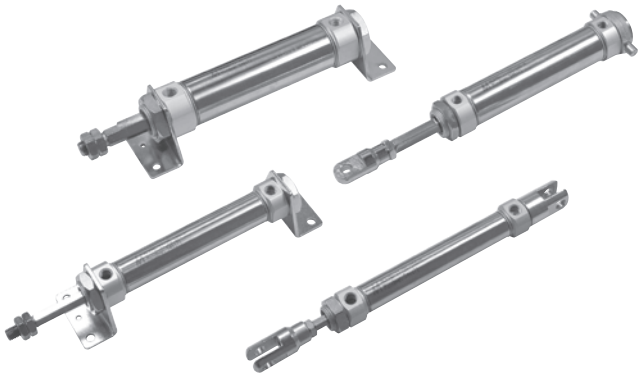
MCKMB series

MINIATURE CYLINDER WITH NON-ROTATING ROD



Features

■ Non lubrication

- Special housing and bushing enables self lubrication of piston rod.

■ High quality long service life

- Cylinder with hexagonal rod design enables non-rotation of rod.
- Hard anodised stainless steel cylinder tubes offer a high resistance to corrosion and low internal friction.
- Cylinder mountings, available with a comprehensive range of accessories for rigid or flexible mounting.
- Magnetic as standard

Specification

Model		MCKMB			
Tube I.D. (mm)		20	25	32	40
Port size		Rc1/8			Rc1/4
Medium		Air			
Operating perssure range		0.05~0.7 MPa			
Proof pressure		1 MPa			
Lubricator		Not required			
Ambient temperature		-5~+60°C (No freezing)			
Available speed range		50~750 mm/sec			
Max. allowable kinetic energy (J)	Cushion pad	0.27	0.4	0.65	1.2
	Cushion air	0.54	0.78	1.27	2.35
Rod non-rotating accuracy		±0.7°		±0.5°	
Allowable rotational torque		2.0 kgf-cm	2.5 kgf-cm	2.5 kgf-cm	4.5 kgf-cm
Sensor switch		RCM (Please refer to page 8-16)			
Sensor switch band		BM20	BM25	BM32	BM40

* The cylinder is allowed little leakage. Before the cylinder is sale, it has passed the standard of leakage test.
* For precautions, please refer to page 3-2.

Table for standard stroke

Tube I.D.	Stroke (mm)	Max. stroke (mm)
ø20	25,50,75,100,125, 150,200,250,300	300
ø25,32,40		500

* Intermediate stroke are available, please contact us.

Tightening torque

Tube I.D.	Rod thread	Tightening torque (kgf·cm)
ø20	M8×1.25	100
ø25,32	M10×1.25	190
ø40	M14×1.5	540

* Make sure the tightening torque of rod thread does not exceed the value above.
* The tolerance of tightening torque is ±5%.

Order example

MCKMB — 11 — 40 — 50 — A — N — G

- MODEL
- 1: Single rod
- TUBE I.D.
- STROKE
- Blank: Cushion pad (Unadjustable)
  A: Cushion air (Adjustable) ⚠
- PORT THREAD
  Blank: Rc thread
  G: G thread
  NPT: NPT thread

STYLE

Code		Symbol	Description
1	1		Double acting / Male thread

END COVER TYPE

Code	Symbol	Description
Blank		Standard type
N		End-plain
E		With pivot type

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

⚠ Caution

● For (**A**) Cushion air (Adjustable) (Fig.1)

1. To adjust a cushion needle, please slowly turn the needle valve from the fully closed status to the required status which needs to be within 2.5 turns.
2. If the needle valve loosen excessively, the buffer doesn't take effect and the lifetime of cylinder would be shortened.

● Please don't attempt to rotate the piston rod. (Fig.2)

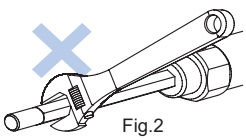


Fig.2

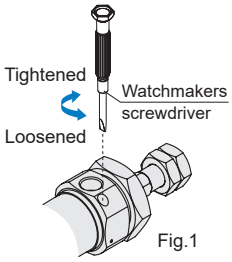
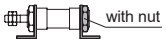
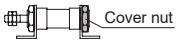
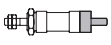
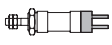
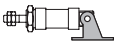
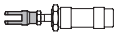
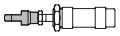


