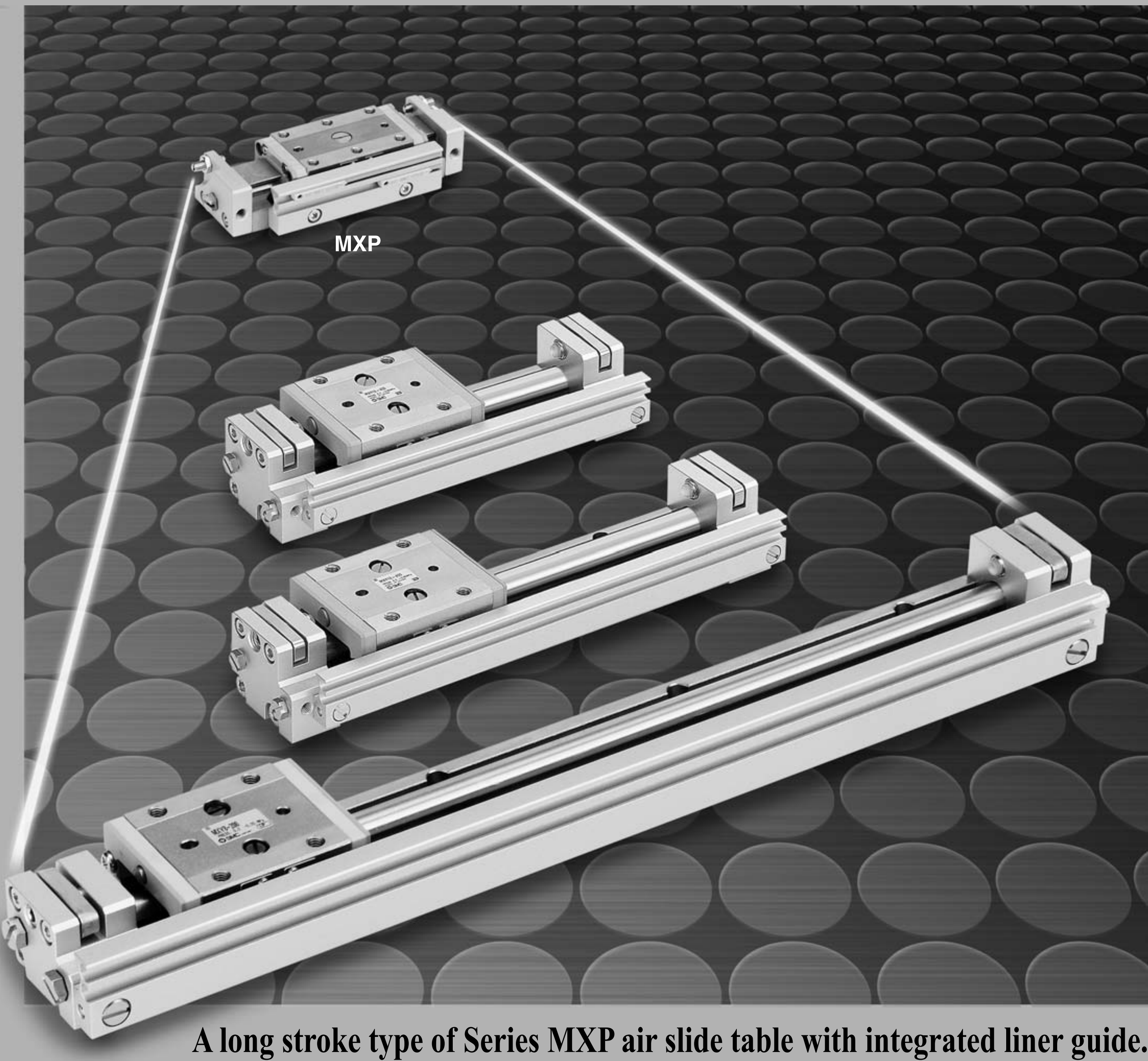
Air Slide Table/Long Stroke Type

Series MXY

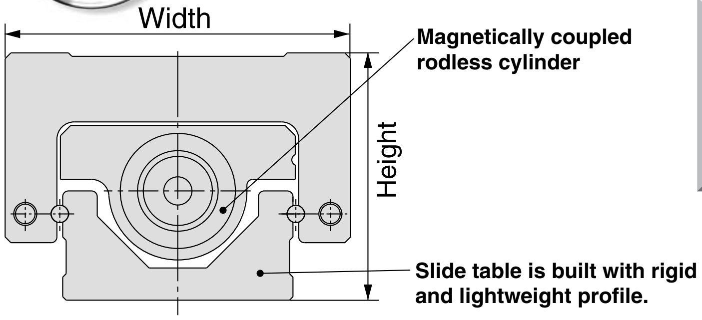
ø6, ø8, ø12



A long stroke type of Series MXP air slide table with integrated liner guide.

Use of linear guide provides rigid,
The slide table comes with a built-in

Rigid, compact, and lightweight

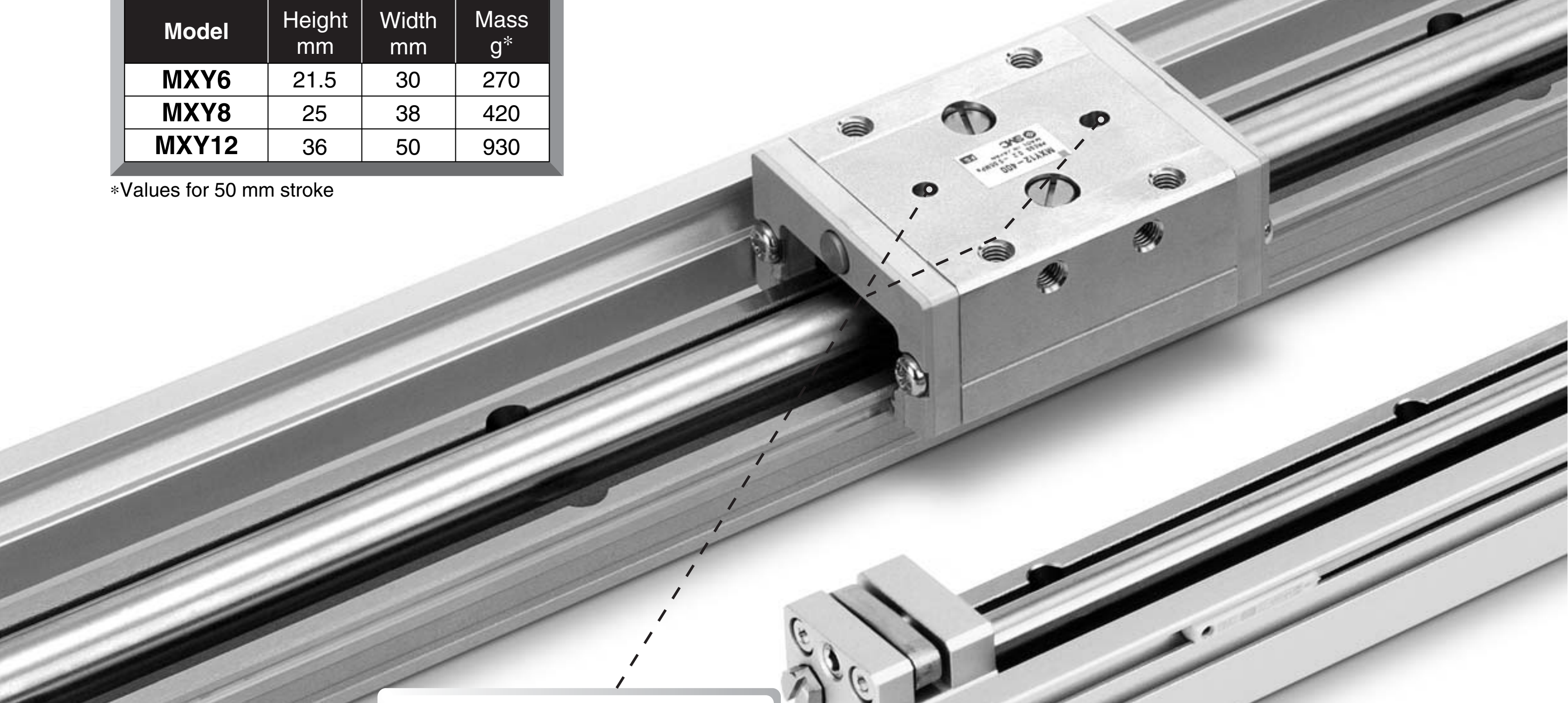


Model	Height mm	Width mm	Mass g*
MXY6	21.5	30	270
MXY8	25	38	420
MXY12	36	50	930

∗Values for 50 mm stroke

Compact design with higher allowable moment compared to MXY8/MXW8

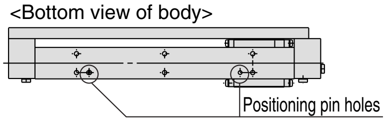
Model	Height mm	Width mm	Mass g	Allowable moment N·m	
				Pitch, Yaw	Roll
MXY8-50	25	47	420	5.7	13
MXW8-50	30	49	610	5	3
MXY/MXW	0.8 times	0.95 times	0.7 times	1.14 times	4 times

