



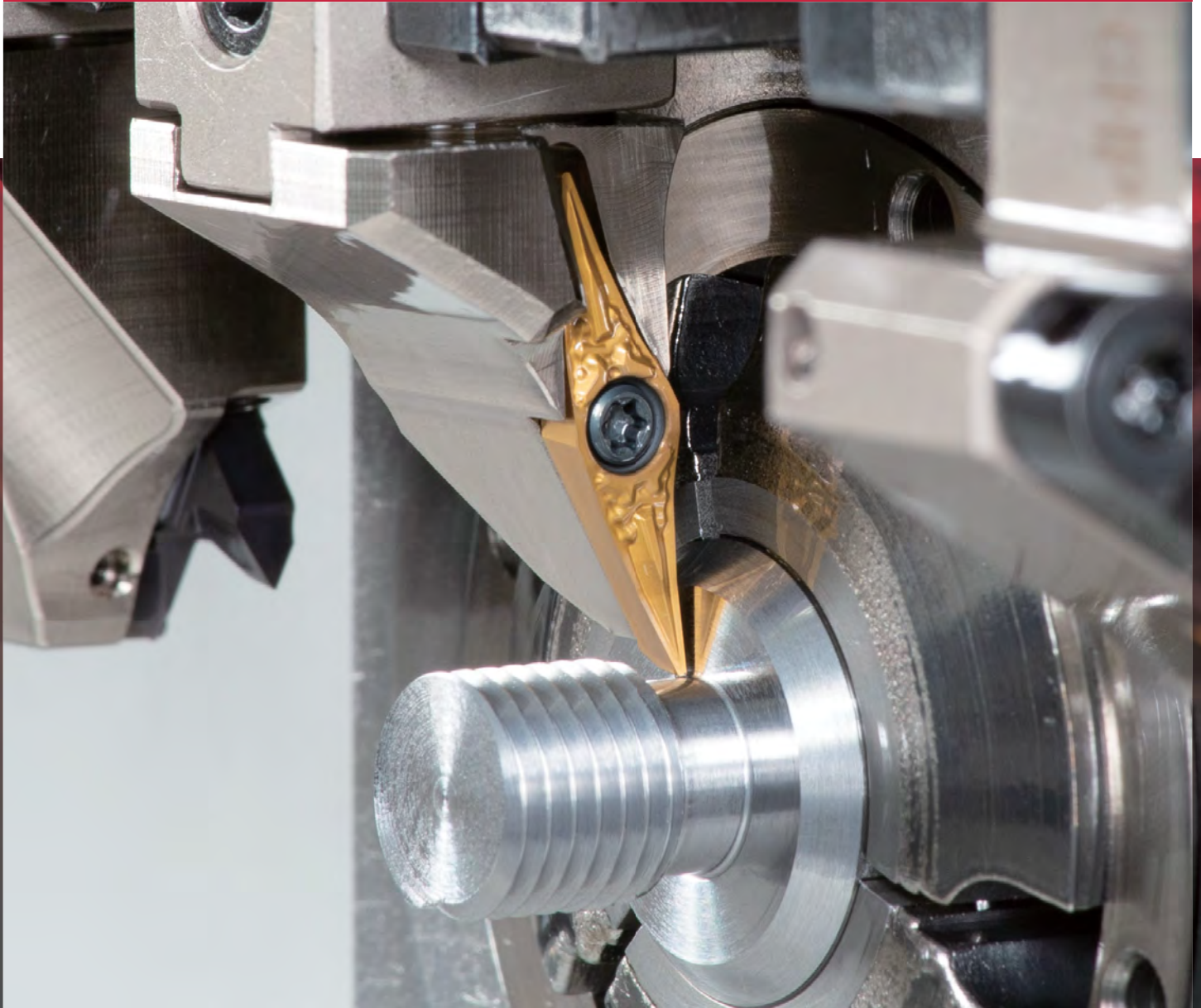
For more information

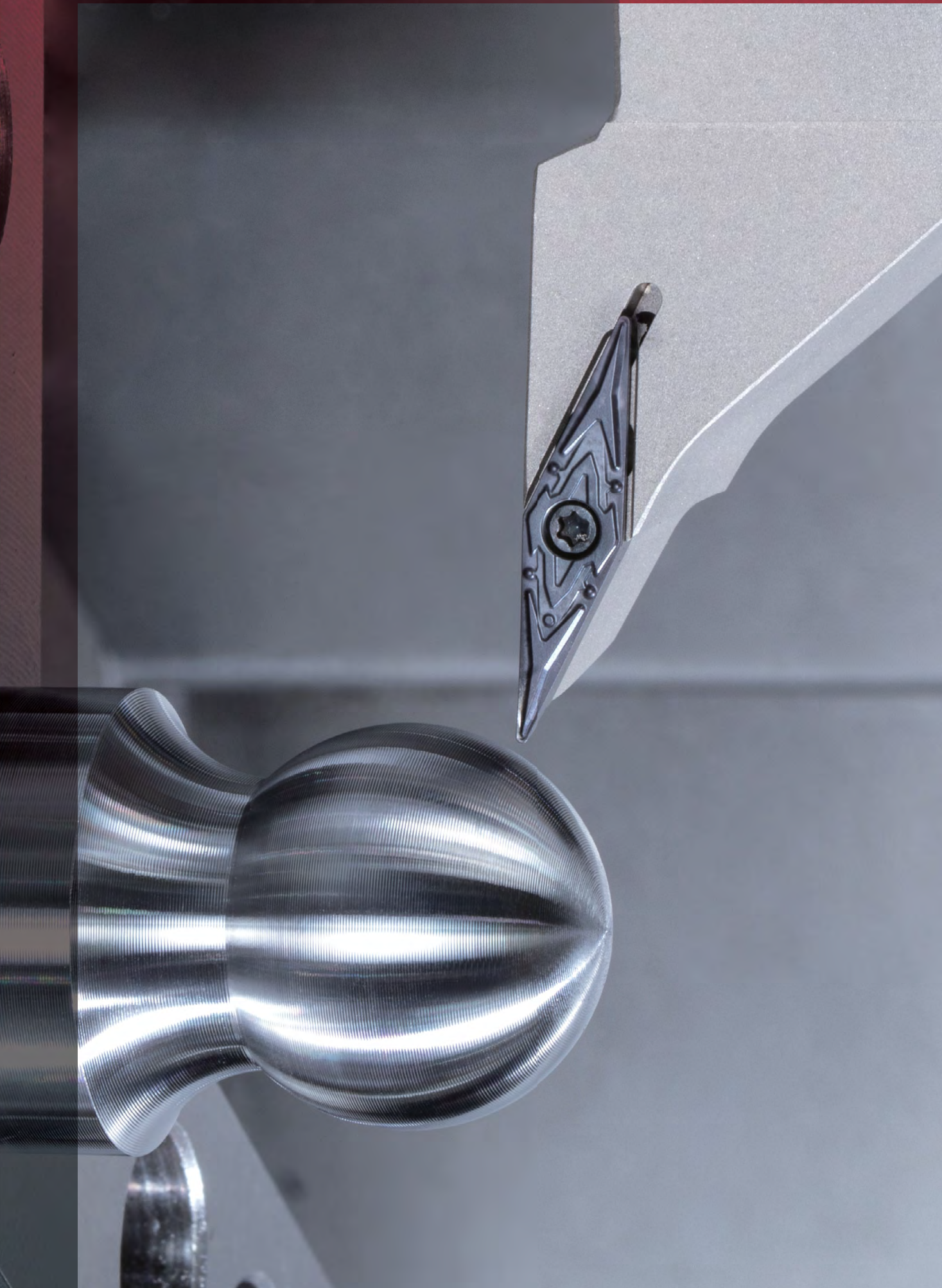
Insert with 25° corner angle for profiling

# Y-PRO SERIES

Tungaloy Report No. 369-G

## Expansion of ground type YCGT inserts!







## Y-PRO SERIES

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A new narrow corner angle insert that expands machining possibilities.

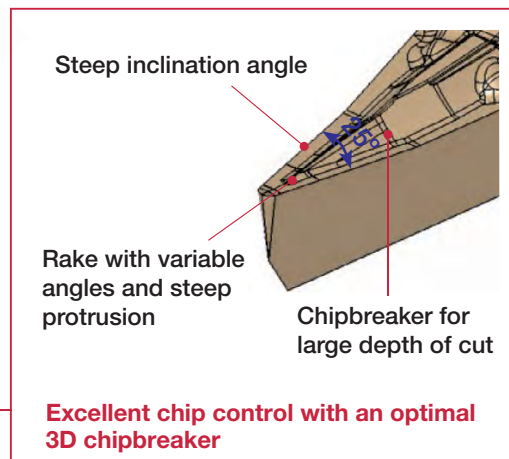
# Y-PRO SERIES

## Expansion of ground type YCGT insert with 25° corner angle!

**New**

**JS** chipbreaker

For finish turning



### ■ Chip control



**P** S45C / C45

Insert : YCGT100202MF-JS  
SH7025  
Cutting speed :  $V_c = 80$  m/min  
Feed :  $f = 0.03$  mm/rev  
Depth of cut :  $a_p = 0.5$  mm  
Coolant : Wet



**P** S45C / C45

Insert : YCGT100202MF-JS  
SH7025  
Cutting speed :  $V_c = 80$  m/min  
Feed :  $f = 0.03$  mm/rev  
Depth of cut :  $a_p = 3$  mm  
Coolant : Wet

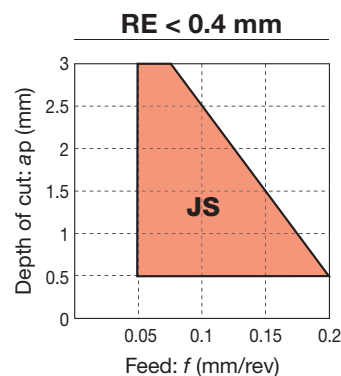
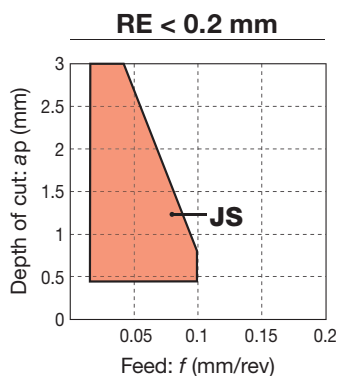
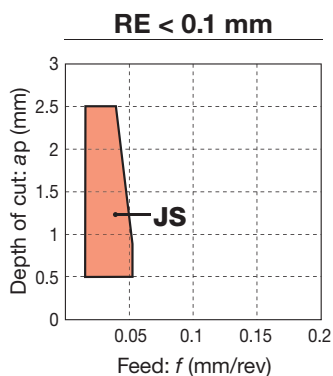


**M** SUS304 / X5CrNi18-9

Insert : YCGT100202MF-JS  
SH7025  
Cutting speed :  $V_c = 80$  m/min  
Feed :  $f = 0.03$  mm/rev  
Depth of cut :  $a_p = 2$  mm  
Coolant : Wet

### ■ Chip control range

Single JS chipbreaker handles from roughing to finishing operations



## YCGT further expands the machining possibilities

### Application examples

YCGT offers a new method for the turning process



## New insert grade for high surface quality

### SH7025



- The latest grade with a sharp cutting edge, designed for small part machining.
- A combination of a columnar-structured TiCN coating and multilayered TiAlN coating provides superior surface quality and process security.

