

Exchangeable head turning tool system for Swiss machines

MODUM^{INI}TURN

Tungaloy Report No. 541S2-US

Expanded lineups of **parting and profiling heads, as well as shank options** for extensive application coverage

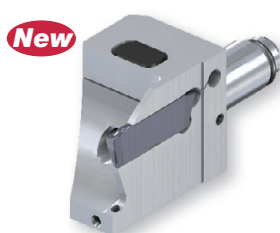




Exchangeable head turning tool system for Swiss machines

Expansion of high-pressure through-coolant head series

Introducing new heads for parting, profiling and back turning applications with high-pressure through-coolant supply



TUNG CUT

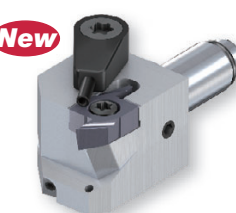
Parting

CW = 0.047" - 0.079"



MINI TURN

O.D. profiling

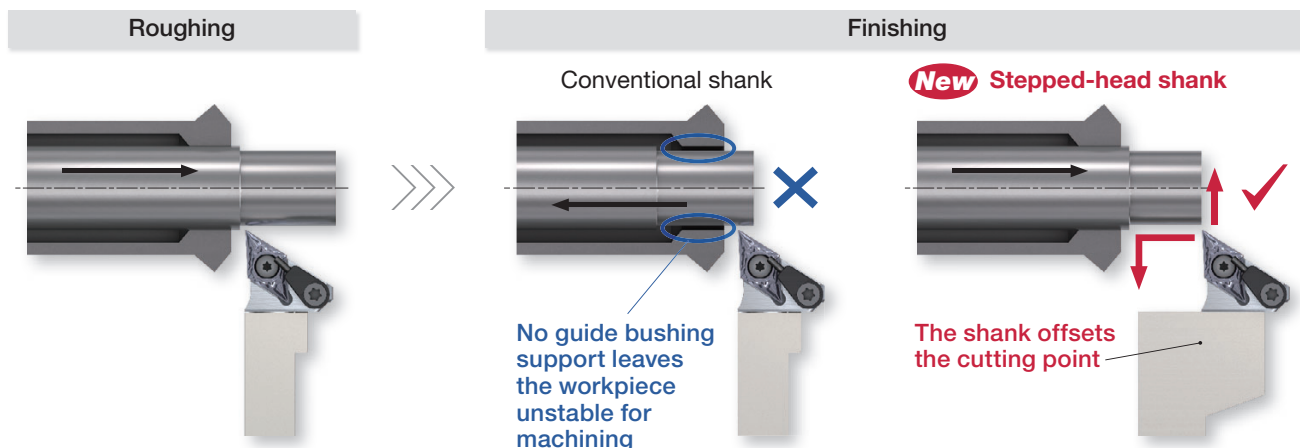


J-SERIES

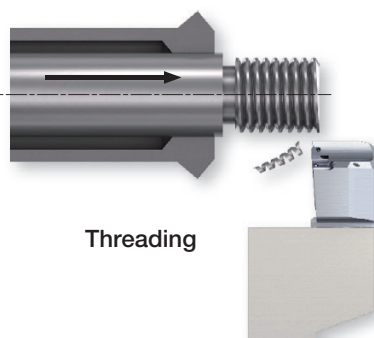
Back turning

New stepped-head shanks

Allows finishing operation to be performed after roughing operation without returning the workpiece back into the guide bushing where no support is provided for the workpiece.



Prevents chips from entering the guide bushing during thread machining.



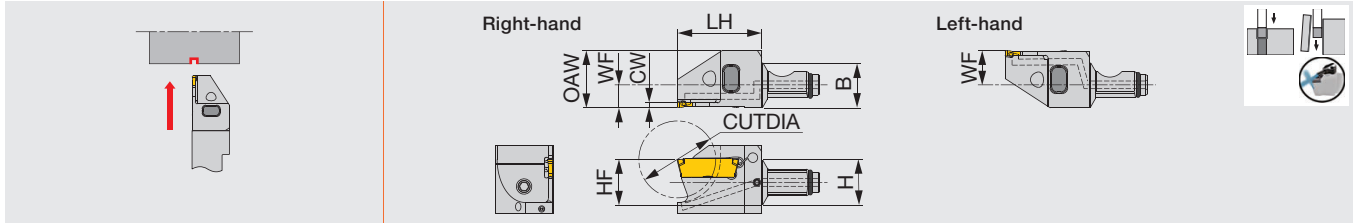
Threading

MODULAR HEADS

QC12-JTTER/L-CHP

TUNGCUT

Modular head for external grooving and parting, with high pressure coolant capability



