



Function



Technical data



Caution for safety
(Read before installing)



Order example

MCGM — 12 — 12 — 50M — □

MODEL

TUBE I.D.

M: Magnet

PURPOSE / TYPE OF BEARING

STROKE

PORT THREAD

Code	Purpose / Type of bearing
12	Lift / Slide bush

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

Flat washer kits

WS — MCGM — 12

FLAT
WASHER

MODEL

TUBE I.D.

Table for stroke

Series variety (Bearing type)	Tube I.D.	Stroke (mm)												Max. stroke
		5	10	15	20	25	30	35	40	45	50	75	100	
MCGM (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 prssure range (MPa)		0.12~1			0.1~1						
Proof pressure		1.5 MPa									
Ambient temperature		-5°C~+60°C (No freezing)									
Cushion		With rubber cusion 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.

Cylinder weight

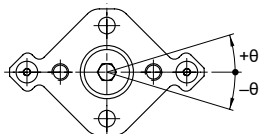
Unit: g

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

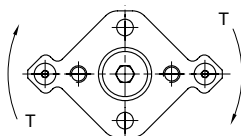
Non-rotating accuracy without load is same or less than the figures shown in below at the retracted cylinder plate.



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

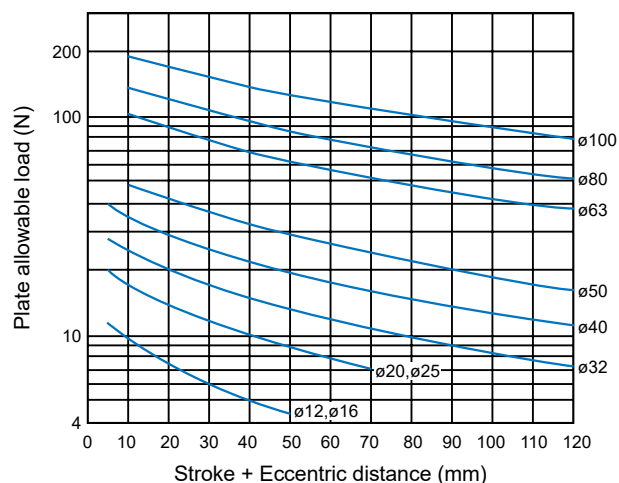
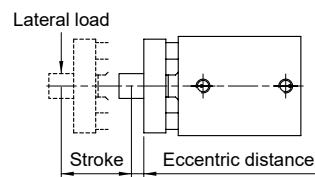
Tube I.D.	Stroke (mm)					
	35	40	45	50	75	100
$\phi 20$	0.19	0.18	0.17	0.16	—	—
$\phi 25$	0.21	0.20	0.18	0.17	—	—
$\phi 32$	0.39	0.36	0.34	0.32	0.25	0.20
$\phi 40$	0.65	0.61	0.58	0.55	0.43	0.36
$\phi 50$	1.19	1.12	1.06	1.01	0.80	0.67
$\phi 63$	2.80	2.65	2.51	2.39	1.92	1.61
$\phi 80$	5.57	5.31	5.07	4.84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

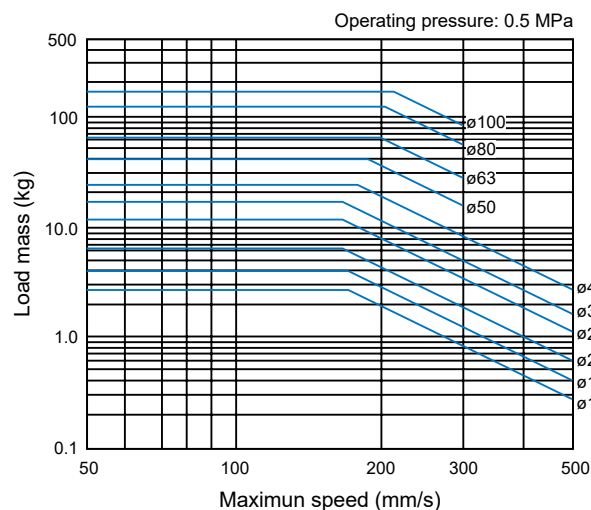
Operation outside of the limits may result in shorter product life and damage.



