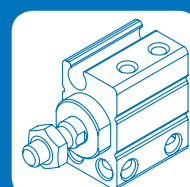
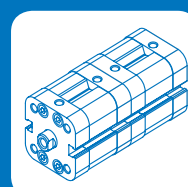
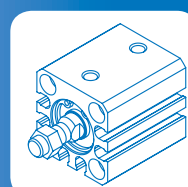
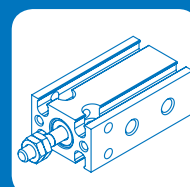
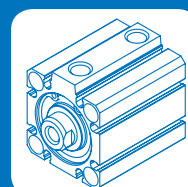
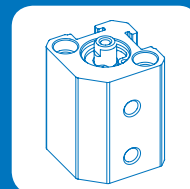
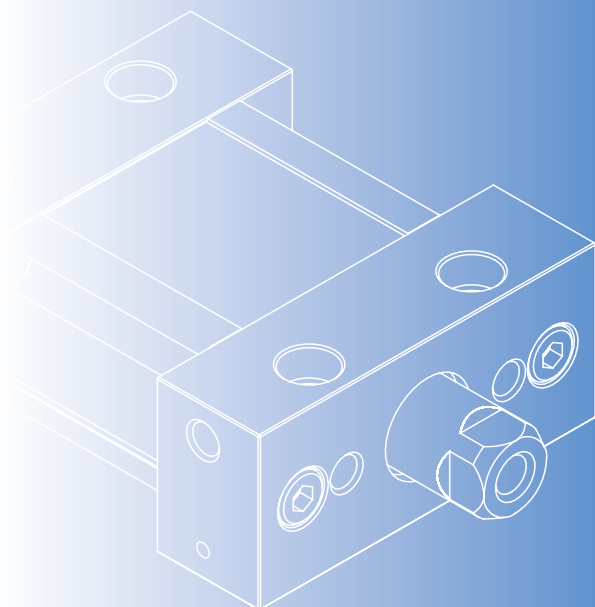


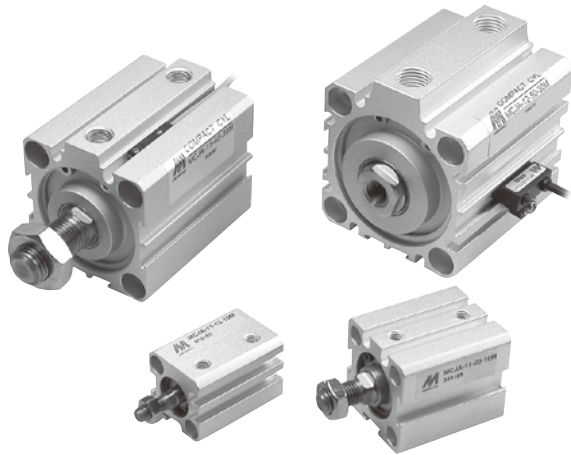
COMPACT CYLINDER



	COMPACT CYLINDER
MCJA	ø12~ø100..... 2-2
	Multiple Position..... 2-15
	Back to Back Type 2-18
F MCJQ	ø12~ø100..... 2-21
MCKJQ	ø12~ø40 No Rotation 2-45
MCJQ2	ø12~ø25..... 2-51
MCJI	ø20~ø100..... 2-54
	Multiple Position..... 2-62
	PLATE OVAL CYLINDER
MCJU	ø25~ø63..... 2-65
	MULTI-MOUNT CYLINDER
F MCFA	ø6~ø32..... 2-71
F MCFB	ø6~ø20..... 2-77

F Fast delivery (11 & 12 style)

Our goal is to achieve 3-day lead time, if there is stock of component set. For more information, please go to our [MINDMAN website \(www.mindman.com.tw\)](http://www.mindman.com.tw) and click on the "Component Set Inventory" button.



Order example

MCJA — 12 — 40 — 25 M — □

MODEL

TUBE I.D.

M: Magnet

STROKE

PORT THREAD
Blank: M5×0.8
(for ø12~ø25)
Blank: Rc thread
G: G thread
NPT: NPT thread
(for ø32~ø100)

1: Single rod
2: Double rod

STYLE

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

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

Features

- Ultra Compact, light weight and space saving cylinder.
- Wide range of bore sizes and strokes (12mm~100mm).
- Single and double acting available.
- Ideal for use in machinery where space is limited and incorporating sensor groove which enables flush fitting of sensors.

Specification

Model	MCJA				
Acting type	Double acting / Single acting				Double acting
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		0.05~1	0.03~1	0.02~1
	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.

Double acting – Table for standard stroke

	Tube I.D.	Stroke (mm)	Max. stroke
Single rod	ø12,16	5,10,15,20,25,30	300
	ø20,25,32 ø40,50,63	5,10,15,20,25,30,35,40,45,50	300
	ø80,100	5,10,15,20,25,30,35,40,45,50	125
Double rod	ø12,16	5,10,15,20,25,30	300
	ø20,25,32 ø40,50,63,80	5,10,15,20,25,30,35,40,45,50	300
	ø100	5,10,15,20,25,30,35,40,45,50	125

- Stroke out of specification is also available
- Please consult us if stroke out of specification.

Single acting – Table for standard stroke

Tube I.D.	Stroke (mm)
ø12,16,20,25,32,40	5,10,15,20,25,30
ø50	5,10,15,20

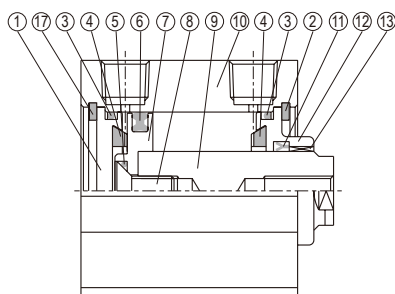
- Stroke out of specification is also available
- Please consult us if stroke out of specification.

MCJA Inside structure & Parts list

COMPACT CYLINDER

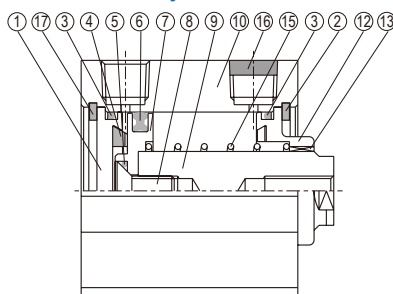


Double acting



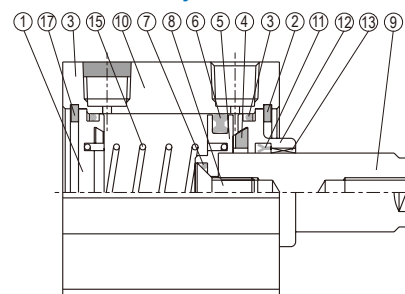
Single acting

Normally returned



Single acting

Normally extended

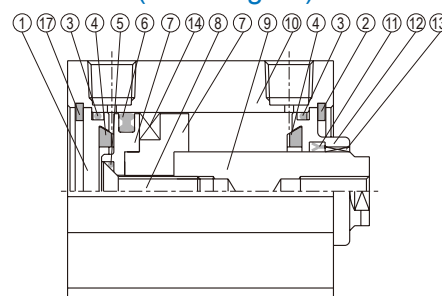


Seal kit

Acting type	Rod packing		Piston packing		Cover ring	Piston gasket
	Double action normally extended	Normally returned	Double acting	Single acting	Double acting single acting	Double acting single acting
Q'y	1	0	1	1	2	1
ø12	KSYR-6	—	OPA-12	OPA-12	S-12	d4×w1
ø16	KSYR-6	—	OPA-16	OPA-16	S-14	d4×w1
ø20	KSYR-8	—	OPA-20	OPA-20	S-18	d6×w1
ø25	KSYR-10	—	OPA-25	OPA-25	S-22	d8×w1
ø32	KSYR-12	—	OPA-32	OPA-32	d28×w2	S-9
ø40	KSYR-16	—	OPA-40	OPA-40	S-36	S-9
ø50	KSYR-20	—	OPA-50	OPA-50	AS-31	S-16
ø63	KSYR-20	—	OPA-63	—	AS-35	S-16
ø80	ORA-25	—	OPA-80	—	AS-41	d20×w1
ø100	SDR-30	—	OPA-100	—	S-95	S-26

Double acting

(with magnet)



Order example Component parts

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

M: With magnet

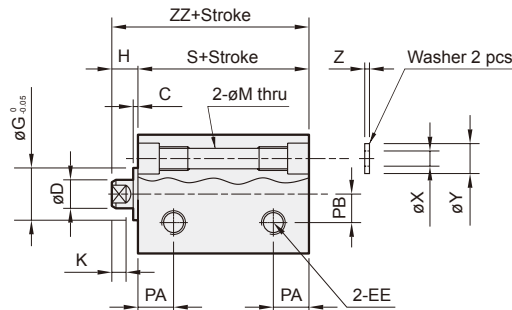
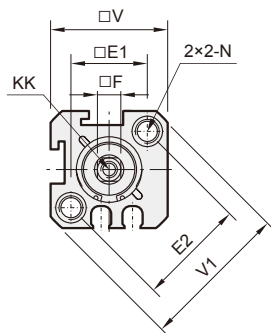
Material

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	Head cover	Aluminum alloy										1	●	
2	Snap ring (Front end)	SUS	spring steel		SUS		Spring steel					1	●	
3	Cover ring	NBR										2	●	●
4	Cushion packing	—		NBR								2	●	●
5	Piston gasket	NBR										1	●	●
6	Piston packing	NBR										1	●	●
7	Piston	Aluminum alloy										1	●	
8	Screw	With magnet		Stainless steel			SCM					1	●	
		Without magnet		SCM	SUS		SCM					1	●	
9	Piston rod *1	With magnet		Stainless steel			Carbon steel					1		
		Without magnet		SUS	Carbon steel								1	
10	Body	Aluminum alloy										1		
11	Rod packing	NBR										1*2	●	●
12	Rod cover	Aluminum alloy										1	●	
13	Bush	—					Bearing alloy					1	●	
14	Magnet ring	Magnet material										1	●	
15	Spring	SWP							—			1	●	
16	Silencer	Brass							—			1	●	
17	Snap ring (Rear end)	Stainless steel					Spring steel					1	●	

*1. When customized material is bearing steel, only two-side across flat (wrench flat) is available.

*2. Single acting / Normally returned, Q'y=0.

$\phi 12, \phi 16$



Long stroke

Without counter bore

With magnet type:
The stroke length must be over 100mm.
Without magnet type:
The stroke length must be over 110mm.

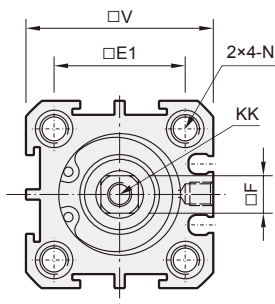
$\phi 12, \phi 16$



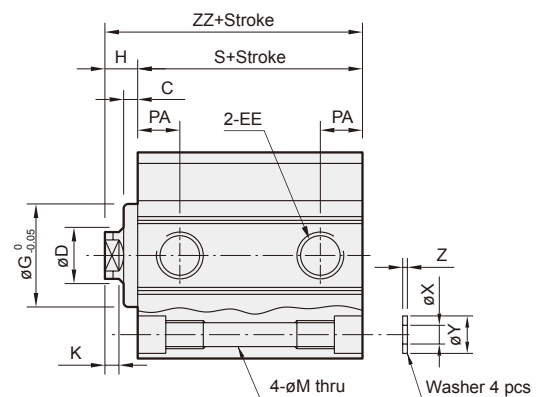
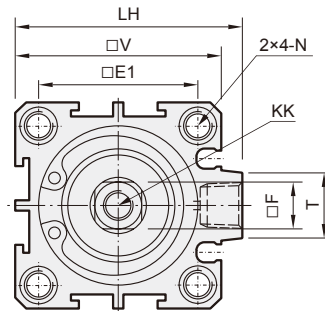
$\phi 20 \sim \phi 100$



$\phi 20, \phi 25$



$\phi 32 \sim \phi 100$



Code Tube I.D.	C	D	EE	E1	E2	F	G	H	K	KK	LH	M	N	PA	PB
12	1	6	M5×0.8	16.3	23	5	11	5	3	M3×0.5×6depth	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth	6.5	6
16	1.5	6	M5×0.8	19.8	28	5	11	5.5	3	M3×0.5×6depth	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth	7	6.5
20	1.5	8	M5×0.8	24	—	6	15	5.5	3	M4×0.7×8depth	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth	7.5	—
25	2	10	M5×0.8	28	—	8	17	6	3	M5×0.8×10depth	—	5.1	ø9×7depth, M6×1.0×10depth	8	—
32	3	12	Rc1/8 (*1)	34	—	10	22	7	3	M6×1.0×12depth	48.5	5.1	ø9×7depth, M6×1.0×10depth	9	—
40	3	16	Rc1/8 (*1)	40	—	14	28	7	3	M8×1.25×12depth	56.5	6.9	ø10.5×8depth, M8×1.25×12depth	10	—
50	4	20	Rc1/4 (*2)	48	—	17	38	9	3	M10×1.5×15depth	70	6.9	ø11×8.5depth, M8×1.25×16.5depth	10	—
63	4	20	Rc1/4 (*2)	60	—	17	40	9	3	M10×1.5×15depth	83	6.9	ø11×8.5depth, M8×1.25×16.5depth	12	—
80	5	25	Rc3/8 (*3)	74	—	22	45	11	4	M14×1.5×20depth	102	10.5	ø14×10.5depth, M12×1.75×12depth	13	—
100	5	30	Rc3/8 (*3)	90	—	27	55	12	4	M18×1.5×20depth	122	12.3	ø18.5×13depth, M14×2×17depth	17	—

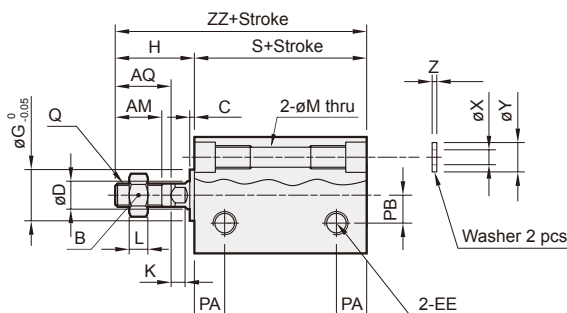
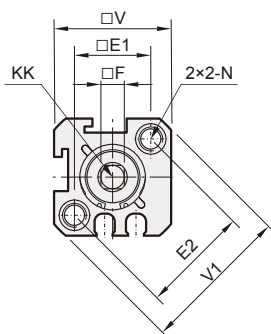
*1. Without magnet with stroke=5mm, EE=M5×0.8

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

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

Code Tube I.D.	T	V	V1	X	Y	Z	Without magnet		Magnet	
							S	ZZ	S	ZZ
12	—	25	32	3.2	6.3	1	17	22	27	32
16	—	29	38	3.2	6.3	1	18.5	24	28.5	34
20	—	34	—	3.2	6.3	1	19.5	25	29.5	35
25	—	40	—	4.2	7.8	1	21	27	31	37
32	14	44	—	4.2	7.8	1	24.5	31.5	34.5	41.5
40	14	52	—	6.2	10.3	1.6	26	33	36	43
50	19	62	—	6.2	10.8	1.6	28	37	38	47
63	20	75	—	6.2	10.8	1.6	32	41	42	51
80	27	94	—	8.2	13.8	1.6	41	52	51	62
100	26	114	—	10.2	17.3	2	51	63	61	73

$\phi 12, \phi 16$



Long stroke

Without counter bore

With magnet type:
The stroke length must be over 100mm.
Without magnet type:
The stroke length must be over 110mm.

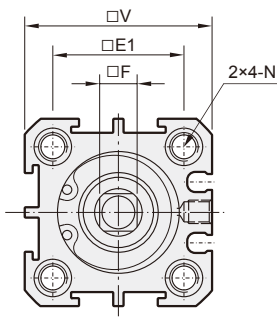
$\phi 12, \phi 16$



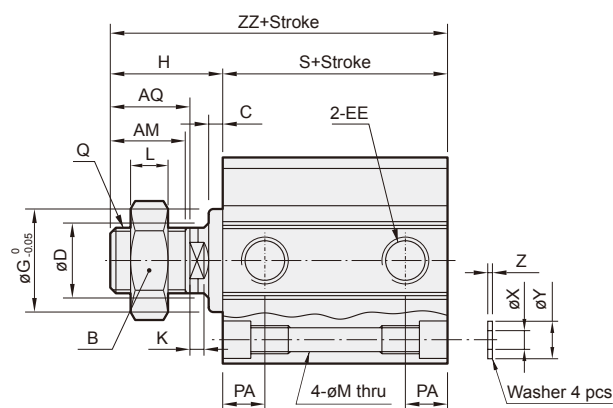
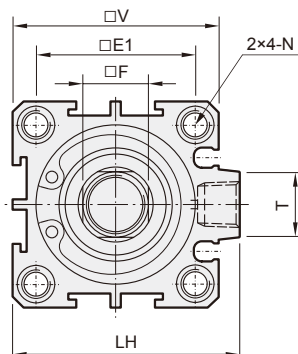
$\phi 20 \sim \phi 100$



$\phi 20, \phi 25$



$\phi 32 \sim \phi 100$



Code Tube I.D.	AM	AQ	B	C	D	EE	E1	E2	F	G	H	K	L	LH	M	N	PA	PB
12	10	12	8	1	6	M5×0.8	16.3	23	5	11	17	3	4	—	4.3	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	6.5	6
16	10	12	8	1.5	6	M5×0.8	19.8	28	5	11	17.5	3	4	—	4.3	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	7	6.5
20	13	15	10	1.5	8	M5×0.8	24	—	6	15	20.5	3	5	—	4.3	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	7.5	—
25	15	17	13	2	10	M5×0.8	28	—	8	17	23	3	5	—	5.1	$\phi 9 \times 7$ depth, M6×1.0×10depth	8	—
32	15	18	17	3	12	Rc1/8 (*1)	34	—	10	22	25	3	6	48.5	5.1	$\phi 9 \times 7$ depth, M6×1.0×10depth	9	—
40	25	28	22	3	16	Rc1/8 (*1)	40	—	14	28	35	3	8	56.5	6.9	$\phi 10.5 \times 8$ depth, M8×1.25×12depth	10	—
50	25	28	26	4	20	Rc1/4 (*2)	48	—	17	38	37	3	11	70	6.9	$\phi 11 \times 8.5$ depth, M8×1.25×16.5depth	10	—
63	25	28	26	4	20	Rc1/4 (*2)	60	—	17	40	37	3	11	83	6.9	$\phi 11 \times 8.5$ depth, M8×1.25×16.5depth	12	—
80	30	33	32	5	25	Rc3/8 (*3)	74	—	22	45	44	4	13	102	10.5	$\phi 14 \times 10.5$ depth, M12×1.75×12depth	13	—
100	35	38	35	5	30	Rc3/8 (*3)	90	—	27	55	50	4	14	122	12.3	$\phi 18.5 \times 13$ depth, M14×2×17depth	17	—

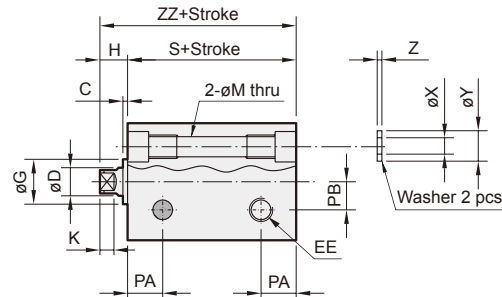
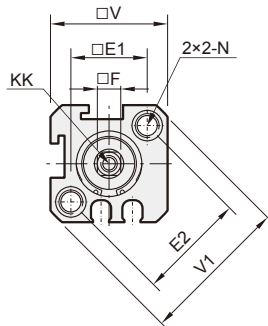
*1. Without magnet with stroke=5mm, EE=M5×0.8

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

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

Code Tube I.D.	Q	T	V	V1	X	Y	Z	Without magnet		Magnet	
								S	ZZ	S	ZZ
12	M5×0.8	—	25	32	3.2	6.3	1	17	34	27	44
16	M5×0.8	—	29	38	3.2	6.3	1	18.5	36	28.5	46
20	M6×1.0	—	34	—	3.2	6.3	1	19.5	40	29.5	50
25	M8×1.25	—	40	—	4.2	7.8	1	21	44	31	54
32	M10×1.25	14	44	—	4.2	7.8	1	24.5	49.5	34.5	59.5
40	M14×1.5	14	52	—	6.2	10.3	1.6	26	61	36	71
50	M18×1.5	19	62	—	6.2	10.8	1.6	28	65	38	75
63	M18×1.5	20	75	—	6.2	10.8	1.6	32	69	42	79
80	M22×1.5	27	94	—	8.2	13.8	1.6	41	85	51	95
100	M26×1.5	26	114	—	10.2	17.3	2	51	101	61	111

$\phi 12, \phi 16$



Long stroke

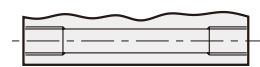
Without counter bore

With magnet type:
The stroke length must be over 100mm.
Without magnet type:
The stroke length must be over 110mm.

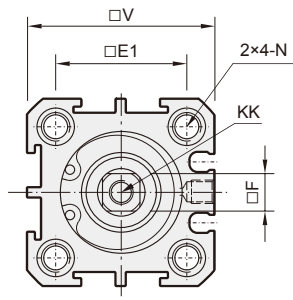
$\phi 12, \phi 16$



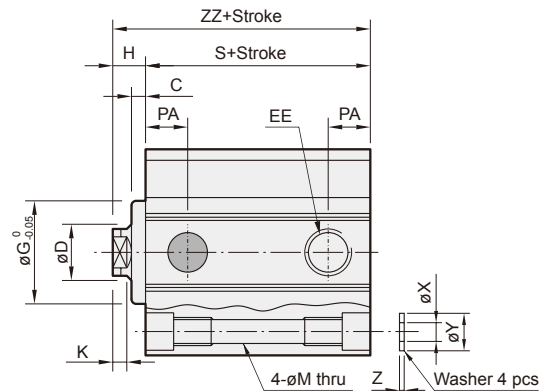
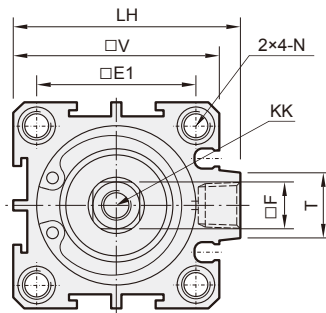
$\phi 20 \sim \phi 50$



$\phi 20, \phi 25$



$\phi 32 \sim \phi 50$



Code Tube I.D.	C	D	EE	E1	E2	F	G	H	K	KK	LH	M	N	PA	PB
12	1	6	M5×0.8	16.3	23	5	11	5	3	M3×0.5×6depth	—	4.3	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	6.5	6
16	1.5	6	M5×0.8	19.8	28	5	11	5.5	3	M3×0.5×6depth	—	4.3	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	7	6.5
20	1.5	8	M5×0.8	24	—	6	15	5.5	3	M4×0.7×8depth	—	4.3	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	7.5	—
25	2	10	M5×0.8	28	—	8	17	6	3	M5×0.8×10depth	—	5.1	$\phi 9 \times 7$ depth, M6×1.0×10depth	8	—
32	3	12	Rc1/8	34	—	10	22	7	3	M6×1.0×12depth	48.5	5.1	$\phi 9 \times 7$ depth, M6×1.0×10depth	9	—
40	3	16	Rc1/8	40	—	14	28	7	3	M8×1.25×12depth	56.5	6.9	$\phi 10.5 \times 8$ depth, M8×1.25×12depth	10	—
50	4	20	Rc1/4 (*)	48	—	17	38	9	3	M10×1.5×15depth	70	6.9	$\phi 11 \times 8.5$ depth, M8×1.25×16.5depth	10	—

* Without magnet with stroke=5mm, EE=Rc1/8

Code Tube I.D.	T	V	V1	X	Y	Z
12	—	25	32	3.2	6.3	1
16	—	29	38	3.2	6.3	1
20	—	34	—	3.2	6.3	1
25	—	40	—	4.2	7.8	1
32	14	44	—	4.2	7.8	1
40	14	52	—	6.2	10.3	1.6
50	19	62	—	6.2	10.8	1.6

Code Tube I.D.	Without magnet				Magnet			
	Stroke 5,10		Stroke 15~30		Stroke 5,10		Stroke 15~30	
	S	ZZ	S	ZZ	S	ZZ	S	ZZ
12	27	32	37	42	37	42	47	52
16	28.5	34	38.5	44	38.5	44	48.5	54
20	29.5	35	39.5	45	39.5	45	49.5	55
25	31	37	41	47	41	47	51	57
32	34.5	41.5	44.5	51.5	44.5	51.5	54.5	61.5
40	36	43	46	53	46	53	56	63

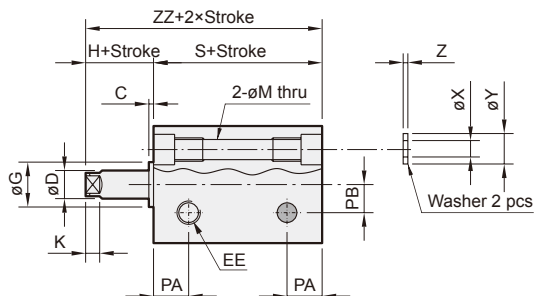
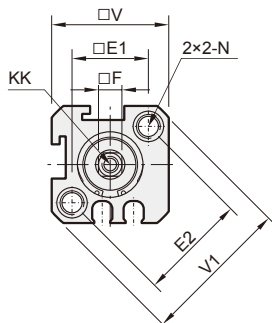
Code Tube I.D.	Without magnet		Magnet	
	Stroke 5~20			
	S	ZZ	S	ZZ
50	28	37	38	47

Single acting – Table for standard stroke

Tube I.D.	Stroke (mm)
$\phi 12, 16, 20, 25, 32, 40$	5, 10, 15, 20, 25, 30
$\phi 50$	5, 10, 15, 20

- Please reconfirm dimension with our sales department when the stroke over our standard.

$\phi 12, \phi 16$



Long stroke

Without counter bore

With magnet type:
The stroke length must be over 100mm.
Without magnet type:
The stroke length must be over 110mm.

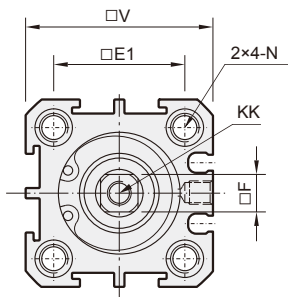
$\phi 12, \phi 16$



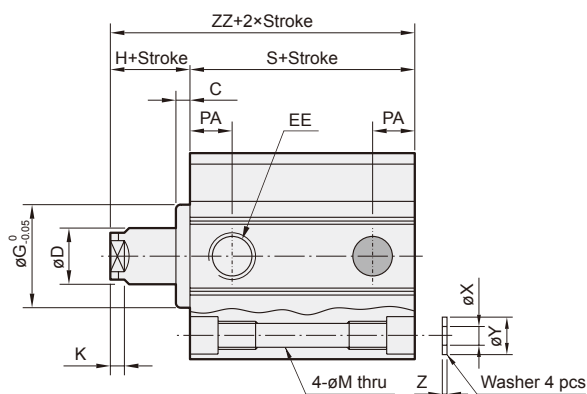
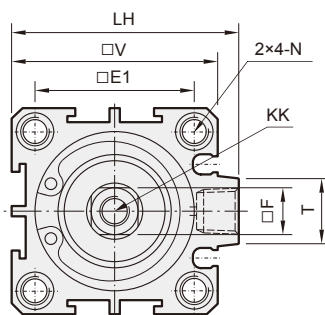
$\phi 20 \sim \phi 50$



$\phi 20, \phi 25$



$\phi 32 \sim \phi 50$



Code Tube I.D.	C	D	EE	E1	E2	F	G	H	K	KK	LH	M	N	PA	PB
12	1	6	M5×0.8	16.3	23	5	11	5	3	M3×0.5×6depth	—	4.3	φ6.5×4.5depth, M5×0.8×7.5depth	6.5	6
16	1.5	6	M5×0.8	19.8	28	5	11	5.5	3	M3×0.5×6depth	—	4.3	φ6.5×4.5depth, M5×0.8×7.5depth	7	6.5
20	1.5	8	M5×0.8	24	—	6	15	5.5	3	M4×0.7×8depth	—	4.3	φ6.5×4.5depth, M5×0.8×7.5depth	7.5	—
25	2	10	M5×0.8	28	—	8	17	6	3	M5×0.8×10depth	—	5.1	φ9×7depth, M6×1.0×10depth	8	—
32	3	12	Rc1/8	34	—	10	22	7	3	M6×1.0×12depth	48.5	5.1	φ9×7depth, M6×1.0×10depth	9	—
40	3	16	Rc1/8	40	—	14	28	7	3	M8×1.25×12depth	56.5	6.9	φ10.5×8depth, M8×1.25×12depth	10	—
50	4	20	Rc1/4 (*)	48	—	17	38	9	3	M10×1.5×15depth	70	6.9	φ11×8.5depth, M8×1.25×16.5depth	10	—

* Without magnet with stroke=5mm, EE=Rc1/8

Code Tube I.D.	T	V	V1	X	Y	Z
12	—	25	32	3.2	6.3	1
16	—	29	38	3.2	6.3	1
20	—	34	—	3.2	6.3	1
25	—	40	—	4.2	7.8	1
32	14	44	—	4.2	7.8	1
40	14	52	—	6.2	10.3	1.6
50	19	62	—	6.2	10.8	1.6

Code Tube I.D.	Without magnet				Magnet			
	Stroke 5,10		Stroke 15~30		Stroke 5,10		Stroke 15~30	
	S	ZZ	S	ZZ	S	ZZ	S	ZZ
12	27	32	37	42	37	42	47	52
16	28.5	34	38.5	44	38.5	44	48.5	54
20	29.5	35	39.5	45	39.5	45	49.5	55
25	31	37	41	47	41	47	51	57
32	34.5	41.5	44.5	51.5	44.5	51.5	54.5	61.5
40	36	43	46	53	46	53	56	63

Code Tube I.D.	Without magnet		Magnet	
	Stroke 5~20			
	S	ZZ	S	ZZ
50	28	37	38	47

Single acting – Table for standard stroke

Tube I.D.	Stroke (mm)
φ12,16,20,25,32,40	5,10,15,20,25,30
φ50	5,10,15,20

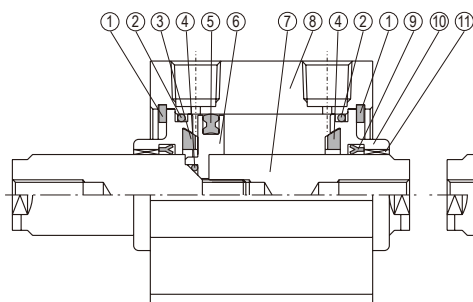
* Please reconfirm dimension with our sales department when the stroke over our standard.

MCJA Inside structure & Parts list – Double rod

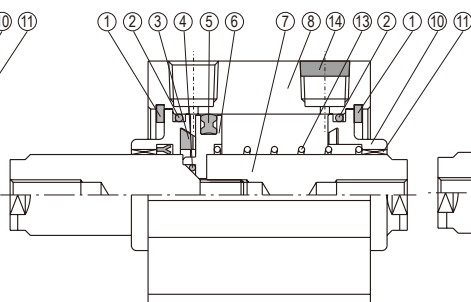
COMPACT CYLINDER



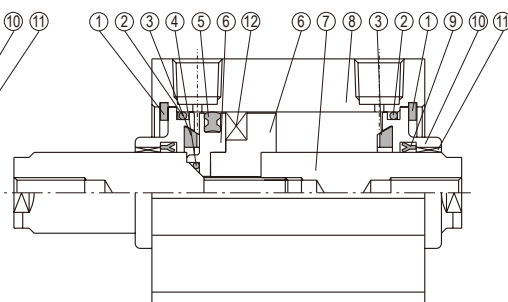
Double acting



Single acting



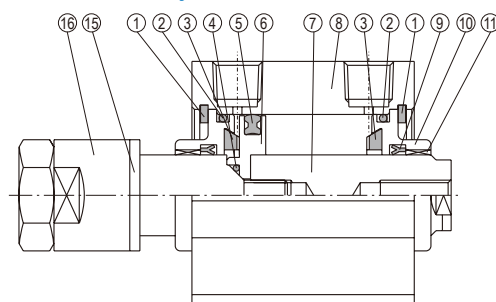
Double acting (with magnet)



Seal kit

	Rod packing		Piston packing		Cover ring	Piston gasket
Acting type	Double acting	Single acting	Double acting	Single acting	Double acting single acting	Double acting single acting
Q'y	2	1	1	1	2	1
ø12	KSYR-6	KSYR-6	OPA-12	OPA-12	d11×w1	d4×w1
ø16	KSYR-6	KSYR-6	OPA-16	OPA-16	S-14	d4×w1
ø20	KSYR-8	KSYR-8	OPA-20	OPA-20	S-18	d6×w1
ø25	KSYR-10	KSYR-10	OPA-25	OPA-25	S-22	d6×w1
ø32	KSYR-12	KSYR-12	OPA-32	OPA-32	d28×w2	d8×w1
ø40	KSYR-16	KSYR-16	OPA-40	OPA-40	S-36	d11×w1
ø50	KSYR-20	KSYR-20	OPA-50	OPA-50	AS-31	S-14
ø63	KSYR-20	—	OPA-63	—	AS-35	S-14
ø80	ORA-25	—	OPA-80	—	AS-41	S-18
ø100	SDR-30	—	OPA-100	—	S-95	S-26

Double acting Adjustable stroke



Order example Component parts

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

M: With magnet

Repair kits

Tube I.D.	Repair kits
ø12	PS-MCJA-2-12
ø16	PS-MCJA-2-16
ø20	PS-MCJA-2-20
ø25	PS-MCJA-2-25
ø32	PS-MCJA-2-32
ø40	PS-MCJA-2-40
ø50	PS-MCJA-2-50
ø63	PS-MCJA-2-63
ø80	PS-MCJA-2-80
ø100	PS-MCJA-2-100

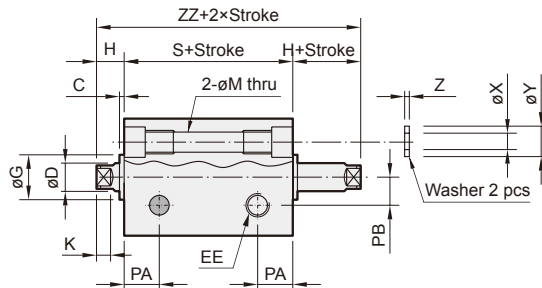
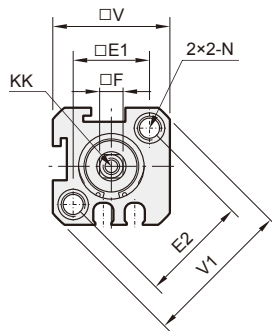
Material

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	Snap ring (Front end)	SUS	Spring steel	SUS	Spring steel							2	●	
2	Cover ring				NBR							2	●	●
3	Cushion packing	—			NBR							2	●	●
4	Piston gasket				NBR							1	●	●
5	Piston packing				NBR							1	●	●
6	Piston				Aluminum alloy							1	●	
7	Piston With magnet rod *1	SUS			Carbon steel							2		
	Without magnet	SUS			Carbon steel							2		
8	Body				Aluminum alloy							1		
9	Rod packing				NBR							2*2	●	●
10	Rod cover				Aluminum alloy							2	●	
11	Bush		—		Bearing alloy							2	●	
12	Magnet ring				Magnet material							1	●	
13	Spring				SWP							1	●	
14	Silencer				Brass							1	●	
15	Cushion packing				PU							1	●	
16	Adjustable nut				Carbon steel							1	●	

*1. When customized material is bearing steel, only two-side across flat (wrench flat) is available.

