

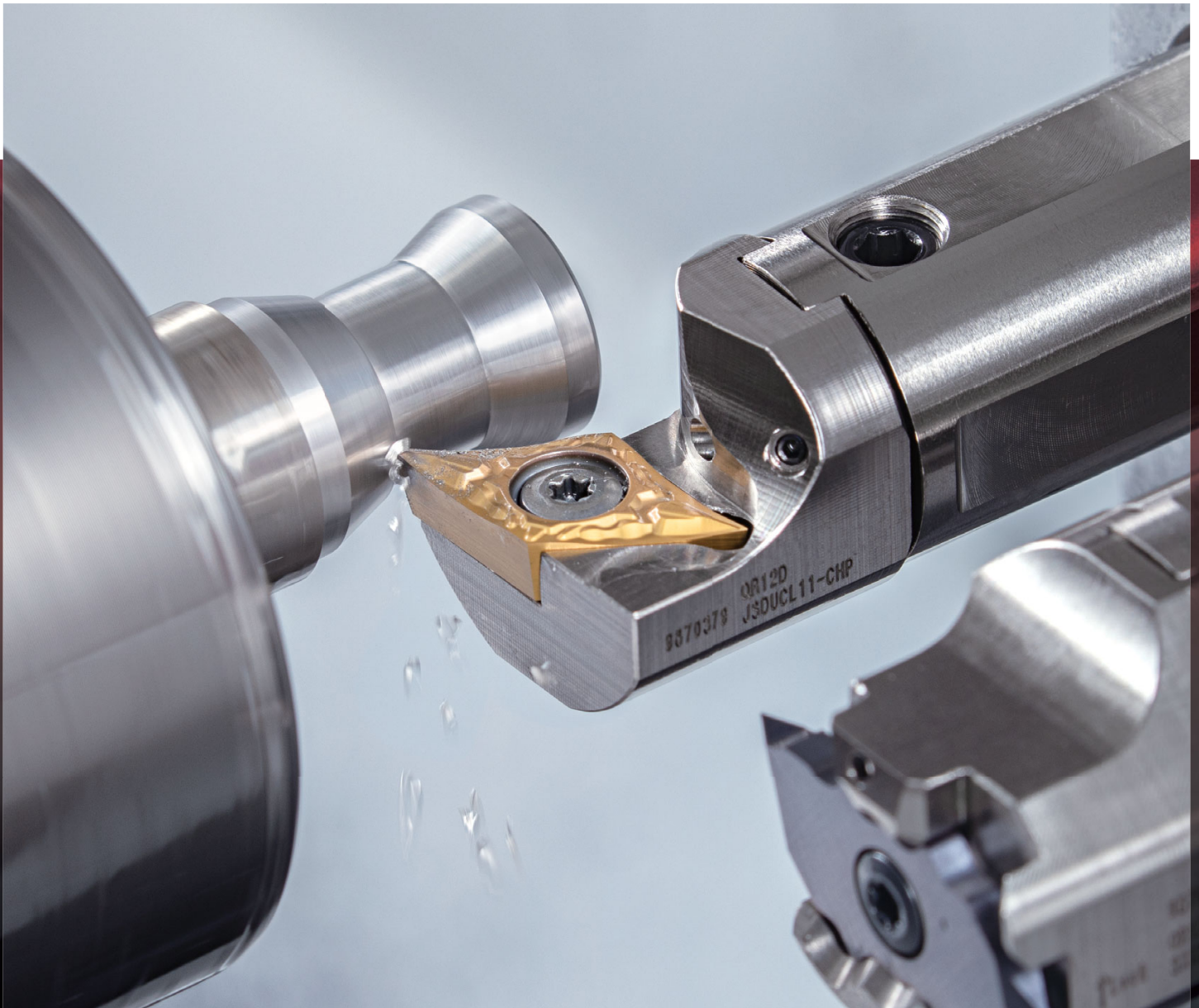


Exchangeable head turning tool system for Swiss machines

MODUM^{INI}TURN

Tungaloy Report No. 541S5-G

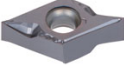
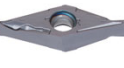
Introducing round shank toolholders for **back machining**



