



# ENAPART



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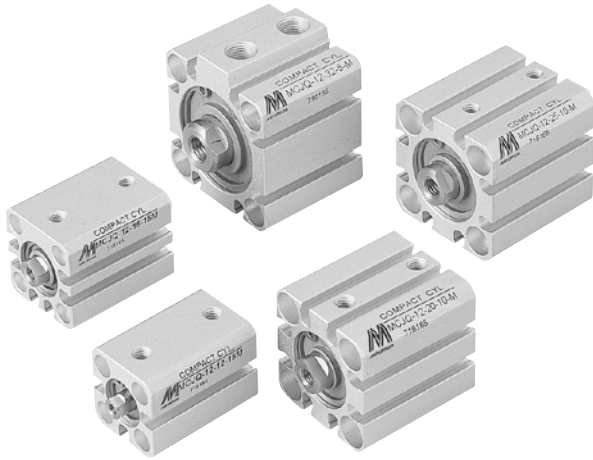
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### Single acting – Table for standard stroke

Tube I.D.	Standard stroke (mm)
ø12, 16, 20, 25, 32, 40	5, 10
ø50	5, 10, 15, 20

### Double acting – Table for standard stroke

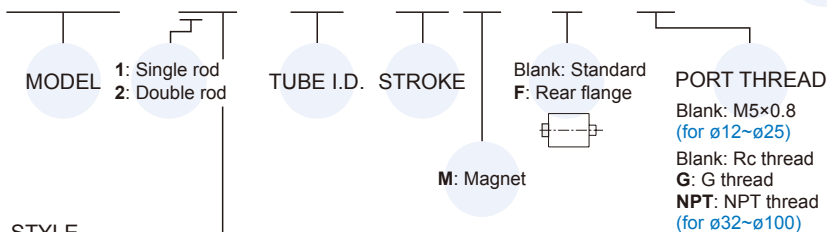
Tube I.D.	Standard stroke	Long stroke (mm)
ø12, 16	5, 10, 15, 20, 25, 30	35, 40, 45, 50, 75, 100
ø20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	75, 100, 125, 150, 175, 200
ø25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	75, 100, 125, 150, 175, 200, 250, 300
ø32~80	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	125, 150, 175, 200, 250, 300
Tube I.D.	Standard stroke (mm)	
ø100	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	

\* Please contact us if the stroke is out of specification.

### Order example

\* Order example for special specification, refer to page 0-7.

**MCJQ – 12 – 20 – 25 M – F – G**



STYLE

Code	Symbol	Description	Code	Symbol	Description
1 1		Double acting / Male thread	2 1		Double rod / Male thread
1 2		Double acting / Female thread	2 2		Double rod / Female thread
1 3		Single acting / Normally extended male thread	2 3		Single acting / Double rod / Male thread
1 4		Single acting / Normally extended female thread	2 4		Single acting / Double rod / Female thread
1 5		Single acting / Normally returned male thread	2 7		Double rod / Adjustable male thread
1 6		Single acting / Normally returned female thread	2 8		Double rod / Adjustable female thread

### Features

- All products use counterbore and thread installation design without any fixed frame to meet the space saving requirements.
- Anodised aluminum tubes provide better corrosion and abrasion resistance.
- The assembly grooves are designed around the body to make the sensor easier to install and fix.
- Compact assembly groove design makes the sensors enable to flush mount and can save space.
- Sensors can be mounted on any one of three faces for 12 and 16 bore and on four faces for 20~100 bore.

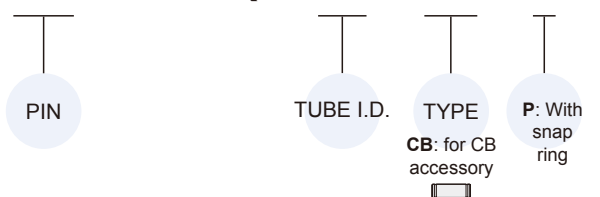
### Specification

Model	MCJQ										
Acting type	Double acting / Single acting					Double					
Tube I.D. (mm)	12	16	20	25	32	40	50	63	80	100	
Port size	M5×0.8			Rc1/8		Rc1/4		Rc3/8			
Medium	Air										
Operating pressure range (MPa)	Double acting		0.07~1		0.05~1						
	Single acting		0.2~1		0.15~1		0.1~1		—		
Proof pressure	1.5 MPa										
Ambient temperature	-5°C~+60°C (No freezing)										
Available speed range	50~500 mm/sec										
Sensor switch (*)	RCB		—					● ● ● ●			
	RCE, RCE1		● ●		● ●		● ●		● ●		
	RDEP		● ●		—		● ●		● ●		

\* RCB, RCE, RCE1, RDEP specification, please refer to page 8-10, 12, 13, 18.

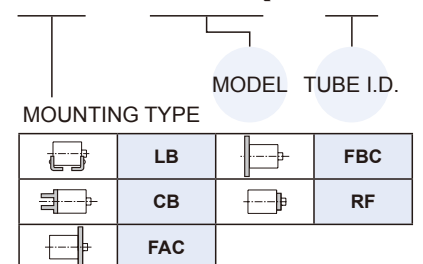
### Pin

**PIN – MCJQ – 20 – CB – P**



### Mounting accessories

**FAC – MCJQ – 20**

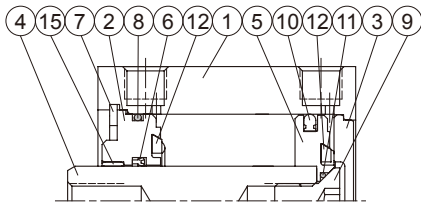


# MCJQ Inside structure & Parts list – Single rod

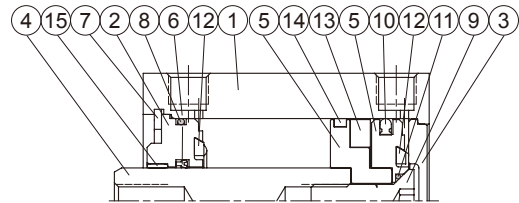
## COMPACT CYLINDER



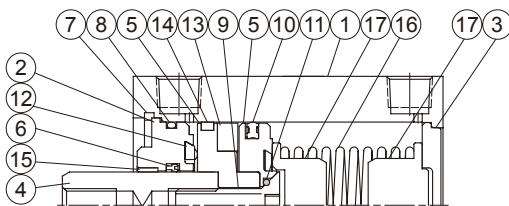
### Double acting



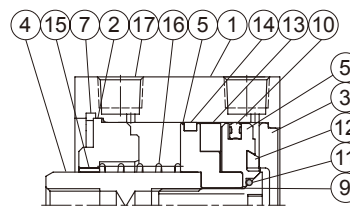
### Double acting (with magnet)



### Single acting Normally extended



### Single acting Normally returned



## Material

No.	Tube I.D. Part name	12	16	20	25	32	40	50	63	80	100	Q'y	Component parts (inclusion)	Repair kits (inclusion)
1	Body	Aluminum alloy										1		
2	Rod cover	Aluminum alloy										1	●	
3	End cover	Aluminum alloy										1	●	
4	Piston With magnet rod Without magnet	Stainless steel					Carbor steel					1		
		*1 Carbor steel										1		
5	Piston	Aluminum alloy										1	●	
6	Rod packing	NBR										1	●	●
7	Snap ring	Stainless steel					Spring steel					1	●	
8	Cover ring	NBR										1	●	●
9	Piston bolt	Stainless steel					SCM					1	●	
10	Piston packing	NBR										1	●	●
11	Piston gasket	NBR										1	●	●
12	Cushion packing	NBR										2	●	●
13	Magnet	Magnet										1	●	
14	Wear ring	—					Resin					1	●	
15	Bush	—					Bearing alloy					1	●	
16	Spring	SWP										1	●	
17	Spring holder	Aluminum alloy					—					2	●	

\*1. Stainless steel

## Seal kit

Acting type	Rod packing		Piston packing		Cover ring		Piston gasket
	Double acting / Normally extended	Normally retruned	Double acting	Single acting	Double acting / Normally extended	Normally retruned	
Q'y	1	0	1	1	1	0	1
ø12	KSYR-6	—	OPA-12	OPA-12	S-11	—	d4×w1
ø16	KSYR-8	—	OPA-16	OPA-16	S-14	—	d5×w1
ø20	KSYR-10A	—	OPA-20	OPA-20	S-18	—	d6×w1
ø25	KSYR-12	—	OPA-25	OPA-25	S-22,4	—	d8×w1
ø32	KSYR-16	—	OPA-32	OPA-32	S-28	—	S-9
ø40	KSYR-16	—	OPA-40	OPA-40	S-36	—	S-10
ø50	KSYR-20	—	OPA-50	OPA-50	S-46	—	S-16
ø63	KSYR-20	—	OPA-63	—	S-60	—	S-16
ø80	ORA-25	—	OPA-80	—	G-75	—	d20×w1
ø100	ORA-30	—	OPA-100	—	G-95	—	S-26

## Order example Component parts

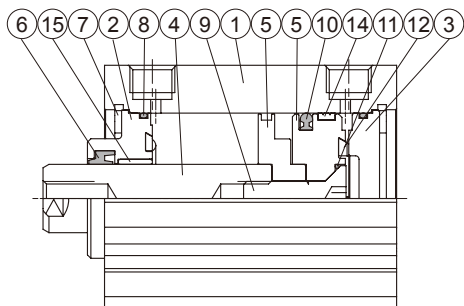
Tube I.D.	Component parts
ø12	CP-MCJQ-12(M)
ø16	CP-MCJQ-16(M)
ø20	CP-MCJQ-20(M)
ø25	CP-MCJQ-25(M)
ø32	CP-MCJQ-32(M)
ø40	CP-MCJQ-40(M)
ø50	CP-MCJQ-50(M)
ø63	CP-MCJQ-63(M)
ø80	CP-MCJQ-80(M)
ø100	CP-MCJQ-100(M)

M: With magnet

## Repair kits

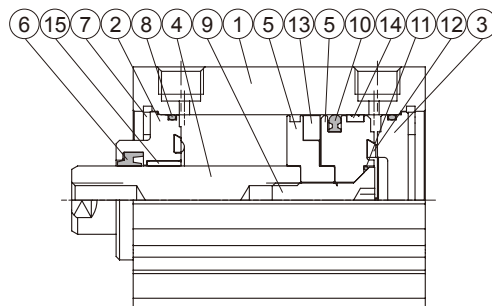
Tube I.D.	Repair kits
ø12	PS-MCJQ-12
ø16	PS-MCJQ-16
ø20	PS-MCJQ-20
ø25	PS-MCJQ-25
ø32	PS-MCJQ-32
ø40	PS-MCJQ-40
ø50	PS-MCJQ-50
ø63	PS-MCJQ-63
ø80	PS-MCJQ-80
ø100	PS-MCJQ-100

**Long stroke**



**Long stroke**

(with magnet)



### Long stroke – Material

No.	Tube I.D. Part name	12	16	20	25	32	40	50	63	80	Q'y	Component parts (inclusion)	Repair kits (inclusion)	
1	Body	Aluminum alloy									1			
2	Rod cover	Aluminum alloy									1	●		
3	End cover	Aluminum alloy									1	●		
4	Piston rod	With magnet			Stainless steel		Carbor steel			1				
		Without magnet			*1		Carbor steel			1				
5	Piston	Aluminum alloy									1	●		
6	Rod packing	NBR									1	●	●	
7	Snap ring	Stainless steel			Spring steel							2	●	
8	Cover ring	NBR									2	●	●	
9	Piston bolt	Stainless steel			SCM							1	●	
10	Piston packing	NBR									1	●	●	
11	Piston gasket	NBR									1	●	●	
12	Cushion packing	NBR									2	●	●	
13	Magnet	Magnet									1	●		
14	Wear ring	Resin									1	●		
15	Bush	-			Bearing alloy							1	●	