*2. Single acting type, Q'y=1

$\phi 12, \phi 16$



Long stroke

Without counter bore

With magnet type:
The stroke length must be over 100mm.
Without magnet type:
The stroke length must be over 110mm.

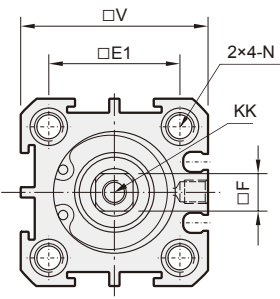
$\phi 12, \phi 16$



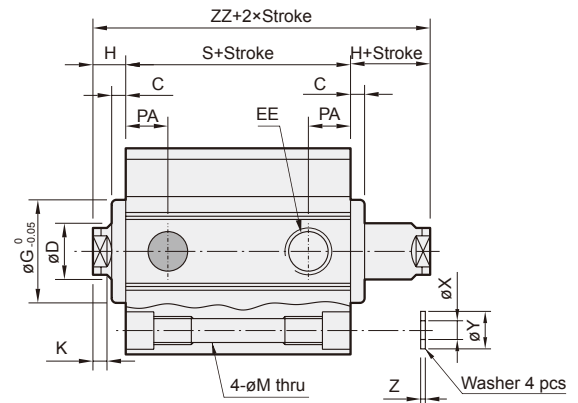
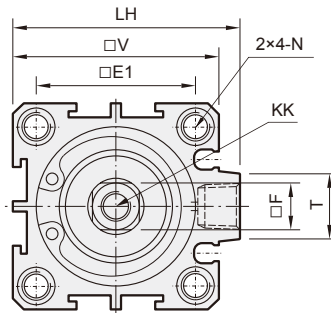
$\phi 20 \sim \phi 50$



$\phi 20, \phi 25$



$\phi 32 \sim \phi 50$



Code Tube I.D.	C	D	EE	E1	E2	F	G	H	K	KK	LH	M	N	PA	PB
12	1	6	M5×0.8	16.3	23	5	11	5	3	M3×0.5×6depth	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth	6.5	6
16	1.5	6	M5×0.8	19.8	28	5	11	5.5	3	M3×0.5×6depth	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth	7	6.5
20	1.5	8	M5×0.8	24	—	6	15	5.5	3	M4×0.7×8depth	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth	7.5	—
25	2	10	M5×0.8	28	—	8	17	6	3	M5×0.8×10depth	—	5.1	ø9×7depth, M6×1.0×10depth	8	—
32	3	12	Rc1/8	34	—	10	22	7	3	M6×1.0×12depth	48.5	5.1	ø9×7depth, M6×1.0×10depth	9	—
40	3	16	Rc1/8	40	—	14	28	7	3	M8×1.25×12depth	56.5	6.9	ø10.5×8depth, M8×1.25×12depth	10	—
50	4	20	Rc1/4 (*)	48	—	17	38	9	3	M10×1.5×15depth	70	6.9	ø11×8.5depth, M8×1.25×16.5depth	10	—

* Without magnet with stroke=5mm, EE=Rc1/8

Code Tube I.D.	T	V	V1	X	Y	Z
12	—	25	32	3.2	6.3	1
16	—	29	38	3.2	6.3	1
20	—	34	—	3.2	6.3	1
25	—	40	—	4.2	7.8	1
32	14	44	—	4.2	7.8	1
40	14	52	—	6.2	10.3	1.6
50	19	62	—	6.2	10.8	1.6

Code Tube I.D.	Without magnet				Magnet			
	Stroke 5,10		Stroke 15~30		Stroke 5,10		Stroke 15~30	
	S	ZZ	S	ZZ	S	ZZ	S	ZZ
12	27	37	37	47	37	47	47	57
16	28.5	39.5	38.5	49.5	38.5	49.5	48.5	59.5
20	29.5	40.5	39.5	50.5	39.5	50.5	49.5	60.5
25	31	43	41	53	41	53	51	63
32	34.5	48.5	44.5	58.5	44.5	58.5	54.5	68.5
40	36	50	46	60	46	60	56	70

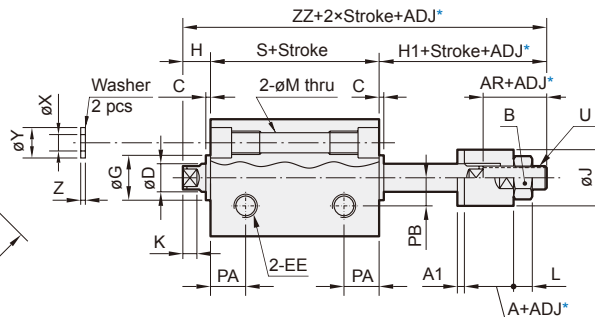
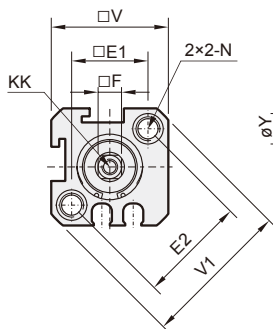
Code Tube I.D.	Without magnet		Magnet	
	Stroke 5~20			
	S	ZZ	S	ZZ
50	28	46	38	56

Single acting – Table for standard stroke

Tube I.D.	Stroke (mm)
ø12,16,20,25,32,40	5,10,15,20,25,30
ø50	5,10,15,20

* Please reconfirm dimension with our sales department when the stroke over our standard.

$\phi 12, \phi 16$



*ADJ: Adjustable stroke

Long stroke

Without counter bore

With magnet type:
The stroke length must be over 100mm.
Without magnet type:
The stroke length must be over 110mm.

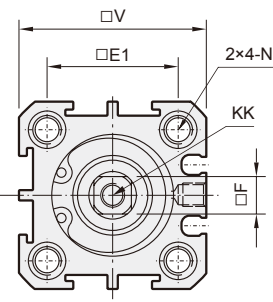
$\phi 12, \phi 16$



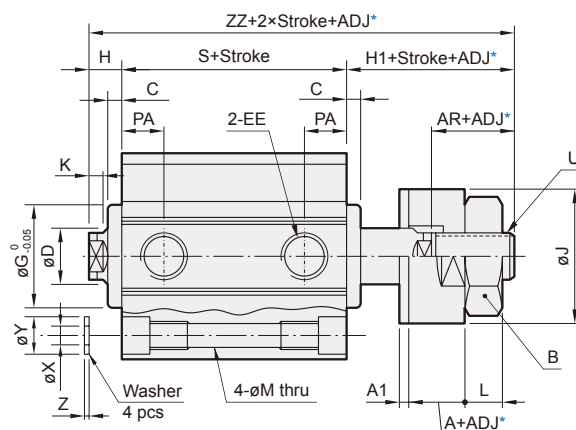
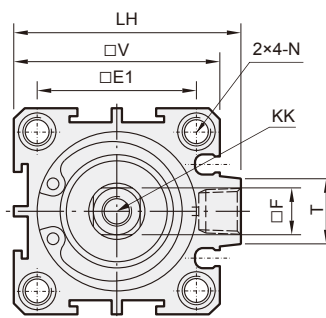
$\phi 20, \phi 100$



$\phi 20, \phi 25$



$\phi 32 \sim \phi 100$



Code Tube I.D.	A	A1	AR	B	C	D	EE	E1	E2	F	G	H	H1	J	K	KK	L	LH	M
12	13	2	16	8	1	6	M5×0.8	16.3	23	5	11	5	22.5	12	3	M3×0.5×6depth	4	—	4.3
16	13	2	16.5	8	1.5	6	M5×0.8	19.8	28	5	11	5.5	23.5	12	3	M3×0.5×6depth	4	—	4.3
20	15	2	19	13	1.5	8	M5×0.8	24	—	6	15	5.5	26	16	3	M4×0.7×8depth	5	—	4.3
25	15	2	19.5	13	2	10	M5×0.8	28	—	8	17	6	27.2	16	3	M5×0.8×10depth	5	—	5.1
32	12	2	18	17	3	12	Rc1/8 (*1)	34	—	10	22	7	26	20	3	M6×1.0×12depth	6	48.5	5.1
40	12	2	20	19	3	16	Rc1/8 (*1)	40	—	14	28	7	28	30	3	M8×1.25×12depth	7	56.5	6.9
50	15	2	22	24	4	20	Rc1/4 (*2)	48	—	17	38	9	31	40	3	M10×1.5×15depth	8	70	6.9
63	15	2	22	24	4	20	Rc1/4 (*2)	60	—	17	40	9	31	40	3	M10×1.5×15depth	8	83	6.9
80	20	3	33	32	5	25	Rc3/8 (*3)	74	—	22	45	11	44	50	4	M14×1.5×20depth	13	102	10.5
100	20	3	33	32	5	30	Rc3/8 (*3)	90	—	27	55	12	44	50	4	M18×1.5×20depth	13	122	12.3

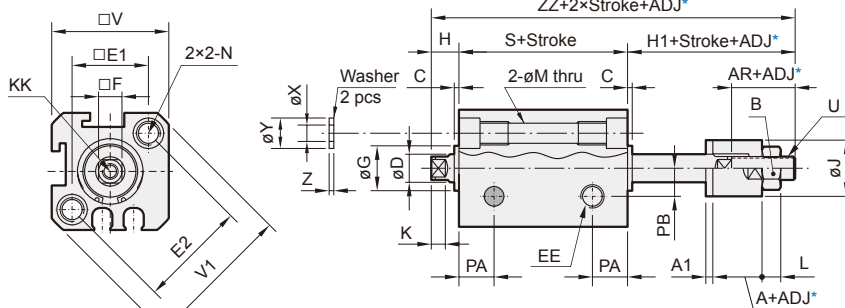
*1. Without magnet with stroke=5mm, EE=M5×0.8

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

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

Code Tube I.D.	N	PA	PB	T	U	V	V1	X	Y	Z	Without magnet		Magnet	
											S	ZZ	S	ZZ
12	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	6.5	6	—	M5×0.8	25	32	3.2	6.3	1	17	44.5	27	54.5
16	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	7	6.5	—	M5×0.8	29	38	3.2	6.3	1	18.5	47.5	28.5	57.5
20	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	7.5	—	—	M8×1.25	34	—	3.2	6.3	1	19.5	51	29.5	61
25	$\phi 9 \times 7$ depth, M6×1.0×10depth	8	—	—	M8×1.25	40	—	4.2	7.8	1	21	54.2	31	64.2
32	$\phi 9 \times 7$ depth, M6×1.0×10depth	9	—	14	M10×1.25	44	—	4.2	7.8	1	24.5	57.5	34.5	67.5
40	$\phi 10.5 \times 8$ depth, M8×1.25×12depth	10	—	14	M12×1.25	52	—	6.2	10.3	1.6	26	61	36	71
50	$\phi 11 \times 8.5$ depth, M8×1.25×16.5depth	10	—	19	M16×1.5	62	—	6.2	10.8	1.6	28	68	38	78
63	$\phi 11 \times 8.5$ depth, M8×1.25×16.5depth	12	—	20	M16×1.5	75	—	6.2	10.8	1.6	32	72	42	82
80	$\phi 14 \times 10.5$ depth, M12×1.75×12depth	13	—	27	M22×1.5	94	—	8.2	13.8	1.6	41	96	51	106
100	$\phi 18.5 \times 13$ depth, M14×2×17depth	17	—	26	M22×1.5	114	—	10.2	17.3	2	51	107	61	117

$\varnothing 12, \varnothing 16$



*ADJ: Adjustable stroke

Long stroke

Without counter bore

With magnet type:
The stroke length must be over 100mm.
Without magnet type:
The stroke length must be over 110mm.

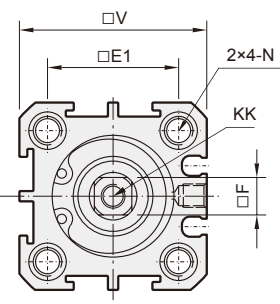
$\varnothing 12, \varnothing 16$



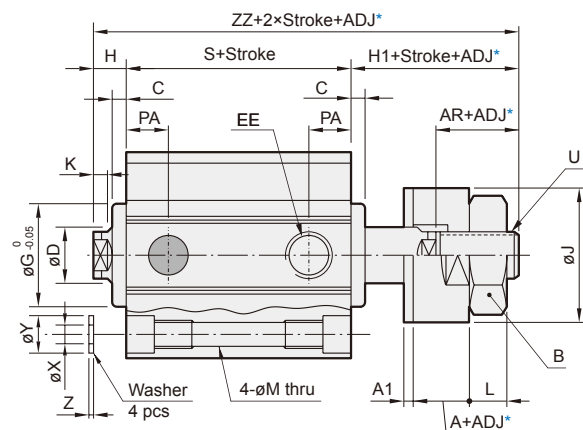
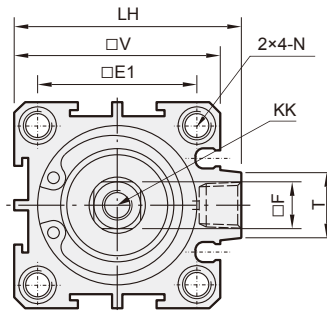
$\varnothing 20 \sim \varnothing 50$



$\varnothing 20, \varnothing 25$



$\varnothing 32 \sim \varnothing 50$



Code Tube I.D.	A	A1	AR	B	C	D	EE	E1	E2	F	G	H	H1	J	K	KK	L	LH	M	N
12	13	2	16	8	1	6	M5×0.8	16.3	23	5	11	5	22.5	12	3	M3×0.5×6depth	4	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth
16	13	2	16.5	8	1.5	6	M5×0.8	19.8	28	5	11	5.5	23.5	12	3	M3×0.5×6depth	4	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth
20	15	2	19	13	1.5	8	M5×0.8	24	—	6	15	5.5	26	16	3	M4×0.7×8depth	5	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth
25	15	2	19.5	13	2	10	M5×0.8	28	—	8	17	6	27.2	16	3	M5×0.8×10depth	5	—	5.1	ø9×7depth, M6×1.0×10depth
32	12	2	18	17	3	12	Rc1/8	34	—	10	22	7	26	20	3	M6×1.0×12depth	6	48.5	5.1	ø9×7depth, M6×1.0×10depth
40	12	2	20	19	3	16	Rc1/8	40	—	14	28	7	28	30	3	M8×1.25×12depth	7	56.5	6.9	ø10.5×8depth, M8×1.25×12depth
50	15	2	22	24	4	20	Rc1/4 (*)	48	—	17	38	9	31	40	3	M10×1.5×15depth	8	70	6.9	ø11×8.5depth, M8×1.25×16.5depth

* Without magnet with stroke=5mm, EE=Rc1/8

Code Tube I.D.	PA	PB	T	U	V	V1	X	Y	Z
12	6.5	6	—	M5×0.8	25	32	3.2	6.3	1
16	7	6.5	—	M5×0.8	29	38	3.2	6.3	1
20	7.5	—	—	M8×1.25	34	—	3.2	6.3	1
25	8	—	—	M8×1.25	40	—	4.2	7.8	1
32	9	—	14	M10×1.25	44	—	4.2	7.8	1
40	10	—	14	M12×1.25	52	—	6.2	10.3	1.6
50	10	—	19	M16×1.5	62	—	6.2	10.8	1.6

Code Tube I.D.	Without magnet				Magnet			
	Stroke 5,10	Stroke 15~30	Stroke 5,10	Stroke 15~30	Stroke 5,10	Stroke 15~30	Stroke 5,10	Stroke 15~30
12	27	54.5	37	64.5	37	64.5	47	74.5
16	28.5	57.5	38.5	67.5	38.5	67.5	48.5	77.5
20	29.5	61	39.5	71	39.5	71	49.5	81
25	31	64.2	41	74.2	41	74.2	51	84.2
32	34.5	67.5	44.5	77.5	44.5	77.5	54.5	87.5
40	36	71	46	81	46	81	56	91

Code Tube I.D.	Without magnet		Magnet	
	Stroke 5~20	Stroke 5~20	Stroke 5~20	Stroke 5~20
50	28	68	38	78

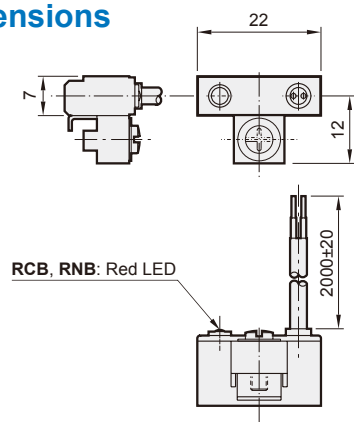
Single acting – Table for standard stroke

Tube I.D.	Stroke (mm)
ø12,16,20,25,32,40	5,10,15,20,25,30
ø50	5,10,15,20

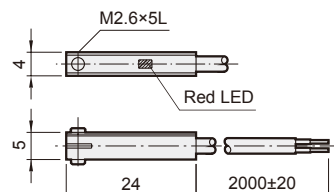
* Please reconfirm dimension with our sales department when the stroke over our standard.

Dimensions

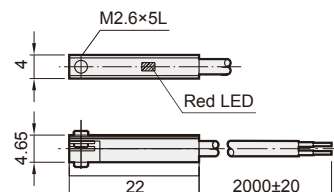
**RCB
RNB**



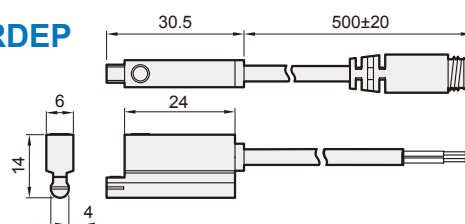
RCE



**RCE1
RNE**

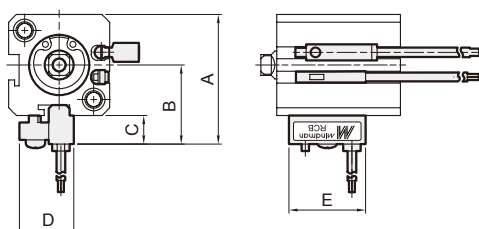


RDEP

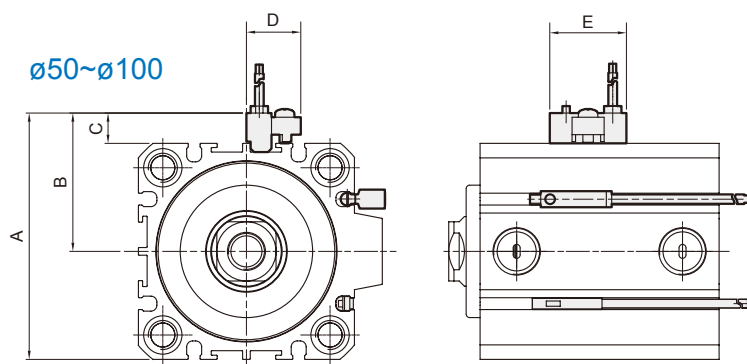


Installation of sensor switch

$\phi 12 \sim \phi 40$



$\phi 50 \sim \phi 100$



Order example

RCE1 — ☐

MODEL

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

WIRE LENGTH

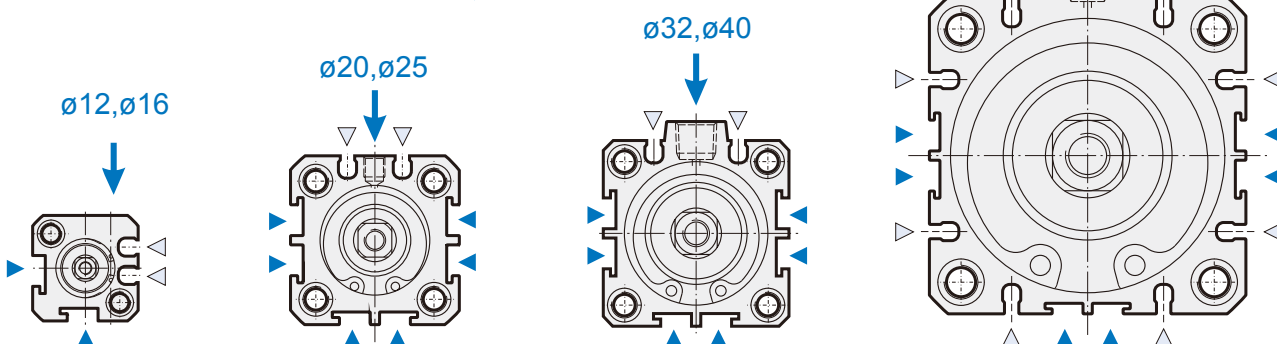
Blank: L=2000m
1M: L=1000m
QD: M8 3Pin connector
EQD: M8 3Pin connector

Code Tube I.D.	A	B	C	D	E
12	33.5	21.5	8.5	16	22
16	37.5	23	8.5	16	22
20	42.5	25.5	8.5	16	22
25	49	29	9	16	22
32	53	31	9	16	22

Code Tube I.D.	A	B	C	D	E
40	61	35	9	16	22
50	71	40	9	16	22
63	84	46.5	9	16	22
80	103	56	9	16	22
100	123	66	9	16	22

Description

▼ RCB switch ▼ RCE, RCE1, RDEP switch ↓ Port



Cylinder weight

Unit: g

Model	Basic weight MCJA-11	Basic weight (magnet) MCJA-11	Stroke 5 mm MCJA-11	Basic weight MCJA-12	Basic weight (magnet) MCJA-12	Stroke 5 mm MCJA-12
Tube I.D.						
$\varnothing 12$	43	45	6	41	43	6
$\varnothing 16$	60	65	8	57	63	8
$\varnothing 20$	84	92	11	79	87	11
$\varnothing 25$	101	114	14	106	120	14
$\varnothing 32$	170	187	16	155	173	16
$\varnothing 40$	274	300	23	235	261	23
$\varnothing 50$	448	479	32	384	415	32
$\varnothing 63$	635	699	40	571	634	40
$\varnothing 80$	1178	1275	61	1057	1153	61
$\varnothing 100$	2058	2231	83	1806	1980	83

* The weight is based on 5 mm stroke.

Accessories weight

Model	Rod nut
Tube I.D.	
$\varnothing 12$	1
$\varnothing 16$	1
$\varnothing 20$	2
$\varnothing 25$	4
$\varnothing 32$	8
$\varnothing 40$	18
$\varnothing 50$	32
$\varnothing 63$	32
$\varnothing 80$	56
$\varnothing 100$	56

MCJA Multiple position series

COMPACT CYLINDER



Specification

Model	MCJA-3*									
Acting type	Double acting / Single acting							Double acting		
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 perssure range (MPa)	Double acting	0.05~1		0.03~1		0.02~1				
	Single acting	0.2~1		0.15~1		0.1~1		—		
Proof pressure	1.5 MPa									
Ambient temperature	-5~+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.

Order example

MCJA — 32 — 40 — 10×25 M — □

MODEL: 3: Multiple position

TUBE I.D.: STROKE1×STROKE2
Stroke 1: First stroke
Stroke 2: Total stroke

M: Magnet

PORT THREAD: Blank: M5×0.8 (for ø12~ø25)
Blank: Rc thread
G: G thread
NPT: NPT thread (for ø32~ø100)

STYLE

Code	Symbol	Description
3 1		Double acting / Male thread
3 2		Double acting / Female thread
3 5		Single acting / Normally returned male thread
3 6		Single acting / Normally returned female thread

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

Double acting – Table for standard stroke

Tube I.D.	Stroke (mm)	Max. stroke (Without magnet)
ø12, 16	5, 10, 15, 20, 25, 30	300
ø20, 25, 32 ø40, 50, 63, 80	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	300
ø100	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	125

- Stroke out of specification is also available.
- Please consult us if stroke out of specification.

Single acting – Table for standard stroke

Tube I.D.	Stroke (mm)
ø12, 16, 20, 25, 32, 40	5, 10, 15, 20, 25, 30
ø50	5, 10, 15, 20

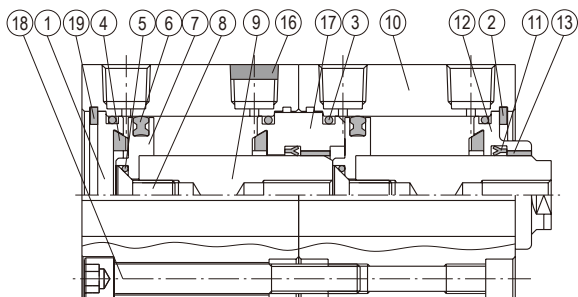
- Stroke out of specification is also available.
- Please consult us if stroke out of specification.

MCJA Inside structure & Parts list – Multiple position

COMPACT CYLINDER

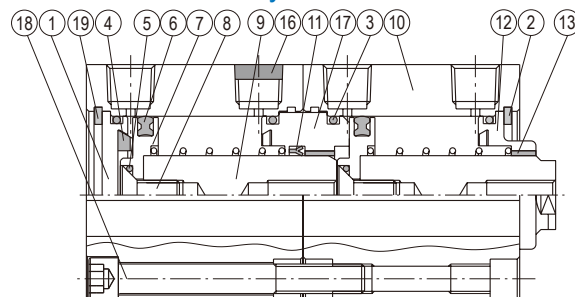


Double acting



Single acting

Normally returned

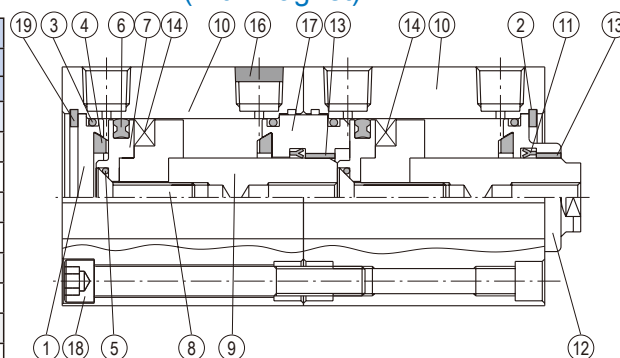


Seal kit

	Rod packing		Piston packing		Cover ring	Piston gasket
Acting type	Double acting	Normally returned	Double acting	Single acting	Double acting single acting	Double acting single acting
Q'y	2	1	2	2	4	2
ø12	KSYR-6	KSYR-6	OPA-12	OPA-12	S-12	d4×w1
ø16	KSYR-6	KSYR-6	OPA-16	OPA-16	S-14	d4×w1
ø20	KSYR-8	KSYR-8	OPA-20	OPA-20	S-18	d6×w1
ø25	KSYR-10	KSYR-10	OPA-25	OPA-25	S-22	d8×w1
ø32	KSYR-12	KSYR-12	OPA-32	OPA-32	d28×w2	S-9
ø40	KSYR-16	KSYR-16	OPA-40	OPA-40	S-36	S-9
ø50	KSYR-20	KSYR-20	OPA-50	OPA-50	AS-31	S-16
ø63	KSYR-20	—	OPA-63	—	AS-35	S-16
ø80	ORA-25	—	OPA-80	—	AS-41	d20×w1
ø100	SDR-30	—	OPA-100	—	S-95	S-26

Double acting

(with magnet)



Order example

Component parts

Tube I.D.	Component parts
ø12	CP-MCJA-3-12(M)
ø16	CP-MCJA-3-16(M)
ø20	CP-MCJA-3-20(M)
ø25	CP-MCJA-3-25(M)
ø32	CP-MCJA-3-32(M)
ø40	CP-MCJA-3-40(M)
ø50	CP-MCJA-3-50(M)
ø63	CP-MCJA-3-63(M)
ø80	CP-MCJA-3-80(M)
ø100	CP-MCJA-3-100(M)

M: With magnet

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	Head cover	Aluminum alloy										1	●	
2	Snap ring (Front end)	SUS	Spring steel	SUS		Spring steel						1	●	
3	Cover ring	NBR										4	●	●
4	Cushion packing	—		NBR								4	●	●
5	Piston gasket	NBR										2	●	●
6	Piston packing	NBR										2	●	●
7	Piston	Aluminum alloy										2	●	
8	Screw	With magnet		SUS			SCM					2	●	
		Without magnet		SCM	SUS		SCM					2	●	
9	Piston rod *1	With magnet		SUS			Carbon steel					2		
		Without magnet		SUS	Carbon steel								2	
10	Body	Aluminum alloy										2		
11	Rod packing	NBR										2*2	●	●
12	Rod cover	Aluminum alloy										1	●	
13	Bush	—					Bearing alloy					2	●	
14	Magnet ring	Magnet material										2	●	
15	Spring	SWP					—					2	●	
16	Silencer	Brass					—					1	●	
17	Center cover	Aluminum alloy										1	●	
18	Screw	SCM										2	●	
19	Snap ring (Rear end)	SUS					Spring steel					1	●	

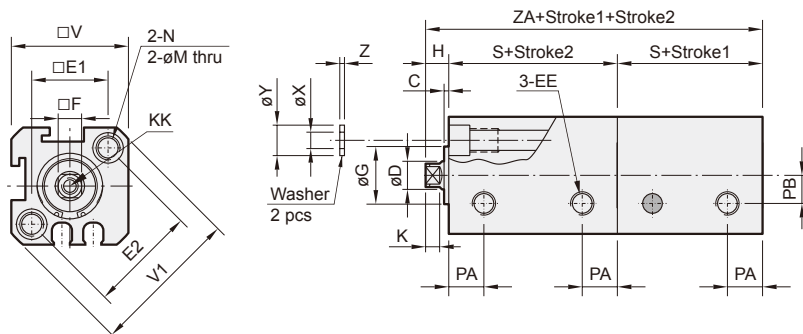
*1. When customized material is bearing steel, only two-side across flat (wrench flat) is available.

*2. Single acting / Normally returned, Q'y=1

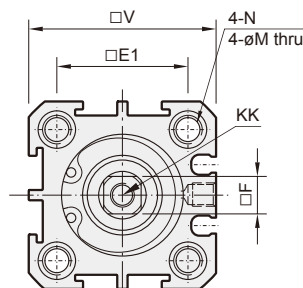
Repair kits

Tube I.D.	Repair kits
ø12	PS-MCJA-3-12
ø16	PS-MCJA-3-16
ø20	PS-MCJA-3-20
ø25	PS-MCJA-3-25
ø32	PS-MCJA-3-32
ø40	PS-MCJA-3-40
ø50	PS-MCJA-3-50
ø63	PS-MCJA-3-63
ø80	PS-MCJA-3-80
ø100	PS-MCJA-3-100

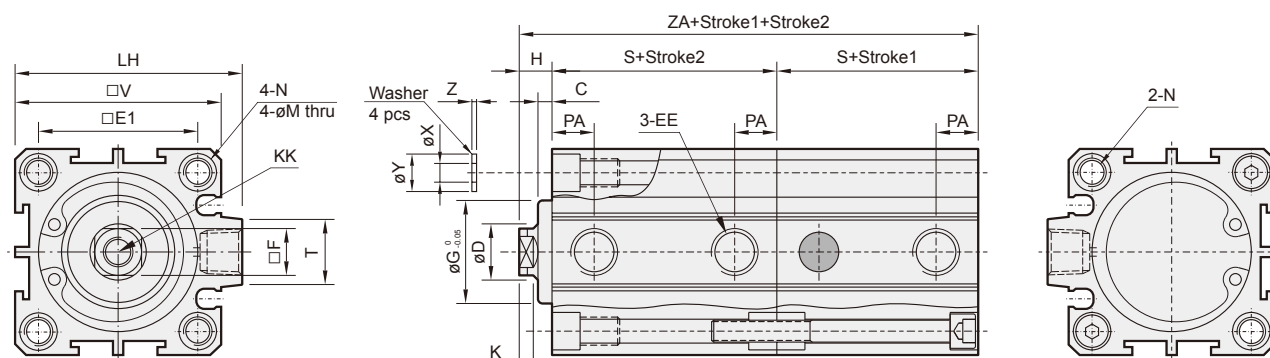
$\phi 12, \phi 16$



$\phi 20, \phi 25$



$\phi 32 \sim \phi 100$



*Stroke 1: First stroke Stroke 2: Total stroke

Code Tube I.D.	C	D	EE	E1	E2	F	G	H	K	KK	LH	M	N	PA	PB
12	1	6	M5×0.8	16.3	23	5	11	5	3	M3×0.5×6depth	—	4.3	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	6.5	6
16	1.5	6	M5×0.8	19.8	28	5	11	5.5	3	M3×0.5×6depth	—	4.3	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	7	6.5
20	1.5	8	M5×0.8	24	—	6	15	5.5	3	M4×0.7×8depth	—	4.3	$\phi 6.5 \times 4.5$ depth, M5×0.8×7.5depth	7.5	—
25	2	10	M5×0.8	28	—	8	17	6	3	M5×0.8×10depth	—	5.1	$\phi 9 \times 7$ depth, M6×1.0×10depth	8	—
32	3	12	Rc1/8 (*1)	34	—	10	22	7	3	M6×1.0×12depth	48.5	5.1	$\phi 9 \times 7$ depth, M6×1.0×10depth	9	—
40	3	16	Rc1/8 (*1)	40	—	14	28	7	3	M8×1.25×12depth	56.5	6.9	$\phi 10.5 \times 8$ depth, M8×1.25×12depth	10	—
50	4	20	Rc1/4 (*2)	48	—	17	38	9	3	M10×1.5×15depth	70	6.9	$\phi 11 \times 8.5$ depth, M8×1.25×16.5depth	10	—
63	4	20	Rc1/4 (*2)	60	—	17	40	9	3	M10×1.5×15depth	83	6.9	$\phi 11 \times 8.5$ depth, M8×1.25×16.5depth	12	—
80	5	25	Rc3/8 (*3)	74	—	22	45	11	4	M14×1.5×20depth	102	10.5	$\phi 14 \times 10.5$ depth, M12×1.75×12depth	13	—
100	5	30	Rc3/8 (*3)	90	—	27	55	12	4	M18×1.5×20depth	122	12.3	$\phi 18.5 \times 13$ depth, M14×2×17depth	17	—

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

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

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

Code Tube I.D.	T	V	V1	X	Y	Z	Without magnet		Magnet	
							S	ZA	S	ZA
12	—	25	32	3.2	6.3	1	17	39	27	59
16	—	29	38	3.2	6.3	1	18.5	42.5	28.5	62.5
20	—	34	—	3.2	6.3	1	19.5	44.5	29.5	64.5
25	—	40	—	4.2	7.8	1	21	48	31	68
32	14	44	—	4.2	7.8	1	24.5	56	34.5	76
40	14	52	—	6.2	10.3	1.6	26	59	36	79
50	19	62	—	6.2	10.8	1.6	28	65	38	85
63	20	75	—	6.2	10.8	1.6	32	73	42	93
80	27	94	—	8.2	13.8	1.6	41	93	51	113
100	26	114	—	10.2	17.3	2	51	114	61	134

Long stroke

Without counter bore

With magnet type:
The stroke length must be over 100mm.
Without magnet type:
The stroke length must be over 110mm.

$\phi 12 \sim \phi 100$



MCJA Back to back type series

COMPACT CYLINDER



Mindman



Specification

Model		MCJA-4*									
Acting type		Double acting / Single acting							Double acting		
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 perssure range (MPa)	Double acting	0.05~1		0.03~1		0.02~1					
	Single acting	0.2~1		0.15~1		0.1~1			—		
Proof pressure		1.5 MPa									
Ambient temperature		-5~+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.

Order example

MCJA — 42 — 40 — 25×25 M — □

MODEL: 4: Back to back type

TUBE I.D.: 40

STROKE1×STROKE2: Stroke 1: First stroke, Stroke 2: Second stroke

M: Magnet

PORT THREAD: Blank: M5×0.8 (for ø12~ø25), Blank: Rc thread, G: G thread, NPT: NPT thread (for ø32~ø100)

STYLE

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

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

Double acting – Table for standard stroke

Tube I.D.	Stroke (mm)	Max. stroke (Without magnet)
ø12, 16	5, 10, 15, 20, 25, 30	300
ø20, 25, 32, 40, 50, 63, 80	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	300
ø100	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	125

• Stroke out of specification is also available. Please consult us if stroke out of specification.

