

MCCH series

HIGH SPEED CYLINDER



Technical data



Caution for safety
(Read before installing)



Order example

MCCH — 11 — 32 — 250 — □

MODEL 1: Single rod

TUBE I.D. STROKE
25 25 : 250~700 mm
32 32 : 250~1000 mm

STYLE

Code	Symbol	Description
1 1		Double acting / Male thread

PORT THREAD

Blank: Rc thread
G: G thread
NPT: NPT thread

Feature

- The diameter of the port orifice has been enlarged to support high speed operation. max speed: 3000mm/sec
- Longer cushion rod to absorb more exercise energy and reduce external cushioning settings.
- The cylinder with relief valve provides better cushioning performance than the general purpose cylinder with needle valve.
- The relief valve body can rotate 360 degrees freely, which is convenient for adjustment and use.
- Magnetic as standard.

Specification

Model	MCCH	
Acting type	Double acting	
Tube I.D. (mm)	25	32
Port size	Rc1/4	Rc3/8
Medium	Air	
Max. operating perssure	1 MPa	
Min. operating perssure	0.05 MPa	
Proof pressure	1.5 MPa	
Lubrication	Not required	
Ambient temperature	-5~+60°C (No freezing)	
Available speed range	50~3000 mm/sec	
Cushion	Air cushion	
Max energy absorption (J)	12	21
Standard stroke (*1,2,3)	250~700 mm	250~1000 mm
Max. stroke	1500 mm	
Effective cushioning stroke	80 mm	
Sensor switch	RDC, RQC RCM	
Sensor switch band	R*C	BKC-1 (Not for R*CV angle cable)
	RCM	BMG25 BMG32

*1. Minimum stroke unit 1mm.

*2. Outside the guaranteed range when the stroke exceeds standard stroke, please reconfirm the dimension with our sales department when the stroke over our standard.

*3. This product has a large absorption energy and a longer effective buffer range. Therefore, when the stroke below 250mm is used at high speed, the cushioning performance may not meet the catalog standard.

