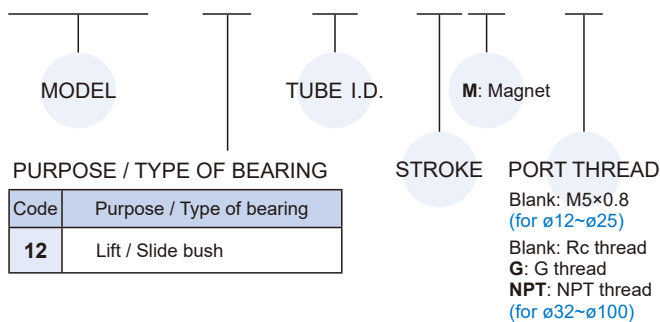




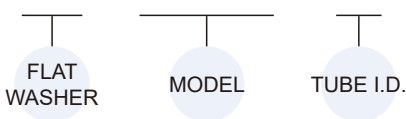
### Order example

**MCGM — 12 — 12 — 50M — □**



### Flat washer kits

**WS — MCGM — 12**



### Table for stroke

Series variety (Bearing type)	Tube I.D.	Stroke (mm)											
		5	10	15	20	25	30	35	40	45	50	75	100
<b>MCGM</b> (Slide bush)	ø12												
	ø16												
	ø20												
	ø25												
	ø32												
	ø40												
	ø50												
	ø63												
	ø80												
	ø100												

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

### Features

- Higher loading capacity compared to unguided standard compact cylinders.
- Up to 6 flush fitting reed switches can be mounted.

### Specification




Model	MCGM									
Acting type	Double acting									
Tube I.D. (mm)	12	16	20	25	32	40	50	63	80	100
Port size	M5×0.8				Rc1/8 *1		Rc1/4		Rc3/8	
Medium	Air									
Operating pressure range (MPa)	0.12~1		0.1~1							
Proof pressure	1.5 MPa									
Ambient temperature	-5°C~+60°C (No freezing)									
Cushion	With rubber cushion pad									
Available speed range	50~500 mm/sec					50~300 mm/sec				
Lubricator	Not required									
Sensor switch (*2)	RCE,RCE1	●	●	●	●	●	●	●	●	●
	RDEP	●	●	—	●	—	●	●	●	●

\*1. ø32 without magnet with stroke = 5mm, port size is M5×0.8.

\*2. RCE, RCE1, RDEP specification, please refer to page 8-12, 13, 18.

### Cylinder weight

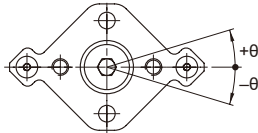
Unit: g

Model		Basic weight MCGM-12	Basic weight (magnet) MCGM-12	Stroke 5 mm MCGM-12
Tube I.D.	Stroke range (mm)			
ø12	5~30	36	45	9
ø16	5~30	46	55	10
ø20	5~50	81	108	15
ø25	5~50	116	164	18
ø32	5~50	166	227	24
	51~100	214	227	24
ø40	5~50	259	341	26
	51~100	324	341	26
ø50	10~50	454	548	39
	51~100	523	548	39
ø63	10~50	675	851	50
	51~100	823	851	50
ø80	10~50	1309	1517	77
	51~100	1477	1517	77
ø100	10~50	2295	2652	102
	51~100	2598	2652	102

### Capacity table

#### Non-rotating accuracy

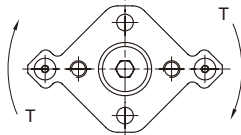
Non-rotating accuracy without load is same or less than the figures shown in below at the retracted cylinder plate.



Tube I.D.	Non-rotating accuracy
$\phi 12, 16$	$\pm 0.2^\circ$
$\phi 20 \sim 100$	$\pm 0.1^\circ$

#### Allowable rotational torque

Make sure to operate within the allowable rotation torque to the plate. Operation outside of the limits may result in shorter product life and damage.



