





Twist clamp cylinder—ACK Series

Product series

Series name		Acting type	Bore size
ACK Series 	ACKD Series 	Double acting	25 32 40 50 63
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Installation and application

1. Clamping operation must be carried out within the clamping stroke and can not be performed within the swivel stroke.
2. Clamping plane must be vertical to the cylinder axes. After the components are clamped, don't move the components.
3. Before the cylinder is connected to pipeline, sundries in the pipe must be eliminated to prevent impurities entering the cylinder.
4. The medium used by cylinder shall be filtered to 40 μm or below.
5. If the cylinder is dismantled and stored for a long time, please conduct anti-rust treatment to the surface. Anti-dust cap shall be added in inlet and outlet ports. The end of piston shall be coated with anti-rust oil.



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Theoretical clamping force

Unit: Newton(N)

Bore size (mm)	Rod size (mm)	Operating pressure(MPa)						
		0.1	0.2	0.3	0.4	0.5	0.6	0.7
25	14	-	67.4	101.1	134.8	168.5	202.2	235.9
32	16	60.3	120.6	181.0	241.3	301.6	361.9	422.2
40	16	105.6	211.1	316.7	422.2	527.8	633.3	738.9
50	20	164.9	329.9	494.8	659.7	824.7	989.6	1154.5
63	20	280.3	560.6	840.9	1121.2	1401.5	1681.9	1962.2

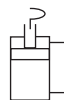
Twist clamp cylinder



ACK Series



Symbol



Product feature

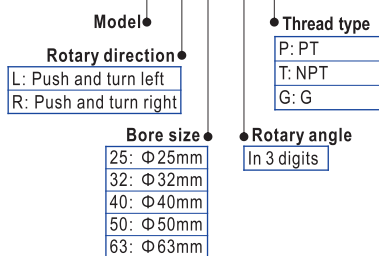
1. The material of seals guarantees the reliable performance of the cylinder that is used under various conditions.
2. Three-slot guide structure leads to high guide precision.
3. There are single and double side clamping fingers can be selected (90°).
4. Levorotatory and dextrorotatory are available; 90° and 180°.
5. The material of piston rod is made from special alloy steel, which has longer life after heat treatment.

Ordering code

Model can be changed Ordering code. Example:
 Production type: ACK
 Rotary direction: Push and turn left
 Bore size: 32mm
 Rotary angle: 90°
 Thread type: NPT

Model: ACK L-32 × 90-T

Ordering code: ACK L 32 090 T



Specification

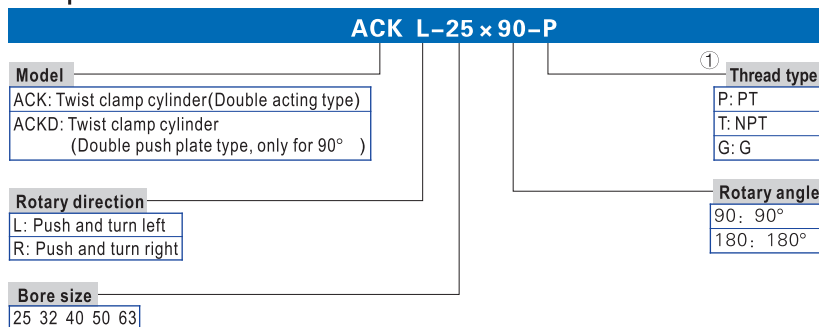
Bore size(mm)	25	32	40	50	63
Acting type	Double acting				
Fluid	Air(to be filtered by 40 μm filter element)				
Operating pressure	0.15~1.0MPa(22~145psi)				
Proof pressure	1.5MPa(215psi)				
Temperature °C	-20~80				
Speed range mm/s	30~300				
Stroke tolerance	+1.0 0				
Rotary angle tolerance	± 1.5°				
Cushion type ①	No cushion				
Port size ②	M5 × 0.8		1/8"		

- ① If there is no buffering device, exhaust throttle shall be added to achieve buffering effect.
 ② PT thread、NPT and G thread are available.

Stroke

Bore size(mm)	Stroke type	90°	180°	Total stroke (90° /180°)
25	Rotation stroke	14	20	26
	Clamping stroke	12	6	
32	Rotation stroke	15	21	27
	Clamping stroke	12	6	
40	Rotation stroke	15	21	29
	Clamping stroke	14	8	

Explain of model



① When the thread is standard, the code is blank.