Single acting – Table for standard stroke

Tube I.D.	Stroke (mm)
ø12, 16, 20, 25, 32, 40	5, 10, 15, 20, 25, 30
ø50	5, 10, 15, 20

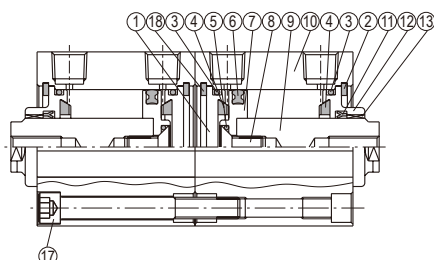
• Stroke out of specification is also available. Please consult us if stroke out of specification.

MCJA Inside structure & Parts list – Back to back type

COMPACT CYLINDER

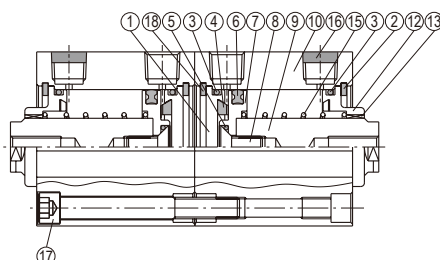


Double acting



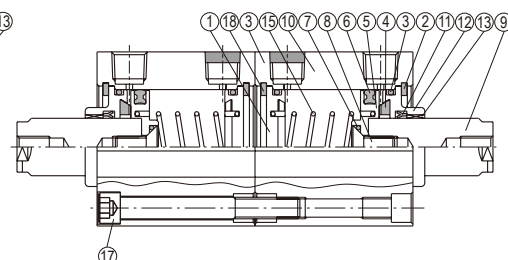
Single acting

Normally returned



Single acting

Normally extended

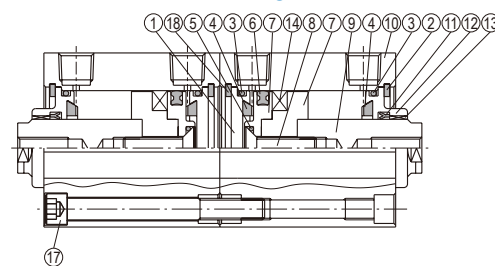


Seal kit

Acting type	Rod packing			Piston packcion		Cover ring	Piston gasket
	Double acting	Normally returned	Normally extended	Double acting	Single acting	Double acting single acting	Double acting single acting
Qty.	2	0	2	2	2	4	2
ø12	KSYR-6	—	KSYR-6	OPA-12	OPA-12	S-12	d4×w1
ø16	KSYR-6	—	KSYR-6	OPA-16	OPA-16	S-14	d4×w1
ø20	KSYR-8	—	KSYR-8	OPA-20	OPA-20	S-18	d6×w1
ø25	KSYR-10	—	KSYR-10	OPA-25	OPA-25	S-22	d8×w1
ø32	KSYR-12	—	KSYR-12	OPA-32	OPA-32	d28×w2	S-9
ø40	KSYR-16	—	KSYR-16	OPA-40	OPA-40	S-36	S-9
ø50	KSYR-20	—	KSYR-20	OPA-50	OPA-50	AS-31	S-16
ø63	KSYR-20	—	—	OPA-63	—	AS-35	S-16
ø80	ORA-25	—	—	OPA-80	—	AS-41	d20×w1
ø100	SDR-30	—	—	OPA-100	—	S-95	S-26

Double acting

(with magnet)



Order example Component parts

Tube I.D.	Component parts
ø12	CP-MCJA-4-12(M)
ø16	CP-MCJA-4-16(M)
ø20	CP-MCJA-4-20(M)
ø25	CP-MCJA-4-25(M)
ø32	CP-MCJA-4-32(M)
ø40	CP-MCJA-4-40(M)
ø50	CP-MCJA-4-50(M)
ø63	CP-MCJA-4-63(M)
ø80	CP-MCJA-4-80(M)
ø100	CP-MCJA-4-100(M)

M: With magnet

Repair kits

Tube I.D.	Repair kits
ø12	PS-MCJA-4-12
ø16	PS-MCJA-4-16
ø20	PS-MCJA-4-20
ø25	PS-MCJA-4-25
ø32	PS-MCJA-4-32
ø40	PS-MCJA-4-40
ø50	PS-MCJA-4-50
ø63	PS-MCJA-4-63
ø80	PS-MCJA-4-80
ø100	PS-MCJA-4-100

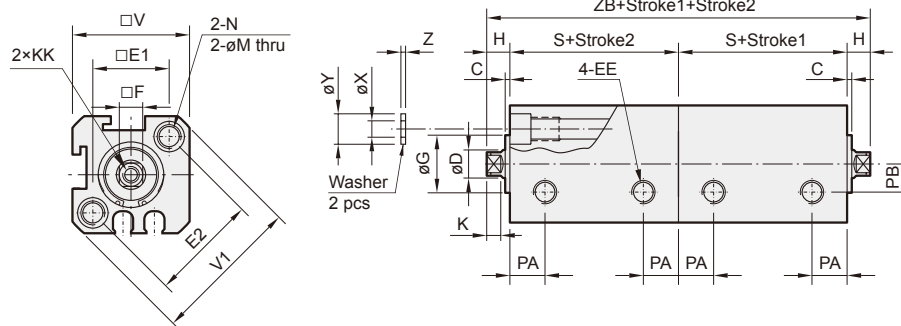
Material

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	Head cover	Aluminum alloy										2	●	
2	Snap ring (Front end)	SUS	Spring steel	SUS		Spring steel						2	●	
3	Cover ring	NBR										4	●	●
4	Cushion packing	—		NBR								4	●	●
5	Piston gasket	NBR										2	●	●
6	Piston packing	NBR										2	●	●
7	Piston	Aluminum alloy										2	●	
8	Screw	With magnet		SUS			SCM					2	●	
		Without magnet		SCM	SUS		SCM					2	●	
9	Piston rod *1	With magnet		SUS			Carbon steel					2		
		Without magnet		SUS	Carbon steel						2			
10	Body	Aluminum alloy										2		
11	Rod packing	NBR										2*2	●	●
12	Rod cover	Aluminum alloy										2	●	
13	Bush	—					Bearing alloy					2	●	
14	Magnet ring	Magnet material										2	●	
15	Spring	SWP						—				2	●	
16	Silencer	Brass						—				2	●	
17	Screw	SCM										2	●	
18	Snap ring (Rear end)	SUS					Spring steel					2	●	

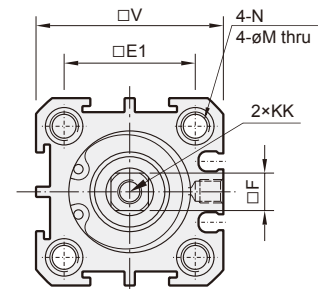
*1. When customized material is bearing steel, only two-side across flat (wrench flat) is available.

*2. Single acting / Normally returned, Q'y=0

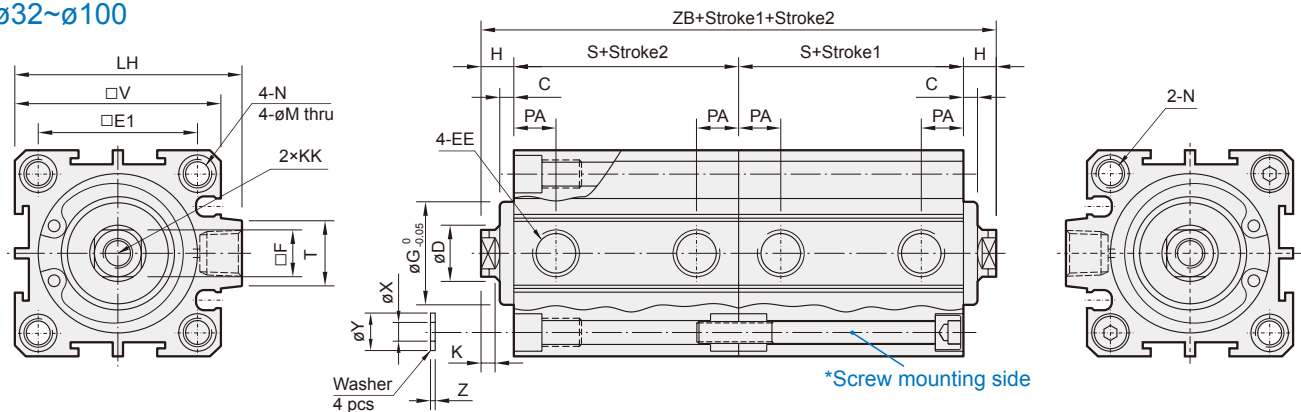
$\phi 12, \phi 16$



$\phi 20, \phi 25$



$\phi 32 \sim \phi 100$



*Stroke 1: First stroke Stroke 2: Second stroke

Code Tube I.D.	C	D	EE	E1	E2	F	G	H	K	KK	LH	M	N	PA	PB
12	1	6	M5×0.8	16.3	23	5	11	5	3	M3×0.5×6depth	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth	6.5	6
16	1.5	6	M5×0.8	19.8	28	5	11	5.5	3	M3×0.5×6depth	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth	7	6.5
20	1.5	8	M5×0.8	24	—	6	15	5.5	3	M4×0.7×8depth	—	4.3	ø6.5×4.5depth, M5×0.8×7.5depth	7.5	—
25	2	10	M5×0.8	28	—	8	17	6	3	M5×0.8×10depth	—	5.1	ø9×7depth, M6×1.0×10depth	8	—
32	3	12	Rc1/8 (*1)	34	—	10	22	7	3	M6×1.0×12depth	48.5	5.1	ø9×7depth, M6×1.0×10depth	9	—
40	3	16	Rc1/8 (*1)	40	—	14	28	7	3	M8×1.25×12depth	56.5	6.9	ø10.5×8depth, M8×1.25×12depth	10	—
50	4	20	Rc1/4 (*2)	48	—	17	38	9	3	M10×1.5×15depth	70	6.9	ø11×8.5depth, M8×1.25×16.5depth	10	—
63	4	20	Rc1/4 (*2)	60	—	17	40	9	3	M10×1.5×15depth	83	6.9	ø11×8.5depth, M8×1.25×16.5depth	12	—
80	5	25	Rc3/8 (*3)	74	—	22	45	11	4	M14×1.5×20depth	102	10.5	ø14×10.5depth, M12×1.75×12depth	13	—
100	5	30	Rc3/8 (*3)	90	—	27	55	12	4	M18×1.5×20depth	122	12.3	ø18.5×13depth, M14×2×17depth	17	—

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

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

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

Code Tube I.D.	T	V	V1	X	Y	Z	Without magnet		Magnet	
							S	ZB	S	ZB
12	—	25	32	3.2	6.3	1	17	44	27	64
16	—	29	38	3.2	6.3	1	18.5	48	28.5	68
20	—	34	—	3.2	6.3	1	19.5	50	29.5	70
25	—	40	—	4.2	7.8	1	21	54	31	74
32	14	44	—	4.2	7.8	1	24.5	63	34.5	83
40	14	52	—	6.2	10.3	1.6	26	66	36	86
50	19	62	—	6.2	10.8	1.6	28	74	38	94
63	20	75	—	6.2	10.8	1.6	32	82	42	102
80	27	94	—	8.2	13.8	1.6	41	104	51	124
100	26	114	—	10.2	17.3	2	51	126	61	146

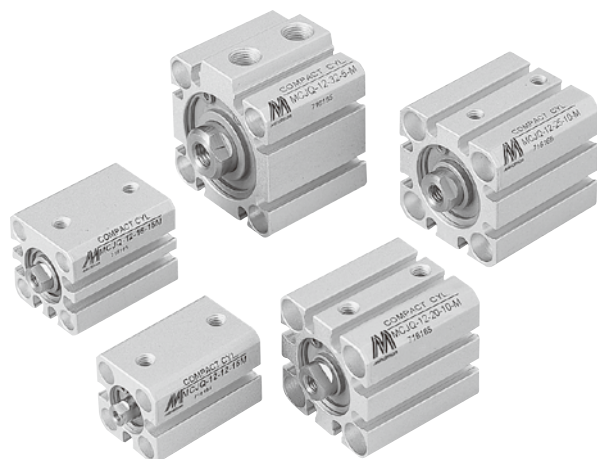
Long stroke

Without counter bore

With magnet type:
The stroke length must be over 100mm.
Without magnet type:
The stroke length must be over 110mm.

$\phi 12 \sim \phi 100$





Features

- Ultra Compact, light weight and space saving cylinder.
- Wide range of bore sizes and strokes (12mm~100mm).
- Single and double acting available.
- Ideal for use in machinery where space is limited and incorporating sensor groove which enables flush fitting of sensors.
- Sensor can be mounted on any one of three faces on 12 and 16 bore and on four faces on 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 perssure 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									

Order example

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

* RCB, RCE, RCE1, RDEP specification, please refer to page 8-10, 12, 13, 18. RCB sensor switch only for tube I.D. ø50~100.

MCJQ — 12 — 20 — 25 M — F — G

MODEL
1: Single rod
2: Double rod

TUBE I.D.
STROKE

Blank: Standard
F: Rear flange

M: Magnet

PORT THREAD

Blank: M5×0.8
(for ø12~ø25)
Blank: Rc thread
G: G thread
NPT: NPT thread
(for ø32~ø100)

Mounting accessories

FAC — MCJQ — 20

MODEL TUBE I.D.

MOUNTING TYPE

	LB		FBC
	CB		RF
	FAC	* Only for double acting / single rod type.	

STYLE

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

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	

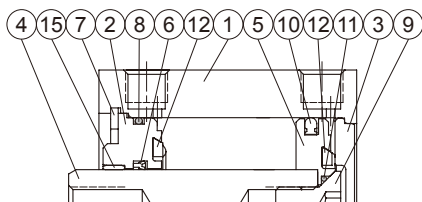
- Stroke out of specification is also available.
- Please consult us if stroke out of specification.

MCJQ Inside structure & Parts list – Single rod

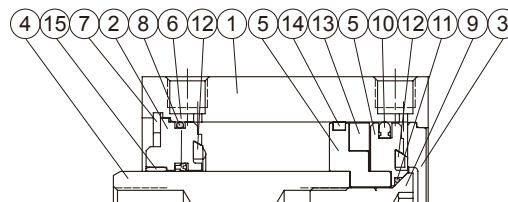
COMPACT CYLINDER



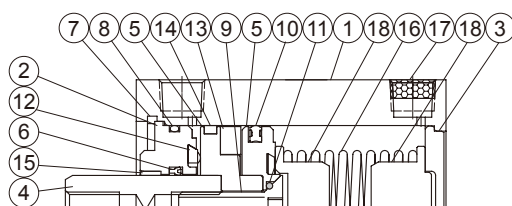
Double acting



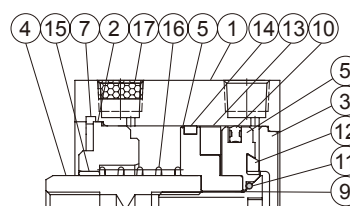
Double acting (with magnet)



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	Note	Q'y	Component parts (inclusion)	Repair kits (inclusion)
1	Body	Aluminum alloy										Hard anodized	1		
2	Rod cover	Aluminum alloy										*1	1	●	
3	End cover	Aluminum alloy										Anodized	1	●	
4	Piston rod	With magnet	Stainless steel			Carbor steel						1			
		Without magnet	SUS	Carbor steel									1		
5	Piston	Aluminum alloy										ø12~32 anodized	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	Silencer	Brass							—				1	●	
18	Spring holder	Aluminum alloy							—				2	●	

*1. ø12~ø32 hard anodized, ø40~ø100 anodized.

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	Double acting Single acting
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

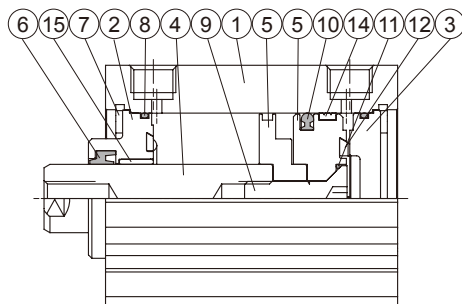
Tube I.D.	Repair kits
ø12	PS-MCJQ-12
ø16	PS-MCJQ-16
ø20	PS-MCJQ-20
ø25	PS-MCJQ-25
ø32	PS-MCJQ-32
ø40	PS-MCJQ-40
ø50	PS-MCJQ-50
ø63	PS-MCJQ-63
ø80	PS-MCJQ-80
ø100	PS-MCJQ-100

MCJQ Inside structure & Parts list – Single rod / Long stroke

COMPACT CYLINDER

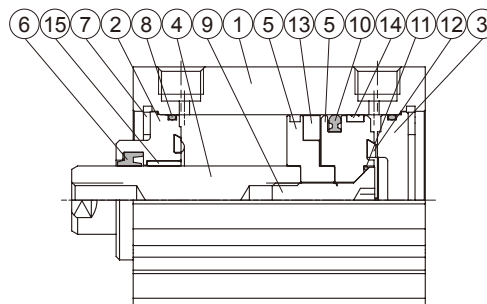


Long stroke



Long stroke

(with magnet)



Long stroke – Material

No.	Tube I.D. Part name		12	16	20	25	32	40	50	63	80	Note	Q'y	Component parts (inclusion)	Repair kits (inclusion)
1	Body		Aluminum alloy									Hard anodized	1		
2	Rod cover		Aluminum alloy									*	1	●	
3	End cover		Aluminum alloy									Anodized	1	●	
4	Piston	With magnet	Stainless steel			Carbor steel						1			
	rod	Without magnet	SUS	Carbor steel									1		
5	Piston		Aluminum alloy									ø12~32 anodized	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	●	

* ø12~ø32 hard anodized, ø40~ø80 anodized.

Long stroke – Seal kit

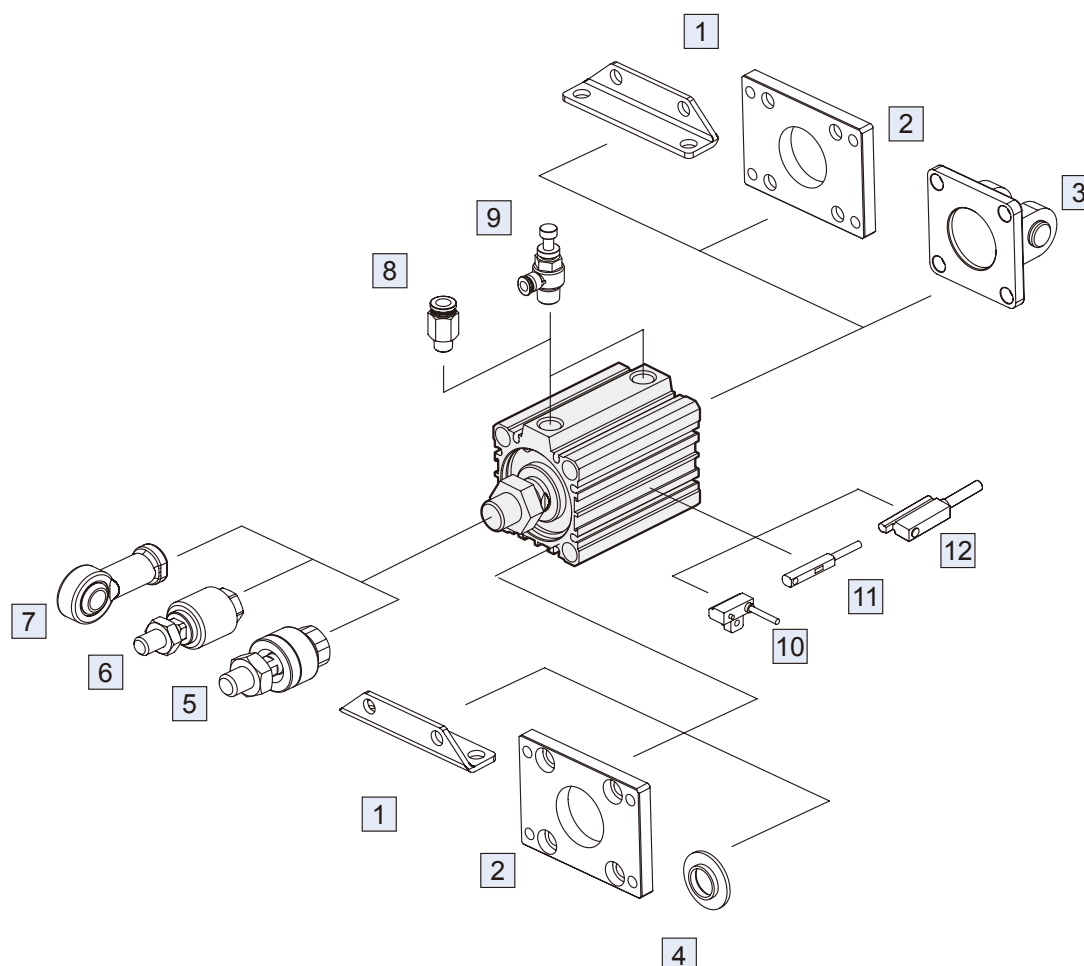
	Rod packing	Piston packing	Cover ring	Piston gasket
Acting type	Double acting			
Q'y	1	1	2	1
ø12	KSYR-6	OPA-12	S-11	d4×w1
ø16	KSYR-8	OPA-16	S-14	d5×w1
ø20	KSYR-10A	OPA-20	S-18	d6×w1
ø25	KSYR-12	OPA-25	S-22	d8×w1
ø32	KSYR-16	OPA-32	d28×w2	S-9
ø40	ORA-16	OPA-40	S-36	S-10
ø50	ORA-20	OPA-50	S-46	S-16
ø63	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 $\varnothing 12$, $\varnothing 16$ CB accessories are carbon steel.

MCJQ Dimensions – Double acting $\phi 12 \sim \phi 32$

COMPACT CYLINDER



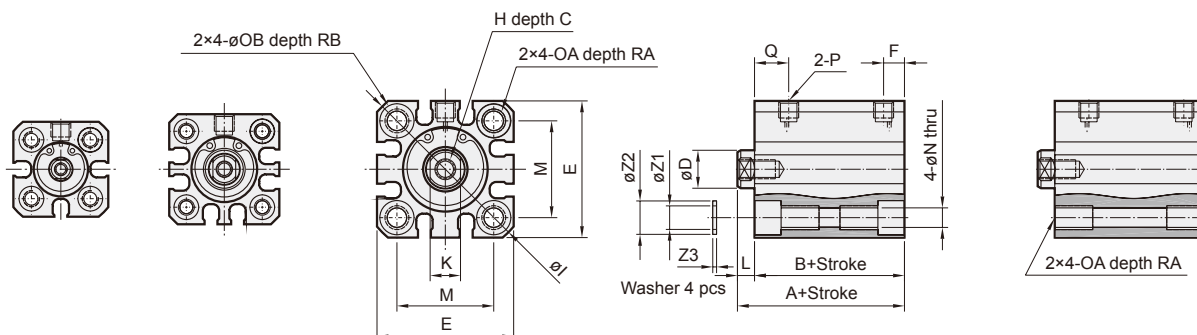
$\phi 12$

$\phi 16$

$\phi 20, \phi 25$

Stroke 5~100

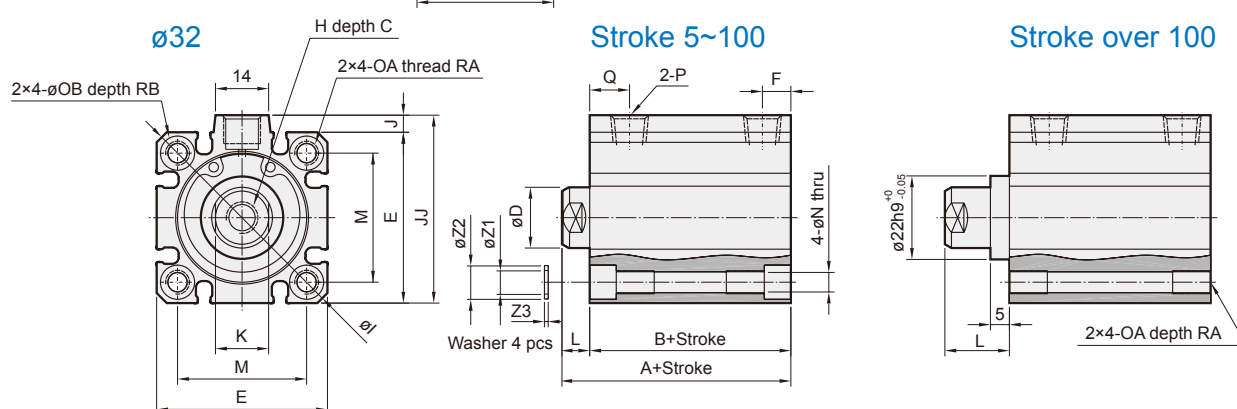
Stroke over 100



$\phi 32$

Stroke 5~100

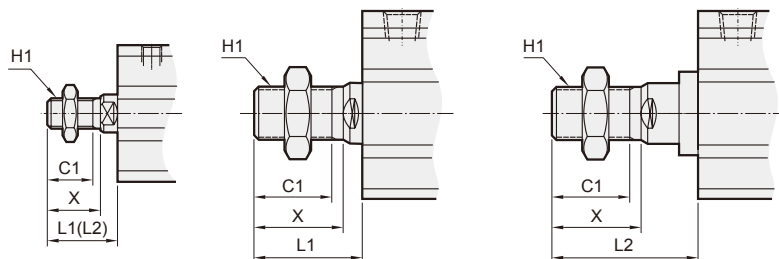
Stroke over 100



$\phi 12 \sim 25$

$\phi 32$ for stroke 5~100

$\phi 32$ for stroke over 100



MCJQ-11 male thread size

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

* L1: Standard stroke, L2: Long stroke

$\phi 12 \sim 25$

Code	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																						
Tube I.D.																															
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	5.4	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	5.4	M6×1.0	9	M5×0.8	11	10	7	6.2	8.8	1

$\phi 32$

Code	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		F	L	Q	Stroke range	A	B	F																			L	Q
Tube I.D.		A	B	A	B																											
32	5~50	30	23	40	33	7.5	7	10.5	101	62.5	45.5	12.5	17	12.5	Rc1/8 (*)	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	~300																							

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

MCJQ Dimensions – Double acting $\phi 40 \sim \phi 100$

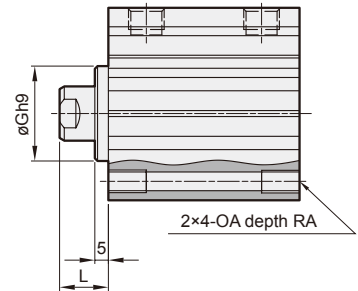
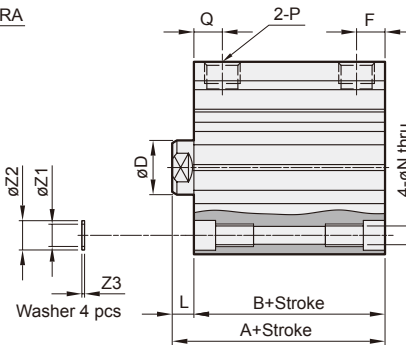
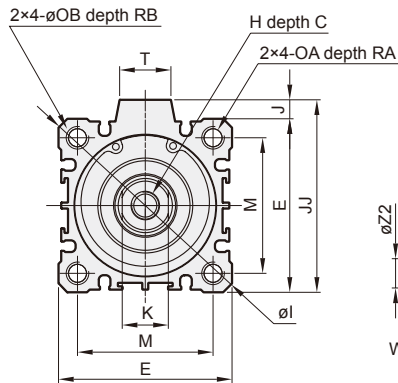
COMPACT CYLINDER



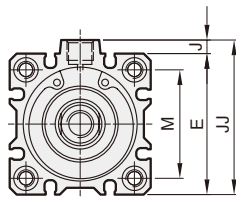
$\phi 50 \sim \phi 100$

Stroke 5~100

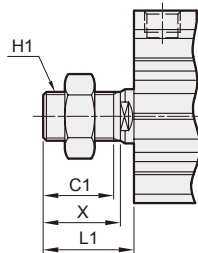
Stroke over 100



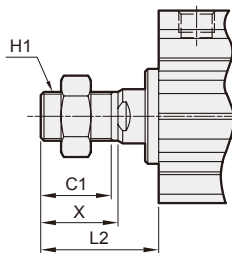
$\phi 40$



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



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



MCJQ-11 male thread size

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
	75,100	46.5	39.5											
50	5~50	38.5	30.5	48.5	40.5	10.5	8	10.5	125~300	73.5	55.5	14	18	14
	75,100	48.5	40.5											
63	5~50	44	36	54	46	10.5	8	15	125~300	75	57	16.5	18	16.5
	75,100	54	46											
80	5~50	53.5	43.5	63.5	53.5	12.5	10	16	125~300	86	66	19	20	19
	75,100	63.5	53.5											
100	5~50	65	53	75	63	13	12	23	—					
	75,100	75	63											

Code Tube I.D.	C	D	E	G ^{h9}	H	I	J	JJ	K	M	N	OA	OB	P	RA	RB	T	Z1	Z2	Z3
40	13	16	52	28 ^{+0 -0.052}	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 ^{+0 -0.062}	M10×1.5	86	7	71	17	50	6.6	M8×1.25	11	Rc1/4 (*1)	14	8	19	8.2	10.8	1
63	15	20	77	35 ^{+0 -0.062}	M10×1.5	103	7	84	17	60	9	M10×1.5	14	Rc1/4 (*2)	18	10.5	19	10.2	13.8	1
80	21	25	98	43 ^{+0 -0.062}	M16×2.0	132	6	104	22	77	11	M12×1.75	17.5	Rc3/8 (*3)	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 (*3)	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

MCJQ Dimensions – Normally extended $\phi 12 \sim \phi 50$

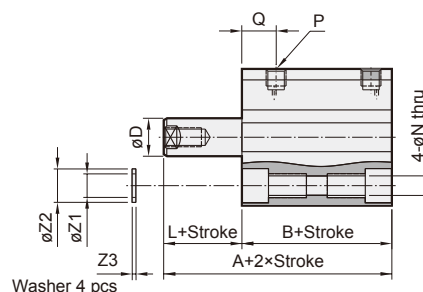
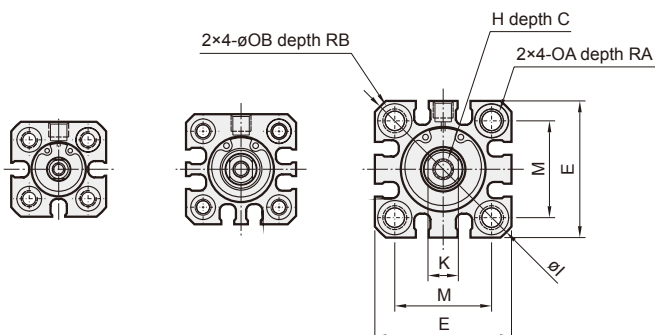
COMPACT CYLINDER



$\phi 12$

$\phi 16$

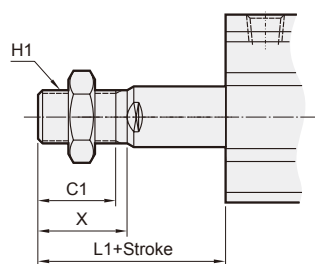
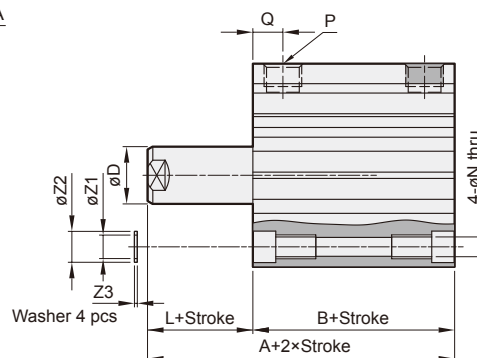
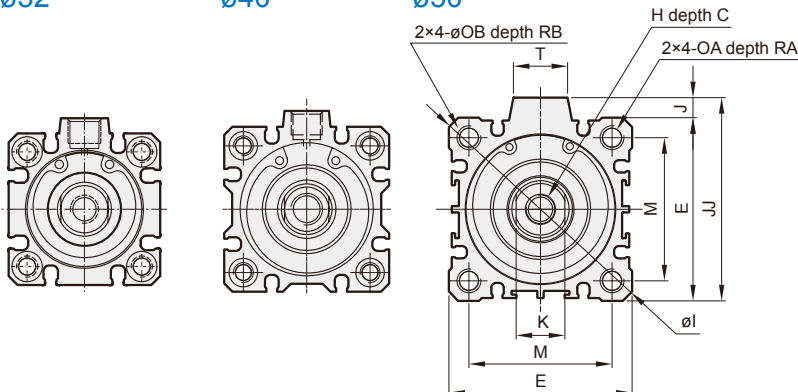
$\phi 20, \phi 25$



$\phi 32$

$\phi 40$

$\phi 50$



* L1: Standard stroke

MCJQ-13 male thread size

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
	Stroke range	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	5.4	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	5.4	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 (*1)	10.5	14	8	19	8.2	10.8	1	

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

MCJQ Dimensions – Normally returned $\phi 12 \sim \phi 50$

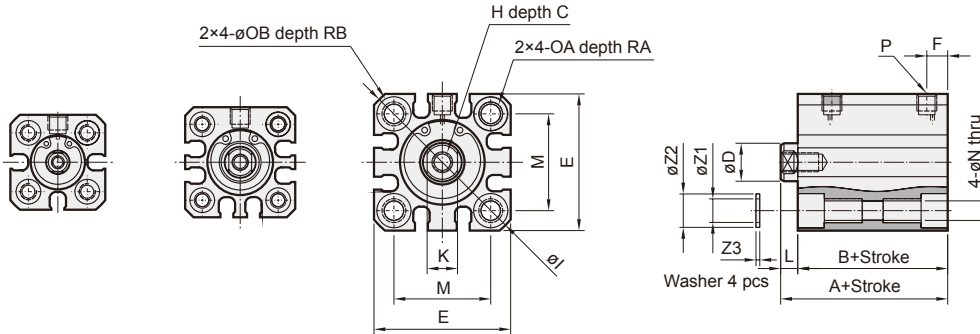
COMPACT CYLINDER



$\phi 12$

$\phi 16$

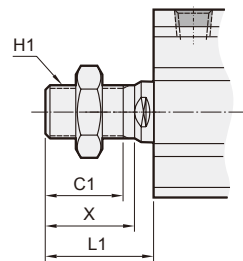
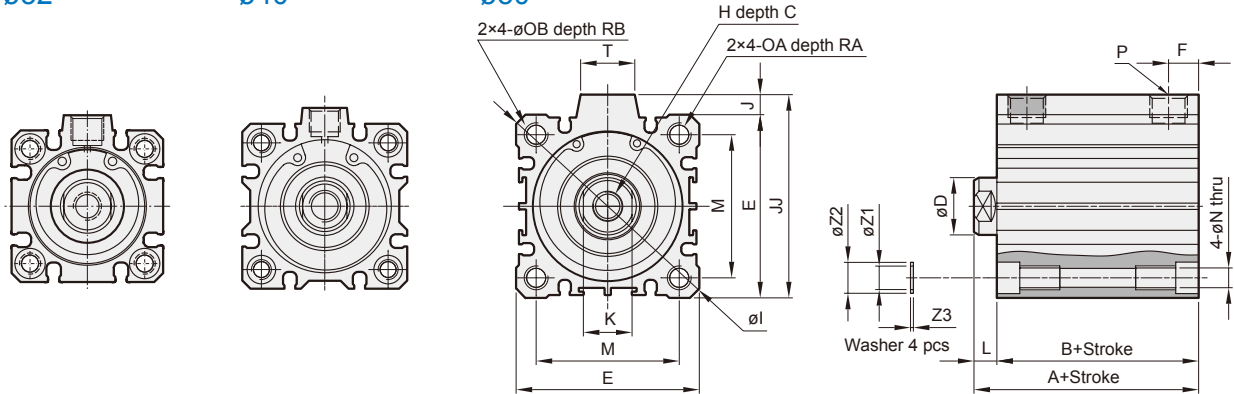
$\phi 20, \phi 25$