Designed to prevent built-up edge, wear, and edge chipping, SH7025 provides long, predictable tool life and superior surface quality

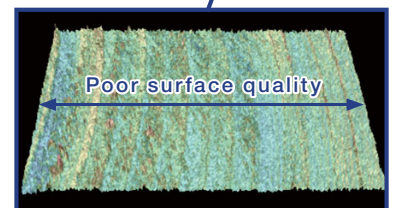
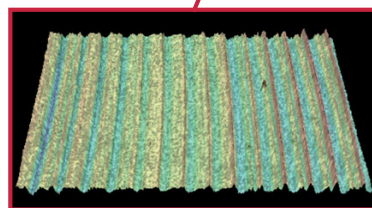
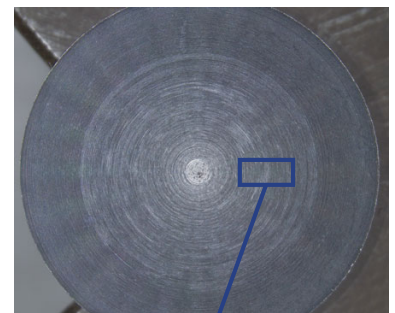
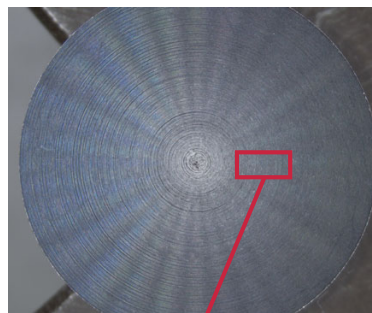
### Cutting performance

#### Face turning



### SH7025

### Conventional



**P** SUJ2 / 100Cr6

Insert : DCGT11T302 type  
 Cutting speed :  $V_c = 150$  m/min  
 Feed :  $f = 0.05$  mm/rev  
 Depth of cut :  $a_p = 0.3$  mm  
 Coolant : Wet

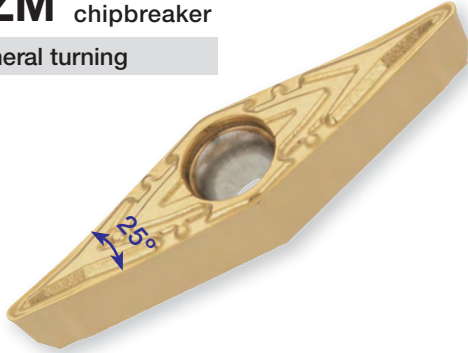
Provides high quality surface finish

# Y-PRO SERIES

## ■ M-class insert

### ZF/ZM chipbreaker

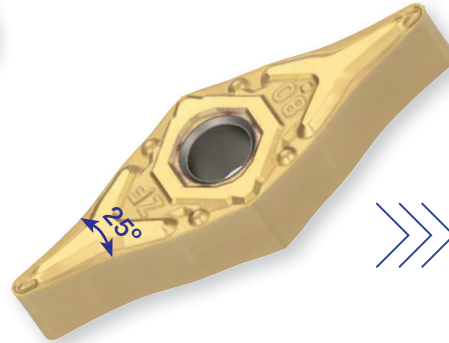
For General turning



Positive type

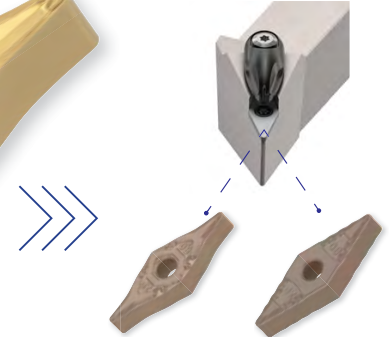
**YWMT11T2\*\***

**YWMT16T3\*\***



Negative type

**YNMG1604\*\***



**YNMG1604\*\***

**VNMG1604\*\***

YNMG inserts fit existing standard turning toolholders for VNMG insert

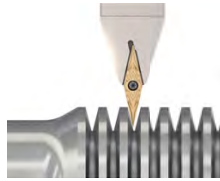
## ■ Suitable for a wide range of machining applications



Spherical profiling



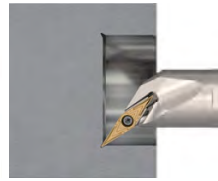
Face profiling



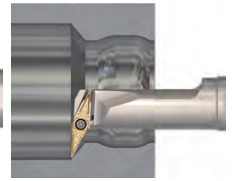
"V" grooving



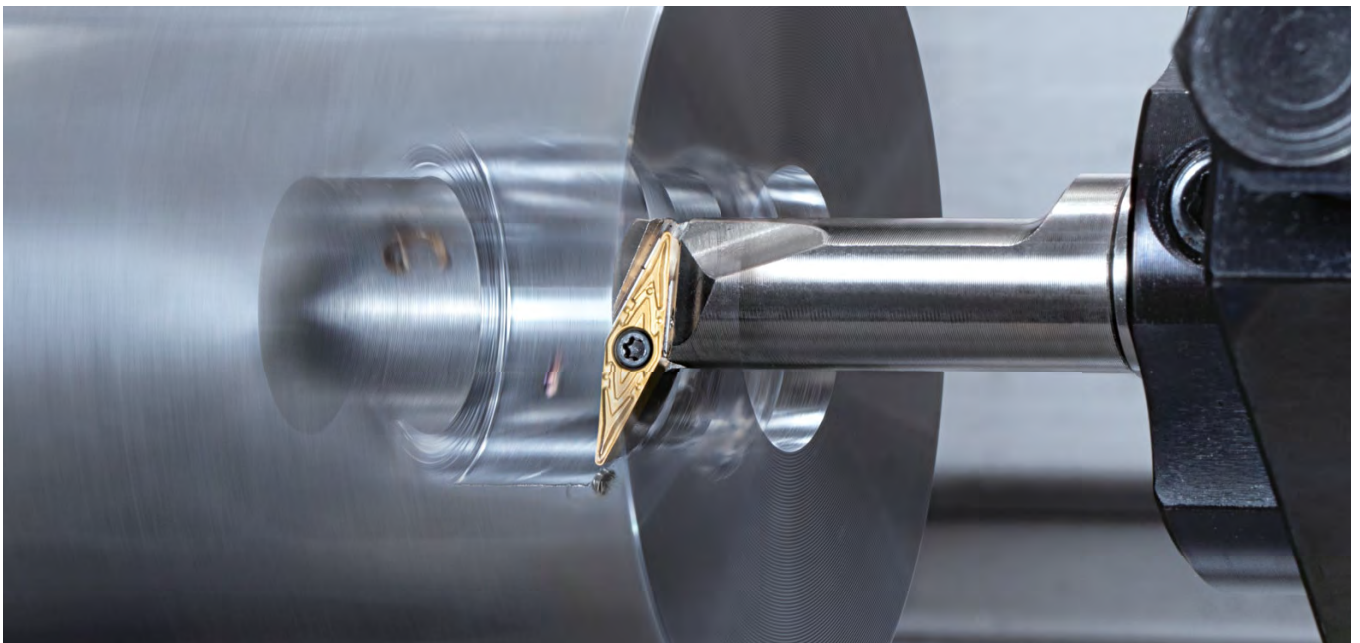
External undercutting



Internal undercutting



Internal profiling





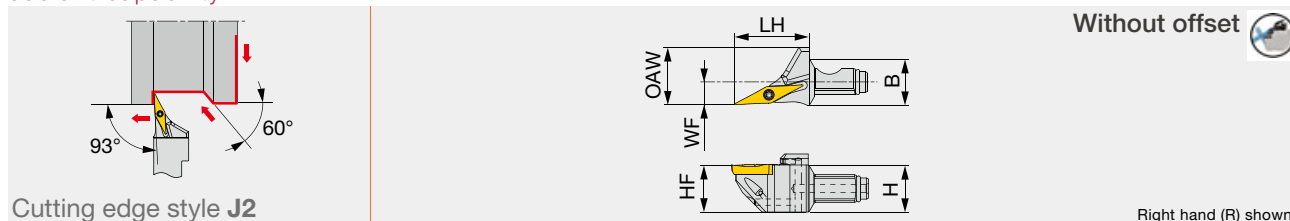
# Y-PRO SERIES

## MODULAR HEADS

**New**

### QC-JSVJ2CR-CHP

Screw-on modular head with 93° approach angle, for positive 25° rhombic inserts, with high pressure coolant capability



Designation	H	B	LH	HF	WF	OAW	RE**	Insert	Torque*	Coupling size
QC12-JSYJ2CR10-CHP	12	12	19.5	12	6	15	0.1	YCGT1002...	0.7	QC12
QC16-JSYJ2CR10-CHP	16	16	21	16	8	20	0.1	YCGT1002...	0.7	QC16

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

RE\*\*: Standard corner radius

Assembled dimensions with shank are shown on page 19, 20.

