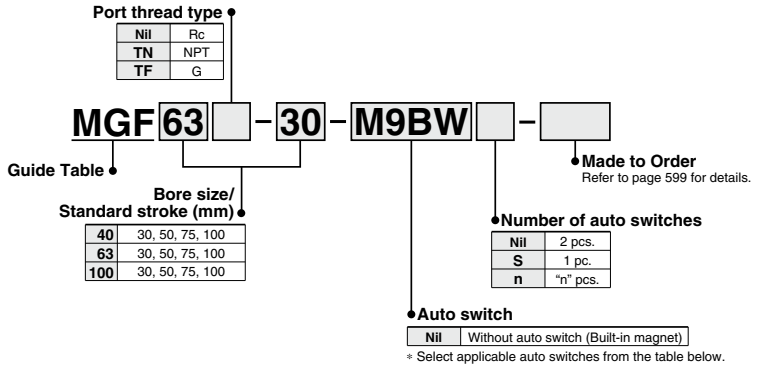


Guide Table

MGF Series

Ø40, Ø63, Ø100

How to Order



Applicable Auto Switches/Refer to pages 1119 to 1245 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	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)				
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NV	M9N	●	●	○	○	IC circuit	Relay, PLC	
				3-wire (PNP)				M9PV	M9P	●	●	○	○			
				2-wire	M9BV	M9B	●	●	○	○	—					
				3-wire (NPN)	M9NWV	M9NW	●	●	○	○	IC circuit					
	Diagnostic indication (2-color indicator)	Grommet	Yes	Yes	3-wire (PNP)	24 V	5 V, 12 V	—	M9PWV	M9PW	●	●	○	○		IC circuit
					2-wire				M9BWV	M9BW	●	●	○	○		—
					3-wire (NPN)	M9NAV**	M9NA**	○	○	●	○	IC circuit				
					3-wire (PNP)	M9PAV**	M9PA**	○	○	●	○	IC circuit				
Water resistant (2-color indicator)	Grommet	Yes	Yes	2-wire	24 V	12 V	—	M9BAV**	M9BA**	○	○	●	○	—		
				3-wire (NPN equivalent)				—	5 V	—	Z76	●	—	●	—	IC circuit
				2-wire	24 V	12 V	100 V	—	Z73	●	—	●	—	Relay, PLC		
				2-wire	24 V	12 V	100 V or less	—	Z80	●	—	●	—	IC circuit		

** Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance. Consult with SMC regarding water resistant types with the above model numbers.

* 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

* Solid state auto switches marked with "○" are produced upon receipt of order.
 * ○ : D-A9□/A9□V cannot be mounted.

* Since there are other applicable auto switches than listed, refer to page 605 for details.
 * For details about auto switches with pre-wired connector, refer to pages 1192 and 1193.
 * Auto switches are shipped together (not assembled).



Made to Order Specifications
[Click here for details](#)

Symbol	Specifications
-XC79	Machining tapped hole, drilled hole and pin hole additionally

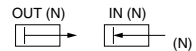
Specifications

Bore size (mm)	40	63	100
Action	Double acting		
Fluid	Air		
Proof pressure	1.5 MPa		
Maximum operating pressure	1.0 MPa		
Minimum operating pressure	0.1 MPa		
Ambient and fluid temperature	-10 to 60°C		
Piston speed	20 to 200 mm/s		
Cushion	Rubber bumper on both ends		
Lubrication	Non-lube		
Stroke length tolerance	$^{+1.0}_0$ mm		

Standard Stroke

Model	Standard stroke (mm)	Intermediate stroke
MGF 40	30, 50, 75, 100	As for the intermediate strokes (in 5 stroke increments) other than the standard strokes at left are manufactured by means of installing a spacer with the width of 5, 10, 15, 20, 25 mm. Example) In the case an MGF63-15 specification is required, a spacer of 15 mm is installed in the MGF63-30. The full length dimension when the cylinder is retracted is the same as that of 30 mm stroke.
MGF 63		
MGF100		

Theoretical Output



Bore size (mm)	Rod size (mm)	Operating direction	Piston area (mm ²)	Operating pressure (MPa)									
				0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
40	25	OUT	1256	251	376	502	628	753	879	1004	1130	1256	
		IN	765	153	229	306	382	459	535	612	688	765	
63	36	OUT	3117	623	935	1246	1558	1870	2182	2493	2805	3117	
		IN	2099	419	629	839	1049	1259	1469	1679	1889	2099	
100	36	OUT	7853	1570	2356	3141	3926	4711	5497	6282	7067	7853	
		IN	6835	1367	2050	2734	3417	4101	4784	5468	6151	6835	

