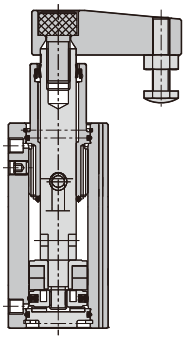
ACR(L)

Rotary Clamp Cylinder

Internal structure



Specification

Item / Bore size (mm)	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63
Action	Double acting							
Fluid	Air							
Pressure range kgf/cm² (kPa)	1.5 ~ 9.5 (150 ~ 950)							
Ambient and fluid temperature °C	0 ~ 60							
Piston speed mm/ s	30 ~ 500							
Rotary stroke mm	7		10		15		19	
Clamp stroke mm	10, 20		10, 20		10, 20		25, 50	
Rotation angle °	90±10							
Rotation direction	Left (From right to left) - L; Right (From left to right) - R							
Cushion device	Rubber lining							
Lubrication	Lubrication free type							
Port Size	M5x0.8P				Rc 1/8		Rc 1/4	
Sensing device	With magnet							

Product weight

Unit: kg

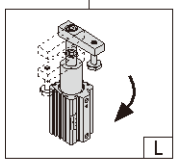
Stroke \ Bore size	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40
10	0.1	0.2	0.3	0.4	0.6	0.8
20	0.1	0.2	0.3	0.4	0.6	0.8

Stroke \ Bore size	Ø50	Ø63
25	1.5	2
50	1.6	2

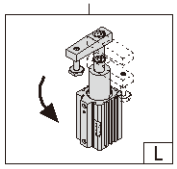
Code of order

Code of order

AC R — Model



L: Left rotation type
(From right to left)



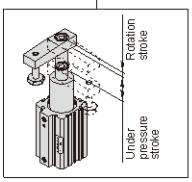
R: Right rotation type
(From left to right)

32 — Bore size

12 — Ø12mm
16 — Ø16mm
20 — Ø20mm
25 — Ø25mm
32 — Ø32mm
40 — Ø40mm
50 — Ø50mm
63 — Ø63mm

×

10 — Stroke



Press stroke
(Not include rotation stroke)

Ø12 -10, 20 mm
Ø16 -10, 20 mm
Ø20 -10, 20 mm
Ø25 -10, 20 mm
Ø32 -10, 20 mm
Ø40 -10, 20 mm
Ø50 -25, 50 mm
Ø63 -25, 50 mm

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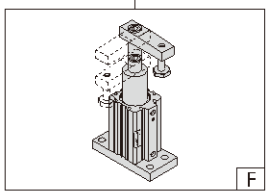
F — With mounting base



None: without mounting base
F: with mounting base

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AMS L 2 — Sensor switch

A M S- L

M :2 wire Without contact
N :3 wire Without contact(NPN)
P :3 wire W thout contact(PNP)
wire length-L :2000mm

L :straight cable
V :angle cab e(90°)

