

GrooveLine

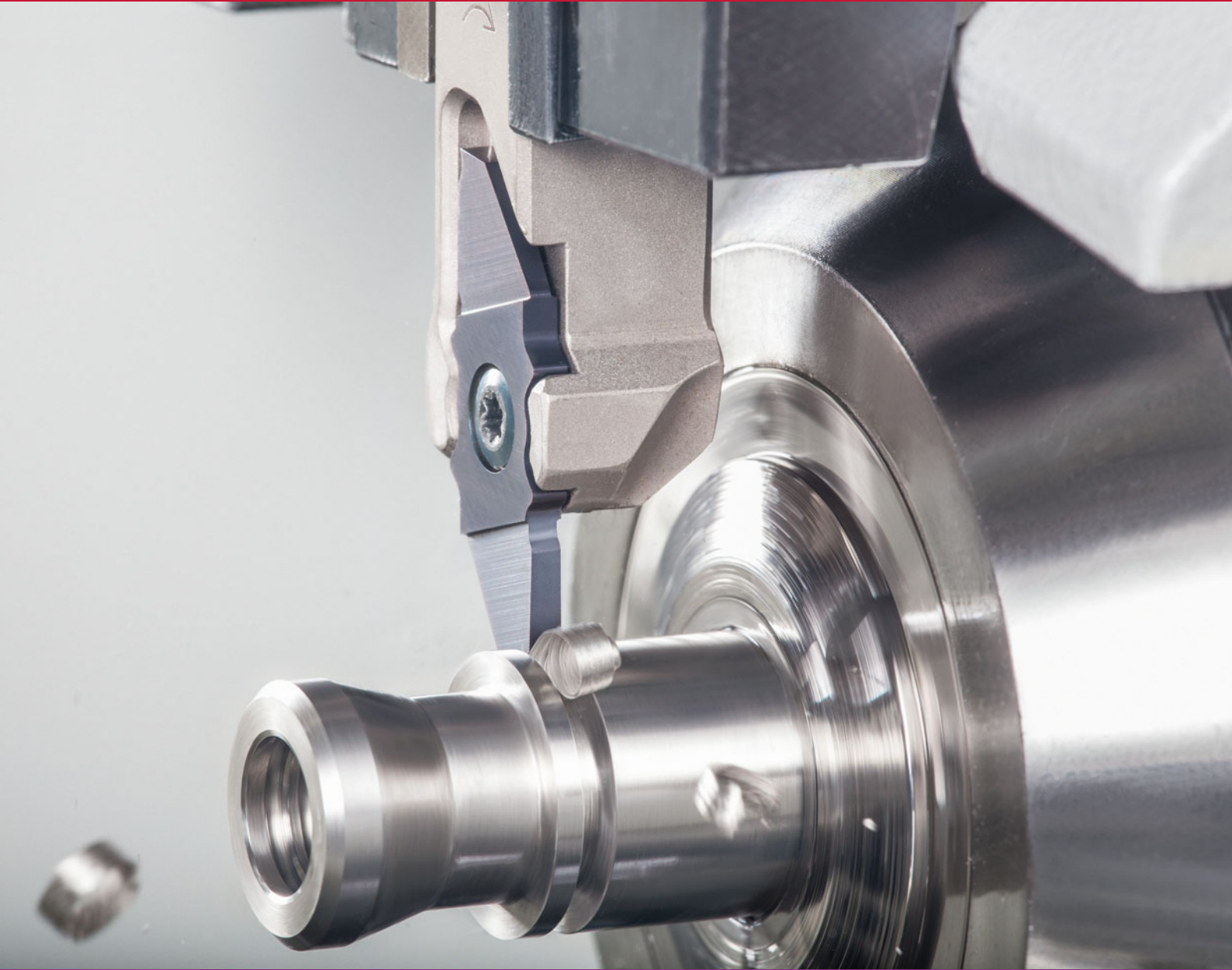
**DUO**<sup>UST</sup>**JCUT**

www.tungaloy.com

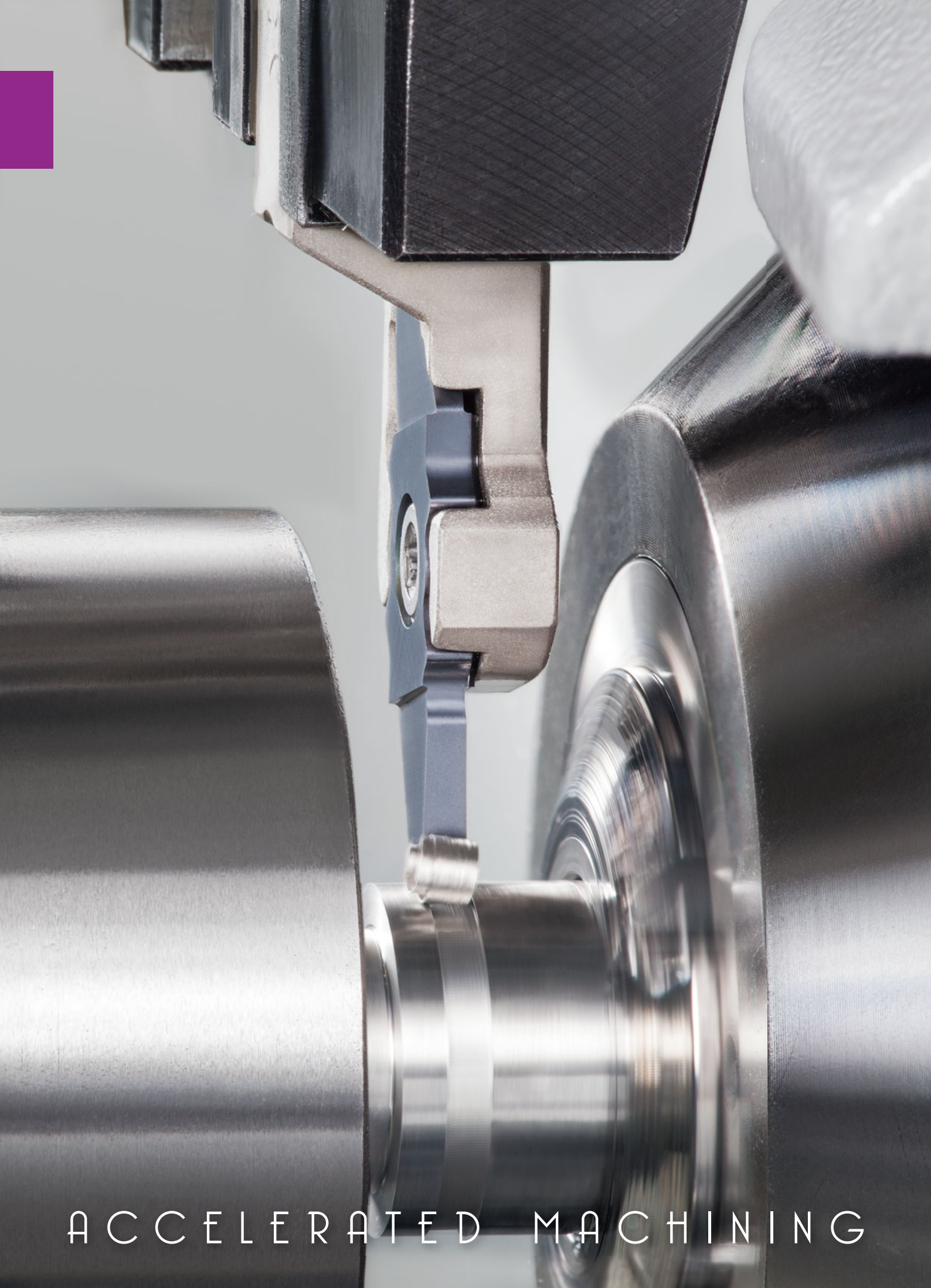
Tungaloy Report No. 504-G



## Brand New 25mm square shank holders for grooving & parting-off operations



**INDUSTRY 4.0**  
*FEED the SPEED!*



ACCELERATED MACHINING



GrooveLine

**DUO**<sup>JUST</sup>**CUT**  
TUNGALOY

**TUNG** ACCELERATED MACHINING **FORCE** **ROOVE**



Double-sided inserts, **perfect for parting-off small parts up to 20 mm diameter**, as well as general grooving.

