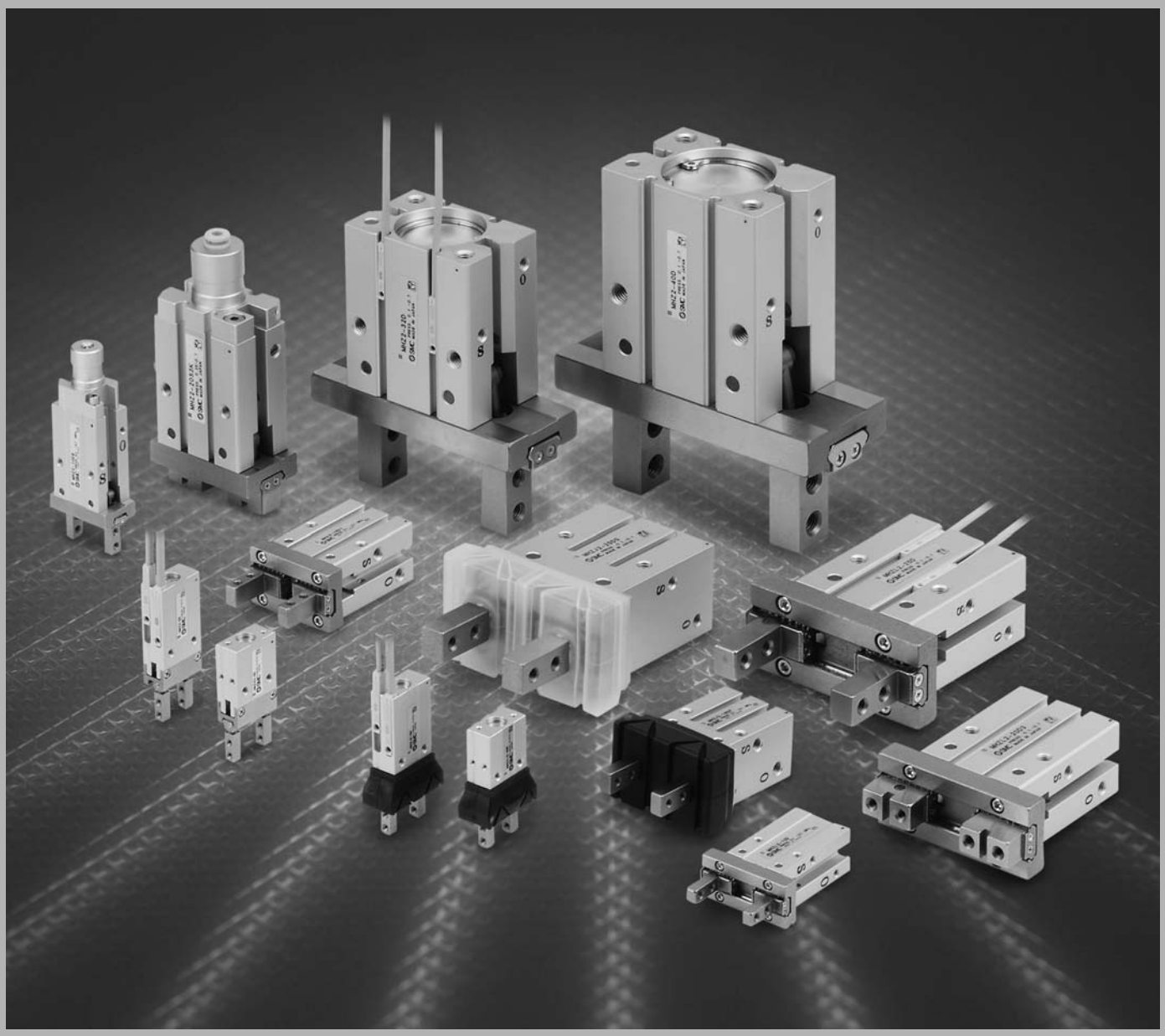
Parallel Style Air Gripper

Series MHZ



How to Order

Bore size

ø32 to ø40 **MHZ2-32D□-M9BW□-□**

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	Without auto switch (Built-in magnet)

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

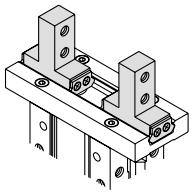
Number of auto switches

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

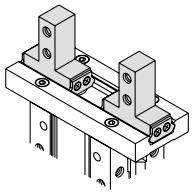
Made to Order
Refer to page 400 for details.

