



Operation Manual

PRODUCT NAME

AIR SLIDE TABLE

MODEL / Series / Product Number

M X S 6 (L)

M X S 8 (L)

M X S 1 2 (L)

M X S 1 6 (L)

M X S 2 0 (L)

M X S 2 5 (L)

SMC Corporation

Contents

Safety Instructions

1. Specifications

2. Operating air and piping

3. How to mount and adjust

4. Construction and parts list

5. Maintenance



Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "Caution," "Warning" or "Danger." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

*1) ISO 4414: Pneumatic fluid power -- General rules relating to systems.

ISO 4413: Hydraulic fluid power -- General rules relating to systems.

IEC 60204-1: Safety of machinery -- Electrical equipment of machines .(Part 1: General requirements)

ISO 10218: Manipulating industrial robots -Safety.

etc.



Caution

Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.



Warning

Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.



Danger

Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results.

The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product.

This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly.

The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.

2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.

3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.

2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.

3. An application which could have negative effects on people, property, or animals requiring special safety analysis.

4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.



Safety Instructions

Caution

The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.

If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.

If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".

Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)

Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.

This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.

3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) Vacuum pads are excluded from this 1 year warranty.

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction(WMD) or any other weapon is strictly prohibited.

2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulation of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country.

Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

1. Specifications

Model	MXS6	MXS8	MXS12	MXS16	MXS20	MXS25
Cylinder size (mm)	φ6	φ8	φ12	φ16	φ20	φ25
Port size	M3x0.5	M5x0.8			Rc(PT)1/8	
Fluid	Air					
Action	Double acting type					
Operating pressure	0.15 - 0.7MPa{1.5 - 7.1kgf/cm ² }					
Proof pressure	1.05MPa{10.7kgf/cm ² }					
Ambient and fluid temperature	-10 - 60 C					
Operating speed range	50 - 500mm/s					
Cushion	Rubber damper					
Lubrication	Not required					
Auto switch (option)	Reed switch Solid state switch (2-wire, 3-wire system) Solid state switch; 2 color indication (2-wire, 3-wire system)					
Stroke tolerance	+1 0 mm					
Stroke adjustor(option)	Adjustment range; 5mm, Ahead end stroke adjustment					

2. Operating air and piping.

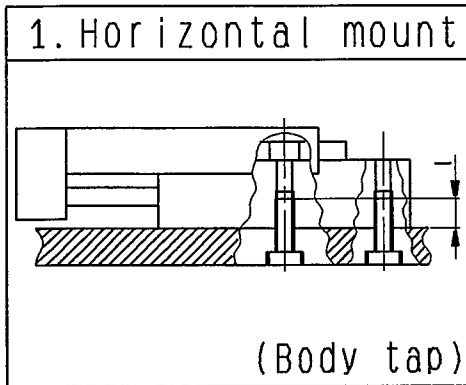
- 2-1 The applied air to the Air slide table should be filtrated with SMC's Air filter; AF series, and regulated to the set pressure with SMC's Regulator; AR series.
- 2-2 The inside of cylinder tube could be used with non-lube, however in case of lublicating, the turbine oil #1; ISO VG32 sould be applied.
(Never use machine oil or spindle oil)
- 2-3 SMC's Speed controller; AS series should be connected to the piping, and set the appropriate speed with the meter out.
- 2-4 Thoroughly flush the fittings to remove dust or chips from the inside of the Air slide table.

3. How to mount and adjust.

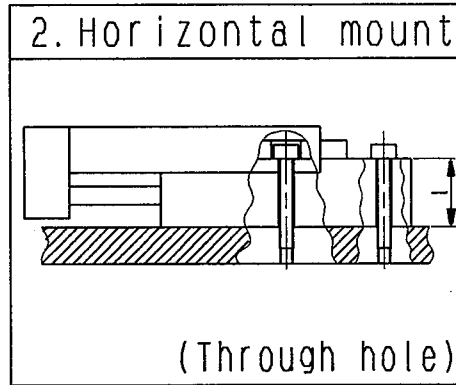
3-1 How to mount the Air slide table

The Air slide table can be mounted in three directions.

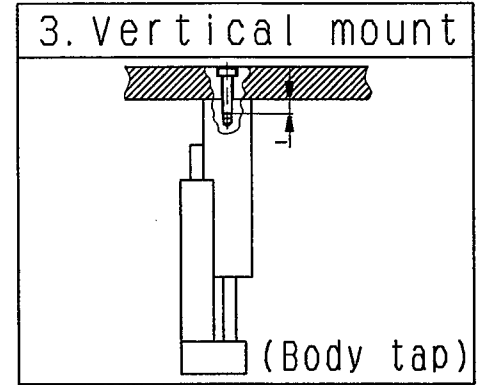
The direction should be selected according to be machine or work.