# Innovative clamping system ensures stability in **parting-off operations**

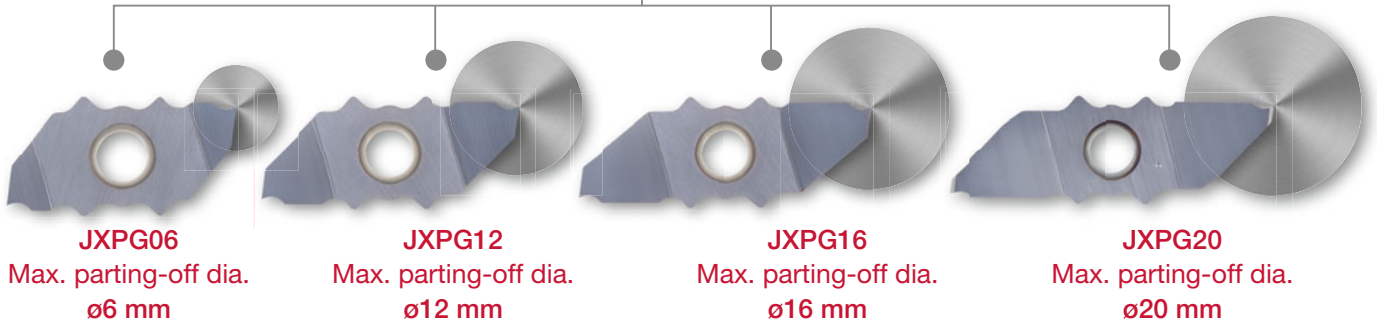
**4 types of inserts** are available for various parting-off diameters and can be mounted **in the same pocket of the toolholder**.

- Optimized overhang length for **stable machining**

Regular-type toolholder



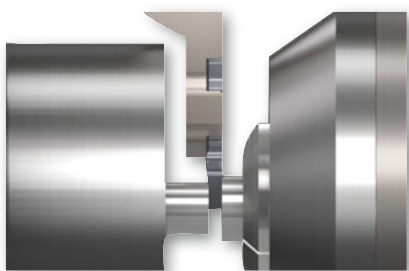
Toolholder for sub-spindle



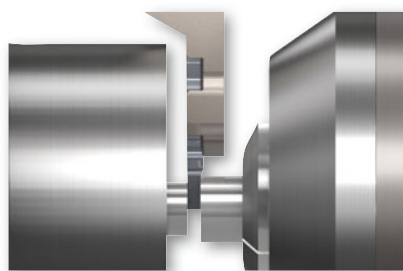
## Toolholder for sub-spindle

- Perfect for parting-off a short workpiece in a narrow approach when a sub-spindle is used.

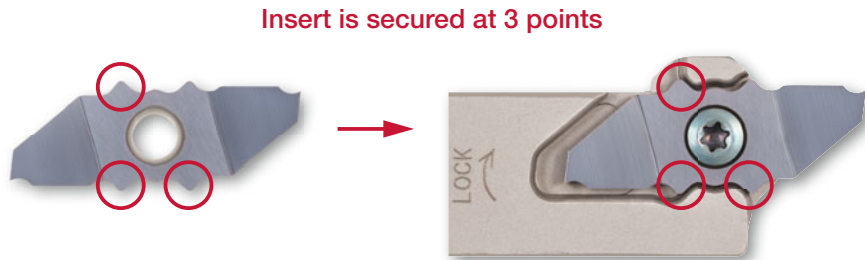
Right hand



Left hand



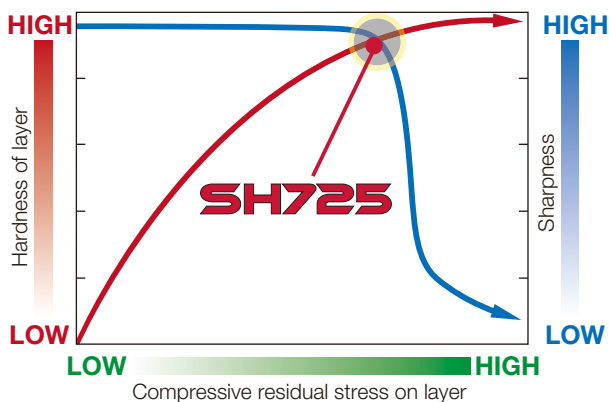
## Unique clamping system for highly rigid clamping



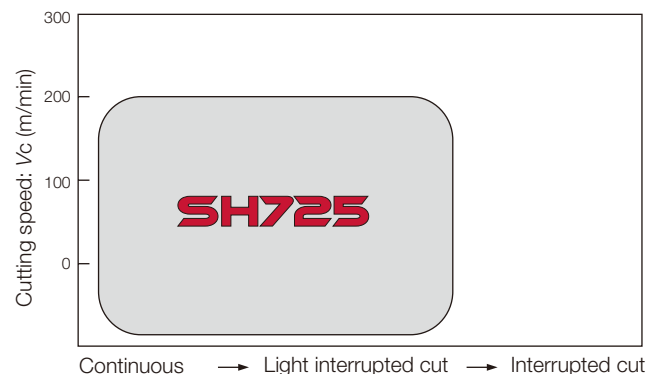
- The unused cutting edge is always protected due to the innovative clamping system.
- Even if the first cutting edge is chipped, the other unused cutting edge can be used because the insert is clamped in the center.

## SH725, new PVD grade for small lathes

- PVD grade designed for precision part machining
- Good balance between hardness and sharpness
- High adhesion strength



### Application Range

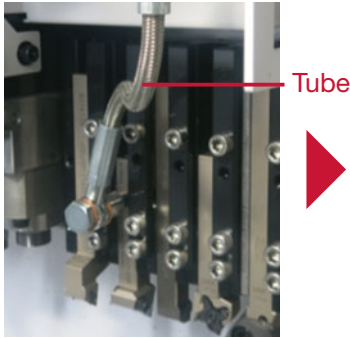


**Delivers stable machining on small lathes**

## DIRECTTUNGJET system

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

External coolant tube

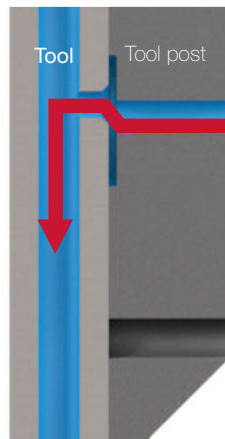
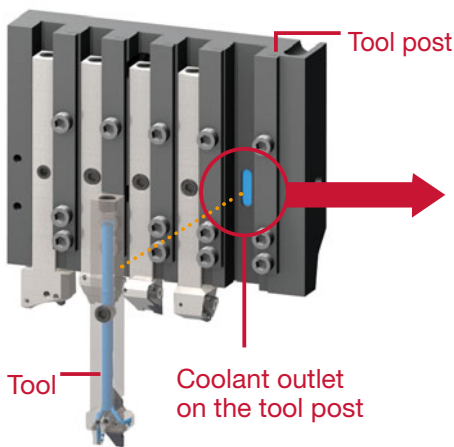


DirectTungJet system

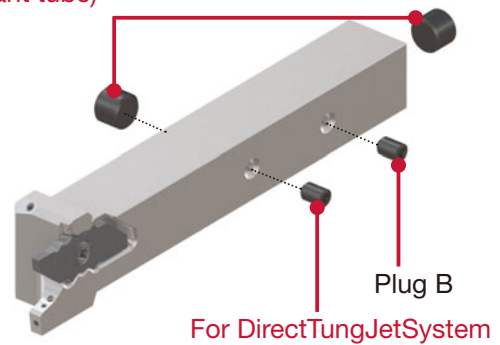


No need for coolant tube setup. Eliminates chip entanglement on tubes and streamlines tool replacements.