Note) Theoretical output (N) = Pressure (MPa) x Piston area (mm²)

Weight

Model	Bore size (mm)	Standard stroke (mm)			
		30	50	75	100
MGF 40	40	2.0	2.4	3.0	3.6
MGF 63	63	4.1	4.8	5.7	6.6
MGF100	100	6.2	7.2	8.4	9.6

MGJ

JMGP

MGF

MGPW

MGQ

MGG

MGC

MGF

MGZ

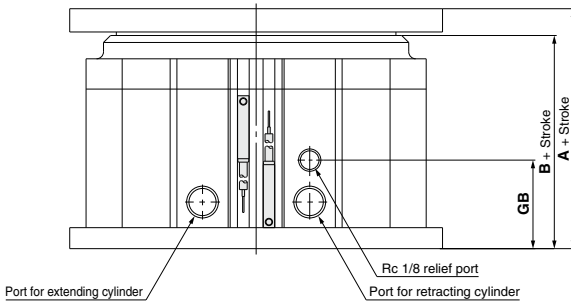
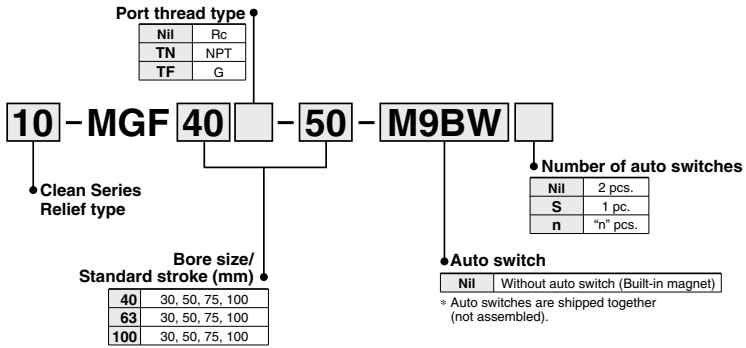
MGT

D-□

-X□

MGF Series

Clean Series



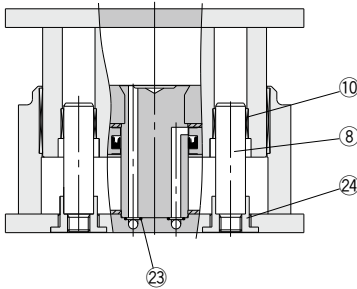
Dimensions

Bore size (mm)	A	B	GB
40	58	48.5	36.5
63	73	61.5	38
100	78	66.5	38

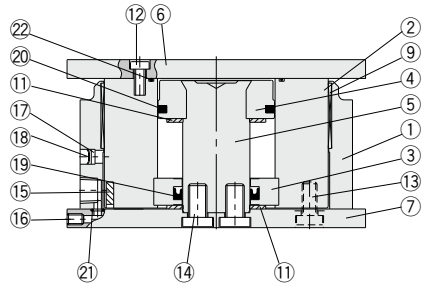
Dimensions other than the above are the same as standard products.

Refer to "Pneumatic Clean Series" catalog (CAT.E02-23) for details.

Construction



When the cylinder is extended



When the cylinder is retracted

Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Clear anodized
2	Tube	Aluminum alloy	Black hard anodized
3	Rod cover	Aluminum alloy	Black hard anodized
4	Piston	Aluminum alloy	Chromated
5	Piston rod	Carbon steel	Electroless nickel plated
6	Plate	Aluminum alloy	Anodized
7	End plate	Aluminum alloy	Anodized
8	Non-rotating rod	Stainless steel	Hard chrome plated
9	Bushing	Resin	
10	Bushing (For non-rotating rod)	Bearing alloy	
11	Bumper	Urethane	
12	Hexagon socket head cap screw A	Carbon steel	Nickel plated

Component Parts

No.	Description	Material	Note
13	Hexagon socket head cap screw B	Carbon steel	Nickel plated
14	Hexagon socket head cap screw C	Carbon steel	Nickel plated
15	Magnet	—	
16	Plug	Carbon steel	
17	Element	Resin	
18	Retaining ring	Spring steel	
19	Rod seal	NBR	
20	Piston seal	NBR	
21	O-ring A	NBR	
22	O-ring B	NBR	
23	O-ring C	NBR	
24	Reinforcement ring	Carbon steel	Electroless nickel plated

