



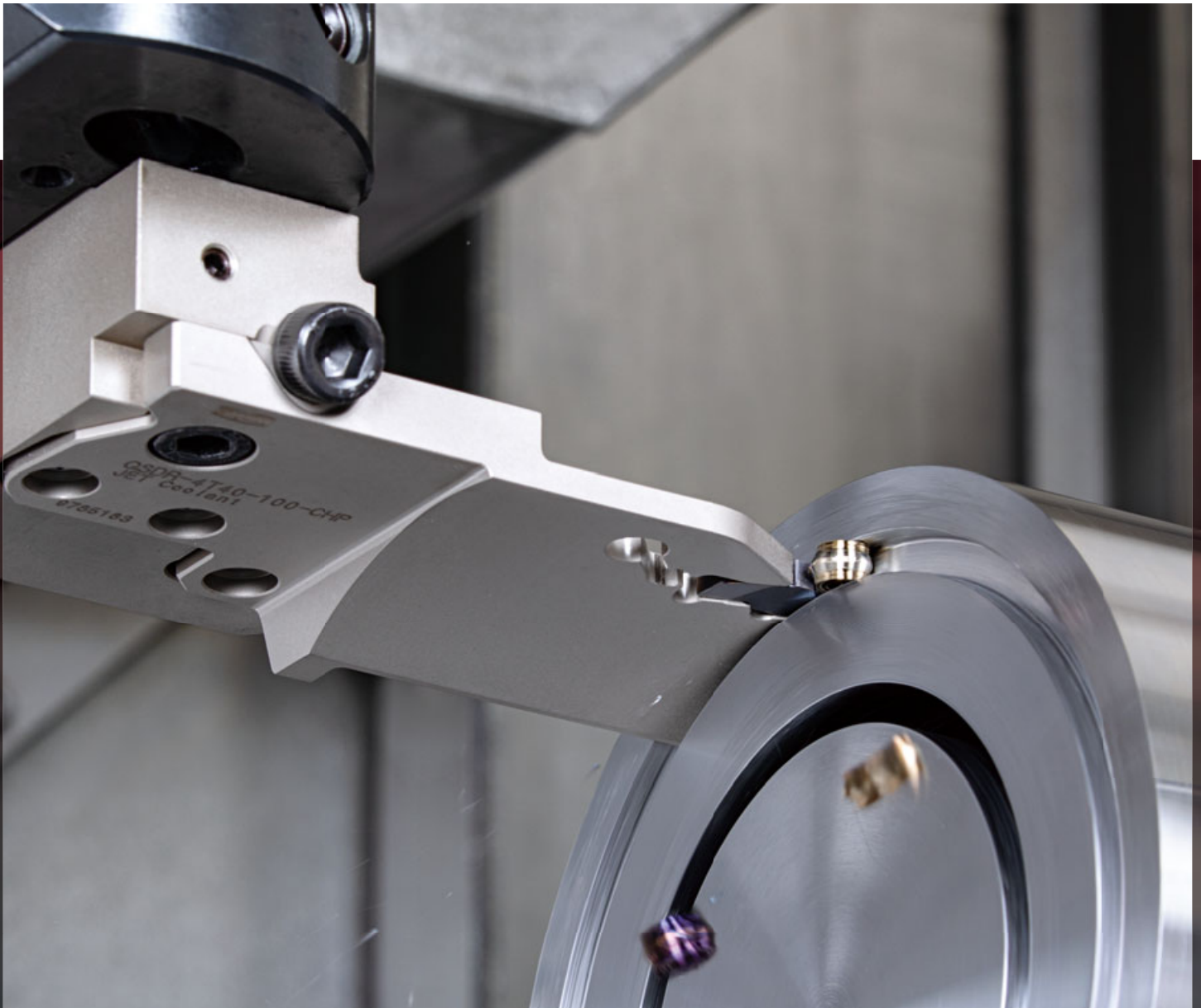
For more information

Grooving and parting-off tool

**ADD**<sup>ORCE</sup>**FCUT**

Tungaloy Report No. 543S2-G

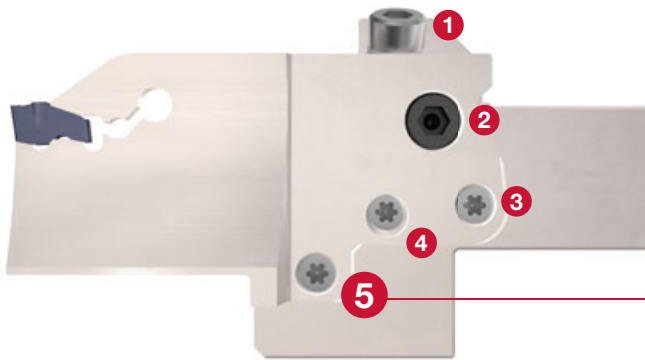
Now offering **deep face grooving tool system**  
**with maximum rigidity**



