



High functioning, High operating system

DIRECT T^{UNG}JET system



L12



L20



D25



M32

Cincom

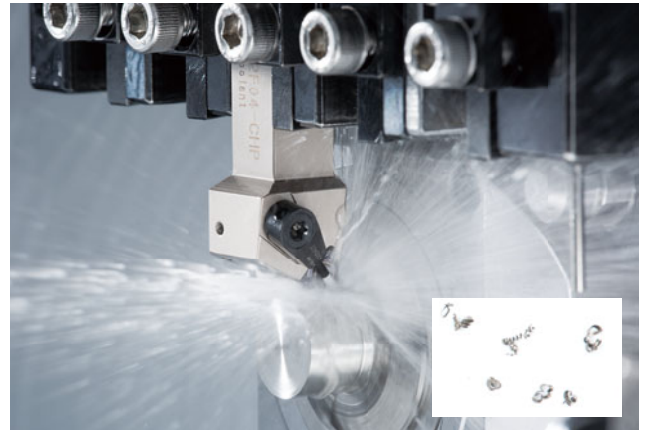
Thru-coolant holder system

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)



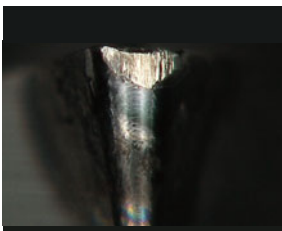
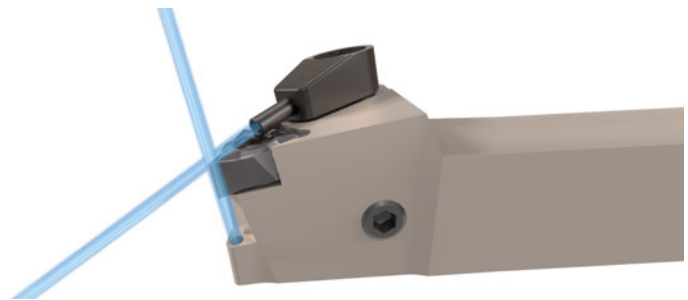
High pressure coolant
($>7\text{MPa}$)



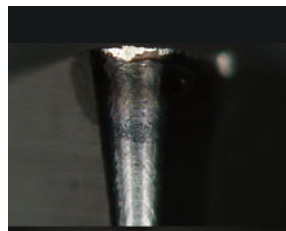
Coolant jets from two outlets ensure high cutting efficiency and extended tool life

● **Directly to the cutting edge**

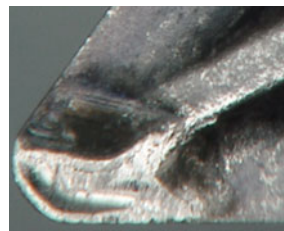
Reliable chip control
Reduces crater and notch wears



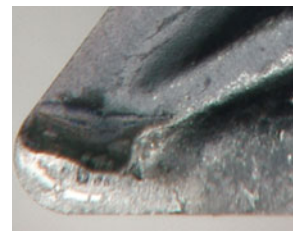
Excessive wear with external coolant supply (at normal pressure)



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



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



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

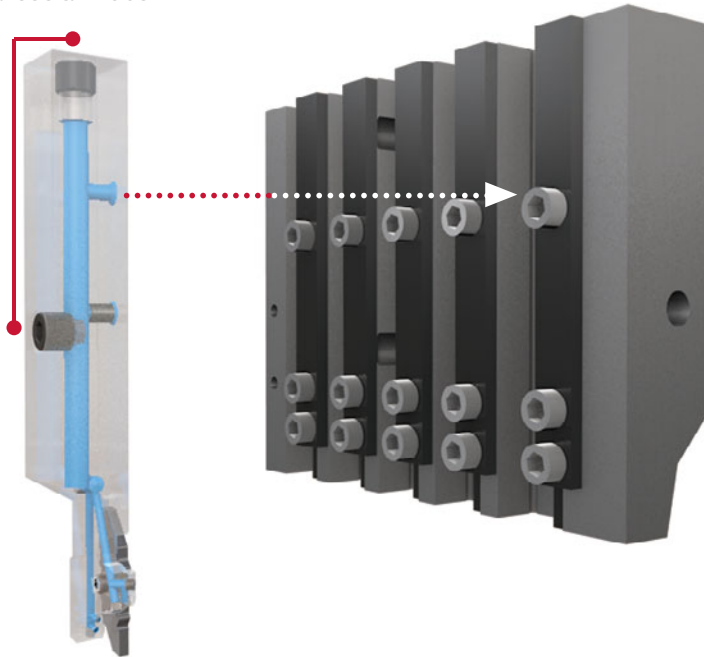
DIRECT TUNGJET system

TUNGALOY

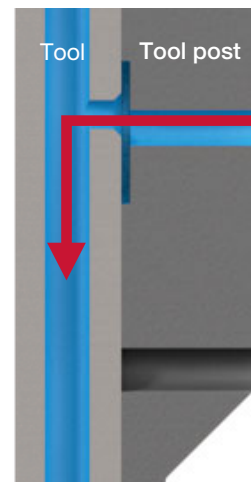
Tube-free design streamlines tool setup
Through-coolant supply enables high productivity

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.

L12



L20



D25



M32




TUNG TUNGJET
TUNGALOY



Machines for DirectTungJet system

Improvement of chip evacuation with TungTurn-Jet

M Stainless steel: External turning (SUS304)




J-SERIES
TUNGALOY

Material : SUS304
 Holder : JSDJ2CR1212X11-CHP
 Insert : DCGT11T302FN-JS SH725
 Cutting speed : $V_c = 80$ m/min
 Feed rate : $f = 0.03$ mm/rev
 Depth of cut : $a_p = 1.5$ mm
 Coolant type : Oil

TUNGTURNJET Through-coolant supply (at 7 MPa)	TUNGTURNJET 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 : STCR1212X18-CHP
 Insert : TCP18R200F-010 SH725
 Cutting speed : $V_c = 100$ m/min
 Feed rate : $f = 0.05$ mm/rev
 Groove width : 2 mm
 Groove depth : 2.5 mm
 Coolant type : Oil

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

M Stainless steel: Parting -off (SUS304)



DUOJET
TUNGALOY

Material : SUS304
 Holder : JSXXL1212X09-CHP
 Insert : JXPG16L20F SH725
 Rotation : $V_c = 100$ m/min
 Feed rate : $f = 0.03$ mm/rev
 Coolant type : Oil

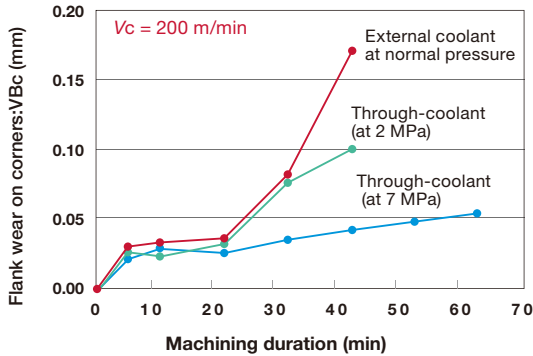
TUNGTURNJET Through-coolant supply (at 7 MPa)	TUNGTURNJET Through-coolant supply (at 1.5 MPa)	External coolant at normal pressure
		

Tool wear reduction with TungTurn-Jet

M Stainless steel: External turning (SUS304)

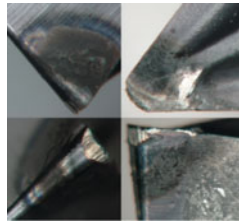


Material : SUS304
 Holder : JSDJ2CR1212X11-CHP
 Insert : DCGT11T302FN-JS SH725
 Cutting speed : $V_c = 200$ m/min
 Feed rate : $f = 0.1$ mm/rev
 Depth of cut : $a_p = 0.5$ mm
 Coolant type : Oil



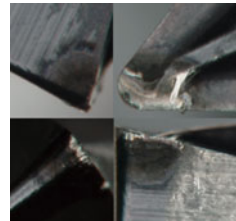
After machining for 40 min.

External coolant at normal pressure



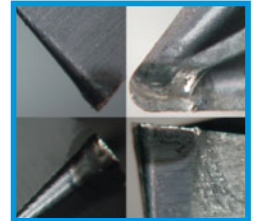
TUNGTURN

Through-coolant (at 2 MPa)



TUNGTURN

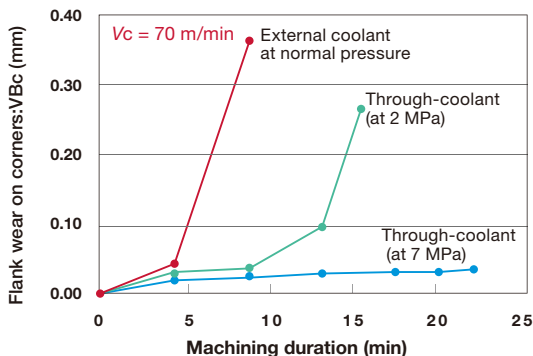
Through-coolant (at 7 MPa)



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

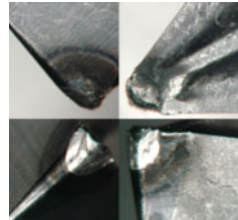


Material : Ti-6Al-4V
 Holder : JSDJ2CR1212X11-CHP
 Insert : DCGT11T302FN-JS SH725
 Cutting speed : $V_c = 70$ m/min
 Feed rate : $f = 0.1$ mm/rev
 Depth of cut : $a_p = 0.5$ mm
 Coolant type : Oil



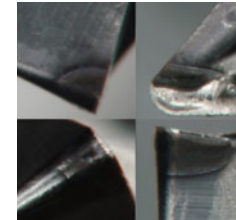
After machining for 10 min.

External coolant at normal pressure



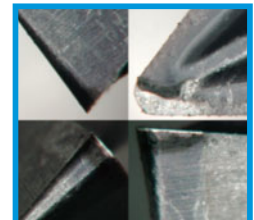
TUNGTURN

Through-coolant (at 2 MPa)

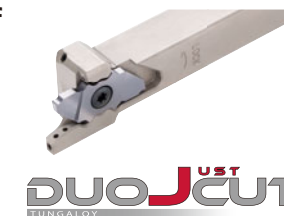


TUNGTURN

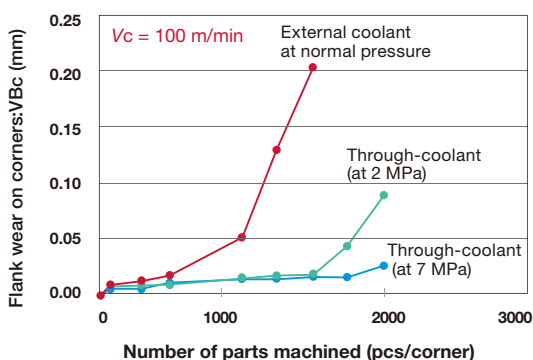
Through-coolant (at 7 MPa)



M Stainless steel: Parting -off (SUS304)

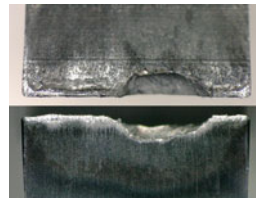


Material : SUS304
 Holder : JSXXL1212X09-CHP
 Insert : JXPG16L20F SH725
 Cutting speed : $V_c = 100$ m/min-1
 Feed rate : $f = 0.03$ mm/rev
 Coolant type : Oil



External coolant at normal pressure

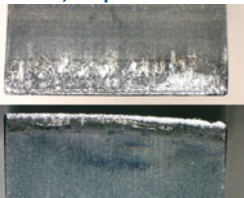
After 1,500 parts machined



TUNGTURN

Through-coolant (at 2 MPa)

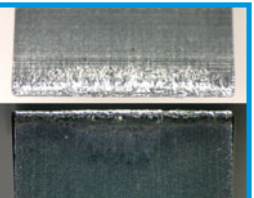
After 2,000 parts machined



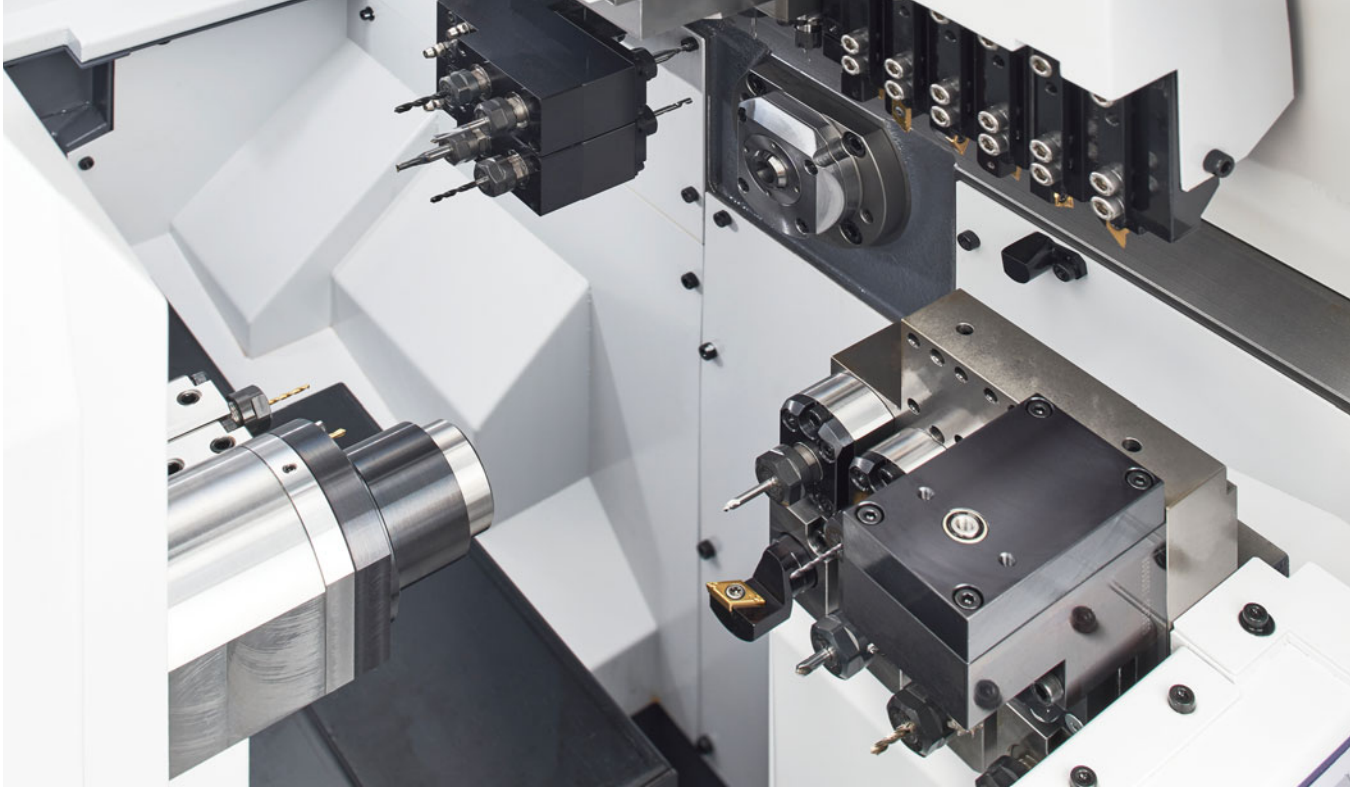
TUNGTURN

Through-coolant (at 7 MPa)