\* Stainless steel

### Long stroke – Seal kit

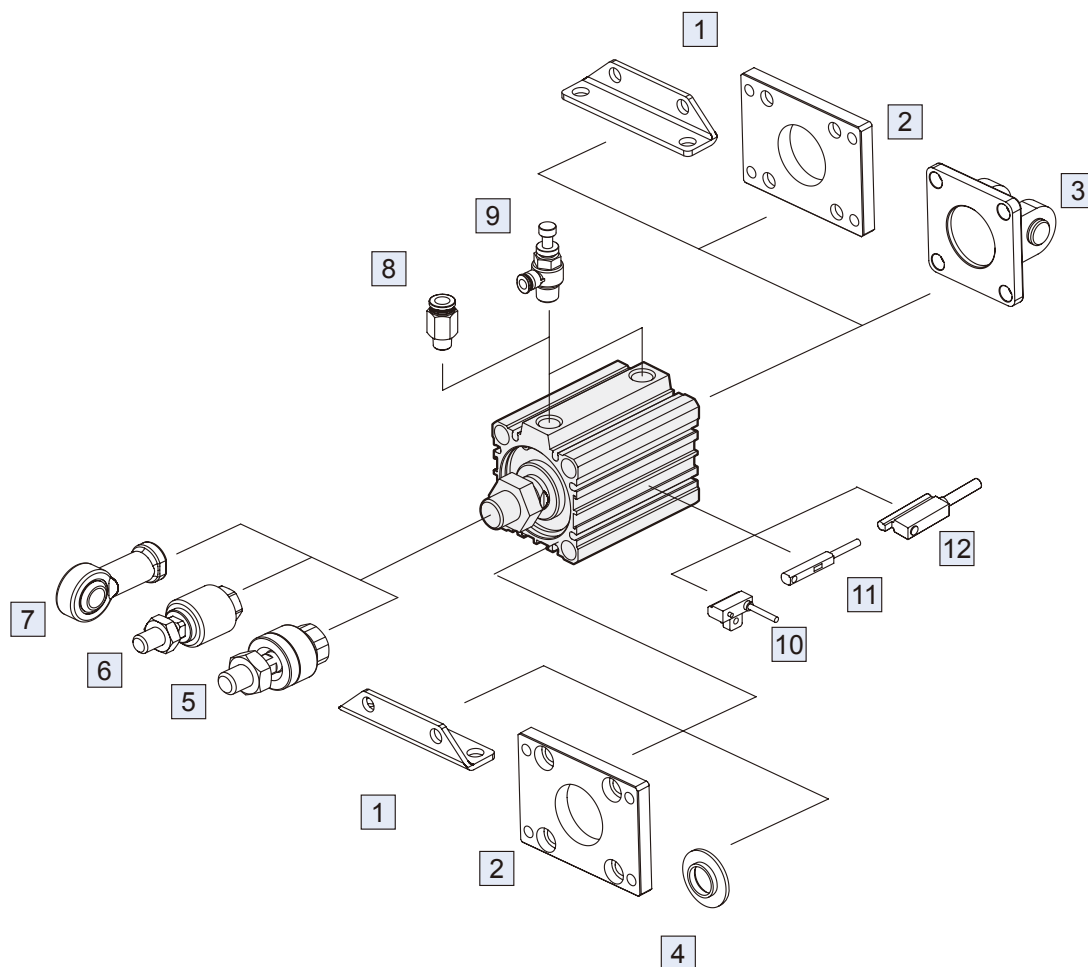
Acting type	Rod packing	Piston packing	Cover ring	Piston gasket
Q'y	1	1	2	1
Double acting				
ø12	KSYR-6	OPA-12	S-11	d4×w1
ø16	KSYR-8	OPA-16	S-14	d5×w1
ø20	KSYR-10A	OPA-20	S-18	d6×w1
ø25	KSYR-12	OPA-25	S-22	d8×w1
ø32	KSYR-16	OPA-32	d28×w2	S-9
ø40	ORA-16	OPA-40	S-36	S-10
ø50	ORA-20	OPA-50	S-46	S-16
ø63	ORA-20	OPA-63	S-60	S-16
ø80	ORA-25	OPA-80	AS-41   G-75	d20×w1

### Order example

#### Component parts / Repair kits

Tube I.D.	Component parts	Repair kits
ø12	CPL-MCJQ-12(M)	PSL-MCJQ-12
ø16	CPL-MCJQ-16(M)	PSL-MCJQ-16
ø20	CPL-MCJQ-20(M)	PSL-MCJQ-20
ø25	CPL-MCJQ-25(M)	PSL-MCJQ-25
ø32	CPL-MCJQ-32(M)	PSL-MCJQ-32
ø40	CPL-MCJQ-40(M)	PSL-MCJQ-40
ø50	CPL-MCJQ-50(M)	PSL-MCJQ-50
ø63	CPL-MCJQ-63(M)	PSL-MCJQ-63
ø80	CPL-MCJQ-80(M)	PSL-MCJQ-80

M: With magnet

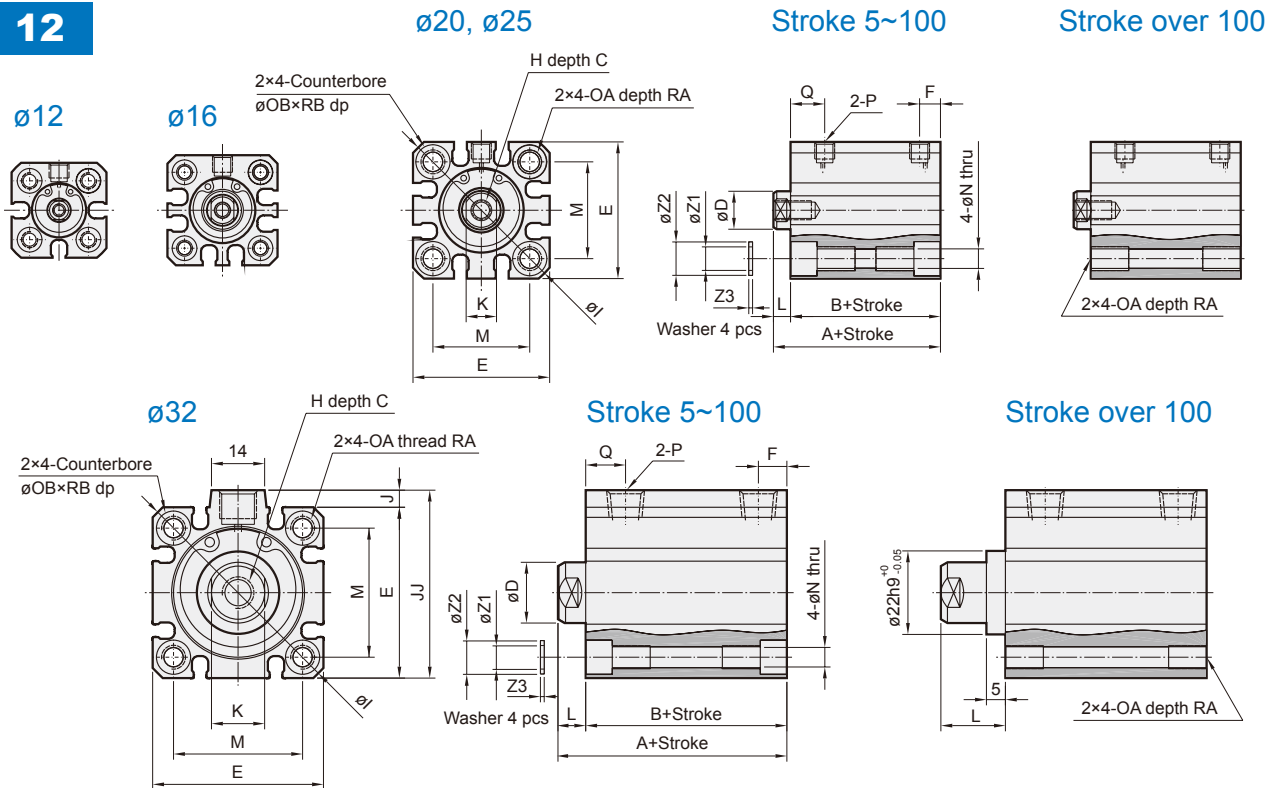


No.	Accessories	Material	Page
1	Mounting accessories LB	Carbon steel	2-37, 39
2	Mounting accessories FAC/FBC	Carbon steel	2-37, 38, 40, 41
3	Mounting accessories CB+PIN	Cast iron / *	2-38, 42, 43
4	Mounting accessories RF	Aluminum	2-43
5	Floating joint MFC	Carbon steel	8-2
6	Floating joint MFCS	Carbon steel	8-5

No.	Accessories	Material	Page
7	Female rod ends PHS	Carbon steel	8-6
8	Fitting PC (PISCO)	-	8-3 (Vol.1)
9	Speed controller JSC (PISCO)	-	8-15 (Vol.1)
10	Sensor switch RCB	-	8-10
11	Sensor switch RCE/RCE1	-	8-12, 13
12	Sensor switch RDEP	-	8-18

\* Material of PIN and  $\phi 12$ ,  $\phi 16$  CB accessories are carbon steel.

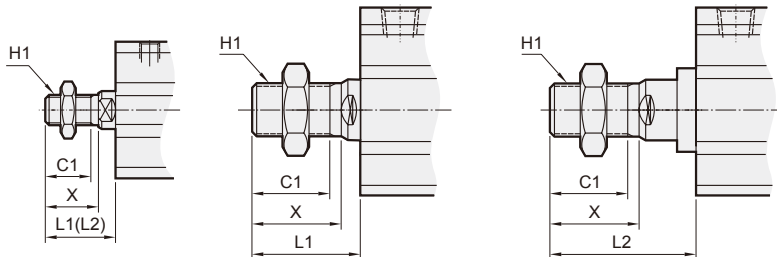
**12**



$\phi 12\sim 25$

$\phi 32$  for stroke 5~100

$\phi 32$  for stroke over 100



\* L1: Standard stroke, L2: Long stroke

**11**

**Male thread**

Code Tube I.D.	C1	H1	L1	L2	X
12	9	M5×0.8	14	24	10.5
16	10	M6×1.0	15.5	25.5	12
20	12	M8×1.25	18.5	28.5	14
25	15	M10×1.25	22.5	32.5	17.5
32	20.5	M14×1.5	28.5	38.5	23.5

$\phi 12\sim 25$

Code Tube I.D.	Standard stroke										Long stroke										C	D	E	H	I	K	M	N	OA	OB	P	Q	RA	RB	Z1	Z2	Z3
	Stroke range	Without magnet				Magnet				Stroke range	A	B	F	L																							
		A	B	F	L	A	B	F	L																												
12	5~30	20.5	17	5	3.5	25.5	22	5	3.5	31~100	45.5	32	7.5	13.5	6	6	25	M3×0.5	32	5	15.5	3.5	M4×0.7	6.5	M5×0.8	7.5	7	4	4.2	6.3	0.5						
16	5~30	20.5	17	5	3.5	25.5	22	5	3.5	31~100	45.5	32	7.5	13.5	8	8	29	M4×0.7	38	6	20	3.5	M4×0.7	6.5	M5×0.8	7.5	7	4	4.2	6.3	0.5						
20	5~50	24	19.5	5.5	4.5	34	29.5	5.5	4.5	51~200	55.5	41	9	14.5	7	10	36	M5×0.8	47	8	25.5	5.5	M6×1.0	9	M5×0.8	9	10	7	6.2	8.8	1						
25	5~50	27.5	22.5	5.5	5	37.5	32.5	5.5	5	51~300	59	44	11	15	12	12	40	M6×1.0	52	10	28	5.5	M6×1.0	9	M5×0.8	11	10	7	6.2	8.8	1						

$\phi 32$

Code Tube I.D.	Standard stroke						Long stroke						P	C	D	E	H	I	J	JJ	K	M	N	OA	OB	RA	RB	Z1	Z2	Z3		
	Stroke range	Without magnet		Magnet		Stroke range	A	B	F	L	Q																					
		A	B	A	B							F																			L	Q
32	5~50	30	23	40	33	7.5*1	7	10.5*1	101~300	62.5	45.5	12.5	17	12.5	*1	13	16	45	M8×1.25	60	4.5	49.5	14	34	5.5	M6×1.0	9	10	7	6.2	8.8	1
51~100	40	33	40	33	7.5	7	10.5																									

\*1. Without magnet with stroke=5mm, P=M5×0.8, Q=11.5, F=5.5

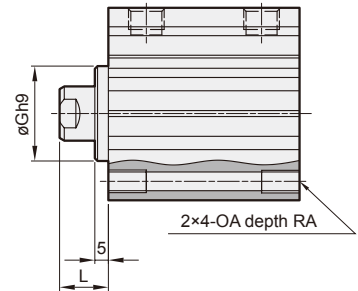
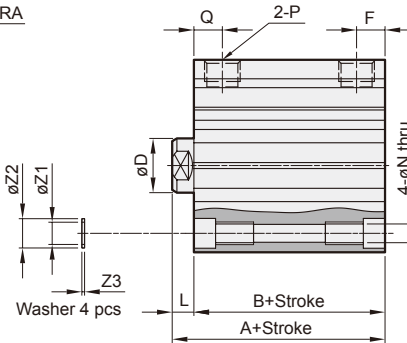
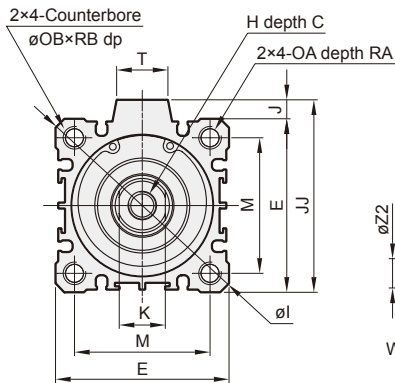


12

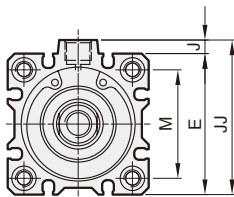
$\phi 50\sim\phi 100$

Stroke 5~100

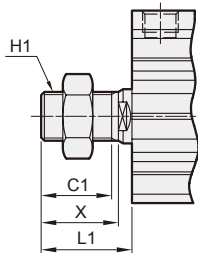
Stroke over 100



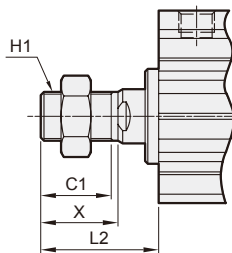
$\phi 40$



$\phi 40\sim\phi 100$   
(Stroke 5~100)



$\phi 40\sim\phi 80$   
(Stroke over 100)



11 Male thread

Code Tube I.D.	C1	H1	L1	L2	X
40	20.5	M14×1.5	28.5	38.5	23.5
50	26	M18×1.5	33.5	43.5	28.5
63	26	M18×1.5	33.5	43.5	28.5
80	32.5	M22×1.5	43.5	53.5	35.5
100	32.5	M26×1.5	43.5	—	35.5