Model	Fixing bolt	Max. tightening torque N·m(kgf·cm)	Max. thread depth (lmm)
MXS6	M4×0.7	2.1{21.4}	8
MXS8			
MXS12	M5×0.8	4.4{44.9}	10
MXS16	M6×1	7.4{75.5}	12
MXS20	M6×1	7.4{75.5}	12
MXS25	M8×1.25	18{180}	16



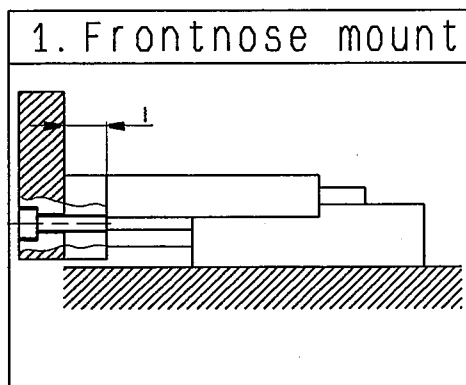
Model	Fixing bolt	Max. tightening torque N·m(kgf·cm)	l (mm)
MXS6	M3×0.5	1.2{12.2}	11
MXS8			13
MXS12	M4×0.7	2.8{28.6}	18.5
MXS16	M5×0.8	5.7{58.1}	24
MXS20	M5×0.8	5.7{58.1}	29
MXS25	M6×1	10{100}	34



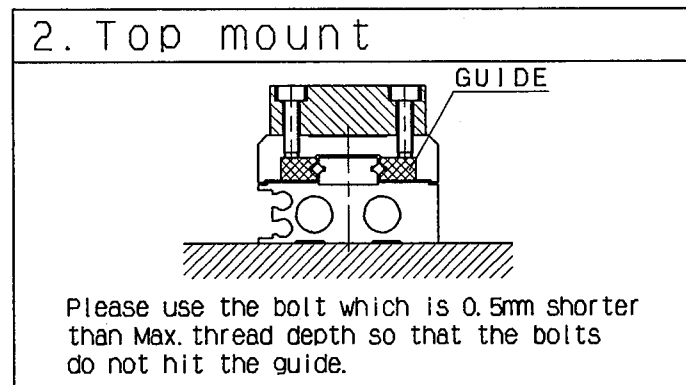
Model	Fixing bolt	Max. tightening torque N·m(kgf·cm)	Max. thread depth (lmm)
MXS6	M2.5×0.45	0.5{5.1}	3.5
MXS8	M3×0.5	0.9{9.2}	4
MXS12	M4×0.7	2.1{21.4}	6
MXS16	M5×0.8	4.4{44.9}	7
MXS20	M5×0.8	4.4{44.9}	8
MXS25	M6×1	7.4{75.5}	10

3-2 How to mount the work

The work can be mounted to two sides of Air slide table.



Model	Fixing bolt	Max. tightening torque N·m(kgf·cm)	Max. thread depth (lmm)
MXS6	M3×0.5	0.9{9.2}	5
MXS8	M4×0.7	2.1{21.4}	6
MXS12	M5×0.8	4.4{44.9}	8
MXS16	M6×1	7.4{75.5}	10
MXS20	M6×1	7.4{75.5}	13
MXS25	M8×1.25	18{180}	15



Model	Fixing bolt	Max. tightening torque N·m(kgf·cm)	Max. thread depth (lmm)
MXS6	M3×0.5	0.9{9.2}	4
MXS8			5
MXS12	M4×0.7	2.1{21.4}	5.5
MXS16	M5×0.8	4.4{44.9}	6
MXS20	M5×0.8	4.4{44.9}	10
MXS25	M6×1	7.4{75.5}	13

<NOTE>

1. As the table is supported with precise bearings, strong shock and large moment should be avoided when works are mounted.
2. Works should be mounted with table withdrawn (astern end).
3. Any flaw, bruise and so forth of the contact surface of piston rod can be caused the wrong operation and the air leakage.

3-3 Centering adjustment

In case of the connection to the load which have supporting and guiding systems at the outside, the suitable way of connection should be selected and the centering should be done enough.