After 2,000 parts machined



Modular Tooling System Adopted Y2 Axis Added for Greater Functionality



Sliding Headstock Type
CNC Automatic Lathe

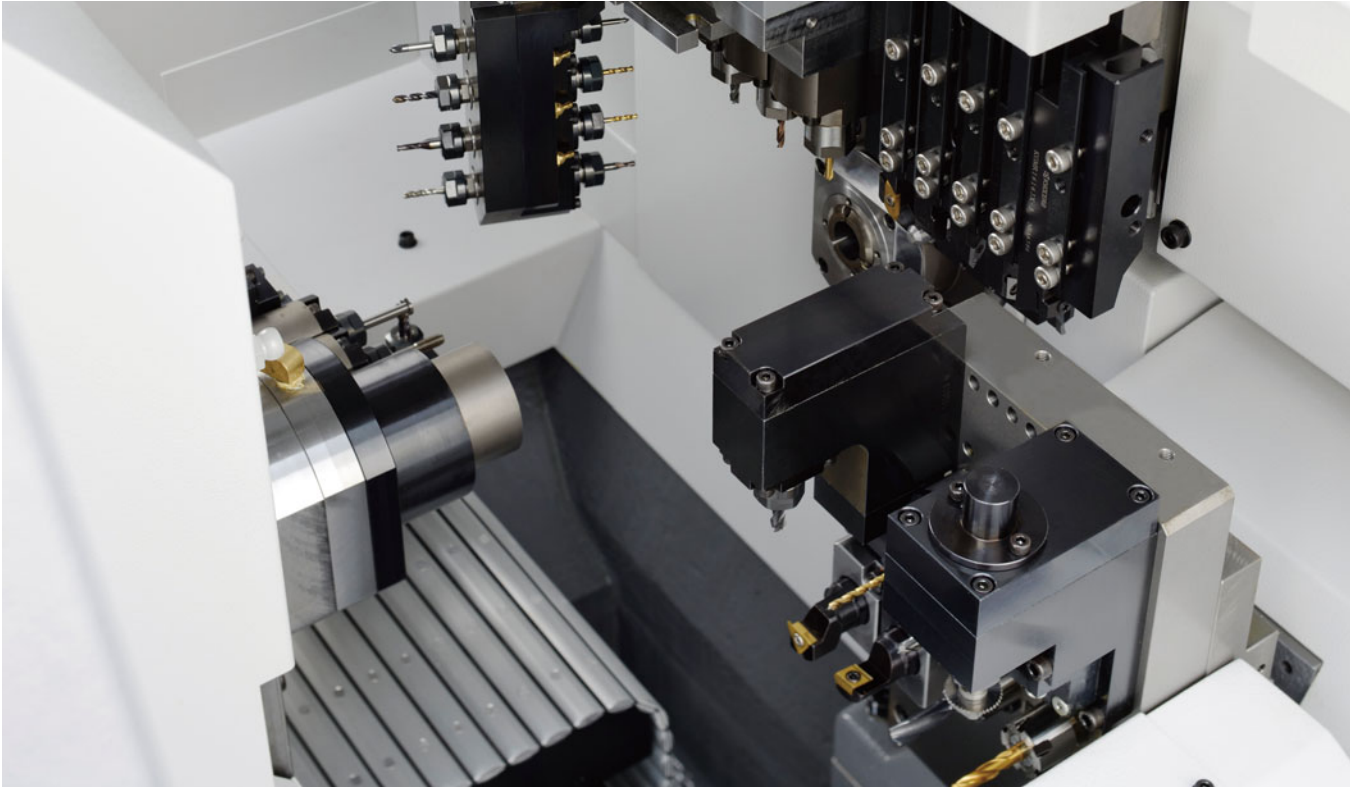
L12

Machine model	L12 X
Num. of axes/paths	6 axes, 2 path control systems
Maximum diameter machineable (mm)	ø12
Maximum length machineable (mm)	135 (GB)
	30 (GBL)
Spindle speed (min ⁻¹)	15,000
	12,000
Tool positions	38
Motor, spindle drive (kW)	2.2 / 3.7
Mountable tool sizes (mm)	□ 10 (□ 12)
Sleeve diameter (mm)	ø19.05

- Versatile tooling layout achieved, including slanted hole machining with the angle adjustable end face spindle.
- Back machining capability enhanced by equipping the back spindle with a Y2 axis (Type X).
- Built-in motor adopted as the drive system for the back spindle: realizes a maximum spindle speed of 12,000 min⁻¹ (Type X)



Enhanced Tool Modularity



Sliding Headstock
Automatic CNC Lathe with
convertible guide bushing

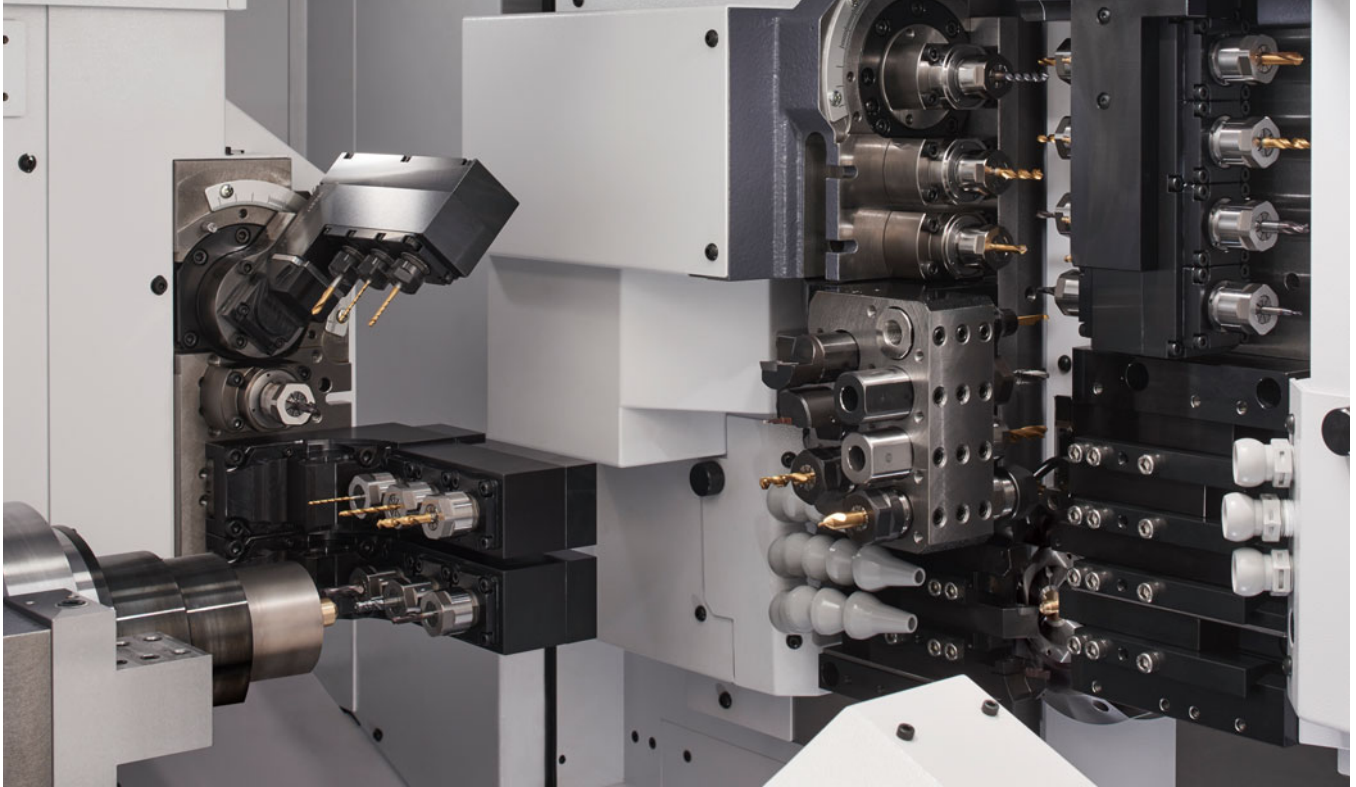
L20

Machine model	L20 VIII	L20 IX	L20X	L20 XII
Num. of axes/paths	5 axes, 2 path control systems	6 axes, 2 path control systems	6 axes, 2 path control systems	7 axes, 2 path control systems
Maximum diameter machineable (mm)	ø20 (ø25 optional)	ø20 (ø25 optional)	ø20 (ø25 optional)	ø20 (ø25 optional)
Maximum length machineable (mm)	200 (GB)	200 (GB)	200 (GB)	200 (GB)
	50 (GBL)	50 (GBL)	50 (GBL)	50 (GBL)
Spindle speed (min ⁻¹)	10,000	10,000	10,000	10,000
Tool positions	37	33	44	40
Motor, spindle drive (kW)	2.2 / 3.7	2.2 / 3.7	2.2 / 3.7	2.2 / 3.7
Mountable tool sizes (mm)	□ 12 (□ 13, □ 16)	□ 12 (□ 13, □ 16)	□ 12 (□ 13, □ 16)	□ 12 (□ 13, □ 16)
Sleeve diameter (mm)	ø25 (GS107, 210) ø19.05	ø25 (GS107, 210) ø19.05	ø25 (GS107, 210) ø19.05	ø25 (GS107, 210) ø19.05

- 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.



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



Sliding Headstock Automatic CNC Lathe
with convertible guide bushing

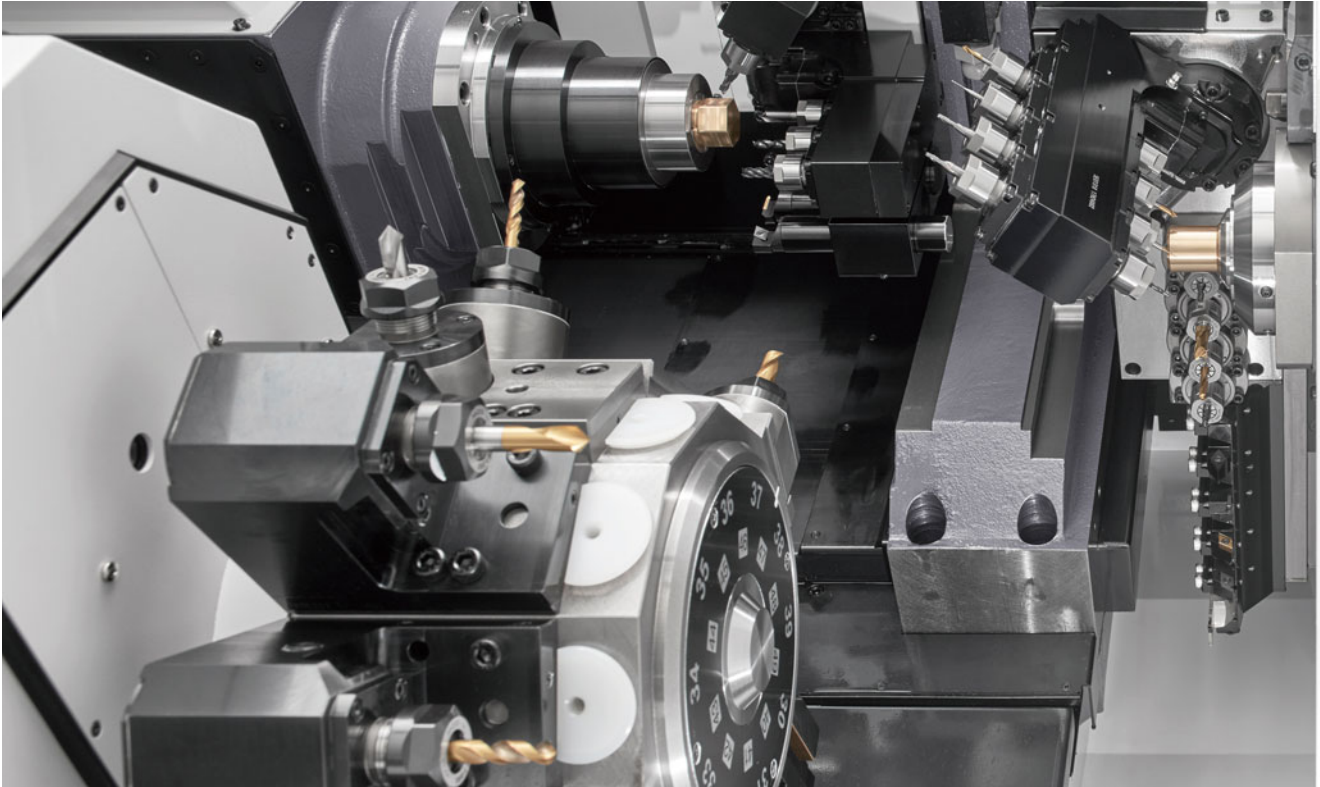
D25

Machine model	D25 VII	D25 VIII
Num. of axes/paths	9 axes, 3 path control systems	10 axes, 3 path control systems
Maximum diameter machineable (mm)	ø25	ø25
Maximum length machineable (mm)	250 (GB)	250 (GB)
	2.5D (GBL)	2.5D (GBL)
Spindle speed (min ⁻¹)	10,000	10,000
Tool positions	59	43
Motor, spindle drive (kW)	3.7 / 5.5	3.7 / 5.5
Mountable tool sizes (mm)	□ 16 / □ 20	□ 16 / □ 20
Sleeve diameter (mm)	ø25.4	ø25.4

- 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.



The new L32 -an 'icon' reinvented



Sliding Headstock Type
CNC Automatic Lathe

M32

Machine model	M32 V	M32 VII	M32 VIII
Num. of axes / paths	8 axes, 3 path control systems	9 axes, 3 path control systems	10 axes, 3 path control systems
Maximum diameter machineable (mm)	ø32 (ø38 optional)	ø32 (ø38 optional)	ø32 (ø38 optional)
Maximum length machineable (mm)	320 (GB) 2.5D (GBL)	320 (GB) 2.5D (GBL)	320 (GB) 2.5D (GBL)
Spindle speed (min ⁻¹)	8,000	8,000	8,000
Tool positions	31 + α	35 + α	36 + α
Motor, spindle drive (kW)	5.5 / 7.5	5.5 / 7.5	5.5 / 7.5
Mountable tool sizes (mm)	□ 16	□ 16	□ 16
Sleeve diameter (mm)	ø25.4	ø25.4	ø25.4

- Ranging from a 5-axis machine with excellent cost performance to a high-end machine equipped with B axis and back tool post Y axis.
- Workpiece conveyor equipped as standard.

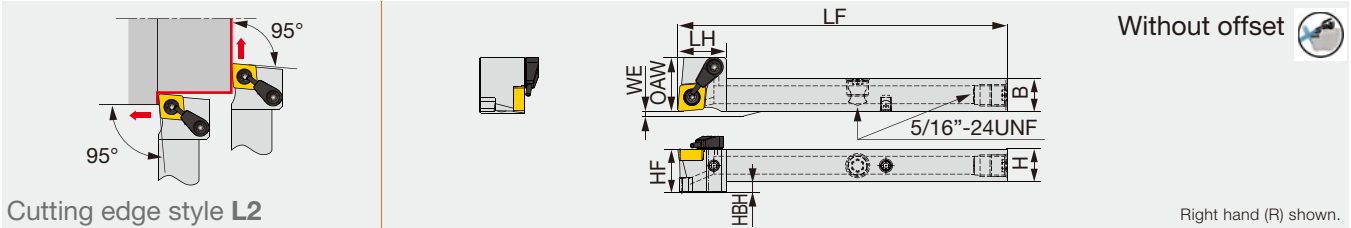


● For Turning / Facing



JSCL2CR/L-CHP

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



Designation	H	B	LF	LH	HF	HBH	WF	OAW	RE**	Insert	Torque*
JSCL2CR1212X09-CHP***	12	12	120	18	12	4	0	20	0.2	CC**09T3	1.2
JSCL2CR1212X09B-CHP	12	12	120	18	12	1.5	0	20	0.2	CC**09T3	1.2
JSCL2CR1616X09-CHP	16	16	120	18	16	0	0	20	0.2	CC**09T3	1.2

*Torque: Recommended torque (N-m) for clamping **RE: Standard corner radius
 ***: To be replaced with the new design

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

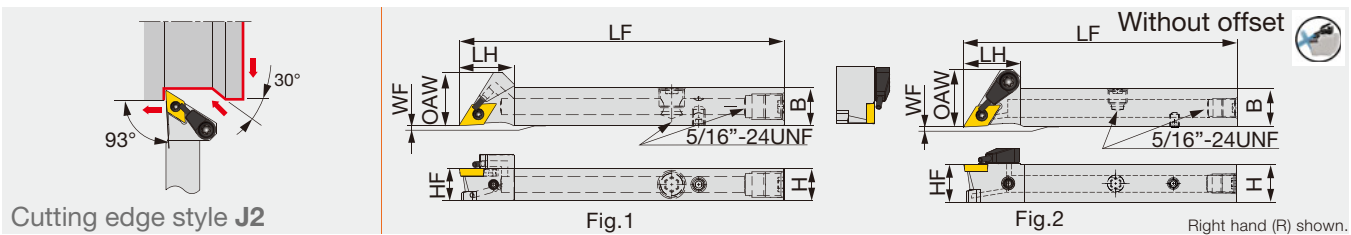
See page 44 for the proper tool overhang and plug settings.