## New deep face grooving system

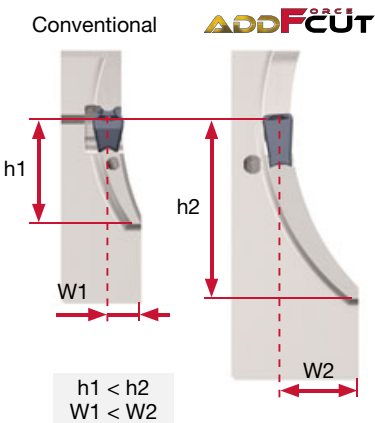
with unique insert clamping for maximum tool rigidity

### Features



#### Added clamping screw for extra security

- Additional screw closer to the cutting edge
- Rigid tool design sustains long overhang tooling



#### Thicker blade design for maximum rigidity

- Redesigned for added blade strength
- Provides secure face grooving operation for deep grooves



#### High-pressure-coolant capable

- Ensures precise coolant delivery to the cutting area
- Ensures coolant access inside the groove, providing process security

### QTX chipbreaker

Thanks to an optimized position of the protrusions, the chipbreaker is able to capture the chips and forms ideal curls at any feed rate.



The recess in the rake center promotes smooth chip evacuation out of the cutting area.

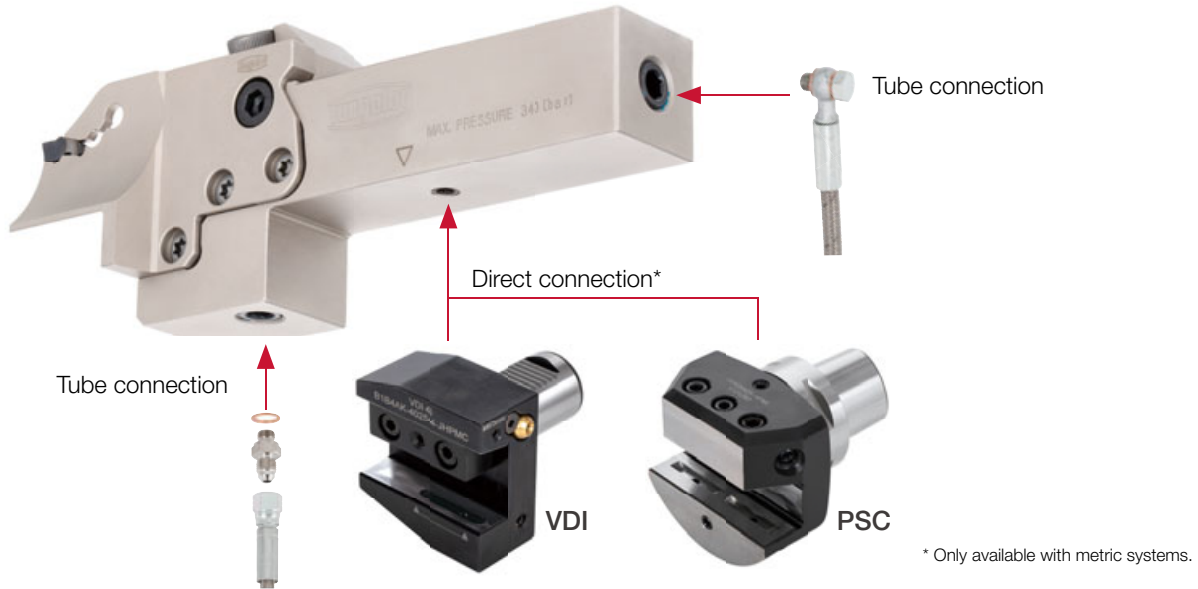
#### Chip control

|                                |    |     |       |      |       |     |
|--------------------------------|----|-----|-------|------|-------|-----|
| Cutting speed<br>$V_c$ (m/min) | 80 |     |       |      |       |     |
|                                |    | 0.1 | 0.125 | 0.15 | 0.175 | 0.2 |
| Feed: $f$ (mm/rev)             |    |     |       |      |       |     |