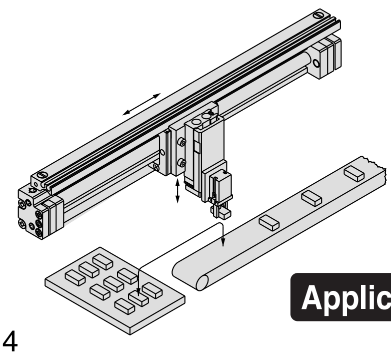


Positioning pin hole

Improved mounting repeatability of the workpiece and body

<Bottom view of body>

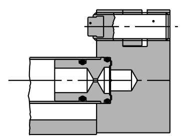




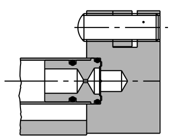
Application Example

Adjuster options

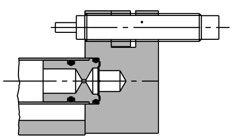
Rubber stopper



Metal stopper



Shock absorber



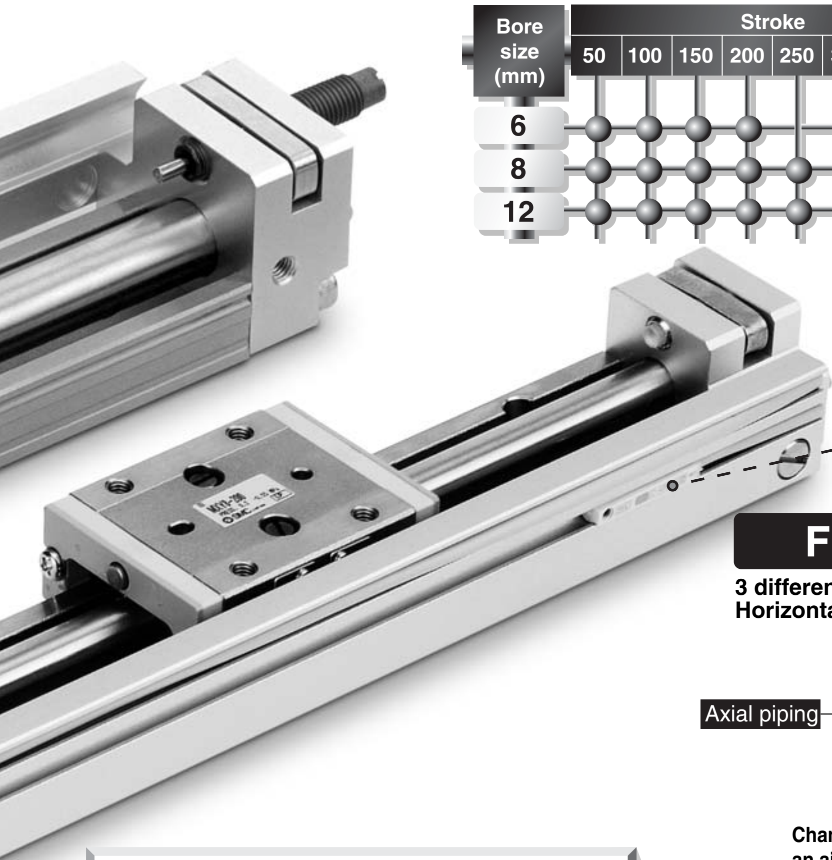
compact, and lightweight design. magnetically coupled rodless cylinder.

Long stroke

MXY12—Max. stroke 400 mm

Series variations

Bore size (mm)	Stroke 50	100	150	200	250	300	350	400	Adjuster options: Rubber stopper	Shock absorber	Metal stopper	Function options: Piping concentrated on one side of the switch rail
6	●	●	●	●					●		●	●
8	●	●	●	●	●				●		●	●
12	●	●	●	●	●	●	●	●	●	●	●	●



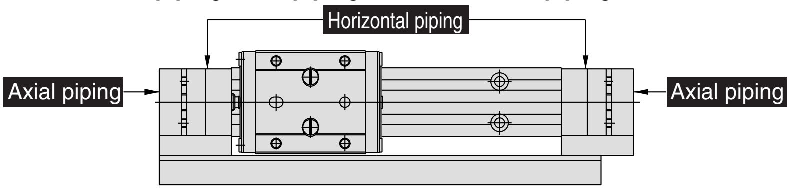
Auto switch mounting

Three types of auto switches can be mounted.

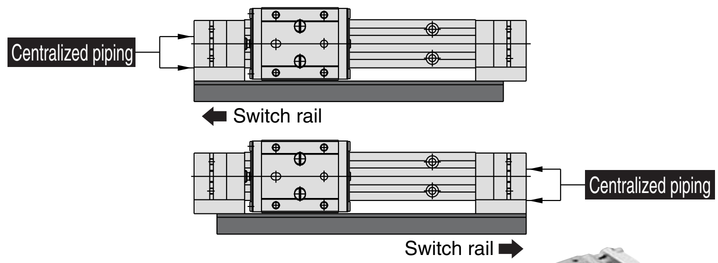
Solid state switch: M9 type
Reed switch: A9 type
2-color indication solid state switch: M9□W type

Flexible Piping

3 different piping directions are available: Horizontal piping, axial piping, and centralized piping

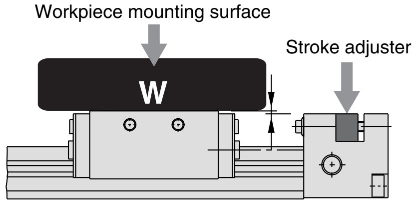


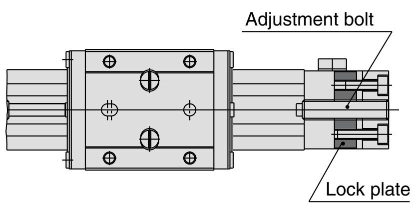
Changing the mounting position of the switch rail, which also used as an air passage can change the direction of the centralized piping.



Stroke adjuster

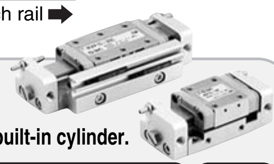
The stroke adjuster does not protrude from the mounting surface of the workpiece mounting surface, allowing high flexibility in workpiece mounting.





Using lock plates to securely lock the adjustment bolt with minimal force.

