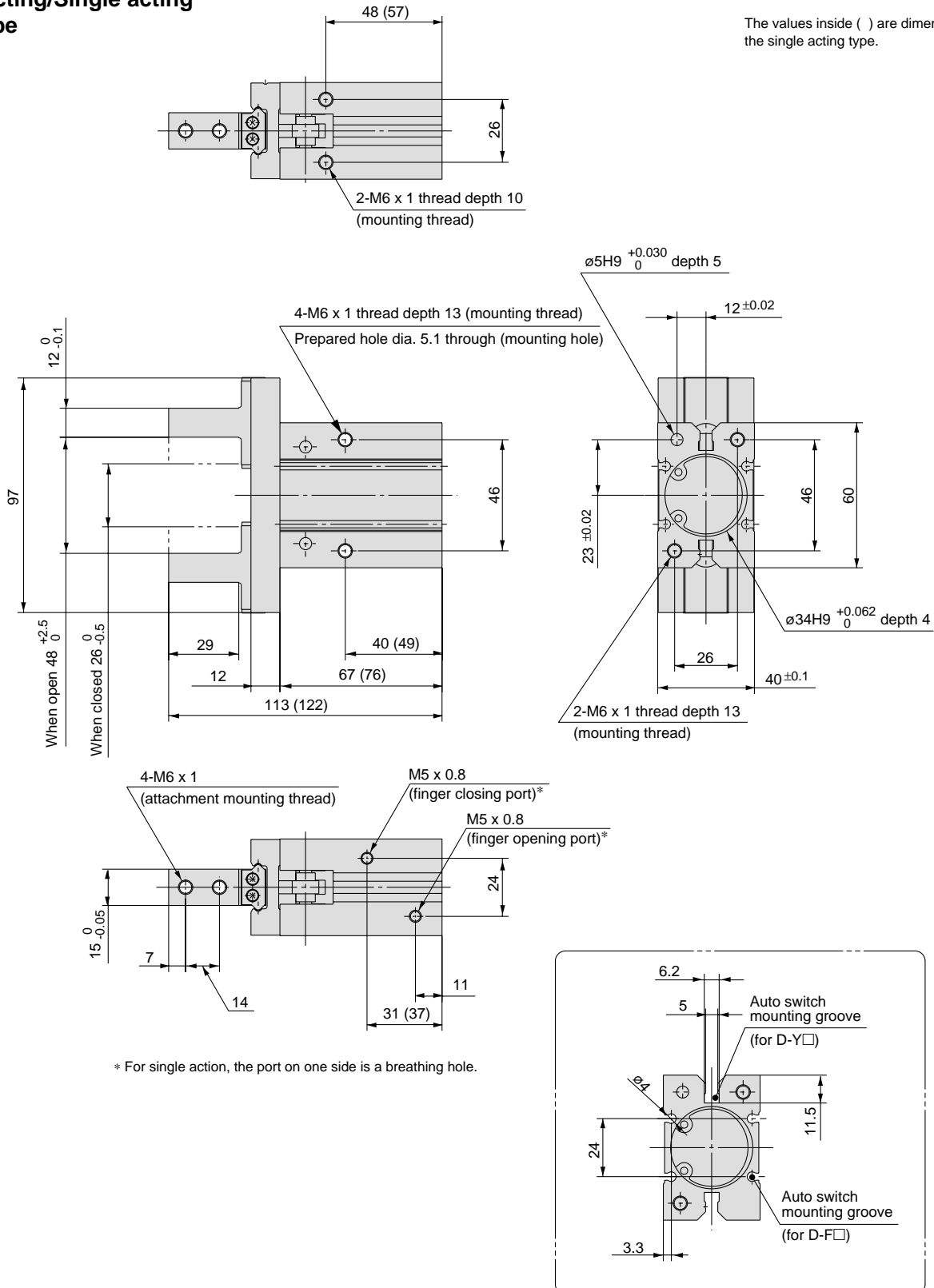


MHZ2-32 □
Double acting/Single acting
Basic Type

Scale: 40%

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



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

Note) When using D-Y59, D-Y69 and D-Y7 type auto switches, through hole mounting is not possible.

Series MHZ2

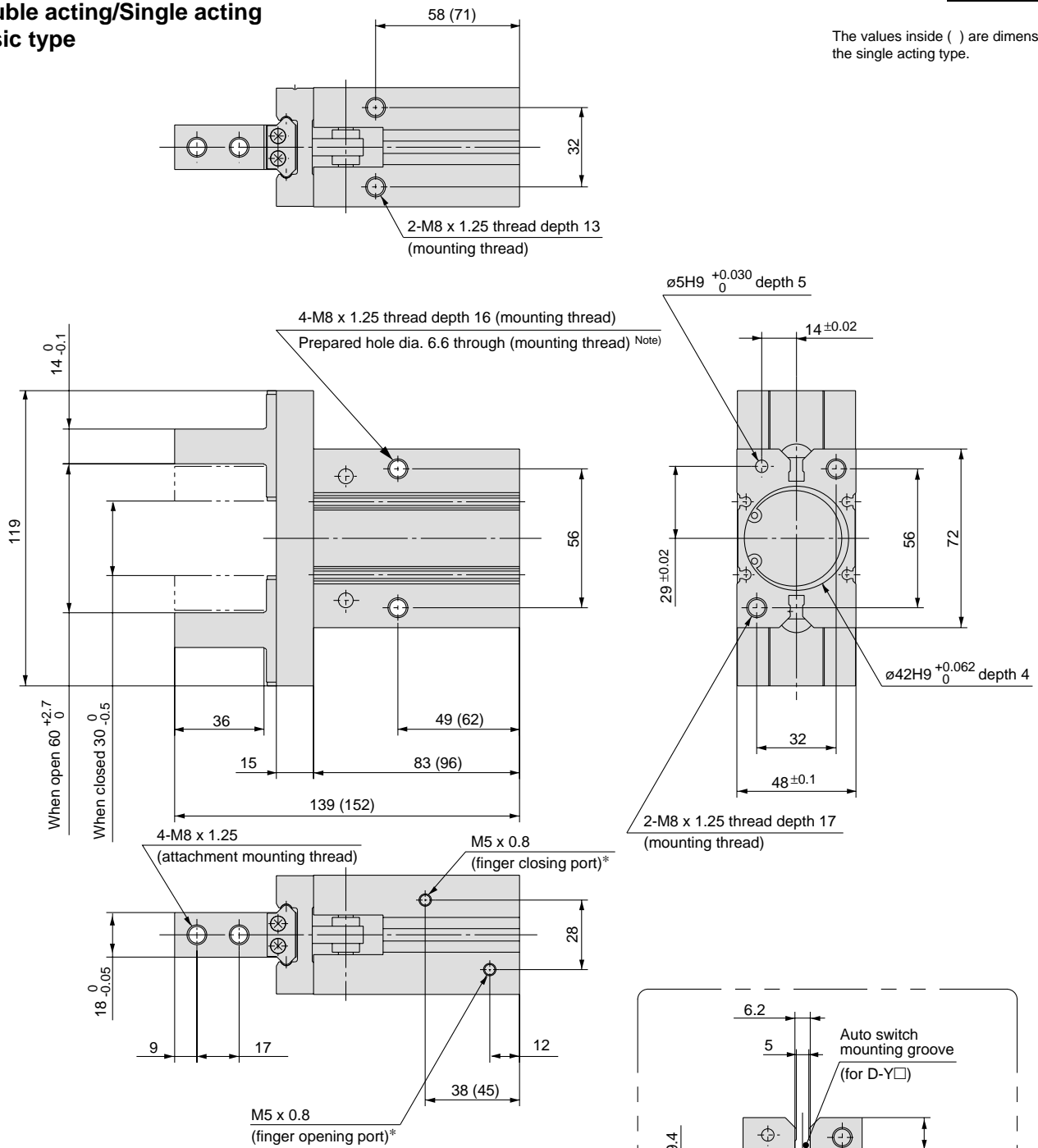
Dimensions

MHZ2-40□

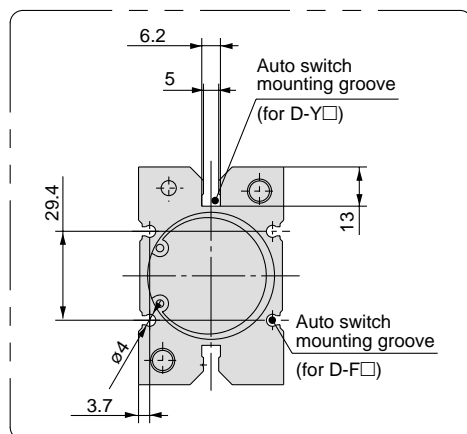
Double acting/Single acting
Basic type

Scale: 40%

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



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

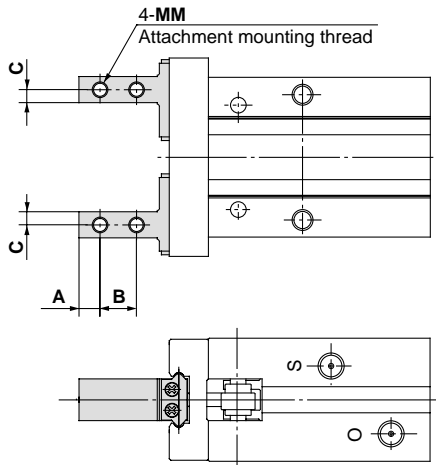


Note) When using D-Y59, D-Y69 and D-Y7 type auto switches, through hole mounting is not possible.

Standard Type/Series MHZ2

Finger Options

Side Tapped Mounting [1/N1]

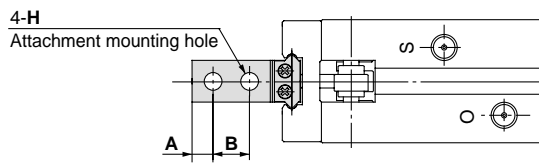
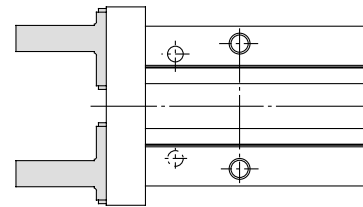


Unit: mm

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

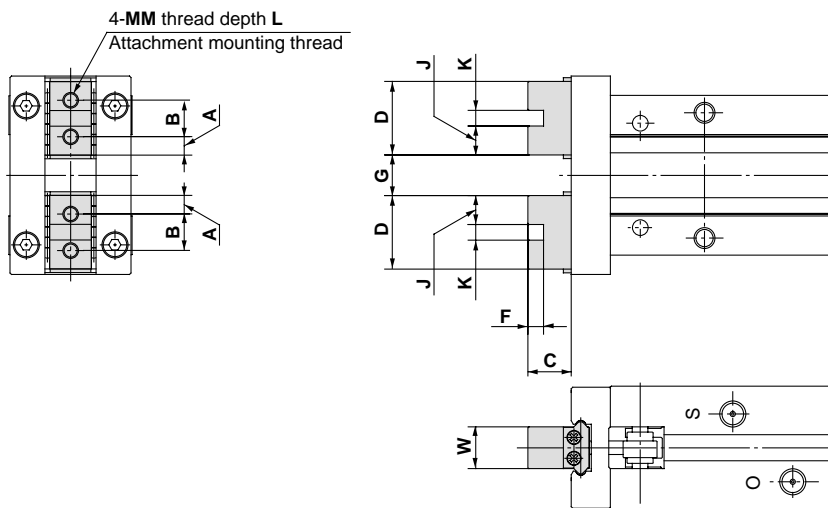


Unit: mm

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

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

Flat Type Fingers [3]



Unit: 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}	235
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}	420
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) *4)
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) *4)

*1) To mount attachments, use M2 hexagon socket head cap screws with ø3.3 top diameter, or JISB1101 type M2 round head screws.

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

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

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

Compact Series
MHZA2-6/MHZA2J2-6

Standard Type
MHZ2

Long Stroke
MHZL2

With Dust Cover
MHZJ2

Auto Switches

Order Made

Model Selection

Precautions

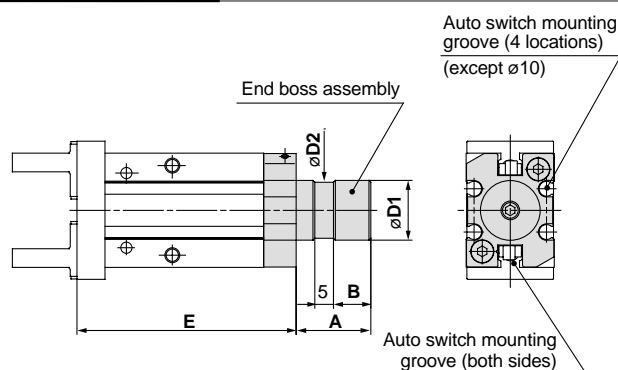
Standard Type/Series MHZ2

Body Options: End Boss Type

Applicable Models

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

Side Ported [E]



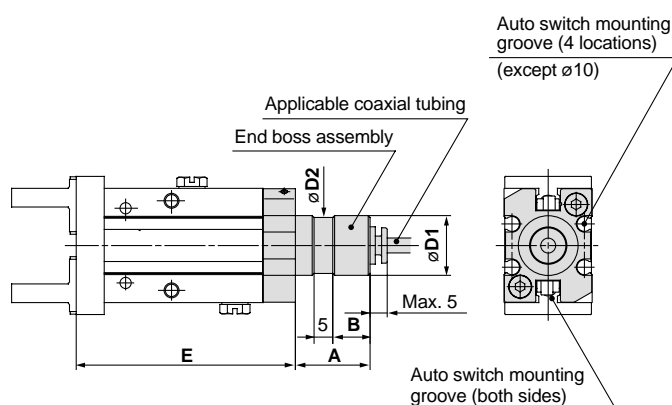
- * Refer to the dimension table.
- * When auto switches are used, side mounting with through holes is not possible.