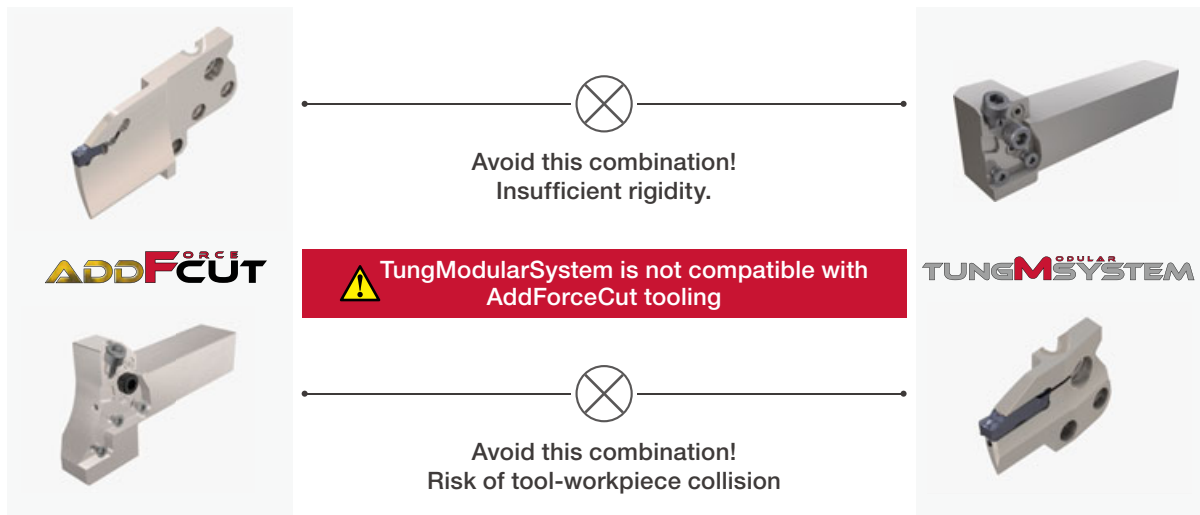
- P** Insert : QTX5-040 AH7025  
 Workpiece material : S45C / C45  
 Groove width : CW = 5 mm  
 Groove depth : 40 mm  
 Coolant : Wet (1MPa)

## ■ Toolholder system with two coolant connection options

Internal coolant can be supplied either via tube subassembly or directly from the adapter without using a tube.



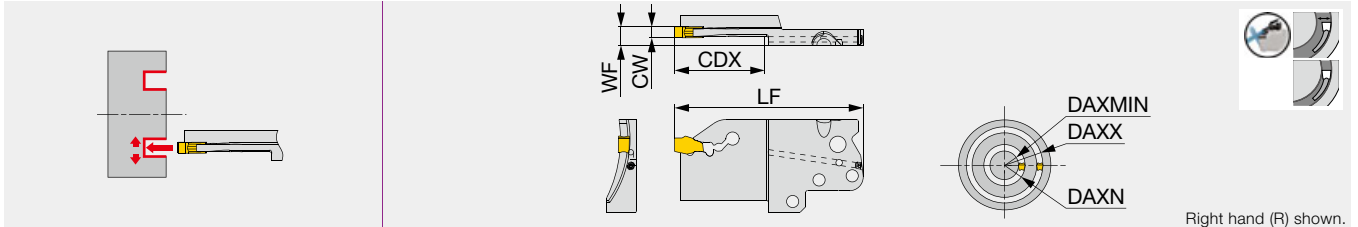
## ■ AVOID THESE BLADE-TOOLHOLDER COMBINATIONS



