

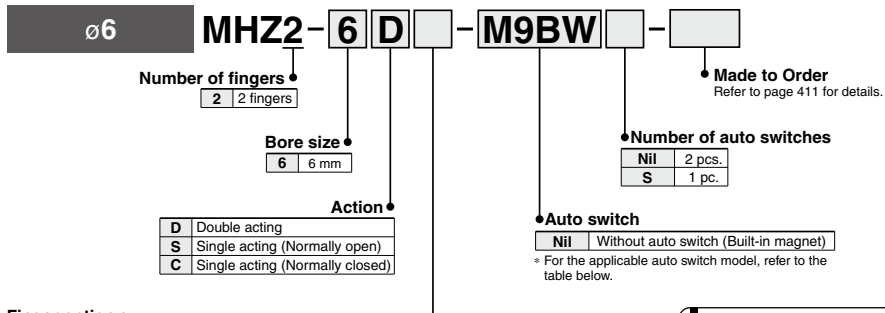
Parallel Type Air Gripper/Standard Type

MHZ2 Series

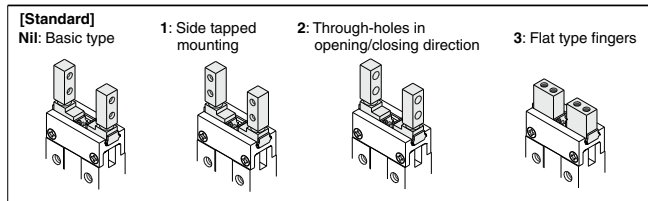
ø6, ø10, ø16, ø20, ø25, ø32, ø40

How to Order

Bore size



Finger option



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](#).

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) *				Pre-wired connector	Applicable load	
					DC	AC	Electrical entry direction	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)			5 (Z)
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	●	●	●	○	○	IC circuit	
				3-wire (PNP)			F8N	—	●	—	●	○	—		
				2-wire	M9PV		M9P	●	●	●	○	○			
					F8P		—	●	—	●	○	—			
				3-wire (NPN)	M9BV		M9B	●	●	●	○	○			
					F8B		—	●	—	●	○	—			
	Diagnosis (2-color indicator)			3-wire (NPN)	5 V, 12 V		M9NVW	M9NW	●	●	●	○	○	IC circuit	
				3-wire (PNP)	12 V		M9PWV	M9PW	●	●	●	○	○		
				2-wire	12 V		M9BWW	M9BW	●	●	●	○	○		
				Water resistant (2-color indicator)	3-wire (NPN)		5 V, 12 V	M9NAV**	M9NA**	○	○	●	○	○	IC circuit
					3-wire (PNP)		12 V	M9PAV**	M9PA**	○	○	●	○	○	
					2-wire		12 V	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) M9NW

3 m..... L (Example) M9NL

5 m..... Z (Example) M9NZ

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

Note 1) When using a D-F8□ switch, mount it at a distance of 10 mm or more from magnetic substances such as iron, etc.

Note 2) 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.

How to Order

Bore size

ø10 to ø25

MH2-16 D **-M9BW**

Number of fingers
2 2 fingers

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

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

Action

Auto switch

Nil | Without auto switch (Built-in magnet)

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

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

Made to Order
Refer to page 411 for details.

Number of auto switches

Finger position/options

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/MH2 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

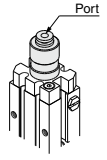
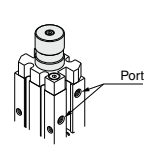
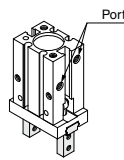


Body option

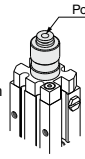
Nil: Basic type

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

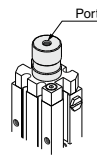
W: End boss type Axial ported ø4 One-touch fitting for coaxial tubing (Double acting)



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	—	M9NV	M9N	●	●	●	○	●	●	●	○	IC circuit	Relay, PLC	
				3-wire (PNP)			F8N	—	—	—	—	—	—	—	—	—			—
				2-wire			M9PV	M9P	●	●	●	○	●	●	●	○			
				3-wire (NPN)			F8P	—	—	—	—	—	—	—	—	—			—
				3-wire (PNP)			M9BV	M9B	●	●	●	○	●	●	●	○			
				2-wire			F8B	—	—	—	—	—	—	—	—	—			—
	Diagnosis (2-color indicator)	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NVV	M9NW	●	●	●	○	●	●	●	○	IC circuit	Relay, PLC	
				3-wire (PNP)			M9PWW	M9PW	●	●	●	○	●	●	●	○			
				2-wire			M9BWW	M9BW	●	●	●	○	●	●	●	○			
				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](#).

How to Order

Bore size

ø32 to ø40 **MHZ2-32 D** - **M9BW** - **Number of auto switches**

Number of fingers

2	2 fingers
---	-----------

Bore size

32	32 mm
40	40 mm

Action

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

Auto switch

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

Made to Order
Refer to page 411 for details.

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

Finger option

[Standard] Nil: Basic type

1: Side tapped mounting

2: Through-holes in opening/closing direction

3: Flat type fingers

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) *				Pre-wired connector	Applicable load	
					DC	AC	Electrical entry direction		0.5 (Nil)	1 (M)	3 (L)	5 (Z)			
							Perpendicular	In-line							
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	●	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)			F8N	—	●	—	●	○	—		
				2-wire	M9PV		M9P	●	●	●	○	○	—		
					F8P		—	●	—	●	○	—	—		
				3-wire (NPN)	M9BV		M9B	●	●	●	○	○	—		
					F8B		—	●	—	●	○	—	—		
	Diagnosis (2-color indicator)	Grommet	Yes	3-wire (NPN)	12 V	—	M9NVV	M9NV	●	●	●	○	○	IC circuit	
				3-wire (PNP)			M9PWW	M9PW	●	●	●	○	○		
				2-wire	M9BVV		M9BV	●	●	●	○	○	—		
					M9NAV**		M9NA**	○	○	●	○	○	IC circuit		
				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

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

1 m..... M (Example) M9NWM

3 m..... L (Example) M9NWL

5 m..... Z (Example) M9NWZ

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 auto switch is used at the square groove on the side with MHZ2-32 and 40, mounting brackets (BMG2-012) are required. Please order them separately. Refer to page 457 for the auto switch mounting brackets.

ø6



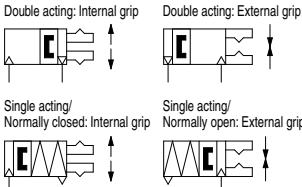
ø10 to ø25



ø32, ø40



Symbol



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 ø16 to ø40: 0.25 to 0.7 MPa
		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 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		
Single acting	Normally open	MHZ2-40D	40	254	318	30	1275	
		Normally closed	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

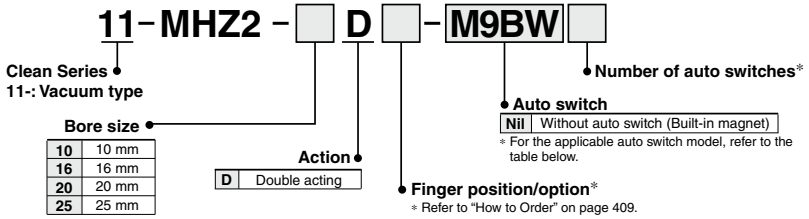
● Body Option/End Boss Type

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	Single 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 424 and 425.

MHZ2 Series

Clean Series: Air Gripper



Applicable Auto Switches

Refer to pages 797 to 850 for further information on the auto switch.

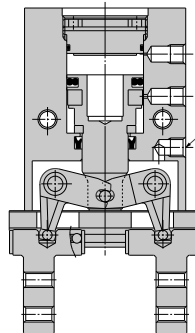
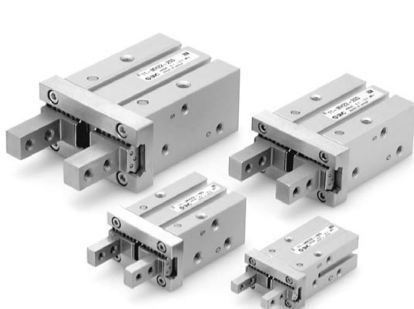
Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m) *				Pre-wired connector	Applicable load	
					DC	AC	Electrical entry direction	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)			
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	M9NV	M9N	●	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)			F8N	—	●	●	●	○	—		
				2-wire			M9PV	M9P	●	●	●	○	○		
				3-wire (NPN)			F8P	—	●	●	●	○	—		
				3-wire (PNP)			M9BV	M9B	●	●	●	○	○		
				2-wire			F8B	—	●	●	●	○	—		
	Diagnosis (2-color indicator)	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	M9NWV	M9NW	●	●	●	○	○	IC circuit	Relay, PLC
	3-wire (PNP)			M9PWV			M9PW	●	●	●	○	○			
	2-wire			M9BWW			M9BW	●	●	●	○	○			
	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) M9NWZ
- * 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) 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) For 11-MHZ2-10D□, the through-hole mounting cannot be made when using the auto switch.
- Note 4) Two extension fitting assemblies (P331176A) are supplied with 11-MHZ2-10D□. Please use them if the fitting interferes with the auto switch.