● For External Turning



JSDJ2CR/L-CHP

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



Designation	H	B	LF	LH	HF	WF	OAW	RE**	Insert	Torque*	Fig.
New JSDJ2CR1012H07-CHP	10	12	100	17	10	0	16.4	0.2	DC**0702	1.2	1
JSDJ2CR1212X11-CHP	12	12	120	19	12	0	20.5	0.2	DC**11T3	1.2	2
JSDJ2CR1616X11-CHP	16	16	120	19	16	0	20.5	0.2	DC**11T3	1.2	2

*Torque: Recommended torque (N-m) for clamping **RE: Standard corner radius

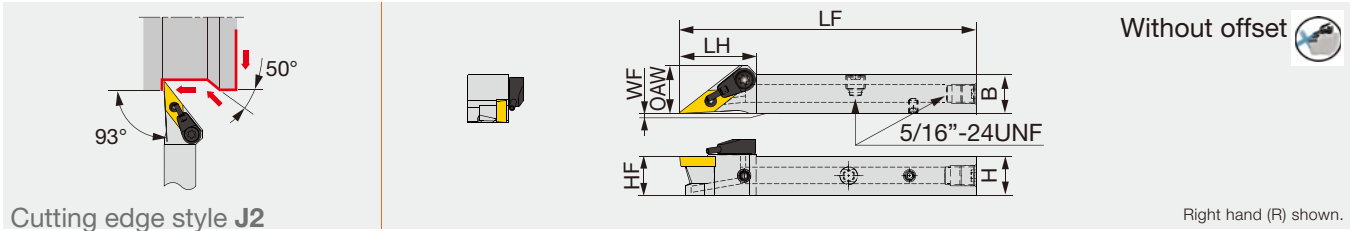
Designation	Coolant nozzle	Nozzle retainer screw
JSDJ2CR1012H07-CHP	NZ-1.10-7-CHP	SSHM4-4-TB

Designation	Clamping screw	Coolant unit	Wrench
JSDJ2CR**11-CHP	CSTB-4SD	S-CU-CHP	T-8F

See page 44 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



Cutting edge style **J2**

Right hand (R) shown.

Designation	H	B	LF	LH	HF	WF	OAW	RE**	Insert	Torque*
JSVJ2BR1212X11-CHP	12	12	120	23.6	12	0	14.7	0.2	VB**1103	1.2
JSVJ2BR1616X11-CHP	16	16	120	23.6	16	0	16	0.2	VB**1103	1.2

*Torque: Recommended torque (N-m) for clamping **RE: Standard corner radius

SPARE PARTS



Designation	Clamping screw	Coolant unit	Wrench
JSVJ2B**11-CHP	CSTB-2.5	S-CU-CHP	T-8F

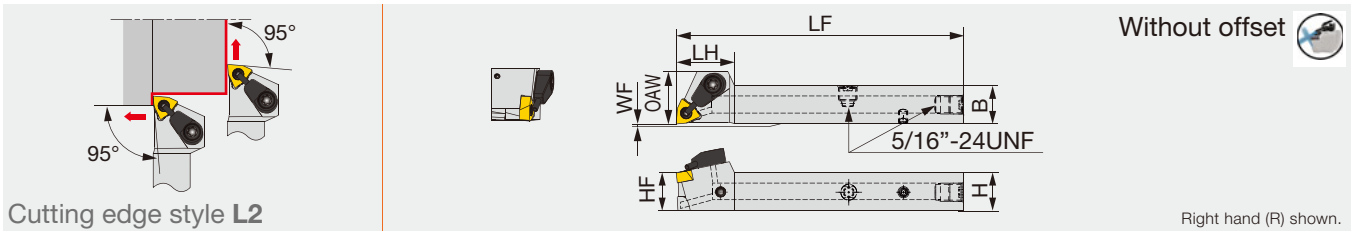
See page 44 for the proper tool overhang and plug settings.

● For Turning / Facing



JSWL2XR/L-CHP

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



Designation	H	B	LF	LH	HF	WF	OAW	RE**	Insert	Torque*
JSWL2XR1212X04-CHP	12	12	120	18.5	12	0	16.5	0.2	WXGU0403**L	0.9
JSWL2XR1616X04-CHP	16	16	120	18.5	16	0	16.5	0.2	WXGU0403**L	0.9

*Torque: Recommended torque (N-m) 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**04-CHP	SR34-514	S-CU-CHP	T-7F

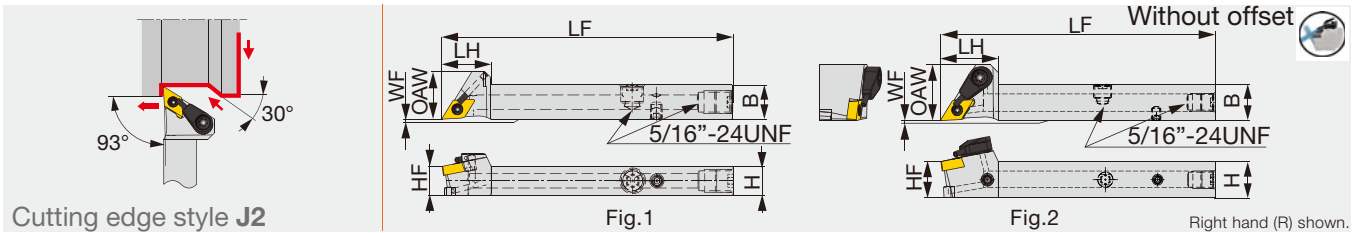
See page 44 for the proper tool overhang and plug settings.

● For External Turning



JSDJ2XR/L-CHP

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



Designation	H	B	LF	LH	HF	WF	OAW	RE**	Insert	Torque*	Fig.
New JSDJ2XR1012H07-CHP	10	12	100	17	10	0	16.4	0.2	DXGU0703**L	0.9	1
JSDJ2XR1212X07-CHP	12	12	120	19	12	0	18.5	0.2	DXGU0703**L	0.9	2
JSDJ2XR1616X07-CHP	16	16	120	19	16	0	18.5	0.2	DXGU0703**L	0.9	2

*Torque: Recommended torque (N-m) 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	Coolant nozzle	Nozzle retainer screw
JSDJ2XR1012H07-CHP	NZ-1.10-7-CHP	SSHM4-4-TB

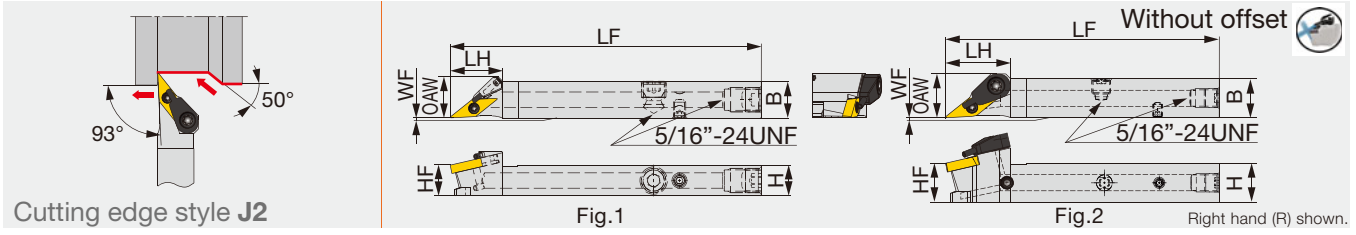
SPARE PARTS

Designation	Clamping screw	Coolant unit	Wrench
JSDJ2XR**07-CHP	SR34-514	S-CU-CHP	T-7F

See page 44 for the proper tool overhang and plug settings.

JSVJ2XR/L-CHP

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



New

Designation	H	B	LF	LH	HF	WF	OAW	RE**	Insert	Torque*	Fig.
JSVJ2XR1012H07-CHP	10	12	100	17	10	0	13.4	0.2	VXGU09T2**L	0.9	1
JSVJ2XR1212X09-CHP	12	12	120	19.5	12	0	13.4	0.2	VXGU09T2**L	0.9	2
JSVJ2XR1616X09-CHP	16	16	120	19.5	16	0	16	0.2	VXGU09T2**L	0.9	2

*Torque: Recommended torque (N-m) 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	Coolant nozzle	Nozzle retainer screw
JSVJ2XR1012H07-CHP	NZ-1.10-7-CHP	SSHM4-4-TB

SPARE PARTS

Designation	Clamping screw	Coolant unit	Wrench
JSVJ2XR**F09-CHP	SR34-508	S-CU-CHP	T-7F

See page 44 for the proper tool overhang and plug settings.

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

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																				

Application	Chipbreaker	Designation	Corner radius	Coated		Coated cermet		Cermet		Carbide	
				AH725	SH725	GT9530	NS9530	KS05F			
Finishing to medium cutting (Sharp edge)		JS WXGU040301MFR-JS	<0.1*	●							
		WXGU040301MFL-JS	<0.1*	●							
		WXGU040302MFR-JS	<0.2*	●							
		WXGU040302MFL-JS	<0.2*	●							
		WXGU040304MFR-JS	<0.4*	●							
		WXGU040304MFL-JS	<0.4*	●							
Finishing to medium cutting (Sharp edge)		JTS WXGU040301MFR-JTS	<0.1*	●							
		WXGU040301MFL-JTS	<0.1*	●							
		WXGU040302MFR-JTS	<0.2*	●							
		WXGU040302MFL-JTS	<0.2*	●							
Finishing to medium cutting		JTS WXGU040301MR-JTS	<0.1*	●							
		WXGU040301ML-JTS	<0.1*	●							
		WXGU040302MR-JTS	<0.2*	●							
		WXGU040302ML-JTS	<0.2*	●							
Finishing (Low cutting force) (Sharp edge)		JSS WXGU040301MFR-JSS	<0.1*	●							
		WXGU040301MFL-JSS	<0.1*	●							
		WXGU040302MFR-JSS	<0.2*	●							
		WXGU040302MFL-JSS	<0.2*	●							
Finishing (Low cutting force)		JSS WXGU040301MR-JSS	<0.1*	●							
		WXGU040301ML-JSS	<0.1*	●							
		WXGU040302MR-JSS	<0.2*	●							
		WXGU040302ML-JSS	<0.2*	●							

* Corner radius has minus tolerance.

● : Line up

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

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																					

Application	Chipbreaker	Designation	Corner radius	Coated			Coated cermet			Cermet			Carbide										
				AH725	AH8015	SH725	GT9530			NS9530			KS05F										
Finishing to medium cutting		TS WXGU040302R-TS	0.2	●	●				●			●											
		WXGU040302L-TS	0.2	●	●				●			●											
		WXGU040304R-TS	0.4	●	●				●			●											
		WXGU040304L-TS	0.4	●	●				●			●											
		WXGU040308R-TS	0.8	●	●				●			●											
		WXGU040308L-TS	0.8	●	●				●			●											
Finishing (Wiper)		TSW WXGU040304R-TSW	0.4	●	●				●			●											
		WXGU040304L-TSW	0.4	●	●				●			●											
		WXGU040308R-TSW	0.8	●	●				●			●											
		WXGU040308L-TSW	0.8	●	●				●			●											
Finishing (Low cutting force)		SS WXGU040302R-SS	0.2	●	●				●			●											
		WXGU040302L-SS	0.2	●	●				●			●											
		WXGU040304R-SS	0.4	●	●				●			●											
		WXGU040304L-SS	0.4	●	●				●			●											

* Corner radius has minus tolerance.

● : Line up

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

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																				

Application	Chipbreaker	Designation	Corner radius	Coated																						
				AH725	SH725																					
Finishing (Sharp edge)		JRP DXGU070301MFRE-JRP	<0.1*	●																						
		DXGU070301MFLE-JRP	<0.1*	●																						
		DXGU070302MFRE-JRP	<0.2*	●																						
		DXGU070302MFLE-JRP	<0.2*	●																						
Finishing to medium cutting (Sharp edge)		JS DXGU070301MFR-JS	<0.1*	●																						
		DXGU070301MFL-JS	<0.1*	●																						
		DXGU070302MFR-JS	<0.2*	●																						
		DXGU070302MFL-JS	<0.2*	●																						
		DXGU070304MFR-JS	<0.4*	●																						
		DXGU070304MFL-JS	<0.4*	●																						
Finishing to medium cutting (Sharp edge)		JTS DXGU070301MFR-JTS	<0.1*	●																						
		DXGU070301MFL-JTS	<0.1*	●																						
		DXGU070302MFR-JTS	<0.2*	●																						
		DXGU070302MFL-JTS	<0.2*	●																						
Finishing to medium cutting		JTS DXGU070301MR-JTS	<0.1*	●																						
		DXGU070301ML-JTS	<0.1*	●																						
		DXGU070302MR-JTS	<0.2*	●																						
		DXGU070302ML-JTS	<0.2*	●																						
Finishing (Low cutting force) (Sharp edge)		JSS DXGU070301MFR-JSS	<0.1*	●																						
		DXGU070301MFL-JSS	<0.1*	●																						
		DXGU070302MFR-JSS	<0.2*	●																						
		DXGU070302MFL-JSS	<0.2*	●																						

* Corner radius has minus tolerance.

● : Line up

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

TurnLine - Insert

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													
				AH725	AH8015	GT9530		NS9530		KS05F													
Finishing (Low cutting force)		JSS DXGU070301MR-JSS	<0.1*	●																			
		DXGU070301ML-JSS	<0.1*	●																			
		DXGU070302MR-JSS	<0.2*	●																			
		DXGU070302ML-JSS	<0.2*	●																			
Finishing to medium cutting		TS DXGU070302R-TS	0.2	● ●		●		●		●													
		DXGU070302L-TS	0.2	● ●		●		●		●													
		DXGU070304R-TS	0.4	● ●		●		●		●													
		DXGU070304L-TS	0.4	● ●		●		●		●													
		DXGU070308R-TS	0.8	● ●		●		●		●													
		DXGU070308L-TS	0.8	● ●		●		●		●													
Finishing (Low cutting force)		SS DXGU070302R-SS	0.2	● ●		●		●		●													
		DXGU070302L-SS	0.2	● ●		●		●		●													
		DXGU070304R-SS	0.4	● ●		●		●		●													
		DXGU070304L-SS	0.4	● ●		●		●		●													

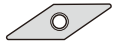
* Corner radius has minus tolerance.

● : Line up

- : Continuous cutting
- : Light interrupted cutting
- ⚡ : Heavy interrupted cutting

TurnLine - Insert

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 VXGU09T201MFRE-JRP	<0.1*	●														
		VXGU09T201MFLE-JRP	<0.1*	●														
		VXGU09T202MFRE-JRP	<0.2*	●														
		VXGU09T202MFLE-JRP	<0.2*	●														
Finishing to medium cutting (Sharp edge)		JS VXGU090301MFR-JS	<0.1*	●														
		VXGU090301MFL-JS	<0.1*	●														
		VXGU090302MFR-JS	<0.2*	●														
		VXGU090302MFL-JS	<0.2*	●														
		VXGU090304MFR-JS	<0.4*	●														
		VXGU090304MFL-JS	<0.4*	●														

* Corner radius has minus tolerance.