Coolant is supplied from the tool post directly to the tools



Plug A  
(for connecting an external coolant tube)



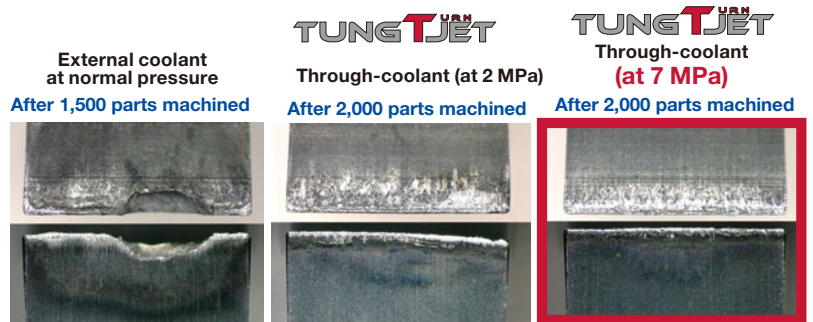
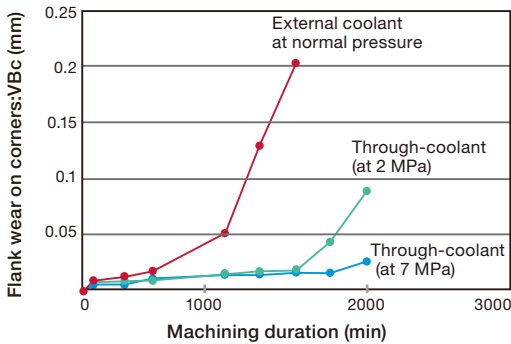
Use a non-coolant-through tool when coolant supply is not needed through the tool.

## Tool Wear reduction with TungTurn-Jet

### M Stainless steel: Parting-off (SUS304)



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



## Improvement of chip evacuation with TungTurn-Jet

### M Stainless steel: Parting-off (SUS304)

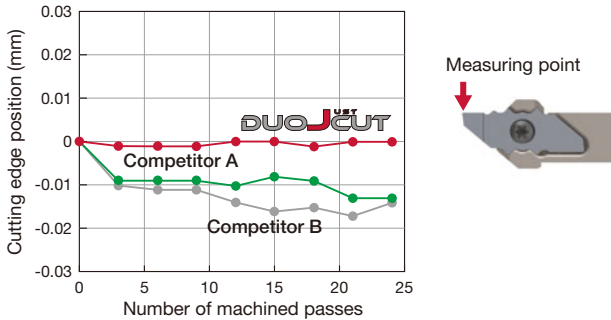


Material : SUS304  
 Holder : JSXXL1212X09-CHP  
 Insert : JXPG16L20F SH725  
 Rotation :  $V_c = 100 \text{ m/min}$   
 Feed rate :  $f = 0.03 \text{ mm/rev}$   
 Coolant type : Oil



## CUTTING PERFORMANCE

### Cutting edge positions during machining

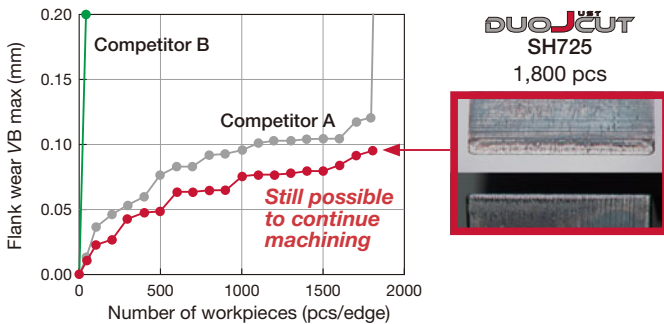


Process: Measure 1 → machining → Measure 2  
 Displacement of cutting edge position = Difference between Measure 1 & 2

Toolholder : JSXXL1212F09-S  
 Insert : JXPG16L20F / SH725  
 Workpiece material : S45C / C45, 170HB  
 Cutting speed :  $V_c = 100$  m/min  
 Feed :  $f = 0.06$  mm/rev  
 Groove width :  $CW = 2.0$  mm  
 Machining : Parting-off ( $\phi 16$ )  
 Coolant : Wet  
 Machine : Swiss lathe

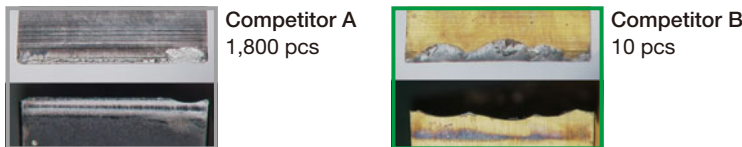
DuoJust-Cut's 3-point clamping system is highly rigid, delivering stable machining with small displacement of the cutting edge position.

### Tool life of regular-type toolholder: Carbon steel

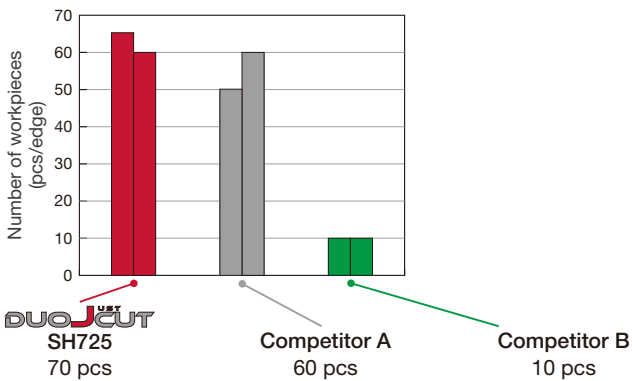


**P** Toolholder : JSXXL1212X09  
 Insert : JXPG16L20F / SH725  
 Workpiece material : S45C / C45, 210HB  
 Cutting speed :  $V_c = 150$  m/min  
 Feed :  $f = 0.06$  mm/rev  
 ( $\leq \phi 2: 0.01$  mm/rev)  
 Groove width :  $CW = 2$  mm  
 Machining : Parting-off ( $\phi 16$ )  
 Coolant : Wet  
 Machine : Swiss lathe

DuoJust-Cut extends tool life and reduces flank wear during steel machining due to improved clamping rigidity and wear resistance.



### Tool life of regular-type toolholder: Stainless steel



**M** Toolholder : JSXXL1212X09  
 Insert : JXPG16L20F / SH725  
 Workpiece material : SUS303 / X10CrNiS18-9, 230HB  
 Cutting speed :  $V_c = 120$  m/min  
 Feed :  $f = 0.04$  mm/rev ( $\leq \phi 2: 0.01$  mm/rev)  
 Groove width :  $CW = 2.0$  mm  
 Machining : Parting-off ( $\phi 16$ )  
 Coolant : Wet  
 Machine : Swiss lathe

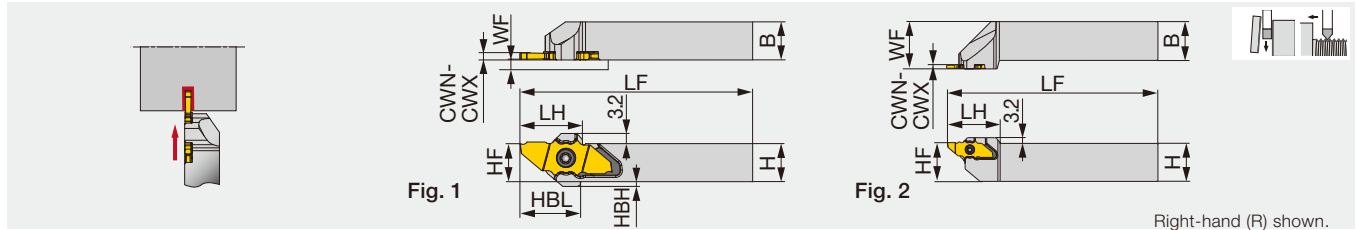
Tool life of DuoJust-Cut in stainless steel machining is longer than the competitors.