Finger option

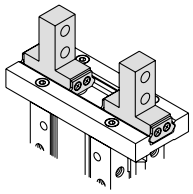
[Standard]
Nil: Basic type



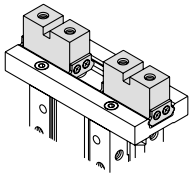
1: Side tapped mounting



2: Through-holes in opening/ closing direction



3: Flat type fingers



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	—	●	—	●	○	—		
				3-wire (PNP)				**M9PV**	**M9P**	●	●	●	○	○		
								F8P	—	●	—	●	○	—		
				2-wire		12 V		**M9BV**	**M9B**	●	●	●	○	○	—	
								F8B	—	●	—	●	○	—		
	Diagnosis (2-color indicator)			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) 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 are required. Please order them separately. Refer to page 439 for the auto switch mounting brackets.

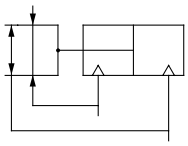
ø6

ø10 to ø25

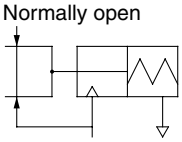
ø32, ø40

JIS Symbol

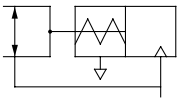
Double acting



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

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

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	
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	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 412 and 413.

Specific Product Precautions

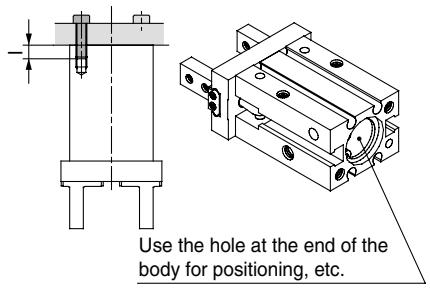
Be sure to read before handling.

Mounting Air Grippers/Series MHZ□2

Possible to mount from 3 directions.

How to mount air grippers

Axial mounting (Body tapped)

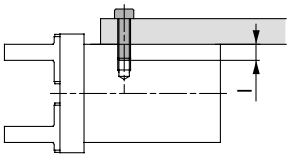


Model	Applicable bolts	Max. tightening torque (N•m)	Max. screw-in depth (ℓ mm)
MHZ□2-6(Note)	M2 x 0.4	0.15	4.5
MHZ□2-10	M3 x 0.5	0.88	6
MHZ□2-16	M4 x 0.7	2.1	8
MHZ□2-20	M5 x 0.8	4.3	10
MHZ□2-25	M6 x 1	7.3	12
MHZ□2-32	M6 x 1	7.9	13
MHZ□2-40	M8 x 1.25	17.7	17

Note) Axial mounting type is not available for MHZ2-6 and MHZJ2-6.

Model	Hole diameter (mm)	Hole depth (mm)
MHZ□2- 6	ø7H8 $^{+0.022}_{0}$	1.5
MHZ□2-10	ø11H9 $^{+0.043}_{0}$	2
MHZ□2-16	ø17H9 $^{+0.043}_{0}$	2
MHZ□2-20	ø21H9 $^{+0.052}_{0}$	3
MHZ□2-25	ø26H9 $^{+0.052}_{0}$	3.5
MHZ□2-32	ø34H9 $^{+0.062}_{0}$	4
MHZ□2-40	ø42H9 $^{+0.062}_{0}$	4