Unit: mm

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

Other dimensions and specifications correspond to the standard type.

Axial Port (One-Touch Fitting for Coaxial Tubing) [W]



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

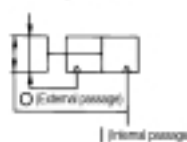
Unit: mm

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

Other dimensions and specifications correspond to the standard type.

Applicable coaxial tubing

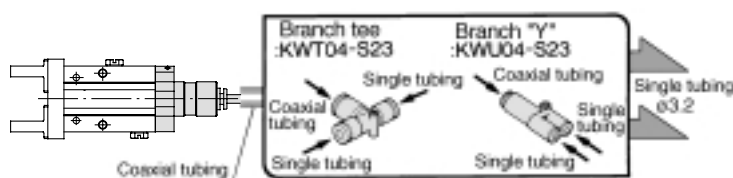
Reference symbol



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

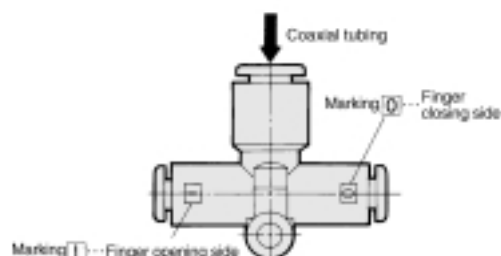
Changing from Coaxial to Single Tubing

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

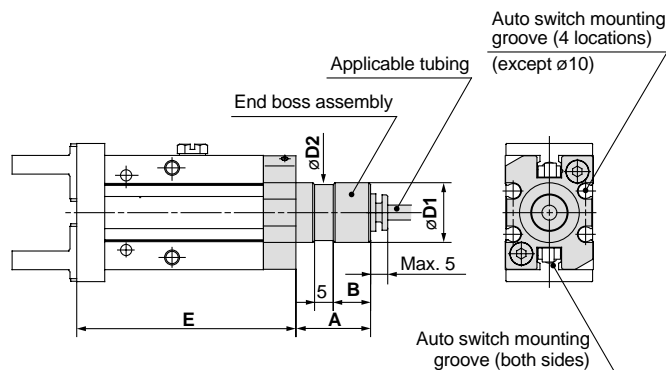


Branch tee, Different diameter tee, Branch "Y", Male run tee

Refer to catalog CAT.E004-A "Coaxial Air Tubing System" regarding coaxial tubing.



Axial Port (with One-touch Fitting) [K]



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

Unit: mm

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

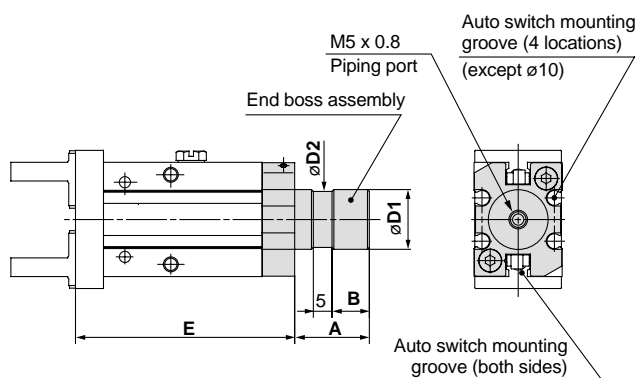
Other dimensions and specifications correspond to the standard type.

Applicable tubing

Description/ Model	Nylon tubing	Soft nylon tubing	Polyurethane tubing	Polyurethane coiled 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 catalog CAT. E501-B "Air Fittings and Tubing" regarding One-touch fittings and tubing.

Axial Port (M5 Port) [M]



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

Unit: mm

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

Other dimensions and specifications correspond to the standard type.

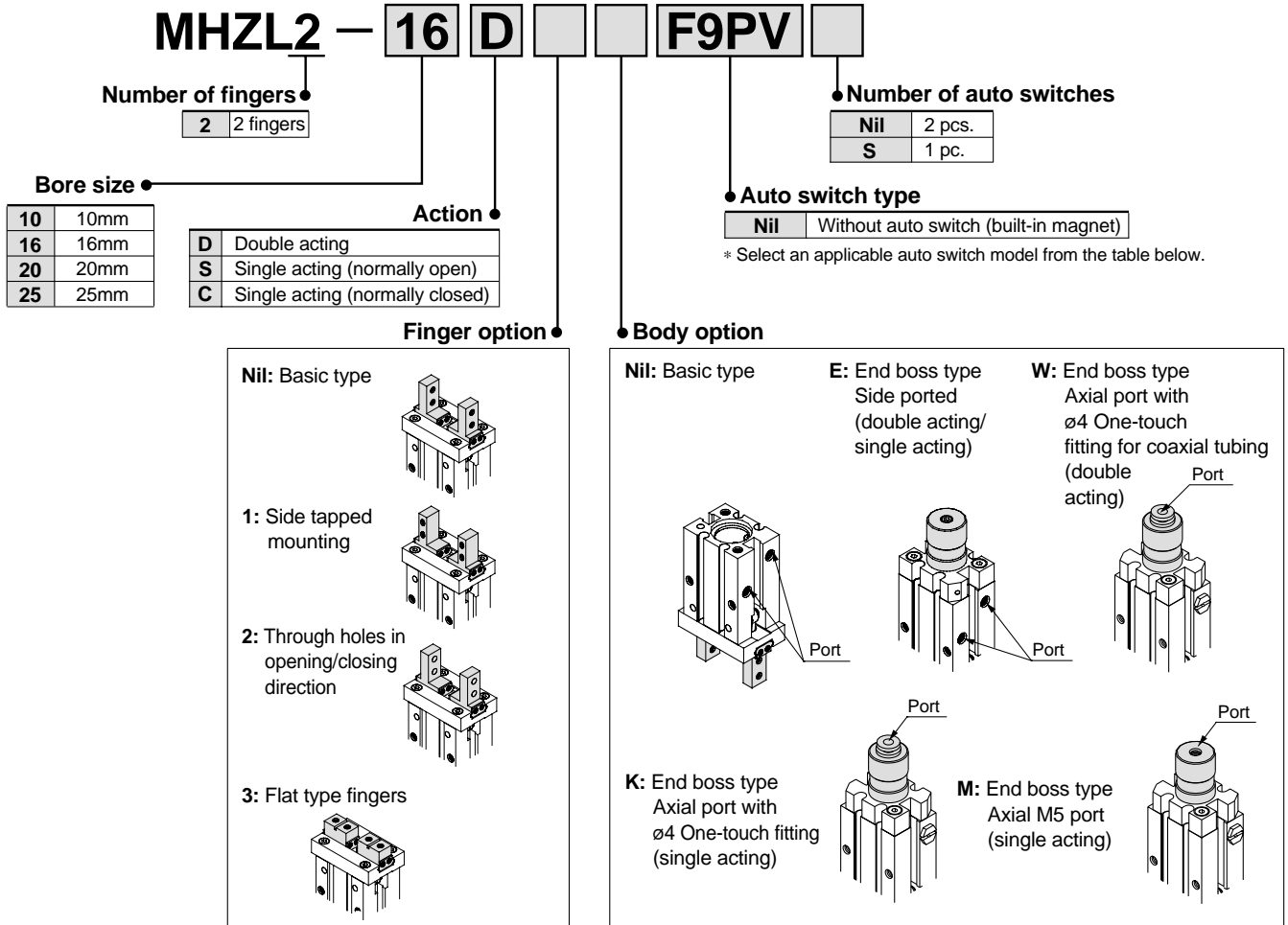
Weights

Unit: g

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

Series MHZL2

How to Order



Applicable auto switches/* Refer to pages 48 through 60 for detailed auto switch specifications.

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage		Auto switch part no.		Lead wire length (m) ¹⁾			Flexible lead wire (-61) ²⁾	Applicable load	Applicable model					
					DC	AC	Perpendicular	In-line	0.5 (Nil)	3 (L)	5 (Z)			ø10	ø16	ø20	ø25		
Solid state switch	—	Grommet	Yes	3 wire (NPN)	24V	—	Y69A	Y59A	●	●	○	Standard	IC circuit	●	●	●	●		
							F9NV	F9N	●	●	—			○	●	●	●	●	
							F8N	—	●	●	○			○	●	●	●	●	
							Y7PV	Y7P	●	●	○			Standard	IC circuit	●	●	●	●
							F9PV	F9P	●	●	—			○	—	●	●	●	●
							F8P	—	●	●	○			○	—	●	●	●	●
				Y69B	Y59B	●	●	○	○	—	Relay, PLC	●	●	●	●				
				F9BV	F9B	●	●	—	○			●	●	●	●				
				F8B	—	●	●	○	○			●	●	●	●				
				Y7NWV	Y7NV	●	●	○	Standard			IC circuit	●	●	●	●			
				F9NWV	F9NV	●	●	○	○			—	●	●	●	●			
				Y7PWV	Y7PW	●	●	○	Standard			IC circuit	—	●	●	●			
	F9PWV	F9PW	●	●	○	○	—	—	—	●	●	●							
	Y7BWV	Y7BW	●	●	○	Standard			—	—	●	●	●						
F9BWV	F9BW	●	●	○	○	—			—	●	●	●							
F9BWW	F9BW	●	●	○	○	—			—	●	●	●							

* Lead wire length symbols: 0.5m Nil (Example) F9N
3m L (Example) F9NL
5m Z (Example) Y59AZ

Note 2) Add "-61" at the end of the part number for the flexible lead wire. (Examples)

* Auto switches marked with a "○" symbol are produced upon receipt of order. Note 1) Use caution regarding hysteresis in the 2 color indicator types. When using this type, refer to "Auto Switch Hysteresis" on page 56.

Note 3) Through hole mounting is not possible when using auto switch types D-Y59, D-Y69, or D-Y7.

When ordering with an air gripper

MHZL2-16D-F9NVS-61

Flexible lead wire

When ordering auto switches only

D-F9PL-61

Flexible lead wire

Specifications



Fluid		Air	
Operating pressure	Double acting	$\phi 10$: 0.2 to 0.7MPa $\phi 16$ to $\phi 25$: 0.1 to 0.7MPa	
	Single acting	Normally open $\phi 10$: 0.35 to 0.7MPa $\phi 16$ to $\phi 25$: 0.25 to 0.7MPa	Normally closed $\phi 10$: 0.35 to 0.7MPa $\phi 16$ to $\phi 25$: 0.25 to 0.7MPa
Ambient and fluid temperature		-10 to 60°C	
Repeatability		± 0.01 mm	
Maximum operating frequency		120c.p.m.	
Lubrication		Non-lube	
Action		Double acting, Single acting	
Auto switch (option) ^{Note)}		Solid state switch (3 wire, 2 wire)	

Note) Refer to pages 48 through 60 for details regarding auto switch specifications.

Models

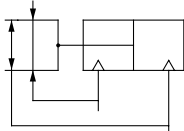
Action	Model	Bore size (mm)	Gripping force ^{Note 1)}		Opening/ Closing stroke (both sides) mm	Weight ^{Note 2)} g	
			Gripping force per finger Effective value N				
			External gripping force	Internal gripping force			
Double acting	MHZL2-10D	10	11	17	8	60	
	MHZL2-16D	16	34	45	12	135	
	MHZL2-20D	20	42	66	18	270	
	MHZL2-25D	25	65	104	22	470	
Single acting	Normally open	MHZL2-10S	7.1	—	8	70	
		MHZL2-16S	27		12	145	
		MHZL2-20S	33		18	290	
		MHZL2-25S	50		22	515	
	Normally closed	MHZL2-10C	10	—	13	8	70
		MHZL2-16C	16		38	12	140
		MHZL2-20C	20		57	18	290
		MHZL2-25C	25		85	22	515

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

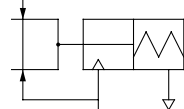
Note 2) Values excluding weight of auto switch.

