

Air Cylinder: Direct Mount Type

Double Acting, Single Rod

Series CM2R

ø20, ø25, ø32, ø40

How to Order

Type

Nil	Pneumatic
H	Air-hydro

Cylinder stroke (mm)
(Refer to "Standard Stroke" on page 187.)

Cushion

Nil	Rubber bumper
A	Air cushion

* Air-hydro cylinder: Rubber bumper only

Made to Order
(Refer to page 187 for details.)

With auto switch

Mounting style

A	Bottom mounting style
B	Front mounting style

Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch
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* For the applicable auto switch model, refer to the table below.

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) CDM2RB32-100

Applicable Auto Switch/Refer to pages 1263 to 1371 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m)					Pre-wired connector	Applicable load						
					DC	AC		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)								
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24V	5V, 12V	—	M9N	●	●	●	○	—	○	IC circuit	Relay, PLC				
		3-wire (PNP)				M9P		●	●	●	○	—	○							
		Connector		2-wire		12V		M9B	●	●	●	○	—	○						
				H7C		●		—	●	●	●	—								
	Diagnostic indication (2-color indication)	Terminal conduit		3-wire (NPN)	5V, 12V	G39A **	—	—	—	—	●	—	IC circuit	—						
				2-wire	12V	K39A **	—	—	—	—	●	—	—							
		Grommet		3-wire (NPN)	5V, 12V	M9NW	●	●	●	○	—	○	IC circuit	—						
				3-wire (PNP)		M9PW	●	●	●	○	—	○	IC circuit							
				2-wire	12V	M9BW	●	●	●	○	—	○								
				H7BA	—	—	●	○	—	○										
				Water resistant (2-color indication)	Grommet	4-wire (NPN)	5V, 12V	H7NF	●	—	●	○	—	○	IC circuit					
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5V	—	A96	●	—	●	—	—	—	IC circuit	Relay, PLC				
				2-wire	24V	12V	100V	A93	●	—	●	—	—	—	—		—			
							100V or less	A90	●	—	●	—	—	—	—		IC circuit			
							100V, 200V	B54 **	●	—	●	●	—	—	—		—			
		200V or less					B64 **	●	—	●	—	—	—	—						
		—					C73C	●	—	●	●	●	—	—						
		24V or less					C80C	●	—	●	●	●	—	IC circuit						
		Connector					—	A33A **	—	—	—	—	●	—	—		PLC			
							Terminal conduit	100V, 200V	A34A **	—	—	—	—	●			—			
								A44A **	—	—	—	—	—	●			—			
		DIN terminal					Grommet	—	—	—	—	B59W	●	—	●		—	—	—	Relay, PLC
							Diagnostic indication (2-color indication)	Grommet												

- * Lead wire length symbols: 0.5 m Nil (Example) M9NW
1 m M (Example) M9NWM
3 m L (Example) M9NWL
5 m Z (Example) M9NWZ
None N (Example) H7CN
- * Solid state auto switches marked with "○" are produced upon receipt of order.
* D-A9□V/M9□V/M9□WV and D-M9□A(V)L cannot be mounted.
* Do not indicate suffix "N" for no lead wire on D-A3□A/A44A/G39A/K39A models.
** D-A3□A/A44A/G39A/K39A/B54/B64 cannot be mounted on bore sizes ø20 and ø25 cylinder with air cushion.

- * Since there are other applicable auto switches than listed above, refer to page 218 for details.
* For details about auto switches with pre-wired connector, refer to pages 1328 and 1329.
* D-A9□/M9□/M9□W auto switches are shipped together (not assembled). (However, auto switch mounting brackets are assembled when being shipped.)

Air Cylinder: Direct Mount Type Double Acting, Single Rod *Series CM2R*

Series CM2R direct mount cylinder can be installed directly through the use of a square rod cover.