Lineup

Modular heads

For external turning

Application	Insert shape	Insert Designation	Approach angle	Page
Front turning	J-SERIES 	CC**09T3...	95°	3
	J-SERIES 	DC**11T3...	93°	3
			95°	4
			107.5°	4
	MINIF^{TURN} 	DX*U0703...	93°	5
			95°	5
			107.5°	6
	J-SERIES 	VB**1103...	93°	6
	MINIF^{TURN} 	VXGU09T2...	93°	7
			117.5°	7

For grooving and threading

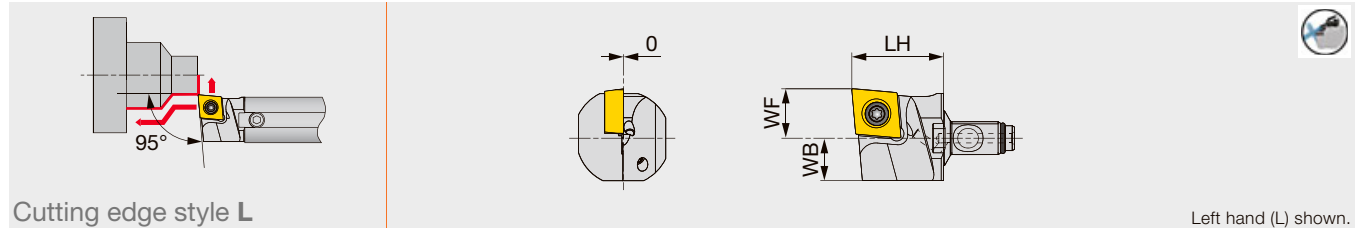
Application	Insert shape	Insert Designation	Groove width CW (mm)	Thread pitch range (mm)	Page
Grooving	TETRAM^{CUT} 	TC*18R...	0.33 - 3.18	-	8
	DUO^{JCUT} 	JX**R...	0.6 - 2.5	-	8
Threading	TETRAM^{CUT} 	TCT18R...	-	0.4 - 3	8
	DUO^{JCUT} 	JXTG12R...	-	0.2 - 1.5	8

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



Designation	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SCLCL09-CHP	19.5	8.5	8	0.2	CC**09T3...	1.2	A16*-QR12
QR12D-SCLCL09-CHP	19.5	10.5	9	0.2	CC**09T3...	1.2	A19/20*-QR12

Torque*: Recommended clamping torque (N-m)

RE**: Standard corner radius

Assembled dimensions with shank are shown on page 9.

Related Items



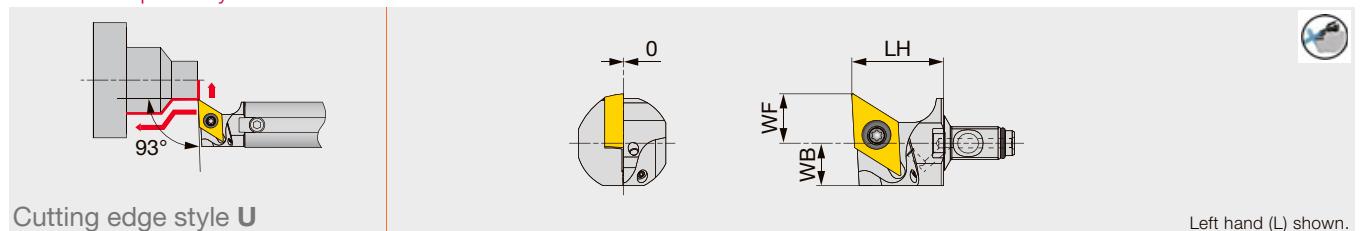
SPARE PARTS

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



Designation	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDUCL11-CHP	19.5	8.5	10.7	0.2	DC**11T3...	1.2	A16*-QR12
QR12D-SDUCL11-CHP	19.5	10.5	9	0.2	DC**11T3...	1.2	A19/20*-QR12

Torque*: Recommended clamping torque (N-m)

RE**: Standard corner radius

Assembled dimensions with shank are shown on page 9.

