



High functioning, High operating system

DIRECT^T_{UNG}JET system



L20



D25

Cincom

Thru-coolant holder system

High pressure coolant is supplied through the holder to facilitate smooth chip evacuation, improved chip breaking and reduced machine down-time

External coolant supply
(at normal pressure)

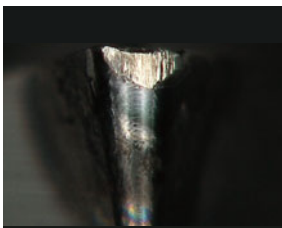
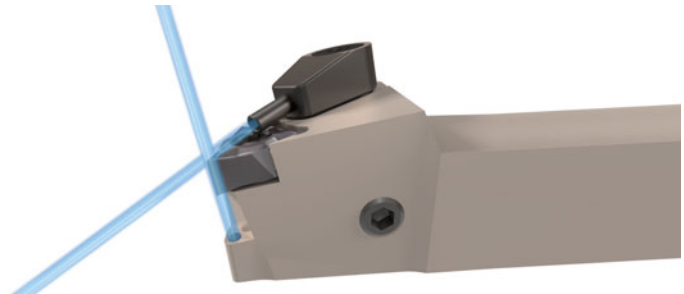


High pressure coolant
($>7\text{MPa}$)

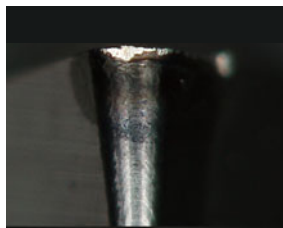


Coolant jets from two outlets ensure high cutting efficiency and extended tool life

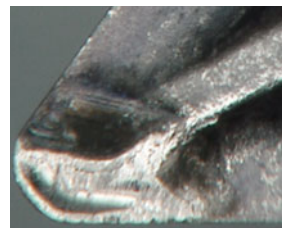
- **Directly to the cutting edge**
 - Reliable chip control
 - Reduces crater and notch wears



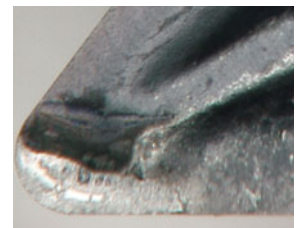
Excessive wear with external coolant supply (at normal pressure)



High pressure coolant
($>7\text{MPa}$)



Excessive crater wear with external coolant supply (at normal pressure)

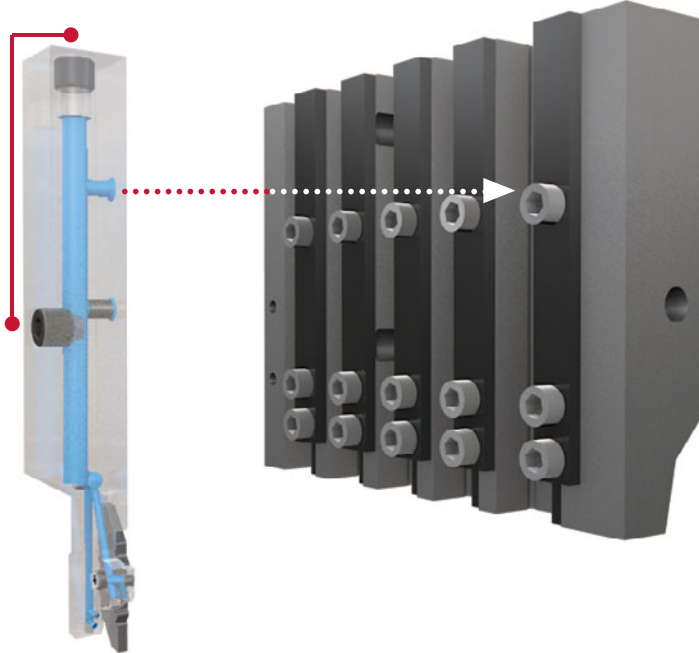


High pressure coolant
($>7\text{MPa}$)

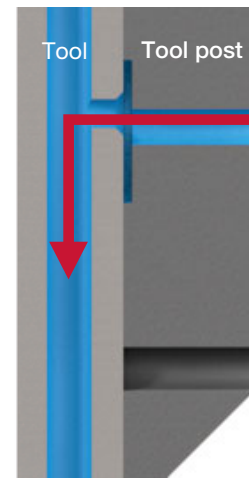
Tube-free design streamlines tool setup Through-coolant supply enables high productivity

Coolant is supplied from the tool post directly to the tools

Optional connection with
external coolant tube



Detailed view of the coolant
flow after connection



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

L20



D25



TUNG^{TURN}JET



Machines for DirectTungJet system

Improvement of chip evacuation with TungTurn-Jet

M Stainless steel: External turning (S30400)



J-SERIES
TUNGALOY

Material : S30400
Holder : JSDJ2CR083X-CHP
Insert : DCGT 32.50.5 FN-JS SH725
Cutting speed : $V_c = 262$ sfm
Feed rate : $f = 0.001$ ipr
Depth of cut : $a_p = 0.059$ "
Coolant type : Oil

TUNGTURN Through-coolant supply (at 7 MPa)	TUNGTURN Through-coolant supply (at 1.5 MPa)	External coolant at normal pressure

S Titanium alloy : Grooving (Ti-6Al-4V)



TETRAMCUT
TUNGALOY

Material : Ti-6Al-4V
Holder : STCR08X18-CHP
Insert : TCP18R200F-010 SH725
Cutting speed : $V_c = 328$ sfm
Feed rate : $f = 0.002$ ipr
Groove width : 0.079"
Groove depth : 0.098"
Coolant type : Oil

TUNGTURN Through-coolant supply (at 7 MPa)	TUNGTURN Through-coolant supply (at 1.5 MPa)	External coolant at normal pressure

M Stainless steel: Parting -off (S30400)



DUOJUST
TUNGALOY

Material : S30400
Holder : JSXXL083X-CHP
Insert : JXPG16L20F SH725
Rotation : $V_c = 328$ sfm
Feed rate : $f = 0.001$ ipr
Coolant type : Oil

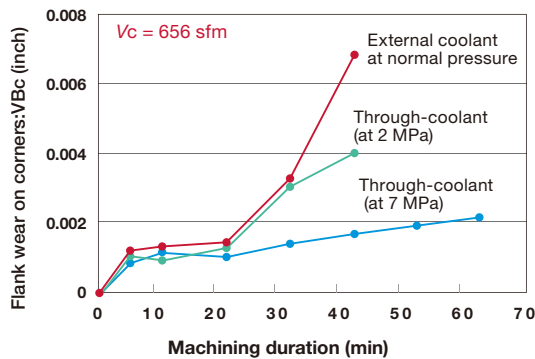
TUNGTURN Through-coolant supply (at 7 MPa)	TUNGTURN Through-coolant supply (at 1.5 MPa)	External coolant at normal pressure

Tool wear reduction with TungTurn-Jet

M Stainless steel: External turning (S30400)

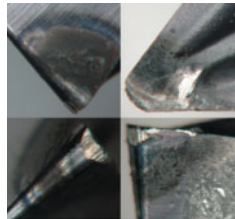


Material : S30400
Holder : JSDJ2CR083X-CHP
Insert : DCGT 32.50.5 FN-JS SH725
Cutting speed : $V_c = 656$ sfm
Feed rate : $f = 0.004$ ipr
Depth of cut : $a_p = 0.020$ "
Coolant type : Oil



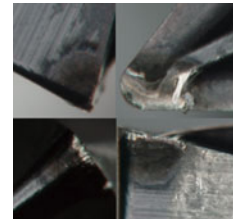
After machining for 40 min.

External coolant at normal pressure



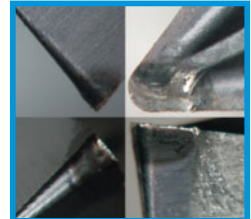
TUNGTURN

Through-coolant (at 2 MPa)



TUNGTURN

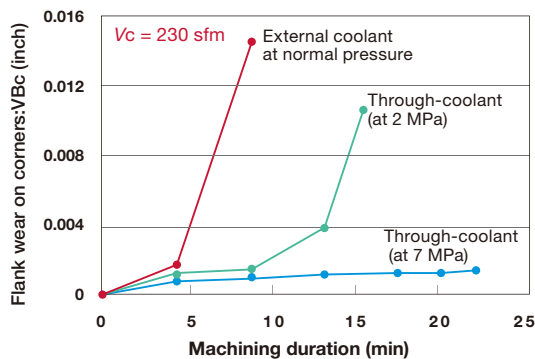
Through-coolant (at 7 MPa)



S Titanium alloy: External turning (Ti-6Al-4V)

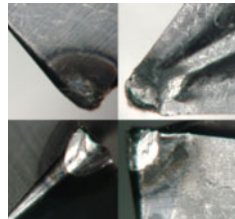


Material : Ti-6Al-4V
Holder : JSDJ2CR083X-CHP
Insert : DCGT 32.50.5 FN-JS SH725
Cutting speed : $V_c = 230$ sfm
Feed rate : $f = 0.004$ ipr
Depth of cut : $a_p = 0.020$ "
Coolant type : Oil



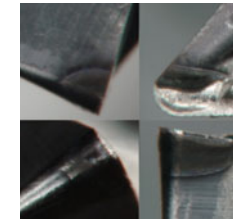
After machining for 10 min.

External coolant at normal pressure



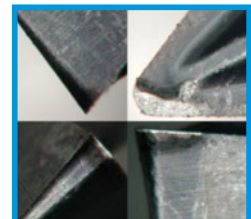
TUNGTURN

Through-coolant (at 2 MPa)

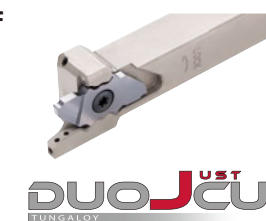


TUNGTURN

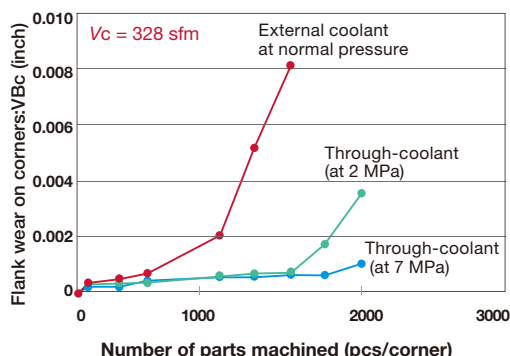
Through-coolant (at 7 MPa)



M Stainless steel: Parting -off (S30400)

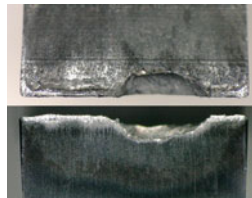


Material : S30400
Holder : JSXXL083X-CHP
Insert : JXPG16L20F SH725
Cutting speed : $V_c = 328$ sfm-1
Feed rate : $f = 0.03$ ipr
Coolant type : Oil