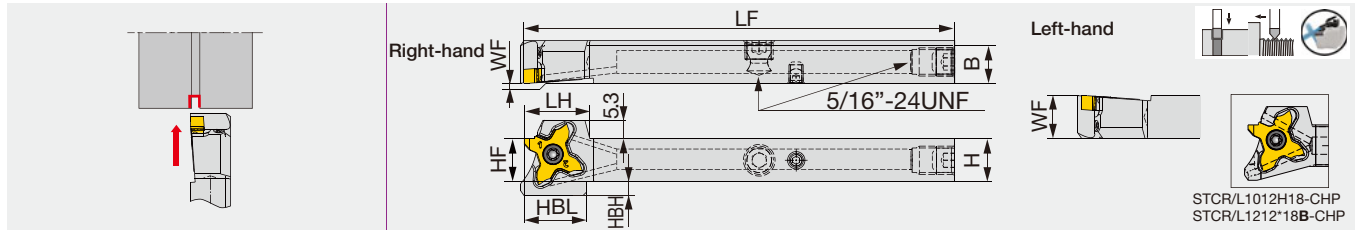
● : Line up

● For Grooving and Threading



STCR/L-18

External grooving and threading toolholder, high pressure coolant compatible



Designation	H	B	LF	LH	HBL	HF	WF	HBH	Insert	Torque*
New STCR/L1012H18-CHP	10	12	100	17.1	17.1	10	0/12	4	TC**18	1.2
STCR/L1212X18-CHP***	12	12	120	18.5	17.5	12	0/12	4	TC**18	1.2
STCR/L1212X18B-CHP	12	12	120	18.5	17.5	12	0/12	4	TC**18	1.2
STCR/L1616X18-CHP	16	16	120	18.5	-	16	0/16	0	TC**18	1.2

- 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 (N-m) for clamping
- ***: To be replaced with the new design

SPARE PARTS

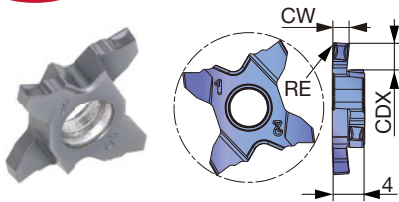
Designation	Clamping screw	Wrench
STCL**18-CHP	CSTC-4L100DR	T-1008/5
STCR**18-CHP	CSTC-4L100DL	T-1008/5

Groove width range : 0.33 ~ 3.0 mm
Threading pitch range: 0.8 ~ 3.0 mm

See page 44 for the proper tool overhang and plug settings.

INSERTS

New TCL18R (3D chipbreaker, honed edge)



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

★ : First choice
☆ : Second choice

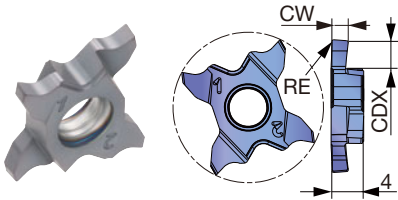
Designation	HAND	CW±0.02	RE	Coated						CDX
				AH7025						
TCL18R150-010	R	1.5	0.1	●						3.5
TCL18R150-020	R	1.5	0.2	●						3.5
TCL18R200-010	R	2	0.1	●						3.5
TCL18R200-020	R	2	0.2	●						3.5
TCL18R300-010	R	3	0.1	●						3.5
TCL18R300-020	R	3	0.2	●						3.5
TCL18R300-030	R	3	0.3	●						3.5

5 pieces per package

● : New product

INSERTS

TCG18R/L (with edge preparation)



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

★ : First choice
☆ : Second choice

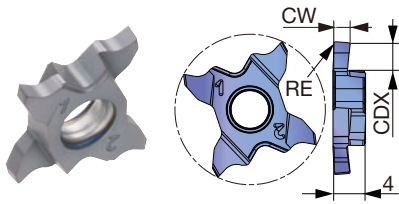
Designation	HAND	CW±0.02	RE	Coated						CDX
				AH7025						
TCG18R100-010	R	1	0.1	●						2
TCG18L100-010	L	1	0.1	●						2
TCG18R120-010	R	1.2	0.1	●						2
TCG18L120-010	L	1.2	0.1	●						2
TCG18R125-010	R	1.25	0.1	●						2
TCG18L125-010	L	1.25	0.1	●						2
TCG18R125-020	R	1.25	0.2	●						2
TCG18L125-020	L	1.25	0.2	●						2
TCG18R130-020	R	1.3	0.2	●						2
TCG18L130-020	L	1.3	0.2	●						2
TCG18R140-010	R	1.4	0.1	●						3.5
TCG18L140-010	L	1.4	0.1	●						3.5
TCG18R140-020	R	1.4	0.2	●						3.5
TCG18L140-020	L	1.4	0.2	●						3.5
TCG18R145-010	R	1.45	0.1	●						3.5
TCG18L145-010	L	1.45	0.1	●						3.5
TCG18R145-020	R	1.45	0.2	●						3.5
TCG18L145-020	L	1.45	0.2	●						3.5
TCG18R150-010	R	1.5	0.1	●						3.5
TCG18L150-010	L	1.5	0.1	●						3.5
TCG18R150-020	R	1.5	0.2	●						3.5
TCG18L150-020	L	1.5	0.2	●						3.5
TCG18R160-020	R	1.6	0.2	●						3.5
TCG18L160-020	L	1.6	0.2	●						3.5
TCG18R170-020	R	1.7	0.2	●						3.5
TCG18L170-020	L	1.7	0.2	●						3.5
TCG18R175-010	R	1.75	0.1	●						3.5
TCG18L175-010	L	1.75	0.1	●						3.5
TCG18R175-020	R	1.75	0.2	●						3.5
TCG18L175-020	L	1.75	0.2	●						3.5
TCG18R185-020	R	1.85	0.2	●						3.5
TCG18L185-020	L	1.85	0.2	●						3.5
TCG18R195-020	R	1.95	0.2	●						3.5
TCG18L195-020	L	1.95	0.2	●						3.5

5 pieces per package

● : Line up

INSERTS

TCG18R/L (with edge preparation)



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

★ : First choice
☆ : Second choice

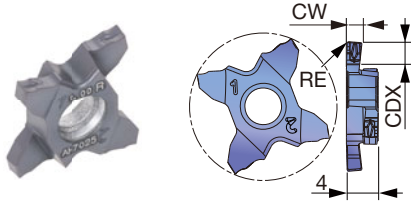
Designation		CW±0.02	RE	Coated						CDX
				AH7025						
TCG18R200-010	R	2	0.1	●						3.5
TCG18L200-010	L	2	0.1	●						3.5
TCG18R200-020	R	2	0.2	●						3.5
TCG18L200-020	L	2	0.2	●						3.5
TCG18R225-020	R	2.25	0.2	●						3.5
TCG18L225-020	L	2.25	0.2	●						3.5
TCG18R230-020	R	2.3	0.2	●						3.5
TCG18L230-020	L	2.3	0.2	●						3.5
TCG18R250-010	R	2.5	0.1	●						3.5
TCG18L250-010	L	2.5	0.1	●						3.5
TCG18R250-020	R	2.5	0.2	●						3.5
TCG18L250-020	L	2.5	0.2	●						3.5
TCG18R250-030	R	2.5	0.3	●						3.5
TCG18L250-030	L	2.5	0.3	●						3.5
TCG18R265-030	R	2.65	0.3	●						3.5
TCG18L265-030	L	2.65	0.3	●						3.5
TCG18R280-030	R	2.8	0.3	●						3.5
TCG18L280-030	L	2.8	0.3	●						3.5
TCG18R300-010	R	3	0.1	●						3.5
TCG18L300-010	L	3	0.1	●						3.5
TCG18R300-020	R	3	0.2	●						3.5
TCG18L300-020	L	3	0.2	●						3.5
TCG18R300-030	R	3	0.3	●						3.5
TCG18L300-030	L	3	0.3	●						3.5

5 pieces per package

● : Line up

INSERTS

TCS18R (3D chipbreaker, honed edge)



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

★ : First choice
☆ : Second choice

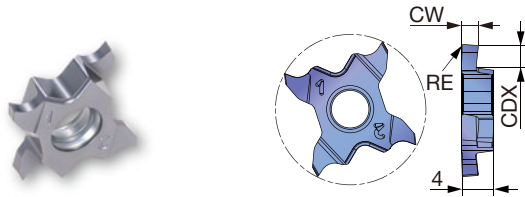
Designation	R	CW±0.02	RE	Coated						CDX
				AH7025						
TCS18R100-010	R	1	0.1	●						2
TCS18R120-010	R	1.2	0.1	●						2
TCS18R125-010	R	1.25	0.1	●						2
TCS18R125-020	R	1.25	0.2	●						2
TCS18R130-020	R	1.3	0.2	●						3.5
TCS18R140-010	R	1.4	0.1	●						3.5
TCS18R140-020	R	1.4	0.2	●						3.5
TCS18R145-010	R	1.45	0.1	●						3.5
TCS18R150-010	R	1.5	0.1	●						3.5
TCS18R150-020	R	1.5	0.2	●						3.5
TCS18R160-020	R	1.6	0.2	●						3.5
TCS18R170-020	R	1.7	0.2	●						3.5
TCS18R175-010	R	1.75	0.1	●						3.5
TCS18R175-020	R	1.75	0.2	●						3.5
TCS18R185-020	R	1.85	0.2	●						3.5
TCS18R195-020	R	1.95	0.2	●						3.5
TCS18R200-010	R	2	0.1	●						3.5
TCS18R200-020	R	2	0.2	●						3.5
TCS18R225-020	R	2.25	0.2	●						3.5
TCS18R230-020	R	2.3	0.2	●						3.5
TCS18R250-010	R	2.5	0.2	●						3.5
TCS18R250-020	R	2.5	0.2	●						3.5
TCS18R250-030	R	2.5	0.3	●						3.5
TCS18R265-030	R	2.65	0.3	●						3.5
TCS18R280-030	R	2.8	0.3	●						3.5
TCS18R300-010	R	3	0.1	●						3.5
TCS18R300-020	R	3	0.2	●						3.5
TCS18R300-030	R	3	0.3	●						3.5

5 pieces per package

● : Line up

INSERTS

TCP18R/L (lightly honed edge)



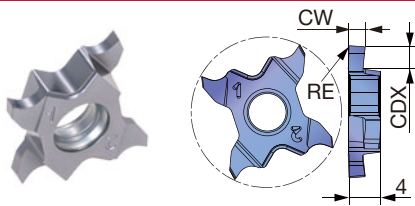
P	Steel	★							
M	Stainless	★							
K	Cast iron	★							
N	Non-ferrous								
S	Superalloys	★							
H	Hard materials								

★ : First choice
☆ : Second choice

Designation		CW±0.02	RE	Coated						CDX
				AH725						
TCP18R033-005	R	0.33	0.05	●						0.8
TCP18L033-005	L	0.33	0.05	●						0.8
TCP18R043-005	R	0.43	0.05	●						1.2
TCP18L043-005	L	0.43	0.05	●						1.2
TCP18R050-005	R	0.50	0.05	●						1.2
TCP18L050-005	L	0.50	0.05	●						1.2
TCP18R075-005	R	0.75	0.05	●						2
TCP18L075-005	L	0.75	0.05	●						2
TCP18R095-005	R	0.95	0.05	●						2
TCP18L095-005	L	0.95	0.05	●						2
TCP18R100-010	R	1	0.1	●						2
TCP18L100-010	L	1	0.1	●						2
TCP18R120-010	R	1.2	0.1	●						2
TCP18L120-010	L	1.2	0.1	●						2
TCP18R125-010	R	1.25	0.1	●						2
TCP18L125-010	L	1.25	0.1	●						2
TCP18R140-010-35	R	1.4	0.1	●						3.5
TCP18L140-010-35	L	1.4	0.1	●						3.5
TCP18R145-010	R	1.45	0.1	●						2
TCP18L145-010	L	1.45	0.1	●						2
TCP18R145-010-35	R	1.45	0.1	●						3.5
TCP18L145-010-35	L	1.45	0.1	●						3.5
TCP18R150-010	R	1.5	0.1	●						2
TCP18L150-010	L	1.5	0.1	●						2
TCP18R150-010-35	R	1.5	0.1	●						3.5
TCP18L150-010-35	L	1.5	0.1	●						3.5
TCP18R175-010	R	1.75	0.1	●						2
TCP18L175-010	L	1.75	0.1	●						2
TCP18R175-010-35	R	1.75	0.1	●						3.5
TCP18L175-010-35	L	1.75	0.1	●						3.5
TCP18R200-010	R	2	0.1	●						2.5
TCP18L200-010	L	2	0.1	●						2.5
TCP18R200-010-35	R	2	0.1	●						3.5
TCP18L200-010-35	L	2	0.1	●						3.5
TCP18R250-010	R	2.5	0.1	●						2.5
TCP18L250-010	L	2.5	0.1	●						2.5
TCP18R250-010-35	R	2.5	0.1	●						3.5
TCP18L250-010-35	L	2.5	0.1	●						3.5
TCP18R300-010	R	3	0.1	●						2.5
TCP18L300-010	L	3	0.1	●						2.5
TCP18R300-010-35	R	3	0.1	●						3.5
TCP18L300-010-35	L	3	0.1	●						3.5

5 pieces per package
● : Line up

TCP18R/L-F (sharp edge)



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

★ : First choice
☆ : Second choice

Designation		CW±0.02	RE	Coated							CDX
				SH725							
TCP18R033F-005	R	0.33	0.05	●							0.8
TCP18L033F-005	L	0.33	0.05	●							0.8
TCP18R043F-005	R	0.43	0.05	●							1.2
TCP18L043F-005	L	0.43	0.05	●							1.2
TCP18R050F-005	R	0.5	0.05	●							1.2
TCP18L050F-005	L	0.5	0.05	●							1.2
TCP18R075F-005	R	0.75	0.05	●							2
TCP18L075F-005	L	0.75	0.05	●							2
TCP18R095F-005	R	0.95	0.05	●							2
TCP18L095F-005	L	0.95	0.05	●							2
TCP18R100F-005	R	1	0.05	●							2
TCP18R100F-010	R	1	0.1	●							2
TCP18L100F-010	L	1	0.1	●							2
TCP18R120F-005	R	1.2	0.05	●							2
TCP18R120F-010	R	1.2	0.1	●							2
TCP18L120F-010	L	1.2	0.1	●							2
TCP18R125F-005	R	1.25	0.05	●							2
TCP18R125F-010	R	1.25	0.1	●							2
TCP18L125F-010	L	1.25	0.1	●							2
TCP18R140F-010-35	R	1.4	0.1	●							3.5
TCP18R145F-005-35	R	1.45	0.05	●							3.5
TCP18R145F-010	R	1.45	0.1	●							2
TCP18L145F-010	L	1.45	0.1	●							2
TCP18R145F-010-35	R	1.45	0.1	●							3.5
TCP18L145F-010-35	L	1.45	0.1	●							3.5
TCP18R150F-005-35	R	1.5	0.05	●							3.5
TCP18R150F-010	R	1.5	0.1	●							2
TCP18L150F-010	L	1.5	0.1	●							2
TCP18R150F-010-35	R	1.5	0.1	●							3.5
TCP18L150F-010-35	L	1.5	0.1	●							3.5
TCP18R175F-005-35	R	1.75	0.05	●							3.5
TCP18R175F-010	R	1.75	0.1	●							2
TCP18L175F-010	L	1.75	0.1	●							2
TCP18R175F-010-35	R	1.75	0.1	●							3.5
TCP18L175F-010-35	L	1.75	0.1	●							3.5
TCP18R200F-005-35	R	2	0.05	●							3.5
TCP18R200F-010	R	2	0.1	●							2.5
TCP18L200F-010	L	2	0.1	●							2.5
TCP18R200F-010-35	R	2	0.1	●							3.5
TCP18L200F-010-35	L	2	0.1	●							3.5
TCP18R250F-010	R	2.5	0.1	●							2.5
TCP18L250F-010	L	2.5	0.1	●							2.5
TCP18R250F-010-35	R	2.5	0.1	●							3.5
TCP18L250F-010-35	L	2.5	0.1	●							3.5
TCP18R300F-010	R	3	0.1	●							2.5
TCP18L300F-010	L	3	0.1	●							2.5
TCP18R300F-010-35	R	3	0.1	●							3.5
TCP18L300F-010-35	L	3	0.1	●							3.5

