

Guide Cylinder MGG Series

ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

How to Order

MGG L B 32 - **100** - **M9BW** -

Guide Cylinder

Bearing type

M	Slide bearing
L	Ball bushing

Mounting type

B	Basic type
F	Front mounting flange type

Bore size

20	20 mm
25	25 mm
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 "Standard Stroke" on page 539.

Auto switch

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

Number of auto switches

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

Made to Order
Refer to page 540 for details.

Applicable Auto Switches

Refer to pages 1119 to 1245 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Auto switch model		Auto switch model			Lead wire length (m)					Pre-wired connector	Applicable load				
					DC	AC	Applicable bore (mm)			0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)						
							ø20 to ø63	ø80, ø100	In-line											
Solid state auto switch	—	Grommet	—	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	—	●	●	○	○	○	IC circuit					
				3-wire (PNP)			—	—	G59	●	●	○	○	○						
		Connector		2-wire			12 V	M9PV	M9P	—	●	●	○	○		○	—			
				—				—	G5P	●	●	○	○	○						
	Diagnostic indication (2-color indicator)	Grommet	Yes	2-wire	24 V		5 V, 12 V	—	—	K59	●	●	○	○	○	—				
				—				—	H7C	●	●	○	●	—	—					
		Connector		3-wire (NPN)				24 V	5 V, 12 V	M9NWV	M9NW	—	●	●	○		○	○	IC circuit	
				3-wire (PNP)						—	—	G59W	●	●	○		○	○		
	Water resistant (2-color indicator)	Grommet	—	2-wire	24 V		12 V	M9PWV	M9PW	—	●	●	○	○	○	—				
				—				—	G5PW	●	●	○	○	○						
		Connector		3-wire (NPN)				24 V	5 V, 12 V	M9BWV	M9BW	—	●	●	○		○	○	—	
				3-wire (PNP)						—	—	K59W	●	●	○		○	○		
	With diagnostic output (2-color indicator)	Grommet	Yes	2-wire	24 V		12 V	M9NAV ^{*1}	M9NA ^{*1}	—	○	○	○	○	○	—				
3-wire (PNP)				—		—		M9PAV ^{*1}	M9PA ^{*1}	—	○	○	○	○	○					
Connector		2-wire		24 V		5 V, 12 V		M9BAV ^{*1}	M9BA ^{*1}	—	○	○	○	○	○		—			
		4-wire (NPN)						—	—	G5BA ^{*1}	—	●	●	○	○			○		
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	A96V	A96	—	●	●	●	—	—	IC circuit	—				
				—			—	—	—	—	—	—	—	—			—	—		
		Connector		2-wire			24 V	12 V	100 V	A93V ^{*2}	A93	—	●	●			●	—	—	IC circuit
				100 V or less					A90V	A90	—	●	●	●			—	—		
	Diagnostic indication (2-color indicator)	Grommet	Yes	2-wire	24 V	12 V	—	—	B54	●	●	●	—	—	—					
				200 V or less			—	—	B64	●	●	●	—	—						
		Connector		2-wire			24 V or less	—	—	C73C	—	●	●	●		●	—	—		
				—				—	C80C	—	●	●	●	●		—				
	With diagnostic indication (2-color indicator)	Grommet	Yes	2-wire	—	—	—	—	B59W	●	●	●	—	—	IC circuit					
				—			—	—	—	—	—	—	—	—		—				
		Connector		2-wire			—	—	—	—	—	—	—	—		—	—	—		
				—				—	—	—	—	—	—	—		—	—		—	

*1 Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance. A water resistant type cylinder is recommended for use in an environment which requires water resistance. Consult with SMC regarding water resistant types for ø20 and ø25.

*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
None N (Example) H7CN

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

* Since there are other applicable auto switches than listed, refer to page 570 for details.

* For details about auto switches with pre-wired connector, refer to pages 1192 and 1193.