Series MXP



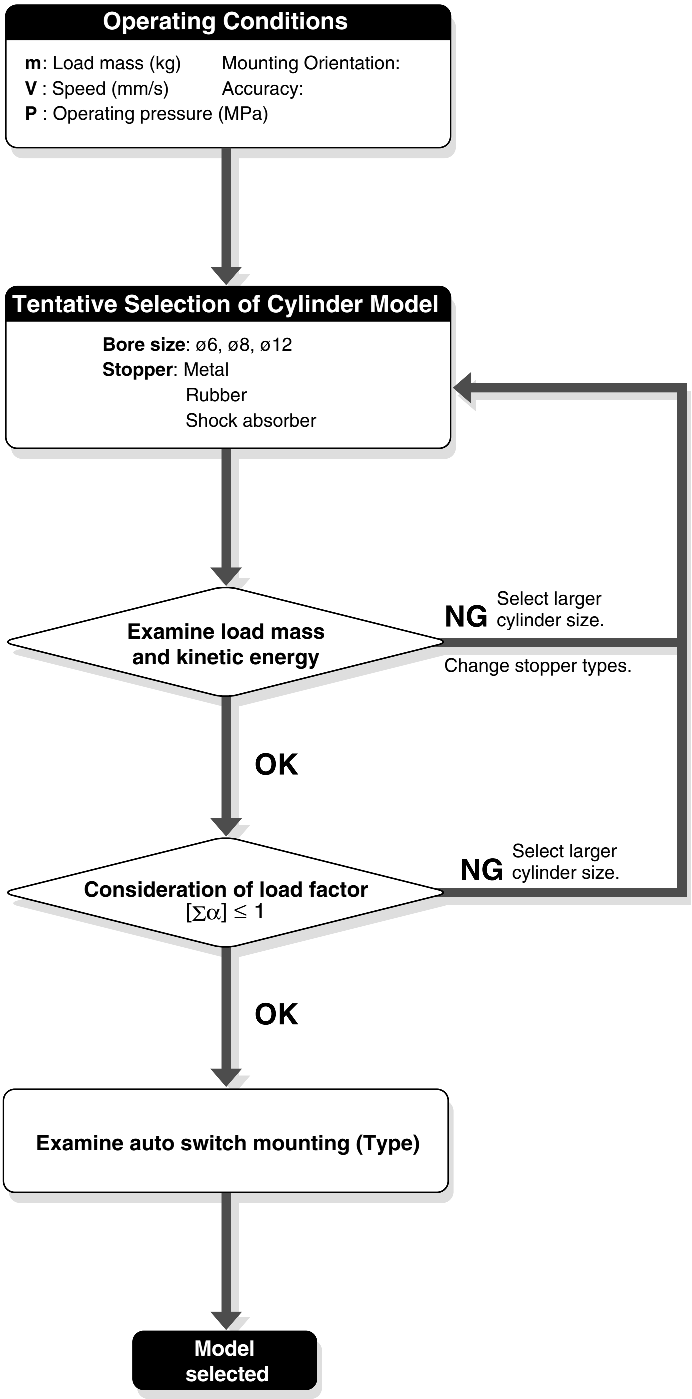
Compact air slide table that comes with linear guide with built-in cylinder.

Series	Stroke (mm) 5	10	15	20	25	30	Stroke adjusters: Rubber stopper	Metal stopper	Shock absorber	Auto switch
MXP 6	●	●					●	●		●
MXP 8		●		●			●	●		●
MXP10		●		●			●	●	●	●
MXP12			●		●		●	●	●	●
MXP16				●		●	●	●	●	●

Model Selection 1

The following are the steps for selection of the series MXY best suited to your application,

Conditions and Calculation Flow for Selection



MXH
MXU
MXS
MXQ
MXF
MXW
MXJ
MXP
MXY
MTS
D-□
-X□
Individual -X□

Model Selection 2

Model Selection Step	Formula/Data	Selection Example

❶ Operating Conditions

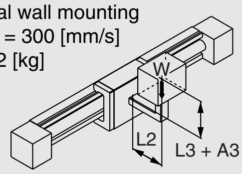
Model Selection Step: Enumerate the operating conditions considering the mounting position and workpiece configuration.

Formula/Data:

- Model to be used
- Type of cushion
- Mounting orientation
- Average speed Va (mm/s)
- Load mass W (kg)
- Overhang Ln (mm)

Selection Example:

Cylinder: MXY8-100
Cushion: Rubber stopper
Mounting: Horizontal wall mounting
Average speed: Va = 300 [mm/s]
Load mass: W = 0.2 [kg]
L2 = 40 mm
L3 = 50 mm



❷ Load Mass

Model Selection Step: Find the collision speed V (mm/S)

Confirm that the load mass W (kg) does not exceed the value in the graph.

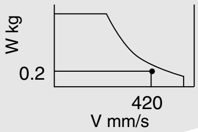
Formula/Data: $V = \underset{*}{\underline{1.4}} \cdot Va$ * Correction factor (Reference value)

Graph (1)

Selection Example: V = 1.4 x 300 = 420

Confirm that V = 420 and W = 0.2 do not exceed the values in Graph (1).

Applicable because it does not exceed the value in Graph (1).



❸ Load Factor

3-1 Load Factor of Static Moment

Model Selection Step: Find the static moment M (N·m).

Find the allowable static moment Ma (N·m).

Find the load factor α_1 of the static moment.

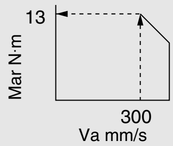
Formula/Data: M = W x 9.8 (Ln + An)/1000
Corrected value of moment center position distance An: Table (1)

Pitch, Yaw moment: Graph (2)
Roll moment: Graph (3)

α_1 = M/Ma

Selection Example: Examine Mr.
Mr = 0.2 x 9.8 (40 + 15.5)/1000 = 0.1
A2 = 15.5
Obtain Mar = 13 from Va = 300 in Graph (3).

α_1 = 0.1/13 = 0.008



3-2 Load Factor of Dynamic Moment

Model Selection Step: Find the dynamic moment Me (N·m).

Find the allowable dynamic moment Mea (N·m).

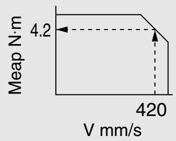
Find the load factor α_2 of the dynamic moment.

Formula/Data: Me = 1/3·We x 9.8 (Ln + An)/1000
Mass equivalent to impact We = δ·W·V
δ: Bumper coefficient
Rubber stopper screw: 4/100
Shock absorber: 1/100
Metal stopper screw: 16/100
Corrected value of moment center position distance An: Table (1)

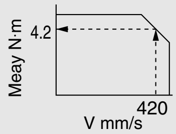
Pitch, yaw moment: Graph (2)

α_2 = Me/Mea

Selection Example: Examine Mep.
Mep = 1/3 x 3.36 x 9.8 x (40+15.5)/1000 = 0.61
We = 4/100 x 0.2 x 420 = 3.36
A^2 = 15.5
Obtain Meap = 4.2 from V = 420 in Graph (2).
α_2 = 0.61/4.2 = 0.15



Examine Mey.
Mey = 1/3 x 3.36 x 9.8 x (50+19)/1000 = 0.76
We = 3.36
A^3 = 19
Obtain Meay = 4.2 from V = 420 in Graph (2).
α_2' = 0.76/4.2 = 0.18



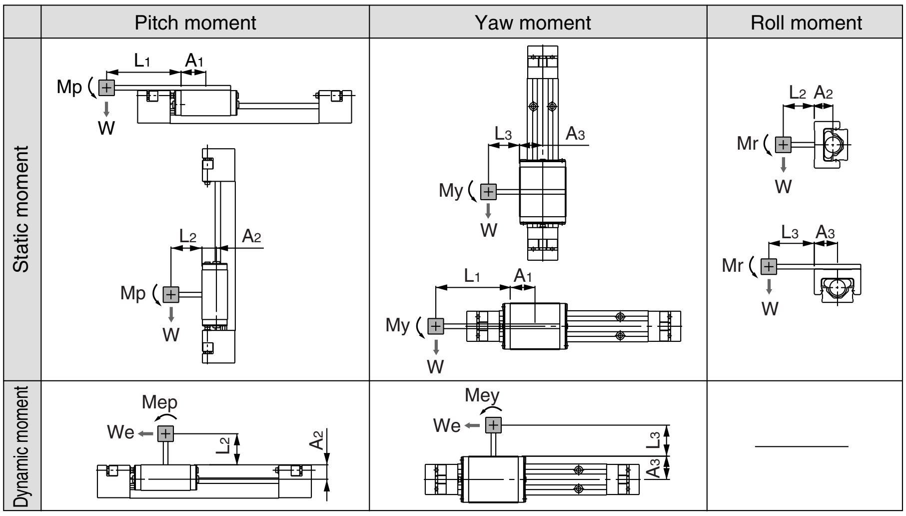
3-3 Sum of the Load Factors

Model Selection Step: Use is possible if the sum of the load factors does not exceed 1.