#### SPARE PARTS

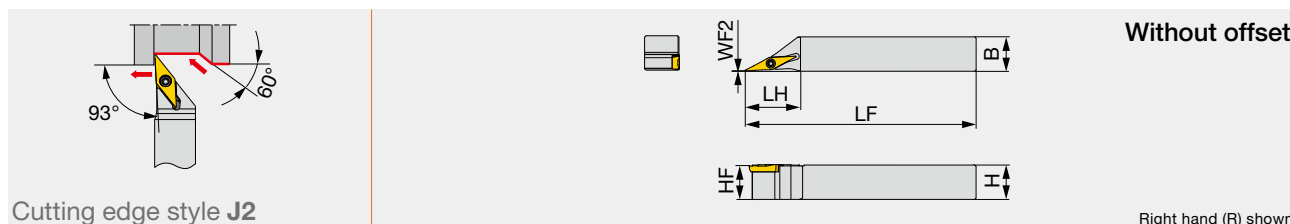
Designation	Clamping screw	Wrench 1	O-ring
QC12-JSYJ2CR10-CHP	CSTB-2L	T-6F	ORSS-0454.5X1.0NBR70
QC16-JSYJ2CR10-CHP	CSTB-2L	T-6F	ORSS-0757.5X1.0NBR70

## TOOLHOLDER

**New**

### JSYJ2CR

Screw-on toolholder with 93° approach angle, for YCGT inserts



Designation	H	B	LF	LH	HF	WF2	RE**	Insert	Torque*
JSYJ2CR1212X10	12	12	120	19.5	12	0	0.1	YCGT1002...	0.7
JSYJ2CR1616X10	16	16	120	21	16	0	0.1	YCGT1002...	0.7

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

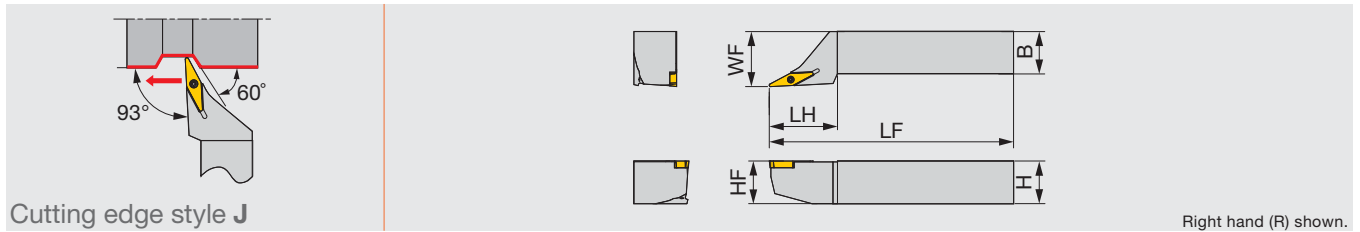
RE\*\*: Standard corner radius

#### SPARE PARTS

Designation	Clamping screw	Wrench
JSYJ2CR...	CSTB-2L	T-6F

## SYJBR/L

Screw-on toolholder with 93° approach angle, for positive 25° rhombic inserts



Designation	H	B	LF	LH	HF	WF	RE**	Insert	Torque*
SYJBR/L2020K16	20	20	125	35	20	25	0.8	YWMT16T3...	1.3
SYJBR/L2525M16	25	25	150	40	25	32	0.8	YWMT16T3...	1.3

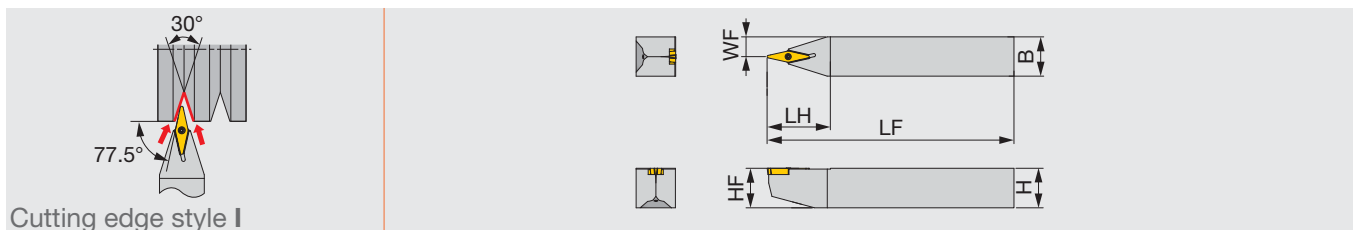
Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

### SPARE PARTS

Designation	Clamping screw	Wrench
SYJBR/L...	CSTB-2.5L080	T-8F

## SYIBN

Screw-on toolholder with 77.5° approach angle, for positive 25° rhombic inserts



Designation	H	B	LF	LH	HF	WF	RE**	Insert	Torque*
SYIBN2020K16	20	20	125	32	20	10	0.8	YWMT16T3...	1.3
SYIBN2525M16	25	25	150	40	25	12.5	0.8	YWMT16T3...	1.3

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

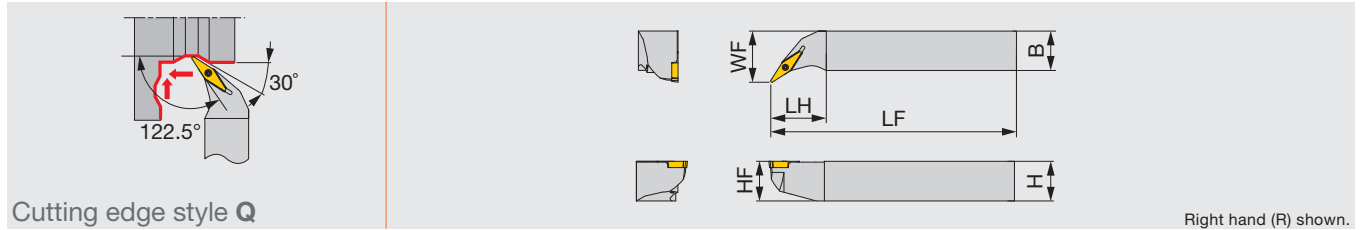
### SPARE PARTS

Designation	Clamping screw	Wrench
SYIBN...	CSTB-2.5L080	T-8F

# Y-PRO SERIES

## SYQBR/L

Screw-on toolholder with 122.5° approach angle, for positive 25° rhombic inserts



Designation	H	B	LF	LH	HF	WF	RE**	Insert	Torque*
SYQBR/L2020K16	20	20	125	35	20	27	0.8	YWMT16T3...	1.3
SYQBR/L2525M16	25	25	150	35	25	32	0.8	YWMT16T3...	1.3

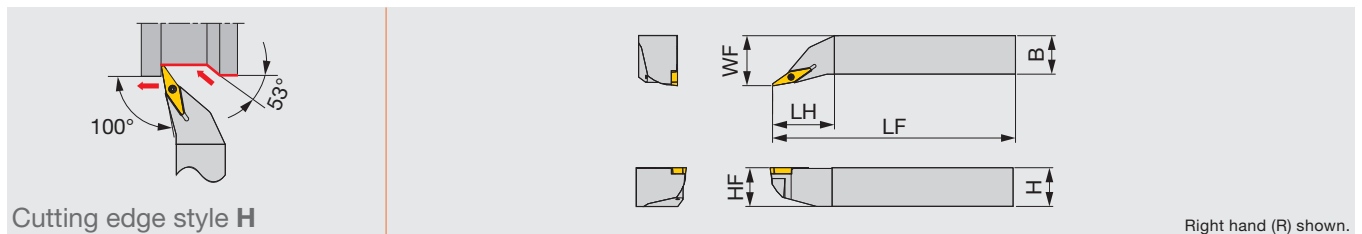
Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

### SPARE PARTS

Designation	Clamping screw	Wrench
SYQBR/L...	CSTB-2.5L080	T-8F

## SYHBR/L

Screw-on toolholder with 100° approach angle, for positive 25° rhombic inserts



Designation	H	B	LF	LH	HF	WF	RE**	Insert	Torque*
SYHBR/L2020K16	20	20	125	35	20	27	0.8	YWMT16T3...	1.3
SYHBR/L2525M16	25	25	150	40	25	32	0.8	YWMT16T3...	1.3

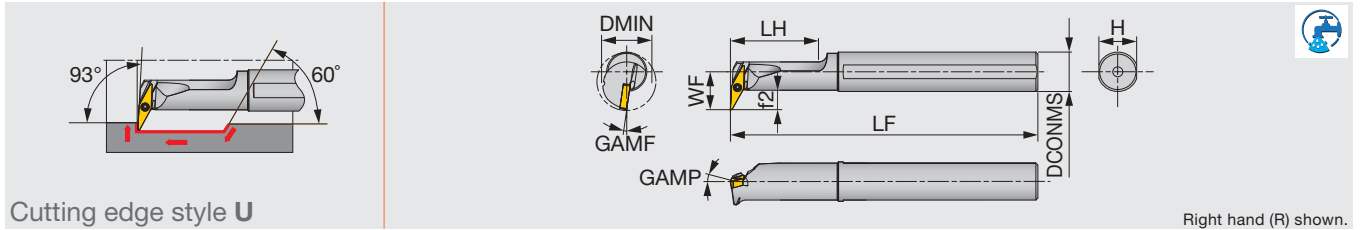
Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

### SPARE PARTS

Designation	Clamping screw	Wrench
SYHBR/L...	CSTB-2.5L080	T-8F

## A/E-SYUBR/L

Screw-on boring bar, for positive 25° rhombic inserts



Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A16Q-SYUBR/L11-D200	Steel	20	16	15.5	180	35	15	8	0°	-8°	0.4	YW**11T2...	0.7
E12Q-SYUBR/L11-D200	Carbide	20	12	13.5	180	27	11	7.5	0°	-8°	0.4	YW**11T2...	0.7
E16R-SYUBR/L11-D245	Carbide	24.5	16	16	200	32	15	8	0°	-8°	0.4	YW**11T2...	0.7