Specifications

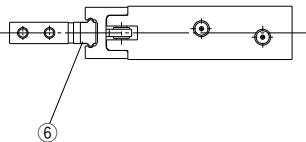
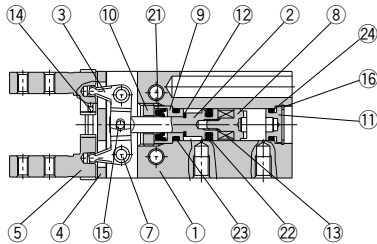
Fluid	Air
Operating pressure	ø10: 0.2 to 0.7 MPa ø16 to ø25: 0.1 to 0.7 MPa
Ambient and fluid temperature	-10 to 60°C
Repeatability	±0.01 mm
Max. operating frequency	180 c.p.m.
Lubrication	Not required
Action	Double acting
Cleanliness class (ISO class)	Class 4
Auto switch (Option)	Solid state auto switch (3-wire, 2-wire)



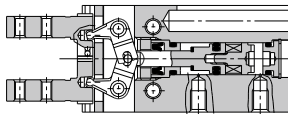
Vacuum port
The concentrated vacuuming of internally generated particulates prevents them from spreading into the clean room.

Construction: MHZ2-6□

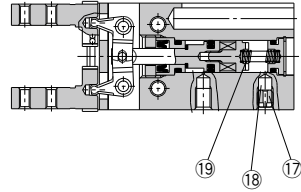
Double acting/With fingers open



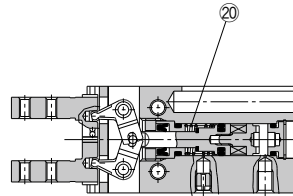
Double acting/With fingers closed



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	Phosphate coated
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	②⑧⑨⑩⑫⑬⑮⑰⑱⑲⑳㉑㉒㉓
	MHZ2-6S□		
	MHZ2-6C□		

Replacement part/Grease pack part no.: GR-S-010 (10 g)

MHZ

MHF

MHL

MHR

MHK

MHS

MHC

MHT

MHY

MHW

-X□

MRHQ

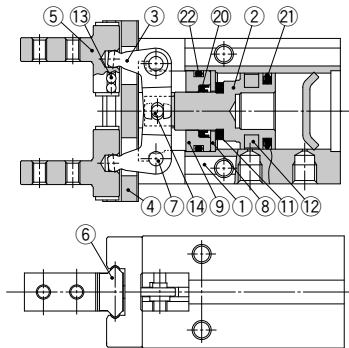
MA

D-□

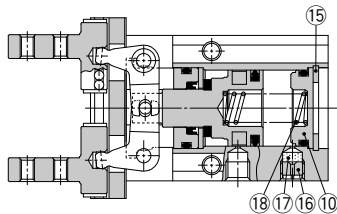
MHZ2 Series

Construction: MHZ2-10□ to 25□

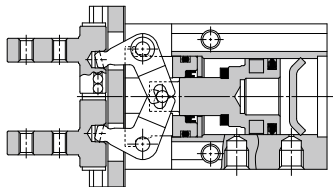
Double acting/With fingers open



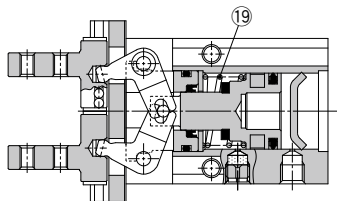
Single acting/Normally open



Double acting/With fingers closed



Single acting/Normally closed



Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Hard anodized
2	Piston	ø10, ø16: Stainless steel ø20, ø25: Aluminum alloy	ø20, ø25: Hard anodized
3	Lever	Stainless steel	Nitriding
4	Guide	Stainless steel	Heat treated
5	Finger	Stainless steel	Heat treated
6	Roller stopper	Stainless steel	
7	Lever shaft	Stainless steel	Nitriding
8	Seal support	Stainless steel	
9	Rod cover	Synthetic resin	
10	Cap	Synthetic resin	Single acting/Normally open only
11	Bumper	Urethane rubber	

Component Parts

No.	Description	Material	Note
12	Rubber magnet	Synthetic rubber	
13	Steel balls	High carbon chrome bearing steel	
14	Needle roller	High carbon chrome bearing steel	
15	Type C retaining ring	Carbon steel	Phosphate coated Single acting/Normally open only
16	Exhaust plug A	Brass	Electroless nickel plated
17	Exhaust filter A	Polyvinyl formal	
18	N.O. spring	Stainless steel spring wire	
19	N.C. spring	Stainless steel spring wire	
20	Rod seal	NBR	
21	Piston seal	NBR	
22	Gasket	NBR	

Replacement Parts

Description	MHZ2-10	MHZ2-16	MHZ2-20	MHZ2-25	Main parts	
Seal kit	MHZ2-□□□□	MHZ10-PS	MHZ16-PS	MHZ20-PS	MHZ25-PS	⑳㉑㉒
	MHZ2-□□□□	MHZ10S-PS	MHZ16S-PS	MHZ20S-PS	MHZ25S-PS	
Finger assembly	MHZ2-□□□(N)	MHZ-AA1002(N)	MHZ-AA1602(N)	MHZ-AA2002(N)	MHZ-AA2502(N)	④⑤⑥⑬
	MHZ2-□□□(N)1	MHZ-AA1002(N)-1	MHZ-AA1602(N)-1	MHZ-AA2002(N)-1	MHZ-AA2502(N)-1	
	MHZ2-□□□(N)2	MHZ-AA1002(N)-2	MHZ-AA1602(N)-2	MHZ-AA2002(N)-2	MHZ-AA2502(N)-2	
	MHZ2-□□□3	MHZ-AA1002-3	MHZ-AA1602-3	MHZ-AA2002-3	MHZ-AA2502-3	
Piston assembly	MHZ2-□□□□	MHZ-AA1003	MHZ-AA1603	MHZ-AA2003	MHZ-AA2503	㉑㉒㉓㉔
	MHZ2-□□□□					
	MHZ2-□□□□					
End boss assembly	MHZ2-□□□□W	MHZ-A1007	MHZ-A1607	MHZ-A2007	MHZ-A2507	Main body of adaptor Mounting screw for adaptor Seal
	MHZ2-□□□□K	MHZ-A1008	MHZ-A1608	MHZ-A2008	MHZ-A2508	
	MHZ2-□□□□M	MHZ-A1009	MHZ-A1609	MHZ-A2009	MHZ-A2509	
	MHZ2-□□□□E	MHZ-A1010	MHZ-A1610	MHZ-A2010	MHZ-A2510	
Lever assembly		MHZ-AA1004	MHZ-AA1604	MHZ-AA2004	MHZ-AA2504	③

* Finger option

1 = Side tapped, 2 = Through-hole, 3 = Flat type fingers

* End boss type

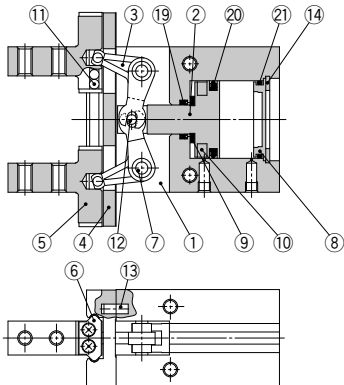
W = One-touch-fitting for coaxial tubing, K = With One-touch fitting, M = With M5 port, E = Side ported

* The end boss assembly other than type E should be mounted on the special body.

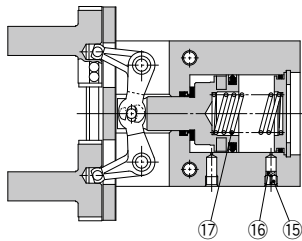
Replacement part/Grease pack part no.: GR-S-010 (10 g)

Construction: MHZ2-32□ to 40□

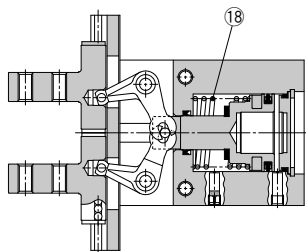
Double acting/With fingers open



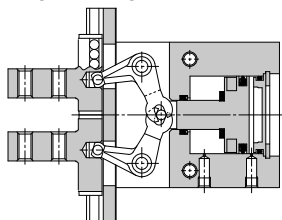
Single acting/Normally open



Single acting/Normally closed



Double acting/With fingers closed



Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Hard anodized
2	Piston	Aluminum alloy	Hard anodized
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	Cap	Aluminum alloy	Clear anodized
9	Bumper	Urethane rubber	
10	Rubber magnet	Synthetic rubber	
11	Steel balls	High carbon chrome bearing steel	

Component Parts

No.	Description	Material	Note
12	Needle roller	High carbon chrome bearing steel	
13	Parallel pin	Stainless steel	
14	Type C retaining ring	Carbon steel	Phosphate coated
15	Exhaust plug A	Brass	Electroless nickel plated
16	Exhaust filter A	Polyvinyl formal	
17	N.O. spring	Stainless steel spring wire	
18	N.C. spring	Stainless steel spring wire	
19	Rod seal	NBR	
20	Piston seal	NBR	
21	Gasket	NBR	

