diameter .315"(8.0㎜)

S-STUC (Coolant through)

Steel shank



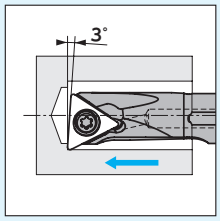
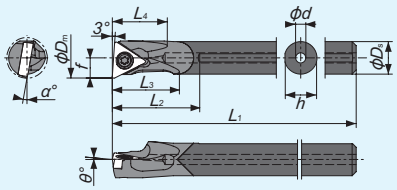


Figure-1

Right-Hand style shown

C-STUC (Coolant through)

Carbide shank



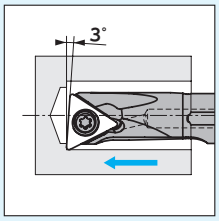


Figure-2

Right-Hand style shown

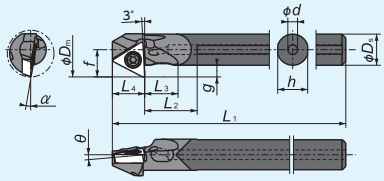
TC style - Toolholders

GageInsert	Item number*	Figure	Stock R	Stock L	φDs (inch)	φDs (㎜)	Min. bore Dia. φDm (inch)	Min. bore Dia. φDm (㎜)	h (㎜)	L1 (㎜)	f (㎜)	L2 (㎜)	L3 (㎜)	L4 (㎜)	φd (㎜)	θ	α	Std. corner radius rε (inch)	Std. corner radius rε (㎜)	Clamp screw	Wrench
TC..52..	S07G-STUCR/L06D08-OH 💧	1	●		.276	7.0	.315	8.0	6.75	90	4.0	16	19.5	12.5	2.5	0°	−11°	.008	0.2	LR-S-2 × 4.4	CLR-13S
TC..52..	C07J-STUCR/L06D08-OH 💧	2	●	○	.276	7.0	.315	8.0	6.75	110	4.0	17.5	13.0	12.5	2.0	0°	−11°	.008	0.2	LR-S-2 × 4.4	CLR-13S

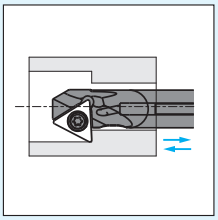
* "S" denotes steel shank, "C" denotes carbide shank

C-STZC (Coolant through)

Minimum Bore Diameter .394"(10.0㎜) Carbide shank



●Use right-hand inserts for machining backward
Use left-hand inserts for machining forward

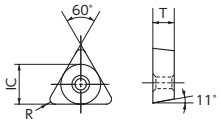


Insert	Item number*	Stock R	φDs (inch)	φDs (㎜)	Min. bore Dia. φDm (inch)	Min. bore Dia. φDm (㎜)	Max. shoulder height g (inch)	Max. shoulder height g (㎜)	h (㎜)	L1 (㎜)	f (㎜)	L2 (㎜)	L3 (㎜)	L4 (㎜)	φd (㎜)	θ	α	Std. corner radius rε (inch)	Std. corner radius rε (㎜)	Clamp screw	Wrench
TC..52..	C06H-STZCR06D10-OH 💧	○	.236	6	.394	10	.098	2.5	5.75	100	5.5	10.5	6	6	2.0	0°	-10°	.008	0.2	LR-S-2 × 4.4	CLR-13S

TC.. inserts - Carbide

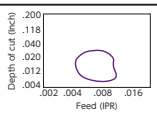
(inch)	IC	T
TC..52	5/32	1/16

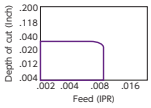
● : 1st Choice ● : 2nd choice

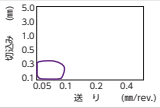


		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
		Carbide									
		PVD Coated								CVD	Diamond Coating
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
	TCGH 5204 TR/LB1	TCGH 060101 TR/LB1	5/32	.004										
	TCGH 5208 FR/LB1	TCGH 060102 FR/LB1	5/32	.008					Ⓛ					
	TCGH 5208 TR/LB1	TCGH 060102 TR/LB1	5/32	.008										
	TCGH 521 FR/LB1	TCGH 060104 FR/LB1	5/32	.016					Ⓛ					
	TCGH 521 TR/LB1	TCGH 060104 TR/LB1	5/32	.016										
	TCGP 5204 FR/LF05	TCGH 060101 FR/LF05	5/32	.004	Ⓡ			Ⓡ	R					
	TCGP 5208 FR/LF05	TCGH 060102 FR/LF05	5/32	.008	Ⓡ			Ⓡ	RⓁ	R	ⓇⓁ			
	TCGP 521 FR/LF05	TCGH 060104 FR/LF05	5/32	.016	Ⓡ			Ⓡ	R	R	Ⓡ			
	TCGH 5208 FR/LK	TCGH 060102 FR/LK	5/32	.008					Ⓛ					
	TCGH 521 FR/LK	TCGH 060104 FR/LK	5/32	.016					Ⓛ					







Cutting condition ➡V4

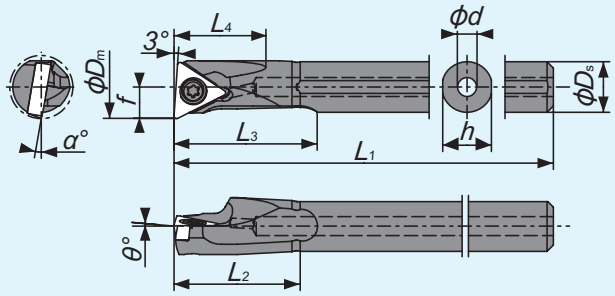
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Mogul Bar for 60° Triangle (TP..73.. style)

Minimum Bore Diameter .394"(10.0㎜)

S-STUP (Coolant through)

Steel shank



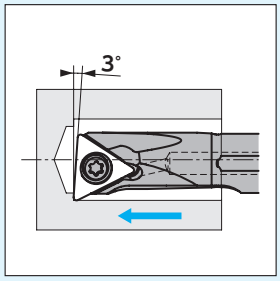
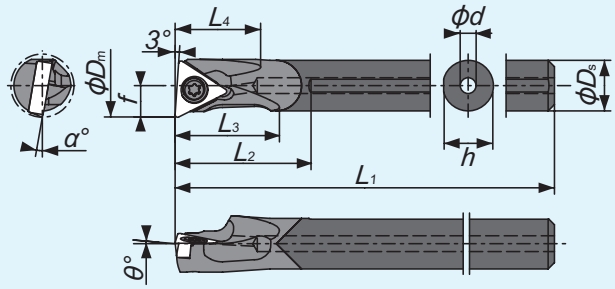


Figure-1

Right-Hand style shown

C-STUP (Coolant through)

Carbide shank



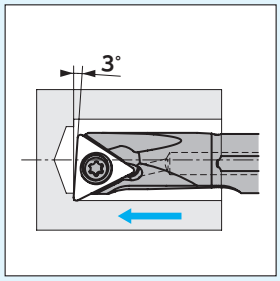
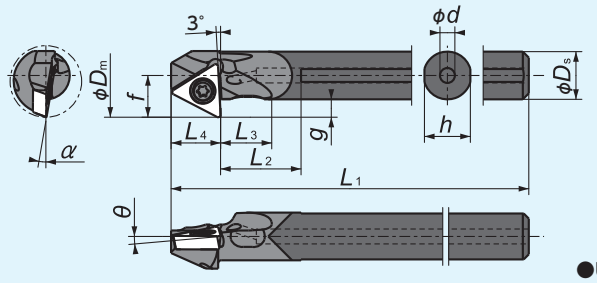


Figure-2

Right-Hand style shown

C-STZP (Coolant through)

Minimum Bore Diameter .472"(12.0㎜) Carbide shank



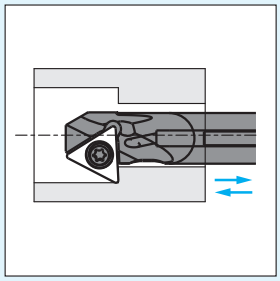


Figure-3

●Use right-hand inserts for machining backward
Use left-hand inserts for machining forward

TP..73.. style - Toolholders

Gage	Insert	Item number*	Figure	Stock R	Stock L	ϕ D_s (inch)	ϕ D_s (㎜)	Min. bore Dia. ϕ D_m (inch)	Min. bore Dia. ϕ D_m (㎜)	Max. shoulder height g (inch)	Max. shoulder height g (㎜)	h (㎜)	L_1 (㎜)	f (㎜)	L_2 (㎜)	L_3 (㎜)	L_4 (㎜)	ϕ d (㎜)	θ	α	Std. corner radius r_ε (inch)	Std. corner radius r_ε (㎜)	Clamp screw	Wrench
 TP..73..		S08H-STUPR/L09D10-OH	1	●		.315	8.0	.394	10.0	—	—	7.7	100	5.0	20	22.5	14.5	3.0	+5°	−10°	.016	0.4	LR-S-2.5 × 4.8	CLR-15S
		C08K-STUPR/L09D10-OH	2	●	○	.315	8.0	.394	10.0	—	—	7.7	125	5.0	21.5	16.5	14.5	2.5	+5°	−10°	.016	0.4	LR-S-2.5 × 4.8	CLR-15S
		C08K-STZPR/L09D12-OH	3	○		.315	8.0	.472	12.0	.118	3	7.7	125	7.0	13.5	8.5	8.3	2.5	+5°	−10°	.016	0.4	LR-S-2.5 × 4.8	CLR-15S
		C10M-STZPR/L09D14-OH	3	○		.394	10.0	.551	14.0	.118	3	9.6	150	8.0	18.5	12	8.3	2.5	+5°	−7°	.118	0.4	LR-S-2.5 × 4.8	CLR-15S

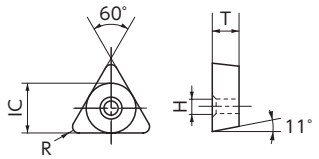
* "S" denotes steel shank, "C" denotes carbide shank

Cutting condition ➡V4

TP..73.. inserts - Carbide

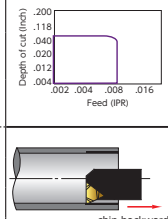
(inch)	IC	T
TP..73	7/32	3/32

● : 1st Choice ● : 2nd choice



Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	Carbide: PVD Coated: ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CVD: CP1	Diamond Coating: UC1
	TPGH 7308 F R/L B2	TPGH 090202 F R/L B2	7/32	.008					Ⓛ		Ⓛ			
	TPGH 731 F R/L B2	TPGH 090204 F R/L B2	7/32	.016					Ⓛ		Ⓛ			
	TPGH 732 R/L B2	TPGH 090208 F R/L B2	7/32	.031					Ⓛ		Ⓛ			
	TPGH 7304 F R/L F1	TPGH 090201 F R/L F1	7/32	.004	Ⓡ			Ⓡ	Ⓡ					
	TPGH 7308 F R/L F1	TPGH 090202 F R/L F1	7/32	.008	Ⓡ			Ⓡ	Ⓡ	Ⓡ	Ⓡ			
	TPGH 731 F R/L F1	TPGH 090204 F R/L F1	7/32	.016	Ⓡ			Ⓡ	Ⓡ	Ⓡ	Ⓡ			
	TPGH 732 F R/L F1	TPGH 090208 F R/L F1	7/32	.031	Ⓡ			Ⓡ	Ⓡ		Ⓡ			
	TPGP 7308 R/L FG	TPGH 090202 R/L FG	7/32	.008	Ⓡ			R	R					
	TPGP 731 R/L FG	TPGH 090204 R/L FG	7/32	.016	Ⓡ			R	R					
	TPGP 7308 F R/L K	TPGH 090202 F R/L K	1/4	.008					Ⓛ					
	TPGP 7318 F R/L K	TPGH 090204 F R/L K	1/4	.016					Ⓛ					
	TPGP 7328 F R/L K	TPGH 090208 F R/L K	1/4	.031					Ⓛ					

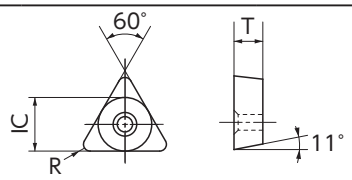


*For F05, F1 and FG chipbreaker, right-hand inserts fit to right-hand toolholder
Note: F05, F1 and FG chipbreaker evacuates chips BACKWARD

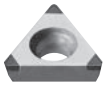
TP..73.. inserts - CBN / PCD

(inch)	IC	T
TP.. 22	1/4	1/8
TP.. 73	7/32	3/32

● : 1st Choice ● : 2nd choice



Steel	P																
Stainless Steel	M																
Cast Iron	K		●	●	●				●	●							
Non-Ferrous Material	N													●	●	●	
Heat Resistant Alloy	S	●															
Hardened Material	H		●	●	●	●	●	●									

Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	BIDEMICS Coated: JP2	Solid CBN: B99	CBN (Brazed) Coated: B5K	B52	Coated: B6K	B36	B40	B23	B30	PCD: PD1	PD2	Diamond Coating: UC1
	TPGD 7308 PT S0415	TPGW 090202 PT S01015	S0415	7/32	008	3	.087				○		○						
	TPGD 7308 PT S0525	TPGW 090202 PT S01325	S0525	7/32	008	3	.087				○		○						
	TPGD 7308 PT S0635	TPGW 090202 PT S01535	S0635	7/32	008	3	.087				○		○						
	TPGD 731 PT S0415	TPGW 090204 PT S01015	S0415	7/32	.016	3	.079				○		○						
	TPGD 731 PT S0525	TPGW 090204 PT S01325	S0525	7/32	.016	3	.079				○		○						
	TPGD 731 PT S0635	TPGW 090204 PT S01535	S0635	7/32	.016	3	.079				○		○						
	TPGD 732 PT S0415	TPGW 090208 PT S01015	S0415	7/32	.031	3	.067				○		○						
	TPGD 732 PT S0525	TPGW 090208 PT S01325	S0525	7/32	.031	3	.067				○		○						
	TPGD 732 PT S0635	TPGW 090208 PT S01535	S0635	7/32	.031	3	.067				○		○						
 with 3D chipbreaker	TPMT 7304 PBF	TPMT 090201 PBF	None	7/32	.004	1	—											○	
	TPMT 7308 PBF	TPMT 090202 PBF	None	7/32	.008	1	—											○	
	TPMT 731 PBF	TPMT 090204 PBF	None	7/32	.016	1	—											○	
	TPMT 7308 PF	TPMT 090202 PF	None	7/32	.008	1	—											○	
	TPMT 731 PF	TPMT 090204 PF	None	7/32	.016	1	—											○	

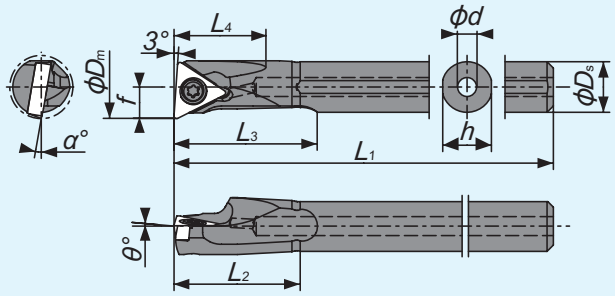
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Mogul Bar for 60° Triangle (TP..22.. style)

Minimum Bore Diameter .472"(12.0㎜)

S-STUP (Coolant through)

Steel shank



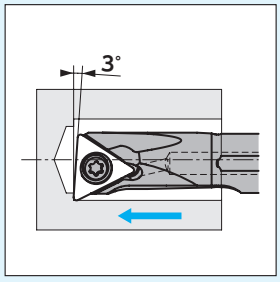
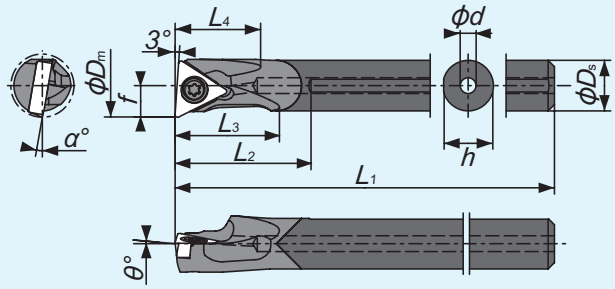


Figure-1

Right-Hand style shown

C-STUP (Coolant through)

Carbide shank



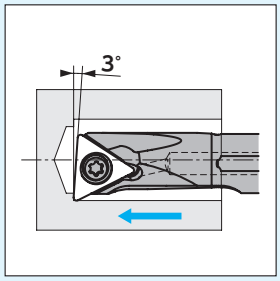
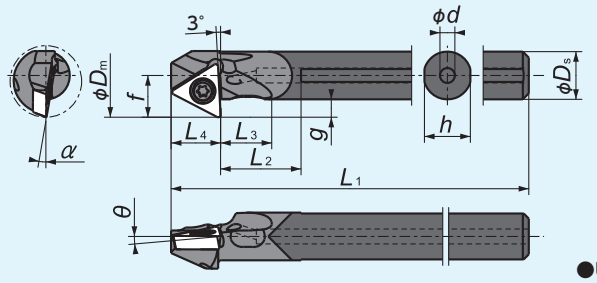


Figure-2

Right-Hand style shown

C-STZP (Coolant through)

Minimum Bore Diameter .689"(17.5㎜) Carbide shank



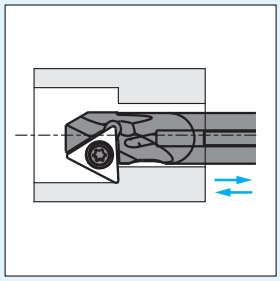


Figure-3

●Use right-hand inserts for machining backward
Use left-hand inserts for machining forward

TP..22.. style - Toolholders

Gage Insert	Item number*	Figure	Stock R	Stock L	ϕ D_s (inch)	ϕ D_s (㎜)	Min. bore Dia. ϕ D_m (inch)	Min. bore Dia. ϕ D_m (㎜)	Max. shoulder height g (inch)	Max. shoulder height g (㎜)	h (㎜)	L_1 (㎜)	f (㎜)	L_2 (㎜)	L_3 (㎜)	L_4 (㎜)	ϕ d (㎜)	θ	α	Std. corner radius r_ε (inch)	Std. corner radius r_ε (㎜)	Clamp screw	Wrench
 TP..22..	S10K-STUPR/L11D12-OH	1	●		.394	10.0	.472	12.0	—	—	9.6	125	6.0	24	27.5	18.5	3.5	+5°	-7.5°	.016	0.4	LR-S-3 × 5.8	RLR-20S
	S12M-STUPR/L11D14-OH	1	●		.472	12.0	.551	14.0	—	—	11.5	150	7.0	28	32.5	22.0	4.0	+5°	-5°	.016	0.4	LR-S-3 × 5.8	RLR-20S
	S16Q-STUPR/L11D18-OH	1	●		.630	16.0	.709	18.0	—	—	15.4	180	9.0	32	42.5	28.5	5.0	+5°	-3°	.016	0.4	LR-S-3 × 5.8	RLR-20S
	S20Q-STUPR/L11D22-OH	1	●		.787	20.0	.866	22.0	—	—	19.4	180	11	40	46.0	38.0	5.0	+5°	-3°	.016	0.4	LR-S-3 × 5.8	RLR-20S
	C10M-STUPR/L11D12-OH	2	●	○	.394	10.0	.472	12.0	—	—	9.6	150	6.0	25.0	20.0	17.5	2.5	+5°	-7.5°	.016	0.4	LR-S-3 × 5.8	RLR-20S
	C12M-STUPR/L11D14-OH	2	●		.472	12.0	.551	14.0	—	—	11.5	150	7.0	29.0	23.0	21.5	3.0	+5°	-5°	.016	0.4	LR-S-3 × 5.8	RLR-20S
	C16Q-STUPR/L11D18-OH	2	●		.630	16.0	.709	18.0	—	—	15.4	180	9.0	37.0	29.0	28.0	4.0	+5°	-3°	.016	0.4	LR-S-3 × 5.8	RLR-20S
	C12M-STZPR11D175-OH	3	○		.472	12	.689	17.5	.177	4.5	11.5	150	10.5	22	14.5	9.6	3.0	+5°	-5°	.117	0.4	LR-S-3 × 5.8	RLR-20S

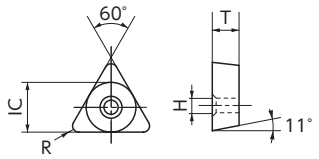
* "S" denotes steel shank, "C" denotes carbide shank

Cutting condition ➡V4

TP..22.. inserts - Carbide

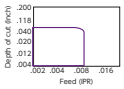
(inch)	IC	T
TP..22	1/4	1/8

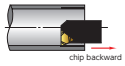
● : 1st Choice ● : 2nd choice

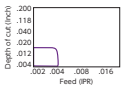


		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	●	●	●	●	●	●	●	●		
Stainless Steel	M	●	●	●	●	●	●	●	●		
Cast Iron	K									●	
Non-Ferrous Material	N					●	●	●	●		●
Heat Resistant Alloy	S	●	●	●	●	●					
Hardened Material	H	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
					Carbide									
					PVD Coated								CVD	Diamond Coating
	TPGH 2208 F R/L F1	TPGH 110302 F R/L F1	1/4	.008	Ⓡ			Ⓡ	Ⓡ	Ⓡ	Ⓡ			
	TPGH 221 F R/L F1	TPGH 110304 F R/L F1	1/4	.016	Ⓡ			Ⓡ	Ⓡ	Ⓡ	Ⓡ			
	TPGH 222 F R/L F1	TPGH 110308 F R/L F1	1/4	.031	Ⓡ			Ⓡ	Ⓡ		Ⓡ			
	TPGH 2208 R/L FG	TPGH 110302 R/L FG	1/4	.008	Ⓡ			R	R					
	TPGH 221 R/L FG	TPGH 110304 R/L FG	1/4	.016	Ⓡ			R	R					



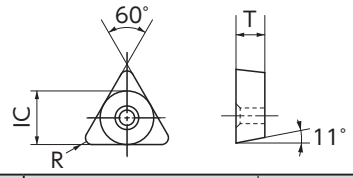




TP..22.. inserts - CBN / PCD

(inch)	IC	T
TP.. 22	1/4	1/8

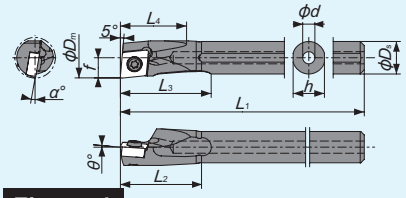
● : 1st Choice ● : 2nd choice

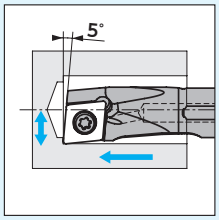


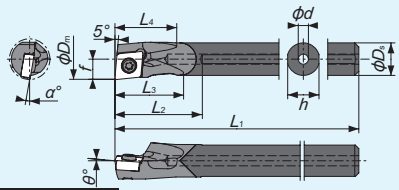
		JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
Steel	P												
Stainless Steel	M												
Cast Iron	K		●	●	●				●	●			
Non-Ferrous Material	N										●	●	●
Heat Resistant Alloy	S	●											
Hardened Material	H		●	●	●	●	●	●					

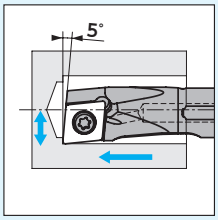
Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
								BIDEMICS Coated	Solid CBN	CBN (Brazed) Coated		CBN (Brazed) Coated					PCD		Diamond Coating
	TPGW 2208 PT S0415	TPGW 110302 PT S01015	S0415	1/4	.008	3	.087				○		○	○					
	TPGW 2208 PT T0420	TPGW 110302 PT T01020	T0420	1/4	.008	3	.087									○			
	TPGW 2208 PT S0525	TPGW 110302 PT S01325	S0525	1/4	.008	3	.087				○		○						
	TPGW 2208 PT S0635	TPGW 110302 PT S01535	S0635	1/4	.008	3	.087				○		○	○					
	TPGW 221 PT S0415	TPGW 110304 PT S01015	S0415	1/4	.016	3	.079				○		○	○					
	TPGW 221 PT T0420	TPGW 110304 PT T01020	T0420	1/4	.016	3	.079									○			
	TPGW 221 PT S0525	TPGW 110304 PT S01325	S0525	1/4	.016	3	.079				○		○	○					
	TPGW 221 PT T0615	TPGW 110304 PT T01515	T0615	1/4	.016	3	.079								○	○			
	TPGW 221 PT S0635	TPGW 110304 PT S01535	S0635	1/4	.016	3	.079				○		○	○					
	TPGW 222 PT S0415	TPGW 110308 PT S01015	S0415	1/4	.031	3	.067				○		○	○					
	TPGW 222 PT T0420	TPGW 110308 PT T01020	T0420	1/4	.031	3	.067									○			
	TPGW 222 PT S0525	TPGW 110308 PT S01325	S0525	1/4	.031	3	.067				○		○	○					
	TPGW 222 PT T0615	TPGW 110308 PT T01515	T0615	1/4	.031	3	.067								○				
	TPGW 222 PT S0635	TPGW 110308 PT S01535	S0635	1/4	.031	3	.067				○		○	○					
	TPGW 223 PT S0415	TPGW 110312 PT S01015	S0415	1/4	.047	3	.091				○			○					
	TPGW 223 PT T0420	TPGW 110312 PT T01020	T0420	1/4	.047	3	.091									○			
	TPGW 223 PT S0525	TPGW 110312 PT S01325	S0525	1/4	.047	3	.091				○			○					
	TPGW 223 PT T0615	TPGW 110312 PT T01515	T0615	1/4	.047	3	.091								○				
	TPGW 223 PT S0635	TPGW 110312 PT S01535	S0635	1/4	.047	3	.091				○			○					
 with 3D chipbreaker	TPMT 2204 PBF	TPMT 110301 PBF	None	1/4	.004	1	—											○	
	TPMT 2208 PBF	TPMT 110302 PBF	None	1/4	.008	1	—											○	
	TPMT 221 PBF	TPMT 110303 PBF	None	1/4	.016	1	—											○	
	TPMT 2208 PF	TPMT 110302 PF	None	1/4	.008	1	—											○	
	TPMT 221 PF	TPMT 110304 PF	None	1/4	.016	1	—											○	
	TPMH 2208 F R/L F1	TPMH 110302 FRF1	None	1/4	.008	3	—												Ⓡ
	TPMH 221 F R/L F1	TPMH 110304 FRF1	None	1/4	.016	3	—												Ⓡ

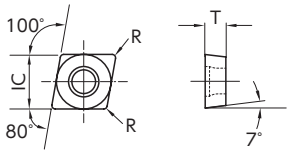
● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

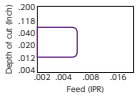


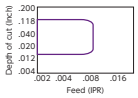


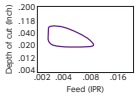


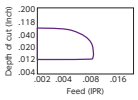












Mogul Bar for 80° Diamond ("CC" style)

Minimum Bore Diameter .394"(10㎜)

S-SCLC (Coolant through)

Steel shank

Figure-1

Right-Hand style shown

C-SCLC (Coolant through)

Carbide shank

Figure-2

Right-Hand style shown

"CC" style - Toolholders

Gage Insert	Item number*	Figure	Stock		φDs		Min. bore Dia. φDm		h	L1	f	L2	L3	L4	φd	θ	α	Std. corner radius rε		Clamp screw	Wrench
			R	L	(inch)	(㎜)	(inch)	(㎜)	(㎜)	(㎜)	(㎜)	(㎜)	(㎜)	(㎜)	(㎜)			(inch)	(㎜)		
CC..21.5..	S08H-SCLC R/L 06D10-OH 💧	1	●		.315	8.0	.394	10.0	7.7	100	5.0	20.0	22.0	16.0	3.0	0°	− 13°	.016	0.4	LRIS−2.5 × 5	CLR−15S
	S10K-SCLC R/L 06D12-OH 💧	1	●		.394	10.0	.472	12.0	9.6	125	6.0	24.0	27.5	20.0	3.5	0°	− 11°	.016	0.4	LRIS−2.5 × 5	CLR−15S
	S12M-SCLC R/L 06D14-OH 💧	1	●		.472	12.0	.551	14.0	11.5	150	7.0	28.0	32.5	23.0	4.0	0°	− 9°	.016	0.4	LRIS−2.5 × 5	CLR−15S
CC..32.5..	S16Q-SCLC R/L 09D18-OH 💧	1	●		.630	16.0	.709	18.0	15.4	180	9.0	36.0	42.5	30.0	5.0	0°	− 10°	.016	0.4	LRIS−4 × 8	LLR-25S-20 × 65
CC..21.5..	C08K-SCLC R/L 06D10-OH 💧	2	●		.315	8.0	.394	10.0	7.7	125	5.0	21.5	16.5	15.0	2.5	0°	− 13°	.016	0.4	LRIS−2.5 × 5	CLR−15S
	C10M-SCLC R/L 06D12-OH 💧	2	●	○	.394	10.0	.472	12.0	9.6	150	6.0	25.0	20.0	19.5	2.5	0°	− 11°	.016	0.4	LRIS−2.5 × 5	CLR−15S
	C12M-SCLC R/L 06D14-OH 💧	2	●		.472	12.0	.551	14.0	11.5	150	7.0	29.0	23.5	22.5	3.0	0°	− 9°	.016	0.4	LRIS−2.5 × 5	CLR−15S

* "S" denotes steel shank, "C" denotes carbide shank

CC.. inserts - Carbide

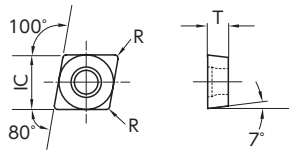
(inch)	IC	T
CC..21.5	1/4	3/32
CC..32.5	3/8	5/32

🔴 : 1st Choice 🔵 : 2nd choice

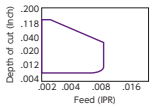
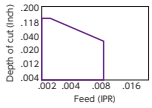
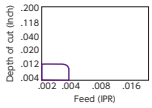
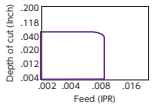
		ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1
Steel	P	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔵		
Stainless Steel	M	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔵		
Cast Iron	K									🔴	
Non-Ferrous Material	N					🔵	🔵	🔵	🔴		🔴
Heat Resistant Alloy	S	🔵	🔴	🔴	🔴	🔵					
Hardened Material	H	🔵	🔴	🔵	🔴						

Shape	Item Number	ISO Item Number	IC	R	Carbide										
					PVD Coated								CVD	Diamond Coating	
					ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1	
	CCGT 32.501 YL	CCGT 09T300 YL	3/8	.001			●		●						
	CCGT 32.504M YL	CCGT 09T301M YL	3/8	.003	🔴	●	⭕	🔴	○						
	CCGT 32.508M YL	CCGT 09T302M YL	3/8	.007	🔴	●	⭕	🔴	○						
	CCGT 32.51M YL	CCGT 09T304M YL	3/8	.015	🔴	●	⭕	🔴	○						
	CCGT 32.52M YL	CCGT 09T308M YL	3/8	.031	🔴	●	⭕	🔴	○						
	CCGT 21.504M CL	CCGT 060201M CL	1/4	.003	⭕	○	●	🔴	●						
	CCGT 21.508M CL	CCGT 060202M CL	1/4	.007	⭕	○	●	●	●						
	CCGT 32.501 CL	CCGT 09T300 CL	3/8	.001			⭕		⭕						
	CCGT 32.504M CL	CCGT 09T301M CL	3/8	.003	⭕	○	●	🔴	●						
	CCGT 32.508M CL	CCGT 09T302M CL	3/8	.007	⭕	○	●	🔴	●						
	CCGT 32.51M CL	CCGT 09T304M CL	3/8	.015	⭕	○	●	●	●						
	CCGT 21.501 FNAM3	CCGT 060200 FNAM3	1/4	.001			●	●	⭕	○					
	CCGT 21.504M FNAM3	CCGT 060201M FNAM3	1/4	.003	⭕		🔴	●	⭕						
	CCGT 21.508M FNAM3	CCGT 060202M FNAM3	1/4	.007	⭕		●	●	⭕						
	CCGT 21.508 FNAM3	CCGT 060202 FNAM3	1/4	.008						○	○				
	CCGT 21.51M FNAM3	CCGT 060204M FNAM3	1/4	.015	⭕		●	●	⭕						
	CCGT 32.501 FNAM3	CCGT 09T300 FNAM3	3/8	.001			●	●	○	○					
	CCGT 32.504M FNAM3	CCGT 09T301M FNAM3	3/8	.003	⭕		●	●	○	○	○				
	CCGT 32.508M FNAM3	CCGT 09T302M FNAM3	3/8	.007	⭕		●	●	○	○	○				
	CCGT 32.508 FNAM3	CCGT 09T302 FNAM3	3/8	.008				●		○					
	CCGT 32.51M FNAM3	CCGT 09T304M FNAM3	3/8	.015	⭕		●	●	○	○	○				
	CCGT 32.51 FNAM3	CCGT 09T304 FNAM3	3/8	.016				●		○					
	CCGT 32.52 FNAM3	CCGT 09T308 FNAM3	3/8	.031				●							
	CCMT 21.508 FNAM3	CCMT 060202 FNAM3	1/4	.008		○									
	CCMT 21.51 FNAM3	CCMT 060204 FNAM3	1/4	.016		○									
	CCMT 32.508 FNAM3	CCMT 09T302 FNAM3	3/8	.008		○									
	CCMT 32.51 FNAM3	CCMT 09T304 FNAM3	3/8	.016		○									
	CCMT 32.52 FNAM3	CCMT 09T308 FNAM3	3/8	.031		○									
	CCGT 21.501 AZ7	CCGT 060200 AZ7	1/4	.001				○							
	CCGT 21.504M AZ7	CCGT 060201M AZ7	1/4	.003				○							
	CCGT 21.508M AZ7	CCGT 060202M AZ7	1/4	.007				○							
	CCGT 32.501 AZ7	CCGT 09T300 AZ7	3/8	.001		○	○	●	○		○				
	CCGT 32.504M AZ7	CCGT 09T301M AZ7	3/8	.003		○	○	●	○		○				
	CCGT 32.508M AZ7	CCGT 09T302M AZ7	3/8	.007		○	○	●	○		○				
	CCGT 32.51M AZ7	CCGT 09T304M AZ7	3/8	.015		○	○	●	○		○				

