

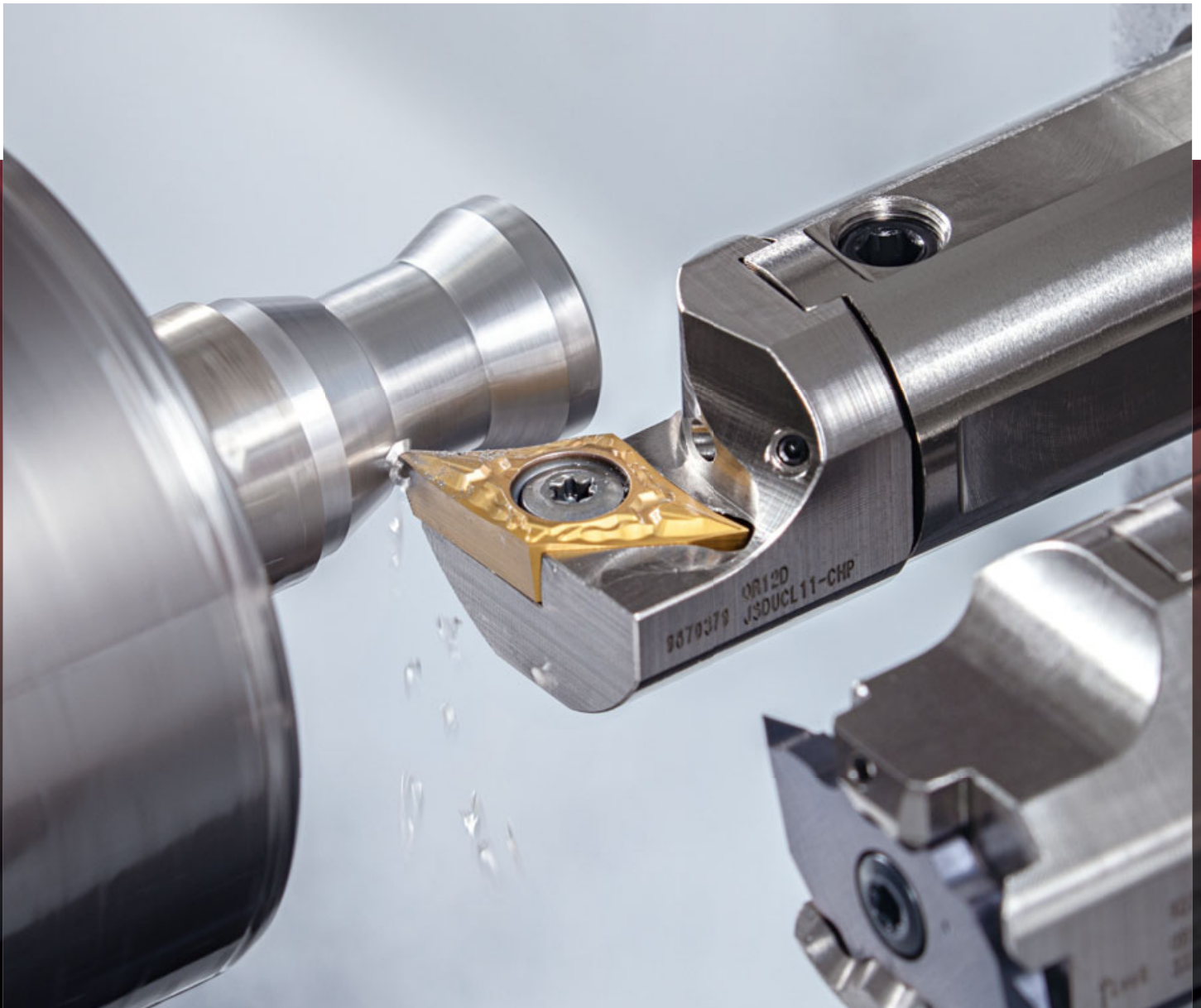


Exchangeable head turning tool system for Swiss machines

MODUM^{INI}TURN

Tungaloy Report No. 541S5-US






Introducing round shank toolholders for **back machining**







Lineup

Modular heads

For external turning

Application	Insert shape	Designation		Approach angle	Page
		Metric	Inch		
Front turning		CC**09T3...	CC** 32.5...	95°	3
		DC**11T3...	DC** 32.5...	93°	3
				95°	4
				107.5°	4
		DX*U0703...	DX*U 22...	93°	5
				95°	5
				107.5°	6
		VB**1103...	VB** 22...	93°	6
		VXGU09T2...	VXGU 73.5...	93°	7
				117.5°	7