Unit: N.m

Tube I.D.	Stroke (mm)					
	5	10	15	20	25	30
$\phi 12$	0.11	0.10	0.08	0.07	0.07	0.06
$\phi 16$	0.15	0.12	0.11	0.10	0.09	0.08
$\phi 20$	0.37	0.32	0.28	0.25	0.23	0.21
$\phi 25$	0.40	0.35	0.31	0.28	0.25	0.23
$\phi 32$	0.66	0.59	0.53	0.49	0.45	0.42
$\phi 40$	1.06	0.96	0.88	0.81	0.75	0.70
$\phi 50$	-	1.70	1.56	1.45	1.35	1.26
$\phi 63$	-	3.90	3.62	3.37	3.15	2.96
$\phi 80$	-	7.44	6.98	6.56	6.20	5.87
$\phi 100$	-	11.85	11.19	10.61	10.08	9.60

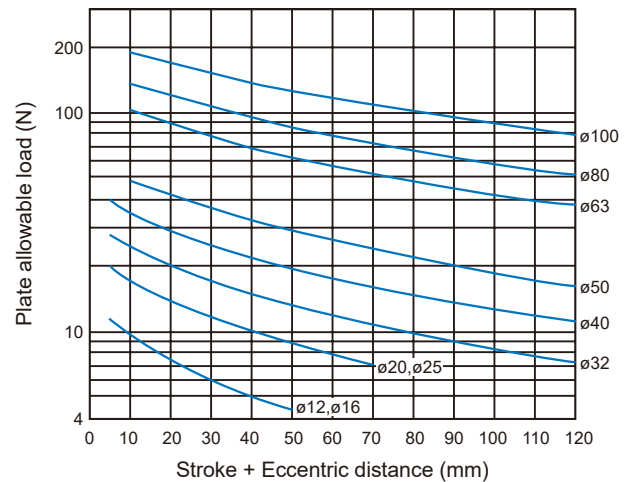
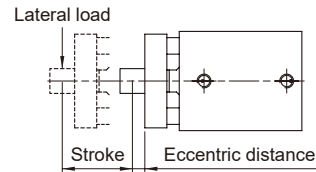
Tube I.D.	Stroke (mm)					
	35	40	45	50	75	100
$\phi 20$	0.19	0.18	0.17	0.16	-	-
$\phi 25$	0.21	0.20	0.18	0.17	-	-
$\phi 32$	0.39	0.36	0.34	0.32	0.25	0.20
$\phi 40$	0.65	0.61	0.58	0.55	0.43	0.36
$\phi 50$	1.19	1.12	1.06	1.01	0.80	0.67
$\phi 63$	2.80	2.65	2.51	2.39	1.92	1.61
$\phi 80$	5.57	5.31	5.07	4.84	3.98	3.37
$\phi 100$	9.17	8.77	8.41	8.07	6.73	5.77

### Capacity graph

#### Allowable lateral load

Make sure to operate within the allowable lateral load to the plate.

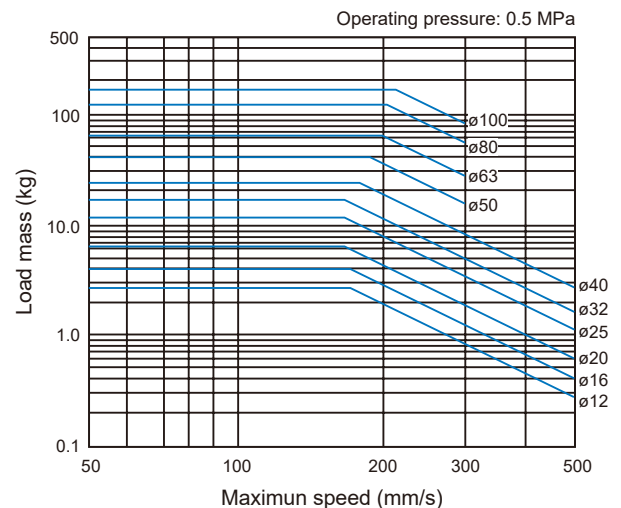
Operation outside of the limits may result in shorter product life and damage.