● : 1st Choice ● : 2nd choice



	P	M	K	N	S	H
Steel	●	●	●	●	●	●	●	●		
Stainless Steel	●	●	●	●	●	●	●	●		
Cast Iron									●	
Non-Ferrous Material					●	●	●	●		●
Heat Resistant Alloy	●	●	●	●	●					
Hardened Material	●	●	●	●						

Shape	Item Number	ISO Item Number	IC	R	Carbide: PVD Coated: ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CVD: CP1	Diamond Coating: UC1	
	CCGT 21.501 R/L S	CCGT 060200 R/L S	1/4	.001			Ⓡ	R		ⓇⓁ	ⓇL				
	CCGT 21.504M R/L S	CCGT 060201M R/L S	1/4	.003			Ⓡ	R							
	CCGT 21.504 R/L S	CCGT 060201 R/L S	1/4	.004						ⓇⓁ	RⓁ				
	CCGT 21.508M R/L S	CCGT 060202M R/L S	1/4	.007			Ⓡ	R							
	CCGT 21.508 R/L S	CCGT 060202 R/L S	1/4	.008						RⓁ	ⓇⓁ				
	CCGT 21.51 R/L S	CCGT 060204 R/L S	1/4	.016				R							
	CCGT 32.501 R/L S	CCGT 09T300 R/L S	3/8	.001			R	R	R	ⓇⓁ	Ⓡ				
	CCGT 32.504M R/L S	CCGT 09T301M R/L S	3/8	.003			R	Ⓡ	R						
	CCGT 32.504 R/L S	CCGT 09T301 R/L S	3/8	.004				R		ⓇⓁ	ⓇⓁ				
	CCGT 32.508M R/L S	CCGT 09T302M R/L S	3/8	.007			R	Ⓡ	R						
	CCGT 32.508 R/L S	CCGT 09T302 R/L S	3/8	.008				R		RⓁ	Ⓡ				
	CCGT 32.51M R/L S	CCGT 09T304M R/L S	3/8	.015			Ⓡ	Ⓡ	R						
	CCGT 32.51 R/L S	CCGT 09T304 R/L S	3/8	.016				R							
	CCGT 21.501 R/L U	CCGT 060200 R/L U	1/4	.001			Ⓡ				Ⓡ				
	CCGT 21.504 R/L U	CCGT 060201 R/L U	1/4	.004			Ⓡ				ⓇⓁ				
	CCGT 21.508 R/L U	CCGT 060202 R/L U	1/4	.008			Ⓡ				ⓇⓁ				
	CCGT 32.501 R/L U1	CCGT 09T300 R/L U1	3/8	.001			Ⓡ		Ⓡ		ⓇⓁ				
	CCGT 32.504 R/L U1	CCGT 09T301 R/L U1	3/8	.004			Ⓡ		Ⓡ		ⓇⓁ				
	CCGT 32.508 R/L U1	CCGT 09T302 R/L U1	3/8	.008			Ⓡ		Ⓡ		ⓇⓁ				
	CCGT 32.51 R/L U1	CCGT 09T304 R/L U1	3/8	.016			Ⓡ		Ⓡ		ⓇⓁ				
	CCET 21.502 R/L KHG	CCET 0602005 R/L KHG	1/4	.002						ⓇⓁ					
	CCET 21.503 R/L KHG	CCET 0602008 R/L KHG	1/4	.003						ⓇⓁ					
	CCET 21.507 R/L KHG	CCET 0602018 R/L KHG	1/4	.007						ⓇⓁ					
	CCET 21.508 R/L KHG	CCET 060202 R/L KHG	1/4	.008						ⓇⓁ					
	CCET 32.502 R/L KHG	CCET 09T3005 R/L KHG	3/8	.002					Ⓡ	ⓇⓁ					
	CCET 32.503 R/L KHG	CCET 09T3008 R/L KHG	3/8	.003					Ⓡ	ⓇⓁ					
	CCET 32.507 R/L KHG	CCET 09T3018 R/L KHG	3/8	.007					Ⓡ	ⓇⓁ					
	CCET 32.508 R/L KHG	CCET 09T302 R/L KHG	3/8	.008					Ⓡ	ⓇⓁ					
	CCGT 21.504 F R/L F1	CCGT 060201 F R/L F1	1/4	.004	Ⓡ			Ⓡ	R						
	CCGT 21.508 F R/L F1	CCGT 060202 F R/L F1	1/4	.008	Ⓡ			Ⓡ	R						
	CCGT 21.51 F R/L F1	CCGT 060204 F R/L F1	1/4	.016	Ⓡ			Ⓡ	R						
	CCGT 32.508 F R/L F1	CCGT 09T302 F R/L F1	3/8	.008	Ⓡ			Ⓡ	Ⓡ						
	CCGT 32.51 F R/L F1	CCGT 09T304 F R/L F1	3/8	.016	Ⓡ			Ⓡ	Ⓡ						
	CCGW 21.501 FN	CCGW 060200 FN	1/4	.001							○				—
	CCGW 21.501 H Ⓜ	CCGW 060200 H	1/4	.001								●			
	CCGW 21.504 FN	CCGW 060201 FN	1/4	.004							○				
	CCGW 21.504 H Ⓜ	CCGW 060201 H	1/4	.004								●			
	CCGW 21.508 H Ⓜ	CCGW 060202 H	1/4	.008								●			
	CCGW 21.51 FN	CCGW 060204 FN	1/4	.016							○				
	CCGW 21.52 FN	CCGW 060208 FN	1/4	.031							■				
	CCGW 32.500 V Ⓜ	CCGW 09T30 V	3/8	.001						○					
	CCGW 32.501 FN	CCGW 09T300 FN	3/8	.001							○				
	CCGW 32.501 H Ⓜ	CCGW 09T300 H	3/8	.001								●			
	CCGW 32.504 FN	CCGW 09T301 FN	3/8	.004							○				
	CCGW 32.504 H Ⓜ	CCGW 09T301 H	3/8	.004								●			
	CCGW 32.504 P Ⓜ	CCGW 09T301 P	3/8	.004						○					
	CCGW 32.508M P Ⓜ	CCGW 09T302M P	3/8	.007			○								
	CCGW 32.508 H Ⓜ	CCGW 09T302 H	3/8	.008								●			
	CCGW 32.508 P Ⓜ	CCGW 09T302 P	3/8	.008						○					

ID Tooling

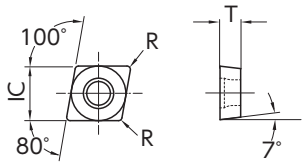
Cutting condition ➡V4

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

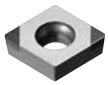
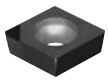
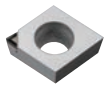
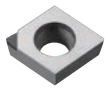
CC.. inserts - CBN / PCD

(inch)	IC	T
CC.. 21	1/4	3/32
CC.. 32	3/8	5/32

● : 1st Choice ● : 2nd choice



		JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
		BIDEMICS Coated	Solid CBN	CBN (Brazed) Coated	CBN (Brazed)	CBN (Brazed) Coated	CBN (Brazed)	CBN (Brazed)	CBN (Brazed)	CBN (Brazed)	PCD	PCD	Diamond Coating
Steel	P												
Stainless Steel	M												
Cast Iron	K		●	●	●				●	●			
Non-Ferrous Material	N										●	●	●
Heat Resistant Alloy	S	●											
Hardened Material	H		●	●	●	●	●	●					

Shape	Item Number	ISO Item Number	Edge Prep.	IC	R	No. of edge	Length of edge	JP2	B99	B5K	B52	B6K	B36	B40	B23	B30	PD1	PD2	UC1
	CCGW 21.508 PD FNX	CCGW 060202 PD FNX	None	1/4	.008	2	.091				○					○			
	CCGW 21.508 PD S0415	CCGW 060202 PD S01015	S0415	1/4	.008	2	.091				○		○	○					
	CCGW 21.508 PD S0525	CCGW 060202 PD S01325	S0525	1/4	.008	2	.091				○		○						
	CCGW 21.508 PD S0635	CCGW 060202 PD S01535	S0635	1/4	.008	2	.091				○		○						
	CCGW 21.51 PD FNX	CCGW 060204 PD FNX	None	1/4	.016	2	.091									○			
	CCGW 21.51 PD S0415	CCGW 060204 PD S01015	S0415	1/4	.016	2	.091				●		○	○					
	CCGW 21.51 PD S0525	CCGW 060204 PD S01325	S0525	1/4	.016	2	.091				○		○						
	CCGW 21.51 PD S0635	CCGW 060204 PD S01535	S0635	1/4	.016	2	.091				○		○						
	CCGW 21.52 PD FNX	CCGW 060208 PD FNX	None	1/4	.031	2	.087				○								
	CCGW 21.52 PD S0415	CCGW 060208 PD S01015	S0415	1/4	.031	2	.087				○		○	○					
	CCGW 21.52 PD S0525	CCGW 060208 PD S01325	S0525	1/4	.031	2	.087				○		○	○					
	CCGW 21.52 PD T0620	CCGW 060208 PD T01520	T0620	1/4	.031	2	.087						○						
	CCGW 21.52 PD S0635	CCGW 060208 PD S01535	S0635	1/4	.031	2	.087				○		○	○					
	CCGW 32.508 PD FNX	CCGW 09T302 PD FNX	None	3/8	.008	2	.091				○					○			
	CCGW 32.508 PD S0415	CCGW 09T302 PD S01015	S0415	3/8	.008	2	.091				●		○	○					
	CCGW 32.508 PD S0525	CCGW 09T302 PD S01325	S0525	3/8	.008	2	.091				○		○	○					
	CCGW 32.508 PD S0635	CCGW 09T302 PD S01535	S0635	3/8	.008	2	.091				○		○	●					
	CCGW 32.51 PD FNX	CCGW 09T304 PD FNX	None	3/8	.016	2	.091				○					○			
	CCGW 32.51 PD S0415	CCGW 09T304 PD S01015	S0415	3/8	.016	2	.091				●		○	○					
	CCGW 32.51 PD S0525	CCGW 09T304 PD S01325	S0525	3/8	.016	2	.091				○		○	○					
	CCGW 32.51 PD S0635	CCGW 09T304 PD S01535	S0635	3/8	.016	2	.091				○		○	●					
	CCGW 32.52 PD FNX	CCGW 09T308 PD FNX	None	3/8	.031	2	.087									○			
	CCGW 32.52 PD S0415	CCGW 09T308 PD S01015	S0415	3/8	.031	2	.087				●			○					
	CCGW 32.52 PD S0525	CCGW 09T308 PD S01325	S0525	3/8	.031	2	.087				○		○	○					
	CCGW 32.52 PD S0635	CCGW 09T308 PD S01535	S0635	3/8	.031	2	.087				○		○	●					
	CCGW 32.53 PD FNX	CCGW 09T312 PD FNX	None	3/8	.047	2	.063				○								
	CCGW 32.53 PD S0415	CCGW 09T312 PD S01015	S0415	3/8	.047	2	.063				○								
	CCGW 32.53 PD S0525	CCGW 09T312 PD S01325	S0525	3/8	.047	2	.063						○						
	CCMW 32.504	CCMW 09T301	None	3/8	.004	1	—										○		
	CCMW 32.508	CCMW 09T302	None	3/8	.008	1	—										○		
	CCMW 32.51	CCMW 09T304	None	3/8	.016	1	—										○		
	CCMW 32.52	CCMW 09T308	None	3/8	.031	1	—										○		
 with 3D chipbreaker	CCMT 21.504 PBF	CCMT 060201 PBF	None	1/4	.004	1	—											○	
	CCMT 21.508 PBF	CCMT 060202 PBF	None	1/4	.008	1	—											○	
	CCMT 21.51 PBF	CCMT 060204 PBF	None	1/4	.016	1	—											○	
	CCMT 32.504 PBF	CCMT 09T301 PBF	None	3/8	.004	1	—											○	
	CCMT 32.508 PBF	CCMT 09T302 PBF	None	3/8	.008	1	—											○	
	CCMT 32.51 PBF	CCMT 09T304 PBF	None	3/8	.016	1	—											○	
 with chipbreaker	CCMT 32.508 PF	CCMT 09T302 PF	None	3/8	.008	1	—											●	
	CCMT 32.51 PF	CCMT 09T304 PF	None	3/8	.016	1	—											●	

ID boring bars ➡V30
Cutting condition ➡V4

TMN Series

TGC Minimum Bore Diameter .315"(80㎜) ～

Carbide shank

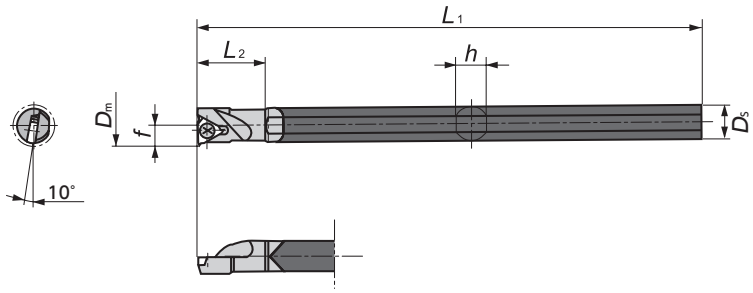
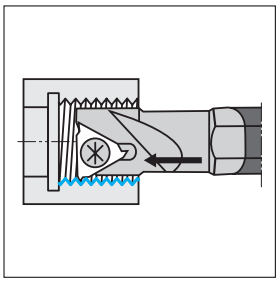


Figure-1



Right-Hand style shown

HN Minimum Bore Diameter .315"(80㎜) ～

Steel shank

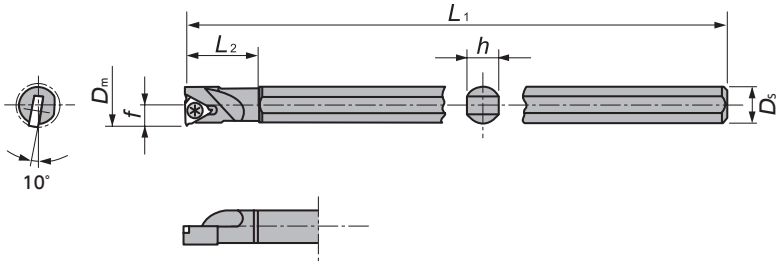
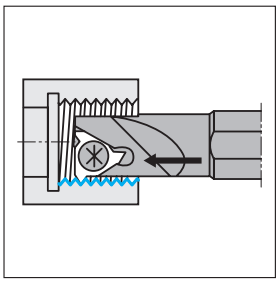


Figure-2



Right-Hand style shown

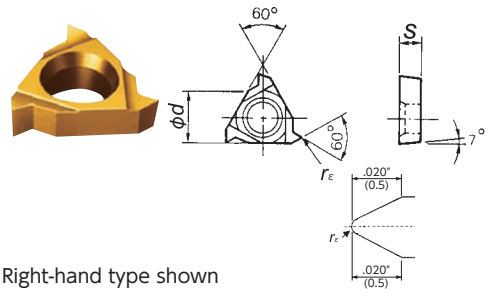
TMN Series - Toolholders

■TGC/HN

Gage Insert	Item Number	Figure	Stock	Min. Machining Dia. D_m (Inch)	(㎜)	D_s (Inch)	(㎜)	h (Inch)	(㎜)	L_1 (Inch)	(㎜)	f (Inch)	(㎜)	L_2 (Inch)	(㎜)	Clamp Screw	Wrench
TMN..06..	**TGC10T06H161R**	1	○	**.315**	**8**	.236	6	.217	5.5	3.937	100	.150	3.8	.512	13.0	LR-S-2 × 4.4	CLR-13S
TMN..08..	**TGC10T08K162R**	1	○	**.394**	**10**	.315	8	.276	7.0	4.921	125	.185	4.7	.669	17.0	LR-S-2 × 5.5	CLR-13S
TMN..09..	**TGC10T10M163R**	1	○	**.472**	**12**	.394	10	.354	9.0	5.906	150	.236	6.0	.787	20.0	LRIS-2.2 × 6	CLR-13S
TMN..06..	**HN59Z-0028**	2	○	**.315**	**8**	.236	6	.217	5.5	3.937	100	.150	3.8	.512	13.0	LR-S-2 × 4.4	CLR-13S
TMN..08..	**HN59Z-0029**	2	○	**.394**	**10**	.315	8	.276	7.0	4.921	125	.185	4.7	.669	17.0	LR-S-2 × 5.5	CLR-13S
TMN..09..	**HN59Z-0030**	2	○	**.472**	**12**	.236	10	.354	9.0	5.906	150	.236	6.0	.787	20.0	LRIS-2.2 × 6	CLR-13S

TMN Series - Inserts

■TMN

Shape	Item Number	ϕd (Inch)	(㎜)	s (Inch)	(㎜)	r_ε (Inch)	(㎜)	Recommended Pitch (TPI)	(㎜)	Pitch (TPI)	(㎜)	Coated Carbide ZM3
 Right-hand type shown	**TMN06FR03**	.156	3.97	.063	1.59	.001	.003	51	0.5	63-34	0.4-0.75	○
	TMN08FR03	.187	4.76	.094	2.38	.001	.003	51	0.5	63-34	0.4-0.75	○
	TMN09FR03	.219	5.56	.094	2.38	.001	.003	51	0.5	63-34	0.4-0.75	○

Cutting condition ➡V5

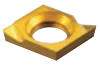
● : Stock
● : Stock (Newly added)
■ □R□L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
ⓇⓁ : 1-2 week delivery (Right / Left-hand only)
ⓇⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Chipbreakers for Mogul Bar

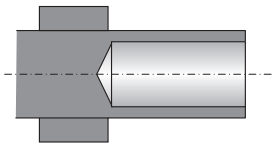
Molded Chipbreakers

Name	Chipbreaker Geometry	Features	ER Style	CC Style	CP Style	TC Style	TP Style
FG		●Evacuate chips BACKWARD at light depth of cut	—	—	—	—	
YL		●Great combination of sharpness and toughness ●Covers extremely wide range ●Excellent chip control	—		—	—	—
CL		●Double-positive geometry ●Sharp edge and low tool pressure ●Very wide chip control range	—		—	—	—
AM3		●Great combination of sharp edge and chip control	—			—	—
AZ7		●Excellent chip control at light feed and light depth of cut	—		—	—	—
ZR		●Covers a wide range of depth of cut under high-speed and low-feed conditions	—		—	—	—
AM5		●Provides both good cutting performance and chip control	—			—	—

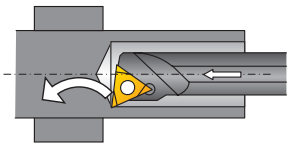
Ground Chipbreakers

Name	Chipbreaker Geometry	Features	ER Style	CC Style	CP Style	TC Style	TP Style
F05・F1		●Exclusively designed for ID boring ●Evacuate chips BACKWARD					
S		●Sharp cutting edge with excellent chip control	—			—	—
U・U1		●Sharp cutting edge prevents work materials from work hardening	—		—	—	—
KHG		●Excellent chip control on finishing cuts ●For super high-precision machining	—		—	—	—
K		●Superb chip control on finishing applications	—	—	—		—
A・A1		●Tough cutting edge and good chip control ●General-purpose ID chipbreaker	—	—		—	—
A2		●Sharp cutting edge due to large rake angle		—	—	—	—
B1・B2・B3		●Stable cutting in boring thanks to sharp and tough cutting edge	—	—	—		

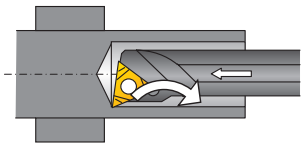
Boring on CNC Swiss-Type Lathes



Blind hole due to bar stock



Typical inserts direct chips forward
Then packed chips damage and break cutting edges



FG, F1 and F05 chipbreakers direct chips backward and prevent cuttting edges from breaking

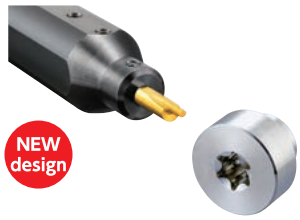
Note: Use right-hand inserts with FG, F1 and F05 chipbreakers for right-hand boring bars

W

Shaper

SHAPER DUO

■Hexalobular Socket



■Hexagon Socket

■Square Socket

WATCH ON YouTube

- Now available for Hexalobular(6-lobe) Socket
- Perfect fit for back spindle of Swiss machine
- Achieves good corner edge sharpness
- Less tool pressure than Rotary-Broaching
- Easy to adjust for correct dimension
- Economical double-ended insert bar (Except for Hexalobular)

Comparison Chart of Hexalobular Socket Machining

	Tool Pressure	Cycle Time	Tool Cost	High speed spindle	Program	
Shaper Duo 	◎	◎	◎	Not necessary	Simple	● No high speed spindle needed ● A lot less cycle time
End milling	○	×	△	Necessary	Complicated	● Need high speed spindle ● Time consuming process

- Small diameter endmill driven by high-speed spindle is popular way to create Hexalobular(6-lobe) socket. It has some flexibility but needs high speed spindle unit and it is a time consuming process.
- SHAPER DUO can make Hexalobular(6-lobe) socket faster and simpler.

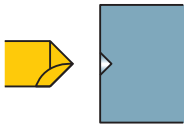
Comparison Chart of HEX Socket Machining

	Tool Pressure	Cycle Time	Flexibility	Tool Cost	
Shaper Duo 	◎	△ *Can be off-set by over-wrapping operation	○	◎	● Less tool pressure-especially on small diameter parts ● One size can cover several socket sizes
Broach Tool	△	○	×	△	● Need to have tools for each socket size

- Rotary-broach is an efficient way for Hexagon socket.
  But tool pressure is high and often times it pushes part too hard.
- SHAPER DUO system enables less tool pressure and provides better tolerance with less cost.

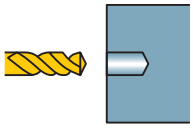
Process Chart

① Center drilling



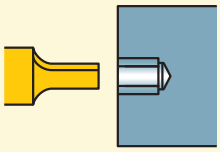
Make a center hole which is smaller than pilot hole drill.

② Drilling (Pilot hole)



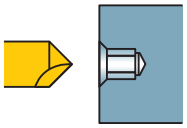
Select a drill with same or smaller (0 ~ -0.1mm) dia. as AF and machine a bit deeper because burrs may cause chipping on shaper insert

③ Shaper tool



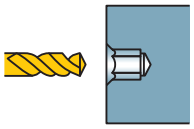
Machine socket rotating 60 degrees 6 times

④ Chamfering



Chamfer with the same pilot hole drill as ①

⑤ Deburring



Finish and deburr with the same drill as in process②
☆Reduce cutting conditions due to heavy interruption

SHAPER DUO Process Chart -Hexalobular-

Socket Size	Tool	Pilot bore Dia. (mm)	Starting "X" position (mm)	Number of passes: Final "X" position (mm)	Number of passes: Roughing pass 0.025mm	Number of passes: Finishing pass 0.005mm	Estimated cycle time *: ISO10664 Stadard depth of Hexalobular hole (mm)	Estimated cycle time *: Whole process ①-⑤	Estimated cycle time *: Process④ Shaper
T6	**SSP050N25T06**	1.15	1.14	1.75	13	1	1.82	51 sec	23.2 sec
T7	**SSP050N31T07**	1.38	1.35	2.06	15	1	2.44	59 sec	28.2 sec
T8	**SSP050N36T08**	1.62	1.59	2.40	17	1	3.05	67 sec	33.8 sec
T10	**SSP050N41T10**	1.92	1.89	2.80	19	1	3.56	75 sec	39.5 sec
T15	**SSP050N43T15**	2.30	2.29	3.35	22	1	3.81	84 sec	46.2 sec
T20	**SSP050N46T20**	2.71	2.69	3.95	26	1	4.07	94 sec	55.4 sec
T25	**SSP050N50T25**	3.13	3.09	4.50	29	1	4.45	105 sec	63.8 sec
T27	**SSP050N55T27**	3.52	3.51	5.07	32	1	4.70	115 sec	71.8 sec
T30	**SSP050N55T30**	3.91	3.89	5.60	35	1	4.95	125 sec	80.2 sec

＊Using Carbide drill

＊Shaper cutting conditions
Feed : 3000 mm/min
DOC : 0.025 mm (Roughing), 0.005 mm (Finishing)

SHAPER DUO Process Chart -Hexagonal-

HEX Standard	Tool	Pilot bore Dia. (mm)	Starting "X" position (mm)	Number of passes: Final "X" position (mm)	Number of passes: Roughing pass 0.025mm	Number of passes: Finishing pass 0.005mm	Estimated cycle time *: ISO 2936 standard depth of Hex hole (mm)	Estimated cycle time *: Whole process ①-⑤	Estimated cycle time *: Process④ Shaper
HEX 1.5	**SSP020N1130H**	1.5	1.47	1.73	6	1	2	39 sec	14 sec
HEX 2.0	**SSP020N1430H**	2.0	1.95	2.31	8	1	2.5	44 sec	16 sec
HEX 2.5	**SSP030N1940H**	2.5	2.48	2.89	9	1	3	50 sec	20 sec
HEX 3.0	**SSP030N1940H**	3.0	2.95	3.46	11	1	3.5	55 sec	23 sec
HEX 4.0	**SSP040N2450H**	4.0	3.96	4.62	14	1	5	73 sec	33 sec
HEX 5.0	**SSP050N3260H**	5.0	4.96	5.77	17	1	6	90 sec	46 sec
HEX 6.0	**SSP060N42120H**	6.0	5.97	6.93	20	1	8	117 sec	63 sec
HEX 8.0	**SSP080N62160H**	8.0	7.98	9.24	26	1	10	155 sec	92 sec

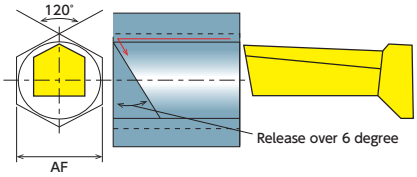
＊Pilot bore diameter is same or smaller(0-0.1mm) as AF.
＊Using Carbide drill

＊Shaper cutting conditions
Feed : 3000 mm/min
DOC : 0.025 mm (Roughing), 0.005 mm (Finishing)

Recommended Cutting Conditions

Feed : 3000 mm/min (120 IPM)
DOC : Roughing ··· 0.025 mm (.0010") + Finishing ··· 0.005 mm (.0002")

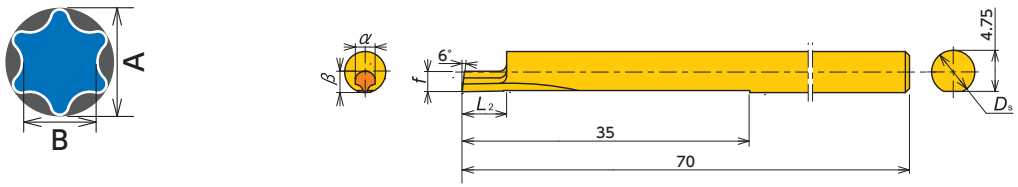
Program Example ➡W6・W7



Sleeves ➡W8-W11

Insert Bar -Hexalobular-

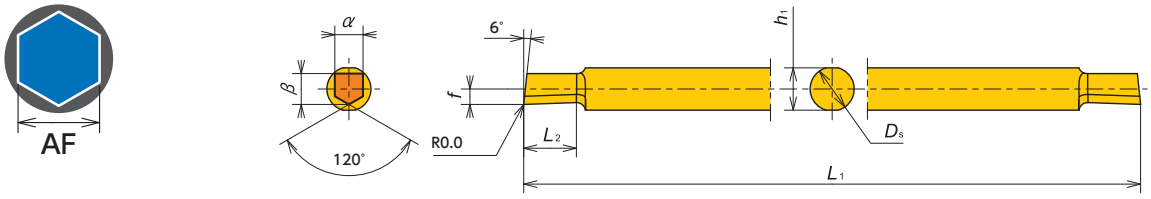
Single-sided



Item Number	Socket Size	Hexalobular Socket #	A (mm)	B (mm)	D_s (mm)	L_2 (mm)	α (mm)	β (mm)	f (mm)	Pilot Bore Dia (mm)	Coated Carbide TM4
SSP050N25T06	T6	6	1.75	1.27	φ5	2.5	1.08	1.09	2.4	φ1.15	●
SSP050N31T07	T7	–	–	–	φ5	3.1	1.27	1.29	2.4	φ1.38	●
SSP050N36T08	T8	8	2.4	1.75	φ5	3.6	1.48	1.50	2.4	φ1.62	●
SSP050N41T10	T10	10	2.8	2.05	φ5	4.1	1.67	1.70	2.4	φ1.92	●
SSP050N43T15	T15	15	3.35	2.4	φ5	4.3	2.04	2.10	2.4	φ2.30	●
SSP050N46T20	T20	20	3.95	2.85	φ5	4.6	2.41	2.50	2.4	φ2.71	●
SSP050N50T25	T25	25	4.5	3.25	φ5	5.0	2.78	2.90	2.4	φ3.13	●
SSP050N55T27	T27	–	–	–	φ5	5.5	3.15	3.30	2.4	φ3.52	●
SSP050N55T30	T30	30	5.6	4.05	φ5	5.5	3.52	3.70	2.4	φ3.91	●

Insert Bar -Hexagon-

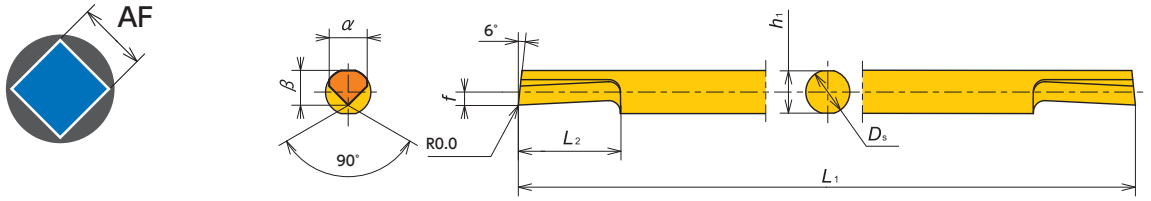
Double-sided



Item Number	Base AF (mm)	HEX Standard size range (mm)	AF range (Inch)	AF range (mm)	D_s (mm)	L_1 (mm)	L_2 (mm)	h_1 (mm)	α (mm)	β (mm)	f (mm)	Coated Carbide TM4
SSP020N1130H	HEX 1.5	HEX 1.5 - 2.0	.055 - .078	1.4 - 2.0	φ2	50	3.0	1.8	1.1	0.8	0.40	●
SSP020N1430H	HEX 2.0	HEX 2.0 - 2.5	.075 - .102	1.9 - 2.6	φ2	50	3.0	1.8	1.4	1.1	0.55	●
SSP030N1940H	HEX 3.0	HEX 2.5 - 3.5	.095 - .141	2.4 - 3.6	φ3	50	4.0	2.8	1.9	1.6	0.8	●
SSP040N2450H	HEX 4.0	HEX 3.5 - 4.5	.134 - .181	3.4 - 4.6	φ4	60	5.0	3.8	2.4	2.6	1.3	●
SSP050N3260H	HEX 5.0	HEX 4.5 - 6.0	.174 - .244	4.4 - 6.2	φ5	70	6.0	4.8	3.2	3.4	1.70	●
SSP060N42120H	HEX 6.0	HEX 6.0 - 8.0	.233 - .322	5.9 - 8.2	φ6	80	12.0	5.6	4.2	4.0	2.00	●
SSP080N62160H	HEX 8.0	HEX 8.0 - 12.0	.311 - .480	7.9 - 12.2	φ8	80	16.0	7.6	6.2	4.7	2.35	●

Insert Bar -Square-

Double-sided



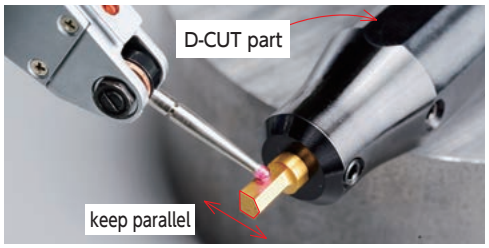
Item Number	Base AF (mm)	AF range (Inch)	AF range (mm)	D_s (mm)	L_1 (mm)	L_2 (mm)	h_1 (mm)	α (mm)	β (mm)	f (mm)	Coated Carbide TM4
SSP020N1740S	2.0	.075 – .090	1.9 – 2.3	φ2.0	50	4.0	1.8	1.70	1.60	0.70	●
SSP025N1940S	2.5	.087 – .102	2.2 – 2.6	φ2.5	50	4.0	2.3	1.95	1.80	0.65	●
SSP030N2260S	3.0	.099 – .118	2.5 – 3.0	φ3.0	50	6.0	2.8	2.20	2.05	0.65	●
SSP035N2760S	3.5	.115 – .145	2.9 – 3.7	φ3.5	60	6.0	3.3	2.70	2.25	0.60	●
SSP040N3380S	4.0	.142 – .181	3.6 – 4.6	φ4.0	60	8.0	3.8	3.35	3.05	1.15	●
SSP050N39100S	5.0	.178 – .212	4.5 – 5.4	φ5.0	70	10.0	4.8	3.90	3.95	1.55	●
SSP060N47120S	6.0	.209 – .259	5.3 – 6.6	φ6.0	80	12.0	5.6	4.75	4.50	1.70	●
SSP080N58160S	8.0	.256 – .318	6.5 – 8.1	φ8.0	80	16.0	7.6	5.80	5.50	1.70	●

● : Stock

SHAPER DUO Set-up Instructions －Hexagonal

■Outside machine

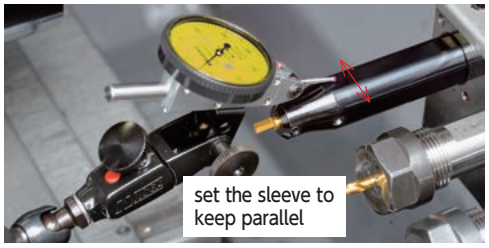
①



- Set the insert bar in the sleeve and check the parallelism of the flat portion of the sleeve and the insert bar.
- Minimize the overhang of the insert.