Replacement Parts

Description		MHZ2-32	MHZ2-40	Main parts
Seal kit		MHZ32-PS	MHZ40-PS	(19)(20)(21)
Finger assembly	MHZ2-□□□(N)	MHZ-A3202	MHZ-A4002	(4)(5)(6)(11)(13) Mounting screw
	MHZ2-□□□(N)1	MHZ-A3202-1	MHZ-A4002-1	
	MHZ2-□□□(N)2	MHZ-A3202-2	MHZ-A4002-2	
Piston assembly	MHZ2-□□□□	MHZ-A3202-3	MHZ-A4002-3	(2)(9)(10)(12)
	MHZ2-□□□□	MHZ-A3203	MHZ-A4003	
	MHZ2-□□□□	MHZ-A3203S	MHZ-A4003S	
Lever assembly		MHZ-A3204	MHZ-A4004	(3)

* Finger option

1 = Side tapped, 2 = Through-hole, 3 = Flat type fingers

Replacement part/Grease pack part no.: GR-S-010 (10 g)

MHZ

MHF

MHL

MHR

MHK

MHS

MHC

MHT

MHY

MHW

-X□

MRHQ

MA

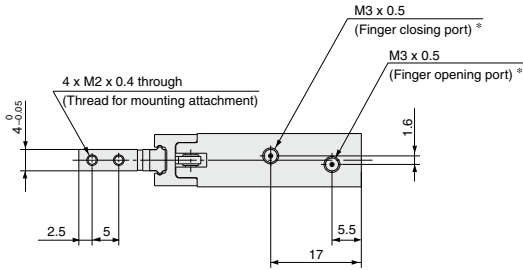
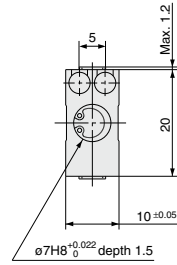
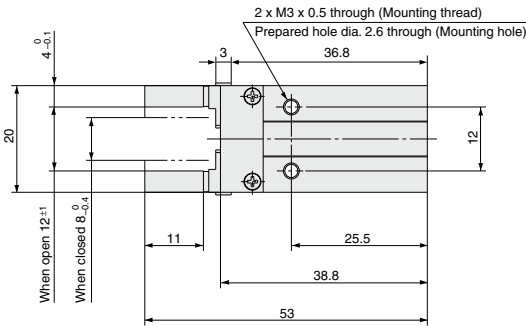
D-□

MHZ2 Series

Dimensions

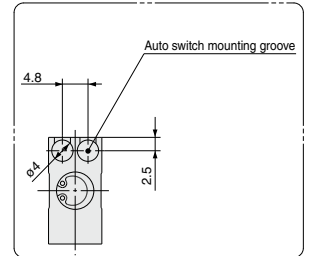
MHZ2-6□ Double acting/Single acting Basic type

Use the MHZJ2 series with a dust cover when used in a place where there may be dust.



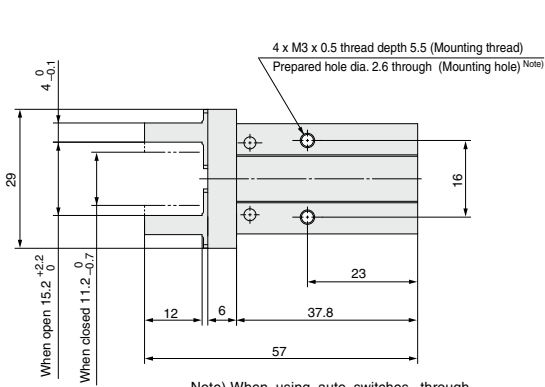
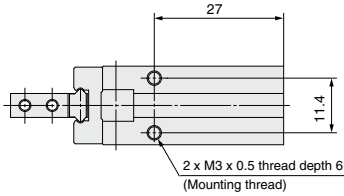
* For single action, the port on one side is a breathing hole.

Auto Switch Mounting Groove Dimensions

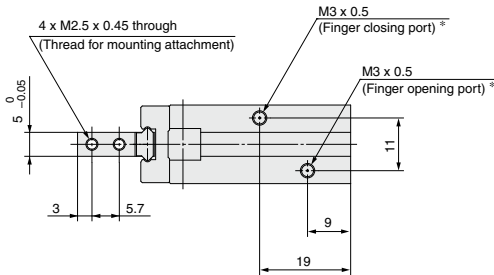
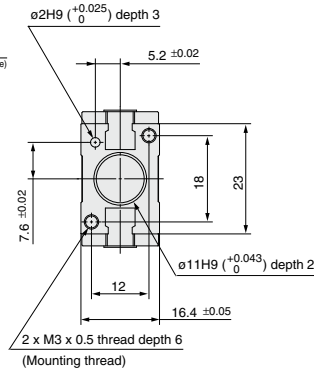


MHZ2-10 □ Double acting/Single acting Basic type

Use the MHZJ2 series with a dust cover when used in a place where there may be dust.

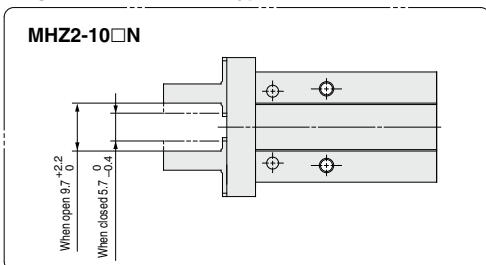


Note) When using auto switches, through-hole mounting is not possible.

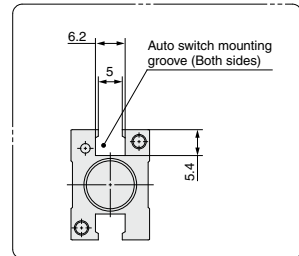


* For single action, the port on one side is a breathing hole.

Finger Position/Narrow Type



Auto Switch Mounting Groove Dimensions



Note) When using auto switches, through-hole mounting is not possible.

MHZ

MHF

MHL

MHR

MHK

MHS

MHC

MHT

MHY

MHW

-X □

MRHQ

MA

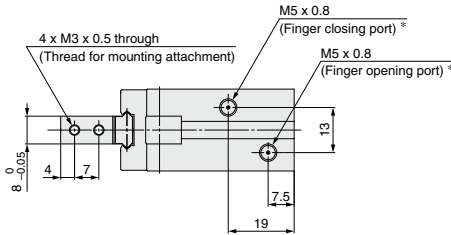
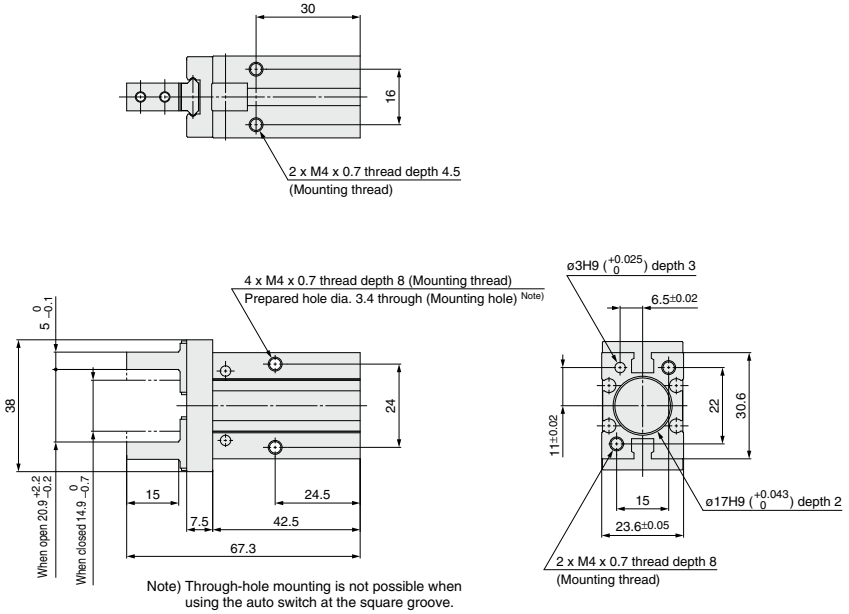
D- □

MHZ2 Series

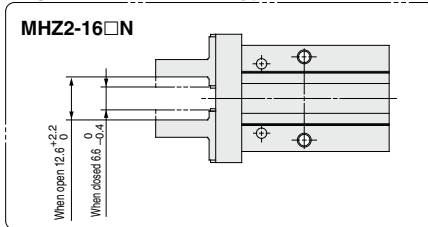
Dimensions

MHZ2-16□ Double acting/Single acting Basic type

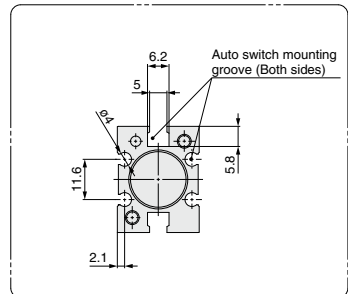
Use the MHZJ2 series with a dust cover when used in a place where there may be dust.