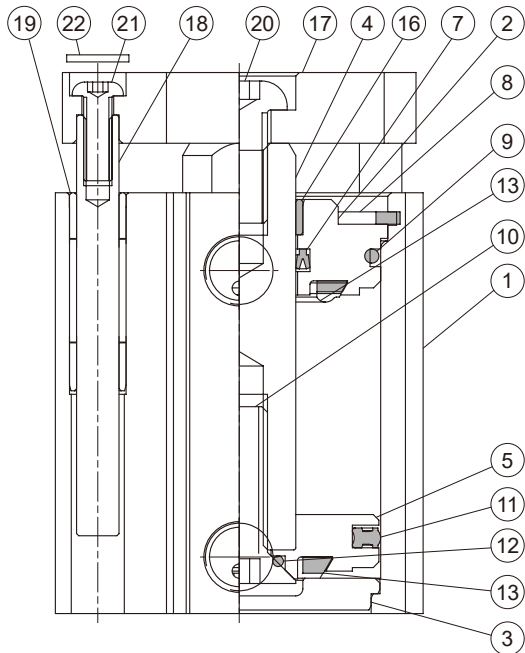
#### Allowable kinetic energy

Make sure to operate within the allowable load mass and maximum speed.

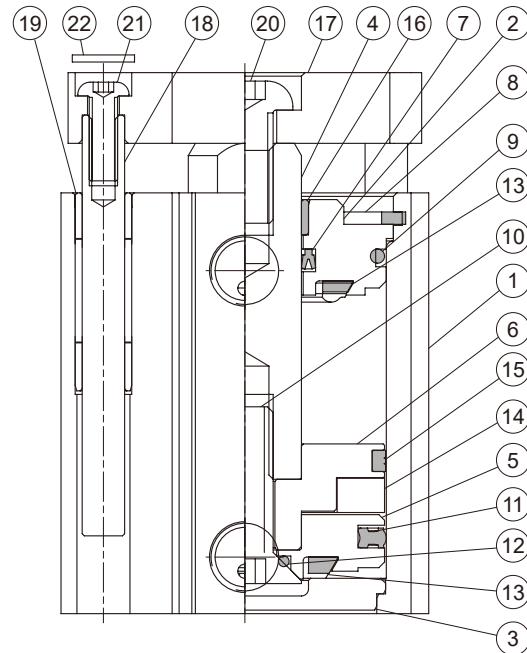
Operation outside of the limits may cause excessive impact, which may result in the damage to the product.



### Without magnet



### With magnet



### Material

No.	Tube I.D. Part name	12	16	20	25	32	40	50	63	80	100	Q'y	Repair kits (inclusion)
1	Body	Aluminum alloy										1	
2	Rod cover	Aluminum alloy										1	
3	End cover	Aluminum alloy										1	
4	Piston rod	With magnet	Stainless steel		Carbon steel						1		
		Without magnet	*1	Carbon steel									1
5	Piston	Aluminum alloy										1	
6	Piston for magnet ring	Aluminum alloy										1	
7	Rod packing	NBR										1	●
8	Snap ring	Stainless steel				Spring steel						1	
9	Cover ring	NBR										1	●
10	Piston bolt	Stainless steel				SCM						1	
11	Piston packing	NBR										1	●
12	Piston gasket	—	NBR									1	●
13	Cushion packing	NBR										2	●
14	Magnet	Magnet										1	
15	Wear ring	—				Resin						1	
16	Bush	—				Bearing alloy						1	
17	Plate	Aluminum alloy										1	
18	Guide rod	Carbon steel										2	
19	Guide rod bush	Bearing alloy										4	
20	Bolt for piston rod	Carbon steel										1	
21	Bolt for guide rod	Carbon steel										2	
22	Flat washer	Carbon steel										2	