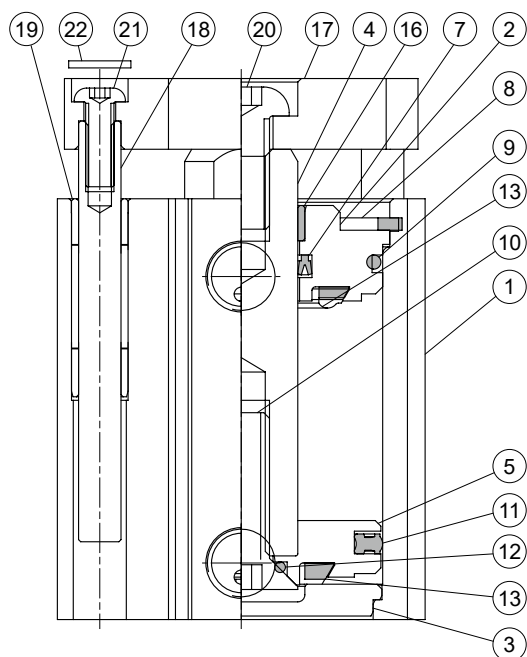
Allowable kinetic energy

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

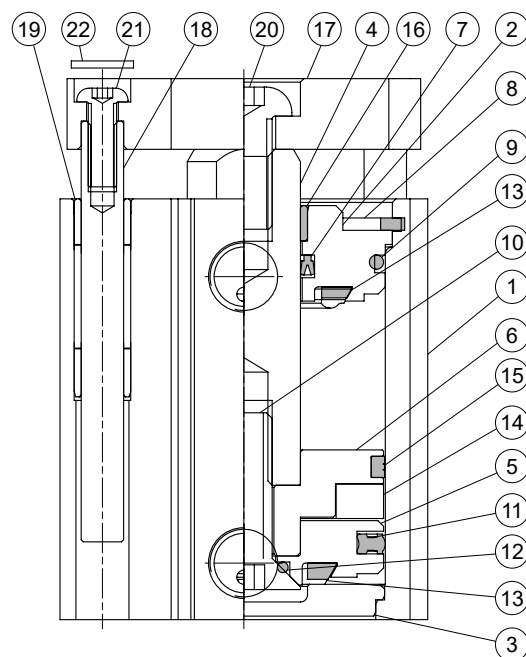
Operation outside of the limits may cause excessive impact, which may result in the damage to the product.



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 With magnet rod	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