## ADAPTER

### QSDR/L-CHP

Face grooving adapter, with high pressure coolant capability



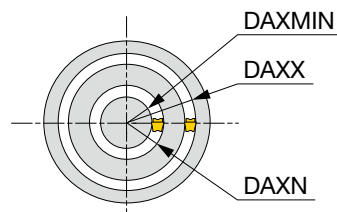
| Designation         | CW | DAXMIN | DAXN | DAXX | Seat size | CDX | LF   | WF <sup>(1)</sup> |
|---------------------|----|--------|------|------|-----------|-----|------|-------------------|
| QSDR/L-3T26-055-CHP | 3  | 49     | 55   | 60   | 3         | 26  | 71.6 | 7.5               |
| QSDR/L-3T26-060-CHP | 3  | 54     | 60   | 70   | 3         | 26  | 71.6 | 7.5               |
| QSDR/L-3T32-070-CHP | 3  | 64     | 70   | 85   | 3         | 32  | 77.6 | 7.5               |
| QSDR/L-3T32-085-CHP | 3  | 79     | 85   | 110  | 3         | 32  | 77.6 | 7.5               |
| QSDR/L-3T32-110-CHP | 3  | 104    | 110  | 140  | 3         | 32  | 77.6 | 7.5               |
| QSDR/L-3T32-140-CHP | 3  | 134    | 140  | 180  | 3         | 32  | 77.6 | 7.5               |
| QSDR/L-3T32-180-CHP | 3  | 174    | 180  | 250  | 3         | 32  | 77.6 | 7.5               |
| QSDR/L-3T32-250-CHP | 3  | 244    | 250  | 400  | 3         | 32  | 77.6 | 7.5               |
| QSDR/L-3T32-400-CHP | 3  | 394    | 400  | 800  | 3         | 32  | 77.6 | 7.5               |
| QSDR/L-3T32-800-CHP | 3  | 794    | 800  | ∞    | 3         | 32  | 77.6 | 7.5               |
| QSDR/L-4T35-060-CHP | 4  | 52     | 60   | 70   | 4         | 35  | 80.6 | 8                 |
| QSDR/L-4T35-070-CHP | 4  | 62     | 70   | 85   | 4         | 35  | 80.6 | 8                 |
| QSDR/L-4T35-085-CHP | 4  | 77     | 85   | 100  | 4         | 35  | 80.6 | 8                 |
| QSDR/L-4T40-100-CHP | 4  | 92     | 100  | 130  | 4         | 40  | 85.6 | 8                 |
| QSDR/L-4T40-130-CHP | 4  | 122    | 130  | 180  | 4         | 40  | 85.6 | 8                 |
| QSDR/L-4T40-180-CHP | 4  | 172    | 180  | 300  | 4         | 40  | 85.6 | 8                 |
| QSDR/L-4T40-300-CHP | 4  | 292    | 300  | 600  | 4         | 40  | 85.6 | 8                 |
| QSDR/L-4T40-600-CHP | 4  | 592    | 600  | ∞    | 4         | 40  | 85.6 | 8                 |
| QSDR/L-5T42-060-CHP | 5  | 50     | 60   | 80   | 5         | 42  | 87.6 | 8.5               |
| QSDR/L-5T42-080-CHP | 5  | 70     | 80   | 110  | 5         | 42  | 87.6 | 8.5               |
| QSDR/L-5T42-110-CHP | 5  | 100    | 110  | 150  | 5         | 42  | 87.6 | 8.5               |
| QSDR/L-5T42-150-CHP | 5  | 140    | 150  | 200  | 5         | 42  | 87.6 | 8.5               |
| QSDR/L-5T42-200-CHP | 5  | 190    | 200  | 300  | 5         | 42  | 87.6 | 8.5               |
| QSDR/L-5T42-300-CHP | 5  | 290    | 300  | 600  | 5         | 42  | 87.6 | 8.5               |
| QSDR/L-5T42-600-CHP | 5  | 590    | 600  | ∞    | 5         | 42  | 87.6 | 8.5               |

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

### SPARE PARTS

| Designation | Wrench |
|-------------|--------|
| QSDR/L...   | QL-39  |

| Insert    | Groove width<br>CW | Face grooving               |
|-----------|--------------------|-----------------------------|
|           |                    | Min. machining dia.<br>DAXN |
| QGM / QGS | 3                  | 80                          |
| QGM / QGS | 4                  | 60                          |
| QGM / QGS | 5                  | 60                          |
| QTX       | 3                  | 55                          |
| QTX       | 4                  | 60                          |
| QTX       | 5                  | 60                          |

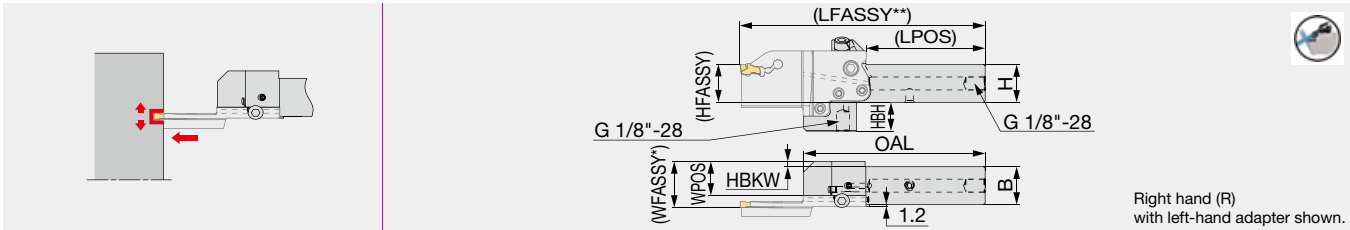


# SHANKS

## QHSR/L-CHP

Direct connection    Tube connection

Shank for adapter, with high pressure coolant capability



| Designation    | H  | B  | OAL | LPOS | WPOS | HBKW | HFASSY | HBH | Adapter (Optional) | Torque* |
|----------------|----|----|-----|------|------|------|--------|-----|--------------------|---------|
| QHSR/L2020-CHP | 20 | 20 | 120 | 76.4 | 14   | 5    | 20     | 24  | QSDL/R*-CHP        | 6.5     |
| QHSR/L2525-CHP | 25 | 25 | 120 | 76.4 | 19   | -    | 25     | 19  | QSDL/R*-CHP        | 6.5     |

WFASSY\* : Shank (WPOS) + adapter (WF)  
 LFASSY\*\* : Shank (LPOS) + adapter (LF)  
 Depending on the adapter type, the value of LFASSY or WFASSY may change.  
 Torque\*: Recommended clamping torque (N·m)  
 Applicable for 30 MPa coolant  
 Use right-hand adapters (R) with left-hand shanks (L); and left-hand adapters (L) with right-hand shanks (R).

