

# Magnetically Coupled Rodless Cylinder Slider Type: Ball Bushing Bearing

## Series CY1L

ø6, ø10, ø15, ø20, ø25, ø32, ø40

### How to Order

#### Ball Bushing Bearing

**CY1L 25 H - 300 - J79W**

**Slider type**  
(Ball bushing bearing)

**Bore size**

6	6 mm	25	25 mm
10	10 mm	32	32 mm
15	15 mm	40	40 mm
20	20 mm		

**Port thread type**

Symbol	Type	Bore size
Nil	M thread	ø6, ø10, ø15
	Rc	ø20, ø25, ø32, ø40
TN	NPT	
TF	G	

**Magnetic holding force**  
Refer to page 1207 for specifications.

**Standard stroke**  
Refer to "Standard Stroke" on page 1207.

**Made to Order**  
Refer to page 1207 for details.

**Number of auto switches**

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

**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 type**

Nil	With adjusting bolt
B	With shock absorbers (2 pcs.)
BS	With shock absorber (With plate A) * Installed on side A at time of shipment.

#### 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)			3 (L)	5 (Z)	None (N)				
							Perpendicular	In-line								
Solid state switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	F7NV	F79	●	●	○	—	○	IC circuit	Relay, PLC	
				3-wire (PNP)			F7PV	F7P	●	●	○	—	○			
	Connector	2-wire		12 V	F7BV		J79	●	●	○	—	○	—			
		3-wire (NPN)		24 V	5 V, 12 V		J79C	—	●	●	●	●	—	—		
	3-wire (PNP)	5 V, 12 V			F7NWV		F79W	●	●	○	—	○	IC circuit			
	Grommet	2-wire		12 V	—		F7PW	●	●	○	—	○	—			
		F7BWV		J79W	●		●	○	—	○	—					
	With diagnostic output (2-color indication)	4-wire (NPN)		5 V, 12 V	—		F7BAV	F7BA	—	●	○	—	○	—		
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	—	A76H	●	●	—	—	—	IC circuit	Relay, PLC
				2-wire	24 V	—	—	200 V	A72	A72H	●	●	—	—	—	
	12 V	100 V	A73			A73H	●	●	●	—	—	—				
	5 V, 12 V	100 V or less	A80			A80H	●	●	—	—	—	—				
	12 V	—	A73C			—	●	●	●	●	—	—				
	5 V, 12 V	—	A80C			—	●	●	●	●	—	—				
	—	—	—			—	—	—	—	—	—					
	Connector	No	No	No	No	No	No	No	No	No	No	No	No	No	No	

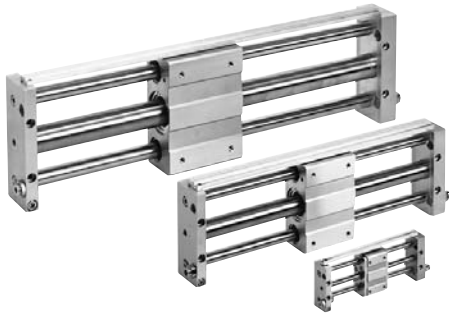
\* Lead wire length symbols: 0.5 m..... Nil  
3 m..... L  
5 m..... Z  
None..... N

(Example) J79W  
(Example) J79WL  
(Example) J79WZ  
(Example) J79CN

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

- Since there are other applicable auto switches than listed, refer to page 1210 for details.
- For details about auto switches with pre-wired connector, refer to pages 1328 and 1329.
- \* Auto switches are shipped together, (but not assembled).

# Magnetically Coupled Rodless Cylinder Slider Type: Ball Bushing Bearing **Series CY1L**



## Easy piping and wiring

Hollow shafts are used, and centralization of ports on one side makes piping easy. Auto switches can be mounted through the use of special switch rails.

## Shock absorbers and adjusting bolt are standard equipment

Impacts at stroke end due to high speed use can be absorbed, and fine adjustment of the stroke is possible.