\*1. Stainless steel

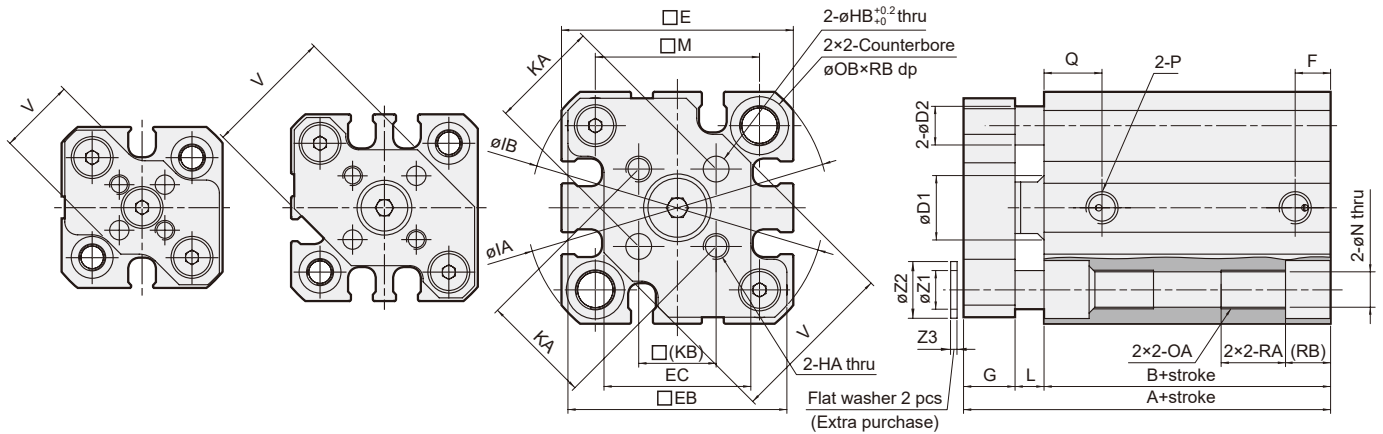
### Order example of repair kits

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

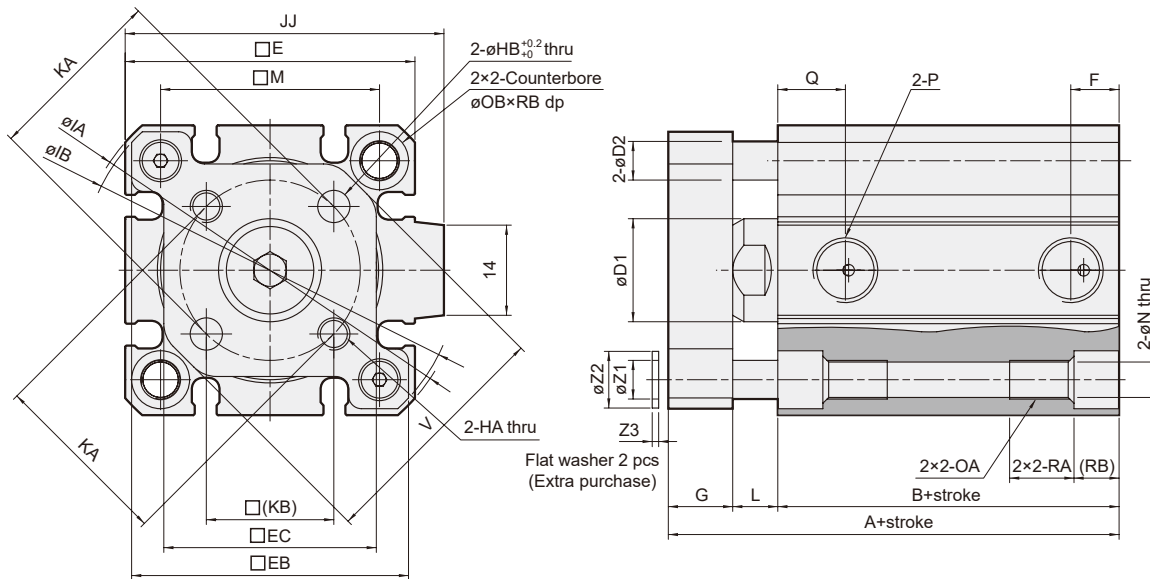
$\phi 12$

$\phi 16$

$\phi 20, \phi 25$



$\phi 32$

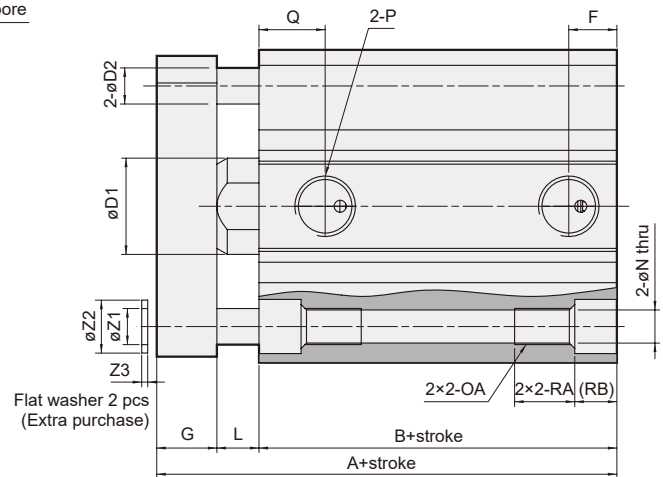
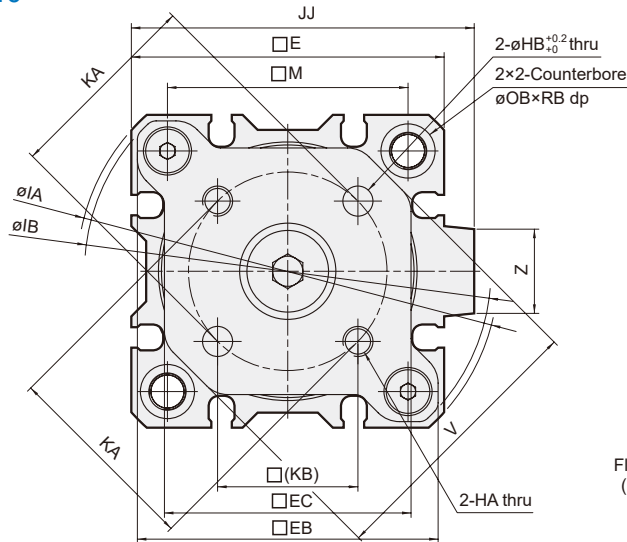


Code Tube I.D.	Stroke range	Without magnet			Magnet			D1	D2	E	EB	EC	G	HA	HB	IA	IB	JJ	KA	KB	L	M	N	OA	OB
		A	B	F	A	B	F																		
12	5~30	26.5	17	5	31.5	22	5	6	5	25	24	-	6	M3×0.5	3	32	31.5	-	10±0.1	7.1	3.5	15.5	3.5	M4×0.7	6.5
16	5~30	26.5	17	5	31.5	22	5	8	5	29	28	-	6	M3×0.5	3	38	37	-	14±0.1	9.9	3.5	20	3.5	M4×0.7	6.5
20	5~50	32	19.5	5.5	42	29.5	5.5	10	6	36	34	22.8	8	M4×0.7	4	47	45.5	-	17±0.1	12	4.5	25.5	5.5	M6×1.0	9
25	5~50	35.5	22.5	5.5	45.5	32.5	5.5	12	6	40	38	28.8	8	M5×0.8	5	52	50.5	-	22±0.1	15.6	5	28	5.5	M6×1.0	9
32	5~50	40	23	7.5 <sup>*1</sup>	50	33	7.5	16	6	45	43	33	10	M5×0.8	5	60	58.5	49.5	28±0.2	19.8	7	34	5.5	M6×1.0	9
	51~100	50	33	7.5	50	33	7.5																		