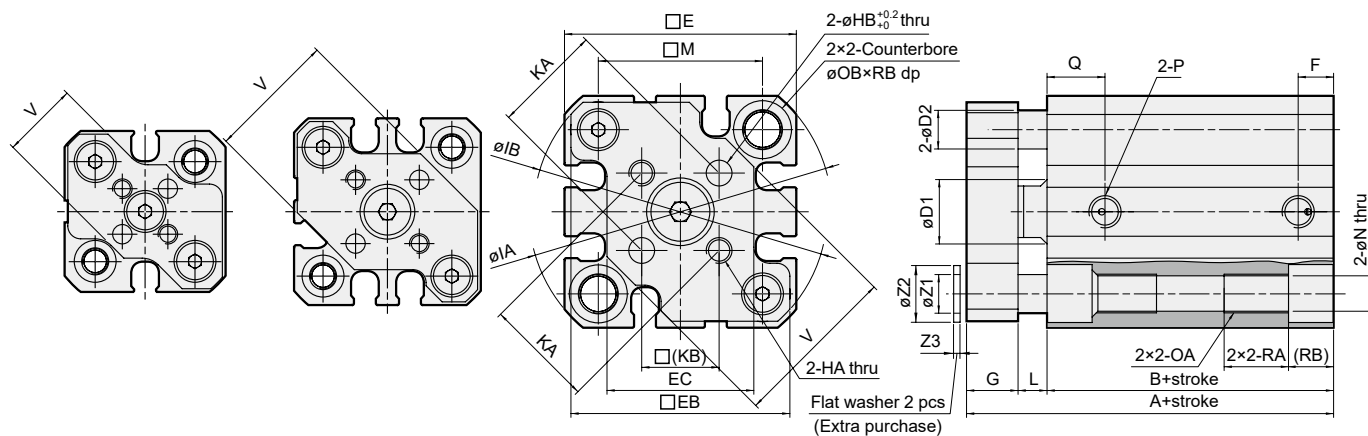
Order example of repair kits

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

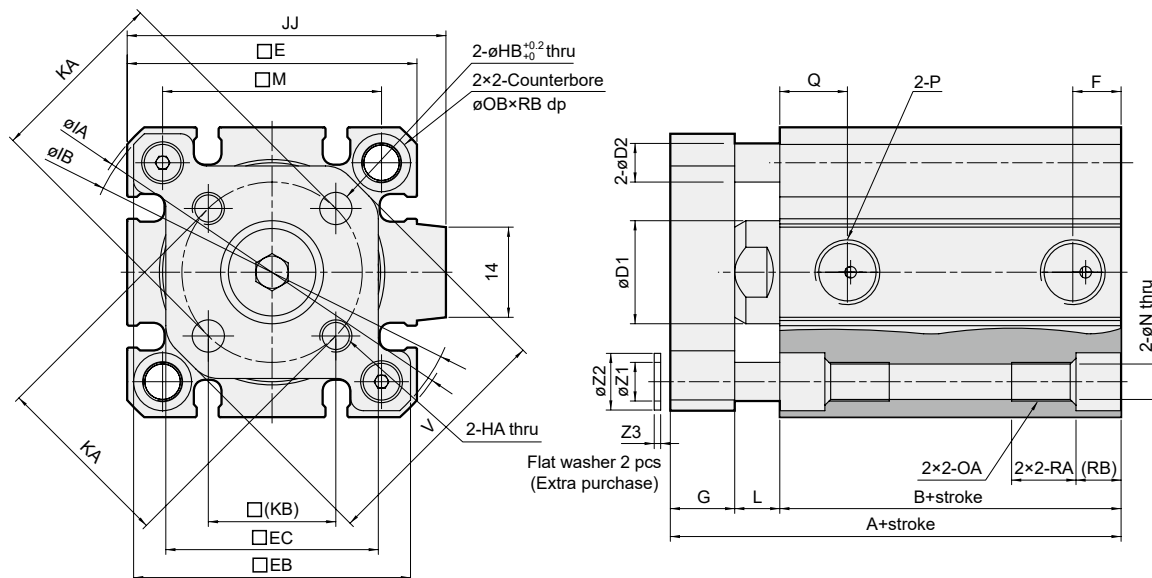
Ø12

Ø16

ø20, ø25



Ø32

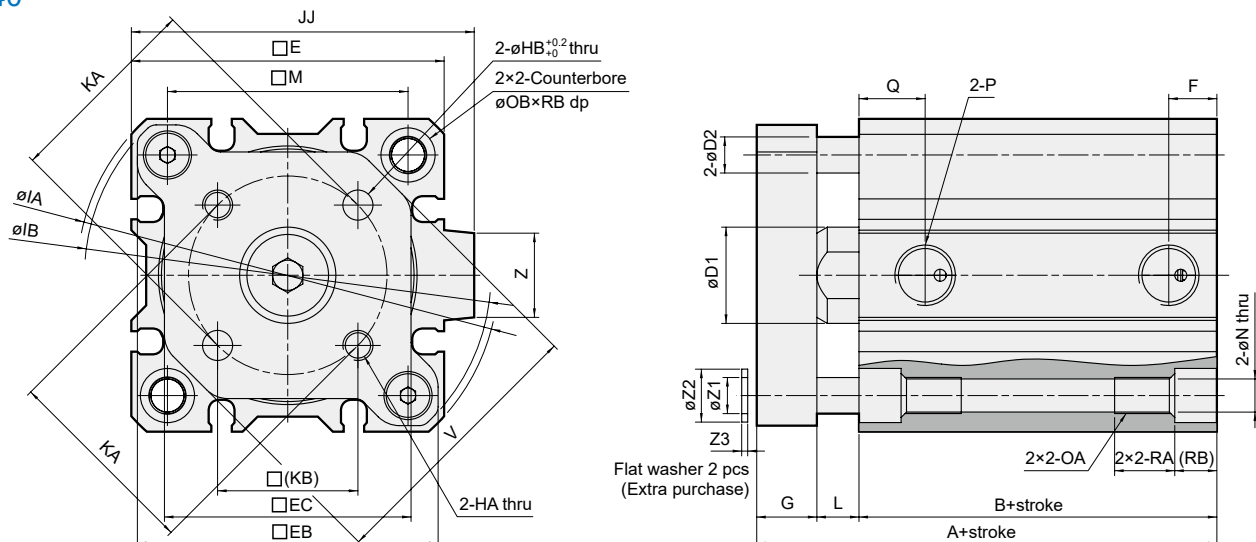


Code Tube I.D.	Stroke range	Without magnet			Magnet			D1	D2	E	EB	EC	G	HA	HB	IA	IB	JJ	KA	KB	L	M	N	OA	OB
		A	B	F	A	B	F																		
12	5~30	26.5	17	5	31.5	22	5	6	5	25	24	—	6	M3×0.5	3	32	31.5	—	10±0.1	7.1	3.5	15.5	3.5	M4×0.7	6.5