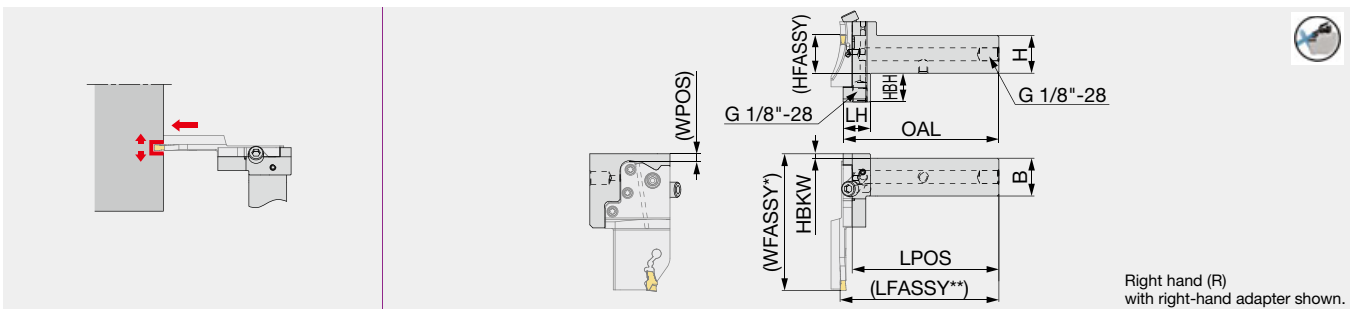
### SPARE PARTS

| Designation | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|-------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| QHSR/L...   | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | SR M6X20-XT      | P-5      | OR 5X1N | PLUGG1/8ISO1179 |

## QHTR/L-CHP

Direct connection    Tube connection

Shank for perpendicularly-mounted adapter, with high pressure coolant capability



| Designation    | H  | B  | LH | OAL | LPOS | WPOS | HBKW | HFASSY | HBH | Adapter (Optional) | Torque* |
|----------------|----|----|----|-----|------|------|------|--------|-----|--------------------|---------|
| QHTR/L2020-CHP | 20 | 20 | 18 | 90  | 84   | 3.6  | 5.5  | 20     | 24  | QSDR/L*-CHP        | 6.5     |
| QHTR/L2525-CHP | 25 | 25 | 18 | 103 | 97   | 1.9  | -    | 25     | 19  | QSDR/L*-CHP        | 6.5     |

WFASSY\* : Shank (WPOS) + adapter (LF)  
 LFASSY\*\* : Shank (LPOS) + adapter (WF)  
 Depending on the adapter type, the value of LFASSY or WFASSY may change.  
 Torque\*: Recommended clamping torque (N·m)  
 Applicable for 30 MPa coolant  
 Use right-hand adapters (R) with right-hand shanks (R); and left-hand adapters (L) with left-hand shanks (L).

### SPARE PARTS

| Designation | Clamping screw 1 | Wrench 1 | Clamping screw 2 | Clamping screw 3 | Wrench 2 | O-ring  | Plug            |
|-------------|------------------|----------|------------------|------------------|----------|---------|-----------------|
| QHTR/L...   | SR M5-04451      | T-20/5   | SR M6X12DIN6912  | CM6X16           | P-5      | OR 5X1N | PLUGG1/8ISO1179 |

### Recommended clamping torque (N·m)

| Clamping screw  | Torque (N·m) |
|-----------------|--------------|
| SR M5-04451     | 2.5          |
| SR M6X12DIN6912 | 6.5          |
| SR M6X20-XT     | 6.5          |
| CM6X16          | 6.5          |


### Combination of adapter and shank

| Shank      | Face grooving adapter |            |
|------------|-----------------------|------------|
|            | QSDR**-CHP            | QSDL**-CHP |
| QHSR**-CHP |                       | ●          |
| QHSL**-CHP | ●                     |            |
| QHTR**-CHP | ●                     |            |
| QHSL**-CHP |                       | ●          |

● : Corresponding

## CHIPBREAKER GUIDE

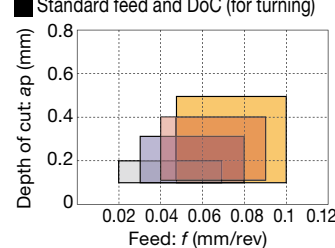
**QTX**



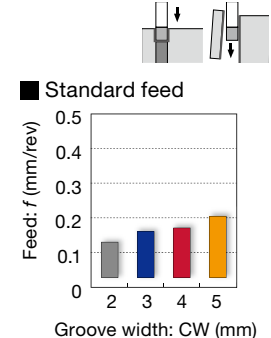
**First choice for face grooving**

Unique geometry ensures strong and sharp cutting edge, providing light cutting and long tool life.  
CW = 2 - 5 mm