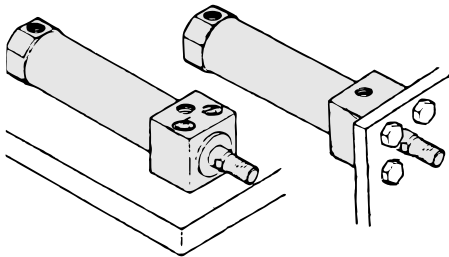
Space saving has been realized.
Because it is a directly mounted style without using brackets, its overall length is shorter, and its installation pitch can be made smaller. Thus, the space that is required for installation has been dramatically reduced.

Improved installation accuracy and strength

A centering boss has been provided to improve the installation accuracy. Also, because it is the directly mounted style, the strength has been increased.

Two styles of installation

Two styles of installations are available and can be selected according to the purpose: the front mounting style or the bottom mounting style.

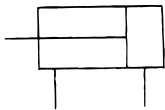


Bottom mounting style

Front mounting style

JIS Symbol

Double acting



Made to Order Specifications
(For details, refer to pages 1373 to 1498.)

Symbol	Specifications
—XA□	Change of rod end shape
—XB6	Heat resistant cylinder (150°C)
—XB7	Cold resistant cylinder
—XB9	Low speed cylinder (10 to 50 mm/s)
—XB13	Low speed cylinder (5 to 50 mm/s)
—XC3	Special port location
—XC5	Heat resistant cylinder (110°C)
—XC6	Piston rod and rod end nut made of stainless steel
—XC8	Adjustable stroke cylinder/Adjustable extension type
—XC9	Adjustable stroke cylinder/Adjustable retraction type
—XC11	Dual stroke cylinder/Single rod type
—XC12	Tandem cylinder
—XC13	Auto switch mounting rail style
—XC20	Head cover axial port
—XC22	Fluororubber seals
—XC25	No fixed orifice of connecting port
—XC29	Double knuckle joint with spring pin

Specifications

Bore size (mm)		20	25	32	40
Action		Double acting, Single rod			
Fluid		Air			
Proof pressure		1.5 MPa			
Maximum operating pressure		1.0 MPa			
Minimum operating pressure		0.05 MPa			
Ambient and fluid temperature		Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)			
Lubrication		Not required (Non-lube)			
Stroke length tolerance		+1.4 0 mm			
Piston speed		Rubber bumper: 50 to 750 mm/s, Air cushion: 50 to 1000 mm/s			
Cushion		Rubber bumper, Air cushion			
Allowable kinetic energy	Rubber bumper	0.27 J	0.4 J	0.65 J	1.2 J
	Air cushion (Effective cushion length (mm))	0.54 J (11.0)	0.78 J (11.0)	1.27 J (11.0)	2.35 J (11.8)

Standard Stroke

Bore size (mm)	Standard stroke (mm) ⁽¹⁾	Maximum manufacturable stroke (mm) ⁽²⁾
20	25, 50, 75, 100, 125, 150	1000
25	25, 50, 75, 100, 125, 150, 200	1500
32	25, 50, 75, 100, 125, 150, 200	2000
40	25, 50, 75, 100, 125, 150, 200, 250, 300	2000

Note 1) Other intermediate strokes can be manufactured upon receipt of order.

Manufacture of intermediate strokes at 1 mm intervals is possible.

(Spacers are not used.)

Note 2) Refer to next page for Precations.

Tightening Torque: Tighten the cylinder mounting bolts for the bottom mounting Style (Series CM2RA) with the following tightening torque.

Bore size (mm)	Hexagon socket head cap screw size	Tightening torque(N·m)
20	M5 x 0.8	2.4 to 3.6
25	M6	4.2 to 6.2
32	M8	10.0 to 15.0
40	M10	19.6 to 29.4

Refer to pages 214 to 218 for cylinders with auto switches.

- Minimum stroke for auto switch mounting
- Proper auto switch mounting position (detection at stroke end) and mounting height
- Operating range
- Switch mounting bracket: Part no.

CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

CS2

D-□

-X□

Individual

-X□

Technical

data