Finger Position/Narrow Type



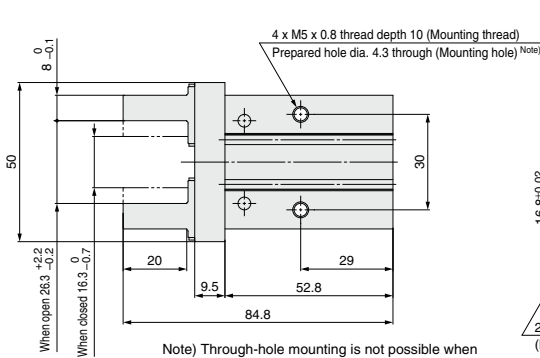
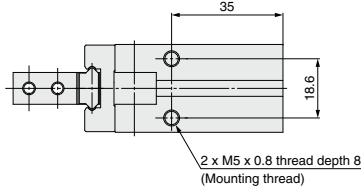
Auto Switch Mounting Groove Dimensions



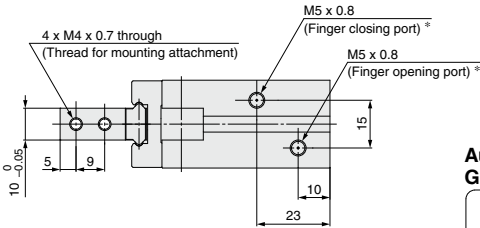
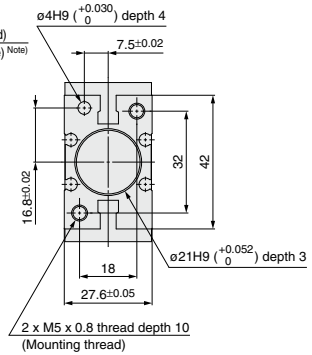
Note) Through-hole mounting is not possible when using the auto switch at the square groove.

MHZ2-20□ Double acting/Single acting Basic type

Use the MHZJ2 series with a dust cover when used in a place where there may be dust.

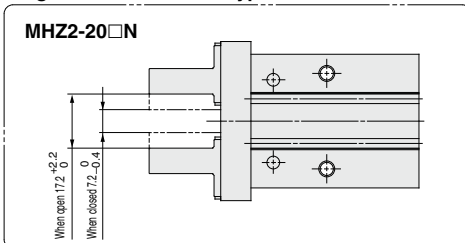


Note) Through-hole mounting is not possible when using the auto switch at the square groove.

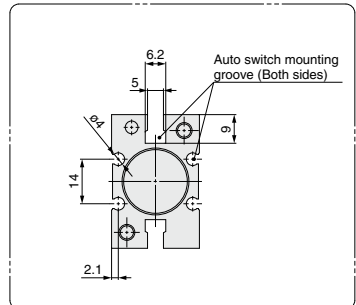


* For single action, the port on one side is a breathing hole.

Finger Position/Narrow Type



Auto Switch Mounting Groove Dimensions



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

MHZ

MHF

MHL

MHR

MHK

MHS

MHC

MHT

MHY

MHW

-X□

MRHQ

MA

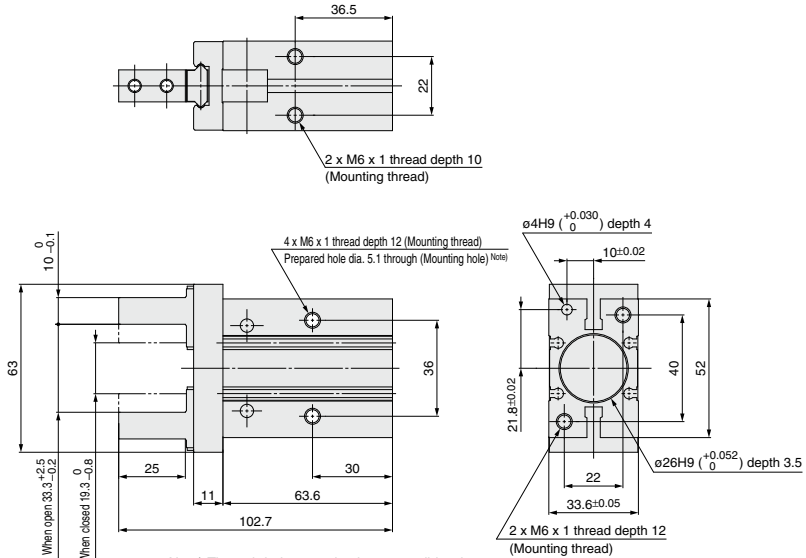
D-□

MHZ2 Series

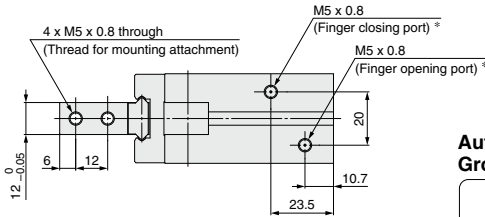
Dimensions

MHZ2-25□ Double acting/Single acting Basic type

Use the MHZJ2 series with a dust cover when used in a place where there may be dust.

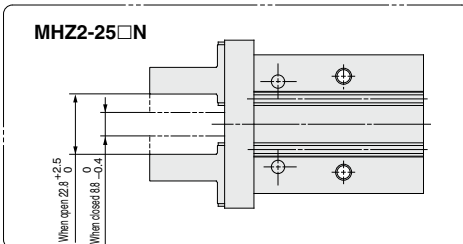


Note) Through-hole mounting is not possible when using the auto switch at the square groove.

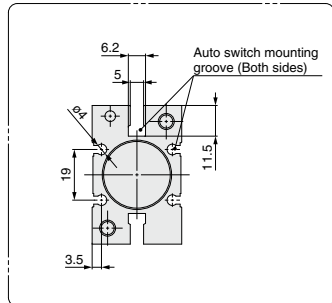


* For single action, the port on one side is a breathing hole.

Finger Position/Narrow Type

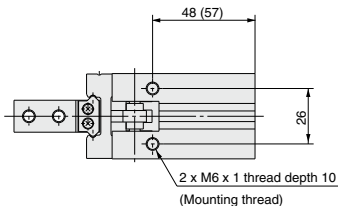


Auto Switch Mounting Groove Dimensions

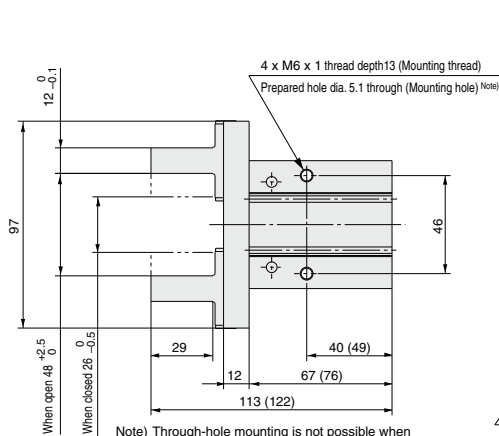


Note) Through-hole mounting is not possible when using the auto switch at the square groove.

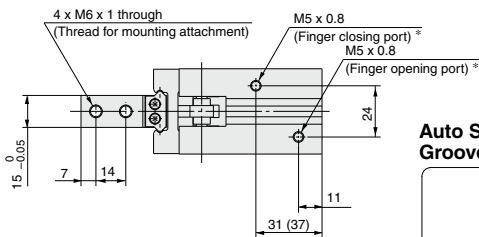
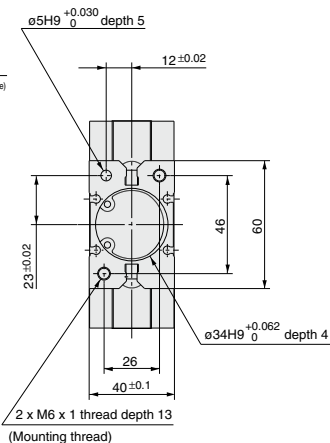
MHZ2-32 □ Double acting/Single acting
Basic type



The values inside () are dimensions for the single acting type.

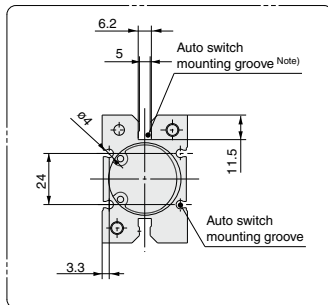


Note) Through-hole mounting is not possible when using the auto switch at the square groove.



* For single action, the port on one side is a breathing hole.

Auto Switch Mounting Groove Dimensions



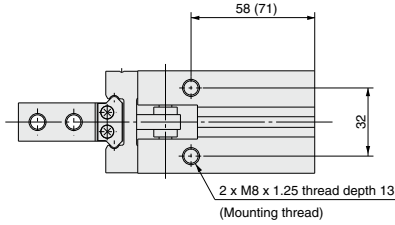
Note) Through-hole mounting is not possible when using the auto switch at the square groove.