Replacement Parts: Seal Kit

Bore size (mm)	Kit no.	Contents
40	MGF40-PS	Items 19 to 23 from the table above.
63	MGF63-PS	
100	MGF100-PS	

- * Seal kit is not compatible with the clean series.
 - * Seal kit includes 19 to 23. Order the seal kit based on each bore size.
 - * Since the seal kit does not include a grease pack, order it separately.
- Grease pack part no.:** GR-L-010 (10g)

MGJ

JMGP

MGF

MGPW

MGQ

MGG

MGC

MGF

MGZ

MGT

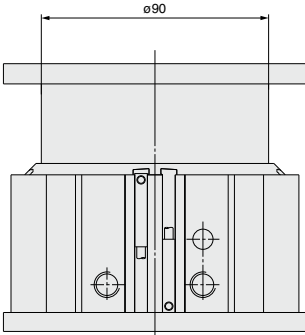
D-□

-X□

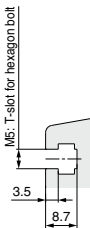
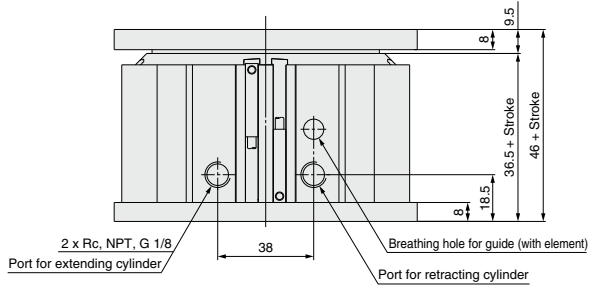
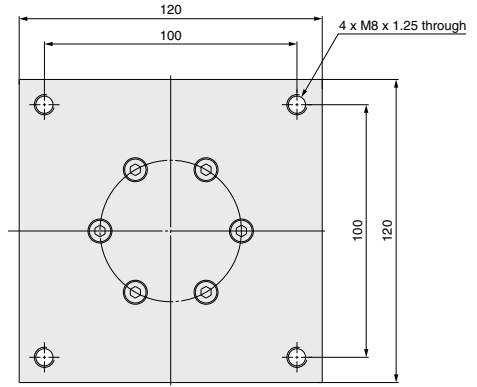
MGF Series

Dimensions: $\phi 40$

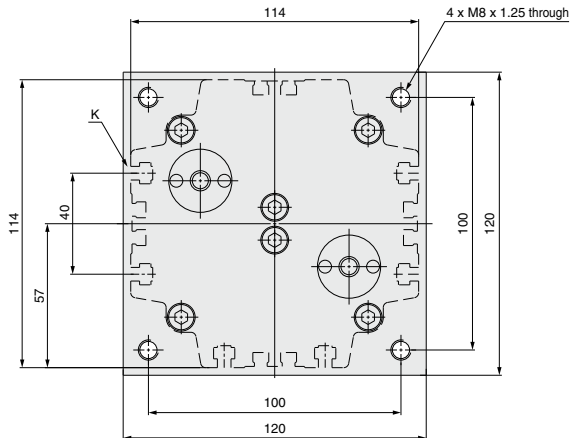
MGF40



When the cylinder is extended

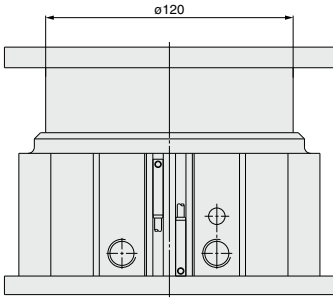


6 x K (6 places)

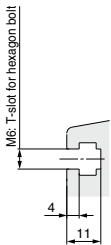
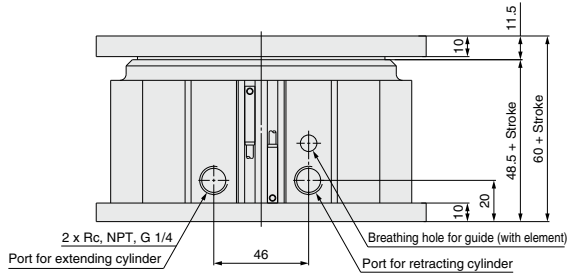
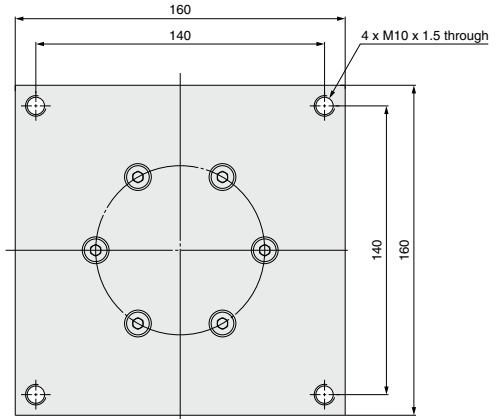