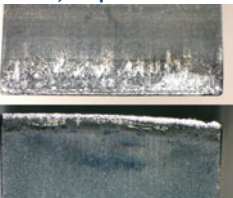
DUOJUST TUNGALOY

External coolant at normal pressure
After 1,500 parts machined



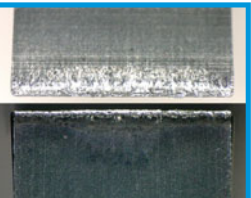
TUNGTURN

Through-coolant (at 2 MPa)
After 2,000 parts machined

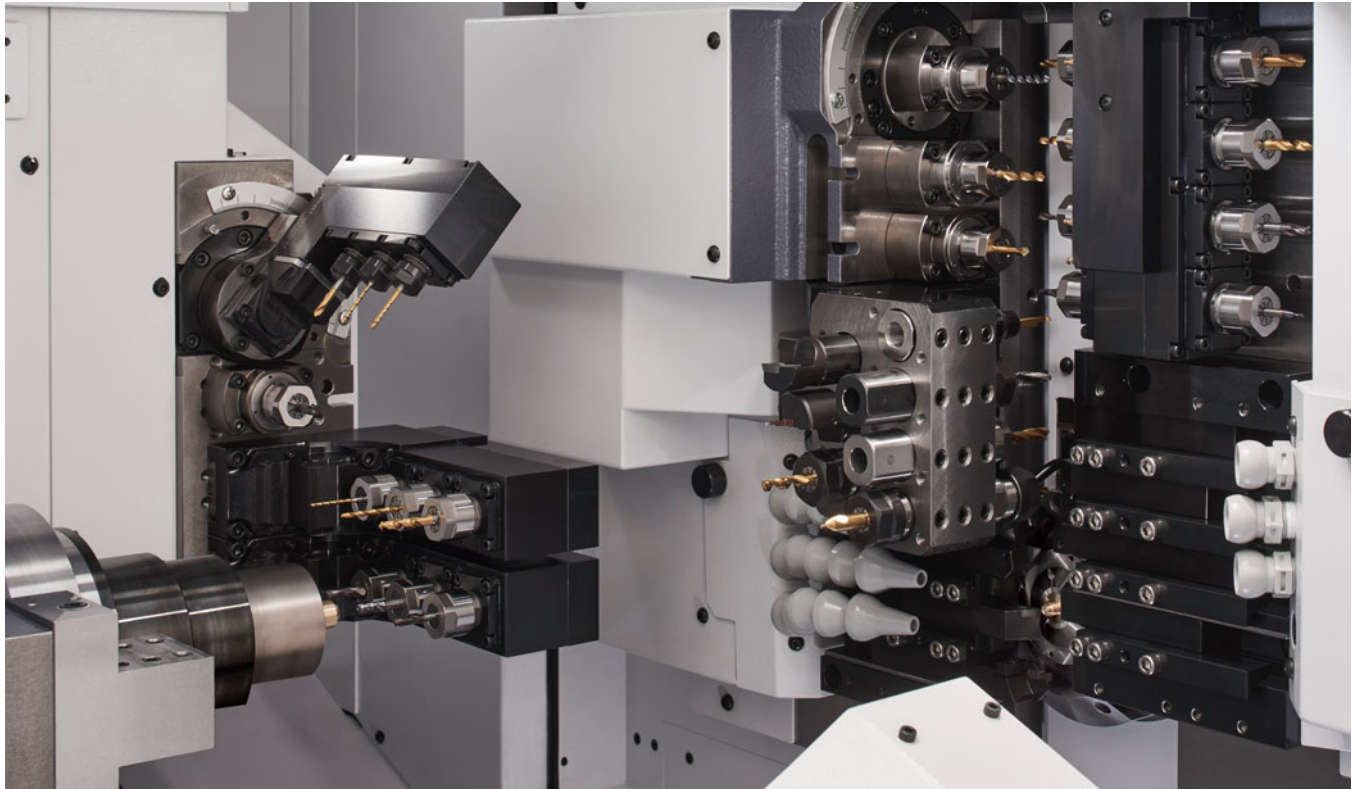


TUNGTURN

Through-coolant (at 7 MPa)
After 2,000 parts machined



Double gang tool posts and B-axis Optimized tool setup for maximum productivity



Sliding Headstock Automatic CNC Lathe
with convertible guide bushing

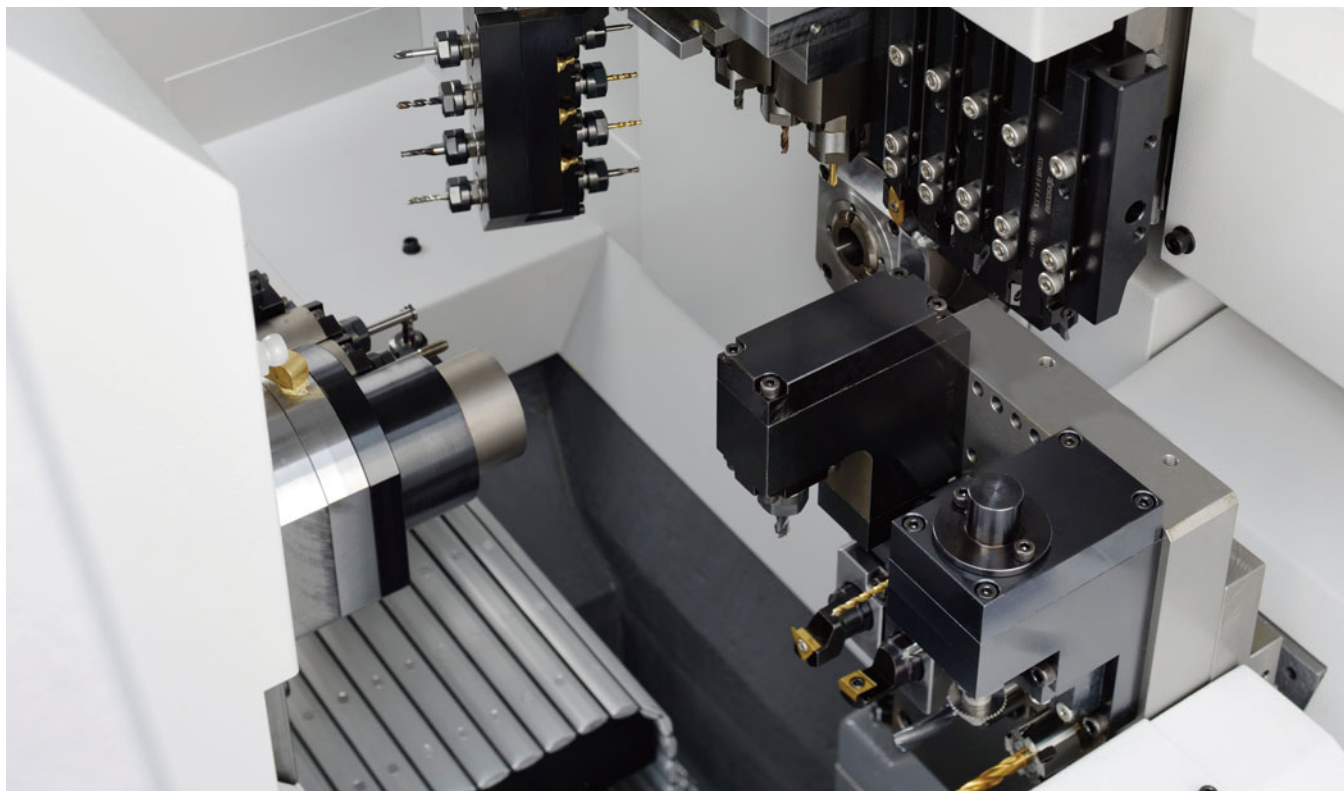
D25

Machine model	D25 VIII
Num. of axes/paths	10 axes, 3 path control systems
Maximum diameter machineable (inch)	1" dia.
Maximum length machineable (mm)	250 (GB)
	2.5xD
Spindle speed (min ⁻¹)	10,000
Tool positions	43
Motor, spindle drive (kW)	3.7/5.5
Mountable tool sizes (inch)	5/8"sq., 3/4"sq.(cut off)
Sleeve diameter (inch)	1" dia., 3/4" dia.

- Incorporates double gang tool posts to minimize non-machining intervals.
- A maximum of 59 tools can be mounted on the multiple tool posts, enabling seamless machining.
- Three live tool posts minimizes total machining time.
- B-axis can be utilized to machine either front or back of the workpiece.
- Simultaneous 5-axis control abilities allow for contour-profiling, enhancing the flexibility of the automatic CNC lathe capability.



Enhanced Tool Modularity



Sliding Headstock
Automatic CNC Lathe
with convertible guide
bushing

L20

Machine model	L20 VIII	L20X	L20 XII
Num. of axes/paths	5 axes, 2 path control systems	6 axes, 2 path control systems	7 axes, 2 path control systems
Maximum diameter machineable (inch)	4/5"dia.(1"dia.optional)	4/5"dia.(1"dia.optional)	4/5"dia.(1"dia.optional)
Maximum length machineable (mm)	200(GB) 2.5xD(GBL)	200(GB) 2.5xD(GBL)	200(GB) 2.5xD(GBL)
Spindle speed (min ⁻¹)	10,000	10,000	10,000
Tool positions	37	44	40
Motor, spindle drive (kW)	2.2/3.7	2.2/3.7	2.2/3.7
Mountable tool sizes (inch)	1/2"sq., 5/8"sq.(cut off)	1/2"sq., 5/8"sq.(cut off)	1/2"sq., 5/8"sq.(cut off)
Sleeve diameter (inch)	1"dia.(1"dia.optional)	1"dia.(1"dia.optional)	1"dia.(1"dia.optional)

- 4 types of the L20 model are available, ranging from the cost-efficient 5-axis machine to the high-end type incorporating B-axis and Y-axis opposing tool post
- A convertible model : May be run with or without the guide bushing.

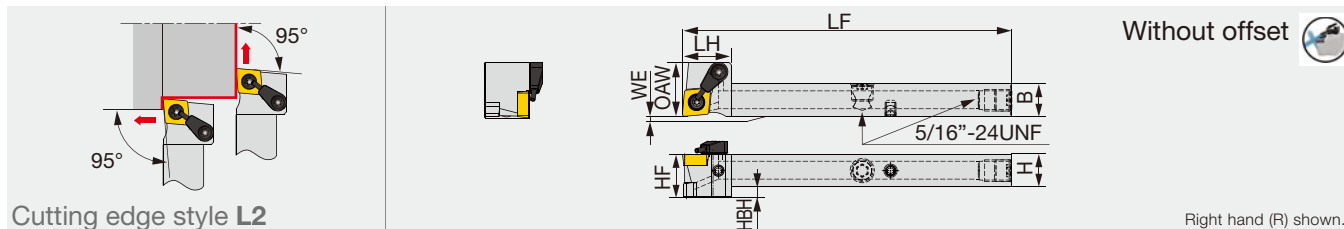


● For Turning / Facing

JSCL2CR/L-CHP

J-SERIES
TUNGALOY

Screw-on toolholder without offset, 95° approach angle for positive 80° rhombic inserts, high pressure coolant compatible



Inch	H	B	LF	LH	HF	HBH	WF	OAW	RE**	Insert	Torque*
JSCL2CR083X-CHP	0.500	0.500	4.750	0.709	0.500	0.031	0.000	0.787	0.008	CC**32.5...	0.89
JSCL2CR103X-CHP	0.625	0.625	4.750	0.709	0.625	-	0.000	0.787	0.008	CC**32.5...	0.89

*Torque: Recommended torque (lbf-ft) for clamping **RE: Standard corner radius

SPARE PARTS

Designation	Clamping screw	Coolant unit	Wrench
JSCL2CR**X-CHP	CSTB-4SD	S-CU-CHP	T-8F

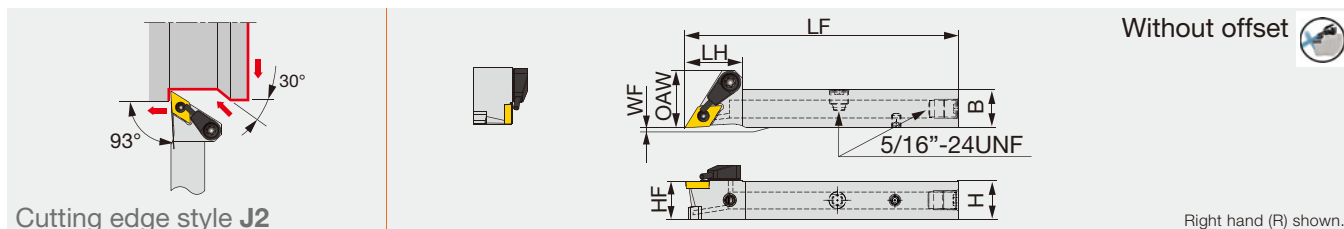
See page 36 for the proper tool overhang and plug settings.

● For External Turning

JSDJ2CR/L-CHP

J-SERIES
TUNGALOY

Screw-on toolholder without offset, 93° approach angle for positive 55° rhombic inserts, high pressure coolant compatible



Inch	H	B	LF	LH	HF	WF	OAW	RE**	Insert	Torque*
JSDJ2CR083X-CHP	0.500	0.500	4.750	0.748	0.500	0.000	0.807	0.008	DC**32.5...	0.89
JSDJ2CR103X-CHP	0.625	0.625	4.750	0.748	0.625	0.000	0.807	0.008	DC**32.5...	0.89

*Torque: Recommended torque (lbf-ft) for clamping **RE: Standard corner radius

SPARE PARTS

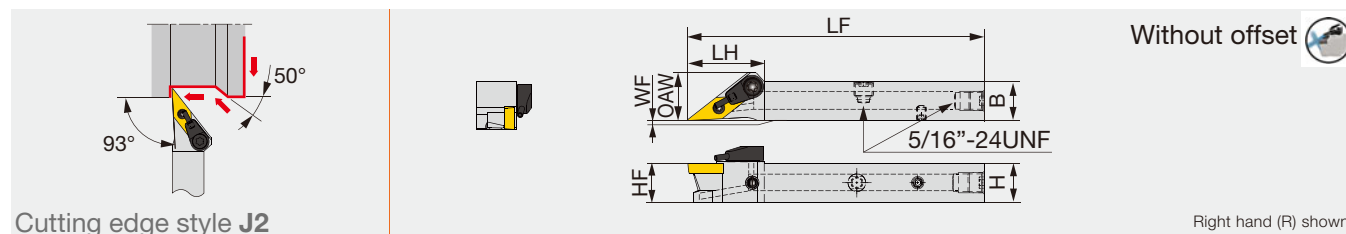
Designation	Clamping screw	Coolant unit	Wrench
JSDJ2CR**X-CHP	CSTB-4SD	S-CU-CHP	T-8F

See page 36 for the proper tool overhang and plug settings.

JSVJ2BR/L-CHP



Screw-on toolholder without offset, 93° approach angle for positive 35° rhombic inserts, high pressure coolant compatible



Inch	H	B	LF	LH	HF	WF	OAW	RE**	Insert	Torque*
JSVJ2BR082X-CHP	0.500	0.500	4.750	0.929	0.500	0.000	0.575	0.008	VBGT**22...	0.89
JSVJ2BR102X-CHP	0.625	0.625	4.750	0.929	0.625	0.000	0.625	0.008	VBGT**22...	0.89

*Torque: Recommended torque (ibf-ft) for clamping **RE: Standard corner radius

SPARE PARTS

Designation	Clamping screw	Coolant unit	Wrench
JSVJ2B**-CHP	CSTB-2.5	S-CU-CHP	T-8F

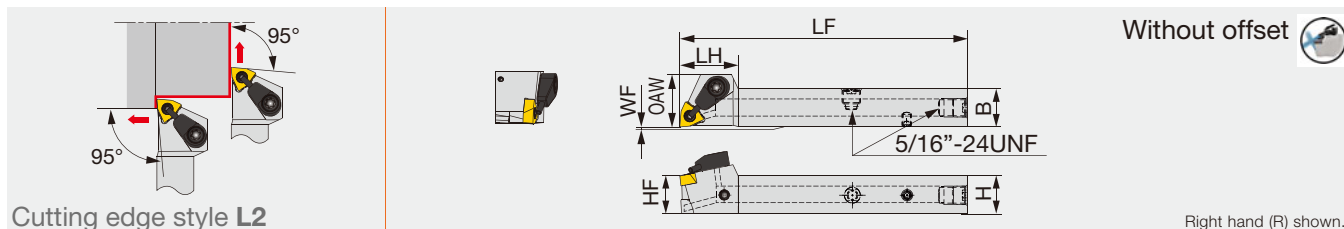
See page 36 for the proper tool overhang and plug settings.

