External tool holders – QC series

GQC	R	20	20	K	22	–	15
1	2	3	4	5	6		7

Series — 1

Type	
Code	Description
R	Right
L	Left

2

Height [mm]	
Code	Description
16	16
20	20
25	25

3

Width [mm]	
Code	Description
16	16
20	20
25	25

4

Length [mm]	
Code	Description
K	125
M	150

5

Cutting edge length [mm]	
Code	I.C
11	6,35
16	9,252
22	12,70

6

Cutting width range [mm]		
Code	Insert size	
15	0,5≤S<1,8 (QC16***)	1,0≤S<2,3 (QC22***)
25	1,8≤S<3,0 (QC16***)	2,3≤S<3,3 (QC22***)
35	–	3,3≤S≤4,8 (QC22***)

7

Boring bars – QC series

S	20	K	–	QC	16	15	R	25
1	2	3		4	5	6	7	8

Shank type	
Code	Material
S	Steel shank
C	Solid carbide shank
A	Solid carbide shank (IC)

1

Diameter [mm]	
Code	Description
16	16
20	20
25	25

2

Length [mm]	
Code	Description
H	100
K	125
M	150

3

Series — 4

Cutting edge length [mm]	
Code	I.C
11	6,35
16	9,252
22	12,70

5

Cutting width range [mm]			
Code	Insert size		
15	0,5≤S<1,8 (QC11***)	0,5≤S<1,8 (QC16***)	1,0≤S<2,3 (QC22***)
25	1,8≤S<3,0 (QC11***)	1,8≤S<3,0 (QC16***)	2,3≤S<3,3 (QC22***)
35	–	–	3,3≤S≤4,8 (QC22***)

6

Cutting direction	
Code	Description
R	Right
L	Left

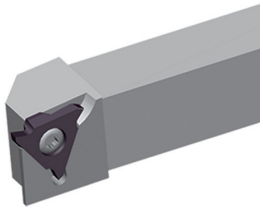
7

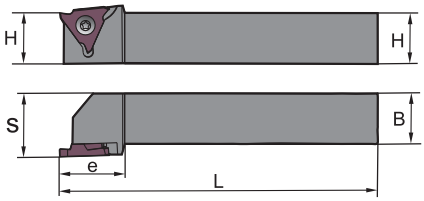
Starting diameter [mm]			
Code	Ø	Code	Ø
16	16	25	25
20	20	35	35

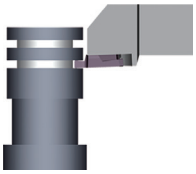
8

Grooving (external)

GQC**R/L







Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	H	L	S	e	B	Width	
GQCR/L1616K16-15		●	●	16	125	21	25.5	16	0.5-1.80	QC16R/L 050-180
GQCR/L2020K16-15		○	●	20	125	25	25.5	20	0.5-1.80	QC16R/L 050-180
GQCR/L2525M16-15		○	●	25	150	30	25.5	25	0.5-1.80	QC16R/L 050-180
GQCR/L1616K16-25		●	●	16	125	21	25.5	16	1.8-3.0	QC16R/L 180-300
GQCR/L2020K16-25		○	●	20	125	25	25.5	20	1.8-3.0	QC16R/L 180-300
GQCR/L2525M16-25		○	●	25	150	30	25.5	25	1.8-3.0	QC16R/L 180-300
GQCR/L2020K22-15		○	●	20	125	25	25.5	20	1.0-2.3	QC22R/L 100-230
GQCR/L2525M22-15		○	●	25	150	30	25.5	25	1.0-2.3	QC22R/L 100-230
GQCR/L2020K22-25		○	●	20	125	25	25.5	20	2.3-3.3	QC22R/L 230-330
GQCR/L2525M22-25		○	●	25	150	30	25.5	25	2.3-3.3	QC22R/L 230-330
GQCR/L2020K22-35		●	●	20	125	25	25.5	20	3.3-4.8	QC22R/L 330-480
GQCR/L2525M22-35		●	●	25	150	30	25.5	25	3.3-4.8	QC22R/L 330-480

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	QC16R/L 050-180	QC16R/L 180-300	QC22R/L 100-230	QC22R/L 230-330	QC22R/L 330-480
	H	16-32	16-32	16-32	16-32	16-32
	Screw	I60M3.5×10 (2.7 Nm)	I60M3.5×10 (2.7 Nm)	I60M5x13 (6.7 Nm)	I60M5x13 (6.7 Nm)	I60M5x13 (6.7 Nm)
	Wrench (shim)	WT15IP	WT15IP	WT20IP	WT20IP	WT20IP

Insert

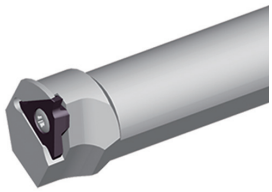
Medium Cut

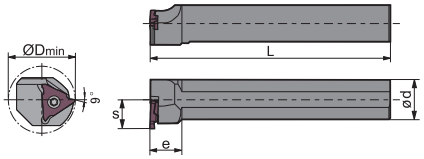
A369

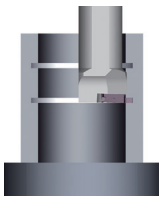
System code A376 Grade selection A350 Technical info A447 Cutting data A402

Grooving (internal)