- MHZ
- MHF
- MHL
- MHR
- MHK
- MHS
- MHC
- MHT
- MHY
- MHW
- X □
- MRHQ
- MA
- D □

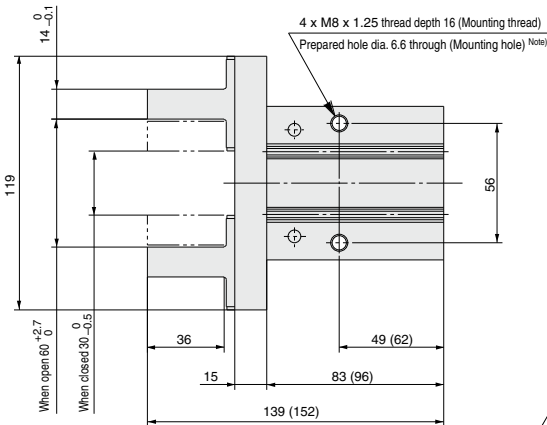
MHZ2 Series

Dimensions

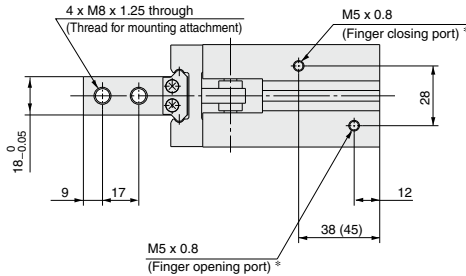
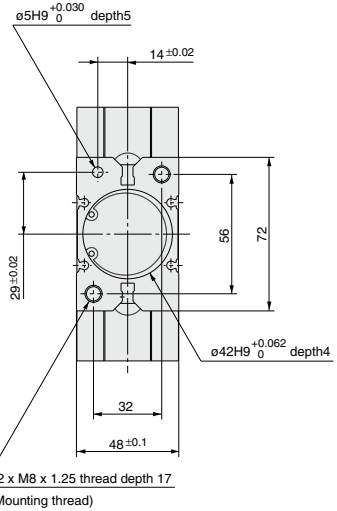
MHZ2-40 □ Double acting/Single acting Basic type



The values inside () are dimensions for the single acting type.

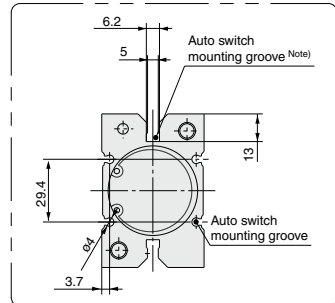


Note) Through-hole mounting is not possible when using the auto switch at the square groove.



* For single action, the port on one side is a breathing hole.

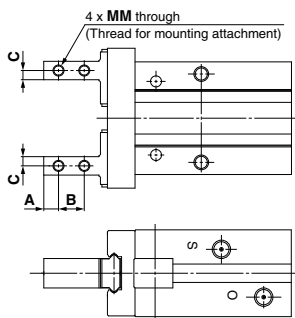
Auto Switch Mounting Groove Dimensions



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

Standard Type/MHZ2 Series Finger Option

Side Tapped Mounting [1/N1]

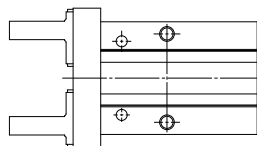


(mm)

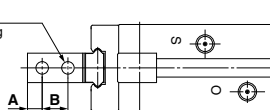
Model	A	B	C	MM
MHZ2-6□1	2.5	5	2	M2 x 0.4
MHZ2-10□ _{N1} □	3	5.7	2	M2.5 x 0.45
MHZ2-16□ _{N1} □	4	7	2.5	M3 x 0.5
MHZ2-20□ _{N1} □	5	9	4	M4 x 0.7
MHZ2-25□ _{N1} □	6	12	5	M5 x 0.8
MHZ2-32□1□	7	14	6	M6 x 1
MHZ2-40□1□	9	17	7	M8 x 1.25

* Specifications and dimensions other than the above are the same as the basic type (including narrow type).

Through-holes in Opening/ Closing Direction [2/N2]



4 x øH through
(Hole for mounting attachment)

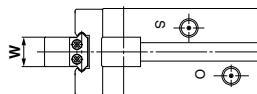
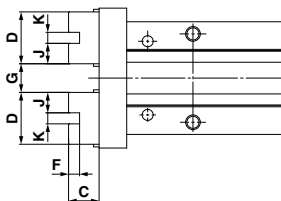
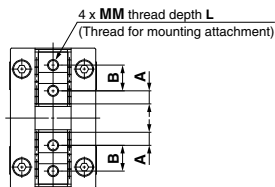


(mm)

Model	A	B	H
MHZ2-6□2	2.5	5	2.4
MHZ2-10□ _{N2} □	3	5.7	2.9
MHZ2-16□ _{N2} □	4	7	3.4
MHZ2-20□ _{N2} □	5	9	4.5
MHZ2-25□ _{N2} □	6	12	5.5
MHZ2-32□2□	7	14	6.6
MHZ2-40□2□	9	17	9

* Specifications and dimensions other than the above are the same as the basic type (including narrow type).

Flat Type Fingers [3]



(mm)

Model	A	B	C	D	F	G		J	K	MM	L	W	Weight (g)
						Open	Closed						
MHZ2-6□3 ⁽¹⁾	2	3.5	7.2	7.5	—	5 ^{+1.2} _{-0.8}	1 ^{+0.2} ₀	—	—	M2 x 0.4	3	4 ⁰ _{-0.05}	26
MHZ2-10□3□ ⁽²⁾⁽³⁾	2.45	6	5.2	10.9	2	5.4 ^{+2.2} ₀	1.4 ⁰ _{-0.2}	4.45	2H9 ^{+0.025} ₀	M2.5 x 0.45	5	5 ⁰ _{-0.05}	55
MHZ2-16□3□ ⁽²⁾⁽³⁾	3.05	8	8.3	14.1	2.5	7.4 ^{+2.2} ₀	1.4 ⁰ _{-0.2}	5.8	2.5H9 ^{+0.025} ₀	M3 x 0.5	6	8 ⁰ _{-0.05}	115
MHZ2-20□3□ ⁽²⁾⁽³⁾	3.95	10	10.5	17.9	3	11.6 ^{+2.3} ₀	1.6 ⁰ _{-0.2}	7.45	3H9 ^{+0.025} ₀	M4 x 0.7	8	10 ⁰ _{-0.05}	225 (230)
MHZ2-25□3□ ⁽²⁾⁽³⁾	4.9	12	13.1	21.8	4	16 ^{+2.5} ₀	2 ⁰ _{-0.2}	8.9	4H9 ^{+0.030} ₀	M5 x 0.8	10	12 ⁰ _{-0.05}	410 (415)
MHZ2-32□3□	7.3	20	18	34.6	5	25 ^{+2.7} ₀	3 ⁰ _{-0.2}	14.8	5H9 ^{+0.030} ₀	M6 x 1	12	15 ⁰ _{-0.05}	740 (785)
MHZ2-40□3□	8.7	24	22	41.4	6	33 ^{+2.9} ₀	3 ⁰ _{-0.2}	17.7	6H9 ^{+0.030} ₀	M8 x 1.25	16	18 ⁰ _{-0.05}	1335 (1430)

Note 1) To mount attachments, use JISB1101 type M2 round head screws. Be careful not to use commercially available M2 hexagon socket head cap bolt as its top diameter is large.

Note 2) Specifications and dimensions other than the above are the same as the basic type (including narrow type).

Note 3) The overall length is the same as the MHQ(G) flat finger type.

Note 4) The values inside () are for the single acting type.

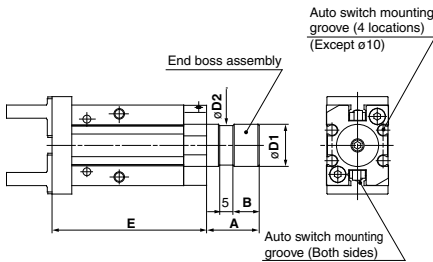
Standard Type/MHZ2 Series

Body Option: End Boss Type

Applicable Model

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

Side Ported [E]

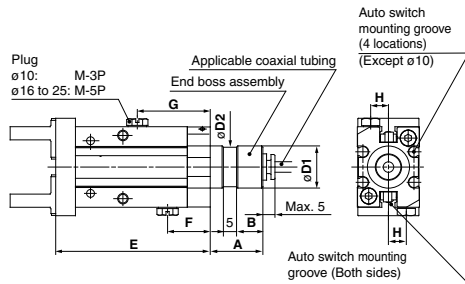


Model	A	B	D1	D2	E
MHZ2-10□□E	15	7	12f8 ^{-0.016} _{-0.043}	11	52.8
MHZ2-16□□E	20	10	16f8 ^{-0.016} _{-0.043}	15	58.7
MHZ2-20□□E	22	12	20f8 ^{-0.020} _{-0.053}	19	70.5
MHZ2-25□□E	25	15	25f8 ^{-0.020} _{-0.053}	24	82.9

Other dimensions and specifications correspond to the standard type.

- * Refer to the dimension table.
- * When auto switches are used at the square groove on the side, side mounting with through-holes is not possible.

Axial Ported (with One-touch fitting for coaxial tubing) [W]

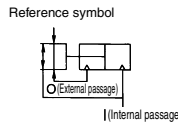


Model	A	B	D1	D2	E	F	G	H
MHZ2-10D□W	15	7	12f8 ^{-0.016} _{-0.043}	11	52.8	18	28.3	5.5
MHZ2-16D□W	20	10	16f8 ^{-0.016} _{-0.043}	15	58.7	16.2	27.7	6.5
MHZ2-20D□W	22	12	20f8 ^{-0.020} _{-0.053}	19	70.5	18.2	31.2	7.5
MHZ2-25D□W	25	15	25f8 ^{-0.020} _{-0.053}	24	82.9	19	31.8	10

Other dimensions and specifications correspond to the standard type.