Symbols:

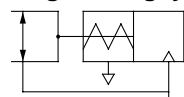
Double acting type



Single acting type, normally open



Single acting type, normally closed



Options

• Body options/End boss type

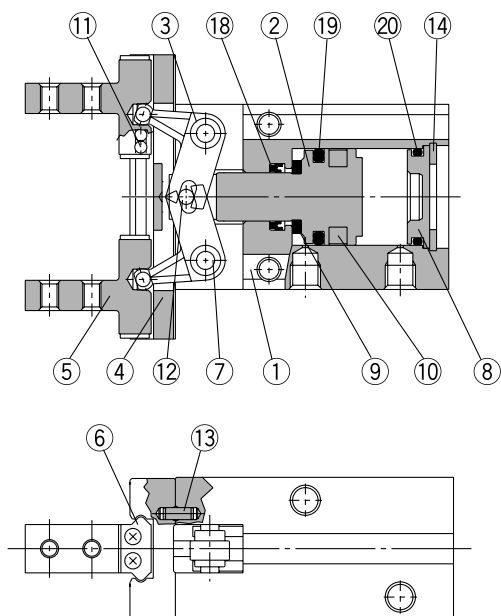
Symbol	Piping port position	Type of piping port				Applicable model	
		MHZL2-10	MHZL2-16	MHZL2-20	MHZL2-25	Double acting	Single acting
Nil	Basic type	M3 x 0.5	M5 x 0.8			●	●
E	Side ported	M3 x 0.5	M5 x 0.8			●	●
W	Axial port	With $\phi 4$ One-touch fitting for coaxial tube				●	—
K	Axial port	With $\phi 4$ One-touch fitting				—	●
M	Axial port	M5 x 0.8				—	●

* For detailed body option specifications, refer to option specifications on pages 35 and 36.

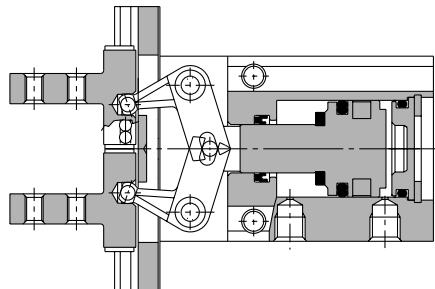
Series MHZL2

Construction/MHZL2-10□ to 25□

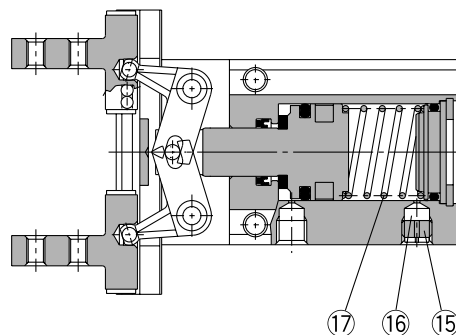
Double acting/with fingers open



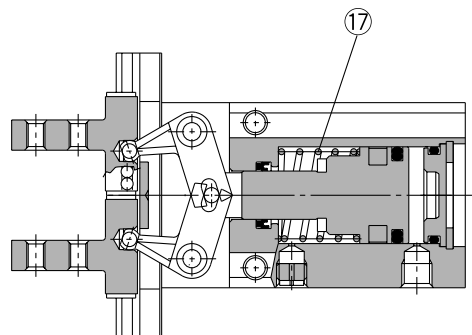
Double acting/with fingers closed



Single acting/normally open



Single acting/normally closed



Parts list

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	Heat treated
4	Guide	Stainless steel	Heat treated
5	Finger	Stainless steel	Heat treated
6	Roller stopper	Stainless steel	
7	Lever shaft	Stainless steel	Nitrided
8	Cap	Aluminum alloy	Clear anodized
9	Bumper	Urethane rubber	
10	Rubber magnet	Synthetic rubber	

Parts list

No.	Description	Material	Note
11	Steel balls	High carbon chromium bearing steel	
12	Needle roller	High carbon chromium bearing steel	
13	Parallel pin	Stainless steel	
14	C type snap ring	Carbon steel	Nickel plated
15	Exhaust plug A	Brass	Electroless nickel plated
16	Exhaust filter A	Polyvinyl formal	
17	Spring	Stainless steel spring wire	
18	Rod seal	NBR	
19	Piston seal	NBR	
20	O-ring	NBR	

Replacement parts: Seal kits

Seal kit no.				Description
MHZL2-10D	MHZL2-16D	MHZL2-20D	MHZL2-25D	Kits include items 18, 19 and 20 from the table above.
MHZL10-PS	MHZL16-PS	MHZL20-PS	MHZL25-PS	

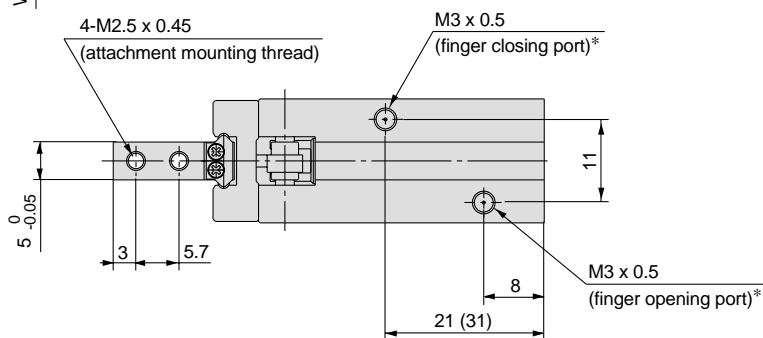
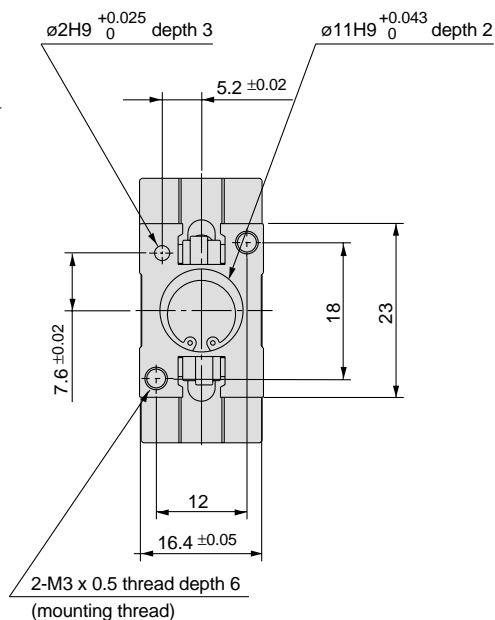
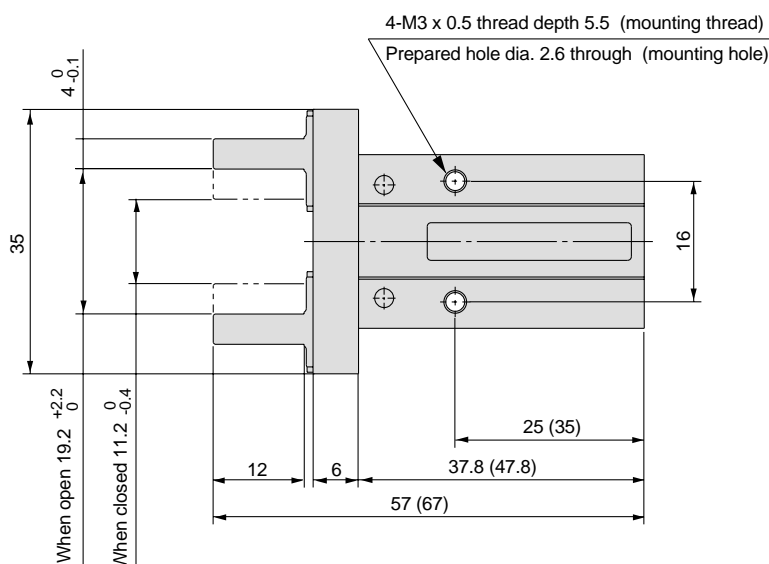
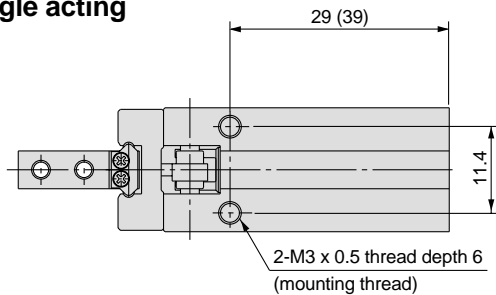
* Seal kits consist of items 18, 19 and 20 in one kit, and can be ordered using the seal kit number for each cylinder bore size.

Dimensions

MHZL2-10□ Double acting/Single acting Basic type

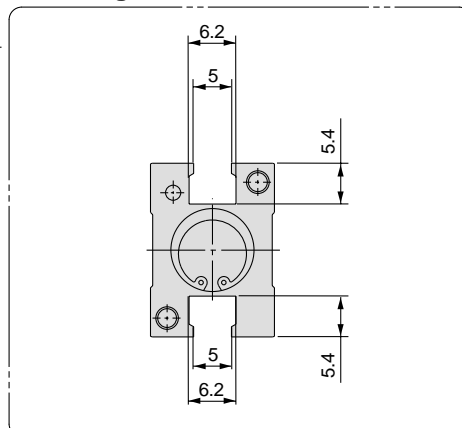
Scale: 100%

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



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

Auto switch mounting groove dimensions



Noe) When using auto switches D-Y59, D-Y69 and D-Y7, through hole mounting is not possible.