S**-QC**R/L







Right hand style

Article	✻	Stock R	Stock L	Dimensions [mm] ØDmin	ød	L	S	e	Width	Inserts
S16H-QC1115R/L20		●	●	21	16	100	11.5	12	0.5-1.80	QC11R/L 050-180
S20K-QC1115R/L16		●	●	16	20	125	11.1	40	0.5-1.80	QC11R/L 050-180
S16H-QC1125R/L20		●	●	21	16	100	11.5	12	1.8-3.0	QC11R/L 180-300
S20K-QC1125R/L16		○	○	16	20	125	11.1	40	1.8-3.0	QC11R/L 180-300
S20M-QC1615R/L25		○	●	26	20	150	12.5	15	0.5-1.80	QC16R/L 050-180
S20M-QC1625R/L25		●	●	26	20	150	12.5	15	1.8-3.0	QC16R/L 180-300
S25M-QC2215R/L35		●	●	35	25	150	18.2	15	1.0-2.3	QC22R/L 100-230
S25M-QC2225R/L35		●	●	35	25	150	18.2	20	2.3-3.3	QC22R/L 230-330
S25M-QC2235R/L35		○	●	35	25	150	18.2	20	3.3-4.8	QC22R/L 330-480

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	QC11R/L 050-180	QC11R/L 180-300	QC16R/L 050-180	QC16R/L 180-300	QC22R/L 100-230	QC22R/L 230-330	QC22R/L 330-480
	ød	**16-20**	**16-20**	**20**	**20**	**25**	**25**	**25**
	Screw	I60M2.5×6.5 (1.0 Nm)	I60M2.5×6.5 (1.0 Nm)	I60M3.5×10 (2.7 Nm)	I60M3.5×10 (2.7 Nm)	I60M5x13 (6.7 Nm)	I60M5x13 (6.7 Nm)	I60M5x13 (6.7 Nm)
	Wrench (shim)	WT07IP	WT07IP	WT15IP	WT15IP	WT20IP	WT20IP	WT20IP

Insert

Medium Cut

A369

System code A376 Grade selection A350 Technical info A447 Cutting data A402

Notes

Parting & grooving inserts

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed vc [m/min]			
						HC (CVD)	HC (PVD)		
						YBC252	YBG105	YB9320	
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	190	200	190	
		approx. 0,45 % C	annealed	190	2	175	180	175	
		approx. 0,45 % C	tempered	250	3	145	150	145	
		approx. 0,75 % C	annealed	270	4	140	145	140	
		approx. 0,75 % C	tempered	300	5	135	140	135	
	Low-alloyed steel		annealed	180	6	170	180	170	
			tempered	275	7	125	130	125	
			tempered	300	8	115	120	115	
			tempered	350	9	105	110	105	
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	125	130	125	
			hardened and tempered	325	11	95	100	95	
M	Stainless steel	ferritic/martensitic	annealed	200	12	165	170	165	
		martensitic	tempered	240	13	135	140	135	
		austenitic	quench hardened	180	14	155	160	155	
		austenitic-ferritic		230	15	135	140	135	
K	Grey cast iron	perlitic/ferritic		180	16	240	250	240	
		perlitic (martensitic)		260	17	185	190	185	
	Cast iron with spheroidal graphite	ferritic		160	18	220	230	220	
		perlitic		250	19	165	170	165	
	Malleable cast iron	ferritic		130	20	175	180	175	
		perlitic		230	21	165	170	165	
N	Aluminium wrought alloys	cannot be hardened		60	22				
		hardenable	hardened	100	23				
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24				
		≤ 12 % Si, hardenable	hardened	90	25				
		> 12 % Si, cannot be hardened		130	26				
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27				
		CuZn, CuSnZn		90	28				
		CuSn, Pb-free copper, electrolytic copper		100	29				
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30		100	95	
			hardened	280	31		50	50	
		Ni or Co bass	annealed	250	32		80	80	
			hardened	350	33		70	70	
			cast	320	34		70	70	
	Titanium alloys	pure titanium		R_m 400	35		150	145	
		α and β alloys	hardened	R_m 1050	36		50	50	
H	Hardened steel		hardened and tempered	55 HRC	37				
			hardened and tempered	60 HRC	38				
	Hard cast iron		cast	400	39				
	Hardened cast iron		hardened and tempered	55 HRC	40				
X	Non-metallic materials	Thermoplasts			41				
		Thermosetting plastics			42				
		Plastic, glass-fibre reinforced GFRP			43				
		Plastic, carbon fibre reinforced CFRP			44				
		Graphite			45				
		Wood			46				

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
For examples of material for cutting tool groups view page D22.

	Starting values for cutting speed vc [m/min]					
	HC (PVD)			HW		
	YBG202	YBG205	YBG302	YD101	YD201	
	190	190	185			
	175	175	170			
	145	145	140			
	140	140	135			
	135	135	130			
	170	170	165			
	125	125	125			
	115	115	115			
	105	105	105			
	125	125	125			
	95	95	95			
	165	165	160			
	135	135	130			
	155	155	150			
	135	135	130			
	240	240	235			
	185	185	180			
	220	220	215			
	165	165	160			
	175	175	170			
	165	165	160			
				800	760	
				600	570	
				320	305	
				240	230	
				160	155	
				160	155	
				600	570	
				200	190	
	95	95	95	70	65	
	50	50	50	35	35	
	80	80	75	60	60	
	70	70	65	50	50	
	70	70	65	50	50	
	145	145	140	105	100	
	50	50	50	35	35	

HC Coated carbide
HW Uncoated carbide, main component (WC)

Notes