- * Refer to the dimension table.
- * When auto switches are used at the square groove on the side, side mounting with through-holes is not possible.

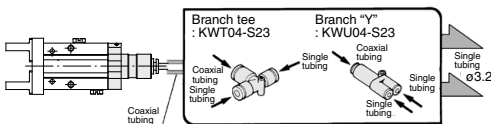
Applicable Coaxial Tubing



Model	TW04B-20
Specifications	
Outside diameter	4 mm
Max. operating pressure	0.6 MPa
Min. bending radius	10 mm
Operating temperature	-20 to 60°C
Material	Nylon 12

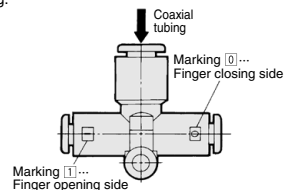
Changing from Coaxial to Single Tubing

Changing to single tubing is possible by using a branch "Y" or branch tee fitting. In this case particularly, single tube fittings and tube for ø3.2 will be necessary.

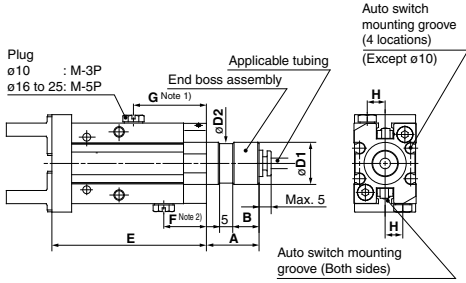


Branch Tee, Different Diameter Tee, Branch "Y", Male Run Tee

Please contact your SMC sales representative for details of the coaxial fittings and tubing.



Axial Ported (with One-touch fitting) [K]



* Refer to the dimension table.
 * When auto switches are used at the square groove on the side, side mounting with through-holes is not possible.

Note 1) Normally open type plug position.
 Note 2) Normally closed type plug position.
 The plug is mounted on only one side for the single acting type.

		(mm)							
Model		A	B	D1	D2	E	F	G	H
MHZ2-10	$\frac{5}{8}$ □ K	15	7	12f8 ^{-0.016} _{-0.043}	11	52.8	18	28.3	5.5
MHZ2-16	$\frac{3}{4}$ □ K	20	10	16f8 ^{-0.016} _{-0.043}	15	58.7	16.2	27.7	6.5
MHZ2-20	$\frac{1}{2}$ □ K	22	12	20f8 ^{-0.020} _{-0.053}	19	70.5	18.2	31.2	7.5
MHZ2-25	$\frac{3}{8}$ □ K	25	15	25f8 ^{-0.020} _{-0.053}	24	82.9	19	31.8	10

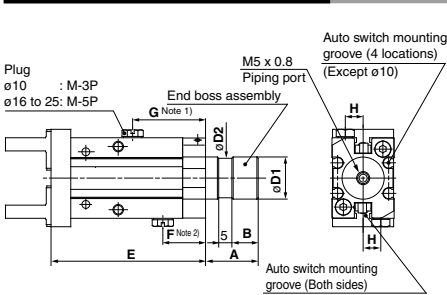
Other dimensions and specifications correspond to the standard type.

Applicable Tubing

Description/Model	Nylon tubing	Soft nylon tubing	Polyurethane tubing	Polyurethane coil tubing
	T0425	TS0425	TU0425	TCU0425B-1
Outside diameter (mm)	4	4	4	4
Max. operating pressure (MPa)	1.0	0.8	0.5	0.5
Min. bending radius (mm)	13	12	10	—
Operating temperature (°C)	-20 to 60	-20 to 60	-20 to 60	-20 to 60
Material	Nylon 12	Nylon 12	Polyurethane	Polyurethane

Refer to "Best Pneumatics No. 7" regarding One-touch fittings and tubing.

Axial Ported (with M5 Port) [M]



* Refer to the dimension table.
 * When auto switches are used at the square groove on the side, side mounting with through-holes is not possible.

Note 1) Normally open type plug position.
 Note 2) Normally closed type plug position.
 The plug is mounted on only one side for the single acting type.

		(mm)							
Model		A	B	D1	D2	E	F	G	H
MHZ2-10	$\frac{5}{8}$ □ M	15	7	12f8 ^{-0.016} _{-0.043}	11	52.8	18	28.3	5.5
MHZ2-16	$\frac{3}{4}$ □ M	20	10	16f8 ^{-0.016} _{-0.043}	15	58.7	16.2	27.7	6.5
MHZ2-20	$\frac{1}{2}$ □ M	22	12	20f8 ^{-0.020} _{-0.053}	19	70.5	18.2	31.2	7.5
MHZ2-25	$\frac{3}{8}$ □ M	25	15	25f8 ^{-0.020} _{-0.053}	24	82.9	19	31.8	10

Other dimensions and specifications correspond to the standard type.

Weight

Model	End boss type (Symbol)			
	E	W	K	M
MHZ2-10 □ □	65	64	66	65
MHZ2-16 □ □	148	147	148	147
MHZ2-20 □ □	272	277	277	277
MHZ2-25 □ □	485	495	496	494

MHZ

MHF

MHL

MHR

MHK

MHS

MHC

MHT

MHY

MHW

-X □

MRHQ

MA

D- □

MHZ2/MHZ□2 Series

Auto Switch Installation Examples and Mounting Position

Various auto switch applications are possible through different combinations of auto switch quantities and detecting positions.

1) Detection when Gripping Exterior of Workpiece

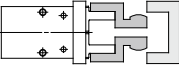
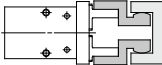
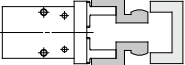
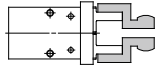
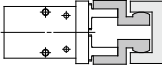
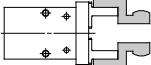
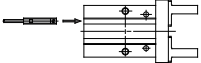
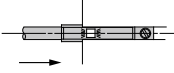
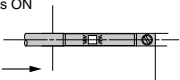
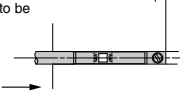
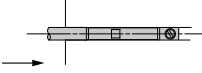
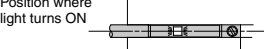
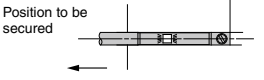
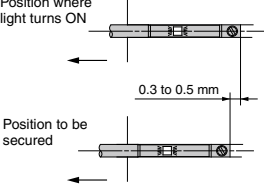
Detection example		1. Confirmation of fingers in reset position	2. Confirmation of workpiece held	3. Confirmation of workpiece released		
Position to be detected	Position of fingers fully opened		Position when gripping workpiece		Position of fingers fully closed	
Operation of auto switch	Auto switch turned on when fingers return. (Light ON)		Auto switch turned on when gripping a workpiece. (Light ON)		When a workpiece is not held (Abnormal operation): Auto switch to turn ON (Light ON)	
Detection combinations	One auto switch *One position, any of ①, ②, and ③ can be detected.	●	●	●		
	Two auto switches *Two positions of ①, ②, and ③ can be detected.	●	●	—		
	Pattern	—	●	●		
	C	●	—	●		
How to determine auto switch installation position	Step 1) Fully open the fingers.		Step 1) Position fingers for gripping a workpiece.		Step 1) Fully close the fingers.	
At no pressure or low pressure, connect the auto switch to a power supply, and follow the directions.	Step 2) Insert the auto switch into the switch installation groove in the direction shown in the following drawing.0					
	Step 3) Slide the auto switch in the direction of the arrow until the indicator light illuminates.	Step 3) Slide the auto switch in the direction of the arrow until the light illuminates and fasten it at a position 0.3 to 0.5 mm in the direction of the arrow beyond the position where the indicator light illuminates.				
		Position where light turns ON				
	Step 4) Slide the auto switch further in the direction of the arrow until the indicator light goes out.					
Step 5) Move the auto switch in the opposite direction and fasten it at a position 0.3 to 0.5 mm beyond the position where the indicator light illuminates.	Position to be secured					
	Position where light turns ON					
	Position to be secured					

Note 1) It is recommended that gripping of a workpiece be performed close to the center of the finger stroke.

Note 2) When holding a workpiece close at the end of open/close stroke of fingers, detecting performance of the combinations listed in the above table may be limited, depending on the hysteresis of an auto switch, etc.

Various auto switch applications are possible through different combinations of auto switch quantities and detecting positions.

2) Detection when Gripping Interior of Workpiece

Detection example		1. Confirmation of fingers in reset position	2. Confirmation of workpiece held	3. Confirmation of workpiece released	
Position to be detected		Position of fingers fully closed 	Position when gripping workpiece 	Position of fingers fully opened 	
Operation of auto switch		Auto switch turned ON when fingers return. (Light ON)	Auto switch turned ON when gripping a workpiece. (Light ON)	When a workpiece is not held (Abnormal operation): Auto switch to turn ON (Light ON)	
Detection combinations	One auto switch *One position, any of ①, ②, and ③ can be detected.	●	●	●	
	Two auto switches *Two positions of ①, ②, and ③ can be detected.	●	●	—	
		—	●	●	
Pattern	●	—	●		
How to determine auto switch installation position		Step 1) Fully close the fingers. 	Step 1) Position fingers for gripping a workpiece. 	Step 1) Fully open the fingers. 	
At no pressure or low pressure, connect the auto switch to a power supply, and follow the directions.		Step 2) Insert the auto switch into the switch installation groove in the direction shown in the following drawing.			
					