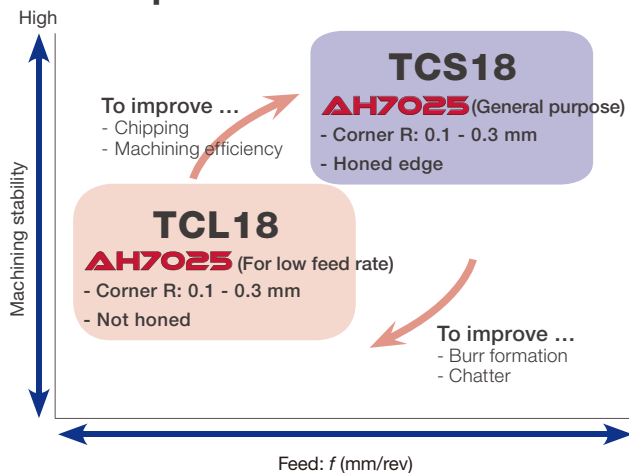
5 pieces per package
● : Line up

Major expansion to the TCG-style chipbreaker line Enhanced lineup for greater flexibility

- An expanded range of tools allows for an easy selection of the ideal insert
- The same toolholder for both grooving and threading

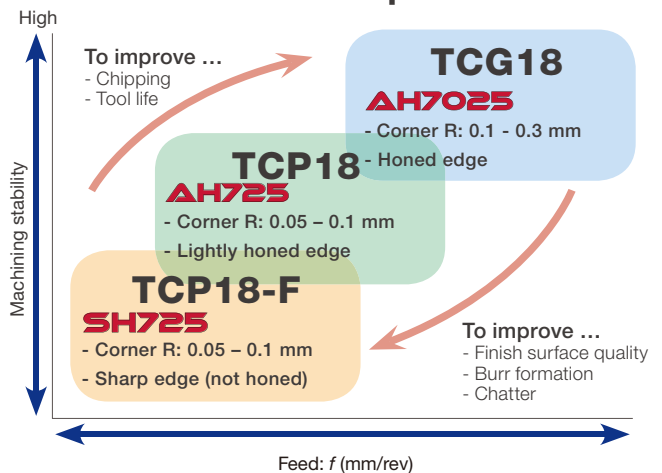
New selection system

3D chipbreakers



- 2 styles of 3D chipbreakers are available as standard for reliable chip control
- TCS: general-purpose chipbreaker, TCL: for applications where low cutting force is essential

Ground-to-form chipbreakers



- 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

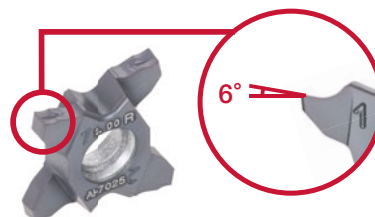
Grooving

New TCS type (3D chipbreaker)



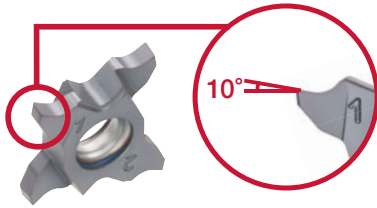
- The chipbreaker incorporates a dimple-like recess on the rake face to facilitate smooth chip flow with light cutting action
- The chipbreaker ensures low cutting force, providing reliable chip flow at low feed rates

TCS type (3D chipbreaker)



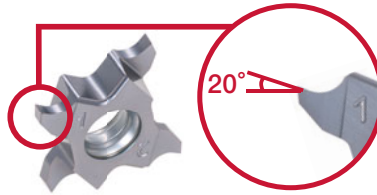
- The chipbreaker incorporates a dimple-like recess on the rake face to facilitate smooth chip flow with light cutting action

TCG type (Honed edge)



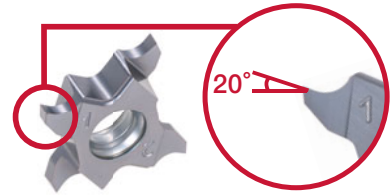
- Optimized rake angle and edge preparation enhances fracture resistance, allowing for smooth cutting
- AH7025 grade features a superior combination of wear and fracture resistances

TCP type (Lightly honed edge)



- A large rake angle ensures smooth cutting for excellent surface finish
- The insert 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

Threading

TCT type



Full-profile insert

- Full profile inserts for burr-less threading are newly added.
Pitch : 0.5 - 1.5 mm.
- Sharp cutting edge for reduced cutting load, improving thread surface quality
- Suitable for thread pitches ranging from 0.4 mm to 3.0 mm

STANDARD CUTTING CONDITIONS

TCS18R (3D chipbreaker) , TCG18R/L (honed edge)

ISO	Workpiece materials	Grades	Cutting speed Vc (m/min)	Feed: f (mm/rev)		
				TCL	TCS	TCG
P	Low carbon steel (S15C / C15, S20C / C20, etc.)	AH7025	180 - 80	0.12 - 0.03	0.16 - 0.04	0.14 - 0.04
	Carbon steels, Alloy steel (S55C / C55, SCM440 / 42CrMoS4, etc.)	AH7025	180 - 80	0.12 - 0.03	0.16 - 0.04	0.14 - 0.04
	Prehardened steel (NAK80, PX5, etc.)	AH7025	180 - 80	0.12 - 0.03	0.16 - 0.04	0.14 - 0.04
M	Stainless steel (SUS304 / X5CrNi18-9, X5CrNiMo17-12-2, etc.)	AH7025	120 - 50	0.12 - 0.03	0.16 - 0.04	0.14 - 0.04
K	Grey cast iron (FC250 / GG25 / 250, FC300 / GG30 / 300, etc.)	AH7025	180 - 50	0.12 - 0.03	0.16 - 0.04	0.14 - 0.04
	Ductile cast iron (FCD400 / 400-15, FCD600 / 600-3, etc.)	AH7025	180 - 50	0.12 - 0.03	0.16 - 0.04	0.14 - 0.04
S	Titanium alloys (Ti-6Al-4V, etc.)	AH7025	80 - 30	0.12 - 0.03	0.16 - 0.04	0.14 - 0.04
	Superalloys (Inconel718, etc.)	AH7025	60 - 20	0.12 - 0.03	0.16 - 0.04	0.14 - 0.04

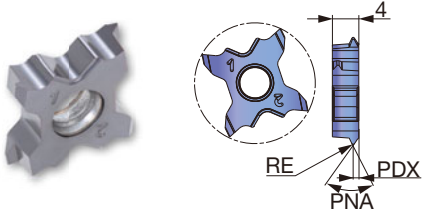
TCP18R/L (lightly honed edge) / TCP18R/L-F (sharp edge)

ISO	Workpiece materials	Priority	Grades	Cutting speed Vc (m/min)	Feed f (mm/rev)
P	Low carbon steel (S15C / C15, S20C / C20, etc.)	First choice	SH725	80 - 180	0.03 - 0.1
		Toughness	AH725	80 - 180	0.03 - 0.1
	Carbon steels, Alloy steel (S55C / C55, SCM440 / 42CrMoS4, etc.)	First choice	SH725	80 - 180	0.03 - 0.1
		Toughness	AH725	80 - 180	0.03 - 0.1
	Prehardened steel (NAK80, PX5, etc.)	First choice	SH725	80 - 180	0.03 - 0.1
		Toughness	AH725	80 - 180	0.03 - 0.1
M	Stainless steel (SUS304 / X5CrNi18-9, X5CrNiMo17-12-2, etc.)	First choice	SH725	50 - 120	0.03 - 0.1
		Toughness	AH725	50 - 120	0.03 - 0.1
K	Grey cast iron (FC250 / GG25 / 250, FC300 / GG30 / 300, etc.)	First choice	AH725	50 - 180	0.03 - 0.1
		Sharpness	SH725	50 - 180	0.03 - 0.1
	Ductile cast iron (FCD400 / 400-15, FCD600 / 600-3, etc.)	First choice	AH725	50 - 180	0.03 - 0.1
		Sharpness	SH725	50 - 180	0.03 - 0.1
S	Titanium alloys (Ti-6Al-4V, etc.)	First choice	SH725	30 - 80	0.03 - 0.1
		Toughness	AH725	30 - 80	0.03 - 0.1
	Superalloys (Inconel718, etc.)	First choice	SH725	20 - 60	0.03 - 0.1
		Toughness	AH725	20 - 60	0.03 - 0.1

INSERTS

New

TCT18FR/R-ISO (Full profile threading insert)



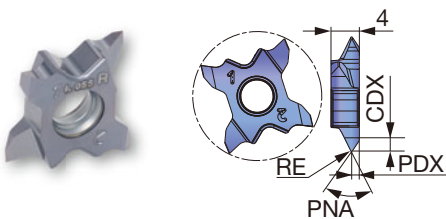
P	Steel	★	★					
M	Stainless	★	★					
K	Cast iron	★	★					
N	Non-ferrous							
S	Superalloys	★	★					
H	Hard materials							

★ : First choice
☆ : Second choice

Designation	HAND	RE	Coated		Pitch min	Pitch max	PDX	PNA
			SH725	AH725				
TCT18FR-05ISO	R	0.06	●		0.5	0.35	60°	
TCT18FR-07ISO	R	0.09	●		0.7	0.45	60°	
TCT18FR-075ISO	R	0.09	●		0.75	0.5	60°	
TCT18FR-08ISO	R	0.1	●		0.8	0.5	60°	
TCT18R-10ISO	R	0.13		●	1	0.6	60°	
TCT18R-125ISO	R	0.17		●	1.25	0.7	60°	
TCT18R-15ISO	R	0.2		●	1.5	0.8	60°	

Line up : ●

TCT18FR/R/L (Threading insert)



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

★ : First choice
☆ : Second choice

Designation	HAND	RE	Coated		Pitch min	Pitch max	PDX	CDX	PNA
			SH725	AH725					
TCT18FR-60A-005	R	0.05	●		0.4	1	0.6	0.99	60°
TCT18FR-60A-010	R	0.1	●		1	2	1	1.63	60°
TCT18R/L-60N-010	R	0.1		●	0.8	3	1.6	2.67	60°
TCT18R/L-60N-010	L	0.1		●	0.8	3	1.6	2.67	60°
TCT18R/L-60N-020	R	0.2		●	1.5	3	1.6	2.57	60°
TCT18R/L-60N-020	L	0.2		●	1.5	3	1.6	2.57	60°

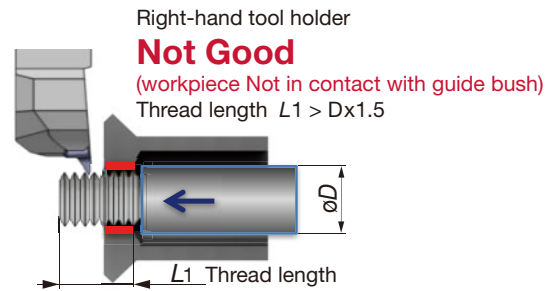
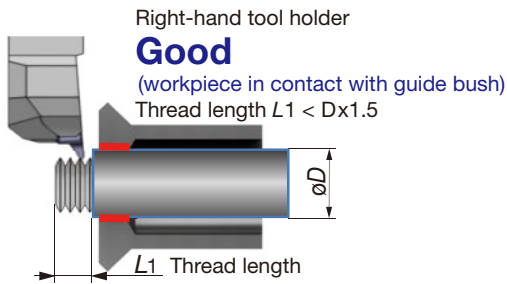
Line up : ●

STANDARD CUTTING CONDITIONS

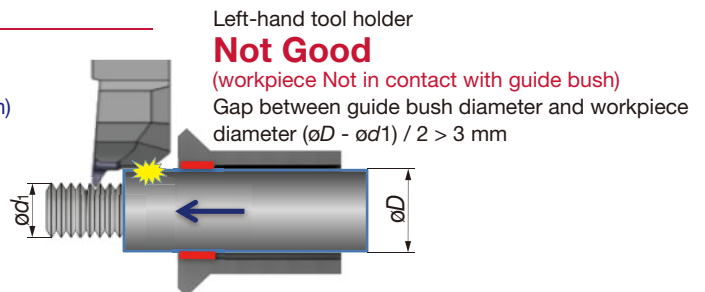
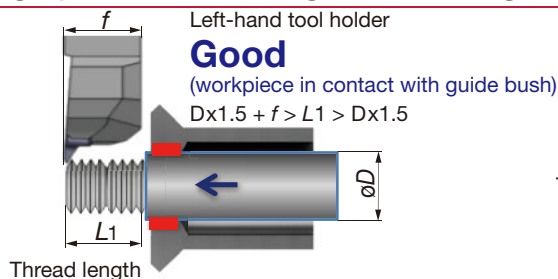
TCT18FR/R-ISO (Full profile threading insert) / TCT18FR (Threading insert)

ISO	Workpiece materials	Priority	Grades	Cutting speed Vc (m/min)	Pitch (mm)	TPI
P	Low carbon steel (S15C / C15, S20C / C20, etc.)	First choice	SH725	60 - 150	0.4 - 2.0	64 - 18
		Toughness	AH725	60 - 150	0.8 - 3.0	32 - 8
	Carbon steels, Alloy steel (S55C / C55, SCM440 / 42CrMoS4, etc.)	First choice	SH725	60 - 150	0.4 - 2.0	64 - 18
		Toughness	AH725	60 - 150	0.8 - 3.0	32 - 8
M	Prehardened steel (NAK80, PX5, etc.)	First choice	SH725	60 - 150	0.4 - 2.0	64 - 18
		Toughness	AH725	60 - 150	0.8 - 3.0	32 - 8
K	Stainless steel (SUS304 / X5CrNi18-9, X5CrNiMo17-12-2, etc.)	First choice	SH725	50 - 80	0.4 - 2.0	64 - 18
		Toughness	AH725	50 - 80	0.8 - 3.0	32 - 8
	Grey cast iron (FC250 / GG25 / 250, FC300 / GG30 / 300, etc.)	First choice	AH725	50 - 100	0.8 - 3.0	32 - 8
		Sharpness	SH725	50 - 100	0.4 - 2.0	64 - 18
S	Ductile cast iron (FCD400 / 400-15, FCD600 / 600-3, etc.)	First choice	AH725	50 - 100	0.8 - 3.0	32 - 8
		Sharpness	SH725	50 - 100	0.4 - 2.0	64 - 18
S	Titanium alloys (Ti-6Al-4V, etc.)	First choice	SH725	30 - 100	0.4 - 2.0	64 - 18
		Toughness	AH725	30 - 100	0.8 - 3.0	32 - 8
	Superalloys (Inconel718, etc.)	First choice	SH725	30 - 100	0.4 - 2.0	64 - 18
		Toughness	AH725	30 - 100	0.8 - 3.0	32 - 8

Cautions when machining in guide bushing



Threading operation following back-turning

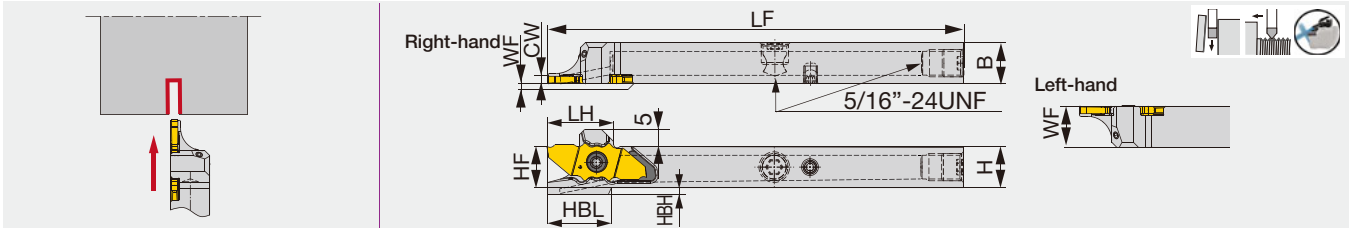


● For Parting-off and Threading



JSXXR/L

Parting and threading toolholder, high pressure coolant compatible



Designation	CW	H	B	WF	LF*	HF	HBH	LH*	HBL	Insert	Torque*
New JSXXR/L1012H09-CHP	1 - 2	10	12	0.2/11.8	≤ 102	10	3	≤ 19.2	18.7	JX*G06...,12...,16...,20...	1.2
JSXXR/L1212X09-CHP	1 - 2	12	12	0.2/11.8	≤ 120	12	2	≤ 19.4	18.8	JX**06...,12...,16...,20...	1.2
JSXXR/L1616X09-CHP***	1 - 2	16	16	0.2/15.8	≤ 120	16	2.5	≤ 19.4	18.7	JX**06...,12...,16...,20...	1.2
JSXXR/L1616X09B-CHP	1 - 2	16	16	0.2/15.8	≤ 120	16	0	≤ 19.4	18.7	JX**06...,12...,16...,20...	1.2

*LF and LH measurements are based on the JXPG16xx insert. For JXPG12... inserts, the measurements will be shorter by 2 mm; for JXPG06, shorter by 4 mm.
 ** Recommended clamping torque
 Note: Always use a right-hand insert (JX**R...) with the right-hand toolholder (JSXXR...); a left-hand insert (JXPG**L...) with the left-hand toolholder (JSXXL...).
 ***: To be replaced with the new design

SPARE PARTS

Designation	Clamping screw	Wrench
JSXXR...	CSTC-4L100DL	T-1008/5
JSXXL...	CSTC-4L100DR	T-1008/5

Parting-off widths : 1.0 mm and 1.5 mm (for a max parting diameter of ø6 mm)
 : 1.5 mm and 2.0 mm (for max parting diameters of ø12 mm and ø16 mm)
 Threading pitch range : 0.2 ~ 1.5 mm

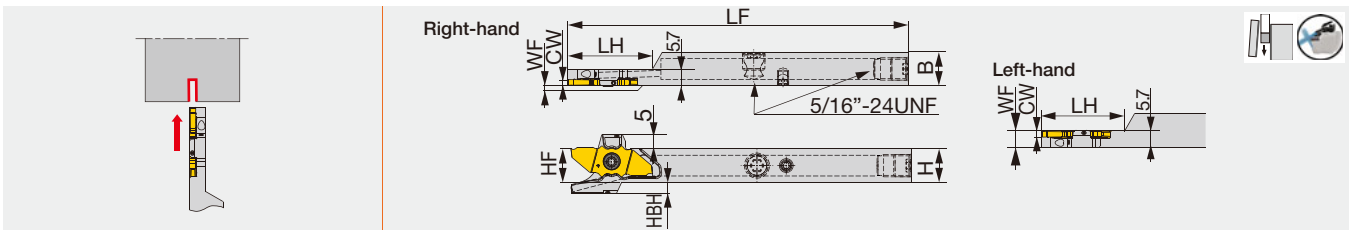
See page 44 for the proper tool overhang and plug settings.