Order example of mounting accessories

Code	LB (Purchase 2 pcs)
Mounting Tube I.D.	
25	LB-C3-25
32	LB-C3-32

Weight

Unit: g

Tube I.D.	Basic weight (magnet)	Stroke 100 mm	LB
25	777	137	228
32	1090	180	368

Operation

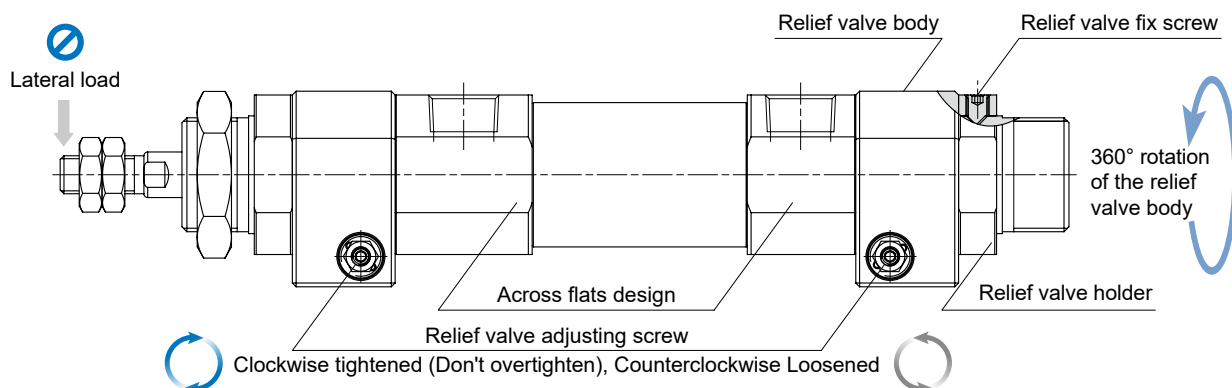
Caution

- 1 Install the speed control valve to adjust speed**
When operate the cylinders, please install the control valve to adjust the speed of piston within the regular usage range.
- 2 Don't exert the lateral load on the piston rod**
Please operate the cylinders within the regular usage ranges. Do not exert excessively lateral load on the piston rod.
- 3 The long piston rod need to be braced by supports**
Operate the long stroke cylinders, please use supports to brace the piston rod for avoiding piston rod droop.
- 4 Assemble snap ring into the groove certainly**
Please use the appropriate tool to disassemble the snap ring for replacing the rod packing. Don't support the air to the cylinders until finish replacing certainly to avoid snap ring spouting hurt people or machines.
- 5 Adjustment method of relief valve screw**
 - a When using, please adjust the relief valve screw to the fully closed state (do not lock too tightly, or this will damage internal parts), then turn overflow valve screw counterclockwise according to the buffer requirements, and finally fix it with the lock nut.
 - b Loosening relief valve screw excessively will invalidate the buffer and shorten the life of the cylinder. Therefore, the relief valve screw must be adjusted from tight to loose first.
- 6 Across flats cover designed for disassembly**
When removing the cylinder, use a vise to fix the flat surface on both sides of the rod cover or the head cover, and then remove the other end cap with a wrench.

Operation

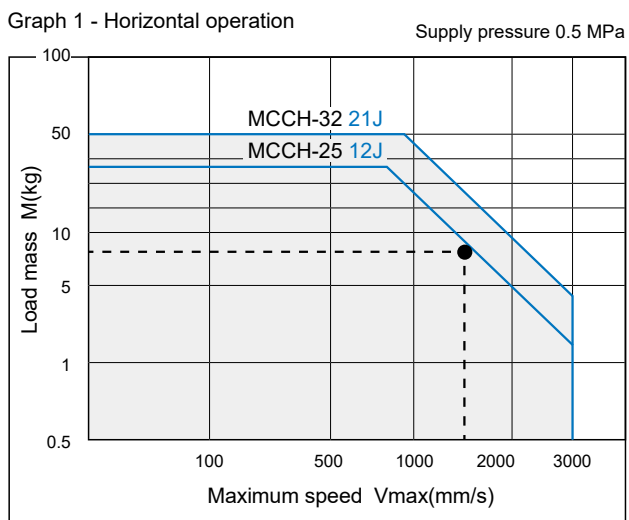
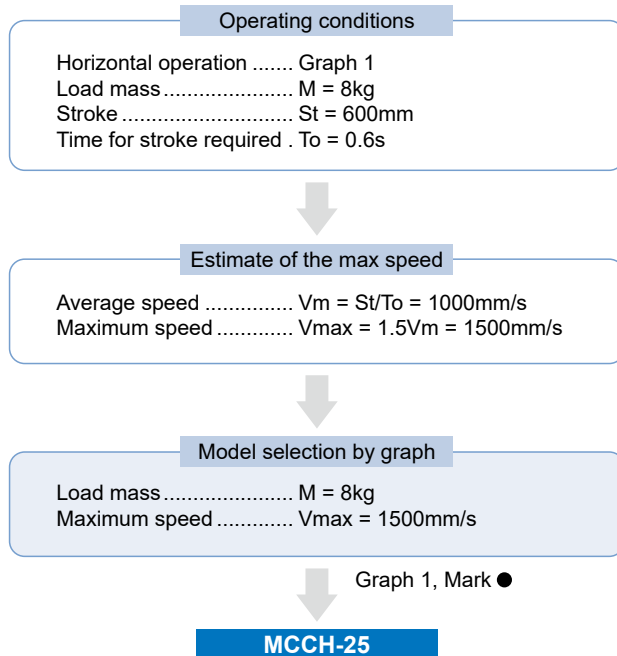
Caution

- 7 The method of adjustment relief valve body**
The relief valve body can be adjusted 360 degrees arbitrarily, please follow the procedure as below:
 - a Turn off the source of pressure and confirm that there is no residual pressure in the cylinder, then loosen the accessories.
 - b Loosen the fixing screw of the relief valve fixing seat, and then the relief valve body can be rotated and adjusted.
 - c After adjustment, fix it with fixing screws until the relief valve body does not rotate.
- Before use the air cylinder which has been installed, please confirm whether the relief valve body is loose. The looseness may cause buffer failure.
- 8 Illustration of speed 3000 mm/s**
 - a The velocity of using speed is 3000mm / s that means the maximum speed, not the average speed.
 - b The short stroke may not achieve the desired speed.
 - c The speed is related to the speed control valve, piping, and fittings, etc. When the flow rate is restricted, the desired speed may not be achieved. Therefore, ensure that the pneumatic system has a sufficient effective area.
- 9 Do not exceed absorbed energy**
If the maximum absorbed energy (J) value is exceeded, an external buffer is required.
- 10 Back pressure on exhaust side is necessary**
Before starting the cylinder, make a back pressure on the exhaust side of the cylinder to prevent the piston rod from flying out.
- 11 The source of pressure is stable**
Please make sure that the source of pressure is stable when use the cylinder. The Sudden rise in pressure will cause buffering performance invalid.