Fig.1

Accessories & Connector

	Accessories					
Code	**LB** (LB×2, with cover nut ×1)	**LB** (LB×1, without cover nut)	**NUT**		**CA**	**CB**
Cover type	Standrad type	End-plain (N) With pivot type (E)	–		Standrad type	
Mounting / Tube I.D.	 with nut		Rod nut 	 Cover nut		
ø20	**LB-M2-20x2**	**LB-M2-20**	**NUT-M8x1.25x5Hx13B**	**NUT-M20x1.5x8Hx26B**	**CA-M2-20**	**CB-M2-20**
ø25	**LB-M2-25x2**	**LB-M2-25**	**NUT-M10x1.25x6Hx17B**	**NUT-M26x1.5x8Hx32B**	**CA-M2-25**	**CB-M2-25**
ø32						
ø40	**LB-M2-40x2**	**LB-M2-40**	**NUT-M14x1.5x8Hx22B**	**NUT-M32x2.0x10Hx41B**	**CA-M2-40**	**CB-M2-40**

	Accessories					Connector	
Code	**FA**	**FB**	**SDB** (with pin×1 + snap ring×2)	**TA**	**TB**	**Y**	**I**
Cover type	All applicable	Standard type	With pivot type (E)	All applicable	Standard type	All applicable	
Mounting / Tube I.D.							
ø20	**FA-M2-20**		**SDB-M2-20**	**TA-M2-20**		**Y-M2-20**	**I-M2-20**
ø25	**FA-M2-25**			**TA-M2-25**		**Y-M2-25**	**I-M2-25**
ø32			**SDB-M2-32**				
ø40	**FA-M2-40**			**TA-M2-40**		**Y-Q1-40**	**I-M2-40**

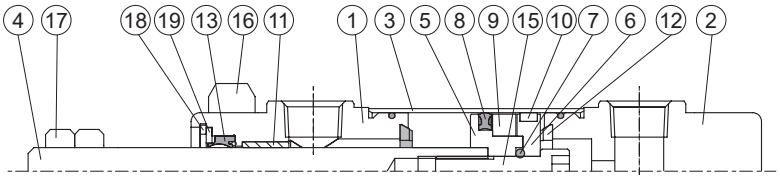
Pin

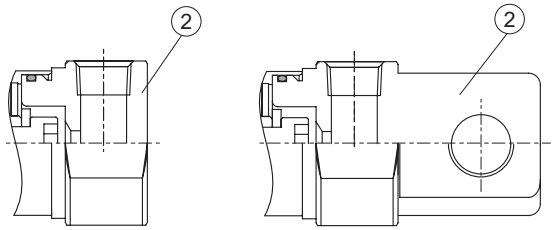
Applicable	Y&I connector	CA&CB accessories	SDB accessories
Code	**PIN-Y-P** (with split pin / snap ring)	**PIN-CB-P** (with split pin / snap ring)	**PIN-SDB** (with split pin)
Fig / Tube I.D.	 ø20~ø32 ø40	 ø20~ø32 ø40	
ø20	**PIN-M2-20-1-P**	**PIN-M2-20-1-P**	**PIN-M2-20-2-P**
ø25			
ø32			**PIN-M2-32-1-P**
ø40	**PIN-M2-40-2-P**	**PIN-M2-40-1-P**	

MCKMB Inside structure & Parts list

MINIATURE CYLINDER WITH NON-ROTATING ROD

Cushion pad Unadjustable





N type **E** type

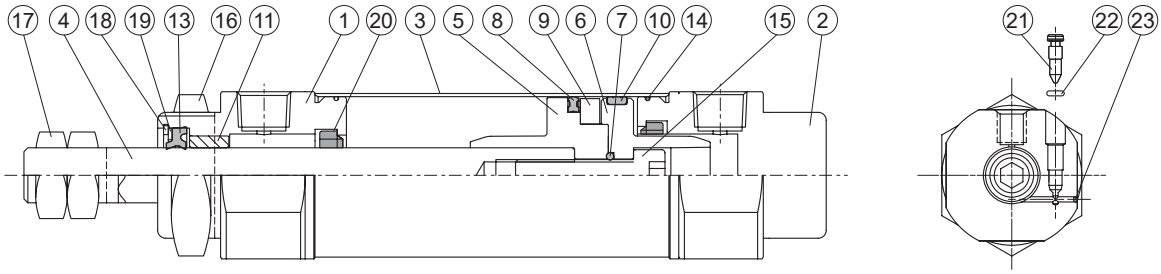
Order example of component parts

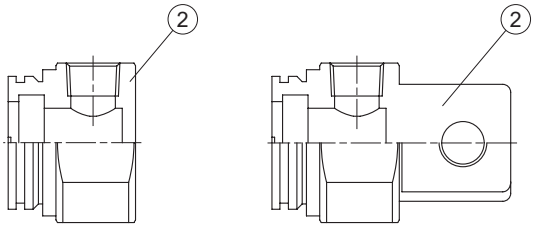
Tube I.D.	Cushion pad
ø20	**CP-MCKMB-20-☐**
ø25	**CP-MCKMB-25-☐**
ø32	**CP-MCKMB-32-☐**
ø40	**CP-MCKMB-40-☐**