● For Parting-off



JSXXR/L-S

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



Designation	CW	H	B	WF	LF*	HF	HBH	LH	Insert	Torque*
JSXXR/L1212X09-S-CHP***	1-2	12	12	0.2/5.5	≤ 120	12	4	26	JX*G06...,12...,16...,20...	1.2
JSXXR/L1212X09B-S-CHP	1-2	12	12	0.2/5.5	≤ 120	12	2	26	JX*G06...,12...,16...,20...	1.2
JSXXR/L1616X09-S-CHP***	1-2	16	16	0.2/5.5	≤ 120	16	1.5	30	JX*G06...,12...,16...,20...	1.2
JSXXR/L1616X09B-S-CHP	1-2	16	16	0.2/5.5	≤ 120	16	0	30	JX*G06...,12...,16...,20...	1.2

*LF, HBKL, and HBL measurements are based on the JXPG16xx insert. For JXPG12... inserts, the measurements will be shorter by 2 mm; for JXPG06, shorter by 4 mm.
 ** Recommended clamping torque
 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...).
 ***: To be replaced with the new design

SPARE PARTS

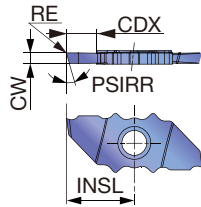
Designation	Clamping screw	Wrench
JSXXR**09-S-CHP	CSTC-4L055DL	T-1008/5
JSXXL**09-S-CHP	CSTC-4L055DR	T-1008/5

Parting-off widths : 1.0 mm and 1.5 mm (for a max parting diameter of ø6 mm)
 : 1.5 mm and 2.0 mm (for max parting diameters of ø12 mm and ø16 mm)

See page 44 for the proper tool overhang and plug settings.

INSERTS

JXPG**R/L-F (Sharp edge)



Right-hand (R) shown.

Designation	CW±0.025	RE	SH725		Dimensions (mm)			
			R	L	CUTDIA	*CDX	INSL	PSIRR/L
JXPG06R/L10F	1	0.05	●	●	6	3.5	10.5	0°
JXPG06R/L15F	1.5	0.05	●	●	6	3.5	10.5	0°
JXPG06R/L10F-15	1	0.05	●	●	6	3.5	10.5	15°
JXPG06R/L15F-15	1.5	0.05	●	●	6	3.5	10.5	15°
JXPG12R/L15F	1.5	0.05	●	●	12	6.5	12.5	0°
JXPG12R/L20F	2	0.05	●	●	12	6.5	12.5	0°
JXPG12R/L15F-15	1.5	0.05	●	●	12	6.5	12.5	15°
JXPG12R/L20F-15	2	0.05	●	●	12	6.5	12.5	15°
JXPG16R/L15F	1.5	0.05	●	●	16	8.5	14.5	0°
JXPG16R/L20F	2	0.05	●	●	16	8.5	14.5	0°
JXPG16R/L15F-15	1.5	0.05	●	●	16	8.5	14.5	15°
JXPG16R/L20F-15	2	0.05	●	●	16	8.5	14.5	15°
JXPG20R/L15F	1.5	0.05	●	●	20	10.5	16.5	0°
JXPG20R/L20F	2	0.05	●	●	20	10.5	16.5	0°
JXPG20R/L15F-15	1.5	0.05	●	●	20	10.5	16.5	15°
JXPG20R/L20F-15	2	0.05	●	●	20	10.5	16.5	15°

*Max grooving depth (CDX) varies depending on workpiece diameters.
(Refer to the table on p.14 for details)

● : Line-up

CUTDIA: Max. parting-off dia.
Packing quantity = 5 pcs.

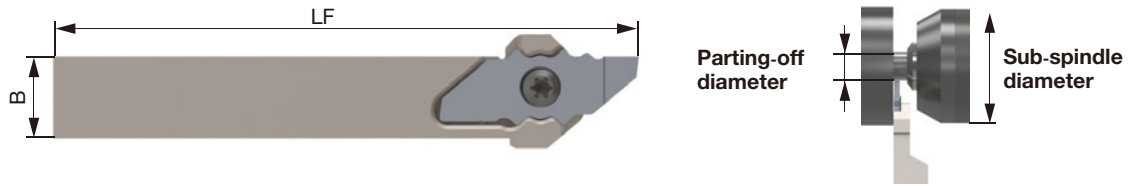
STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Grades	Cutting speed Vc (m/min)	Feed f (mm/rev)
P	Low carbon steels (C15, C20, etc.)	SH725	50 - 200	0.01 - 0.05
	Carbon steels, Alloy steels (C55, 42CrMoS4, etc.)	SH725	50 - 200	0.01 - 0.05
	Free cutting steels (SUH22, SUH23, etc.)	SH725	50 - 200	0.01 - 0.05
M	Stainless steels (X5CrNi18-9, X5CrNiMo17-12-2, etc.)	SH725	50 - 200	0.01 - 0.05
N	Aluminium alloys (A5056, A6061, etc.)	SH725	150 - 200	0.01 - 0.05
	Copper alloy (C2600, C280C, etc.)	SH725	100 - 200	0.01 - 0.05
S	Titanium alloys (Ti-6Al-4V, etc.)	SH725	30 - 80	0.01 - 0.05
	Superalloys (Inconel718, etc.)	SH725	30 - 80	0.01 - 0.05

HOW TO SELECT TOOLS

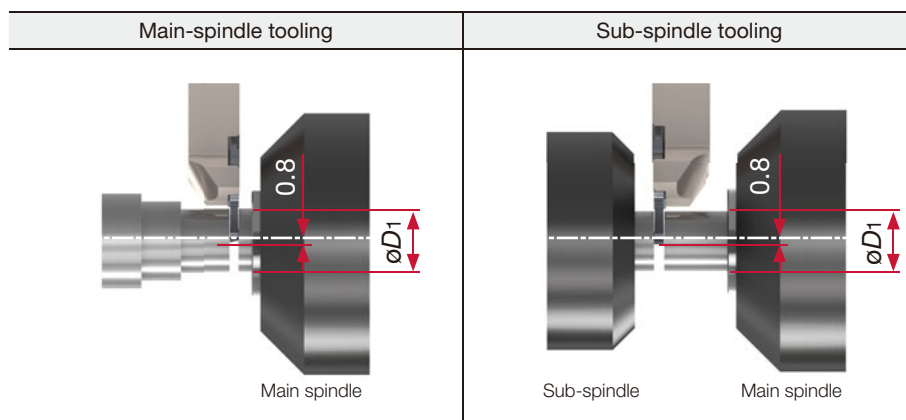
Application	Large-diameter machining of workpiece with rigidity		Small-diameter machining of workpiece with short overhang	
	Main-spindle tooling	Sub-spindle tooling	Sub-spindle tooling	
			Workpiece with long overhang at the side of sub-spindle for the process after parting-off	Short workpiece with low rigidity
	Main spindle	Sub-spindle Main spindle	Sub-spindle Main spindle	Sub-spindle Main spindle
	Position of parting-off is at the side of the main spindle	Position of parting-off is at the side of the sub-spindle	Position of parting-off is at the side of the 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.	Parting-off dia.	B	LF	Insert	Toolholder
ø40	~ ø6	10	116	JXPG06*	JSXXR/L1010X09-S
ø40	~ ø6	12	81	JXPG06*	JSXXR/L1212F09-S
ø40	~ ø12	10	118	JXPG12*	JSXXR/L1010X09-S
ø40	~ ø12	12	83	JXPG12*	JSXXR/L1212F09-S
ø40	~ ø16	10	120	JXPG16*	JSXXR/L1010X09-S
ø40	~ ø16	12	85	JXPG16*	JSXXR/L1212F09-S
ø40	~ ø20	12	87	JXPG20*	JSXXR/L1212F09B-S-CHP
ø50	~ ø6	12	116	JXPG06*	JSXXR/L1212X09-S
ø50	~ ø6	16	116	JXPG06*	JSXXR/L1616X09-S
ø50	~ ø12	12	118	JXPG12*	JSXXR/L1212X09-S
ø50	~ ø12	16	118	JXPG12*	JSXXR/L1616X09-S
ø50	~ ø16	12	85	JXPG16*	JSXXR/L1212F09-S
ø50	~ ø16	12	120	JXPG16*	JSXXR/L1212X09-S
ø50	~ ø16	16	120	JXPG16*	JSXXR/L1616X09-S
ø50	~ ø20	12	87	JXPG20*	JSXXR/L1212F09B-S-CHP
ø50	~ ø20	12	122	JXPG20*	JSXXR/L1212X09B-S-CHP
ø50	~ ø20	16	122	JXPG20*	JSXXR/L1616X09-S

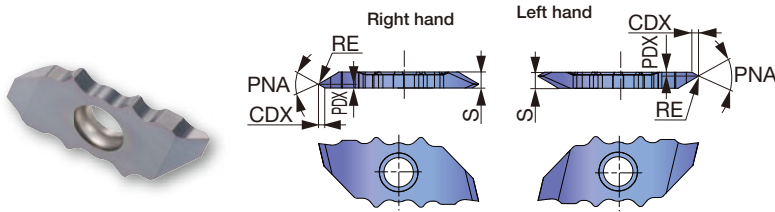
MAX. PARTING-OFF DIA. & DEPTH



There will be no tool-workpiece interference when parting off the workpiece with the cutting edge position apart from the workpiece center by 8 mm or more.

INSERTS

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



Designation	Grade SH725		Pitches	Dimensions (mm)				
	R	L		PDX	CDX	RE	S	PNA
JXTG12FR/L-60A-000	●	●	0.2 - 0.4	0.25	0.4	flat (0.05 max)	2.5	60°
JXTG12FR/L-60B-000	●	●	0.2 - 0.4	2.25	0.4	flat (0.05 max)	2.5	60°
JXTG12FR/L-60A-005	●	●	0.4 - 1	0.6	0.99	0.05	2.5	60°
JXTG12FR/L-60B-005	●	●	0.4 - 1	1.9	0.99	0.05	2.5	60°
JXTG12FR/L-60N-010	●	●	1 - 1.5	1.25	2.07	0.1	2.5	60°

● : Line-up

Packing quantity = 5 pcs.

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Grades	Cutting speed Vc (m/min)	Feed f (mm/rev)
P	Low carbon steels (C15, C20, etc.)	SH725	50 - 200	0.01 - 0.05
	Carbon steels, Alloy steels (C55, 42CrMoS4, etc.)	SH725	50 - 200	0.01 - 0.05
	Free cutting steels (SUH22, SUH23, etc.)	SH725	50 - 200	0.01 - 0.05
M	Stainless steels (X5CrNi18-9, X5CrNiMo17-12-2, etc.)	SH725	50 - 200	0.01 - 0.05
N	Aluminium alloys (A5056, A6061, etc.)	SH725	150 - 200	0.01 - 0.05
	Copper alloy (C2600, C280C, etc.)	SH725	100 - 200	0.01 - 0.05
S	Titanium alloys (Ti-6Al-4V, etc.)	SH725	30 - 80	0.01 - 0.05
	Superalloys (Inconel718, etc.)	SH725	30 - 80	0.01 - 0.05

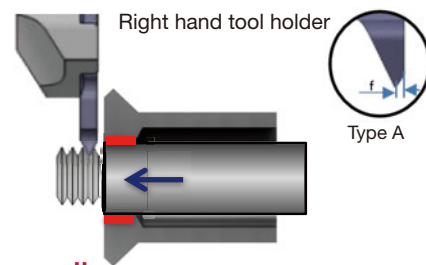
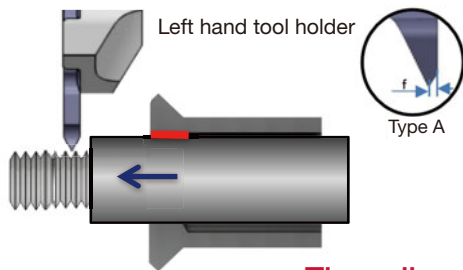
Edge orientation and description of threading inserts

	Type A	Type B	Type N
Right hand			
Left hand			

JXTG 12 F R - 60 A - 005

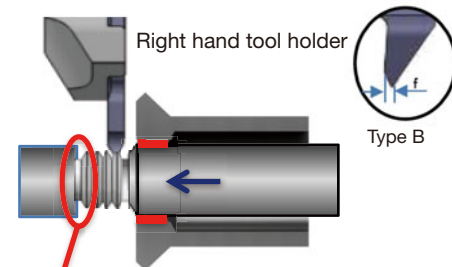
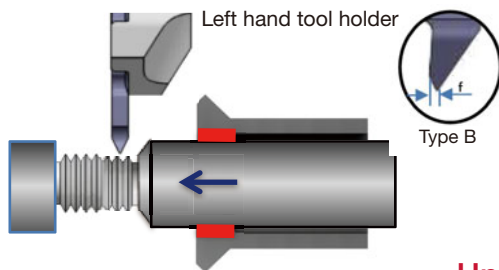
Insert shape: JXTG
 Insert size: 12
 Direction: F (sharp edge)
 Thread angle: R
 Edge orientation: 60
 Corner radius: A
 005

When to use Type A and Type B insert



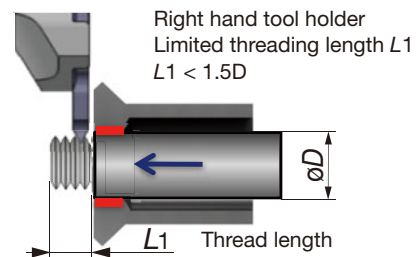
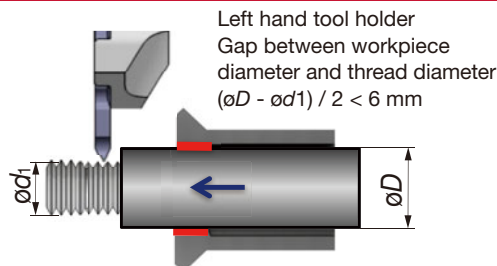
Threading close to the wall

Threading operation following back-turning

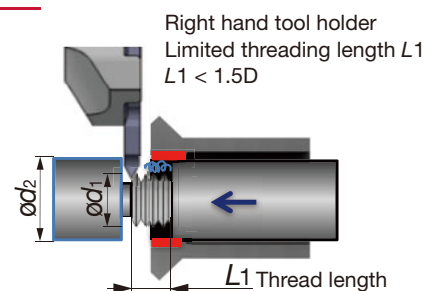
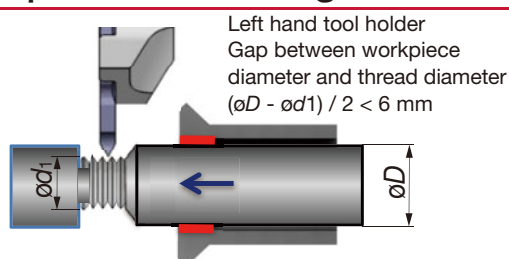


Undercutting needed in previous process

Threading workpiece in main spindle

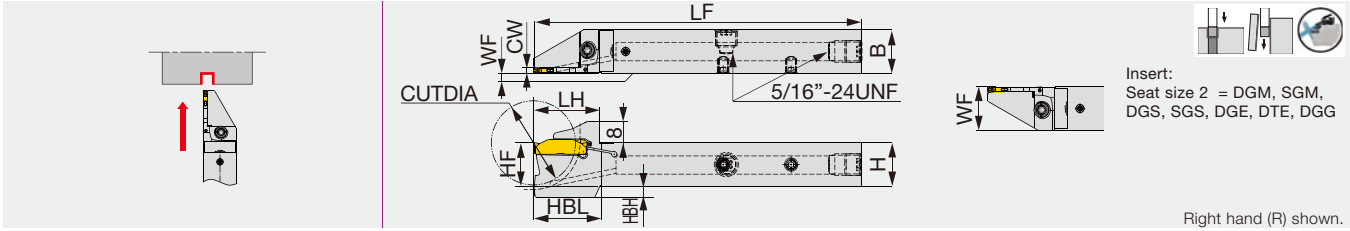


Threading operation following back-turning



JCTER/L

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



Insert:
Seat size 2 = DGM, SGM,
DGS, SGS, DGE, DTE, DGG

Right hand (R) shown.