$\phi 32$

$\phi 40$

$\phi 50$



* L1: Standard stroke

MCJQ-15 male thread size

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	Standard stroke					C	D	E	F	H	I	J	JJ	K	L	M	N	OA	OB	P	RA	RB	T	Z1	Z2	Z3
	Stroke range	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	5.4	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	5.4	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	M8×1.25	60	4.5	49.5	14	7	34	5.5	M6×1.0	9	Rc1/8 (*1)	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	M10×1.5	86	7	71	17	8	50	6.5	M8×1.25	11	Rc1/4 (*2)	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

MCJQ Inside structure & Parts list – Double rod

COMPACT CYLINDER



Standard cylinder

Compact cylinder

Mini cylinder

Guide cylinder

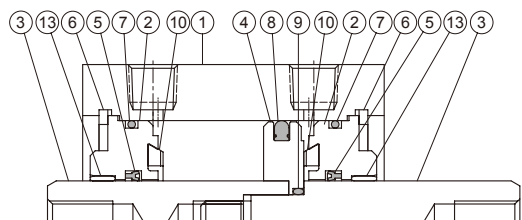
Table

Rodless cylinder

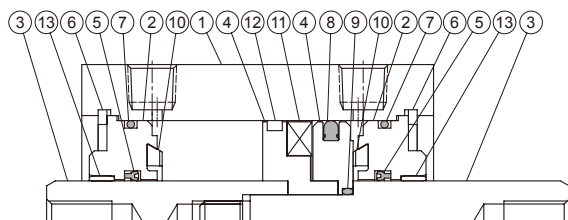
Stopper cylinder

Auxiliary Equipment

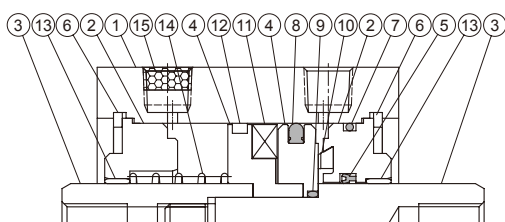
Double acting



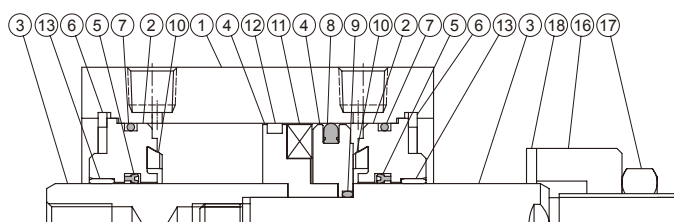
Double acting (with magnet)



Single acting



Adjustable stroke



Material

No.	Tube I.D. Part name	12	16	20	25	32	40	50	63	80	100	Note	Q'y	Component parts (inclusion)	Repair kits (inclusion)
1	Body	Aluminum alloy										Hard anodized	1		
2	Rod cover	Aluminum alloy										*1	2	●	
3	Piston With magnet	Stainless steel				Carbor steel						2			
	rod Without magnet	SUS	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	Silencer	Brass							—			1	●		
16	Adjustble nut	Carbor steel										1	●		
17	Hexagon nut	Carbor steel										1	●		
18	Cushion packing	PU										1	●		

*1. $\phi 12 \sim \phi 32$ hard anodized, $\phi 40 \sim \phi 100$ anodized. *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	Double acting Single acting
Q'y	2	1	1	1	2	1	1
$\phi 12$	KSYR-6	KSYR-6	OPA-12	OPA-12	S-11	S-11	d4×w1
$\phi 16$	KSYR-8	KSYR-8	OPA-16	OPA-16	S-14	S-14	d6×w1
$\phi 20$	KSYR-10A	KSYR-10A	OPA-20	OPA-20	S-18	S-18	d6×w1
$\phi 25$	KSYR-12	KSYR-12	OPA-25	OPA-25	S-22	S-22	S-9
$\phi 32$	KSYR-16	KSYR-16	OPA-32	OPA-32	d28×w2	d28×w2	d11×w1
$\phi 40$	KSYR-16	KSYR-16	OPA-40	OPA-40	S-36	S-36	S-10
$\phi 50$	KSYR-20	KSYR-20	OPA-50	OPA-50	S-46	S-46	S-16
$\phi 63$	KSYR-20	—	OPA-63	—	S-60	—	S-14
$\phi 80$	ORA-25	—	OPA-80	—	G-75	—	d20×w1
$\phi 100$	ORA-30	—	OPA-100	—	G-95	—	S-24

Order example

Component parts / Repair kits

Tube I.D.	Component parts	Repair kits
$\phi 12$	CP-MCJQ-2-12(M)	PS-MCJQ-2-12
$\phi 16$	CP-MCJQ-2-16(M)	PS-MCJQ-2-16
$\phi 20$	CP-MCJQ-2-20(M)	PS-MCJQ-2-20
$\phi 25$	CP-MCJQ-2-25(M)	PS-MCJQ-2-25
$\phi 32$	CP-MCJQ-2-32(M)	PS-MCJQ-2-32
$\phi 40$	CP-MCJQ-2-40(M)	PS-MCJQ-2-40
$\phi 50$	CP-MCJQ-2-50(M)	PS-MCJQ-2-50
$\phi 63$	CP-MCJQ-2-63(M)	PS-MCJQ-2-63
$\phi 80$	CP-MCJQ-2-80(M)	PS-MCJQ-2-80
$\phi 100$	CP-MCJQ-2-100(M)	PS-MCJQ-2-100

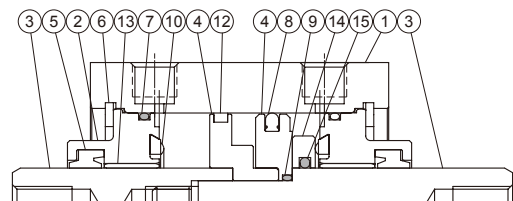
M: With magnet

MCJQ Inside structure & Parts list – Double rod / Long stroke

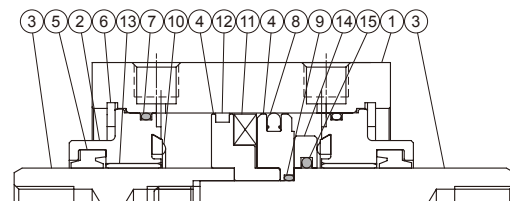
COMPACT CYLINDER



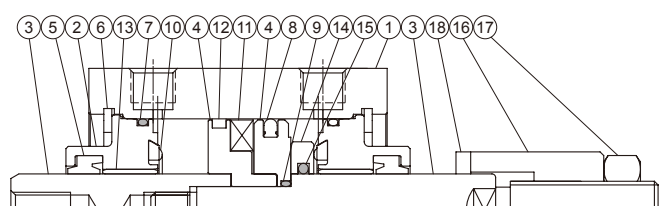
Double acting



Double acting (with magnet)



Adjustable stroke



Long stroke – Material

No.	Tube I.D. Part name	12	16	20	25	32	40	50	63	80	Note	Q'y	Component parts (inclusion)	Repair kits (inclusion)
1	Body	Aluminum alloy									Hard anodized	1		
2	Rod cover	Aluminum alloy									*	2	●	
3	Piston rod	With magnet	Stainless steel			Carbor steel					2			
		Without magnet	SUS	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	●	

* ø12~ø32 hard anodized, ø40~ø80 anodized.

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

MCJQ Dimensions – Double acting / Double rod $\phi 40\sim\phi 100$

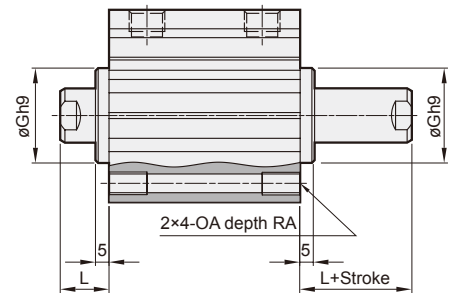
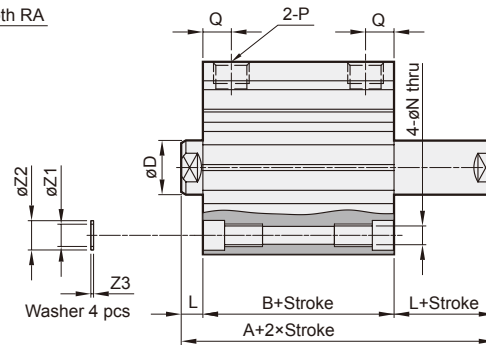
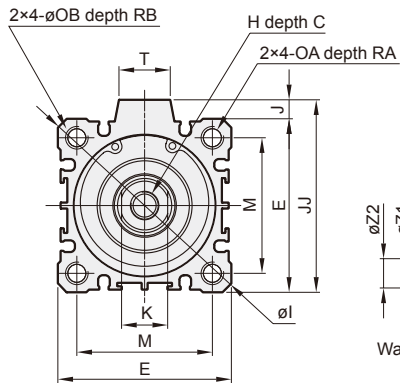
COMPACT CYLINDER



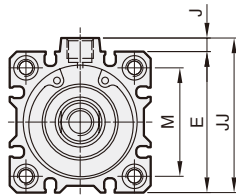
$\phi 50\sim\phi 100$

Stroke 5~100

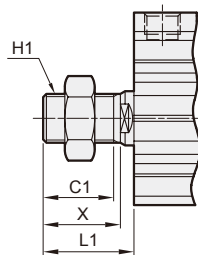
Stroke over 100



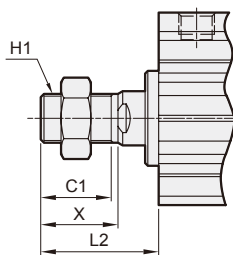
$\phi 40$



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



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



MCJQ-21 male thread size

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										
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										
63	5~50	58	42	68	52	8	15.5	101~300	93	57	18	16.5	
	51~100	68	52										
80	5~50	71	51	81	61	10	18	101~300	106	66	20	19	
	51~100	81	61										
100	5~50	84.5	60.5	94.5	70.5	12	22	—					
	51~100	94.5	70.5										

Code Tube I.D.	C	D	E	G ^{h9}	H	I	J	JJ	K	M	N	OA	OB	P	RA	RB	T	Z1	Z2	Z3
40	13	16	52	28 ^{+0 -0.052}	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 ^{+0 -0.062}	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 ^{+0 -0.062}	M10×1.5	103	7	84	17	60	9	M10×1.5	14	Rc1/4 (*1)	18	10.5	19	10.2	13.8	1
80	21	25	98	43 ^{+0 -0.062}	M16×2.0	132	6	104	22	77	11	M12×1.75	17.5	Rc3/8 (*2)	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 (*2)	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

MCJQ Dimensions – Single acting / Double rod $\phi 12 \sim \phi 50$

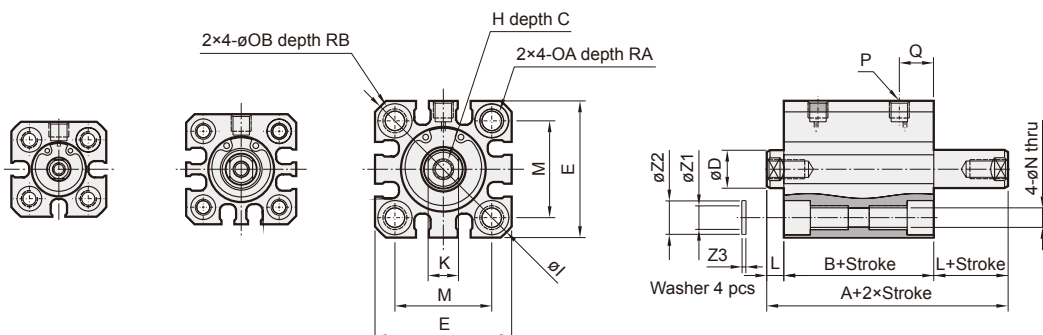
COMPACT CYLINDER



$\phi 12$

$\phi 16$

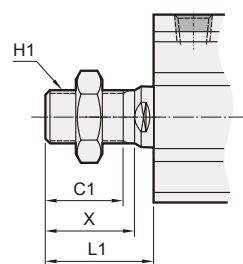
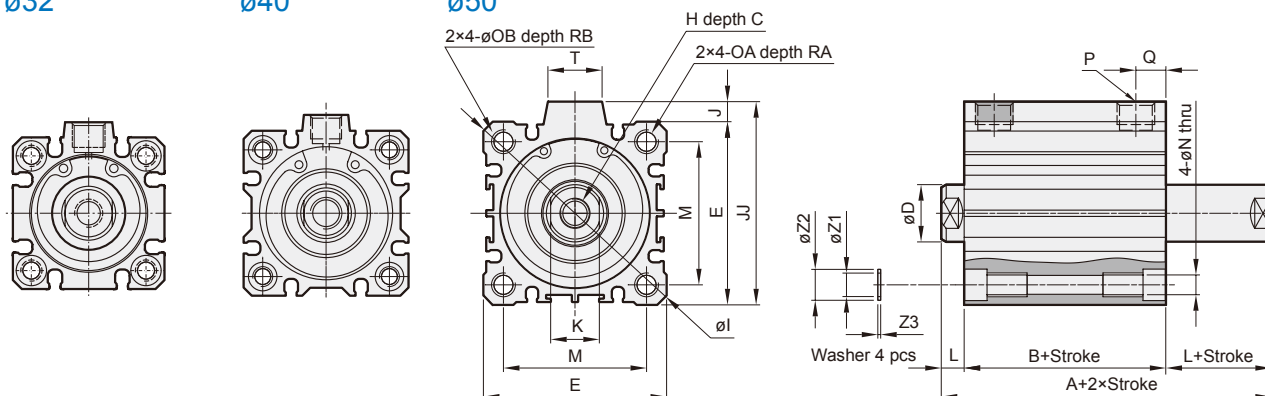
$\phi 20, \phi 25$



$\phi 32$

$\phi 40$

$\phi 50$



* L1: Standard stroke

MCJQ-23 male thread size

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	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	5.4	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	5.4	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 (*)	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

MCJQ Dimensions – Double rod / Adjustable stroke $\phi 12 \sim \phi 32$

COMPACT CYLINDER



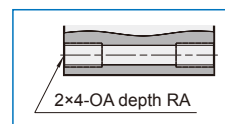
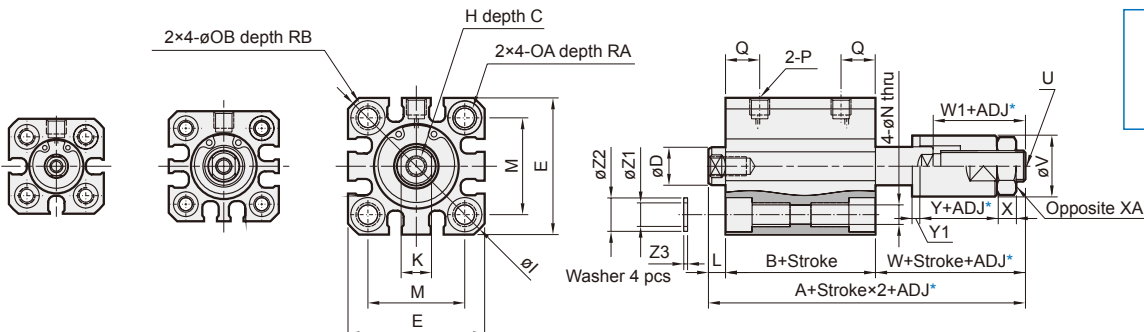
$\phi 12$

$\phi 16$

$\phi 20, \phi 25$

Stroke 5~100

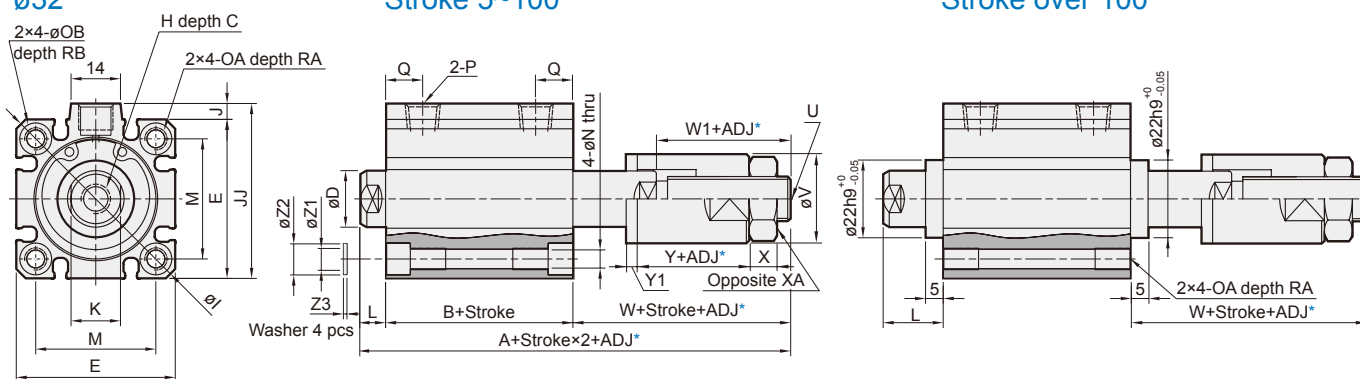
Stroke over 100



$\phi 32$

Stroke 5~100

Stroke over 100

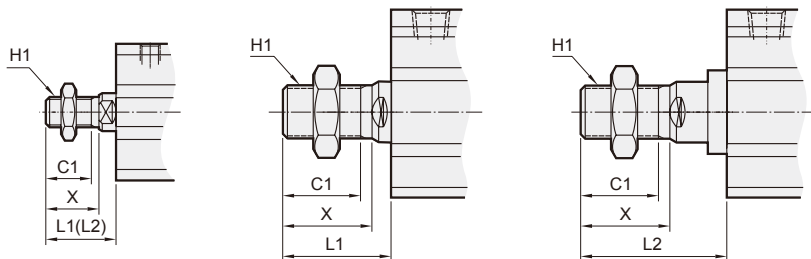


* ADJ: Adjustable stroke

$\phi 12 \sim 25$

$\phi 32$ for stroke 5~100

$\phi 32$ for stroke over 100



* L1: Standard stroke, L2: Long stroke

MCJQ-27 male thread size

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

*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	5.4	M6×1.0	9	M5×0.8	9
25	12	12	40	M6×1.0	52	—	—	10	28	5.4	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

MCJQ Dimensions – Double rod / Adjustable stroke ø40~ø100

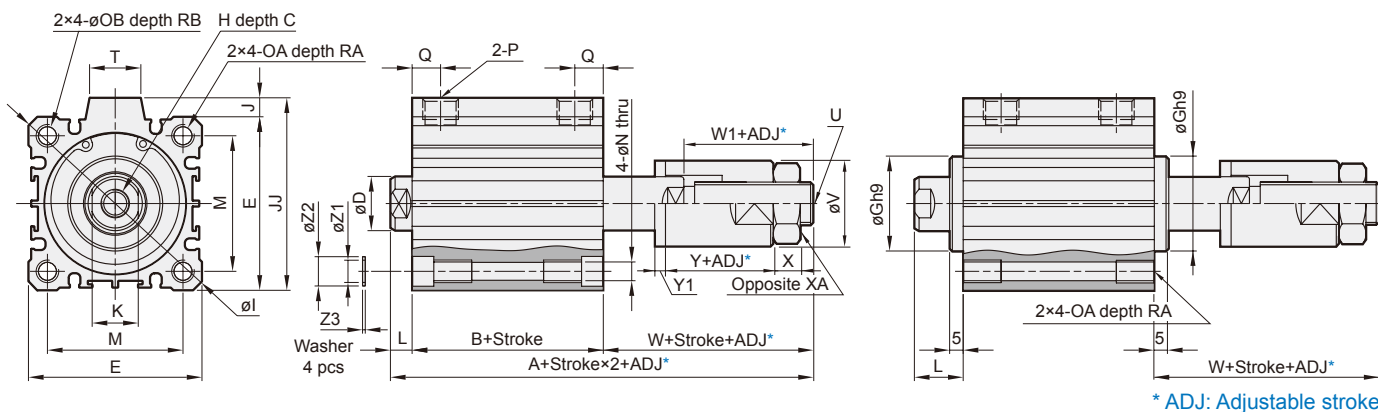
COMPACT CYLINDER



ø50~ø100

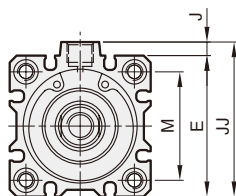
Stroke 5~100

Stroke over 100

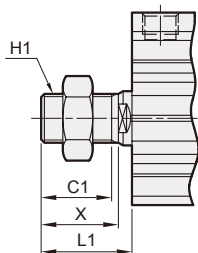


* ADJ: Adjustable stroke

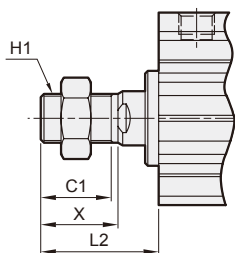
ø40



ø40~ø100
(Stroke 5~100)



ø40~ø80
(Stroke over 100)



MCJQ-27 male thread size

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

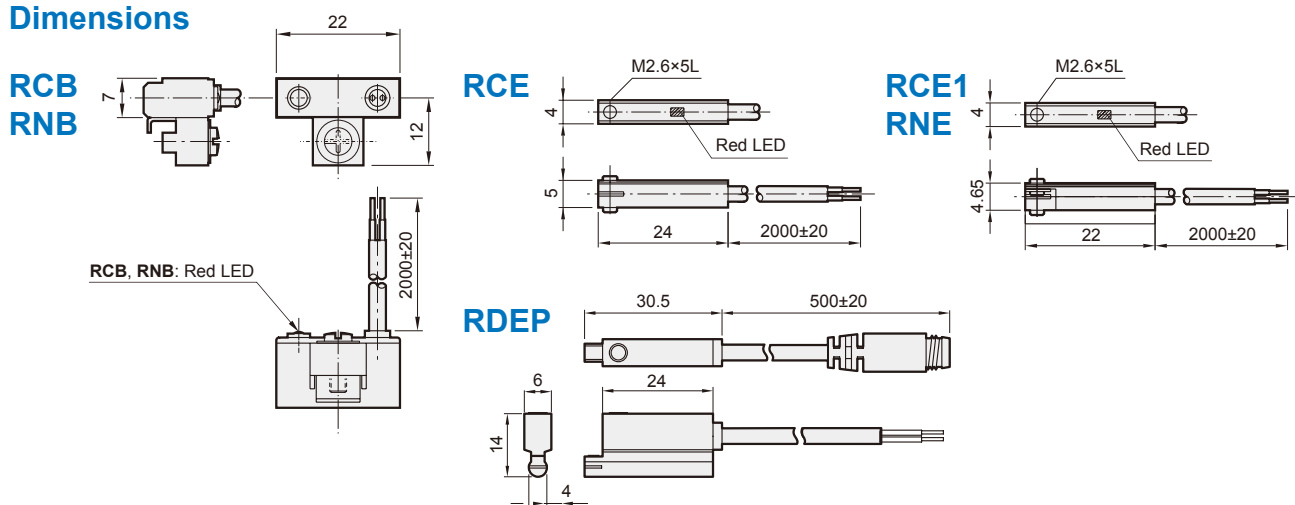
Code Tube I.D.	Standard stroke								Long stroke					
	Stroke range	Without magnet		Magnet		L	Q	W	Stroke range	A	B	L	Q	W
		A	B	A	B									
40	5~50	71	40	81	50	7	14	24	101~300	102.5	55	17	14	30.5
	51~100	81	50											
50	5~50	75	40.5	85	50.5	8	14	26.5	101~300	105.5	55.5	18	14	32
	51~100	85	50.5											
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 ^{h9}	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 ^{+0/-0.052}	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 ^{+0/-0.062}	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 ^{+0/-0.062}	M10×1.5	103	7	84	17	60	9	M10×1.5	14	Rc1/4 (*1)	18	10.5	19	M16×1.5	40	25.5	8	24	15	2	10.2	13.8	1
80	21	25	98	43 ^{+0/-0.062}	M16×2.0	132	6	104	22	77	11	M12×1.75	17.5	Rc3/8 (*2)	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 (*2)	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

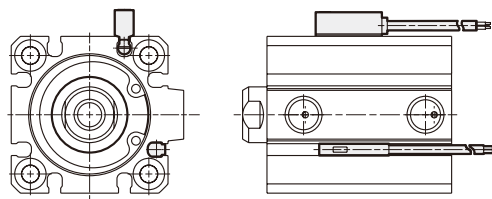
*2. Without magnet with stroke=5mm, P=Rc1/4

Dimensions

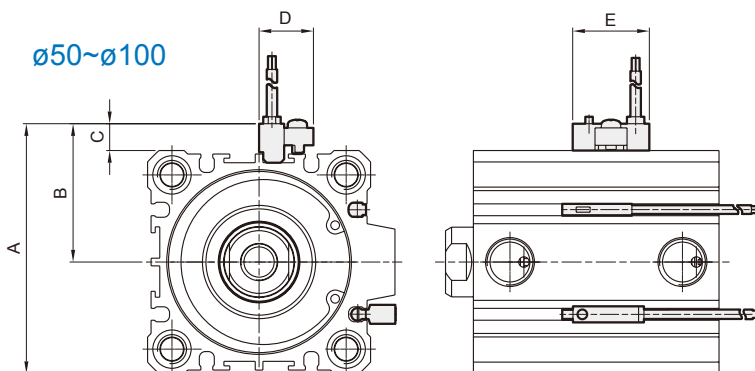


Installation of sensor switch

$\phi 12 \sim \phi 40$



$\phi 50 \sim \phi 100$



Order example

RCE1 — □

MODEL

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

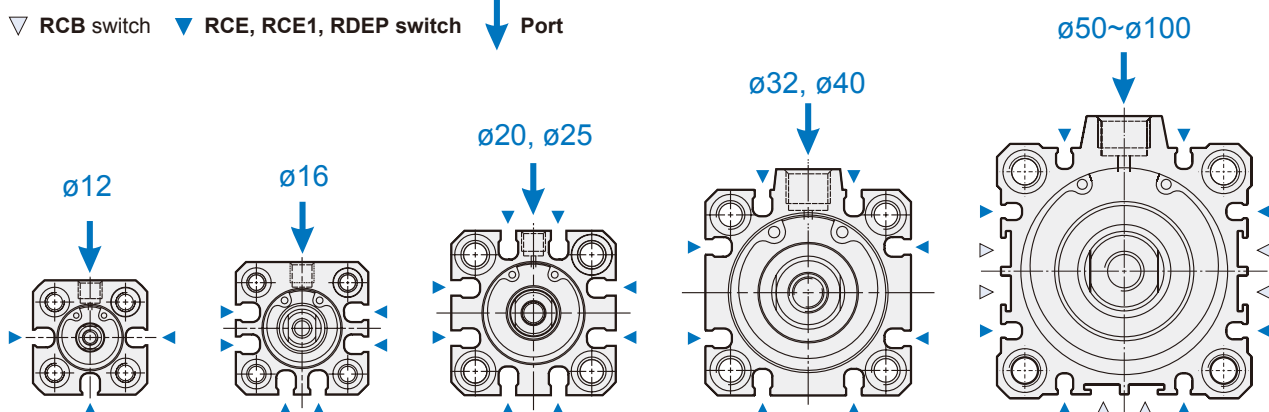
WIRE LENGTH

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

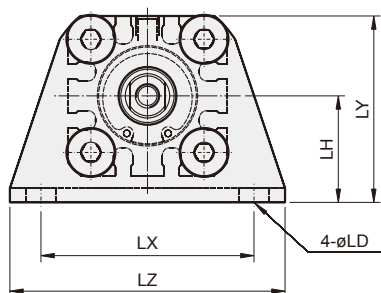
Code Tube I.D.	A	B	C	D	E
50	72	40	8	16	22
63	85	46.5	8	16	22
80	106	57	8	16	22
100	125	66.5	8	16	22

Description

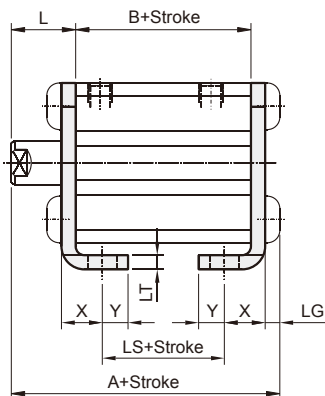
▽ RCB switch ▼ RCE, RCE1, RDEP switch ↓ Port



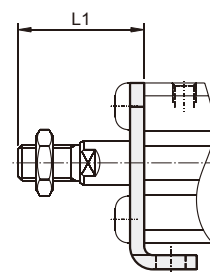
LB



Female thread

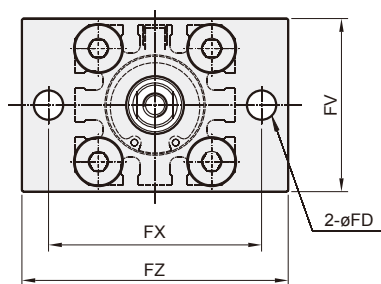


Male thread

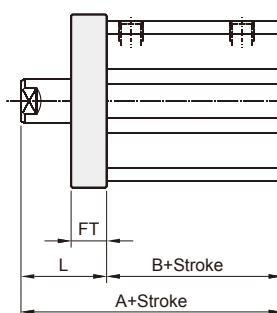


Code	Standard stroke							Long stroke				L	L1	LD	LG	LH	LT	LX	LY	LZ	X	Y
	Stroke range	Without magnet			Magnet			Stroke range	A	B	LS											
		A	B	LS	A	B	LS															
12	5~30	35.3	17	5	40.3	22	10	35~100	50.3	32	20	13.5	24	4.5	2.8	17	2	34	29.5	44	8	4.5
16	5~30	35.3	17	5	40.3	22	10	35~100	50.3	32	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

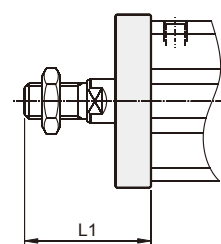
FAC



Female thread



Male thread

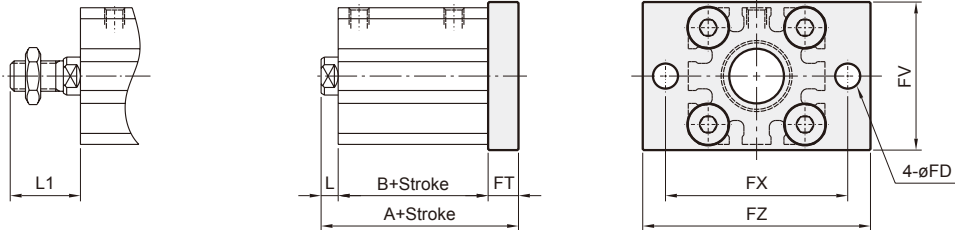


Code	Standard stroke					Long stroke			FD	FT	FV	FX	FZ	L	L1
	Stroke range	Without magnet		Magnet		Stroke range	A	B							
		A	B	A	B										
Tube I.D.															
12	5~30	30.5	17	35.5	22	35~100	45.5	32	4.5	5.5	25	45	55	13.5	24
16	5~30	30.5	17	35.5	22	35~100	45.5	32	4.5	5.5	30	45	55	13.5	25.5
20	5~50	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

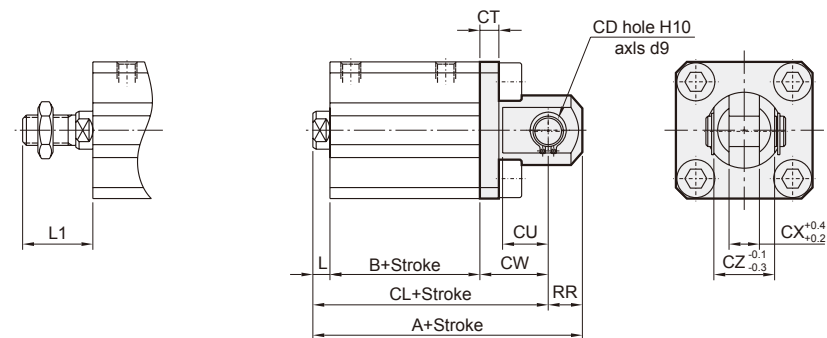


Code	Standard stroke										Long stroke					FD	FT	FV	FX	FZ
	Stroke range	Without magnet				Magnet				Stroke range	A	B	L	L1						
		A	B	L	L1	A	B	L	L1											
12	5~30	26	17	3.5	14	31	22	3.5	14	35~100	51	32	13.5	24	4.5	5.5	25	45	55	
16	5~30	26	17	3.5	15.5	31	22	3.5	15.5	35~100	51	32	13.5	25.5	4.5	5.5	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

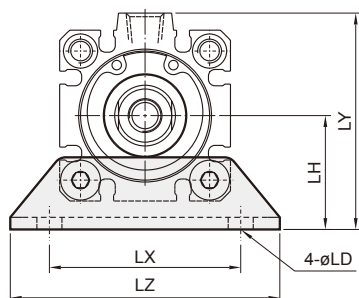
Female thread



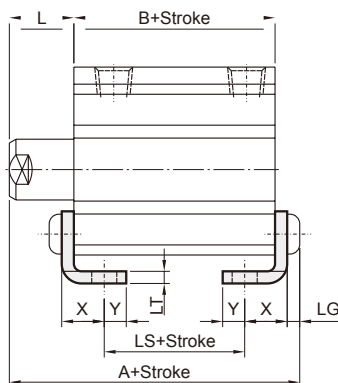
Code	Standard stroke											Long stroke						CD	CT	CU	CW	CX	CZ	RR				
	Stroke range	Without magnet					Magnet					Stroke range	A	B	CL	L	L1											
		A	B	CL	L	L1	A	B	CL	L	L1																	
Tube I.D.																												
12	5~30	40.5	17	34.5	3.5	14	45.5	22	39.5	3.5	14	35~100	65.5	32	59.5	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

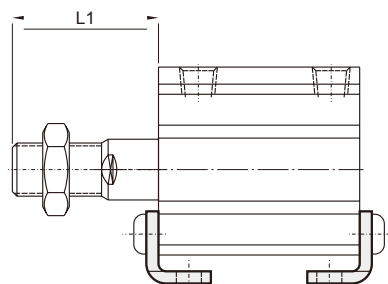
Standard stroke



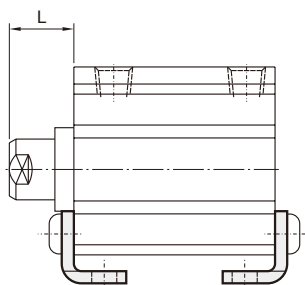
Female thread



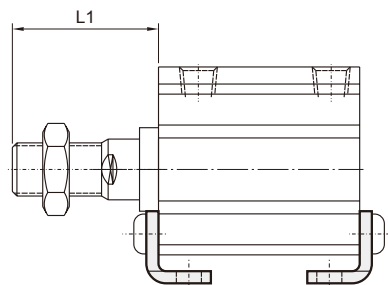
Male thread



Long stroke



Male thread

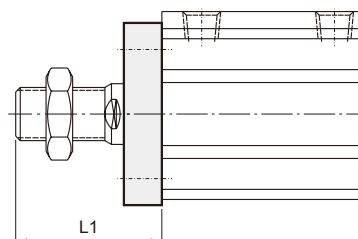
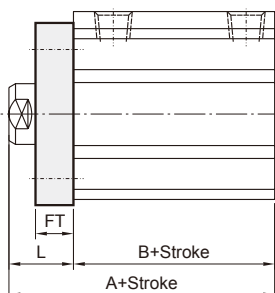
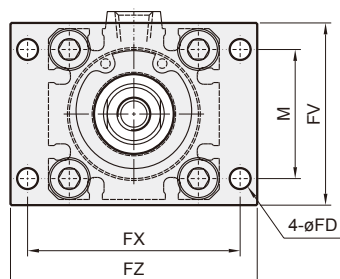