■ Standard feed and DoC (for turning)



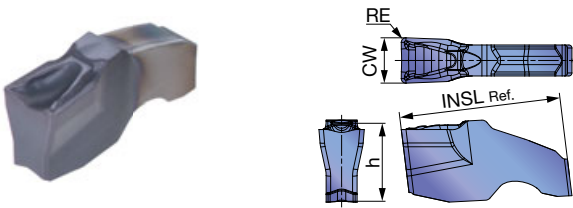
■ Standard feed



## INSERT

### QTX

Face grooving



|                         |   |  |  |  |  |  |  |  |  |  |  |  |                  |
|-------------------------|---|--|--|--|--|--|--|--|--|--|--|--|------------------|
| <b>P</b> Steel          | ★ |  |  |  |  |  |  |  |  |  |  |  |                  |
| <b>M</b> Stainless      | ★ |  |  |  |  |  |  |  |  |  |  |  |                  |
| <b>K</b> Cast iron      | ★ |  |  |  |  |  |  |  |  |  |  |  |                  |
| <b>N</b> Non-ferrous    |   |  |  |  |  |  |  |  |  |  |  |  |                  |
| <b>S</b> Superalloys    | ★ |  |  |  |  |  |  |  |  |  |  |  |                  |
| <b>H</b> Hard materials |   |  |  |  |  |  |  |  |  |  |  |  | ★ : First choice |

| Designation | Seat size | CW±0.05 | RE  | Coated |  |  |  |  |  |  |  |  | INSL | h   |
|-------------|-----------|---------|-----|--------|--|--|--|--|--|--|--|--|------|-----|
|             |           |         |     | AH7025 |  |  |  |  |  |  |  |  |      |     |
| QTX2-020    | 2         | 2       | 0.2 | ●      |  |  |  |  |  |  |  |  | 11   | 5.3 |
| QTX3-030    | 3         | 3       | 0.3 | ●      |  |  |  |  |  |  |  |  | 11   | 5.3 |
| QTX4-040    | 4         | 4       | 0.4 | ●      |  |  |  |  |  |  |  |  | 13   | 7.3 |
| QTX5-040    | 5         | 5       | 0.4 | ●      |  |  |  |  |  |  |  |  | 13   | 7.3 |

●: Line up

## STANDARD CUTTING CONDITIONS

| ISO      | Workpiece material                         | Hardness | Grade  | Cutting speed Vc (m/min) |
|----------|--|----------|--------|--------------------------|
| <b>P</b> | Steels<br>C45, 34CrMo4, etc.               | < 300 HB | AH7025 | 50 - 180                 |
| <b>M</b> | Stainless steel<br>X10CrNiS18-9, etc.      | < 200 HB | AH7025 | 50 - 120                 |
| <b>K</b> | Gray cast iron<br>GG25, 250, etc.          | -        | AH7025 | 50 - 180                 |
|          | Ductile cast irons<br>GGG45, 450-10S, etc. | -        | AH7025 | 50 - 120                 |
| <b>S</b> | Superalloys<br>Inconel718, etc.            | < HRC 40 | AH7025 | 20 - 60                  |
|          | Titanium alloys<br>Ti-6Al-4V, etc.         | < HRC 40 | AH7025 | 20 - 80                  |

Please see page P.6 for feed:  $f$  (mm/rev).

## PARTS FOR COOLANT HOSE

### Connecting hose

Fig.1

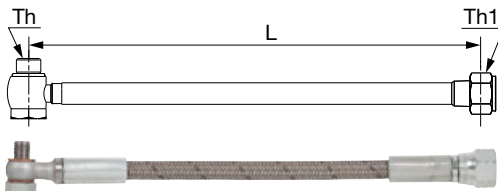
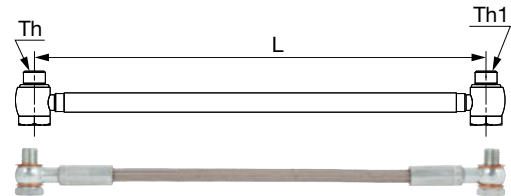
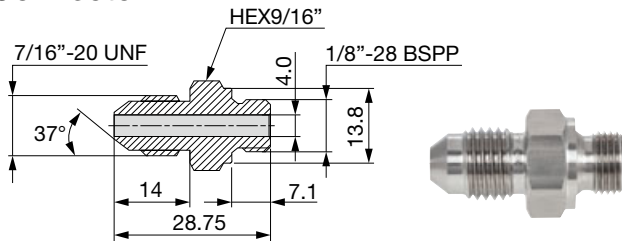