Formula/Data: $\alpha_1 + \alpha_2 < 1$

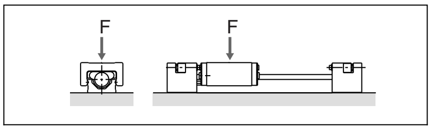
Selection Example: $\alpha_1 + \alpha_2 + \alpha_2'$ =
Applicable because
0.008 + 0.15 + 0.18 = 0.34 < 1

Fig. (1) Overhang: Ln (mm), Correction Value of Moment Center Position Distance: An (mm)



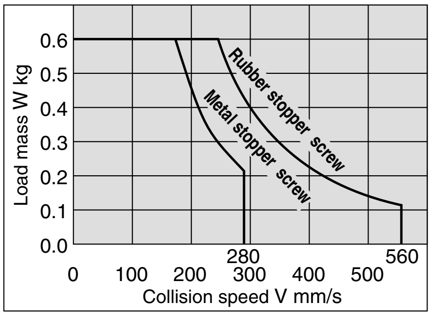
Note) Static moment: Moment generated by gravity
Dynamic moment: Moment generated by impact when colliding with stopper

Fig. (2) Allowable Static Load: F(N)

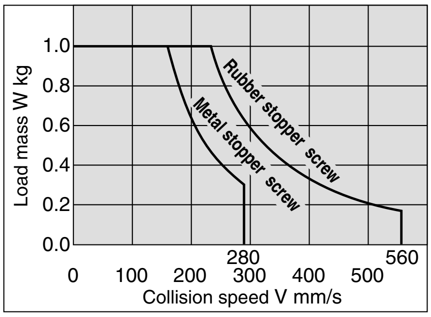


Graph (1) Load Mass: W

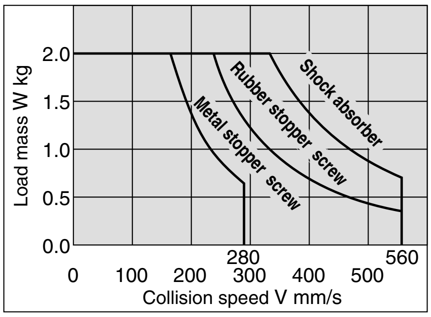
MXY6



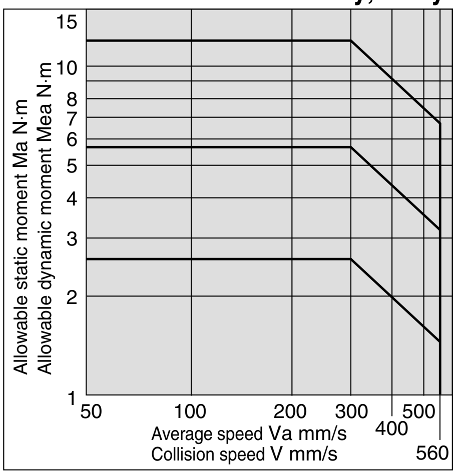
MXY8



MXY12



Graph (2) Allowable Moment Pitch Moment: Map, Meap Yaw Moment: May, Meay



Note) Use the average speed when calculating static moment.
Use the collision speed when calculating dynamic moment.

Graph (3) Allowable Moment Roll Moment: Mar

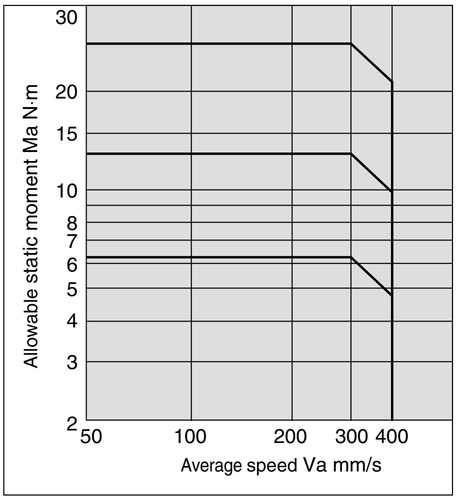


Table (1) Correction Value of Moment Center Position Distance: An (mm)

Model	Corrected value of moment center position distance (Refer to Figure 2.)		
	A_1	A_2	A_3
MXY6	16	14	15
MXY8	20	15.5	19
MXY12	26	23.5	25

Table (2) Max. Allowable Load Mass: Wmax (kg)

Model	Max. allowable load mass
MXY6	0.6
MXY8	1
MXY12	2

The above value represents the maximum value for each allowable load mass. For the maximum allowable load mass for each piston speed, please refer to Graph (1).

Table (4) Allowable Static Load: F (N)

Model	Allowable static load
MXY6	580
MXY8	980
MXY12	1600

The above value represents the applicable load at the position where the moment does not work at the time of stop. Factors such as impact, etc. are not in consideration with the value.

Table (3) Maximum Allowable Moment: Mmax (N·m)

Model	Pitch/Yaw moment: Mpmax/Mymax	Roll moment: Mrmax
MXY6	2.6	6.2
MXY8	5.7	13
MXY12	12	28

The above value represents the maximum value of allowable moment. For the maximum allowable moment for each piston speed, please refer to Graph (2) and (3).

Symbol

Symbol	Definition	Unit	Symbol	Definition	Unit
An (n = 1 to 3)	Corrected value of moment center position distance	mm	**F**	Allowable static load	N
Ln (n = 1 to 3)	Overhang	mm	**V**	Collision speed	mm/s
M (Mp, My, Mr)	Static moment (pitch, yaw, roll)	N·m	**Va**	Average speed	mm/s
Ma (Map, May, Mar)	Allowable static moment (pitch, yaw, roll)	N·m	**W**	Load mass	kg
Me (Mep, Mey)	Dynamic moment (pitch, yaw)	N·m	**Wa**	Allowable load mass	kg
Mea (Meap, Meay)	Allowable dynamic moment (pitch, yaw)	N·m	**Wmax**	Max. allowable load mass	kg
Mmax (Mpmax, Mymax, Mrmax)	Max. allowable moment (pitch, yaw, roll)	N·m	α	Load factor	—

Air Slide Table
Long Stroke Type
Series MXY
ø6, ø8, ø12

How to Order

MXY [6] – [50] [ ] [ ] – [M9BW] [ ] – [ ]

Bore size/Standard stroke (mm)

6	50, 100, 150, 200
8	50, 100, 150, 200, 250, 300
12	50, 100, 150, 200, 250, 300, 350, 400

Adjuster option

Nil	Rubber stopper
B*	Shock absorber
C	Metal stopper

* Only for MXY12

One side centralized piping, switch rail

Nil	One side centralized piping, with switch rail
N	Without one side centralized piping, without switch rail

The auto switch cannot be mounted on the one side centralized piping type without switch rail (N).

Auto switch type

Nil	Without auto switch (Built-in magnet)

Number of auto switches

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

Mode to Order
For details, refer to page 221.

Applicable Auto Switch/Refer to pages 1719 to 1827 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC		Load voltage AC	Auto switch model Perpendicular	Auto switch model In-line	Lead wire length (m) 0.5 (Nil)	1 (M)	3 (L)	5 (Z)	Pre-wired connector	Applicable load	
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	**M9NV**	**M9N**	●	●	●	○	○	IC circuit	Relay PLC
				3-wire (PNP)				**M9PV**	**M9P**	●	●	●	○	○		
				2-wire		12 V		**M9BV**	**M9B**	●	●	●	○	○	—	
	Diagnostic indication (2-color indication)			3-wire (NPN)		5 V, 12 V		**M9NWV**	**M9NW**	●	●	●	○	○	IC circuit	
				3-wire (PNP)				**M9PWV**	**M9PW**	●	●	●	○	○		
				2-wire		12 V		**M9BWV**	**M9BW**	●	●	●	○	○	—	
Reed switch	—	Grommet	Yes	3-wire (NPN equiv.)	—	5 V	—	**A96V**	**A96**	●	—	●	—	—	IC circuit	—
				2-wire	24 V	12 V	100 V	**A93V**	**A93**	●	—	●	—	—	—	Relay PLC
			No				100 V or less	**A90V**	**A90**	●	—	●	—	—	IC circuit	

* 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.

* Refer to page 225 for applicable auto switches in addition to those listed above.
* For details on auto switches with a pre-wired connector, refer to pages 1784 and 1785.
* Auto switches are shipped together (not assembled).