Related Items

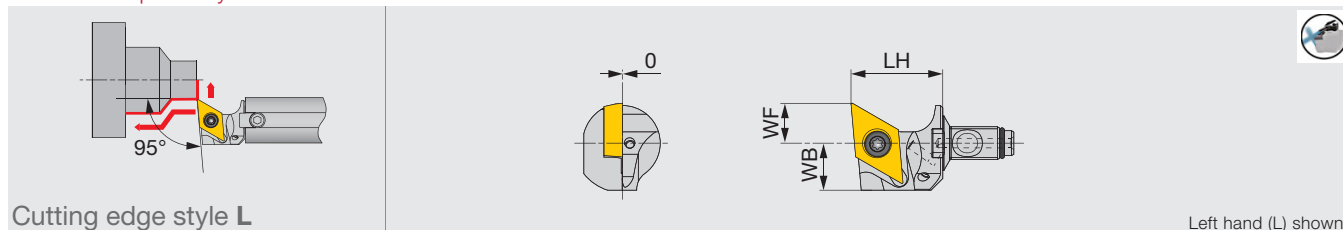


SPARE PARTS

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



Designation	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDLCL11-CHP	19.5	8.5	10	0.2	DC**11T3...	1.2	A16*-QR12
QR12D-SDLCL11-CHP	19.5	10.5	9	0.2	DC**11T3...	1.2	A19/20*-QR12

Torque*: Recommended clamping torque (N-m)

RE**: Standard corner radius

Assembled dimensions with shank are shown on page 9.

Related Items

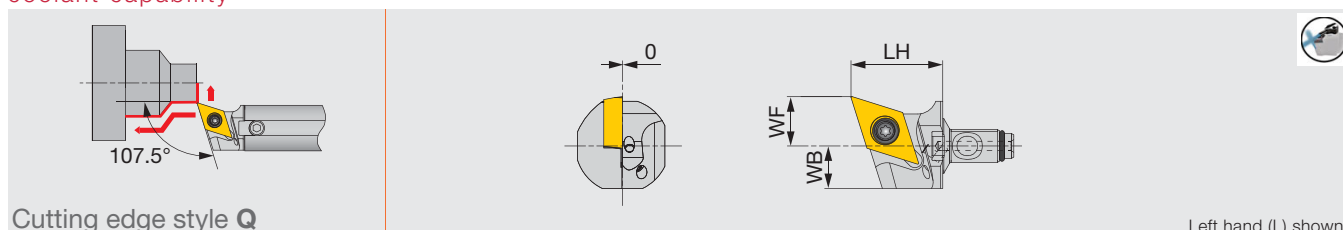


SPARE PARTS

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



Designation	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDQCL11-CHP	19.5	8.5	8	0.2	DC**11T3...	1.2	A16*-QR12
QR12D-SDQCL11-CHP	19.5	10.5	9	0.2	DC**11T3...	1.2	A19/20*-QR12

Torque*: Recommended clamping torque (N-m)

RE**: Standard corner radius

Assembled dimensions with shank are shown on page 9.

Related Items



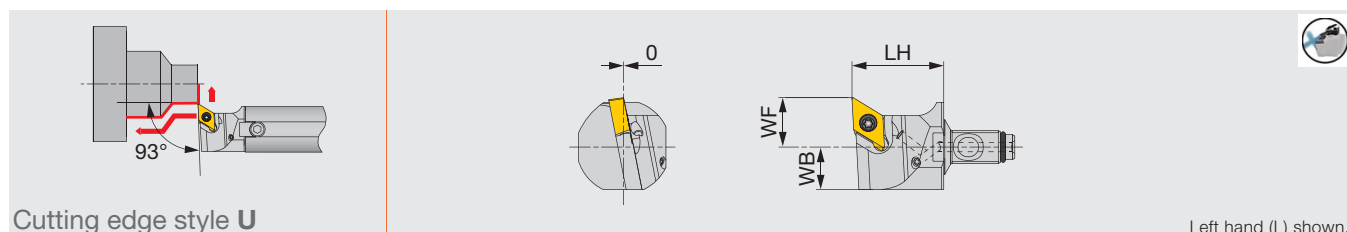
SPARE PARTS

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.