Designation	CW	Seat size	CUTDA	H	B	LF	LH	HBL	HF	WF ⁽¹⁾	HBH	Torque*
JCTER/L1212X2T12-CHP	2	2	25	12	12	120	24.5	25.4	12	0/12	5	3.0
JCTER/L1616X2T12-CHP	2	2	25	16	16	120	24.5	25.4	16	0/16	1	3.0
JCTER/L1616X2T16-CHP	2	2	32	16	16	120	24.5	25.4	16	0/16	4	3.0
JCTER/L2020X2T16-CHP	2	2	32	20	20	120	24.5	25.4	20	0/20	0	3.0

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

*Torque: Recommended torque (N-m) for clamping


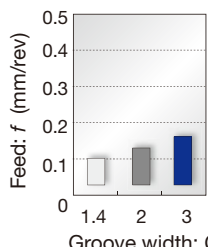
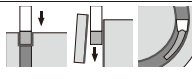
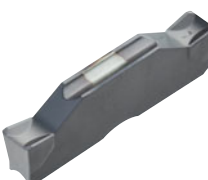
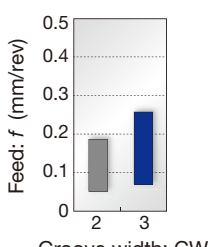
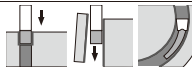

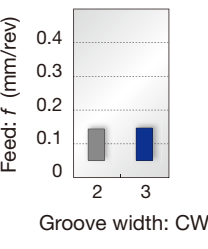
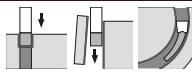
SPARE PARTS

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

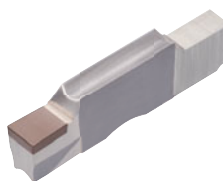
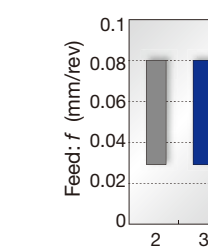
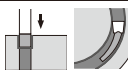
Parting-off width: 2.0 mm

See page 44 for the proper tool overhang and plug settings.

External grooving and parting

<p>DGS type (2 corners) SGS type (1 corner)</p>  <p>P.39, 42</p>	<p>Lower cutting force and superior sharpness</p> <p>Unique-designed edge and chipbreaker</p> <p>Handed insert available</p> <p>CW = 1.4 - 3 mm</p>	<p>■ Standard feed</p>  <table border="1"> <caption>Standard feed for DGS/SGS</caption> <thead> <tr> <th>Groove width: CW (mm)</th> <th>Feed: f (mm/rev)</th> </tr> </thead> <tbody> <tr> <td>1.4</td> <td>0.12</td> </tr> <tr> <td>2</td> <td>0.15</td> </tr> <tr> <td>3</td> <td>0.18</td> </tr> </tbody> </table>	Groove width: CW (mm)	Feed: f (mm/rev)	1.4	0.12	2	0.15	3	0.18	
Groove width: CW (mm)	Feed: f (mm/rev)										
1.4	0.12										
2	0.15										
3	0.18										
<p>DGM type (2 corners) SGM type (1 corner)</p>  <p>P.40, 41</p>	<p>1st choice for grooving and parting</p> <p>Smooth chip evacuation</p> <p>Well-designed edge with high strength</p> <p>Handed insert available</p> <p>CW = 2 - 3 mm</p>	<p>■ Standard feed</p>  <table border="1"> <caption>Standard feed for DGM/SGM</caption> <thead> <tr> <th>Groove width: CW (mm)</th> <th>Feed: f (mm/rev)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>0.18</td> </tr> <tr> <td>3</td> <td>0.25</td> </tr> </tbody> </table>	Groove width: CW (mm)	Feed: f (mm/rev)	2	0.18	3	0.25			
Groove width: CW (mm)	Feed: f (mm/rev)										
2	0.18										
3	0.25										
<p>DGG type (2 corners)</p>  <p>P.42</p>	<p>For non-ferrous materials and titanium</p> <p>Chipbreaker with low cutting force</p> <p>Sharp cutting edge that prevents vibration and delivers fine surface finish</p> <p>CW = 2 - 3 mm</p>	<p>■ Standard feed</p>  <table border="1"> <caption>Standard feed for DGG</caption> <thead> <tr> <th>Groove width: CW (mm)</th> <th>Feed: f (mm/rev)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>0.12</td> </tr> <tr> <td>3</td> <td>0.13</td> </tr> </tbody> </table>	Groove width: CW (mm)	Feed: f (mm/rev)	2	0.12	3	0.13			
Groove width: CW (mm)	Feed: f (mm/rev)										
2	0.12										
3	0.13										

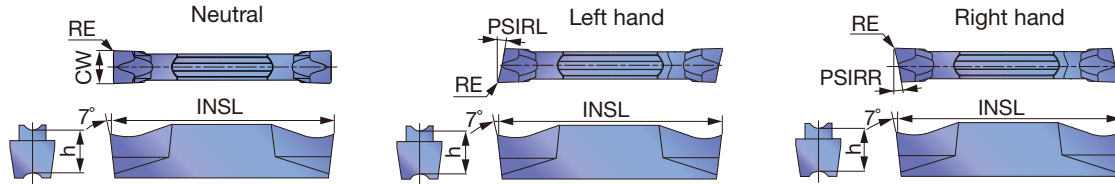
External grooving of hardened steel

<p>SGN-CBN type (1 corner)</p>  <p>P.43</p>	<p>For hardened steel cutting</p> <p>Optimum cutting edge shape for grooving of hardened steels</p> <p>High tolerance width for finishing</p> <p>CW = 2 - 3 mm (CW = ±0.025 mm)</p>	<p>■ Standard feed</p>  <table border="1"> <caption>Standard feed for SGN-CBN</caption> <thead> <tr> <th>Groove width: CW (mm)</th> <th>Feed: f (mm/rev)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>0.08</td> </tr> <tr> <td>3</td> <td>0.08</td> </tr> </tbody> </table>	Groove width: CW (mm)	Feed: f (mm/rev)	2	0.08	3	0.08	
Groove width: CW (mm)	Feed: f (mm/rev)								
2	0.08								
3	0.08								

INSERTS

DGS

External grooving and parting, 2 corners



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

★ : First choice
☆ : Second choice

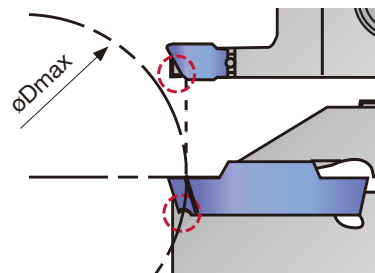
Designation	Seat size	HAND	CW±0.05	RE	Coated					Cermet		INSL	h	PSIRL	PSIRR
					T9225	T9125	AH7025	AH725	GH130	NS9530					
DGS1.4-016	1	N	1.4	0.16			●	●	●			16	4.3	0°	0°
DGS2-020	2	N	2	0.2	●	●	●	●	●	●		20	5	0°	0°
DGS2-020-6R	2	R	2	0.2			●	●	●			19.95	5	0°	6°
DGS2-020-6L	2	L	2	0.2			●	●	●			19.95	5	6°	0°
DGS2-002-6R	2	R	2	0.02				●	●			19.5	5	0°	6°
DGS2-002-6L	2	L	2	0.02				●	●			19.5	5	6°	0°
DGS2-020-15R	2	R	2	0.2			●	●	●			19.95	5	0°	15°
DGS2-020-15L	2	L	2	0.2			●	●	●			19.95	5	15°	0°
DGS2-002-15R	2	R	2	0.02				●	●			19.5	5	0°	15°
DGS2-002-15L	2	L	2	0.02				●	●			19.5	5	15°	0°
DGS3-020	3	N	3	0.2	●	●	●	●	●	●		20	5	0°	0°
DGS3-020-6R	3	R	3	0.2			●	●	●			19.9	5	0°	6°
DGS3-020-6L	3	L	3	0.2			●	●	●			19.9	5	6°	0°
DGS3-002-6R	3	R	3	0.02				●	●			19.45	5	0°	6°
DGS3-002-6L	3	L	3	0.02				●	●			19.45	5	6°	0°
DGS3-020-15R	3	R	3	0.2			●	●	●			19.9	5	0°	15°
DGS3-020-15L	3	L	3	0.2			●	●	●			19.9	5	15°	0°
DGS3-002-15R	3	R	3	0.02				●	●			19.45	5	0°	15°
DGS3-002-15L	3	L	3	0.02				●	●			19.45	5	15°	0°

● : Line up

Caution

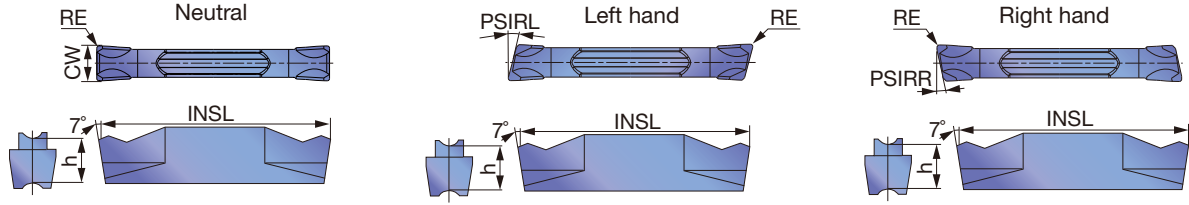
The tool will interfere with the workpiece when grooving larger diameter than ϕD_{max} .

Designation	ϕD_{max} (mm)	Designation	ϕD_{max} (mm)
DGM2-002-15R/L	28	DGS2-002-15R/L	28
DGM3-002-15R/L	29	DGS3-002-15R/L	29
DGM4-030-15R/L	30	SGS3-020-15R/L	103
SGM3-020-15R/L	103	SGS3-002-15R/L	34



DGM

External grooving and parting, 2 corners



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

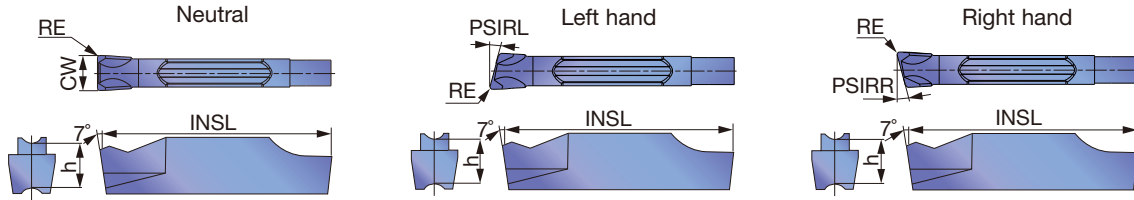
★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05	RE	Coated						Cermets		INSL	h	PSIRL	PSIRR
					T9225	T9125	AH7025	AH725	AH905	GH130	NS9530					
DGM2-020	2	N	2	0.2	●	●	●	●	●	●	●	20	5	0°	0°	
DGM2-020-6R	2	R	2	0.2			●	●	●			19.8	5	0°	6°	
DGM2-020-6L	2	L	2	0.2			●	●	●			19.8	5	6°	0°	
DGM2-020-8R	2	R	2	0.2			●	●	●			19.8	5	0°	8°	
DGM2-020-8L	2	L	2	0.2			●	●	●			19.8	5	8°	0°	
DGM2-020-15R	2	R	2	0.2			●	●	●			19.8	5	0°	15°	
DGM2-020-15L	2	L	2	0.2			●	●	●			19.8	5	15°	0°	
DGM2-002-15R	2	R	2	0.02				●	●			19.35	5	0°	15°	
DGM2-002-15L	2	L	2	0.02				●	●			19.35	5	15°	0°	
DGM3-020	3	N	3	0.2	●	●	●	●	●	●	●	20	5	0°	0°	
DGM3-020-6R	3	R	3	0.2			●	●	●			19.9	5	0°	6°	
DGM3-020-6L	3	L	3	0.2			●	●	●			19.9	5	6°	0°	
DGM3-002-6R	3	R	3	0.02				●	●			19.45	5	0°	6°	
DGM3-002-6L	3	L	3	0.02				●	●			19.45	5	6°	0°	
DGM3-020-15R	3	R	3	0.2			●	●	●			19.9	5	0°	15°	
DGM3-020-15L	3	L	3	0.2			●	●	●			19.9	5	15°	0°	

●: Line up

SGM

External deep grooving and parting, 1 corner



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

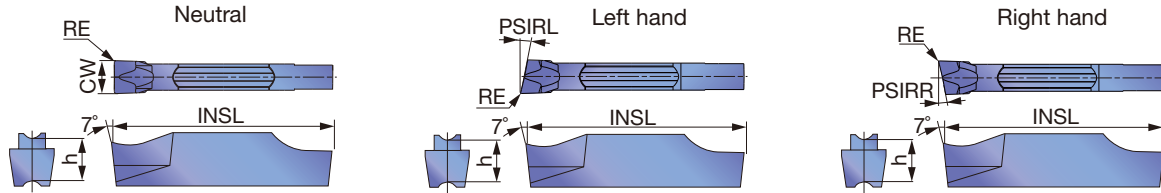
★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05	RE	Coated			INSL	h	PSIRL	PSIRR
					AH7025	AH725	GH130				
SGM2-020	2	N	2	0.2	●	●	●	20	5	0°	0°
SGM2-020-6R	2	R	2	0.2	●	●	●	20	5	0°	6°
SGM2-020-6L	2	L	2	0.2	●	●	●	20	5	6°	0°
SGM3-020	3	N	3	0.2	●	●	●	20	5	0°	0°
SGM3-020-6R	3	R	3	0.2	●	●	●	20	5	0°	6°
SGM3-020-6L	3	L	3	0.2	●	●	●	20	5	6°	0°
SGM3-020-15R	3	R	3	0.2	●	●	●	20	5	0°	15°
SGM3-020-15L	3	L	3	0.2	●	●	●	20	5	15°	0°