Code Tube I.D.	Standard stroke						Long stroke							
	Stroke range	Without magnet		Magnet		F	L	Q	Stroke range	A	B	F	L	Q
		A	B	A	B									
40	5~50	36.5	29.5	46.5	39.5	8	7	11	125~300	72	55	14	17	14
	51~100	46.5	39.5											
50	5~50	38.5	30.5	48.5	40.5	10.5 <sup>*1</sup>	8	10.5 <sup>*1</sup>	125~300	73.5	55.5	14	18	14
	51~100	48.5	40.5											
63	5~50	44	36	54	46	10.5	8	15	125~300	75	57	16.5	18	16.5
	51~100	54	46											
80	5~50	53.5	43.5	63.5	53.5	12.5	10	16	125~300	86	66	19	20	19
	51~100	63.5	53.5											
100	5~50	65	53	75	63	13	12	23						
	51~100	75	63											

Code Tube I.D.	C	D	E	G <sup>h9</sup>	H	I	J	JJ	K	M	N	OA	OB	P	RA	RB	T	Z1	Z2	Z3
40	13	16	52	28 <sup>+0</sup> <sub>-0.052</sub>	M8×1.25	70	5	57	14	40	5.5	M6×1.0	9	Rc1/8	10	7	14	6.2	8.8	1
50	15	20	64	35 <sup>+0</sup> <sub>-0.062</sub>	M10×1.5	86	7	71	17	50	6.6	M8×1.25	11	Rc1/4 <sup>*1</sup>	14	8	19	8.2	10.8	1
63	15	20	77	35 <sup>+0</sup> <sub>-0.062</sub>	M10×1.5	103	7	84	17	60	9	M10×1.5	14	Rc1/4 <sup>*2</sup>	18	10.5	19	10.2	13.8	1
80	21	25	98	43 <sup>+0</sup> <sub>-0.062</sub>	M16×2.0	132	6	104	22	77	11	M12×1.75	17.5	Rc3/8 <sup>*3</sup>	22	13.5	26	12.2	17.3	2
100	27	30	117	—	M20×2.5	156	6.5	123.5	27	94	11	M12×1.75	17.5	Rc3/8 <sup>*3</sup>	22	13.5	26	12.2	17.3	2

\*1. Without magnet with stroke=5mm, P=Rc1/8, Q=12, F=8

\*2. Without magnet with stroke=5mm, P=Rc1/8

\*3. Without magnet with stroke=5mm, P=Rc1/4

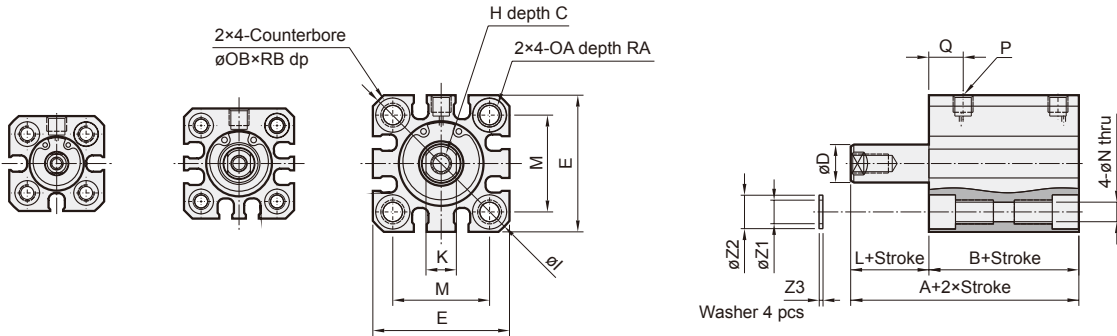
## COMPACT CYLINDER

### 14

$\phi 12$

$\phi 16$

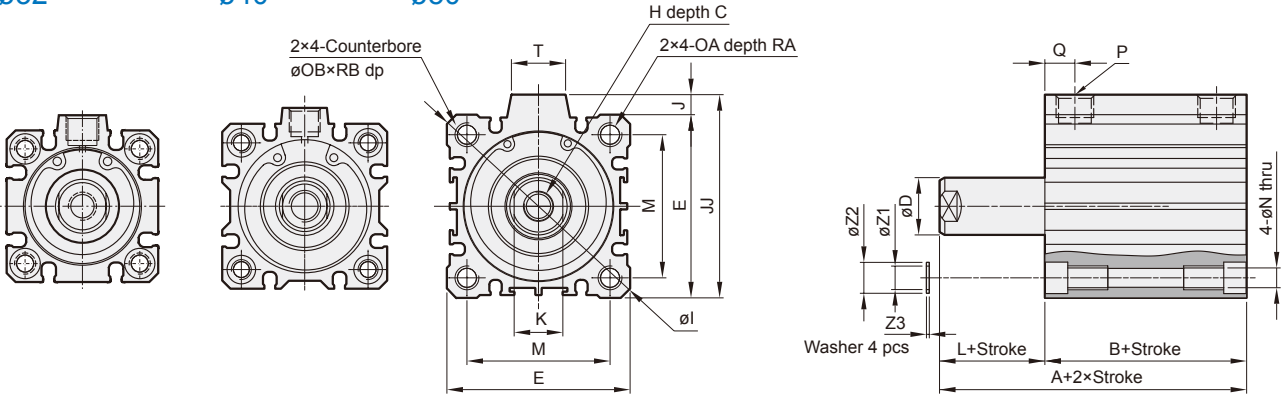
$\phi 20, \phi 25$



$\phi 32$

$\phi 40$

$\phi 50$



\* L1: Standard stroke

### 13 Male thread

Code Tube I.D.	C1	H1	L1	X
12	9	M5×0.8	14	10.5
16	10	M6×1.0	15.5	12
20	12	M8×1.25	18.5	14
25	15	M10×1.25	22.5	17.5
32	20.5	M14×1.5	28.5	23.5
40	20.5	M14×1.5	28.5	23.5
50	26	M18×1.5	33.5	28.5

Note: The value B of  $\phi 12\sim\phi 40$  type is greater than double acting type.

Code Tube I.D.	Standard stroke				C	D	E	H	I	J	JJ	K	L	M	N	OA	OB	P	Q	RA	RB	T	Z1	Z2	Z3	
	Without magnet		Magnet																							
	A	B	A	B																						
12	5,10	30.5	27	35.5	32	6	6	25	M3×0.5	32	—	—	5	3.5	15.5	3.5	M4×0.7	6.5	M5×0.8	7.5	7	4	—	4.2	6.3	0.5
16	5,10	35.5	32	40.5	37	8	8	29	M4×0.7	38	—	—	6	3.5	20	3.5	M4×0.7	6.5	M5×0.8	7.5	7	4	—	4.2	6.3	0.5
20	5,10	34	29.5	44	39.5	7	10	36	M5×0.8	47	—	—	8	4.5	25.5	5.5	M6×1.0	9	M5×0.8	9	10	7	—	6.2	8.8	1
25	5,10	47.5	42.5	57.5	52.5	12	12	40	M6×1.0	52	—	—	10	5	28	5.5	M6×1.0	9	M5×0.8	11	10	7	—	6.2	8.8	1
32	5,10	55	48	65	58	13	16	45	M8×1.25	60	4.5	49.5	14	7	34	5.5	M6×1.0	9	Rc1/8	10.5	10	7	14	6.2	8.8	1
40	5,10	61.5	54.5	71.5	64.5	13	16	52	M8×1.25	70	5	57	14	7	40	5.5	M6×1.0	9	Rc1/8	11	10	7	14	6.2	8.8	1
50	5~20	38.5	30.5	48.5	40.5	15	20	64	M10×1.5	86	7	71	17	8	50	6.5	M8×1.25	11	Rc1/4 *	10.5 *	14	8	19	8.2	10.8	1

\*1. Without magnet with stroke=5mm, P=Rc1/8, Q=12

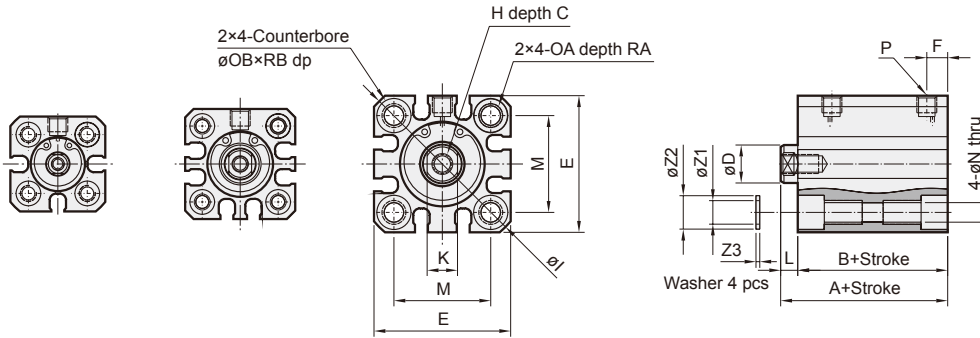


### 16

$\varnothing 12$

$\varnothing 16$

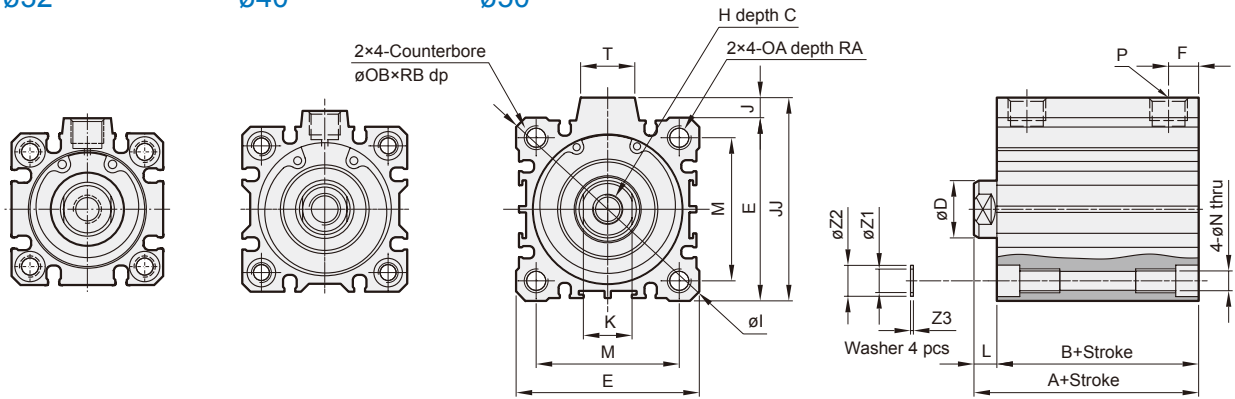
$\varnothing 20, \varnothing 25$



$\varnothing 32$

$\varnothing 40$

$\varnothing 50$



\* L1: Standard stroke

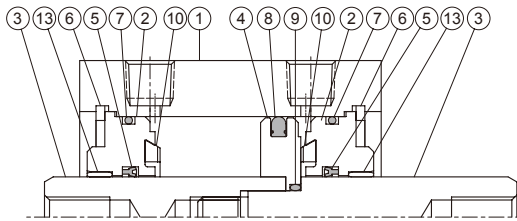
### 15 Male thread

Code Tube I.D.	C1	H1	L1	X
12	9	M5×0.8	14	10.5
16	10	M6×1.0	15.5	12
20	12	M8×1.25	18.5	14
25	15	M10×1.25	22.5	17.5
32	20.5	M14×1.5	28.5	23.5
40	20.5	M14×1.5	28.5	23.5
50	26	M18×1.5	33.5	28.5

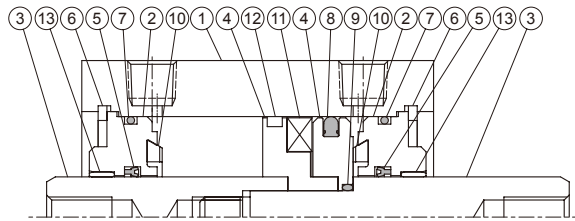
Code Tube I.D.	Standard stroke				C	D	E	F	H	I	J	JJ	K	L	M	N	OA	OB	P	RA	RB	T	Z1	Z2	Z3	
	Without magnet		Magnet																							
	A	B	A	B																						
12	5,10	20.5	17	25.5	22	6	6	25	5	M3×0.5	32	–	–	5	3.5	15.5	3.5	M4×0.7	6.5	M5×0.8	7	4	–	4.2	6.3	0.5
16	5,10	20.5	17	25.5	22	8	8	29	5	M4×0.7	38	–	–	6	3.5	20	3.5	M4×0.7	6.5	M5×0.8	7	4	–	4.2	6.3	0.5
20	5,10	24	19.5	34	29.5	7	10	36	5.5	M5×0.8	47	–	–	8	4.5	25.5	5.5	M6×1.0	9	M5×0.8	10	7	–	6.2	8.8	1
25	5,10	27.5	22.5	37.5	32.5	12	12	40	5.5	M6×1.0	52	–	–	10	5	28	5.5	M6×1.0	9	M5×0.8	10	7	–	6.2	8.8	1
32	5,10	30	23	40	33	13	16	45	7.5 <sup>*1</sup>	M8×1.25	60	4.5	49.5	14	7	34	5.5	M6×1.0	9	Rc1/8 <sup>*1</sup>	10	7	14	6.2	8.8	1
40	5,10	36.5	29.5	46.5	39.5	13	16	52	8	M8×1.25	70	5	57	14	7	40	5.5	M6×1.0	9	Rc1/8	10	7	14	6.2	8.8	1
50	5~20	38.5	30.5	48.5	40.5	15	20	64	10.5 <sup>*2</sup>	M10×1.5	86	7	71	17	8	50	6.5	M8×1.25	11	Rc1/4 <sup>*2</sup>	14	8	19	8.2	10.8	1