## JSXXR/L

### Parting-off and grooving tools



Designation	CWN	CWX	H	B	LF*	LH**	HF	WF	HBL**	HBH	Insert	Torque*	Fig.
JSXXR/L1010X09	1	2	10	10	120	19.65	10	0.2	19	3	JX*G06...,12...,16...,20...	1.2	1
JSXXR/L1212F09	1	2	12	12	85	19.65	12	0.2	19	1.5	JX*G06...,12...,16...,20...	1.2	1
JSXXR/L1212X09	1	2	12	12	120	19.65	12	0.2	19	1.5	JX*G06...,12...,16...,20...	1.2	1
JSXXR/L1616X09	1	2	16	16	120	19.65	16	0.2	-	-	JX*G06...,12...,16...,20...	1.2	1
JSXXR/L2020H09	1	2	20	20	100	22.5	20	0.2	-	-	JX*G06...,12...,16...,20...	1.2	1
<b>New</b> JSXXR/L2525Z09	1	2	25	25	135	34	25	30	-	-	JX*G06...,12...,16...,20...	1.2	2

\*Torque: Recommended torque (N·m) for clamping

\*\*LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JXPG16... insert. LF, LH, and HBL will all be 2 mm shorter than the above values with JX\*G12... and JXPG20... inserts, and 4 mm shorter for JXPG06... insert.

Note: Use the right-hand insert (JX\*G\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*G\*\*L...) for a left-hand holder (JSXXL...).

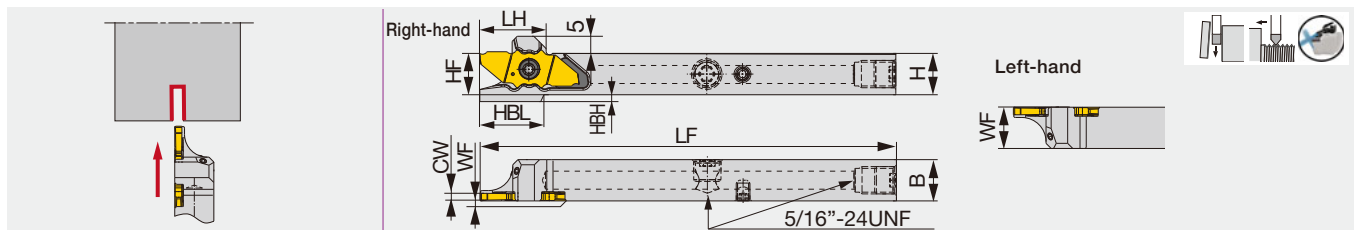
### SPARE PARTS

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

## JSXXR/L-X-CHP



### Parting-off tool for swiss lathes for DirectTungJet system



Designation	CW	H	B	WF	LF**	HF	HBH	LH**	HBL**	Insert	Torque*
JSXXR/L1212X09-CHP	1 - 2	12	12	0.2/11.8	120	12	2	19.4	18.8	JX*G06...,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*G06...,12...,16..., 20...	1.2
JSXXR/L1616X09B-CHP	1 - 2	16	16	0.2/15.8	120	16	-	19.4	18.7	JX*G06...,12...,16..., 20...	1.2

\*Torque: Recommended torque (N·m) for clamping

\*\*LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JXPG16... insert. LF, LH, and HBL will all be 2 mm shorter than the above values with JX\*G12... and JXPG20... inserts, and 4 mm shorter for JXPG06... insert.

\*\*\*To be replaced with the new design

Note: Use the right-hand insert (JX\*G\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*G\*\*L...) for a left-hand holder (JSXXL...).

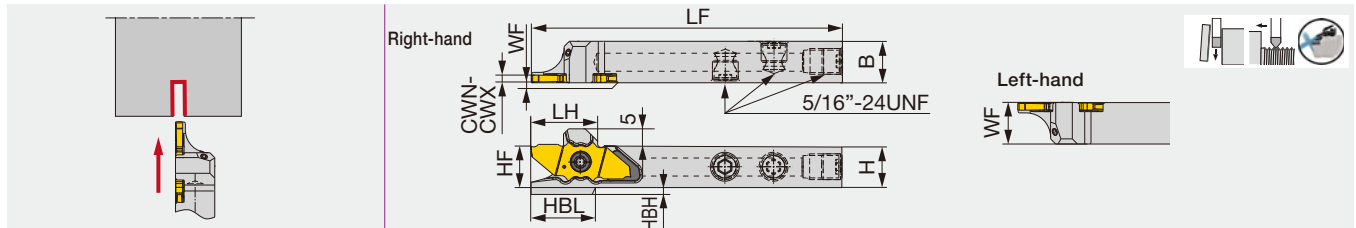
### SPARE PARTS

Designation	Clamping screw	Wrench	Coolant plug	Wrench	DirectTungJet plug	Wrench
JSXXR...	CSTC-4L100DL	T-1008/5	SR5/16UNFTL360	P-4	SSHM4-6-TB	P-2
JSXXL...	CSTC-4L100DR	T-1008/5	SR5/16UNFTL360	P-4	SSHM4-6-TB	P-2

Parting-off widths : 1.0 mm and 1.5 mm (for a max parting diameter of  $\phi 6$  mm)  
 : 1.5 mm and 2.0 mm (for max parting diameters of  $\phi 12$  mm,  $\phi 16$  mm and  $\phi 20$  mm)  
 Threading pitch range : 0.2 - 1.5 mm

## JSXXR/L-F-CHP

### Parting-off tool for swiss lathes



Designation	CWN	CWX	H	B	LF**	LH**	HF	WF	HBL**	HBH	Insert	Torque*
JSXXR/L1212F09-CHP	1	2	12	12	85	≤ 19.4	12	0.2/11.8	-	2	JX*G06...,12...,16..., 20...	1.2

\*Torque: Recommended torque (N·m) for clamping

\*\*LF (Functional Length) LH (Head Length), and HBL (Head-bottom Offset Length) values shown above are true with JXPG16... insert. LF, LH, and HBL will all be 2 mm shorter than the above values with JX\*G12... and JXPG20... inserts, and 4 mm shorter for JXPG06... insert.

Note: Use the right-hand insert (JX\*G\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*G\*\*L...) for a left-hand holder (JSXXL...).