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Inner structure and material of major parts

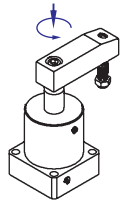
NO.	Item	Material	NO.	Item	Material
1	Screw	Carbon steel	12	Fixed pin	S45C
2	Rocker	Carbon steel	13	Back cover	Aluminum alloy
3	Rod packing	NBR	14	O-ring	NBR
4	O-ring	NBR	15	Push block	SCr440
5	Piston rod	S45C	16	Bushing	SCr440
6	Body	Aluminum alloy	17	Steel ball	Carbon steel
7	Piston seal	NBR	18	Rotary axis	SCr440
8	Wear ring	Wear resistant material	19	Bumper	PTFE
9	Screw	Carbon steel	20	Screw	Carbon steel
10	Screw	Carbon steel	21	Nut	Carbon steel
11	O-ring	NBR			

The definition of swivel direction

Levorotatory

When the piston of cylinder moves downward, the swivel arms moves anticlockwise, this is called levorotatory.

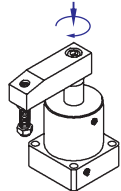
The order code is L.



Dextrorotatory

When the piston of cylinder moves downward, the swivel arms moves clockwise, this is called dextrorotatory.

The order code is R.

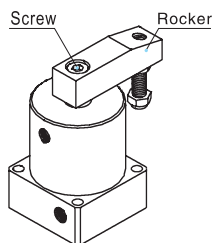


Installation and application

Rocking shaft initial point adjustment

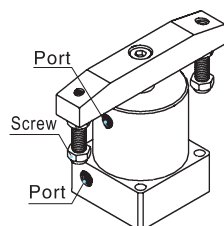
According to the actual need, loosening screw, may adjust the rocking shaft initial point.

Note: When assemble or disassemble the rocker by spanner and allen wrench; don't hold the body to assemble or disassemble rocker, it may damage the cylinder.



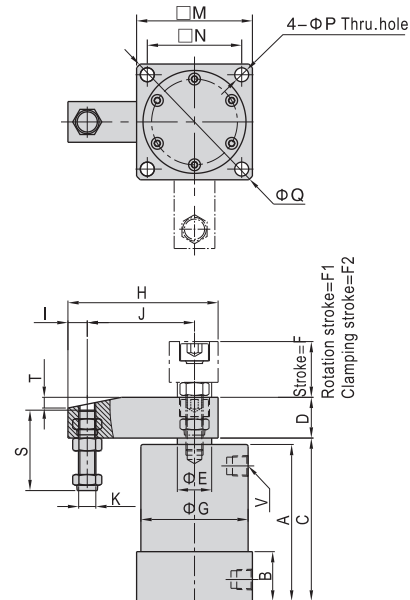
How to select the fitting for body's port

When ACK series with 180° rotation or ACKD is selected, miniature air fittings should be used to minimise obstruction.

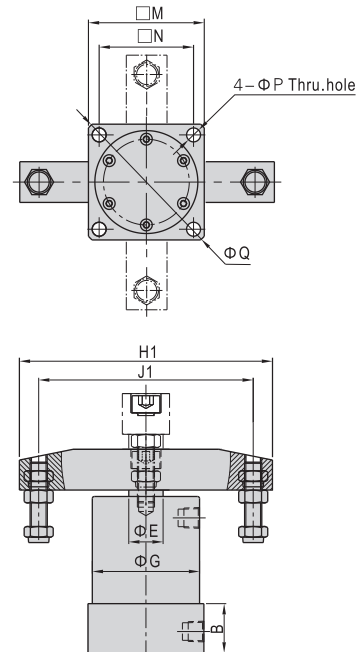


Dimensions

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Bore size\Item	A	B	C	D	E	G	H	H1	I	J	J1	K	M	N
25	65	23	69	16	14	35	48	76	8	30	60	M6×1.0	40	30
32	73	23	76	19	16	50	70	118	9	50	100	M8×1.25	54	44
40	74	26	78	19	16	55	70	118	9	50	100	M8×1.25	58	48
50	80	26	84	25.4	20	60	93	160	10	70	140	M10×1.5	68	55
63	86	30	90	25.4	20	70	93	160	10	70	140	M10×1.5	82	64

Bore size\Item	P	Q	F(90° /180°)	F1(90°)	F2(90°)	F1(180°)	F2(180°)	S	V
25	4.5	52	26	14	12	20	6	29.5	M5×0.8
32	6.5	74	26	14	12	20	6	37.5	1/8"
40	6.5	79	27	15	12	21	6	37.5	1/8"
50	8.5	91	29	15	14	21	8	45	1/8"
63	8.5	108	29	15	14	21	8	45	1/8"



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