\*1. Without magnet with stroke=5mm, P=M5×0.8, F=5.5  
 \*2. Without magnet with stroke=5mm, P=Rc1/8, F=8

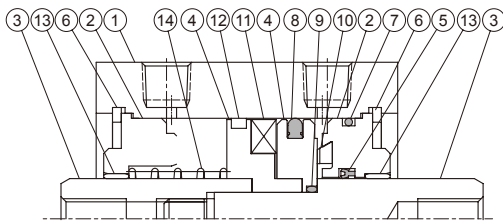
### Double acting



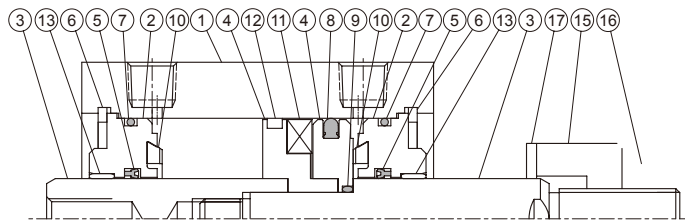
### Double acting (with magnet)



### Single acting



### Adjustable stroke



## Material

No.	Tube I.D. Part name	12	16	20	25	32	40	50	63	80	100	Q'y	Component parts (inclusion)	Repair kits (inclusion)
1	Body	Aluminum alloy										1		
2	Rod cover	Aluminum alloy										2	●	
3	Piston rod	With magnet	Stainless steel		Carbor steel						2			
		Without magnet	*1	Carbor steel									2	
4	Piston	Aluminum alloy										1	●	
5	Rod packing	NBR										2	●	●
6	Snap ring	Stainless steel				Spring steel						2	●	
7	Cover ring	NBR										2 *2	●	●
8	Piston packing	NBR										1	●	●
9	Piston gasket	NBR										1	●	●
10	Cushion packing	NBR										2	●	●
11	Magnet	Magnet										1	●	
12	Wear ring	—				Resin						1	●	
13	Bush	—				Bearing alloy						2	●	
14	Spring	SWP								—		1	●	
15	Adjustable nut	Carbor steel										1	●	
16	Hexagon nut	Carbor steel										1	●	
17	Cushion packing	PU										1	●	

\*1. Stainless steel

\*2. Single acting (Q'y=1 pc)

## Seal kit

Acting type	Rod packing		Piston packing		Cover ring		Piston gasket
	Double acting	Single acting	Double acting	Single acting	Double acting	Single acting	
Q'y	2	1	1	1	2	1	1
ø12	KSYR-6	KSYR-6	OPA-12	OPA-12	S-11	S-11	d4×w1
ø16	KSYR-8	KSYR-8	OPA-16	OPA-16	S-14	S-14	d6×w1
ø20	KSYR-10A	KSYR-10A	OPA-20	OPA-20	S-18	S-18	d6×w1
ø25	KSYR-12	KSYR-12	OPA-25	OPA-25	S-22	S-22	S-9
ø32	KSYR-16	KSYR-16	OPA-32	OPA-32	d28×w2	d28×w2	d11×w1
ø40	KSYR-16	KSYR-16	OPA-40	OPA-40	S-36	S-36	S-10
ø50	KSYR-20	KSYR-20	OPA-50	OPA-50	S-46	S-46	S-16
ø63	KSYR-20	—	OPA-63	—	S-60	—	S-14
ø80	ORA-25	—	OPA-80	—	G-75	—	d20×w1
ø100	ORA-30	—	OPA-100	—	G-95	—	S-24

## Order example

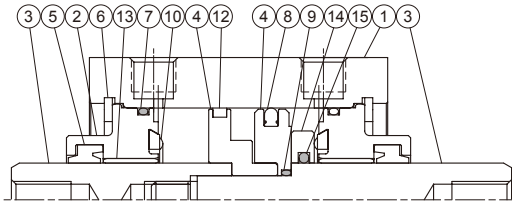
### Component parts / Repair kits

Tube I.D.	Component parts	Repair kits
ø12	CP-MCJQ-2-12(M)	PS-MCJQ-2-12
ø16	CP-MCJQ-2-16(M)	PS-MCJQ-2-16
ø20	CP-MCJQ-2-20(M)	PS-MCJQ-2-20
ø25	CP-MCJQ-2-25(M)	PS-MCJQ-2-25
ø32	CP-MCJQ-2-32(M)	PS-MCJQ-2-32
ø40	CP-MCJQ-2-40(M)	PS-MCJQ-2-40
ø50	CP-MCJQ-2-50(M)	PS-MCJQ-2-50
ø63	CP-MCJQ-2-63(M)	PS-MCJQ-2-63
ø80	CP-MCJQ-2-80(M)	PS-MCJQ-2-80
ø100	CP-MCJQ-2-100(M)	PS-MCJQ-2-100

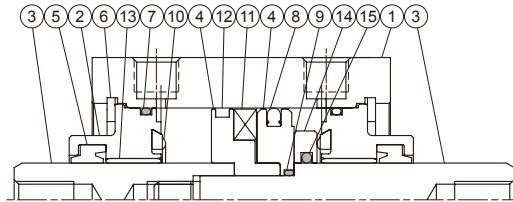
M: With magnet

## COMPACT CYLINDER

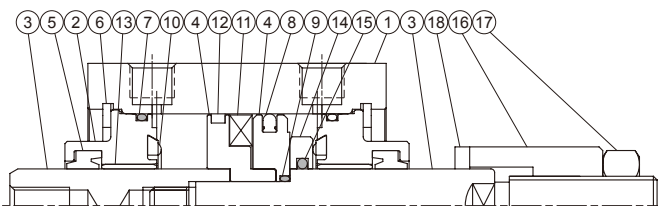
### Double acting



### Double acting (with magnet)



### Adjustable stroke



## Long stroke – Material

No.	Tube I.D. Part name	12	16	20	25	32	40	50	63	80	Q'y	Component parts (inclusion)	Repair kits (inclusion)	
1	Body	Aluminum alloy									1			
2	Rod cover	Aluminum alloy									2	●		
3	Piston With magnet	Stainless steel			Carbor steel					2				
	rod Without magnet	*1	Carbor steel									2		
4	Piston	Aluminum alloy									2	●		
5	Rod packing	NBR									2	●	●	
6	Snap ring	Stainless steel			Spring steel						2	●		
7	Cover ring	NBR									2	●	●	
8	Piston packing	NBR									1	●	●	
9	Piston gasket	NBR									1	●	●	
10	Cushion packing	–	NBR									2	●	●
11	Magnet	Magnet									1	●		
12	Wear ring	–			Resin						1	●		
13	Bush	–			Bearing alloy						2	●		
14	Sub-piston	–	PU	Aluminum alloy							1	●		
15	Sub-piston gasket	–			NBR						1	●	●	
16	Adjust nut	Carbor steel									1	●		
17	Hexagon nut	Carbor steel									1	●		
18	Cushion gasket	PU									1	●		

\*1. Stainless steel

## Long stroke – Seal kit

	Rod packing	Piston packing	Cover ring	Piston gasket	Sub-piston gasket
Acting type	Double acting				
Q'y	2	1	2	1	1
ø12	KSYR-6	OPA-12	S-11	d4×w1	–
ø16	KSYR-8	OPA-16	S-14	d5×w1	–
ø20	KSYR-10A	OPA-20	S-18	d6×w1	–
ø25	KSYR-12	OPA-25	S-22	S-9	–
ø32	KSYR-16	OPA-32	d28×w2	d11×w1	P-16
ø40	ORA-16	OPA-40	S-36	S-10	P-16
ø50	ORA-20	OPA-50	S-46	S-16	P-20
ø63	ORA-20	OPA-63	S-60	S-14	P-20
ø80	ORA-25	OPA-80	G-75	S-18	S-25

## Order example

### Component parts / Repair kits

Tube I.D.	Component parts	Repair kits
ø12	CPL-MCJQ-2-12(M)	PSL-MCJQ-2-12
ø16	CPL-MCJQ-2-16(M)	PSL-MCJQ-2-16
ø20	CPL-MCJQ-2-20(M)	PSL-MCJQ-2-20
ø25	CPL-MCJQ-2-25(M)	PSL-MCJQ-2-25
ø32	CPL-MCJQ-2-32(M)	PSL-MCJQ-2-32
ø40	CPL-MCJQ-2-40(M)	PSL-MCJQ-2-40
ø50	CPL-MCJQ-2-50(M)	PSL-MCJQ-2-50
ø63	CPL-MCJQ-2-63(M)	PSL-MCJQ-2-63
ø80	CPL-MCJQ-2-80(M)	PSL-MCJQ-2-80

M: With magnet

22

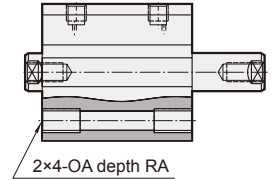
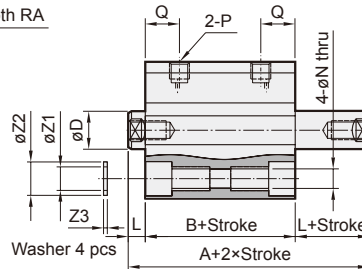
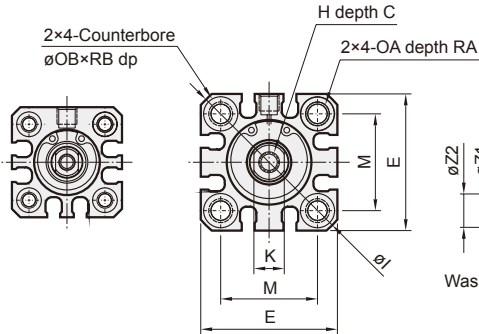
$\phi 16$

$\phi 20, \phi 25$

Stroke 5~100

Stroke over 100

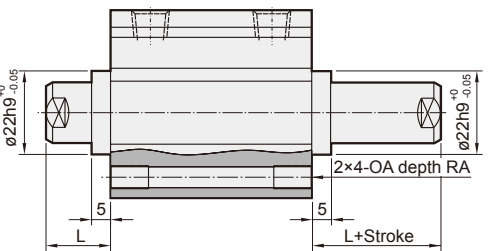
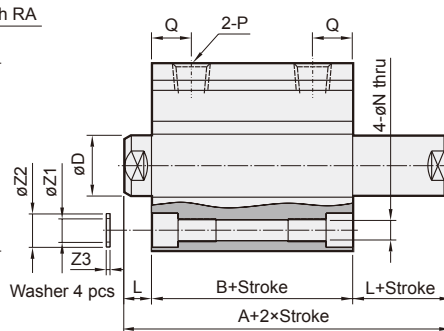
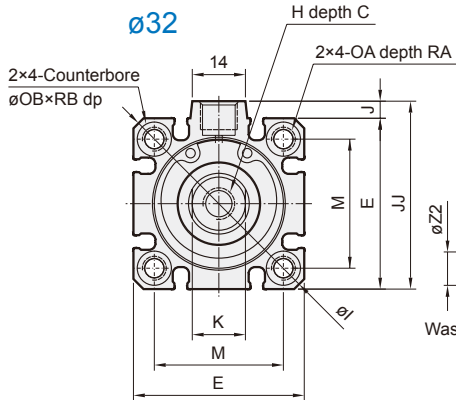
$\phi 12$



$\phi 32$

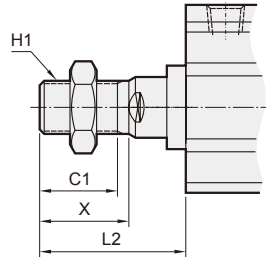
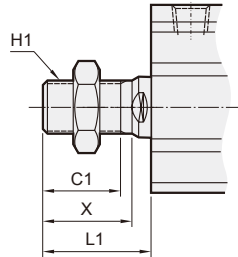
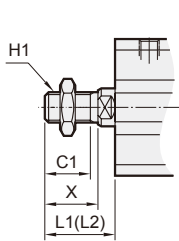
Stroke 5~100

Stroke over 100



$\phi 12\sim 25$

$\phi 32$  for stroke 5~100  $\phi 32$  for stroke over 100



21 Male thread

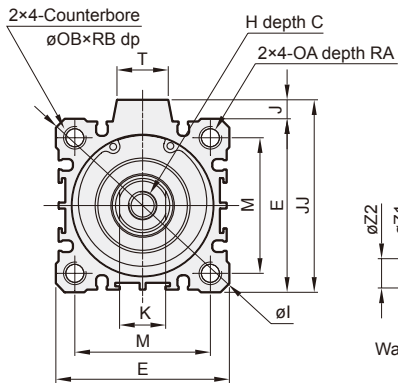
Code Tube I.D.	C1	H1	L1	L2	X
12	9	M5x0.8	14	24	10.5
16	10	M6x1.0	15.5	25.5	12
20	12	M8x1.25	18.5	28.5	14
25	15	M10x1.25	22.5	32.5	17.5
32	20.5	M14x1.5	28.5	38.5	23.5