Inch	CW	Seat size	CUTDIA	H	B	LH	HF	WF ⁽¹⁾	OAW	Torque
QC12-JTTER/L1.2D20-CHP	0.047	0.9	0.787	0.472	0.472	0.866	0.472	0.236/0.354	0.591	1.11
QC12-JTTER/L1.4D20-CHP	0.055	1	0.787	0.472	0.472	0.866	0.472	0.236/0.354	0.591	1.11
QC12-JTTER/L2D20-CHP	0.079	2	0.787	0.472	0.472	0.866	0.472	0.236/0.354	0.591	1.11

Metric	CW	Seat size	CUTDIA	H	B	LH	HF	WF ⁽¹⁾	OAW	Torque*
QC12-JTTER/L1.2D20-CHP	1.2	0.9	20	12	12	22	12	6/9	15	1.5
QC12-JTTER/L1.4D20-CHP	1.4	1	20	12	12	22	12	6/9	15	1.5
QC12-JTTER/L2D20-CHP	2	2	20	12	12	22	12	6/9	15	1.5

(1) "WF" value is calculated with groove width "CW" shown in the table. The first value before "/" indicates the WF for the right-hand holder and the second value after "/" for the left-hand holder.
Torque: Recommended clamping torque: lbs-ft (*N-m)

Insert



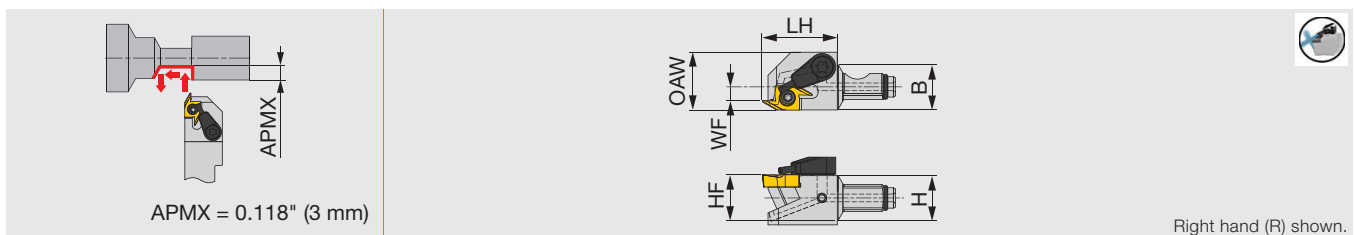
SPARE PARTS

Designation	Clamping screw	Clamping pin	Wrench	O-ring
QC12-JTTER/L...	SSM3.5x0.35	PIN-SL-TC	P-2F	ORSS-0454.5X1.0NBR70

QC12-JSEGR-CHP

J-SERIES

Screw-on modular head for back turning, with high pressure coolant capability



Inch	H	B	LH	HF	WF	OAW	Insert	Torque
QC12-JSEGR10-CHP	0.472	0.472	0.768	0.472	0.138	0.591	J10ER...	0.89

Metric	H	B	LH	HF	WF	OAW	Insert	Torque*
QC12-JSEGR10-CHP	12	12	19.5	12	3.5	15	J10ER...	1.2

Torque: Recommended clamping torque: lbs-ft (*N-m)

Insert

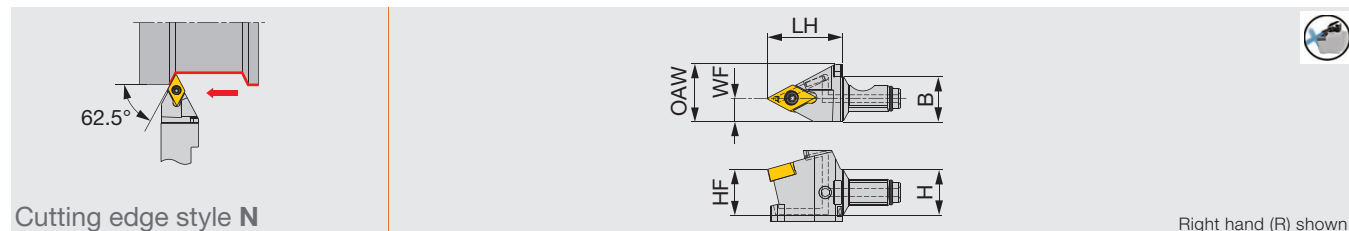


SPARE PARTS

Designation	Clamping screw	Coolant unit	Wrench	O-ring
QC12-JSEGR10-CHP	CSTB-2.5	S-CU-CHP	T-8F	ORSS-0454.5X1.0NBR70

QC12-JSDNXR-CHP

Screw-on modular head with 62.5° approach angle, for DX*U inserts, with high pressure coolant capability



Cutting edge style N

Right hand (R) shown.

