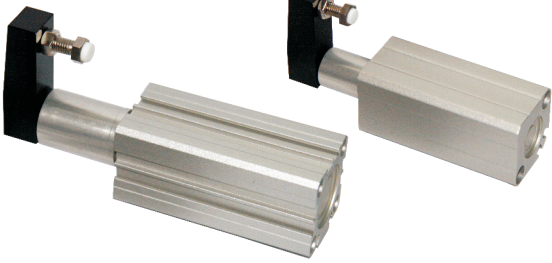




Rotary clamp cylinder——QCK Series

Product series

Series name	Mounting type		Acting type	Bore size	Collocation of sensor switch			
	Basic	FB			CS1-J	DS1-J	CS1-G	DS1-G
QCK Series 			Double acting	12			●	●
				16			●	●
				20			●	●
				25			●	●
				32	●	●	●	●
				40	●	●	●	●
				50	●	●	●	●
				63	●	●	●	●
Page	350	351			403			

Installation and application

1. Dirty substances in the pipe must be cleared away before cylinder is connected with pipeline to prevent the entrance of sundries into the cylinder.
2. The medium used by cylinder shall be filtered by the filter core of above 40 μ m.
3. Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
4. If the cylinder is dismantled and stored for a long time, please conduct anti-rust treatment to the surface. Anti-dust jam cap shall be added in air intake and outlet orifices.
5. To insure the life-span of cylinder and jig, please use flow control valve to control the speed of cylinder.

Criteria for selection: Cylinder thrust

Unit: Newton(N)

Bore size (mm)	Rod size (mm)	Acting type	Operating pressure(MPa)							
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
12	6	IN(Clamp)	8.5	17.0	25.4	33.9	42.4	50.9	59.4	67.9
		OUT(Release)	11.3	22.6	33.9	45.2	56.5	67.9	79.2	90.4
16	8	IN(Clamp)	15.1	30.2	45.2	60.3	75.4	90.5	105.6	120.6
		OUT(Release)	20.1	40.2	60.3	80.4	100.5	120.6	140.7	160.8
20	12	IN(Clamp)	20.1	40.2	60.3	80.4	100.5	120.6	140.7	160.8
		OUT(Release)	31.4	62.8	94.2	125.7	157.1	188.5	219.9	251.3
25	12	IN(Clamp)	37.8	75.6	113.3	151.1	188.9	226.7	264.4	302.2
		OUT(Release)	49.1	98.2	147.3	196.3	245.4	294.5	343.6	392.7
32	16	IN(Clamp)	60.3	120.6	181.0	241.3	301.6	361.9	422.2	482.5
		OUT(Release)	80.4	160.8	241.3	321.7	402.1	482.5	563.0	643.4
40	16	IN(Clamp)	105.6	211.1	316.7	422.2	527.8	633.3	738.9	844.5
		OUT(Release)	125.7	251.3	377.0	502.7	628.3	754.0	879.6	1005.3
50	20	IN(Clamp)	164.9	329.9	494.8	659.7	824.7	989.6	1154.5	1319.5
		OUT(Release)	196.3	392.7	589.0	785.4	981.7	1178.1	1374.4	1570.8
63	20	IN(Clamp)	280.3	560.6	840.9	1121.2	1401.5	1681.9	1962.2	2242.5
		OUT(Release)	311.7	623.4	935.2	1246.9	1558.6	1870.3	2182.1	2493.8



QCK



Rotary clamp cylinder

QCK Series

AirTAC



Symbol



Product feature

1. It can be used on welding fixture, the QPQ surface treatment prevent piston rod hurt by welding slag; better than chrome plated piston rod.
2. The front cover with stainless steel dust scraping ring, can keep the dust and welding slag out, protect cylinder inside parts.
3. $\Phi 32 \sim \Phi 63$ bore size have special strong magnet option can be used in high magnetic fields.
4. The mounting dimension of body is the same as ACQ series, can use ACQ series' accessories.