For grooving and threading

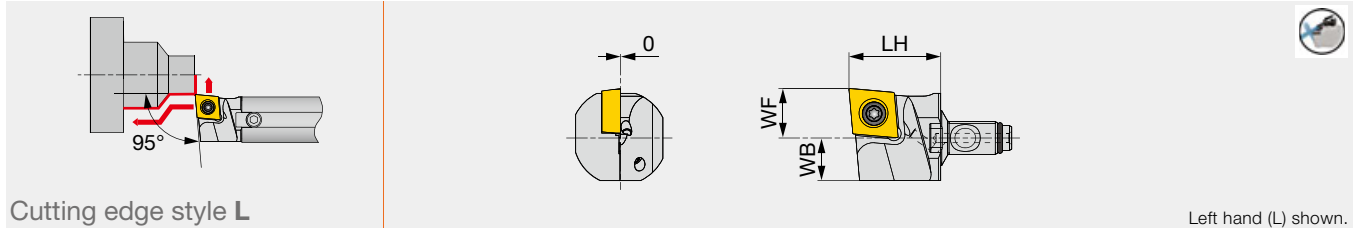
Application	Insert shape	Designation		Grooving width CW (in)	Thread pitch range (threads/in)	Page
		Metric	Inch			
Grooving		TC*18R...	TC*18R...	0.013 - 0.125	-	8
		JX**R...	JX**R...	0.024 - 0.098	-	8
Threading		TCT18R...	TCT18R...	-	8.0 - 64.0	8
		JXTG12R...	JXTG12R...	-	16.0 - 127.0	8

MODULAR HEADS

QR12-SCLCL-CHP

J-SERIES

Screw-on modular head with 95° approach angle, for positive 80° rhombic inserts, with high pressure coolant capability



Metric	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SCLCL09-CHP	19.5 (0.768")	8.5 (0.335")	8 (0.315")	0.2 (0.008")	CC**09T3... (CC 32.5...)	1.2 (0.89)	A16*-QR12
QR12D-SCLCL09-CHP	19.5 (0.768")	10.5 (0.413")	9 (0.354")	0.2 (0.008")	CC**09T3... (CC 32.5...)	1.2 (0.89)	A19/20*-QR12

Torque*: Recommended clamping torque: N-m (lbf-ft)
RE**: Standard corner radius
Assembled dimensions with shank are shown on page 9.

Related Items



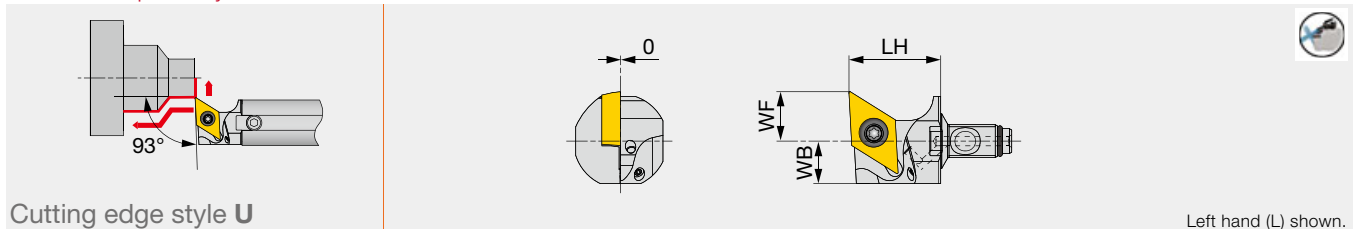
SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SCLCL09-CHP	CSTB-4SD	T-8F	ORSS-0454.5X1.0NBR70

QR12-SDUCL-CHP

J-SERIES

Screw-on modular head with 93° approach angle, for positive 55° rhombic inserts, with high pressure coolant capability



Metric	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDUCL11-CHP	19.5 (0.768")	8.5 (0.335")	10.7 (0.421")	0.2 (0.008")	DC**11T3... (DC** 32.5...)	1.2 (0.89)	A16*-QR12
QR12D-SDUCL11-CHP	19.5 (0.768")	10.5 (0.413")	9 (0.354")	0.2 (0.008")	DC**11T3... (DC** 32.5...)	1.2 (0.89)	A19/20*-QR12

Torque*: Recommended clamping torque: N-m (lbf-ft)
RE**: Standard corner radius
Assembled dimensions with shank are shown on page 9.