Specifications

Model		MXY6	MXY8	MXY12
Bore size (mm)		6	8	12
Port size		M5 x 0.8		
Fluid		Air		
Action		Double acting (type)		
Operating pressure		0.2 to 0.55 MPa		
Proof pressure		0.83 MPa		
Ambient and fluid temperature		−10 to 60°C		
Piston speed		50 to 400 mm/S Metal stopper: 50 to 200 mm/S		
Cushion		Rubber bumper Shock absorber (option, not available on MXY6, MXY8) None (with metal stopper)		
Lubrication		Non-lube (equipment), unlubricated		
Stroke adjuster		Standard		
Stroke adjustment range	Rubber stopper	One side 0 to 5 mm		
	Shock absorber	—	—	One side 0 to 15 mm
	Metal stopper	One side 0 to 5 mm		
Auto switch		Reed auto switches (2-wire, 3-wire) Solid state auto switches (2-wire, 3-wire) 2-color display solid state auto switches (2-wire, 3-wire)		
Stroke length tolerance		$^{+1}_{0}$ mm		

Note) The shock absorber service life is different from that of the MXY cylinder depending on operating conditions. Refer to the Specific Product Precautions for the replacement period.

Theoretical Output

(N)

Cylinder bore (mm)	Piston area (mm²)	Operating pressure (MPa)				
		0.2	0.3	0.4	0.5	0.55
6	28	6	8	11	14	15
8	50	10	15	20	25	28
12	113	23	34	45	57	62

Made to Order

Made to Order Specifications

(Refer to pages 1955 to 2021 for details.)

Symbol	Specifications
−X7	PTFE grease
−X9	Grease for food
−X11	Adjusting bolt, long specification (Adjustment range: 15 mm)
−X12	Adjusting bolt, long specification (Adjustment range: 25 mm)
−X39	Fluororubber seal
−X42	Anti-corrosive guide unit
−X45	EPDM seal

Standard Stroke

(mm)

Model	Standard stroke
MXY6	50, 100, 150, 200
MXY8	50, 100, 150, 200, 250, 300
MXY12	50, 100, 150, 200, 250, 300, 350, 400

Magnetic Holding Force

(N)

Model	Magnetic holding force
MXY6	19
MXY8	34
MXY12	77

Mass

(g)

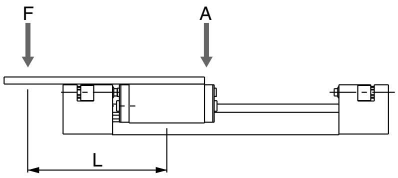
Model	One side centralized piping, with switch rail								One side centralized piping, without switch rail							
	Stroke (mm)								Stroke (mm)							
	50	100	150	200	250	300	350	400	50	100	150	200	250	300	350	400
MXY6	270	330	390	450	—	—	—	—	230	280	330	380	—	—	—	—
MXY8	420	510	600	690	780	870	—	—	410	480	550	620	690	760	—	—
MXY12	930	1060	1190	1320	1450	1580	1710	1840	910	1020	1130	1240	1350	1460	1570	1680

Table Deflection (Reference Values)

The graphs below show the table displacement when the static moment load is applied to the table. The graphs do not show the loadable mass. Refer to the Model Selection for the loadable mass.

Table deflection due to pitch moment load

Displacement at “A” when load is applied “F”



L dimension mm

MXY6	100
MXY8	100
MXY12	140

Pitch moment

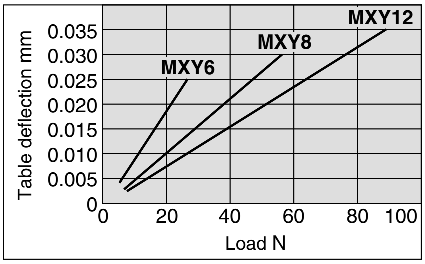
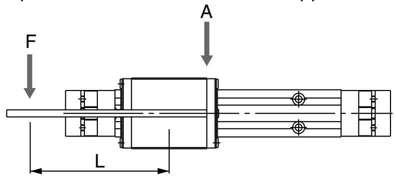


Table deflection due to yaw moment load

Displacement at “A” when load is applied “F”



L dimension mm

MXY6	100
MXY8	100
MXY12	140

Yaw moment

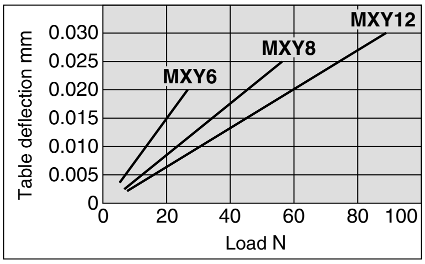
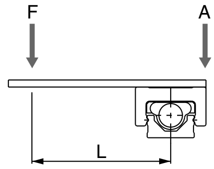


Table deflection due to roll moment load

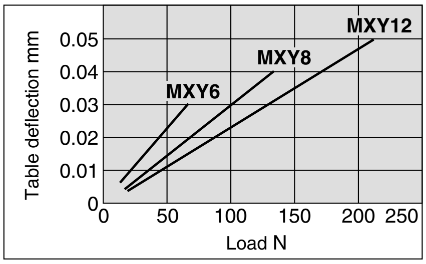
Displacement at “A” when load is applied “F”



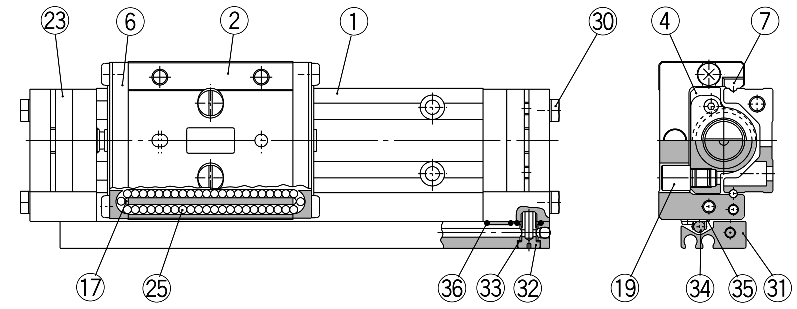
L dimension mm

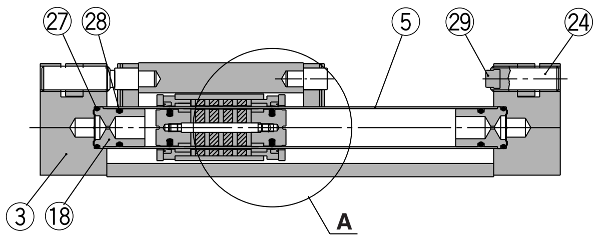
MXY6	100
MXY8	100
MXY12	140

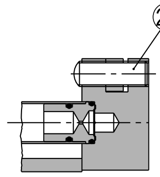
Roll moment



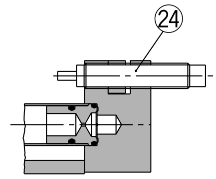
Construction



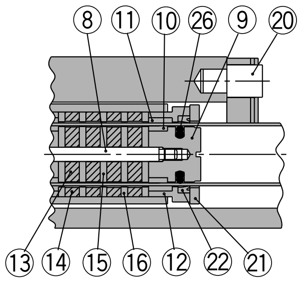




Metal stopper



Shock absorber



Detail drawing of part A

Component Parts

No.	Description	Material	Note
1	**Rail**	Stainless steel	Heat treatment, electroless nickel plated
2	**Guide block**	Stainless steel	Heat treatment, electroless nickel plated
3	**End plate**	Aluminium alloy	Hard anodized
4	**Body**	Aluminium alloy	Hard anodized
5	**Tube**	Stainless steel	
6	**Cover**	Resin	
7	**Scraper**	Stainless steel, NBR	
8	**Shaft**	Stainless steel	
9	**Piston**	Brass	Electroless nickel plated
10	**Wear ring A**	Resin	
11	**Wear ring B**	Resin	
12	**Spacer**	Brass	Electroless nickel plated
13	**Magnet A**	—	Nickel plated
14	**Magnet B**	—	Nickel plated
15	**Yoke A**	Steel	Electroless nickel plated
16	**Yoke B**	Steel	Electroless nickel plated
17	**Return guide**	Resin	
18	**End cap**	Resin	
19	**Stud**	Stainless steel	Heat treatment

No.	Description	Material	Note	
20	**Stopper screw**	Stainless steel	Heat treatment	
21	**External magnet fix plate**	Stainless steel		
22	**Cylinder scraper**	NBR		
23	**Lock plate**	Stainless steel		
24	**Adjustment bolt**	Steel	Nickel plated	Rubber stopper
		Stainless steel		Metal stopper
	Shock absorber	—		Shock absorber
25	**Steel ball**	Copper		
26	**Piston seal**	NBR		
27	**O-ring**	NBR		
28	**O-ring**	NBR	Rubber stopper	
29	**Adjustment bumper**	Polyurethane		
30	**Plug**	Brass	Electroless nickel plated	
31	**Switch rail**	Aluminium alloy	Hard anodized	
32	**Stud**	Brass	Electroless nickel plated	
33	**Gasket**	NBR		
34	**Magnet**	—	Electroless nickel plated	
35	**Magnet holder**	Steel		
36	**O-ring**	NBR		

