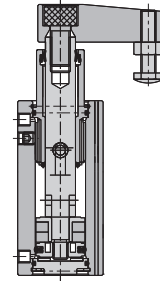


# SCR(L) series Rotary Clamp Cylinder

Product features/ Code of order

CHELIC

## Internal structure



## Specification

Item	Bore size (mm)	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63
Action		Double acting							
Fluid		Air							
Pressure range	kgf/cm <sup>2</sup> (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	Stroke	Bore size	Ø50	Ø63
10		0.1	0.2	0.3	0.4	0.6	0.8	25		1.5	2
20		0.1	0.2	0.3	0.4	0.6	0.8	50		1.6	2

## Code of order

**SC** | **R**    **32** × **10** - **F** - **SE** | **2**

**Model**                      **Bore size**                      **Stroke**                      **With mounting base**                      **Sensor switch**

L: Left rotation type  
(From right to left)

R: Right rotation type  
(From left to right)

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

Rotation stroke  
Under pressure 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

None: without mounting base  
F: with mounting base

CS-30E    SE | 2

Note: For Ø20 ~ 63  
SE: Sensor switch code (CS-30E)  
2: Number of sensor switch

CS-9D    SD | 2

Note: For 12 ~ 63  
SD: Sensor switch code (CS-9D)  
SB: Sensor switch code (CS-9B)  
SH: Sensor switch code (CS-9H)  
SDN: Sensor switch code (CS-9DNPN)  
SDP: Sensor switch code (CS-9DPNP)  
2: Number of sensor switch  
1 = 1 PCS  
2 = 2 PCS  
(option)

# SCR(L) series Rotary Clamp Cylinder

Theoretical output/ Caution

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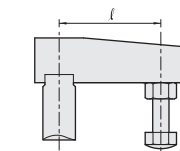
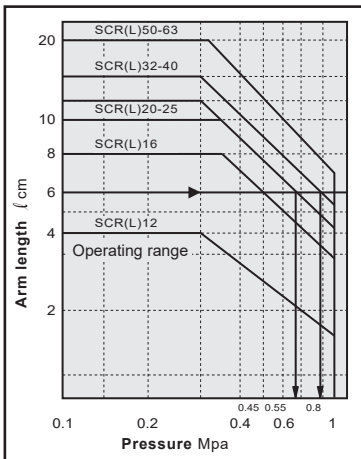
## Theoretical output

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

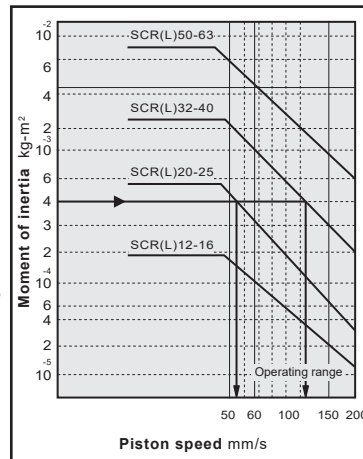
● Table 1



● For example

When arm length is 6 cm, pressure should be less than  
 SCR(L)20 · 25: 0.65Mpa  
 SCR(L)32 · 40: 0.9Mpa  
 SCR(L)50 · 63: 1Mpa

● Table 2



● For example

When arm's moment of inertia is  $4 \times 10^{-4}$  kg-m<sup>2</sup>, cylinder speed should be less than  
 SCR(L) 20 · 25: 55mm/s  
 SCR(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

SCR(L)

HER

HGR(L)

HSR(L)

HBR(L)

HFR(L)

HFK

HCK

HLK

HUR(L)

HUK

HN □

HS □

HCF

HCS

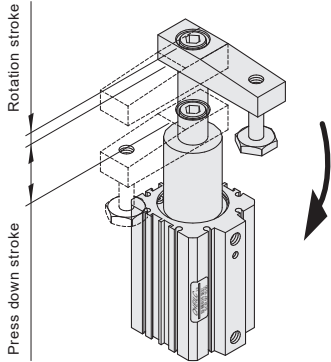
HCQ

# SCR(L) series Rotary Clamp Cylinder

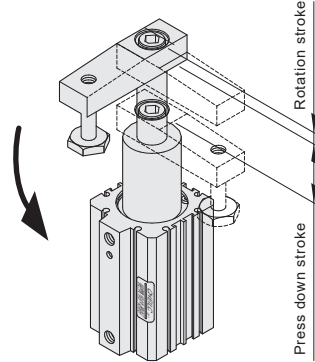
## Mounting type

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### ◀ Left rotation - SCL series