Inch	H	B	LH	HF	WF	OAW	RE**	Insert	Torque
QC12-JSDNXR07-CHP	0.472	0.472	0.768	0.472	0.236	0.591	0.008	DX*U0703**L...	0.66
Metric	H	B	LH	HF	WF	OAW	RE**	Insert	Torque*
QC12-JSDNXR07-CHP	12	12	19.5	12	6	15	0.2	DX*U0703**L...	0.9

Use right-hand toolholders (R) with left-hand inserts (L).

Torque: Recommended clamping torque: lbs-ft (*N·m)

RE**: Standard corner radius

Insert

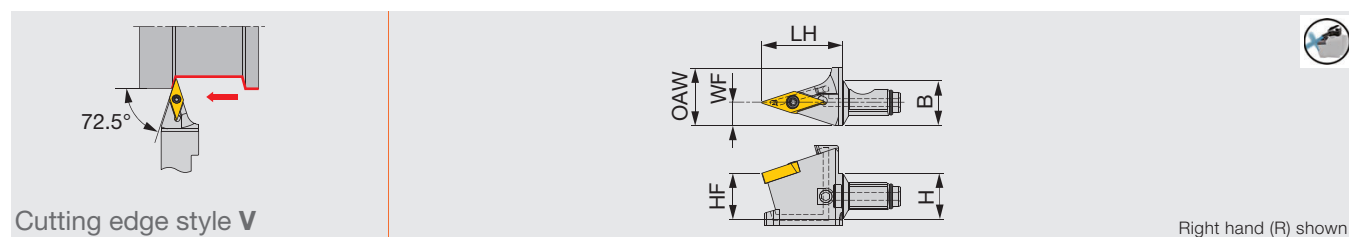


SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QC12-JSDNXR07-CHP	SR34-514	T-7F	ORSS-0454.5X1.0NBR70

QC12-JSVVXR-CHP

Screw-on modular head with 72.5° approach angle, for VXGU inserts, with high pressure coolant capability



Cutting edge style V

Right hand (R) shown.

Inch	H	B	LH	HF	WF	OAW	RE**	Insert	Torque
QC12-JSVVXR09-CHP	0.472	0.472	0.827	0.472	0.236	0.591	0.008	VXGU09T2**L...	0.66
Metric	H	B	LH	HF	WF	OAW	RE**	Insert	Torque*
QC12-JSVVXR09-CHP	12	12	21	12	6	15	0.2	VXGU09T2**L...	0.9

Use right-hand toolholders (R) with left-hand inserts (L).

Torque: Recommended clamping torque: lbs-ft (*N·m)

RE**: Standard corner radius

Insert



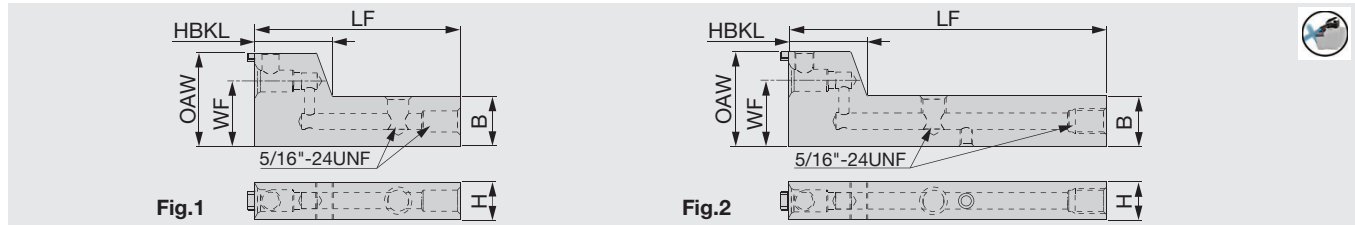
SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QC12-JSVVXR09-CHP	SR34-508	T-7F	ORSS-0454.5X1.0NBR70

