

How to Order

Bore size

ø10 to ø25

MHZ2 - **16** **D** - **M9BW** -

Number of fingers

2 2 fingers

Bore size

10	10 mm
16	16 mm
20	20 mm
25	25 mm

Action

D	Double acting
S	Single acting (Normally open)
C	Single acting (Normally closed)

Auto switch

Nil Without auto switch (Built-in magnet)

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

Made to Order

Refer to page 400 for details.

Number of auto switches

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

Finger position/option

Standard
(MHQG2 compatible type)

Nil: Basic type

1: Side tapped mounting

2: Through-holes in opening/closing direction

3: Flat type fingers

The flat type fingers do not have standard and narrow options. When MHQG2/MHQ2 compatible types are required, see the -X51 made-to-order specifications on page 696.

Narrow type
(MHQG2 compatible type)

N: Basic type

N1: Side tapped mounting

N2: Through-holes in opening/closing direction

Body option

Nil: Basic type

E: End boss type
Side ported
(Double acting/
Single acting)

W: End boss type
Axial ported
ø4 One-touch fitting
for coaxial tubing
(Double acting)

K: End boss type
Axial ported
with ø4 One-touch
fitting
(Single acting)

M: End boss type
Axial ported
with M5 port
(Single acting)

Applicable Auto Switch/Refer to pages 761 to 809 for further information on the auto switch.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m) *				Applicable model				Pre-wired connector	Applicable load	
					DC	AC	Electrical entry direction		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	ø10	ø16	ø20	ø25			
							Perpendicular	In-line											
Solid state switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	●	●	●	○	●	●	●	●	○	IC circuit	Relay, PLC
				F8N			—	●	—	●	○	—	●	●	●	—			
				M9PV			M9P	●	●	●	○	●	●	●	●	○			
				F8P			—	●	—	●	○	—	●	●	●	—			
				2-wire	12 V	M9BV	M9B	●	●	●	○	●	●	●	●	○	—		
				F8B		—	●	—	●	○	—	●	●	●	—				
	Diagnosis (2-color indicator)	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9N WV	M9N W	●	●	●	○	●	●	●	●	○	IC circuit	
	3-wire (PNP)			M9P WV			M9P W	●	●	●	○	●	●	●	●	○	—		
	2-wire			M9B WV			M9B W	●	●	●	○	●	●	●	●	○	—		

* Lead wire length symbols: 0.5 m..... Nil (Example) M9NW
1 m..... M (Example) M9NM
3 m..... L (Example) M9NL
5 m..... Z (Example) M9NZ

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

Note 1) Take note of hysteresis with 2-color indication type switches. Refer to page 438 for detailed auto switch specifications.

Note 2) Through-hole mounting is not possible when using the auto switch at the square groove on the side.

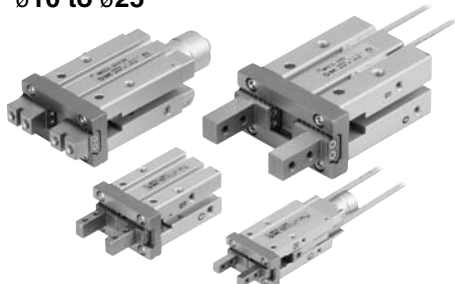
Note 3) Only MHZ2-10 is shipped with the auto switch mounting brackets. When the auto switch is used at the square groove on the side with MHZ2-16 to 25, mounting brackets are required. Please order them separately. Refer to page 439 for the auto switch mounting brackets.

Series MHZ2

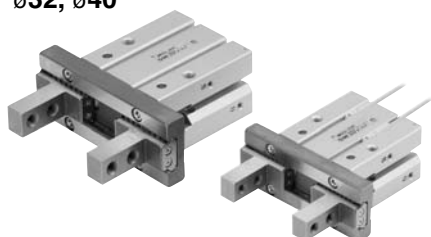
ø6



ø10 to ø25

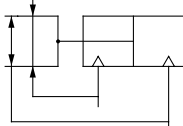


ø32, ø40

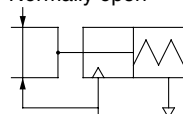


JIS Symbol

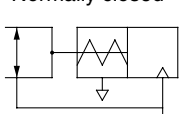
Double acting



Single acting type, Normally open



Single acting type, Normally closed



Refer to pages 436 to 440 for the specifications with auto switch.