		Step 3) Move the auto switch in the direction of the arrow and fasten it at a position 0.3 to 0.5 mm beyond the position where the indicator light illuminates.	Step 3) Slide the auto switch in the direction of the arrow until the indicator light illuminates.		
		Position where light turns ON  Position to be secured  0.3 to 0.5 mm	Step 4) Slide the auto switch further in the direction of the arrow until the indicator light goes out.		
		Position where light turns ON  Position to be secured  0.3 to 0.5 mm	Step 5) Move the auto switch in the opposite direction 0.3 to 0.5 mm in the direction indicated by the arrow from its location when the indicator light comes on again.		

Note 1) It is recommended that gripping of a workpiece be performed close to the center of the finger stroke.

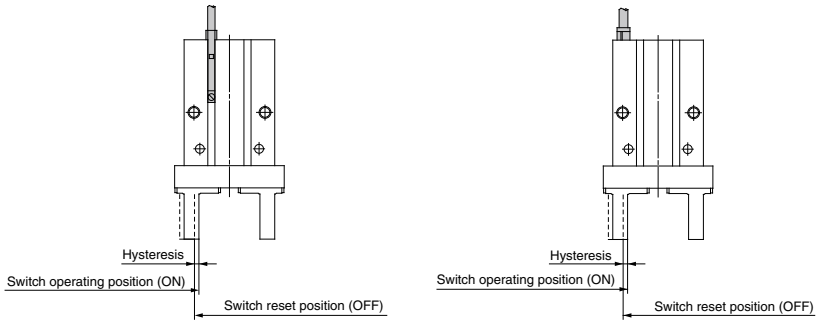
Note 2) When holding a workpiece close at the end of open/close stroke of fingers, detecting performance of the combinations listed in the above table may be limited, depending on the hysteresis of an auto switch, etc.

- MHZ
- MHF
- MHL
- MHR
- MHK
- MHS
- MHC
- MHT
- MHY
- MHW
- X□
- MRHQ
- MA
- D-□

MHZ2, MHZ□2 Series

Auto Switch Hysteresis

Auto switches have hysteresis similar to micro switches.
Use the table below as a guide when adjusting auto switch positions, etc.



Hysteresis

Auto switch model Air gripper model	D-Y59A/Y59B D-Y69A/Y69B D-Y7P(V) D-Y7□W(V)	D-F8□	D-M9□(V) D-M9□W(V) D-M9□A(V)
	MHZ2-6□	No setting	0.5
MHZ2-10□, MHZL2-10□	0.5	No setting	0.5 <small>Note</small>
MHZ2-16□, MHZL2-16□	0.5	0.5	0.5
MHZ2-20□, MHZL2-20□	0.5	0.5	0.8
MHZ2-25□, MHZL2-25□	0.5	0.5	0.5
MHZ2-32□	0.5	0.5	0.7
MHZ2-40□	0.5	0.5	0.9
MHZJ2-6□	No setting	0.5	0.5
MHZJ2-10□		0.5	0.5
MHZJ2-16□		0.5	0.5
MHZJ2-20□		0.5	0.8
MHZJ2-25□		0.5	0.5

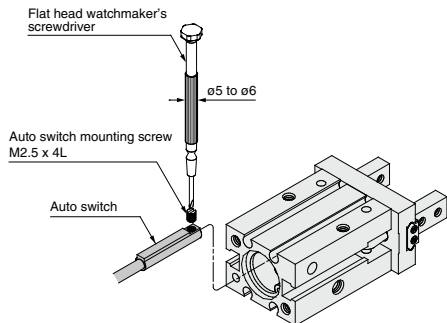
Note) When mounting D-M9□(V), M9□W(V) and M9□A(V) on MHZ2-10□ and MHZL2-10, mounting brackets (BMG2-012) are required.

Auto Switch Mounting

Applicable models:

- MHZ2-6
- MHZJ2 Series
- Round groove of the MHZ2 series
- Round groove of the MHZL2 series

To set the auto switch, insert the auto switch into the auto switch installation groove of the gripper from the direction indicated in the following drawing. After setting the position, tighten the attached auto switch mounting screw with a flat head watchmaker's screwdriver.

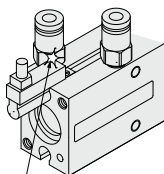


Note) Use a watchmaker's screwdriver with a grip diameter of 5 to 6 mm to tighten the auto switch mounting screw.
Also, tighten with a torque of about 0.05 to 0.15 N·m, or about 0.05 to 0.10 N·m for D-M9□A(V).

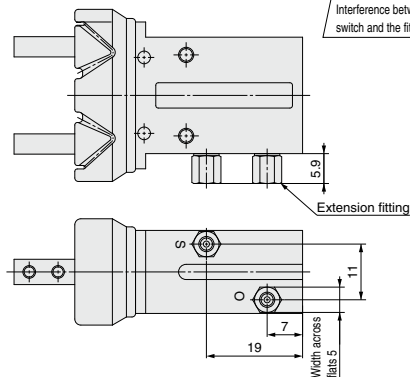
[Mounting of Auto Switch: Precautions]

When mounting an auto switch on the piping surface of the MHZJ2-10□, the auto switch may not be mountable due to interference with the fitting. Use an extension fitting included with the product for the combinations in the table below.

Auto switch model	One-touch Mini Fittings (KQ2H/KQ2S/KQ2L/KQ2W) KJH/KJS/KJL/KJW
D-M9□(V)	×
D-M9□W(V)	×
D-F8□	×
D-M9□A(V)	×



Mounting dimensions of extension fitting

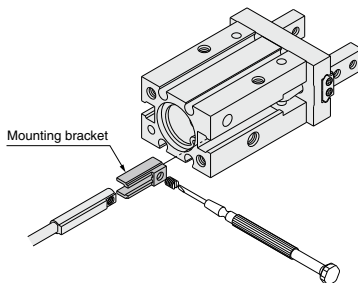


* When mounting extension fittings, first, tighten it by hand, then give it an additional 1/4 turn with a wrench.

Applicable models:

- Square groove on the side of the MHZ2 series
- Square groove on the side of the MHZL2 series

- (1) To set the auto switch, insert the auto switch into the installation groove of the cylinder as shown below and set it roughly.
- (2) Insert the auto switch into the auto switch bracket installation groove.
- (3) After confirming the detecting position, tighten the set screws (M2.5) attached to the auto switch and set it.
- (4) Be sure to change the detecting position in the state of (2).



Auto Switch Mounting Bracket: Part No.

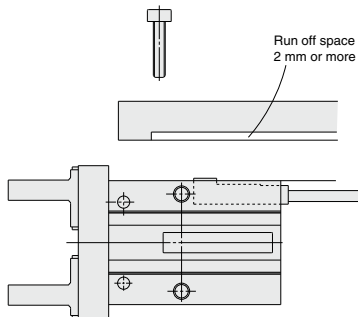
Auto switch part no.	Auto switch mounting bracket part no.
D-M9□(V)	BMG2-012
D-M9□W(V)	
D-F8□	
D-M9□A(V)	

Note) Use a watchmaker's screwdriver with a grip diameter of 5 to 6 mm to tighten the set screws (M2.5).
The tightening torque should be 0.05 to 0.1 N·m.
As a guide, it should be turned about 90° beyond the point at which tightening can be felt.

Note) D-F8□ cannot be mounted on MHZ2-10□, MHZJ2-10□ and MHZL2-10□

[Handling of Mounting Brackets: Precautions]

When auto switch is set on the mounting side as shown below, allow at least 2 mm run off space on mounting plate since the auto switch is protruded from the gripper edge.



MHZ

MHF

MHL

MHR

MHK

MHS

MHC

MHT

MHY

MHW

-X□

MRHQ

MA

D-□

MHZ2, MHZ□2 Series

Protrusion of Auto Switch from Edge of Body

The amount of auto switch protrusion from the body's end surface is as shown in the table below.

Use this as a standard when mounting, etc.

D-F8□ has no protrusion from the body's end surface.

The end boss type has no protrusion either.