SHANK

QC-08-F10-CHP and QC-1216-F15-CHP

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



Inch	H	B	LF	WF	HBKL	OAW	Torque	Fig.
QC-08F-F10-CHP	0.500	0.625	2.560	0.861	0.980	1.220	2.21	1
QC-08X-F10-CHP ⁽¹⁾	0.500	0.625	3.940	0.861	0.980	1.220	2.21	2
Metric	H	B	LF	WF	HBKL	OAW	Torque*	Fig.
QC-1216F-F15-CHP	12	16	65	21	25	30	3	1
QC-1216X-F15-CHP ⁽¹⁾	12	16	100	21	25	30	3	2

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

QC12 heads only can be mounted on these shanks.

Torque: Recommended clamping torque: lbs-ft (*N·m)

SPARE PARTS

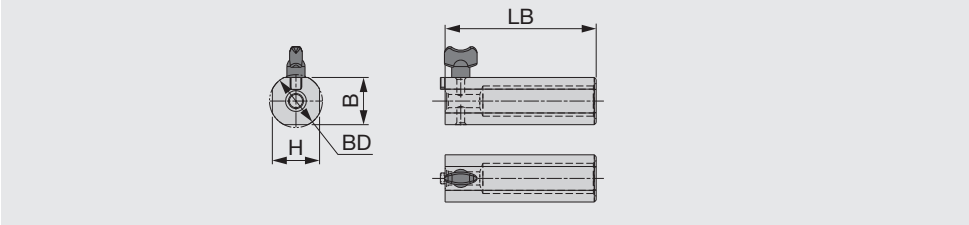
Designation	Clamping screw	Wrench	Coolant plug	Wrench	DirectJet plug	Wrench
QC-08F-F10-CHP, QC-1216F-F15-CHP	SRM6X0.5-26977	P-3	SR5/16UNFTL360	P-4	-	-
QC-08X-F10-CHP, QC-1216X-F15-CHP	SRM6X0.5-26977	P-3	SR5/16UNFTL360	P-4	SSH4-6-TB	P-2

QC12 heads fit both the metric QC-1216 and the inch QC-08 shanks.

ACCESSORY

QC-12D28EXC

Modular head holder for insert change



Metric	BD	LB	H	B
QC-12D28EXC	28	80	25	25

Note: This is a dedicated modular-head holder designed to facilitate insert changes. Do not use this holder for machining as it may cause damages to tool, workpiece, machine, and possible human injury.

SPARE PARTS

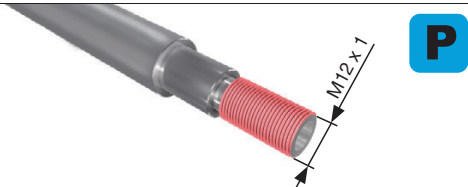
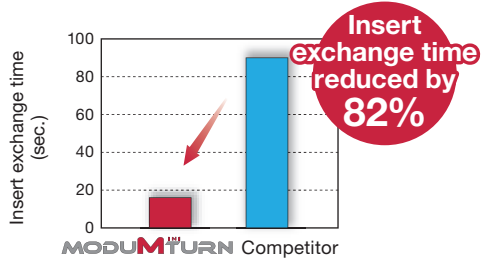


Designation	Fixing screw
QC-12D28EXC	KNOBM5X10



ModuMini-Turn modular heads are small. When it is difficult to change inserts while holding the modular head with fingers, use the dedicated holder to facilitate insert changes.

PRACTICAL EXAMPLES

Workpiece type		Ball screw shaft	Part for camera
Cutting conditions	Shank	QC-08X-F10-CHP	QC-08X-CHP
	Head	QC12-STCR18-CHP	QC12-JTTEL1.2D20-CHP
	Insert	TCT18FR-60A-005	DGS1.2-003
	Grade	SH725	AH725
Workpiece material		1055	303SS
			
Cutting conditions	Cutting speed : Vc (sfm)	197	148
	Feed : f (ipr)	1 mm (pitch)	0.001
	Machining	Threading (M12 x 1)	Parting-off (CW = 0.047")
	Coolant	Wet	Wet
Results		 Conventional MODUMTMTURN The use of stepped-head shank prevented chips from entering the inside of the guide bushing, eliminating the generation of part scraps.	 Insert exchange time (sec.) MODUMTMTURN Competitor Thanks to ModuMini-Turn quick change system, insert change time was reduced by 82%.

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