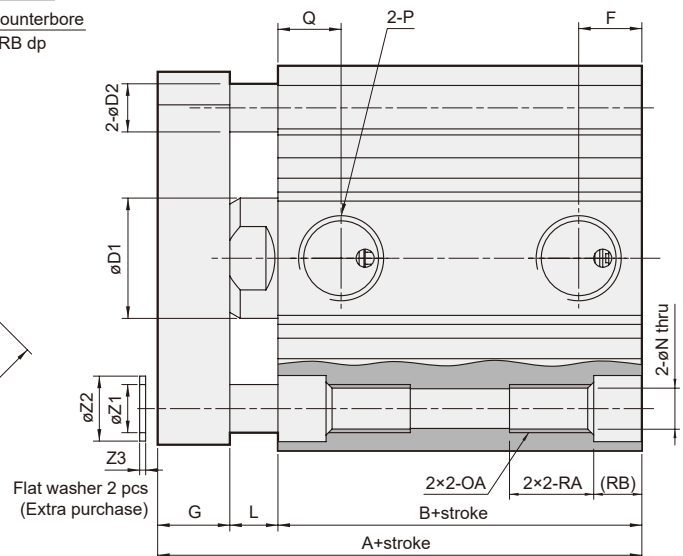
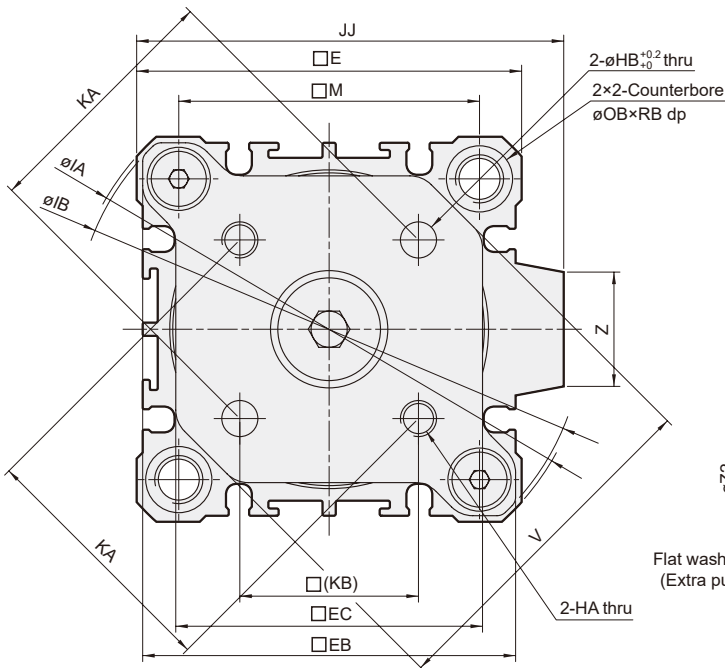
Code Tube I.D.	P	Q	RA	RB	V	Z1	Z2	Z3
12	M5×0.8	7.5	7	4	14.9	4.2	6.3	0.5
16	M5×0.8	7.5	7	4	20	4.2	6.3	0.5
20	M5×0.8	9	10	7	26	6.2	8.8	1
25	M5×0.8	11	10	7	30	6.2	8.8	1
32	Rc1/8 <sup>*1</sup>	10.5 <sup>*1</sup>	10	7	38	6.2	8.8	1