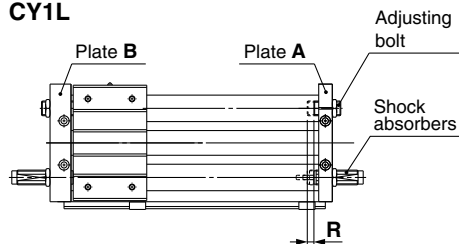


**Made to Order Specifications**  
(For details, refer to pages 1395 to 1565.)

Symbol	Specifications
—XB9	Low speed cylinder (15 to 50 mm/s)
—XB13	Low speed cylinder (7 to 50 mm/s)
—X116	Hydro specifications rodless cylinder
—X168	Helical insert thread specifications
—X322	Outside of cylinder tube with hard chrome plated

## Amount of Adjustment by Adjusting Bolt

### CY1L



Bore size (mm)	Amount of adjustment by adjusting bolt: R(mm)	
	Single side	Both sides
6	6	12
10	5.5	11
15	3.5	7
20	5.5	11
25	5	10
32	5.5	11
40	4.5	9

\* Since the cylinder is in an intermediate stop condition when stroke adjustment is performed, use caution regarding the operating pressure and the kinetic energy of the load.

\* The amount of adjustment for adjustment bolts is the total amount when adjusted on both plate ends. For the adjustment on a single plate end, the amount of adjustment is half of the figures in the table above.

\* Adjust the stroke adjustment with an adjustment bolt. It cannot be adjusted by a shock absorber.

## Specifications

Bore size (mm)	6	10	15	20	25	32	40
Fluid	Air						
Proof pressure	1.05 MPa						
Maximum operating pressure	0.7 MPa						
Minimum operating pressure	0.18 MPa						
Ambient and fluid temperature	-10 to 60°C						
Piston speed *	50 to 500 mm/s						
Cushion	Rubber bumper/Shock absorber						
Lubrication	Not required (Non-lube)						
Stroke length tolerance	0 to 250 st: $^{+1.0}_0$ , 251 to 1000 st: $^{+1.4}_0$ , 1001 st and up: $^{+1.8}_0$						
Holding force	Type H	19.6	53.9	137	231	363	588
	Type L	—	—	81.4	154	221	358
Standard equipment	Auto switch mounting rail						

\* In the case of setting an auto switch at the intermediate position, the maximum piston speed is subject to restrict for detection upon the response time of a load (Relays, Sequence controller, etc.).

## Standard Stroke

Bore size (mm)	Standard stroke (mm)	Maximum available stroke (mm)
6	50, 100, 150, 200	300
10	50, 100, 150, 200, 250, 300	500
15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	750
20	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800	1000
25		1500
32		1500
40	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	1500

Note) Intermediate stroke is available by the 1 mm interval.

## Mass

		(kg)						
Number of magnets	Bore size (mm)	6	10	15	20	25	32	40
Basic mass	CY1L□H	0.324	0.580	1.10	1.85	2.21	4.36	4.83
	CY1L□L	—	—	1.02	1.66	2.04	4.18	4.61
Additional mass per each 50mm of stroke		0.044	0.077	0.104	0.138	0.172	0.267	0.406

Calculation

(Example) CY1L32H-500

• Basic mass ..... 4.36 kg • Additional mass ..... 0.267/50 st • Cylinder stroke ..... 500 st  
4.36 + 0.267 x 500 ÷ 50 = 7.03 kg

## Shock Absorber Specifications

Refer to the Series RB in Best Pneumatics No. 3 for the details on shock absorbers.

Applicable rodless cylinder	6 CY1L10 15	CY1L20	CY1L25	32 CY1L40
Shock absorber model	RB0805	RB1006	RB1411	RB2015
Maximum energy absorption: (J)	0.98	3.92	14.7	58.8
Stroke absorption: (mm)	5	6	11	15
Collision speed: (m/s)	0.05 to 5			
Max. operating frequency: (cycle/min) *	80	70	45	25
Ambient temperature range	-10 to 80 °C			
Spring force: (N)	Extended	1.96	4.22	6.86
	Retracted	3.83	6.18	15.3

\* It denotes the values at the maximum energy absorption per one cycle. Therefore, the operating frequency can be increased according to the energy absorption.

The shock absorber service life is different from that of the CY1L cylinder. Refer to the Specific Product Precautions for the replacement period.