ø63

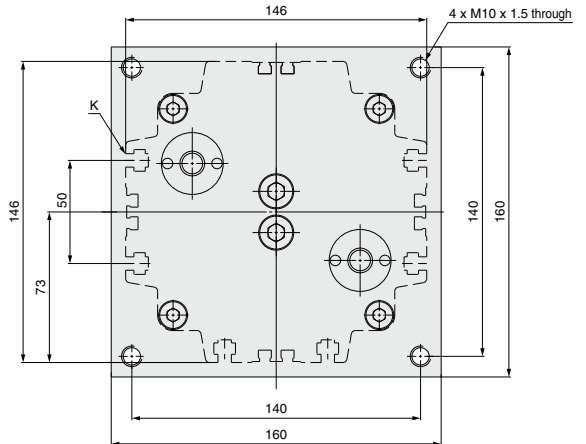
MGF63



When the cylinder is extended



6 x K (6 places)



MGJ

JMGF

MGP

MGPW

MGQ

MGG

MGC

MGF

MGZ

MGT

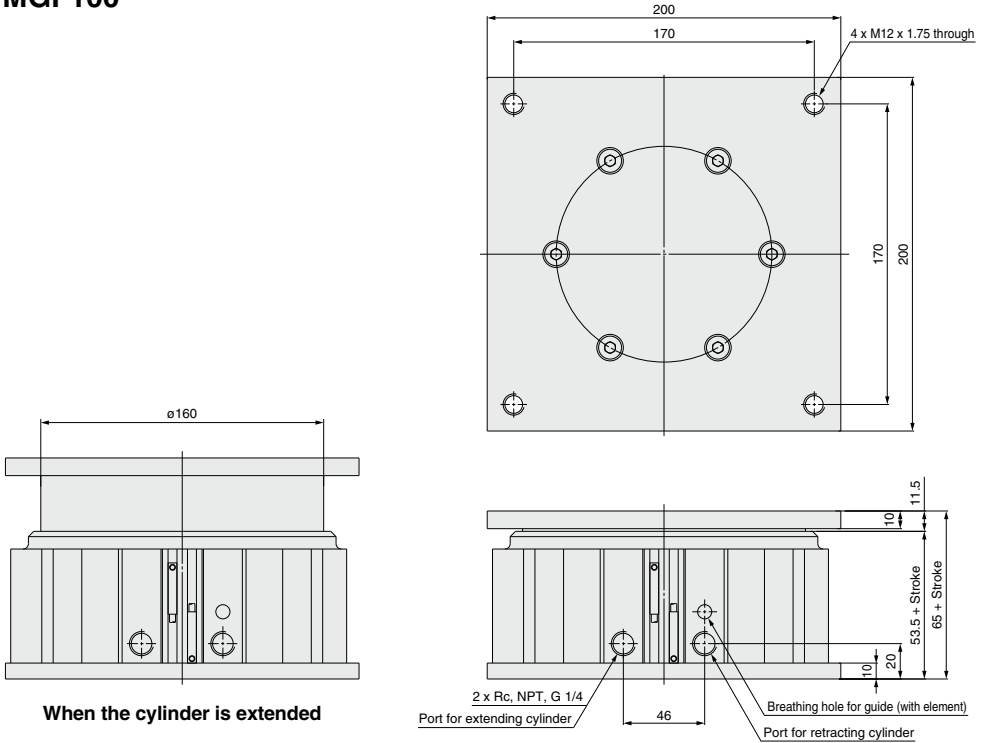
D-□

-X□

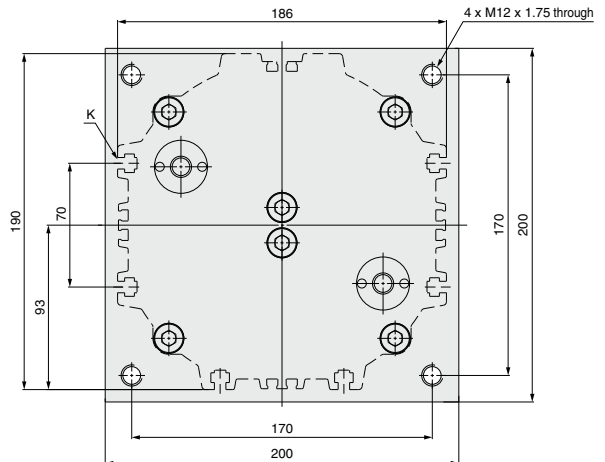
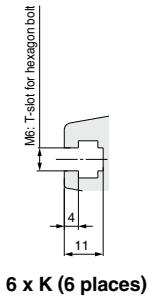
MGF Series

Dimensions: $\phi 100$

MGF100



When the cylinder is extended

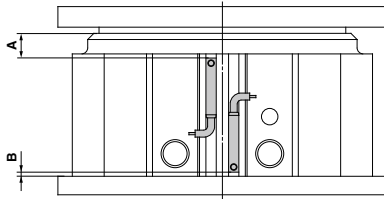


Auto Switch Mounting

Minimum Auto Switch Mounting Stroke

No. of auto switches mounted	Applicable auto switch model								
	D-M9□V	D-M9□WV D-M9□AV	D-M9□ D-M9□W	D-M9□A	D-Z7□ D-Z8□	D-Y69□ D-Y7PV	D-Y59□ D-Y7P	D-Y7□WV	D-Y7□W D-Y7BA
1 pc.	5	10	15	20	10	5	10	15	20
2 pcs.	10	10	20	25	15	10	10	15	20

Auto Switch Proper Mounting Position (Detection at Stroke End)



Auto Switch Proper Mounting Position

Auto switch model	Bore size (mm)			
	D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□A D-M9□AV		D-Z7□/Z80 D-Y59□/Y69□ D-Y7P/Y7PV D-Y7□W/Y7□WV D-Y7BA	
	A	B	A	B
40	9	4.5	4	0
63	19.5	4	14.5	0
100	24.5	4	19.5	0

Dimensions above denote the standard strokes.
Adjustment on A dimension is required for intermediate strokes.
Note) Adjust the auto switch after confirming the operating conditions in the actual setting.

Operating Range

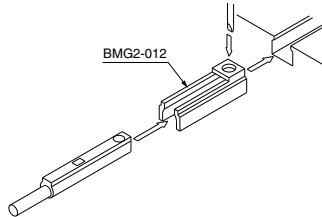
Auto switch model	Bore size (mm)		