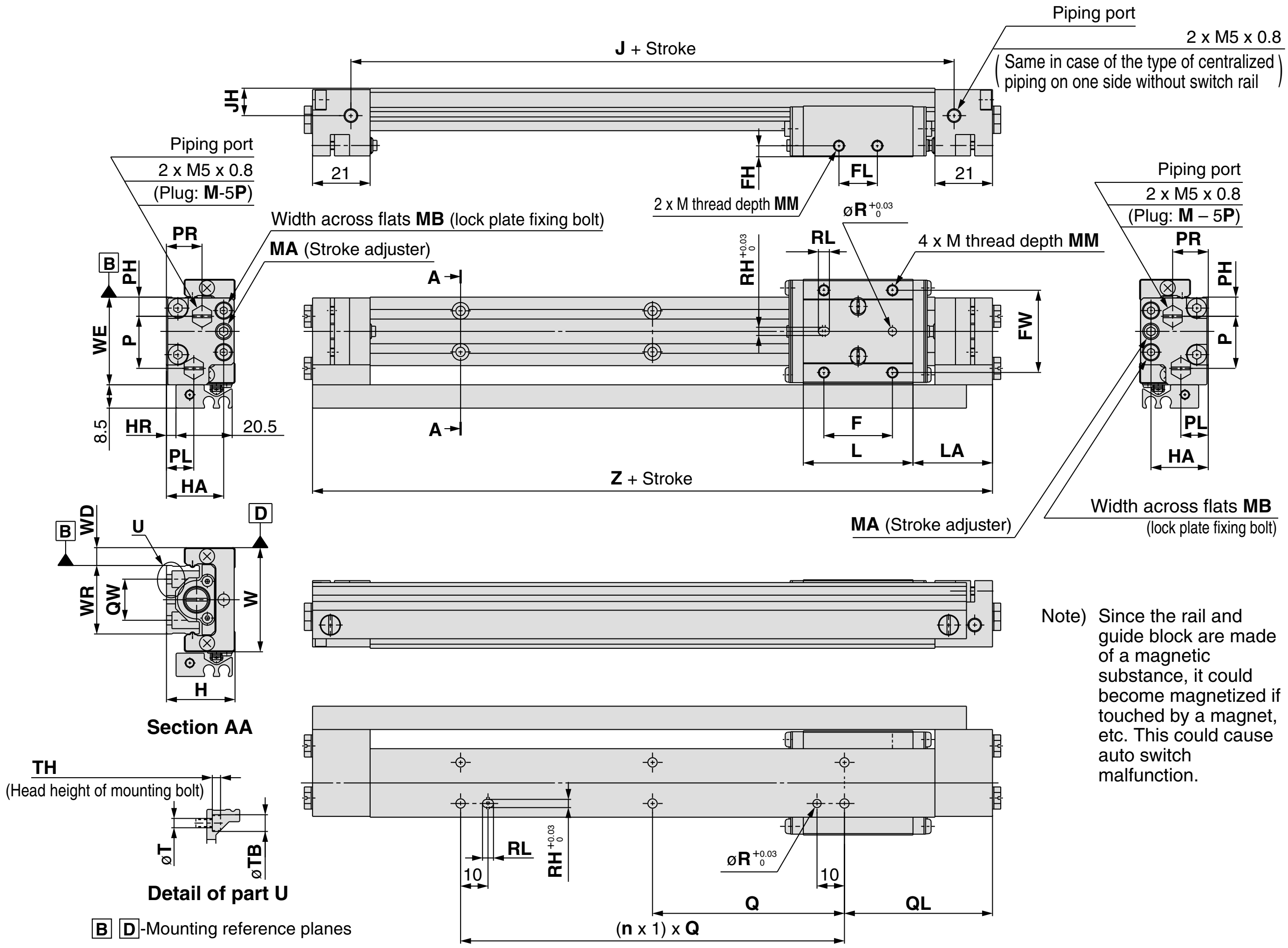
Replacement Parts

Bore size (mm)	Kit no.	Contents
6	MXY6-PS	Set consists of 2 pieces of above ⑩, ⑪, ㉒ and ㉖ each.
8	MXY8-PS	
12	MXY12-PS	

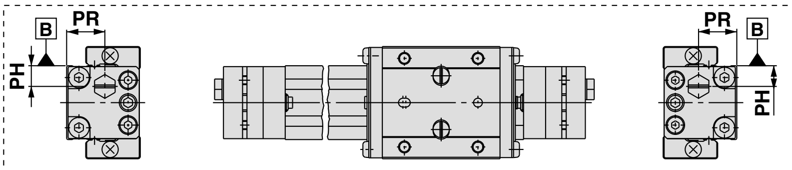
Replacement Parts: Grease Pack

Grease pack part no.
GR-S-005(5g)
GR-S-010(10g)
GR-S-020(20g)
GR-S-050(50g)

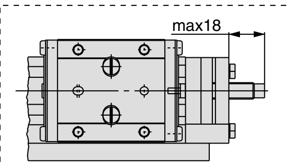
Dimensions



Note) Since the rail and guide block are made of a magnetic substance, it could become magnetized if touched by a magnet, etc. This could cause auto switch malfunction.



Type of centralized piping on one side without switch rail



Type of shock absorber (Only for MXY12)

Model	F	FH	FL	FW	H	HA	HR	J	JH	L	LA	M	MM	MA	MB
MXY6	20	3	12	24	21.5	18	0.5	60	8.5	32	28	M3 x 0.5	4	M5 x 0.8 (Width across flats 2.5)	2
MXY8	25	4	14	30	25	20.9	3.5	70	10	40	29	M4 x 0.7	5	M6 x 1 (Width across flats 3)	2.5
MXY12	32	5	18	40	36	30.9	8.5	86	15	52	31	M5 x 0.8	6	M8 x 1 (Width across flats 4)	3

Model	P	PH	PL	PR	Q	QW	R	RH	RL	T	TB	TH	W	WD	WE	WR	Z
MXY6	13	7	9	11	60	12	3(depth 3)	3(depth 3)	4	2.9	5.1	2.5	30	5	25.5	20	88
MXY8	19	7	10	13	70	15	3(depth 3)	3(depth 3)	4	3.4	6.1	3	38	6.5	32	25	98
MXY12	29	7	13	18	90	21	4(depth 4)	4(depth 4)	5	4.5	7.8	4	50	8.5	42	33	114

Model	n								QL							
Stroke	50	100	150	200	250	300	350	400	50	100	150	200	250	300	350	400
MXY6	2	3	3	4	—	—	—	—	39	34	59	54	—	—	—	—
MXY8	2	2	3	4	5	5	—	—	39	64	54	44	34	59	—	—
MXY12	2	2	3	3	4	4	5	5	37	62	42	67	47	72	52	77

Auto Switch Proper Mounting Position (Detection at Stroke End)

Reed Auto Switch
D-A90(V), D-A93(V), D-A96(V) (mm)

Model	Mounting		Auto switch operating range
MXY6	**A**	54	5
	B	34	
MXY8	**A**	59	
	B	39	
MXY12	**A**	67	
	B	47	

Solid State Auto Switch
D-M9B(V), D-M9N(V), D-M9P(V) (mm)

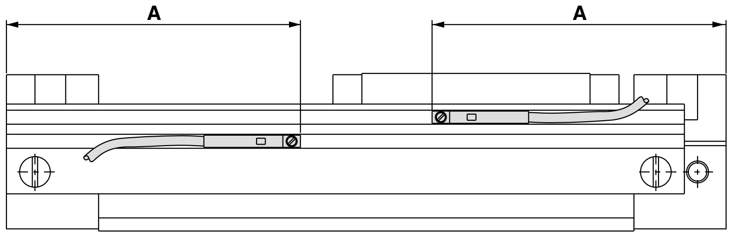
Model	Mounting		Auto switch operating range
MXY6	**A**	50	3
	B	38	
MXY8	**A**	55	3.5
	B	43	
MXY12	**A**	63	3
	B	51	

2-Color Display Solid State Auto Switch
D-M9BW(V), D-M9NW(V), D-M9PW (mm)

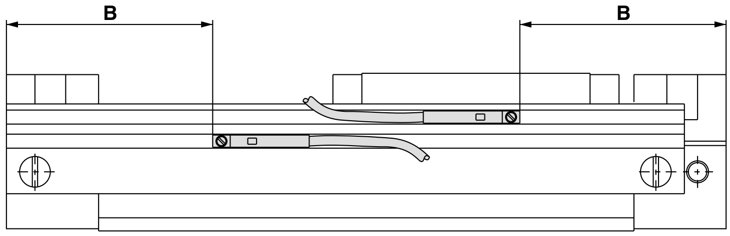
Model	Mounting		Auto switch operating range
MXY6	**A**	50	3
	B	38	
MXY8	**A**	55	3.5
	B	43	
MXY12	**A**	63	3
	B	51	

∗ Adjust the auto switch after confirming the operating conditions in the actual setting.