#### SPARE PARTS



Designation	Clamping screw	Wrench	Coolant plug	Wrench
JSXXR...	CSTC-4L100DL	T-1008/5	SR5/16UNFTL360	P-4
JSXXL...	CSTC-4L100DR	T-1008/5	SR5/16UNFTL360	P-4

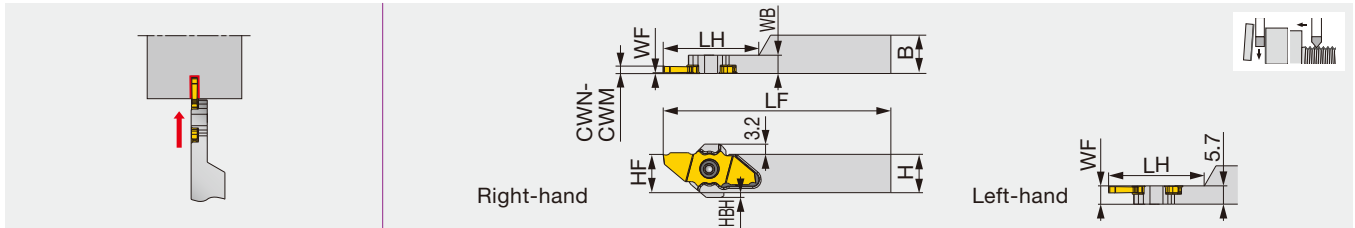
Parting-off widths : 1.0 mm and 1.5 mm (for a max parting diameter of ø6 mm)

: 1.5 mm and 2.0 mm (for max parting diameters of ø12 mm, ø16 mm and ø20 mm)

Threading pitch range : 0.2 ~ 1.5 mm

## JSXXR/L-S

### Parting-off tool for sub spindle in swiss lathes



Designation	CWN	CWM	H	B	LF*	LH*	HF	WF	HBH	Insert	Torque*
JSXXR/L1010X09-S	1	2	10	10	120	26	10	0.2/5.5	3	JXPG06...,12...,16...	1.2
JSXXR/L1212F09-S	1	2	12	12	85	26	12	0.2/5.5	1.5	JXPG06...,12...,16...	1.2
JSXXR/L1212X09-S	1	2	12	12	120	30	12	0.2/5.5	1.5	JXPG06...,12...,16...	1.2
JSXXR/L1616X09-S	1	2	16	16	120	30	16	0.2/5.5	-	JX*G06...,12...,16...,20...	1.2

\*Torque: Recommended torque (N·m) for clamping

\*\*LF (Functional Length) and LH (Head Length) values shown above are true with JXPG16... insert. LF and LH will be 2 mm shorter than the above values with JX\*G12... insert, and 4 mm shorter for JXPG06... insert. LF, LH, and HBL will all be 2 mm shorter with JXPG20... insert.

\*\*\*JXPG20... insert will not fit.

Note: Use the right-hand insert (JX\*G\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*G\*\*L...) for a left-hand holder (JSXXL...).

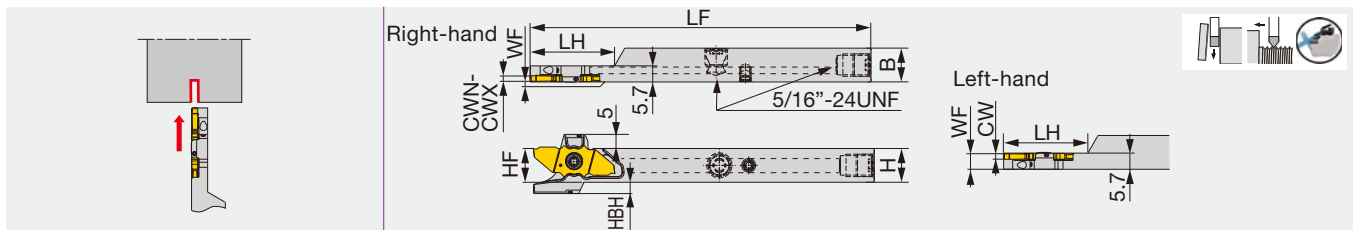
#### SPARE PARTS

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

## JSXXR/L-X-S-CHP



### Parting-off tool for sub spindle in swiss lathes and DirectTungJet system



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

\*Torque: Recommended torque (N·m) for clamping

\*\*LF (Overall Tool Length) and LH (Head Length) values shown above are true with JXPG16... insert. Both LF and LH will be 2 mm shorter than the above value with JX\*G12... and JXPG20... inserts; 4 mm shorter with JXPG06... insert.

\*\*\*To be replaced with the new design

Note: Use the right-hand insert (JX\*G\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*G\*\*L...) for a left-hand holder (JSXXL...).

#### SPARE PARTS

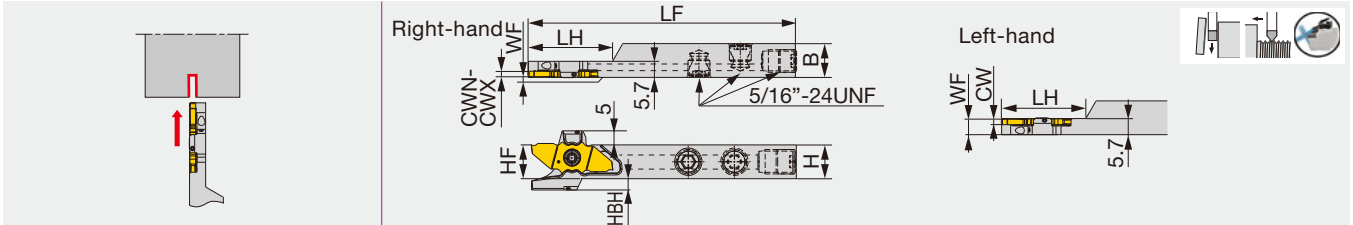
Designation	Clamping screw	Wrench	Coolant plug	Wrench	DirectTungJet plug	Wrench
JSXXR***-S-CHP	CSTC-4L055DL	T-1008/5	SR5/16UNFTL360	P-4	SSHM4-6-TB	P-2
JSXXL***-S-CHP	CSTC-4L055DR	T-1008/5	SR5/16UNFTL360	P-4	SSHM4-6-TB	P-2

Parting-off : 1.0 mm and 1.5 mm (for a max parting diameter of ø6 mm)

widths : 1.5 mm and 2.0 mm (for max parting diameters of ø12 mm, ø16 mm and ø20 mm)

## JSXXR/L-F-S-CHP

### Parting-off tool for sub spindle in swiss lathes



Designation	CWN	CWX	H	B	LF**	LH**	HF	WF	HBH	Insert	Torque*
JSXXR/L1212F09-S-CHP***	1	2	12	12	85	26	12	0.2/5.5	4	JX*G06...,12...,16..., 20...	1.2
JSXXR/L1212F09B-S-CHP	1	2	12	12	85	30	12	0.2/5.5	2	JX*G06...,12...,16..., 20...	1.2

\*Torque: Recommended torque (N·m) for clamping

\*\*LF (Overall Tool Length) and LH (Head Length) values shown above are true with JXPG16... insert. Both LF and LH will be 2 mm shorter than the above value with JX\*G12... and JXPG20... inserts; 4 mm shorter with JXPG06... insert.

\*\*\*To be replaced with the new design

Note: Use the right-hand insert (JX\*\*G\*\*R...) for a right-hand holder (JSXXR...); the left-hand insert (JX\*\*G\*\*L...) for a left-hand holder (JSXXL...).

#### SPARE PARTS

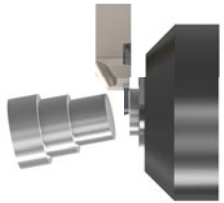
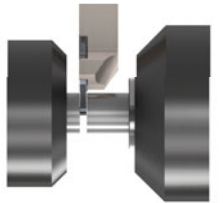
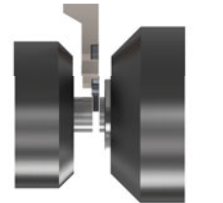
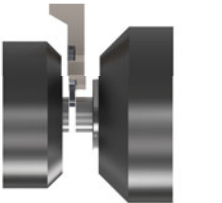


Designation	Clamping screw	Wrench	Coolant plug	Wrench
JSXXR***-S-CHP	CSTC-4L055DL	T-1008/5	SR5/16UNFTL360	P-4
JSXXL***-S-CHP	CSTC-4L055DR	T-1008/5	SR5/16UNFTL360	P-4

