



Twist clamp cylinder——ACK Series

Product series

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

Installation and application

1. Clamping operation of the cylinder 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 cleared away to prevent sundries entering the cylinder.
4. The medium used by cylinder shall be filtered by the filter core of at least 40 μ m.
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. The end of piston shall be coated with antirust 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 dextrorotary are available; 90° and 180°.
5. The material of piston rod is made by special alloy steel, which has longer service life after heat treatment.

Ordering code

Model can to 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

Model

Rotary direction

L: Push and turn left
R: Push and turn right

Bore size

25: Φ25mm
32: Φ32mm
40: Φ40mm
50: Φ50mm
63: Φ63mm

Rotary angle

不足二碼前面補0

Thread type

P: PT

T: NPT

G: G

Specification

Bore size(mm)	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(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
32	Clamping stroke	12	6	26
40	Rotation stroke	15	21	27
	Clamping stroke	12	6	27
50	Rotation stroke	15	21	29
63	Clamping stroke	14	8	29

Explain of model

ACK L-25 × 90-P			
Model	ACK: Twist clamp cylinder(Double acting type) ACKD: Twist clamp cylinder (Double push plate type, only for 90°)	① Thread type	P: PT T: NPT G: G
Rotary direction	L: Push and turn left R: Push and turn right	Rotary angle	90: 90° 180: 180°
Bore size	25 32 40 50 63		

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

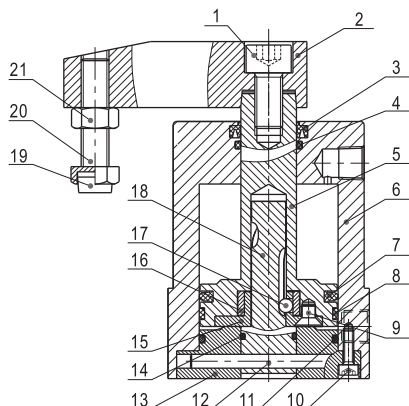


Twist clamp cylinder

AirTAC

ACK Series

Inner structure and material of major parts



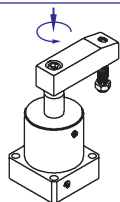
NO.	Item	Material	NO.	Item	Material
1	Screw	Carbon steel	12	Fixed pin	S45C
2	Rocker	Carbon steel	13	Back cover	Aluminum alloy
3	Rod packing	NBR	14	O-ring	NBR
4	O-ring	NBR	15	Push block	SCr440
5	Piston rod	S45C	16	Bushing	SCr440
6	Body	Aluminum alloy	17	Steel ball	Carbon steel
7	Piston O-ring	NBR	18	Rotary 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.

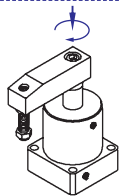
The order code is L.



Dextrorotatory

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

The order code is R.

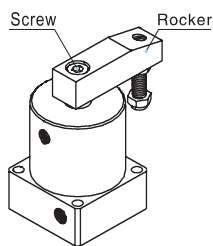


Installation and application

Rocking shaft initial point adjustment

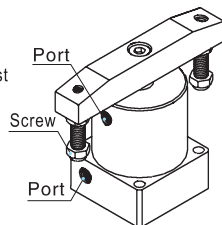
In according to the actual need, loosens screw, may adjust the rocking shaft initial point.

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



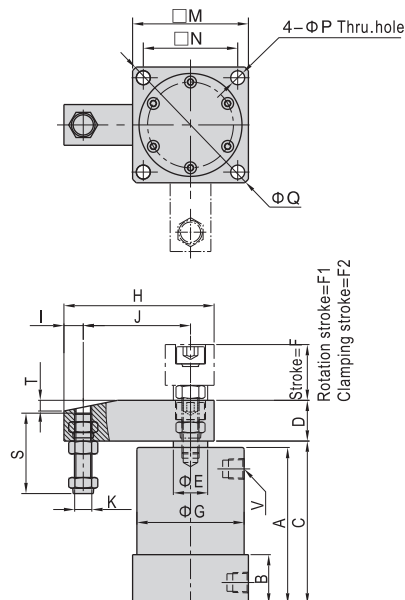
How to select the fitting for body's port

If you select ACK series and the rotation angle is 180°, or ACKD series, you must use mini fitting for body's ports, Otherwise the fitting and the screw maybe touched and can't be used normally.

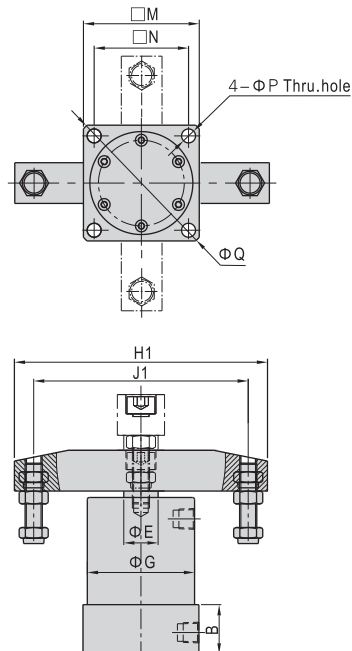


Dimensions

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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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