Related Items

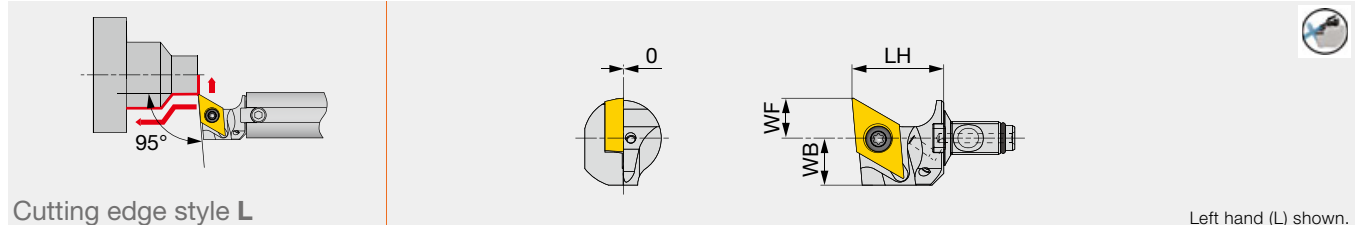


SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SDUCL11-CHP	CSTB-4SD	T-8F	ORSS-0454.5X1.0NBR70

QR12-SDLCL-CHP

Screw-on modular head with 95° approach angle, for positive 55° rhombic inserts, with high pressure coolant capability



Metric	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDLCL11-CHP	19.5 (0.768")	8.5 (0.335")	10 (0.394")	0.2 (0.008")	DC**11T3... (DC** 32.5...)	1.2 (0.89)	A16*-QR12
QR12D-SDLCL11-CHP	19.5 (0.768")	10.5 (0.413")	9 (0.354")	0.2 (0.008")	DC**11T3... (DC** 32.5...)	1.2 (0.89)	A19/20*-QR12

Torque*: Recommended clamping torque: N-m (lbf-ft)
RE**: Standard corner radius
Assembled dimensions with shank are shown on page 9.

Related Items

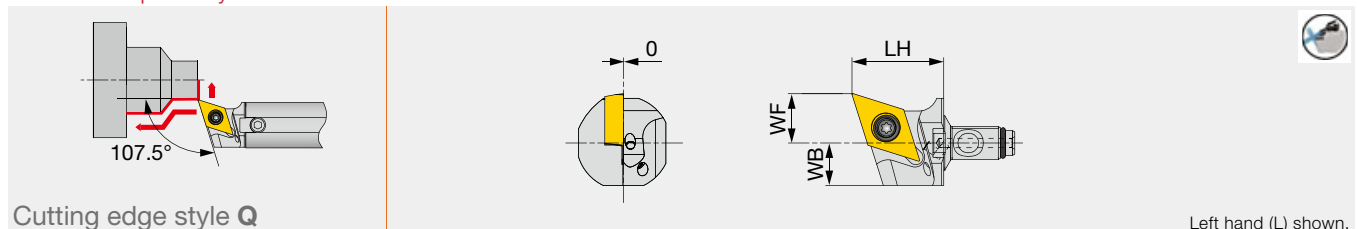


SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SDLCL11-CHP	CSTB-4SD	T-8F	ORSS-0454.5X1.0NBR70

QR12-SDQCL-CHP

Screw-on modular head with 107.5° approach angle, for positive 55° rhombic inserts, with high pressure coolant capability



Metric	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDQCL11-CHP	19.5 (0.768")	8.5 (0.335")	8 (0.315")	0.2 (0.008")	DC**11T3... (DC** 32.5...)	1.2 (0.89)	A16*-QR12
QR12D-SDQCL11-CHP	19.5 (0.768")	10.5 (0.413")	9 (0.354")	0.2 (0.008")	DC**11T3... (DC** 32.5...)	1.2 (0.89)	A19/20*-QR12

Torque*: Recommended clamping torque: N-m (lbf-ft)
RE**: Standard corner radius
Assembled dimensions with shank are shown on page 9.

Related Items



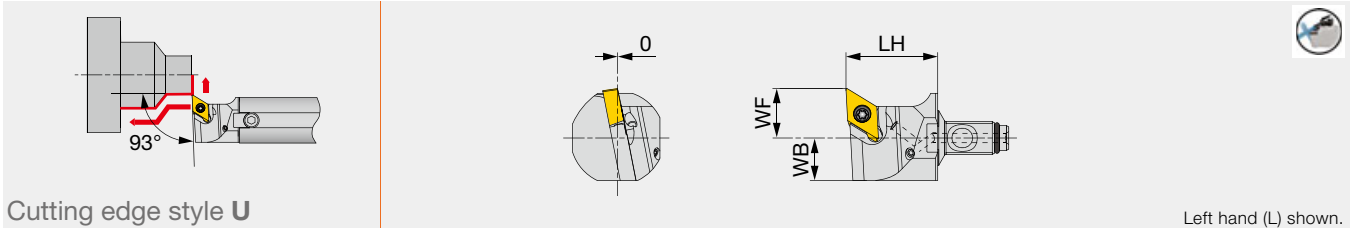
SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SDQCL11-CHP	CSTB-4SD	T-8F	ORSS-0454.5X1.0NBR70

QR12-SDUXL-CHP

MINIFURN

Screw-on modular head with 93° approach angle, for DX*U inserts, with high pressure coolant capability



Cutting edge style U

Left hand (L) shown.