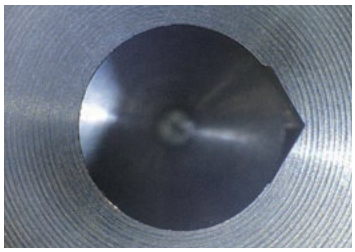
■Inside machine

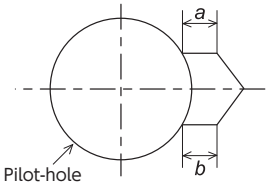
②



- Set the sleeve into the tool post and make sure the sleeve is set parallel.
- Minimize sleeve overhang.

③

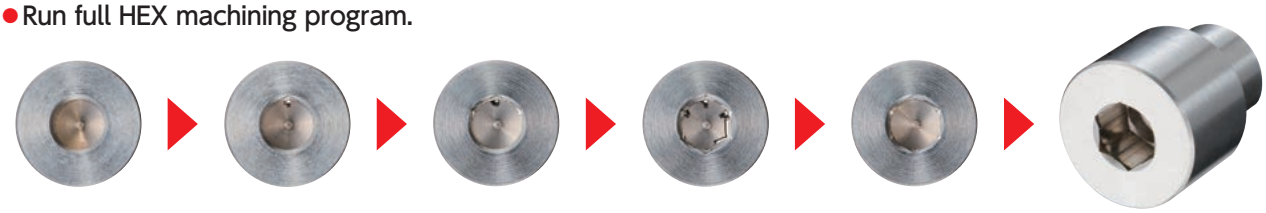




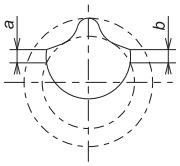
- Increase the number of machining passes with smaller depth of cut if the insert chips with large depth of cut. (0.025mm×5pass is recommended)
  No chamfering process is required for measuring purpose.
- Measure the length of both [a] and [b] with comparator or magnifier.
- Adjust centerline height by rotating the sleeve until you get the same length for [a] and [b].(The difference should be less than .0008")
  *If the straight is not seen with increased passes, please reset the insert and the sleeve.
  Please make sure both the insert and the sleeve are set up correctly.

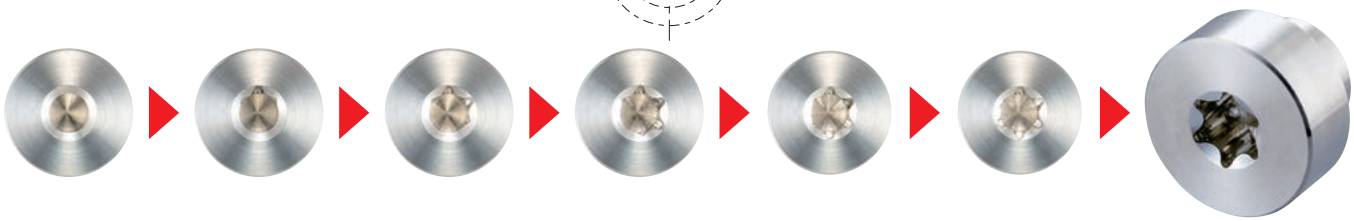
④ **Machine Hexagonal shape**

- Run full HEX machining program.



■For Hexalobular machining
Basically same as Hexagonal socket





Shaper

Hexagon Socket Programming Code Examples from Machine Builders in Metric

Hex socket size : Hex 3.0mm, AF(Final "X" position) 3.46mm, Depth 3.5mm
Pilot drill diameter : 3.0mm **Starting "X" position : 2.95mm (see chart on W3)**
Insert : SSP030N1940N TM4
Parameters : Feed 3000mm/min(120 IPM), DOC(Roughing) 0.025mm, (Finishing) 0.005mm

Programming tips

- **Make a program considering final " X "position.**

#1 Final "X"position : 3.46mm (AF)
#2 Finishing position of roughing : 3.46−0.01 (Finishing) =3.45mm
#3 Calculate total DOC for roughing : 3.45−3.0 (Pilot hole) =0.45mm
#4 Determine number of cuts : 0.45÷0.05 (DOC for Dia.)= 9.0 + **2** (round down to whole number and add "**2**" for program adjustment)
→ Roughing sequence runs 11 times
#5 Set starting point : 3.45−(0.05×(11−**1**)) = 2.95mm : must subtract by "**1**" for program adjustment

CITIZEN

Main Program Sequence

```
M25
M78 S0   ·····I
Shaper    T****
G50 U1.6  ·····II
G0 X2.95 Z-2.0 T**  ·····III
M98 P2100 L11  ·····IV
M98 P2200  ·····V

M78 S60  ·····I
G0 X2.95 Z-2.0
M98 P2100 L11   <a>
M98 P2200
```

Repeat <a> program sequence 4 more times to complete the cuts at S120, S180, S240, S300 (represents 120˚, 180˚, 240˚, 300˚).

```
M20
G0 Z-2.0
G50 U-1.6
G0 U0 W0 T0
M1
```

Sub-Program Sequence #1 for Roughing

```
N2100
G4 U0.02  ·····A
G98 G1 Z3.5 F3000  ·····B
G4 U0.02
U-0.2 W-0.018  ·····C
G4 U0.02
G0 Z-2.0
G4 U0.02
U0.25  ·····D
M99
```

Sub-Program Sequence #2 for Finishing

```
N2200
G98 G1 X3.46 Z-2.0 F1000  ·····E
G4 U0.02
Z3.5 F3000
G4 U0.02
U-0.2 W-0.018
G4 U0.02
G0 Z-2.0
M99
```

STAR

Main Program Sequence

```
M25
Shaper    T****
G50 U1.6  ·····II
M8
G0 X2.95 Z-2.0 C0 T**  ·····I, III
M98 P2100 L11  ·····IV
M98 P2200  ·····V

G0 C60.0  ·····I
G0 X2.95 Z-2.0
M98 P2100 L11   <a>
M98 P2200
```

Repeat <a> program sequence 4 more times to complete the cuts at C120.0, C180.0, C240.0, C300.0 (represents 120˚, 180˚, 240˚, 300˚).

```
G0 Z-2.0
G50 U-1.6
G0 T0
G28 W0
M1
```

Sub-Program Sequence #1 for Roughing

```
O2100
G4 U0.02  ·····A
G98 G1 Z3.5 F3000  ·····B
G4 U0.02
U-0.2 W-0.018  ·····C
G4 U0.02
G0 Z-2.0
G4 U0.02
U0.25  ·····D
M99
```

Sub-Program Sequence #2 for Finishing

```
O2200
G98 G1 X3.46 Z-2.0 F1000  ·····E
G4 U0.02
Z3.5 F3000
G4 U0.02
U-0.2 W-0.018
G4 U0.02
G0 Z-2.0
M99
```

TSUGAMI

Main Program Sequence

```
M105
M150
G28 H0  ·····I
M182
Shaper    T****
G50 U1.6  ·····II
G0 X2.95 Z2.0 T**  ·····III
M98 P2100 L11  ·····IV
M98 P2200  ·····V
M183

G0 C60  ·····I
M182
G0 X2.95 Z2.0
M98 P2100 L11   <a>
M98 P2200
M183
```

Repeat <a> program sequence 4 more times to complete the cuts at C120, C180, C240, C300 (represents 120˚, 180˚, 240˚, 300˚).

```
M151
G0 Z2.0
G50 U-1.6
G0 U0 W0 T0
M1
```

Sub-Program Sequence #1 for Roughing

```
O2100
G4 U0.02  ·····A
G98 G1 Z-3.5 F3000  ·····B
G4 U0.02
U-0.2 W0.018  ·····C
G4 U0.02
G0 Z2.0
G4 U0.02
U0.25  ·····D
M99
```

Sub-Program Sequence #2 for Finishing

```
O2200
G98 G1 X3.46 Z2.0 F1000  ·····E
G4 U0.02
Z-3.5 F3000
G4 U0.02
U-0.2 W0.018
G4 U0.02
G0 Z2.0
M99
```

I. Index the sub-spindle 6 times in 60 degree increments.
II. Specify the coordinate system shift command (in X axis direction) for the tool. [2 x f, where f is tool dimension located in catalog].
- A positive direction shift is recommended for easier programming.

III. Execute the positioning of the tool.
- X position should be smaller than pilot drill diameter.
- Z position should be offset 2.0 mm from material to achieve program feed rate.

IV. Go to the Sub-Program #1.
- Sequence runs 11 times. First cutting point X2.95 and final cutting point X3.45, with 0.05 DOC (for diameter) each time.

A. Specify dwell time. This allows the program and machine to stay synchronized.
B. Cut into part 3.5mm. F3000 is recommended feed to be used for most materials; including Titanium Alloy and Stainless Steel.
C. This code backs off the tool with an angle greater than 6 degrees (10 degrees used in example). See page W3.
D. Return to the X position + 0.05mm (the DOC for diameter).

V. Go to the Sub-Program #2, for finishing sequence.
E. Finishing operation with 0.005mm DOC (X 3.46) is recommended for better surface finish.

Hexalobular Socket Programming Code Examples from Machine Builders in Metric

Hexalobular socket size : Hexalobular T15 (depth : 3.81mm)
Pilot drill diameter : 2.3mm
Insert : SSP050N43T15 TM4
Parameters : Feed 3000mm/min(120 IPM), DOC(Roughing) 0.025mm, (Finishing) 0.005mm

Programming tips

- **Make a program considering final " X "position.**

#1 Final " X "position : 3.35mm(A)
#2 Finishing position of roughing : 3.35−0.01 (Finishing) =3.34mm
#3 Calculate total DOC for roughing : 3.34−2.3 (Pilot hole) =1.04mm
#4 Determine number of cuts : 1.04÷0.05 (DOC for Dia)=20.8 + **2** (round down to whole number and add "**2**" for program adjustment)
→ Roughing sequence runs 22 times
#5 Set starting point : 3.34−(0.05×(22−**1**)) = 2.29mm : must subtract by "**1**" for program adjustment

CITIZEN

Main Program Sequence

```
M25
M78 S0 ·····I
Shaper     T****
G50 U4.8 ·····II
G0 X2.29 Z-2.0 T** ·····III
M98 P2100 L22 ·····IV
M98 P2200 ·····V

M78 S60 ·····I
G0 X2.29 Z-2.0
M98 P2100 L22
M98 P2200
```
<a>

Repeat <a> program sequence 4 more times to complete the cuts at S120, S180, S240, S300 (represents 120˚, 180˚, 240˚, 300˚).

```
M20
G0 Z-2.0
G50 U-4.8
G0 U0 W0 T0
M1
```

Sub-Program Sequence #1 for Roughing

```
N2100
G4 U0.02 ·····A
G98 G1 Z3.81 F3000 ·····B
G4 U0.02
U-0.2 W-0.018 ·····C
G4 U0.02
G0 Z-2.0
G4 U0.02
U0.25 ·····D
M99
```

Sub-Program Sequence #2 for Finishing

```
N2200
G98 G1 X3.35 Z-2.0 F1000 ·····E
G4 U0.02
Z3.81 F3000
G4 U0.02
U-0.2 W-0.018
G4 U0.02
G0 Z-2.0
M99
```

STAR

Main Program Sequence

```
M25
Shaper     T****
G50 U4.8 ·····II
M8
G0 X2.29 Z-2.0 C0 T** ·····I, III
M98 P2100 L22 ·····IV
M98 P2200 ·····V

G0 C60.0 ·····I
G0 X2.29 Z-2.0
M98 P2100 L22
M98 P2200
```
<a>

Repeat <a> program sequence 4 more times to complete the cuts at C120.0, C180.0, C240.0, C300.0 (represents 120˚, 180˚, 240˚, 300˚).

```
G0 Z-2.0
G50 U-4.8
G0 T0
G28 W0
M1
```

Sub-Program Sequence #1 for Roughing

```
O2100
G4 U0.02 ·····A
G98 G1 Z3.81 F3000 ·····B
G4 U0.02
U-0.2 W-0.018 ·····C
G4 U0.02
G0 Z-2.0
G4 U0.02
U0.25 ·····D
M99
```

Sub-Program Sequence #2 for Finishing

```
O2200
G98 G1 X3.35 Z-2.0 F1000 ·····E
G4 U0.02
Z3.81 F3000
G4 U0.02
U-0.2 W-0.018
G4 U0.02
G0 Z-2.0
M99
```

TSUGAMI

Main Program Sequence

```
M105
M150
G28 H0 ·····I
M182
Shaper     T****
G50 U4.8 ·····II
G0 X2.29 Z2.0 T** ·····III
M98 P2100 L22 ·····IV
M98 P2200 ·····V
M183

G0 C60 ·····I
M182
G0 X2.29 Z2.0
M98 P2100 L22
M98 P2200
M183
```
<a>

Repeat <a> program sequence 4 more times to complete the cuts at C120, C180, C240, C300 (represents 120˚, 180˚, 240˚, 300˚).

```
M151
G0 Z2.0
G50 U-4.8
G0 U0 W0 T0
M1
```

Sub-Program Sequence #1 for Roughing

```
O2100
G4 U0.02 ·····A
G98 G1 Z-3.81 F3000 ·····B
G4 U0.02
U-0.2 W0.018 ·····C
G4 U0.02
G0 Z2.0
G4 U0.02
U0.25 ·····D
M99
```

Sub-Program Sequence #2 for Finishing

```
O2200
G98 G1 X3.35 Z2.0 F1000 ·····E
G4 U0.02
Z-3.81 F3000
G4 U0.02
U-0.2 W0.018
G4 U0.02
G0 Z2.0
M99
```

I. Index the sub-spindle 6 times in 60 degree increments.
II. Specify the coordinate system shift command (in X axis direction) for the tool. [2 x f, where f is tool dimension located in catalog].
  • A positive direction shift is recommended for easier programming.
III. Execute the positioning of the tool.
  • X position should be smaller than pilot drill diameter.
  • Z position should be offset 2.0 mm from material to achieve program feed rate.
IV. Go to the Sub-Program #1.
  • Sequence runs 22 times. First cutting point X2.29 and final cutting point X3.34, with 0.05 DOC (for diameter) each time.
  A. Specify dwell time. This allows the program and machine to stay synchronized.
  B. Cut into part 3.81mm. F3000 is recommended feed to be used for most materials; including Titanium Alloy and Stainless Steel.
  C. This code backs off the tool with an angle greater than 6 degrees (10 degrees used in example). See page W3.
  D. Return to the X position + 0.05mm (the DOC for diameter).
V. Go to the Sub-Program #2, for finishing sequence.
  E. Finishing operation with 0.005mm DOC (X 3.35) is recommended for better surface finish.

STICK DUO SPLASH - Stick Duo Hyper with Coolant through -

HY-NBH-OH (Coolant through)

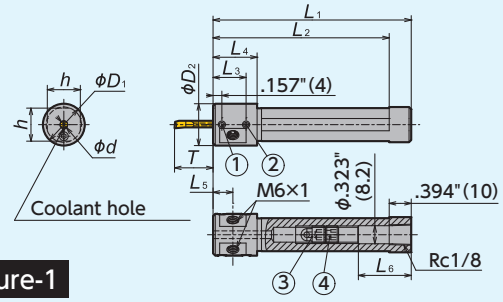


Figure-1

HY-NBH-OH (Coolant through)

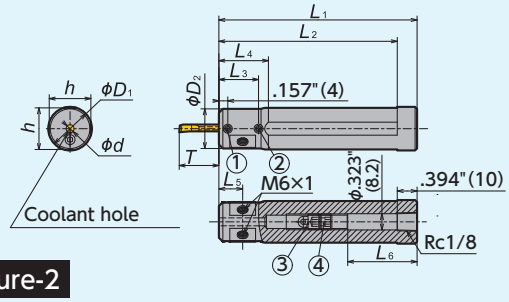


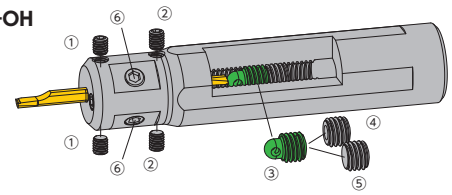
Figure-2

Item Number	Stock	Figure	Φ d		Φ D1		Φ D2	h	L1	L2	L3	L4	L5	L6	Overhang Length of Bar T			
															Min.		Max.	
			(Inch)	(mm)	(Inch)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(Inch)	(mm)	(Inch)	(mm)
HY-NBH02016G-OH	●	1	.079	2.0	.630	16.0	19	15	90	80	15	19	9.5	29	.197	5.0	.709	18.0
HY-NBH02516G-OH	●	1	.098	2.5	.630	16.0	19	15	90	80	15	19	9.5	30	.248	6.3	.768	19.5
HY-NBH03016G-OH	●	1	.118	3.0	.630	16.0	19	15	90	80	15	19	9.5	31	.295	7.5	.827	21.0
HY-NBH03516G-OH	●	1	.138	3.5	.630	16.0	19	15	90	80	15	19	9.5	23	.346	8.8	.965	24.5
HY-NBH04016G-OH	●	1	.157	4.0	.630	16.0	19	15	90	80	20	24	12	23	.394	10.0	1.102	28.0
HY-NBH05016G-OH	●	1	.197	5.0	.630	16.0	19	15	90	80	20	24	12	16	.492	12.5	1.378	35.0
HY-NBH02019J-OH	●	2	.079	2.0	3/4	19.05	19.05	18	110	100	15	—	9.5	49	.197	5.0	.709	18.0
HY-NBH02519J-OH	●	2	.098	2.5	3/4	19.05	19.05	18	110	100	15	—	9.5	50	.248	6.3	.768	19.5
HY-NBH03019J-OH	●	2	.118	3.0	3/4	19.05	19.05	18	110	100	15	—	9.5	51	.295	7.5	.827	21.0
HY-NBH03519J-OH	●	2	.138	3.5	3/4	19.05	19.05	18	110	100	15	—	9.5	43	.346	8.8	.965	24.5
HY-NBH04019J-OH	●	2	.157	4.0	3/4	19.05	19.05	18	110	100	20	—	12	43	.394	10.0	1.102	28.0
HY-NBH05019J-OH	●	2	.197	5.0	3/4	19.05	19.05	18	110	100	20	—	12	36	.492	12.5	1.378	35.0
HY-NBH06019J-OH	●	2	.236	6.0	3/4	19.05	19.05	18	110	100	20	—	12	28.5	.591	15.0	1.654	42.0
HY-NBH02020J-OH	●	2	.079	2.0	.787	20.0	20	19	110	100	15	—	9.5	49	.197	5.0	.709	18.0
HY-NBH02520J-OH	●	2	.098	2.5	.787	20.0	20	19	110	100	15	—	9.5	50	.248	6.3	.768	19.5
HY-NBH03020J-OH	●	2	.118	3.0	.787	20.0	20	19	110	100	15	—	9.5	51	.295	7.5	.827	21.0
HY-NBH03520J-OH	●	2	.138	3.5	.787	20.0	20	19	110	100	15	—	9.5	43	.346	8.8	.965	24.5
HY-NBH04020J-OH	●	2	.157	4.0	.787	20.0	20	19	110	100	20	—	12	43	.394	10.0	1.102	28.0
HY-NBH05020J-OH	●	2	.197	5.0	.787	20.0	20	19	110	100	20	—	12	36	.492	12.5	1.378	35.0
HY-NBH06020J-OH	●	2	.236	6.0	.787	20.0	20	19	110	100	20	—	12	28.5	.591	15.0	1.654	42.0
HY-NBH02022X-OH	●	2	.079	2.0	.866	22.0	20	21	120	110	15	25	9.5	59	.197	5.0	.709	18.0
HY-NBH02522X-OH	●	2	.098	2.5	.866	22.0	20	21	120	110	15	25	9.5	60	.248	6.3	.768	19.5
HY-NBH03022X-OH	●	2	.118	3.0	.866	22.0	20	21	120	110	15	25	9.5	61	.295	7.5	.827	21.0
HY-NBH03522X-OH	●	2	.138	3.5	.866	22.0	20	21	120	110	15	25	9.5	53	.346	8.8	.965	24.5
HY-NBH04022X-OH	●	2	.157	4.0	.866	22.0	20	21	120	110	20	25	12	53	.394	10.0	1.102	28.0
HY-NBH05022X-OH	●	2	.197	5.0	.866	22.0	20	21	120	110	20	25	12	46	.492	12.5	1.378	35.0
HY-NBH06022X-OH	●	2	.236	6.0	.866	22.0	20	21	120	110	20	25	12	28.5	.591	15.0	1.654	42.0
HY-NBH02025.0K-OH	●	2	.079	2.0	.984	25.0	20	24	125	115	15	25	9.5	64	.197	5.0	.709	18.0
HY-NBH02525.0K-OH	●	2	.098	2.5	.984	25.0	20	24	125	115	15	25	9.5	65	.248	6.3	.768	19.5
HY-NBH03025.0K-OH	●	2	.118	3.0	.984	25.0	20	24	125	115	15	25	9.5	66	.295	7.5	.827	21.0
HY-NBH03525.0K-OH	●	2	.138	3.5	.984	25.0	20	24	125	115	15	25	9.5	58	.346	8.8	.965	24.5
HY-NBH04025.0K-OH	●	2	.157	4.0	.984	25.0	20	24	125	115	20	25	12	58	.394	10.0	1.102	28.0
HY-NBH05025.0K-OH	●	2	.197	5.0	.984	25.0	20	24	125	115	20	25	12	51	.492	12.5	1.378	35.0
HY-NBH06025.0K-OH	●	2	.236	6.0	.984	25.0	20	24	125	115	20	25	12	28.5	.591	15.0	1.654	42.0
HY-NBH02025.4K-OH	●	2	.079	2.0	1.000	25.4	20	24	125	115	15	25	9.5	64	.197	5.0	.709	18.0
HY-NBH02525.4K-OH	●	2	.098	2.5	1.000	25.4	20	24	125	115	15	25	9.5	65	.248	6.3	.768	19.5
HY-NBH03025.4K-OH	●	2	.118	3.0	1.000	25.4	20	24	125	115	15	25	9.5	66	.295	7.5	.827	21.0
HY-NBH03525.4K-OH	●	2	.138	3.5	1.000	25.4	20	24	125	115	15	25	9.5	58	.346	8.8	.965	24.5
HY-NBH04025.4K-OH	●	2	.157	4.0	1.000	25.4	20	24	125	115	20	25	12	58	.394	10.0	1.102	28.0
HY-NBH05025.4K-OH	●	2	.197	5.0	1.000	25.4	20	24	125	115	20	25	12	51	.492	12.5	1.378	35.0
HY-NBH06025.4K-OH	●	2	.236	6.0	1.000	25.4	20	24	125	115	20	25	12	28.5	.591	15.0	1.654	42.0

Parts for STICK DUO SPLASH

Item Number

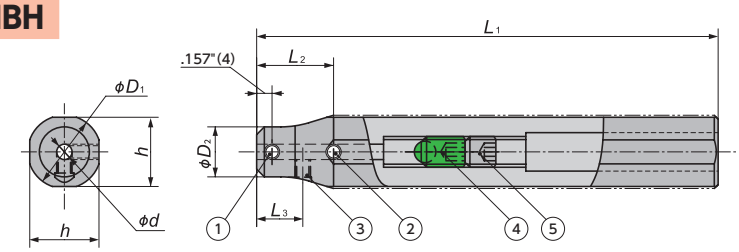
HY-NBH ... -OH



Clamp Screw		Overhang Adjustment		
①	②	③	④	⑤
SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH (Through hole)	SS0806F
M6 Screw		Wrench		
⑥		for①②	for③④⑤	for⑥
SS0605SC		LW-2	LW-4×104	LW-3

STICK DUO HYPER

HY-NBH



Spare Parts

Item Number	Overhang Adjustment		Wrench	
	④	⑤	for①②③	for④⑤
HY-NBH ... K	SS0812R	SS0808F	LW-2	LW-4×104

Please refer to ϕd to find correct-size inserts (bars)

Item Number	Stock	ϕd (Inch)	ϕd (mm)	ϕD_1 (Inch)	ϕD_1 (mm)	ϕD_2 (mm)	h (mm)	L_1 (mm)	L_2 (mm)	L_3 (mm)	Clamp Screws ①	Clamp Screws ②	Clamp Screws ③
HY-NBH02016H	○	.079	2.0	.630	16.0	11	15	100	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02516H	○	.098	2.5	.630	16.0	11.5	15	100	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03016H	○	.118	3.0	.630	16.0	12	15	100	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03516H	○	.138	3.5	.630	16.0	12.5	15	100	20	12	SS04045FS	SS0404F	SS0404F
HY-NBH04016H	○	.157	4.0	.630	16.0	13	15	100	20	12	SS04045FS	SS0404F	SS0404F
HY-NBH05016H	○	.197	5.0	.630	16.0	14	15	100	20	12	SS04045FS	SS0404F	SS0404F
HY-NBH02019K	●	.079	2.0	3/4	19.05	11	18	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02519K	●	.098	2.5	3/4	19.05	11.5	18	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03019K	●	.118	3.0	3/4	19.05	12	18	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03519K	●	.138	3.5	3/4	19.05	12.5	18	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04019K	●	.157	4.0	3/4	19.05	13	18	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05019K	●	.197	5.0	3/4	19.05	14	18	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02020K	○	.079	2.0	.787	20.0	11	19	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02520K	○	.098	2.5	.787	20.0	11.5	19	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03020K	○	.118	3.0	.787	20.0	12	19	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03520K	○	.138	3.5	.787	20.0	12.5	19	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04020K	○	.157	4.0	.787	20.0	13	19	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05020K	○	.197	5.0	.787	20.0	14	19	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02022K	●	.079	2.0	.866	22.0	11	21	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02522K	●	.098	2.5	.866	22.0	11.5	21	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03022K	●	.118	3.0	.866	22.0	12	21	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03522K	●	.138	3.5	.866	22.0	12.5	21	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04022K	●	.157	4.0	.866	22.0	13	21	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05022K	●	.197	5.0	.866	22.0	14	21	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02025K-MET	○	.079	2.0	.984	25.0	11	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02525K-MET	○	.098	2.5	.984	25.0	11.5	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03025K-MET	○	.118	3.0	.984	25.0	12	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03525K-MET	○	.138	3.5	.984	25.0	12.5	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04025K-MET	○	.157	4.0	.984	25.0	13	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05025K-MET	○	.197	5.0	.984	25.0	14	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02025K	●	.079	2.0	1.000	25.4	11	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02525K	●	.098	2.5	1.000	25.4	11.5	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03025K	●	.118	3.0	1.000	25.4	12	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03525K	●	.138	3.5	1.000	25.4	12.5	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04025K	●	.157	4.0	1.000	25.4	13	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05025K	●	.197	5.0	1.000	25.4	14	24	125	20	12	SS04045FS	SS0406F	SS0404F

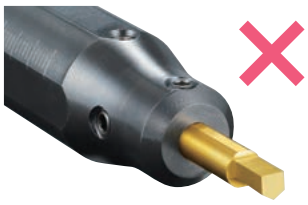
Precaution for Shaper duo with STICK DUO HYPER sleeve

● Set insert in this position

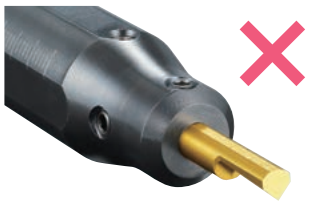
Hexagon

Square

● To avoid insert chipping don't set insert in this position



Hexagon



Square

● : Stock ○ : 1-2 week delivery 💧 : Coolant through

Insert bars ➡W4 Cutting condition ➡W3

STICK DUO - Sleeves for ID machining -

NBH

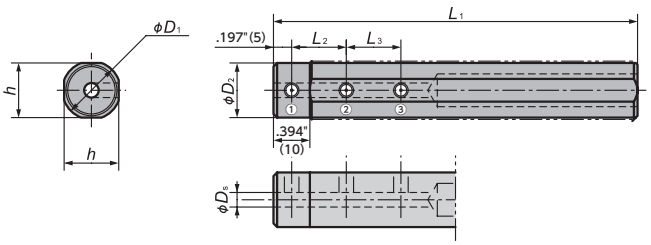


Figure-1

NBH

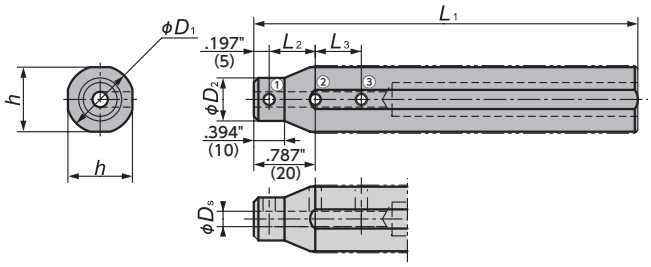


Figure-2

Item number	Figure	Stock	ϕDs (Inch)	ϕDs (mm)	ϕD1 (Inch)	ϕD1 (mm)	ϕD2 (mm)	h (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Clamp screw ①	Clamp screw ②	Clamp screw ③	Wrench
NBH02015H	1	○	.079	2.0	5/8	15.875	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH02515H	1	○	.098	2.5	5/8	15.875	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH03015H	1	○	.118	3.0	5/8	15.875	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH03515H	1	○	.138	3.5	5/8	15.875	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH04015H	1	○	.157	4.0	5/8	15.875	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH04515H	1	○	.177	4.5	5/8	15.875	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH05015H	1	○	.197	5.0	5/8	15.875	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH06015H	1	○	.236	6.0	5/8	15.875	15	15	100	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH08015H	1	○	.315	8.0	5/8	15.875	15	15	100	20	20	SS0403F	SS0403F	SS0403F	LW-2
NBH02016H	1	○	.079	2.0	.630	16.0	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH02516H	1	○	.098	2.5	.630	16.0	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH03016H	1	○	.118	3.0	.630	16.0	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH03516H	1	○	.138	3.5	.630	16.0	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH04016H	1	○	.157	4.0	.630	16.0	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH04516H	1	○	.177	4.5	.630	16.0	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH05016H	1	○	.197	5.0	.630	16.0	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH06016H	1	●	.236	6.0	.630	16.0	15	15	100	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH07016H	1	○	.276	7.0	.630	16.0	15	15	100	20	20	SS0403F	SS0404F	SS0404F	LW-2
NBH08016H	1	●	.315	8.0	.630	16.0	15	15	100	20	20	SS0403F	SS0403F	SS0403F	LW-2
NBH02019K	1	○	.079	2.0	3/4	19.05	18	18	125	10	—	SS0408F	SS0408F	—	LW-2
NBH02519K	1	○	.098	2.5	3/4	19.05	18	18	125	10	—	SS0408F	SS0408F	—	LW-2
NBH03019K	1	○	.118	3.0	3/4	19.05	18	18	125	10	10	SS0406F	SS0406F	SS0406F	LW-2
NBH03519K	1	○	.138	3.5	3/4	19.05	18	18	125	10	10	SS0406F	SS0406F	SS0406F	LW-2
NBH04019K	1	○	.157	4.0	3/4	19.05	18	18	125	15	15	SS0406F	SS0406F	SS0406F	LW-2
NBH04519K	1	○	.177	4.5	3/4	19.05	18	18	125	15	15	SS0406F	SS0406F	SS0406F	LW-2
NBH05019K	1	○	.197	5.0	3/4	19.05	18	18	125	15	15	SS0406F	SS0406F	SS0406F	LW-2
NBH06019K	1	●	.236	6.0	3/4	19.05	18	18	125	20	20	SS0406F	SS0406F	SS0406F	LW-2
NBH07019K	1	○	.276	7.0	3/4	19.05	18	18	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH08019K	1	●	.315	8.0	3/4	19.05	18	18	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH10019K	1	○	.394	10.0	3/4	19.05	18	18	125	20	20	SS0403F	SS0404F	SS0404F	LW-2
NBH02020K	2	○	.079	2.0	.787	20.0	11	19	125	10	—	SS0404F	SS0404F	—	LW-2
NBH02520K	2	○	.098	2.5	.787	20.0	11	19	125	10	—	SS0404F	SS0404F	—	LW-2
NBH03020K	2	○	.118	3.0	.787	20.0	12	19	125	10	10	SS0404F	SS0404F	SS0406F	LW-2
NBH03520K	2	○	.138	3.5	.787	20.0	12	19	125	10	10	SS0404F	SS0404F	SS0406F	LW-2
NBH04020K	2	○	.157	4.0	.787	20.0	13	19	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH04520K	2	○	.177	4.5	.787	20.0	13	19	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH05020K	2	○	.197	5.0	.787	20.0	14	19	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH06020K	2	●	.236	6.0	.787	20.0	15	19	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH07020K	2	○	.276	7.0	.787	20.0	16	19	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH08020K	2	●	.315	8.0	.787	20.0	17	19	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH10020K	2	○	.394	10.0	.787	20.0	19	19	125	20	20	SS0404F	SS0404F	SS0404F	LW-2