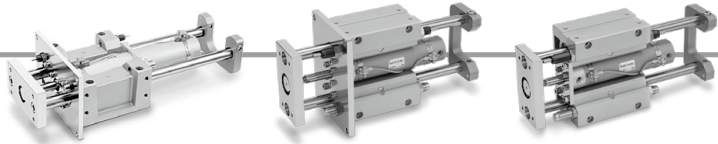
* D-A9□(V)/M9□(V)/M9□□(V)/M9□□(V) auto switches are shipped together (not assembled). (Only switch mounting brackets are assembled at the time of shipment.)

Caution

When using auto switches shown inside (), stroke end detection may not be possible depending on the One-touch fitting or speed controller model. Please contact SMC in this case.

Specifications

Symbol
Rubber bumper

**Standard Stroke**

Model (Bearing type)	Bore size (mm)	Standard stroke (mm)	Long stroke (mm)
MGGM (Slide bearing) MGGL (Ball bushing)	20	75, 100, 125, 150, 200, 250, 300	250, 300, 350, 400
	25		350, 400, 450, 500
	32		350, 400, 450, 500, 600
	40		350, 400, 450, 500, 600, 700, 800
	50		350, 400, 450, 500, 600, 700, 800, 900, 1000
	63		350, 400, 450, 500, 600, 700, 800, 900, 1000, 1100
	80		350, 400, 450, 500, 600, 700, 800, 900, 1000, 1100, 1200
	100		350, 400, 450, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300

* Intermediate strokes and short strokes other than the above are produced upon receipt of order.

Specifications

Model	MGG□□20	MGG□□25	MGG□□32	MGG□□40	MGG□□50	MGG□□63	MGG□□80	MGG□□100
Basic cylinder	CDG1ZN Bore size Port thread type – Stroke Z – Auto switch						CDG1BN Bore size Port thread type	
							– Stroke Z – Auto switch	
Bore size (mm)	20	25	32	40	50	63	80	100
Action	Double acting							
Fluid	Air							
Proof pressure	1.5 MPa							
Maximum operating pressure	1.0 MPa							
Minimum operating pressure	0.15 MPa (Horizontal with no load)							
Ambient and fluid temperature	–10 to 60°C							
Piston speed	50 to 1000 mm/s						50 to 700 mm/s	
Cushion	Basic cylinder	Rubber bumper						
	Guide unit	Built-in shock absorbers (2 pcs.)						
Stroke adjusting range (One side) [Built-in adjusting bolts (2 pcs.)]	0 to –10 mm	0 to –15 mm						
Base cylinder lubrication	Non-lube							
Stroke length tolerance	^{+1.9} _{+0.2} mm (1000 st or less), ^{+2.3} _{+0.2} mm (1001 st or more)							
Non-rotating* accuracy	Slide bearing	±0.07°	±0.06°	±0.06°	±0.05°	±0.04°	±0.04°	±0.03°
	Ball bushing	±0.06°	±0.05°	±0.04°	±0.04°	±0.04°	±0.03°	±0.02°
Piping port size (Rc, NPT, G)	1/8				1/4		3/8	1/2

* When the cylinder is retracted (initial value), the non-rotating accuracy without loads or deflection of the guide rods will be below the values shown in the table above as a guideline.

Shock Absorber Specifications

Shock absorber model	RB1007	RB1412	RB2015	RB2725
Applicable guide cylinder	MGG□□20	MGG□□25, 32	MGG□□40, 50, 63	MGG□□80, 100
Maximum energy absorption (J)	5.88	19.6	58.8	147
Stroke absorption (mm)	7	12	15	25
Maximum collision speed (m/s)	5			
Max. operating frequency (cycle/min)*	70	45	25	10
Ambient temperature range (°C)	–10 to 80			
Spring force (N)	Extended	4.22	6.86	8.34
	Retracted	6.86	15.98	20.5

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

Shock Absorbers

Type	Bore size (mm)			
	20	25, 32	40, 50, 63	80, 100
Standard (shock absorber RB series)	RB1007	RB1412	RB2015	RB2725
Shock absorber soft type RJ series type (-XB22)	RJ1007H	RJ1412H	—	—

* The shock absorber service life is different from that of the MGG cylinder.

Refer to "Specific Product Precautions" for each shock absorber for the replacement period.

* The shock absorber soft type RJ series type (-XB22) is a made to order specification. For details, refer to page 1296.