- Auto switch installation examples and mounting positions
- Auto switch hysteresis
- Auto switch mounting
- Protrusion of auto switch from edge of body



Made to Order

(Refer to pages 683 to 713 for details.)

Symbol	Specifications/Description
-X4	Heat resistance (100°C)
-X5	Fluororubber seal
-X7	Closing direction spring assist
-X12	Opening direction spring assist
-X46	With needle
-X50	Without magnet
-X51	MHQ(G)2-compliant finger flat type
-X53	EPDM seal/Fluorine grease
-X56	Axial ported type
-X63	Fluorine grease
-X79	Grease for food

Specifications

Operating pressure	Fluid		Air	
	Double acting		ø6: 0.15 to 0.7 MPa ø10: 0.2 to 0.7 MPa ø16 to ø40: 0.1 to 0.7 MPa	
	Single acting	Normally open Normally closed	ø6: 0.3 to 0.7 MPa ø10: 0.35 to 0.7 MPa ø16 to ø40: 0.25 to 0.7 MPa	
Ambient and fluid temperature			-10 to 60°C	
Repeatability			ø6 to ø25: ±0.01 mm ø32, ø40: ±0.02 mm	
Max. operating frequency			ø6 to ø25: 180 c.p.m. ø32, ø40: 60 c.p.m.	
Lubrication			Not required	
Action			Double acting/Single acting	
Auto switch (Option) ^{Note)}			Solid state auto switch (3-wire, 2-wire)	

Note) Refer to pages 761 to 809 for further information on auto switches.

* Use the gripper with dust cover when used in a place where there may be dust.

Model

Action		Model	Bore size (mm)	Gripping force ^{Note 1)}		Opening/ Closing stroke (Both sides) (mm)	^{Note 2)} Mass (g)
				Gripping force per finger Effective value (N)			
				External	Internal		
Double acting		MHZ2-6D	6	3.3	6.1	4	27
		MHZ2-10D(N)	10	11	17	4	55
		MHZ2-16D(N)	16	34	45	6	115
		MHZ2-20D(N)	20	42	66	10	235
		MHZ2-25D(N)	25	65	104	14	430
		MHZ2-32D	32	158	193	22	715
		MHZ2-40D	40	254	318	30	1275
Single acting	Normally open	MHZ2-6S	6	1.9	—	4	27
		MHZ2-10S(N)	10	7.1		4	55
		MHZ2-16S(N)	16	27		6	115
		MHZ2-20S(N)	20	33		10	240
		MHZ2-25S(N)	25	45		14	435
		MHZ2-32S	32	131		22	760
		MHZ2-40S	40	217		30	1370
	Normally closed	MHZ2-6C	6	—	3.7	4	27
		MHZ2-10C(N)	10		13	4	55
		MHZ2-16C(N)	16		38	6	115
		MHZ2-20C(N)	20		57	10	240
		MHZ2-25C(N)	25		83	14	430
		MHZ2-32C	32		161	22	760
		MHZ2-40C	40		267	30	1370

Note 1) Values based on pressure of 0.5 MPa, gripping point L = 20 mm, at center of stroke.

Note 2) Values excluding mass of auto switch.