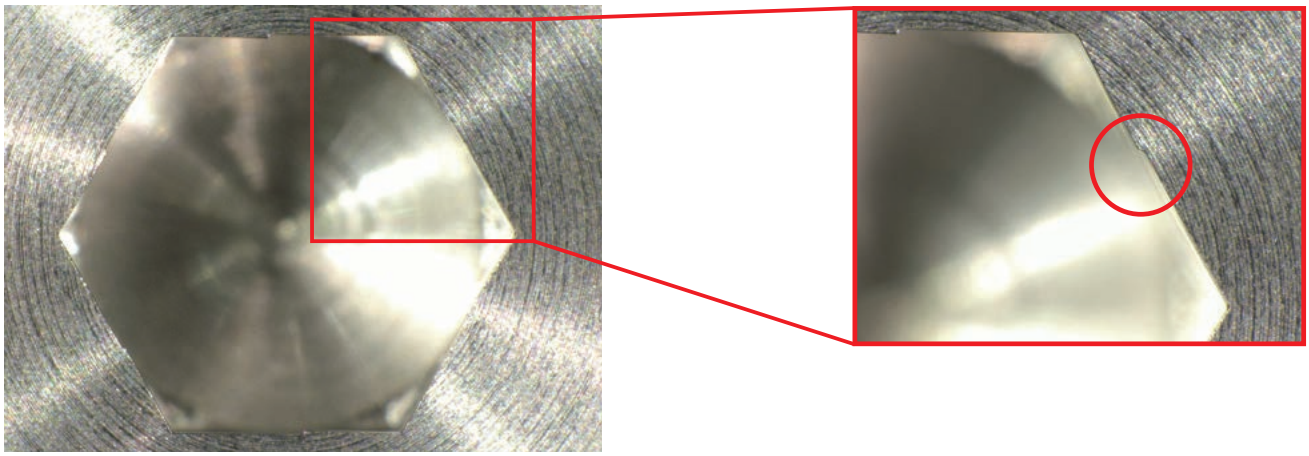
Item number	Figure	Stock	ϕD_s (Inch)	ϕD_s (mm)	ϕD_1 (Inch)	ϕD_1 (mm)	ϕD_2 (mm)	h_1 (mm)	L_1 (mm)	L_2 (mm)	L_3 (mm)	Clamp screw ①	Clamp screw ②	Clamp screw ③	Wrench
NBH02022K	2	○	.079	2.0	.866	22.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02522K	2	○	.098	2.5	.866	22.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03022K	2	○	.118	3.0	.866	22.0	12	21	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03522K	2	○	.138	3.5	.866	22.0	12	21	125	10	10	SS0404F	SS0406F	SS0406F	LW-2
NBH04022K	2	○	.157	4.0	.866	22.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH04522K	2	○	.177	4.5	.866	22.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH05022K	2	○	.197	5.0	.866	22.0	14	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH06022K	2	●	.236	6.0	.866	22.0	15	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH07022K	2	○	.276	7.0	.866	22.0	16	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH08022K	2	●	.315	8.0	.866	22.0	17	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10022K	2	○	.394	10.0	.866	22.0	19	21	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH12022K	2	○	.472	12.0	.866	22.0	21	21	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH02023K	2	○	.079	2.0	.906	23.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02523K	2	○	.098	2.5	.906	23.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03023K	2	○	.118	3.0	.906	23.0	12	21	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03523K	2	○	.138	3.5	.906	23.0	12	21	125	10	10	SS0404F	SS0406F	SS0406F	LW-2
NBH04023K	2	○	.157	4.0	.906	23.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH04523K	2	○	.177	4.5	.906	23.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH05023K	2	○	.197	5.0	.906	23.0	14	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH06023K	2	○	.236	6.0	.906	23.0	15	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH08023K	2	○	.315	8.0	.906	23.0	17	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10023K	2	○	.394	10.0	.906	23.0	19	21	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH12023K	2	○	.472	12.0	.906	23.0	21	21	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH02025K-MET	2	○	.079	2.0	.984	25.0	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02525K-MET	2	○	.098	2.5	.984	25.0	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03025K-MET	2	○	.118	3.0	.984	25.0	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K-MET	2	○	.138	3.5	.984	25.0	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K-MET	2	○	.157	4.0	.984	25.0	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH04525K-MET	2	○	.177	4.5	.984	25.0	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K-MET	2	○	.197	5.0	.984	25.0	14	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K-MET	2	●	.236	6.0	.984	25.0	15	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH07025K-MET	2	○	.276	7.0	.984	25.0	16	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K-MET	2	●	.315	8.0	.984	25.0	17	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10025K-MET	2	○	.394	10.0	.984	25.0	19	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH12025K-MET	2	○	.472	12.0	.984	25.0	21	24	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH02025K	2	○	.079	2.0	1.000	25.4	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02525K	2	○	.098	2.5	1.000	25.4	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03025K	2	○	.118	3.0	1.000	25.4	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K	2	○	.138	3.5	1.000	25.4	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K	2	○	.157	4.0	1.000	25.4	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH04525K	2	○	.177	4.5	1.000	25.4	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K	2	○	.197	5.0	1.000	25.4	14	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K	2	●	.236	6.0	1.000	25.4	15	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH07025K	2	○	.276	7.0	1.000	25.4	16	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K	2	●	.315	8.0	1.000	25.4	17	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10025K	2	○	.394	10.0	1.000	25.4	19	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH12025K	2	○	.472	12.0	1.000	25.4	21	24	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH04532K	2	○	.177	4.5	1.260	32.0	13	30	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH05032K	2	○	.197	5.0	1.260	32.0	14	30	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH06032K	2	○	.236	6.0	1.260	32.0	15	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH07032K	2	○	.276	7.0	1.260	32.0	16	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH08032K	2	○	.315	8.0	1.260	32.0	17	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH10032K	2	○	.394	10.0	1.260	32.0	19	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH12032K	2	○	.472	12.0	1.260	32.0	21	30	125	25	25	SS0404F	SS0406F	SS0406F	LW-2
NBH14032K	2	○	.551	14.0	1.260	32.0	23	30	125	25	25	SS0504	SS0506	SS0506	LW-2.5
NBH16032K	2	○	.630	16.0	1.260	32.0	25	30	125	25	25	SS0504	SS0506	SS0506	LW-2.5

● : Stock ○ : 1-2 week delivery

Insert bars ➡W4 Cutting condition ➡W3

SHAPER DUO Troubleshooting

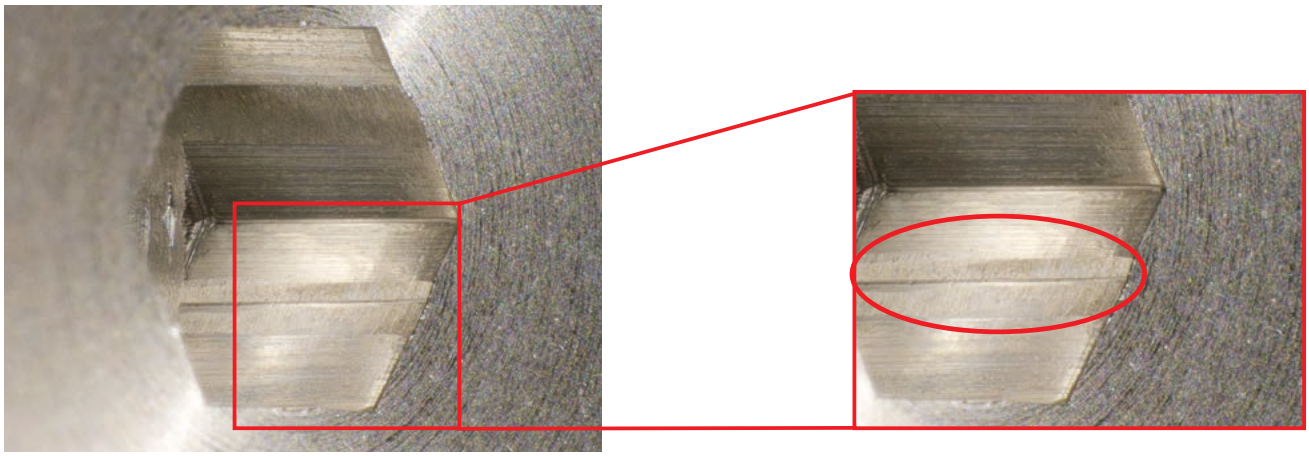
■Problem: Step on sides



Cause: Incorrect tool set-up
(Center-line shift)

Solution: Machine one angle and make sure both [a] and [b] lengths are identical, rotating the sleeve if necessary

■Problem: Wall dented



Cause: Pilot hole remaining

Solution: Need pilot hole tool's offset

■Problem: Wall tapered

Solution:
- Smaller depth of cut
- Less tool overhang

■Problem: Chuck is slipping / Insert chipped

Solution:
- Run at 3000 mm/min (120 IPM) feed rate
- Smaller depth of cut

- 3000 mm/min (120 IPM) feed rate can cover most materials including Titanium alloy and Stainless steel.
- Too slow or too fast of a feed rate may cause excessive tool pressure for the workpiece and tool.

X

Endmills

S-MILL / Solid Carbide End-mill

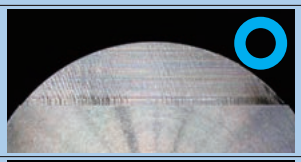
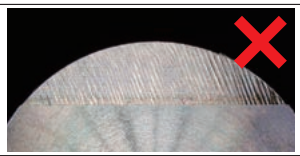
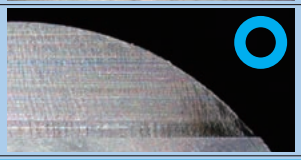
Features

- The tools sharpness creates a remarkable finish on machined surface.
- 2, 3, and 4 flute designs with a selection of diameters to cover a variety of applications. (2 flute available in 2mmϕ)
- 40, 45, and 50mm lengths ideal for automatic lathes.

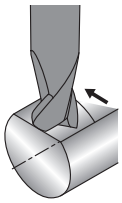
Two style

Three flute options

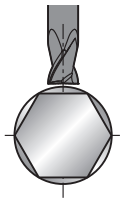
Surface finish

	NTK (S-MILL)	Competitor A	Competitor B
Magnified work material (side face)			
Magnified work material			
	Excellent surface finish	Bad surface finish	
304 SS (Φ16mm) ϕ6mm -2 flute 3,000 rpm, 11.8 IPM, 118" DOC, .047" width			

Field Result

316 SS (D-cut) ϕ6mm-2 flute	
3,200 rpm	
5.5 IPM	
.024 DOC	
WET	
NTK : **S-MILL**	12,000 pcs/corner+α
Competitor's solid endmill	10,000 pcs/corner

The competitor's end mill showed an obvious decrease in surface finish quality as it reached the end of its tool life. NTK's S-MILL maintained a quality surface finish throughout the extent of its longer tool life.

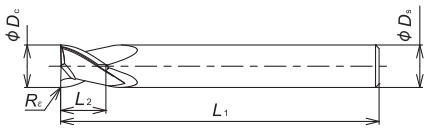
1045 (AF 8mm HEX) ϕ6mm-2 flute	
2,600 rpm	
18.9 IPM	
.039 DOC	
WET	
NTK : **S-MILL**	70 pcs/corner+α
Competitor's solid endmill	50 pcs/corner

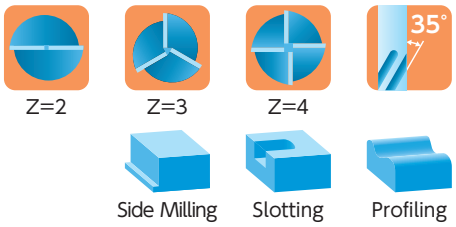
The S-MILL sharpness reduces the occurance of burrs and tool life is increased; clear improvements over the competitor's tool. The sharp cutting edge also produces noticeably less sound than the current tooling.

RWEM

○No center cutting edge

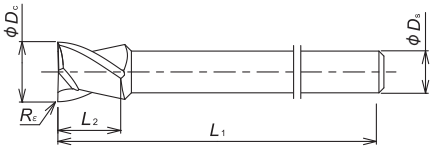
Figure-1





○No center cutting edge

Figure-2



Steel	P	●
Stainless steel	M	●

● : 1st Choice ● : 2nd choice

	Item Number	Figure	Grade AC3	Flute	φDc (Inch)	φDc (mm)	φDs (Inch)	φDs (mm)	L1 (Inch)	L1 (mm)	L2 (Inch)	L2 (mm)	Rε (Inch)	Rε (mm)
2 flute	RWEM020H2R00S04	1	●	2	.080	2.0	.158	4.0	1.575	40.0	.080	2.0	0.0	0.0
	RWEM030H2R00S04	1	●		.118	3.0	.158	4.0	1.575	40.0	.118	3.0	0.0	0.0
	RWEM040H2R00S04	1	●		.158	4.0	.158	4.0	1.575	40.0	.158	4.0	0.0	0.0
	RWEM050H2R00S06	1	●		.197	5.0	.236	6.0	1.772	45.0	.197	5.0	0.0	0.0
	RWEM060H2R00S06	1	●		.236	6.0	.236	6.0	1.772	45.0	.236	6.0	0.0	0.0
	RWEM070H2R00S08	1	●		.276	7.0	.315	8.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM080H2R00S07	2	●		.315	8.0	.276	7.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM080H2R00S08	1	●		.315	8.0	.315	8.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM100H2R00S07	2	●		.394	10.0	.276	7.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM100H2R00S10	1	●		.394	10.0	.394	10.0	1.969	50.0	.236	6.0	0.0	0.0
3 flute	RWEM030H3R00S04	1	●	3	.118	3.0	.158	4.0	1.575	40.0	.118	3.0	0.0	0.0
	RWEM040H3R00S04	1	●		.158	4.0	.158	4.0	1.575	40.0	.158	4.0	0.0	0.0
	RWEM050H3R00S06	1	●		.197	5.0	.236	6.0	1.772	45.0	.197	5.0	0.0	0.0
	RWEM060H3R00S06	1	●		.236	6.0	.236	6.0	1.772	45.0	.236	6.0	0.0	0.0
	RWEM070H3R00S08	1	●		.276	7.0	.315	8.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM080H3R00S07	2	●		.315	8.0	.276	7.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM080H3R00S08	1	●		.315	8.0	.315	8.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM100H3R00S07	2	●		.394	10.0	.276	7.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM100H3R00S10	1	●		.394	10.0	.394	10.0	1.969	50.0	.236	6.0	0.0	0.0
4 flute	RWEM030H4R00S04	1	●	4	.118	3.0	.158	4.0	1.575	40.0	.118	3.0	0.0	0.0
	RWEM040H4R00S04	1	●		.158	4.0	.158	4.0	1.575	40.0	.158	4.0	0.0	0.0
	RWEM050H4R00S06	1	●		.197	5.0	.236	6.0	1.772	45.0	.197	5.0	0.0	0.0
	RWEM060H4R00S06	1	●		.236	6.0	.236	6.0	1.772	45.0	.236	6.0	0.0	0.0
	RWEM070H4R00S08	1	●		.276	7.0	.315	8.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM080H4R00S07	2	●		.315	8.0	.276	7.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM080H4R00S08	1	●		.315	8.0	.315	8.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM100H4R00S07	2	●		.394	10.0	.276	7.0	1.969	50.0	.236	6.0	0.0	0.0
	RWEM100H4R00S10	1	●		.394	10.0	.394	10.0	1.969	50.0	.236	6.0	0.0	0.0

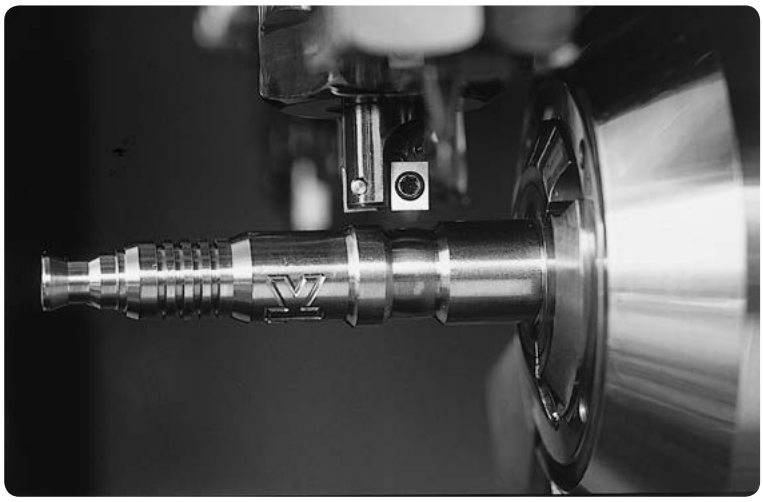
【Recommend Cutting Conditions】

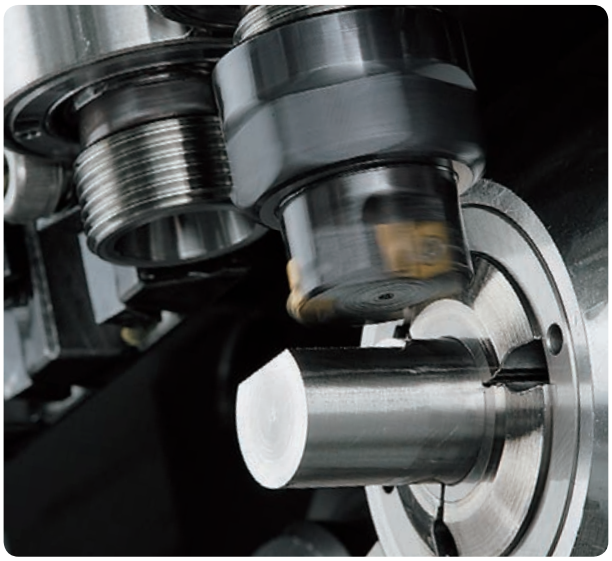
Flute	φDc (mm)	Carbon Steel rpm	Carbon Steel IPM	Alloy steel rpm	Alloy steel IPM	Stainless steel rpm	Stainless steel IPM	Side Milling DOC ap (Inch)	Side Milling Width of cut ae (Inch)	Slotting DOC ap (Inch)
2	2	14,300	9.1	11,100	7.1	10,300	5.5	−.079	−.016	−.016
	3	9,500	13.0	7,400	10.2	6,900	8.3	−.118	−.024	−.024
	4	7,200	15.4	5,600	11.8	5,200	9.4	−.157	−.031	−.031
	5	5,700	16.5	4,500	13.0	4,100	10.2	−.197	−.039	−.039
	6	4,800	17.3	3,700	13.4	3,400	10.6	−.236	−.047	−.047
	7	4,100	16.5	3,200	13.0	3,000	10.6	−.236	−.055	−.055
	8	3,600	16.1	2,800	12.6	2,600	9.8	−.236	−.063	−.063
	10	2,900	14.6	2,200	11.0	2,100	9.1	−.236	−.079	−.079
3	3	9,500	15.4	7,400	12.2	6,900	9.8	−.118	−.024	−.024
	4	7,200	18.5	5,600	14.2	5,200	11.4	−.157	−.031	−.031
	5	5,700	19.7	4,500	15.7	4,100	12.2	−.197	−.039	−.039
	6	4,800	20.9	3,700	16.1	3,400	13.0	−.236	−.047	−.047
	7	4,100	20.1	3,200	15.7	3,000	12.6	−.236	−.055	−.055
	8	3,600	19.3	2,800	15.0	2,600	12.2	−.236	−.063	−.063
	10	2,900	17.3	2,200	13.0	2,100	11.0	−.236	−.079	−.079
4	3	9,500	18.1	7,400	14.2	6,900	11.4	−.118	−.024	−.024
	4	7,200	21.3	5,600	16.5	5,200	13.4	−.157	−.031	−.031
	5	5,700	23.2	4,500	18.1	4,100	14.6	−.197	−.039	−.039
	6	4,800	24.4	3,700	18.9	3,400	15.0	−.236	−.047	−.047
	7	4,100	23.2	3,200	18.1	3,000	15.0	−.236	−.055	−.055
	8	3,600	22.4	2,800	17.3	2,600	14.2	−.236	−.063	−.063
	10	2,900	20.1	2,200	15.4	2,100	12.6	−.236	−.079	−.079

※Please adjust speed and table feed by same ratio.

● : Stock
● : Stock (Newly added)
■ □ R L : While stocks last
R L : Stock (Right / Left-hand only)
R L : Stock (Right / Left-hand only, Newly added)
Ⓜ : Mirror finish
○ : 1-2 week delivery
○ : 1-2 week delivery (Newly added)
💧 : Coolant through
RⓁ : 1-2 week delivery (Right / Left-hand only)
RⓁ : 1-2 week delivery (Right / Left-hand only, Newly added)

Small Diameter Indexable Endmills





Features

- **Attach .787"(20㎜) end mills in ER16 collet**
- Just change inserts to index. No need to make any adjustments
- High quality surface finish, as low as 1um (Rz) when wiper inserts are used
- Corner radius as small as .002"
- In addition to D cut, ramp machining can be performed*

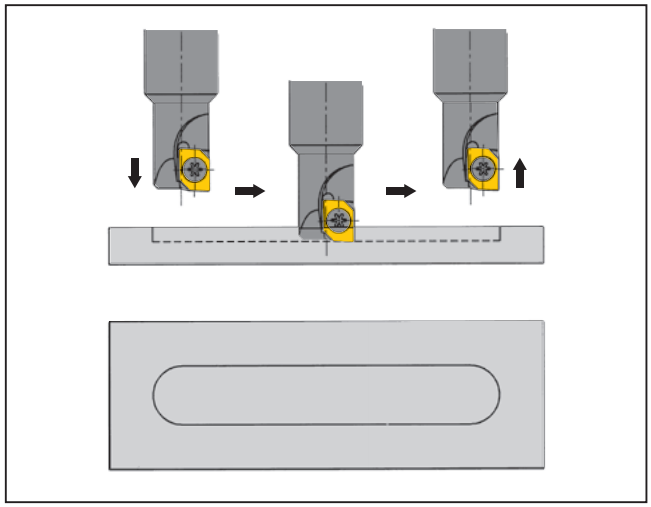
*A combination of single-blade type endmills and inserts with center blade is required

【Recommended Cutting Conditions】

Work Material	Speed SFM	Axial feed IPR	Traverse feed IPR	Depth of cut Inch	Width of cut
Steel	260 – 400	~.001	~.002	~.118	~50% of cutter diameter
Stainless Steel	130 – 200	~.0008	~.0015	~.079	~50% of cutter diameter

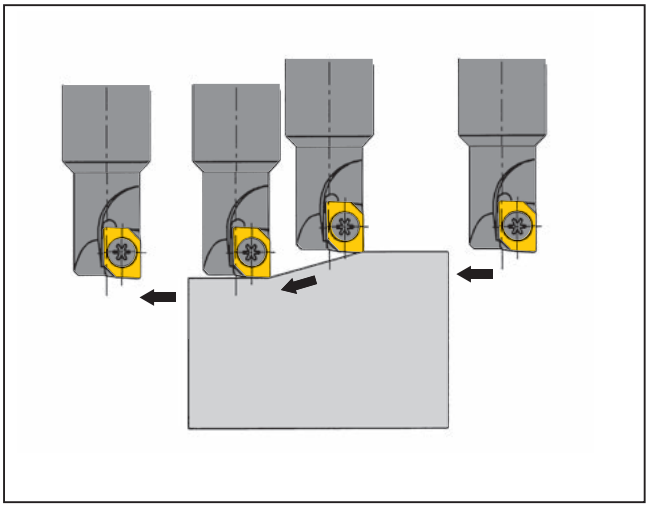
Application Example

Application Example-1



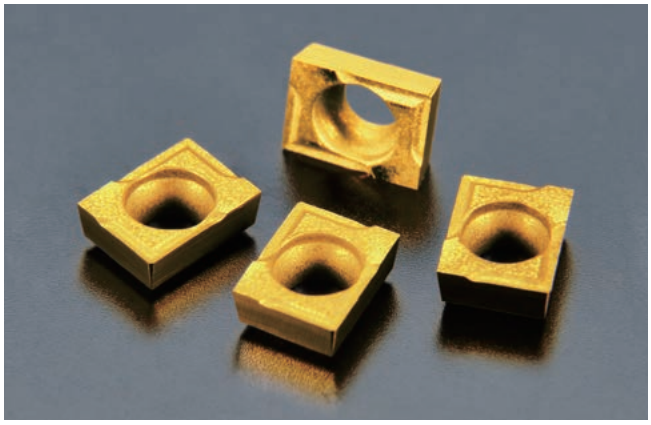
- A single tooth endmill equipped with a center cutting edge insert can be used for both plunge and side cut operations.

Application Example-2



- A single tooth endmill equipped with a center cutting edge insert can be used for slope milling operations.

Insert



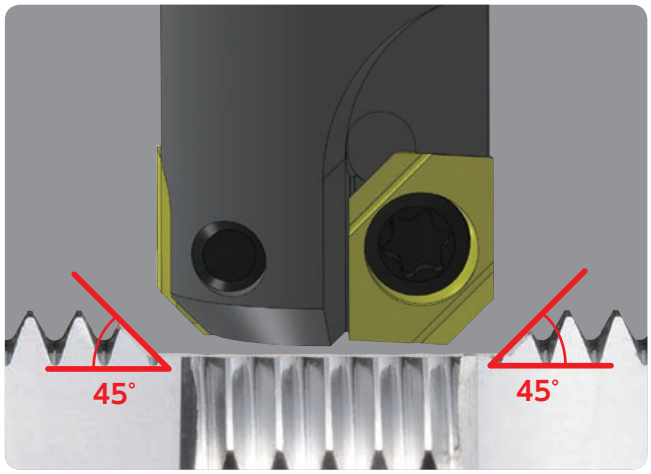
Wiper

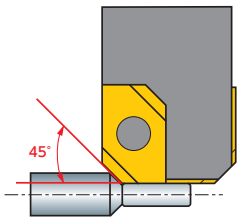
- Excellent surface finish obtained with new wiper insert

Chipbreaker

- Less tool pressure with chipbreaker

45°



Chamfered surface finish insert	
S45C	
310 SFM	
.0056 IPR	
.039 DOC	
WET	
NTK : **QM3 C45 type**	700 pcs
Competitor's solid endmill	500 pcs

REZ Series

REZ

〈D cutting = lead angle 90 type end milling tool〉

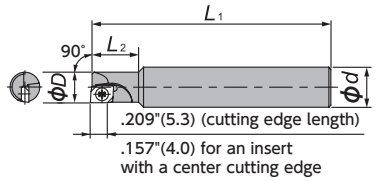


Figure-1

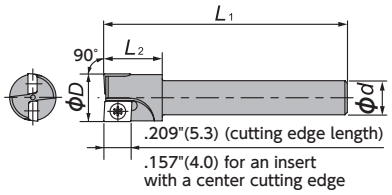


Figure-2

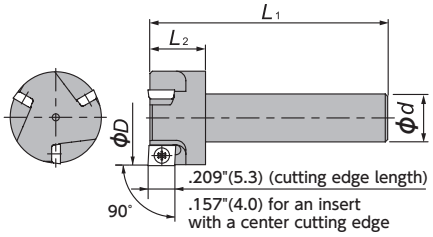


Figure-3

〈D cutting = lead angle 45 type end milling tool〉

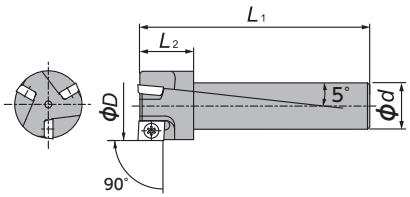


Figure-4 Right-Hand style shown

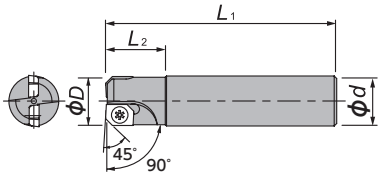


Figure-5

REZ Series - Toolholders

REZ

Gage Insert	Item Number	Figure	Stock R	Stock L	No. of teeth	ϕD (Inch)	ϕD (mm)	ϕd (Inch)	ϕd (mm)	L1 (Inch)	L1 (mm)	L2 (Inch)	L2 (mm)	Clamp Screw	Wrench
CZH04..CFR...	**REZ080C1R212**	1	○		1	.315	8	.394	10	2.362	60	.472	12	FS102-2.2 × 4.0	T-07
CZH05..CFR...	**REZ100C1R218**	1	○		1	.394	10	.394	10	2.953	75	.472	12	FS102-2.2 × 4.3	T-07
CZH04..CFR...	**REZ100B2R329**	2	○		2	.394	10	.197	5	1.575	40	.394	10	FS102-2.2 × 4.3	T-07
	REZ100C2R133	2	○		2	.394	10	.236	6	1.969	50	.472	12	FS102-2.2 × 4.3	T-07
	REZ100C2R132	2	○		2	.394	10	.276	7	1.969	50	.472	12	FS102-2.2 × 4.3	T-07
	REZ100C2R141	2	●		2	.394	10	.394	10	1.969	50	.472	12	FS102-2.2 × 4.3	T-07
	REZ120C2R141	2	○		2	.472	12	.394	10	1.969	50	.472	12	FS102-2.2 × 4.3	T-07
	REZ140C2R141	2	○		2	.551	14	.394	10	1.969	50	.472	12	FS102-2.2 × 4.3	T-07
	REZ150B3R330	3	○		3	.591	15	.197	5	1.575	40	.394	10	FS102-2.2 × 4.3	T-07
	REZ200M3R319	3	○		3	.787	20	.276	7	1.969	50	.472	12	FS102-2.2 × 4.3	T-07
	REZ200M3R320	3	●		3	.787	20	.394	10	1.969	50	.472	12	FS102-2.2 × 4.3	T-07
	REZ200C3R403	4	●		3	.787	20	.394	10	1.969	50	.472	12	FS102-2.2 × 4.3	T-07
CZH0400CFR-C45 CZH04..CFR...	**REZ100C2R466**	5	○		2	.394	10	.276	7	1.969	50	.472	12	FS102-2.2 × 4.3	T-07
	REZ100C2R461	5	●		2	.394	10	.394	10	1.969	50	.472	12	FS102-2.2 × 4.3	T-07

CZH Series - Inserts

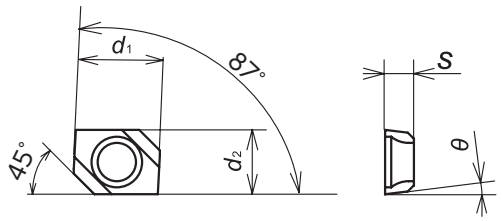


Figure-1 Chipbreaker with wiper

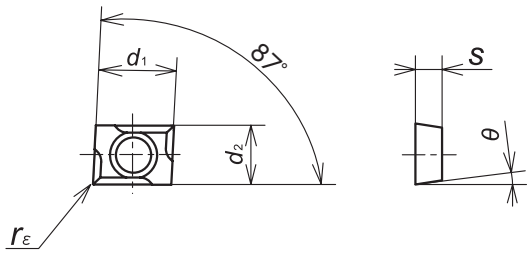


Figure-2 Chipbreaker

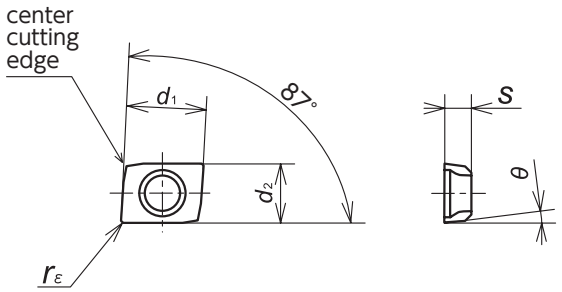


Figure-3 Center cutting edge without wiper

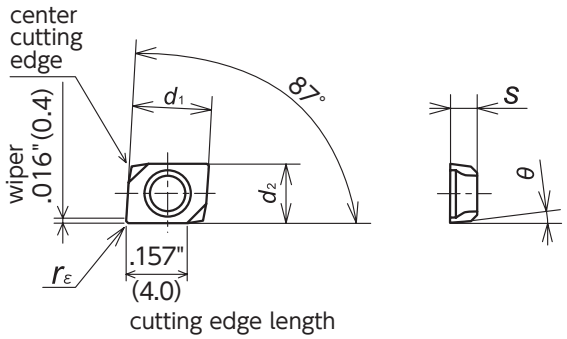


Figure-4 Center cutting edge with wiper

■CZH

Item Number	Figure	Chip-breaker	Center Blade	Wiper	d_1 (Inch)	d_1 (mm)	d_2 (Inch)	d_2 (mm)	s (Inch)	s (mm)	θ	C or r_ε (Inch)	C or r_ε (mm)	Coated Carbide DM4	DT4	QM3	TM4	ZM3
CZH0400CFR-C45 *	1	Yes	No	Yes	.219	5.56	.165	4.20	.074	1.88	7°	C.053	C1.35		●	○		
CZH04005CFR-BL	2	Yes	No	No	.219	5.56	.165	4.20	.074	1.88	7°	.002	0.05	●			○	
CZH0402CFR-BL	2	Yes	No	No	.219	5.56	.165	4.20	.074	1.88	7°	.008	0.2	●			○	
CZH04005CFR-070	3	No	Yes	No	.219	5.56	.165	4.20	.074	1.88	7°	.002	0.05		●			●
CZH0402CFR-070	3	No	Yes	No	.219	5.56	.165	4.20	.074	1.88	7°	.008	0.2		●			○
CZH04005CFR-140	4	No	Yes	Yes	.219	5.56	.165	4.20	.074	1.88	7°	.002	0.05		●			●
CZH0402CFR-140	4	No	Yes	Yes	.219	5.56	.165	4.20	.074	1.88	7°	.008	0.2		●			●
CZH05005CFR-141	4	No	Yes	Yes	.208	5.28	.219	5.56	.086	2.18	10°	.002	0.05					○
CZH0502CFR-141	4	No	Yes	Yes	.208	5.28	.219	5.56	.086	2.18	10°	.008	0.2					○

*Must be used with REZ100C2R461/466Cuters

Cutting condition ➡X2

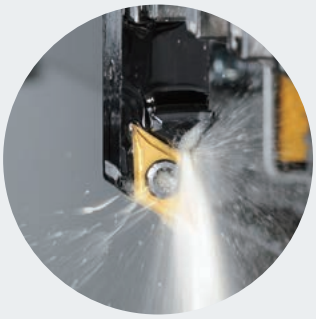

WATCH ON YouTube




www.youtube.com/ntkcuttingtools








http://www.ntkcuttingtools.com/

Please visit the website of "NTK CUTTING TOOLS" for the latest information and consultation about cutting tools.