Tube I.D.	Cushion air
ø20	**CP-MCKMB-20A-☐**
ø25	**CP-MCKMB-25A-☐**
ø32	**CP-MCKMB-32A-☐**
ø40	**CP-MCKMB-40A-☐**

* ☐ Port thread: Blank: Rc thread, **G**: G thread, **NPT**: NPT thread

Cushion air Adjustable





N type **E** type

Material

* CP: Component parts (inclusion)

No.	Cushion		Part name	Material	Q'y	CP *	
	Pad	Air				Pad	Air
1	●	●	Rod cover	Aluminum alloy	1	●	●
2	●	●	Head cover	Aluminum alloy	1	●	●
3	●	●	Tube	Stainless steel	1		
4	●	●	Piston rod	Stainless steel	1		
5	●	●	Piston-R	Aluminum alloy	1	●	●
6	●	●	Piston-H	Aluminum alloy	1	●	●
7	●	●	Piston gasket	NBR	1	●	●
8	●	●	Piston packing	NBR	1	●	●
9	●	●	Magnet ring	Magnet material	1	●	●
10	●	●	Wear ring	Resin	1	●	●
11	●	●	Rod bush	Bearing alloy	1	●	●
12	●		Cushion gasket	NBR	2	●	

No.	Cushion		Part name	Material	Q'y	CP *	
	Pad	Air				Pad	Air
13	●	●	Rod packing	NBR	1	●	●
14	●	●	Cover ring *1	NBR	2	●	●
15	●	●	Piston bolt	SCM	1	●	●
16	●	●	Tie nut	Carbon steel	1	●	●
17	●	●	Rod front nut	Carbon steel	2	●	●
18	●	●	Snap ring	Spring steel	1	●	●
19	●	●	Washer	Carbon steel	1	●	●
20		●	Cushion packing	NBR	2		●
21		●	Needle valve packing	NBR	2		●
22		●	Needle valve	Carbon steel	2		●
23		●	Steel ball	Stainless steel	2		●

*1. ø20, ø25 without this part.

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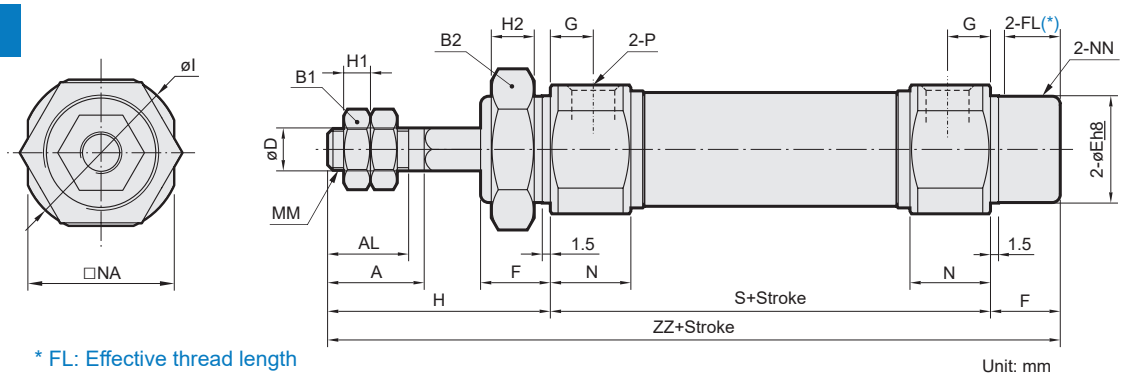
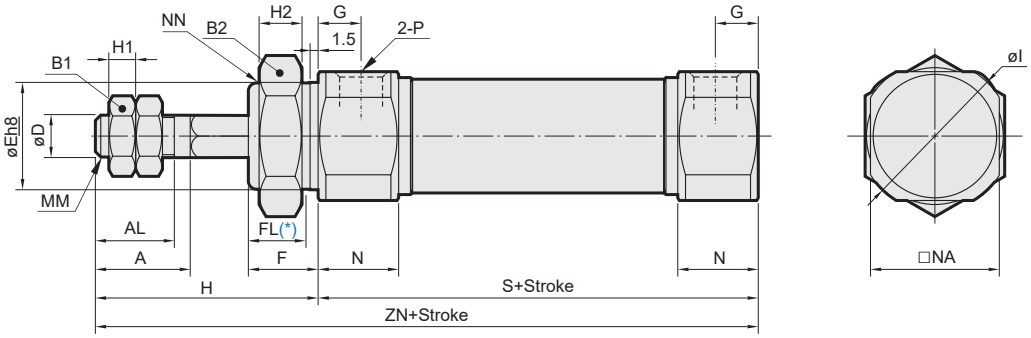