Designation	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDUXL07-CHP	19.5	8.5	8	0.2	DX*U0703**L...	0.9	A16*-QR12
QR12D-SDUXL07-CHP	19.5	10.5	9	0.2	DX*U0703**L...	0.9	A19/20*-QR12

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

Torque*: Recommended clamping torque (N·m)

RE**: Standard corner radius

Assembled dimensions with shank are shown on page 9.

Related Items



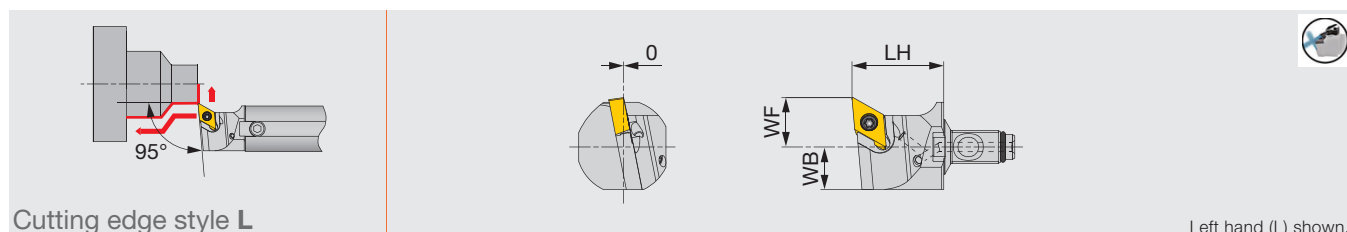
SPARE PARTS

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.

Designation	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDLXL07-CHP	19.5	8.5	8	0.2	DX*U0703**L...	0.9	A16*-QR12
QR12D-SDLXL07-CHP	19.5	10.5	9	0.2	DX*U0703**L...	0.9	A19/20*-QR12

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

Torque*: Recommended clamping torque (N·m)

RE**: Standard corner radius

Assembled dimensions with shank are shown on page 9.

Related Items



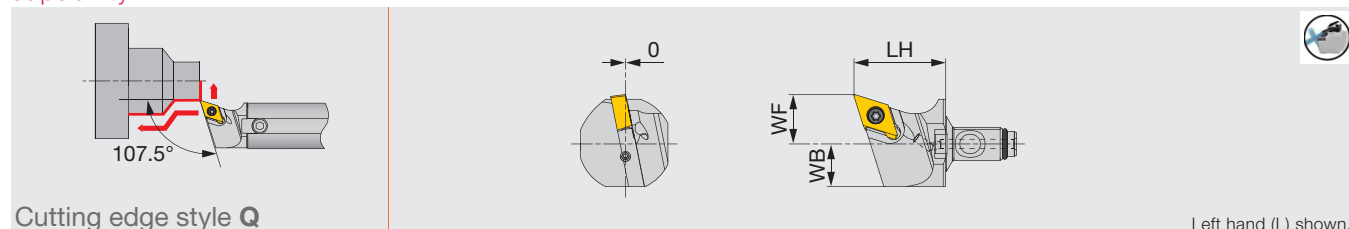
SPARE PARTS

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

QR12-SDQXL-CHP

MINI^{INI}TURN

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.

Designation	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SDQXL07-CHP	19.5	8.5	8	0.2	DX*U0703**L...	0.9	A16*-QR12
QR12D-SDQXL07-CHP	19.5	10.5	9	0.2	DX*U0703**L...	0.9	A19/20*-QR12

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

Related Items



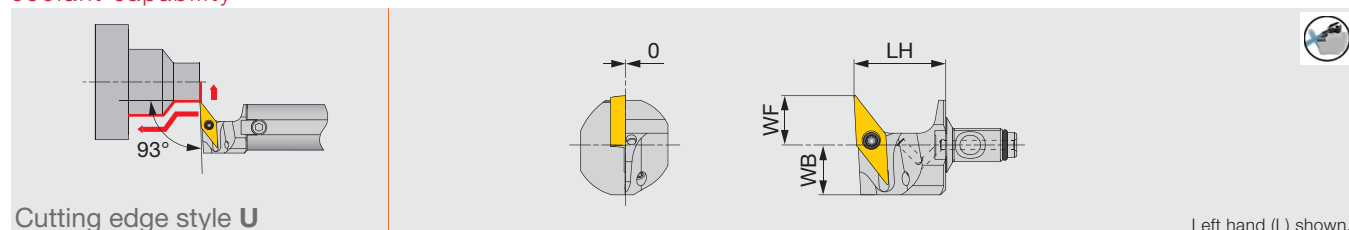
SPARE PARTS

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

QR12-SVUBL-CHP

J-SERIES

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.

