

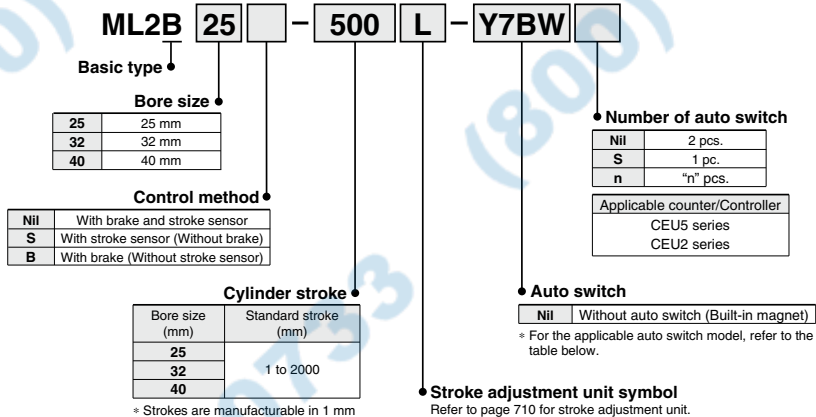
Stroke Reading Rodless Cylinder with Brake

ML2B Series

ø25, ø32, ø40

RoHS

How to Order



* Strokes are manufacturable in 1 mm increments, up to 2000 mm stroke. However, please be advised that with strokes 49 mm or less, there are cases where mounting of more than one auto switch is not possible and the performance of the air cushion may decline.

* For the applicable auto switch model, refer to the table below.

Applicable Auto Switches/Refer to pages 941 to 1067 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	Electrical entry direction		0.5 (Nil)	3 (L)	5 (Z)			
							Perpendicular	In-line						
Solid state auto switch	Diagnostic indication (2-color indicator)	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	Y69A	Y59A	●	●	○	IC circuit	
				3-wire (PNP)				Y7PV	Y7P	●	●	○		
				2-wire	24 V	12 V	—	Y69B	Y59B	●	●	○		—
				3-wire (NPN)				Y7NWV	Y7NW	●	●	○		
				3-wire (PNP)				Y7PWV	Y7PW	●	●	○		
				2-wire				Y7BWV	Y7BW	●	●	○		
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	24 V	5 V	—	—	Z76	●	●	—	IC circuit	—
				2-wire					100 V	12 V	—	Z73	●	
						100 V or less				Z80	●	●	—	IC circuit

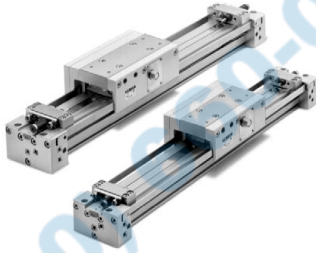
* Lead wire length symbols: 0.5 m Nil (Example) Y7BW
3 m L (Example) Y7BWL
5 m Z (Example) Y7BWZ

* Solid state auto switches marked with "○" are produced upon receipt of order.
* For details about auto switches with pre-wired connector, refer to pages 1014 and 1015.
* Normally closed (NC = b contact) solid state auto switches (D-Y7G/Y7H types) are also available. Refer to page 961 for details.
* Auto switches are shipped together (not assembled).

CEP1
CE1
CE2
ML2B

D-□
-X□

ML2B Series



As for multi counter, it will be common to CEP1 and CE1 series. For details, Multi counter/CEU5 on page 667 respectively. Regarding controller, since it will be common to CE2 series, refer to Controller/CEU2 on page 698 for details.

Cylinder Specifications

Bore size (mm)		25	32	40
Fluid		Air		
Action	Cylinder	Double acting		
	Brake	Spring and pneumatic		
Operating pressure range	Cylinder	0.1 to 0.8 MPa		
	Brake	0.3 to 0.5 MPa		
Proof pressure	Cylinder	1.2 MPa		
	Brake	0.75 MPa		
Ambient and fluid temperature		5 to 60°C (No freezing)		
Piston speed		100 to 1500 mm/s (During the positioning 100 to 500 mm/s)		
Cushion		Air cushion on both sides		
Lubrication		Non-lube		
Stroke tolerance (mm)		0 to 1.8		
Piping port size	Front/Side ported	Rc 1/8		Rc 1/4
	Bottom ported	ø5	ø6	ø8

Sensor Specifications

Maximum transmission distance	20 m (In the case of using our cable as well as our controller or counter.)
Position detection method	Incremental type
Magnetic field resistance	14.5 mT
Power supply	10.8 to 13.2 VDC (Ripple 1% or less)
Current consumption	40 mA
Resolution	0.1 mm/pulse
Accuracy	±0.2 mm (Note) (at 20°C)
Output type	NPN open collector (35 VDC, 80 mA)
Output signal	A/B phase difference output
Insulation resistance	50 MΩ or more (500 VDC measured via megohmmeter) (between case and 12E)
Vibration resistance	33.3 Hz, 2 hours at X, Y and 4 hours at Z JIS D 1601 as standard
Impact resistance	30 G, 3 times at X, Y, Z
Enclosure	IP50 (IEC standard)
Extension cable (Option)	5 m, 10 m, 15 m, 20 m
	Cable: ø7; 6 core twisted pair shielded wire; oil, heat and frame resistant cable

Note) Digital error under Controller (CEU2), Counter (CEU5) is included. Besides, the whole accuracy after mounting on an equipment may be varied depending on the mounting condition and surroundings. As an equipment, calibration should be done by customer.

Stroke Adjustment Unit Specifications

Applicable bore size (mm)		25	32	40
Unit symbol		L	L	L
Configuration	Shock absorber model	RB1007 + with adjustment bolt	RB1412 + with adjustment bolt	RB1412 + with adjustment bolt
Stroke adjustment range by intermediate fixing spacer (mm)	Without spacer	0 to -11.5	0 to -12	0 to -16
	With short spacer	-11.5 to -23	-12 to -24	-16 to -32
	With long spacer	-23 to -34.5	-24 to -36	-32 to -48

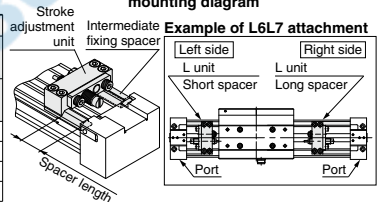
* Stroke adjustment range is applicable for one side when mounted on a cylinder.

* The shock absorber service life is different from that of the ML2B cylinder depending on operating conditions. Refer to the RB Series Specific Product Precautions for the replacement period.

Stroke Adjustment Unit Symbol

Left side stroke adjustment unit	Without unit	Right side stroke adjustment unit				
		Without unit	L: With low load shock absorber + Adjustment bolt			
			With short spacer	With long spacer	With short spacer	With long spacer
L: With low load shock absorber + Adjustment bolt	Nil	SL	LL	LL6	LL7	
With short spacer	L6S	L6L	L6	L6L7		
With long spacer	L7S	L7L	L7L6	L7		

Stroke adjustment unit mounting diagram



Shock Absorber Model

Model	ø25	ø32	ø40
	RB1007	RB1412	RB1412

Shock Absorber Specifications

Applicable bore size (mm)		25	32	40
Shock absorber model		RB1007	RB1412	RB1412
Maximum energy absorption (J)		5.9	19.6	19.6
Stroke absorption (mm)		7	12	12
Maximum collision speed (mm/s)		1500	1500	1500
Maximum operating frequency (cycle/min)		70	45	45
Spring force (N)	Extended	4.22	6.86	6.86
	Retracted	6.86	15.98	15.98
Operating temperature range (°C)		5 to 60		