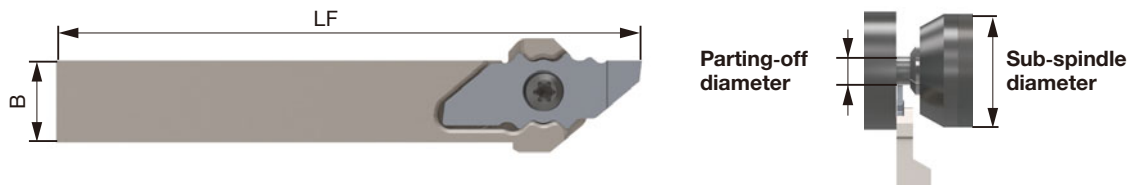
Parting-off : 1.0 mm and 1.5 mm (for a max parting diameter of ø6 mm)

widths : 1.5 mm and 2.0 mm (for max parting diameters of ø12 mm, ø16 mm and ø20 mm)

## HOW TO SELECT TOOLS

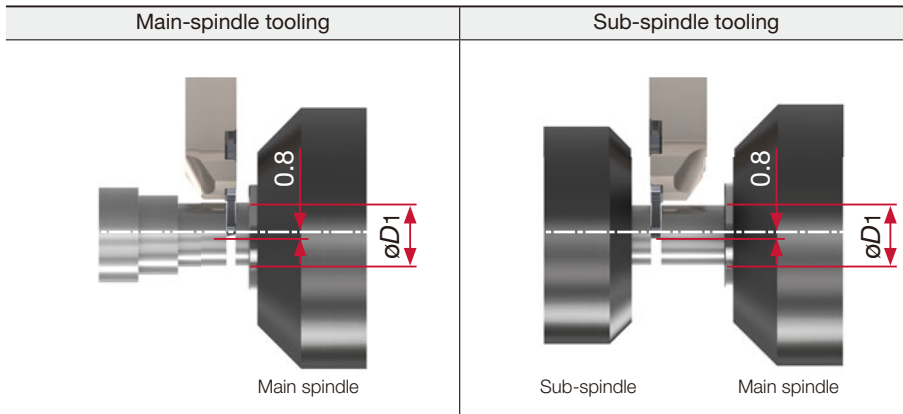
Application	Large-diameter machining of workpiece with rigidity		Small-diameter machining of workpiece with short overhang	
	Main-spindle tooling	Sub-spindle tooling	Sub-spindle tooling	
			Workpiece with long overhang at the side of sub-spindle for the process after parting-off	Short workpiece with low rigidity
				
	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
<b>Toolholder</b>	R-hand (JSXXR type)	L-hand (JSXXL type)	R-hand (JSXXR-S type)	L-hand (JSXXL-S type)
<b>Insert</b>	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

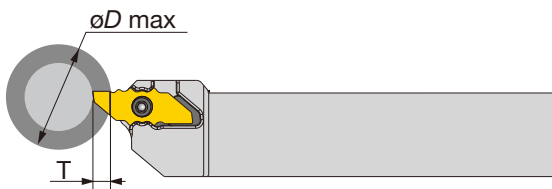
## MAX. PARTING-OFF DIA. & DEPTH



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.

## Maximum grooving depths (T) in relation to workpiece diameters ( $\varnothing D$ max) without interference

Maximum grooving depth (T) is limited relative to workpiece diameter ( $\varnothing D$  max) to avoid interference between workpiece and insert.

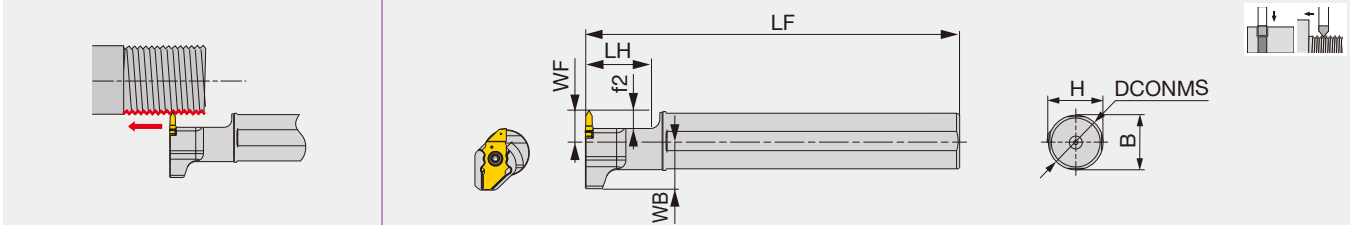


Grooving depths (T) and workpiece diameters ( $\varnothing D$  max) for each insert

Designation	T $\leq$ 1.0	T $\leq$ 2.0	T $\leq$ 2.5	T $\leq$ 3.0	T $\leq$ 3.5	T $\leq$ 4.0	T $\leq$ 5.0	T $\leq$ 5.5	T $\leq$ 6.0	T $\leq$ 6.5	T $\leq$ 7.0	T $\leq$ 7.5	T $\leq$ 8.0	T $\leq$ 8.5	T $\leq$ 9.0	T $\leq$ 9.5	T $\leq$ 10.0	T $\leq$ 10.5
JXPG06...	$\infty$	$\infty$	200	60	30	-	-	-	-	-	-	-	-	-	-	-	-	-
JXPG12...	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	100	60	35	-	-	-	-	-	-	-	-
JXPG16...	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	200	90	50	25	-	-	-	-
JXPG20...	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	200	80	50	25

## JS-SXXL09

### Round shanks, for threading



Designation	DCONMS	H	B	LF	LH	WB	WF	f2	Insert	Torque*
JS19G-SXXL09	19.05	18	18	90	21	15.43	10	6	JX*G06,12*R	1.2
JS19X-SXXL09	19.05	18	18	120	21	15.43	10	6	JX*G06,12*R	1.2
JS20G-SXXL09	20	19	19	90	21	15.4	10	6	JX*G06,12*R	1.2
JS20X-SXXL09	20	19	19	120	21	15.4	10	6	JX*G06,12*R	1.2
JS22X-SXXL09	22	21	21	120	21	15.4	10	6	JX*G06,12*R	1.2
JS25H-SXXL09	25	24	24	100	21	15.4	10	6	JX*G06,12*R	1.2
JS254X-SXXL09	25.4	24	24	120	21	15.4	10	6	JX*G06,12*R	1.2

\* Torque: Recommended torque (N-m) for clamping  
 Threading insert (JXTG12FR) and parting-off inserts (JXPG06R ,12R) fit this holder.

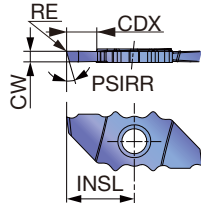
### SPARE PARTS



Designation	Clamping screw	Wrench
JS***-SXXL09	CSTC-4L055L	T-1008/5

## INSERT

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



Right-hand (R) shown.

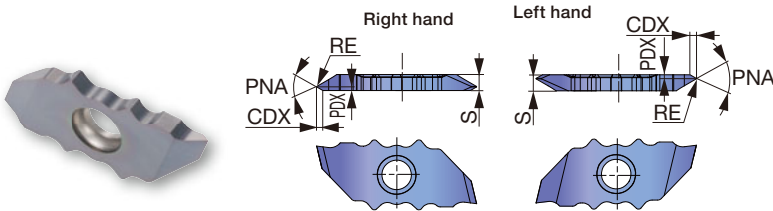
Designation	CW±0.025	RE	SH725		Dimensions (mm)			
			R	L	CUTDIA	CDX*	INSL	PSIRR/L
JXPG06R/L10F	1	0.05	●	●	6	3.5	10.5	0°
JXPG06R/L15F	1.5	0.05	●	●	6	3.5	10.5	0°
JXPG06R/L10F-15	1	0.05	●	●	6	3.5	10.5	15°
JXPG06R/L15F-15	1.5	0.05	●	●	6	3.5	10.5	15°
JXPG12R/L15F	1.5	0.05	●	●	12	6.5	12.5	0°
JXPG12R/L20F	2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



## 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	0.05 max flat	2.5	60°
JXTG12FR/L-60B-000	●	●	0.2 - 0.4	2.25	0.4	0.05 max flat	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.