Fig.2



| Designation              | Length L | Th            | Screw | Th1           | Max. pressure (Mpa) | Fig. |
|--------------------------|----------|---------------|-------|---------------|---------------------|------|
| 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



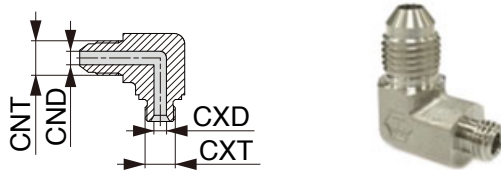
| Designation             |
|-------------------------|
| CHP-NIPPLE-G1/8-7/16UNF |

### Seal washer



| Designation             | øD   | ød   | W    |
|-------------------------|------|------|------|
| CHP-COPPER-SEAL1/8      | 15   | 10   | 1    |
| CHP-COPPER-SEAL5/16     | 11.9 | 8.15 | 1.35 |
| CHP-COPPER-SEAL5/16-2.5 | 9.4  | 8    | 2.5  |

### Connector elbow



| Designation               | CNT          | CND | CXT          | CXD |
|---------------------------|--------------|-----|--------------|-----|
| CHP-ELBOW-90-G1/8-7/16UNF | 7/16"-20 UNF | 4.4 | 1/8"-28 BSPP | 4   |
| CHP-ELBOW-90-5/16-7/16UNF | 7/16"-20 UNF | 4.4 | 5/16"-24 UNF | 4   |



### **Tungaloy Corporation (Head office)**

11-1 Yoshima-Kogyodanchi  
Iwaki-city, Fukushima 970-1144 Japan  
Phone: +81-246-36-8501  
Fax: +81-246-36-8542  
www.tungaloy.co.jp

### **Tungaloy-NTK America Inc.**

3726 N Ventura Drive  
Arlington Heights, IL 60004, U.S.A.  
Phone: +1-888-554-8394  
Fax: +1-888-554-8392  
www.tungaloy.com/us

### **Tungaloy Canada**

432 Elgin St. Unit 3  
Brantford, Ontario N3S 7P7, Canada  
Phone: +1-519-758-5779  
Fax: +1-519-758-5791  
www.tungaloy.com/ca

### **Tungaloy-NTK De Mexico S.A.**

C. Los Arellano 113,  
Parque Industrial Siglo XXI  
Aguascalientes, AGS, Mexico 20290  
Phone: +52-449-929-5410  
Fax: +52-449-929-5411  
www.tungaloy.com/mx

### **Tungaloy-NTK do Brasil Ltda.**

Avd. Independencia N4158 Residencial Flora  
13280-000 Vinhedo, São Paulo, Brasil  
Phone: +55-19-38262757  
Fax: +55-19-38262757  
www.tungaloy.com/br

### **Tungaloy-NTK Germany GmbH.**

Katzbergstr. 3a  
D-40764 Langenfeld, Germany  
Phone: +49-2173-90420-0  
Fax: +49-2173-90420-19  
www.tungaloy.com/de

### **Tungaloy France s.a.s**

Les Fjords  
19 avenue de Norvège  
91140 Villebon Sur Yvette, France  
Phone: +33-1-6486-4300  
Fax: +33-1-6907-7817  
www.tungaloy.com/fr

### **Tungaloy Italia S.r.l.**

Via E. Andolfato 10  
I-20126 Milano, Italy  
Phone: +39-02-252012-1  
Fax: +39-02-252012-65  
www.tungaloy.com/it

### **Tungaloy Czech s.r.o.**

Turanka 115  
CZ-627 00 Brno, Czech Republic  
Phone: +420-532 123 391  
Fax: +420-532 123 392  
www.tungaloy.com/cz

### **Tungaloy Ibérica S.L.**

C/Miquel Servet, 43B, Nau 7  
Pol. Ind. Bufalvent  
ES-08243 Manresa (BCN), Spain  
Phone: +34 93 113 1360  
Fax: +34 93 876 2798  
www.tungaloy.com/es

### **Tungaloy Scandinavia AB**

Bultgatan 38  
442 40 Kungälv, Sweden  
Phone: +46-462119200  
Fax: +46-462119207  
www.tungaloy.com/se

### **Tungaloy Rus, LLC**

Andropova avenue, h.18/7,  
11 floor, office 3, 115432,  
Moscow, Russia  
Phone: +7-499-683-01-80  
Fax: +7-499-683-01-81  
www.tungaloy.com/ru