● For Turning / Facing

JSWL2XR/L-CHP

MINIFORCE
TUNGALOY

Screw-on toolholder without offset, 95° approach angle, for WXGU inserts, high pressure coolant compatible



Cutting edge style L2

Right hand (R) shown.

Inch	H	B	LF	LH	HF	WF	OAW	RE**	Insert	Torque*
JSWL2XR082X-CHP	0.500	0.500	4.750	0.728	0.500	0.000	0.650	0.008	WXGU 220**L...	0.66
JSWL2XR102X-CHP	0.625	0.625	4.750	0.728	0.625	0.000	0.650	0.008	WXGU 220**L...	0.66

*Torque: Recommended torque (lbf-ft) for clamping **RE: Standard corner radius

Note: Right-hand toolholders (R) are used with left-hand inserts (L). Left-hand toolholders (L) are used with right-hand inserts (R).

SPARE PARTS

Designation	Clamping screw	Coolant unit	Wrench
JSWL2XR**-CHP	SR34-514	S-CU-CHP	T-7F

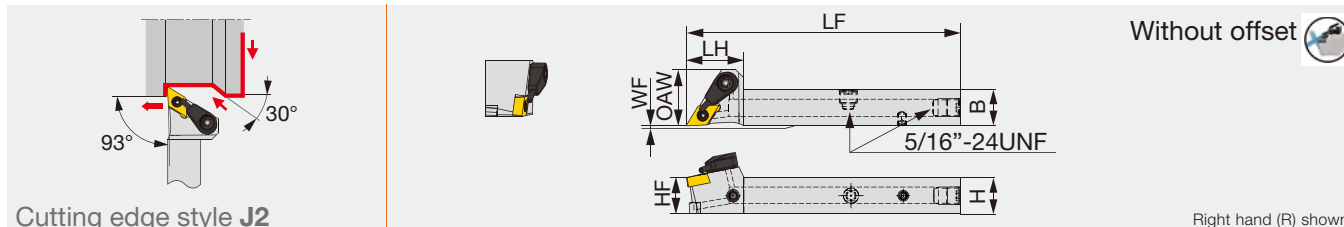
See page 36 for the proper tool overhang and plug settings.

● For External Turning

JSDJ2XR/L-CHP

MINIFORCE
TUNGALOY

Screw-on toolholder without offset, 93° approach angle, for DXGU inserts, high pressure coolant compatible



Cutting edge style J2

Right hand (R) shown.

Inch	H	B	LF	LH	HF	WF	OAW	RE**	Insert	Torque*
JSDJ2XR082X-CHP	0.500	0.500	4.750	0.748	0.500	0.000	0.728	0.008	DXGU 22**L...	0.66
JSDJ2XR102X-CHP	0.625	0.625	4.750	0.748	0.625	0.000	0.728	0.008	DXGU 22**L...	0.66

*Torque: Recommended torque (lbf-ft) for clamping **RE: Standard corner radius

Note: Right-hand toolholders (R) are used with left-hand inserts (L). Left-hand toolholders (L) are used with right-hand inserts (R).

SPARE PARTS

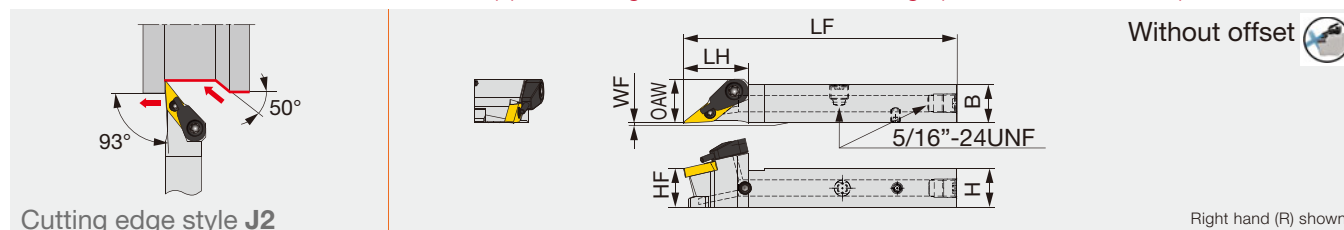
Designation	Clamping screw	Coolant unit	Wrench
JSDJ2XR**-CHP	SR34-514	S-CU-CHP	T-7F

See page 36 for the proper tool overhang and plug settings.

JSVJ2XR/L-CHP

MINIFORCE
TUNGALOY

Screw-on toolholder without offset, 93° approach angle, for VXGU inserts, high pressure coolant compatible



Inch	H	B	LF	LH	HF	WF	OAW	RE**	Insert	Torque*
JSVJ2XR087X-CHP	0.500	0.500	4.750	0.768	0.500	0.000	0.528	0.008	VXGU 73.5**L...	0.66
JSVJ2XR107X-CHP	0.625	0.625	4.750	0.768	0.625	0.000	0.625	0.008	VXGU 73.5**L...	0.66

*Torque: Recommended torque (ibf-ft) for clamping **RE: Standard corner radius

Note: Right-hand toolholders (R) are used with left-hand inserts (L). Left-hand toolholders (L) are used with right-hand inserts (R).

SPARE PARTS

Designation	Clamping screw	Coolant unit	Wrench
JSVJ2XR**-CHP	SR34-508	S-CU-CHP	T-7F

See page 36 for the proper tool overhang and plug settings.

TurnLine - Insert

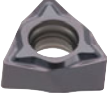
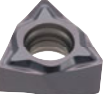
**POSITIVE TYPE
DOUBLE-SIDED**



**Trigon, 80°
with hole**

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

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

Application	Chipbreaker	Designation	Corner radius	Coated			Coated cermet			Cermet			Carbide					
				AH725	AH8015	SH725	GT9530			NS9530			KS05F					
Finishing to medium cutting		TS WXGU 220.5 R TS	0.008	●	●		●			●			●					
		WXGU 220.5 L TS	0.008	●	●		●			●			●					
		WXGU 221 R TS	0.016	●	●		●			●			●					
		WXGU 221 L TS	0.016	●	●		●			●			●					
		WXGU 222 R TS	0.032	●	●		●			●			●					
		WXGU 222 L TS	0.032	●	●		●			●			●					
Finishing (Wiper)		TSW WXGU 221 R TSW	0.016	●	●		●			●								
		WXGU 221 L TSW	0.016	●	●		●			●								
		WXGU 222 R TSW	0.032	●	●		●			●								
		WXGU 222 L TSW	0.032	●	●		●			●								
Finishing (Low cutting force)		SS WXGU 220.5 R SS	0.008	●	●		●			●			●					
		WXGU 220.5 L SS	0.008	●	●		●			●			●					
		WXGU 221 R SS	0.016	●	●		●			●			●					
		WXGU 221 L SS	0.016	●	●		●			●			●					

* Corner radius has minus tolerance.

- : Line up
- : To be released in 2019

TurnLine - Insert

POSITIVE TYPE
DOUBLE-SIDED



**Rhombic, 55°
with hole**

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

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

[illegible]

* Corner radius has minus tolerance.

● : Line up
● : To be released in 2019

TurnLine - Insert

● : Continuous cutting
● : Light interrupted cutting
✱ : Heavy interrupted cutting

POSITIVE TYPE

 **Rhombic, 55° with hole**

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

Application	Chipbreaker	Designation	Corner radius	Coated		Coated cermet		Cermet		Carbide											
				New																	
Finishing (Low cutting force)		JSS DXGU 220 MR JSS	<0.004*	●																	
		DXGU 220 ML JSS	<0.004*	●																	
		DXGU 220.5 MR JSS	<0.008*	●																	
		DXGU 220.5 ML JSS	<0.008*	●																	
Finishing to medium cutting		TS DXGU 220.5 R TS	0.008	●	●		●		●		●										
		DXGU 220.5 L TS	0.008	●	●		●		●		●										
		DXGU 221 R TS	0.016	●	●		●		●		●										
		DXGU 221 L TS	0.016	●	●		●		●		●										
		DXGU 222 R TS	0.032	●	●		●		●		●										
		DXGU 222 L TS	0.032	●	●		●		●		●										
Finishing (Low cutting force)		SS DXGU 220.5 R SS	0.008	●	●		●		●		●										
		DXGU 220.5 L SS	0.008	●	●		●		●		●										
		DXGU 221 R SS	0.016	●	●		●		●		●										
		DXGU 221 L SS	0.016	●	●		●		●		●										

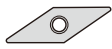
* Corner radius has minus tolerance.

● : Line up
● : To be released in 2019

TurnLine - Insert

● : Continuous cutting
● : Light interrupted cutting
✱ : Heavy interrupted cutting

DOUBLE-SIDED



**Rhombic, 35°
with hole**

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

Application	Chipbreaker	Designation	Corner radius	Coated																	
				SH725																	
Finishing (Sharp edge)		JRP VXGU 73.50 MFRE JRP	<0.004*	●																	
		VXGU 73.50 MFLE JRP	<0.004*	●																	
		VXGU 73.50.5 MFRE JRP	<0.008*	●																	
		VXGU 73.50.5 MFLE JRP	<0.008*	●																	
New Finishing to medium cutting (Sharp edge)		JS VXGU 73.50 MFR JS	<0.004*	●																	
		VXGU 73.50 MFL JS	<0.004*	●																	
		VXGU 73.50.5 MFR JS	<0.008*	●																	
		VXGU 73.50.5 MFL JS	<0.008*	●																	
		VXGU 73.51 MFR JS	<0.016*	●																	
		VXGU 73.51 MFL JS	<0.016*	●																	

* Corner radius has minus tolerance.

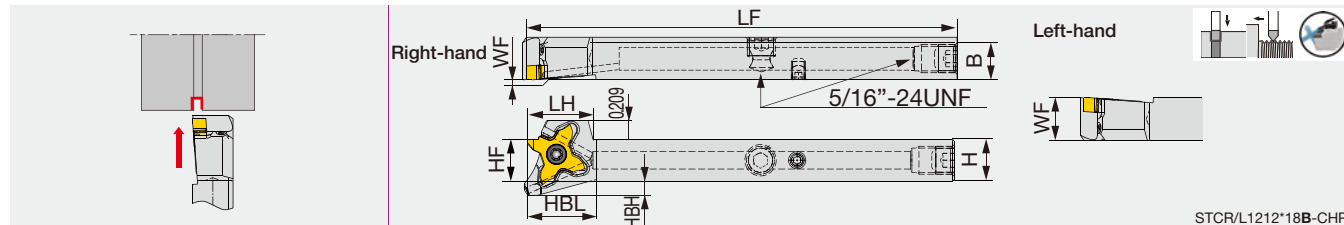
● : Line up
● : To be released in 2019

● For Grooving and Threading

TETRAMCUT
TUNGALOY

STCR/L-18

External grooving and threading toolholder, high pressure coolant compatible



Inch	H	B	LF	LH	HBL	HF	WF	HBH	Insert	Torque*
STCR/L08X18-CHP	0.500	0.500	4.750	0.728	0.689	0.500	0.000/0.500	0.130	TC*18R...	0.9
STCR/L10X18-CHP	0.625	0.625	4.750	0.728	-	0.625	0.000/0.625	0.000	TC*18R...	0.9

• The right hand insert (TC*18R...) is used for the right hand toolholders (STCR...), and the left hand insert (TC*18L...) is used for the left hand toolholders (STCL...).

*Torque: Recommended torque (lbf-ft) for clamping

SPARE PARTS

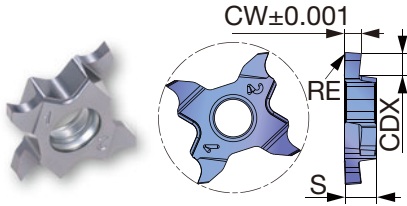
Designation	Clamping screw	Wrench
STCR/L**18-CHP	CSTC-4L100DR	T-1008/5
STCR/L**18-CHP	CSTC-4L100DL	T-1008/5

Groove width range : 0.013 - 0.118"
Threading pitch range: 0.031 - 0.118"

See page 36 for the proper tool overhang and plug settings.