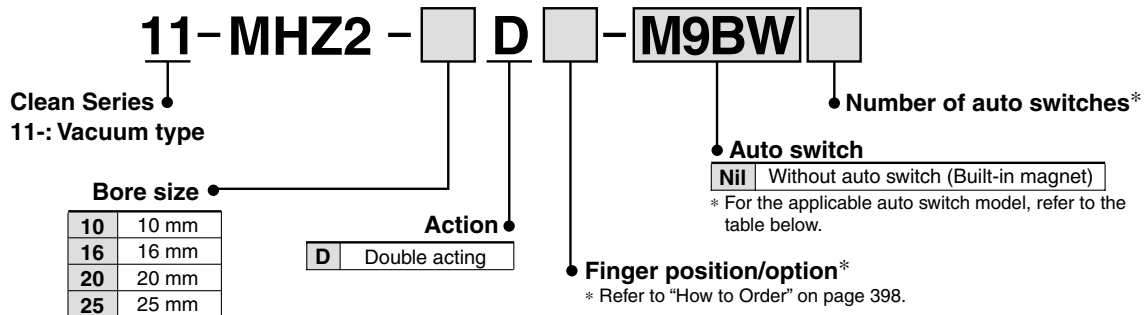
Option

●Body Option/End Boss Type

Symbol	Piping port location	Type of piping port						Applicable model	
		MHZ2-6	MHZ2-10	MHZ2-16	MHZ2-20	MHZ2-25	MHZ2-32	MHZ2-40	Double acting
Nil	Basic type	M3 x 0.5		M5 x 0.8				●	●
E	Side ported	—	M3 x 0.5	M5 x 0.8			—	●	●
W	Axial ported	—	With ø4 One-touch fitting for coaxial tubing				—	●	—
K	Axial ported	—	With ø4 One-touch fitting				—	—	●
M	Axial ported	—	M5 x 0.8				—	—	●

* For detailed body option specifications, refer to option specifications on pages 412 and 413.

Clean Series: Air Gripper



Applicable Auto Switch/Refer to pages 761 to 809 for further information on the auto switch.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m) *				Pre-wired connector	Applicable load		
							Electrical entry direction		0.5 (Nil)	1 (M)	3 (L)	5 (Z)				
					DC	AC	Perpendicular	In-line								
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NV	M9N	●	●	●	○	○	IC circuit	Relay, PLC
				F8N				—	●	—	●	○	—			
				M9PV				M9P	●	●	●	○	○			
				F8P				—	●	—	●	○	—			
	2-wire			12 V	M9BV	M9B	●	●	●	○	○	—				
	3-wire (NPN)			5 V, 12 V	M9NWV	M9NW	●	●	●	○	○	IC circuit				
	3-wire (PNP)				M9PWV	M9PW	●	●	●	○	○					
	2-wire				12 V	M9BWV	M9BW	●	●	●	○		○	—		

* 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.

Note 1) Take note of hysteresis with 2-color indication type switches. Refer to page 438 for detailed auto switch specifications.

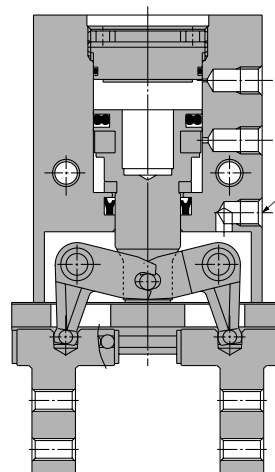
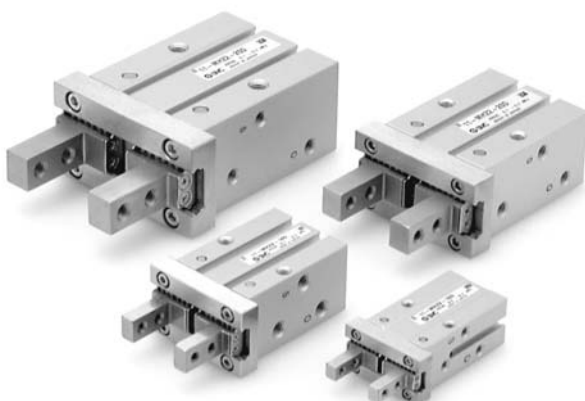
Note 2) When using a D-F8□ switch, mount it at a distance of 10 mm or more from magnetic substances such as iron, etc.

Note 3) Through-hole mounting is not possible when using the auto switch at the square groove on the side.

Note 4) Only MHZ2-10 is shipped with the auto switch mounting brackets. When the auto switch is used at the square groove on the side with MHZ2-16 to 25, mounting brackets are required. Please order them separately. Refer to page 439 for the auto switch mounting brackets.