## EDGE ORIENTATION AND DESCRIPTION OF THREADING INSERTS

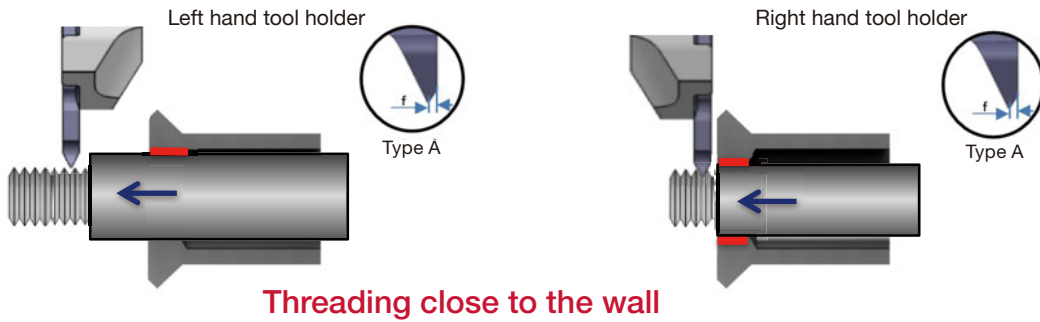
	Type A	Type B	Type N
Right hand			
Left hand			

**JXTG 12 F R - 60 A - 005**

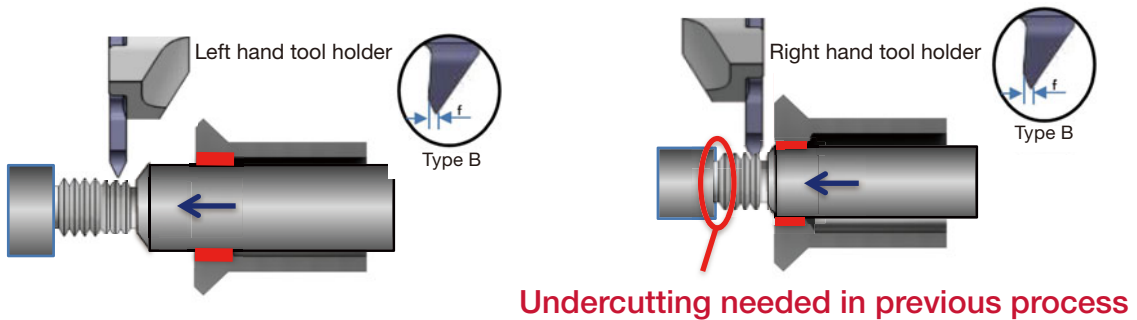
Insert shape | Insert size | Direction | Thread angle | Edge orientation | Corner radius

F: sharp edge

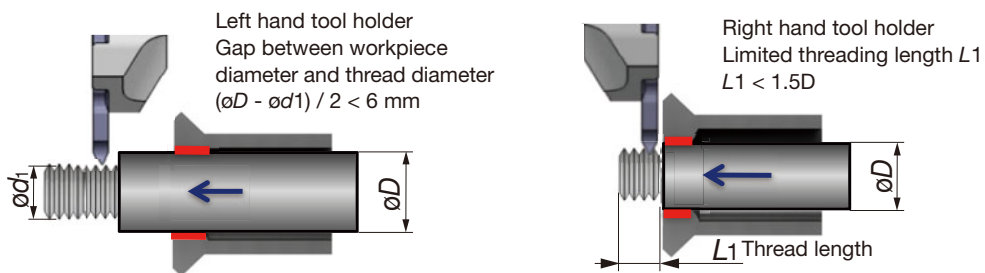
## WHEN TO USE TYPE A AND TYPE B INSERT



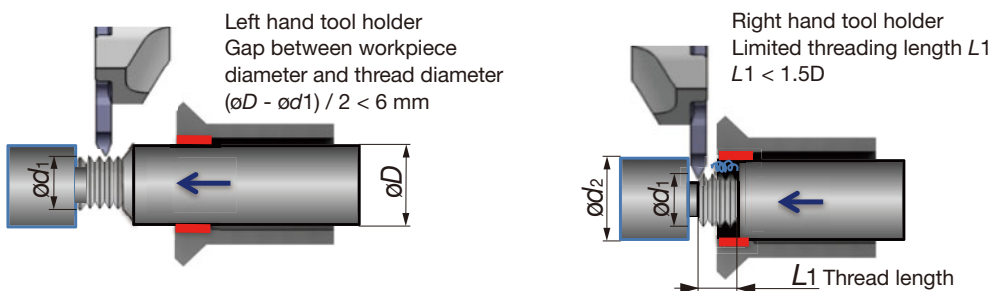
### Threading operation following back-turning



## THREADING WORKPIECE IN MAIN SPINDLE



### Threading operation following back-turning



## STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Grades	Cutting speed Vc (m/min)	Feed f (mm/rev)
<b>P</b>	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
<b>M</b>	Stainless steels (X5CrNi18-9, X5CrNiMo17-12-2, etc.)	SH725	50 - 200	0.01 - 0.05
<b>N</b>	Aluminium alloys (A5056, A6061, etc.)	SH725	150 - 200	0.01 - 0.05
	Copper alloy (C2600, C280C, etc.)	SH725	100 - 200	0.01 - 0.05
<b>S</b>	Titanium alloys (Ti-6Al-4V, etc.)	SH725	30 - 80	0.01 - 0.05
	Superalloys (Inconel718, etc.)	SH725	30 - 80	0.01 - 0.05

## PARTS FOR INTERNAL COOLANT SUPPLY HOLDERS

### Connecting hose

Fig. 1

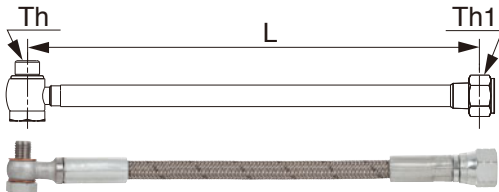
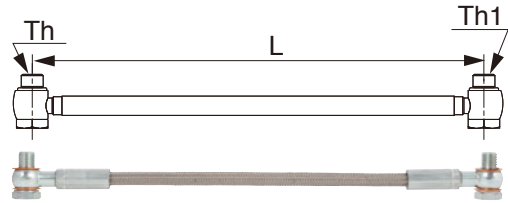
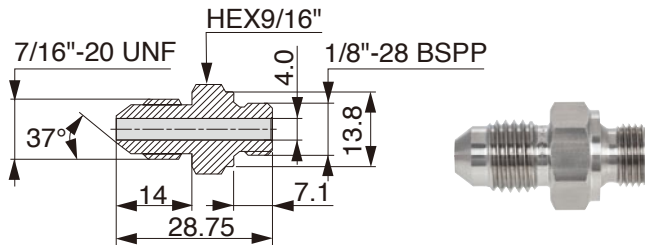


Fig. 2



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

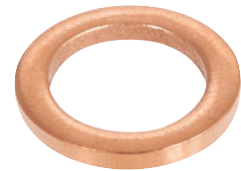
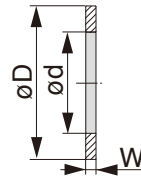
### Connector



#### Designation

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

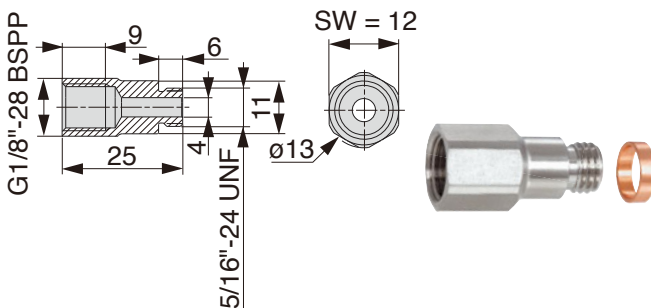
### Seal washer



#### Designation

Designation	øD	ød	W
CHP-COPPER-SEAL1/8	15	8	1
CHP-COPPER-SEAL5/16	11	8	1
CHP-COPPER-SEAL5/16-2.5	11	8	2.5