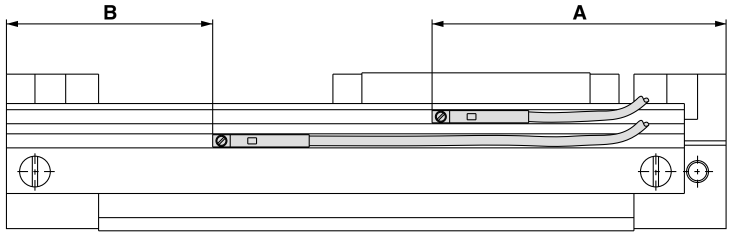
Lead wire entries outside



Lead wire entries inside



Lead wire entries parallel



MXH
MXU
MXS
MXQ
MXF
MXW
MXJ
MXP
MXY
MTS

Auto Switch Mounting

⚠Caution

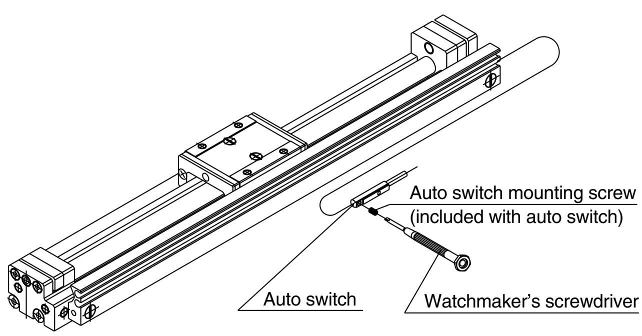
Auto Switch Mounting Tool

- When tightening the auto switch mounting screw (included with auto switch), use a watchmaker's screwdriver with a handle diameter of about 5 to 6 mm.

Tightening Torque

Tightening Torque of Auto Switch Mounting Screw (N·m)

Auto switch model	Tightening torque
D-A9□(V)	0.10 to 0.20
D-M9□(V) **D-M9□W(V)**	0.05 to 0.15



Other than the applicable auto switches listed in “How to Order”, the following auto switches can be mounted.

∗ Normally closed (NC = b contact) solid state auto switches (D-F9G/F9H types) and a solid state auto switch (D-F8) are also available. Refer to pages 1745 and 1746 for details.

D-□
-X□
Individual -X□

Series MXY
Specific Product Precautions 1

Be sure to read before handling.
Refer to front matters 42 and 43 for Safety Instructions and pages 3 to 11 for Actuator and Auto Switch Precautions.

Selection

⚠ Caution

1. Use a load within a range that does not exceed the operating limit.
Select models based on the maximum load weight and the allowable moment. Refer to model selection on pages 217 to 219 for detailed methods. If operated beyond the operating limit, the eccentric load applied to the guide section will be excessive. This can have an adverse effect on service life due to vibration in the guide unit and loss of accuracy, etc.

2. When performing intermediate stops with an external stopper, employ measures to prevent lurching.
If lurching occurs damage can result. When making a stop with an external stopper to be followed by continued forward movement, first supply pressure to momentarily reverse the table, then retract the intermediate stopper, and finally apply pressure to the opposite port to operate the table again.

3. In vertical operation, it is not possible to stop the piston at an intermediate position using a closed center solenoid valve, etc.
In vertical operation, it is not possible to stop the piston at an intermediate position using a closed center solenoid valve because it can cause dislocation of the magnet coupling. The only available option in such cases is use of an external stopper for an intermediate stop.

4. When stopping the piston using a closed center solenoid valve in horizontal operation, do not allow the kinetic energy exceed the allowable kinetic energy.
When stopping the piston using a closed center solenoid valve in horizontal operation, do not allow the kinetic energy of the load to exceed the values shown below. If the allowable value is exceeded, it can cause dislocation of the magnet coupling.

Model	Allowable kinetic energy for intermediate stop (J)
MXY6	0.007
MXY8	0.014
MXY12	0.047

5. Do not operate in such a way that excessive external forces or impact forces are applied to the product.
This can cause damage.

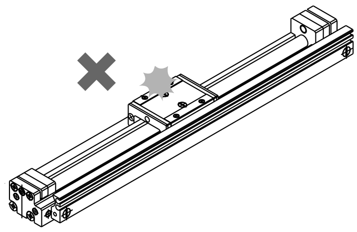
6. Be careful in an application which requires precision in the middle of a stroke.
If straightness is required in the middle of a stroke, fix the entire rail mounting surface on the base.

Mounting

⚠ Caution

1. Do not scratch or gouge the mounting surfaces of the body, table and end plate.
This can cause loss of parallelism in the mounting surfaces, vibration in the guide unit and increased operating resistance, etc.

2. Do not scratch or gouge the transfer surfaces of the rail and guide.
This can cause vibration and increased operating resistance, etc.



3. Do not apply strong impacts or excessive moment when mounting workpieces.
Application of external forces greater than the allowable moment can cause vibration in the guide unit and increased operating resistance, etc.

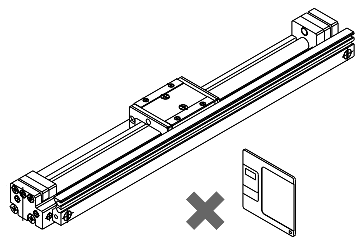
4. Ensure that the parallelism of the mounting surface is 0.02 mm or less.
Poor parallelism of the workpiece mounted on the body, the base, and other parts can cause vibration of the guide unit and increased operating resistance, etc.

Mounting

⚠ Caution

5. For connection to a load that has an external support or guide mechanism, select an appropriate connection method and perform careful alignment.

6. Keep away objects which can be influenced by magnets.
A magnet is built inside the body or, in case of a type with auto switch, on the side of the guide lock. Please keep away magnetic disks, cards or tapes. Otherwise, the data can be deleted.



7. Do not attach magnets to the rail and guide block.
Since the body and table (guide block) are made of a magnetic substance, it could become magnetized if touched by a magnet, etc. This could cause auto switch malfunction.

Specific Product Precautions 2

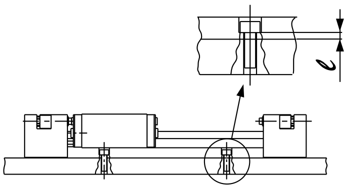
Be sure to read before handling.
Refer to front matters 42 and 43 for Safety Instructions and pages 3 to 11 for Actuator and Auto Switch Precautions.

Mounting

⚠Caution

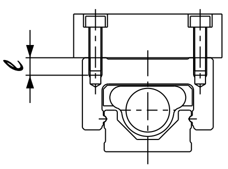
8. When mounting the body, use screws of an appropriate length and do not exceed the maximum tightening torque.
Tightening with a torque above the limit could cause malfunction. Whereas tightening insufficiently could result in misalignment or dropping.