Available on the App Store
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ANDROID APP ON Google play
App for ANDROID

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Information

Grade Comparison Chart

BIDEMICS/Ceramics

	NTK	GREENLEAF	HERTEL	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	NEWCOMER	ROMAY	SANDVIK	SPK	SSANGYONG	SUMIOTOMO	TAEGUTECH	TUNGALOY	VALENITE
Cast iron K	HC1 HW2	GEM19	AC5	I50	IN11	K060	KA30	NP5200	CC10			SZ200 SZ300		AB120 AW20		
	HC2 HC5 HC6	GEM7	HT610CA MC2	I100	IN22 IN23	K090 KY1615	A65 A66N PT600M	NP5000	CC20 CC30	CC620 CC650 CC6050	SN60 SN80 SH2	SD200 ST100 ST300 ST500 SD200 TA300 TC300	NB90S	AB30	LX11 LX21 CX710	Q32
	SX6 SP9	CSN100 CSN200 GSN100 HSN100 HSN200		MW30 MW43	IS6 IS8 IS80	KY3000 KY3400 KY3500 KYK25 KYK35 KY4400 KYK10 KY1320	CS7050 KS500 KS6000 KS6050		CC510 CC513 CC514 CC514SC CC515 CC516 CC516SC	CC1690 CC6090 CC6190	SL506 SL508 SL550C SL554C SL654 SL808 SL854C	SN26 SN300 SN400 SN500 SN600 SN700 SN800	NS260 NS260C SN2000K SN2100K	AS10 AS500 SC10 AW20 AB30 AB20	CX710 FX105	VPQ130 VPQ135
Heat resistant alloy S	JX0 JX1															
	WA1	WG300 WG600 WG700			IW7	KY1525 KY4300			CC60	CC670		SW400 SW500 SW700 SW800	WX1500 WX120	TC430		
	SX3 SX5 SX7 SX9	XSYTIN-1		MW37	IS9	KY1540 KY2100 KYS25 KYS30 KYSP30 KYSM10	CF1 KS6030 KS6040		CC5477	CC6060 CC650 CC6065		SN800 SN900	WX2500 WX2000	AS20	M101S	
Hardened material H	HC4 ZC4 HC5 HC7 ZC7	GEN7	HT610CA	I100	IN22 IN23 IN420	KY1615 KY4400	A65 A66N KT66 PT600M		CC30SC	CC6050 CC650		ST500 TM300 TC100 TC300	NB90S NB150H	AW120 AB30	LX11	Q35 VPZ205 VPZ215
	WA1	WG300 WG600 WG700			IW7	KY4300 KYS25				CC670		SW400 SW500 SW700 SW800				

BIDEMICS/CBN

	NTK	DIJET	HITACHI	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	MITSUBISHI	SANDVIK	SECO	SPK	SSANGYONG	SUMIOTOMO	TAEGUTECH	TUNGALOY	WALTER
Cast iron K	B23 B30 B99	JBN330 JBN795	BH200 BH250	CBN90 CBN95 CBN100	IB50 IB55 IB85	KB1345 KB1630 KB5630 KB9610 KB9640 KB1340	KBN60M KBN65B KBN900	BC5030 MB710 MB730 MB5015 MBS140	CB7525 CB7925	CBN20 CBN050C CBN200 CBN300 CBN300P CBN350 CBN600	WBN100 WBN105 WBN115 WBN120 WBN750	SBN1000 SBN1600	BN500 BN600 BN700 BNS800	KB90 KB90A TB650 TB670 TB730	BX470 BX480 BX850 BX870 BX90S BX910 BX930 BX950 BXC90	
Heat resistant alloy S	JP2															
				CBN80		KB1340 KB1630 KB5630		MB730		CBN170			BN700	KB90 TB730	BX950	
Hardened material H	B52 B36 B40 B5K B6K	JBN245 JBN300	BH200 BH250	CBN45 CBN50 CBN60 CBN70	IB10HC IB20H IB25HA IB25HC IB50 IB55	KB1340 KB1610 KB1625 KB5610 KB5625 KB5630 KB9610 KB9640	KBN05M KBN10C KBN10M KBN25C KBN25M KBN30M KBN35N KBN510 KBN525 KBN900	BC8020 MB810 MB825 MB835 MB8025 MBC010	CB20 CB50 CB7015 CB7025 CB7525	CBN10 CBN050C CBN100 CBN150 CBN160P CBN170 CBN200 CBN300P CBN350	WBN500 WBN550 WBN600 WBN650	SBN1000 SBN2000 SBN4000	BN250 BN300 BN350 BN1000 BN2000 BNC80 BNC100 BNC150 BNC160 BNC200 BNC300 BNC2010 BNC2020 BNX10 BNX20 BNX25 BNX300	KB50 TB610 TB650 TB670	BX310 BX330 BX360 BX380 BX530 BXC50 BXM10 BXM20	VPC225 WLB30 WLB50

PCD

	NTK	DIJET	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	MITSUBISHI	SANDVIK	SECO	SSANGYONG	SUMIOTOMO	TAEGUTECH	TUNGALOY	WALTER
Non-ferrous material N	PD1 PD2	JDA10 JDA30 JDA40 JDA715 JDA735 JDA745	PCD3 PCD-F PCD-UF	ID5 ID8	KD1400 KD1405 KD1425 KD1410 KD1415 KD1425	KPD001 KPD010 KPD230	MD205 MD220 MD230	CD10	PD10 PD20 PD30	SPD1000 SPD2000 SPD3000	DA10 DA90 DA150 DA200 DA1000 DA2200	KP100 KP300 KP500	DX110 DX120 DX140 DX160 DX180	WCD10

(Note) This chart is based on published data and not authorized by each manufacturer

Non coated carbide

	NTK	DIJET	GREENLEAF	HITACHI	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	MITSUBISHI	ROMAY	SANDVIK	SECO	SUMIOTOMO	TAEGUTECH	TUNGALOY	WALTER
Steel P	**KM1**	DX30 DX35 SR30 SRT	G20M G60 G50 G70	EX35 EX40 EX45 WS10	CI5 CI6 CI7 CI9	IC50M IC54 IC70 IC28	KU10 K420 K125M	PW30	UTi20T			S10M S25M S60M	A30 ST10P ST20E ST30E ST40E	CT3000	TX40 UX25 UX30	
Non-ferrous material N	**KM1**	CR1 KG03 KG1 KG10 KG20 KG30 KT9 LF12	G02 G23	WH02 WH05 WH10 WH20D	CI1 CI2 CI3 CI4 CI65	IC04 IC10 IC20 IC28	K313 K68 K110M K115M K600 K1	GW15 GW25 KW10	HTi05T HTi10 UTi20T	R600	H10 H10F H13A	883 890 HX	EH520 G10E H1	UF1	G1F G2 G2F G3 KS05F KS15F KS20 TH03 TH10 TU10	WK1 WSN10

PVD coated carbide

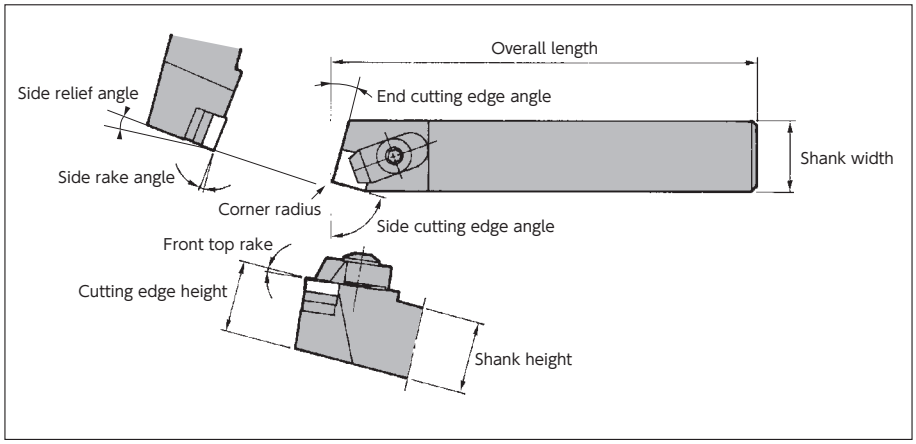
	NTK	DIJET	GREENLEAF	HITACHI	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	MITSUBISHI	SANDVIK	SECO	SUMIOTOMO	TAEGUTECH	TUNGALOY	WALTER
Steel P	**VM1 ZM3 QM3 TM4 DT4 DM4**	JC5003 JC5015 JC5030 JC5040	G915 G920 G925 G935	CY15 CY150 CY250 CY9020 HC844 IP2000 IP3000	CI25A CI29	IC328 IC507 IC807 IC907 IC908 IC928 IC3028 IC830 IC570	KC5010 KC5025 KC5510 KC5525 KCU10 KCU25 KC710 KC720 KC722 KC730 KC735M KC792M	PR915 PR930 PR1005 PR1025 PR1115 PR1215 PR1225	VP10MF VP10RT VP15TF VP20MF VP20RT	GC1125 GC1525 GC15 GC1025 GC1145 GC2035 GC2145 GC4125	CP200 CP250 CP500	AC350 AC520U AC530U ACZ150 ACZ310 ACZ330 ACZ350	TT1040 TT7220 TT8010 TT8020 TT9030 TT9080	AH120 AH130 AH140 AH710 AH725 AH730 AH740 GH130 GH330 SH730 AH330 GH730	WSM30 WXM33 WXP20 WXP43
Stainless steel M	**VM1 ZM3 QM3 TM4 DT4 DM4**	JC5003 JC5015 JC5030 JC5040	G915 G920 G925	CY250 CY9020 IP050S IP100S	CI23 CI24 CI29	IC308 IC507 IC520 IC807/907 IC908 IC928 IC1008 IC1028 IC3028 IC830 IC570	KC5010 KC5025 KC5510 KC5525 KCU10 KCU25 KC710 KC720 KC722 KC730 KC735M KC792M	PR915 PR930 PR1025 PR1125 PR1215 PR1225	VP10MF VP10RT VP15TF VP20MF VP20RT	GC15 GC1005 GC1025 GC1105 GC1115 GC1125 GC1145 GC1525 GC2030 GC2035 GC4125	CP200 CP250 CP500 TS2000 TS2500	AC350 AC510U AC520U AC530U AC6040M ACZ150 ACZ310 ACZ330 ACZ350 EH510Z EH520Z AC6030M AC610M AC830P AC630M	TT1040 TT5080 TT7010 TT7080 TT7220 TT8010 TT8020 TT9030 TT9080 TT9020	AH120 AH130 AH140 AH710 AH725 AH730 GH130 GH330 GH730 SH730 AH330	WXM20 WXM33 WXN10 WXP20 WXP43
Cast iron K	**QM3 DM4**	JC5003 JC5015		CY10H CY100H CY9020		IC507 IC508 IC908 IC910 IC808 IC1008	KC5010 KC5025 KC5510 KC5525 KCU10 KCU25 KC720 KC730	PR905 PR1215	VP10RT VP15TF VP20RT	GC1020 GC1125 GC15	CP200 CP250 CP500 DTS2500 TK1000 TK2000 TS2000	AC510U AC520U AC530U ACZ310 EH10Z EH20Z EH510Z AC405K	TT1040 TT6080 TT7010 TT7080	AH110 AH120 GH110 GH130	
Heat resistant alloy S			G920 G925			IC807/907 IC908 IC830	KC5010 KC5510 KC5525 KC7310 KCU10 KCU25			GC15 GC1005 GC1025 GC1105 GC1115 GC1125 GC2145 GC4125		AC510U AC520U AC530U	TT8125 TT8135 TT8020 TT9030 TT9080 TT9020	AH905	
Hardened material H							KC5010 KC5510 KCU10 KCU25			GC1010 GC1025 GC1030		AC503U			

CVD coated carbide

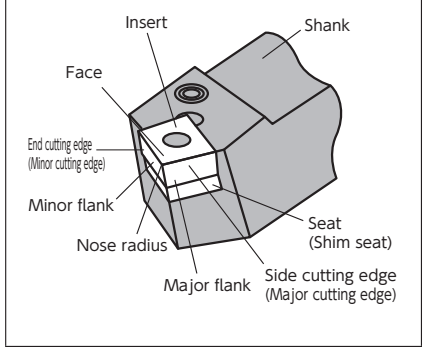
	NTK	DIJET	GREENLEAF	HITACHI	INDEXABLE	ISCAR	KENNAMETAL	KYOCERA	MITSUBISHI	ROMAY	SANDVIK	SECO	SUMIOTOMO	TAEGUTECH	TUNGALOY	WALTER
Cast iron K	**CP1**	JC050W JC105V JC110V JC215V JC605W JC605X JC610	GA5022 GA5023	GM25 GM8015 GM8020 GM8025 HG3305 HG3315 HG8010 HX3505 HX3515	CIN2 CINX CIT3 CIT6 CIX	IC418 IC428 IC9007 IC9015 IC9150	KCK05 KCK15 KCK20 KCP05 KCP10 KCP25 KCP30 KC9325	CA4010 CA4115 CA4120 CA4505 CA4515 CA5505	MC5005 MC5015 MY5015 UC5105 UC5115 UE6110	R100 R200 R500	GC3005 GC3205 GC3210 GC3215 GC4215 GC4315	MK1500 TH1000 TK1000 TK2000 TP200 TP2500 TX150	AC300G AC410K AC420K AC700G AC810P AC820P AC8025P ACK200	TT6300 TT6800 TT7005 TT7015	T1015 T1115 T5105 T5115 T5125	WPP01 WPP10 WPP20

Turning Tool Terminology

Toolholder part names



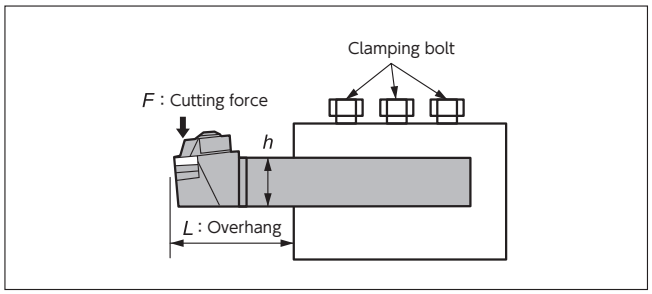
Part names of a cutting tool



Holder rigidity

Toolholder deflection

$$\delta = \frac{4 \times F \times L^3}{E \times b \times h^3} = \frac{4 \times k_c \times f \times L^3}{E \times b \times h^3}$$

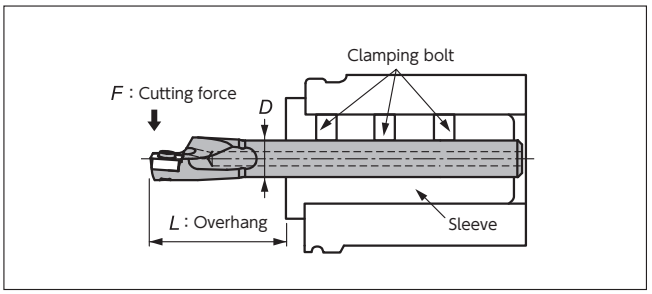


Symbol	Term	Unit
δ	Deflection amount	mm
b	Shank width	mm
h	Shank height	mm
E	Young's modulus	N/mm²
a_p	Depth of cut	mm
f	Feed amount	mm/rev
k_c	Specific cutting force	N/mm²
L	Overhang	mm
F	Cutting force	N

($F = k_c \times a_p \times f$)

Boring bar deflection

$$\delta = \frac{64 \times F \times L^3}{3 \times E \times \pi \times D^4} = \frac{64 \times k_c \times a_p \times f \times L^3}{3 \times E \times \pi \times D^4}$$



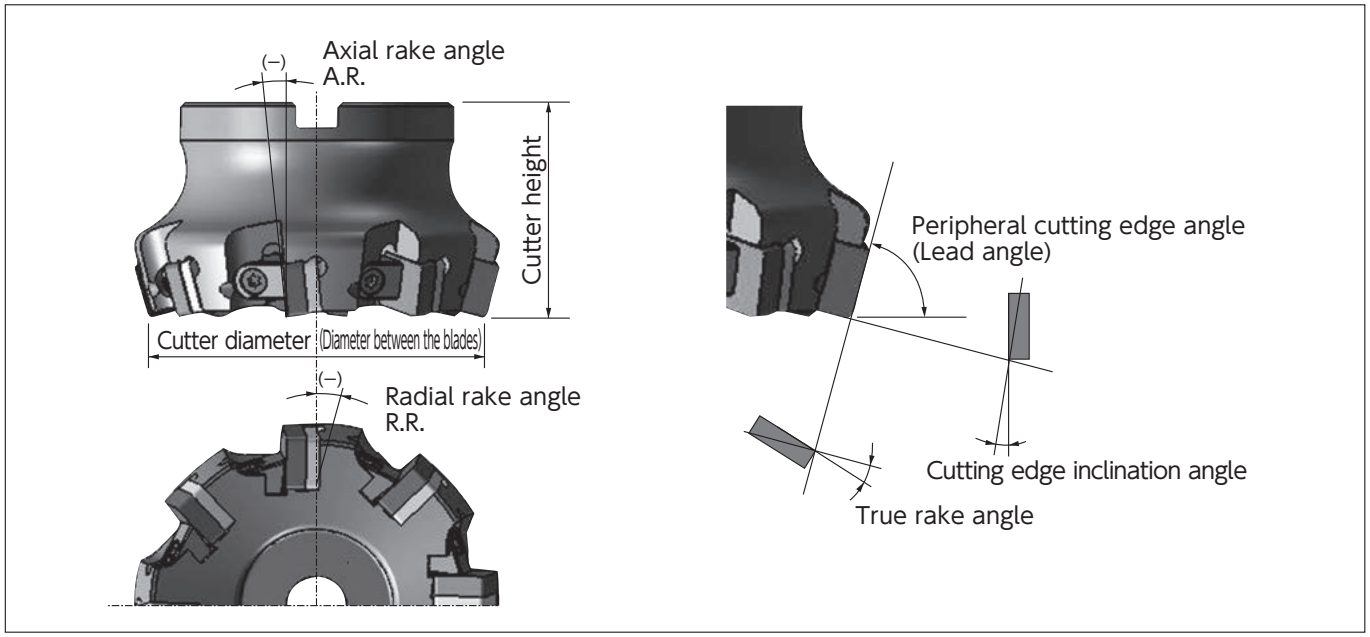
Symbol	Term	Unit
δ	Deflection amount	mm
D	Shank width	mm
E	Young's modulus	N/mm²
a_p	Depth of cut	mm
f	Feed amount	mm/rev
k_c	Specific cutting force	N/mm²
L	Overhang	mm
F	Cutting force	N

($F = k_c \times a_p \times f$)

An important factor in improving the rigidity of a toolholder is to ensure the overhang of the tool shank is as short as possible.

Milling Cutter Terminology

Milling cutter terminology



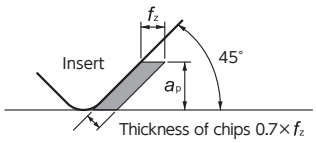
Functions of each cutting edge angle

Name	Function	Effects
Radial rake angle: R.R.	Controls the direction of chip evacuation and cutting force	Negative (−): Excels in chip control performance
Axial rake angle: A.R.	Controls the direction of chip evacuation and cutting force	Positive (+): Excels in cutting performance and BUE resistance
Lead angle	Controls the thickness and evacuation direction of chips	Larger lead angles decrease the thickness of chips and relieves cutting load
True rake angle	Actual rake angle	Larger angles excel in cutting performance and BUE resistance, but lower the cutting edge strength Smaller angles increase the cutting edge strength but lower the BUE resistance
Cutting edge tilt angle	Controls the direction of chip evacuation	Larger angles excel in chip control performance and relieve cutting load, but lower the strength of the insert corner

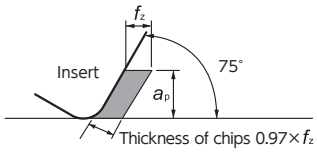
Functions of each angle

《Lead angle》: Relationship of this angle and chip thickness

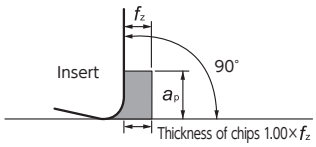
Lead angle : 45 degrees



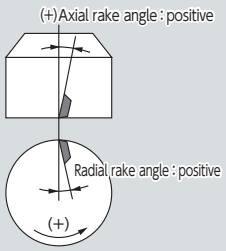
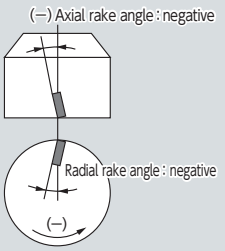
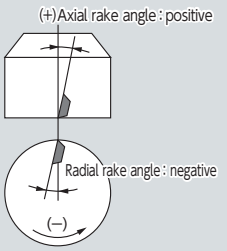
Lead angle : 75 degrees



Lead angle : 90 degrees

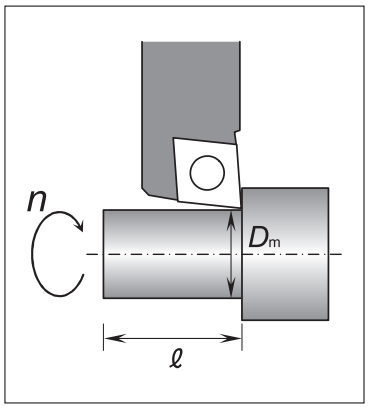


《Rake angle》: Combinations and characteristics

Combinations of the angles for basic cutting edge shapes		 Double-positive cutting edge shape (DP edge shape)	 Double-negative cutting edge shape (DN edge shape)	 Negative-positive cutting edge shape (NP edge shape)
Radial rake angle (R.R.)		Positive (+)	Negative (−)	Negative (−)
Axial rake angle (A.R.)		Positive (+)	Negative (−)	Positive (+)
Insert specification		Positive (single side used)	Negative (both sides used)	Positive (single side used)
Work material	Steel	●	—	●
	Cast iron	—	●	●
	Aluminum alloy	●	—	—

Calculation Formula for Turning

Calculating the cutting speed



Calculating the cutting speed from the rotation speed

$$v_c \ (\text{SFM}) = \frac{\pi \times D_m \times n}{12}$$

Calculating the revolution speed from the cutting speed

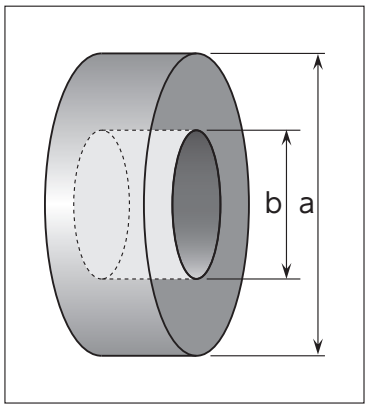
$$n \ (\text{rpm}) = \frac{12 \times v_c}{\pi \times D_m}$$

v_c : Cutting speed (SFM)
D_m : Machining diameter (inch)
n : Spindle speed (rpm)
π : Pi (3.14)

Example : Obtaining a cutting speed for machining a work piece of 2" diameter at the spindle speed of 1,000 min^{-1}:

$$v_c = \frac{\pi \times 2 \times 1000}{12} = \underline{523\,(\text{SFM})}$$

Calculating the cutting time



Calculating the cutting time for OD (ID) machining

$$T \ (\text{min}) = \frac{\ell}{f \times n}$$

T : Cutting time (min)
ℓ : Cutting length (inch)
f : Feed rate (IPR)
n : Spindle speed (rpm)

Calculating the cutting time for facing

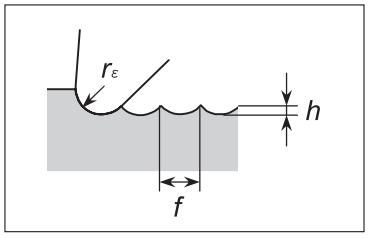
$$T \ (\text{min}) = \frac{\pi \times (a^2 - b^2)}{4000 \times v_c \times f}$$

T : Cutting time (min)
v_c : Cutting speed (m/min)
f : Feed amount (mm/rev)
π : Pi (3.14)

Example : Obtaining a cutting time for machining of work to be cut 4" long at the spindle speed of 1,000 rpm and at a feed rate of .004IPR:

$$T = \frac{4}{.004 \times 1000} = \underline{1\,(\text{min})}$$

Calculating the theoretical surface roughness



$$h \ (\mu\text{inch}) = \frac{f^2}{8\,r_\varepsilon} \times 1000^2$$

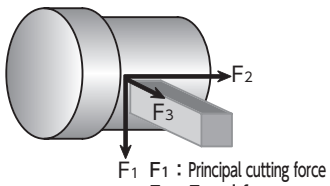
h : Theoretical surface roughness (μinch)
f : Feed amount (IPR)
r_ε : Corner radius (inch)

Example : Obtaining the theoretical surface roughness when machining with an insert having .031 corner nose radius at a feed rate of 0.004 IPR:

$$h = \frac{.004^2}{8 \times .031} \times 1000^2 = \underline{64.51\,(\mu\text{inch})}$$

【Guidelines for actually finished surface roughness】
Steel type work: Theoretical surface roughness × 1.5 to 3
Cast iron type work: Theoretical surface roughness × 3 to 5

Calculating the cutting force



F_1 : Principal cutting force
F_2 : Feed force
F_3 : Thrust force

$$F_{(N)} = k_c \times a_p \times f$$

F : Cutting force (N)
k_c : Specific cutting force (N/mm²) *See the table below.
a_p : Depth of cut (mm)
f : Feed amount (mm/rev)

Example : Calculating the cutting force for grey cast iron cut at the feed rate of 0.2 mm/rev and with a depth of cut of 3 mm:

$$F = 1800 \times 3 \times 0.2 = \underline{1080\,(N)}$$

Calculating the power required

$$P_{c\,(kW)} = \frac{v_c \times f \times a_p \times k_c}{60 \times 10^3 \times \eta}$$

P_c : Required power (kW)
v_c : Cutting speed (m/min)
f : Feed amount (mm/rev)
a_p : Depth of cut (mm)
k_c : Specific cutting force (N/mm²) *See the table below.
η : Mechanical efficiency (0.7~0.8)

Example : Calculating the cutting power for the machining of grey cast iron at a cutting speed of 700 m/min, feed rate of 0.4 mm/rev, and with a depth of cut of 2 mm (with 0.8 set as the mechanical efficiency):

$$P_c = \frac{700 \times 0.4 \times 2 \times 1400}{60 \times 10^3 \times 0.8} = \underline{16.33\,(kW)}$$

Specific cutting force

Work material		Tensile strength or hardness	Specific cutting force (N/mm²) "k_c" to cutting feed rate (mm/rev)				
			0.1mm/rev	0.2mm/rev	0.3mm/rev	0.4mm/rev	0.6mm/rev
Soft steel		520	3,610	3,100	2,720	2,500	2,280
Medium steel		620	3,080	2,700	2,570	2,450	2,300
Hard steel		720	4,500	3,600	6,250	2,950	2,640
Tool steel	SKD	670	3,040	2,800	2,630	2,500	2,400
		770	3,150	2,850	2,620	2,450	2,340
Cr-Mo steel	SCM	600	3,610	3,200	2,880	2,700	2,500
		730	4,500	3,900	3,400	3,150	2,850
Alloy steel	SNCM	900	3,070	2,650	2,350	2,200	1,980
		HB350	3,310	2,900	2,580	2,400	2,200
Gray cast iron	FC	HB200	2,110	1,800	1,600	1,400	1,330

Calculating the volume of chips produced

$$Q_{(cm^3/min)} = v_c \times f \times a_p$$

Q : Volume of evacuated chips (cm³/min)
v_c : Cutting speed (m/min)
a_p : Depth of cut (mm)
f : Feed amount (mm/rev)

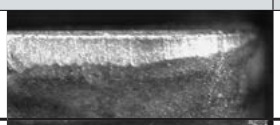
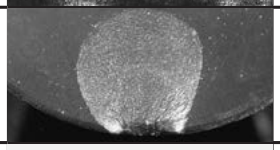
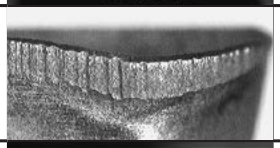
Example : Obtaining the volume of chips evacuated per minute for machining at a cutting speed of 700 m/min, feed of 0.4 mm/rev, and a depth of cut of 2mm