Series MHZL2

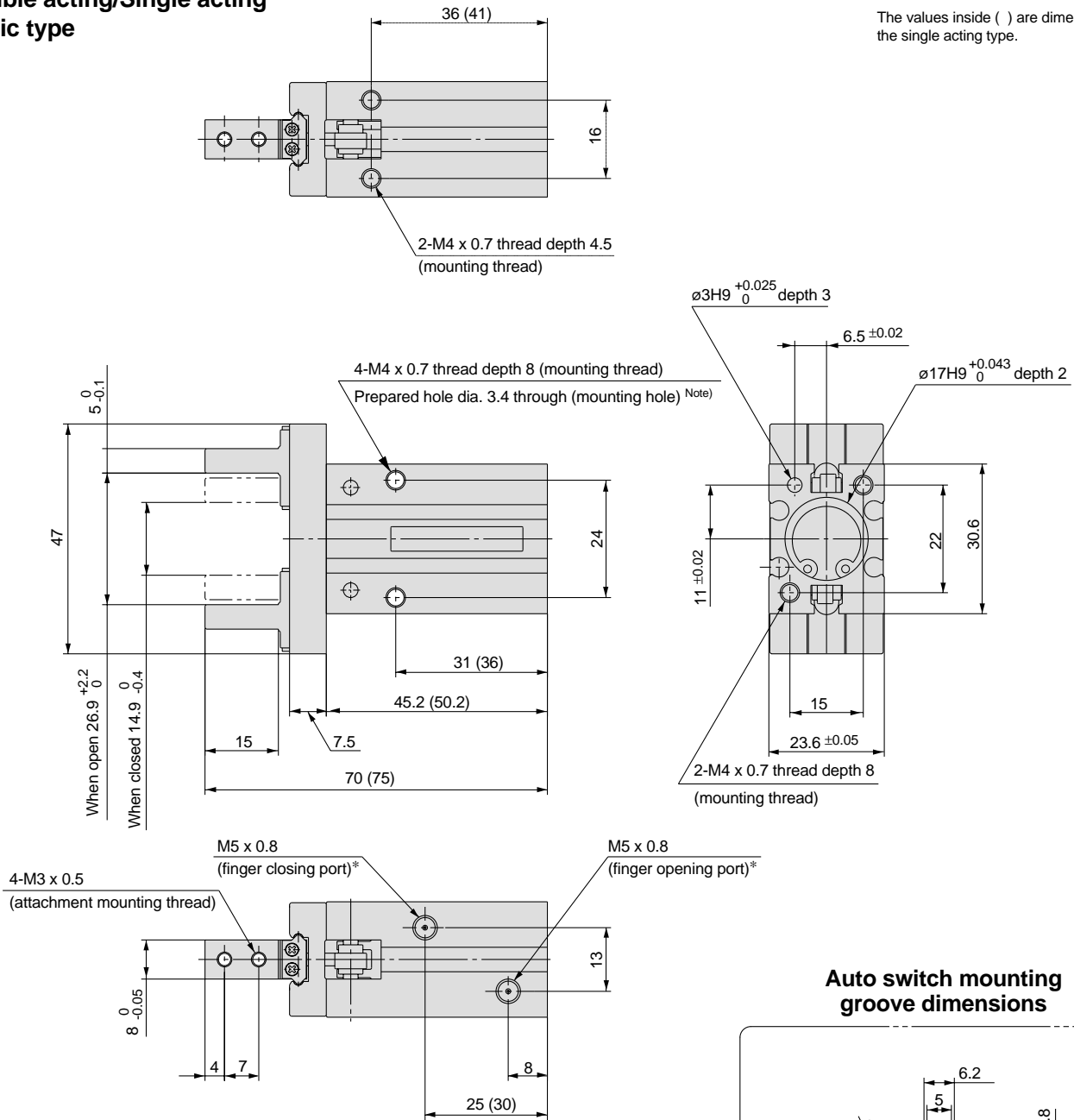
Dimensions

MHZL2-16□

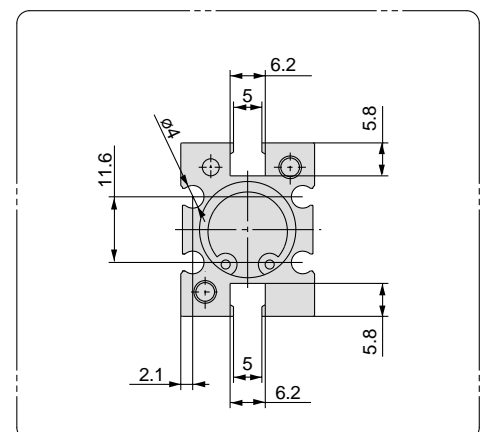
Double acting/Single acting
Basic type

Scale: 75%

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



Auto switch mounting groove dimensions

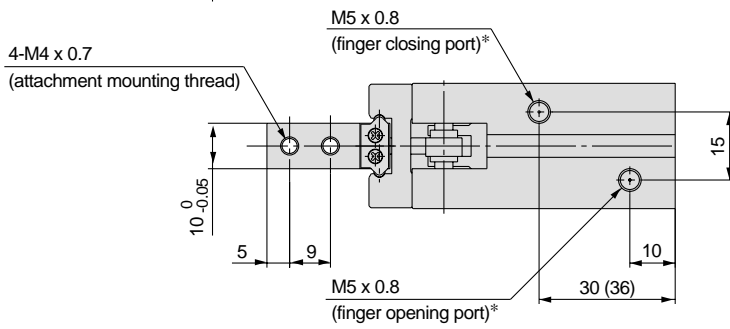
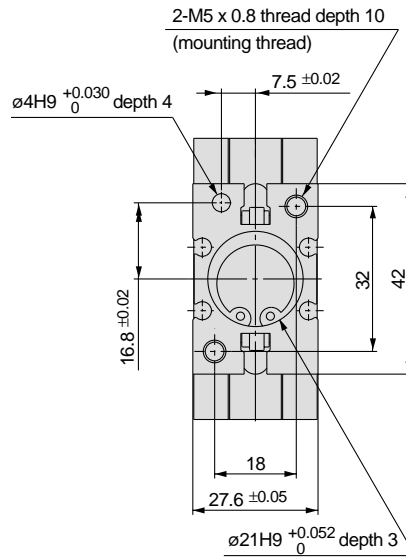
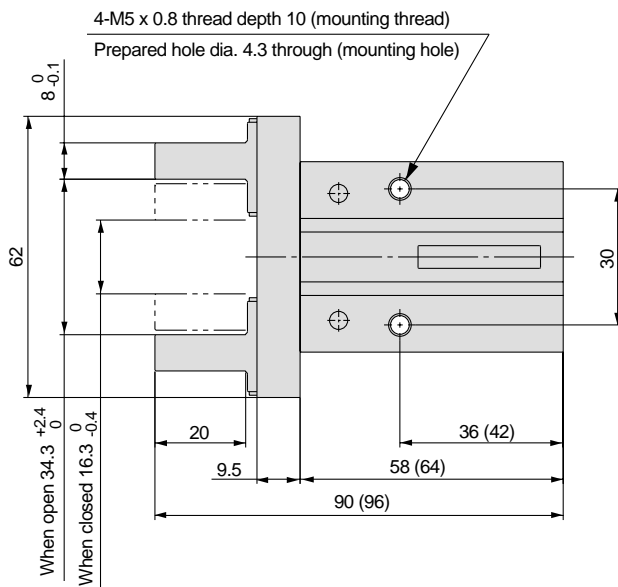
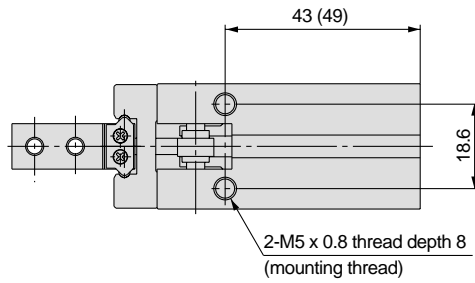


Note) When using D-Y59, D-Y69 and D-Y7 type auto switches, through hole mounting is not possible.

MHZL2-20
Double acting/Single acting
Basic type

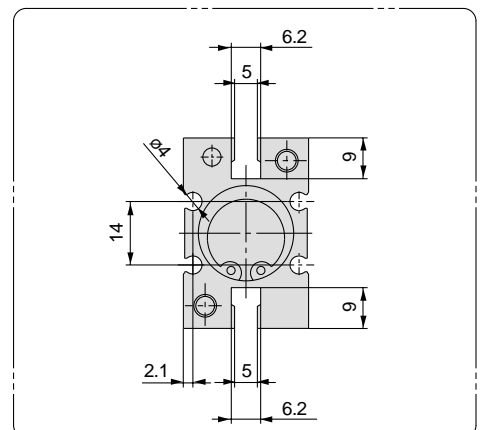
Scale: 60%

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



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

Auto switch mounting groove dimensions



Note) When using D-Y59, D-Y69 and D-Y7 type auto switches, through hole mounting is not possible.

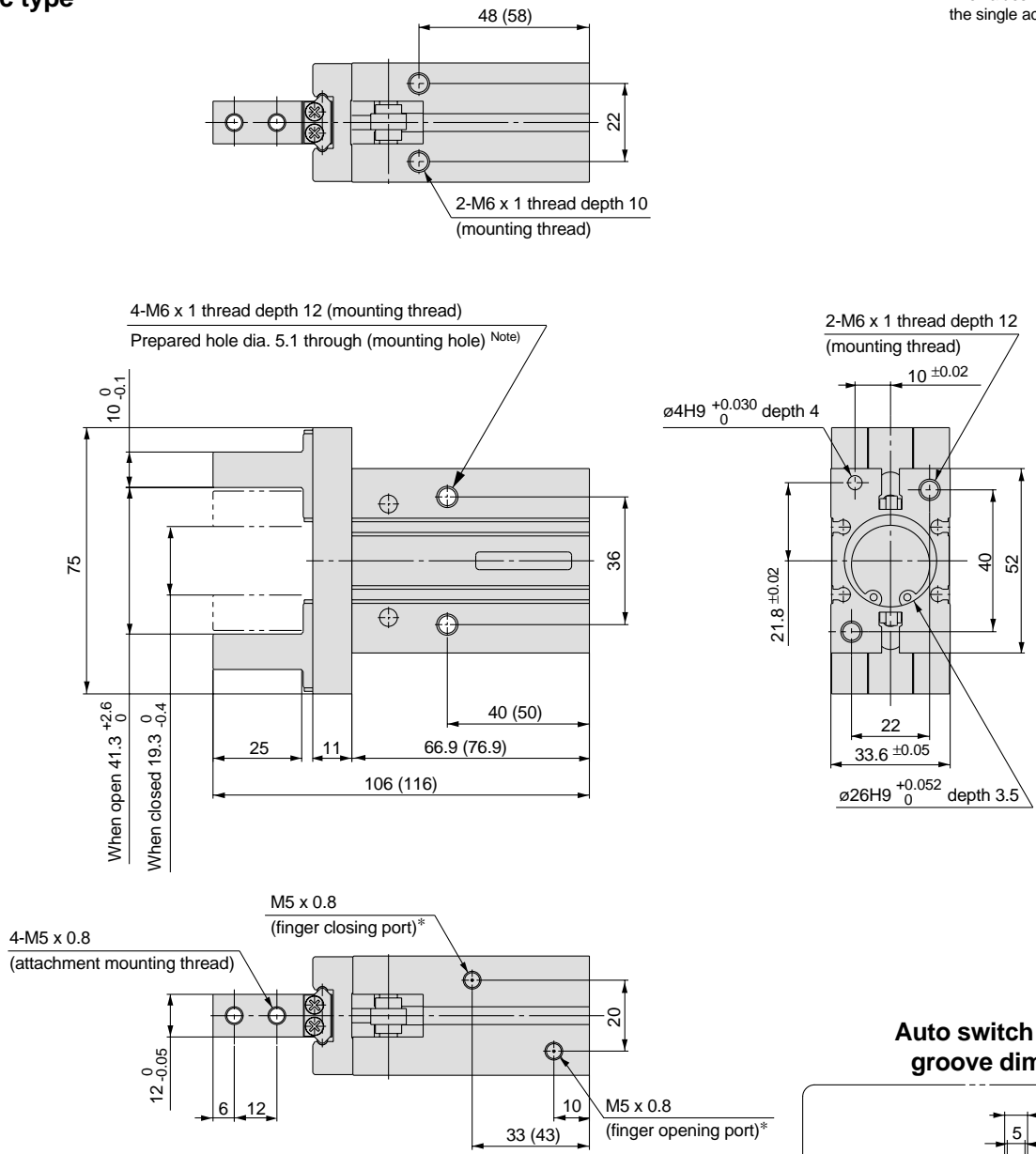
Series MHZL2

Dimensions

MHZL2-25
Double acting/Single acting
Basic type

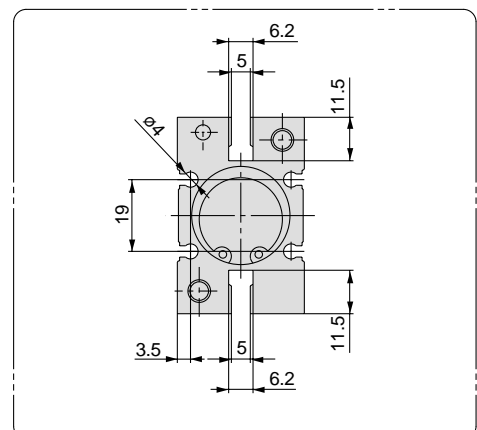
Scale: 50%

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



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

Auto switch mounting groove dimensions



Note) When using D-Y59, D-Y69 and D-Y7 type auto switches, through hole mounting is not possible.

Long Stroke/Series MHZL2 Finger Options

Compact Series
MHZA2-6/MHZAJ2-6

Standard Type
MHZ2

Long Stroke
MHZL2

With Dust Cover
MHZJ2

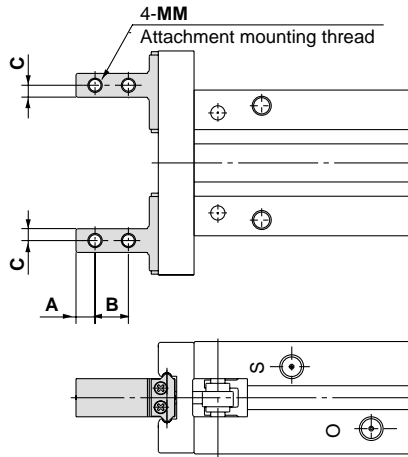
Auto Switches

Order Made

Model Selection

Precautions

Side Tapped Mounting [1]

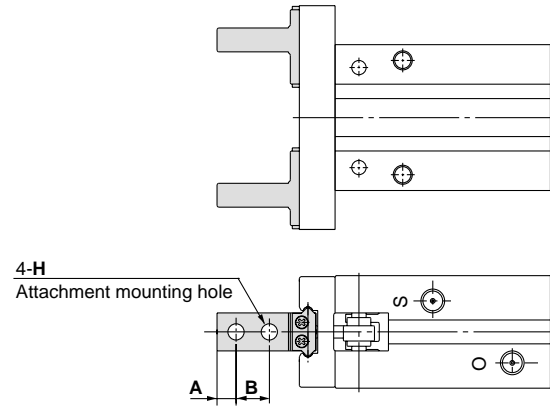


Unit: mm

Model	A	B	C	MM
MHZL2-10□1□	3	5.7	2	M2.5 x 0.45
MHZL2-16□1□	4	7	2.5	M3 x 0.5
MHZL2-20□1□	5	9	4	M4 x 0.7
MHZL2-25□1□	6	12	5	M5 x 0.8

* Specifications and dimensions other than the above are the same as the basic type.

Through Holes in Opening/Closing Direction [2]

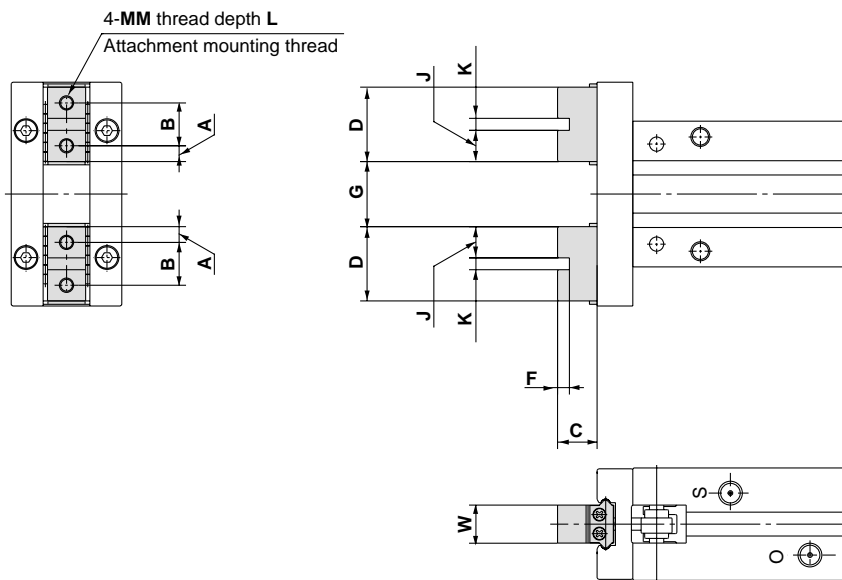


Unit: mm

Model	A	B	H
MHZL2-10□2□	3	5.7	2.9
MHZL2-16□2□	4	7	3.4
MHZL2-20□2□	5	9	4.5
MHZL2-25□2□	6	12	5.5

* Specifications and dimensions other than the above are the same as the basic type.