Metric	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDUXL07-CHP	19.5 (0.768")	8.5 (0.335")	8 (0.315")	0.2 (0.008")	DX*U0703**L... (DX*U 22**L...)	0.9 (0.66")	A16*-QR12
QR12D-SDUXL07-CHP	19.5 (0.768")	10.5 (0.413")	9 (0.354")	0.2 (0.008")	DX*U0703**L... (DX*U 22**L...)	0.9 (0.66")	A19/20*-QR12

Use left-hand toolholders (L) with left-hand inserts (L).
Torque*: Recommended clamping torque: N-m (lbf-ft)
RE**: Standard corner radius
Assembled dimensions with shank are shown on page 9.

Related Items



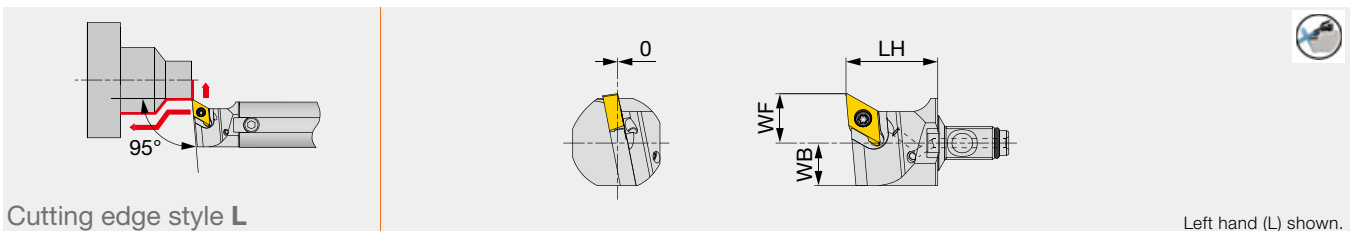
SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SDUXL07-CHP	SR 34-514	T-7F	ORSS-0454.5X1.0NBR70

QR12-SDLXL-CHP

MINIFURN

Screw-on modular head with 95° approach angle, for DX*U inserts, with high pressure coolant capability



Cutting edge style L

Left hand (L) shown.

Metric	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDLXL07-CHP	19.5 (0.768")	8.5 (0.335")	8 (0.315")	0.2 (0.008")	DX*U0703**L... (DX*U 22**L...)	0.9 (0.66")	A16*-QR12
QR12D-SDLXL07-CHP	19.5 (0.768")	10.5 (0.413")	9 (0.354")	0.2 (0.008")	DX*U0703**L... (DX*U 22**L...)	0.9 (0.66")	A19/20*-QR12

Use left-hand toolholders (L) with left-hand inserts (L).
Torque*: Recommended clamping torque: N-m (lbf-ft)
RE**: Standard corner radius
Assembled dimensions with shank are shown on page 9.

Related Items

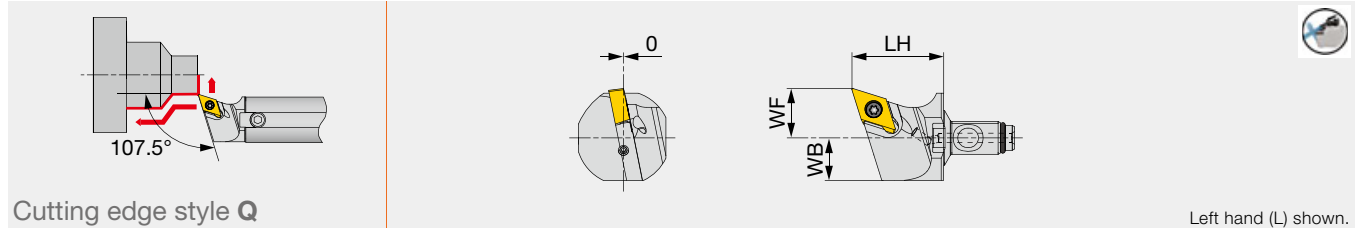


SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SDLXL07-CHP	SR 34-514	T-7F	ORSS-0454.5X1.0NBR70

QR12-SDQXL-CHP

Screw-on modular head with 107.5° approach angle, for DX*U inserts, with high pressure coolant capability



Cutting edge style Q

Left hand (L) shown.

