



Pin clamp cylinder(Lock type)——BAQK Series

Compendium of BAQK Series

Bidirectional locked
Both stretch and retract can lock cylinder equivalently unrelated to piston action

Applicable with AQK series pin clamp cylinder
Same instructions as AQK series

Spring + Clip clamping device
Simple structure, fast and effective unlock, stable switch state

General pin specification with AQK series

Multiple unlock options
Pneumatic and manual unlock options

Pneumatic unlock
compressed air

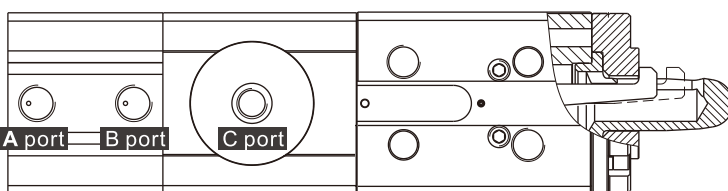
Manual unlock
Manual unlock screw

Applicable with AQK series pin clamp cylinder

Installation instructions (general)



- Before piping is connected, it should be thoroughly blown out with air (flushing) or washed to remove chips, cutting oil and other debris inside the pipe.
- operating fluid need to be filtered by 40 μ m filter element.
- During low temperature environment, cryogenic measures should be taken to prevent freezing water in the system.
- Beware of the surface rust on the cylinder after disassemble for a long time.
Dust cover should be added on inlet port and apply anti-rust oil on rod and action part.
- Please attach a meter-out controller at the port to protect product life of cylinder and jig.
- The locking device can only work when cylinder stops, do not activate the rod under working condition.
It's necessary to take extra measures if the control system has safety requirement.
- The locking device can be released only when the force on both sides of the piston reaches equilibrium or the cylinder stops, otherwise it may cause accident by rod sudden action.
- application example.



Circulation	Inlet			Acting	
	A port	B port	C port		
no	no	yes	clamp machine unlocked		
no	yes	yes	Clamp arm fastened workpiece	←	0~0.5S
no	no	no	clamp machine locked		
no	no	yes	clamp machine unlocked	←	0.5S above
yes	no	yes	clamp arm loosen workpiece	←	0~0.5S



Pin clamp cylinder—Lock type

BAQK Series



Specification

Bore size(mm)	50	
Acting type	Double acting	
Fluid	Air(to be filtered by 40μm filter element)	
Operating pressure	0.15~1.0MPa(22~145psi)	
Proof pressure	1.5MPa(215psi)	
Temperature °C	-20~70	
Cushion type	Bumper	
Clamp stroke	Without shims: 10 ⁰ _{-0.5} mm	With shims: 10~12mm
Unlock pressure	0.3~0.7MPa(45~100psi)	
Static retention	1400N	
Port size	Cylinder	1/4"
[Note]	Clamp device	G1/8

[Note] PT thread is available.

Please refer to page 365 for sensor applications.

Product feature

1. According to JIS standards
2. Pin surface adopted titanium alloy processing to enhance friction resistance.
3. Part of cylinder front cover has equipped with metallic rod wiper that can effectively remove slag and debris etc.
4. Possible to mount on 4 surfaces.
5. With sensor groove around cylinder body, easy to mount sensors.