Flat Type Fingers [3]



Unit: mm

Model	A	B	C	D	F	G		J	K	MM	L	W	Weight g	
						Open	Closed						Double acting	Single acting
MHZL2-10□3□	2.45	7	5.2	11.9	2	9.4 ^{+2.2} ₀	1.4 ⁰ _{-0.2}	4.95	2H9 ^{+0.025} ₀	M2.5 x 0.45	5	5 ⁰ _{-0.05}	60	70
MHZL2-16□3□	3.3	9	8.3	15.6	2.5	13.4 ^{+2.2} ₀	1.4 ⁰ _{-0.2}	6.55	2.5H9 ^{+0.025} ₀	M3 x 0.5	6	8 ⁰ _{-0.05}	135	145
MHZL2-20□3□	3.95	12	10.5	19.9	3	19.6 ^{+2.4} ₀	1.6 ⁰ _{-0.2}	8.45	3H9 ^{+0.025} ₀	M4 x 0.7	8	10 ⁰ _{-0.05}	270	290
MHZL2-25□3□	4.9	14	13.1	23.8	4	24 ^{+2.6} ₀	2 ⁰ _{-0.2}	9.9	4H9 ^{+0.030} ₀	M5 x 0.8	10	12 ⁰ _{-0.05}	460	505

* Specifications and dimensions other than the above are the same as the basic type.

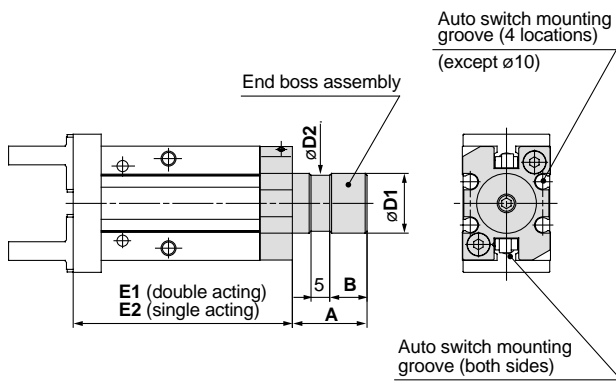
Long Stroke/Series MHZL2

Body Options: End Boss Type

Applicable Models

Symbol	Piping port position	Type of Piping Port				Applicable model		
		MHZL2-10	MHZL2-16	MHZL2-20	MHZL2-25	Double acting	Single acting	
		M3 x 0.5		M5 x 0.8			Normally open	Normally closed
E	Side ported	M3 x 0.5		M5 x 0.8		●	●	●
W	Axial port	With ø4 One-touch fitting for coaxial tube				●	—	—
K		With ø4 One-touch fitting				—	●	●
M		M5 x 0.8				—	●	●

Side Ported [E]



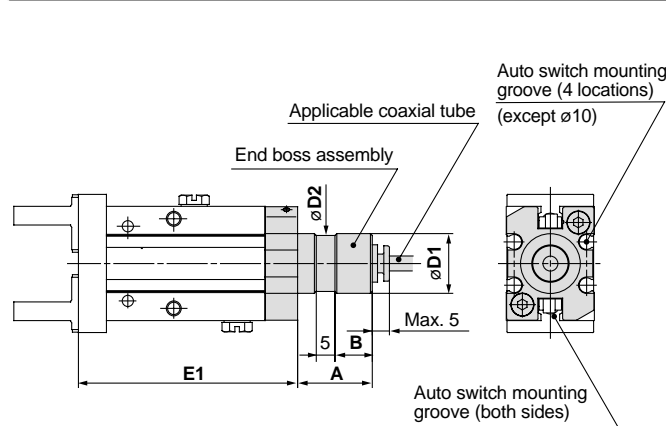
- * Refer to the dimension table.
- * When auto switches are used, side mounting with through holes is not possible.

Unit: mm

Model	A	B	D1	D2	E1	E2
MHZL2-10□□	15	7	12f8 ^{-0.016} _{-0.043}	11	52.8	62.8
MHZL2-16□□	20	10	16f8 ^{-0.016} _{-0.043}	15	61.4	66.4
MHZL2-20□□	22	12	20f8 ^{-0.020} _{-0.053}	19	75.7	81.7
MHZL2-25□□	25	15	25f8 ^{-0.020} _{-0.053}	24	86.2	96.2

Other dimensions and specifications correspond to the standard type.

Axial Port (One-touch Fitting for Coaxial Tubing) [W]



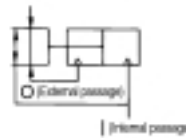
- * Refer to the dimension table.
- * When auto switches are used, side mounting with through holes is not possible.

Unit: mm

Model	A	B	D1	D2	E1
MHZL2-10□□	15	7	12f8 ^{-0.016} _{-0.043}	11	52.8
MHZL2-16□□	20	10	16f8 ^{-0.016} _{-0.043}	15	61.4
MHZL2-20□□	22	12	20f8 ^{-0.020} _{-0.053}	19	75.7
MHZL2-25□□	25	15	25f8 ^{-0.020} _{-0.053}	24	86.2

Other dimensions and specifications correspond to the standard type.

Reference symbol

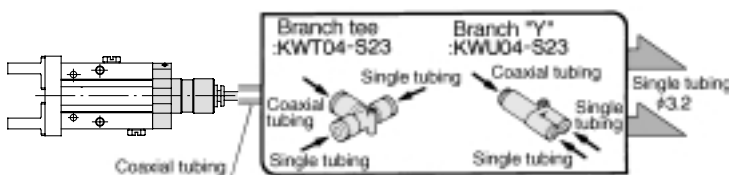


Applicable coaxial tubing

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

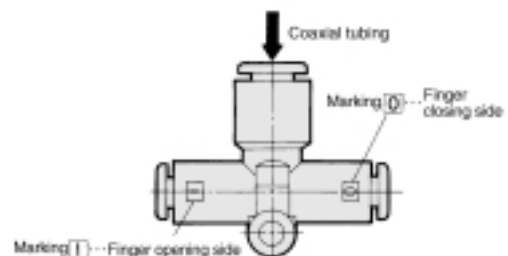
Changing from Coaxial to Single Tubing

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

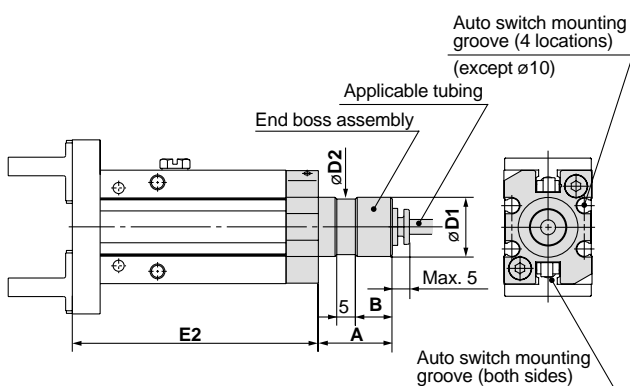


Branch tee, Different diameter tee, Branch "Y", Male run tee

Refer to catalog CAT.E004-A "Coaxial Air Tubing System" regarding coaxial tubing.



Axial Port (with One-touch Fitting) [K]



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

Unit: mm

Model	A	B	D1	D2	E2
MHZL2-10□□	15	7	12f8 ^{-0.016} _{-0.043}	11	62.8
MHZL2-16□□	20	10	16f8 ^{-0.016} _{-0.043}	15	66.4
MHZL2-20□□	22	12	20f8 ^{-0.020} _{-0.053}	19	81.7
MHZL2-25□□	25	15	25f8 ^{-0.020} _{-0.053}	24	96.2

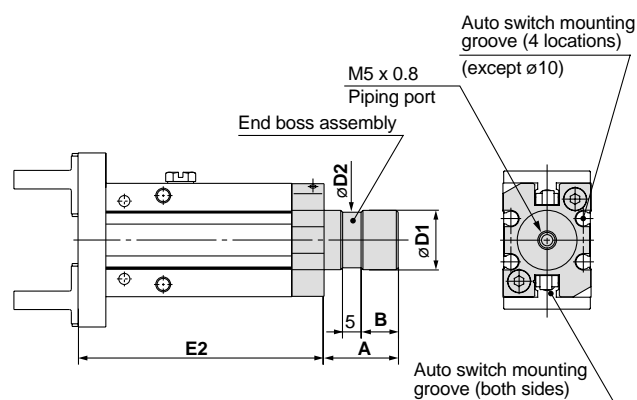
Other dimensions and specifications correspond to the standard type.

Applicable tubing

Description Model	Nylon tubing	Soft nylon tubing	Polyurethane tubing	Polyurethane coiled tubing
	Specification	T0425	TS0425	TU0425
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 catalog CAT. 501-B "Air Fittings and Tubing" regarding One-touch fittings and tubing.

Axial Port (M5 Port) [M]



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

Unit: mm

Model	A	B	D1	D2	E2
MHZL2-10□□	15	7	12f8 ^{-0.016} _{-0.043}	11	62.8
MHZL2-16□□	20	10	16f8 ^{-0.016} _{-0.043}	15	66.4
MHZL2-20□□	22	12	20f8 ^{-0.020} _{-0.053}	19	81.7
MHZL2-25□□	25	15	25f8 ^{-0.020} _{-0.053}	24	96.2

Other dimensions and specifications correspond to the standard type.

Weights

Unit: g

Model	End boss type (symbol)				
	E		W	K	M
	Double acting	Single acting			
MHZL2□-10□□	70	80	70	80	80
MHZL2□-16□□	170	180	170	180	180
MHZL2□-20□□	310	330	310	330	330
MHZL2□-25□□	535	580	535	580	580

Series MHZJ2

How to Order

MHZJ2-16 D [] [] F9PV []

Number of fingers

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

Number of auto switches

Nil	2 pcs.
S	1 pc.

Bore size

6	6mm
10	10mm
16	16mm
20	20mm
25	25mm

Action

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

Auto switch type

Nil	Without auto switch (built-in magnet)
-----	---------------------------------------

* Select an applicable auto switch model from the table below.

Body option

* ø6 is only applicable with basic type.

Dust cover type

Nil	Chloroprene rubber (CR)
F	Fluoro rubber (FKM)
S	Silicon rubber (SI)

* Switch types D-Y5/6 and D-Y7 cannot be mounted when equipped with dust cover/MHZJ2.

Applicable auto switches * Refer to pages 48 through 60 for detailed auto switch specifications.

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage		Auto switch part no.		Lead wire length (m) [*]				Applicable load	Applicable model							
					DC	AC	Electrical entry direction	Perpendicular	In-line	0.5 (Nil)	3 (L)	5 (Z)		Flexible lead wire (-61)	ø6	ø10	ø16	ø20	ø25		
Solid state switch	—	Grommet	Yes	3 wire (NPN)	24V	12V	—	F9NV	F9N	●	●	—	○	—	Relay, PLC	●	●	●	●	●	
				3 wire (PNP)				F8N	—	●	●	○	○			●	●	●	●	●	
				2 wire				F9PV	F9P	●	●	—	○			●	●	●	●	●	
				3 wire (NPN)				F8P	—	●	●	○	○			●	●	●	●	●	
				3 wire (PNP)				F9BV	F9B	●	●	—	○			●	●	●	●	●	
				2 wire				F8B	—	●	●	○	○			●	●	●	●	●	
	Diagnostic indication (2 color indicator)	Grommet	Yes	No	3 wire (NPN)	24V	12V	—	F9NVV	F9NV	●	●	○	○	—	Relay, PLC				●	●
					3 wire (PNP)				F9PVV	F9PV	●	●	○	○						●	●
					2 wire				F9BWW	F9BW	●	●	○	○						●	●
					2 wire				—	F9BA	—	●	○	○						●	●

* Lead wire length symbols: 0.5m Nil (Example) F9N
 3m L (Example) F9NL
 5m Z (Example) F9NWZ

* Auto switches marked with a "○" symbol are produced upon receipt of order.

Note 1) Use caution regarding hysteresis in the 2 color indicator types. When using this type, refer to "Auto Switch Hysteresis" on page 56.

Note 2) When using a D-F8□ switch on sizes ø6 and ø10, mount it at a distance of 10mm or more from magnetic substances such as iron, etc.

Note 3) Add "-61" at the end of the part number for the flexible lead wire.

(Examples)

When ordering with an air gripper: MHZ □ 2-16D-F9NVS-**61**

When ordering auto switches only: D-F9PL-**61**

Flexible lead wire ●

Specifications



Fluid		Air
Operating pressure	Double acting	ø6: 0.15 to 0.7MPa ø10: 0.2 to 0.7MPa ø16 to ø25: 0.1 to 0.7MPa
	Single acting	Normally open
Normally closed		ø16 to ø25: 0.25 to 0.7MPa
Ambient and fluid temperature		-10 to 60°C
Repeatability		±0.01mm
Maximum operating frequency		180c.p.m.
Lubrication		Non-lube
Action		Double acting, Single acting
Auto switch (option) ^{Note)}		Solid state switch (3 wire, 2 wire)

Note) Refer to pages 48 through 60 for details regarding auto switch specifications.