INSERTS

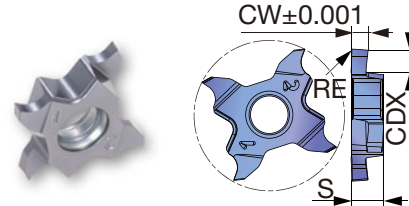
TCP18R/L (lightly honed edge)



Designation	Grade		CW	Dimensions (inch)		
	R	L		RE	CDX	S
TCP18R/L033-005	●	●	0.013	0.002	0.031	0.157
TCP18R/L043-005	●	●	0.017	0.002	0.047	0.157
TCP18R/L050-005	●	●	0.020	0.002	0.047	0.157
TCP18R/L075-005	●	●	0.030	0.002	0.079	0.157
TCP18R/L095-005	●	●	0.037	0.002	0.079	0.157
TCP18R/L100-010	●	●	0.039	0.004	0.079	0.157
TCP18R/L120-010	●	●	0.047	0.004	0.079	0.157
TCP18R/L125-010	●	●	0.049	0.004	0.079	0.157
TCP18R/L140-010-35	●	●	0.055	0.004	0.138 *	0.157
TCP18R/L145-010	●	●	0.057	0.004	0.098	0.157
TCP18R/L145-010-35	●	●	0.057	0.004	0.138 *	0.157
TCP18R/L150-010	●	●	0.059	0.004	0.098	0.157
TCP18R/L150-010-35	●	●	0.059	0.004	0.138 *	0.157
TCP18R/L175-010	●	●	0.069	0.004	0.098	0.157
TCP18R/L175-010-35	●	●	0.069	0.004	0.138 *	0.157
TCP18R/L200-010	●	●	0.079	0.004	0.098	0.157
TCP18R/L200-010-35	●	●	0.079	0.004	0.138 *	0.157
TCP18R/L250-010	●	●	0.098	0.004	0.098	0.157
TCP18R/L250-010-35	●	●	0.098	0.004	0.138 *	0.157
TCP18R/L300-010	●	●	0.118	0.004	0.098	0.157
TCP18R/L300-010-35	●	●	0.118	0.004	0.138 *	0.157

● : Line up

TCP18R/L-F (sharp edge)

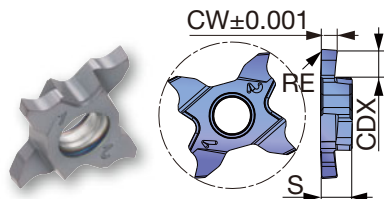


Designation	Grade		CW	Dimensions (inch)		
	R	L		RE	CDX	S
TCP18R/L033F-005	●	●	0.013	0.002	0.031	0.157
TCP18R/L043F-005	●	●	0.017	0.002	0.047	0.157
TCP18R/L050F-005	●	●	0.020	0.002	0.047	0.157
TCP18R/L075F-005	●	●	0.030	0.002	0.079	0.157
TCP18R/L095F-005	●	●	0.037	0.002	0.079	0.157
TCP18R/L100F-005	●	●	0.039	0.002	0.079	0.157
TCP18R/L100F-010	●	●	0.039	0.004	0.079	0.157
TCP18R/L120F-005	●	●	0.047	0.002	0.079	0.157
TCP18R/L120F-010	●	●	0.047	0.004	0.079	0.157
TCP18R/L125F-005	●	●	0.049	0.002	0.079	0.157
TCP18R/L125F-010	●	●	0.049	0.004	0.079	0.157
TCP18R/L140F-010-35	●	●	0.055	0.004	0.138 *	0.157
TCP18R/L145F-005-35	●	●	0.057	0.002	0.138 *	0.157
TCP18R/L145F-010	●	●	0.057	0.004	0.098	0.157
TCP18R/L145F-010-35	●	●	0.057	0.004	0.138 *	0.157
TCP18R/L150F-005-35	●	●	0.059	0.002	0.138 *	0.157
TCP18R/L150F-010	●	●	0.059	0.004	0.098	0.157
TCP18R/L150F-010-35	●	●	0.059	0.004	0.138 *	0.157
TCP18R/L175F-005-35	●	●	0.069	0.002	0.138 *	0.157
TCP18R/L175F-010	●	●	0.069	0.004	0.098	0.157
TCP18R/L175F-010-35	●	●	0.069	0.004	0.138 *	0.157
TCP18R/L200F-005-35	●	●	0.079	0.002	0.138 *	0.157
TCP18R/L200F-010-35	●	●	0.079	0.004	0.098	0.157
TCP18R/L200F-010-35	●	●	0.079	0.004	0.138 *	0.157
TCP18R/L250F-010	●	●	0.098	0.004	0.098	0.157
TCP18R/L250F-010-35	●	●	0.098	0.004	0.138 *	0.157
TCP18R/L300F-010	●	●	0.118	0.004	0.098	0.157
TCP18R/L300F-010-35	●	●	0.118	0.004	0.138 *	0.157

● : Line up

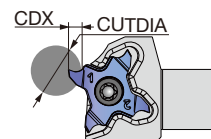
INSERTS

TCG18R/L (honed edge)



Designation	Grade AH7025		CW	Dimensions (inch)		
	R	L		RE	CDX	S
TCG18R/L100-010	●	●	0.039	0.004	0.079	0.157
TCG18R/L120-010	●	●	0.047	0.004	0.079	0.157
TCG18R/L125-010	●	●	0.049	0.004	0.079	0.157
TCG18R/L125-020	●	●	0.049	0.008	0.079	0.157
TCG18R/L130-020	●	●	0.051	0.008	0.079	0.157
TCG18R/L140-010	●	●	0.055	0.004	0.138 *	0.157
TCG18R/L140-020	●	●	0.055	0.008	0.138 *	0.157
TCG18R/L145-010	●	●	0.057	0.004	0.138 *	0.157
TCG18R/L145-020	●	●	0.057	0.008	0.138 *	0.157
TCG18R/L150-010	●	●	0.059	0.004	0.138 *	0.157
TCG18R/L150-020	●	●	0.059	0.008	0.138 *	0.157
TCG18R/L160-020	●	●	0.063	0.008	0.138 *	0.157
TCG18R/L170-020	●	●	0.067	0.008	0.138 *	0.157
TCG18R/L175-010	●	●	0.069	0.004	0.138 *	0.157
TCG18R/L175-020	●	●	0.069	0.008	0.138 *	0.157
TCG18R/L185-020	●	●	0.073	0.008	0.138 *	0.157
TCG18R/L195-020	●	●	0.077	0.008	0.138 *	0.157
TCG18R/L200-010	●	●	0.079	0.004	0.138 *	0.157
TCG18R/L200-020	●	●	0.079	0.008	0.138 *	0.157
TCG18R/L225-020	●	●	0.089	0.008	0.138 *	0.157
TCG18R/L230-020	●	●	0.091	0.008	0.138 *	0.157
TCG18R/L250-010	●	●	0.098	0.004	0.138 *	0.157
TCG18R/L250-020	●	●	0.098	0.008	0.138 *	0.157
TCG18R/L250-030	●	●	0.098	0.012	0.138 *	0.157
TCG18R/L265-030	●	●	0.104	0.012	0.138 *	0.157
TCG18R/L280-030	●	●	0.110	0.012	0.138 *	0.157
TCG18R/L300-010	●	●	0.118	0.004	0.138 *	0.157
TCG18R/L300-020	●	●	0.118	0.008	0.138 *	0.157
TCG18R/L300-030	●	●	0.118	0.012	0.138 *	0.157

● : Line up



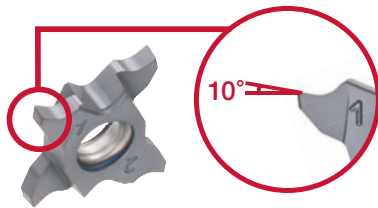
Groove depth CDX(inch)	Max. diameter CUTDIA (inch)
0.122	∞
0.126	25.591
0.130	9.843
0.134	5.906
0.138	3.150

***Groove depth and max workpiece diameter (øDmax)**
maximum workpiece diameter is limited relative to depth of cut in order to avoid collision between insert and workpiece.

Grooving

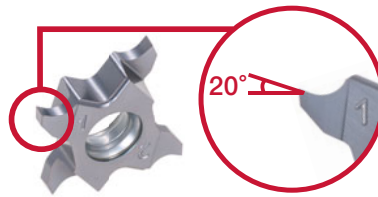
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TCG type (Honed edge)



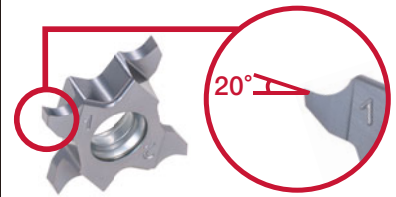
- Optimized rake angle and edge preparation enhances fracture resistance, allowing for smooth cutting
- AH7025 grade features a superior combination of wear and fracture resistances

TCP type (Lightly honed edge)



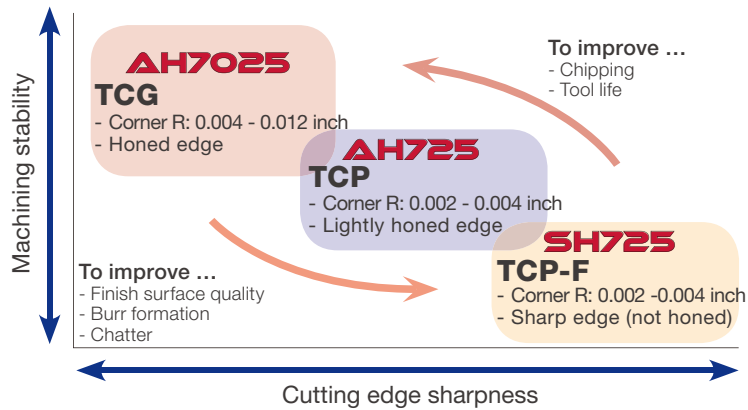
- A large rake angle ensures smooth cutting for excellent surface finish
- Inserts in grade AH725 features a tough edge preparation for high resistance to fracture

TCP-F type (Sharp edge)



- High quality surface finish and precision thanks to the sharp cutting edge
- A quality level equivalent to that with cermet is achievable
- An extremely hard coating layer on grade SH725 provides sharp cutting edges, making it perfect for small part grooving

New selection system



- Choose the best of all three insert types according to the machining requirements

- A variety of widths and corner radii are available in all three insert types

STANDARD CUTTING CONDITIONS

TCP18R/L (lightly honed edge) / TCP18R/L-F (sharp edge)

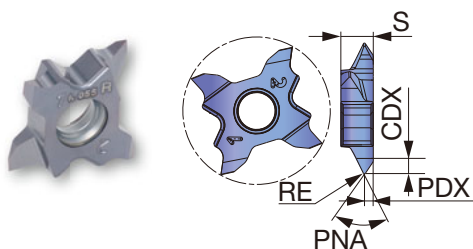
ISO	Workpiece materials	Priority	Grades	Cutting speed Vc (sfm)	Feed f (ipr)
P	Low carbon steel (1015, 1020, etc.)	First choice	SH725	262 - 591	0.001 - 0.004
		Toughness	AH725	262 - 591	0.001 - 0.004
	Carbon steels, Alloy steel (1015, 4140(H) / 4142, etc.)	First choice	SH725	262 - 591	0.001 - 0.004
		Toughness	AH725	262 - 591	0.001 - 0.004
M	Prehardened steel (NAK80, PX5, etc.)	First choice	SH725	262 - 591	0.001 - 0.004
		Toughness	AH725	262 - 591	0.001 - 0.004
	Stainless steel (S30400, etc.)	First choice	SH725	164 - 394	0.001 - 0.004
		Toughness	AH725	164 - 394	0.001 - 0.004
K	Grey cast iron (No.250B, No.300B etc.)	First choice	AH725	164 - 591	0.001 - 0.004
		Sharpness	SH725	164 - 591	0.001 - 0.004
	Ductile cast iron (60-40-18, 80-55-06, 65-45-12, etc.)	First choice	AH725	164 - 591	0.001 - 0.004
		Sharpness	SH725	164 - 591	0.001 - 0.004
S	Titanium alloys (Ti-6Al-4V, etc.)	First choice	SH725	66 - 262	0.001 - 0.004
		Toughness	AH725	66 - 262	0.001 - 0.004
	Superalloys (Inconel718, etc.)	First choice	SH725	66 - 262	0.001 - 0.004
		Toughness	AH725	66 - 262	0.001 - 0.004

TCG18R/L (honed edge)

ISO	Workpiece materials	Grades	Cutting speed Vc (sfm)	Feed f (ipr)
P	Low carbon steel (1015, 1020, etc.)	AH7025	262 - 591	0.001 - 0.005
	Carbon steels, Alloy steel (1015, 4140(H) / 4142, etc.)	AH7025	262 - 591	0.001 - 0.005
	Prehardened steel (NAK80, PX5, etc.)	AH7025	262 - 591	0.001 - 0.005
M	Stainless steel (S30400, etc.)	AH7025	164 - 394	0.001 - 0.005
K	Grey cast iron (No.250B, No.300B etc.)	AH7025	164 - 591	0.001 - 0.005
	Ductile cast iron (60-40-18, 80-55-06, 65-45-12, etc.)	AH7025	164 - 591	0.001 - 0.005
S	Titanium alloys (Ti-6Al-4V, etc.)	AH7025	66 - 262	0.001 - 0.005
	Superalloys (Inconel718, etc.)	AH7025	66 - 262	0.001 - 0.005

INSERTS

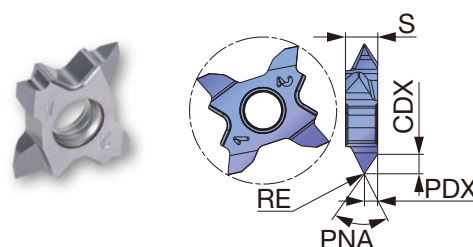
TCT18FR (for threading / sharp edge)



Designation	Grade SH725		Dimensions (inch)						
	R	L	pitch min	pitch max	PDX	CDX	RE	PNA	S
TCT18FR-60A-005	●		0.0157	0.0394	0.024	0.039	0.002	60°	0.157
TCT18FR-60A-010	●		0.0394	0.0787	0.039	0.064	0.004	60°	0.157

● : Line up

TCT18R/L (for threading / lightly honed edge)



Designation	Grade AH725		Dimensions (inch)						
	R	L	pitch min	pitch max	PDX	CDX	RE	PNA	S
TCT18R/L-60N-010	●	●	0.0315	0.1181	0.063	0.105	0.004	60°	0.157
TCT18R/L-60N-020	●	●	0.0591	0.1181	0.063	0.101	0.008	60°	0.157

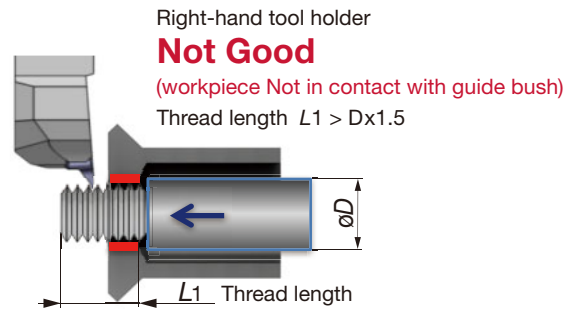
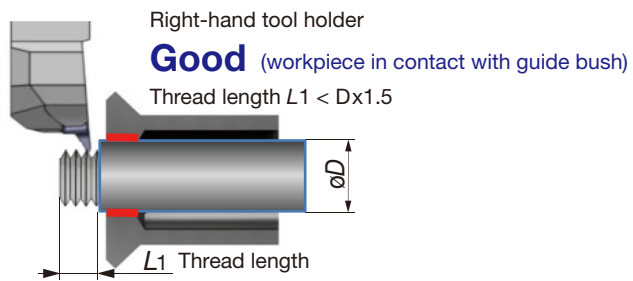
● : Line up