Ordering code

Model can to be changed Ordering code. Example:

Production type: QCK
Rotary direction: Push and turn left
Bore size: 32mm
Clamping stroke: 30mm
Magnet: With magnet
Mounting type: FB
Thread type: NPT

Model: QCK-L-32×30-S-FB-T

Ordering code: QCK L 32 S 0030 FB T

Model	Thread type
Rotation direction	P: PT
L: Push and turn left	T: NPT
R: Push and turn right	G: G
Bore size	Mounting type
12: $\Phi 12$ mm	Blank: No bracket
16: $\Phi 16$ mm	FB: FB type
20: $\Phi 20$ mm	
25: $\Phi 25$ mm	Clamping stroke
32: $\Phi 32$ mm	不足四碼前面補0
40: $\Phi 40$ mm	
50: $\Phi 50$ mm	Magnet
63: $\Phi 63$ mm	S: With magnet

Specification

Bore size(mm)	12	16	20	25	32	40	50	63
Acting type	Double acting							
Fluid	Air(to be filtered by 40 μ m filter element)							
Operating pressure	0.15~1.0MPa(23~145psi)(1.5~10bar)							
Proof pressure	1.5MPa(215psi)(15bar)							
Temperature $^{\circ}\text{C}$	-20~80							
Speed range mm/s	30~300							
Rotation angle	$90^{\circ} \pm 10^{\circ}$							
Rotation direction	Turn left or turn right							
Rotation stroke mm	7.5		9.5		15		19	
Clamping stroke mm	10	20	10	20	30	10	20	30 50
Stroke tolerance	$+1.0$ -0							
Cushion type	Bumper							
Port size ①	M5 $\times$ 0.8				1/8"		1/4"	

① PT thread、NPT and G thread are available.

Add) QCK series are all attached with magnet, please refer to Page 403~426 for the specific content of sensor switch.

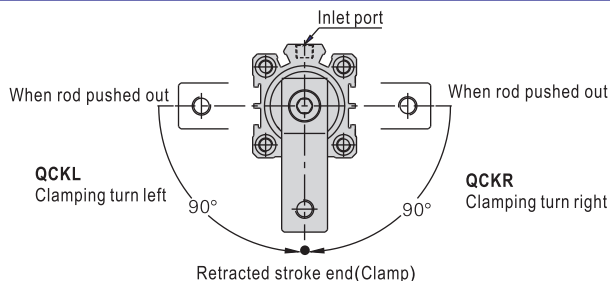
Explain of model

QCK-L-32×20-S-FB-P	
Model	② Thread type
QCK: Rotary clamp cylinder	P: PT
Rotation direction	T: NPT
L: Push and turn left	G: G
R: Push and turn right	Mounting type
Bore size	Blank: No bracket
12 16 20 25 32 40 50 63	FB: FB type ①
Clamping stroke	Magnet
Bore size Clamping stroke	S: With magnet
$\Phi 12$ 10, 20	
$\Phi 16 \sim \Phi 25$ 10, 20, 30	
$\Phi 32 \sim \Phi 63$ 10, 20, 30, 50	

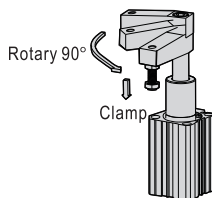
① Back flange is same as ACQ series.

② When the thread is standard, the code is blank.

The definition of rotation direction and angle

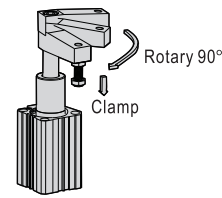


Levorotatory(QCKL):
When the piston of cylinder moves downward, the swivel arms moves anticlockwise, this is called levorotatory.



The order code is L

Dextrorotatory(QCKR):
When the piston of cylinder moves downward, the swivel arms moves clockwise. this is called dextrorotatory.