Models

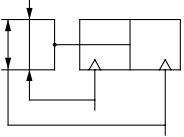
Action	Model	Bore size (mm)	Gripping force ^{Note 1)}		Opening/Closing stroke (both sides) mm	Weight ^{Note 2)} g	
			Gripping force per finger Effective value N				
			External gripping force	Internal gripping force			
Double acting	MHZJ2- 6D	6	3.3	6.1	4	28	
	MHZJ2-10D	10	9.8	17	4	60	
	MHZJ2-16D	16	30	40	6	130	
	MHZJ2-20D	20	42	66	10	250	
	MHZJ2-25D	25	65	104	14	460	
Single acting	Normally open	MHZJ2- 6S	6	1.9	—	4	28
		MHZJ2-10S	10	6.3		4	60
		MHZJ2-16S	16	24		6	130
		MHZJ2-20S	20	28		10	255
		MHZJ2-25S	25	45		14	264
	Normally closed	MHZJ2- 6C	6	—	3.7	4	28
		MHZJ2-10C	10		12	4	60
		MHZJ2-16C	16		31	6	130
		MHZJ2-20C	20		56	10	255
		MHZJ2-25C	25		83	14	460

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

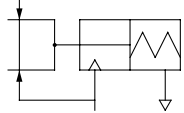
Note 2) Values excluding weight of auto switch.

Symbols:

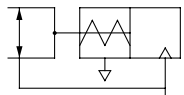
Double acting type



Single acting type, normally open



Single acting type, normally closed



Options

● Body options/End boss type

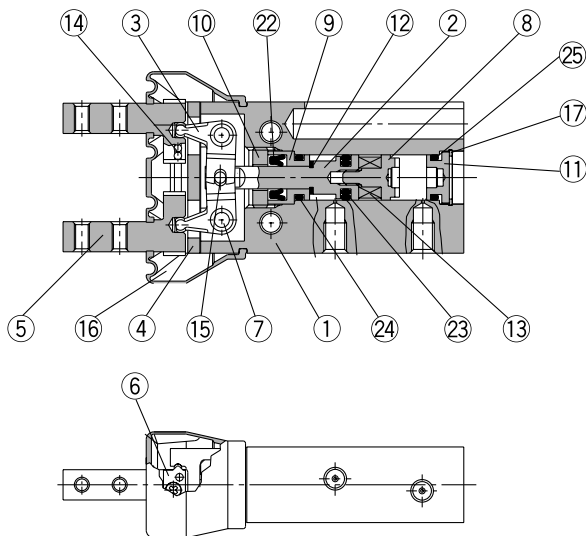
Symbol	Piping port position	Type of piping port				Applicable model	
		MHZJ2-10	MHZJ2-16	MHZJ2-20	MHZJ2-25	Double acting	Single acting
Nil	Basic type	M3 x 0.5	M5 x 0.8			●	●
E	Axial port	M3 x 0.5	M5 x 0.8			●	●
W	Axial port	With ø4 One-touch fitting for coaxial tube				●	—
K	Axial port	With ø4 One-touch fitting				—	●
M	Axial port	M5 x 0.8				—	●

* For detailed body option specifications, refer to option specifications on pages 46 and 47.

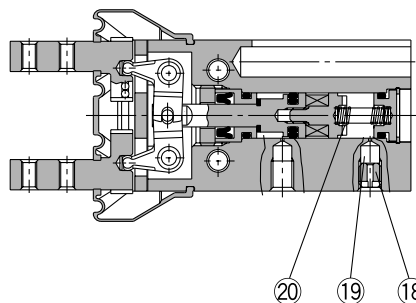
Series MHZJ2

Construction/MHZJ2-6□

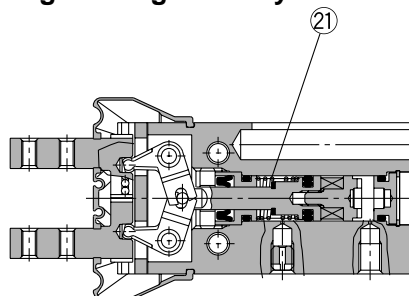
Double acting/with fingers open



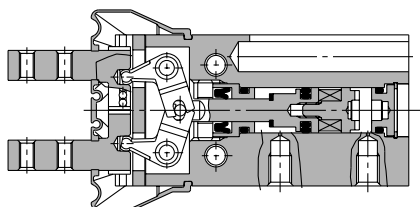
Single acting/normally open



Single acting/normally closed



Double acting/with fingers closed



Parts list

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	Nitrided
8	Magnet holder	Stainless steel	
9	Holder	Brass	Electroless nickel plated
10	Holder lock	Stainless steel	
11	Cap	Aluminum alloy	Clear anodized
12	Bumper	Urethane rubber	
13	Magnet	Rare earth magnet	Nickel plated
14	Steel balls	High carbon chromium bearing steel	
15	Needle roller	High carbon chromium bearing steel	
16	Dust cover	CR	Chloroprene rubber
		FKM	Fluoro rubber
		Si	Silicon rubber
17	C type snap ring	Carbon steel	Nickel plated
18	Exhaust plug	Brass	Electroless nickel plated
19	Exhaust filter	Polyvinyl formal	
20	N.O. spring	Stainless steel spring wire	
21	N.C. spring	Stainless steel spring wire	
22	Rod seal	NBR	
23	Piston seal	NBR	
24	Gasket	NBR	
25	Gasket	NBR	

Replacement parts: Seal kits

Seal kit no.	Description
MHZJ6-PS	Kit includes items 22, 23, 24 and 25 from the table on the left.

* Seal kits consist of items 22, 23, 24 and 25 contained in one kit, and can be ordered using the seal kit number.

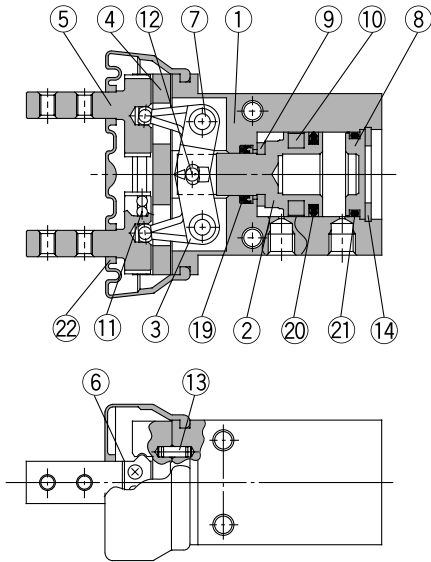
Note) Contact SMC when replacing seals.

Replacement parts: Dust covers

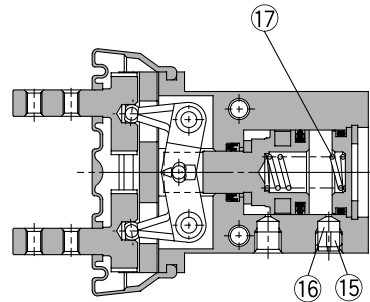
Material	Part no.
CR	MHZJ2-J6
FKM	MHZJ2-J6F
Si	MHZJ2-J6S

Construction/MHZJ2-10□ to 25□

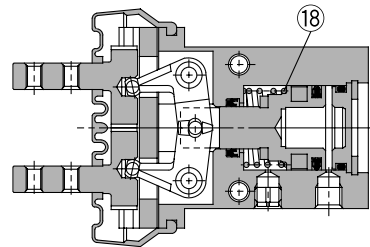
Double acting/with fingers open



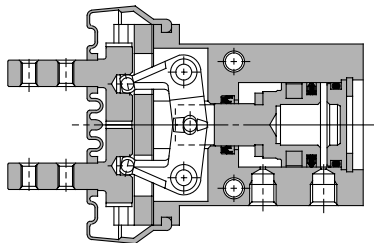
Single acting/normally open



Single acting/normally closed



Double acting/with fingers closed



Parts list

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	Heat treated
4	Guide	Stainless steel	Heat treated
5	Finger	Stainless steel	Heat treated
6	Roller stopper	Stainless steel	
7	Lever shaft	Stainless steel	Nitrided
8	Cap	Aluminum alloy	Hard anodized
9	Bumper	Urethane rubber	
10	Rubber magnet	Synthetic rubber	
11	Steel balls	High carbon chromium bearing steel	
12	Needle roller	High carbon chromium bearing steel	
13	Parallel pin	Stainless steel	
14	C type snap ring	Carbon steel	Nickel plated
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	
22	Dust cover	CR	Chloroprene rubber
		FKM	Fluoro rubber
		Si	Silicon rubber

Replacement parts: Seal kits

Seal kit no.				Description
MHZJ2-10□	MHZJ2-16□	MHZJ2-20□	MHZJ2-25□	Kits include ^{Note 2)} items 19, 20 and 21 from the table on the left
MHZJ10-PS	MHZJ16-PS	MHZJ20-PS	MHZJ25-PS	

Note 2) Seal kits consist of items 19, 20 and 21 in one kit, and can be ordered using the seal kit number for each cylinder bore size.

Replacement parts: Dust covers

Material	Part no.			
	CR	MHZJ2-J10	MHZJ2-J16	MHZJ2-J20
FKM	MHZJ2-J10F	MHZJ2-J16F	MHZJ2-J20F	MHZJ2-J25F
Si	MHZJ2-J10S	MHZJ2-J16S	MHZJ2-J20S	MHZJ2-J25S

Compact Series
MHZA2-6/MHZA1J2-6

Standard Type
MHZ2

Long Stroke
MHZL2

With Dust Cover
MHZJ2

Auto Switches

Order Made

Model Selection

Precautions

Series MHZJ2

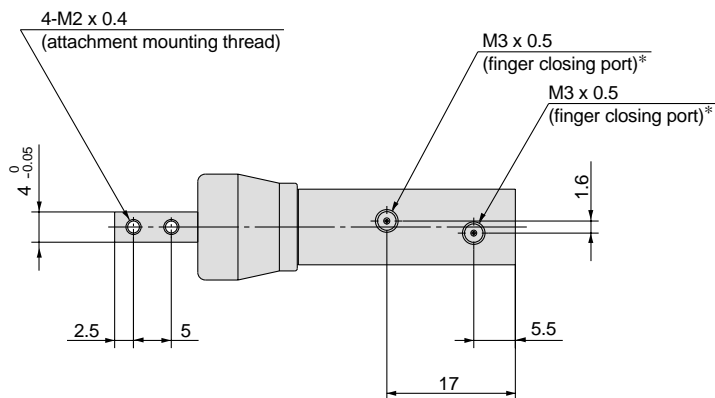
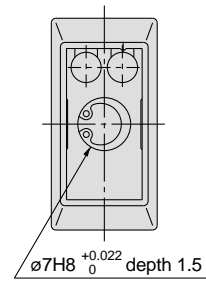
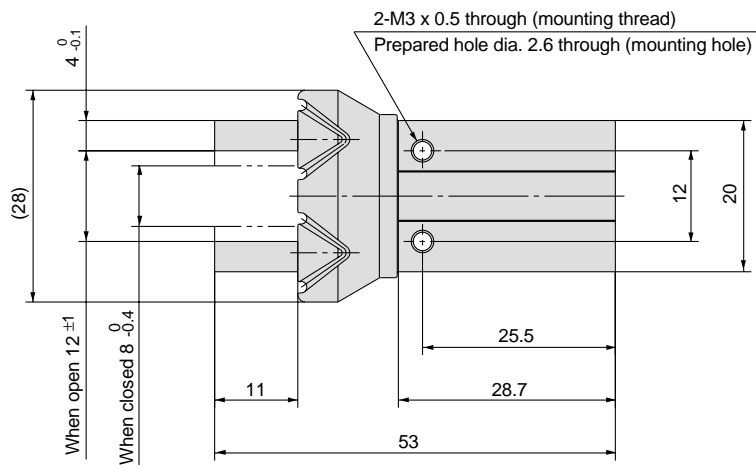
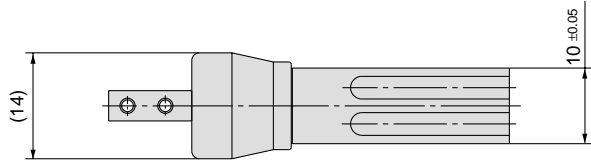
Dimensions

