

The MACK & MACKD - Series Rotary Double Acting Clamp Cylinders include single and double arm versions. Base mounted, the cylinders have a stable interface for clamping components during manufacturing processes. Options include clockwise or counter-clockwise arm rotation and either 90° or 180° movement.

Installation and Application

1. The clamping operation must be carried out within the clamping stroke and not be performed within the swivel stroke.
2. The clamping plane must be parallel to the cylinder axes. After clamping do not move the components.
3. Before the cylinder connected to air-lines all tubes and fittings must be free of loose particles and debris.
4. The medium used in cylinder shall be filtered to at least 40µm.
5. Anti-freezing measures shall be to prevent the water freezing in cylinder.
6. If the cylinder is dismantled and stored for a long period of time, treat exposed surfaces with suitable anti-corrosion treatments, dust caps should be inserted in the inlet and outlet ports and the exposed piston rod coated with oil.

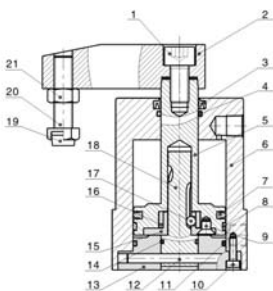
Symbol



Product Features

1. The material of the cylinder seals provides reliable performance when used under various conditions.
2. Three-slot guide structure leads to high guide precision.
3. There are single and double arm options.
4. Lavorotatory and dextrorotary are available in 90° and 180° rotations.
5. The material of piston rod is made by special heat treated steel to provide long service life.

Inner Structure and materials



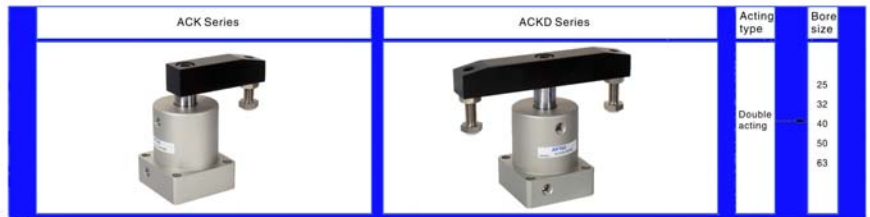
NO.	Item	Material	NO.	Item	Material
1	Screw	Carbon steel	12	Fixed pin	S45C
2	Rockler	Free cutting steel	13	Back cover	Aluminum alloy
3	Rod packing	NBR	14	O-ring	NBR
4	O-ring	NBR	15	Push block	SCr440
5	Piston rod	Carbon steel with 20u hard chrome plated	16	Bushing	SCr440
6	Body	Aluminum alloy	17	Steel ball	Carbon steel
7	Piston O-ring	NBR	18	Rotation 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			

Theoretical Clamping Force

Unit: Newton (N)

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

Produce Series



Specification

Bore size (mm)	25	32	40	50	63
Acting type	Double acting type				
Fluid	Air(to be filtered by 40m filter element)				
Operating pressure	0.15~1.0MPa(23~148Psi)				
Proof pressure	1.5MPa(213Psi)				
Temperature ℃	-20~80				
Speed range mm/s	30~300				
Stroke tolerance	+1.0 0				
Cushion type ①	No				
Port size ②	M5 x 0.8		1/8"		

1. Use exhaust restrictors to provide speed control and to provide a buffer effect.
2. G (BSP) and M5 threads are standard (NPT threads are available as an option on request)

Stroke

Bore size (mm)	Stroke type	90°	180°	Total stroke (90° /180°)
25、 32	Rotation stroke	14	20	26
	Clamping stroke	12	6	
40	Rotation stroke	15	21	27
	Clamping stroke	12	6	
50、 63	Rotation stroke	15	21	29
	Clamping stroke	14	8	

Ordering code

MACK L — 25 × 90 — G

Model: ACK: Twist clamp cylinder (Double acting type)
 ACKD: Twist clamp cylinder (Double push plate type, only for 90°)

Bore size: 25
 Rotation angle: 90°
 Thread type: G

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

① When it is M5 thread, it is blank here.

The definition of swivel direction

Dimensions

Levorotatory

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

The order code is L.

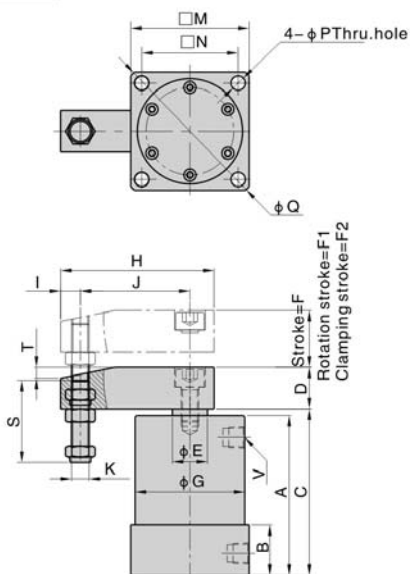


Dextrorotatory

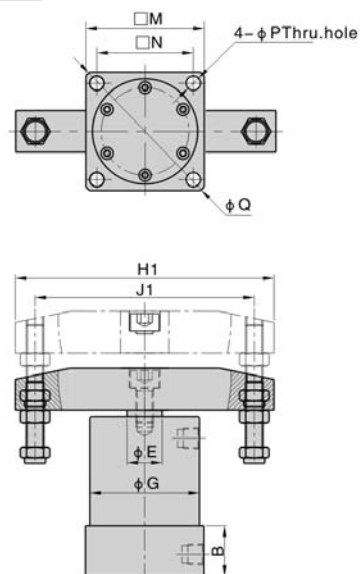
When the piston of cylinder moves downward, the swivel arms moves clockwise, this is called dextrorotatory. The order code is R.



ACK Series



ACKD Series



Bore size\Item	A	B	C	D	E	G	H	H1	I	J	J1	K	M	N	P	Q
25	65	23	69	16	14	35	48	76	8	30	60	M6 x 1.0	40	30	4.5	52
32	73	23	76	19	16	50	70	118	9	50	100	M8 x 1.25	54	44	6.5	74
40	74	26	78	19	16	55	70	118	9	50	100	M8 x 1.25	58	48	6.5	79
50	80	26	84	25.4	20	60	93	160	10	70	140	M10 x 1.5	68	55	8.5	91
63	86	30	90	25.4	20	70	93	160	10	70	140	M10 x 1.5	82	64	8.5	108

Bore size\Item	F(90°/180°)	F1(90°)	F2(90°)	F1(180°)	F2(180°)	S	V
25	26	14	12	20	6	29.5	M5 x 0.8
32	26	14	12	20	6	37.5	1/8"
40	27	15	12	21	6	37.5	1/8"
50	29	15	14	21	8	45	1/8"
63	29	15	14	21	8	45	1/8"