

How to Order

Bore size

ø10 to ø25

MH22-16D **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 411 for details.

Number of auto switches	
Nil	2 pcs.
S	1 pc.
n	n pc.

Finger position/option

Standard

(MHQ2 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 MHQ2/MHQ2 compatible types are required, see the -X51 made-to-order specifications on page 460.



Narrow type

(MHQ2 compatible type)

N: Basic type



N1: Side tapped mounting

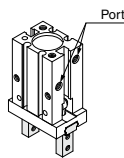


N2: Through-holes in opening/closing direction

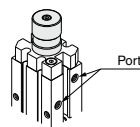


Body option

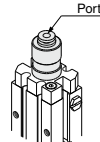
Nil: Basic type



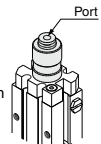
E: End boss type
Side ported
(Double acting/
Single acting)



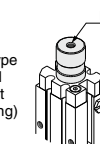
W: End boss type
Axial ported
ø4 One-touch fitting
for coaxial tubing
(Double acting)



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 Switches/Refer to pages 797 to 850 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 auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	24 V	—	M9NV	M9N	●	●	●	○	●	●	●	●	○	IC circuit	Relay, PLC
				3-wire (PNP)				F8N	—	●	—	●	○	—	●	●	●	—		
				2-wire				M9PV	M9P	●	●	●	○	●	●	●	●	○		
				3-wire (NPN)				F8P	—	●	—	●	○	—	●	●	●	—		
	Diagnosis (2-color indicator)			3-wire (PNP)	5 V, 12 V			M9BV	M9B	●	●	●	○	●	●	●	●	○	IC circuit	
				2-wire				F8B	—	●	—	●	○	—	●	●	●	—		
				3-wire (NPN)				M9NVW	M9NW	●	●	●	○	●	●	●	●	○		
				3-wire (PNP)				M9PWV	M9PW	●	●	●	○	●	●	●	●	○		
	Water resistant (2-color indicator)			2-wire	M9BWV			M9BW	●	●	●	○	●	●	●	●	○	IC circuit		
				3-wire (NPN)	M9NAV**			M9NA**	○	○	●	○	●	●	●	●	○			
				3-wire (PNP)	M9PAV**			M9PA**	○	○	○	○	●	●	●	●	○			
				2-wire	M9BAV**			M9BA**	○	○	○	○	●	●	●	●	○			

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

* Lead wire length symbols: 0.5 m..... Nil (Example) M9NW
1 m..... M (Example) M9NWM
3 m..... L (Example) M9NWL
5 m..... Z (Example) M9NZW

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

- Note 1) When using the 2-color indicator type, please make the setting so that the indicator is lit in red to ensure the detection at the proper position of the air gripper.
- Note 2) Through-hole mounting is not possible when using the auto switch at the square groove on the side.
- Note 3) When the product is ordered with auto switch, only MH22-10 is shipped with the auto switch mounting brackets. When the auto switch is used at the square groove on the side with MH22-16 to 25, mounting brackets (BMG2-012) are required. Please order them separately. Refer to page 457 for the auto switch mounting brackets.

Moisture Control Tube IDK Series

When operating an actuator with a small diameter and a short stroke at a high frequency, the dew condensation (water droplet) may occur inside the piping depending on the conditions.

Simply connecting the moisture control tube to the actuator will prevent dew condensation from occurring. For details, refer to [the IDK series in the Best Pneumatics No. 6](#).

ø6



ø10 to ø25

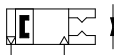
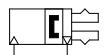


ø32, ø40



Symbol

Double acting: Internal grip Double acting: External grip



Single acting/
Normally closed: Internal grip

Single acting/
Normally open: External grip



Refer to pages 454 to 458 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: Individual Specifications
(For details, refer to pages 459 and 460.)

Symbol	Specifications/Description
-X46	Built-in needle valve for finger speed control
-X51	MHQ2/MHQG2-compliant flat type fingers



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

Symbol	Specifications/Description
-X4	Heat resistance (100°C)
-X5	Fluororubber seal
-X7	Closing direction spring assist
-X12	Opening direction spring assist
-X50	Without magnet
-X53	EPDM seal/Fluorine grease
-X56	Axial ported type
-X63	Fluorine grease
-X79	Grease for food processing machines, Fluorine grease
-X79A	Grease for food processing machines
-X81A	Anti-corrosive treatment of finger
-X81B	Anti-corrosive treatment of finger and guide

Specifications

Fluid			Air	
Operating pressure	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	ø6: 0.3 to 0.7 MPa ø10: 0.35 to 0.7 MPa	
		Normally closed	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 797 to 850 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)	Weight ^{Note 2)} (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	230	
	MHZ2-25D(N)	25	65	104	14	420	
	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	235
		MHZ2-25S(N)	25	45		14	425
		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	235
		MHZ2-25C(N)	25		83	14	425
		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 weight 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
NII	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 424 and 425.