2 :Number of sensor switch 1 = 1 PCS (option)
2 = 2 PCS

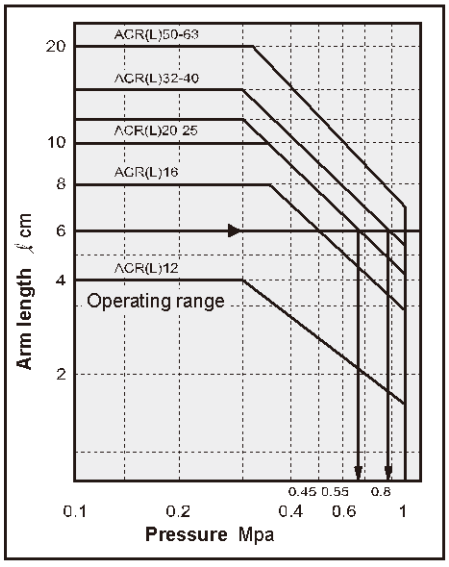
Theoretical output

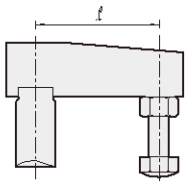
Model	Rod size (mm)	Operating direction	Piston area (cm^2)	Operating pressure (kgf/cm^2)			
				3	5	7	10
ACR(L)12	6	Clamp	0.8	2.4	4	5.6	8
		Unclamp	1.1	3.3	5.5	7.7	11
ACR(L)16	8	Clamp	1.5	4.5	7.5	10.5	15
		Unclamp	2	6	10	14	20
ACR(L)20	12	Clamp	2	6	10	14	20
		Unclamp	3	9	15	21	30
ACR(L)25	12	Clamp	3.7	11.1	18.5	25.7	37
		Unclamp	4.9	14.7	24.5	34.3	49
ACR(L)32	16	Clamp	6	18	30	42	60
		Unclamp	8	24	40	56	80
ACR(L)40	16	Clamp	10.5	31.5	52.5	73.5	105
		Unclamp	12.5	37.5	62.5	87.5	125
ACR(L)50	20	Clamp	16.5	49.5	82.5	115.5	165
		Unclamp	19.6	58.8	98	137.2	196
ACR(L)63	20	Clamp	28	84	140	196	280
		Unclamp	31.2	93.6	156	218.4	312

Caution

- The highest using pressure and cylinder speed will change with are length. If arm is too big or operated fast, it will cause cylinder damaged, please follow figure 1 and 2 to design.
- An area in which fluids such as cutting oil splash on the piston rod is not allowed; it may cause packing damage and leakage.
- It should be parallel for push tightly section and cylinder installation section.
- Do not clamp during the rotary stroke and make sure clamp tightly before working.
- Do not operate the cylinder horizontally, it will cause cylinder damaged.
- During the removal or reinstallation of the clamp arm, make sure to use a wrench or a vise to secure the clamp arm before removing or tightening the bolt. Refer to the table 3 for the tightening torque for mounting.

Table 1



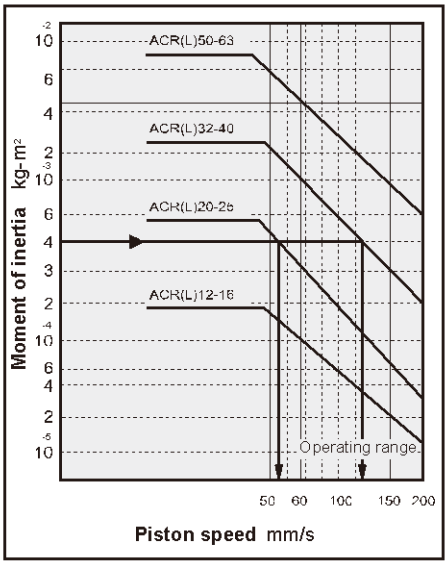


For example

When arm length is 6 cm, pressure should be less than

ACR(L)20 · 25: 0.65Mpa
ACR(L)32 · 40: 0.9Mpa
ACR(L)50 · 63: 1Mpa

Table 2



For example

When arm's moment of inertia is $4x10^{-4}$ kg-m^2, cylinder speed should be less than

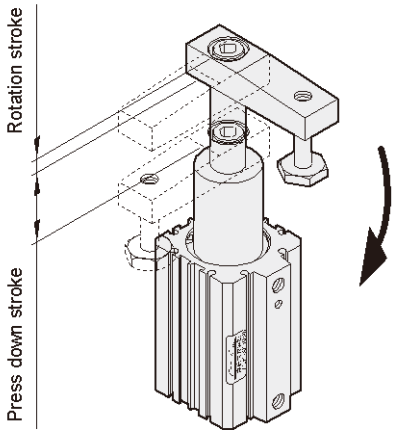
ACR(L)
20 · 25: 55mm/s
ACR(L)
32 · 40: 120mm/s

Table 3

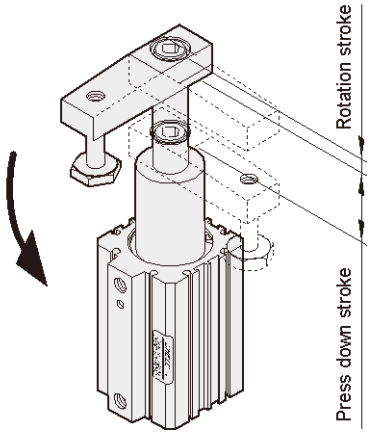
Bore size (mm)	Proper tightening torque (N-m)
Ø12	0.4 ~ 0.6
Ø16	2 ~ 2.4
Ø20, Ø25	4 ~ 6
Ø32, Ø40	8 ~ 10
Ø50, Ø63	14 ~ 16