● : Line up

SGS

External deep grooving and parting, 1 corner



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

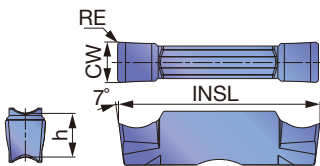
★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05	RE	Coated			INSL	h	PSIRL	PSIRR
					AH7025	AH725	GH130				
SGS2-020	2	N	2	0.2	●	●	●	20	5	0°	0°
SGS2-020-6R	2	R	2	0.2	●	●	●	20	5	0°	6°
SGS2-020-6L	2	L	2	0.2	●	●	●	20	5	6°	0°
SGS2-020-15R	2	R	2	0.2	●	●	●	20	5	0°	15°
SGS2-020-15L	2	L	2	0.2	●	●	●	20	5	15°	0°
SGS3-020	3	N	3	0.2	●	●	●	20	5	0°	0°
SGS3-020-6R	3	R	3	0.2	●	●	●	20	5	0°	6°
SGS3-020-6L	3	L	3	0.2	●	●	●	20	5	6°	0°
SGS3-002-6R	3	R	3	0.02		●	●	19.8	5	0°	6°
SGS3-002-6L	3	L	3	0.02		●	●	19.8	5	6°	0°
SGS3-020-15R	3	R	3	0.2	●	●	●	20	5	0°	15°
SGS3-020-15L	3	L	3	0.2	●	●	●	20	5	15°	0°
SGS3-002-15R	3	R	3	0.02		●	●	19.8	5	0°	15°
SGS3-002-15L	3	L	3	0.02		●	●	19.8	5	15°	0°

● : Line up

DGG

External grooving (for high precision)



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

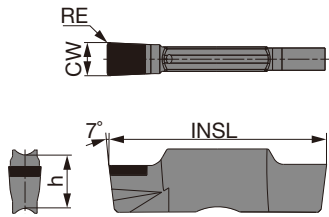
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.02	RE	Coated		Cermet	Uncoated	INSL	h
				AH7025		NS9530	KS05F		
DGG200-020	2	2	0.2	●		●	●	20	5
DGG300-020	3	3	0.2	●		●	●	20	5

● : Line up

SGN

External grooving of hardened steel



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

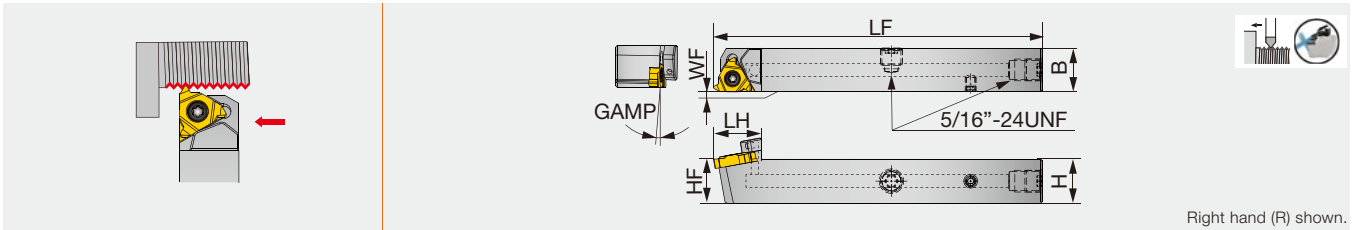
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.025	RE	CBN						INSL	h
				BX360							
SGN200-020	2	2	0.2	●						20	5
SGN300-020	3	3	0.2	●						20	5

● : Line up

STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Hardness	Priority	Grade	Cutting speed Vc (m/min)
P	Steels (C45, 34CrMo4, etc.)	< 300 HB	First choice	AH7025, AH725	50 - 180
		< 300 HB	Priority for wear resistance	New T9225	80 - 300
		< 300 HB	Priority for wear resistance	T9125	80 - 200
		< 300 HB	Priority for impact resistance	GH130	50 - 120
		< 300 HB	Priority for surface finish	NS9530	80 - 220
M	Stainless steel (X10CrNiS18-9, etc.)	< 200 HB	First choice	AH7025, AH725	50 - 120
		< 200 HB	Priority for impact resistance	GH130	50 - 120
K	Gray cast iron (GG25, 250, etc.)	-	First choice	T515, AH7025	50 - 180
		-	Priority for impact resistance	GH130	50 - 180
	Ductile cast irons (GGG45, 450-10S, etc.)	-	First choice	T515, AH7025	50 - 120
		-	Priority for impact resistance	GH130	50 - 120
N	Aluminium alloys (Si < 12%)	-	First choice	TH10	100 - 500
		-	First choice	KS05F	100 - 600
S	Superalloys (Inconel718, etc.)	< HRC 40	First choice	AH7025	20 - 60
		< HRC 40	Priority for wear resistance	AH905	20 - 80
	Titanium alloys Ti-6Al-4V, etc.	< HRC 40	First choice	AH905	20 - 80
		< HRC 40	Priority for impact resistance	AH7025, AH725	20 - 80
		< HRC 40	Priority for surface finish	KS05F	20 - 60
H	Hardened steels (34CrMo4, etc.)	> HRC 50	First choice	BX360	80 - 150



Right hand (R) shown.

Designation	H	B	LF	LH	HF	WF	GAMP	Insert
JSE2R1212X16-CHP	12	12	120	19	12	0	1°	16ER...
JSE2R1616X16-CHP	16	16	120	19	16	0	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

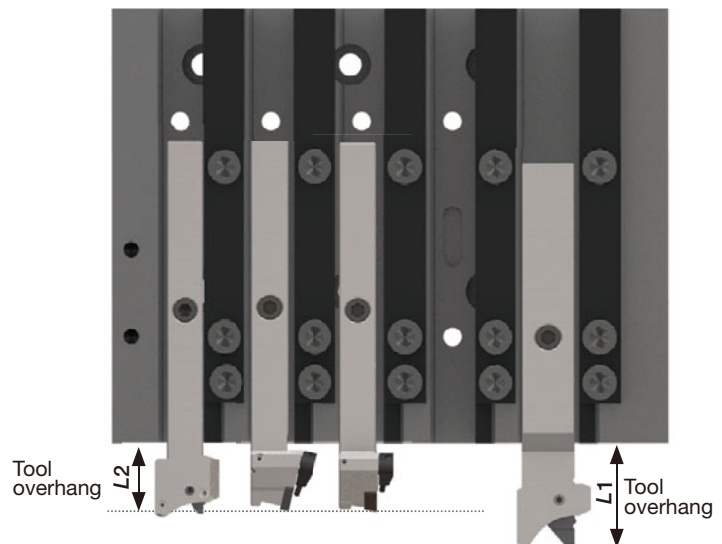
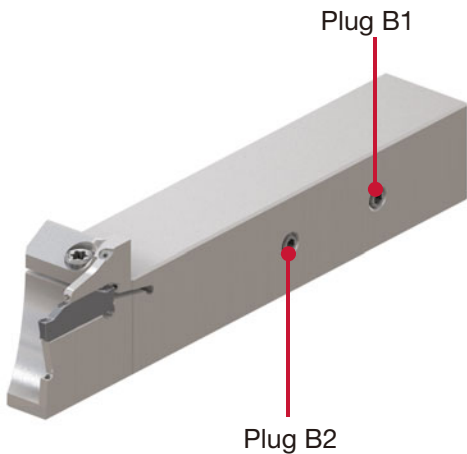
See page 44 for the proper tool overhang and plug settings.

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
L12	17.5 (for 10X12 mm shank)	*1	17.5 (for 10X12 mm shank)	*1
L20	30 (for 16X16 mm shank)	B1	20 (for 12X12 mm shank)	*1
D25, M32	25 (for 20X20 mm shank)	B1	25 (for 16X16 mm shank, JSXX and JCTE styles)	B1
			25 (for 16X16 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)

Coolant is supplied to Post T1 through Post T5 in a single system. If more than two coolant supply systems are required, please consult your Cincom agent.

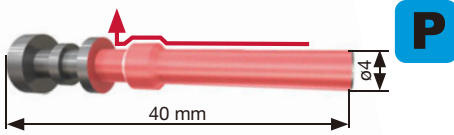
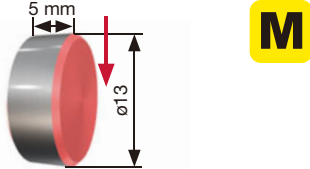
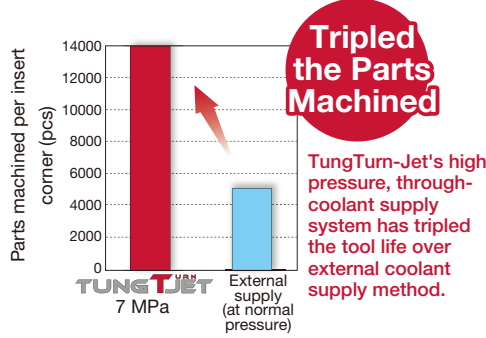
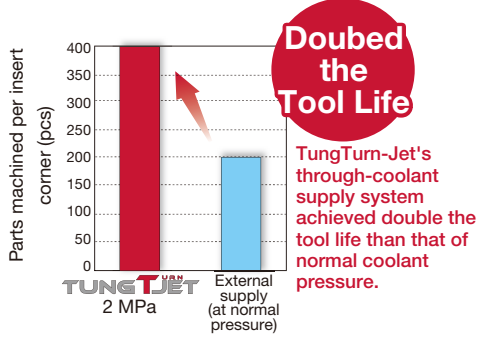
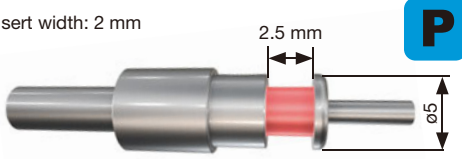
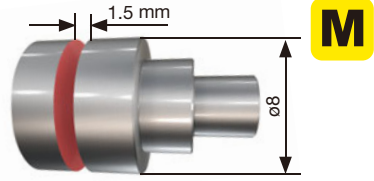

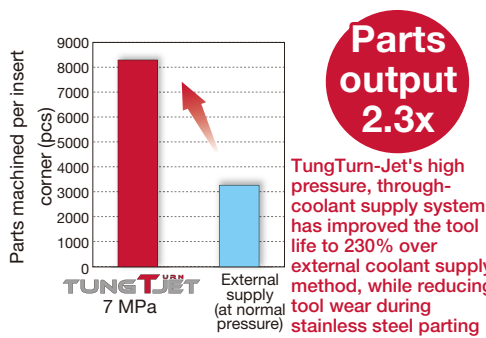
- T1 DUOJ^{UST}CUT** (16 x 16 mm) For parting-off (for sub spindle)
- T2 DUOJ^{UST}CUT** (12 x 12 mm) For threading
- T3 J-SERIES** (12 x 12 mm) For front turning
- T4 MINIF^{ORCE}TURN** (12 x 12 mm) For front turning
- T5 TETRAM^{CUT}** (12 x 12 mm) For grooving

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

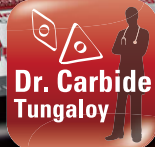
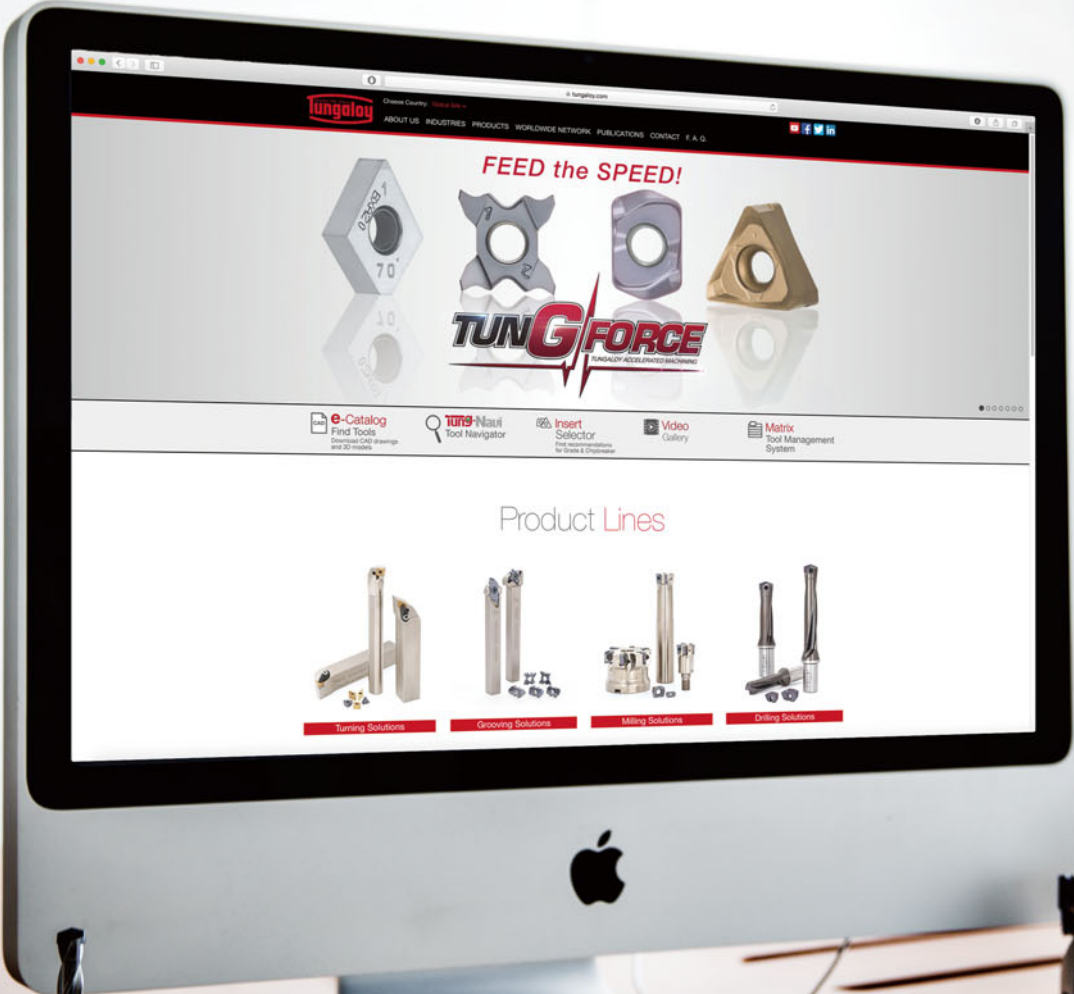
Coolant is supplied in a single system to Post T1 through Post T4 in a single system.

- T4 DUOJ^{UST}CUT** (16 x 16 mm) For threading
- T3 J-SERIES** (16 x 16 mm) For front turning
- T2 TETRAM^{CUT}** (16 x 16 mm) For threading
- T1 TUNGCUT** (20 x 20 mm) For parting-off
- T7 TETRAM^{CUT}** (16 x 16 mm) For grooving
- T6 MINIF^{ORCE}TURN** (16 x 16 mm) For front turning
- T5 TUNGCUT** (20 x 20 mm) For parting-off

Practical examples

Workpiece type		Shaft	Valve part
Toolholder		JSDJ2CR1212X11-CHP	JSDJ2CR1212X11-CHP
Insert		DCGT11T301FN-JS	DCMT11T304-PSS
Grade		SH730	AH905
Workpiece material		S45C	SUH660
			
Cutting conditions	Cutting speed : V_c (m/min)	100	50
	Feed : f (mm/rev)	0.02	0.05
	Depth of cut : a_p (mm)	2	0.15
	Machining	External turning	Face turning
	Coolant	Oil	Oil
Results			
Workpiece type		Shaft	Injection part
Toolholder		STCR1212X18-CHP	JSXXR1212X09-CHP
Insert		TCP18R200F-010	JXPG16R15F
Grade		SH725	SH725
Workpiece material		S15C	SUS304
			
Cutting conditions	Cutting speed : V_c (m/min)	95	120
	Feed : f (mm/rev)	0.03	0.08
	Depth of cut : a_p (mm)	2.5	Part-off diameter: $\phi 8$ mm
	Machining	External grooving	Parting off
	Coolant	Oil	Oil
Results			

Check our site and our App to get more info!



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