The order code is R

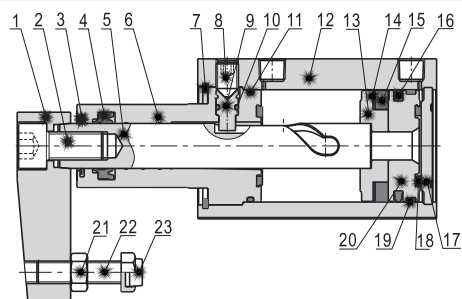


Rotary clamp cylinder

QCK Series

AirTAC

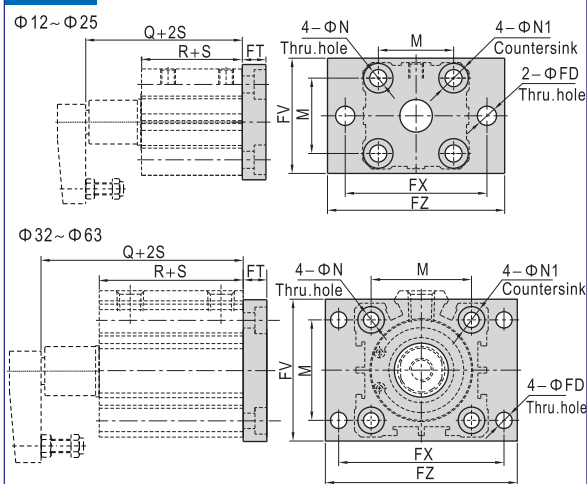
Inner structure and material of major parts



NO.	Item	Material
1	Rocker	Carbon steel
2	Screw	Carbon steel
3	Dust scraping ring	No(Φ 12, Φ 16)\Stainless steel(Others)
4	Front cover packing	NBR
5	Piston rod	SCr440
6	Front cover	Aluminum alloy
7	C Clip	Spring steel
8	Screw	Carbon steel
9	Operating screw	SCr440
10	O-ring	NBR
11	O-ring	NBR
12	Body	Aluminum alloy
13	Magnet holder	Brass(Φ 12, Φ 16)\Aluminum alloy(Others)
14	Magnet washer	NBR
15	Magnet	Sintered metal(Neodymium-iron-boron(Φ 12~Φ 25) Plastic(Others)
16	Piston O-ring	NBR
17	Back cover	Aluminum alloy
18	Bumper	TPU(Φ 12~Φ 25)\NBR(Others)
19	Wear ring	No(Φ 12~Φ 32)\Wear resistant material(Others)
20	Piston	Brass(Φ 12, Φ 16)\Aluminum alloy(Others)
21	Screw	Carbon steel
22	Fixing screw	Carbon steel
23	Bumper	PTFE(Φ 12~Φ 40)\POM(Others)