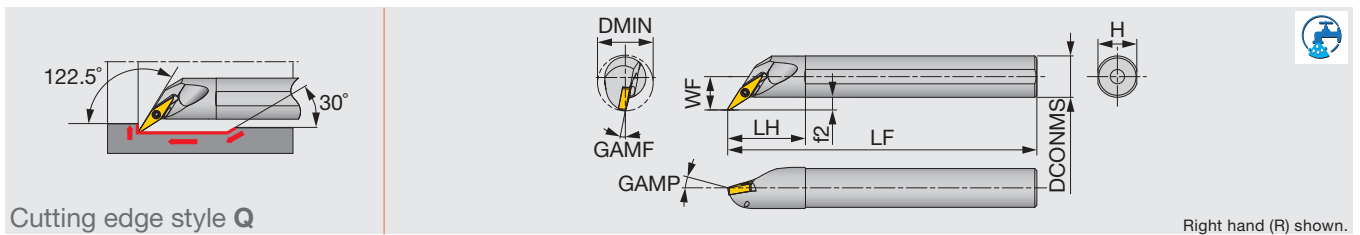
Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

### SPARE PARTS

Designation	Clamping screw	Wrench
A16Q-SYUBR/L11-D200	CSTB-2L	T-6F
E**-SYUBR/L11-D...	CSTB-2L	T-6F

## A/E-SYQBR/L

Screw-on boring bar, for positive 25° rhombic inserts



Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A12M-SYQBR/L11-D170	Steel	17	12	10.5	150	24	11	4.5	-5°	-10°	0.4	YW**11T2...	0.7
A16Q-SYQBR/L11-D215	Steel	21.5	16	13	180	30	15	5	-5°	-8°	0.4	YW**11T2...	0.7
E12Q-SYQBR/L11-D170	Carbide	17	12	10.5	180	27	11	4.5	-5°	-10°	0.4	YW**11T2...	0.7
E16R-SYQBR/L11-D215	Carbide	21.5	16	13	200	32	15	5	-5°	-8°	0.4	YW**11T2...	0.7

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

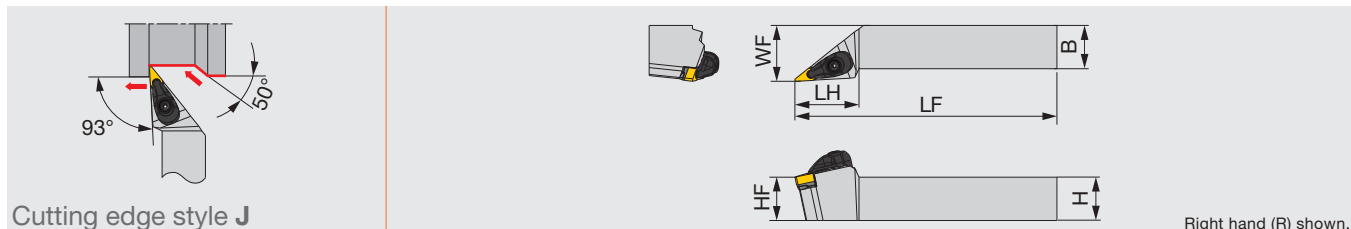
### SPARE PARTS

Designation	Clamping screw	Wrench
A**-SYQBR/L11-D...	CSTB-2L	T-6F
E**-SYQBR/L11-D...	CSTB-2L	T-6F

# Y-PRO SERIES

## AVJNR/L

Double-clamp toolholder with 93° approach angle, for negative 35°/25° rhombic inserts



Cutting edge style J

Right hand (R) shown.

Designation	H	B	LF	LH	HF	WF	RE**	Insert	Torque*
AVJNR/L2020K16-A	20	20	125	43	20	25	0.8	V/YN**1604...	3
AVJNR/L2525M16-A	25	25	150	46	25	32	0.8	V/YN**1604...	3

Torque\*: Recommended clamping torque (N·m)  
RE\*\*: Standard corner radius

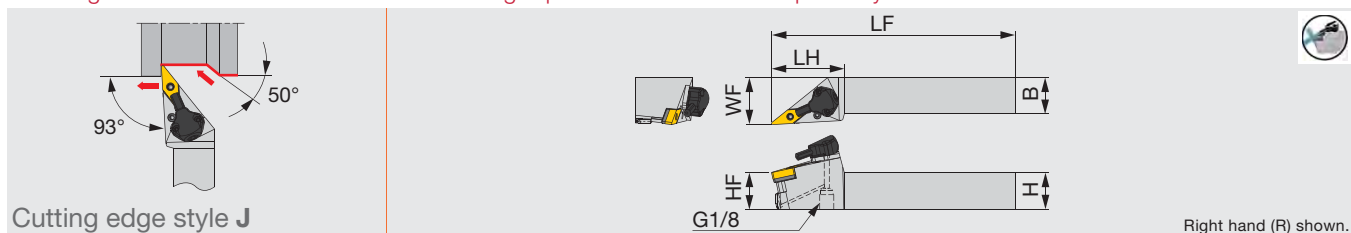
### SPARE PARTS

Designation	Clamp	Clamp screw	Spring	Spring pin	Shim	Shim screw	Wrench
AVJNR/L**1204-A	ACP3L-E	ACS-5W	BP-7	SP-2.5	ASV222	CSTB-3.0	T-15F
AVJNR/L**16-A	ACP3L	ACS-5W	BP-7	SP-2.5	ASV322	CSTB-3.5	T-15F

## PVJNR/L-CHP

Tube connection

Lever lock toolholders – 93° approach angle.  
For negative 35°/25° rhombic insert. High-pressure coolant capability.



Cutting edge style J

Right hand (R) shown.

Designation	H	B	LF	LH	HF	WF	RE**	Insert	Torque*
PVJNR/L2020K16-CHP	20	20	125	50	20	32	0.8	V/YN**1604...	2
PVJNR/L2525M16-CHP	25	25	150	50	25	32	0.8	V/YN**1604...	2

Torque\*: Recommended clamping torque (N·m)  
RE\*\*: Standard corner radius

### SPARE PARTS

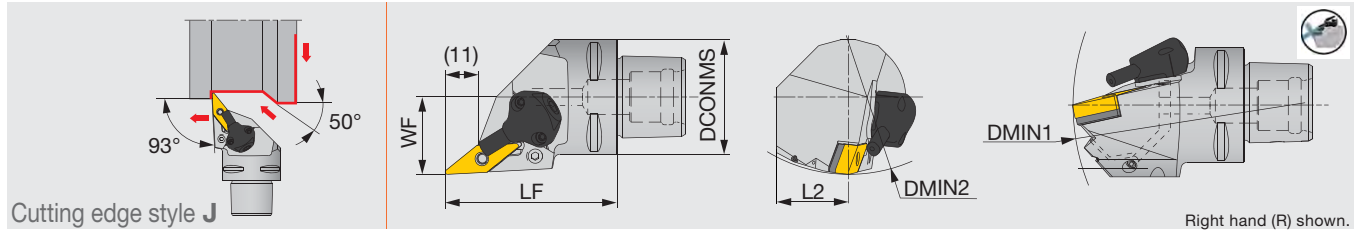
Designation	Shim	Clamping screw	Wrench 1	Spring pin	Lever
PVJNR/L**1204-CHP	LSV212	LCS3V	P-2.5	LSP3	LCL3V
PVJNR/L**16-CHP	LSV317	LCS3V	P-2.5	LSP3	LCL3V

### SPARE PARTS

Designation	Coolant unit	Mounting screw	Wrench 2	O-ring	Coolant screw	Wrench 3
PVJNR/L**1204-CHP	CU-V-CHP	SR M3	T-8F	OR 6.4X0.9N	SR M4X4 DIN913 TL360	P-2
PVJNR/L**16-CHP	CU-V-CHP	SR M3	T-8F	OR 6.4X0.9N	SR M4X4 DIN913 TL360	P-2

## C-PVJNR/L-CHP

Lever lock toolholders with TungCap connection – 93° approach angle.  
For negative 35°/25° rhombic insert. High-pressure coolant capability.



Designation	DCONMS	LF	L2	WF	DMIN1	DMIN2	RE**	Insert	Torque*
C4PVJNR/L27060-16-CHP	40	60	20	27	140	110	0.8	V/YN**1604...	2
C6PVJNR/L45065-16-CHP	63	65	31.5	45	190	81	0.8	V/YN**1604...	2

Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius  
Applicable for 14 MPa pressure coolant

### SPARE PARTS

Designation	Shim	Clamping screw	Wrench 1	Spring pin	Lever
C*PVJNR/L**1204-CHP	LSV212	LCS3V	P-2.5	LSP3	LCL3V
C*PVJNR/L...16-CHP	LSV317	LCS3V	P-2.5	LSP3	LCL3V

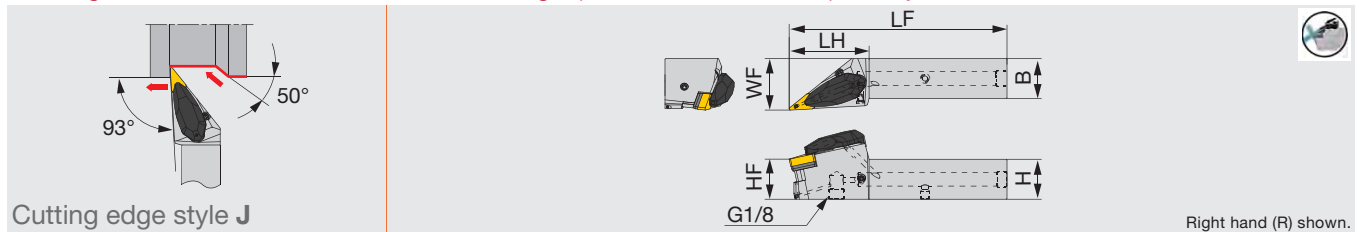
### SPARE PARTS

Designation	Coolant unit	Mounting screw	Wrench 2	O-ring
C*PVJNR/L**1204-CHP	CU-V-CHP	SR M3	T-8F	OR 6.4X0.9N
C*PVJNR/L...16-CHP	CU-V-CHP	SR M3	T-8F	OR 6.4X0.9N

## AVJNR/L-CHP

Direct connection    Tube connection

Double clamping tool holders-93° approach angle.  
For negative 35° or 25° rhombic insert. High-pressure coolant capability with tube and direct connections.