STANDARD CUTTING CONDITIONS

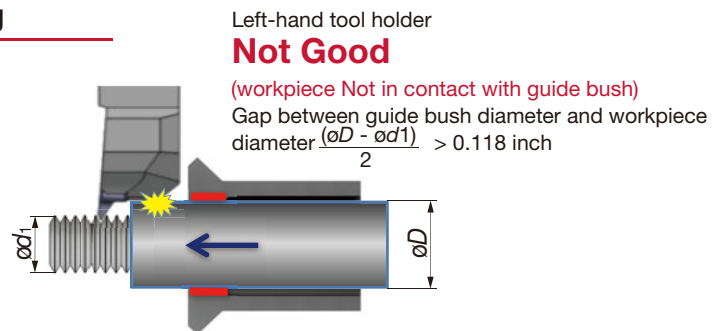
TCT18R/L (for threading / lightly honed edge) / TCT18FR (for threading / sharp edge)

ISO	Workpiece materials	Priority	Grades	Cutting speed Vc (sfm)	Pitch (inch)	TPI
P	Low carbon steel (1015, 1020, etc.)	First choice	SH725	197 - 492	0.016 - 0.079	2.520 - 0.709
		Toughness	AH725	197 - 492	0.031 - 0.118	1.260 - 0.315
	Carbon steels, Alloy steel (1015, 4140(H) / 4142, etc.)	First choice	SH725	197 - 492	0.016 - 0.079	2.520 - 0.709
		Toughness	AH725	197 - 492	0.031 - 0.118	1.260 - 0.315
M	Prehardened steel (NAK80, PX5, etc.)	First choice	SH725	197 - 492	0.016 - 0.079	2.520 - 0.709
		Toughness	AH725	197 - 492	0.031 - 0.118	1.260 - 0.315
	Stainless steel (S30400, etc.)	First choice	SH725	164 - 262	0.016 - 0.079	2.520 - 0.709
		Toughness	AH725	164 - 262	0.031 - 0.118	1.260 - 0.315
K	Grey cast iron (No.250B, No.300B etc.)	First choice	AH725	164 - 328	0.031 - 0.118	1.260 - 0.315
		Sharpness	SH725	164 - 328	0.016 - 0.079	2.520 - 0.709
	Ductile cast iron (60-40-18, 80-55-06, 65-45-12, etc.)	First choice	AH725	164 - 328	0.031 - 0.118	1.260 - 0.315
		Sharpness	SH725	164 - 328	0.016 - 0.079	2.520 - 0.709
S	Titanium alloys (Ti-6Al-4V, etc.)	First choice	SH725	98 - 328	0.016 - 0.079	2.520 - 0.709
		Toughness	AH725	98 - 328	0.031 - 0.118	1.260 - 0.315
	Superalloys (Inconel718, etc.)	First choice	SH725	98 - 328	0.016 - 0.079	2.520 - 0.709
		Toughness	AH725	98 - 328	0.031 - 0.118	1.260 - 0.315

Cautions when machining in guide bushing



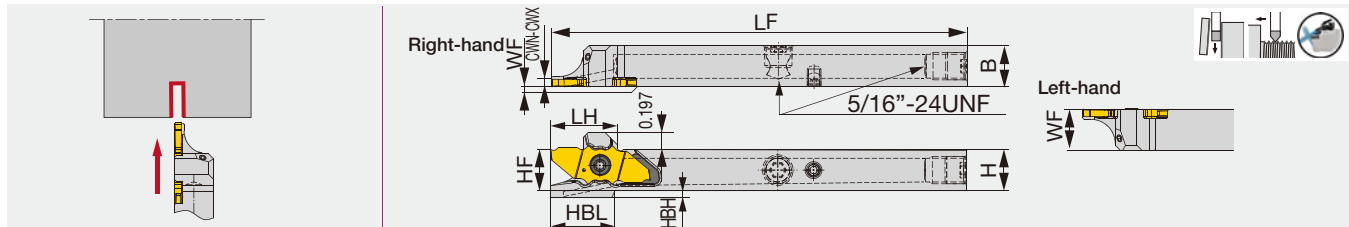
Threading operation following back-turning



● For Parting-off and Threading

JSXXR/L

Parting and threading toolholder, high pressure coolant compatible



Inch	CWN	CWX	H	B	WF	LF*	HF	HBH	LH*	HBL	Insert	Torque**
JSXXR/L083X-CHP	0.039	0.079	0.500	0.500	0.008/0.492	4.750	0.500	0.051	0.764	0.736	JX**G**R/L...	0.89
JSXXR/L103X-CHP	0.039	0.079	0.625	0.625	0.008/0.617	4.750	0.625	0.000	0.764	-	JX**G**R/L...	0.89

*LF and LH measurements are based on the JXPG... insert. For JXPG12... inserts, the measurements will be shorter by 0.079" ; for JXPG06..., shorter by 0.157".

** Recommended torque (lbf-ft) for clamping

Note: Always use a right-hand insert (JX**G**R...) with the right-hand toolholder (JSXXR...); a left-hand insert (JXPG**L...) with the left-hand toolholder (JSXXL...).

SPARE PARTS

Designation	Clamping screw	Wrench
JSXXR**S-CHP	CSTC-4L100DL	T-1008/5
JSXXR**S-CHP	CSTC-4L100DR	T-1008/5

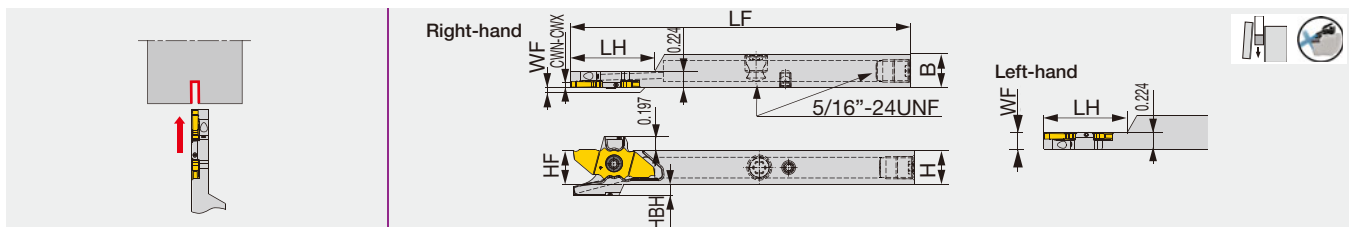
Parting-off widths : 0.039" and 0.059" (for a max parting diameter of $\phi 0.236$)
: 0.059" and 0.079" (for max parting diameters of $\phi 0.472$ and $\phi 0.630$)
Threading pitch range : 0.008 - 0.059"

See page 36 for the proper tool overhang and plug settings.

● For Parting-off

JSXXR/L-S

Parting-off toolholder, capable with sub spindle, highpressure coolant compatible



Inch	CWN	CWX	H	B	WF	LF*	HF	HBH	LH	Insert	Torque**
JSXXR/L083X-S-CHP	0.039	0.079	0.500	0.500	0.008/0.217	4.750	0.500	0.051	1.181	JSXPG**R...	0.89
JSXXR/L103X-S-CHP	0.039	0.079	0.625	0.625	0.008/0.217	4.750	0.625	-	1.181	JSXPG**R...	0.89

*LF, HBKL, and HBL measurements are based on the JXPG06... insert. For JXPG12... inserts, the measurements will be shorter by 0.079" ; for JXPG06..., shorter by 0.157".

** Recommended torque (lbf-ft) for clamping

Note: Always use a right-hand insert (JXPG**R...) with the right-hand toolholder (JSXXR...); a left-hand insert (JXPG**L...) with the left-hand toolholder (JSXXL...).

SPARE PARTS

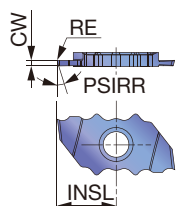
Designation	Clamping screw	Wrench
JSXXR**X-S-CHP	CSTC-4L055DL	T-1008/5
JSXXR**X-S-CHP	CSTC-4L055DR	T-1008/5

Parting-off widths : 0.039" and 0.059" (for a max parting diameter of $\phi 0.236$)
: 0.059" and 0.079" (for max parting diameters of $\phi 0.472$ and $\phi 0.630$)

See page 36 for the proper tool overhang and plug settings.

INSERTS

JXPG06R/L-F (sharp edge)

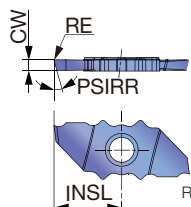


Right hand (R) shown.

Designation	CW ± 0.001	RE	SH725		CUTDIA	INSL	PSIRR/L
			R	L			
JXPG06R/L10F	0.039	0.002	●	●	0.236	0.413	0°
JXPG06R/L15F	0.059	0.002	●	●	0.236	0.413	0°
JXPG06R/L10F-15	0.039	0.002	●	●	0.236	0.413	15°
JXPG06R/L15F-15	0.059	0.002	●	●	0.236	0.413	15°

● : Line up
CUTDIA. Max.parting off dia

JXPG12R/L-F (sharp edge)

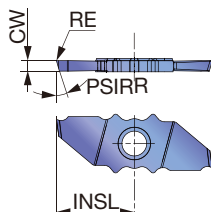


Right hand (R) shown.

Designation	CW ± 0.001	RE	SH725		CUTDIA	INSL	PSIRR/L
			R	L			
JXPG12R/L15F	0.059	0.002	●	●	0.472	0.492	0°
JXPG12R/L20F	0.079	0.002	●	●	0.472	0.492	0°
JXPG12R/L15F-15	0.059	0.002	●	●	0.472	0.492	15°
JXPG12R/L20F-15	0.079	0.002	●	●	0.472	0.492	15°

● : Line up
CUTDIA. Max.parting off dia

JXPG16R/L-F (sharp edge)



Right hand (R) shown.

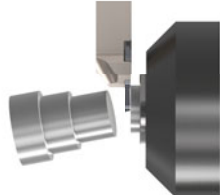
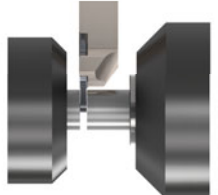
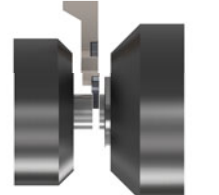
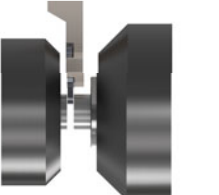
Designation	CW ± 0.025	RE	SH725		CUTDIA	INSL	PSIRR/L
			R	L			
JXPG16R/L15F	0.059	0.002	●	●	0.630	0.571	0°
JXPG16R/L20F	0.079	0.002	●	●	0.630	0.571	0°
JXPG16R/L15F-15	0.059	0.002	●	●	0.630	0.571	15°
JXPG16R/L20F-15	0.079	0.002	●	●	0.630	0.571	15°

● : Line up
CUTDIA. Max.parting off dia

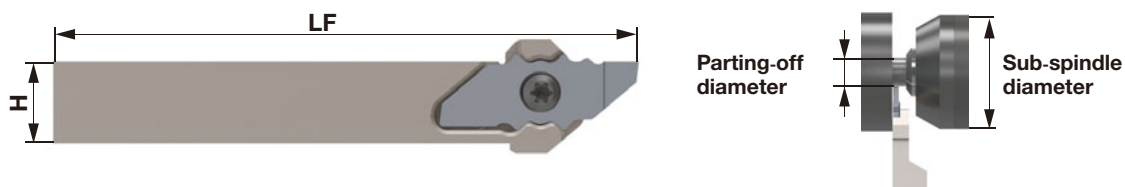
STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Grades	Cutting speed Vc (sfm)	Feed f (ipr)
P	Low carbon steels (1015, 1020, etc.)	SH725	164 - 656	0.0004 - 0.0020
	Carbon steels, Alloy steels (1055, 4142(H), etc.)	SH725	164 - 656	0.0004 - 0.0020
	Free cutting steels (SUH22, SUH23, etc.)	SH725	164 - 656	0.0004 - 0.0020
M	Stainless steels (S31600, etc.)	SH725	164 - 656	0.0004 - 0.0020
N	Aluminium alloys (5056, 6061, etc.)	SH725	492 - 656	0.0004 - 0.0020
	Copper alloy (C2600, C280C, etc.)	SH725	328 - 656	0.0004 - 0.0020
S	Titanium alloys (Ti-6Al-4V, etc.)	SH725	98 - 262	0.0004 - 0.0020
	Superalloys (Inconel718, etc.)	SH725	98 - 262	0.0004 - 0.0020

HOW TO SELECT TOOLS

Application	Large-diameter machining of workpiece with rigidity		Small-diameter machining of workpiece with short overhang	
	Main-spindle tooling	Sub-spindle tooling	Sub-spindle tooling	
			Workpiece with long overhang at the side of sub-spindle for the process after parting-off	Short workpiece with low rigidity
	 Main spindle Position of parting-off is at the side of the main spindle	 Sub-spindle Main spindle Position of parting-off is at the side of the sub-spindle	 Sub-spindle Main spindle Position of parting-off is at the side of the main spindle	 Sub-spindle Main spindle Position of parting-off is at the side of the sub-spindle
Toolholder	R-hand (JSXXR type)	L-hand (JSXXL type)	R-hand (JSXXR-S type)	L-hand (JSXXL-S type)
Insert	Right-hand insert with lead angle to remove center core (JXPG**R***-15 type)	Left-hand insert (JXPG**L*** type)	Right-hand insert (JXPG**R*** type)	Left-hand insert (JXPG**L*** type)