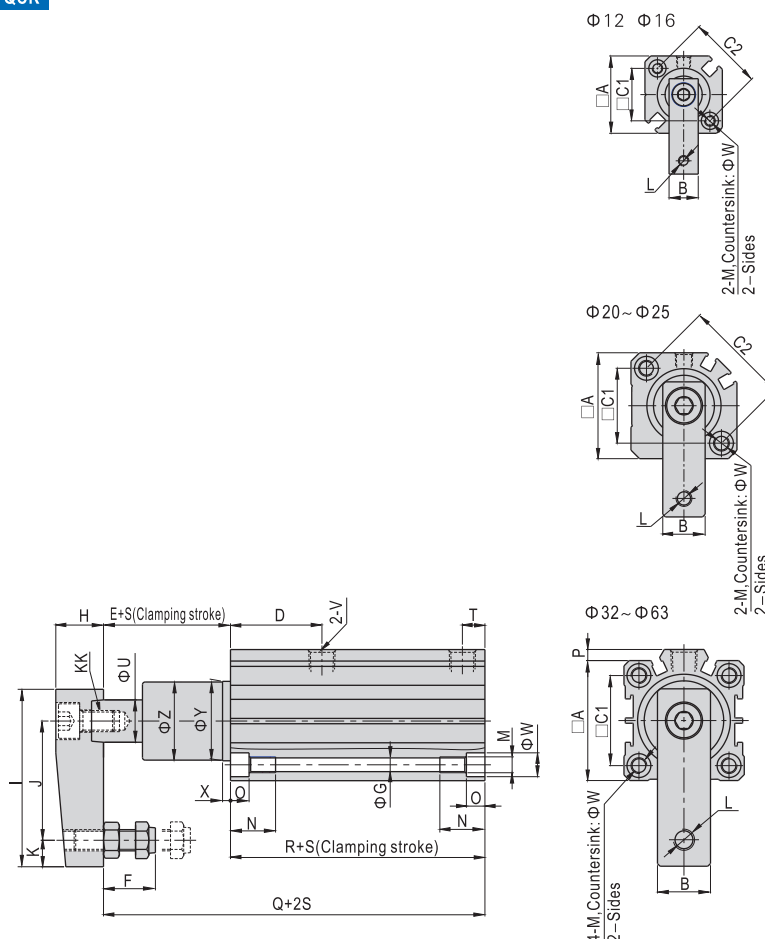
Dimensions

QCK-FB



Bore size\Item	R	Q	M	N	N1	FD	FT	FV	FX	FZ
12	35.5	46	15.5	4.5	7.5	4.5	5.5	25	45	55
16	35.5	46	20	4.5	7.5	4.5	5.5	30	45	55
20	62	70	25.5	6.5	10.5	6.5	8	39	48	60
25	63	71	28	6.5	10.5	6.5	8	42	52	64
32	71.5	89	34	6.5	10.5	5.5	8	48	56	65
40	65	90	40	6.5	10.5	5.5	8	54	62	72
50	76.5	107.5	50	8.5	13.5	6.5	9	67	76	89
63	80	110.5	60	10.5	16.5	9	9	80	92	108

QCK



Note) All the s above are clamping stroke.

Bore size\Item	A	B	C1	C2	D	E	F	G	H	I	J	K	KK	N
12	25	9	15.5	22	13.5	10.5	7~13	3.4	9	29	20	4	M3 × 0.5	11
16	29	11	20	28	15	10.5	7~13	3.4	13	36	25	5	M5 × 0.8	11
20	36	16	25.5	36	30	8	9.5~20.5	5.2	16	51	35	7	M8 × 1.25	17
25	40	16	28	40	30	8	9.5~20.5	5.2	16	51	35	7	M8 × 1.25	17
32	45	19	34	—	34.5	17.5	13.5~25.5	5.2	19	67	45	10	M10 × 1.5	17
40	53	19	40	—	26.5	25	13.5~25.5	5.2	19	67	45	10	M10 × 1.5	17
50	64	25.4	50	—	34	31	14.5~30	6.5	25.4	88	65	10	M12 × 1.75	22
63	77	25.4	60	—	34.5	30.5	14.5~30	8.7	25.4	88	65	10	M12 × 1.75	28.5

Bore size\Item	L	M	O	P	Q	R	T	U	V	W	X	Y	Z
12	M4 × 0.7	M4 × 0.7	3.5	—	46	35.5	5.5	6	M5 × 0.8	6.5	3	11	10.8
16	M4 × 0.7	M4 × 0.7	3.5	—	46	35.5	5.5	8	M5 × 0.8	6.5	3	14	13.8
20	M6 × 1.0	M6 × 1.0	7	—	70	62	6	12	M5 × 0.8	9	3	18	17.8
25	M6 × 1.0	M6 × 1.0	7	—	71	63	7	12	M5 × 0.8	9	6	23	22.5
32	M8 × 1.25	M6 × 1.0	7	4.5	89	71.5	8.5	16	1/8"	9	7	30	29.5
40	M8 × 1.25	M6 × 1.0	7	4	90	65	9	16	1/8"	9	3	30	29.5
50	M10 × 1.5	M8 × 1.25	8	7	107.5	76.5	11.5	20	1/4"	11	3.5	37	36.5
63	M10 × 1.5	M10 × 1.5	10.5	7	110.5	80	11.5	20	1/4"	14	3.5	48	47.5