Designation	H	B	LF	LH	HF	WF	RE	Insert	Torque
AVJNR/L2020X16-CHP	20	20	122	50	20	25	0.8	V/YN**1604...	3
AVJNR/L2525X16-CHP	25	25	135	50	25	32	0.8	V/YN**1604...	3

Torque: Recommended clamping torque (N-m)

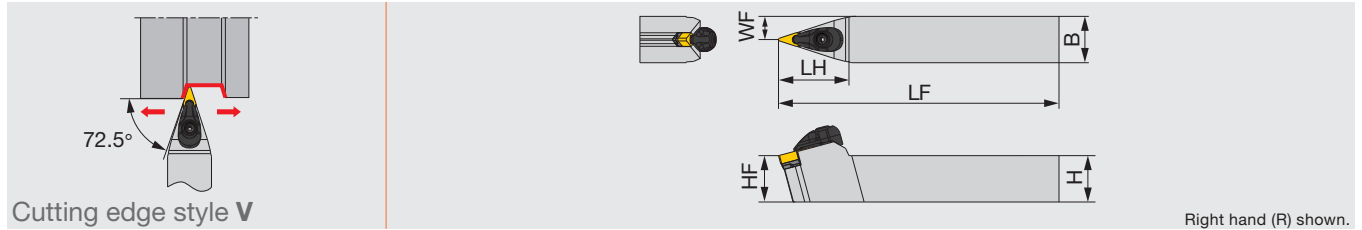
### SPARE PARTS

Designation	Clamp	Clamping screw	Shim	Shim screw	Spring	Wrench	O-ring
AVJNR/L****16-CHP	ACP3L-CHP	SR 11800782	ASV322	CSTB-3.5	BP-4.5	T-15F	ORAS568-2.62X7.59

# Y-PRO SERIES

## AVVNN

Double-clamp toolholder with 72.5° approach angle, for negative 35°/25° rhombic inserts



Designation	H	B	LF	LH	HF	WF	RE**	Insert	Torque*
AVVNN2020K16-A	20	20	125	46	20	10	0.8	V/YN**1604...	3
AVVNN2525M16-A	25	25	150	46	25	12.5	0.8	V/YN**1604...	3

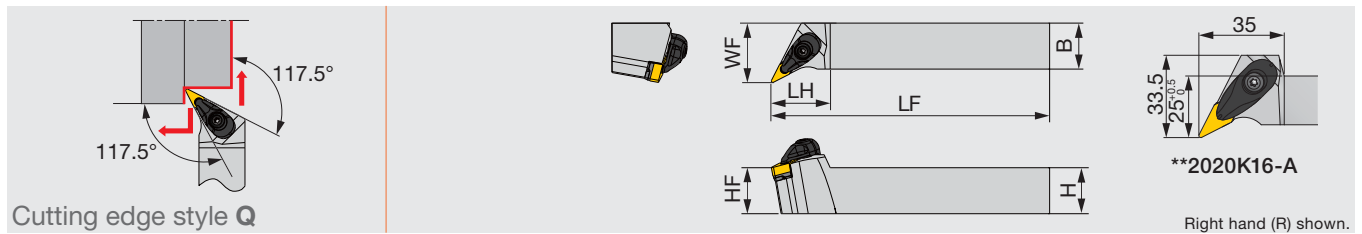
Torque\*: Recommended clamping torque (N-m)  
RE\*\*: Standard corner radius

### SPARE PARTS

Designation	Clamp	Clamp screw	Spring	Spring pin	Shim	Shim screw	Wrench
AVVNN**1204-A	ACP3L-E	ACS-5W	BP-7	SP-2.5	ASV222	CSTB-3.0	T-15F
AVVNN**16-A	ACP3L	ACS-5W	BP-7	SP-2.5	ASV322	CSTB-3.5	T-15F

## AVQNR/L

Double-clamp toolholder with 117.5° approach angle, for negative 35°/25° rhombic inserts



Designation	H	B	LF	LH	HF	WF	RE**	Insert	Torque*
AVQNR/L2020K16-A	20	20	125	35	20	25	0.8	V/YN**1604...	3
AVQNR/L2525M16-A	25	25	150	35	25	32	0.8	V/YN**1604...	3

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

### SPARE PARTS

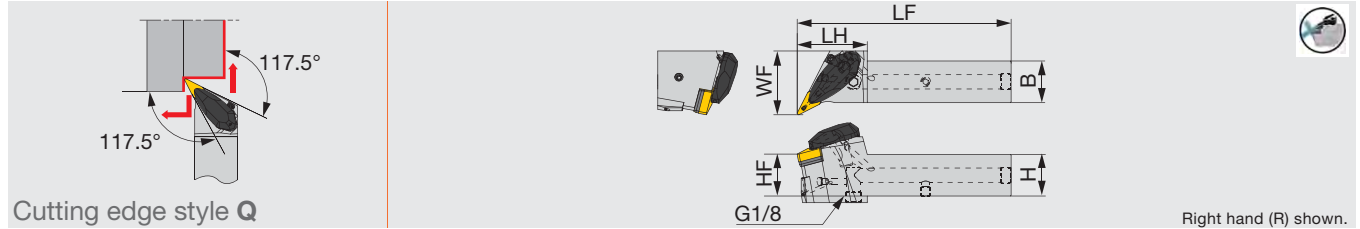
Designation	Clamp	Clamp screw	Spring	Spring pin	Shim	Shim screw	Wrench
AVQNR/L**16-A	ACP3L	ACS-5W	BP-7	SP-2.5	ASV322	CSTB-3.5	T-15F

## AVQNR/L-CHP

Direct connection Tube connection

Double clamping tool holders-117.5° approach angle.

For negative 35° or 25° rhombic insert. High-pressure coolant capability with tube and direct connections.



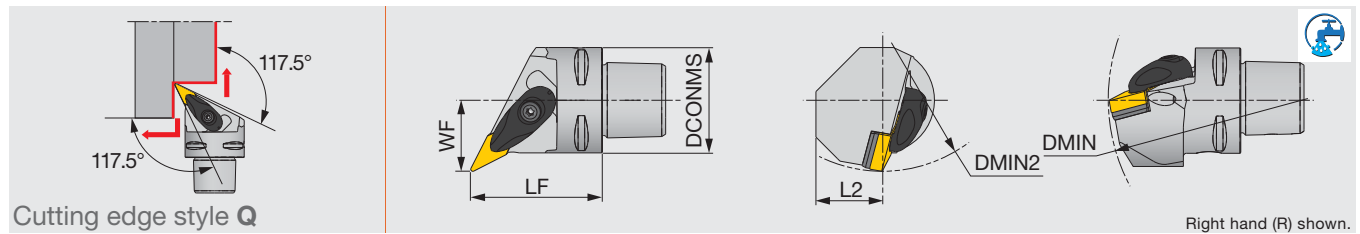
Designation	H	B	LF	LH	HF	WF	RE	Insert	Torque
AVQNR/L2020X16-CHP	20	20	114	41	20	25	0.8	V/YN**1604...	3
AVQNR/L2525X16-CHP	25	25	127	42	25	32	0.8	V/YN**1604...	3

Torque: Recommended clamping torque (N·m)

SPARE PARTS							
Designation	Clamp	Clamping screw	Shim	Shim screw	Spring	Wrench	O-ring
AVQNR/L***16-CHP	ACP3L-CHP	SR 11800782	ASV322	CSTB-3.5	BP-4.5	T-15F	ORAS568-2.62X7.59

## C-AVQNR/L

Double-clamp toolholder, with 117.5° approach angle, for negative 35°/25° rhombic inserts



Designation	DCONMS	LF	L2	WF	DMIN	DMIN2	RE	Insert
C4AVQNR/L27050-16N	40	50	25	27	145	110	0.8	V/YN**1604...

Applicable for 7 MPa coolant

SPARE PARTS							
Designation	Clamp	Clamp screw	Spring	Spring pin	Shim	Shim screw	Wrench
C4AVQNR/L**-16N	ACP3L	ACS-5W	BP-7	SP-2.5	ASV322	CSTB-3.5	T-15F

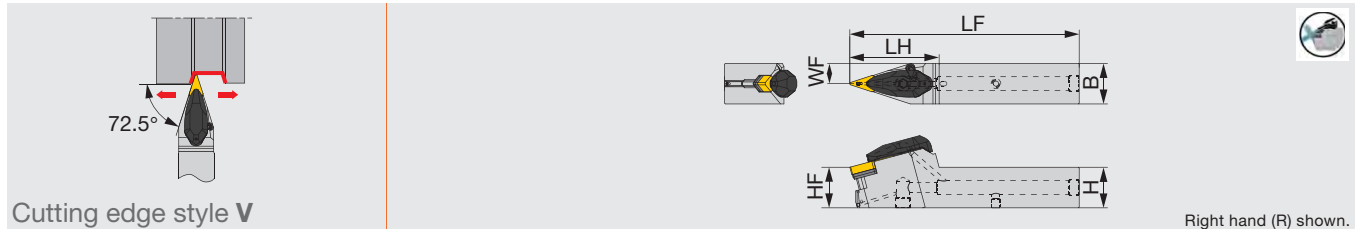
# Y-PRO SERIES

## AVVNN-CHP

Direct connection Tube connection

Double clamping tool holders-72.5° approach angle.

For negative 35° or 25° rhombic insert. High-pressure coolant capability with tube and direct connections.