Ordering code

BAQK50 S A A A □ □-177X340

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

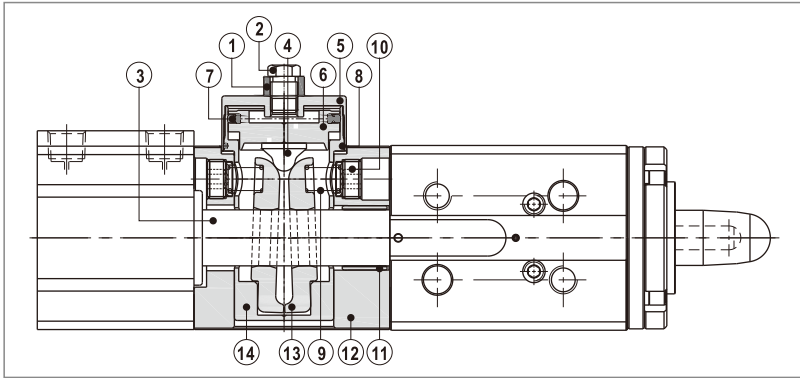
① Model	BAQK : Pin clamp cylinder(lock type)					
② Bore size	50					
③ Magnet	S : With magnet					
④ Install dim.	A : Mounting screws M10X1.5/ pinhole diameter Φ10		B : Mounting screws M12X1.75/ pinhole diameter Φ10			
⑤ The relative position of screw surface and pinhole	A:A type mounting groove	B:B type mounting groove	C:C type mounting groove	D:D type mounting groove		
	Refer to AQK series ordering code for specific mounting groove					
⑥ Clamp arm position	A : Clamp arm same side with inlet port	B : Clamp arm at 90° with inlet port	C : Clamp arm at 180° with inlet port	D : Clamp arm at 270° with inlet port		