\* L1: Standard stroke, L2: Long stroke

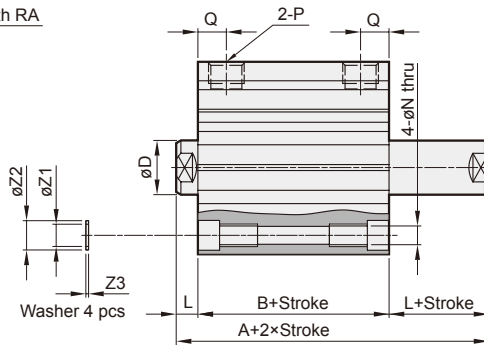
Code Tube I.D.	Standard stroke						Long stroke																							
	Without magnet			Magnet			Stroke range	A	B	L	C	D	E	H	I	J	JJ	K	M	N	OA	OB	P	Q	RA	RB	Z1	Z2	Z3	
12	5~30	29	22	3.5	34	27	3.5	31~100	59	32	13.5	6	6	25	M3x0.5	32	-	-	5	15.5	3.5	M4x0.7	6.5	M5x0.8	7.5	7	4	4.2	6.3	0.5
16	5~30	29	22	3.5	34	27	3.5	31~100	59	32	13.5	8	8	29	M4x0.7	38	-	-	6	20	3.5	M4x0.7	6.5	M5x0.8	7.5	7	4	4.2	6.3	0.5
20	5~50	35	26	4.5	45	36	4.5	51~200	70	41	14.5	7	10	36	M5x0.8	47	-	-	8	25.5	5.5	M6x1.0	9	M5x0.8	9	10	7	6.2	8.8	1
25	5~50	39	29	5	49	39	5	51~300	74	44	15	12	12	40	M6x1.0	52	-	-	10	28	5.5	M6x1.0	9	M5x0.8	11	10	7	6.2	8.8	1
32	5~50	44.5	30.5	7	54.5	40.5	7	101~300	79.5	45.5	17	13	16	45	M8x1.25	60	4.5	49.5	14	34	5.5	M6x1.0	9	Rc1/8 *1	12.5	10	7	6.2	8.8	1
	51~100	54.5	40.5	7	54.5	40.5	7																							

\*1. Without magnet with stroke=5mm, P=M5x0.8

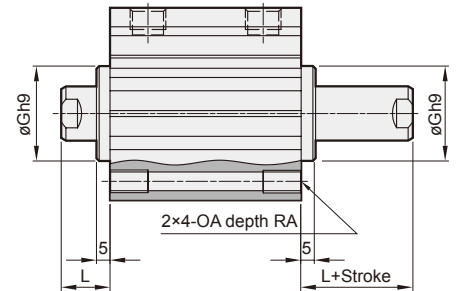
### 22 $\phi 50\sim\phi 100$



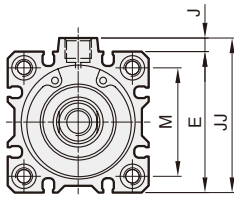
### Stroke 5~100



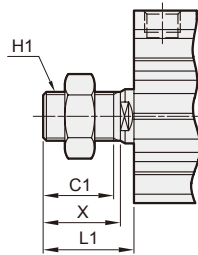
### Stroke over 100



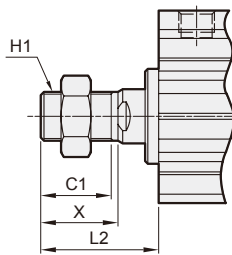
### $\phi 40$



### $\phi 40\sim\phi 100$ (Stroke 5~100)



### $\phi 40\sim\phi 80$ (Stroke over 100)



### 21 Male thread

Code Tube I.D.	C1	H1	L1	L2	X
40	20.5	M14×1.5	28.5	38.5	23.5
50	26	M18×1.5	33.5	43.5	28.5
63	26	M18×1.5	33.5	43.5	28.5
80	32.5	M22×1.5	43.5	53.5	35.5
100	32.5	M26×1.5	43.5	—	35.5

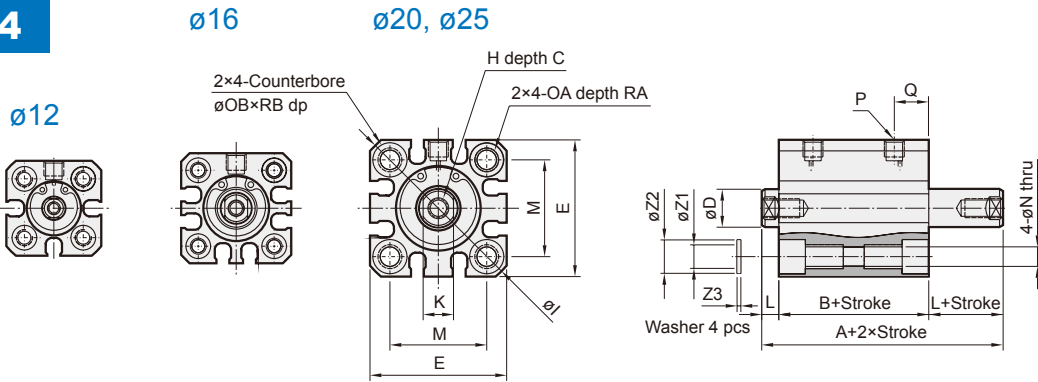
Code Tube I.D.	Standard stroke							Long stroke				
	Stroke range	Without magnet		Magnet		L	Q	Stroke range	A	B	L	Q
		A	B	A	B							
40	5~50	54	40	64	50	7	14	101~300	89	55	17	14
	51~100	64	50	64	50	7	14	101~300	89	55	17	14
50	5~50	56.5	40.5	66.5	50.5	8	14	101~300	91.5	55.5	18	14
	51~100	66.5	50.5	66.5	50.5	8	14	101~300	91.5	55.5	18	14
63	5~50	58	42	68	52	8	15.5	101~300	93	57	18	16.5
	51~100	68	52	68	52	8	15.5	101~300	93	57	18	16.5
80	5~50	71	51	81	61	10	18	101~300	106	66	20	19
	51~100	81	61	81	61	10	18	101~300	106	66	20	19
100	5~50	84.5	60.5	94.5	70.5	12	22	—	—	—	—	—
	51~100	94.5	70.5	94.5	70.5	12	22	—	—	—	—	—

Code Tube I.D.	C	D	E	G <sup>h9</sup>	H	I	J	JJ	K	M	N	OA	OB	P	RA	RB	T	Z1	Z2	Z3
40	13	16	52	28 <sup>+0</sup> <sub>-0.052</sub>	M8×1.25	70	5	57	14	40	5.5	M6×1.0	9	Rc1/8	10	7	14	6.2	8.8	1
50	15	20	64	35 <sup>+0</sup> <sub>-0.062</sub>	M10×1.5	86	7	71	17	50	6.6	M8×1.25	11	Rc1/4	14	8	19	8.2	10.8	1
63	15	20	77	35 <sup>+0</sup> <sub>-0.062</sub>	M10×1.5	103	7	84	17	60	9	M10×1.5	14	Rc1/4 <sup>*1</sup>	18	10.5	19	10.2	13.8	1
80	21	25	98	43 <sup>+0</sup> <sub>-0.062</sub>	M16×2.0	132	6	104	22	77	11	M12×1.75	17.5	Rc3/8 <sup>*2</sup>	22	13.5	26	12.2	17.3	2
100	27	30	117	—	M20×2.5	156	6.5	123.5	27	94	11	M12×1.75	17.5	Rc3/8 <sup>*2</sup>	22	13.5	26	12.2	17.3	2

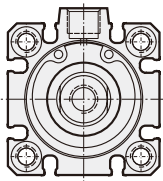
\*1. Without magnet with stroke=5mm, P=Rc1/8

\*2. Without magnet with stroke=5mm, P=Rc1/4

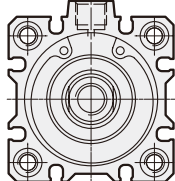
24



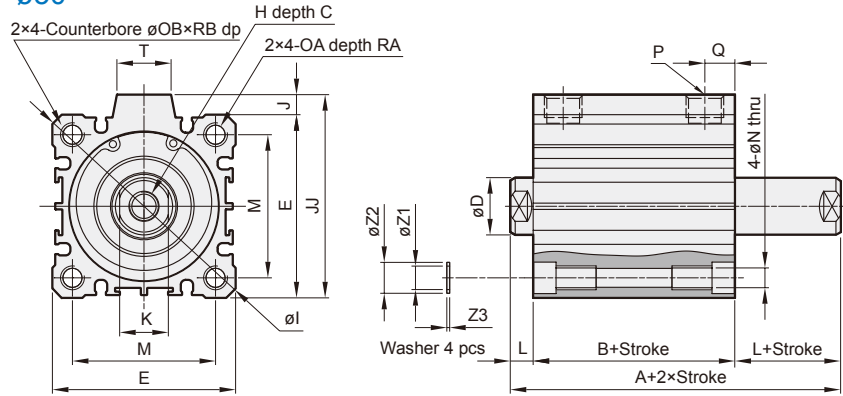
$\phi 32$



$\phi 40$



$\phi 50$



\* L1: Standard stroke

**23 Male thread**

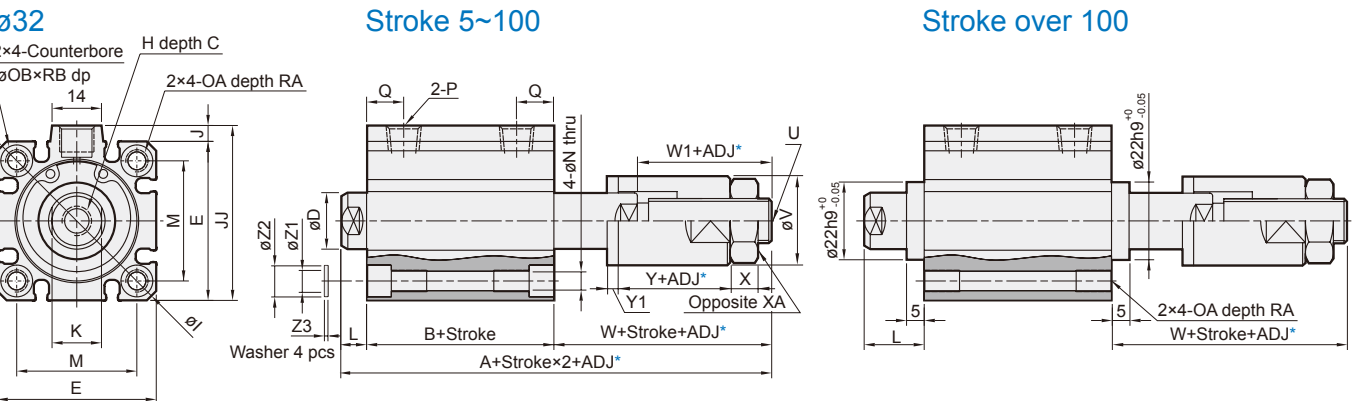
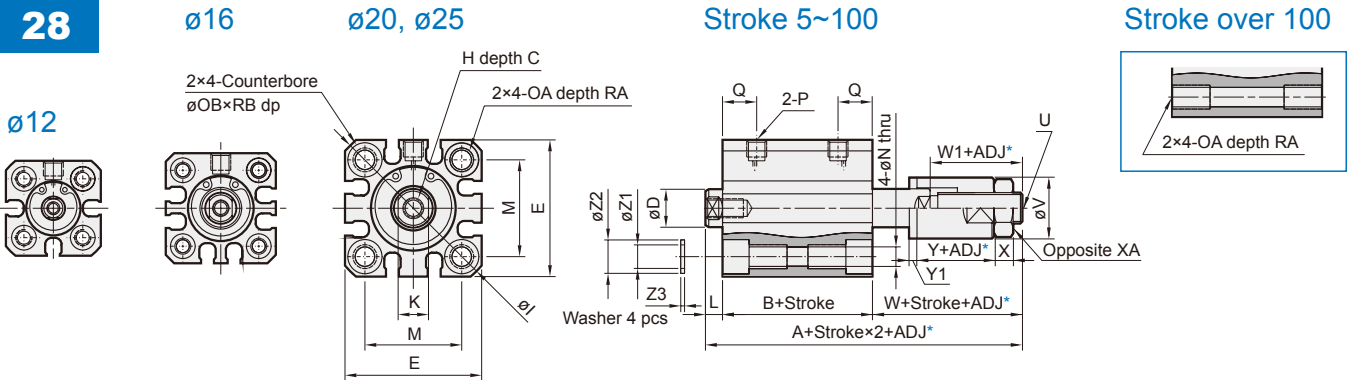
Code Tube I.D.	C1	H1	L1	X
12	9	M5×0.8	14	10.5
16	10	M6×1.0	15.5	12
20	12	M8×1.25	18.5	14
25	15	M10×1.25	22.5	17.5
32	20.5	M14×1.5	28.5	23.5
40	20.5	M14×1.5	28.5	23.5
50	26	M18×1.5	33.5	28.5