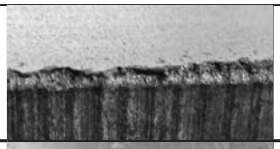
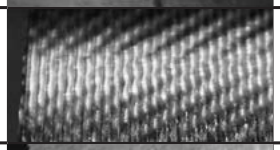
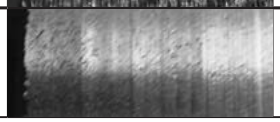
$$Q = 700 \times 0.4 \times 2 = \underline{560\,(cm^3/min)}$$

Troubleshooting for Turning

Type of problem	Possible cause	Corrective measures	Material/grade selection: Change to a harder material/grade	Material/grade selection: Change to a tougher material/grade	Material/grade selection: Change to a material/grade more resistant to thermal shock	Material/grade selection: Change to a material/grade more resistant to deposition	Cutting conditions: Cutting speed (Decrease ↘ / Increase ↗)	Cutting conditions: Feed rate (Decrease ↘ / Increase ↗)	Cutting conditions: Depth of cut (Decrease ↘ / Increase ↗)	Cutting conditions: Coolant: Use non-water-soluble type	Cutting conditions: Coolant: Review dry or wet operation	Tool shape: Review the type of chipbreaker	Tool shape: Rake angle (Decrease ↘ / Increase ↗)	Tool shape: Nose radius of the insert (Decrease ↘ / Increase ↗)	Tool shape: Side cutting edge angle (Decrease ↘ / Increase ↗)	Tool shape: Cutting edge strength, honing (Decrease ↘ / Increase ↗)	Tool shape: Improve the accuracy of insert	Tool shape: Improve the rigidity of the holder	Machine/installation: Improve the installation accuracy of the cutting tool	Machine/installation: Review the overhang of the cutting tool	Machine/installation: Prevent vibration of the machine, improve the machine rigidity
Short tool life	Excessive insert wear	Unsuitable tool material/grade	●																		
		Unsuitable cutting edge shape										●	↗	↗	↗	↘					
		Improper cutting conditions					↘	↗			Wet										
	Fracture/chipping of the cutting edge	Unsuitable tool material/grade		●																	
		Improper cutting conditions						↘	↘												
		Insufficient cutting edge strength										●		↗		↗					
		Thermal shock			●		↘	↘	↘	●	Dry										
		Built-up edge				●	↗	↗		●	Wet										
		Insufficient toughness																●	●	●	●
Poor dimensional accuracy	Variation in dimensions during cutting	Improper accuracy of insert															●				
		Clearance/relief of the work/tool										●	↗	↘	↘	↘		●	●	●	●
	Need for offsetting during cutting	Increased flank wear	●											↗							
		Built-up edge				●	↗														
		Improper cutting conditions					↘	↗													
Poor surface finish	Poor surface roughness	Deposition					↗			●	Wet										
		Unsuitable cutting edge shape										●		↗							
		Chatter					↘	↘	↘									●	●	●	●
Heat	Deterioration in tool life/accuracy due to excessive heat generation	Improper cutting conditions					↘	↘	↘												
		Unsuitable cutting edge shape										●	↗			↘					
Burring, chipping, scuffing	Burring	Boundary wear	●																		
		Improper cutting conditions					↘	↓↑			Wet										
		Unsuitable cutting edge shape										●	↗	↘	↘	↘					
	Chipping	Improper cutting conditions						↘	↘												
		Unsuitable cutting edge shape										●	↗	↗	↗	↘					
		Vibration																●	●	●	●
	Scuffing	Unsuitable tool material/grade				●															
		Improper cutting conditions					↗			●	Wet										
		Unsuitable cutting edge shape										●	↗			↘					
		Vibration																●	●	●	●
Chip control	Elongated chips	Improper cutting conditions					↘	↗	↗		Wet										
		Chipbreaker's effective chip control range										●									
		Unsuitable cutting edge shape												↘	↘						

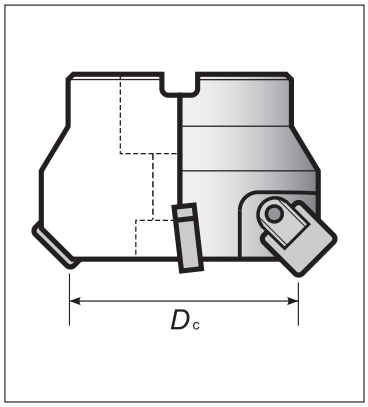
Troubleshooting Case Studies: Turning

	Case/Symptom		Possible causes	Corrective measures
Insert	VB wear		●The material / grade is too soft ●Cutting speed is too high ●Relief angle is too small	●Use a coated grade ●Choose a material/grade highly resistant to wear ●Decrease the cutting speed
	Wear on face		●High temperature causes chemical reactions between the insert material and chips	●Use a coated grade ●Decrease both of the cutting speed and feed rate ●Widen the rake angle
	Notching wear		●The work surface is too hard ●Boundary area has been oxidized ●Burrs, caused by chips in the sheared form, have been cut	●Widen the side cutting edge angle ●Make the nose radius larger so that cutting is performed within the radius ●Use a round insert
	Chipping/ fracture		●Feed rate is too high ●Chips have become trapped ●Chatter resulting in vibration	●Enlarge the honed edge ●Make the nose radius larger ●Narrow the rake angle to secure the cutting edge strength
	Flaking		●This is due to compressive forces being applied to the cutting edge from elastic deformation in the area being cut ●This occurs when deposited/adhered material is peeled off	●Change the cutting conditions by checking the cutting edge ●Choose a material/grade highly resistant to fracture ●Increase the coolant rate and pressure ●Improve the run-out of the main spindle of the machine
	Plastic deformation		●High cutting force and excessive heat is applied to the cutting edge	●Choose a material/grade highly resistant to wear ●Decrease both of the cutting speed and feed rate ●Make the nose radius larger ●Use coolant
	Built-up edge		●This occurs because the cutting temperature is lower than the recrystallization temperature of the work material	●Increase the cutting speed ●Use coolant with excellent lubrication performance ●Change to a grade with less affinity to the work material
	Deposition		●The deposition is caused to the face by a chemical reactions of the work material due to heat generation	●Increase the cutting speed ●Widen the relief angle ●Hone the face with a mirror-like-surface finish ●Change to a grade with less affinity to the work material
	Clamping crack		●The insert was clamped under improper seating conditions	●Clean the clamping areas and install the insert in the recommended way ●Tighten to the specified torque

Work piece	Chipping		●The feed rate is too high ●An unsuitable insert was selected	●Decrease the feed rate ●Use a smaller edge preparation ●Change to a grade highly resistant to boundary wear ●Change the cutting edge angle of the holder
	Burring		●The feed rate is incorrect ●The shape of insert is not suitable	●Decrease the feed rate ●Use a smaller edge preparation
	Chatter mark		●The cutting force is too great ●The rigidity of the work piece and cutting tool is insufficient	●Decrease the feed rate ●Use a smaller edge preparation ●Ensure tool overhang is minimised ●Change the cutting edge angle of the holder
	Gouging		●Vibration of the cutting edge due to deposition/built-up edge	●Increase the cutting speed ●Use cutting oil excellent in lubrication performance ●Change to a grade with less affinity to the work material

Calculation Formula for Milling Processes

Calculating the cutting speed



Calculating the cutting speed from the rotation speed

$$v_c \text{ (SFM)} = \frac{\pi \times D_c \times n}{12}$$

Calculating the revolution speed from the cutting speed

$$n \text{ (rpm)} = \frac{12 \times v_c}{\pi \times D_c}$$

v_c : Cutting speed (SFM)
D_c : Cutter diameter (inch)
n : Spindle speed (rpm)
π : Pi (3.14)

Example : Obtaining the cutting speed for machining with an 8" diameter cutter at the Spindle speed of 1,000 rpm:

$$v_c = \frac{\pi \times 8 \times 1000}{12} = \underline{2093\,(\text{SFM})}$$

Calculating the feeding speed and feed rate

Calculating the feed rate per blade

$$f_z \text{ (IPT)} = \frac{v_f}{z \times n}$$

Calculating the feeding speed per minute

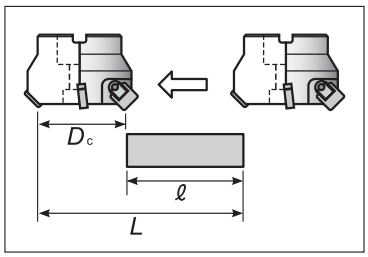
$$v_f \text{ (inch/min)} = f_z \times z \times n$$

f_z : Inch amount per tooth (IPT)
v_f : Table feed (inch/min)
z : Number of tooth
n : Spindle speed (rpm)

Example : Obtaining the feed rate for milling with a 10-teeth cutter at the .008IPT and the revolution speed of 1,000 rpm

$$v_f = .008 \times 10 \times 1000 = \underline{80\,(\text{inch/min})}$$

Calculating the machining time



$$T \text{ (min)} = \frac{L}{v_f}$$

T : Cutting time (min)
L : Total length of table feed ($\ell + D_c$)
v_f : Table feed (inch/min)

Example : Obtaining the machining time for milling 8" on a work piece fed at the rate of 40 inch/min:

$$T = \frac{8}{40} = \underline{0.2\,(\text{min})}$$

Calculating the cutting power

$$P_c = \frac{a_e \times a_p \times v_f \times k_c}{60 \times 10^6 \times \eta}$$
(kW)

P_c : Required power (kW)
a_e : Cutting length (mm)
a_p : Depth of cut (mm)
v_f : Feed rate (mm/min)
k_c : Specific cutting force (N/mm²) *See the table below.
η : Mechanical efficiency (0.7~0.8)

Example : Calculating the power required to machine gray cast iron for a length of 150 mm, at a feed rate of 1,100 mm/min, and with a depth of cut of 3 mm (with 0.8 set as the mechanical efficiency and 0.2 mm as the feed par tooth/blade)

$$P_c = \frac{150 \times 3 \times 1100 \times 1400}{60 \times 10^6 \times 0.8} = \underline{14.44\,(\text{kW})}$$

Specific cutting force

Work material		Tensile strength or hardness	Specific cutting force (N/mm²) "k_c" to cutting feed amount (mm/rev)				
			0.1mm/t	0.2mm/t	0.3mm/t	0.4mm/t	0.6mm/t
Soft steel		520	2,200	1,950	1,820	1,700	1,580
Medium steel		620	1,980	1,800	1,730	1,600	1,570
Hard steel		720	2,520	2,200	2,040	1,850	1,740
Tool steel	SKD	670	1,980	1,800	1,730	1,700	1,600
		770	2,030	2,030	1,800	1,750	1,700
Cr-Mo steel	SCM	600	2,180	2,000	1,860	1,800	1,670
		730	2,540	2,250	2,140	2,000	1,800
Alloy steel	SNCM	900	2,000	1,800	1,680	1,600	1,500
		HB350	2,100	1,900	1,760	1,700	1,530
Gray cast iron	FC	HB200	1,750	1,400	1,240	1,050	970
Aluminum alloy	AC, ADC	160	580	480	400	350	320

※For power required for NTK HCC, please refer to page P31.

Calculating the volume of evacuated chips

$$Q = a_e \times a_p \times v_f$$
(cm³/min)

Q : Volume of evacuated chips (cm³/min)
a_e : Cutting length (mm)
a_p : Depth of cut (mm)
v_f : Feed rate (mm/min)

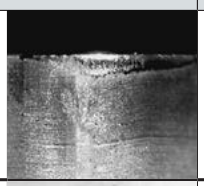
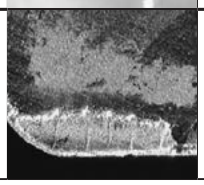
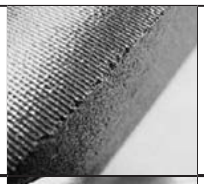
Example : Obtaining the volume of chips evacuated per minute for machining at a cutting speed of 700 m/min, feed rate of 0.4 mm/rev, and with a 2 mm depth of cut:

$$Q = 150 \times 3 \times 1100 = \underline{495\,(\text{cm}^3/\text{min})}$$

Troubleshooting for Milling

Type of problem		Possible cause \ Corrective measures	Material/grade selection				Cutting conditions							Tool shape							
			Change to a harder material/grade	Change to a tougher material/grade	Change to a material/grade more resistant to thermal shock	Change to a material/grade more resistant to deposition	Cutting speed (Decrease ↘)	Feed rate (Decrease ↘)	Depth of cut (Increase ↗)	Review cutter diameter and cutting width	Review tool path	Coolant: Wet	Coolant: Dry	Relief angle of insert (Decrease ↘)	Nose radius of cutting edge (Increase ↗)	Cutting edge strength, honing (Increase ↗)	Number of teeth/blades	Enlarge the chip pocket	Check the wiper shape	Improve accuracy of cutting edge run-out	Improve rigidity of tool
Damaged or broken cutting edge of the insert	Increased flank wear	Improper cutting conditions					↘					●									
		Unsuitable cutting edge shape	●											↗		↘			●		
	Increased wear on face	Improper cutting conditions					↘	↘	↘			●									
		Unsuitable cutting edge shape	●											↗	↗	↘					
	Fracture/ chipping on cutting edge	Improper cutting conditions						↘	↘		●										
		Unsuitable cutting edge shape		●										↘	↗	↗			●	●	●
	Thermal shock	Improper cutting conditions					↘	↘	↘				●								
		Unsuitable cutting edge shape			●									↗		↘					
	Built-up edge	Improper cutting conditions					↗	↗				●									
		Unsuitable cutting edge shape				●								↗		↘					
Machining accuracy	Poor surface finish	Improper cutting conditions					↗	↘	↘			●									
		Unsuitable cutting edge shape	●			●										↘	↘		●	●	
	Burring	Improper cutting conditions						↓↑	↘	●	●										
		Unsuitable cutting edge shape												↗	↘	↘			●		
	Chipping	Improper cutting conditions						↘	↘		●										
		Unsuitable cutting edge shape												↗	↗	↘	↗		●		
	Poor flatness and parallelism	Improper cutting conditions						↘	↘			●		↗	↘	↘	↘		●	●	●
Others	Increased chatter/ vibration	Improper cutting conditions					↘	↘	↘	●	●			↗	↘	↘	↘				
	Poor chip evacuation	Improper cutting conditions					↗	↘		●		●	●								
		Unsuitable tool/blade edge shape												↗			↘	●			

Troubleshooting Case Studies: Milling

	Case/Symptom		Possible causes	Corrective measures
Insert	VB wear		●Cutting speed is too high. ●Feed rate is too low. ●The shape of the insert is not suitable. ●The material / grade of the insert is not suitable.	●Decrease the cutting speed. ●Increase the feed rate. ●Make the nose radius larger. ●Change to a grade highly resistant to boundary wear.
Insert	Notching wear		●The material / grade of the inserts is not suitable. ●The shape of the cutter is not suitable ●The shape of insert is not suitable.	●Change to a grade highly resistant to boundary wear. ●Widen the rake angle. ●Change the Insert shape to a different one.
Insert	Chipping / fracture		●The cutting speed is incorrect. ●The shape of the cutter is not suitable ●The shape of insert is not suitable.	●Decrease the feed rate and depth of cut in order to reduce the cutting force. ●Use a smaller edge preparation. ●Prepare the cutting edge to give it a round honing. ●Change to a grade highly resistant to fracture.
Insert	Thermal crack		●The cutting conditions are incorrect ●The material / grade of insert is not suitable	●Decrease the cutting speed. ●Change to dry cutting from wet cutting. ●Use a material / grade highly resistant to thermal shock
Work piece	Chipping		●The feed rate is too high. ●An unsuitable insert is selected. ●The shape of the cutter is not suitable.	●Decrease the feed rate. ●Use a smaller edge preparation ●Change to a grade highly resistant to boundary wear. ●Set the lead angle at 45 degrees.
Work piece	Burring		●The feed rate is incorrect. ●The shape of insert is not suitable. ●The shape of the cutter is not suitable.	●Adjust the feed rate. ●Use a smaller edge preparation. ●Make the lead angle narrower.

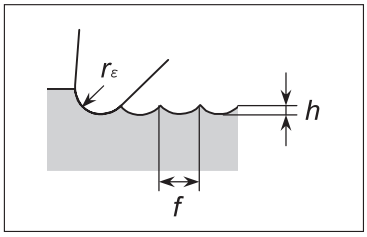
Surface Roughness Standards

			JIS B0601 (2001) ISO 4287 (1997) / ISO 1302 (2002)	JIS B0601 (1994) JIS B0031 (1982)
Cross-section curve			No filter, digital signal	No filter, digital signal
	Evaluation length		Shape length	—
	Maximum height		Pt	—
	10-point average roughness		—	—
Roughness curve			Phase correction, band λs-λc	Phase correction, short wavelength λc
	Evaluation length		Determine individually for each standard length λc.	Average for ℓn, calculated for each standard length λc
	Maximum height		Maximum height **Rz**	Maximum height Ry
	Set standard length based on height parameters Rz, Rmax, and Ry.	0.25mm	0.1~0.5μm	0.1~0.5μm
		0.8mm	0.5~10μm	0.5~10μm
		2.5mm	10~50μm	10~50μm
	Dimension indicated in drawing		U 0.008 − 2.5/Rz 1.5 L − 2.5/Rz 0.7	Ry = 1.6~0.8 λc 0.25
	10-point average roughness		**Rz_{JIS}**	Rz
	Center line average roughness		Ra_{75}	Ra75
	Arithmetic average roughness		Arithmetic average roughness **Ra**	Arithmetic average roughness Ra
	Set standard length based on height parameters Rz, Rmax, and Ry.	0.25mm	0.1~0.5μm	0.1~0.5μm
		0.8mm	0.5~10μm	0.5~10μm
		2.5mm	10~50μm	10~50μm
	Dimension indicated in drawing		U "2RC" − 0.8/Ra75 3.1 L "2RC" − 0.8/Ra75 1.5	1.6~3.2

Theoretical surface roughness

The theoretical surface roughness for lathe machining is the minimum value which can be obtained under the set machining conditions, and can be expressed by the following formula.

$$\underset{(\mu m)}{h} = \frac{f^2}{8\,r_\varepsilon} \times 1000$$



h : Theoretical surface roughness (μm)
f : Feed amount (mm/rev)
r_ε : Nose radius (mm)

Actual surface roughness

- When machining steel: Theoretical surface roughness x 1.5-3
- When machining cast iron: Theoretical surface roughness x 3-5

Surface finish improvement measures

- Increase the nose radius.
- Adjust the cutting speed and/or feed amount.
- Use a wiper insert.
- Change the material and/or shape of the insert

Relationship with triangle symbols

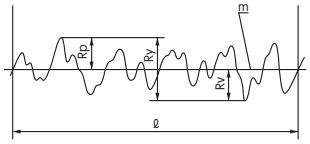
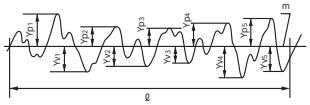
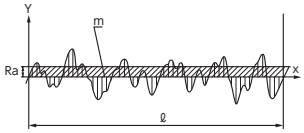
Arithmetic average roughness Ra (μm)	Maximum height Rz (μm)	10-point average roughness Rz_{JIS} (μm)	※ (Triangle symbol)
0.025	0.1	0.1	▽▽▽▽▽
0.05	0.2	0.2	
0.1	0.4	0.4	
0.2	0.8	0.8	
0.4	1.6	1.6	▽▽▽
0.8	3.2	3.2	
1.6	6.3	6.3	
3.2	12.5	12.5	▽▽
6.3	25	25	
12.5	50	50	▽
25	100	100	

- Examples of reading
  (i) When Ra = 1.6μm ➡ 1.6μm Ra
  (ii) When Rz = 6.3μm ➡ 6.3μm Rz
  (iii) When Rz_{JIS} = 6.3μm ➡ 6.3μm Rz_{JIS}

※The finishing symbols (triangle symbol ▽ and symbol ~) are no longer used in JIS pursuant to the 1994 revision.

JIS B0601 (1982) JIS B0031 (1982)	JIS B0601 (1970) JIS B0031 (1970)	JIS B0601 (1970)
No filter, analog signal	No filter, analog signal	No filter, analog signal
One standard length	One standard length	One standard length
Rmax	Rmax (S indication)	Hmax (S)
Rz	Rz (Z indication)	—
2RC, short wavelength cut-off λc	2RC, short wavelength cut-off λc	—
One measured length ≧ 3λc	One measured length ≧ 3λc	—
—	—	—
0.8μm or less	0.8μm or less	Select from 0.3, 1, 3, 5 and 10mm
0.8~6.3μm	0.8~6.3μm	Select from 0.3, 1, 3, 5 and 10mm
6.3~25μm	6.3~25μm	Select from 0.3, 1, 3, 5 and 10mm
Rmax = 1.6 Rmax = 0.8	Surface symbol or triangle symbol 1.6S 0.25 Upper limit 0.8S 0.25 Lower limit	Triangle symbol 0.8S or less ▽▽▽▽ 1.5S~6S ▽▽▽ 12S~25S ▽▽ 35S or higher ▽
—	—	—
Ra	Ra ("a" indication)	—
—	—	—
—	—	—
Ra shall be 12.5μm or less.	λc shall be 0.8 mm.	—
12.5~100μm	—	—
3.2 1.6	Surface symbol or triangle symbol 0.2a or less ▽▽▽▽ 0.4a~1.6a ▽▽▽ 3.2a~6.3a ▽▽ 12.5a to 25a or more ▽	—

Obtaining the surface roughness

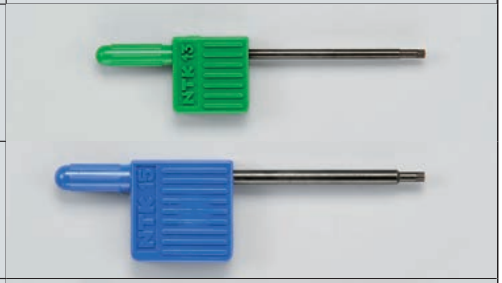
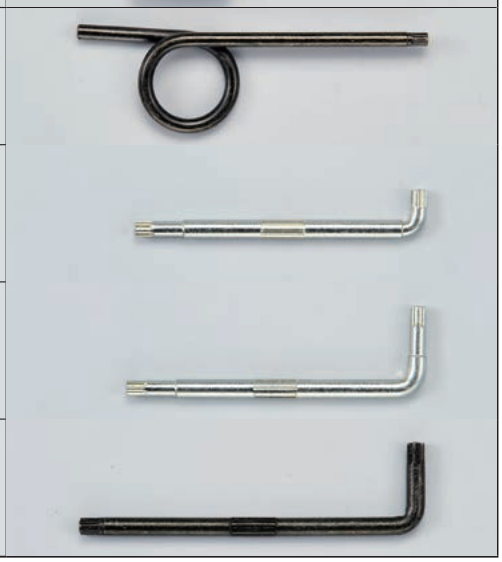
Type	New symbol JIS B0601:'01	Old symbol JIS B0601:'94	Calculation	Obtaining method (example)
Max. height (Peak)	Rz	Ry	The addition of the max. value for the depth Rv and the max. height Rp on the roughness curve for the reference length: $Rz = Rp + Rv$	
Average roughness of 10 points	Rz_{JIS}	Rz	The addition of the average of the maximum to fifth highest vales and the average of the deepest to the fifth deepest values on the roughness curve for the reference length: $Rz_{JIS} = \frac{(Yp1+Yp2+Yp3+Yp4+Yp5)+(Yv1+Yv2+Yv3+Yv4+Yv5)}{5}$	
Arithmetic average of roughness	Ra	Ra	The average of absolute values on the roughness curve f (x) for the reference length: $Ra = \frac{1}{\ell}\int_0^{\ell}\{f(x)\}$	

Conditions for measuring R parameters

Non-cyclic wave form (random wave form)		Settings for measuring	
Range of Ra (μm)	Range of Rz (μm)	Reference length ℓr (mm) = cut-off λc (mm)	Evaluated length ℓn (mm) = ℓr × 5
0.006 < Ra ≦ 0.2	0.025 < Rz ≦ 0.1	0.08	0.4
0.02 < Ra ≦ 0.1	0.1 < Rz ≦ 0.5	0.25	1.25
0.1 < Ra ≦ 2	0.5 < Rz ≦ 10	0.8	4
2 < Ra ≦ 10	10 < Rz ≦ 50	2.5	12.5
10 < Ra ≦ 80	50 < Rz ≦ 200	8	40

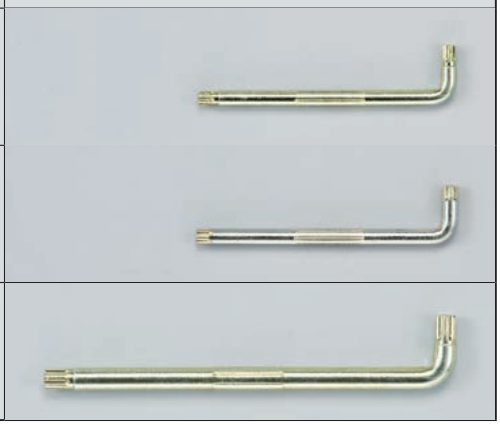
Spare Parts - Wrenches

Standard Items

Item Number	Appearance
CLR-13S (Formerly RLR-13S)	
CLR-15S (Formerly RLR-15S)	
RLR-20S	
LLR-25S	
LLR-25S-20＊65	
LLR-28S	

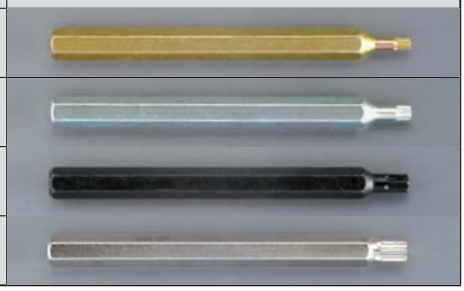
Optional Items

〈LLR Type〉

Item Number	Appearance
LLR-13S	
LLR-15S	
LLR-20S	

〈Driver type wrench for increased adaptability〉

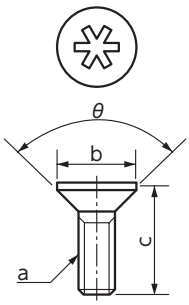
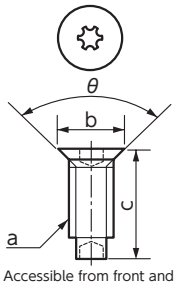
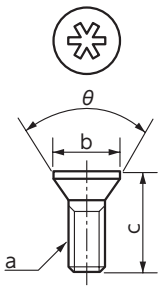
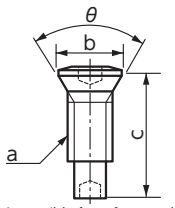
Item Number	Magnetic Driver Handle
XX2815-04	

Item Number	Replaceable Bits
HLR-13S	
HLR-15S	
HLR-20S	
HLR-25S	

〈Driver type wrench kits〉

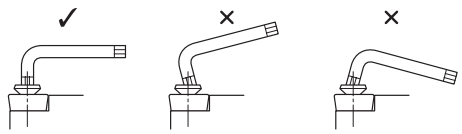
Item Number	Contents
XX2815-04-13S	XX2815-04 with HLR-13S
XX2815-04-15S	XX2815-04 with HLR-15S
XX2815-04-20S	XX2815-04 with HLR-20S
XX2815-04-25S	XX2815-04 with HLR-25S

Clamp Screws and Wrenches

Clamp Screw			Dimension (mm)				Standard Wrench	
Appearance	Order Code	Item Number	a	b	c	θ (°)	Order Code	Item Number
	5704739	**LR-S-2×3.5**	M2×P0.4	3.1	3.5	82	5681994	**CLR-13S**
	5907704	**LR-S-2×3.7**	M2×P0.4	3.1	3.7	82		
	5907712	**LR-S-2×4.4**	M2×P0.4	3.1	4.4	82		
	5907720	**LR-S-2×5.5**	M2×P0.4	3.0	5.5	90		
	5907738	**LR-S-2.5×4.8**	M2.5×P0.45	3.6	4.8	82	5681978	**CLR-15S**
	5704747	**LR-S-2.5×5.5**	M2.5×P0.45	3.6	5.5	82		
	5907746	**LR-S-2.5×6**	M2.5×P0.45	3.5	6.0	90		
	5907753	**LR-S-2.5×6.8**	M2.5×P0.45	3.5	6.8	90		
	5773619	**LR-S-3×5.8**	M3×P0.5	4.1	5.8	90	5485164	**RLR-20S**
	5907761	**LR-S-3×6.2**	M3×P0.5	5.2	6.2	82		
	5907779	**LR-S-3×7.8**	M3×P0.5	4.0	7.8	90		
	5907787	**LR-S-4×5.8**	M4×P0.7	5.8	6.0	82		
	5907795	**LR-S-4×9**	M4×P0.7	5.8	9.0	82		
Accessible from front and back	5116991	**LR-S-4×10PW**	M4×P0.7	5.8	10.0	90	5681978	**CLR-15S**
	5534029	**LRIS-2×6**	M2×P0.4	2.6	6.0	60	5681994	**CLR-13S**
	5907803	**LRIS-2.2×6**	M2.2×P0.45	3.15	6.0	60		
	5989181	**LRIS-2.5×5**	M2.5×P0.45	3.6	5.0	60	5681978	**CLR-15S**
	5907811	**LRIS-2.5×7**	M2.5×P0.45	3.6	7.0	60		
	5907829	**LRIS-3×6**	M3×P0.5	4.0	6.0	60	5485164	**RLR-20S**
	5428156	**LRIS-3×8**	M3×P0.5	4.2	8.0	60		
	5477328	**LRIS-4×5**	M4×P0.7	5.85	5.0	60	5364930 5794698	**LLR-25S** **LLR-25S-20＊65**
	5907837	**LRIS-4×6**	M4×P0.7	5.85	6.0	60		
	5977566	**LRIS-4×8**	M4×P0.7	5.85	8.0	60		
	5907845	**LRIS-4×10**	M4×P0.7	5.85	10.0	60		
	5684105	**LRIS-4×12**	M4×P0.7	5.85	12.0	60		
	5907852	**LRIS-5×10**	M5×P0.8	7.0	9.5	60	5364948	**LLR-28S**
	5116983	**LRIS-4×10PW**	M4×P0.7	5.7	10.0	60	5681978	**CLR-15S**
Accessible from front and back	5090576	**LRIS-4×12PW**	M4×P0.7	5.7	12.0	60		

Attention: When tightening screws

- Make sure the wrench tip and wrench hole are neither deformed nor stripped
- Engage the wrench wrench straight to screw hole



- Do not apply more torque than the recommended amount (as shown to the right)

Note: Wrenches and bits come in a pack of five
Clamp screws come in a pack of ten

Recommended Tightening Torque

Item Number	Recommended Tightening Torque (lbs.in)
CLR LLR HLR **13S**	6.2 (0.7N·m)
CLR LLR HLR **15S**	12.4 (1.4N·m)
RLR LLR HLR **20S**	26.6 (3.0N·m)
LLR HLR **25S**	44.3 (5.0N·m)
LLR HLR **28S**	62.0 (7.0N·m)

Material Cross Reference Chart

ISO	Country / Standard	U.S.A. AISI / SAE	Japan JIS	Germany DIN
Stainless steel M		Stainless Steel (Ferrite/Martensitic)		
		403	SUS403	X6Cr13
				X7Cr14
		416	SUS416	X12CrS13
		430	SUS430	X6Cr17
		410	SUS410	X10Cr13
			SUS420J2	X46Cr13
		405		X6CrAL13
		420		X20Cr13
		431	SUS431	X19CrNi17-2
		430F	SUS430F	X14CrMoS17
		434	SUS434	X6CrMoS17-2
		CA6-	SCS5	X3CrNiMo13-4
		405	SUS405	X10CrAL13
		HNV6	SUH4	X85CrMoV18-2
		446	SUH446	X10CrAL2-4
		EV8	SUH35,SUH36	X53CrMnNiN21-9
		S44400		X1CrMoTi18-2
				X20CrMoV12-1
		630		X5CrNiCuNb16-4
		Stainless Steel (Austenitic)		
		304L		X2CrNi19-11
		304	SUS304	X5CrNi18-10
		303	SUS303	X8CrNiS18-9
			SUS304L	
		304L	SCS19	X2CrNi19-11
		301	SUS301	X9CrNi18-8
		304LN	SUS304LN	X2CrNi18-10
		316	SUS316	X5CrNiMo17-2-2
		316LN	SUS316LN	X2CrNiMoN17-13-3
		316L		X2CrNiMoN17-12-2
		316L	SCS16	X2CrNiMo18-14-3
			SUS316L	
		317L	SUS317L	X2CrNiMo18-15-4
		UNS		X1NiCrMoCu25-20-5
		V 0890A		
		321	SUS321	X6CrNiTi18-10
		347	SUS347	X10CrNiNb18-10
		316Ti		X6CrNiMoTi17-12-2
		318		X10CrNiMoNb 18-12
		309	SUH309	X15CrNiSi20-12
		310S	SUH310	X8CrNi25-21
		308	SCS17	X2CrNiMoN17-11-2
		17-7PH		X7CrNiAL 17-7
		N08028		X1NiCrMoCu31-27-4
		Stainless Steel (Austenitic/Ferrite)		
		S31500		X2CrNiN23-4
		S32900		X8CrNiMo27-5
		S32304		X2CrNiN23-4
		S31803		X2CrNiMoN22-53
Hardened material H		5130H	SCr430H	34Cr4
		5135H	SCr435H	37Cr4
		4135H	SCM435H	34CrMo4
		4140H	SCM440H	42CrMo4