MHZJ2-6□

Double acting/Single acting

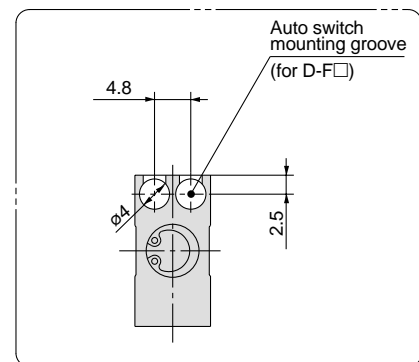
Basic type

Scale: 100%



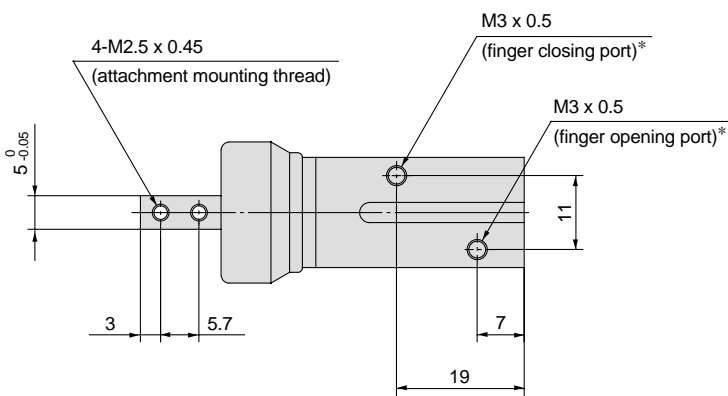
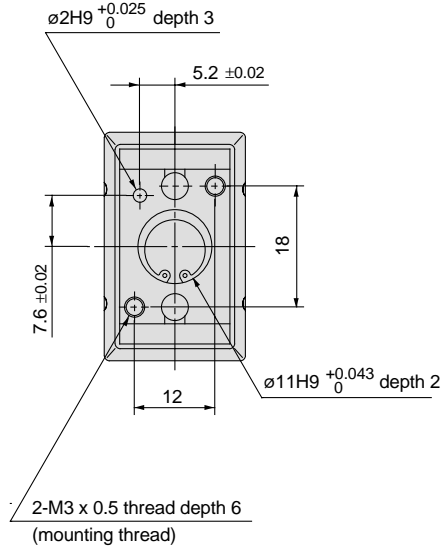
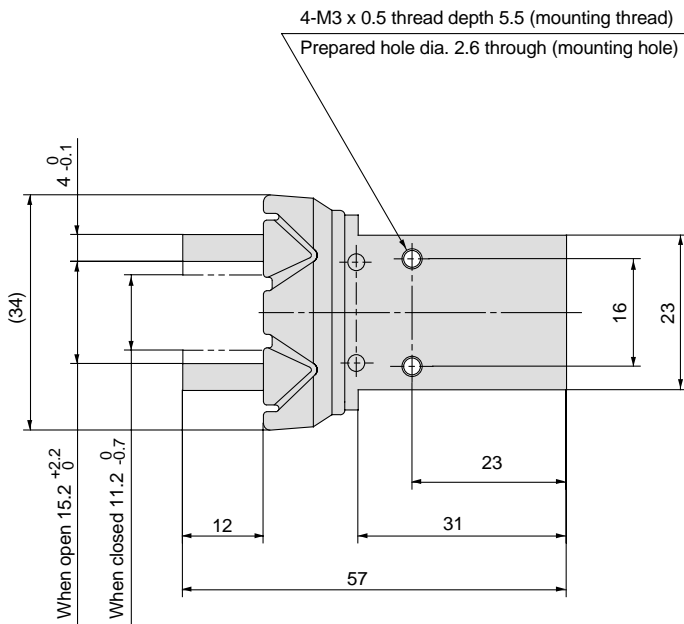
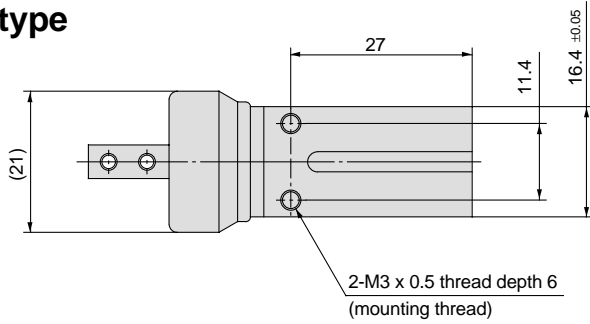
* For single action, the port on one side is a breathing hole.