Code Tube I.D.	Standard stroke				C	D	E	H	I	J	JJ	K	L	M	N	OA	OB	P	Q	RA	RB	T	Z1	Z2	Z3	
	Stroke range	Without magnet		Magnet																						
		A	B	A																						B
12	5,10	29	22	34	27	6	6	25	M3×0.5	32	–	–	5	3.5	15.5	3.5	M4×0.7	6.5	M5×0.8	7.5	7	4	–	4.2	6.3	0.5
16	5,10	29	22	34	27	8	8	29	M4×0.7	38	–	–	6	3.5	20	3.5	M4×0.7	6.5	M5×0.8	7.5	7	4	–	4.2	6.3	0.5
20	5,10	35	26	45	36	7	10	36	M5×0.8	47	–	–	8	4.5	25.5	5.5	M6×1.0	9	M5×0.8	9	10	7	–	6.2	8.8	1
25	5,10	39	29	49	39	12	12	40	M6×1.0	52	–	–	10	5	28	5.5	M6×1.0	9	M5×0.8	11	10	7	–	6.2	8.8	1
32	5,10	44.5	30.5	54.5	40.5	13	16	45	M8×1.25	60	4.5	49.5	14	7	34	5.5	M6×1.0	9	Rc1/8 *1	12.5	10	7	14	6.2	8.8	1
40	5,10	54	40	64	50	13	16	52	M8×1.25	70	5	57	14	7	40	5.5	M6×1.0	9	Rc1/8	14	10	7	14	6.2	8.8	1
50	5~20	56.5	40.5	66.5	50.5	15	20	64	M10×1.5	86	7	71	17	8	50	6.5	M8×1.25	11	Rc1/4	14	14	8	19	8.2	10.8	1

\*1. Without magnet with stroke=5mm, P=M5×0.8

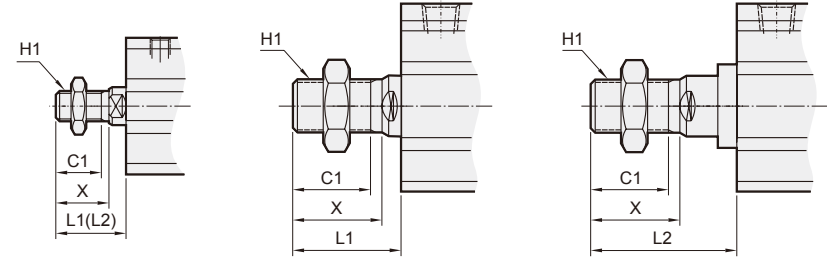


28



\* ADJ: Adjustable stroke

$\phi 12\sim 25$        $\phi 32$  for stroke 5~100       $\phi 32$  for stroke over 100



\* L1: Standard stroke, L2: Long stroke

27 Male thread

Code Tube I.D.	C1	H1	L1	L2	X
12	9	M5×0.8	14	24	10.5
16	10	M6×1.0	15.5	25.5	12
20	12	M8×1.25	18.5	28.5	14
25	15	M10×1.25	22.5	32.5	17.5
32	20.5	M14×1.5	28.5	38.5	23.5

Code Tube I.D.	Standard stroke						Long stroke					
	Stroke range	Without magnet		Magnet		L	W	Stroke range	A	B	L	W
		A	B	A	B							
12	5~30	45.5	22	50.5	27	3.5	20	31~100	65.5	32	13.5	20
16	5~30	49	22	54	27	3.5	23.5	31~100	69	32	13.5	23.5
20	5~50	54.3	26	64.3	36	4.5	23.8	51~200	79.3	41	14.5	23.8
25	5~50	56.5	29	66.5	39	5	22.5	51~300	81.5	44	15	22.5
32	5~50	60.9	30.5	70.9	40.5	7	23.4	101~300	91.5	45.5	17	29
	51~100	70.9	40.5									

\*1. Without magnet with stroke=5mm, P=M5×0.8

Code Tube I.D.	C	D	E	H	I	J	JJ	K	M	N	OA	OB	P	Q
12	6	6	25	M3×0.5	32	-	-	5	15.5	3.5	M4×0.7	6.5	M5×0.8	7.5
16	8	8	29	M4×0.7	38	-	-	6	20	3.5	M4×0.7	6.5	M5×0.8	7.5
20	7	10	36	M5×0.8	47	-	-	8	25.5	5.5	M6×1.0	9	M5×0.8	9
25	12	12	40	M6×1.0	52	-	-	10	28	5.5	M6×1.0	9	M5×0.8	11
32	13	16	45	M8×1.25	60	4.5	49.5	14	34	5.5	M6×1.0	9	Rc1/8 *1	12.5

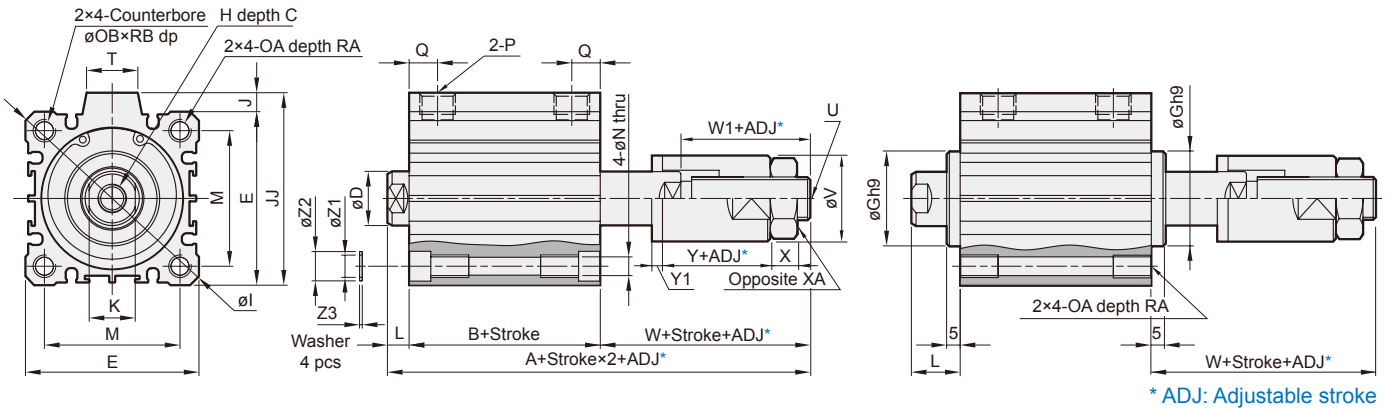
Code Tube I.D.	RA	RB	U	V	W1	X	XA	Y	Y1	Z1	Z2	Z3
12	7	4	M5×0.8	12	16	4	8	13	2	4.2	6.3	0.5
16	7	4	M8×1.25	16	19	5	13	15	2	4.2	6.3	0.5
20	10	7	M8×1.25	16	19	5	13	15	2	6.2	8.8	1
25	10	7	M10×1.25	20	18	6	17	12	2	6.2	8.8	1
32	10	7	M12×1.25	30	19	7	19	12	2	6.2	8.8	1

28

$\phi 50\sim\phi 100$

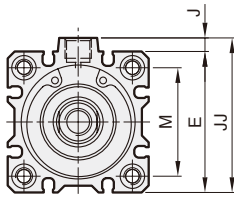
Stroke 5~100

Stroke over 100

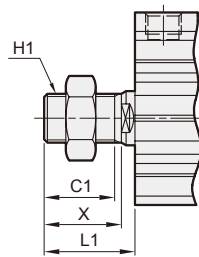


\* ADJ: Adjustable stroke

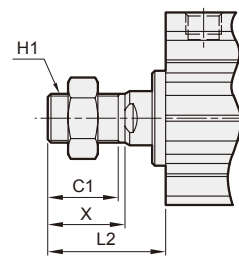
$\phi 40$



$\phi 40\sim\phi 100$   
(Stroke 5~100)



$\phi 40\sim\phi 80$   
(Stroke over 100)



27 Male thread

Code Tube I.D.	C1	H1	L1	L2	X
40	20.5	M14×1.5	28.5	38.5	23.5
50	26	M18×1.5	33.5	43.5	28.5
63	26	M18×1.5	33.5	43.5	28.5
80	32.5	M22×1.5	43.5	53.5	35.5
100	32.5	M26×1.5	43.5	—	35.5

Code Tube I.D.	Standard stroke								Long stroke					
	Stroke range	Without magnet		Magnet		L	Q	W	Stroke range	A	B	L	Q	W
		A	B	A	B									
40	5~50	71	40	81	50	7	14	24	101~300	102.5	55	17	14	30.5
	51~100	81	50											
50	5~50	75	40.5	85	50.5	8	14	26.5	101~300	105.5	55.5	18	14	32
	51~100	85	50.5											
63	5~50	80	42	90	52	8	15.5	30	101~300	110	57	18	16.5	35
	51~100	90	52											
80	5~50	100	51	110	61	10	18	39	101~300	130	66	20	19	44
	51~100	110	61											
100	5~50	111	60.5	121	70.5	12	22	38.5	—					
	51~100	121	70.5											

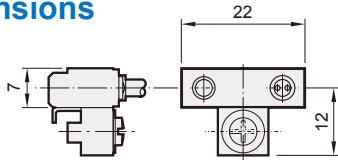
Code Tube I.D.	C	D	E	G <sup>H9</sup>	H	I	J	JJ	K	M	N	OA	OB	P	RA	RB	T	U	V	W1	X	XA	Y	Y1	Z1	Z2	Z3
40	13	16	52	28 <sup>+0</sup> <sub>-0.052</sub>	M8×1.25	70	5	57	14	40	5.5	M6×1.0	9	Rc1/8	10	7	14	M12×1.25	30	21	7	19	12	2	6.2	8.8	1
50	15	20	64	35 <sup>+0</sup> <sub>-0.062</sub>	M10×1.5	86	7	71	17	50	6.6	M8×1.25	11	Rc1/4	14	8	19	M16×1.5	40	22.5	8	24	15	2	8.2	10.8	1
63	15	20	77	35 <sup>+0</sup> <sub>-0.062</sub>	M10×1.5	103	7	84	17	60	9	M10×1.5	14	Rc1/4 <sup>*1</sup>	18	10.5	19	M16×1.5	40	25.5	8	24	15	2	10.2	13.8	1
80	21	25	98	43 <sup>+0</sup> <sub>-0.062</sub>	M16×2.0	132	6	104	22	77	11	M12×1.75	17.5	Rc3/8 <sup>*2</sup>	22	13.5	26	M22×1.5	50	33	13	32	20	3	12.2	17.3	2
100	27	30	117	—	M20×2.5	156	6.5	123.5	27	94	11	M12×1.75	17.5	Rc3/8 <sup>*2</sup>	22	13.5	26	M22×1.5	50	33	13	32	20	3	12.2	17.3	2

\*1. Without magnet with stroke=5mm, P=Rc1/8

\*2. Without magnet with stroke=5mm, P=Rc1/4

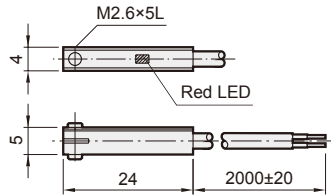
### Dimensions

**RCB  
RNB**

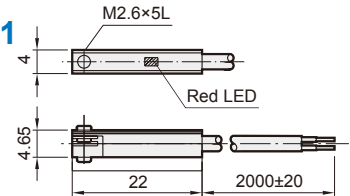


RCB, RNB: Red LED

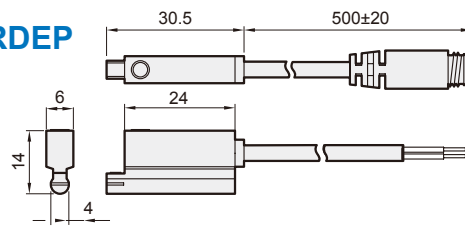
**RCE**



**RCE1  
RNE**

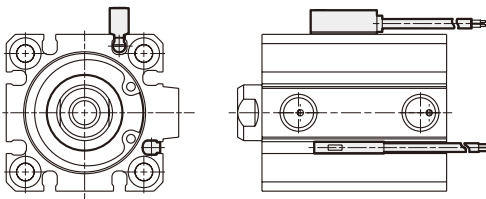


**RDEP**

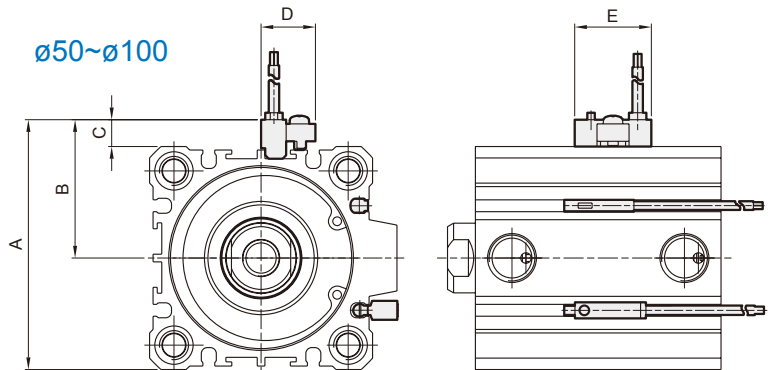


### Installation of sensor switch

$\phi 12\sim\phi 40$



$\phi 50\sim\phi 100$



### Order example

RCE1 — □

MODEL

RCB / RCE / RCE1 (C: Reed switch)  
RNB / RNE (N: Solid state switch)  
RDEP (Solid state switch)