Perpendicular mounting (Body tapping)



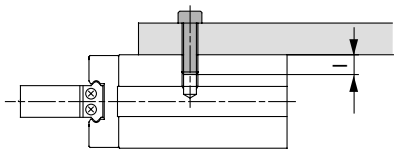
Model	Applicable bolts	Max. tightening torque (N•m)	Max. screw-in depth (ℓ mm)
MHZ□2-6(Note)	M2 x 0.4	0.15	4
MHZ□2-10	M3 x 0.5	0.9	6
MHZ□2-16	M4 x 0.7	1.6	4.5
MHZ□2-20	M5 x 0.8	3.3	8
MHZ□2-25	M6 x 1	5.9	10
MHZ□2-32	M6 x 1	5.9	10
MHZ□2-40	M8 x 1.25	13.7	13

Note) Except MHZ2-6 and MHZJ2-6.

How to mount air grippers

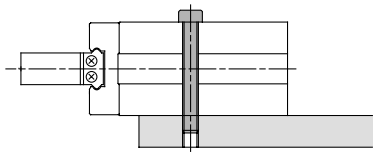
Lateral mounting (Body tapped and through-hole)

●**Body tapped**



Model	Applicable bolts	Max. tightening torque (N•m)	Max. screw-in depth (ℓ mm)
MHZ□2- 6	M3 x 0.5	0.88	10
MHZ□2-10	M3 x 0.5	0.69	5
MHZ□2-16	M4 x 0.7	2.1	8
MHZ□2-20	M5 x 0.8	4.3	10
MHZ□2-25	M6 x 1	7.3	12
MHZ□2-32	M6 x 1	7.9	13
MHZ□2-40	M8 x 1.25	17.7	16

●**Body through-holes**



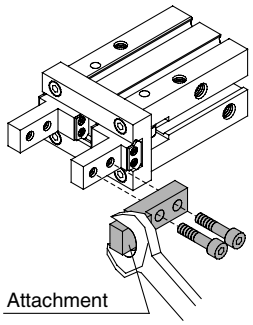
Model	Applicable bolts	Max. tightening torque (N•m)
MHZ□2- 6	M2.5 x 0.45	0.49
MHZ□2-10	M2.5 x 0.45	0.49
MHZ□2-16	M3 x 0.5	0.88
MHZ□2-20	M4 x 0.7	2.1
MHZ□2-25	M5 x 0.8	4.3
MHZ□2-32	M5 x 0.8	4.3
MHZ□2-40	M6 x 1	7.3

Note) Use body tapped for D-Y59, D-Y69, D-Y7P with auto switch types. Make sure that the bolt's screw-in depth is less than those shown in the table below to prevent the tip of the bolt from pressing the switch body.

Model	Max. screw-in depth (ℓ mm)
MHZ□2- 6	—
MHZ□2-10	5
MHZ□2-16	8
MHZ□2-20	10
MHZ□2-25	12
MHZ□2-32	13
MHZ□2-40	16

How to mount the attachment to the finger

The attachment must be mounted on fingers using bolts such as finger mounting female threads, etc., which should be tightened with the tightening torque in the table below.



Model	Applicable bolts	Max. tightening torque (N•m)
MHZ□2- 6	M2 x 0.4	0.15
MHZ□2-10	M2.5 x 0.45	0.31
MHZ□2-16	M3 x 0.5	0.59
MHZ□2-20	M4 x 0.7	1.4
MHZ□2-25	M5 x 0.8	2.8
MHZ□2-32	M6 x 1	4.9
MHZ□2-40	M8 x 1.25	11.8

Operating Environment

⚠Caution

Use caution for the anti-corrosiveness of linear guide section.

Martensitic stainless steel is used for the finger guide. But, use caution that anti-corrosiveness is inferior to the austenitic stainless steel. Especially, in an environment where waterdrops are adhered by condensation, etc., rust might be generated.