Specifications

Fluid	Air
Operating pressure	ø10: 0.2 to 0.7 MPa ø16 to ø25: 0.1 to 0.7 MPa
Ambient and fluid temperature	−10 to 60°C
Repeatability	±0.01 mm
Max. operating frequency	180 c.p.m.
Lubrication	Not required
Action	Double acting
Particulate generation grade	Grade 2
Auto switch (Option)	Solid state auto switch (3-wire, 2-wire)



Vacuum port

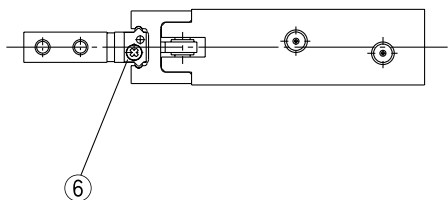
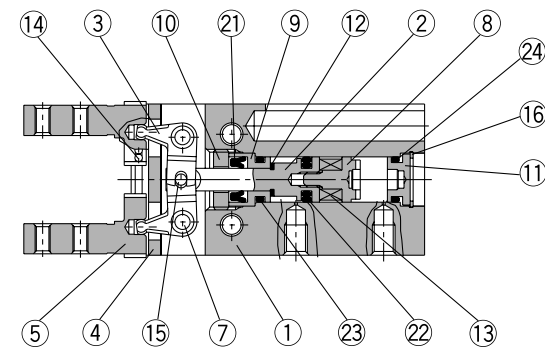
The concentrated vacuuming of internally generated particulates prevents them from spreading into the clean room.

For details, refer to "Pneumatic Clean Series" catalog.

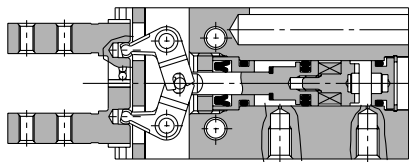
Series MHZ2

Construction: MHZ2-6□

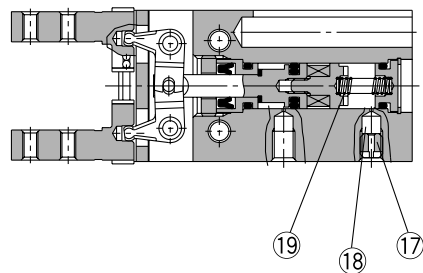
Double acting/With fingers open



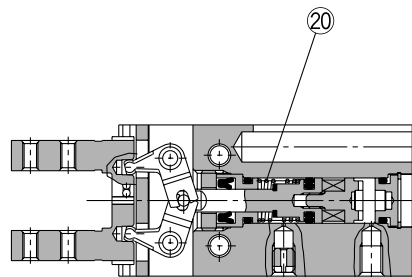
Double acting/With fingers closed



Single acting/Normally open



Single acting/Normally closed



Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Hard anodized
2	Piston	Stainless steel	
3	Lever	Stainless steel	Heat treated
4	Guide	Stainless steel	Heat treated
5	Finger	Stainless steel	Heat treated
6	Roller stopper	Stainless steel	
7	Lever shaft	Stainless steel	Nitriding
8	Magnet holder	Stainless steel	
9	Holder	Brass	Electroless nicked plated
10	Holder lock	Stainless steel	
11	Cap	Aluminum alloy	Clear anodized
12	Bumper	Urethane rubber	
13	Magnet	—	Nickel plated

Component Parts

No.	Description	Material	Note
14	Steel balls	High carbon chrome bearing steel	
15	Needle roller	High carbon chrome bearing steel	
16	Type C retaining ring	Carbon steel	Nickel plated
17	Exhaust plug	Brass	Electroless nickel plated
18	Exhaust filter	Polyvinyl formal	
19	N.O. spring	Stainless steel spring wire	
20	N.C. spring	Stainless steel spring wire	
21	Rod seal	NBR	
22	Piston seal	NBR	
23	Gasket	NBR	
24	Gasket	NBR	

Replacement Parts

Description	MHZ2-6	Main parts
Finger assembly	Please contact SMC to replace the seal kit and finger assembly.	
Piston assembly	MHZ2-6D□	MHZ-A0603 ②⑧⑨⑫⑬⑮⑰⑲⑳㉑㉒㉓
	MHZ2-6S□	
	MHZ2-6C□	MHZ-A0603C ②⑧⑨⑫⑬⑮⑰⑲⑳㉑㉒㉓

Replacement part/Grease pack part no.: GR-S-005 (5 g)