Designation	H	B	LF	LH	HF	WF	RE	Insert	Torque
AVVNN2020X16-CHP	20	20	127	55	20	10	0.8	V/YN**1604...	3
AVVNN2525X16-CHP	25	25	140	55	25	12.5	0.8	V/YN**1604...	3

Torque: Recommended clamping torque: N-m

### SPARE PARTS

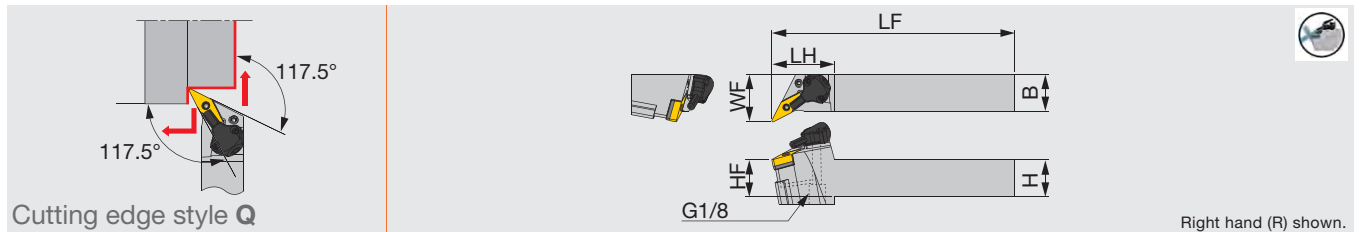
Designation	Clamp	Clamping screw	Shim	Shim screw	Spring	Wrench	O-ring
AVVNN**16-CHP	ACP3L-CHP	SR 11800782	ASV322	CSTB-3.5	BP-4.5	T-15F	ORAS568-2.62X7.59

## PVQNR/L-CHP

Tube connection

Lever lock toolholders – 117.5° approach angle.

For negative 35°/25° rhombic insert. High-pressure coolant capability.



Designation	H	B	LF	LH	HF	WF	RE**	Insert	Torque*
PVQNR/L2020K16-CHP	20	20	125	42.5	20	32	0.8	V/YN**1604...	2
PVQNR/L2525M16-CHP	25	25	150	42.5	25	32	0.8	V/YN**1604...	2

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

RE\*\*: Standard corner radius

### SPARE PARTS

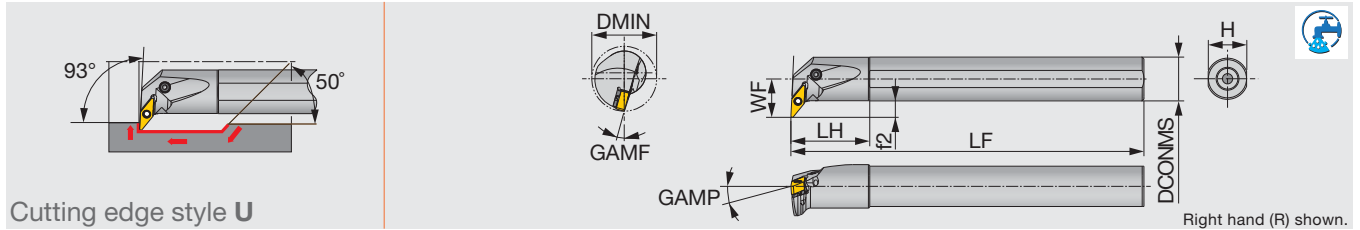
Designation	Shim	Clamping screw	Wrench 1	Spring pin	Lever
PVQNR/L**16-CHP	LSV317	LCS3V	P-2.5	LSP3	LCL3V

### SPARE PARTS

Designation	Coolant unit	Mounting screw	Wrench 2	O-ring	Coolant screw	Wrench 3
PVQNR/L**16-CHP	CU-V-CHP	SR M3	T-8F	OR 6.4X0.9N	SR M4X4 DIN913 TL360	P-2

## A-PVUNR/L

Lever-lock boring bar, for negative 35°/25° rhombic inserts



Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A25R-PVUNR/L16-D370	Steel	37	25	22	200	45	23	9.5	-5°	-14°	0.8	V/YN**1604...	2.7
A32S-PVUNR/L16-D400	Steel	40	32	22	250	50	30	6	-5°	-12°	0.8	V/YN**1604...	2.7
A40T-PVUNR/L16-D500	Steel	50	40	27	300	60	37	7	-5°	-10°	0.8	V/YN**1604...	2.7

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

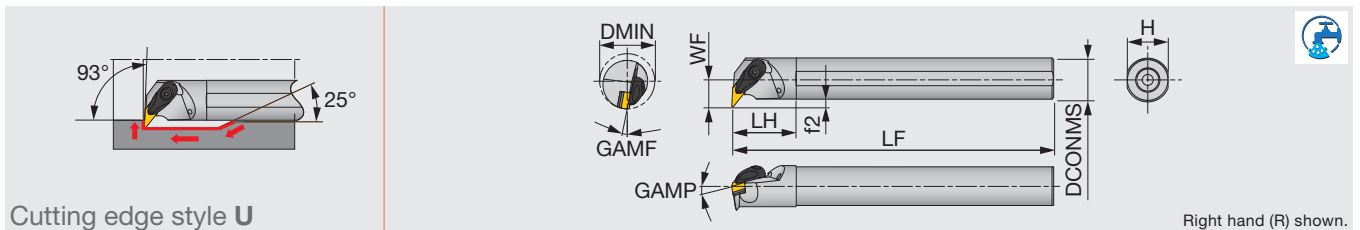
### SPARE PARTS

Designation	Shim	Clamping screw	Wrench	Spring pin	Lever	Oil supply attachment*	Screw for oil hole*
A25R-PVUNR/L16-D370	LSV317BR/L	LCS3V	P-2.5	LSP3	LCL3V	EA-25	SSH4-5
A32S-PVUNR/L16-D400	LSV317BR/L	LCS3V	P-2.5	LSP3	LCL3V	EA-32	SSH4-5
A40T-PVUNR/L16-D500	LSV317BR/L	LCS3V	P-2.5	LSP3	LCL3V	-	SSH5-6

\*Optional

## A-AVUNR/L

Double-clamp boring bar, for negative 35°/25° rhombic inserts



Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A32S-AVUNR/L16-D400	Steel	40	32	22	250	50	30	6	-6°	-10°	0.8	V/YN**1604...	3
A40T-AVUNR/L16-D500	Steel	50	40	27	300	55	37	7	-6°	-8°	0.8	V/YN**1604...	3

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

### SPARE PARTS

Designation	Clamp	Clamp screw	Spring	Spring pin	Shim	Shim screw	Wrench
A**-AVUNR/L16-D...	ACP3L	ACS-5W	BP-7	SP-2.5	ASV322	CSTB-3.5	T-15F

# Y-PRO SERIES

## STANDARD CUTTING CONDITIONS

For positive insert

ISO	Operation	Chipbreaker	Grades	Depth of cut ap (mm)	Feed f (mm/rev)	Cutting speed: Vc (m/min)		
						Low carbon steels, alloy steels	Medium carbon steels, alloy steels	High carbon steels, alloy steels
<b>P</b>	Precision finishing	JS	<b>SH7025</b>	0.5 - 3	0.02 - 0.2	10 - 200	10 - 200	10 - 200
			GT9530	0.2 - 1.5	0.05 - 0.25	150 - 300	150 - 300	150 - 300
	Finishing	ZF	NS9530	0.2 - 1.5	0.05 - 0.25	150 - 300	150 - 300	150 - 300
			T9215	0.2 - 1.5	0.05 - 0.25	120 - 350	100 - 350	80 - 250
			T9225	0.2 - 1.5	0.05 - 0.25	120 - 300	120 - 300	100 - 250
			T9235	0.2 - 1.5	0.05 - 0.25	50 - 200	50 - 200	50 - 150
			GT9530	0.5 - 2	0.05 - 0.3	150 - 300	150 - 300	150 - 300
	Finishing to medium	ZM	NS9530	0.5 - 2	0.05 - 0.3	150 - 300	150 - 300	150 - 300
			T9215	0.5 - 2	0.05 - 0.3	120 - 350	100 - 350	80 - 250
			T9225	0.5 - 2	0.05 - 0.3	120 - 300	120 - 300	100 - 250
			T9235	0.5 - 2	0.05 - 0.3	50 - 200	50 - 200	50 - 150
			<b>Stainless steels</b>					
<b>M</b>	Precision finishing	JS	<b>SH7025</b>	0.5 - 3	0.02 - 0.2	10 - 200	10 - 200	10 - 200
			GT9530	0.2 - 1.5	0.05 - 0.25	140 - 240	160 - 280	80 - 150
	Finishing to medium	ZF	AH6225	0.2 - 1.5	0.05 - 0.25	90 - 200	110 - 240	60 - 110
			T6215	0.5 - 2	0.05 - 0.3	140 - 240	160 - 280	80 - 150
			AH6225	0.5 - 2	0.05 - 0.3	90 - 200	110 - 240	60 - 110
<b>Cast iron</b>								
<b>K</b>	Finishing to medium	ZF	T9215	0.2 - 1.5	0.05 - 0.25	140 - 500	140 - 500	140 - 500
			T9225	0.2 - 1.5	0.05 - 0.25	140 - 500	140 - 500	140 - 500
		ZM	T9215	0.5 - 2	0.05 - 0.3	140 - 500	140 - 500	140 - 500
			T9225	0.5 - 2	0.05 - 0.3	140 - 500	140 - 500	140 - 500
<b>Heat-resistant alloys</b>								
<b>S</b>	Finishing to medium	ZF	AH8015	0.2 - 1.5	0.05 - 0.25	20 - 80	20 - 80	20 - 80
		ZM	AH8015	0.5 - 2	0.05 - 0.3	20 - 80	20 - 80	20 - 80