16	5~30	26.5	17	5	31.5	22	5	8	5	29	28	—	6	M3×0.5	3	38	37	—	14±0.1	9.9	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 ⁺¹	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																		

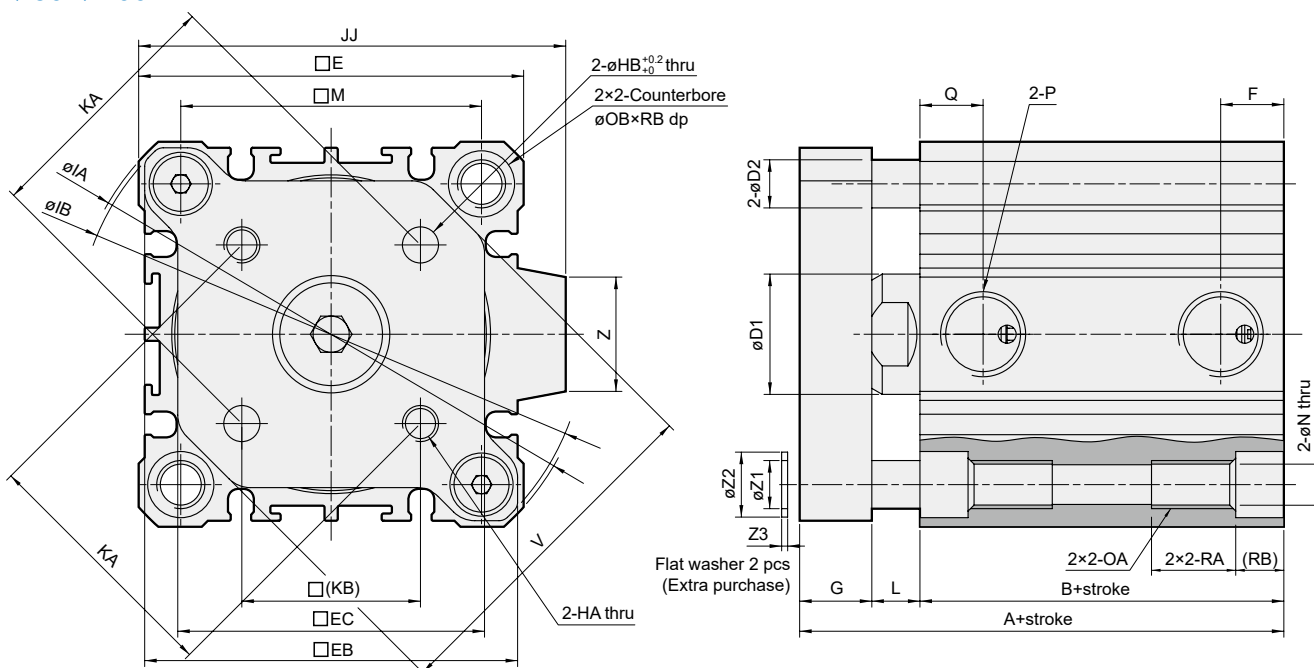
Code Tube I.D.	P	Q	RA	RB	V	Z1	Z2	Z3
12	M5×0.8	7.5	7	4	14.9	4.2	6.3	0.5
16	M5×0.8	7.5	7	4	20	4.2	6.3	0.5
20	M5×0.8	9	10	7	26	6.2	8.8	1
25	M5×0.8	11	10	7	30	6.2	8.8	1
32	Rc1/8 ⁺¹	10.5 ⁺¹	10	7	38	6.2	8.8	1