QCK

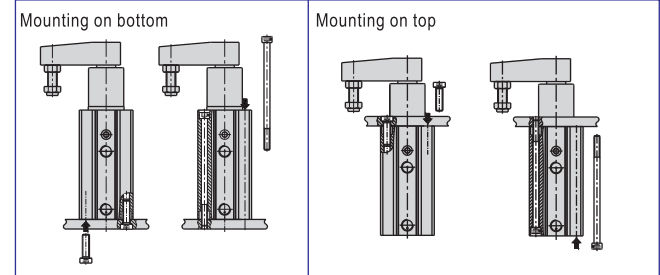
Rotary clamp cylinder



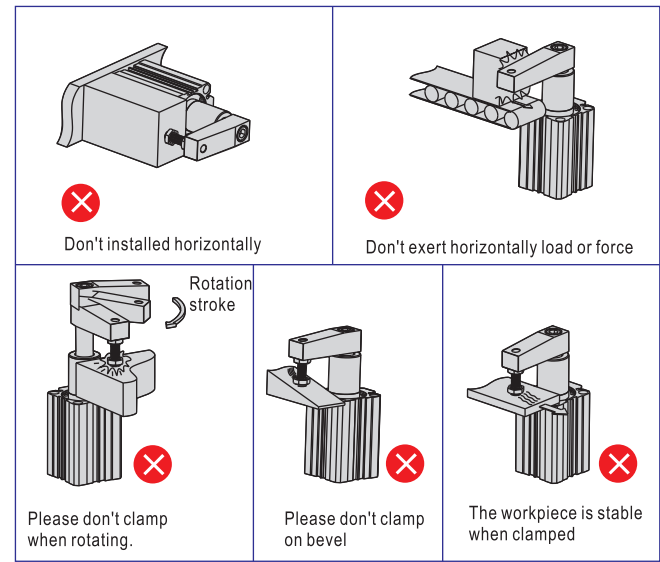
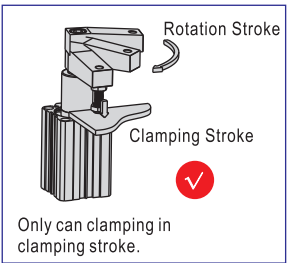
QCK Series

Installation and operation

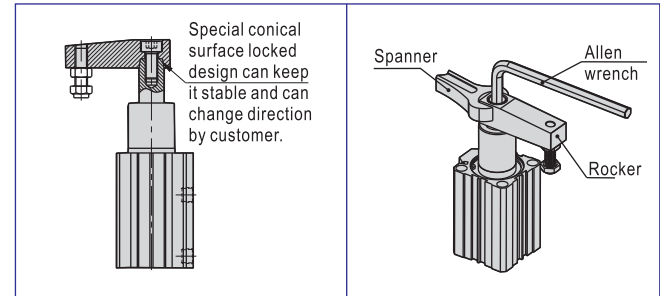
- 1. To insure the life-span of cylinder and jig, please use flow control valve to control the speed of cylinder.
- 2. The method of installation are mounted by flange on top or bottom.



- 3. Before the cylinder is connected to pipeline sundries in the pipe must be cleared away, or may cause the cylinder to leak.
- 4. Please clean the piston-rod and dust scraping ring to protect the cylinder.
- 5. The cylinder using normal magnet ring can use the same sensor as ACQ series. And the cylinder using strong magnet ring we suggest use AirTAC's CS1-69AM sensor.
- 6. Because the rotary force is strong when the cylinder's acting, we suggest using flow control valve to control the speed to protect cylinder.
- 7. Please install the cylinder follow right diagram.
- 8. The installation method as below diagram are wrong, will injure the cylinder and shorten the cylinder life.



- 9. Rocker
 - 9.1) The design of rocker can keep it stable and can change direction by customer.
 - 9.2) Please follow below diagram on right side to assemble/disassemble the rocker by spanner and allen wrench; don't hold the body to assemble/disassemble rocker, or will damage the cylinder.
 - 9.3) If need customize rocker, please contact us.



Accessory and sensor switch

- 1. The accessory's ordering code is same as ACQ series'(please refer below table), if need front flange, please contact us.
- 2. Accessory's dimension please refer to QCK-FB dimension.

Bore size\Accessories	FB	Material
12	F-ACQ12FA	Aluminum alloy
16	F-ACQ16FA	
20	F-ACQ20FA	Grey cast iron
25	F-ACQ25FA	
32	F-ACQ32FA	
40	F-ACQ40FA	
50	F-ACQ50FA	
63	F-ACQ63FA	



QCK