	The relation between clamp arm and inlet port please refer to AQK series ordering code content					
⑦ Adjusting shims	Blank: Without adjustable shims			2 : With adjusting shim 2mm (2 of 0.5mm+1 of 1mm)		
⑧ Thread code	Blank: PT1/4					
⑨ Guide pin specification code	Code [Note]	Pin height (without shims)	Code	Pin height (with shims)	Pin diameter	Workpiece port size
	14□X290	29	14□X310	31	Φ14.□	Φ15
	15□X290	29	15□X310	31	Φ15.□	Φ16
	17□X340	34	17□X360	36	Φ17.□	Φ18
	19□X340	34	19□X360	36	Φ19.□	Φ20
	24□X340	34	24□X360	36	Φ24.□	Φ25

[Note] "□" means 1-9. Take 177X340 for example, 177 means pinhole diameter 17.7mm, 340 means guiding pin height 34mm.

Pin clamp cylinder—Lock type

BAQK Series

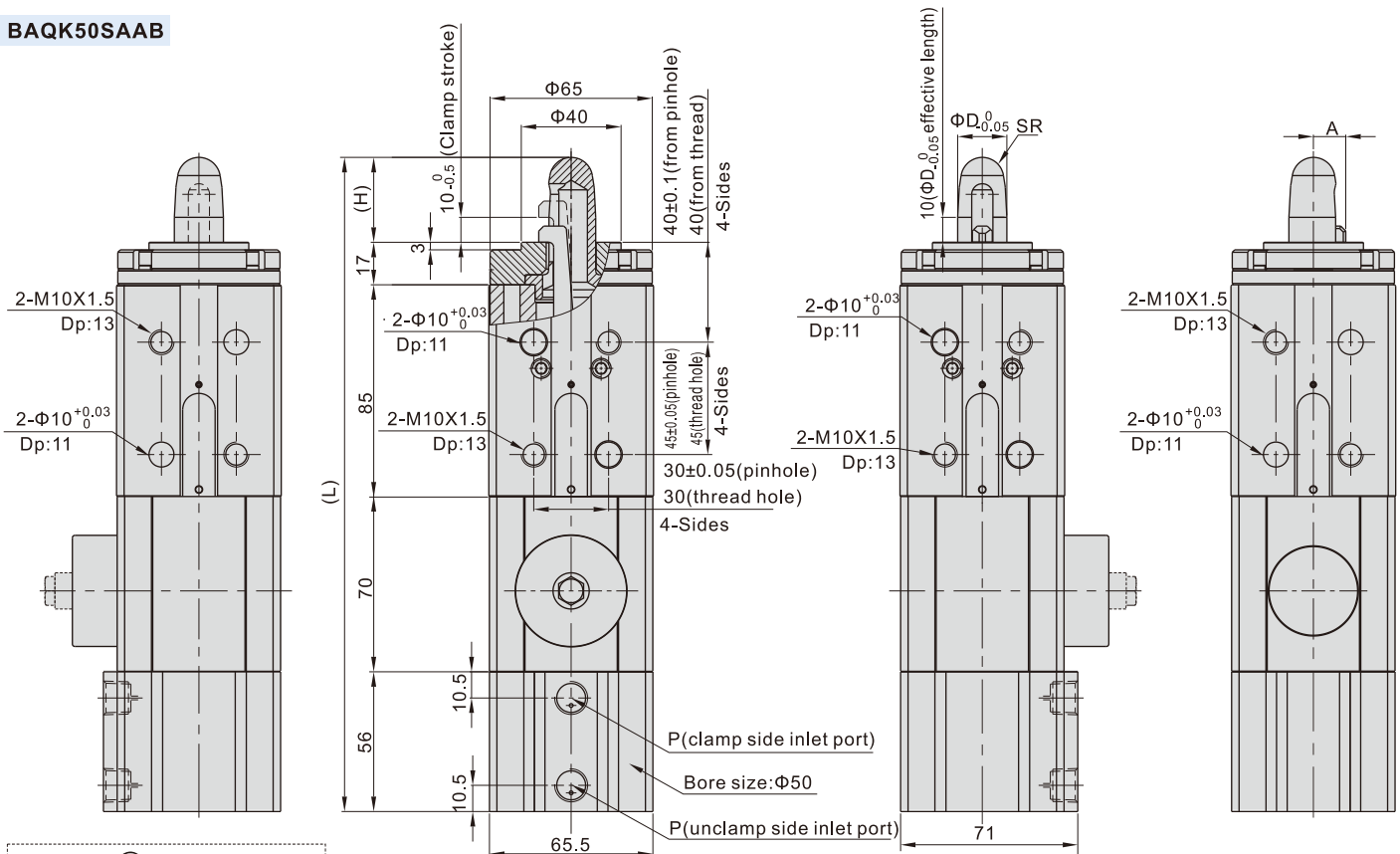
Inner structure and material of major parts