### **Tungaloy Polska Sp. z o.o.**

Ul. Irysowa 1, 55-040 Bielany  
Wroclawskie, Poland  
Phone: +48 607 907 237  
www.tungaloy.com/pl

### **Tungaloy-NTK UK Ltd.**

Suite 3, Pioneer House, Mill Street,  
Cannock, WS11 0EF, UK  
Phone: +44 121 4000 231  
Fax: +44 121 270 9694  
www.tungaloy.com/uk

### **Tungaloy Hungary Kft**

Erzsébet királyné útja 125  
H-1142 Budapest, Hungary  
Phone: +36 1 781-6846  
Fax: +36 1 781-6866  
www.tungaloy.com/hu

### **Tungaloy Turkey**

Serifali Mah.bayraktar Bulvari Kule Sk. No:26  
34775 Umraniye / Istanbul / Turkey  
Phone: +90 216 540 04 67  
Fax: +90 216 540 04 87  
www.tungaloy.com/tr

### **Tungaloy Benelux b.v.**

Tjalk 70  
NL-2411 NZ Bodegraven, Netherlands  
Phone: +31 172 630 420  
Fax: +31 172 630 429  
www.tungaloy.com/nl

### **Tungaloy Croatia**

Ulica bana Josipa Jelačića 87,  
10430, Samobor, Croatia  
Phone: +385 1 3326 604  
Fax: +385 1 3327 683  
www.tungaloy.com/hr

### **Tungaloy Cutting Tool (Shanghai) Co. Ltd.**

Rm No 401 No.88 Zhabei  
Jiangchang No.3 Rd  
Shanghai 200436, China  
Phone: +86-21-3632-1880  
Fax: +86-21-3621-1918  
www.tungaloy.com/cn

### **Tungaloy Cutting Tools Taiwan Co. Ltd.**

9F, No.293, Zhongyang Rd,  
Xinzhuang Dist, New Taipei City,  
24251 Taiwan  
Phone: +886-2-8521-9986  
Fax: +886-2-8521-8935  
www.tungaloy.com/tw

### **Tungaloy-NTK Cutting Tool (Thailand) Co.,Ltd.**

Interlink tower 4th Fl.  
1858/5-7 Bangna-Trad Road  
km.5 Bangna, Bangna, Bangkok 10260  
Thailand  
Phone: +66-2-751-5711  
Fax: +66-2-751-5715  
www.tungaloy.com/th

### **Tungaloy Singapore (Pte.), Ltd.**

62 Ubi Road 1, #06-11 Oxley BizHub 2  
Singapore 408734  
Phone: +65-6391-1833  
Fax: +65-6299-4557  
www.tungaloy.com/sg

### **Tungaloy Vietnam**

LE04.38, Lexington Residence  
67 Mai Chi Tho St., Dist. 2,  
Ho Chi Minh City, Vietnam  
Phone: +84-2837406660  
www.tungaloy.com/sg

### **Tungaloy India Pvt. Ltd.**

One International Center,  
Unit # 902-A, 9th Floor,  
Tower 1, Senapati Bapat Marg,  
Elphinstone Road (West),  
Mumbai 400013, India  
Phone: +91-22-6124-8803  
Fax: +91-22-6124-8899  
www.tungaloy.com/in

### **Tungaloy Korea Co., Ltd**

#1312, Byucksan Digital Valley 5-cha  
Beotkkot-ro 244, Geumcheon-gu  
153-788 Seoul, Korea  
Phone: +82-2-2621-6161  
Fax: +82-2-6393-8952  
www.tungaloy.com/kr

### **Tungaloy Malaysia Sdn Bhd**

50 K-2, Kelana Mall, Jalan SS6/14  
Kelana Jaya, 47301  
Petaling Jaya, Selangor Darul Ehsan  
Malaysia  
Phone: +603-7805-3222  
Fax: +603-7804-8563  
www.tungaloy.com/my

### **Tungaloy Australia Pty Ltd**

Unit 68 1470 Ferntree Gully Road  
Knoxfield 3180 Victoria, Australia  
Phone: +61-3-9755-8147  
Fax: +61-3-9755-6070  
www.tungaloy.com/au

### **PT. Tungaloy Indonesia**

Ruko Blok AA.10 No3&5, Grand Wisata,  
Lambangjaya, Tambun Selatan, Bekasi,  
17510 Indonesia  
Phone: +62-21-8261-5808  
Fax: +62-21-8261-5809  
www.tungaloy.com/id



**tungaloy.com**

follow us at:

facebook.com/tungaloyjapan

twitter.com/tungaloyjapan

www.youtube.com/tungaloycorporation

Distributed by:



Tungaloy APP & SNS

FIND US ON THE CLOUD!  
machingcloud.com



AS9100 Certified  
78006  
2015.11.04  
ISO 14001 Certified  
EC97J1123  
1997.11.26