HOW TO SELECT TOOLHOLDERS FOR SUB-SPINDLE



Sub-spindle dia.	Max parting-off dia.	Shank size H	Tool length LF	Insert	Toolholder
ø1.575"	- ø0.236"	0.394"	4.567"	JXPG06*	JSXXR/L1010X09-S
ø1.575"	- ø0.236"	0.472"	3.189"	JXPG06*	JSXXR/L1212F09-S
ø1.575"	- ø0.472"	0.394"	4.646"	JXPG12*	JSXXR/L1010X09-S
ø1.575"	- ø0.472"	0.472"	3.268"	JXPG12*	JSXXR/L1212F09-S
ø1.575"	- ø0.630"	0.394"	4.724"	JXPG16*	JSXXR/L1010X09-S
ø1.575"	- ø0.630"	0.472"	3.346"	JXPG16*	JSXXR/L1212F09-S
ø1.969"	- ø0.236"	0.472"	4.567"	JXPG06*	JSXXR/L1212X09-S
ø1.969"	- ø0.472"	0.472"	4.646"	JXPG12*	JSXXR/L1212X09-S
ø1.969"	- ø0.630"	0.472"	3.346"	JXPG16*	JSXXR/L1212F09-S
ø1.969"	- ø0.630"	0.472"	4.724"	JXPG16*	JSXXR/L1212X09-S

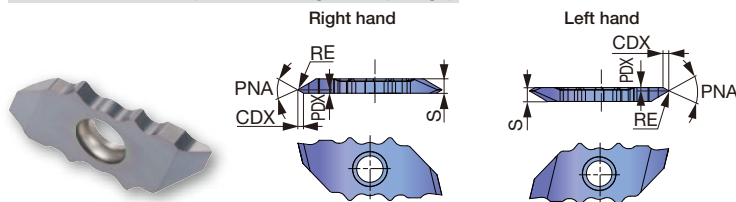
MAX. PARTING-OFF DIA. & DEPTH

Main-spindle tooling	Sub-spindle tooling
Main spindle	Sub-spindle Main spindle

The cutting edge reaches 0.031" beyond the center line in parting-off.
 ϕD_1 = Max. parting-off dia.

INSERTS

JXTG12FR/L-60 (For Threading / Sharp edge)



Designation	Grade SH725		Dimensions (inch)						
	R	L	pitch min	pitch max	PDX	CDX	RE	S	PNA
JXTG12FR/L-60A-000	●	●	0.008	0.016	0.010	0.016	0.002 max Flat	0.098	60°
JXTG12FR/L-60B-000	●	●	0.008	0.016	0.089	0.016	0.002 max Flat	0.098	60°
JXTG12FR/L-60A-005	●	●	0.016	0.039	0.024	0.039	0.002	0.098	60°
JXTG12FR/L-60B-005	●	●	0.016	0.039	0.075	0.039	0.002	0.098	60°
JXTG12FR/L-60N-010	●	●	0.039	0.059	0.049	0.081	0.004	0.098	60°

● : Line-up

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Grades	Cutting speed Vc (shm)	Feed f (ipr)
P	Low carbon steels (1050, 1020, etc.)	SH725	164 - 656	0.0004 - 0.0020
	Carbon steels, Alloy steels (1055, 4140(H), etc.)	SH725	164 - 656	0.0004 - 0.0020
	Free cutting steels (SUH22, SUH23, etc)	SH725	164 - 656	0.0004 - 0.0020
M	Stainless steels (S30400, S31603, etc)	SH725	164 - 656	0.0004 - 0.0020
N	Aluminium alloys (5056, 6061, etc)	SH725	492 - 656	0.0004 - 0.0020
	Copper alloy (C2600, C280C, etc)	SH725	328 - 656	0.0004 - 0.0020
S	Titanium alloys (Ti-6Al-4V, etc.)	SH725	98 - 262	0.0004 - 0.0020
	Superalloys (Inconel718, etc.)	SH725	98 - 262	0.0004 - 0.0020

Edge orientation and description of threading inserts

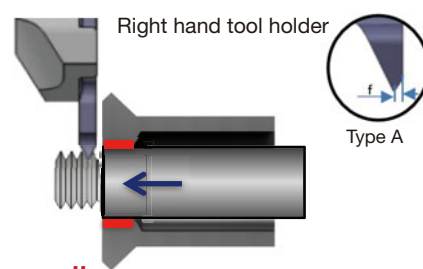
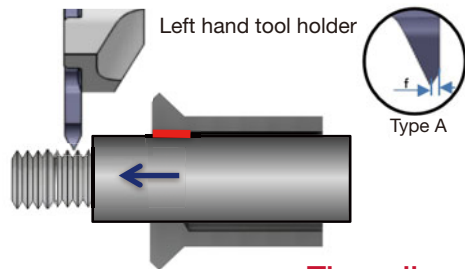
	Type A	Type B	Type N
Right hand			
Left hand			

JXTG 12 F R - 60 A - 005

Insert shape Insert size Direction Thread angle Edge orientation Corner radius

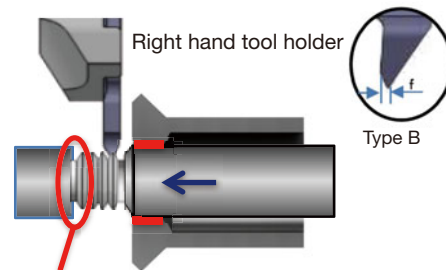
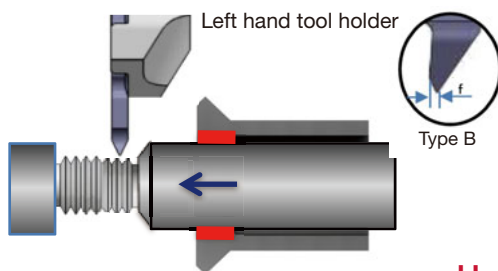
F: sharp edge

When to use Type A and Type B insert



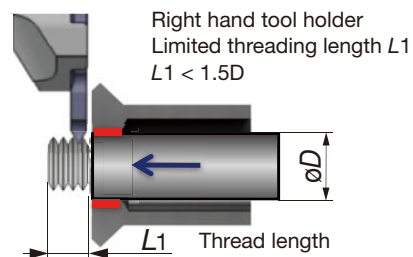
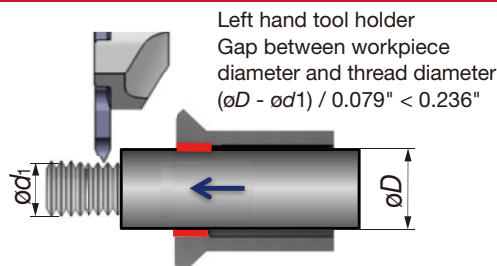
Threading close to the wall

Threading operation following back-turning

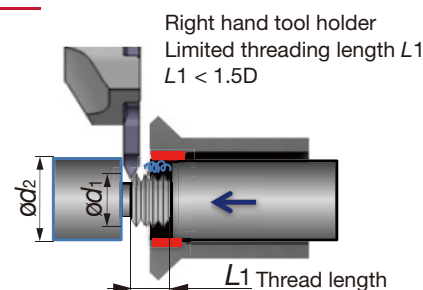
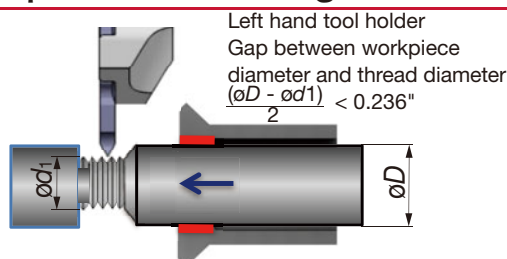


Undercutting needed in previous process

Threading workpiece in main spindle

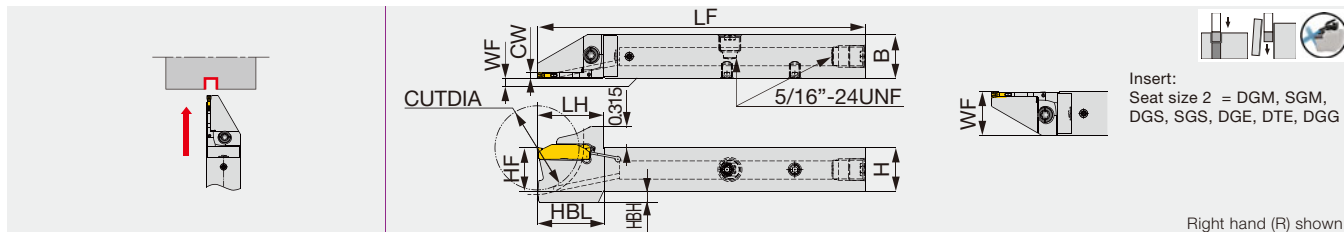


Threading operation following back-turning



JCTER/L

External grooving and parting-off toolholder, high pressure coolant compatible



Inch	CW	Seat size	CUTDA	H	B	LF	LH	HBL	HF	WF ⁽¹⁾	HBH	Torque*
JCTER/L08X2T12-CHP	0.079	2	0.984	0.500	0.500	4.750	0.972	0.965	0.500	0.000/0.500	0.169	2.2
JCTER/L10X2T12-CHP	0.079	2	0.984	0.625	0.625	4.750	0.972	0.965	0.625	0.000/0.625	0.039	2.2
JCTER/L10X2T16-CHP	0.079	2	1.260	0.625	0.625	4.750	0.972	0.965	0.625	0.000/0.625	0.157	2.2
JCTER/L12X2T16-CHP	0.079	2	1.260	0.750	0.750	4.750	0.972	0.965	0.750	0.000/0.750	0.037	2.2

(1) "WF" value is calculated with groove width "WF" shown in the table. • CUTDIA: Max. parting off dia.

*Torque: Recommended torque (lbf-ft) for clamping

SPARE PARTS

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

Parting-off width: 0.079"

See page 36 for the proper tool overhang and plug settings.

External grooving and parting

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



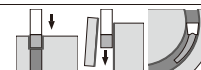
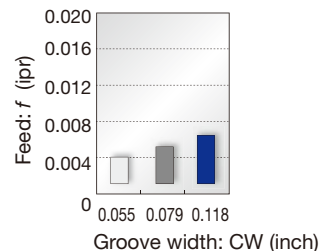
For swiss lathes

Unique-designed edge and chipbreaker

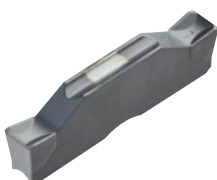
Handed insert available

CW = 0.055" - 0.236"

■ Standard feed



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



For high fracture resistance

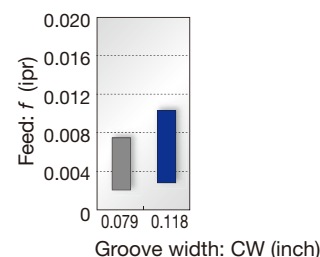
Smooth chip evacuation

Well-designed edge with high strength

Handed insert available

CW = 0.079" - 0.315"

■ Standard feed



External and face grooving

DGG type (2 corners)



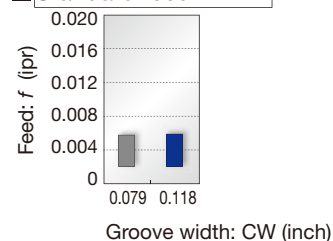
For non-ferrous materials and titanium

Chipbreaker with low cutting force

Sharp cutting edge that prevents vibration and delivers fine surface finish

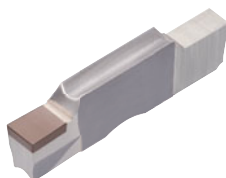
CW = 0.079" - 0.236"

■ Standard feed



External grooving of hardened steels

SGN-CBN type (1 corner)



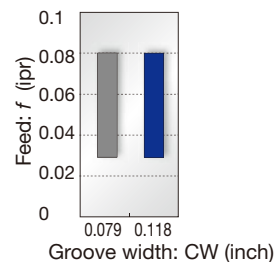
For hardened steel cutting

Optimum cutting edge shape for grooving of hardened steels

High tolerance width for finishing ($W = \pm 0.001"$)

CW = 0.079" - 0.157"

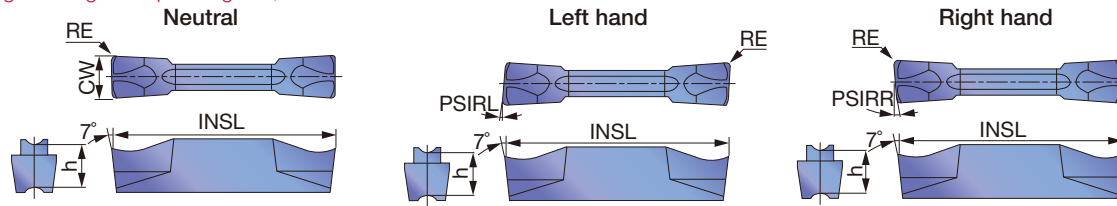
■ Standard feed



INSERTS

DGS

External grooving and parting off, 2 corner

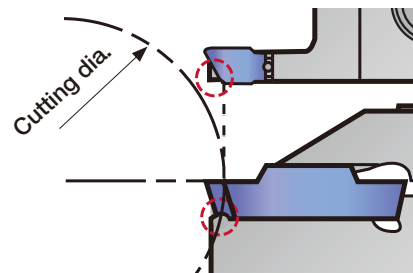


Designation	Insert seat size	CW±0.002	RE	Coated								Cermet		INSL	h	PSIRR/L
				T9125		AH7025		AH725		GH130		NS9530				
				R	L	R	L	R	L	R	L	R	L			
DGS1.4-016	1	0.055	0.006			●		●		●				0.630	0.169	0°
DGS2-020	2	0.079	0.008	●		●		●		●		●		0.787	0.197	0°
DGS2-020-6R/L	2	0.079	0.008			●		●	●	●	●			0.785	0.197	6°
DGS2-002-6R/L	2	0.079	0.001					●	●	●	●			0.780	0.197	6°
DGS2-020-15R/L	2	0.079	0.008			●		●	●	●	●			0.785	0.197	15°
DGS2-002-15R/L	2	0.079	0.001					●	●	●	●			0.780	0.197	15°
DGS3-020	3	0.079	0.008	●		●		●		●		●		0.787	0.197	0°
DGS3-020-6R/L	3	0.079	0.008			●		●	●	●	●			0.783	0.197	6°
DGS3-002-6R/L	3	0.079	0.001					●	●	●	●			0.772	0.197	6°
DGS3-020-15R/L	3	0.079	0.008			●		●	●	●	●			0.783	0.197	15°
DGS3-002-15R/L	3	0.079	0.001					●	●	●	●			0.766	0.197	15°