Metric	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDQXL07-CHP	19.5 (0.768")	8.5 (0.335")	8 (0.315")	0.2 (0.008")	DX*U0703**L... (DX*U 22**L...)	0.9 (0.66")	A16*-QR12
QR12D-SDQXL07-CHP	19.5 (0.768")	10.5 (0.413")	9 (0.354")	0.2 (0.008")	DX*U0703**L... (DX*U 22**L...)	0.9 (0.66")	A19/20*-QR12

Use left-hand toolholders (L) with left-hand inserts (L).
Torque*: Recommended clamping torque: N-m (lbf-ft)
RE**: Standard corner radius
Assembled dimensions with shank are shown on page 9.

Related Items

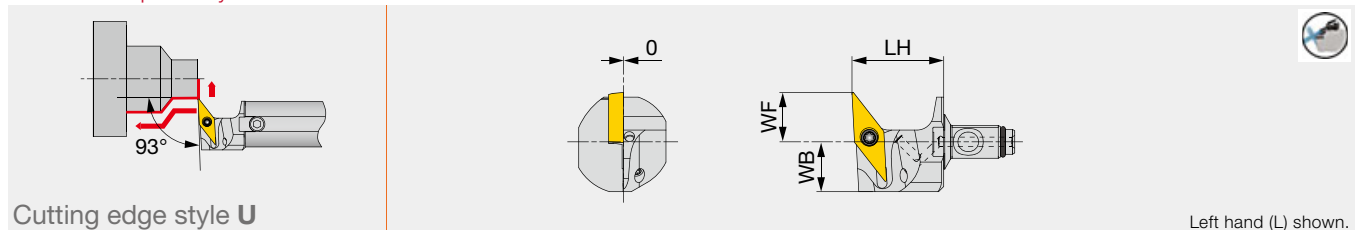


SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SDQXL07-CHP	SR 34-514	T-7F	ORSS-0454.5X1.0NBR70

QR12-SVUBL-CHP

Screw-on modular head with 93° approach angle, for positive 35° rhombic inserts, with high pressure coolant capability



Cutting edge style U

Left hand (L) shown.

Metric	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SVUBL11-CHP	19.5 (0.768")	8.5 (0.335")	13 (0.512")	0.2 (0.008")	VB**1103... (VB** 22...)	1.2 (0.89")	A16*-QR12
QR12D-SVUBL11-CHP	19.5 (0.768")	10.5 (0.413")	10.6 (0.417")	0.2 (0.008")	VB**1103... (VB** 22...)	1.2 (0.89")	A19/20*-QR12

Torque*: Recommended clamping torque: N-m (lbf-ft)
RE**: Standard corner radius
Assembled dimensions with shank are shown on page 9.

Related Items



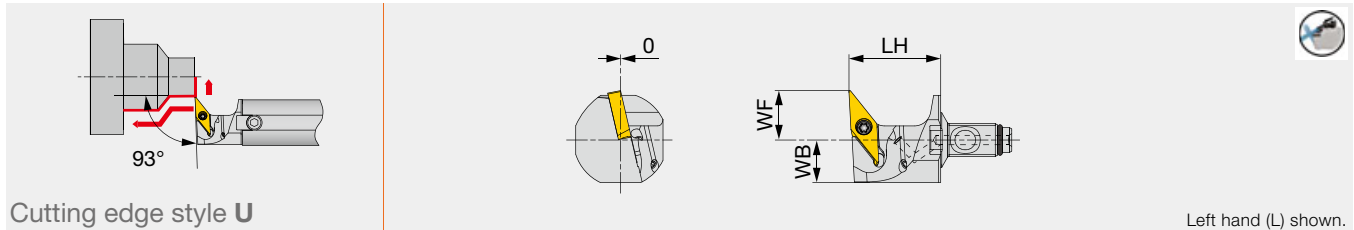
SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SVUBL11-CHP	CSTB-2.5	T-8F	ORSS-0454.5X1.0NBR70

QR12-SVUXL-CHP

MINIFURN

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



Cutting edge style U

Left hand (L) shown.