Code Tube I.D.	Standard stroke							Long stroke				L	L1	LD	LG	LH	LT	LX	LY	LZ	X	Y
	Stroke range	Without magnet			Magnet			Stroke range	A	B	LS											
		A	B	LS	A	B	LS															
32	5~50	47.2	23	7	57.2	33	17	125~300	69.7	45.5	29.5	17	38.5	6.6	4	30	3.2	57	57	71	11.2	5.8
	75,100	57.2	33	17																		
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



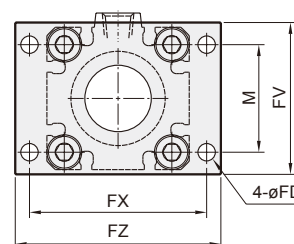
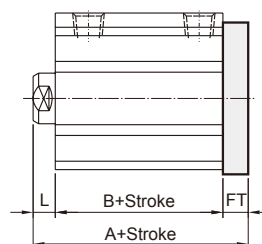
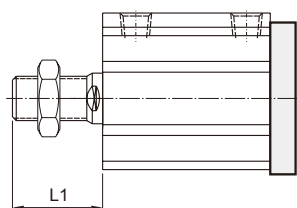
Code Tube I.D.	Standard stroke					Long stroke			FD	FT	FV	FX	FZ	L	L1	M
	Stroke range	Without magnet		Magnet		Stroke range	A	B								
		A	B	A	B											
32	5~50	40	23	50	33	125~300	62.5	45.5	5.5	8	48	56	65	17	38.5	34
	75,100	50	33													
40	5~50	46.5	29.5	56.5	39.5	125~300	72	55	5.5	8	54	62	72	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

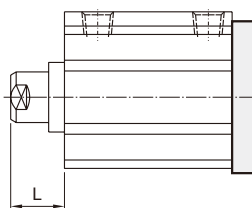
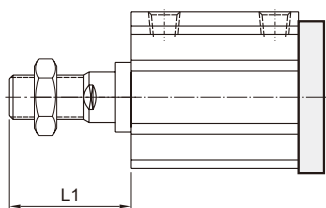
Female thread



Long stroke

Male thread

Female thread



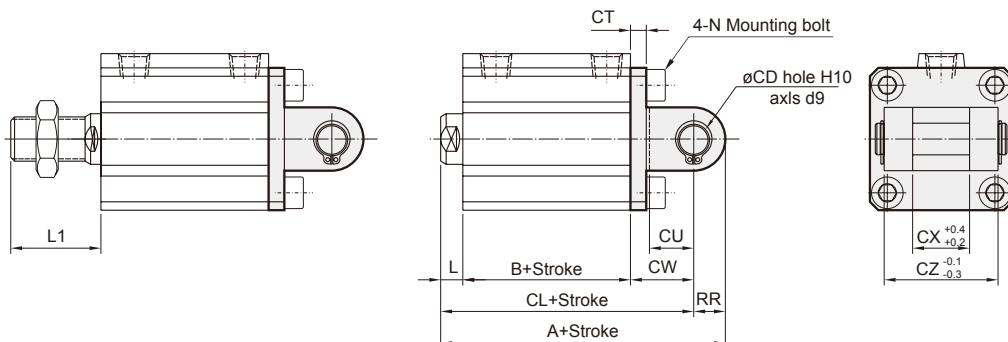
Code	Standard stroke							Long stroke				FD	FT	FV	FX	FZ	M	
	Stroke range	Without magnet		Magnet		L	L1	Stroke range	A	B	L							L1
		A	B	A	B													
32	5~50	38	23	48	33	7	28.5	125~300	70.5	45.5	17	38.5	5.5	8	48	56	65	34
	75,100	48	33															
40	5~50	44.5	29.5	54.5	39.5	7	28.5	125~300	80	55	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

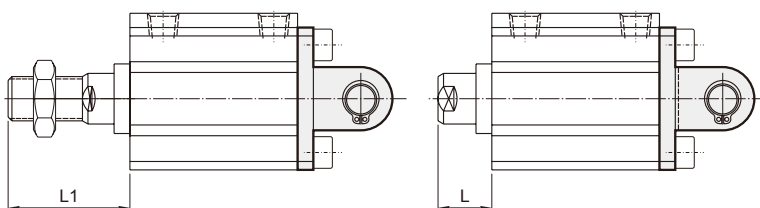
Female thread



Long stroke

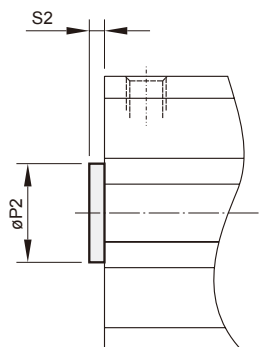
Male thread

Female thread



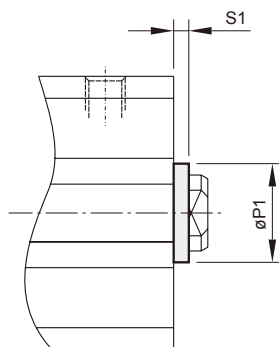
Code	Standard stroke									Long stroke						CD	CT	CU	CW	CX	CZ	N	RR
	Stroke range	Without magnet			Magnet			L	L1	Stroke range	A	B	CL	L	L1								
		A	B	CL	A	B	CL																
32	5~50	60	23	50	70	33	60	7	28.5	125~300	92.5	45.5	82.5	17	38.5	10	5	14	20	18	36	M6×1.0	10
	75,100	70	33	60																			
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



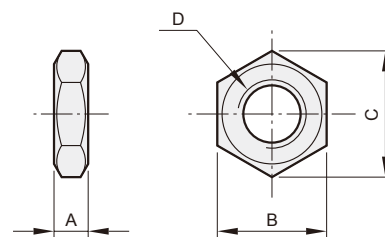
Code Tube I.D.	P2 ^{h9}	S2
12	6	1.5
16	10	1.5
20	13	2
25	15	2
32	21	2
40	28	2
50	35	2
63	35	2
80	43	2
100	59	2

RF



Code Tube I.D.	P1 ^{h9}	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

Order example

PIN — MCJQ — 20 — CB — P

PIN

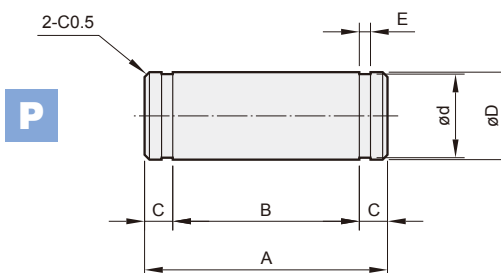
TUBE I.D.

12
16
20
25
32
40
50
63
80
100

TYPE

CB: for CB accessory

P: With split pin



Code Tube I.D.	A	B	C	øD ^{d9}	ød	E	Snap ring
12	14.6	10.2	2.2	5 ^{-0.03 -0.06}	4.8 ^{0 -0.04}	0.7 ^{+0.10 0}	STW-5
16	16.6	12.2	2.2	5 ^{-0.03 -0.06}	4.8 ^{0 -0.04}	0.7 ^{+0.10 0}	STW-5
20	21	16.2	2.4	8 ^{-0.04 -0.08}	7.6 ^{0 -0.06}	0.9 ^{+0.10 0}	STW-8
25	25.6	20.2	2.7	10 ^{-0.04 -0.08}	9.6 ^{0 -0.06}	1.15 ^{+0.14 0}	STW-10
32,40	41.6	36.2	2.7	10 ^{-0.04 -0.08}	9.6 ^{0 -0.09}	1.15 ^{+0.14 0}	STW-10
50,63	50.6	44.2	3.2	14 ^{-0.05 -0.10}	13.4 ^{0 -0.11}	1.15 ^{+0.14 0}	STW-14
80	64	56.2	3.9	18 ^{-0.05 -0.10}	17.0 ^{0 -0.11}	1.35 ^{+0.14 0}	STW-18
100	72	64.2	3.9	22 ^{-0.07 -0.12}	21.0 ^{0 -0.21}	1.35 ^{+0.14 0}	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	190	22	109	170	22
	51~100	206	215	22	157	166	22
$\phi 40$	5~50	226	292	24	184	250	24
	51~100	298	315	24	249	266	24
$\phi 50$	5~50	367	461	35	317	411	35
	51~100	476	500	35	386	409	35
$\phi 63$	5~50	530	670	41	446	586	41
	51~100	685	714	41	594	622	41
$\phi 80$	5~50	1032	1241	65	904	1112	65
	51~100	1240	1278	65	1072	1109	65
$\phi 100$	5~50	1864	2220	90	1679	2036	90
	51~100	2230	2278	90	1982	2030	90

Long stroke

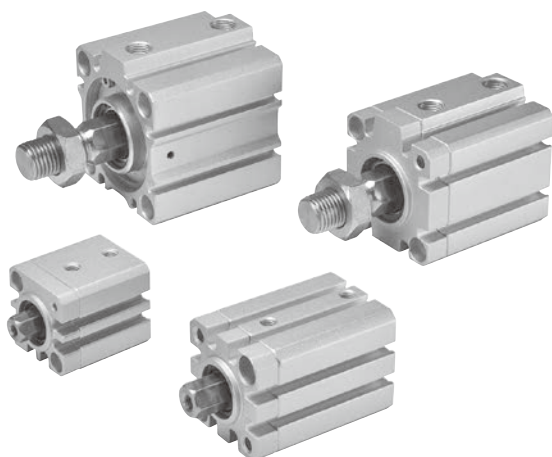
Unit: g

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



Features

- The profile designs are based on MCJQ.
- Hexagonal rods for non-rotating feature.
- Anodised aluminum tubes provide better corrosion and abrasion resistance.
- Stainless Steel rods for better corrosion resistance.

Specification

Model	MCKJQ					
Acting type	Double acting					
Tube I.D. (mm)	12	16	20	25	32	40
Port size	M5×0.8				Rc1/8	
Medium	Air					
Operating perssure range	0.1~1 MPa		0.8~1 MPa		0.6~1 MPa	
Proof pressure	1.5 MPa					
Ambient temperature	-5°C~+60°C (No freezing)					
Available speed range	50~500 mm/sec					
Rod non-rotating accuracy	±1°	±0.7°		±0.5°		
Allowable rotational torque (kgf-cm)	0.4	2	2.5		4.5	
Sensor switch (*1)	RCE, RCE1, RDEP					

Table for stroke

Tube I.D.	Standard stroke	Long stroke
ø12, 16	5, 10, 15, 20, 25, 30	—
ø20, 25 (*)	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	75, 100
ø32, 40	↑ 75, 100	—

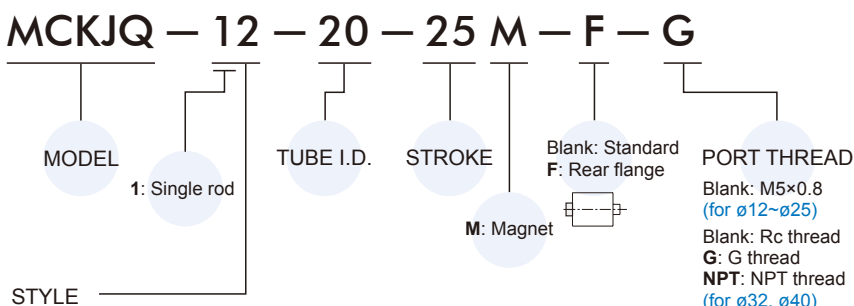
* Using long stroke type body when the cylinder stroke is longer than 51 mm.

- Stroke out of specification is also available.
- Please consult us if stroke out of specification.

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

*2. The cylinder is allowed little leakage. Before delivery, it has passed the standard of leakage test.

Order example

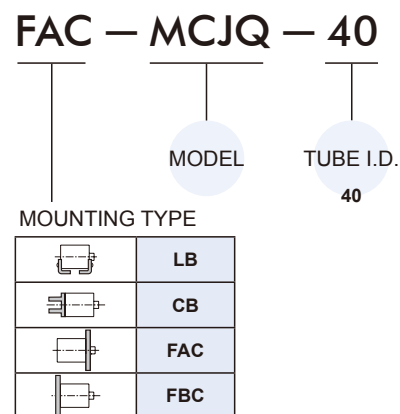


Code	Symbol	Description
1 1		Double acting / Male thread
1 2		Double acting / Female thread

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

* Please confirm the mounting method before purchase and contact us if it is A mounting method. (refer to page 2-48 "Plate mounting methods").

Mounting accessories



* Use the same accessories with MCJQ.

* The mounting accessories only for tube I.D. ø40.

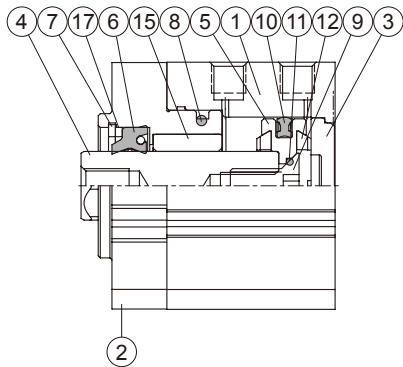
* Refer to MCJQ dimension.

MCKJQ Inside structure & Parts list – Standard stroke $\phi 12 \sim \phi 40$

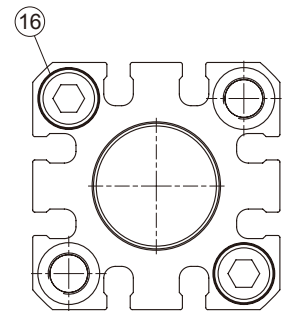
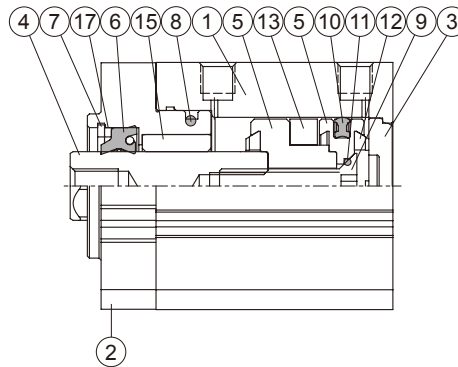
COMPACT CYLINDER WITH NON-ROTATING ROD



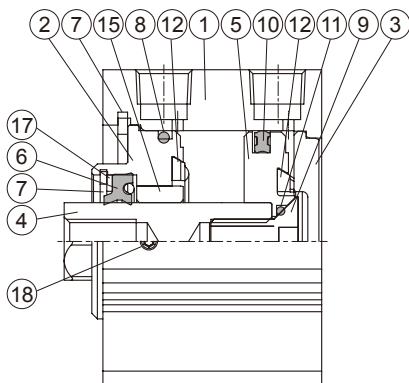
Standard stroke $\phi 12 \sim \phi 32$



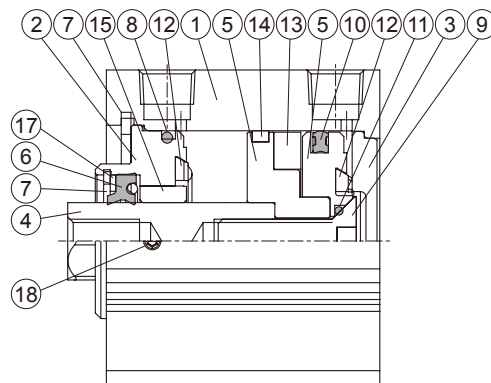
Standard stroke (with magnet) $\phi 12 \sim \phi 32$



Standard stroke $\phi 40$



Standard stroke (with magnet) $\phi 40$



Standard stroke – Material

No.	Tube I.D. Part name	12	16	20	25	32	40	Note	Q'ty	Component parts (inclusion)	Repair kits (inclusion)
1	Body	Aluminum alloy						Hard anodized	1		
2	Rod cover	Aluminum alloy						Anodized	1	●	
3	End cover	Aluminum alloy						Anodized	1	●	
4	Piston rod	Stainless steel							1		
5	Piston	Aluminum alloy						$\phi 12 \sim 32$ Anodized	1	●	
6	Rod packing	NBR							1	●	●
7	Snap ring	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 ring	Magnet							1	●	
14	Wear ring	–					Resin		1	●	
15	Bush	Bearing alloy							1	●	
16	Bolt	Carbon steel					–		2		
17	Washer	Carbon steel							1	●	
18	Set screw	–					*1		1	●	

*1: Carbon steel

Order example

Component parts / Repair kits

Tube I.D.	Component parts	Repair kits
$\phi 12$	CP-MCKJQ-12(M)	PS-MCKJQ-12
$\phi 16$	CP-MCKJQ-16(M)	PS-MCKJQ-16
$\phi 20$	CP-MCKJQ-20(M)	PS-MCKJQ-20
$\phi 25$	CP-MCKJQ-25(M)	PS-MCKJQ-25
$\phi 32$	CP-MCKJQ-32(M)	PS-MCKJQ-32
$\phi 40$	CP-MCKJQ-40(M)	PS-MCKJQ-40

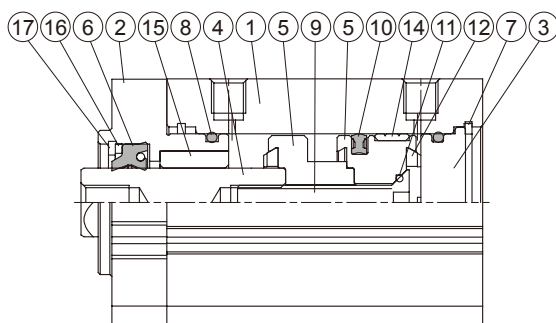
M: With magnet

MCKJQ Inside structure & Parts list – Long stroke ø20, ø25

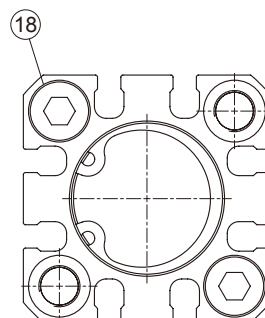
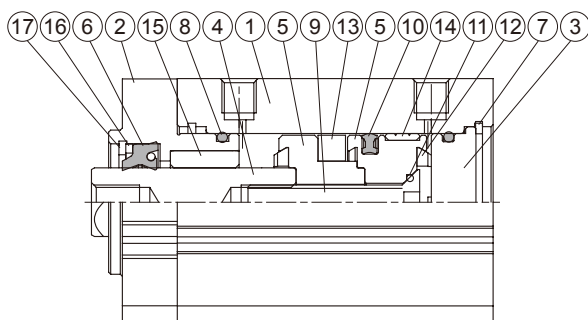
COMPACT CYLINDER WITH NON-ROTATING ROD



Long stroke ø20, ø25



Long stroke (with magnet) ø20, ø25



Long stroke – Material

No.	Tube I.D. Part name	Material	Note	Q'y	Component parts (inclusion)	Repair kits (inclusion)
1	Body	Aluminum alloy	Hard anodized	1		
2	Rod cover	Aluminum alloy	Anodized	1	●	
3	End cover	Aluminum alloy	Anodized	1	●	
4	Piston rod	Stainless steel		1		
5	Piston	Aluminum alloy	Anodized	1	●	
6	Rod packing	NBR		1	●	●
7	Snap ring	Stainless steel		1	●	
8	Cover ring	NBR		2	●	●
9	Piston bolt	Stainless steel		1	●	
10	Piston packing	NBR		1	●	●
11	Piston gasket	NBR		1	●	●
12	Cushion packing	NBR		2	●	●
13	Magnet ring	Magnet		1	●	
14	Wear ring	Resin		1	●	
15	Bush	Bearing alloy		1	●	
16	Washer	Carbon steel		1	●	
17	Snap ring	Spring steel		1	●	
18	Bolt	Carbon steel		2		

Order example Component parts

Tube I.D.	Component parts
ø20	CPL-MCKJQ-20(M)
ø25	CPL-MCKJQ-25(M)

M: With magnet

Repair kits

Tube I.D.	Repair kits
ø20	PSL-MCKJQ-20
ø25	PSL-MCKJQ-25

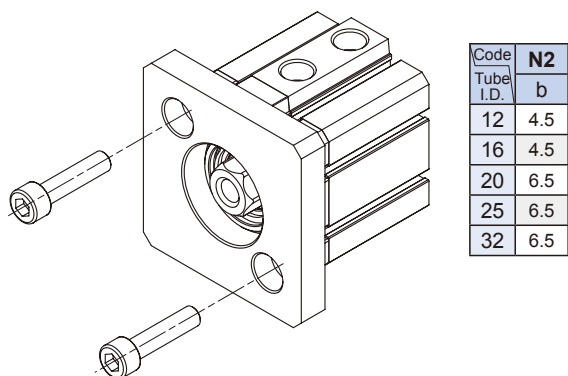
Caution

Different mounting methods match different bolts and plate.
Please confirm the mounting method before purchase.

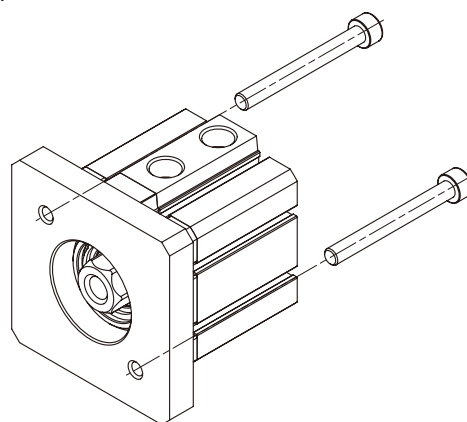
A The plate is in front and the bolt is mounted from the front.

When mounting method 'A' is selected for $\phi 12 \sim \phi 32$, the body requires special dimension, see dimension N2-b.

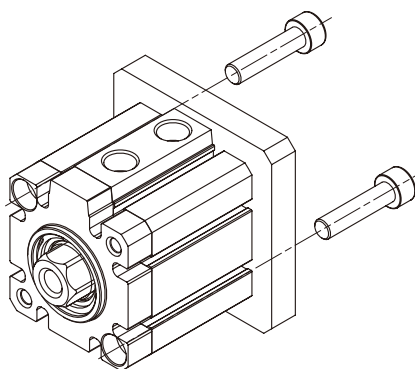
Order example: **MCKJQ-12-20-25M, N2=6.5**



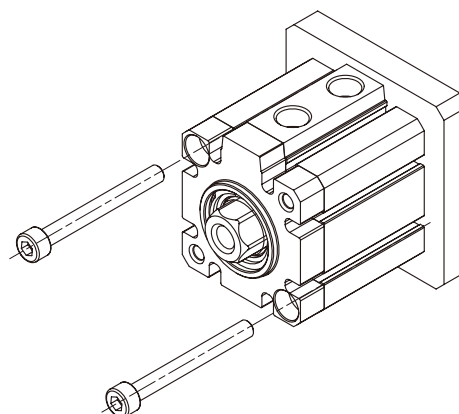
B The plate is in front and the bolt is mounted from the back.



C The plate is in back and the bolt is mounted from the back.



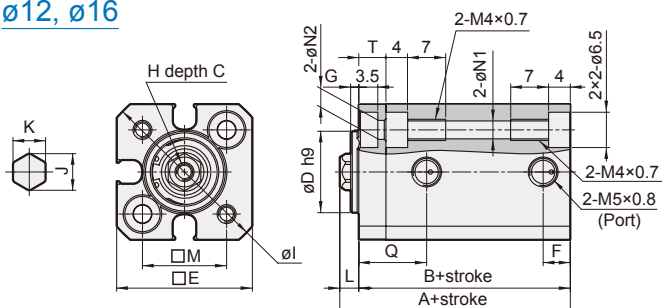
D The plate is in back and the bolt is mounted from the front.



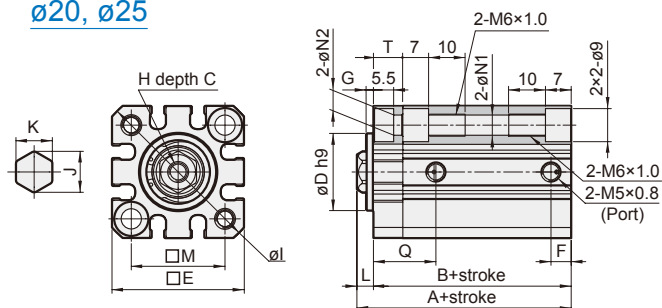
Bolt specification

Tube I.D. Mounting	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$
A	M4×0.7	M4×0.7	M6×1.0	M6×1.0	M6×1.0	M6×1.0
B	M3×0.5	M3×0.5	M5×0.8	M5×0.8	M5×0.8	M5×0.8
C	M4×0.7	M4×0.7	M6×1.0	M6×1.0	M6×1.0	M6×1.0
D	M3×0.5	M3×0.5	M5×0.8	M5×0.8	M5×0.8	M5×0.8

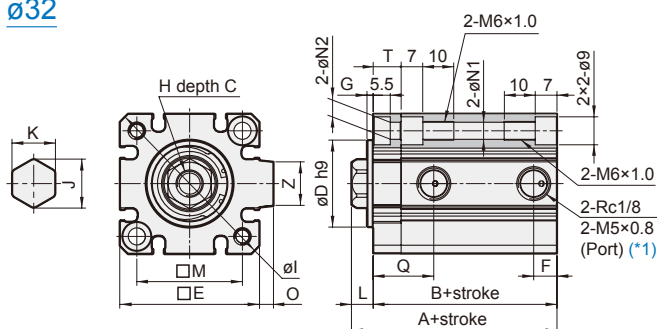
$\varnothing 12, \varnothing 16$



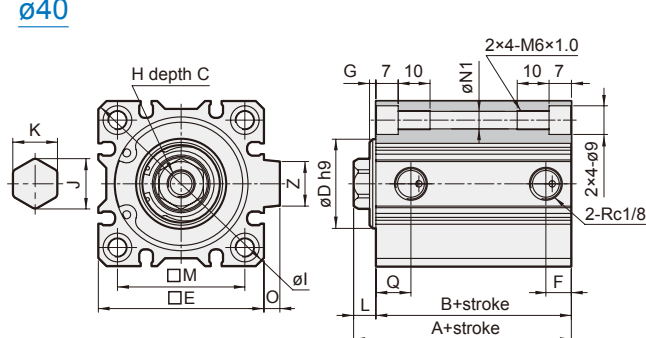
$\varnothing 20, \varnothing 25$



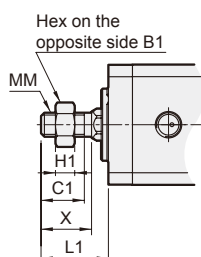
$\varnothing 32$



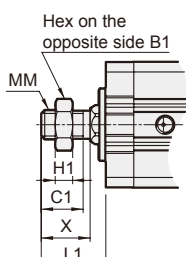
$\varnothing 40$



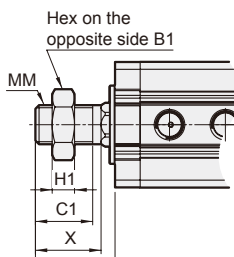
$\varnothing 12, \varnothing 16$



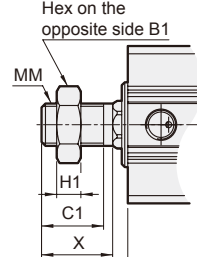
$\varnothing 20, \varnothing 25$



$\varnothing 32$



$\varnothing 40$



MCKJQ-11 male thread size

Code Tube I.D.	B1	C1	H1	L1	MM	X
12	8	9	4	14	M5x0.8	10.5
16	10	10	5	15.5	M6x1.0	12
20	13	12	5	18.5	M8x1.25	14
25	17	15	6	22.5	M10x1.25	17.5
32	22	20.5	8	28.5	M14x1.5	23.5
40	22	20.5	8	28.5	M14x1.5	23.5

Code Tube I.D.	Standard stroke						Long stroke						C	D	E	F	G	H	I	J	K	L	M	N1	N2 ^{*2}		O	Q	T	Z
	Stroke range	Without magnet			Magnet			Stroke range	A	B	F	a													b					
		A	B	F	A	B	F																							
12	5~30	25.5	22	—	30.5	27	—	—	—	—	—	6	15 _{0-0.043}	25	5	1.5	M3×0.5	32	6.74	6	3.5	15.5	3.5	3.5	4.5	—	12.5	5	—	
16	5~30	27	23.5	—	32	28.5	—	—	—	—	—	8	19 _{0-0.052}	29	5	1.5	M4×0.7	38	8.96	8	3.5	20	3.5	3.5	4.5	—	14	6.5	—	
20	5~50	32	27.5	5.5	42	37.5	5.5	51~100	53.5	49	9	7	21 _{0-0.052}	36	—	2	M5×0.8	47	11.24	10	4.5	25.5	5.5	5.5	6.5	—	17	8	—	
25	5~50	35.5	30.5	5.5	45.5	40.5	5.5	51~100	57	52	11	12	22 _{0-0.052}	40	—	2	M6×1.0	52	13.52	12	5	28	5.5	5.5	6.5	—	19	8	—	
32	5~50	39	32	—	49	42	—	—	—	—	—	13	28 _{0-0.052}	45	7.5 ^{*1}	2	M8×1.25	60	15.76	14	7	34	5.5	5.5	6.5	4.5	19.5 ^{*1}	9	14	
	51~100	49	42	—	49	42	—	—	—	—	—	13	28 _{0-0.052}	45	7.5 ^{*1}	2	M8×1.25	60	15.76	14	7	34	5.5	5.5	6.5	4.5	19.5 ^{*1}	9	14	
40	5~50	36.5	29.5	—	46.5	39.5	—	—	—	—	—	13	28 _{0-0.052}	52	8	2	M8×1.25	70	15.76	14	7	40	5.5	—	—	5	11	—	14	
	51~100	46.5	39.5	—	46.5	39.5	—	—	—	—	—	13	28 _{0-0.052}	52	8	2	M8×1.25	70	15.76	14	7	40	5.5	—	—	5	11	—	14	

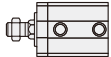
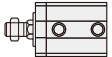
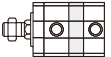
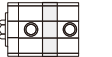
*1. Without magnet with stroke=5mm, Port size = M5x0.8, Q=20.5, F=5.5

*2. a: Standard type, b: Special type for mounting method A.

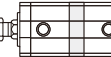
Cylinder weight

Standard stroke

Unit: g

Model		Basic weight MCKJQ-11	Basic weight (magnet) MCKJQ-11	Stroke 5mm MCKJQ-11	Basic weight MCKJQ-12	Basic weight (magnet) MCKJQ-12	Stroke 5mm MCKJQ-12
Tube I.D.	Stroke range (mm)						
$\varnothing 12$	5~30	38	46	7	36	44	7
$\varnothing 16$		55	66	9	50	61	9
$\varnothing 20$	5~50	100	130	14	93	123	14
$\varnothing 25$		150	189	18	137	176	18
$\varnothing 32$	5~100	231	283	22	200	252	22
$\varnothing 40$		250	315	23	219	284	23

Long stroke

Model		Basic weight MCKJQ-11	Basic weight (magnet) MCKJQ-11	Stroke 5mm MCKJQ-11	Basic weight MCKJQ-12	Basic weight (magnet) MCKJQ-12	Stroke 5mm MCKJQ-12
Tube I.D.	Stroke range (mm)						
$\varnothing 20$	51 or more	308	312	14	301	305	14
$\varnothing 25$		398	407	16	390	399	16

* The weight is based on 51 mm stroke.

MCJQ2 series

COMPACT CYLINDER



Standard cylinder

Compact cylinder

Mini cylinder

Guide cylinder

Table

Rodless cylinder

Stopper cylinder

Auxiliary Equipment



Features

- Ultra Compact, light weight and space saving cylinder.
- Single and double acting available.
- Ideal for use in machinery where space is limited and incorporating sensor groove which enables flush fitting of sensors.
- Magnetic as standard.

Specification

Model	MCJQ2	
Acting type	Double acting	
Tube I.D. (mm)	12,16	20,25
Port size	M5×0.8	
Medium	Air	
Operating pressure range	0.07~1 MPa	0.05~1 MPa
Proof pressure	1.5 MPa	
Ambient temperature	-5°C~+60°C (No freezing)	
Available speed range	50~500 mm/sec	
Sensor switch	RCB (Please refer to page 8-10)	

Order example

MCJQ2 – 12 – 20 – 25 M

MODEL 1: Single rod

TUBE I.D. STROKE

M: Magnet

* Magnetic as standard

STYLE

Code	Symbol	Description
1 1		Double acting / Male thread
1 2		Double acting / Female thread

Double acting – Table for standard stroke

Tube I.D.	Standard stroke
ø12, 16	5,10,15,20,25,30
ø20, 25	5,10,15,20,25,30,35,40,45,50

- Stroke out of specification is also available.
- Please consult us if stroke out of specification.