● : Line up

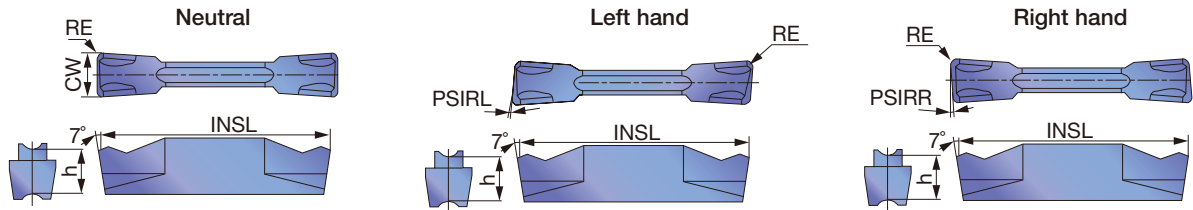
Caution

Designation	Cutting dia.	Designation	Cutting dia.
DGM2-002-15R/L	1.102"	DGS2-002-15R/L	1.102"
DGM3-002-15R/L	1.142"	DGS3-002-15R/L	1.142"
DGM4-030-15R/L	1.181"	SGS3-020-15R/L	4.055"
SGM3-020-15R/L	4.055"	SGS3-002-15R/L	1.339"



DGM

External grooving and parting off, 2 corner

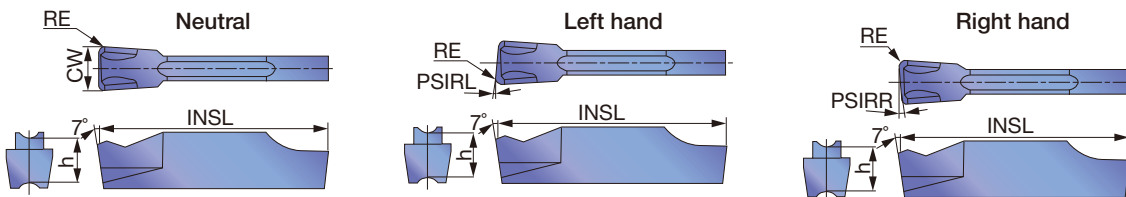


Designation	Insert seat size	CW±0.002	RE	Coated										Cermet		INSL	h	PSIRR/L
				T9125		AH7025		AH725		AH905		GH130		NS9530				
				R	L	R	L	R	L	R	L	R	L	R	L			
DGM2-020	2	0.079	0.008	●		●		●				●		●		0.787	0.197	0°
DGM2-020-6R/L	2	0.079	0.008			●		●	●			●	●			0.780	0.197	6°
DGM2-020-8R/L	2	0.079	0.008			●		●	●			●	●			0.780	0.197	8°
DGM2-020-15R/L	2	0.079	0.008			●		●	●			●	●			0.780	0.197	15°
DGM2-002-15R/L	2	0.079	0.001					●	●			●	●			0.762	0.197	15°
DGM3-020	3	0.118	0.008	●		●		●		●		●		●		0.787	0.197	0°
DGM3-020-6R/L	3	0.118	0.008			●		●	●			●	●			0.783	0.197	6°
DGM3-002-6R/L	3	0.118	0.001					●	●			●	●			0.766	0.197	6°
DGM3-020-15R/L	3	0.118	0.008					●	●			●	●			0.783	0.197	15°

● : Line up

SGM

External deep grooving and parting off, 1 corner

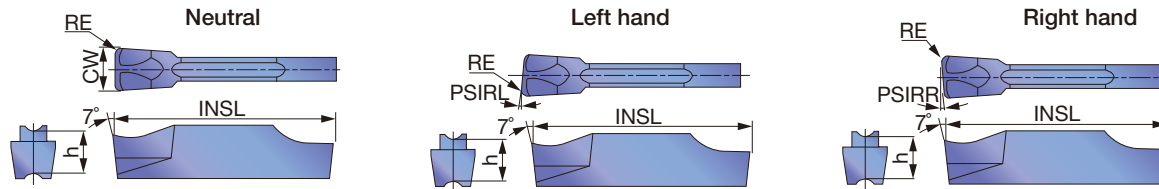


Designation	Insert seat size	CW±0.002	RE	Coated				INSL	h	PSIRR/L
				AH725		GH130				
				R	L	R	L			
SGM2-020	2	0.079	0.008	●		●		0.787	0.197	0°
SGM2-020-6R/L	2	0.079	0.008	●	●	●	●	0.780	0.197	6°
SGM3-020	3	0.118	0.008	●		●		0.787	0.197	0°
SGM3-020-6R/L	3	0.118	0.008	●	●	●	●	0.772	0.197	6°
SGM3-020-15R/L	3	0.118	0.008	●	●	●	●	0.772	0.197	15°

● : Line up

SGS

External deep grooving and parting off, 1 corner

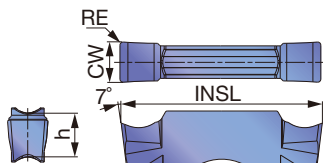


Designation	Insert seat size	CW±0.002	RE	Coated				INSL	h	PSIRR/L
				AH725		GH130				
				R	L	R	L			
SGS2-020	2	0.079	0.008	●		●		0.787	0.197	0°
SGS2-020-6R/L	2	0.079	0.008	●	●	●	●	0.780	0.197	6°
SGS2-020-15R/L	2	0.079	0.008	●	●	●	●	0.780	0.197	15°
SGS3-020	3	0.118	0.008		●		●	0.787	0.197	0°
SGS3-020-6R/L	3	0.118	0.008	●	●	●	●	0.773	0.197	6°
SGS3-002-6R/L	3	0.118	0.001	●	●	●	●	0.780	0.197	6°
SGS3-020-15R/L	3	0.118	0.008	●	●	●	●	0.773	0.197	15°
SGS3-002-15R/L	3	0.118	0.001	●	●	●	●	0.780	0.197	15°

● : Line up

DGG

External and face grooving (for high-precision machining)

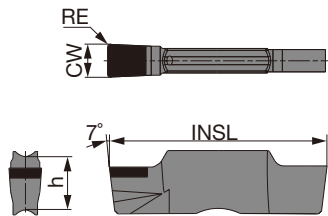


Designation	Insert seat size	CW ± 0.001	RE	Coated	Uncoated	INSL	h
				NS9530	KS05F		
DGG200-020	2	0.079	0.008	●	●	0.787	0.197
DGG300-020	3	0.118	0.008	●	●	0.787	0.197

● : Line up

SGN

External grooving of hardened steels

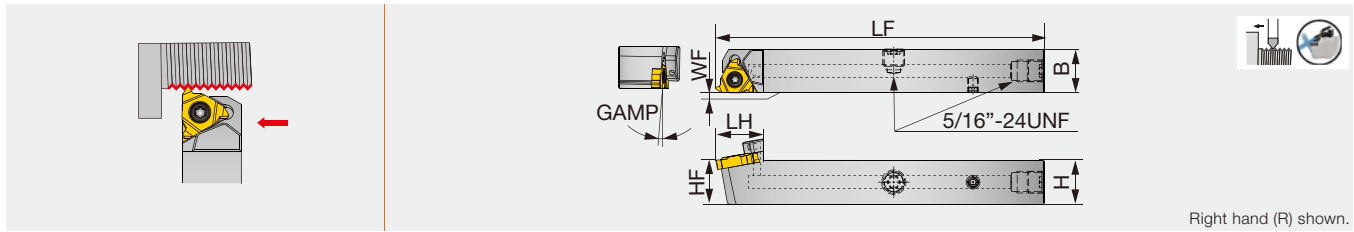


Designation	Insert seat size	CW ± 0.001	RE	CBN	INS	h
				BX360		
SGN200-020	2	0.079	0.008	●	0.787	0.197
SGN300-020	3	0.118	0.008	●	0.787	0.197
SGN400-020	4	0.157	0.008	●	0.787	0.197

● : Line up

STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Hardness	Priority	Grade	Cutting speed Vc (sfm)
P	Steels 1045, 4137(H), etc.	< 300 HB	First choice	AH7025, AH725	164 - 591
		< 300 HB	Priority for wear resistance	T9125	262 - 656
		< 300 HB	Priority for impact resistance	GH130	164 - 394
		< 300 HB	Priority for surface finish	NS9530	262 - 722
M	Stainless steels S30300, etc.	< 200 HB	First choice	AH7025, AH725	164 - 394
		< 200 HB	Priority for impact resistance	GH130	164 - 394
K	Grey cast iron No.250B, No.300B etc.	-	First choice	GH130	164 - 591
	Ductile cast irons 60-40-18, 80-55-06, 65-45-12, etc.	-	First choice	GH130	164 - 394
N	Aluminium alloys Si < 12%	-	First choice	TH10	328 - 1640
		-	First choice	KS05F	328 - 1969
S	Superalloys Inconel718, etc.	< HRC 40	First choice	AH7025	66 - 197
		< HRC 40	Priority for wear resistance	AH905	66 - 262
	Titanium alloys Ti-6Al-4V, etc.	< HRC 40	First choice	AH905	66 - 262
		< HRC 40	Priority for impact resistance	AH7025, AH725	66 - 262
		< HRC 40	Priority for surface finish	KS05F	66 - 197
H	Hardened steels 4137(H), etc.	> HRC 50	First choice	BX360	262 - 492



Inch	H	B	LF	LH	HF	WF	GAMP	Insert
JSE2R08X16-CHP	0.500	0.500	4.750	0.748	0.500	0.000	1°	16ER...
JSE2R10X16-CHP	0.625	0.625	4.750	0.748	0.625	0.000	1°	16ER...

SPARE PARTS

Designation	Clamping screw	Wrench	Coolant plug	Wrench	DirectJet plug	Wrench
JSE2R**16-CHP	CSTB-3.5	T-15F	SR5/16UNFTL360	P-4	SSHM4-6-TB	P-2

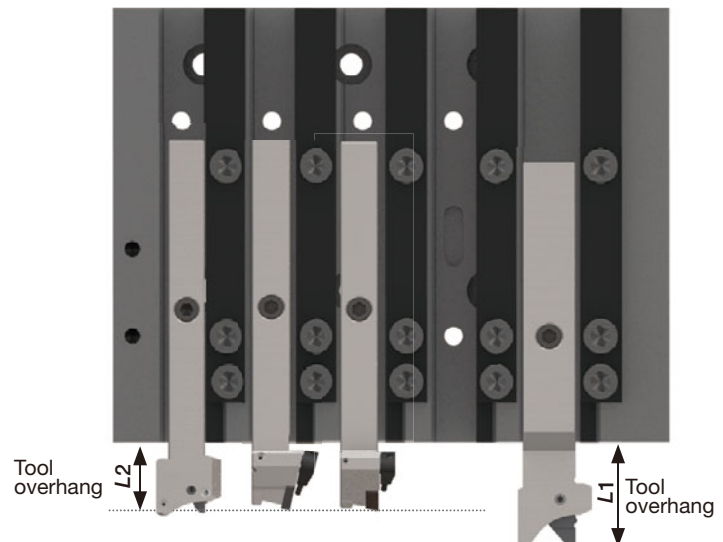
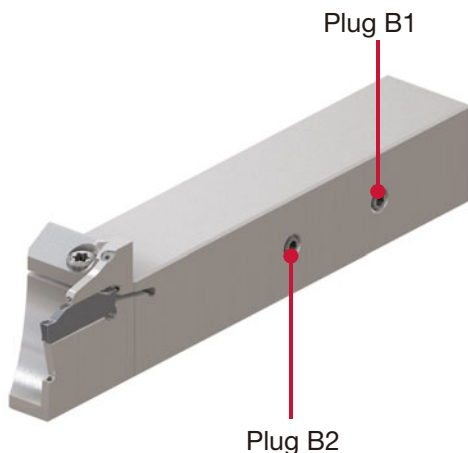
See page 36 for the proper tool overhang and plug settings.

Tool settings on the tool post

- When using through-coolant, always set the tool to a proper overhang as specified in the table below.
- Remove the plug as specified below for proper through-coolant usage.