Metric	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SVUXL09-CHP	19.5 (0.768")	8.5 (0.335")	9.5 (0.374")	0.2 (0.008")	VXGU09T2**L... (VXGU 73.5**L...)	0.9 (0.66")	A16*-QR12
QR12D-SVUXL09-CHP	19.5 (0.768")	10.5 (0.413")	9 (0.354")	0.2 (0.008")	VXGU09T2**L... (VXGU 73.5**L...)	0.9 (0.66")	A19/20*-QR12

Use left-hand toolholders (L) with left-hand inserts (L).
 Torque*: Recommended clamping torque: N-m (lbf-ft)
 RE**: Standard corner radius
 Assembled dimensions with shank are shown on page 9.

Related Items



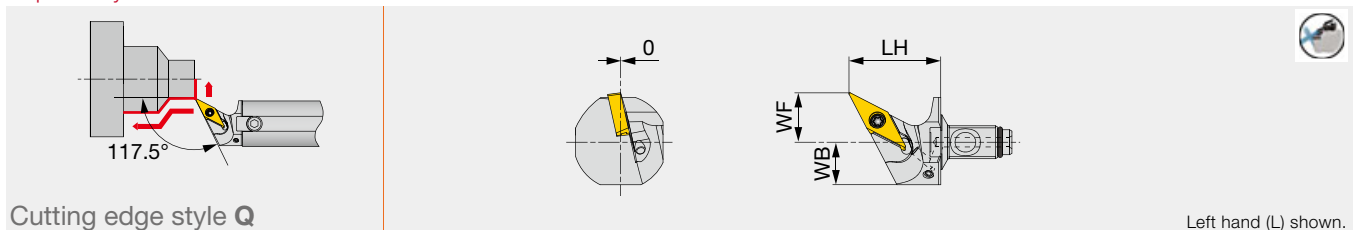
SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SVUXL09-CHP	SR 34-508	T-7F	ORSS-0454.5X1.0NBR70

QR12-SVQXL-CHP

MINIFURN

Screw-on modular head with 117.5° approach angle, for VXGU inserts, with high pressure coolant capability



Cutting edge style Q

Left hand (L) shown.

Metric	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SVQXL09-CHP	19.5 (0.768")	8.5 (0.335")	8 (0.315")	0.2 (0.008")	VXGU09T2**L... (VXGU 73.5**L...)	0.9 (0.66")	A16*-QR12
QR12D-SVQXL09-CHP	19.5 (0.768")	10.5 (0.413")	9 (0.354")	0.2 (0.008")	VXGU09T2**L... (VXGU 73.5**L...)	0.9 (0.66")	A19/20*-QR12

Use left-hand toolholders (L) with left-hand inserts (L).
 Torque*: Recommended clamping torque: N-m (lbf-ft)
 RE**: Standard corner radius
 Assembled dimensions with shank are shown on page 9.

Related Items

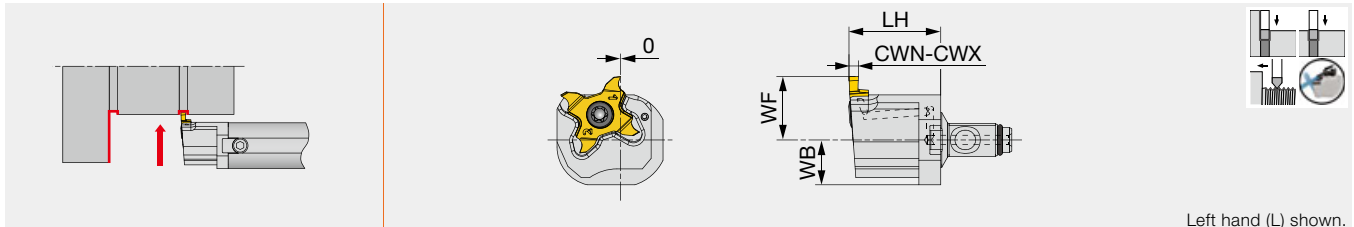


SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SVQXL09-CHP	SR 34-508	T-7F	ORSS-0454.5X1.0NBR70

QR12-STCL-CHP

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



Left hand (L) shown.

Metric	CWN	CWX	LH	WF	WB	Insert	Torque*	Shank
QR12E-STCL18-CHP	0.33 (0.013")	3.18 (0.125")	19.5 (0.768")	11.5 (0.453")	7 (0.276")	TC*18R...	1.2 (0.89")	A16*-QR12
QR12G-STCL18-CHP	0.33 (0.013")	3.18 (0.125")	19.5 (0.768")	13.5 (0.531")	8 (0.315")	TC*18R...	1.2 (0.89")	A19/20*-QR12

Use left-hand toolholders (L) with right-hand inserts (R).
Torque*: Recommended clamping torque: N-m (lbf-ft)
Assembled dimensions with shank are shown on page 9.