Designation	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SVUBL11-CHP	19.5	8.5	13	0.2	VB**1103...	1.2	A16*-QR12
QR12D-SVUBL11-CHP	19.5	10.5	10.6	0.2	VB**1103...	1.2	A19/20*-QR12

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

Related Items



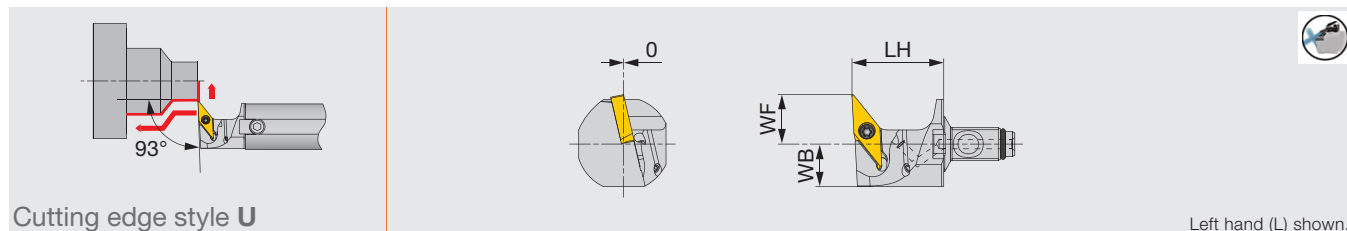
SPARE PARTS

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.

Designation	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SVUXL09-CHP	19.5	8.5	9.5	0.2	VXGU09T2**L...	0.9	A16*-QR12
QR12D-SVUXL09-CHP	19.5	10.5	9	0.2	VXGU09T2**L...	0.9	A19/20*-QR12

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

Related Items



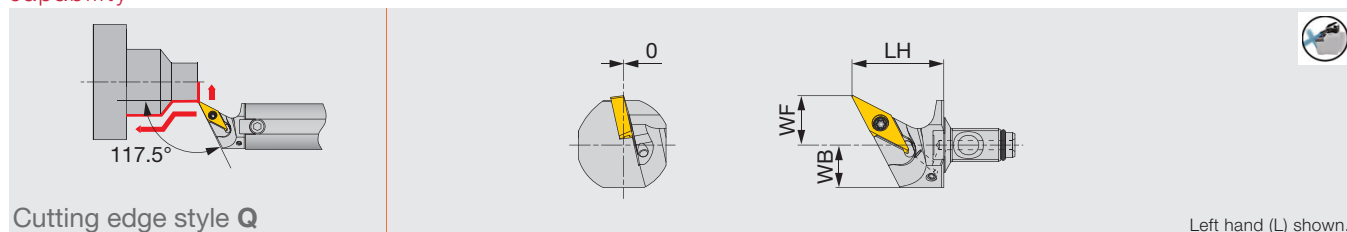
SPARE PARTS

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.

Designation	LH	WF	WB	RE**	Insert	Torque*	Shank
QR12C-SVQXL09-CHP	19.5	8.5	8	0.2	VXGU09T2**L...	0.9	A16*-QR12
QR12D-SVQXL09-CHP	19.5	10.5	9	0.2	VXGU09T2**L...	0.9	A19/20*-QR12

