

Round Type Hydraulic Cylinder

CH□M Series

3.5 MPa

ø20, ø25, ø32, ø40

How to Order

CHM L 25 - 100

With Auto Switch CHDM L 25 - 100 - M9BW - C

With auto switch
(built-in magnet)

Mounting type

B	Basic type
L	Axial foot type
F	Rod flange type
G	Head flange type
C	Single clevis type

Bore size

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

Cylinder stroke (mm)

Refer to the standard stroke table on page 317.

Number of auto switches

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

Auto switch type

Nil	Without auto switch
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Select applicable auto switch models from the table below.

Auto switch mounting bracket^(Note)
 Note) This symbol is indicated when the D-A9□ or M9□ type auto switch is specified.
 This mounting bracket does not apply to other auto switches (D-C7□ and H7□, etc.)

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without auto switch is required, there is no need to enter the symbol for the auto switch.

(Example) CHDMB20-100

Applicable Auto Switches/Refer to pages 431 to 490 for further details on each auto switch.

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	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)		
Solid state auto switch	Diagnostic indication (2-color indicator)	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	●	●	●	○	—	○	Relay PLC
		Connector		3-wire (PNP)	12 V		M9PV	M9P	●	—	—	—	—	—	
		Terminal conduit		2-wire	12 V		M9BV	M9B	●	—	—	—	—	—	
		Terminal conduit		3-wire (NPN)	5 V, 12 V		—	H7C	●	—	—	—	—	—	
	Water resistant (2-color indicator)	Grommet	Yes	3-wire (NPN)	5 V, 12 V		—	G39	—	—	—	—	—	—	
		Connector		3-wire (PNP)	12 V		—	K39	—	—	—	—	—	—	
		Terminal conduit		2-wire	12 V		M9NVV	M9NV	●	●	●	○	—	○	
		Terminal conduit		3-wire (PNP)	5 V, 12 V		M9PVV	M9PW	●	●	●	○	—	○	
	Diagnostic output (2-color indicator)	Grommet	Yes	3-wire (NPN)	5 V, 12 V		M9BWW	M9BW	●	●	●	○	—	○	
		Terminal conduit		3-wire (PNP)	12 V		M9NAV ^{*1}	M9NA ^{*1}	○	○	○	○	—	○	
Reed auto switch	Diagnostic indication (2-color indicator)	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9PAV ^{*1}	M9PA ^{*1}	○	○	○	○	—	○	Relay PLC
		Connector		3-wire (PNP)	12 V		M9BAV ^{*1}	M9BA ^{*1}	○	○	○	○	—	○	
		Terminal conduit		2-wire	12 V		—	H7NF	●	—	—	—	—	—	
		DIN terminal		4-wire (NPN)	5 V, 12 V		—	A96V	●	—	—	—	—	—	
	Diagnostic indication (2-color indicator)	Grommet	Yes	3-wire (NPN)	5 V		A93V ^{*2}	A93	●	●	●	●	—	—	
		Connector		3-wire (NPN)	100 V		A90V	A90	●	—	—	—	—	—	
		Terminal conduit		3-wire (PNP)	100 V or less		—	B54	●	—	—	—	—	—	
		DIN terminal		3-wire (PNP)	100 V, 200 V		—	B64	●	—	—	—	—	—	
	Diagnostic indication (2-color indicator)	Grommet	Yes	3-wire (NPN)	24 V		—	C73C	●	—	—	—	—	—	
		Connector		3-wire (PNP)	12 V		—	C80C	●	—	—	—	—	—	
Reed auto switch	Diagnostic indication (2-color indicator)	Grommet	Yes	3-wire (NPN)	5 V	—	—	A33	—	—	—	—	—	—	Relay PLC
		Connector		3-wire (PNP)	100 V		—	A34	—	—	—	—	—	—	
		Terminal conduit		3-wire (NPN)	200 V		—	A44	—	—	—	—	—	—	
		DIN terminal		3-wire (PNP)	24 V or less		—	B59W	●	—	—	—	—	—	
	Diagnostic indication (2-color indicator)	Grommet	Yes	3-wire (NPN)	5 V		—	A96V	●	—	—	—	—	—	
		Connector		3-wire (PNP)	100 V		—	A93V ^{*2}	●	—	—	—	—	—	
		Terminal conduit		3-wire (NPN)	100 V or less		—	A90V	●	—	—	—	—	—	
		DIN terminal		3-wire (PNP)	200 V		—	B54	●	—	—	—	—	—	
	Diagnostic indication (2-color indicator)	Grommet	Yes	3-wire (NPN)	24 V		—	C73C	●	—	—	—	—	—	
		Connector		3-wire (PNP)	12 V		—	C80C	●	—	—	—	—	—	