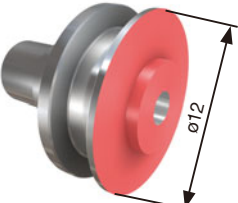
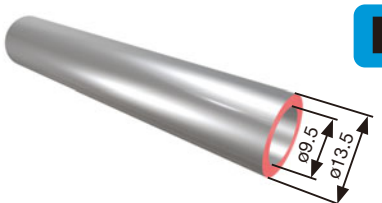

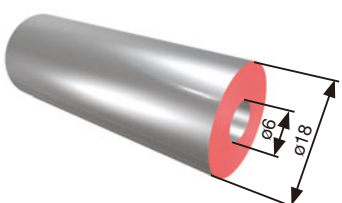
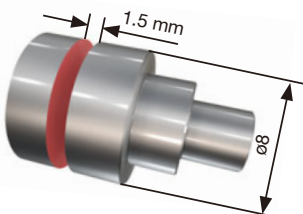
### Connector for small lathe with seal washer



#### Designation

CHP-CONECTOR/5/16-G1/8

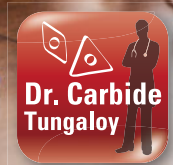
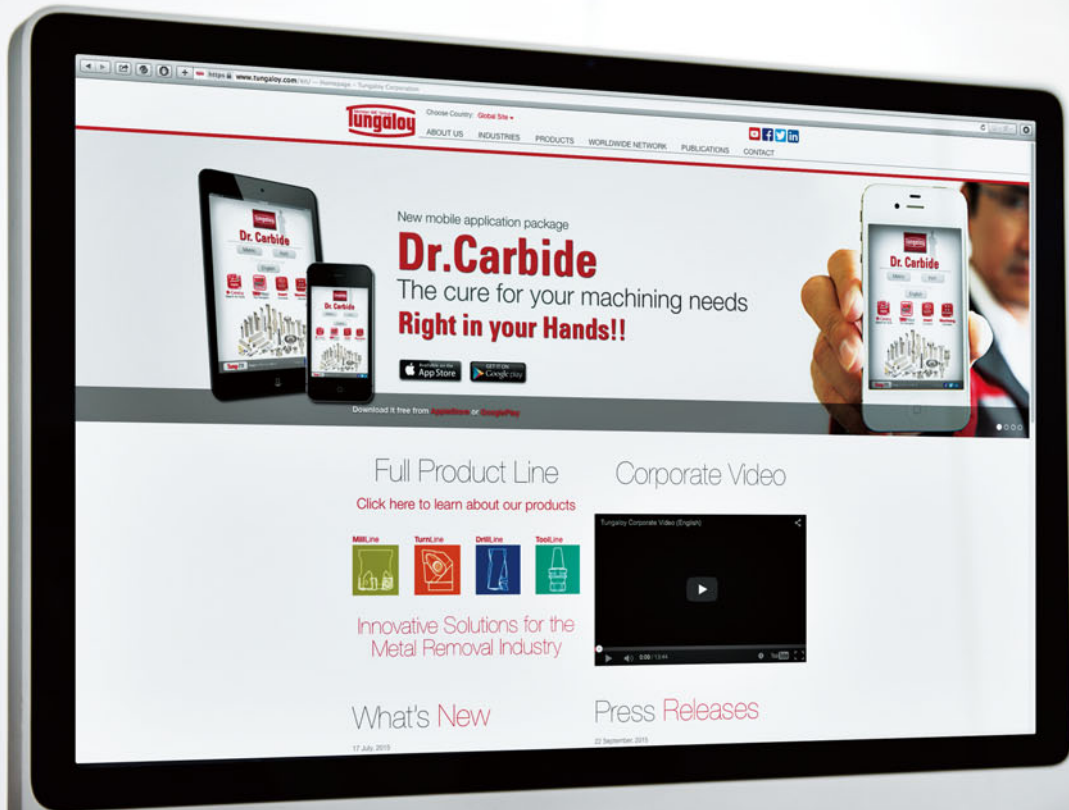
## PRACTICAL EXAMPLES

Workpiece type		Hydraulic component	Torque limiter												
Toolholder		JSXXL1212X09-S	JSXXL1212X09-S												
Insert		JXPG16L20F	JXPG12L15F												
Grade		SH725	SH725												
Workpiece material		SUS304 / X5CrNi18-9	Low carbon alloy												
Cutting conditions															
Cutting speed: $V_c$ (m/min)		75	120												
Feed : $f$ (mm/rev)		0.02	0.03												
Groove width : $CW$ (mm)		2.0	1.5												
Machining		Parting-off	Parting-off												
Coolant		Wet	Wet												
Results		 <p><b>2 times tool life!</b></p> <p>Tool life (pcs / edge)</p> <table border="1"> <tr> <th>Tool</th> <th>Tool Life (pcs / edge)</th> </tr> <tr> <td>DUOJUST</td> <td>4000</td> </tr> <tr> <td>Competitor</td> <td>2000</td> </tr> </table> <p>DuoJust-Cut doubles tool life and provides excellent surface finish due to highly rigid insert clamping.</p>	Tool	Tool Life (pcs / edge)	DUOJUST	4000	Competitor	2000	 <p><b>Excellent chip control</b></p>  <p>Chip control of DuoJust-Cut is better than the competitor's even in parting-off of thin workpiece. Also, the DuoJust-Cut insert with sharp cutting edge provides stable machining without chattering.</p>						
Tool	Tool Life (pcs / edge)														
DUOJUST	4000														
Competitor	2000														
Workpiece type		Injection parts	Injection parts												
Toolholder		JSXXL1212X09-S	JSXXR1212X09-CHP												
Insert		JXPG12L20F	JXPG16R15F												
Grade		SH725	SH725												
Workpiece material		SUS304L	SUS304 / X5CrNi18-9												
Cutting conditions															
Cutting speed: $V_c$ (m/min)		100	120												
Feed : $f$ (mm/rev)		0.05	0.08												
Groove width : $CW$ (mm)		2	2.5												
Machining		Parting-off	Parting-off												
Coolant		Wet	Wet												
Results		 <p><b>1.3 times tool life!</b></p> <p>Tool life (pcs / edge)</p> <table border="1"> <tr> <th>Tool</th> <th>Tool Life (pcs / edge)</th> </tr> <tr> <td>DUOJUST</td> <td>3000</td> </tr> <tr> <td>Competitor</td> <td>2000</td> </tr> </table> <p>DuoJust-Cut extends tool life to 130% and reduces burrs due to the sharp cutting edge.</p>	Tool	Tool Life (pcs / edge)	DUOJUST	3000	Competitor	2000	 <p><b>Productivity 2.3 times!</b></p> <p>Parts machined per insert corner (pcs)</p> <table border="1"> <tr> <th>System</th> <th>Parts machined per insert corner (pcs)</th> </tr> <tr> <td>TUNGJET 7 MPa</td> <td>8000</td> </tr> <tr> <td>External supply (at normal pressure)</td> <td>3000</td> </tr> </table> <p>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.</p>	System	Parts machined per insert corner (pcs)	TUNGJET 7 MPa	8000	External supply (at normal pressure)	3000
Tool	Tool Life (pcs / edge)														
DUOJUST	3000														
Competitor	2000														
System	Parts machined per insert corner (pcs)														
TUNGJET 7 MPa	8000														
External supply (at normal pressure)	3000														

# MEMO

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.

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