Auto switch mounting groove dimensions



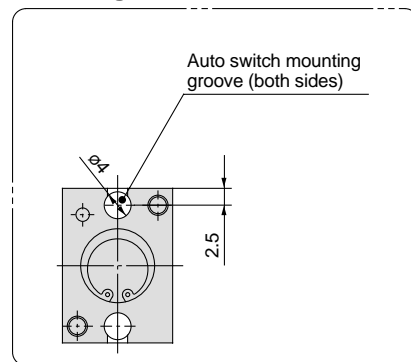
Scale: 90%

MHZJ2-10□
Double acting/Single acting
Basic type



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

Auto switch mounting groove dimensions



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

Series MHZJ2

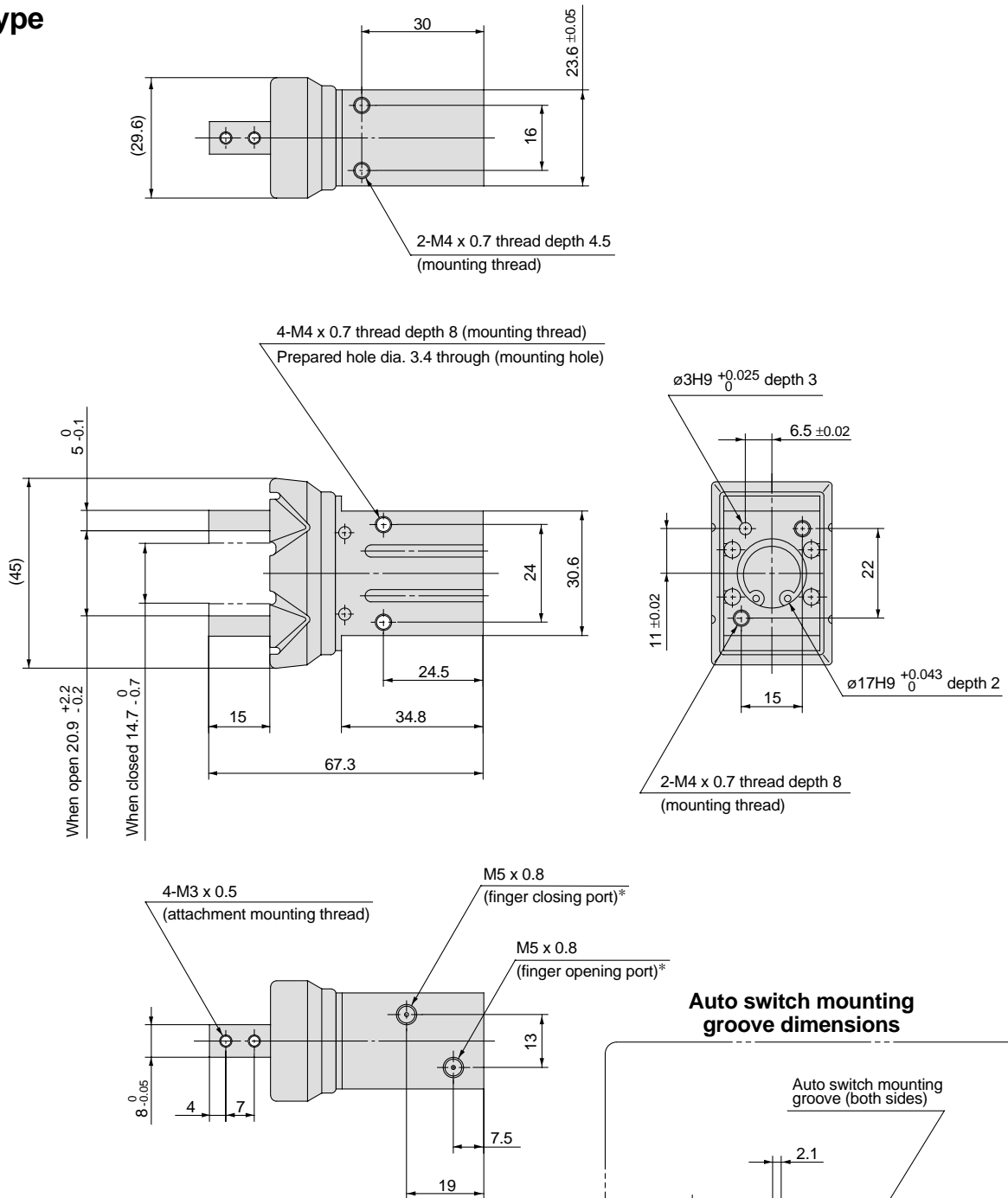
Dimensions

MHZJ2-16□

Double acting/Single acting

Basic type

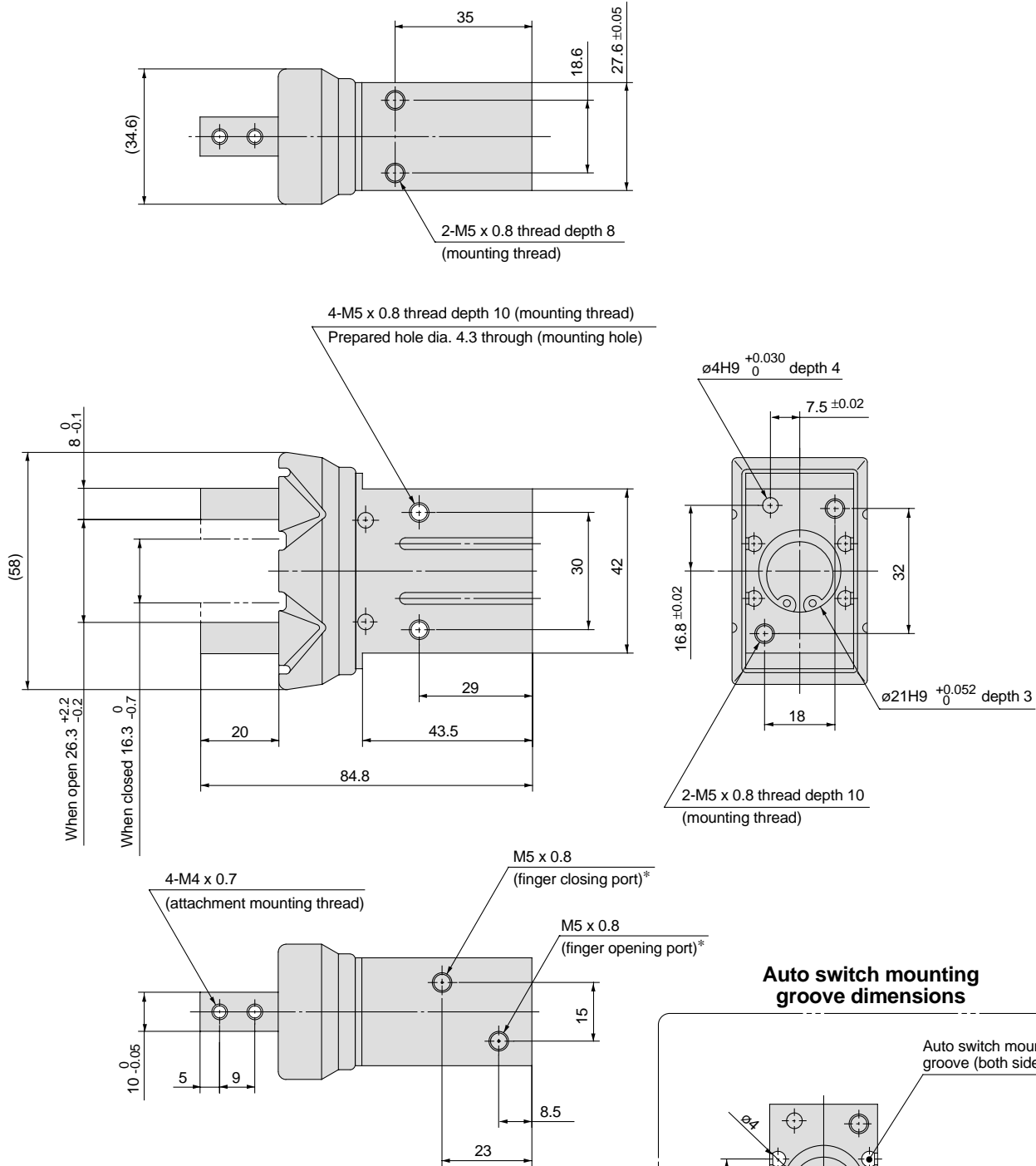
Scale: 60%



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

MHZJ2-20□
Double acting/Single acting
Basic type

Scale: 60%



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

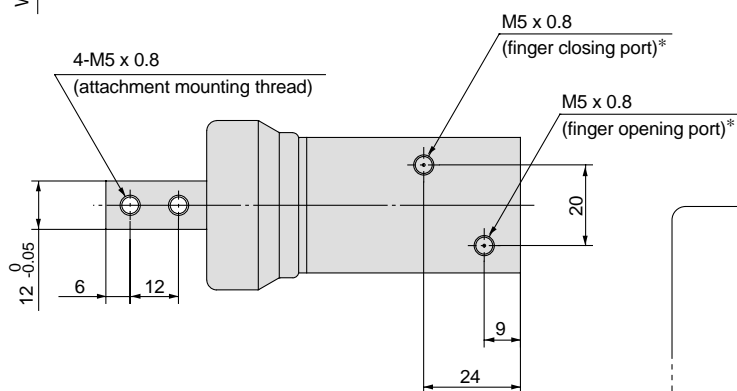
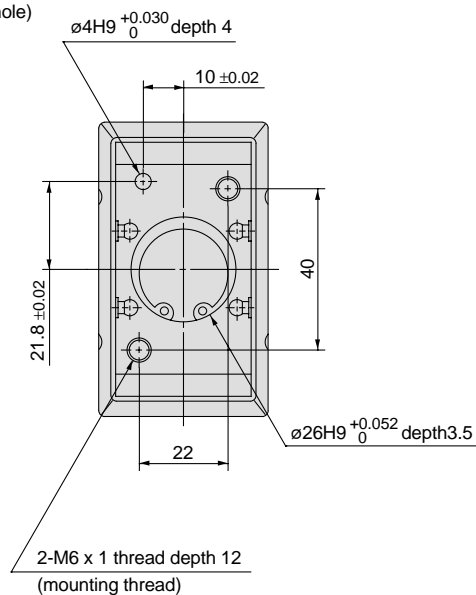
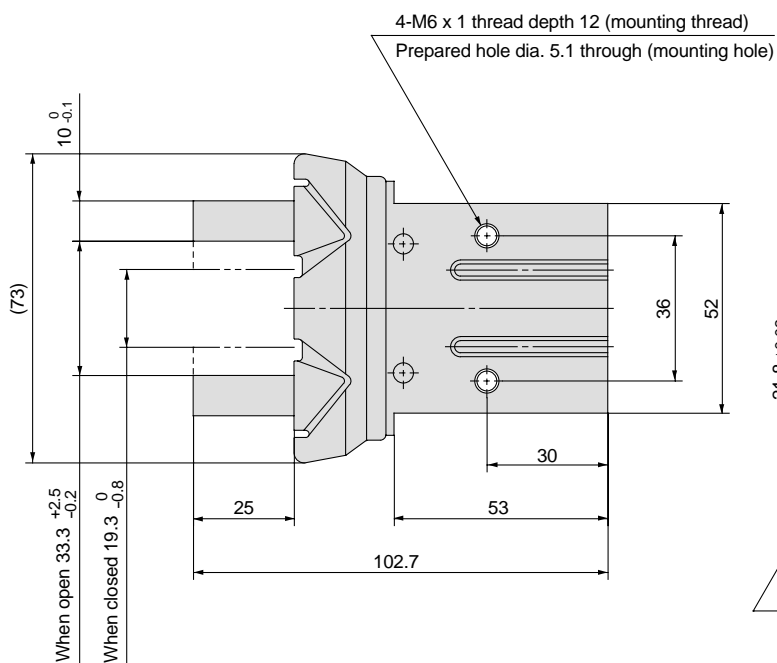
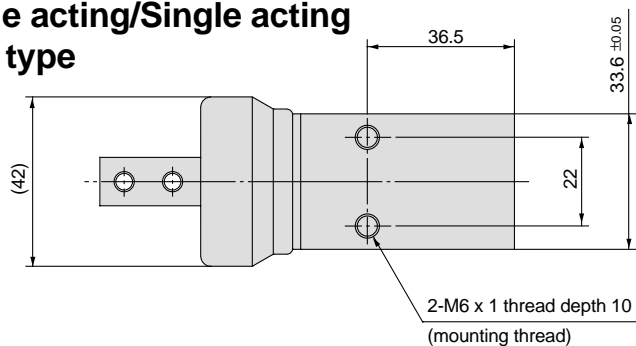
Series MHZJ2

Dimensions

MHZJ2-25□

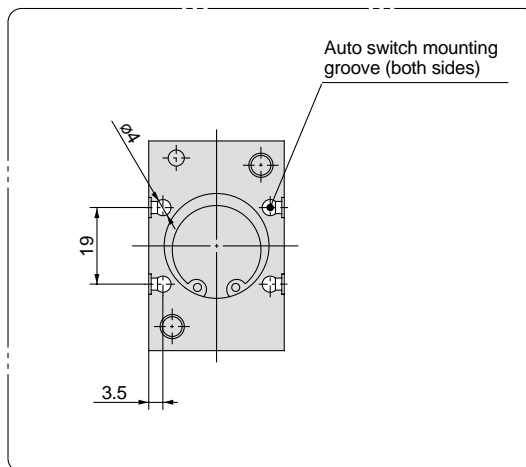
Double acting/Single acting
Basic type

Scale: 50%



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

Auto switch mounting groove dimensions



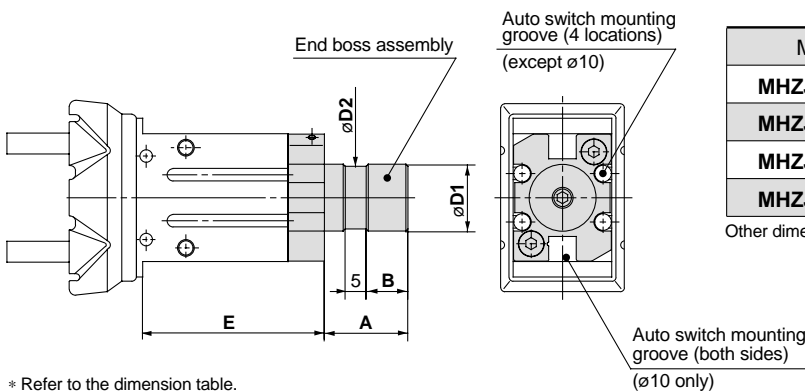
With Dust Cover/Series MHZJ2

Body Options: End Boss Type

Applicable Models

Symbol	Piping port position	Type of piping port				Applicable model		
		MHZJ2-10	MHZJ2-16	MHZJ2-20	MHZJ2-25	Double acting	Single acting	
							Normally open	Normally closed
E	Side ported	M3 x 0.5	M5 x 0.8		●	●	●	
W	Axial port	With $\varnothing 4$ One-touch fitting for coaxial tube				●	—	—
K		With $\varnothing 4$ One-touch fitting				—	●	●
M		M5 x 0.8				—	●	●

Side Ported [E]



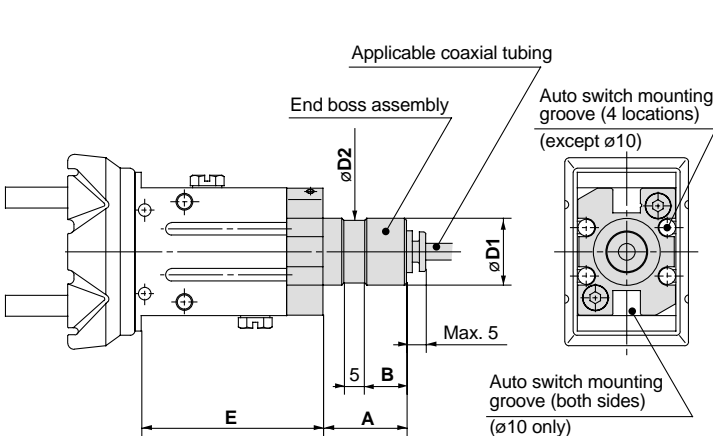
- * Refer to the dimension table.
- * When auto switches are used on $\varnothing 10$, side mounting with through holes is not possible.

Unit: mm

Model	A	B	D1	D2	E
MHZJ2-10□□	15	7	12f8 ^{-0.016} _{-0.043}	11	40
MHZJ2-16□□	20	10	16f8 ^{-0.016} _{-0.043}	15	43.5
MHZJ2-20□□	22	12	20f8 ^{-0.020} _{-0.053}	19	51.7
MHZJ2-25□□	25	15	25f8 ^{-0.020} _{-0.053}	24	61.3

Other dimensions and specifications correspond to the standard type.

Axial Port (One-touch Fitting for Coaxial Tubing) [W]



- * Refer to the dimension table.
- * When auto switches are used on $\varnothing 10$, side mounting with through holes is not possible.

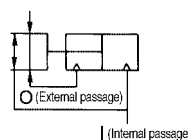
Unit: mm

Model	A	B	D1	D2	E
MHZJ2-10□□	15	7	12f8 ^{-0.016} _{-0.043}	11	40
MHZJ2-16□□	20	10	16f8 ^{-0.016} _{-0.043}	15	43.5
MHZJ2-20□□	22	12	20f8 ^{-0.020} _{-0.053}	19	51.7
MHZJ2-25□□	25	15	25f8 ^{-0.020} _{-0.053}	24	61.3

Other dimensions and specifications correspond to the standard type.

Applicable coaxial tubing

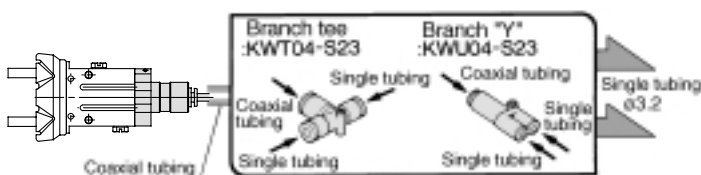
Reference symbol



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

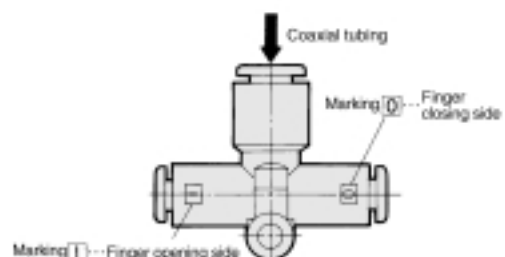
Changing from Coaxial to Single Tubing

Changing to single tubing is possible by using a branch "Y" or branch tee fitting.
In this case particularly, single tube fittings and tubing for $\varnothing 3.2$ will be necessary.



Branch tee, Different diameter tee, Branch "Y", Male run tee

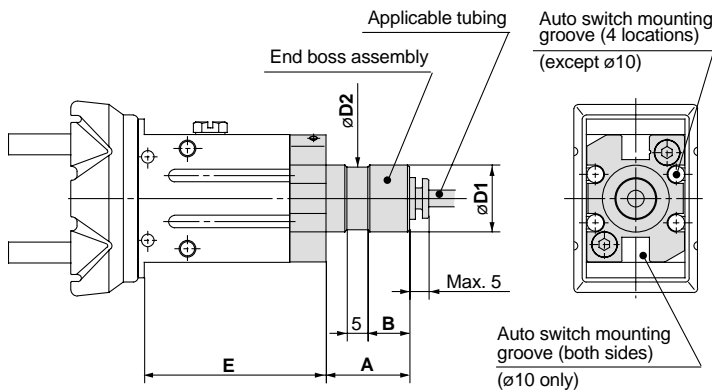
Refer to catalog CAT.E004-A "Coaxial Air Tubing System" regarding coaxial tubing.



With Dust Cover/Series MHZJ2

Body Options: End Boss Type

Axial Port (with One-touch Fitting) [K]



- * Refer to the dimension table.
- * When auto switches are used on ø10, side mounting with through holes is not possible.

Unit: mm

Model	A	B	D1	D2	E
MHZJ2-10□□	15	7	12f8 ^{-0.016} _{-0.043}	11	40
MHZJ2-16□□	20	10	16f8 ^{-0.016} _{-0.043}	15	43.5
MHZJ2-20□□	22	12	20f8 ^{-0.020} _{-0.053}	19	51.7
MHZJ2-25□□	25	15	25f8 ^{-0.020} _{-0.053}	24	61.3

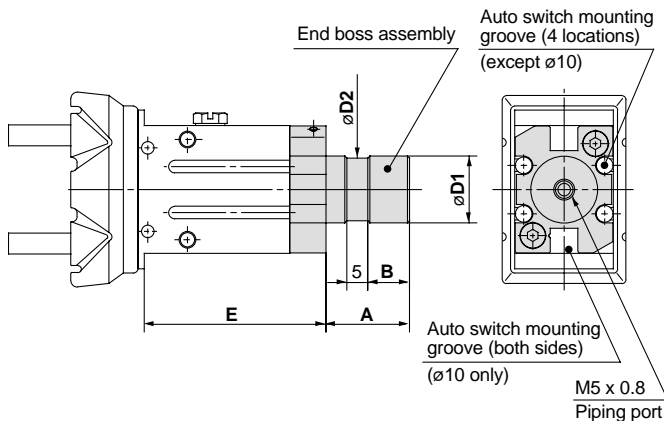
Other dimensions and specifications correspond to the standard type.

Applicable tubing

Description/ Model	Nylon tubing	Soft nylon tubing	Polyurethane tubing	Polyurethane coiled 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 catalog CAT. E501-B "Air Fittings and Tubing" regarding One-touch fittings and tubing.

Axial Port (M5 Port) [M]



- * Refer to the dimension table.
- * When auto switches are used on ø10, side mounting with through holes is not possible.

Unit: mm

Model	A	B	D1	D2	E
MHZJ2-10□□	15	7	12f8 ^{-0.016} _{-0.043}	11	40
MHZJ2-16□□	20	10	16f8 ^{-0.016} _{-0.043}	15	43.5
MHZJ2-20□□	22	12	20f8 ^{-0.020} _{-0.053}	19	51.7
MHZJ2-25□□	25	15	25f8 ^{-0.020} _{-0.053}	24	61.3

Other dimensions and specifications correspond to the standard type.

Weights

Unit: g

Model	End boss type (symbol)			
	E	W	K	M
MHZJ2-10□□	70	70	70	70
MHZJ2-16□□	165	165	165	165
MHZJ2-20□□	290	290	290	290
MHZJ2-25□□	525	525	525	525