ISO	Country / Standard	U.S.A. AISI / SAE	Japan JIS	Germany DIN
Cast iron K		Malleable cast iron		
		–	FCMB310	–
		32510	FCMW330	EN-GJMB350-10
		40010	FCMW370	EN-GJMB450-6
		50005	FCMW490	EN-GJMB550-4
		70003	FCMP540	
		A220-70003	FCMP590	EN-GJMB650-2
		A220-80002	FCMP690	EN-GJMB700-2
		Gray cast iron		
		No 20 B	FC100	EN-GJL-100
		No 25 B	FC150	EN-GJL-150
		No 30 B	FC200	EN-GJL-200
		No 35 B	FD250	EN-GJL-250
		No 40 B	–	–
		No 45 B	FC300	EN-GJL-300
		No 50 B	FC350	EN-GJL-350
		No 55 B	–	EN-JLZ
		A436 Type 2	–	GGL-NiCr20-2
		Ductile cast iron		
		60-40-18	FCD400	EN-GJL-400-15
		–	–	EN-GJL-400-18-LT
		80-55-06	FCD500	EN-GJL-500-7
		A43D2	–	EN-GJSA-500
		–	FCD600	EN-GJS-600-3
		100-70-03	FCD700	EN-GJS-700-2
Nonferrous material N		SC64D	C4BS	G-AlSi9MGWA
		GD-AISI12	AC4A	G-ALMG5
		356.1	A5052	
		A413.0	A6061	GD-AlSi12
		A380.1	A7075	GD-AlSi8Cu3
		A413.1	ADC12	G-AlSi12(Cu)
		A413.2		G-AlSi12
		A360.2		G-AlSi10Mg(Cu)
Heat-resistant alloy S		Heat-resistant alloy		
		330	SUH330	X12NiCrSi36 16
			SCH15	G-X40NiCrSi36-18
		5390A		
		5666		NiCr22Mo9Nb
				NiCr20Ti
		5660		NiFe35Cr14MoTi
		5391		S-NiCr13A16MoNb
		5383		NiCr19Fe19NbMo
		4676		NiCu30AL3Ti
				NiCr20TiAk
		AMS 5399		NiCr19Co11MoTi
		AMS 5544		NiCr19Fe19NbMo
		AMS 5397		NiCo15Cr10MoAl
		5537C		CoCr20W15Ni
		AMS 5772		CoCr22W14Ni
		Titanium alloy		
		AMS R54520		TiAl5Sn2.5
		AMS R56400		TiAl6V4
		AMS R56401		TiAl6V4ELl
				TiAl4Mo4Sn4Si0.5

ISO	Country / Standard	U.S.A. AISI/SAE	Japan JIS	Germany DIN
Steel P		Carbon steel		
		A570.36	STKM12A;C	S235JRG2
		1115		GC16E
		A573-8165		S235J2G3
		1015		C15
		1020		C22
		1213	SUM22	11SMn30
		12L13	SUM22L	11SMnPb30
				10SPb20
		1215		11SMn37
		12L14		11SMnPb37
		1015	S15C	Ck15E
		1025	S25C	Ck25E
		A572-60		S380N
		A572-60		17MnV7
		1035		C35
		1045		C45
		1040		35S20
		1039		40Mn4
		1335	SMn438(H)	36Mn5
		1330	SCMn1	28Mn6
		1035	S35C	C35G
		1045	S45C	C45E
		1050	S50C	C53G
		1055		C55
		1060		C60E
		1055	S55C	C55E
		1060	S58C	C60E
		1095		C101E
		W1	SK3	C101u
		W210	SUP4	C105W1
		Alloy steel		
		ASTMA353		X8Ni9
		2515		12Ni19
				14NiCrMo13
		D3	SKD1	X210Cr12
		H13	SKD61	X40CrMo134
		A2	SKD12	X100CrMoV51
			SKD2	X210CrW12
		S1		45WCrV7
		H21	SKD5	X30WCrV93
				X30WCrV9
				X165CrMoV12
		HW3	SUH1	X45GrSi93
		D3	SUH3	S6-5-2
		M2	SKH51	S6-5-2
		M35	SKH55	S6-5-2-5
		M7		S6-9-2
		HNV3		X210Cr12G

ISO	Country / Standard	U.S.A. AISI/SAE	Japan JIS	Germany DIN
Steel P		A573-81	SM400A;B;C	S275J2G3
			SM490A;B;C;YA;YB	S355J2G3+C2
		5120		DS355J2G3
		9255		55Si7
		9262		S340MGC
		52100	SUJ2	100Cr6
		ASTM		16Mo3
		4520		16Mo5
		ASTM		14Ni6
		8620	SNCM220(H)	21NiCrMo2
		8740	SNCM240	40NiCrMo22
				17CrNiMo6
		5015	SCr415(H)	15Cr3
		5140	SCr440	42Cr4
		5155	SUP9(A)	55Cr3
			SCM415(H)	15CrMo5
		8740	SNCM240	40NiCrMo8-4
		5015	SCr415(H)	15Cr3
		ASTMA182		13CrMo5
		ASTMA182		13CrMo4-5
				14MoV63
				31CrMo12
				39CrMoV13
		L1		41CrS4
		8620		22Mo4
				50CoMo4
				16MnCr5
				31NiCrMo14
		L6		50NiCr13
		3135	SNC236	36NiCr6
		3415	SNC415(H)	14NiCr10
		3415;3310	SNC815(H)	14NiCr14
		9255		
		9840		36CrNiMo4
		4340		34CrNiMo6
		5132	SCr430(H)	34Cr4
		5140	SCr440(H)	41Cr4
		5115		16MnCr5
		4130	SCM420;SCM430	25CrMo4
		4137;4135	SCM432;SCCRM3	34CrMo4
		4140;4142	SCM440	41CrMo4
		4140	SCM440(H)	42CrMo4
				32CrMo12
		6150	SUP10	51CrV4
				41CrMo7
		L3		100Cr6
			SKS31	105WCr6
			SKS2,SKS3	
		L6	SKT4	55NiCrMoV6
		Cast steel		
			SEMnH1	
			SCMnH/1	G-X120Mn12

Ni-based Heat Resistant Alloys

● Material Specifications Cross-Reference List-Aerospace Material Designation

Commercial designation	Hardness Brinell HB		Nominal composition Approximate content in %										
	Ann.	Aged	Ni	Cr	Co	Fe	Mo	C	Mn	Si	Al	Ti	Others
Astroloy*	—	—	56.9	15.0	15.0	—	5.25	0.06	—	—	4.0	3.5	0.05
AerMet 100			11.1	3.1	13.4	70.0	1.20	0.23				0.05	
GMR 235*	—	—	63.3	15.5	—	10.0	5.2	0.15	0.25	0.6	3.0	2.0	0.06
GMR 235D	—	—	63.0	15.5	—	4.5	5.0	0.15	0.1	0.3	3.5	2.5	0.05
Hastalloy B*	140	—	64.3	0.6	1.25	5.5	28.0	0.1	0.8	0.7	—	—	—
Hastalloy B-3			65.0	1.5	3.00	1.5	28.5	0.01	3.0	0.1	0.5		1.0
Hastalloy C*	200	—	54.1	16.0	1.25	5.75	17.0	0.07	0.8	0.7	—	—	4.0
Hastalloy C-22			56.0	22.0	2.50	3.00			0.5	0.1			3.8
Hastalloy C*22HS			74.0	22.0	1.00	2.00							0.0
Hastalloy C-276			57.0	16.0	2.50	5.00	16.0	0.01	1.0	0.1			1.0
Hastalloy N*	—	—	72.2	7.0	0.25	3.0	16.5	0.06	0.4	0.25	0.5	—	0.21
Hastalloy W*	—	—	62.7	5.0	1.25	5.5	24.5	0.06	0.5	0.5	—	—	—
Hastalloy X*	160	—	47.1	22.0	1.5	18.5	9.0	0.1	0.6	0.6	—	—	0.6
Hastelloy R235*	—	—	61.0	15.0	2.5	10.0	5.5	0.15	0.25	0.6	3.0	2.0	—
Haynes 25			10.0	20.0	51.0	3.0	1.0	0.10	1.50	0.4			15.0
Haynes 75	—	—	73.7	20.0	—	5.0	—	0.12	—	—	0.25	0.4	0.5
Haynes 80A	—	—	70.9	20.0	2.0	3.0	—	0.1	—	—	1.5	2.5	—
Haynes 188			22.0	22.0	39.0	3.0		0.1	1.25	0.35			1.0
Haynes 263	—	25	51.4	20.0	20.0	—	6.0	0.06	—	—	1.0	1.5	—
Haynes 600	—	—	75.9	16.0	—	8.0	—	0.08	—	—	—	—	—
Haynes 625	—	—	61.4	21.0	—	5.0	9.0	0.1	—	—	—	—	3.5
Haynes 718	—	43	53.5	18.0	—	19.0	3.0	0.08	—	—	0.5	0.9	5.0
Haynes X-750	—	37	74.9	16.0	—	7.0	—	0.08	—	—	0.8	0.25	1.0
IN-100*	—	—	61.6	10.0	15.0	—	3.0	0.18	1.2	0.5	5.5	4.75	—
Incoloy A-286			25.5	15.0		56.5						2.10	
Incoloy 800			35.0	23.0		39.5		0.10			0.6	0.60	1.8
Incoloy 804*	—	—	41.0	29.5	—	26.0	—	0.1	1.0	0.75	0.25	0.6	0.5
Incoloy 825*	180	—	42.0	21.0	—	30.0	3.0	0.04	—	—	—	1.0	2.0
Incoloy 901*	180	300	44.3	12.5	—	34.0	6.0	0.05	0.24	0.12	0.15	2.7	0.15
Incoloy 903*	—	380	39.0	—	15.0	41.0	—	0.02	—	—	0.7	1.4	3.0
Incoloy 909			38.0		13.0	42.0	1.25			0.4	0.0	1.5	4.7
Incoloy MA956				20.0		74.0					4.5	0.5	0.5
Inconel 600*	170	—	75.0	15.5	—	8.0	—	0.05	—	—	—	—	—
Inconel 601*	150	—	60.0	23.0	—	14.0	—	0.05	—	—	1.4	—	—
Inconel 604*	180	—	74.4	15.8	—	7.2	—	0.04	0.2	0.2	—	—	0.1
Inconel 617			52.0	22.0	12.5	1.5	9.5				1.2		
Inconel 625*	180	—	61.0	21.5	—	2.5	9.0	0.04	0.5	0.5	0.4	0.4	3.6
Inconel 625CLF			61.0	21.5		2.5	9.0						3.6
Inconel 700*	—	350	46.0	15.0	23.5	0.7	3.75	0.12	0.1	0.3	3.0	2.2	—
Inconel 702*	—	—	79.6	15.6	—	0.35	—	0.04	0.05	0.2	3.0	0.7	—
Inconel 706*	—	—	42.0	16.0	—	40.0	—	0.03	0.2	0.3	0.4	1.75	—
Inconel 713*	—	—	75.0	12.5	—	—	4.2	0.12	—	—	6.1	0.8	—
Inconel 718*	180	380	52.5	19.0	—	19.0	3.0	0.04	0.35	0.35	0.9	0.9	0.1
Inconel 718SPF			54.0	18.0		18.5	3.0					1.0	5.0
Inconel 722*	—	380	74.8	15.0	—	6.5	—	0.04	0.55	0.2	0.6	2.4	—
Inconel 751*	—	—	70.0	15.5	—	7.0	—	0.1	1.0	0.5	1.5	2.6	0.5
Inconel 781	—	—	70.0	16.0	—	8.0	—	0.07	2.25	0.15	0.1	3.0	0.2
Inconel 783			30.0	3.5	26.5	27.0		0.03	0.05		6.0	0.4	
Inconel HX			47.0	22.0	1.5	18.0	9.0						0.6
Inconel MA754			77.5	20.0		1.0					0.3	0.5	0.6
Inconel X-750*	—	390	73.0	15.5	—	7.0	—	0.04	0.35	0.35	0.7	2.5	—
Invar 36			36.0	0.25	0.5	62.0		0.15	0.60	0.40			1.00
Invar 42			41.0			56.0		0.50	0.40				1.00
Jessop G39*	130	—	67.5	19.5	—	5.0	3.0	0.5	—	—	—	—	4.5
Jessop G64*	220	—	60.7	11.0	—	2.0	3.0	0.15	—	—	6.0	—	4.0
Jessop G81*	—	300	79.3	20.0	13.0	—	—	0.05	—	—	1.3	2.3	—
Jethete M-152			2.5	16.8			1.8	0.12	0.7	0.18			0.6
Jethete M-252*	—	320	55.3	20.0	10.0	—	10.0	0.15	0.5	0.5	1.0	2.6	—
MAR-M 200*	—	—	69.4	9.0	10.0	—	—	0.15	—	—	5.0	2.0	13.5
MAR-M 246*	—	270	59.5	9.0	10.0	0.2	2.5	0.15	—	—	5.5	1.5	11.5
MAR-M 421*	—	—	62.3	15.5	10.0	—	1.7	0.15	—	—	4.3	1.75	5.3
MAR-M 432*	—	—	52.3	15.5	20.0	—	—	0.15	—	—	2.8	4.3	5.0
Monel 400*	110	—	65.0	—	—	1.5	—	0.12	1.0	—	—	—	32.0
Monel 405			63.0			2.5		0.30	2.0	0.5			34.0
Monel K-500*	120	290	64.0	—	—	1.0	—	0.13	0.8	—	2.8	0.6	30.0

* These alloys can be hardened by an aging process

USA		UK	France	Germany		Others
SAE	AMS	BS	AFNOR	Werkst.-Nr	DIN1706	
—	—	—	—	—	—	—
—	—	—	—	—	—	AISI:686
—	—	—	—	—	NiCr16MoAl	—
5396A	5396	—	ND37FeV	2.48	S-NiMo30	N10001
5388C	5388	—	—	2.4602	NiCr17Mo17FeW	N10002
5771	5607	—	—	—	—	N10003
—	5786	—	—	—	—	N10004
5390A	5390	—	NC22FeD	2.4603	—	N06002
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	5872	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	5596/5597	—	—	—	—	—
—	5542/5593	—	NC15TNbA	—	—	—
—	5397	—	—	LW2.4674	NiCo15Cr10MoAlTi	N13100
—	—	—	—	—	—	—
—	—	3072-76	NC21FeDU	2.4858	NiCr21Mo	N08825
—	5660	—	ZSNCDT42	LW2.4662	NiFe35Cr14MoTi	N09901
—	—	—	—	—	—	—
5540	5580	3072-76	NC15Fe	2.4816	NiCr15Fe	N06600
—	5715	—	—	2.4851	NiCr23Fe	N06601
—	—	—	—	—	—	—
	5887-89					
—	5666	—	NC22FeDNB	2.4856	NiCr22Mo9Nb	N06625
	5879					
—	—	—	NK27CADT	—	NiCo29Cr15MoAlTi	—
—	5550	—	—	—	—	N07702
—	5702	—	—	—	—	N09707
—	5391	3146-3	NC12AD	LW2.4670	S-NiCr13Al6MoNb	—
5383	5589	HR8	NC19FeNB	LW24668	NiCr19Fe19NbMo	N07713
	5596G					
—	5541	—	NC16FeTi	—	NiCr16FeTi	N07722
—	—	—	—	—	—	N07751
—	—	—	—	—	—	—
	5536					
5542G	5582	—	NC16FeTNb	2.4669	NiCr16FeTi	N07750
—	—	—	—	—	NiCr20MoW	—
—	—	—	—	—	NiCr11AlWNb	—
—	—	—	—	—	NiCr20Co18Ti	—
—	5551	—	—	2.4916	S-NiCr19Co	N07252
—	—	—	—	—	NiW13Co10Cr9AlTi	—
—	—	—	—	2.4675	NiCo10W10Cr9AlTi	—
—	—	—	—	—	NiCR16Co10WAlTi	—
—	—	—	—	—	NiCo20Cr16WAlTi	—
4544	4574	3072-76	NU30	2.436	NiCu30Fe	N04400
4676	—	3072-76	—	2.4375	NiCu30Al	N05500

Ni-based Heat Resistant Alloys

● Material Specifications Cross-Reference List-Aerospace Material Designation

Commercial designation	Hardness Brinell HB		Nominal composition Approximate content in %										
	Ann.	Aged	Ni	Cr	Co	Fe	Mo	C	Mn	Si	Al	Ti	Others
Monel R-405*	110	—	66.0	—	—	1.2	—	0.15	1.0	—	—	—	31.06
Multimet N155			21.0	22.5	21		3.5	0.16	2.0	1.0			4.50
Nickel 200			99.0			0.4		0.15	0.35	0.35			0.26
Nickel 201			99.0			0.4		0.02	0.35	0.35			0.26
Nimocast 80*	—	—	69.9	20.0	2.0	5.0	—	0.1	—	—	1.0	2.0	—
Nimocast 90*	—	—	52.9	20.0	18.0	5.0	—	0.1	—	—	1.5	2.5	—
Nimocast 713	—	—	72.6	13.4	—	—	4.5	0.12	—	—	6.2	1.0	2.3
Nimocast 842	—	—	57.7	22.0	10.0	—	10.0	0.3	—	—	—	—	—
Nimocast PD16	—	—	43.8	16.5	—	34.0	3.3	0.06	—	—	1.2	1.2	—
Nimocast PE10	—	—	56.4	20.0	—	—	6.0	—	—	—	—	—	9.0
Nimocast PK24	—	—	61.1	9.5	15.0	—	3.0	0.17	—	—	5.5	4.7	1.0
Nimonic 75*	170	—	75.0	19.5	—	4.0	—	0.12	—	—	—	0.4	—
Nimonic 80A*	—	350	75.0	19.5	—	—	—	0.08	—	—	1.4	2.4	—
Nimonic 86			65.0	25.0			10.0						
Nimonic 90*	—	346	59.0	19.5	16.5	—	—	0.08	—	—	1.5	2.5	—
Nimonic 95	—	—	49.9	19.5	—	5.0	—	0.11	—	1.0	2.0	3.5	—
Nimonic 101			48.0	24.2	19.7		1.5				1.4	3.0	
Nimonic 105*	—	320	53.0	15.0	20.0	—	5.0	0.12	—	—	4.7	1.2	—
Nimonic 115*	—	350	59.0	14.2	13.2	—	4.0	0.16	—	—	5.0	4.0	—
Nimonic 242	—	—	58.0	21.5	10.0	—	10.5	—	—	—	—	—	—
Nimonic 263/C263*	—	275	51.5	20.2	20.0	—	6.0	0.06	—	—	0.5	2.0	—
Nimonic 901*	—	350	44.0	12.5	—	35.0	5.7	0.04	—	—	0.3	2.9	—
Nimonic PE11			39.0	18.0		34.0	5.2				0.8	2.3	
Nimonic PE13	—	—	49.0	21.8	1.5	18.5	9.0	0.1	0.5	0.5	—	—	0.6
Nimonic PE16*	—	250	43.5	16.5	—	34.0	3.3	0.06	—	—	1.2	1.2	—
Nimonic PK25	—	—	49.9	19.0	19.5	—	4.0	0.08	0.8	0.8	2.9	2.9	—
Nimonic PK31	—	—	53.8	20.0	14.0	—	4.5	—	—	—	0.4	2.3	5.0
Nimonic PK33*	—	350	55.9	18.0	14.0	0.5	7.0	0.05	0.25	0.25	2.1	2.2	—
R-235*	—	—	63.3	15.0	1.2	10.0	5.5	0.12	0.1	0.3	2.0	2.5	—
Refractaloy 26	—	—	38.0	19.0	20.0	16.0	3.2	0.03	0.8	1.0	0.2	2.75	—
Rene 41	—	—	53.1	19.0	11.0	1.8	10.0	0.09	0.3	0.3	1.5	3.1	—
Rene 63	—	—	54.4	14.0	15.0	0.5	6.0	0.05	0.1	0.2	3.8	2.5	3.5
Rene 77	—	—	57.6	15.0	15.0	0.4	4.2	0.17	0.1	0.1	4.3	3.3	—
Rene 80	—	—	61.0	14.0	9.5	—	4.0	0.15	—	—	—	4.0	8.0
Rene 95	—	—	64.5	14.0	8.0	—	3.5	0.15	—	—	—	2.5	3.5
Rene 100	—	—	60.6	10.0	15.0	—	3.0	0.18	—	—	5.5	4.7	—
Rene 125	—	—	60.0	8.9	10.0	—	2.0	0.1	—	—	4.7	2.5	7.0
TRW 1800	—	—	70.0	13.0	—	—	—	0.1	—	—	6.0	0.06	10.5
TRW V1 A	—	—	70.5	6.0	7.5	—	2.0	0.13	—	—	5.4	1.0	6.3
Udimar 250			18.0		8.0	68.0	5.0				0.1	0.4	
Udimar 300			18.5		9.0	66.0	5.0				0.1	0.7	
Udimet 500*	—	—	51.7	19.0	19.0	—	4.0	0.1	0.1	0.1	3.0	3.0	—
Udimet 520			56.0	19.0	12.0		6.0				2.0	3.0	1.0
Udimet 630	—	—	51.0	17.0	—	17.5	3.0	0.04	—	—	0.6	1.1	4.1
Udimel 700	—	—	54.6	15.0	17.5	—	—	0.1	—	—	4.4	3.4	—
Udimet 710	—	—	55.0	18.0	15.0	0.5	1.5	0.07	—	—	2.5	5.0	1.5
Udimet 718*	180	380	52.5	18.0	—	18.0	3.0	0.05	—	—	0.6	0.1	5.2
Udimet 720			56.0	16.0	14.7		3.0				2.5	5.0	1.3
Udimet alloy D-979			45.0	15.0		27.0	4.0				1.0	3.0	4.0
Udimet L-605			10.0	20.5	50.0	3.0			1.5				15.0
Udimet alloy R41			55.0	19.0	11.0		10.0				1.5	3.1	
Waspaloy*	—	HRC35-42	56.9	19.8	13.5	0.8	4.45	0.07	0.1	0.1	1.4	3.0	—

* These alloys can be hardened by an aging process

USA		UK	France	Germany		Others
SAE	AMS	BS	AFNOR	Werkst.-Nr	DIN1706	
4674	7234	—	—	—	—	N04405
—	—	3146	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
5391A	—	HC203	NC13AD	2.467	S-NiCr13Al6MoNb	—
—	5397	HC204	NK15CAT	LW2.4674	—	—
—	—	—	—	—	NiFe33Cr17Mo	—
—	—	3146	—	—	—	—
—	—	HR5,203-4	NC20T	2.463	NiCr20Ti	—
—	—	Hr401,601	NC20TA	2.4631	NiCr20TiAk	N07080
—	—	Hr2,202	Nc20ATV	2.4632	NiCr20Co18Ti	N07090
—	—	—	—	—	—	—
—	—	HR3	NCKD20ATV	2.4634	NiCo20C15MoAlTi	—
—	—	HR4	NCK15ATD	2.4636	NiCo15Cr15MoAlTi	—
—	—	—	—	—	—	—
—	—	HR10	NCK20D	2.465	NiCr15Co19MoTi	—
5660C	5661A	—	ZSNCDT42	2.4662	NiCr15MoTi	—
5536E	5754E	HR6,204	NC22FeD	2.4665	NiCr22Fe18Mo	—
—	—	HR207	NW11AC	—	NiFe33Cr17Mo	—
5751A	5753	—	NKOD20ATU	2.4666	NiCr18CoMo	—
—	—	—	—	—	—	—
—	—	—	NC19KDUV	—	NiCr20Co16MoTi	—
—	—	—	—	—	—	—
—	—	—	Z6NKCDT38	—	—	—
—	5399	—	NC19KDT	2.4973	NiCr19Co11MoTi	N07041
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	NC14K8	—	—	—
—	—	—	—	—	NiCo15Cr10MoAlTi	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	NiTa9Co8W6CrAl	—
	6512					
—	5751	—	NCK19DAT	2.4983	NiCr18Co18MoTi	N07500
—	—	—	—	2.4668	NiCr19NbMo	—
—	—	—	NCKD20AT	2.4636	NiCo15CrMoAlTi	—
—	—	—	NC18TDA	—	—	—
5383	5589	HR8	NC19FeN	LW2.4668	NiCr19Fe19NbMo	N07718
	5759					
—	5544	—	NC20K14	LW2.4668	NiCr19Fe19NbMo	N07001

Co-based Heat Resistant Alloys

● Material Specifications Cross-Reference List-Aerospace Material Designation

Commercial designation	Hardness Brinell HB		Nominal composition Approximate content in %										
	Ann.	Aged	Ni	Cr	Co	Fe	Mo	W	Mn	Si	Al	Ti	Others
Air Resist 13	—	—	1.0	—	79.6	2.5	—	11.0	—	—	3.5	—	4.12
Air Resist 213	—	—	—	19.0	65.8	—	—	4.7	—	—	3.5	—	6.68
Altemp S 816	—	—	20.0	20.0	47.6	—	4.0	4.0	—	—	—	—	0.4
FSX 414	—	—	10.0	29.0	52.8	1.0	—	7.0	—	—	—	—	0.25
Haynes 25*	—	—	10.0	20.0	49.0	3.0	—	15.0	1.5	0.5	—	—	0.1
Haynes 36	—	—	10.0	18.5	52.8	2.0	—	14.5	1.2	0.6	—	—	0.4
Haynes 151	—	—	—	20.0	65.6	—	—	12.8	0.5	0.5	—	0.15	0.47
Haynes 188*	—	—	22.0	22.0	38.0	2.5	—	14.0	1.0	0.4	—	—	0.1
HS 6*	—	—	2.5	28.0	60.5	3.0	—	5.0	—	—	—	—	1.0
HS 21*	—	—	3.0	27.0	62.6	2.0	5.0	—	0.6	0.6	—	—	0.25
HS 25	—	—	10.0	20.0	48.4	3.0	—	15.0	1.5	2.0	—	—	0.1
HS 30	—	—	16.0	24.0	51.4	1.0	6.0	—	0.6	0.6	—	—	0.4
HS 31	—	—	10.0	25.0	53.8	1.5	—	8.0	0.6	0.8	—	—	0.4
HS 36	—	—	10.0	18.0	53.1	2.0	—	15.0	1.5	—	—	—	0.4
Inconel 783			28.5	3.0	34.0	26.0					5.4	0.1	3.0
J 1570*	—	—	28.0	19.0	39.0	2.0	—	7.0	—	—	—	—	—
J 1650	—	—	27.0	19.0	38.0	—	—	12.0	—	—	—	—	0.2
Jessop 832	—	—	12.0	19.0	44.0	17.0	2.0	—	0.8	0.3	—	—	3.5
Jessop 834	—	—	12.0	19.0	42.0	20.0	2.0	—	—	—	—	—	6.5
Jessop 865	—	—	10.5	25.5	53.0	2.0	—	7.5	0.6	0.6	—	—	0.45
Jessop 875	—	—	—	21.0	66.0	—	—	11.0	—	—	—	—	2.45
Jessop 887	—	—	10.0	20.0	50.0	3.0	—	15.0	0.5	1.5	—	—	0.1
Jessop X-40			10.5	25.5	53.0	1.5	—	7.5	0.75	0.75	—	—	0.5
Jessop X-45			10.5	25.5	54.7	2.0	—	7.0	—	—	—	—	0.25
Jessop X-50			20.5	25.5	40.3	4.0	—	12.0	—	—	—	—	0.75
Jessop X-63			10.0	25.0	57.6	1.0	6.0	—	—	—	—	—	0.45
Jetalloy 209	—	—	10.0	20.0	52.0	1.0	—	15.0	—	—	—	2.0	0.02
L-251	—	—	10.0	19.0	56.0	1.0	—	14.0	—	—	—	—	0.4
L-605	—	—	10.0	20.0	51.0	1.6	—	15.0	1.5	0.6	—	—	0.1
M 203	—	—	25.0	20.0	38.0	1.6	—	12.0	0.8	1.0	0.7	2.0	1.67
M 204	—	—	25.0	18.0	42.0	1.6	—	12.0	—	—	—	—	1.27
M 205	—	—	25.0	18.0	40.0	1.6	—	12.0	—	—	2.7	—	1.67
ME16				15.0	23.0	2.0	5				5.0		22.25
MP35N			37.0	21.0	29.2	1.0	10.5		0.15	0.15		1.0	0.04
MAR-M 302	—	—	—	21.5	57.0	0.75	—	10.0	0.1	0.2	—	—	10.0
MAR-M 322	—	—	—	21.5	60.0	0.75	—	9.0	0.1	0.1	—	0.75	7.7
MAR-M 509	—	—	10.0	23.0	55.0	—	—	7.0	0.05	0.05	—	0.2	4.6
MAR-M 905	—	—	20.0	20.0	55.0	—	—	—	—	—	—	0.5	7.65
MAR-M 918	—	—	20.0	20.0	52.0	0.4	—	—	0.1	0.1	—	0.5	7.65
NF3				14.3	22.4		3.9				4.8	4.6	17.90
Refractaloy 70	—	—	20.0	21.0	46.0	0.5	8.0	4.0	—	—	—	—	0.08
STELLITE 6				26.0	72.0			5.0					
UDIMET 188			22.0	22.0	38.0	3.0		14.0	1.25				
V-36	—	—	20.0	25.0	43.2	2.4	4.0	2.0	0.6	0.5	—	—	2.29
Wl-52			0.5	21.0	62.6	2.0	—	11.0	0.25	0.25	—	—	2.45

* These alloys can be hardened by an aging process

USA		UK	France	Germany		Others
SAE	AMS	BS	AFNOR	Werkst.-Nr	DIN1706	
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	(5534)	—	—	LW2.4989	CoCr20Ni20W	—
—	—	—	—	—	—	—
5537C	5759	—	KC20WN	LW2.4964	CoCr20W15Ni	—
—	—	—	—	—	CoCr19W14NiB	—
—	—	—	—	—	CoCr20W13	—
—	5772	—	KC22WN	—	CoCr22W14Ni	—
—	5373	—	—	—	—	R30006
—	5385	3531	—	—	CoCr29Mo	R30021
	5759	—	KC20WN	LW2.4964	CoCr20W15Ni	—
5380	—	—	—	—	CoCr25NiW	R30030
5382	—	3146	—	LW2.4670	CoCr25NiW	R30031
—	—	—	—	—	CoCr19W14NiB	—
	5940					
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	CoCr19Fe16NiMoVNb	—
—	—	—	—	—	CoCr19Fe20NiMoVNb	—
—	—	—	—	—	CoCr25Niw	—
—	—	—	—	—	CoCr21W11Nb	—
—	—	—	—	—	CoCr20W15Ni	—
—	5382	3156-2	—	LW2.4670	CoCr25NiW	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	5759	—	—	2.4964	CoCr20W15Ni	R30605
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
	5844					
—	—	—	—	—	CoCrW10TaZrB	—
—	—	—	—	—	CoCr22W9TaZrNb	—
—	—	3146-3	—	—	CoCr24Ni10WTaZrB	—
—	—	—	—	—	—	—
—	—	—	—	—	CoCr20Ni20Ta	—
—	—	—	—	—	—	—
—	—	—	—	—	CoCr25NiMoWNb	—
—	—	—	—	—	CoCr12MoW	—