*1 Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance.

Consult with SMC regarding water resistant types with the above model numbers.

*2 1 m type lead wire is only applicable to D-A93.

* Lead wire length symbols: 0.5 m Nil (Example) M9NV
 1 m M (Example) M9NVW
 3 m L (Example) M9NWL
 5 m Z (Example) M9NWZ
 None N (Example) H7CN

* Solid state auto switches marked "○" are produced upon receipt of order.

* Do not indicate lead wire length symbol N (none) for types D-A3□, D-A44, D-G-39 or D-K39.

* Since there are applicable auto switches other than listed, refer to page 326 for details.

* For details about auto switches with pre-wired connector, refer to pages 474 and 475.

* D-A9□, M9□, M9CW, M9□A are shipped together (but not assembled). (Only auto switch mounting brackets are assembled at the time of shipment.)

Round Type Hydraulic Cylinder: 3.5 MPa **CH□M Series**

Specifications



Bore size (mm)	20	25	32	40
Action	Double acting/Single rod			
Fluid	Hydraulic fluid			
Nominal pressure	3.5 MPa			
Proof pressure	5.0 MPa			
Maximum allowable pressure	3.5 MPa			
Minimum operating pressure	0.3 MPa			
Ambient and fluid temperature	Without auto switch: -10° to 80°C			
	With auto switch: -10° to 60°C			
Piston speed	8 to 300 mm/s			
Cushion	None			
Stroke length tolerance	to 250 mm $\begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$			
	250 to 800 mm $\begin{smallmatrix} +1.4 \\ 0 \end{smallmatrix}$			
Mounting type	Basic type, Axial foot type Head flange type, Rod flange type Single clevis type			

Note) Refer to page 214 for definitions of terms related to pressure.

Accessories

Mounting bracket		Basic type	Axial foot type	Head flange type	Rod flange type	Single clevis type
Standard	Mounting nut	● (2 pcs.)	● (2 pcs.)	● (1 pc.)	● (1 pc.)	—
	Rod end nut	●	●	●	●	●

Optional

I-type single knuckle joint Y-type double knuckle joint Bracket for clevis type Knuckle pin Bracket pin	Refer to page 323
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Hydraulic Fluid Compatibility

Hydraulic fluid	Compatibility
Standard mineral hydraulic fluid	Compatible
W/O hydraulic fluid	Compatible
O/W hydraulic fluid	Compatible
Water/Glycol hydraulic fluid	Not compatible
Phosphate hydraulic fluid	Not compatible

Standard Strokes: Refer to page 325 regarding minimum strokes for auto switch mounting.

Bore size (mm)	Standard strokes (mm)
20	25 to 800
25	
32	
40	

* Orders of the standard strokes above can be supplied with a minimum lead time.
Please consult with SMC regarding the manufacture of strokes other than the above.

Mounting Brackets: Part Nos.

Bore size (mm)	20	25	32	40
Axial foot*	CHM-L020	CHM-L025	CHM-L032	CHM-L040
Flange	CHM-F020	CHM-F025	CHM-F032	CHM-F040

* When ordering the axial foot type, order 2 pcs. for each cylinder.