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

Related Items



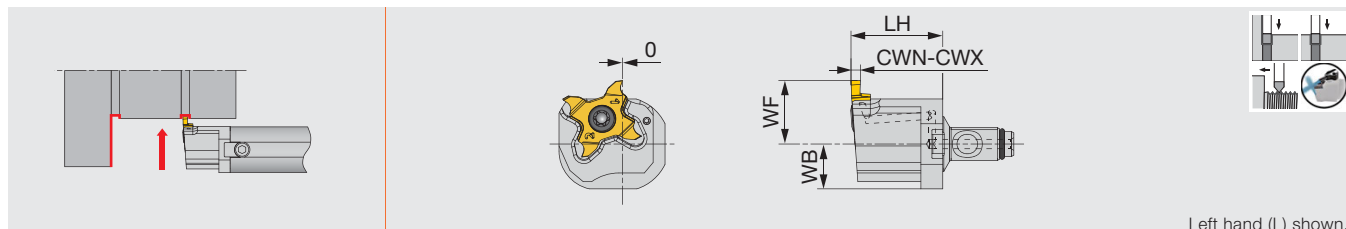
SPARE PARTS

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

QR12-STCL-CHP

TETRAMCUT

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



Left hand (L) shown.

Designation	CWN	CWX	LH	WF	WB	Insert	Torque*	Shank
QR12E-STCL18-CHP	0.33	3.18	19.5	11.5	7	TC*18R...	1.2	A16*-QR12
QR12G-STCL18-CHP	0.33	3.18	19.5	13.5	8	TC*18R...	1.2	A19/20*-QR12

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

Related Items



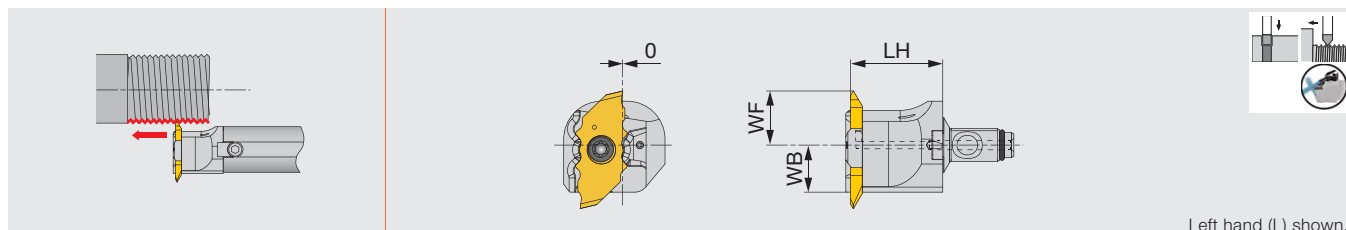
SPARE PARTS

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

QR12-SXXL-CHP

DUOJUST

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



Left hand (L) shown.

Designation	LH	WF ⁽¹⁾	WB	Insert	Torque*	Shank
QR12E-SXXL09-CHP	19.5	11.5	8	JX*G**R...	1.2	A16*-QR12
QR12G-SXXL09-CHP	19.5	13.5	10	JX*G**R...	1.2	A19/20*-QR12

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



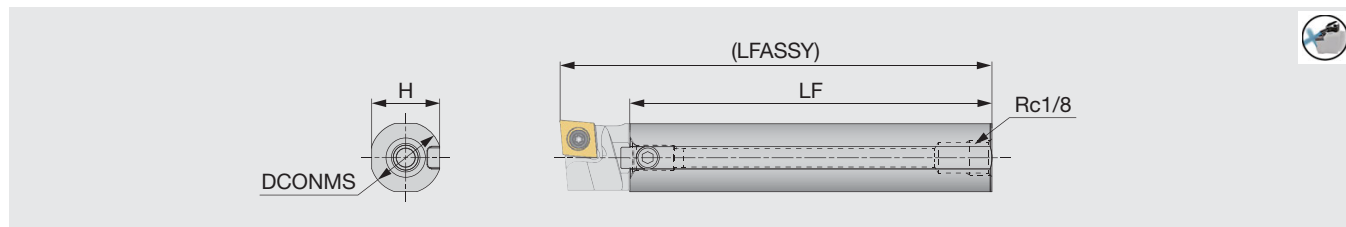
SPARE PARTS

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



Designation	DCONMS	LF	H	LFASSY ⁽¹⁾	Torque*	Head
A16F-QR12	16	65	15	85	3	QR12C/E...
A16X-QR12	16	100	15	120	3	QR12C/E...
A19G-QR12	19.05	70	18	90	3	QR12D/G...
A19X-QR12	19.05	100	18	120	3	QR12D/G...
A20G-QR12	20	70	19	90	3	QR12D/G...
A20X-QR12	20	100	19	120	3	QR12D/G...