Swiss Machine List

Citizen/Cincom

Machine Model	Gang Station					Turret Station						Sleeve Station		Hand	Max cutting dia
	Inch		Metric		Number of tools	Inch		Metric		Number of tools		Inch	Metric		
	h×b	L	h×b	L		h×b	L	h×b	L	Turret	Station	"	mm		mm
A12	□3/8	4.75	□10	100	5			—	—	—	—	ϕ3/4	ϕ20	R	ϕ12
A16	□3/8	4.75	□10	100	5			—	—	—	—	ϕ3/4	ϕ20	R	ϕ16
A20	□1/2	4	□12(□13)	120	5-7			—	—	—	—	ϕ1		R	ϕ20
A25	□1/2	4	□12(□13)	120	5/6			—	—	—	—	ϕ1		R	ϕ25
A32	□5/8	4.75	□16	150	6			—	—	—	—	ϕ1		R	ϕ32
B12, B12E	□3/8	4.75	□10	100	5			—	—	—	—	ϕ3/4	ϕ20	R	ϕ12
B16E	□3/8	4.75	□10	10	5			—	—	—	—	ϕ3/4	ϕ20	R	ϕ16
B20	□1/2	4.75	□12(□13)	120	6			—	—	—	—	ϕ3/4	ϕ20	R	ϕ20
BL12	□3/8	4.75	□10	60-120	5			—	—	—	—	ϕ3/4	ϕ20	R	ϕ12
BL20			□12(□13)	120	7			—	—	—	—	ϕ3/4	ϕ20	R	ϕ20
BL25			□12(□13)	120	7			—	—	—	—	ϕ3/4	ϕ20	R	ϕ25
C12	□3/8	4.75	□10	120	6			—	—	—	—	ϕ3/4		R	ϕ12
C16	□3/8	4.75	□10	120	6			—	—	—	—	ϕ3/4		R	ϕ16
C32	□5/8	4.75	□16	130	5			—	—	—	—	ϕ1		R	ϕ32
D25 VIII	□5/8		□16	—	10							ϕ1		R	ϕ25
E32			—	—	—			□16(19×13)	90	2	10/Turret	ϕ1		R	ϕ32
F10			—	—	—			□10	60	1	10	ϕ3/4		R	ϕ10
F12			—	—	—			□10	60	1	10	ϕ3/4		R	ϕ12
F16			—	—	—			□10	60	1	10	ϕ3/4		R	ϕ16
F20			—	—	—			□16(19×13)	90	1	10	ϕ1		R	ϕ20
F25			—	—	—			□16(19×13)	90	1	10	ϕ1		R	ϕ25
FL25			—	—	—			□16	90	1	12		ϕ16	R	ϕ25
FL42			—	—	—			□16	90	1	12		ϕ16	R	ϕ42
G10			—	—	—			□10	60	1	8	—	—	R	ϕ10
G16			—	—	—			□10	60	1	8	—	—	R	ϕ16
G32			—	—	—			□16(19×13)	90	1	10	—	—	R	ϕ32
K12, K12E	□3/8		□10	100	7			—	—	—	—		ϕ20	R	ϕ12
K16, K16E	□3/8		□12	100	6			—	—	—	—		ϕ20	R	ϕ16
L10			□8	100-130	5			—	—	—	—	ϕ5/8		R	ϕ10
L12	□3/8	4	□10	100	6			—	—	—	—	ϕ3/4	ϕ20	R	ϕ12
L16, L16E			□12(□10)	130	7			—	—	—	—	ϕ3/4		R	ϕ16
L20, L20E, L20X	□1/2	4.75	□12	130	7			—	—	—	—	ϕ3/4		R	ϕ20
L25	□5/8	4.75	□16	130	5			—	—	—	—	ϕ1		R	ϕ25
L32	□5/8	4.75	□16	130	5			—	—	—	—	ϕ1		R	ϕ32
$M_2$12, $M_3$12	□3/8		□10	120	5			□10	60	1	10	ϕ3/4		R	ϕ12
$M_2$16, $M_3$16, $M_4$16	□3/8		□10	120	5			□10	60	1	10	ϕ3/4		R	ϕ16
$M_2$20, $M_3$20	□5/8	4.75	□12	130	5	□3/4		□16	90	1	10	ϕ1		R	ϕ20
$M_2$32, $M_3$32, $M_4$32	□5/8	4.75	□16	130	5	□3/4		□16	90	1	10	ϕ1		R	ϕ32
M20	□1/2	4	□13(□12)	150	5	□1/2		□10	60	1	10	ϕ3/4		R	ϕ20
MSL12			□10	120	—			—	—	—	—	—	—	R	ϕ12
R04			□8	120	7			—	—	—	—	ϕ5/8		R	ϕ4
R07			□8	120	5			—	—	—	—	ϕ5/8		R	ϕ7
RL02			□16	60-150	Max 6			—	—	—	—		ϕ16/ϕ20	L	ϕ20
RL21			□10(□12)	90	—			—	—	—	—	ϕ3/4		R	ϕ20

● STAR

Machine Model	Gang Station					Turret Station						Sleeve Station		Hand	DS-Sleeve item number	Max cutting dia
	Inch		Metric		Number of tools	Inch		Metric		Number of tools		Inch	Metric			
	h×b	L	h×b	L		h×b	L	h×b	L	Turret	Station	"	mm			mm
ECAS-12			□10	95-150	6								φ22	R	SS-DSU-L23 SS-DSU-SK	φ13
ECAS-20			□12(16)	80-144	6								φ22	R	SS-DSU-L23 SS-DSU-SK	φ20
ECAS-20T								□12(16)	80	3	8/Turret		φ22	R	SS-DSU-B8D34	φ20
ECAS-32T			□16	80-120	4			□16	60-78	2	10/Turret		φ22/32	R	SS-DSU-SK	φ32
JNC-10								□8	65	1	6		-	L	—	φ10
JNC-16								□10	80	1	6		-	L	—	φ16
JNC-25/32								□16	78-120	1	10		φ22	R	—	φ25/φ32
KJR-16B/25B								□16	78	1	12/16		φ22	R	—	φ16/φ25
KNC-16/20								□16	68	1	16		φ22	R	—	φ16/φ20
KNC-25II/32II								□16	78	1	20		φ22/32	R	—	φ25/φ32
RNC-10/16			□10	80-120	5								φ22	R	—	φ10/φ16
RNC-16II/16BII			□10	80-120	5								φ22	R	—	φ16
SA-16R			□10	95-120	6								φ22	R	—	φ16
SB-12II/12R/16II	□1/2 (3/8)		□12(10)	95-130	6(7)								φ22	R	SS-DSU-L23 SS-DSU-SK	φ12/φ13/φ16
SB-16/16R	□1/2 (3/8)		□12(10)	95-130	6(7)								φ22	R	SS-DSU-L23 SS-DSU-SK	φ16
SB-20/20R	□1/2 (3/8)		□12(10)	95-130	6(7)								φ22	R	SS-DSU-L23 SS-DSU-SK	φ20
SC-20			□12	95-130	6								φ22	R	—	φ20
SE-12/12B, 16/16B			□10	95-120	5								φ22	R	—	φ13/φ16
SF-25								□16	73-98	1	10		φ22/32	R	—	φ25
SG-42								□16(20)	84-88	1	10		φ22/32	R	—	φ42
SH-12/16			□10	95-120	5								φ22	R	—	φ13/φ16
SH-7			□8	95-120	5								φ22	R	—	φ7
SI-12/12C			□10	80-130	6								φ22	R	—	φ13
SR-10J	□5/16		□8	67-110	6								φ22	R	SS-DSU-L23 SS-DSU-SK	φ10
SR-16/20			□12	95-120	5								φ22	R	—	φ16/φ20
SR-20J	□1/2		□12	100-135	6								φ22	R	SS-DSU-L23 SS-DSU-SK	φ20
SR-20R/20RII/20RIII			□12	100-135	6								φ22	R	SS-DSU-L23 SS-DSU-SK	φ20
SR-20RIV	□1/2		□12	100-130	7								φ22	R	SS-DSU-B8L23	φ20
SR-25J/32J	□5/8		□16	95-155	6								φ22/32	R	SS-DSU-L23 SS-DSU-SK	φ25/φ32
SR-32, SR-32J, SR-38			□16	100-135	6								φ22	R	—	φ32
SR32JII	□5/8		□16		6								φ22	R	SS-DSU-B8L23 SS-DSU-B8D34	φ32
SST-16			□12	95-115	5								φ22	R	—	φ16
ST-20								□12(16)	70-78	3	8/Turret		φ22	R	—	φ20
ST-38								□16(20)	85	3	10/Turret		φ22/32	R	—	φ38
SV-12/20			□12	95-135	4			□12	70-78	1	8		φ22	R	—	φ13/φ20
	□1/2		□12/□16	95-135	5			□16	65-70	1	8			R	—	
SV-32			□16	95-135	4			□16	80-88	1	10		φ22/32	R	—	φ32
SV-32J/32JII			□16	95-135	4			□16	65-70	1	8		φ22/32	R	—	φ32
SV-38R			□16+□20 (Cut off)	95-135	5			□16(20)	84-88	1	10		φ22/32	R	SS-DSU-B8D34	φ38
SW-12RII			□10	80-115	6								φ16	R	SS-DSU-B8L23	φ13
SW-20	□1/2 (5/8)		□12(16)	80-144	6								φ22	R	SS-DSU-B8L23	φ20
SW-7			□8	80-120	4								—	R	—	φ7

● TSUGAMI

Machine Model	Gang Station					Turret Station						Sleeve Station		Hand	Max cutting dia
	Inch		Metric		Number of tools	Inch		Metric		Number of tools		Inch	Metric		
	h×b	L	h×b	L		h×b	L	h x b	L	Turret	Station	"	mm		mm
P013H/P014H			□8	100-120	6			—	—	—	—		ϕ16	R	ϕ1
P033H/P034H			□8	100-120	6			—	—	—	—		ϕ16	R	ϕ3
B007-III	—	—	□7(□8/□10)	85	8			—	—	—	—		ϕ25	R	ϕ7
B073-II	—	—	□8	85	9								ϕ20	R	ϕ7
B074/B07-V	—	—	□8	85	9			—	—	—	—		ϕ20	R	ϕ7
B074-II	—	—	□8	85	6			—	—	—	—		ϕ20	R	ϕ7
B0123/B0124/B0125/B0126	—	—	□12	85	9			—	—	—	—		ϕ20	R	ϕ12
B012F/B012-V/BE12-V	—	—	□12	85	9			—	—	—	—		ϕ20	R	ϕ12
B0123-II/B0124-II/B0125-II/B0126-II	—	—	□12	85	9			—	—	—	—		ϕ20	R	ϕ12
B016MF	—	—	□12	85	9			—	—	—	—		ϕ20	R	ϕ16
B018-III	—	—	□12	85	9			—	—	—	—		ϕ20	R	ϕ18
B0203/B0204/B0205/B025-II/B0205-III/B0206-II	—	—	□12	85	9			—	—	—	—		ϕ20	R	ϕ20
B0203-II/B0204-II/B0206-II	—	—	□12	85	9			—	—	—	—		ϕ20	R	ϕ20
B020F/B020-V/BE20-V	—	—	□12	85	9			—	—	—	—		ϕ20	R	ϕ20
B026-V	—	—	□12(□16)	85	6			—	—	—	—		ϕ25	R	ϕ26
B0265-II/B0266-II	—	—	□16	100	12								ϕ25	R	ϕ26
B0325-II/B0326-II	—	—	□16	100	12								ϕ25	R	ϕ32
B0385/B0385L	—	—	□16	125	8			—	—	—	—		ϕ32	R	ϕ38
B038T	—	—	□16	125	3			□20	125	1	8		ϕ25/ϕ32	R	ϕ38
BA20-III			□12	85	6			—	—	—	—		ϕ25	R	ϕ20
BA26-III			□12(□16)	85	6			—	—	—	—		ϕ25	R	ϕ26
BC18	□1/2		□12	85	10			—	—	—	—		ϕ25	R	ϕ18
BC25	□1/2		□12	85	10			—	—	—	—		ϕ10/ϕ25	R	ϕ25
BE18	□1/2		□12	85	9			—	—	—	—		ϕ20	R	ϕ18
BH20/BH20Z	□1/2		□12	85	4			□12	85	1	12		ϕ25/ϕ32	R	ϕ20
BH38	□5/8		□16	125	7			□20	125	1	12		ϕ25/ϕ32	R	ϕ38
BM07			□8	85	9			—	—	—	—		ϕ20	R	ϕ7
BM163/BM164/BM165	□1/2		□12	85	9			—	—	—	—		ϕ20	R	ϕ16
BM20-V	□1/2		□12	85	9			—	—	—	—		ϕ20	R	ϕ20
BN12-III			□12	85	7			—	—	—	—		ϕ20	R	ϕ12
BN20-III			□12(□16)	85	7			—	—	—	—		ϕ20	R	ϕ20
BS12-V	□1/2		□12	85	8(12)			—	—	—	—		ϕ20/ϕ25	R	ϕ12
BS18-III	□1/2		□12	85	7(10)			—	—	—	—		ϕ14/ϕ25	R	ϕ18
BS20-V	□1/2		□12	85	8(12)			—	—	—	—		ϕ20/ϕ25	R	ϕ20
BS26(ABC)-V	□5/8		□16	100	7(10)			—	—	—	—		ϕ16/ϕ25	R	ϕ26
BS32C-V	□5/8		□16	100	6			—	—	—	—		ϕ16/ϕ25	R	ϕ32
BU12			□12	85	4			□12	80	1	8		ϕ20	R	ϕ51
BU20			□12	85	4			□12	80	1	8		ϕ20	R	ϕ20
BU26			□16	100	7			□20	80	1	8		ϕ20/ϕ32	R	ϕ26
BU38	□1/2		□16	100	7			□20	80	1	8		ϕ20/ϕ32	R	ϕ38
BW07-III	□1/2		□12	85	7			—	—	—	—		ϕ20	R	ϕ7
BW12-III/BW129Z	□1/2		□12	85	7			—	—	—	—		ϕ20	R	ϕ12
BW20-III/BW209Z	□1/2		□12(□16)	85	7			—	—	—	—		ϕ20	R	ϕ20
C004-III			□13	60-100	6-8			—	—	—	—		-ϕ10	R/L	ϕ120
C150	—	—	□10	60-100	4-6			—	—	—	—		-ϕ8	R/L	ϕ80
C180	—	—	□12	60-100	4-6			—	—	—	—		-ϕ10	R/L	ϕ120
C220	—	—	□13	60-100	6-8			—	—	—	—		-ϕ10	R/L	ϕ120
C300-III	—	—	□16	100-130	6-10			—	—	—	—		-ϕ14	R/L	ϕ170
CH154			□12	60-100	-16			—	—	—	—		-ϕ10	R/L	ϕ15
M34J			—	—	—			□20	125	1	12		ϕ20/ϕ32	R	ϕ34

Machine Model	Gang Station					Turret Station						Sleeve Station		Hand	Max cutting dia
	Inch		Metric		Number of tools	Inch		Metric		Number of tools		Inch	Metric		
	h×b	L	h×b	L		h×b	L	h x b	L	Turret	Station	"	mm		mm
M42J/M42D/M42SD			—	—	—			□20	125	1	12		φ25/φ32	R	φ42
M50SY-III			—	—	—			□20	100	1	12		φ32	R	φ51
M50J			—	—	—			□20	100	1	12		φ20/φ32	R	φ51
MB25			—	—	—			□20	80	2	8/Turret		φ20/φ32	R	φ25
MB35-III			—	—	—			□20	80	2	8/Turret		φ20/φ32	R	φ35
MB38-III			—	—	—			□20	80	2	8/Turret		φ20/φ32	R*	φ38
MB50-III			—	—	—			□20	80	2	8/Turret		φ20/φ32	R	φ50
MU26			—	—	—			□20	80	2	8/Turret		φ20/φ32	R	φ26
MU38			—	—	—			□20	80	2	8/Turret		φ20/φ32	R	φ38
NU50-III			—	—	—			□20	100	1	12		φ20/φ32	R	φ51
B020M-II/SS20M/SS20M-5AX			□10*	46	—			BT15 spindle			24		φ20	R	φ20
S205/S206	□1/2		□12(□16)	100	8			—	—	—	—		φ20/φ22	R	φ20
SS20	□1/2		□16	100	8			—	—	—	—		φ20/φ22	R	φ20
SS207/SS207-5AX	□1/2		□12(□16)	100	8			—	—	—	—		φ20/φ22	R	φ20
SS26	□5/8		□16	100	7			—	—	—	—		φ20/φ22	R	φ26
SS267/SS267-5AX	□5/8		□16	100	8								φ25	R	φ26
SS32/SS32L	□5/8		□16	100	7			—	—	—	—		φ20/φ22	R	φ32
SS327/SS327-5AX	□5/8		□16	100	8								φ25	R	φ32
TMB2			—	—	—			□20	125	1	16		φ32	R	φ51
TMU1			—	—	—			□20	125	1	16		φ32	R	φ38
TMA8-IV/TMA8J			□20*	100				KM40 spindle			30			R	φ220
M06J								□25	150	1	8		φ32/φ40	R	φ260
M06SY								□25	150	1	12		φ32/φ40	R	φ260
M06JC								□20	125	1	8		φ32/φ40	R	φ260
M08J								□25	150	1	8		φ32/φ40	R	φ280
M08SY/M08D/M08SD								□25	150	1	12		φ32/φ40	R	φ280

● DMG MORI

Machine Model	Gang Station					Sleeve Station		Hand	Max cutting dia
	Inch		Metric		Number of tools	Inch	Metric		
	h×b	L	h×b	L		"	mm		mm
Sprint 20/5			□12		6		φ20	R	φ20
Sprint 20/8			□12		6		φ20	R	φ20
Sprint 32/5			□16		6		φ20	R	φ32
Sprint 32/8			□16		6		φ20	R	φ32

● NOMURA

Machine Model	Gang Station					Sleeve Station		Hand	Max cutting dia
	Inch		Metric		Number of tools	Inch	Metric		
	h×b	L	h×b	L		"	mm		mm
NS-P1053A			□9.5	130	5	—	—	R	φ10
NN-10C			□10	130	6		φ17	R	φ10
NN-10E			□10	130	6		φ16	R	φ10
NN-10C2			□10	130	6		φ17	R	φ10
NN-10CS			□10	130	6		φ17	R	φ10
NN-10CS (No live tools)			□10	130	5		φ17	R	φ10
NN-10SII			□10	130	5		φ23	R	φ10
NN-10T			□10	130	7		φ23	R	φ10
NN-10SB5			□10	130	5		φ23	R	φ16
NN-16SB5			□10	130	5		φ23	R	φ16
NN-16SB6 Type1	□1/2	5.12	□12.7	130	5		φ17(φ22)	R	φ16
NN-16SB6 Type2	□1/2	5.12	□12.7	130	5		φ17(φ22)	R	φ16
NN-16SB6 Type2.5	□1/2	5.12	□12.7	130	5		φ17(φ22)	R	φ16
NN-16SB6 Type3	□1/2	5.12	□12.7	130	5		φ17(φ22)	R	φ16
NN-16SB7	□1/2	5.12	□12.7		5(7)		φ16	R	φ16
NN-16HIII			□12	130	6		φ23	R	φ16
NN-20HIII			□12	130	6		φ23	R	φ20
NN-16UIII			□12	130	5		φ23	R	φ16
NN-20UIII			□12	130	5		φ23	R	φ20
NN-20CS	□1/2	5.12	□12.7	130	5(6)		φ22	R	φ20(φ25)
NN-20U5	□1/2	5.12	□12.7	130	5(6)		φ22	R	φ20(φ25)
NN-16UB5			□12	130	5		φ23	R	φ16
NN-20UB5			□12	130	5		φ23	R	φ20
NN-20UB7			□12	130	6		φ23	R	φ20
NN-20UB8	□1/2	5.12	□12.7	130	5(6)		φ22	R	φ20(φ25)
NN-20YB			□12	130	8		φ23	R	φ20
NN-25UB8	□1/2	5.12	□12		5		φ22	R	φ25
NN-32UB8	□1/2	5.12	□16		5		φ22	R	φ32
NN-38UB8	□3/4		□20		5		φ22/φ32	R	φ38
NN-25YB/32YB			□16	130	8		φ22/φ32	R	φ25
NN-32YB2			□16	130	5		φ23/φ32	R	φ32
NN-32YB3	□5/8		□16		5		φ22/φ32	R	φ32
NN-32YB3XB	□5/8		□16		6		φ22/φ32	R	φ32
NN-16J	□1/2	5.12	□12.7	130	6		φ23	R	φ16
NN-20J	□1/2	5.12	□12.7	130	6		φ23	R	φ20
NN-20J2	□1/2	5.12	□12.7	130	6		φ22	R	φ20
NN-20J3	□1/2	5.12	□12.7		6		φ23	R	φ20
NN-20J3XB	□1/2	5.12	□12.7		5		φ23	R	φ20

TORNOS

Machine Model	Gang Station					Turret Station					Sleeve Station		Hand	Max cutting dia
	Inch		Metric		Number of tools	Inch		Metric		Number of tools	Inch	Metric		
	h×b	L	h×b	L		h×b	L	h x b	L		"	mm		mm
EvoDECO 10/10	□5/16		□8		8							φ20/φ25	R	φ10
EvoDECO 10/8	□5/16		□8		8							φ20/φ25	R	φ10
EvoDECO 16/10	□1/2		□12		10							φ20/φ25	R	φ16
EvoDECO 16/8	□1/2		□12		10							φ20/φ25	R	φ16
EvoDECO 20	□5/8		□16		10							φ20/φ25	R	φ25.4
EvoDECO 32	□5/8		□16		10							φ20/φ25	R	φ32
Swiss ST 26	□1/2		□12		17							φ20/φ22/φ25	R	φ25.4
Sigma 20/6	□5/8		□16		14						φ1	φ20	R	φ25.4
Sigma 32/6	□5/8		□16		14						φ1.26	φ32	R	φ32
SwissNano	□5/16		□8		7							φ12/φ16	R	φ4
Delta 12/4	□1/2*		□12	85	5							φ20	R	φ12
Delta 12/5	□1/2*		□12	85	5							φ20	R	φ12
Delta 20/4	□1/2*		□12	85	5							φ20	R	φ20
Delta 20/5	□1/2*		□12	85	5							φ20	R	φ20
Delta 38/5B			□20	125	8							φ25/φ32	R	φ38
Delta 38/5BL			□20	125	8							φ25/φ32	R	φ38
Gamma 20/5			□16	100	8							φ20/φ22	R	φ20
Gamma 20/6			□16	100	8							φ20/φ22	R	φ20
CT20	□1/2		□12	100	5								R	φ20
MultiSwiss 6X16								□16		6		φ25		
MultiSwiss 8X26								□16		8		φ25		
MultiSwiss 6X32								□16		8		φ25		
Swiss GT13			□12		8							φ20/φ22		13
Swiss GT26			□16		9							φ20/φ22		26
Swiss GT26B			□16		8							φ20/φ22		26
Swiss GT32			□16		9							φ20/φ22		32
Swiss GT32B			□16		8							φ20/φ22		32
SwissDeco 26-G			□16		8							φ20/φ25		26
SwissDeco 26-T			□16					□16		8		φ20/φ25		26
SwissDeco 26-TB			□16					□16		8		φ20/φ25		26
SwissDeco 32-G			□16		8							φ20/φ25		32
SwissDeco 26-T			□16					□16		8		φ20/φ25		32
SwissDeco 26-TB			□16					□16		8		φ20/φ25		32

*Except cut off must be 12mm

Hanwha Machinery

Machine Model	Gang Station					Turret Station					Sleeve Station		Hand	Max cutting dia
	Inch		Metric		Number of tools	Inch		Metric		Number of tools	Inch	Metric		
	h×b	L	h×b	L		h×b	L	h x b	L		"	mm		mm
XD 03			□8		6							φ15.87	R	φ3
XD 07			□8		6							φ15.87	R	φ7
XD 12			□12		5							φ20	R	φ12
XD 16			□12		5							φ20	R	φ16
XD 20 / 20V			□12		6							φ25	R	φ20
XDI20			□12		6							φ25	R	φ20
XD 26			□16		5							φ25	R	φ26
XD32			□16		5							φ32	R	φ32
XD 38			□16		5							φ32	R	φ38
XD 42			□20		5							φ32	R	φ42
XE 12			□12		6							φ20	R	φ12
XE 16			□12		6							φ20	R	φ16
XE 20			□12		6							φ25	R	φ20
XE 26			□16		5							φ25	R	φ26
XE 35			□16		5							φ32	R	φ35
XP 12 /12S			□12		6							φ20	R	φ12
XP 16 /16S			□12		6							φ20	R	φ16
XP 20			□12		6							φ25	R	φ20
XP 26 / 26S			□16		5							φ25	R	φ26
STL38H			□16		5			□16				φ32	R	φ38

Hardness Comparison Chart

Vickers Hardness (HV)	Rockwell hardness			Brinell hardness, 10 mm balls, 3000 kgf load	Shore hardness	Tensile strength Kgf/mm² [N/m²] Approximate value MPa (1)
	Scale A Load: 60 kgf brale indenter (HRA)	Scale C Load: 150 kgf brale indenter (HRC)	Scale B Load: 100 kgf Diameter 1/16'' indenter (HRB)	Tungsten carbide ball		
2200	(95.1)	–	–	–	–	
2100	(94.6)	–	–	–	–	
2000	94.2	–	–	–	–	
1900	93.7	(80.5)	–	–	–	
1800	93.2	(79.2)	–	–	–	
1700	92.7	(77.9)	–	–	–	
1600	91.8	(76.6)	–	–	–	
1500	91.0	(75.3)	–	–	–	
1450	90.4	(74.6)	–	–	–	
1400	90.0	74.0	–	–	–	
1350	89.6	73.4	–	–	–	
1300	89.1	72.7	–	–	–	
1250	88.6	72.1	–	–	–	
1200	88.1	71.5	–	–	–	
1150	87.6	70.9	–	–	–	
1100	87.1	70.3	–	–	–	
1050	86.6	69.6	–	–	–	
1000	86.2	68.9	–	–	–	
940	85.6	68.0	–	–	97	
920	85.3	67.5	–	–	96	
900	85.0	67.0	–	–	95	
880	84.7	66.4	–	(767)	93	
860	84.4	65.9	–	(757)	92	
840	84.1	65.3	–	(745)	91	
820	83.8	64.7	–	(733)	90	
800	83.4	64.0	–	(722)	88	
780	83.0	63.3	–	(710)	87	
760	82.6	62.5	–	(698)	86	
740	82.2	61.8	–	(684)	84	
720	81.8	61.0	–	(670)	83	
700	81.3	60.1	–	(656)	81	
690	81.1	59.7	–	(647)	–	
680	80.8	59.2	–	(638)	80	
670	80.6	58.8	–	630	–	
660	80.3	58.3	–	620	79	
650	80.0	57.8	–	611	–	
640	79.8	57.3	–	601	77	
630	79.5	56.8	–	591	–	
620	79.2	56.3	–	582	75	
610	78.9	55.7	–	573	–	
600	78.6	55.2	–	564	74	
590	78.4	54.7	–	554	–	
580	78.0	54.1	–	545	72	
570	77.8	53.6	–	535	–	
560	77.4	53.0	–	525	71	
550	77.0	52.3	–	517	–	
540	76.7	51.7	–	507	69	
530	76.4	51.1	–	497	–	
520	76.1	50.5	–	488	67	
510	75.7	49.8	–	479	–	
500	75.3	49.1	–	471	66	

Vickers Hardness (HV)	Rockwell hardness			Brinell hardness, 10 mm balls, 3000 kgf load	Shore hardness	Tensile strength Kgf/mm² [N/m²] Approximate value MPa (1)
	Scale A Load: 60 kgf brale indenter (HRA)	Scale C Load: 150 kgf brale indenter (HRC)	Scale B Load: 100 kgf Diameter 1/16'' indenter (HRB)	Tungsten carbide ball		
490	74.9	48.4	–	460	–	
480	74.5	47.7	–	452	64	
470	74.1	46.9	–	442	–	
460	73.6	46.1	–	433	62	
450	73.3	45.3	–	425	–	
440	72.8	44.5	–	415	59	
430	72.3	43.6	–	405	–	
420	71.8	42.7	–	397	57	
410	71.4	41.8	–	388	–	
400	70.8	40.8	–	379	55	
390	70.3	39.8	–	369	–	
380	69.8	38.8	(110.0)	360	52	
370	69.2	37.7	–	350	–	
360	68.7	36.6	(109.0)	341	50	
350	68.1	35.5	–	331	–	
340	67.6	34.4	(108.0)	322	47	
330	67.0	33.3	–	313	–	
320	66.4	32.2	(107.0)	303	45	
310	65.8	31.0	–	294	–	
300	65.2	29.8	(105.5)	284	42	
295	64.8	29.2	–	280	–	
290	64.5	28.5	104.5	275	41	
285	64.2	27.8	–	270	–	
280	63.8	27.0	103.5	265	40	
275	63.5	26.4	–	261	–	
270	63.1	25.6	102.0	256	38	
265	62.7	24.8	–	252	–	
260	62.4	24.0	101.0	247	37	825
255	62.0	23.1	–	243	–	805
250	61.6	22.2	99.5	238	36	795
245	61.2	21.3	–	233	–	780
240	60.7	20.3	98.1	228	34	765
230	–	18.0	96.7	219	33	730
220	–	15.7	95.0	209	32	695
210	–	13.4	93.4	200	30	670
200	–	(11.0)	91.5	190	29	635
190	–	(8.5)	89.5	181	28	605
180		(6.0)	87.1	171	26	580
170		(3.0)	85.0	162	25	545
160		(0.0)	81.7	152	24	515
150			78.7	143	22	490
140			75.0	133	21	455
130			71.2	124	20	425
120			66.7	114		390
110			52.3	105		–
100			56.2	95		–
95			52.0	90		–
90			48.0	86		–
85			41.0	81		–

(1) 1 MPa = 1 N/mm²
(2)This table is an excerpt from the JIS Iron and Steel Handbook
(3)Values in parentheses in the above table are not usually used

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Metalcutting Safety

Applicable Products	Possible Risks	Safety Measures
General Cutting Tools	◎Contact with a sharp cutting edge with bare hands may result in injury.	＊Use protective gear such as protective gloves when taking the tool out of packaging and installing into the machine.
	◎Misuse or using under inappropriate conditions may cause the cutting tool to break and/or shatter into pieces, resulting in personal injury.	＊Use protective equipment, machine guarding and/or protective glasses. ＊Use within the range of recommended conditions. Please refer to the instruction manual and catalog.
	◎Sudden increase in cutting resistance due to sudden impact load or excessive wear may cause the cutting tool to break and/or shatter into pieces, resulting in personal injury.	＊Use protective gear such as protective gloves when taking the tool out of packaging and installing into the machine.
	◎High-temperature chips may be produced and long chips may be ejected, resulting in injury and/or burns.	＊Use protective equipment, machine guarding and/or protective glasses. ＊Before removing chips, always stop the machine. Wear protective gloves and use proper equipment for chip removal.
	◎The tool and material/work being cut can become very hot. Touching them immediately after use may cause burns.	＊Use protective gear such as protective gloves.
	◎Sparks, heat generation due to breakage and/or chips during cutting may cause fire.	＊Do not use the machine and tools in locations where there are risks of ignition or explosion. ＊When using water-insoluble cutting oil, fire prevention measures must be implemented.
	◎Out of balance machine set ups when used at a high-speed, may cause insert breakage due to excess vibration or chatter, resulting in injury.	＊Use protective equipment, machine guarding and/or protective glasses. ＊Perform a trial-run beforehand to make sure the setup is stable, free of chatter, vibration and abnormal noise.
	◎Touching burrs and flashes on machined work may result in personal injury.	＊Use adequate hand protection.
Throw-Away Type Tools (With indexable insert)	◎Inappropriately clamped inserts and/or components may become detached from the machine during cutting, resulting in injury.	＊Before installing the insert, clean the seating surface and clamping components so that they are free of debris. ＊Use the wrench supplied to install the insert and check that the insert and components are securely clamped. Do not use any inserts or components other than the items specified.
	◎Excessively tightening with a device such as a pipe extension may cause the insert and/or components to break or detach due to over clamping.	＊Do not use tightening devices such as pipe extensions to obtain further torque. Always use the supplied wrench.
	◎At high speeds, inserts and/or components may lose clamping pressure due to the loosening effect of centrifugal force. This is very dangerous. Always ensure secure clamping systems and check regularly.	＊Use within the range of recommended conditions. Please refer to the instruction manual and catalog.
Cutters and Rotational Tools	◎As cutters have sharp cutting edges, contact with bare hands may result in injury.	＊Use protective equipment such as protective gloves.
	◎Imbalance or excessive rotation may cause the tool to break due to vibration or chatter, resulting in potential injury.	＊Use at a rotational speed within the recommended conditions. ＊To prevent excessive rotation and vibration due to worn bearings, regularly check the machine rotor/rotating parts for the accuracy and balance and adjust as required.
Brazed Inserts / Tools	◎Inserts may break or become, detached due to incorrect brazing.	＊Use protective equipment such as machine guards and/or protective glasses. Additional guarding around the chuck and drill may be advisable.
Others	◎It is not advisable to use brazed inserts repeatedly as the braze may progressively weaken.	＊Do not use brazed inserts repeatedly as the strength of such inserts is lowered.
	◎Use only for the original and intended purpose. Using outside recommended parameters is very dangerous, causing damages to machines and/or tools.	＊Always use and operate as specified, observing the required safety rules and conditions.