WIRE LENGTH

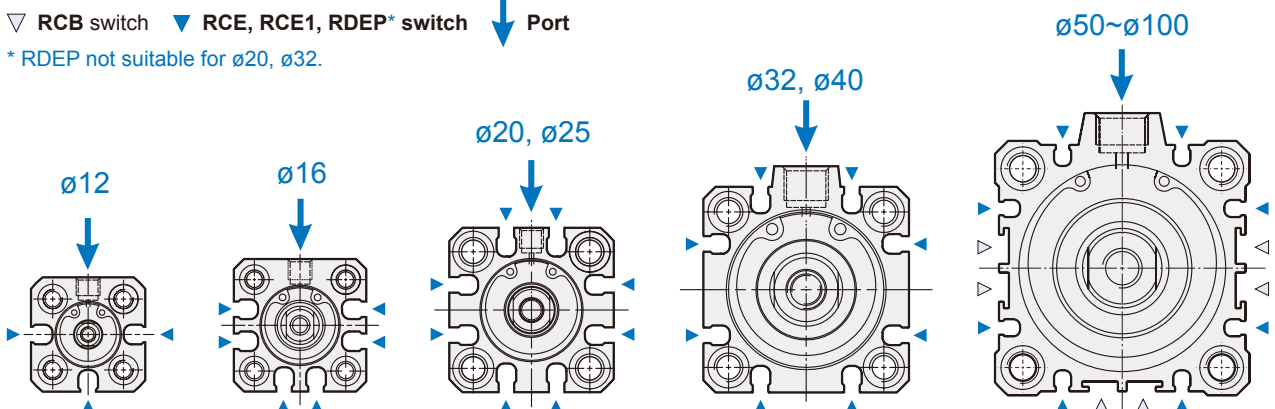
Blank: L=2000m  
1M: L=1000m  
QD: M8 3Pin connector  
EQD: M8 3Pin connector

Code Tube I.D.	A	B	C	D	E
50	72	40	8	16	22
63	85	46.5	8	16	22
80	106	57	8	16	22
100	125	66.5	8	16	22

### Description

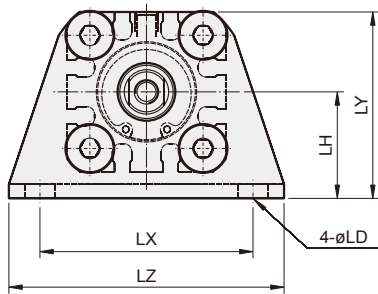
▽ RCB switch ▼ RCE, RCE1, RDEP\* switch ↓ Port

\* RDEP not suitable for  $\phi 20$ ,  $\phi 32$ .

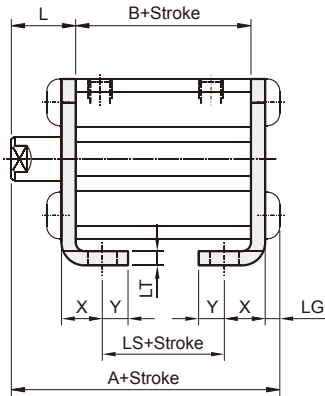


COMPACT CYLINDER

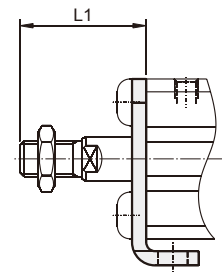
LB



Female thread

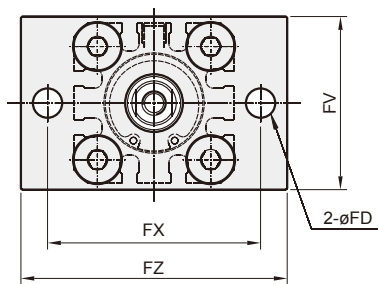


Male thread

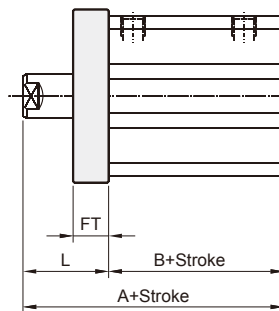


Code	Standard stroke							Long stroke														
	Stroke range	Without magnet			Magnet			Stroke range	A	B	LS	L	L1	LD	LG	LH	LT	LX	LY	LZ	X	Y
		A	B	LS	A	B	LS															
12	5~30	35.3	17	5	40.3	22	10	35~100	50.3	32	20	13.5	24	4.5	2.8	17	2	34	29.5	44	8	4.5
16	5~30	35.3	17	5	40.3	22	10	35~100	50.3	32	20	13.5	25.5	4.5	2.8	19	2	38	33.5	48	8	5
20	5~50	41.2	19.5	7.5	51.2	29.5	17.5	75~200	62.7	41	29	14.5	28.5	6.6	4	24	3.2	48	42	62	9.2	5.8
25	5~50	44.7	22.5	7.5	54.7	32.5	17.5	75~300	66.2	44	29	15	32.5	6.6	4	26	3.2	52	46	66	10.7	5.8

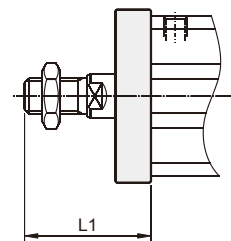
FAC



Female thread



Male thread

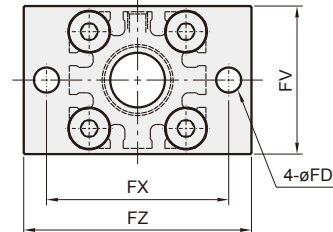
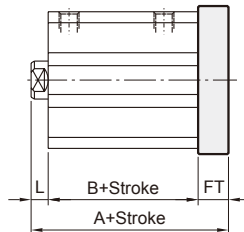
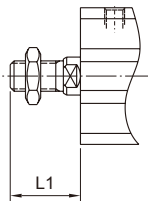


Code	Standard stroke					Long stroke										
	Stroke range	Without magnet		Magnet		Stroke range	A	B	FD	FT	FV	FX	FZ	L	L1	
		A	B	A	B											
12	5~30	30.5	17	35.5	22	35~100	45.5	32	4.5	5.5	25	45	55	13.5	24	
16	5~30	30.5	17	35.5	22	35~100	45.5	32	4.5	5.5	30	45	55	13.5	25.5	
20	5~50	34	19.5	44	29.5	75~200	55.5	41	6.6	8	39	48	60	14.5	28.5	
25	5~50	37.5	22.5	47.5	32.5	75~300	59	44	6.6	8	42	52	64	15	32.5	

### FBC

Male thread

Female thread

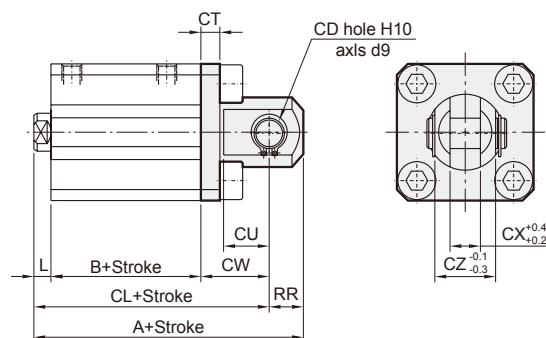
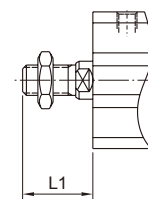


Code	Standard stroke										Long stroke				FD	FT	FV	FX	FZ		
	Stroke range	Without magnet					Magnet					Stroke range	A	B						L	L1
		A	B	L	L1	A	B	L	L1												
12	5~30	26	17	3.5	14	31	22	3.5	14	35~100	51	32	13.5	24	4.5	5.5	25	45	55		
16	5~30	26	17	3.5	15.5	31	22	3.5	15.5	35~100	51	32	13.5	25.5	4.5	5.5	30	45	55		
20	5~50	32	19.5	4.5	18.5	42	29.5	4.5	18.5	75~200	63.5	41	14.5	28.5	6.6	8	39	48	60		
25	5~50	35.5	22.5	5	22.5	45.5	32.5	5	22.5	75~300	67	44	15	32.5	6.6	8	42	52	64		

### CB

Male thread

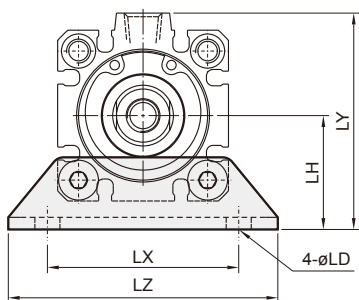
Female thread



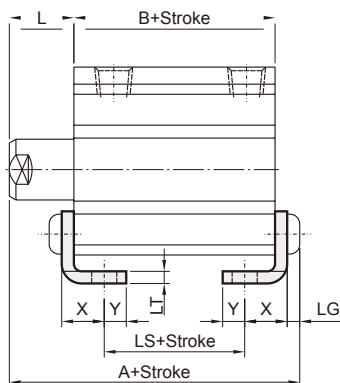
Code	Standard stroke										Long stroke					CD	CT	CU	CW	CX	CZ	RR		
	Stroke range	Without magnet					Magnet					Stroke range	A	B	CL								L	L1
		A	B	CL	L	L1	A	B	CL	L	L1													
12	5~30	40.5	17	34.5	3.5	14	45.5	22	39.5	3.5	14	35~100	65.5	32	59.5	13.5	24	5	4	7	14	5	10	6
16	5~30	41.5	17	35.5	3.5	15.5	46.5	22	40.5	3.5	15.5	35~100	66.5	32	60.5	13.5	25.5	5	4	10	15	6.5	12	6
20	5~50	51	19.5	42	4.5	18.5	61	29.5	52	4.5	18.5	75~200	82.5	41	73.5	14.5	28.5	8	5	12	18	8	16	9
25	5~50	57.5	22.5	47.5	5	22.5	67.5	32.5	57.5	5	22.5	75~300	89	44	79	15	32.5	10	5	14	20	10	20	10

**LB**

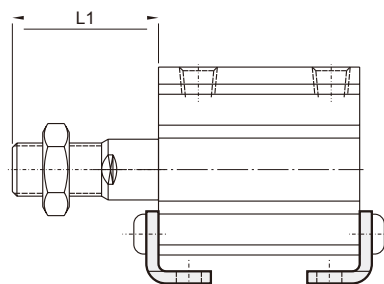
Standard stroke



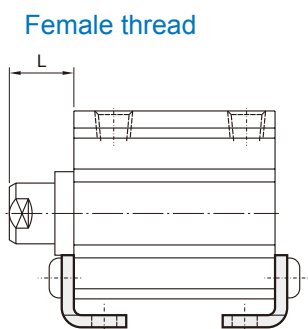
Female thread



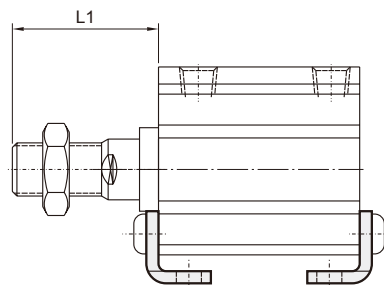
Male thread



Long stroke



Male thread



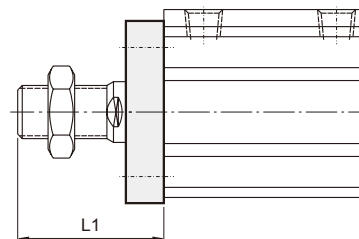
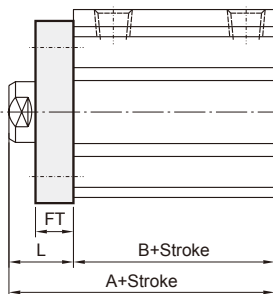
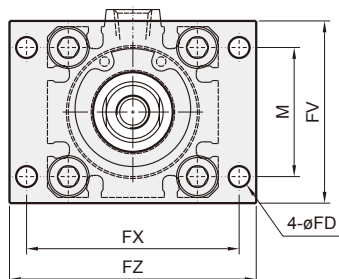
Code	Standard stroke							Long stroke				L	L1	LD	LG	LH	LT	LX	LY	LZ	X	Y
	Stroke range	Without magnet			Magnet			Stroke range	A	B	LS											
		A	B	LS	A	B	LS															
32	5~50	47.2	23	7	57.2	33	17	125~300	69.7	45.5	29.5	17	38.5	6.6	4	30	3.2	57	57	71	11.2	5.8
	75,100	57.2	33	17																		
40	5~50	53.7	29.5	13.5	63.7	39.5	23.5	125~300	79.2	55	39	17	38.5	6.6	4	33	3.2	64	64	78	11.2	7
	75,100	63.7	39.5	23.5																		
50	5~50	56.7	30.5	7.5	66.7	40.5	17.5	125~300	81.7	55.5	32.5	18	43.5	9	5	39	3.2	79	78	95	14.7	8
	75,100	66.7	40.5	17.5																		
63	5~50	62.2	36	10	72.2	46	20	125~300	83.2	57	31	18	43.5	11	5	46	3.2	95	91.5	113	16.2	9
	75,100	72.2	46	20																		
80	5~50	75	43.5	13.5	85	53.5	23.5	125~300	97.5	66	36	20	53.5	13	7	59	4.5	118	114	140	19.5	11
	75,100	85	53.5	23.5																		
100	5~50	88	53	19	98	63	29	125~300	—	—	—	22	53.5	13	7	71	6	137	136	162	23	12.5
	75,100	98	63	29																		