Torque*: Recommended clamping torque (N-m)

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

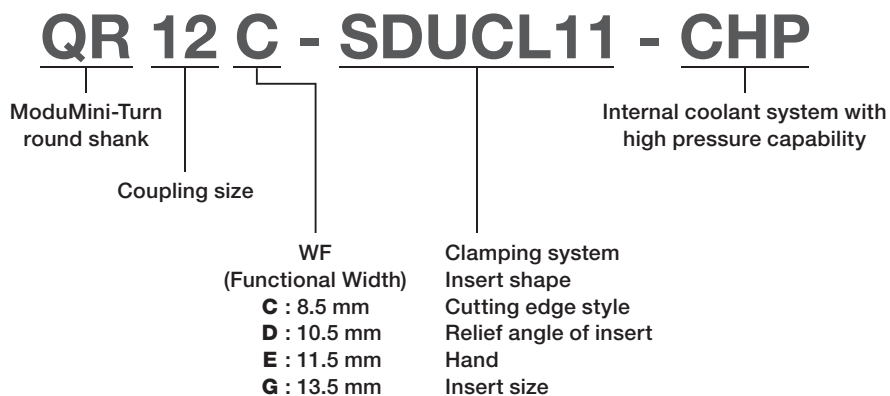
SPARE PARTS



Designation	Clamping screw	Wrench 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.

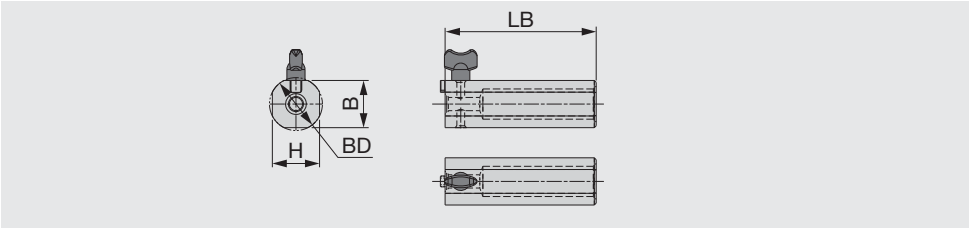
NOMENCLATURE FOR CUTTING HEADS



ACCESSORY

QC-12D28EXC

Modular head holder for insert change



Designation	BD	LB	H	B	Head
QC-12D28EXC	28	80	25	25	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

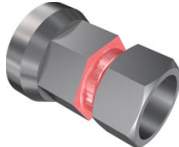
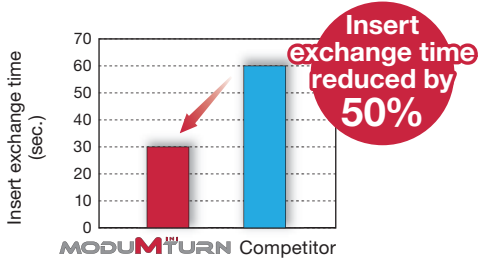
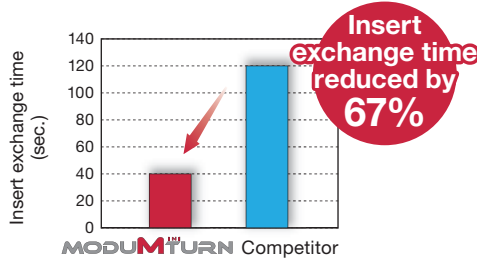


Designation	Fixing screw
QC-12D28EXC	KNOBM5X10



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
Workpiece material		S45C / C45	SCM435 / 34CrMo4
		 P	 P
Cutting conditions	Cutting speed : V_c (m/min)	100	65
	Feed : f (mm/rev)	0.04	0.05
	Machining	External turning	External grooving
	Coolant	Wet	Wet
Results		 Insert exchange time (sec.) MODUMTMTURN Competitor Using ModuMini-Turn modular tooling enabled 50% shorter tool change time.	 Insert exchange time (sec.) MODUMTMTURN Competitor Using ModuMini-Turn modular tooling enabled 67% shorter tool change time.

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