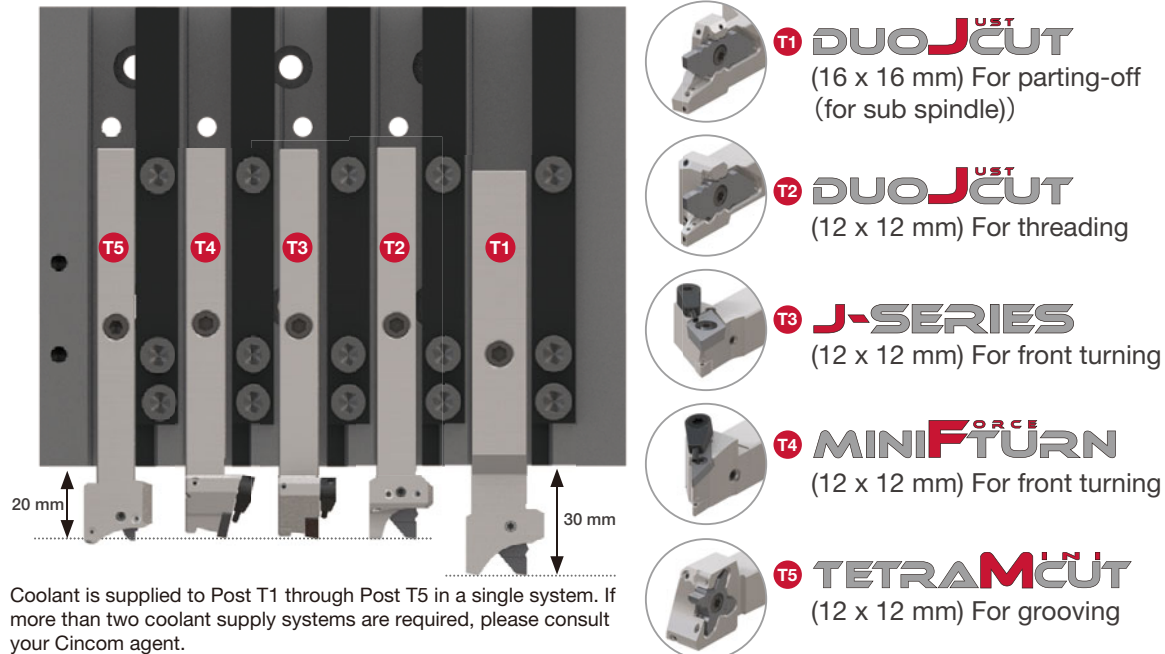
Machine model	Grooving tool		Other stationary tools	
	Overhang L1 (mm)	Coolant plug to remove	Overhang L2 (mm)	Coolant plug to remove
L20	30 (for 16 x 16 mm shank)	B1	20 (for 12 x 12 mm shank)	*1
D25	25 (for 20 x 20 mm shank)	B1	25 (for 16 x 16 mm shank, JSXX and JCTE styles)	B1
			25 (for 16 x 16 mm shank, other styles than above)	*1

* Only one coolant inlet on the toolholder

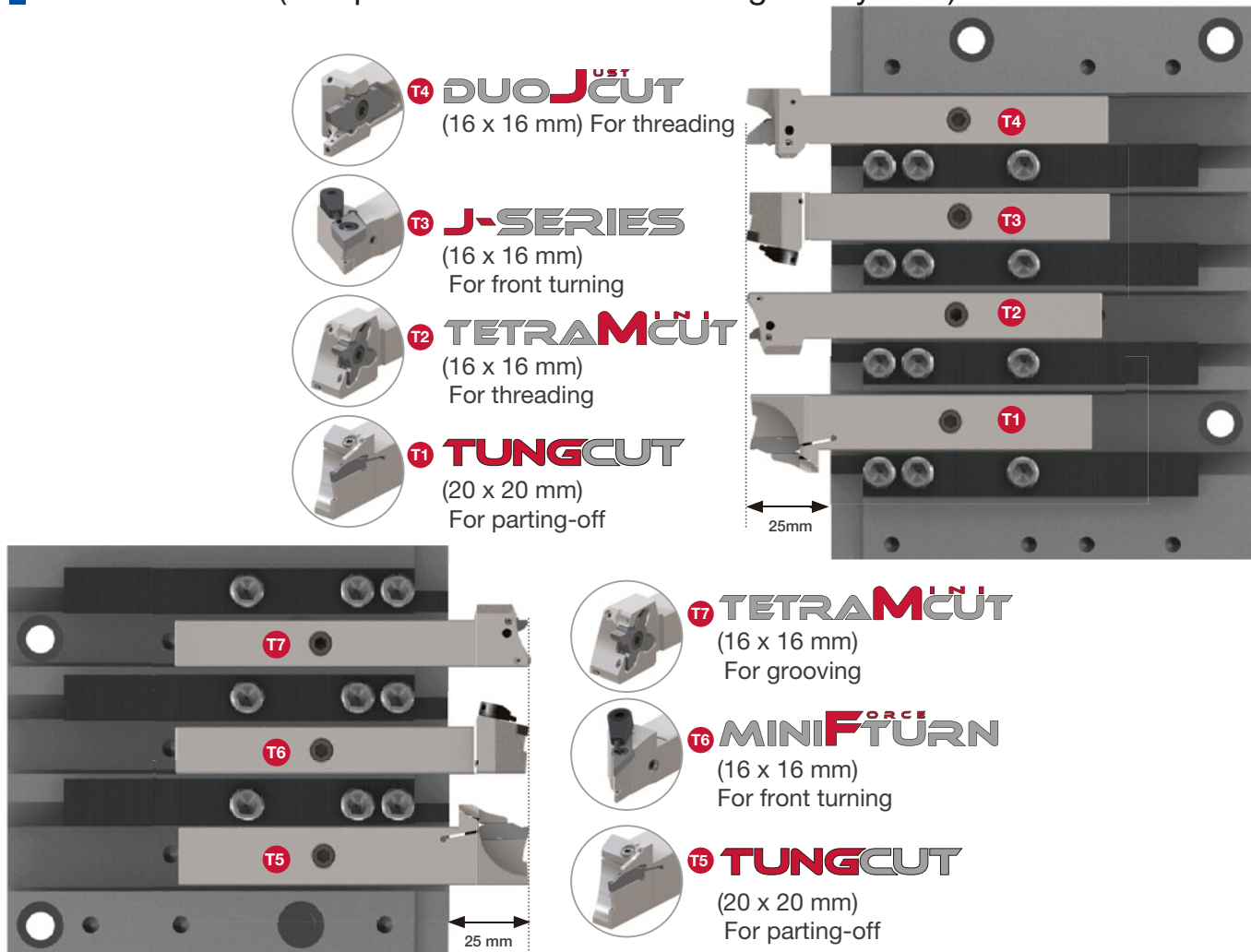


Tooling Examples

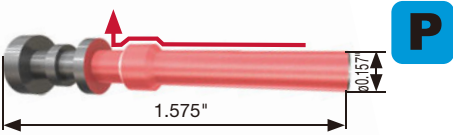
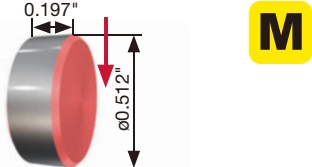
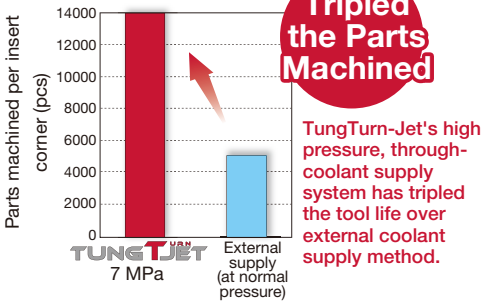
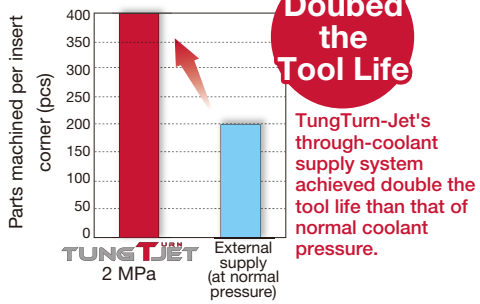
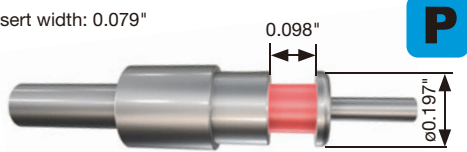
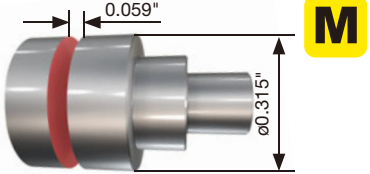
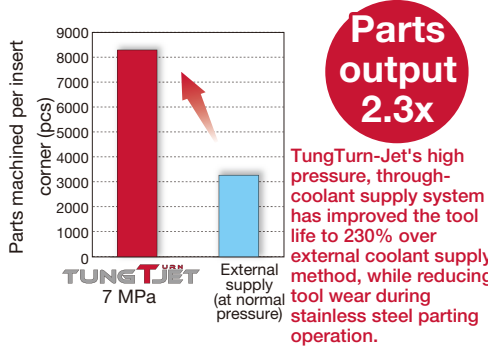
For Model L20 (compatible with the DirectTung-Jet system)



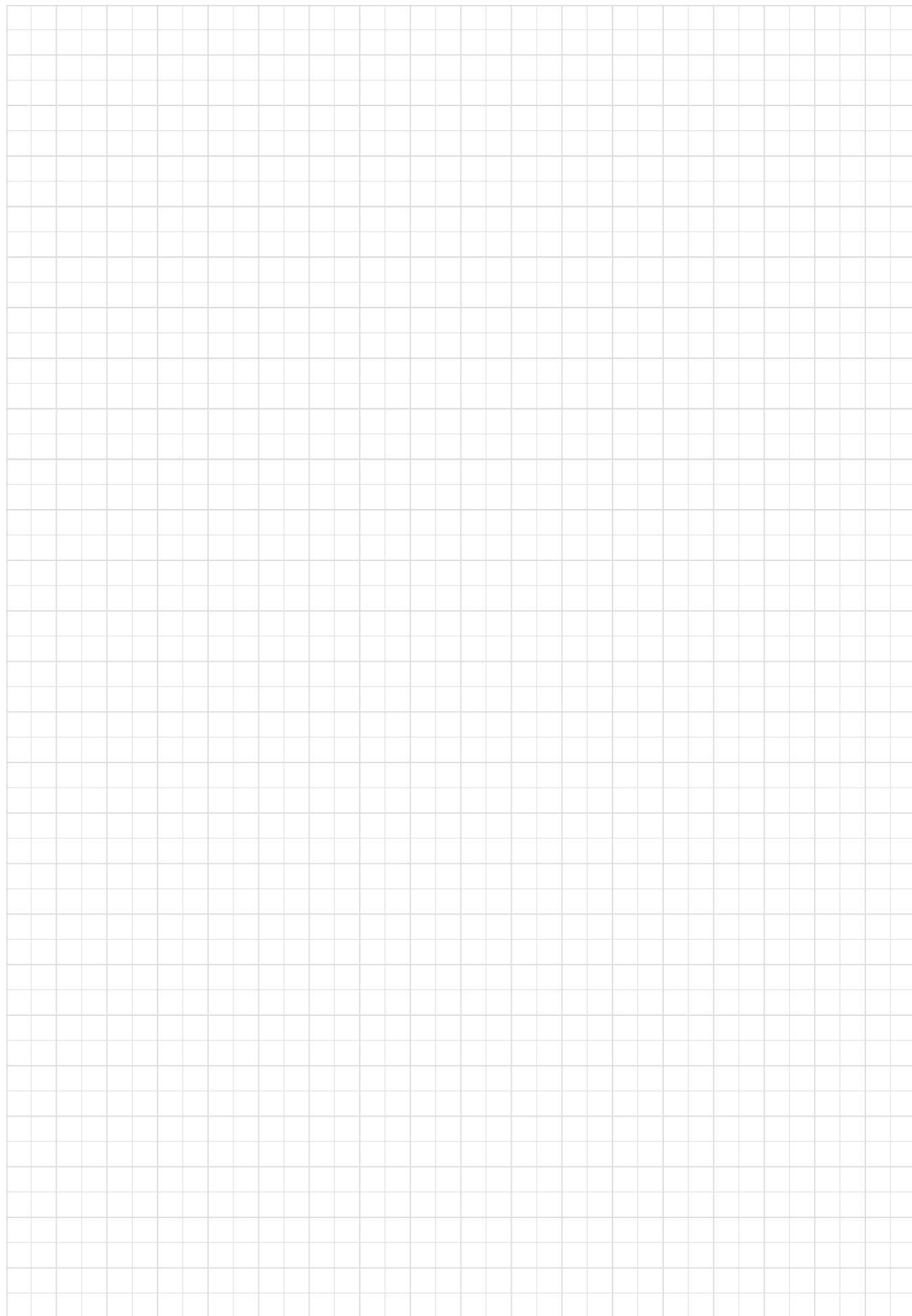
For Model D25 (compatible with the DirectTung-Jet system)



Practical examples

Workpiece type		Shaft	Valve part
Toolholder		JSDJ2CR083X-CHP	JSDJ2CR083X-CHP
Insert		DCGT 32.5X FN-JS	DCMT 32.51 PSS
Grade		SH730	AH905
Workpiece material		1045	S66286
			
Cutting conditions	Cutting speed : Vc (sfm)	328	164
	Feed : f (ipr)	0.001	0.002
	Depth of cut : ap (inch)	2	0.15
	Machining	External turning	Face turning
	Coolant	Oil	Oil
Results		 Tripled the Parts Machined TungTurn-Jet's high pressure, through-coolant supply system has tripled the tool life over external coolant supply method.	 Doubled the Tool Life TungTurn-Jet's through-coolant supply system achieved double the tool life than that of normal coolant pressure.
Workpiece type		Shaft	Injection part
Toolholder		STCR08X18-CHP	JSXXR083X-CHP
Insert		TCP18R200F-010	JXPG16R15F
Grade		SH725	SH725
Workpiece material		1015	30400
			
Cutting conditions	Cutting speed : Vc (sfm)	312	394
	Feed : f (ipr)	0.001	0.003
	Depth of cut : ap (inch)	0.098	Part-off diameter: 0.315"
	Machining	External grooving	Parting off
	Coolant	Oil	Oil
Results		 No chip packing in the workpiece Thanks to its high pressure coolant jet system, TungTurn-Jet has improved the chip evacuation, eliminating the post-work chip cleaning process.	 Parts output 2.3x TungTurn-Jet's high pressure, through-coolant supply system has improved the tool life to 230% over external coolant supply method, while reducing tool wear during stainless steel parting operation.

MEMO



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