Related Items

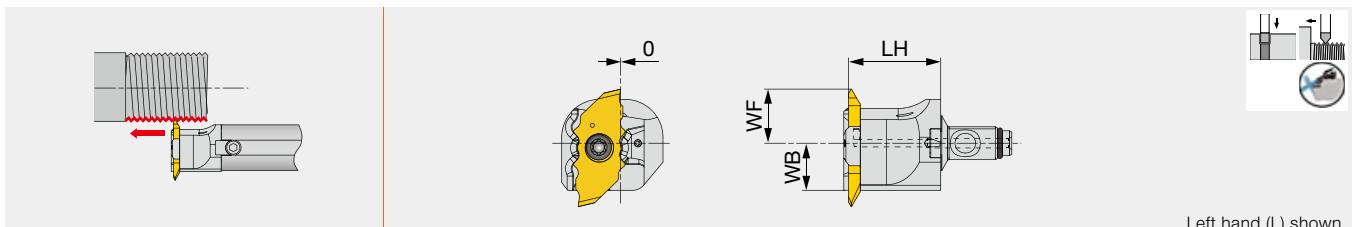


SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-STCL18-CHP	CSTC-4L100DL	T-1008/5	ORSS-0454.5X1.0NBR70

QR12-SXXL-CHP

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



Left hand (L) shown.

Metric	LH	WF ⁽¹⁾	WB	Insert	Torque*	Shank
QR12E-SXXL09-CHP	19.5 (0.768")	11.5 (0.453")	8 (0.315")	JX*G**R...	1.2 (0.89")	A16*-QR12
QR12G-SXXL09-CHP	19.5 (0.768")	13.5 (0.531")	10 (0.394")	JX*G**R...	1.2 (0.89")	A19/20*-QR12

Use left-hand toolholders (L) with right-hand inserts (R).
Torque*: Recommended clamping torque: N-m (lbf-ft)

(1) WF (Functional Width) values shown above are true with JX**16... insert. WF will be 2 mm shorter than the above value with JX**12... insert; 4 mm shorter with JX**06... insert; 2 mm longer with JX**20... insert.

Assembled dimensions with shank are shown on page 9.

Related Items



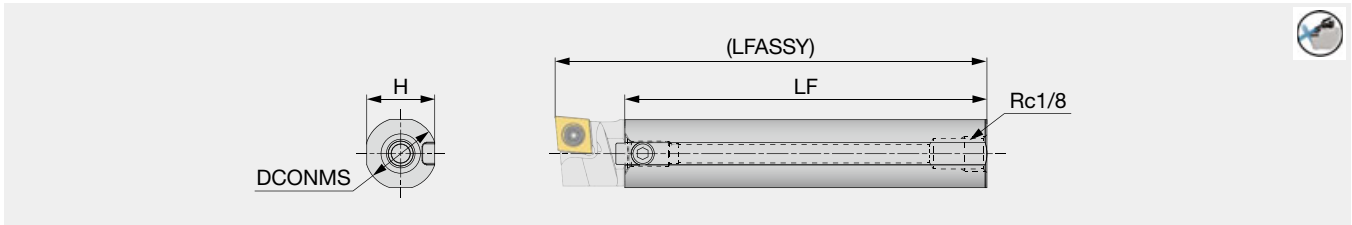
SPARE PARTS

Designation	Clamping screw	Wrench	O-ring
QR12*-SXXL09-CHP	CSTC-4L100DL	T-1008/5	ORSS-0454.5X1.0NBR70

SHANK

A-QR12

Round shank for modular heads, with high pressure coolant capability



Metric	DCONMS	LF	H	LFASSY ⁽¹⁾	Torque*	Head
A16F-QR12	16 (0.630")	65 (2.559")	15 (0.591")	85 (3.346")	3 (2.21")	QR12C/E...
A16X-QR12	16 (0.630")	100 (3.937")	15 (0.591")	120 (4.724")	3 (2.21")	QR12C/E...
A19G-QR12	19.05 (0.750")	70 (2.756")	18 (0.709")	90 (3.543")	3 (2.21")	QR12D/G...
A19X-QR12	19.05 (0.750")	100 (3.937")	18 (0.709")	120 (4.724")	3 (2.21")	QR12D/G...
A20G-QR12	20 (0.787")	70 (2.756")	19 (0.748")	90 (3.543")	3 (2.21")	QR12D/G...
A20X-QR12	20 (0.787")	100 (3.937")	19 (0.748")	120 (4.724")	3 (2.21")	QR12D/G...