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

$\phi 40$



$\phi 50 \sim \phi 100$



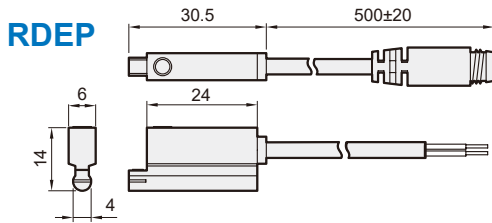
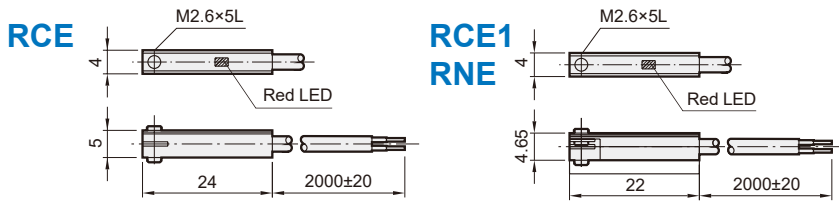
Code Tube I.D.	Stroke range	Without magnet		Magnet		F	L	Q
		A	B	A	B			
40	5~50	46.5	29.5	56.5	39.5	8	7	11
	51~100	56.5	39.5					
50	10~50	50.5	30.5	60.5	40.5	10.5	8	10.5
	51~100	60.5	40.5					
63	10~50	56	36	66	46	10.5	8	15
	51~100	66	46					
80	10~50	67.5	43.5	77.5	53.5	12.5	10	16
	51~100	77.5	53.5					
100	10~50	79	53	89	63	13	10	23
	51~100	89	63					

Code Tube I.D.	D1	D2	E	EB	EC	G	HA	HB	IA	IB	JJ	KA	KB
40	16	6	52	50	41	10	M5x0.8	5	70	67.5	57	33±0.1	23.3
50	20	8	64	62	51	12	M6x1.0	6	86	84.5	71	42±0.1	29.7
63	20	12	77	74	59.6	12	M6x1.0	6	103	100	84	50±0.1	35.4
80	25	14	98	95	77	14	M8x1.25	8	132	129	104	65±0.1	46
100	30	14	117	114	99	16	M10x1.5	10	156	153	123.5	80±0.2	56.6

Code Tube I.D.	M	N	OA	OB	P	RA	RB	V	Z	Z1	Z2	Z3
40	40	5.5	M6x1.0	9	Rc1/8	10	7	46	14	6.2	8.8	1
50	50	6.6	M8x1.25	11	Rc1/4	14	8	58	19	8.2	10.8	1
63	60	9	M10x1.5	14	Rc1/4	18	10.5	69	19	10.2	13.8	1
80	77	11	M12x1.75	17.5	Rc3/8	22	13.5	89	26	12.2	17.3	2
100	94	11	M12x1.75	17.5	Rc3/8	22	13.5	113	26	12.2	17.3	2

## COMPACT TWIN-GUIDE CYLINDER

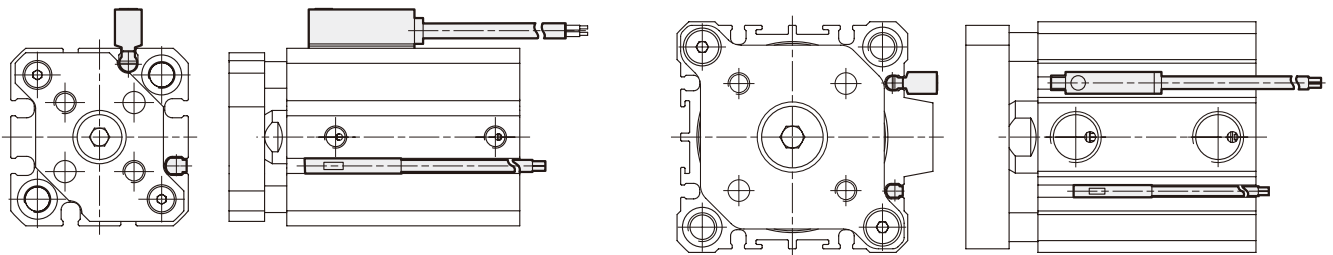
### Dimensions



### Installation of sensor switch

$\phi 12 \sim \phi 40$

$\phi 50 \sim \phi 100$



### Order example

RCE1 — □

MODEL

RCE / RCE1 (C: Reed switch)  
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

### Description

▼ RCE, RCE1, RDEP\* switch ↓ Port

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

