

Cylinder with Lock

Double Acting, Single Rod

MWB Series

ø32, ø40, ø50, ø63, ø80, ø100

RoHS

How to Order

MWB B 40 - 50 - - - -

With auto switch MDWB B 40 - 50 - - - - M9BW - -

With auto switch (Built-in magnet)

Mounting

B	Basic
L	Axial foot
F	Rod flange
G	Head flange
C	Single clevis
D	Double clevis
T	Center trunnion

* Mounting brackets other than center trunnion type are shipped together.

Bore size

32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Port thread type

Nil	Rc
TN	NPT
TF	G

Cylinder stroke [mm]

Refer to page 8 for standard strokes.

Suffix (Rod boot)

Nil	None
J	Nylon tarpaulin
K	Heat-resistant tarpaulin

Pivot bracket

Nil	No bracket
N	Pivot bracket

* Only for D and T mounting types.
* Pivot bracket is shipped together with the product.
* For details, refer to page 15.

Suffix (Cushion)

Nil	Air cushion
N*1	Rubber bumper

*1 Since the bumpers are attached to the both sides of the piston for rubber bumper type, the overall length is longer than the cylinder with air cushion as follows: ø32, ø40: +6 mm, ø50, ø63: +8 mm, ø80, ø100: +10 mm.

Auto switch

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

Number of auto switches

Nil	2
S	1
3	3
n	n

Rod end bracket

Nil	No bracket
V	Single knuckle joint
W	Double knuckle joint

* A knuckle joint pin is not provided with the single knuckle joint.
* Rod end bracket is shipped together with the product.
* Excludes made to order -XA□.

Made to order

For details, refer to page 8.

Refer to the Ordering Example of Cylinder Assembly on page 8.

Applicable Auto Switches/Refer to the Web Catalog or Best Pneumatics Catalog 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	Tie-rod mounting	Band mounting	0.5 (Nil)	1 (M)	3 (L)	5 (Z)		IC circuit						
Solid state auto switch	—	Grommet		3-wire (NPN)	24 V	5 V, 12 V	—	M9N	—	●	●	●	○	○			—	IC circuit	Relay, PLC		
				3-wire (PNP)				M9P	—	●	●	●	○	○							
				2-wire				M9B	—	●	●	●	○	○							
	Diagnostic indication (2-color indicator)	Terminal conduit		3-wire (NPN)	24 V	5 V, 12 V	—	—	G39	—	—	—	—	—							
				2-wire				—	K39	—	—	—	—								
				3-wire (NPN)				M9NW	—	●	●	●	○			○	IC circuit				
	Water-resistant (2-color indicator)	Grommet	Yes	3-wire (PNP)	24 V	5 V, 12 V	M9PW	—	●	●	●	○	○	IC circuit							
				2-wire			M9BW	—	●	●	●	○	○		—						
				3-wire (NPN)			M9NA*1	—	○	○	●	○	○			IC circuit					
	With diagnostic output (2-color indicator)	Grommet		3-wire (PNP)	24 V	5 V, 12 V	M9PA*1	—	○	○	●	○	○	—							
				2-wire			M9BA*1	—	○	○	●	○	○		IC circuit						
				4-wire (NPN)			F59F	—	●	—	●	○	○			—					
	Magnetic field-resistant (2-color indicator)	Grommet		2-wire (Non-polar)	24 V	—	P3DWA	—	●	—	●	●	○	—							
				P4DW			—	—	—	●	●	○									
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	24 V	5 V	—	A96	—	●	—	●	—	—	IC circuit	—					
				No				100 V	A93	—	●	●	●	●			—	—			
								100 V or less	A90	—	●	—	●	—			IC circuit				
								100 V, 200 V	A54	—	●	—	●	—							
								200 V or less	A64	—	●	—	●	—							
				Terminal conduit				Yes	—	—	A33	—	—	—				—	—		
									100 V, 200 V	—	A34	—	—	—			—	PLC			
									—	A44	—	—	—	—			Relay, PLC				
				Diagnostic indication (2-color indicator)				Grommet	Yes	—	—	A59W	—	●				—	●	—	—

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

A water-resistant type cylinder is recommended for use in an environment which requires water resistance.

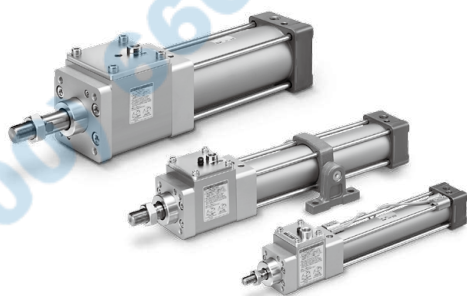
* Lead wire length symbols: 0.5 m.....Nil (Example) M9NW 3 m.....L (Example) M9NLW
1 m.....M (Example) M9NWM 5 m.....Z (Example) M9NWZ

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

* Since there are applicable auto switches other than those listed above, refer to page 30 for details.