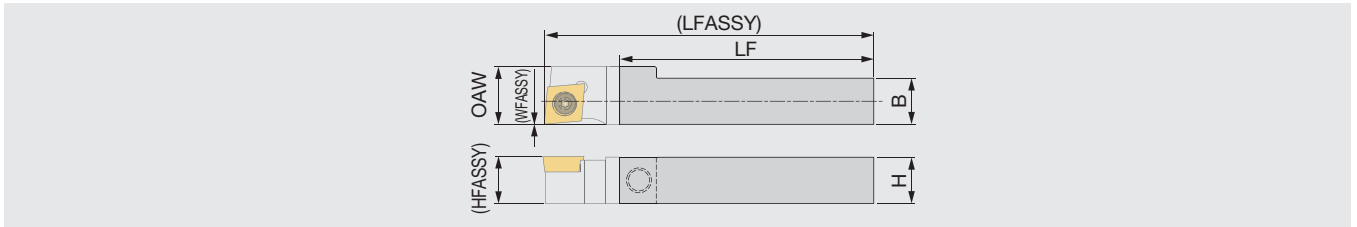
For negative insert

ISO	Operation	Chipbreaker	Grades	Depth of cut ap (mm)	Feed f (mm/rev)	Cutting speed: Vc (m/min)		
						Low carbon steels, alloy steels	Medium carbon steels, alloy steels	High carbon steels, alloy steels
<b>P</b>	Finishing	ZF	GT9530	0.2 - 1.5	0.03 - 0.2	150 - 300	150 - 300	150 - 300
			NS9530	0.2 - 1.5	0.03 - 0.2	150 - 300	150 - 300	150 - 300
			T9215	0.2 - 1.5	0.03 - 0.2	120 - 350	100 - 350	80 - 250
			T9225	0.2 - 1.5	0.03 - 0.2	120 - 300	120 - 300	100 - 250
			T9235	0.2 - 1.5	0.03 - 0.2	50 - 200	50 - 200	50 - 150
	Finishing to medium	ZM	GT9530	0.7 - 2	0.15 - 0.4	150 - 300	150 - 300	150 - 300
			NS9530	0.7 - 2	0.15 - 0.4	150 - 300	150 - 300	150 - 300
			T9215	0.7 - 2	0.15 - 0.4	120 - 350	100 - 350	80 - 250
			T9225	0.7 - 2	0.15 - 0.4	120 - 300	120 - 300	100 - 250
			T9235	0.7 - 2	0.15 - 0.4	50 - 200	50 - 200	50 - 150
<b>Stainless steels</b>								
<b>M</b>	Finishing	ZF	T6215	0.2 - 1.5	0.03 - 0.2	140 - 240	160 - 280	80 - 150
			AH6225	0.2 - 1.5	0.03 - 0.2	90 - 200	110 - 240	60 - 110
	Finishing to medium	ZM	T6215	0.7 - 2	0.15 - 0.4	140 - 240	160 - 280	80 - 150
			AH6225	0.7 - 2	0.15 - 0.4	90 - 200	110 - 240	60 - 110
<b>Cast iron</b>								
<b>K</b>	Finishing	ZF	T9215	0.2 - 1.5	0.03 - 0.2	140 - 500	140 - 500	140 - 500
			T9225	0.2 - 1.5	0.03 - 0.2	140 - 500	140 - 500	140 - 500
	Finishing to medium	ZM	T9215	0.7 - 2	0.15 - 0.4	140 - 500	140 - 500	140 - 500
			T9225	0.7 - 2	0.15 - 0.4	140 - 500	140 - 500	140 - 500
<b>Heat-resistant alloys</b>								
<b>S</b>	Finishing	ZF	AH8015	0.2 - 1.5	0.03 - 0.2	20 - 80	20 - 80	20 - 80
	Finishing to medium	ZM	AH8015	0.7 - 2	0.15 - 0.4	20 - 80	20 - 80	20 - 80

## SHANKS

### QC-1212

Shank for modular heads



Designation	H	B	LF	OAW	WFASSY	HFASSY	LFASSY <sup>(1)</sup>	Torque*	Coupling size
QC-1212F	12	12	65	15	0	12	85	3	QC12
QC-1212X	12	12	100	15	0	12	120	3	QC12

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

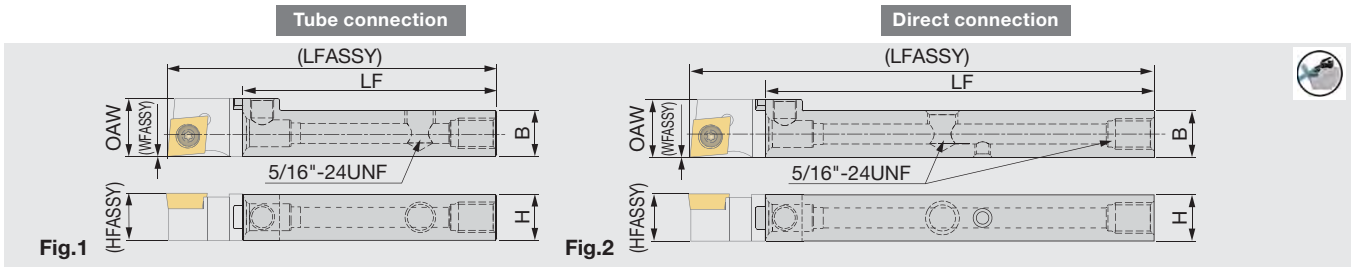
(1) The size is true when the modular head with LH = 19.5 mm is mounted.

#### SPARE PARTS

Designation	Clamping screw	Wrench
QC-1212*	SRM6X0.5-26977	P-3

### QC-1212/1616-CHP

Shank for modular heads, with high pressure coolant capability



Designation	H	B	LF	OAW	WFASSY	HFASSY	LFASSY	Torque*	Coupling size	Fig.
QC-1212F-CHP	12	12	65	15	0	12	85 <sup>(1)</sup>	3	QC12	1
QC-1212X-CHP <sup>(*)</sup>	12	12	100	15	0	12	120 <sup>(1)</sup>	3	QC12	2
QC-1616X-CHP <sup>(*)</sup>	16	16	99	20	0	16	120 <sup>(2)</sup>	8.5	QC16	2

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

(\*) : Compatible to the direct internal coolant supply system without the use of external coolant hose.

(1) The size is true when the modular head with LH = 19.5 mm is mounted.

(2) The size is true when the modular head with LH = 21 mm is mounted.

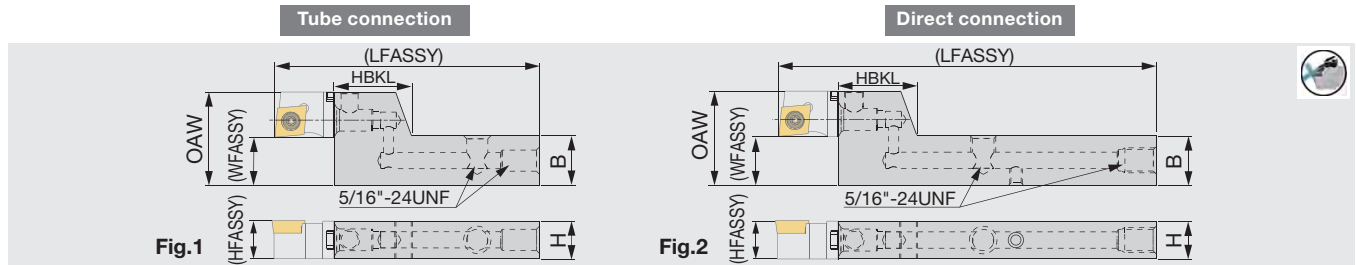
#### SPARE PARTS

Designation	Clamping screw	Wrench 1	Coolant plug	Wrench 2	DirectJet plug	Wrench 3
QC-1212F-CHP	SRM6X0.5-26977	P-3	SR 5/16UNF TL360	P-4	-	-
QC-1212X-CHP	SRM6X0.5-26977	P-3	SR 5/16UNF TL360	P-4	SSHM4-6-TB	P-2
QC-1616X-CHP	SRM8X0.5	P-5	SR 5/16UNF TL360	P-4	SSHM4-6-TB	P-2

# Y-PRO SERIES

## QC-1216/1620-F15-CHP

Stepped-head shank for modular heads, with high pressure coolant capability



Designation	H	B	LF	OAW	WFASSY	HFASSY	LFASSY	HBKL	Torque*	Coupling size	Fig.
QC-1216F-F15-CHP	12	16	65	30	15	12	85 <sup>(1)</sup>	25	3	QC12	1
QC-1216X-F15-CHP (*)	12	16	100	30	15	12	120 <sup>(1)</sup>	25	3	QC12	2
QC-1620X-F15-CHP (*)	16	20	99	35	15	16	120 <sup>(2)</sup>	30	8.5	QC16	2

Torque\* : Recommended clamping torque (N.m)