* FL: Effective thread length

Unit: mm

Code / Tube I.D.	A	AL	B1	B2	D	E	F	FL	G	H	H1	H2	I	MM	N	NA	NN	P	S	ZZ
20	18	15.5	13	26	8	20 $^{0}_{-0.03}$	13	10.5	8	41	5	8	28	M8×1.25	15	24	M20×1.5	Rc1/8	62	116
25	22	19.5	17	32	10	26 $^{0}_{-0.03}$	13	10.5	8	45	6	8	33.5	M10×1.25	15	30	M26×1.5	Rc1/8	62	120
32	22	19.5	17	32	12	26 $^{0}_{-0.03}$	13	10.5	8	45	6	8	37.5	M10×1.25	15	34.5	M26×1.5	Rc1/8	64	122
40	24	21	22	41	14	32 $^{0}_{-0.04}$	16	13.5	11	50	8	10	46.5	M14×1.5	21.5	42.5	M32×2.0	Rc1/4	88	154

N

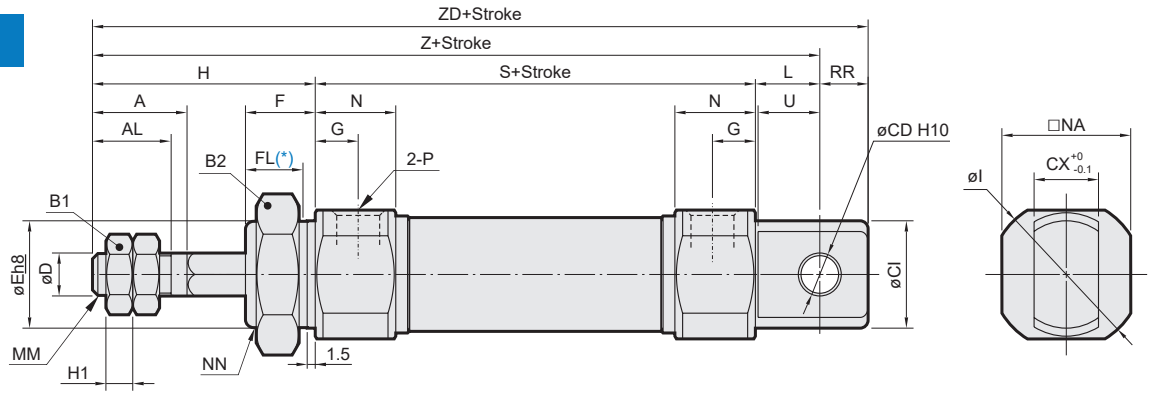


* FL: Effective thread length

Unit: mm

Code / Tube I.D.	A	AL	B1	B2	D	E	F	FL	G	H	H1	H2	I	MM	N	NA	NN	P	S	ZN
20	18	15.5	13	26	8	20 $^{0}_{-0.03}$	13	10.5	8	41	5	8	28	M8×1.25	15	24	M20×1.5	Rc1/8	62	103
25	22	19.5	17	32	10	26 $^{0}_{-0.03}$	13	10.5	8	45	6	8	33.5	M10×1.25	15	30	M26×1.5	Rc1/8	62	107
32	22	19.5	17	32	12	26 $^{0}_{-0.03}$	13	10.5	8	45	6	8	37.5	M10×1.25	15	34.5	M26×1.5	Rc1/8	64	109
40	24	21	22	41	14	32 $^{0}_{-0.04}$	16	13.5	11	50	8	10	46.5	M14×1.5	21.5	42.5	M32×2.0	Rc1/4	88	138

E



* FL: Effective thread length

Unit: mm

Code / Tube I.D.	A	AL	B1	B2	CD	CX	CI	D	E	F	FL	G	H	H1	I	L	MM	N	NA	NN	P	RR	S	U	Z	ZD
20	18	15.5	13	26	8	12	20	8	20 $^{0}_{-0.03}$	13	10.5	8	41	5	28	12	M8×1.25	15	24	M20×1.5	Rc1/8	9	62	11.5	115	124
25	22	19.5	17	32	8	12	22	10	26 $^{0}_{-0.03}$	13	10.5	8	45	6	33.5	12	M10×1.25	15	30	M26×1.5	Rc1/8	9	62	11.5	119	128
32	22	19.5	17	32	10	20	27	12	26 $^{0}_{-0.03}$	13	10.5	8	45	6	37.5	15	M10×1.25	15	34.5	M26×1.5	Rc1/8	12	64	14.5	124	136
40	24	21	22	41	10	20	33	14	32 $^{0}_{-0.04}$	16	13.5	11	50	8	46.5	15	M14×1.5	21.5	42.5	M32×2.0	Rc1/4	12	88	14.5	153	165