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

(1) The size is true when the modular head with LH = 0.768" is mounted.

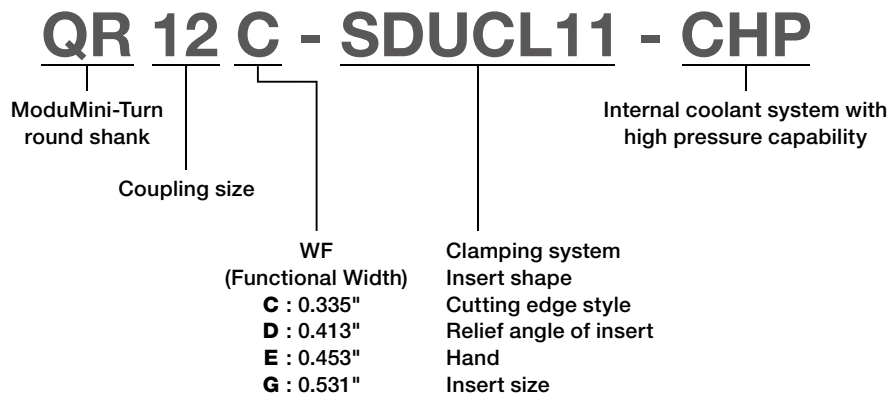
SPARE PARTS



Designation	Clamping screw	Wrench 1	Wrench 2 (Optional)
A**-QR12	SRM6X0.5-26977	P-3	(P-3B)

When the screw cannot be accessed with a P-3 key due to little space between the adjacent tool, use P-3B key (sold separately) with the ball-head instead.

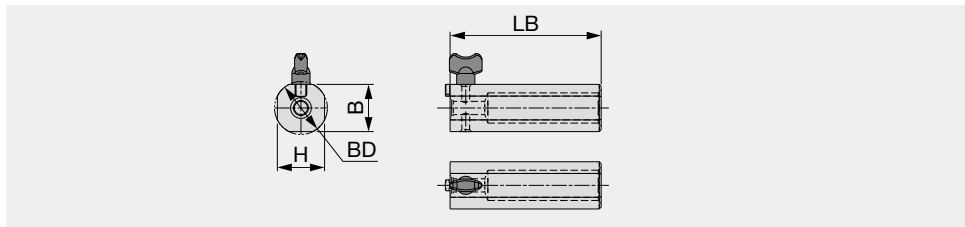
NOMENCLATURE FOR CUTTING HEADS



ACCESSORY

QC-12D28EXC

Modular head holder for insert change



Metric	BD	LB	H	B	Head
QC-12D28EXC	28 (1.102")	80 (3.150")	25 (0.984")	25 (0.984")	Q*12...

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



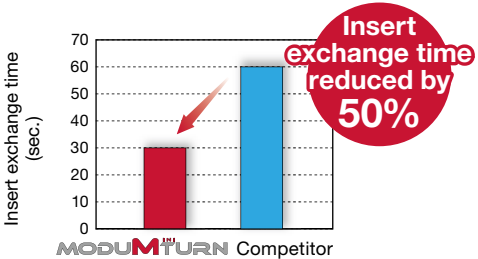
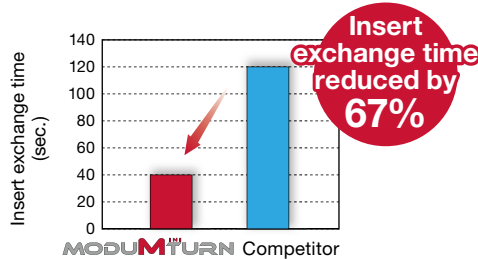


Designation	Fixing screw
QC-12D28EXC	KNOBM5X10



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		Drive shaft	Nut
Shank		A20X-QR12	A19X-QR12
Head		QR12D-SDUCL11-CHP	QR12G-STCL18-CHP
Insert		DCGT11T302FN-JS	TCP18R125-010
Grade		SH7025	AH725
		1045	4137
Workpiece material		 P	 P
Cutting conditions	Cutting speed : V_c (sfm)	330	210
	Feed : f (ipr)	0.002	0.002
	Machining	External turning	External grooving
	Coolant	Wet	Wet
Results		 <p>Insert exchange time (sec.)</p> <p>MODUMTMTURN Competitor</p> <p>Using ModuMini-Turn modular tooling enabled 50% shorter tool change time.</p>	 <p>Insert exchange time (sec.)</p> <p>MODUMTMTURN Competitor</p> <p>Using ModuMini-Turn modular tooling enabled 67% shorter tool change time.</p>

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