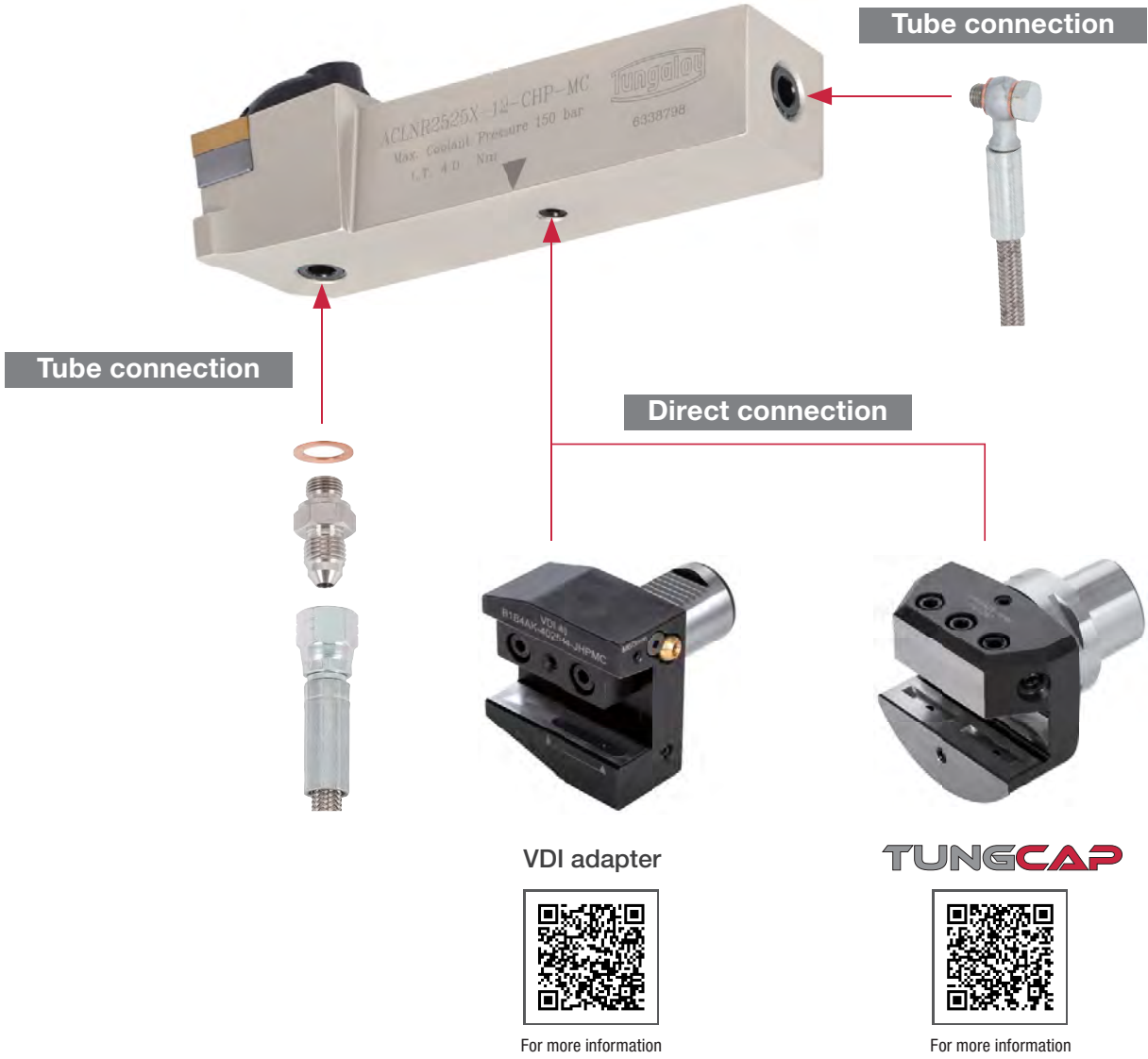
(\*) : Compatible to the direct internal coolant supply system without the use of external coolant hose.

(1) The size is true when the modular head with LH = 19.5 mm is mounted.

(2) The size is true when the modular head with LH = 21 mm is mounted.

Designation	Clamping screw	Wrench 1	Coolant plug	Wrench 2	DirectJet plug	Wrench 3
QC-1216F-F15-CHP	SRM6X0.5-26977	P-3	SR 5/16UNF TL360	P-4	-	-
QC-1216X-F15-CHP	SRM6X0.5-26977	P-3	SR 5/16UNF TL360	P-4	SSHM4-6-TB	P-2
QC-1620X-F15-CHP	SRM8X0.5	P-5	SR 5/16UNF TL360	P-4	SSHM4-6-TB	P-2

**PARTS FOR COOLANT HOSE**



# Y-PRO SERIES

## PARTS FOR COOLANT HOSE

### Connecting hose

Fig. 1

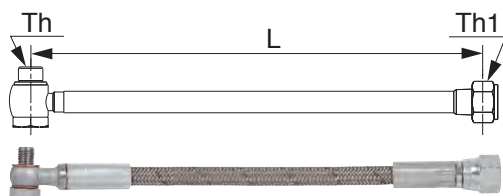
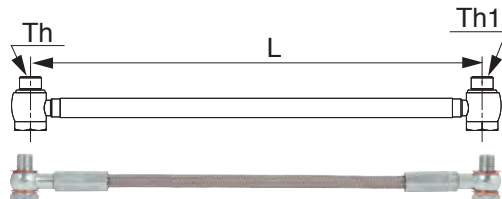
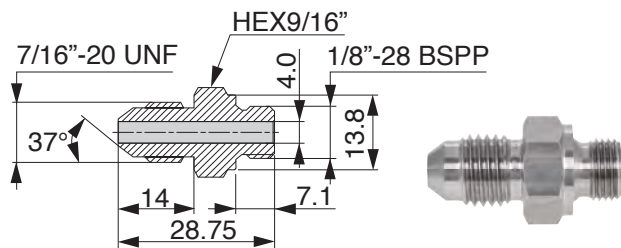


Fig. 2



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	20	1
CHP-HOSE-G1/8-7/16-250BS	250	G1/8"-28 BSPP	7/16"-20 UNF	20	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	20	2
CHP-HOSE-G1/8-G1/8-250BB	250	G1/8"-28 BSPP	G1/8"-28 BSPP	20	2

### Connector



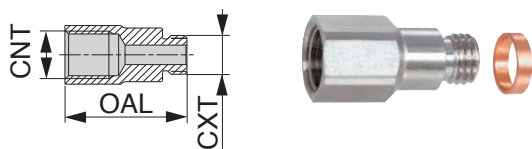
Designation
CHP-NIPPLE-G1/8-7/16UNF

### Seal washer



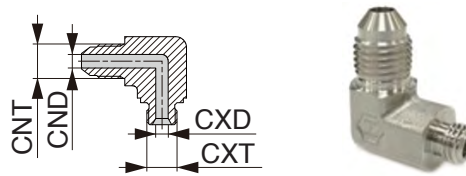
Designation	øD	ød	W
CHP-COPPER-SEAL1/8	15	10	1
CHP-COPPER-SEAL5/16	11.9	8.15	1.35
CHP-COPPER-SEAL5/16-2.5	9.4	8	2.5

### Connector for small lathe with seal washer





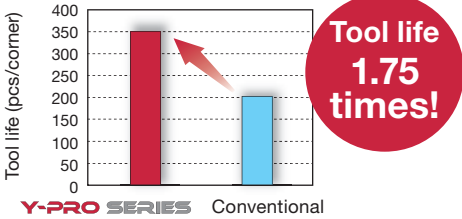
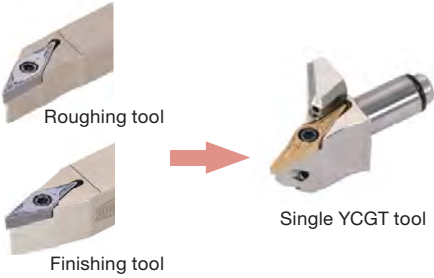

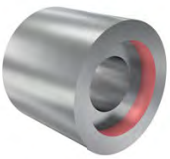
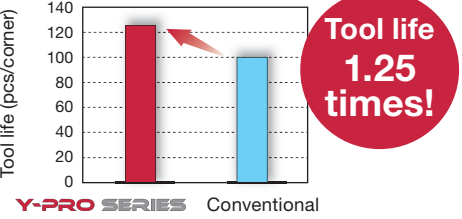

Designation	CNT	CXT	OAL
CHP-CONNECTOR5/16-G1/8	G1/8"-28 BSPP	5/16"-24 UNF	25
CHP-CONNECTOR-G1/8-R1/8	G1/8"-28 BSPP	R1/8"-28 BSPT	25

### 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

## PRACTICAL EXAMPLES

Workpiece type		Fitting	Shaft
Toolholder		JSYJ2CR1212X10	QC12-JSYJ2CR10-CHP
Insert		<b>New</b> YCGT100202MF-JS	<b>New</b> YCGT100202MF-JS
Grade		SH7025	SH7025
Workpiece material		SUS304 / X5CrNi18-10	S45C / C45
		 <b>M</b>	 <b>P</b>
Cutting conditions	Cutting speed : $V_c$ (m/min)	85	70
	Feed : $f$ (mm/rev)	0.03	0.02
	Depth of cut : $a_p$ (mm)	0.075	0.3
	Machining	External turning	External turning
	Coolant	Wet	Wet
Results		 <p><b>Y-PRO SERIES</b> Conventional</p> <p>Traditionally, machining the thread-end taper requires a dedicated insert shape. <b>YCGT</b> performs this operation while delivering 1.75 times longer tool life.</p>	 <p>Roughing tool Finishing tool Single YCGT tool</p> <p>Conventionally, two different tools were required for external turning and profiling. <b>YCGT</b> integrates both functions into a single tool.</p>
		<p><b>Results</b></p> <p>Traditionally, machining the thread-end taper requires a dedicated insert shape. <b>YCGT</b> performs this operation while delivering 1.75 times longer tool life.</p> <p>Conventionally, two different tools were required for external turning and profiling. <b>YCGT</b> integrates both functions into a single tool.</p>	
Workpiece type		Pulley	Automotive part
Toolholder		AVVNN2525M16-A	A16Q-SYUBR11-D200
Insert		YNMG160404-ZM	YWMT11T204-ZF
Grade		GT9530	T9215
Workpiece material		SCM415	SACM645
		 <b>P</b>	 <b>P</b>
Cutting conditions	Cutting speed : $V_c$ (m/min)	250	100
	Feed : $f$ (mm/rev)	0.5	0.5
	Depth of cut : $a_p$ (mm)	0.1 - 0.2	0.2
	Machining	External turning	Internal turning
	Coolant	Wet	Wet
Results		 <p><b>Y-PRO SERIES</b> Conventional</p> <p>Chip control was drastically improved against conventional grooving tool. 1.25 times longer tool life achieved.</p>	 <p>Chips by -ZF chipbreaker</p> <p>Chip control and surface finish are improved drastically when internal turning.</p>
		<p><b>Results</b></p> <p>Chip control was drastically improved against conventional grooving tool. 1.25 times longer tool life achieved.</p> <p>Chip control and surface finish are improved drastically when internal turning.</p>	

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