Mounting type

Left rotation - SCL series

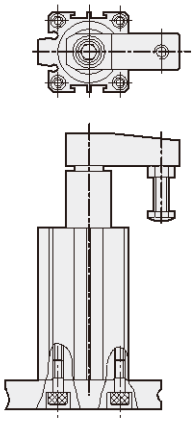


Right rotation - ACR series

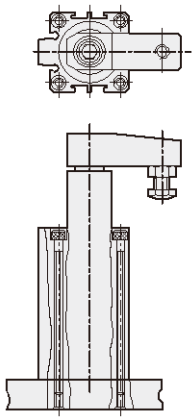


Mounting type

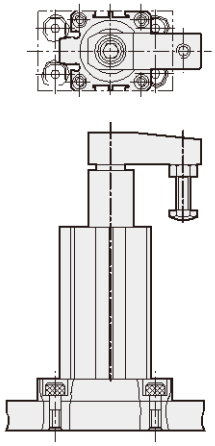
- Base mounting type



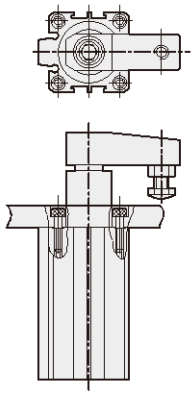
- Top mounting type



- Base mounting type -F



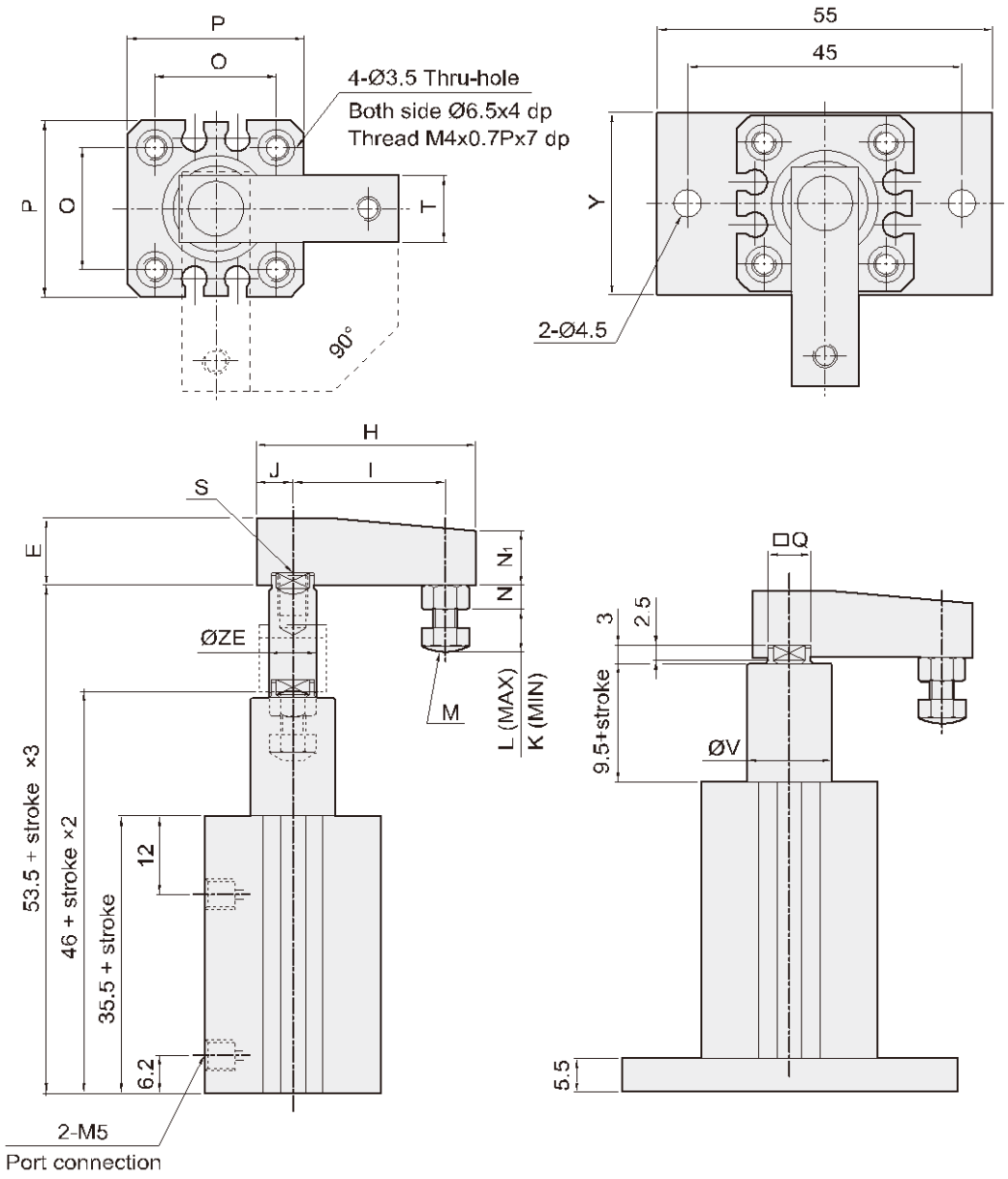
- Top mounting type



Dimensions

■ ACR(L) Ø12、Ø16

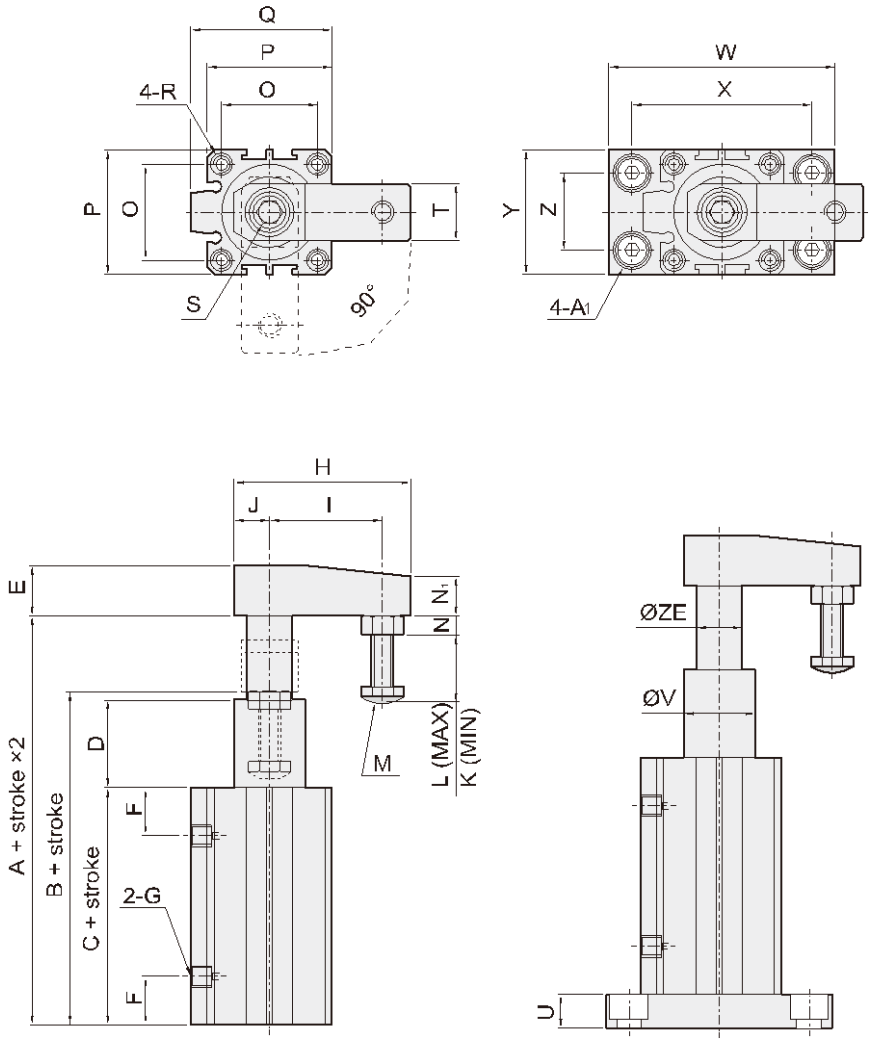
- Base mounting type



Bore size	E	H	I	J	K	L	M	N	N1	O	P	Q	S	T	V	Y	ZE
Ø12	8	29	20	5	6	15	M3×0.5p×25L Hexagon bolt	2.5	6.5	15.5	25	5	M3×0.5px5.5 dp	8	11	25	6
Ø16	11	36	25	6	6	15	M4×0.7p×25L Hexagon bolt	3	9	20	29	7	M5×0.8px6.5 dp	11	14	30	8

■ ACR(L) Ø20 ~ Ø63

● Base mounting type