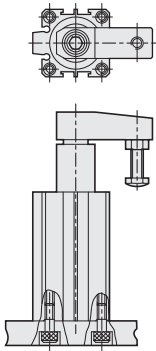


### ▶ Right rotation - SCR series

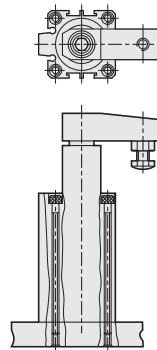


### ▶ Mounting type

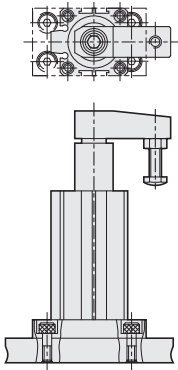
#### ● Base mounting type



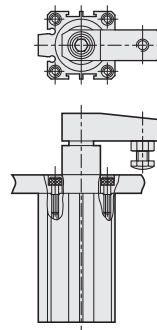
#### ● Top mounting type



#### ● Base mounting type - F



#### ● Top mounting type



# SCR(L) series Rotary Clamp Cylinder

## Dimensions

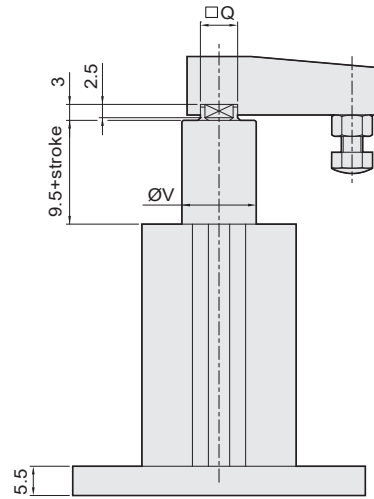
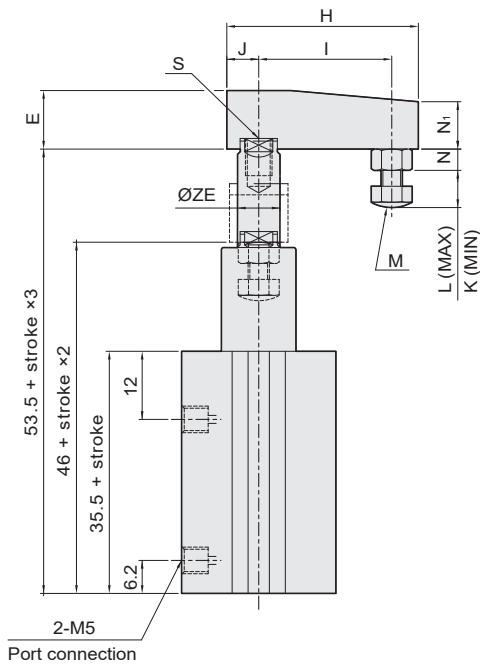
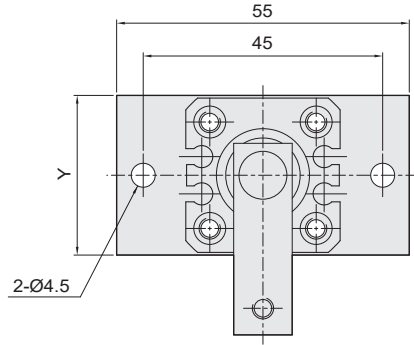
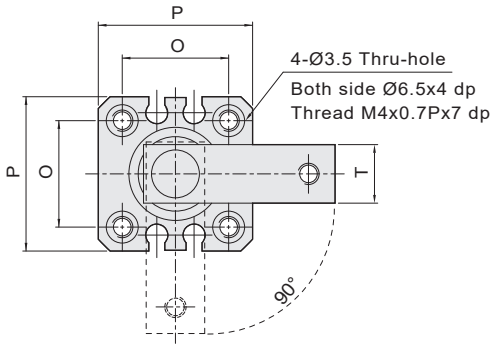
CHELIC

### SCR(L) Ø12, Ø16

- Base mounting type



SCR(L) □ x □ ST



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

SCR(L)

HER

HGR(L)

HSR(L)

HBR(L)

HFR(L)

HFK

HCK

HLK

HUR(L)