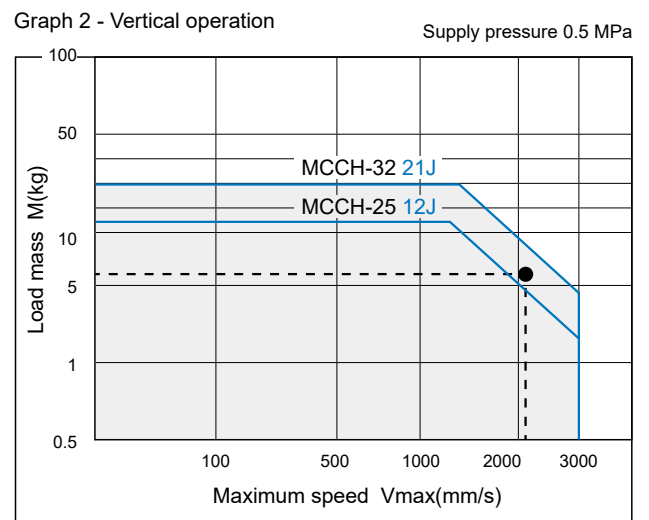
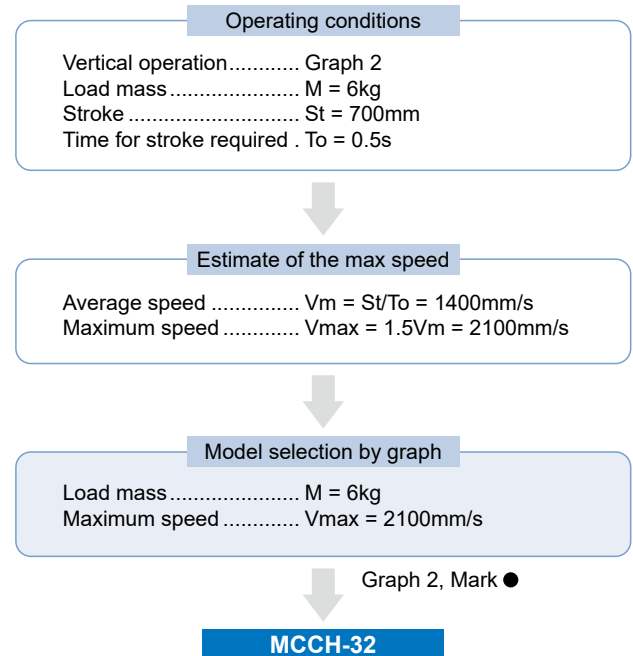


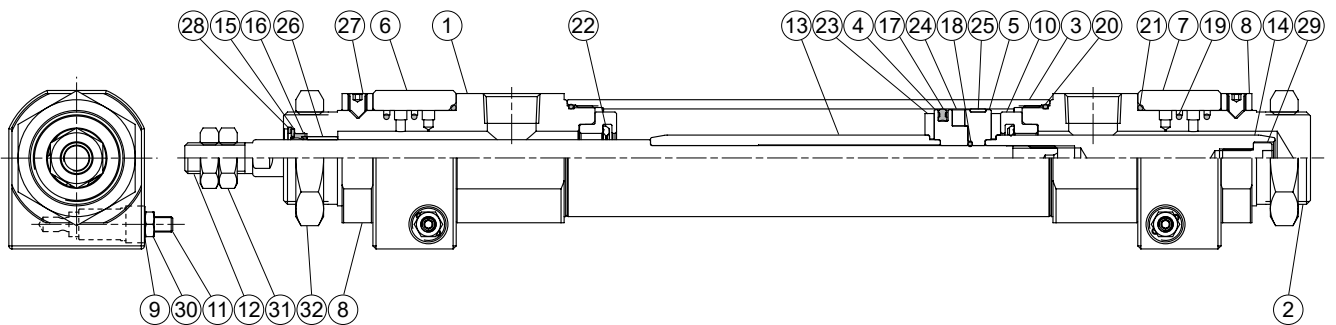
Seloction example1. Horizontal operation

* Use an external guide, etc. for horizontal actuation of a load.