Bore size	A	A1	B	C	D	E	F	G	H	I	J	K	L	M
Ø20	92.3	Thru-hole Ø5.5; Spot facing Ø9.5 x 5.5 dp	82.3	59.5	20.3	15.5	7.5	M5x0.8p	51	35	9	4	12	M6x1.0px25L Hexagon bolt
Ø25	93.6	Thru-hole Ø6.5; Spot facing Ø11 x 6.5 dp	83.6	61.2	20	15.5	8	M5x0.8p	51	35	9	4	12	M6x1.0px25L Hexagon bolt
Ø32	113	Thru-hole Ø6.5; Spot facing Ø11 x 6.5dp	98	64	31	18.5	9	PT 1/8	62.5	40	12.5	5.5	12.5	M8x1.25px40L Hexagon bolt
Ø40	114.8	Thru-hole Ø9; Spot facing Ø14 x 8.5 dp	99.8	66.5	30.3	18.5	10	PT 1/8	62.5	40	12.5	5.5	12.5	M8x1.25px40L Hexagon bolt
Ø50	159.9	Thru-hole Ø9; Spot facing Ø14 x 8.5 dp	140.9	78.6	59.6	22	10.8	PT 1/4	94	60	20	8	32	M10x1.5px50L Hexagon bolt
Ø63	162.8	Thru-hole Ø9; Spot facing Ø14 x 8.5 dp	143.8	82.5	58.6	22	11	PT 1/4	94	60	20	8	32	M10x1.5px50L Hexagon bolt

Bore size	N	N1	O	P	Q	R	S	T	U	V	W	X	Y	Z	ZE
