

Magnetically Coupled Rodless Cylinder: Low Profile Guide Type

CY1F Series

ø10, ø15, ø25

How to Order

CY1F 10 R - 300 - M9BW

• **Bore size (mm)**

10	10
15	15
25	25

• **Thread type**

Symbol	Type	Bore size (mm)
NII	M	10, 15
	Rc	
TN	NPT	25
TF	G	

• **Cylinder stroke (mm)**
Refer to page 1552 for standard stroke.

• **Number of auto switches**

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

• **Made to Order**

Refer to page 1552 for details.

• **Auto switch**

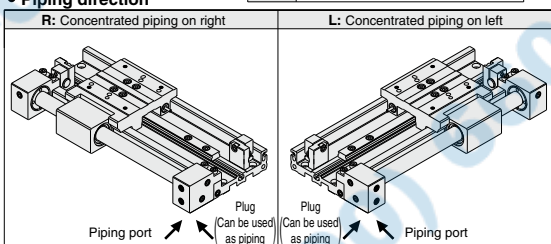
Nil	Without auto switch (Built-in magnet)
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* For the applicable auto switch model, refer to the table below.

• **Adjustment bolt**

Nil	Both sides are standard
AL	Right: Standard For 25 mm adjustment on left
AR	For 25 mm adjustment on right Left: Standard
A	For 25 mm adjustment on both sides

• **Piping direction**



Applicable Auto Switches/Refer to pages 1575 to 1701 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	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)				
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	●	●	●	○	○	IC circuit	Relay, PLC	
	3-wire (PNP)			M9PV			M9P	●	●	●	○	○				
	2-wire			12 V	M9BV		M9B	●	●	●	○	○	○	○		—
	3-wire (NPN)			5 V, 12 V	M9NVW		M9NW	●	●	●	○	○	○	○		IC circuit
	3-wire (PNP)			12 V	M9PVW		M9PW	●	●	●	○	○	○	○		—
	2-wire			12 V	M9BWV		M9BW	●	●	●	○	○	○	○		—
	3-wire (NPN)			5 V, 12 V	M9NAV ^{*1}		M9NA ^{*1}	○	○	○	○	○	○	○		IC circuit
	3-wire (PNP)			12 V	M9PAV ^{*1}		M9PA ^{*1}	○	○	●	○	○	○	○		○
2-wire	12 V	M9BAV ^{*1}	M9BA ^{*1}	○	○	○	●	○	○	○	○	○	—			
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	A96V	A96	●	—	●	—	—	IC circuit	—
	No		2-wire	24 V	12 V	100 V	A93V ^{*2}	A93	●	●	●	●	—	—	IC circuit	Relay, PLC
						100 V or less	A90V	A90	●	—	●	—	—			
												●	—	●		

*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) M9NW
1 m M (Example) M9NWM
3 m L (Example) M9NWL
5 m Z (Example) M9NWX

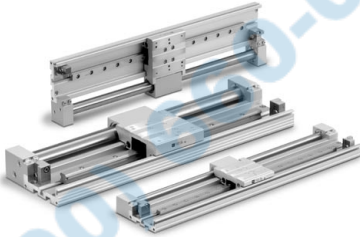
* Solid state auto switches marked with a "○" symbol are produced upon receipt of order.

* For details about auto switches with pre-wired connector, refer to pages 1648 and 1649.

* Normally closed (NC = b contact) solid state auto switches (D-F9G/F9H types) are also available. Refer to page 1593 for details.

* The auto switch is shipped together, but not assembled.





Specifications

Bore size (mm)	10	15	25
Fluid	Air		
Lubrication	Non-lube		
Action	Double acting		
Maximum operating pressure (MPa)	0.7		
Min. operating pressure (MPa)	0.2		
Proof pressure (MPa)	1.05		
Ambient and fluid temperature (°C)	-10 to 60 (No freezing)		
Piston speed (mm/s)	50 to 500		
Cushion	Built-in shock absorber		
Stroke length tolerance (mm)	0 to 250st: ^{+1.0} ₀	251 to 1000st: ^{+1.4} ₀	1001st to: ^{+1.8} ₀
Stroke adjustment movable range (mm) ^{Note 1)}	-1.2 to 0.8		
Piping type	Centralized piping		
Port size ^{Note 2)}	M5 x 0.8		Rc 1/8

Note 1) The stroke adjustment movable range in the above table is that for the standard adjustment bolt. For more information, please refer to page 1559.

Note 2) With ø25, piping screws can be selected by the customer. (Refer to "How to Order".)



Made to Order Specifications

[Click here for details](#)

Symbol	Specifications
-XB10	Intermediate stroke (Using exclusive body)
-XB11	Long stroke

Shock Absorber Specifications

Applicable bore size (mm)	10, 15	25
Shock absorber model	RB0805-X552	RB1006-X552
Max. energy absorption (J)	0.98	3.92
Stroke absorption (mm)	5	6
Max. impact speed (m/s) ^{Note 1)}	0.05 to 5	
Max. operating frequency (cycle/min)	80	70
Spring force (N)	When extended	4.22
	When retracted	6.18
Weight (g)	15	25

Note 1) Represents the maximum absorption energy per cycle. Thus, the operation frequency can be increased with the absorption energy.

Note 2) The shock absorber service life is different from that of the CY1F cylinder depending on operating conditions. Refer to the Specific Product Precautions for the replacement period.

Standard Stroke

Bore size (mm)	Standard stroke (mm)	Maximum manufacturable stroke (mm)
10	50, 100, 150, 200, 250, 300	500
15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	750
25	100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600	1200

* The stroke is available in 1 mm increments with the maximum stroke as the upper limit. For a stroke in the standard stroke range, suffix the part number with -XB10. If the stroke does not fall within the standard stroke range, suffix the part no. with -XB11. Refer to the Made to Order Specifications on pages 1733 and 1739.

Magnetic Holding Force

		Unit: N	
Bore size (mm)	10	15	25
Magnetic holding force	53.9	137	363