Using through holes



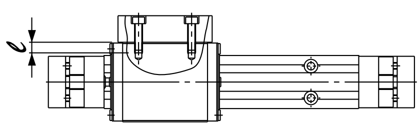
Model	Bolt	Max. tightening torque N·m	Rail thickness ℓ (mm)
MXY6	M2.5 x 0.45	0.65	1.5
MXY8	M3 x 0.5	1.14	2
MXY12	M4 x 0.7	2.7	2

Top mounting type



Model	Bolt	Max. tightening torque N·m	Max. screw-in depth ℓ (mm)
MXY6	M3 x 0.5	1.14	3
MXY8	M4 x 0.7	2.7	4
MXY12	M5 x 0.8	5.4	5

Side mounting type



Model	Bolt	Max. tightening torque N·m	Max. screw-in depth ℓ (mm)
MXY6	M3 x 0.5	1.14	3
MXY8	M4 x 0.7	2.7	4
MXY12	M5 x 0.8	5.4	5

9. Be careful not to bruise the outer surface of the cylinder tube.
If can damage the scraper and wear ring and result in malfunction.

10. Make sure that the magnet coupling is in position when operating.
In case it is displaced, please return it to the right position by pushing the external mover by hand (or pushing the piston mover with air pressure).

11. In vertical operation, be careful about dislocation of the magnet coupling.
Note that the mover may drop off due to dislocation of the magnet coupling if pressure or load beyond the specification is applied.

12. The positioning holes on the top surface of the guide block and those on the bottom of the rail are not aligned.
These holes are used when re-mounting the same product after having removed it for maintenance.

Operating Environment

⚠Caution

1. Do not use in environments where there is direct exposure to liquids such as cutting oil.
Operation in environments where the body is exposed to cutting oil, coolant or oil mist can cause vibration, increased operating resistance and air leakage, etc.

2. Do not use in environments where there is direct exposure to foreign matter such as dust, dirt, chips and spatter.
This can cause vibration, increased operating resistance and air leakage, etc.
Do not use the product in the following conditions.

3. Provide shade in locations exposed to direct sunlight.

4. Block off sources of heat located near by.
When there are heat sources in the surrounding area, radiated heat may cause the product's temperature to rise and exceed the operating temperature range. Block off the heat with a cover, etc.

Operating Environment

⚠Caution

5. Do not use in locations where vibration or impact occurs.
Do not use the product in such an environment as is can result in damage or malfunction.

6. Be careful about the corrosion resistance of the linear guide.
Be careful the rail and guide block use martensitic stainless steel, which is inferior to austenitic stainless steel in terms of corrosion resistance. Rust may result especially in an environment that allows water drops from condensation to stay on the surface.

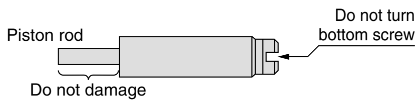
Handling of Adjuster Options

Stroke adjuster

⚠Caution

1. Do not replace the special adjusting bolt with other bolts.
This may cause looseness and damage due to impact forces, etc.

2. Use the tightening torque in the table below for the lock nut.
Insufficient torque will cause a decrease in the positioning accuracy.



Service Life and Replacement Period of Shock Absorber

⚠Caution

1. Allowable operating cycle under the specifications set in this catalog is shown below.

1.2 million cycles RB08□□

Note) Specified service life (suitable replacement period) is the value at room temperature (20 to 25°C). The period may vary depending on the temperature and other conditions. In some cases the absorber may need to be replaced before the allowable operating cycle above.

Applicable size	Shock absorber model
MXY12	RB0806

Specific Product Precautions 3

Be sure to read before handling.
Refer to front matters 42 and 43 for Safety Instructions and pages 3 to 11 for Actuator and Auto Switch Precautions.

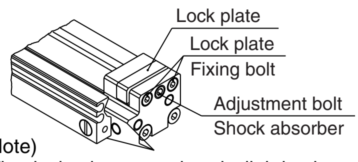
Stroke Adjustment

⚠ Caution

1. Adjustment method

Loosen the 2 lock plate fixing bolts (or shock absorbers) and rotate the adjustment bolt (or shock absorber) to adjust the stroke. Then tighten the lock plate fixing bolts evenly to secure the adjustment bolt (or shock absorber). Be careful not to tighten the lock plate adjusting bolts too firmly.

Model	Tightening torque of lock plate fixing bolt
MXY6	0.1 N·m
MXY8	0.2 N·m
MXY12	0.4 N·m

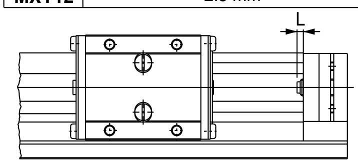


Note)
The lock plate may bend slightly due to tightening of the lock plate fixing bolts but it will not affect the adjustment bolt or shock absorber that has been secured.

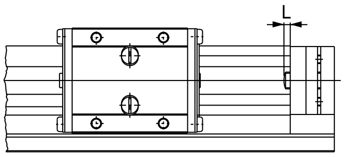
2. Adjustment range

Adjust the stroke within the range where the stopper or shock absorber works effectively. As a guideline, keep the stroke within the range where the L dimension in the figure below is larger than the value in the table. If the stroke exceeds this range, the guide lock will bump into the end plate, affecting the life time.

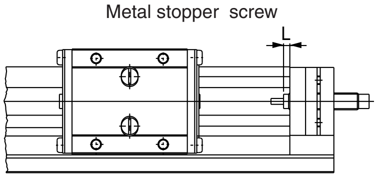
Model	L
MXY6	2 mm
MXY8	2 mm
MXY12	2.5 mm



Rubber stopper screw



Metal stopper screw

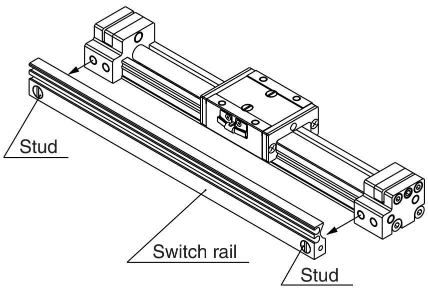


Shock absorber

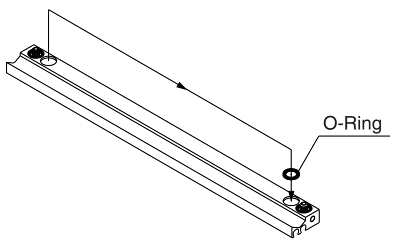
How to Change Concentrated Piping

The piping is concentrated on the left side at the time of shipment. To switch to the right side piping, follow the steps below.

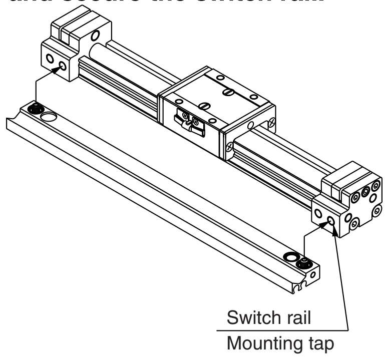
1. Loosen the 2 studs to remove the switch rail.



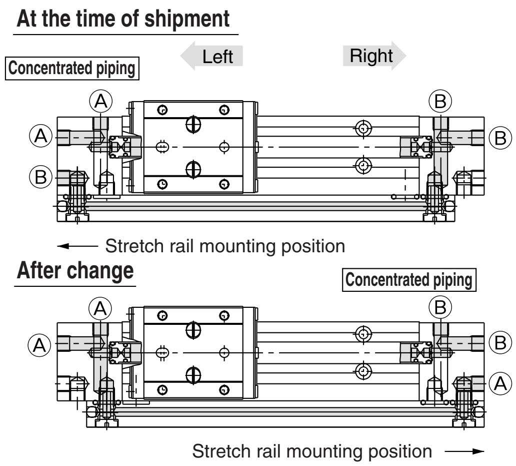
2. Change the position of the O-ring shown in the figure.



3. Fasten the stud onto the tap at the right side of the end plate and secure the switch rail.



∗ Stud fastening: After a temporary tightening, tighten an additional 1/4 turn.



Port	Actuation Direction
Ⓐ	Right
Ⓑ	Left

Disassembly and Maintenance

⚠ Warning

Be careful the magnets have a large absorption force.

Please pay enough attention when the external mover and piston mover are removed from the cylinder tube for maintenance, etc. Because the magnet mounted on each mover has a large adsorption force. Please refer to the disassembly instructions when disassembling the product.

⚠ Caution

1. Be careful if the external mover is removed in the normal condition, it will directly absorb the piston mover.

When removing the external mover or piston mover, first force the magnet coupling to go off the position to disable the holding power and then remove them separately. If they are removed in the normal condition, the magnets will directly absorb each other and will not go apart.

2. Never disassemble the magnet constructions (piston mover and external mover).

If can cause a drop of the holding power or malfunction.