Seloction example2. Vertical operation





Material

A: Component parts, B: Repair kits

No.	Part name	Material	Q'y	A	B
				inclusion	
1	Cover-R	Aluminum alloy	1	●	
2	Cover-H	Aluminum alloy	1	●	
3	Tube	Aluminum alloy	1		
4	Piston-R	Aluminum alloy	1	●	
5	Piston-H	Aluminum alloy	1	●	
6	Relief valve body-R	Aluminum alloy	1	●	
7	Relief valve body-H	Aluminum alloy	1	●	
8	Relief valve holder	Aluminum alloy	2	●	
9	Relief valve cover	Stainless steel	2	●	
10	Cushion spacer	Stainless steel	2	●	
11	Relief valve adjustment screw	Stainless steel	2	●	
12	Piston rod	Carbon steel	1		
13	Cushion axis-R	Carbon steel	1	●	
14	Cushion axis-H	Carbon steel	1	●	
15	Washer	Carbon steel	1	●	
16	Rod packing	NBR	1	●	●

No.	Part name	Material	Q'y	A	B
				inclusion	
17	Piston packing	NBR	1	●	●
18	O-ring	NBR	1	●	
19		NBR	4	●	●
20		NBR	2	●	●
21		NBR	2	●	●
22	Cushion packing	NBR	2	●	●
23	Gasket	PU	2	●	
24	Magnet ring	Magnet material	1	●	
25	Wear ring	Resin	1	●	●
26	Rod bush	Bearing alloy	1	●	
27	Screw	SCM	4	●	
28	Snap ring	Spring steel	1	●	
29	Bolt	Carbon steel	1	●	
30	Nut	Carbon steel	2	●	
31	Rod front nut	Carbon steel	2	●	
32	Tie nut	Carbon steel	1	●	

Order example of component parts & repair kits

Tube I.D.	Component parts	Repair kits
25	CP-MCCH-25-□	PS-MCCH-25
32	CP-MCCH-32-□	PS-MCCH-32

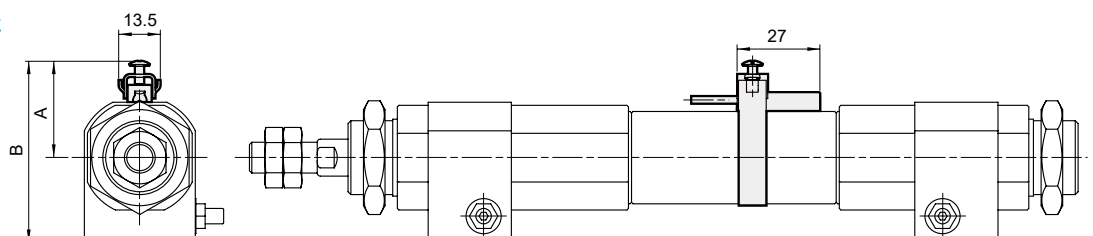
* □ Port thread: Blank: Rc thread, G: G thread, NPT: NPT thread

Installation of sensor switch

Sensor switch: R*C

Band: BKC-1

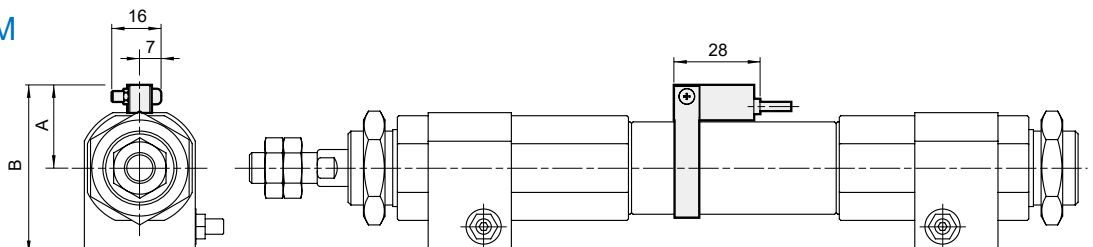
Code Tube I.D.	A	B
25	31	58.5
32	35	64.5