	40	63	100
D-M9□/M9□V D-M9□W/M9□WV D-M9□A/M9□AV	6	6.5	6
D-Z7□/Z80	10	10	10
D-Y59□/Y69□ D-Y7P/Y7PV D-Y7□W/Y7□WV D-Y7BA	6	6	6

* Since this is a guideline including hysteresis, not meant to be guaranteed. (Assuming approximately ±30% dispersion)
There may be the case it will vary substantially depending on an ambient environment.

Auto Switch Mounting Bracket: Part No.

Auto switch model	Bore size (mm)
	ø40, ø63, ø100
D-M9□/M9□V D-M9□W/M9□WV D-M9□A/M9□AV	BMG2-012

D-M9□(V)/M9□W(V)/M9□A(V)



MGJ

JMP

MGP

MGPW

MGQ

MGG

MGC

MGF

MGZ

MGT

Other than the applicable auto switches listed in "How to Order", the following auto switches can be mounted. For detailed specifications, refer to pages 1119 to 1245.

Auto switch type	Model	Electrical entry (Fetching direction)	Features
Solid state	D-Y69A, Y69B, Y7PV	Grommet (Perpendicular)	—
	D-Y7NWV, Y7PWV, Y7BWV		Diagnostic indication (2-color indicator)
	D-Y59A, Y59B, Y7P	Grommet (In-line)	—
	D-Y7NW, Y7PW, Y7BW		Diagnostic indication (2-color indicator)

* For solid state auto switches, auto switches with a pre-wired connector are also available. Refer to pages 1192 and 1193 for details.
* Normally closed (NC = b contact) solid state auto switches (D-M9□E(V)/Y7G/Y7H) are also available. For details, refer to pages 1592-1 and 1139.

D-□

-X□