HUK

HN

HS

HCF

HCS

HCQ

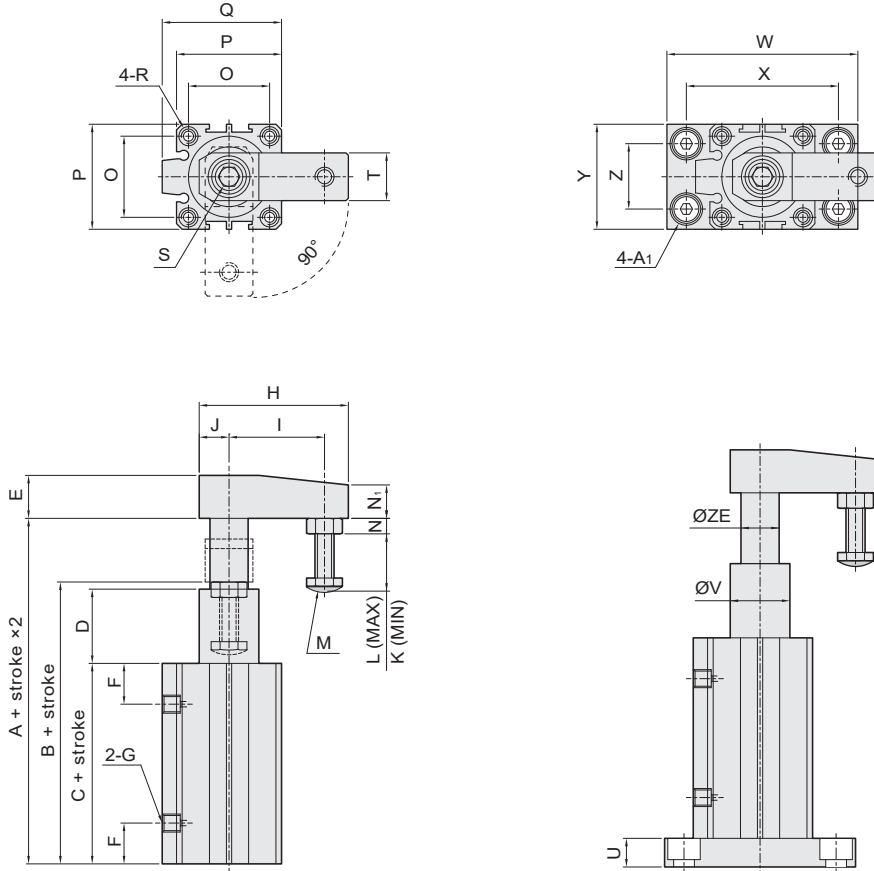
# SCR(L) series Rotary Clamp Cylinder

## Dimensions

CHELIC

### SCR(L) Ø20 ~ Ø63

- Base mounting type



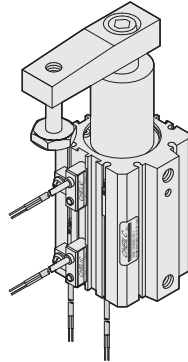
Bore size	A	A1	B	C	D	E	F	G	H	I	J	K	L	M
Ø20	92.3	Thru-hole Ø5.5; Spot facing Ø9.5 x 5.5 dp	82.3	59.5	20.3	15.5	7.5	M5x0.8p	51	35	9	4	12	M6x1.0px25L Hexagon bolt
Ø25	93.6	Thru-hole Ø6.5; Spot facing Ø11 x 6.5 dp	83.6	61.2	20	15.5	8	M5x0.8p	51	35	9	4	12	M6x1.0px25L Hexagon bolt
Ø32	113	Thru-hole Ø6.5; Spot 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 x1.25x10dp; 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

# SCR(L) series Rotary Clamp Cylinder

Sensor switch operating range and the setting

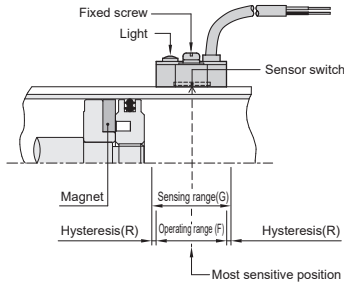
CHELIC



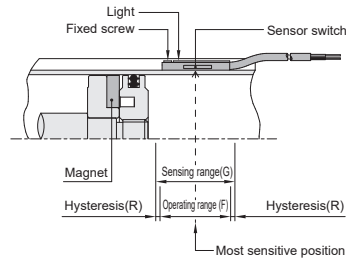
- ▶ CS - 30E
- CS - 9D
- CS - 9B
- CS - 9H Installation
- SCR(L) Series

## ▶ Sensor switch setting and operating range

### ● CS - 30E



### ● CS - 9D(B)(H)



## ▶ Sensing range

Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the sensor switch when it enters the operating range. It has 0.5mm differential.

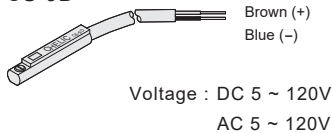
## ▶ Operating range

When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the right table)

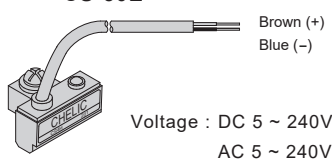
Model	CS-30E		CS-9D(B)	
	Operating range (F)	Hysteresis(R)	Operating range (F)	Hysteresis(R)
Ø12	—	—	6	1.5
Ø16	—	—	5	1.6
Ø20	9	1	8	1
Ø25	11	1	9	1
Ø32	8.5	1	7	1
Ø40	11	1	8	1
Ø50	11	1.2	9	1.2
Ø63	13	1.2	10.5	1.2

## ▶ Sensor switch introduction

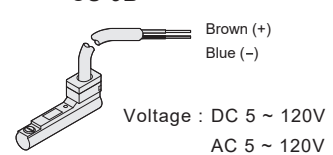
### CS-9D



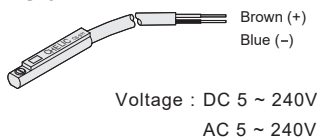
### CS-30E



### CS-9B



### CS-9H



SCR(L)

HER

HGR(L)

HSR(L)

HBR(L)

HFR(L)

HFK

HCK

HLK

HUR(L)

HUK

HN

HS

HCF

HCS

Hcq