Cylinder weight

Unit: g

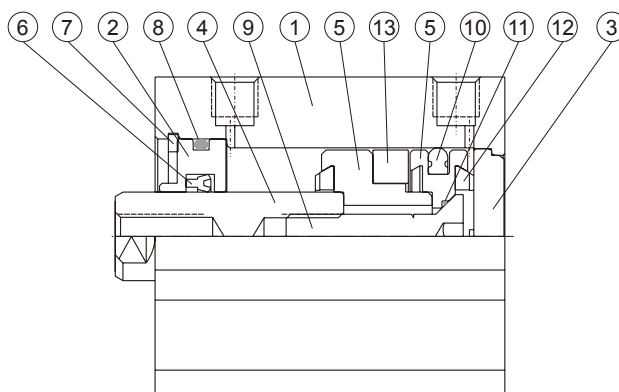
Model	Basic weight MCJQ2-11	Stroke 5mm MCJQ2-11	Basic weight MCJQ2-12	Stroke 5mm MCJQ2-12
Tube I.D.				
ø12	40	7	39	7
ø16	63	9	60	9
ø20	86	11	80	11
ø25	126	14	113	14

MCJQ2 Inside structure & Parts list

COMPACT CYLINDER



Double acting (with magnet)



Material

No.	Part name	Material	Note	Q'y	Component parts (inclusion)	Repair kits (inclusion)
1	Body	Aluminum alloy	Hard anodized	1		
2	Rod cover	Aluminum bearing alloy	Anodized	1	●	
3	End cover	Aluminum alloy	Anodized	1	●	
4	Piston rod	Stainless steel		1		
5	Piston	Aluminum alloy	Anodized	1	●	
6	Rod packing	NBR		1	●	●
7	Snap ring	Stainless steel		1	●	
8	Cover ring	NBR		1	●	●
9	Piston bolt	Stainless steel		1	●	
10	Piston packing	NBR		1	●	●
11	Piston gasket	NBR		1	●	●
12	Cushion packing	NBR		2	●	●
13	Magnet	Magnet		1	●	

Seal kit

	Rod packing	Piston packing	Cover ring	Piston gasket
Acting type	Double acting			
Tube I.D. / Q'y	1	1	2	1
ø12	KSYR-6	OPA-12	S-11	d4×w1
ø16	KSYR-8	OPA-16	S-14	d4×w1
ø20	KSYR-10A	OPA-20	S-18	d6×w1
ø25	KSYR-12	OPA-25	S-22.4	d8×w1

Order example

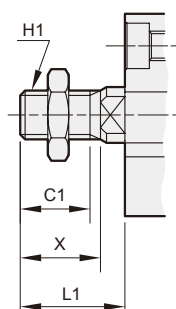
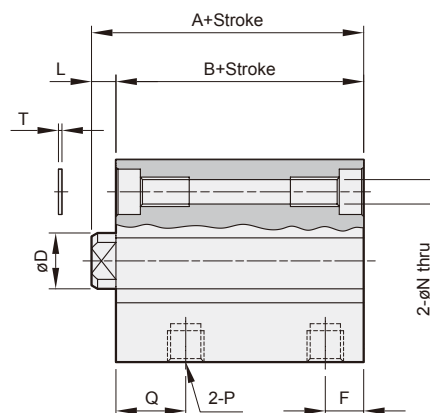
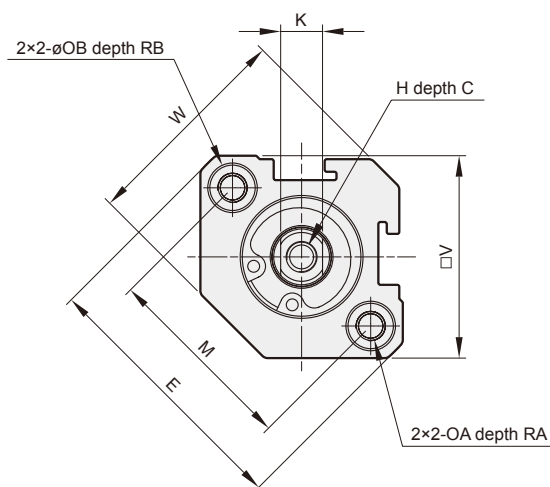
Component parts / Repair kits

Tube I.D.	Component parts	Repair kits
ø12	CP-MCJQ2-12(M)	PS-MCJQ2-12
ø16	CP-MCJQ2-16(M)	PS-MCJQ2-16
ø20	CP-MCJQ2-20(M)	PS-MCJQ2-20
ø25	CP-MCJQ2-25(M)	PS-MCJQ2-25

M: With magnet

MCJQ2 Dimensions $\varnothing 12 \sim \varnothing 25$

COMPACT CYLINDER

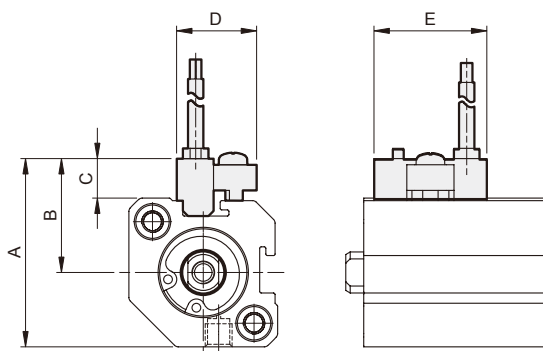


MCJQ2-11 male thread size

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

Code Tube I.D.	Stroke range	A	B	C	D	E	F	H	K	L	M	N	OA	RA	OB	RB	T	P	Q	V	W
12	5~30	31.5	28	6	6	32	6.5	M3×0.5	5	3.5	22	3.5	M4×0.7	7	6.5	3.5	0.5	M5×0.8	11	25	28
16	5~30	34	30.5	8	8	38	5.5	M4×0.7	6	3.5	28	3.5	M4×0.7	7	6.5	3.5	0.5	M5×0.8	10	29	31
20	5~50	36	31.5	10	10	47	5.5	M5×0.8	8	4.5	36	5.5	M6×1.0	10	9	7	1	M5×0.8	10.5	36	30
25	5~50	37.5	32.5	12	12	52	5.5	M6×1.0	10	5	40	5.5	M6×1.0	10	9	7	1	M5×0.8	11	40	35

Installation of sensor switch



Order example

RCB — □

MODEL

RCB (C: Reed switch)
RNB (N: 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
12	33	20.5	8	16	22
16	37	22.5	8	16	22
20	42.5	24	5.5	16	22
25	46	26	6	16	22

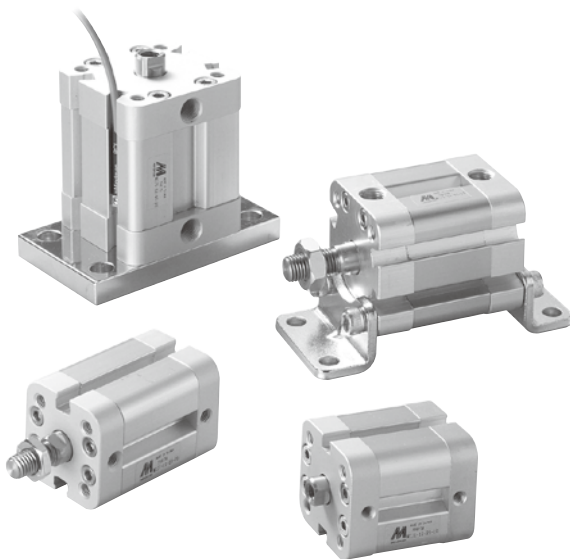


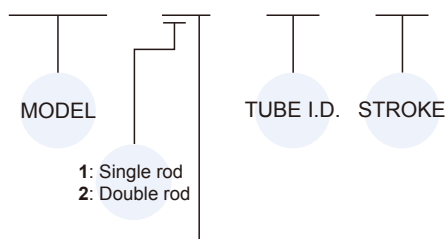
Table for standard stroke

Tube I.D.	Stroke (mm)
ø20,25	5,10,15,20,25,30,40,50,60,80,100,200
ø32,40	5,10,15,20,25,30,40,50,60,80,100,200,300
ø50,63	10,15,20,25,30,40,50,60,80,100,200,300,400
ø80,100	15,20,25,30,40,50,60,80,100,200,300,400,500

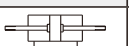
* Please consult us if stroke out of specification.

Order example

MCJI — 12 — 20 — 25



STYLE

Code	Symbol	Description
1 1		Double acting / Male thread
1 2		Double acting / Female thread
2 1		Double rod / Male thread
2 2		Double rod / Female thread

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

Features

- ISO 21287 standard.
- Wide range of bore sizes and strokes.
- Ultra compact, light weight and space saving.
- Sensor slots on RCI sides for flush mounting of proximity sensors.
- Magnetic as standard.

Specification

Model	MCJI	
Acting type	Double acting	
Tube I.D. (mm)	20,25	32,40,50,63,80,100
Port size	M5×0.8	G1/8
Medium	Air	
Operating pressure range	0.05~1 MPa	
Proof pressure	1.5 MPa	
Cushion	Rubber bumper	
Lubricator	Without lubrication	
Stroke length tolerance (*)	+0~+1.0 mm	
Ambient temperature	-5°C~+60°C (No freezing)	
Available speed range	50~500 mm/sec	
Sensor switch	RCI (Please refer to page 8-14)	

* Stroke length tolerance does not include the amount of bumper change.

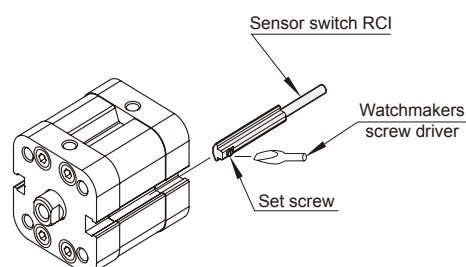
Mounting accessories

FAC — MCJI — 20

MOUNTING TYPE	MODEL	TUBE I.D.
	LB	
	CA	
	CB	
	FAC	
	FBC	
	MP	

* ø20, ø25 without CB accessory.

Installation of sensor switch



Theoretic force

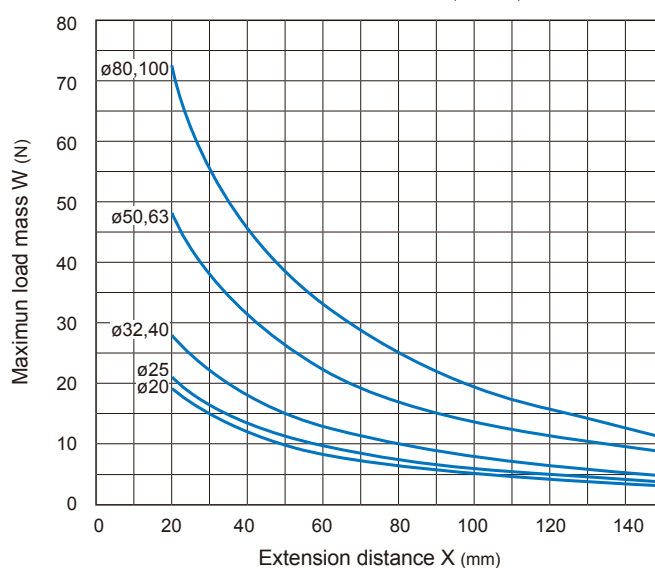
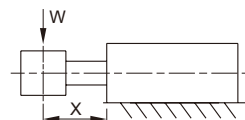


Unit: N

Tube I.D.	Acting direction	Operating perssure (MPa)		
		0.3	0.5	0.7
20	IN	69	116	162
	OUT	92	154	216
25	IN	121	202	283
	OUT	144	241	337
32	IN	203	339	475
	OUT	237	394	552
40	IN	337	561	785
	OUT	370	616	863
50	IN	519	864	1210
	OUT	578	963	1348
63	IN	858	1430	2003
	OUT	917	1529	2141
80	IN	1387	2311	3236
	OUT	1479	2466	3452
100	IN	2219	3698	5178
	OUT	2311	3852	5393

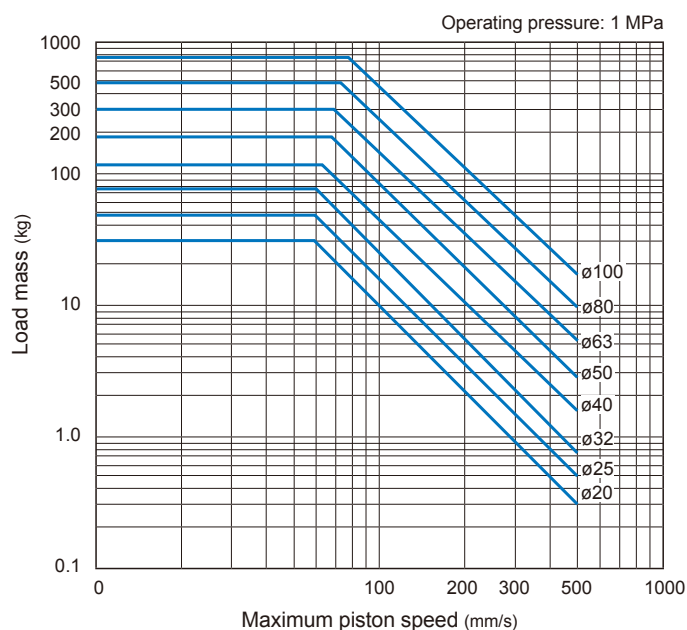
Allowable Lateral Load

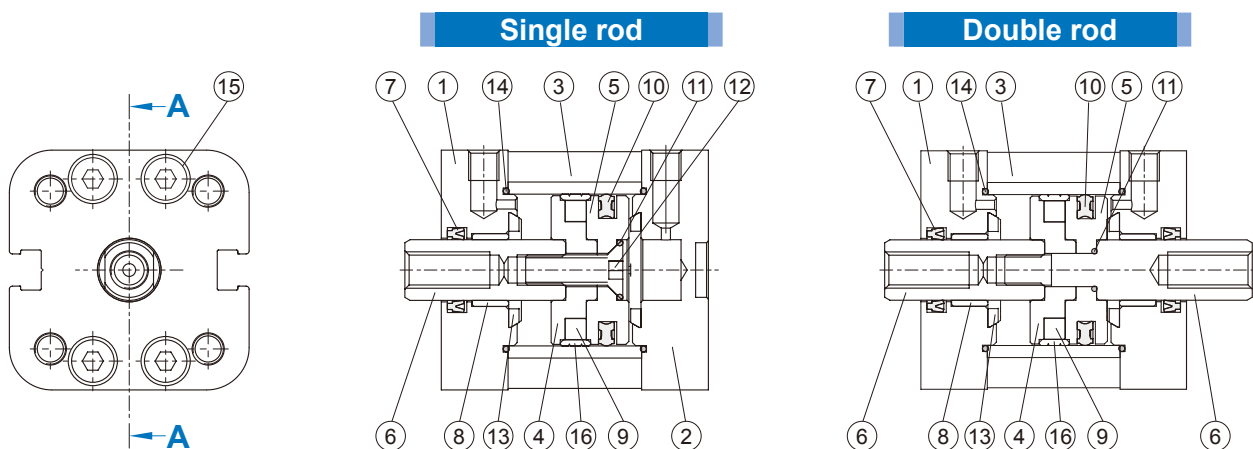
Please make sure to use the cylinder within allowable lateral load. Otherwise, the cylinder may be damaged or the life may be shortened.



Allowable kinetic energy

Please make sure to use the cylinder within allowable kinetic energy. If it is used outside the range, it may cause excessive impact and damage the device.





Order example

Component parts / Repair kits

Material

No.	Part name	Material	Q'y		Component parts (inclusion)	Repair kits (inclusion)
			Single	Double		
1	Rod cover	Aluminum alloy	1	2	●	
2	End cover	Aluminum alloy	1	—	●	
3	Tube	Aluminum alloy	1	1		
4	Piston-R	Aluminum alloy	1	1	●	
5	Piston-H	Aluminum alloy	1	1	●	
6	Piston rod	*1	1	2		
7	Rod packing	NBR	1	1	●	●
8	Bush	Bearing alloy	1	1	●	
9	Magnet ring	Magnet material	1	1	●	
10	Piston packing	NBR	1	1	●	●
11	O-ring	NBR	1	1	●	●
12	Screw	Carbon steel	1	—	●	
13	Cushion	NBR	2	2	●	●
14	O-ring	NBR	2	2	●	●
15	Screw	Stainless steel	8	8	●	
16	Wear ring	Resin	1	1	●	

*1. Material ø20, ø25: Stainless steel; ø32~ø100: Medium carbon steel.

Single rod

Tube I.D.	Component parts	Repair kits
ø20	CP-MCJI-20	PS-MCJI-20
ø25	CP-MCJI-25	PS-MCJI-25
ø32	CP-MCJI-32	PS-MCJI-32
ø40	CP-MCJI-40	PS-MCJI-40
ø50	CP-MCJI-50	PS-MCJI-50
ø63	CP-MCJI-63	PS-MCJI-63
ø80	CP-MCJI-80	PS-MCJI-80
ø100	CP-MCJI-100	PS-MCJI-100

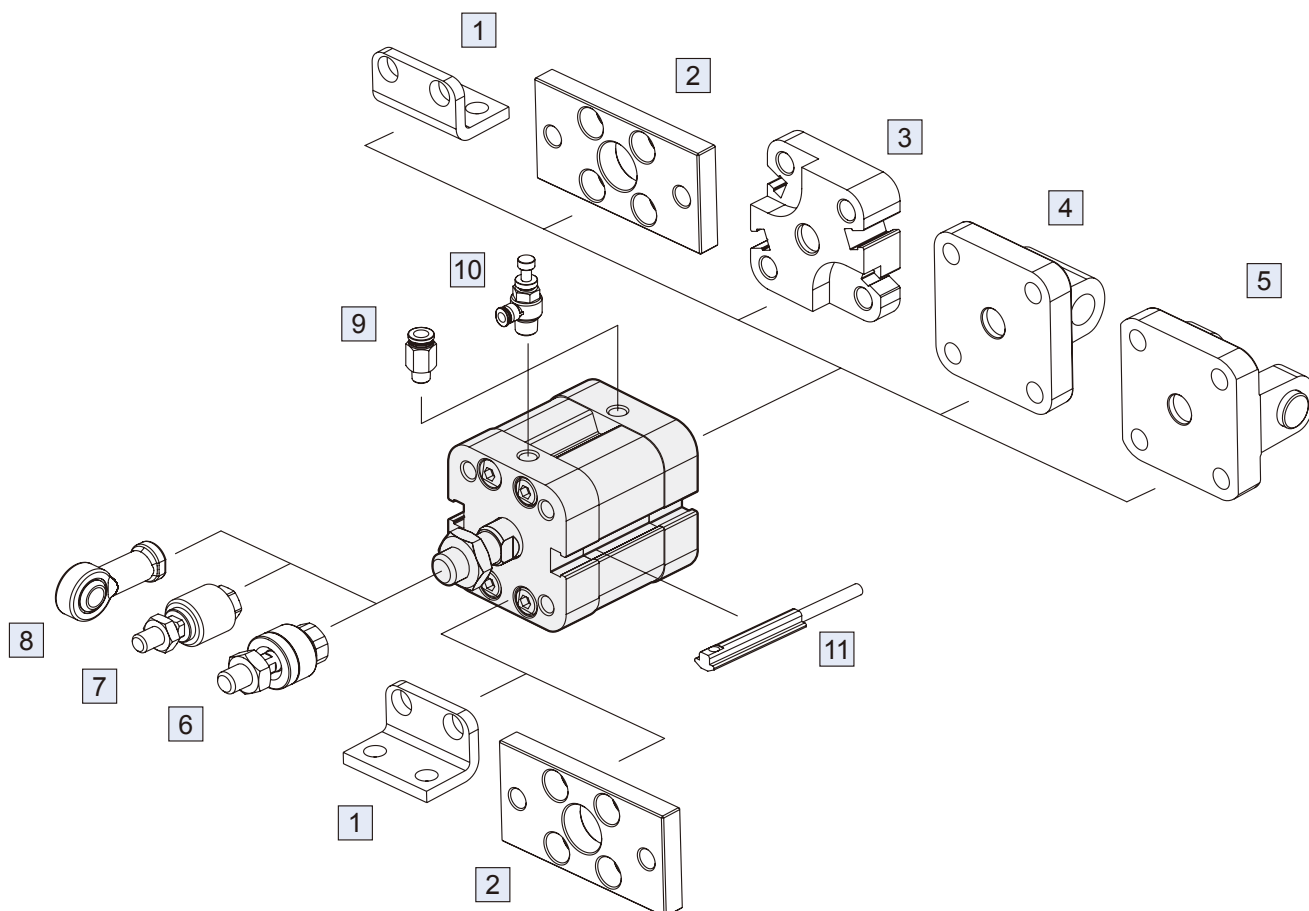
Double rod

Tube I.D.	Component parts	Repair kits
ø20	CP-MCJI-2-20	PS-MCJI-2-20
ø25	CP-MCJI-2-25	PS-MCJI-2-25
ø32	CP-MCJI-2-32	PS-MCJI-2-32
ø40	CP-MCJI-2-40	PS-MCJI-2-40
ø50	CP-MCJI-2-50	PS-MCJI-2-50
ø63	CP-MCJI-2-63	PS-MCJI-2-63
ø80	CP-MCJI-2-80	PS-MCJI-2-80
ø100	CP-MCJI-2-100	PS-MCJI-2-100

Cylinder weight

Unit: g

Model	Basic weight MCJI-11	Stroke 10mm MCJI-11	Basic weight MCJI-12	Stroke 10mm MCJI-12	LB	FAC/FBC	MP	CA	CB	PIN (for CB)	Nut
Tube I.D.											
ø20	121	14	108	14	76	126	28	66	N/A	N/A	3
ø25	147	18	135	18	88	159	37	82	N/A	N/A	3
ø32	238	24	214	24	106	206	60	174	160	31	7
ø40	322	32	291	32	140	268	89	260	248	51	7
ø50	493	46	455	46	242	492	129	403	390	58	9
ø63	703	48	667	48	288	635	182	634	576	119	9
ø80	1260	76	1190	76	567	1457	339	1149	1085	150	18
ø100	2140	92	2060	92	766	2033	568	1550	1623	285	18



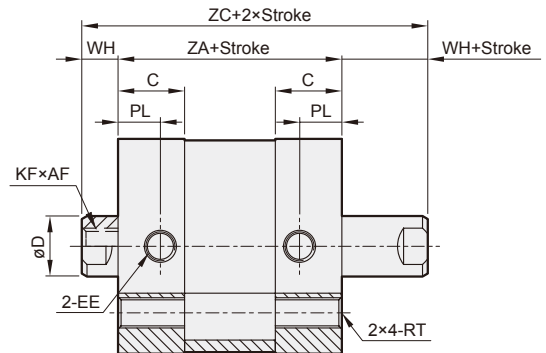
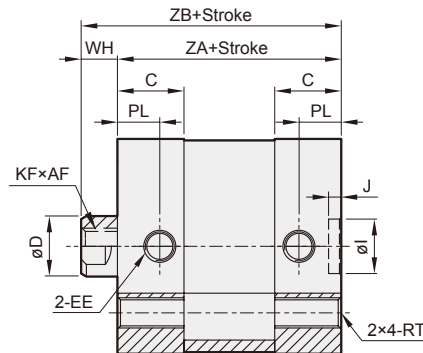
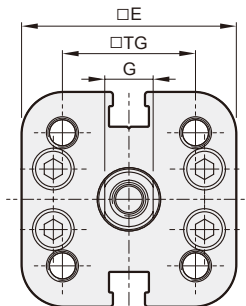
No.	Accessories	Material	Page
1	Mounting accessories LB	Carbon steel	2-59
2	Mounting accessories FAC/FBC	Carbon steel	2-60
3	Mounting accessories MP	Aluminum	2-59
4	Mounting accessories CA	Cast iron	2-61
5	Mounting accessories CB+PIN	Cast iron / *	2-61
6	Floating joint MFC	Carbon steel	8-2
7	Floating joint MFCS	Carbon steel	8-5
8	Female rod ends PHS	Carbon steel	8-6
9	Fitting PC (PISCO)	—	8-3 (Vol.1)
10	Speed controller JSC (PISCO)	—	8-15 (Vol.1)
11	Sensor switch RCI	—	8-14

* Material of PIN is carbon steel.

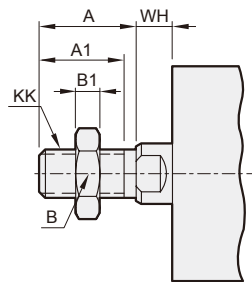
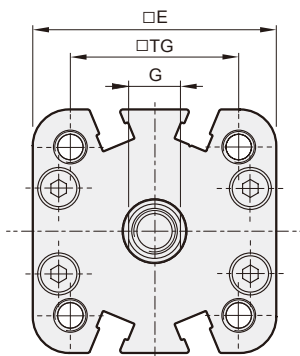
Single rod

Double rod

$\phi 20 \sim \phi 25$



$\phi 32 \sim \phi 100$

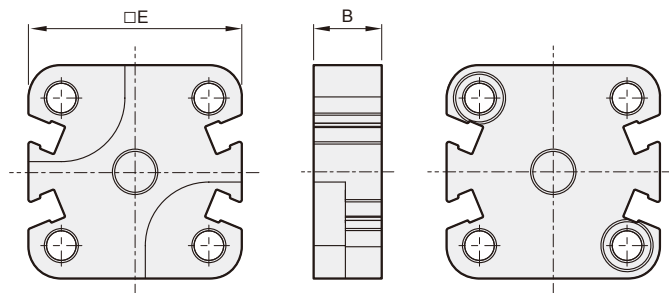


MCJI-11/21 male thread size

Code Tube I.D.	A	A1	B	B1	KK
20	16	14	13	4	M8×1.25
25	16	14	13	4	M8×1.25
32	19	17	17	5	M10×1.25
40	19	17	17	5	M10×1.25
50	22	20	19	6	M12×1.25
63	22	20	19	6	M12×1.25
80	28	26	24	8	M16×1.5
100	28	26	24	8	M16×1.5

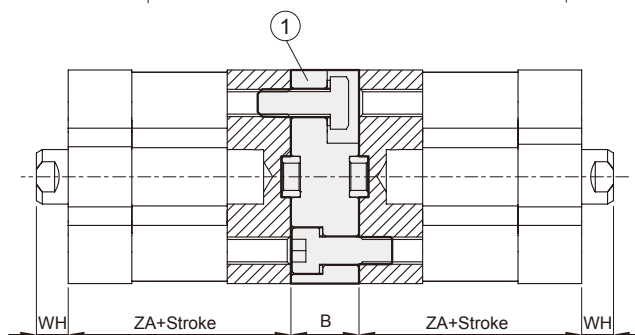
Code Tube I.D.	AF	C	D	E	EE	G	WH	I	J	KF	PL	TG	RT	ZA	ZB	ZC
20	14	11	10	35.5	M5×0.8	8	6	9	2.1	M6×1.0	7	22	M5×0.8	37	43	49
25	14	11	10	39.5	M5×0.8	8	6	9	2.1	M6×1.0	7	26	M5×0.8	39	45	51
32	15	14	12	47.0	G1/8	10	7	9	2.1	M8×1.25	7.5	32.5	M6×1.0	44	51	58
40	15	14	12	54.5	G1/8	10	7	9	2.1	M8×1.25	7.5	38	M6×1.0	45	52	59
50	18	14	16	65.5	G1/8	14	8	12	2.6	M10×1.5	7.5	46.5	M8×1.25	45	53	61
63	18	14.5	16	75.5	G1/8	14	8	12	2.6	M10×1.5	7.5	56.5	M8×1.25	49	57	65
80	20	15.5	20	95.5	G1/8	17	10	12	2.6	M12×1.75	8	72	M10×1.5	54	64	74
100	20	18.5	20	113.5	G1/8	17	10	12	2.6	M12×1.75	9.5	89	M10×1.5	67	77	87

MP

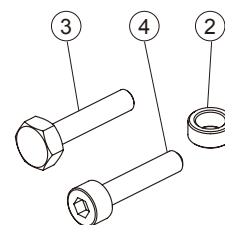


Code Tube I.D.	B	E	WH	ZA	Max. overall stroke
20	13	35.5	6	37	600 mm
25	13	39.5	6	39	600 mm
32	15	47.0	7	44	800 mm
40	15	54.5	7	45	800 mm
50	15	65.5	8	45	800 mm
63	15	75.5	8	49	800 mm
80	17	95.5	10	54	1000 mm
100	19.5	113.5	10	67	1000 mm

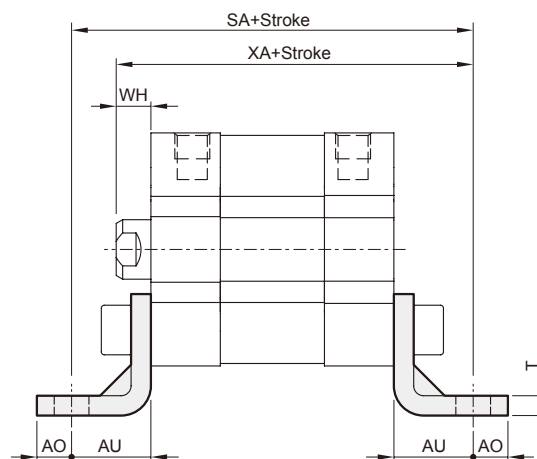
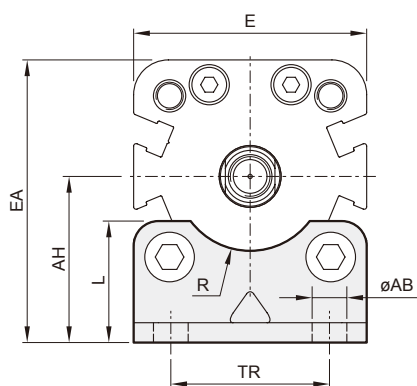
* The max. overall stroke length may not be exceeded when combining cylinders and multi-position kits.



No.	Part name	Q'ty
1	Connection block	1
2	Flange	2
3	Bolt	2
4	Bolt	2



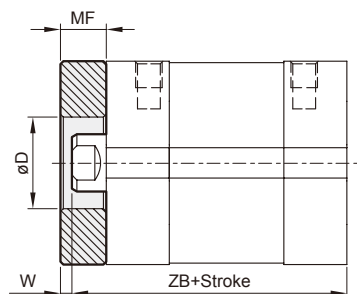
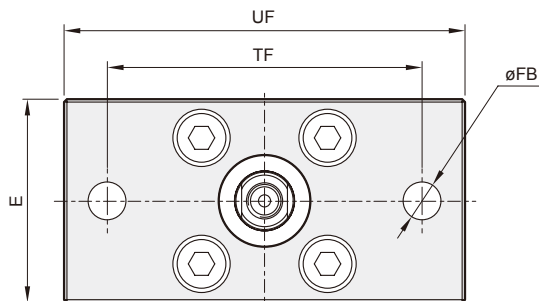
LB



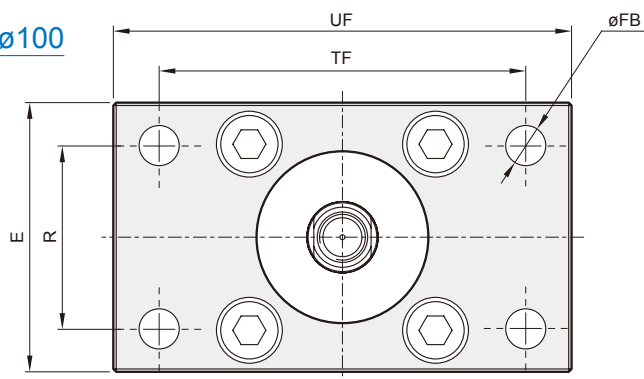
Code Tube I.D.	AB	AH	AO	AU	E	EA	L	R	SA	T	TR	WH	XA
20	7	27	7	16	35.5	44.8	21	—	69	4	22	6	59
25	7	29	7	16	39.5	48.8	22	—	71	4	26	6	61
32	7	33.5	7	16	47.0	57.0	24.5	15	76	4	32	7	67
40	10	38	9	18	54.5	65.3	26	17.5	81	4	36	7	70
50	10	45	9	21	65.5	77.8	31	20	87	5	45	8	74
63	10	50	9	21	75.5	87.8	31	22.5	91	5	50	8	78
80	12	63	11	26	95.5	110.8	40	—	106	6	63	10	90
100	14.5	74	13	27	113.5	130.8	46	—	121	6	75	10	104

FAC

$\phi 20 \sim \phi 25$



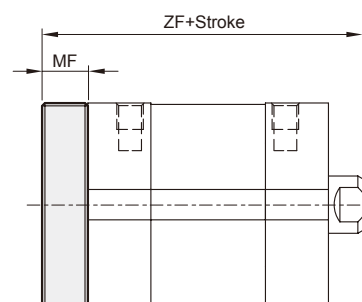
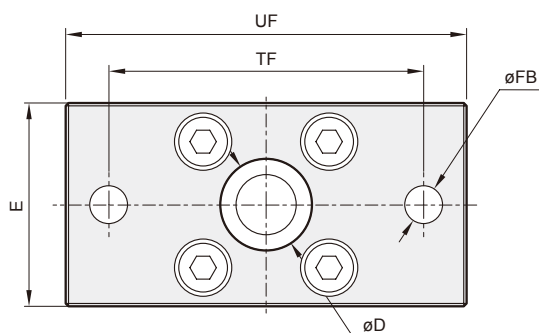
$\phi 32 \sim \phi 100$



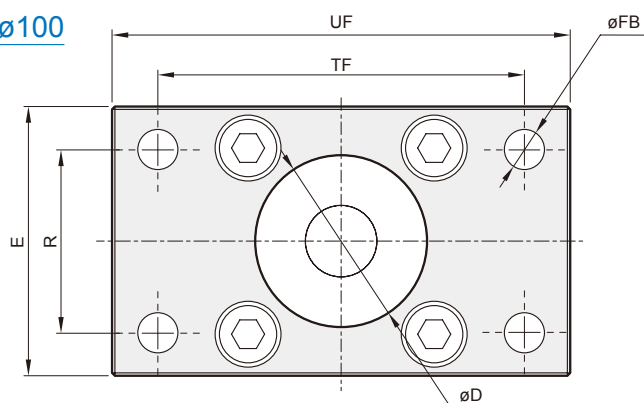
Code Tube I.D.	D	E	FB	MF	R	TF	UF	W	ZB
20	16	35.5	6.6	8	—	55	70	2	43
25	16	39.5	6.6	8	—	60	76	2	45
32	30	47.0	7	10	32	64	80	3	51
40	35	54.5	9	10	36	72	90	3	52
50	40	65.5	9	12	45	90	110	4	53
63	45	75.5	9	12	50	100	120	4	57
80	45	95.5	12	16	63	126	150	6	64
100	55	113.5	14	16	75	150	175	6	77

FBC

$\phi 20 \sim \phi 25$

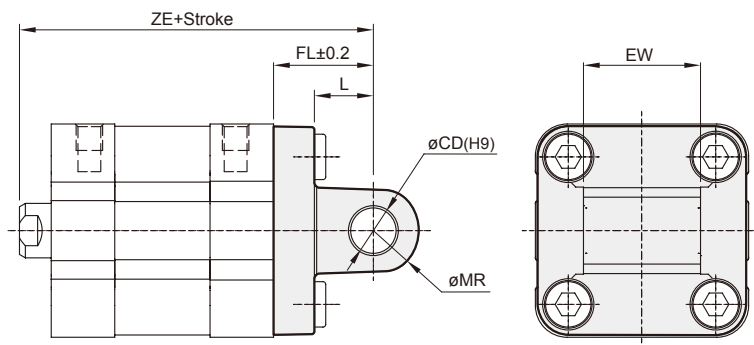


$\phi 32 \sim \phi 100$



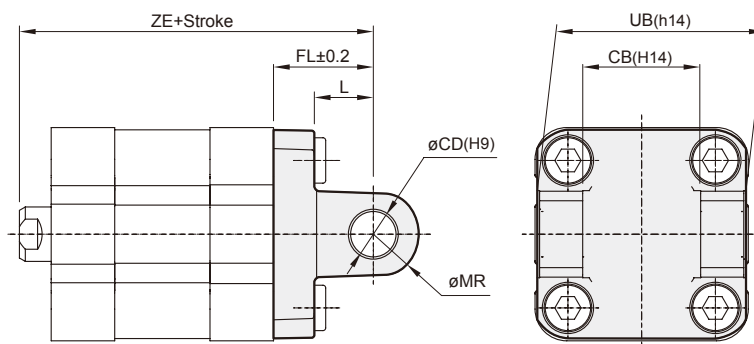
Code Tube I.D.	D	E	FB	MF	R	TF	UF	ZF
20	16	35.5	6.6	8	—	55	70	51
25	16	39.5	6.6	8	—	60	76	53
32	30	47.0	7	10	32	64	80	61
40	35	54.5	9	10	36	72	90	62
50	40	65.5	9	12	45	90	110	65
63	45	75.5	9	12	50	100	120	69
80	45	95.5	12	16	63	126	150	80
100	55	113.5	14	16	75	150	175	93

CA



Code Tube I.D.	CD	EW	FL	L	MR	ZE
20	8	16 h12	20	14	8	63
25	8	16 h12	20	14	8	65
32	10	25.8 ⁺⁰ _{-0.4}	22	13	10	73
40	12	27.8 ⁺⁰ _{-0.4}	25	16	12	77
50	12	31.8 ⁺⁰ _{-0.4}	27	16	12	80
63	16	39.8 ⁺⁰ _{-0.4}	32	21	16	89
80	16	49.8 ⁺⁰ _{-0.4}	36	22	16	100
100	20	59.8 ⁺⁰ _{-0.4}	41	30	21	118

CB



Code Tube I.D.	CB	CD	FL	L	MR	UB	ZE
32	26	10	22	13	10	45	73
40	28	12	25	16	12	52	77
50	32	12	27	16	12	60	80
63	40	16	32	21	16	70	89
80	50	16	36	22	16	90	100
100	60	20	41	29	20	110	118

* ø20, ø25 without CB accessory.