NO.	Item	Material
1	Spacer	POM
2	Unlock screws	Cutting steel
3	Rod	S45C hard chrome plating bar
4	Unlocker	Wear resistant material
5	Cap	Aluminum alloy
6	Unlock piston	Aluminum alloy
7	Piston packing	NBR
8	O ring	NBR
9	Spring	Spring steel
10	Spring fixed screws	Low carbon steel
11	Bimetal bearing	Low carbon steel+sintered bronze
12	Fixed holder	Aluminum alloy
13	Air gripper	Aluminium Bronze
14	Sleeve	Aluminum alloy

Dimensions

BAQK50SAAB



Pin hole	ΦD (Pin dim.)	SR (pin sphere radius)	H (pin height)		A (arm length)	T (arm width)	L (full length)	
			Without shims	With shims			Without shims	With shims
$\Phi 15$	$\Phi 14$	5.5	29	31	11	7	257	259
$\Phi 16$	$\Phi 15$	6	29	31	11	7	257	2R9
$\Phi 18$	$\Phi 17$	7	34	36	12	8	262	264
$\Phi 20$	$\Phi 19$	8.5	34	36	13	8	262	264
$\Phi 25$	$\Phi 24$	10.5	34	36	15.5	8	262	264

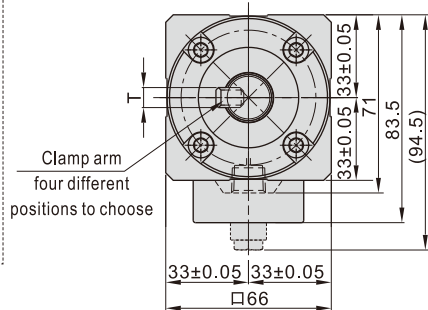
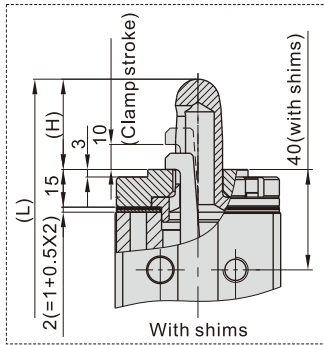
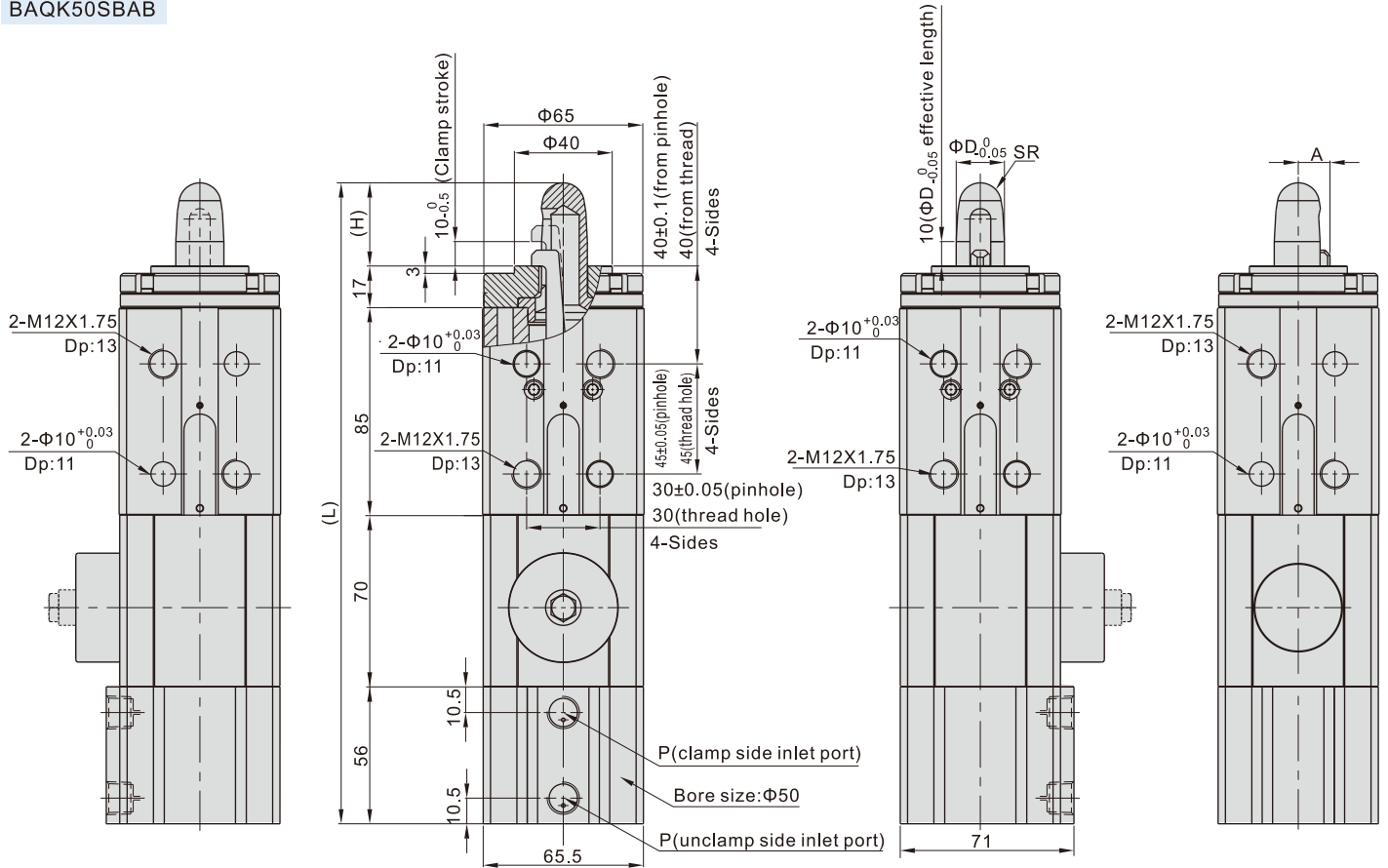
[Note] "□" refers to number 1-9.

P inlet port size is PT 1/4, and G, NPT thread are also selectable.

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BAQK50SBAB



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Φ18	Φ17.□	7	34	36	12	8	262	264
Φ20	Φ19.□	8.5	34	36	13	8	262	264
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[Note] "□" refers to number 1-9.

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Installation instruction

BAQK series mounting dimensions are equivalent to AQK series, please refer to AQK series for specific mounting groove.