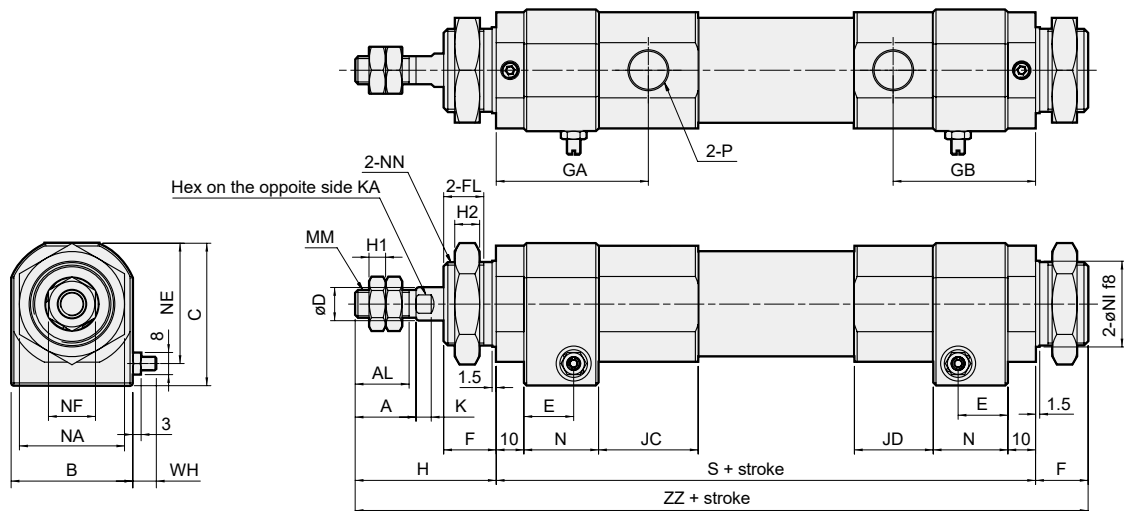


Sensor switch: RCM

Band: BMG*

Code Tube I.D.	A	B
25	26.5	54.5
32	30.5	60.5





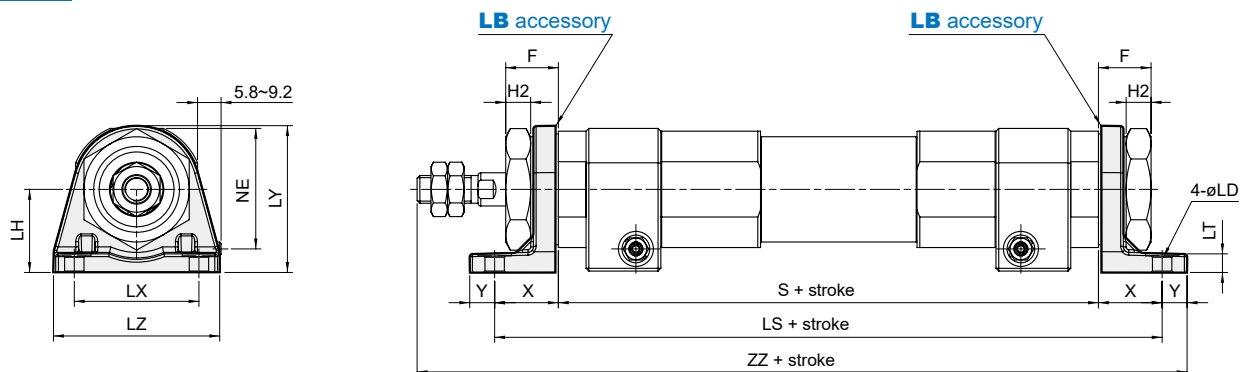
Code Tube I.D.	A	AL	B	C	D	E	F	FL	GA	GB	H	H1	H2	JC	JD	K	KA	MM	N	NE	NA
25	22	19.5	36	45.5	12	18	16	11.5	56.5	49.5	48	6	7	39	25.5	5.5	10	M10×1.25	27	37	32
32	22	19.5	44	51.5	12	18	19	14.5	55	51.5	51	6	9	36	28.5	5.5	10	M10×1.25	27	43.5	38

Code Tube I.D.	NF	NI	NN	P	S	WH	ZZ
25	17	25 -0.020 -0.053	M24×1.5	Rc1/4	193	5.8~9.2	257
32	17	31 -0.025 -0.064	M30×1.5	Rc3/8	195	5.8~9.2	265

■ Mounting accessories

LB

Material: Carbon steel



Code Tube I.D.	F	H2	LD	LH	LS	LT	LX	LY	LZ	NE	S	X	Y	ZZ
25	16	8	7	28	233	6.5	40	46.5	55	37	193	20	9	270
32	19	9	7	30	241	7	45	53	60	43.5	195	23	9	278