PIN

Order example

PIN — MCJI — 32 — CB — P

PIN

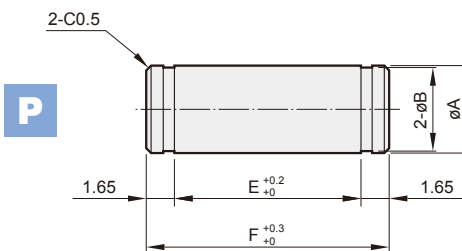
TUBE I.D.

32
40
50
63
80
100

TYPE

CB: for CB accessory

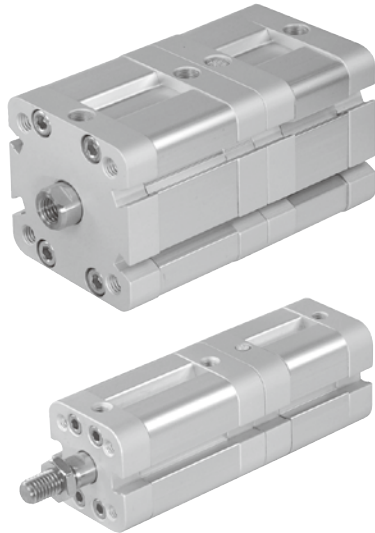
P: With split pin



Code Tube I.D.	A(e8)	B	C	E	F	Snap ring
32	10	9.6	2.65	45.2	50.5	STW-10
40	12	11.5	2.65	52.2	57.5	STW-12
50	12	11.5	2.65	60.2	65.5	STW-12
63	16	15.2	2.65	70.2	75.5	STW-16
80	16	15.2	2.65	90.2	95.5	STW-16
100	20	19	2.85	110.3	116	STW-20

MCJI Multiple position

ISO 21287 **COMPACT CYLINDER**



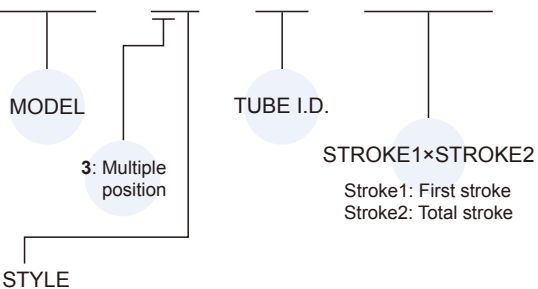
Specification

Model	MCJI-3*	
Acting type	Double acting	
Tube I.D. (mm)	20,25	32,40,50,63,80,100
Port size	M5×0.8	G1/8
Medium	Air	
Operating pressure range	0.05~1 MPa	
Proof pressure	1.5 MPa	
Cushion	Rubber bumper	
Lubricator	Without lubrication	
Stroke length tolerance (*)	+0~+1.0 mm	
Ambient temperature	-5°C~+60°C (No freezing)	
Available speed range	50~500 mm/sec	
Sensor switch	RCI (Please refer to page 8-14)	

* Stroke length tolerance does not include the amount of bumper change.

Order example

MCJI — 32 — 40 — 20×25



Code	Symbol	Description
3 1		Double acting / Male thread
3 2		Double acting / Female thread

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

Table for standard stroke

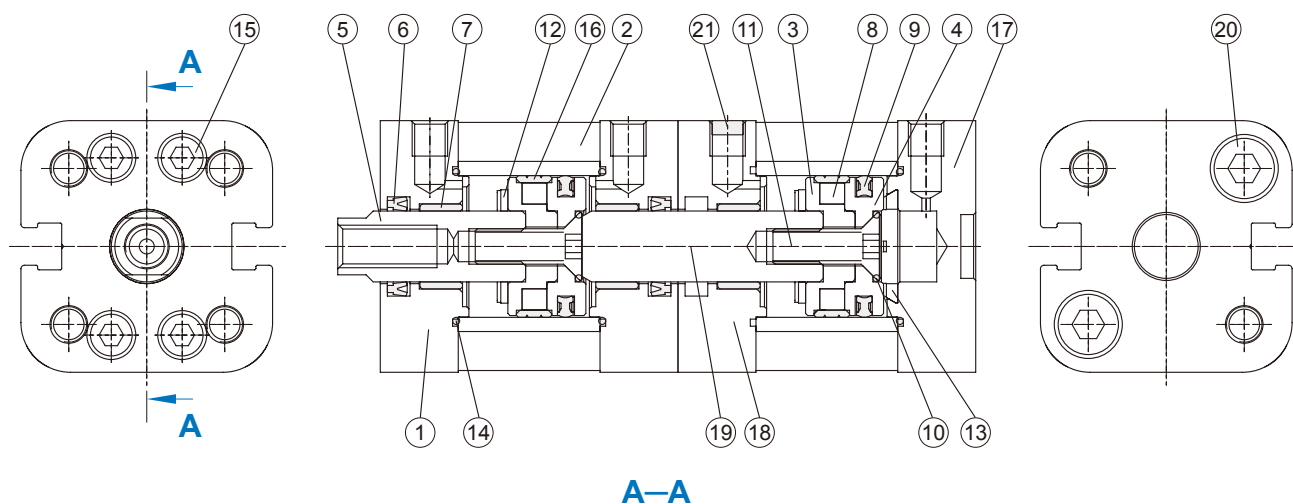
Tube I.D.	First stroke (mm)	Max. stroke
ø20,25	5,10,15,20,25,30,40,50,60,80,100	110
ø32,40	5,10,15,20,25,30,40,50,60,80,100	120
ø50,63	10,15,20,25,30,40,50,60,80,100,110,120	150
ø80,100	15,20,25,30,40,50,60,80,100,110,120	140

Tube I.D.	Total stroke (mm)
ø20,25	5,10,15,20,25,30,40,50,60,80,100,200
ø32,40	5,10,15,20,25,30,40,50,60,80,100,200,300
ø50,63	10,15,20,25,30,40,50,60,80,100,200,300,400
ø80,100	15,20,25,30,40,50,60,80,100,200,300,400,500

* Please consult us if stroke out of specification.

MCJI Inside structure & Parts list – Multiple position

ISO 21287 COMPACT CYLINDER



Material

No.	Part name	Material	Q'ty	Component parts (inclusion)	Repair kits (inclusion)
1	Rod cover	Aluminum alloy	2	●	
2	Tube	Aluminum alloy	2		
3	Piston-R	Aluminum alloy	2	●	
4	Piston-H	Aluminum alloy	2	●	
5	Piston rod	*1	1		
6	Rod packing	NBR	2	●	●
7	Bush	Bearing alloy	3	●	
8	Magnet ring	Magnet material	2	●	
9	Piston packing	NBR	2	●	●
10	O-ring	NBR	2	●	●
11	Screw	Carbon steel	2	●	
12	Cushion	NBR	2	●	●
13	Cushion	NBR	1	●	●
14	O-ring	NBR	3	●	●
15	Screw	Stainless steel	8	●	
16	Wear ring	Resin	2	●	
17	End cover	Aluminum alloy	1	●	
18	Center cover	Aluminum alloy	1	●	
19	Piston rod	*1	1		
20	Screw	Carbon steel	2		
21	Silencer	Brass	1	●	

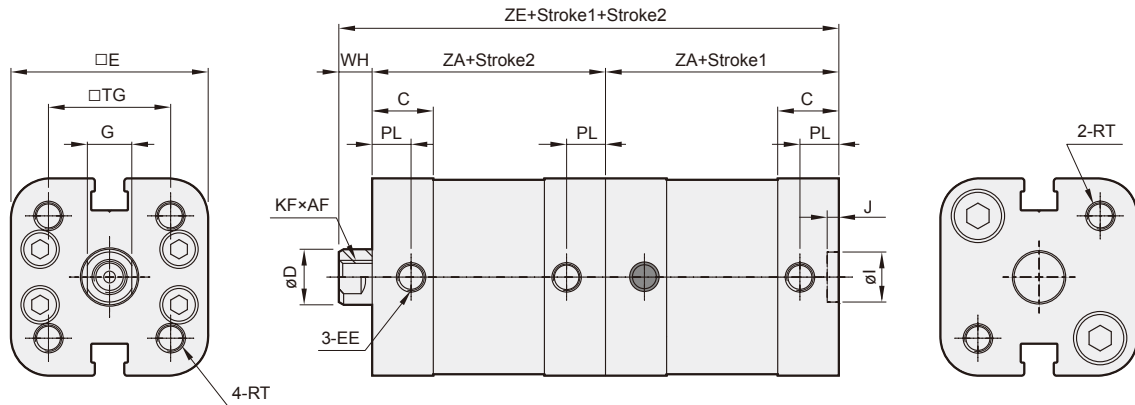
*1. Material $\phi 20$, $\phi 25$: Stainless steel; $\phi 32 \sim \phi 100$: Medium carbon steel.

Order example

Component parts / Repair kits

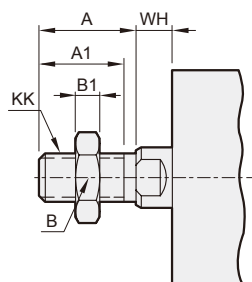
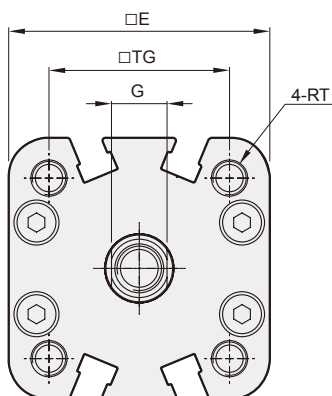
Tube I.D.	Component parts	Repair kits
$\phi 20$	CP-MCJI-3-20	PS-MCJI-3-20
$\phi 25$	CP-MCJI-3-25	PS-MCJI-3-25
$\phi 32$	CP-MCJI-3-32	PS-MCJI-3-32
$\phi 40$	CP-MCJI-3-40	PS-MCJI-3-40
$\phi 50$	CP-MCJI-3-50	PS-MCJI-3-50
$\phi 63$	CP-MCJI-3-63	PS-MCJI-3-63
$\phi 80$	CP-MCJI-3-80	PS-MCJI-3-80
$\phi 100$	CP-MCJI-3-100	PS-MCJI-3-100

ø20, ø25



* Stroke1: First stroke, Stroke2: Total stroke.

ø32~ø100



MCJI-31 (Double acting / Male thread)

Code Tube I.D.	A	A1	B	B1	KK
20	16	14	13	4	M8×1.25
25	16	14	13	4	M8×1.25
32	19	17	17	5	M10×1.25
40	19	17	17	5	M10×1.25
50	22	20	19	6	M12×1.25
63	22	20	19	6	M12×1.25
80	28	26	24	8	M16×1.5
100	28	26	24	8	M16×1.5

Code Tube I.D.	AF	C	D	E	EE	G	WH	I	J	KF	PL	TG	RT	ZA	ZE
20	14	11	10	35.5	M5×0.8	8	6	9	2.1	M6×1.0	7	22	M5×0.8	37	80
25	14	11	10	39.5	M5×0.8	8	6	9	2.1	M6×1.0	7	26	M5×0.8	39	84
32	15	14	12	47.0	G1/8	10	7	9	2.1	M8×1.25	7.5	32.5	M6×1.0	44	95
40	15	14	12	54.5	G1/8	10	7	9	2.1	M8×1.25	7.5	38	M6×1.0	45	97
50	18	14	16	65.5	G1/8	14	8	12	2.6	M10×1.5	7.5	46.5	M8×1.25	45	98
63	18	14.5	16	75.5	G1/8	14	8	12	2.6	M10×1.5	7.5	56.5	M8×1.25	49	106
80	20	15.5	20	95.5	G1/8	17	10	12	2.6	M12×1.75	8	72	M10×1.5	54	118
100	20	18.5	20	113.5	G1/8	17	10	12	2.6	M12×1.75	9.5	89	M10×1.5	67	144

* Stroke1: First stroke, Stroke2: Total stroke.

MCJU series

PLATE OVAL CYLINDER (NON-ROTATION ROD)

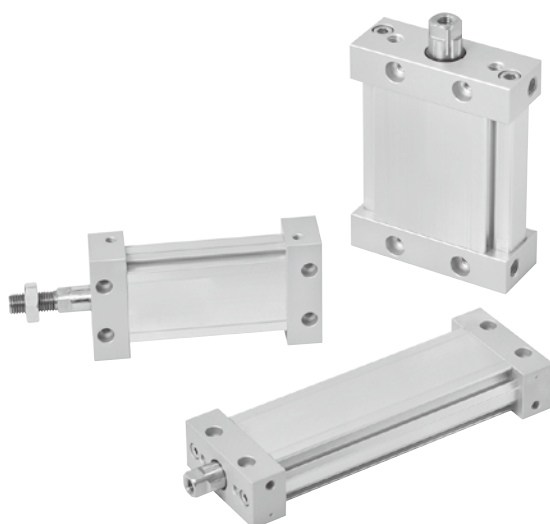


Table for standard stroke

Tube I.D.	Stroke (mm)	Max. stroke
ø25,32,40 50,63	5,10,15,20,25,30,40,50,75, 100,200,250	300

* Please consult us if stroke out of specification.

Features

- Plate type design for ultra compact, Oval piston design for space saving.
- Sensor slots on sides for flush mounting of proximity sensors.
- Magnetic as standard.

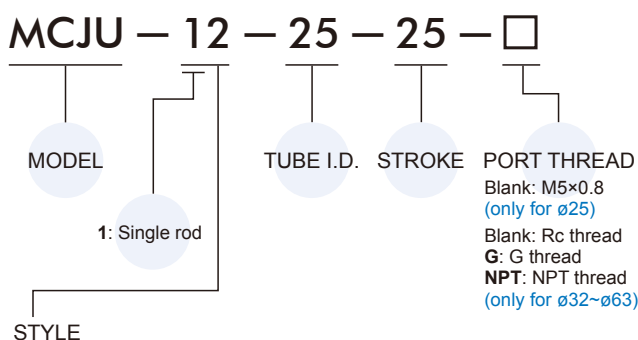
Specification

Model	MCJU				
Acting type	Double acting				
Tube I.D. (mm)	25	32	40	50	63
Port size	M5×0.8	Rc1/8		Rc1/4	
Medium	Air				
Operating perssure range	0.05~0.7 MPa				
Proof pressure	1.0 MPa				
Available speed range	50~500 mm/sec				
Cushion	Rubber bumper				
Lubricator	Without lubrication				
Stroke length tolerance (*1)	+0~+1.5 mm				
Ambient temperature	-5°C~+60°C (No freezing)				
Sensor switch (*2)	RDVE(V), RDGV				

*1. Stroke length tolerance does not include the amount of bumper change.

*2. RDVE, RDGV specification, please refer to page 8-19, 20.

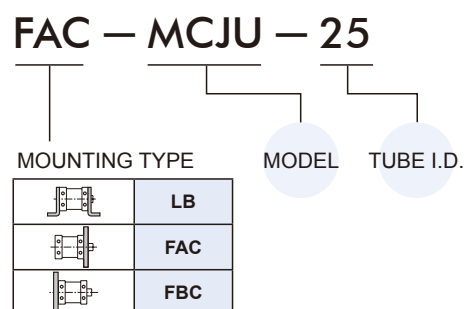
Order example



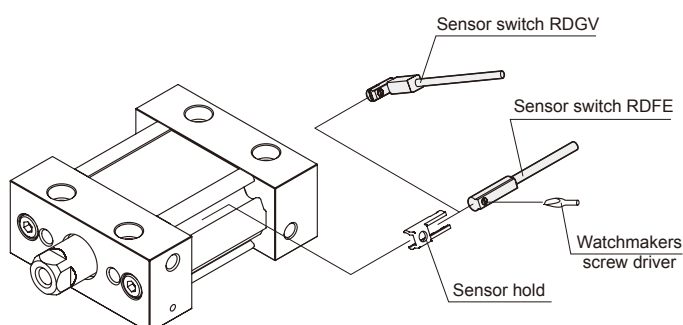
Code	Symbol	Description
1 1		Double acting / Male thread
1 2		Double acting / Female thread
2 1		Double rod / Male thread
2 2		Double rod / Female thread

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

Mounting accessories



Installation of sensor switch

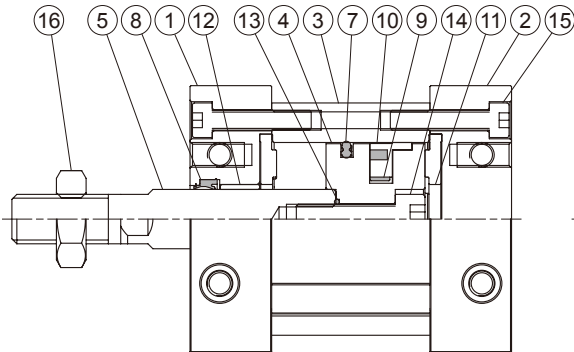


MCJU Inside structure & Parts list

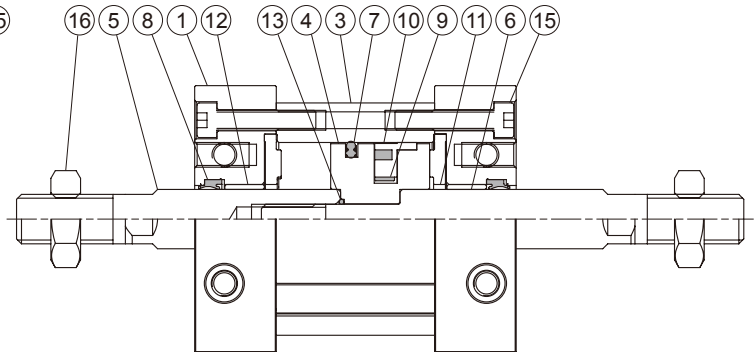
PLATE OVAL CYLINDER (NON-ROTATION ROD)



Single rod



Double rod



Material

No.	Part name	Material	Q'y / Style				Repair kits (inclusion)
			11	12	21	22	
1	Rod cover	Aluminum alloy	1	2			
2	End cover	Aluminum alloy	1	—			
3	Tube	Aluminum alloy		1			
4	Piston	Aluminum alloy		1			
5	Piston rod-R *1	Carbon steel		1			
6	Piston rod-H *1	Carbon steel	—	1			
7	Piston packing	HNBR		1			●
8	Rod packing	HNBR	1	2			●
9	Magnet	Magnet material		4			
10	Wear ring	Resin		1			
11	Cushion pad	TPU		2			
12	Bush	Bearing alloy	1	2			
13	O-ring	NBR		1			
14	Piston bolt	Stainless steel	1	—			
15	Bolt	Stainless steel		4			
16	Nut	Carbon steel	1	—	2	—	

*1. When customized material is bearing steel, only two-side across flat (wrench flat) is available.

Order example Repair kits

Tube I.D.	Repair kits
ø25	PS-MCJU-25
ø32	PS-MCJU-32
ø40	PS-MCJU-40
ø50	PS-MCJU-50
ø63	PS-MCJU-63

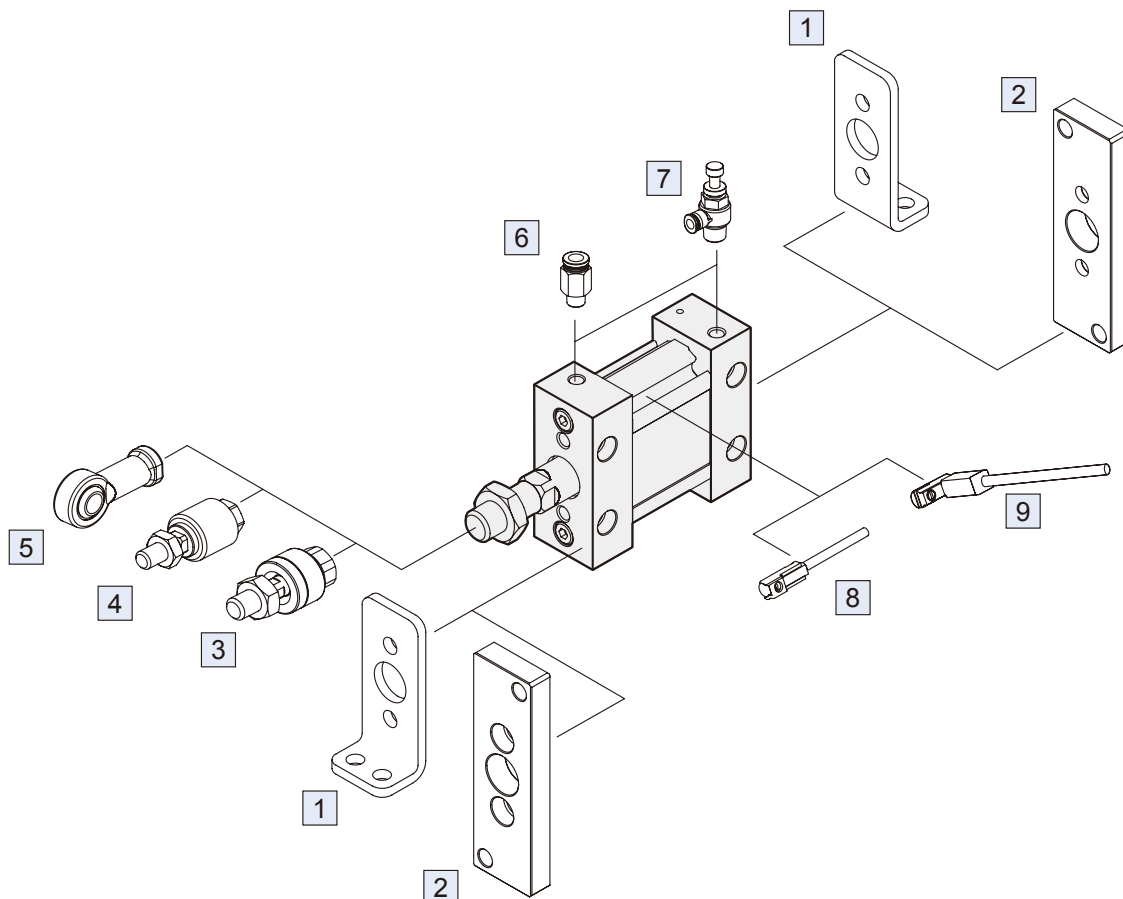
Accessories weight

Model	LB	FAC/FBC	Nut
Tube I.D.			
ø25	67	97	8
ø32	141	141	11
ø40	204	226	16
ø50	324	447	32
ø63	616	809	32

Cylinder weight

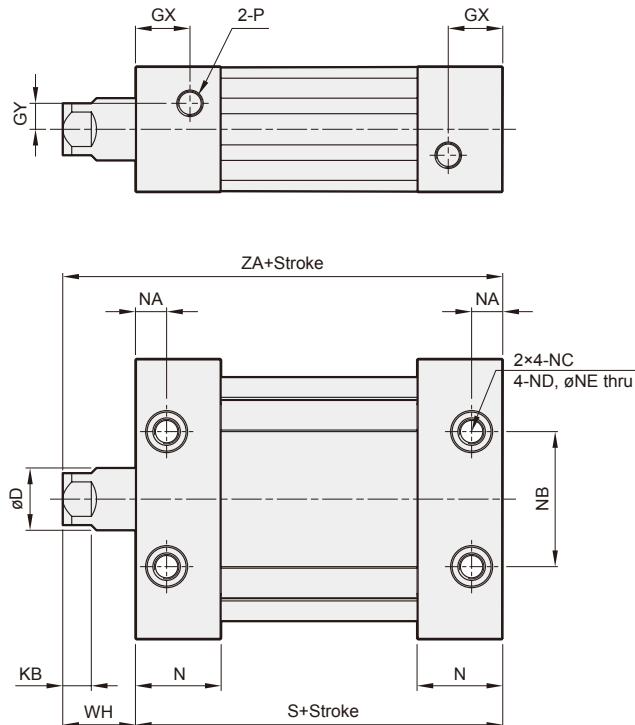
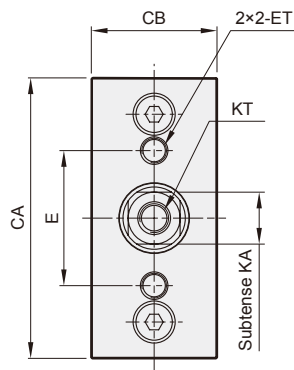
Unit: g

Model	Basic weight MCJU-11	Stroke 10mm MCJU-11	Basic weight MCJU-12	Stroke 10mm MCJU-12	Basic weight MCJU-21	Stroke 10mm MCJU-21	Basic weight MCJU-22	Stroke 10mm MCJU-22
Tube I.D.								
ø25	192	20	167	20	246	28	198	28
ø32	320	27	282	27	381	40	305	40
ø40	454	37	403	37	561	54	444	54
ø50	846	57	768	57	1060	83	842	83
ø63	1234	76	1157	76	1466	102	1248	102

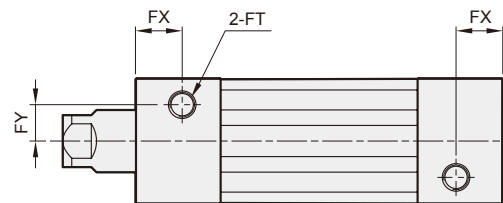
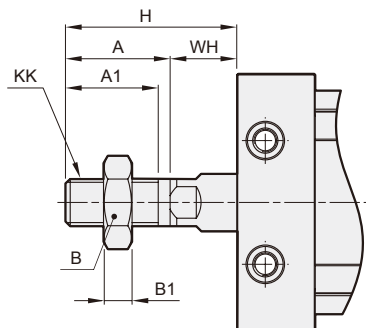


No.	Accessories	Material	Page
1	Mounting accessories LB	Carbon steel	2-70
2	Mounting accessories FAC/FBC	Carbon steel	2-70
3	Floating joint MFC	Carbon steel	8-2
4	Floating joint MFCS	Carbon steel	8-5
5	Female rod ends PHS	Carbon steel	8-6
6	Fitting PC (PISCO)	—	8-3 (Vol.1)
7	Speed controller JSC (PISCO)	—	8-15 (Vol.1)
8	Sensor switch RDFE	—	8-19
9	Sensor switch RDGV	—	8-20

MCJU-12 female thread size



MCJU-11 male thread size



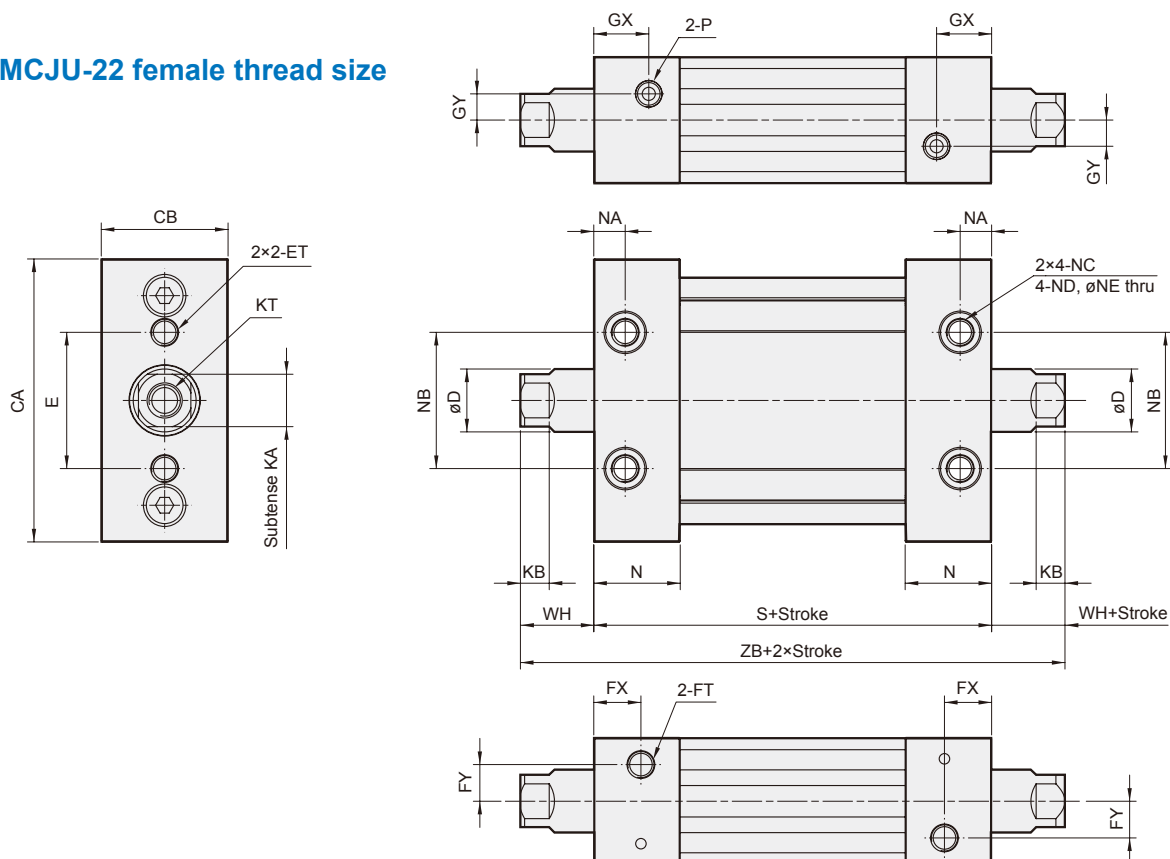
Code Tube I.D.	A	A1	B	B1	CA	CB	D	E	ET	FT	FX	FY	GX	GY	H	KA	KB	KK
25	22	19.5	17	6	54	24.2	12	26	M5×0.8×11 dp	M5×0.8×7.5 dp	9	7	10.5	5	36	10	5.5	M10×1.25
32	26	23.5	19	7	68	28	14	42	M6×1.0×11 dp	M6×1.0×12 dp	6.5	8	9	5.5	40	12	5.5	M12×1.75
40	30	27	22	8	86	32	16	54	M8×1.25×11 dp	M8×1.25×13 dp	8	9	10	7	45	14	6	M14×1.5
50	35	32	26	11	104	39	20	64	M10×1.5×15 dp	M10×1.5×14.5 dp	10	9	11.5	8	53	18	7	M18×1.5
63	35	32	26	11	124	50	20	72	M12×1.75×15 dp	M12×1.75×18 dp	11	12	11.5	10	56	18	7	M18×1.5

Code Tube I.D.	KT	N	NA	NB	NC	ND	NE	S	P	WH	ZA
25	M6×1.0×12 dp	16.5	6	26	sinkø7.5×4.5 dp	M5×0.8	4.2	55	M5×0.8	14	69
32	M8×1.25×13 dp	18	6.5	28	sinkø9×5.5 dp	M6×1.0	5.1	58	Rc1/8	14	72
40	M8×1.25×13 dp	18.5	8	36	sinkø10.5×6.5 dp	M8×1.25	6.7	60	Rc1/8	15	75
50	M10×1.5×15 dp	24	10	42	sinkø13.5×8.5 dp	M10×1.5	8.5	74	Rc1/4	18	92
63	M10×1.5×15 dp	24	11	46	sinkø17×10.5 dp	M12×1.75	10.2	75	Rc1/4	21	96

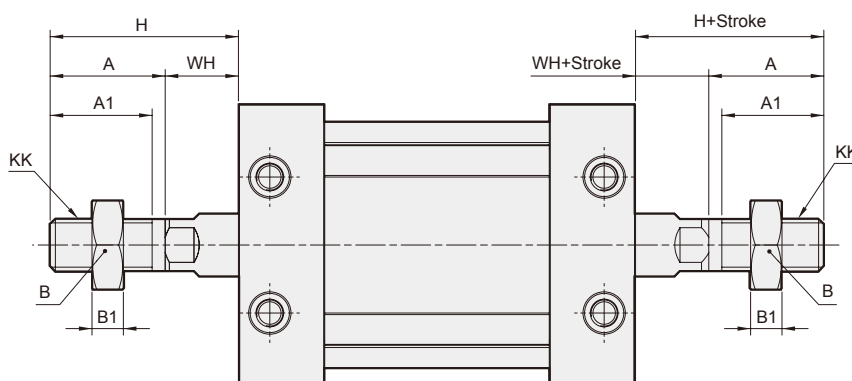
MCJU Dimensions – Double rod

PLATE OVAL CYLINDER (NON-ROTATION ROD)

MCJU-22 female thread size



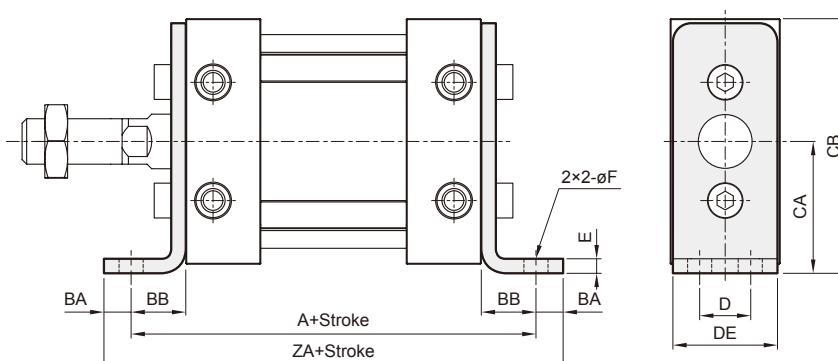
MCJU-21 male thread size



Code Tube I.D.	A	A1	B	B1	CA	CB	D	E	ET	FT	FX	FY	GX	GY	H	KA	KB	KK
25	22	19.5	17	6	54	24.2	12	26	M5×0.8×11 dp	M5×0.8×7.5 dp	9	7	10.5	5	36	10	5.5	M10×1.25
32	26	23.5	19	7	68	28	14	42	M6×1.0×11 dp	M6×1.0×12 dp	6.5	8	9	5.5	40	12	5.5	M12×1.75
40	30	27	22	8	86	32	16	54	M8×1.25×11 dp	M8×1.25×13 dp	8	9	10	7	45	14	6	M14×1.5
50	35	32	26	11	104	39	20	64	M10×1.5×15 dp	M10×1.5×14.5 dp	10	9	11.5	8	53	18	7	M18×1.5
63	35	32	26	11	124	50	20	72	M12×1.75×15 dp	M12×1.75×18 dp	11	12	11.5	10	56	18	7	M18×1.5

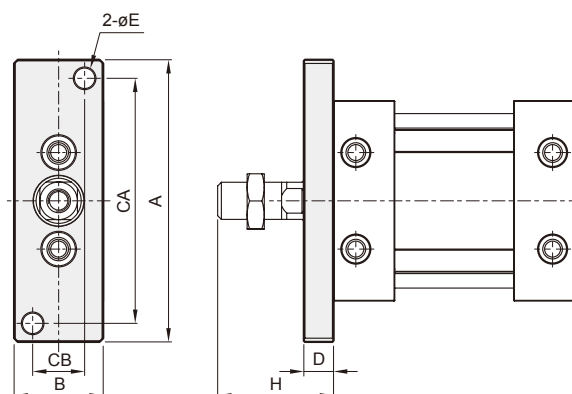
Code Tube I.D.	KT	N	NA	NB	NC	ND	NE	S	P	WH	ZB
25	M6×1.0×12 dp	16.5	6	26	sinkø7.5×4.5 dp	M5×0.8	4.2	55	M5×0.8	14	83
32	M8×1.25×13 dp	18	6.5	28	sinkø9×5.5 dp	M6×1.0	5.1	58	Rc1/8	14	86
40	M8×1.25×13 dp	18.5	8	36	sinkø10.5×6.5 dp	M8×1.25	6.7	60	Rc1/8	15	90
50	M10×1.5×15 dp	24	10	42	sinkø13.5×8.5 dp	M10×1.5	8.5	74	Rc1/4	18	110
63	M10×1.5×15 dp	24	11	46	sinkø17×10.5 dp	M12×1.75	10.2	75	Rc1/4	21	117

LB



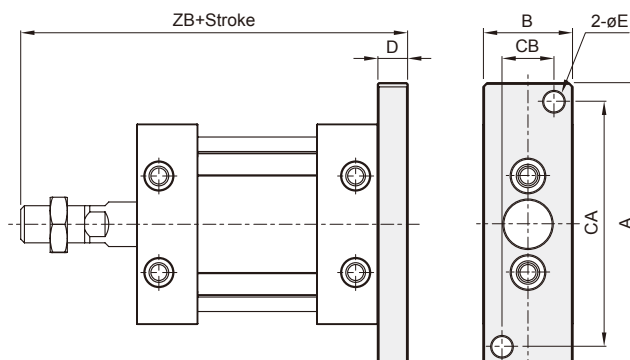
Code Tube I.D.	A	BA	BB	CA	CB	D	DE	E	F	ZA
25	79	6	12	29	56	11	23	3.2	5.5	109
32	90	8	16	37	71	12	27	4.5	6.6	122
40	96	10	18	46	89	15	31	4.5	9	133
50	116	11	21	57	109	18	37	5	11	159
63	123	14	24	67	129	22	48	6	13.5	169

FAC



Code Tube I.D.	A	B	CA	CB	D	E	H	ZB
25	76	24	66	14	8	5.5	36	99
32	94	28	82	16	8	7	40	106
40	118	32	102	18	9	9	45	114
50	144	39	126	22	12	11	53	139
63	168	50	148	30	14	13	56	145

FBC





Features

- Compact and space saving.

