Guide Cylinder

Series MGG

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 bearing

Mounting style

B	Basic style
F	Front mounting flange style

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 357.

Auto switch

Nil	Without auto switch (Built-in magnet)

∗ 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 358 for details.

Applicable Auto Switch/Refer to pages 1719 to 1827 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC	Load voltage AC	Auto switch model: Applicable bore (mm) ø20, ø25	ø32	ø40 to ø63	ø80, ø100	Lead wire length (m) 0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)	Pre-wired connector	Applicable load	
Solid state switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9N			—	●	●	●	○	—	○	IC circuit	Relay, PLC
							—			G59	●	—	●	○	—	○		
				3-wire (PNP)			M9P			—	●	●	●	○	—	○		
							—			G5P	●	—	●	○	—	○		
				2-wire	12 V		M9B			—	●	●	●	○	—	○	—	
							—			K59	●	—	●	○	—	○		
		Connector					H7C			—	●	—	●	●	●	—		
	Diagnostic indication (2-color indication)	Grommet		3-wire (NPN)	24 V	—	M9NW			—	●	●	●	○	—	○	IC circuit	
					5 V, 12 V		—			G59W	●	—	●	○	—	○		
				3-wire (PNP)			M9PW			—	●	●	●	○	—	○		
							—			G5PW	●	—	●	○	—	○		
				2-wire	12 V		M9BW			—	●	●	●	○	—	○	—	
							—			K59W	●	—	●	○	—	○		
	Water resistant (2-color indication)						H7BA			G5BA	—	—	●	○	—	○		
	With diagnostic output (2-color indication)			4-wire (NPN)	5 V, 12 V		H7NF			G59F	●	—	●	○	—	○	IC circuit	
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	A96			—	●	—	●	—	—	—	IC circuit	—
			No	2-wire	24 V	12 V	100 V	A93		—	●	—	●	—	—	—	—	Relay, PLC
							100 V or less	A90		—	●	—	●	—	—	—	IC circuit	
			Yes				100 V, 200 V	(B54)	B54		●	—	●	●	—	—	—	
			No				200 V or less	(B64)	B64		●	—	●	—	—	—		
		Connector	Yes				—	C73C		—	●	—	●	●	●	—		
			No				24 V or less	C80C		—	●	—	●	●	●	—	IC circuit	
	Diagnostic indication (2-color indication)	Grommet	Yes			—	—	(B59W)	B59W		●	—	●	—	—	—	—	

∗ Lead wire length symbols: 0.5 m ·····Nil (Example) M9NW
1 m ····· M (Example) M9NWM
3 m ····· L (Example) M9NWL
5 m ····· Z (Example) M9NWZ
None····· N (Example) H7CN

∗ Solid state auto switches marked with "○" are produced upon receipt of order.
∗ D-A9☐V/M9☐V/M9☐WV/M9☐A(V) types cannot be mounted.

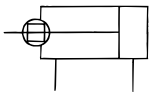
∗ Since there are other applicable auto switches than listed, refer to page 388 for details.
∗ For details about auto switches with pre-wired connector, refer to pages 1784 and 1785.
∗ D-A9☐/M9☐/M9☐W auto switches are shipped together (not assembled).
(Only switch mounting brackets are assembled at the time of shipment.)

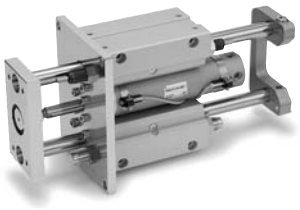
Caution

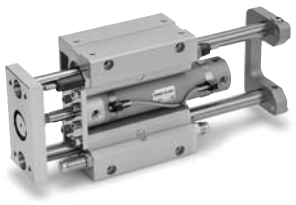
When using auto switches shown inside ( ), stroke end detection may not be possible depending on the One-touch fitting or speed controller model. Please contact SMC in this case.

Specifications

JIS Symbol







Standard Stroke

Model (Bearing type)	Bore size (mm)	Standard stroke (mm)	Long stroke (mm)
MGGM(Slide bearing) MGGL(Ball bushing bearing)	**20**	75, 100, 125, 150, 200	250, 300, 350, 400
	25	75, 100, 125, 150, 200, 250, 300	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		CDG1BN	Bore size		Port thread type	–	Stroke	–	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°	±0.04°	±0.03°
	Ball bushing bearing	±0.06°	±0.05°	±0.04°	±0.04°	±0.04°	±0.03°	±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	8.83
	Retracted	6.86	15.98	20.5	20.01

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