**FAC**

Female thread

Male thread



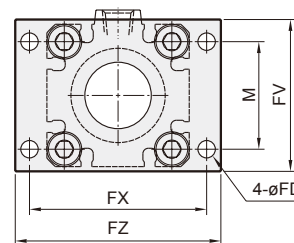
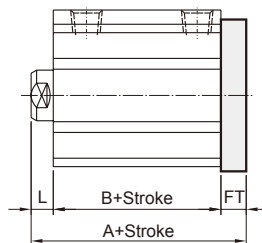
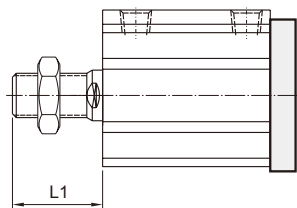
Code	Standard stroke					Long stroke			FD	FT	FV	FX	FZ	L	L1	M	
	Tube I.D.	Stroke range	Without magnet		Magnet		Stroke range	A									B
			A	B	A	B											
32	5~50	40	23	50	33	125~300	62.5	45.5	5.5	8	48	56	65	17	38.5	34	
	75,100	50	33														
40	5~50	46.5	29.5	56.5	39.5	125~300	72	55	5.5	8	54	62	72	17	38.5	40	
	75,100	56.5	39.5														
50	5~50	48.5	30.5	58.5	40.5	125~300	73.5	55.5	6.6	9	67	76	89	18	43.5	50	
	75,100	58.5	40.5														
63	5~50	54	36	64	46	125~300	75	57	9	9	80	92	108	18	43.5	60	
	75,100	64	46														
80	5~50	63.5	43.5	73.5	53.5	125~300	86	66	11	11	99	116	134	20	53.5	77	
	75,100	73.5	53.5														
100	5~50	75	53	85	63	125~300	—	—	11	11	117	136	154	22	53.5	94	
	75,100	85	63														

**FBC**

Standard stroke

Male thread

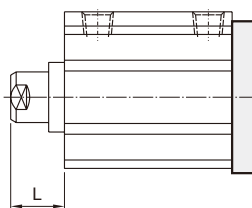
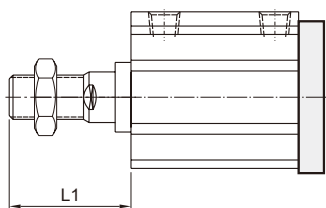
Female thread



Long stroke

Male thread

Female thread



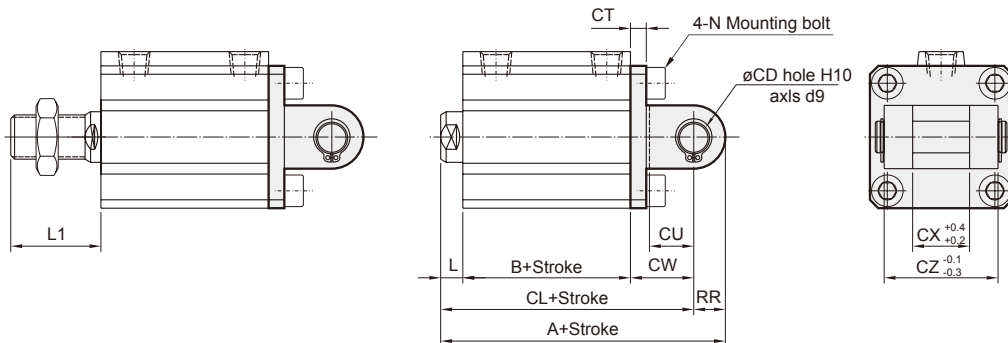
Code	Standard stroke							Long stroke					FD	FT	FV	FX	FZ	M
	Stroke range	Without magnet		Magnet		L	L1	Stroke range	A	B	L	L1						
		A	B	A	B													
32	5~50	38	23	48	33	7	28.5	125~300	70.5	45.5	17	38.5	5.5	8	48	56	65	34
	75,100	48	33															
40	5~50	44.5	29.5	54.5	39.5	7	28.5	125~300	80	55	17	38.5	5.5	8	54	62	72	40
	75,100	54.5	39.5															
50	5~50	47.5	30.5	57.5	40.5	8	33.5	125~300	82.5	55.5	18	43.5	6.6	9	67	76	89	50
	75,100	57.5	40.5															
63	5~50	53	36	63	46	8	33.5	125~300	84	57	18	43.5	9	9	80	92	108	60
	75,100	63	46															
80	5~50	64.5	43.5	74.5	53.5	10	43.5	125~300	97	66	20	53.5	11	11	99	116	134	77
	75,100	74.5	53.5															
100	5~50	76	53	86	63	12	43.5	125~300	-	-	-	-	11	11	117	136	154	94
	75,100	86	63															

**CB**

**Standard stroke**

**Male thread**

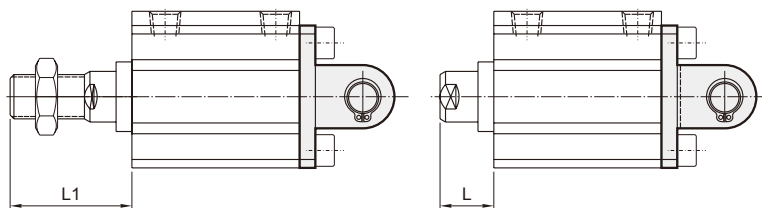
**Female thread**



**Long stroke**

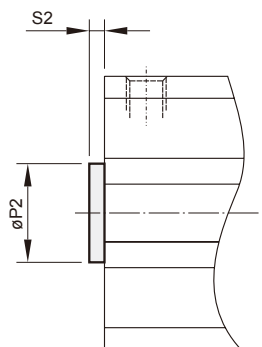
**Male thread**

**Female thread**



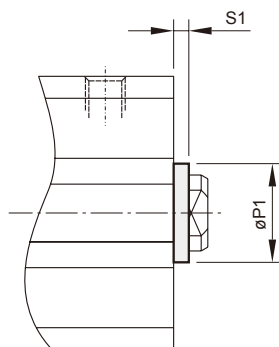
Code	Standard stroke										Long stroke												
	Stroke range	Without magnet			Magnet			L	L1	Stroke range	A	B	CL	L	L1	CD	CT	CU	CW	CX	CZ	N	RR
		A	B	CL	A	B	CL																
32	5~50	60	23	50	70	33	60	7	28.5	125~300	92.5	45.5	82.5	17	38.5	10	5	14	20	18	36	M6×1.0	10
	75,100	70	33	60																			
40	5~50	68.5	29.5	58.5	78.5	39.5	68.5	7	28.5	125~300	104	55	94	17	38.5	10	6	14	22	18	36	M6×1.0	10
	75,100	78.5	39.5	68.5																			
50	5~50	80.5	30.5	66.5	90.5	40.5	76.5	8	33.5	125~300	115.5	55.5	101.5	18	43.5	14	7	20	28	22	44	M8×1.25	14
	75,100	90.5	40.5	76.5																			
63	5~50	88	36	74	98	46	84	8	33.5	125~300	119	57	105	18	43.5	14	8	20	30	22	44	M10×1.5	14
	75,100	98	46	84																			
80	5~50	109.5	43.5	91.5	119.5	53.5	101.5	10	43.5	125~300	142	66	124	20	53.5	18	10	27	38	28	56	M12×1.75	18
	75,100	119.5	53.5	101.5																			
100	5~50	132	53	110	142	63	120	12	43.5	125~300	—	—	—	—	—	22	13	31	45	32	64	M12×1.75	22
	75,100	142	63	120																			

**F** Rear flange



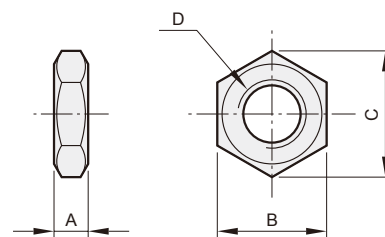
Code Tube I.D.	P2 <sup>h9</sup>	S2
12	6	1.5
16	10	1.5
20	13	2
25	15	2
32	21	2
40	28	2
50	35	2
63	35	2
80	43	2
100	59	2

**RF**



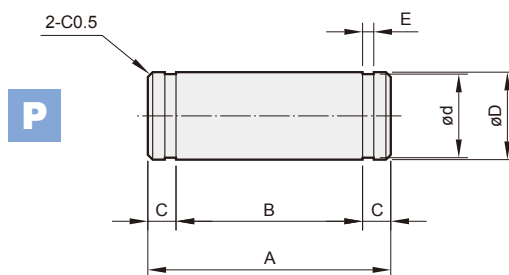
Code Tube I.D.	P1 <sup>h9</sup>	S1
12	15	1.5
16	20	1.5
20	13	2
25	15	2
32	21	2
40	28	2
50	35	2
63	35	2
80	43	2
100	59	2

**Rod front nut**



Code Tube I.D.	A	B	C	D
12	4	8	9.2	M5×0.8
16	5	10	11.5	M6×1.0
20	5	13	15	M8×1.25
25	6	17	19.6	M10×1.25
32,40	8	22	25.4	M14×1.5
50,63	11	27	31.4	M18×1.5
80	13	32	37	M22×1.5
100	16	41	47.3	M26×1.5

**Pin** for CB









Code Tube I.D.	A	B	C	$\varnothing D^{g9}$	$\varnothing d$	E	Snap ring
12	14.6	10.2	2.2	5 <sup>-0.03</sup> <sub>-0.06</sub>	4.8 <sup>0</sup> <sub>-0.04</sub>	0.7 <sup>+0.10</sup> <sub>0</sub>	STW-5
16	16.6	12.2	2.2	5 <sup>-0.03</sup> <sub>-0.06</sub>	4.8 <sup>0</sup> <sub>-0.04</sub>	0.7 <sup>+0.10</sup> <sub>0</sub>	STW-5
20	21	16.2	2.4	8 <sup>-0.04</sup> <sub>-0.08</sub>	7.6 <sup>0</sup> <sub>-0.06</sub>	0.9 <sup>+0.10</sup> <sub>0</sub>	STW-8
25	25.6	20.2	2.7	10 <sup>-0.04</sup> <sub>-0.08</sub>	9.6 <sup>0</sup> <sub>-0.06</sub>	1.15 <sup>+0.14</sup> <sub>0</sub>	STW-10
32,40	41.6	36.2	2.7	10 <sup>-0.04</sup> <sub>-0.08</sub>	9.6 <sup>0</sup> <sub>-0.09</sub>	1.15 <sup>+0.14</sup> <sub>0</sub>	STW-10
50,63	50.6	44.2	3.2	14 <sup>-0.05</sup> <sub>-0.10</sub>	13.4 <sup>0</sup> <sub>-0.11</sub>	1.15 <sup>+0.14</sup> <sub>0</sub>	STW-14
80	64	56.2	3.9	18 <sup>-0.05</sup> <sub>-0.10</sub>	17.0 <sup>0</sup> <sub>-0.11</sub>	1.35 <sup>+0.14</sup> <sub>0</sub>	STW-18
100	72	64.2	3.9	22 <sup>-0.07</sup> <sub>-0.12</sub>	21.0 <sup>0</sup> <sub>-0.21</sub>	1.35 <sup>+0.14</sup> <sub>0</sub>	STW-22

### Cylinder weight







#### Standard stroke

Unit: g

Model		Basic weight MCJQ-11	Basic weight (magnet) MCJQ-11	Stroke 5 mm MCJQ-11	Basic weight MCJQ-12	Basic weight (magnet) MCJQ-12	Stroke 5 mm MCJQ-12
Tube I.D.	Stroke range (mm)						
$\phi 12$	5~30	22	31	7	19	28	7
$\phi 16$	5~30	33	42	8	28	37	8
$\phi 20$	5~50	55	82	13	48	75	13
$\phi 25$	5~50	92	140	16	75	123	16
$\phi 32$	5~50	129	215	22	109	166	22
	51~100	206	215	22	157	166	22
$\phi 40$	5~50	226	315	24	184	266	24
	51~100	298	315	24	249	266	24
$\phi 50$	5~50	367	500	35	317	409	35
	51~100	476	500	35	386	409	35
$\phi 63$	5~50	530	714	41	446	622	41
	51~100	685	714	41	594	622	41
$\phi 80$	5~50	1032	1278	65	904	1109	65
	51~100	1240	1278	65	1072	1109	65
$\phi 100$	5~50	1864	2278	90	1679	2030	90
	51~100	2230	2278	90	1982	2030	90








#### Long stroke

Unit: g

Model		Basic weight MCJQ-11	Basic weight (magnet) MCJQ-11	Stroke 5 mm MCJQ-11	Basic weight MCJQ-12	Basic weight (magnet) MCJQ-12	Stroke 5 mm MCJQ-12
Tube I.D.	Stroke range (mm)						
$\phi 12$	31~100	46	47	7	43	44	7
$\phi 16$	31~100	68	70	8	63	65	8
$\phi 20$	51~200	116	120	13	106	110	13
$\phi 25$	51~300	172	180	16	153	161	16
$\phi 32$	101~300	287	295	22	238	247	22
$\phi 40$	101~300	409	426	24	360	377	24
$\phi 50$	101~300	658	682	35	566	589	35
$\phi 63$	101~300	852	881	41	760	789	41
$\phi 80$	101~300	1531	1568	65	1398	1436	65

#### Accessories weight

Unit: g

Model	LB	CB	FAC/FBC	F	RF	Pin	Nut
Tube I.D.							
$\phi 12$	51	31	56	1	1	2	1
$\phi 16$	60	37	67	2	1	3	2
$\phi 20$	145	61	135	3	1	8	4
$\phi 25$	166	94	153	4	2	16	6
$\phi 32$	107	136	165	9	3	25	18
$\phi 40$	125	171	203	17	9	25	18
$\phi 50$	209	331	357	28	16	61	32
$\phi 63$	296	538	547	52	30	61	32
$\phi 80$	586	1034	1046	107	52	127	56
$\phi 100$	960	1765	1328	175	82	214	56