* The D-A9□/M9□/P3DWA□ auto switches are shipped together, but not assembled. (Only the auto switch mounting brackets are assembled for the D-A9□/M9□ before shipment.)

Cylinder with Lock Double Acting, Single Rod **MWB Series**



Made to Order Individual Specifications
(For details, refer to page 35.)

Symbol	Specifications
-X3000	Dimensionally compatible with the MNB series

Made to Order Common Specifications
(For details, refer to pages 36 to 38.)

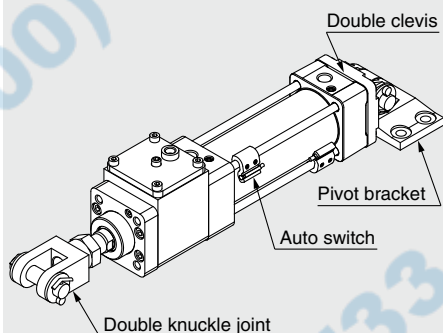
Symbol	Specifications
-XA□	Change of rod end shape
-XC35	With coil scraper

For details of **cylinders with auto switches**
⇒ pages 24 to 30

- Auto Switch Proper Mounting Position (Detection at stroke end) and Mounting Height
- Minimum Stroke for Auto Switch Mounting
- Auto Switch Mounting Brackets/Part Nos.
- Operating Range

Ordering Example of Cylinder Assembly

Cylinder model: MDWBD32-50-NW-M9BW



Mounting D: Double clevis
Pivot bracket N: Yes
Rod end bracket W: Double knuckle joint
Auto switch D-M9BW: 2 pcs.

* Pivot bracket, double knuckle joint, and auto switch are shipped together with the product, but not assembled.

Cylinder Specifications

Bore size [mm]	32	40	50	63	80	100
Action	Double acting, Single rod					
Fluid	Air					
Proof pressure	1.5 MPa					
Max. operating pressure	1.0 MPa					
Min. operating pressure	0.08 MPa					
Ambient and fluid temperatures	Without auto switch: -10°C to 70°C With auto switch: -10°C to 60°C (No freezing)					
Lubricant	Not required (Non-lube)					
Piston speed	50 to 1000 mm/s*1					
Stroke length tolerance	Up to 250 st: $^{+1.0}_0$, 251 to 1000 st: $^{+1.4}_0$, 1001 to 1500 st: $^{+1.8}_0$, 1501 to 2000 st: $^{+2.2}_0$					
Cushion	Air cushion or Rubber bumper					
Port size (Rc, NPT, G)	1/8	1/4		3/8		1/2
Mounting	Basic, Axial foot, Rod flange, Head flange Single clevis, Double clevis, Center trunnion					

*1 Load limits exist depending upon the piston speed when locked, mounting direction, and operating pressure.

Lock Unit Specifications

Bore size [mm]	32	40	50	63	80	100
Locking action	Exhaust locking					
Max. operating pressure	1.0 MPa					
Min. operating pressure	0.08 MPa					
Locking direction	Both directions					
Holding force (Max. static load) [N]*1	630	980	1570	2450	3920	6080

*1 The holding force (max. static load) shows the maximum capability and does not show the normal holding capability. Be sure to select a cylinder using the method described in Model Selection (page 5).

Standard Strokes

* When using with auto switches, refer to the Minimum Stroke for Auto Switch Mounting table on pages 26 to 28.

			[mm]
Bore size	Standard stroke		Max. manufacturable stroke
	Stroke range ①	Stroke range ②	
32	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500	Up to 1000	Up to 2500
40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500	Up to 1800	
50	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600		
63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600		
80	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800		
100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800		

- * The manufacturing of intermediate strokes is possible. (Spacers are not used.)
- * Applicable strokes should be confirmed according to the usage. For details, refer to the Air Cylinders Model Selection in the **Web Catalog** or Best Pneumatics Catalog. In addition, products that exceed the stroke range ① might not be able to fulfill the specifications due to deflection, etc.
- * Please consult with SMC for details on manufacturability and for part numbers when exceeding the stroke range ②.
- * When using a rod boot, a stroke range of up to 1000 mm is available. Please consult with SMC when exceeding a 1000 mm stroke.

Stopping Accuracy

Bore size [mm]	32	40	50	63	80	100
Lock type	Exhaust locking					
Stopping accuracy [mm]	±1.0					
Conditions	<ul style="list-style-type: none"> · Mounting orientation: Horizontal · Supply pressure: 0.5 MPa · Piston speed: 300 mm/s · Load condition: Upper limit of allowed value Solenoid valve for locking is mounted on the unlock port. Maximum value of stopping position dispersion from 100 measurements					