Standard Body

Lead wire type		In-line electrical entry type			Perpendicular electrical entry type				
		Explanatory drawing			Explanatory drawing				
Auto switch model		Finger position			Finger position				
Air gripper model		D-Y59□ D-Y7P D-Y7□W	D-M9□ D-M9□W	D-M9□A	D-Y69□ D-Y7PV D-Y7□WV	D-M9□V D-M9□WV	D-M9□AV		
Standard	MHZ2-6□	Open	No setting		No setting		9	11	
		Close					11	13	
	MHZ2-10□	Open	1	3.5 <small>Note 3)</small>	5.5 <small>Note 3)</small>	—	1.5 <small>Note 3)</small>	3.5 <small>Note 3)</small>	
		Close	7.5	6.5 <small>Note 3)</small>	8.5 <small>Note 3)</small>	6.5	4.5 <small>Note 3)</small>	6.5 <small>Note 3)</small>	
	MHZ2-16□	Open	—	1	3	—	—	—	
		Close	6	4	6	5	2	4	
	MHZ2-20□	Open	—	—	—	—	—	—	
		Close	4	2	4	3	—	—	
	MHZ2-25□	Open	—	—	—	—	—	—	
		Close	1	—	—	—	—	—	
	MHZ2-32□	Open	—	—	—	—	—	—	
		Close	3	—	—	2	—	—	
	MHZ2-40□	Open	—	—	—	—	—	—	
		Close	2	—	—	1	—	—	
	With dust cover	MHZJ2-6□	Open	11		13		9	11
			Close	13		15		11	13
MHZJ2-10□		Open	5		7		3	5	
		Close	7		9		5	7	
MHZJ2-16□		Open	2		4		—	—	
		Close	5		7		3	5	
MHZJ2-20□		Open	—		—		—	—	
		Close	3		5		1	3	
MHZJ2-25□		Open	—		—		—	—	
		Close	2		4		—	—	
Long stroke	MHZL2-10D	Open	0.5	1.5 <small>Note 3)</small>	3.5 <small>Note 3)</small>	—	—	—	
		Close	8.5	8 <small>Note 3)</small>	10 <small>Note 3)</small>	7.5	6 <small>Note 3)</small>	8 <small>Note 3)</small>	
	MHZL2-16D	Open	—	—	—	—	—	—	
		Close	8	6	8	7	4	6	
	MHZL2-20D	Open	—	—	—	—	—	—	
		Close	7	5	7	6	3	5	
	MHZL2-25D	Open	—	—	—	—	—	—	
		Close	5.5	3.5	5.5	4.5	1.5	3.5	
	MHZL2-10S	Open	—	—	—	—	—	—	
		Close	—	—	—	—	—	—	
	MHZL2-16S	Open	—	—	—	—	—	—	
		Close	3	1	3	2	—	—	
	MHZL2-20S	Open	—	—	—	—	—	—	
		Close	1	—	—	—	—	—	
	MHZL2-25S	Open	—	—	—	—	—	—	
		Close	—	—	—	—	—	—	
MHZL2-10C	Open	—	—	—	—	—	—		
	Close	5.5	5 <small>Note 3)</small>	7 <small>Note 3)</small>	4.5	3 <small>Note 3)</small>	5 <small>Note 3)</small>		
MHZL2-16C	Open	—	—	—	—	—	—		
	Close	5.5	3.5	5.5	4.5	1.5	3.5		
MHZL2-20C	Open	—	—	—	—	—	—		
	Close	3.5	1.5	3.5	2.5	—	—		
MHZL2-25C	Open	—	—	—	—	—	—		
	Close	1.5	—	—	0.5	—	—		

Note 1) There is no protrusion if no values are entered in the table.

Note 2) The actual mounting position should be adjusted after confirming the auto switch operating conditions.

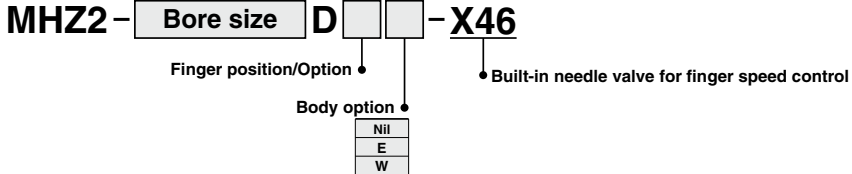
Note 3) When mounting D-M9□(V), M9□W(V) and M9□A(V) on MHZ2-10□ and MHZL2-10, mounting brackets (BMG2-012) are required.

1 Built-in needle valve for finger speed control

Symbol
-X46

Installation of a variable throttle allows adjustment of the finger opening/closing speed.

How to Order

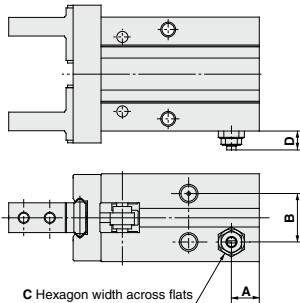


Specifications

Bore size (mm)	10, 16, 20, 25
Action	Double acting
Needle position	Refer to the dimensions and figures below.
Specifications/dimensions other than the above	Same as the standard type

Note) Not available for ø6, ø32 and ø40.

Dimensions (Dimensions other than specified below are the same as the standard type.)



Model	A	B	C	D*
MHZ2-10D□□-X46	9	11	4.5	5.2
MHZ2-16D□□-X46	7.5	13	7	5.8
MHZ2-20D□□-X46	10	15	7	6
MHZ2-25D□□-X46	10.7	20	7	6.2

Dimensions other than the above are identical to the standard type; refer to pages 417 to 420.

* Reference values to establish criteria for needle adjustment.

Adjust so that the finger opening/closing speed will be no greater than necessary. If the finger opening/closing speed is greater than necessary, impact forces acting on the fingers and other parts will increase. This can cause a loss of repeatability when gripping workpieces and have an adverse effect on the life of the unit.

This needle is used to adjust the finger closing speed. When adjusting the opening speed (attenuating impact during operation, etc.), use a meter-out control speed controller AS series.

Guide for Internal Needle Adjustment

Model	Number of rotations from fully closed needle condition ^{Note)}
MHZ2-10D□□-X46	1/4 to 1/2
MHZ2-16D□□-X46	1/2 to 1
MHZ2-20D□□-X46	1 to 1 1/2
MHZ2-25D□□-X46	1 1/2 to 2

Note) The condition in which the needle is tightened gently until it stops.

MHZ

MHF

MHL

MHR

MHK

MHS

MHC

MHT

MHY

MHW

-X□

MRHQ

MA

D-□



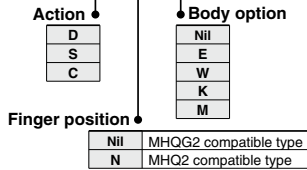
2 MHQ2/MHQG2 Compatible Flat Type Fingers

Symbol
-X51

Previous MHQ2/MHQG2 series compatible flat type finger is selectable for the MHZ2 series.

How to Order

MHZ2 – **Bore size** [] [] [] – **X51**



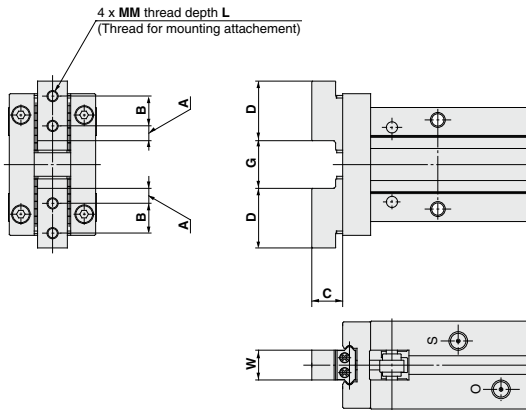
Specifications

Bore size (mm)	10, 16, 20, 25
Action	Double acting, Single acting (normally open, normally closed)
Finger dimensions	Refer to the dimensions and figures below.
Specifications/dimensions other than the above	Same as the standard type

Note 1) Not available for ø6, ø32 and ø40.

Note 2) An option symbol (3) for the flat finger type is not specified.

Dimensions (Dimensions other than specified below are the same as the standard type.)



Model		A	B	C	D	G		MM	L	W
						Open	Closed			
MHZ2-10□□□-X51	MHQG2 compatible	3	6	5.2	12	9.7 ^{+0.2} _{-0.2}	5.7 ⁰ _{-0.4}	M2 x 0.4	3.6	5 ⁰ _{-0.05}
	MHQ2 compatible	2	5	5.2	9	9.7 ^{+0.2} _{-0.2}	5.7 ⁰ _{-0.4}	M2 x 0.4	3.6	5 ⁰ _{-0.05}
MHZ2-16□□□-X51	MHQG2 compatible	4	8	8.3	16	12.6 ^{+0.2} _{-0.2}	6.6 ⁰ _{-0.4}	M3 x 0.5	6	8 ⁰ _{-0.05}
	MHQ2 compatible	2.5	7	8.3	12	12.6 ^{+0.2} _{-0.2}	6.6 ⁰ _{-0.4}	M3 x 0.5	6	8 ⁰ _{-0.05}
MHZ2-20□□□-X51	MHQG2 compatible	5	10	10.5	20.8	17.2 ^{+0.2} _{-0.2}	7.2 ⁰ _{-0.4}	M4 x 0.7	8	10 ⁰ _{-0.05}
	MHQ2 compatible	3.3	9	10.5	15.5	17.2 ^{+0.2} _{-0.2}	7.2 ⁰ _{-0.4}	M4 x 0.7	8	10 ⁰ _{-0.05}
MHZ2-25□□□-X51	MHQG2 compatible	6.5	12	13.1	25	22.8 ^{+0.5} _{-0.5}	8.8 ⁰ _{-0.4}	M5 x 0.8	10	12 ⁰ _{-0.05}
	MHQ2 compatible	3.5	12	13.1	19	22.8 ^{+0.5} _{-0.5}	8.8 ⁰ _{-0.4}	M5 x 0.8	10	12 ⁰ _{-0.05}