Specification

Model	MCFA					
Acting type	Double acting					
Tube I.D. (mm)	6	10	16	20	25	32
Port size	M5×0.8					Rc1/8
Medium	Air					
Max. operating perssure	0.7 MPa					
Min. operating perssure (MPa)	0.12	0.06		0.05		
Proof pressure	1 MPa					
Cushion	With rubber cushion pad					
Lubrication	Not required					
Ambient temperature	-5~+60°C (No freezing)					
Available speed range	50~500 mm/sec					
Sensor switch (*)	RCE, RCE1, RDEP					

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

Order example

MCFA — 11 — 6 — 10M — K — □

MODEL

1: Single rod
2: Double rod

STROKE

Blank: Standard
K: Non-rotating rod

TUBE I.D.

M: Magnet

PORT THREAD
Blank: M5×0.8
(for ø6~ø25)
Blank: Rc thread
G: G thread
NPT: NPT thread
(for ø32)

STYLE

Code	Symbol	Description
1 1		Double action / Male thread
2 1		Double rod / Male thread

Table for standard stroke

Tube I.D.	Stroke (mm)
ø6, 10, 16	5, 10, 15, 20, 25, 30
ø20, 25, 32	5, 10, 15, 20, 25, 30, 40, 50

Tightening torque

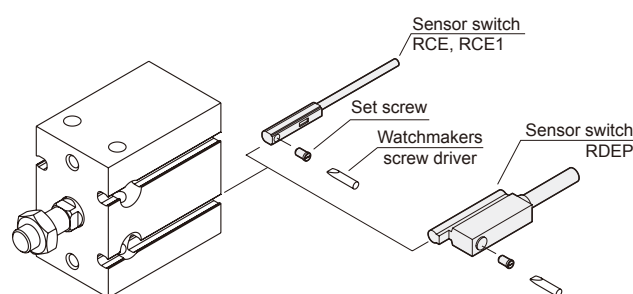
When mounting MCFA series, refer to the below table.

Tube I.D.	Hexagon socket head cap screw dia.(mm)	Proper tightening torque N.m[kgf.cm]
ø6, 10	M3	1.1 [11.2] ± 10%
ø16	M4	2.5 [25.5] ± 10%
ø20, 25	M5	5.0 [51.0] ± 10%
ø32	M6	8.0 [81.6] ± 10%

Cylinder weight

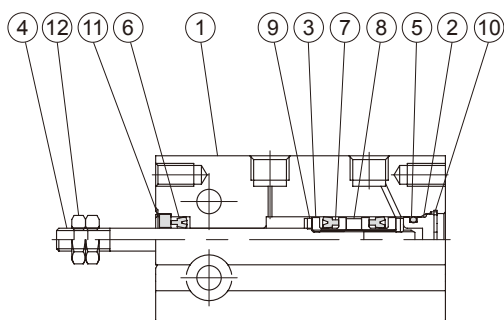
Model	Basic weight MCFA-11	Basic weight (magnet) MCFA-11	Stroke 5 mm MCFA-11
Tube I.D.			
ø6	20	18	3
ø10	32	31	3
ø16	42	58	6
ø20	90	118	10
ø25	161	202	17
ø32	268	330	26

Installation of sensor switch

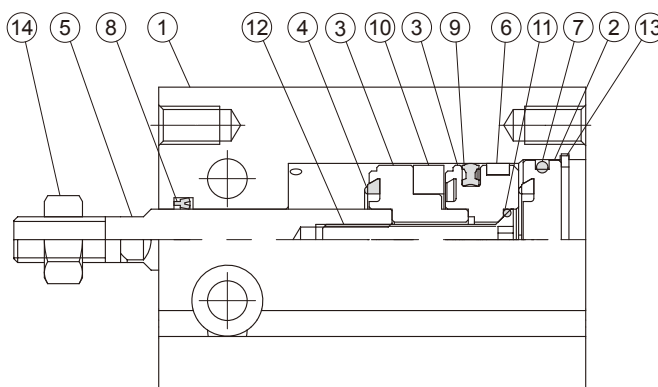


Double acting

ø6



ø10~ø32



Material

No.	Tube I.D. Part name	6	Note
1	Body	Aluminum alloy	
2	Head cover	Aluminum alloy	
3	Piston	Aluminum alloy	
4	Rod	Stainless steel	
5	Cover ring	NBR	
6	Rod packing	NBR	
7	Piston packing	NBR	
8	Magnet ring	Magnet material	for with magnet
9	Cushion packing	PU	
10	Snap ring	Spring steel	
11	Fixed ring	Aluminum alloy	
12	Rod front nut	Carbon steel	

No.	Tube I.D. Part name	10	16	20	25	32	Note
1	Body	Aluminum alloy					
2	Head cover	Aluminum alloy					
3	Piston	Aluminum alloy					
4	Cushion packing	NBR					
5	Rod *1	Stainless steel				*2	
6	Wear ring	Resin					
7	Cover ring	NBR					
8	Rod packing	NBR					
9	Piston packing	NBR					
10	Magnet ring	Magnet material					for with magnet
11	Piston gasket	—	NBR				
12	Piston bolt	—	SCM				for without magnet
		—	Stainless steel				for with magnet
13	Snap ring	Spring steel					
14	Rod front nut	Carbon steel					

*1. When customized material is bearing steel, only two-side across flat (wrench flat) is available.

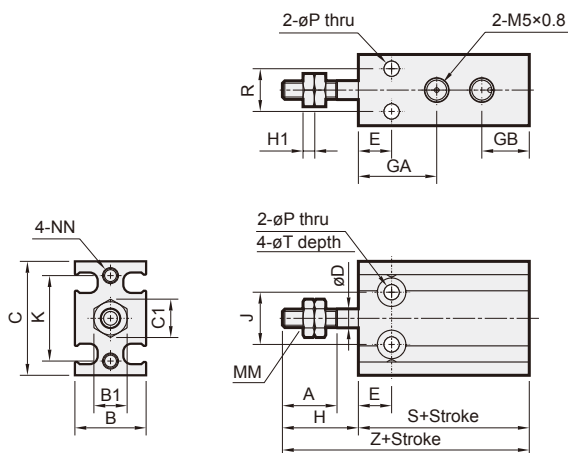
*2. Medium carbon steel

MCFA Single rod $\phi 6\sim\phi 32$

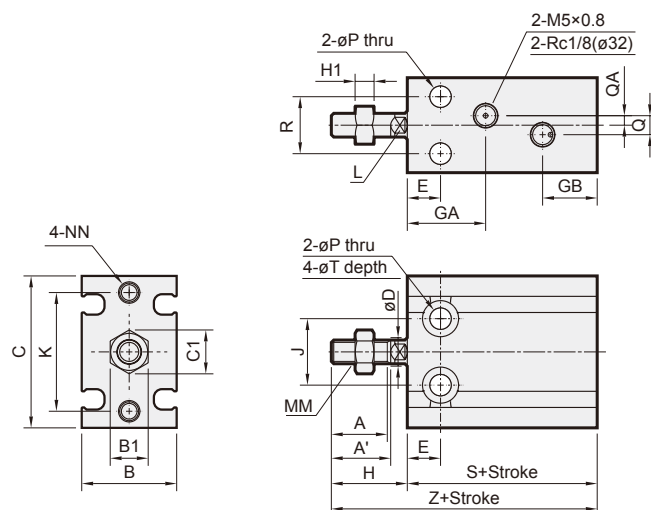
MULTI-MOUNT CYLINDER



$\phi 6, \phi 10$



$\phi 16\sim\phi 32$

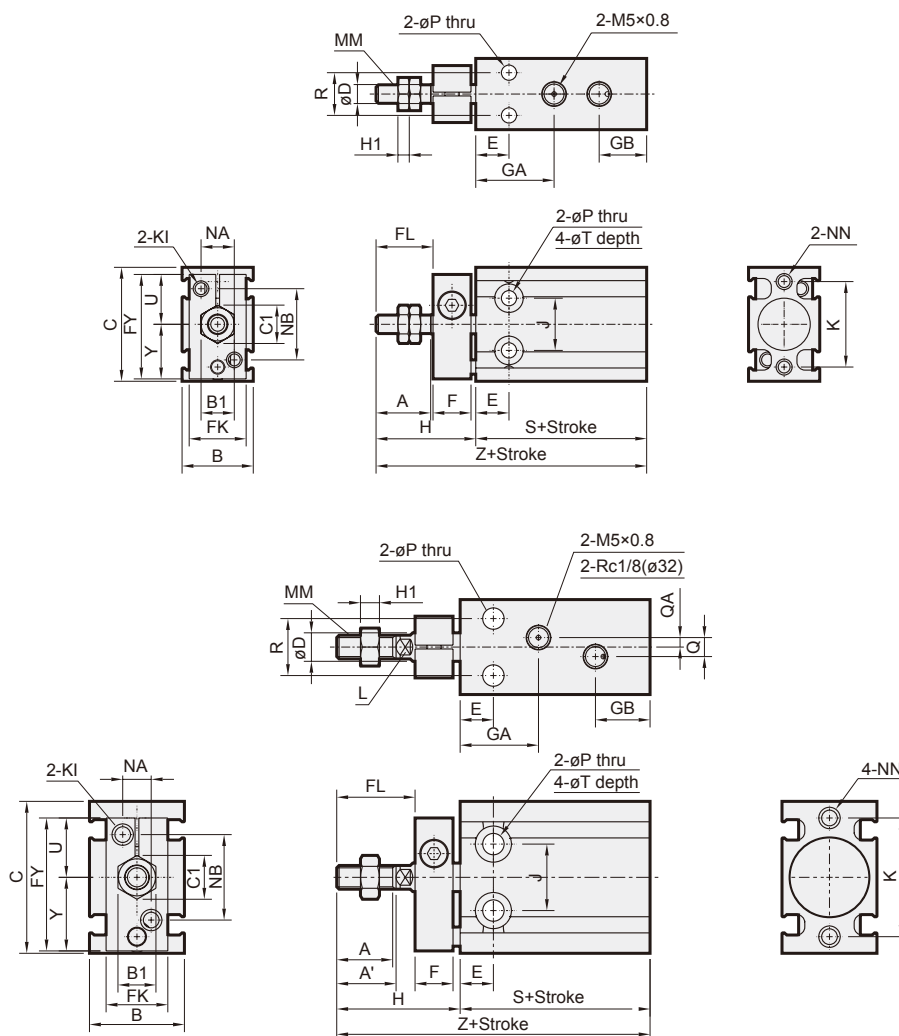


Code Tube I.D.	A	A'	B	B1	C	C1	D	E	GA	GB	H	H1	J	K	L	MM	NN	P	Q	QA	R
6	7	—	13	5.5	22	6.4	3	7	15	10	13	1.8	10	17	—	M3×0.5	M3×0.5×5depth	3.2	—	—	7
10	10	—	15	7	24	8.1	4	7	16.5	10	16	2.4	11	18	—	M4×0.7	M3×0.5×5depth	3.2	—	—	9
16	11	12.5	20	8	32	9.2	6	7	16.5*	11.5	16	4	14	25	5	M5×0.8	M4×0.7×6depth	4.5	4	2	12
20	12	14	26	10	40	11.5	8	9	19	12.5	19	5	16	30	6	M6×1.0	M5×0.8×8depth	5.5	9	4.5	16
25	15.5	18	32	13	50	15.0	10	10	21.5	13	23	5	20	38	8	M8×1.25	M5×0.8×8depth	5.5	9	4.5	20
32	19.5	22	40	17	62	19.6	12	11	23	12.5	27	6	24	48	10	M10×1.25	M6×1.0×9depth	6.6	13.5	4.5	24

* Without magnet with stroke=5mm, GA=14.5mm.

Code Tube I.D.	T	Without magnet		Magnet	
		S	Z	S	Z
6	6×4.8depth	33	46	33	46
10	6×5depth	36	52	36	52
16	7.6×6.5depth	30	46	40	56
20	9.3×8depth	36	55	46	65
25	9.3×9depth	40	63	50	73
32	11×11.5depth	42	69	52	79

ø16~ø32



* Without magnet with stroke=5mm, GA=14.5mm.

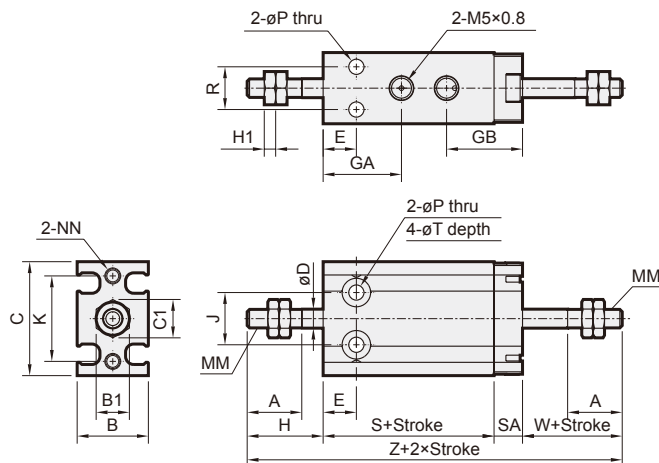
Code Tube I.D.	NN	P	Q	QA	R	T	U	Y	Without magnet		Magnet	
									S	Z	S	Z
6	M3×0.5×5depth	3.2	—	—	7	6×4.8depth	10	10.5	33	51	33	51
10	M3×0.5×5depth	3.2	—	—	9	6×5depth	10.5	11.5	36	57	36	57
16	M4×0.7×6depth	4.5	4	2	12	7.6×6.5depth	12.5	15.5	30	56	40	66
20	M5×0.8×8depth	5.5	9	4.5	16	9.3×8depth	13.5	19.5	36	65	46	75
25	M5×0.8×8depth	5.5	9	4.5	20	9.3×9depth	19	24.5	40	73	50	83
32	M6×1.0×9depth	6.6	13.5	4.5	24	11×11.5depth	21	30.5	42	84	52	94

MCFA Double rod ø6~ø32

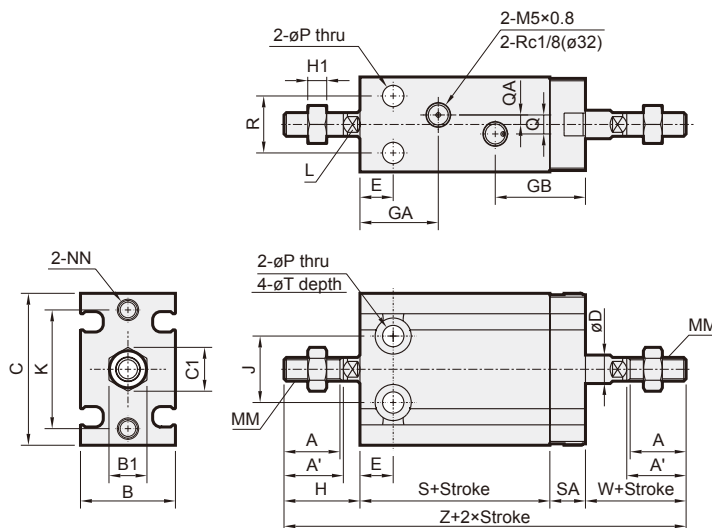
MULTI-MOUNT CYLINDER



ø6, ø10



ø16~ø32



Code Tube I.D.	A	A'	B	B1	C	C1	D	E	GA	GB	H	H1	J	K	L	MM	NN	P	Q	QA	R	SA
6	7	—	13	5.5	22	6.4	3	7	15	16	13	1.8	10	17	—	M3×0.5	M3×0.5×5depth	3.2	—	—	7	6
10	10	—	15	7	24	8.1	4	7	16.5	16	16	2.4	11	18	—	M4×0.7	M3×0.5×5depth	3.2	—	—	9	6
16	11	12.5	20	8	32	9.2	6	7	16.5*	19	16	4	14	25	5	M5×0.8	M4×0.7×6depth	4.5	4	2	12	7.5
20	12	14	26	10	40	11.5	8	9	19	21.5	19	5	16	30	6	M6×1.0	M5×0.8×8depth	5.5	9	4.5	16	9
25	15.5	18	32	13	50	15.0	10	10	21.5	22	23	5	20	38	8	M8×1.25	M5×0.8×8depth	5.5	9	4.5	20	9
32	19.5	22	40	17	62	19.6	12	11	23	22.5	27	6	24	48	10	M10×1.25	M6×1.0×9depth	6.6	13.5	4.5	24	10

* Without magnet with stroke=5mm, GA=14.5mm.

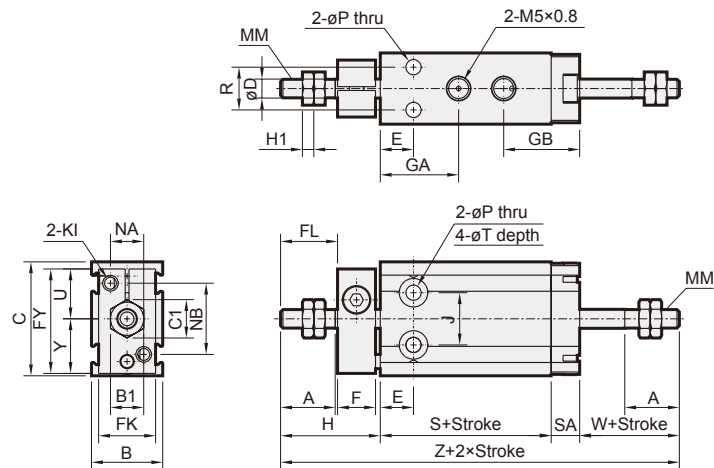
Code Tube I.D.	T	W	Without magnet		Magnet	
			S	Z	S	Z
6	6×4.8depth	13	38	70	38	70
10	6×5depth	16	36	74	36	74
16	7.6×6.5depth	16	30	69.5	40	79.5
20	9.3×8depth	19	36	83	46	93
25	9.3×9depth	23	40	95	50	105
32	11×11.5depth	27	42	106	52	116

MCFA Non-rotating rod / Double rod $\phi 6 \sim \phi 32$

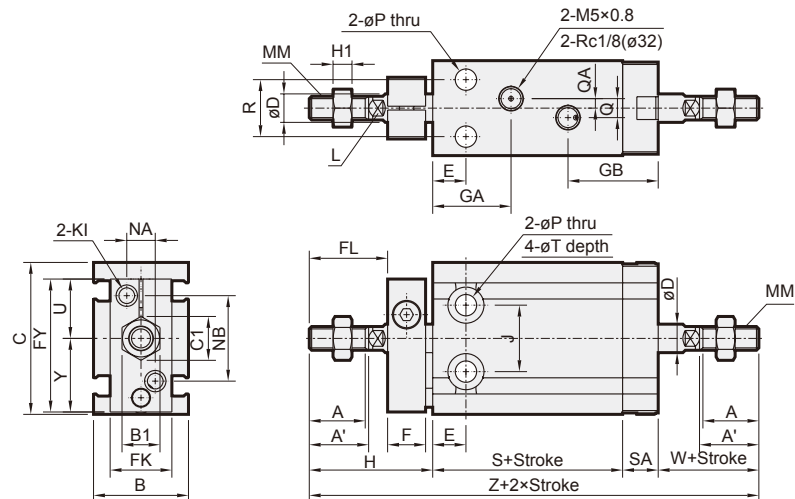
MULTI-MOUNT CYLINDER



$\phi 6, \phi 10$



$\phi 16 \sim \phi 32$



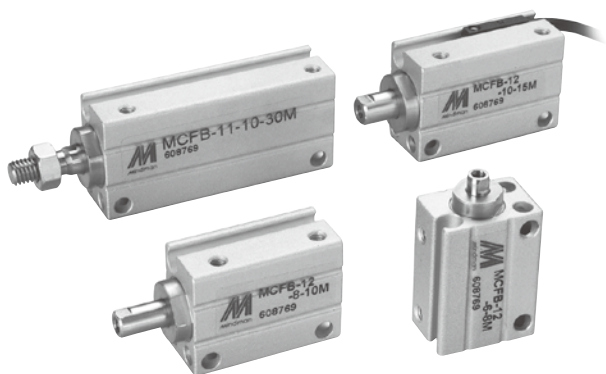
Code Tube I.D.	A	A'	B	B1	C	C1	D	E	F	FL	FK	FY	GA	GB	H	H1	J	KI	L	MM	NA	NB	P	Q
6	7	—	13	5.5	22	6.4	3	7	8	9	11	20.5	15	16	18	1.8	10	M3×0.5	—	M3×0.5	6	14	3.2	—
10	10	—	15	7	24	8.1	4	7	8	12	12	22	16.5	16	21	2.4	11	M3×0.5	—	M4×0.7	7	15	3.2	—
16	11	12.5	20	8	32	9.2	6	7	8	17	13	28	16.5*	19	26	4	14	M4×0.7	5	M5×0.8	6	18	4.5	4
20	12	14	26	10	40	11.5	8	9	8	20	16	33	19	21.5	29	5	16	M4×0.7	6	M6×1.0	8	20	5.5	9
25	15.5	18	32	13	50	15.0	10	10	10	22	20	43.5	21.5	22	33	5	20	M5×0.8	8	M8×1.25	10	28	5.5	9
32	19.5	22	40	17	62	19.6	12	11	12	29	24	51.5	23	22.5	42	6	24	M5×0.8	10	M10×1.25	12	32	6.6	13.5

* Without magnet with stroke=5mm, GA=14.5mm.

Code Tube I.D.	QA	R	SA	T	U	W	Y	Without magnet		Magnet	
								S	Z	S	Z
6	—	7	6	6×4.8depth	10	13	10.5	38	75	38	75
10	—	9	6	6×5depth	10.5	16	11.5	36	79	36	79
16	2	12	7.5	7.6×6.5depth	12.5	16	15.5	30	79.5	40	89.5
20	4.5	16	9	9.3×8depth	13.5	19	19.5	36	93	46	103
25	4.5	20	9	9.3×9depth	19	23	24.5	40	105	50	115
32	4.5	24	10	11×11.5depth	21	27	30.5	42	121	52	131

MCFB series

MULTI-MOUNT CYLINDER



Order example

MCFB — S — 11 — 16 — 10M

MODEL

1: Single rod

TUBE I.D.

STROKE

M: Magnet

Blank: Both mounting
S: Axial mounting
(Only for ø12,16,20)

STYLE (*)

* STYLE

Code	Symbol	Description
1 1		Double acting / Male thread
1 2		Double acting / Female thread
1 5		Single acting / Normally returned male thread
1 6		Single acting / Normally returned female thread

* Single acting only for ø6,ø8,ø10.

* Single acting without magnet type.

Features

- Compact and space saving.
- Flush fitting sensor.

Specification

Model	MCFB					
Acting type	Single / Double			Double acting		
Tube I.D. (mm)	6	8	10	12	16	20
Port size	M3×0.5					M5×0.8
Medium	Air					
Max. operating pressure	0.7 MPa					
Min. operating pressure (MPa)	Single	0.3	0.2	—		
	Double	0.15	0.1	0.07	0.05	
Proof pressure	1 MPa					
Lubrication	Not required					
Ambient temperature	-5~+60°C (No freezing)					
Available speed range	50~500 mm/sec					
Sensor switch (*)	RDVE(V), RDGV					

* Short stroke length (4, 6, 8mm) only use RDGV.

* RDVE(V), RDGV specification, please refer to page 8-19, 20.

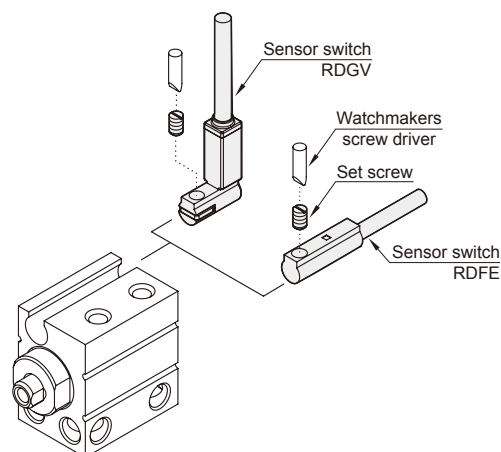
Double acting – Table for standard stroke

Tube I.D.	Stroke (mm)
ø6,8	4,6,8,10,15,20,25
ø10	4,6,8,10,15,20,30
ø12,16	5,10,15,20,25,30
ø20	5,10,15,20,25,30,35,40,45,50

Single acting – Table for standard stroke

Tube I.D.	Stroke (mm)
ø6	4,6,8
ø8,10	4,6,8,10

Installation of sensor switch



MCFB Inside structure & Parts list

MULTI-MOUNT CYLINDER

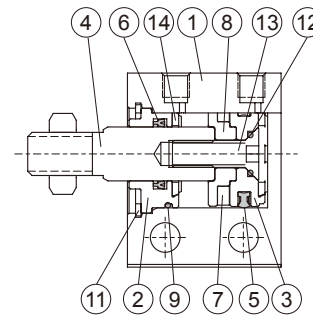
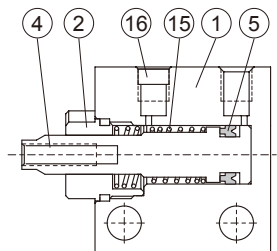
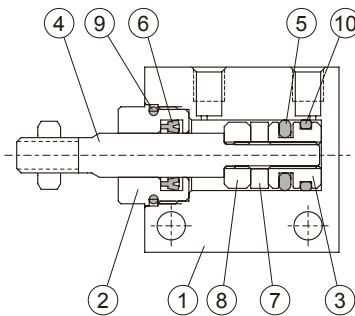


ø6, ø8, ø10

ø12, ø16, ø20

Double acting

Single acting



Material

No.	Part name	Material	Note	Q'y	Component parts (inclusion)	Repair kits (inclusion)
1	Body	Aluminum alloy		1		
2	Rod cover	Copper	ø12~20 use aluminum alloy	1	●	
3	Piston	Aluminum alloy		1	●	
4	Piston rod	Stainless steel		1		
5	Piston packing	NBR		1	●	●
6	Rod packing	NBR		1	●	●
7	Magnet ring	Magnet material	for with magnet	1	●	
8	Piston	Aluminum alloy	for with magnet	1	●	
9	Cover ring	NBR		1	●	●
10	Wear ring	Resin		1	●	
11	Snap ring	Spring steel		1	●	
12	Piston gasket	NBR	Only for ø20	1	●	●
13	Piston bolt	Stainless steel	Only for ø20	1	●	
14	Cushion packing	PU		2	●	●
15	Spring	Stainless steel		1	●	
16	Silencer	Brass		1	●	

Order example Component parts

Tube I.D.	Component parts
ø6	CP-MCFB-6(M)
ø8	CP-MCFB-8(M)
ø10	CP-MCFB-10(M)
ø12	CP-MCFB-12(M)
ø16	CP-MCFB-16(M)
ø20	CP-MCFB-20(M)

* M: With magnet.

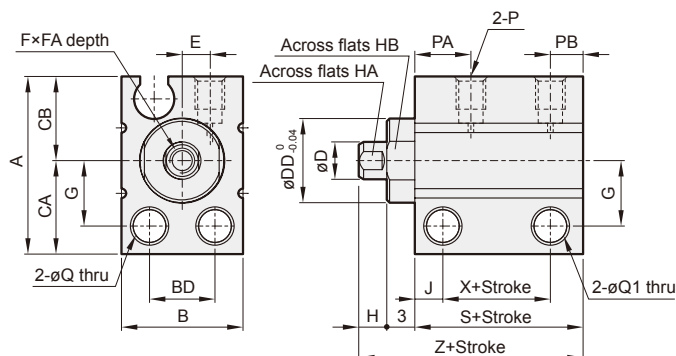
Repair kits

Tube I.D.	Repair kits
ø6	PS-MCFB-6
ø8	PS-MCFB-8
ø10	PS-MCFB-10
ø12	PS-MCFB-12
ø16	PS-MCFB-16
ø20	PS-MCFB-20

Seal kit

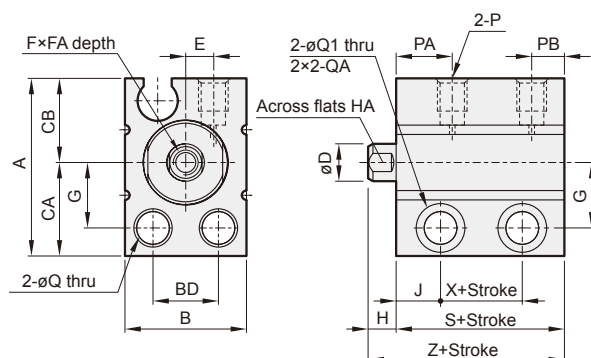
Acting type	Rod packing		Piston packing		Cover ring		Piston gasket	
	Double acting	Normally retruned	Double acting	Single acting	Double acting	Normally retruned	Double acting	Normally retruned
Tube I.D. / Q'y	1	0	1	1	1	0	1	0
ø6	KSYR-4	—	PP-6	KSYP-6	d7×w1	—	—	—
ø8	KSYR-5	—	PP-8	KSYP-8	d9×w1	—	—	—
ø10	KSYR-6	—	OPA-10	KSYP-10	d10×w1	—	—	—
ø12	KSYR-6	—	OPA-12	—	d10×w1	—	—	—
ø16	KSYR-8	—	OPA-16	—	d14×w1	—	—	—
ø20	KSYR-10	—	OPA-20	—	d18×w1	—	d6×w1	—

$\phi 6, \phi 8, \phi 10$



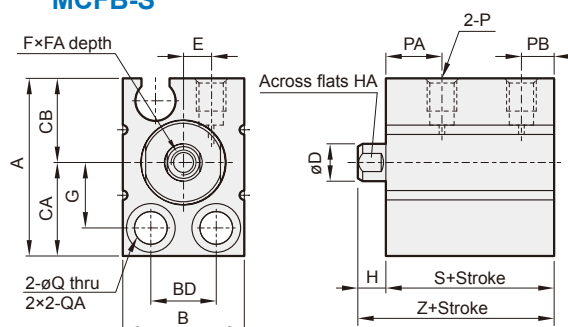
$\phi 12, \phi 16, \phi 20$

Both mounting

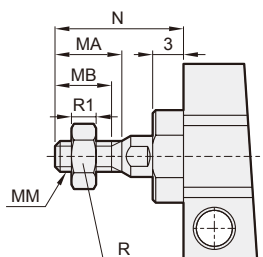


Axial mounting

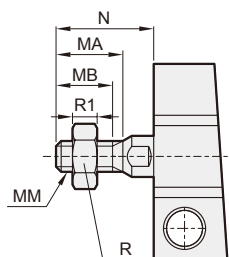
MCFB-S



$\phi 6, \phi 8, \phi 10$



$\phi 12, \phi 16, \phi 20$



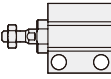
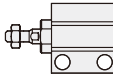
MCFB-11/15 male thread size

Code Tube I.D.	MA	MB	MM	N	R	R1
6	6.5	5.5	M3×0.5	12.5	5.5	2.4
8	8.5	7	M4×0.7	14.5	7	3.2
10	10.5	9	M5×0.8	16.5	8	4
12	10.5	9	M5×0.8	14	8	4
16	12	10	M6×1.0	15.5	10	5
20	14	12	M8×1.25	18.5	13	5

Code Tube I.D.	A	B	BD	CA	CB	D	DD	E	F	FA	G	H	HA	HB	J	P	PA	PB	Q	Q1	QA	Without magnet			Magnet		
																						X	S	Z	X	S	Z
6	19	13	7	10	9	4	9	3	M2.5×0.45	5	7	3	3.5	8	3	M3×0.5	6	3.5	3.5	3.2	—	6.5	13	19	11.5	18	24
8	21	13	7	11	10	5	11	3	M3×0.5	6	8	3	4.5	10	3	M3×0.5	6	3.5	3.5	3.2	—						
10	22	13.5	7	11.5	10.5	6	12	3.2	M3×0.5	6	8.5	3	5	11	3	M3×0.5	6	3.5	3.5	3.2	—						
12	26.5	17	8	15.5	11	6	—	3.5	M3×0.5	6	11	3.5	5	—	6	M3×0.5	7.5	4	4.4	4.4	ø7.5, 7dp	3.5	15.5	19	7.5	19.5	23
16	29.5	21	11.5	17	12.5	8	—	5.5	M4×0.7	8	12.5	3.5	6	—	6	M3×0.5	8.5	4	4.4	4.4	ø7.5, 7dp	4	16.5	20	8.5	21	24.5
20	36	25	13.5	21	15	10	—	7	M5×0.8	7	15.5	4.5	8	—	7	M5×0.8	9	5.5	5.5	5.2	ø9.5, 9dp	5.5	19.5	24	9.5	23.5	28

Cylinder weight

Unit: g

Model	MCFB-11								MCFB-11 (With magnet)							
																
Tube I.D.	Stroke (mm)								Stroke (mm)							
	4	6	8	10	15	20	25	30	4	6	8	10	15	20	25	30
$\varnothing 6$	15	16	18	19	22	25	28	—	16	17	18	19	22	25	28	—
$\varnothing 8$	19	20	22	23	26	29	33	—	20	21	23	24	27	31	34	—
$\varnothing 10$	21	22	24	25	29	32	36	39	23	24	26	27	31	34	38	41
Tube I.D.	Stroke (mm)								Stroke (mm)							
	5	10	15	20	25	30	40	50	5	10	15	20	25	30	40	50
$\varnothing 12$	24	29	34	39	44	49	—	—	27	32	37	42	47	52	—	—
$\varnothing 16$	38	45	52	59	66	73	—	—	42	49	56	63	70	77	—	—
$\varnothing 20$	63	73	83	93	103	113	133	153	68	78	88	98	108	118	138	158

Model	MCFB-12								MCFB-12 (With magnet)							
																
Tube I.D.	Stroke (mm)								Stroke (mm)							
	4	6	8	10	15	20	25	30	4	6	8	10	15	20	25	30
$\varnothing 6$	14	15	16	18	21	24	27	—	15	16	17	18	21	24	27	—
$\varnothing 8$	17	18	19	21	24	27	30	—	18	19	20	22	25	28	31	—
$\varnothing 10$	18	19	21	22	26	29	33	36	20	21	23	24	28	31	35	38
Tube I.D.	Stroke (mm)								Stroke (mm)							
	5	10	15	20	25	30	40	50	5	10	15	20	25	30	40	50
$\varnothing 12$	21	26	31	36	41	46	—	—	24	29	34	39	44	49	—	—
$\varnothing 16$	31	38	45	52	59	66	—	—	35	42	49	56	63	70	—	—
$\varnothing 20$	52	62	72	82	92	102	122	142	57	67	77	87	97	107	127	147