Ø20	5	12	24	34	—	Thru-hole Ø4.3, Thread M5x0.8x6dp; Spot facing Ø7x5dp; Both side	M8x1.25p Bolt	15.9	8	19	62	48	35	22	12
Ø25	5	12	28	40	—	Thru-hole Ø5.1, Thread M6x1x8dp; Spot facing Ø8.7x6dp; Both side	M8x1.25p Bolt	15.9	10	24	70	55	40	28	12
Ø32	6.5	14	34	44	50	Thru-hole Ø5.1, Thread M6x1x8dp; Spot facing Ø8x6dp; Both side	M10x1.5p Bolt	19	10	30	76	60	46	30	16
Ø40	6.5	14	40	52	58	Thru-hole Ø6.8, Thread M8 x1.25x 0dp; Spot facing Ø9.5x8dp; Both side	M10x1.5p Bolt	19	12	30	86	70	55	40	16
Ø50	8	18	48	62	71	Thru-hole Ø6.8, Thread M8x1.25x10dp; Spot facing Ø11x8.5dp; Both side	M12x1.75p Bolt	25.3	12	39	96	80	63	40	20
Ø63	8	18	60	75	84.5	Thru-hole Ø6.8, Thread M8x1.25x10dp; Spot facing Ø11x8.5dp; Both side	M12x1.75p Bolt	25.3	12	50	108	92	75	60	20