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

$\phi 40$



$\phi 50 \sim \phi 100$

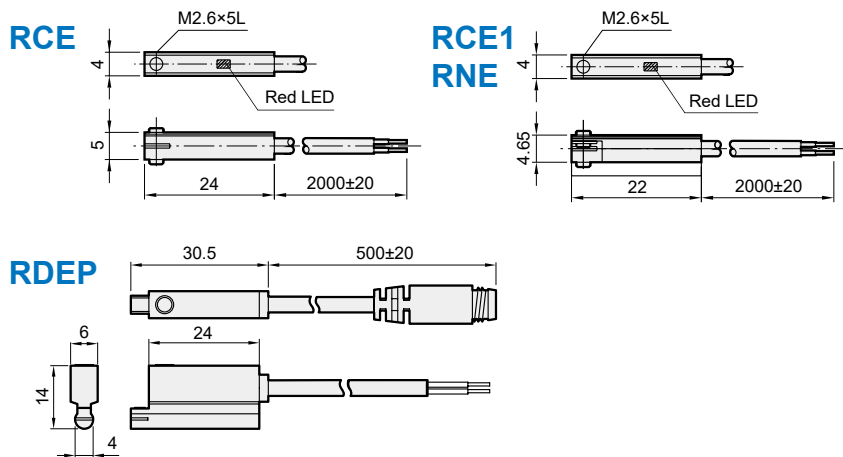


Code Tube I.D.	Stroke range	Without magnet		Magnet		F	L	Q
		A	B	A	B			
40	5~50	46.5	29.5	56.5	39.5	8	7	11
	51~100	56.5	39.5					
50	10~50	50.5	30.5	60.5	40.5	10.5	8	10.5
	51~100	60.5	40.5					
63	10~50	56	36	66	46	10.5	8	15
	51~100	66	46					
80	10~50	67.5	43.5	77.5	53.5	12.5	10	16
	51~100	77.5	53.5					
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	M5×0.8	5	70	67.5	57	33±0.1	23.3
50	20	8	64	62	51	12	M6×1.0	6	86	84.5	71	42±0.1	29.7
63	20	12	77	74	59.6	12	M6×1.0	6	103	100	84	50±0.1	35.4
80	25	14	98	95	77	14	M8×1.25	8	132	129	104	65±0.1	46
100	30	14	117	114	99	16	M10×1.5	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	M6×1.0	9	Rc1/8	10	7	46	14	6.2	8.8	1
50	50	6.6	M8×1.25	11	Rc1/4	14	8	58	19	8.2	10.8	1
63	60	9	M10×1.5	14	Rc1/4	18	10.5	69	19	10.2	13.8	1
80	77	11	M12×1.75	17.5	Rc3/8	22	13.5	89	26	12.2	17.3	2
100	94	11	M12×1.75	17.5	Rc3/8	22	13.5	113	26	12.2	17.3	2

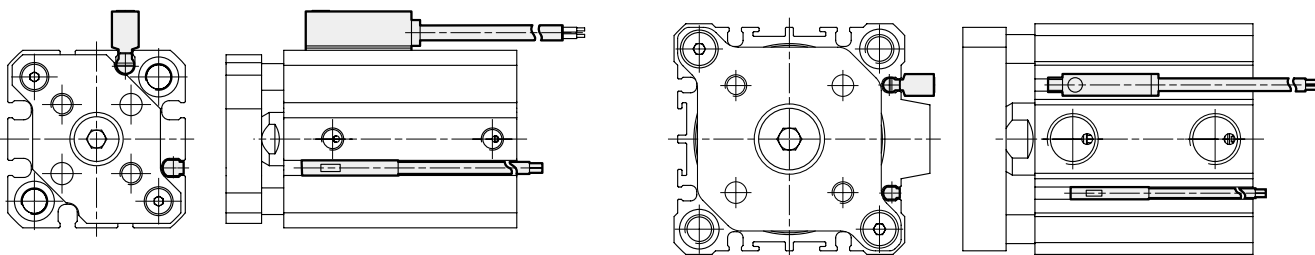
Dimensions



Installation of sensor switch

$\varnothing 12 \sim \varnothing 40$

$\varnothing 50 \sim \varnothing 100$



Order example

RCE1 — □

MODEL

RCE / RCE1 (C: Reed switch)

RNE (N: Solid state switch)

RDEP (Solid state switch)

WIRE LENGTH

1M: L=1000m

2M: L=2000m

QD: M8 3Pin connector

EQD: M8 3Pin connector

Description

▼ **RCE, RCE1, RDEP*** switch ↓ Port

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