3-4 Speed adjustment

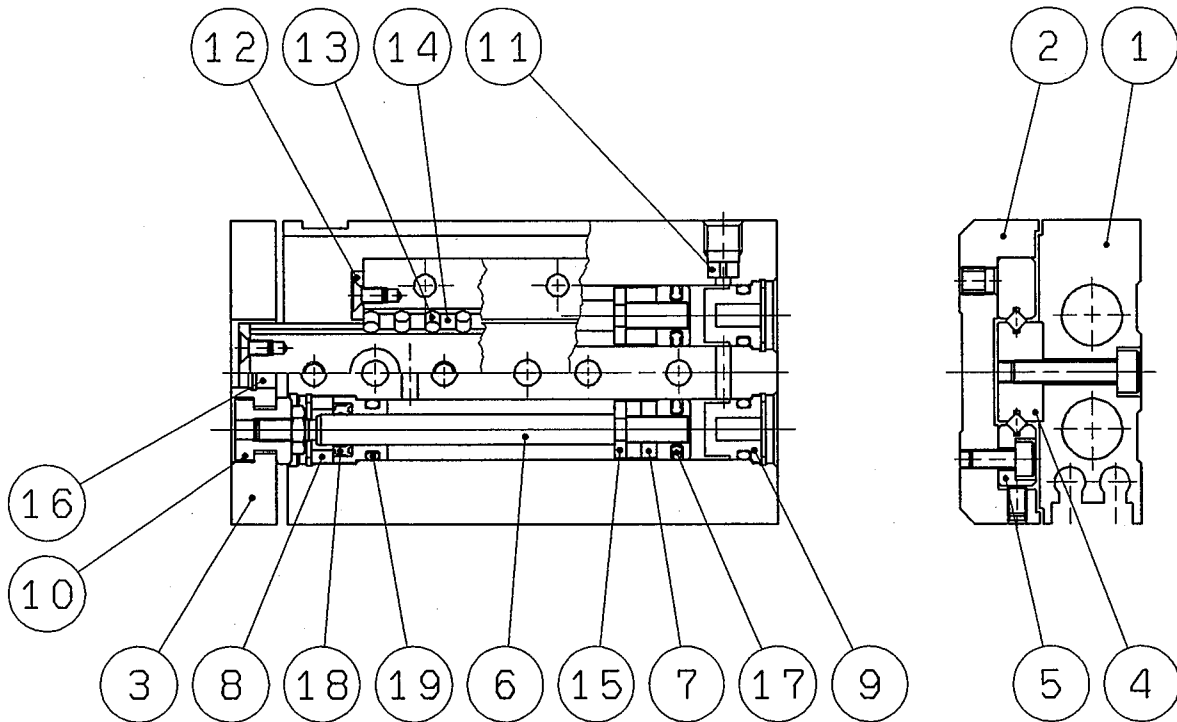
Excessive fast piston speed increases the shock which gives the guide part of table, and shortens the life span. Therefore SMC's Speed controller; AS series should be connected and set the appropriate speed with the meter-out.

3-5 Atmosphere

The Air slide table should be used in the ordinary atmosphere.

The operation at the place where the cutting oil and dust can be put causes the air leakage and wrong operation. Therefore, it should be avoided.

4. Construction and parts list



Parts list

No	Part	Material	Note	No	Part	Material	Note
1	Body	Aluminum alloy	Hard alumite treatment	9	Head cap	Resin	
2	Table	Aluminum alloy	Hard alumite treatment	10	Floating bush	Stainless steel	
3	End plate	Aluminum alloy	Hard alumite treatment	11	Orifice	Brass	Electroless nickel plating
4	Rail	Carbon steel	Heat treatment	12	Roller stopper	Stainless steel	
5	Guide	Carbon steel	Heat treatment	13	Cylindrical roller	High carbon chrome steel	
6	rod	Stainless steel		14	Roller spacer	Resin	
7	Piston Ass'y	—	With magnet on one side	15	Rod damper	Urethane rubber	
8	Packing support	Brass	Electroless nickel plating	16	End damper	Urethane rubber	

Packing list

No	Part	Material	Parts No					
			MXS6	MXS8	MXS12	MXS16	MXS20	MXS25
17	Piston packing	NBR	P3311013	P3800213	PSD-12	PSD-16	PSD-20	PSD-25
18	Rod packing	NBR	P3800114	P3800214	PDU-6Z	PDU-8Z	PDU-10Z	PDU-12Z
19	O ring	NBR	P3800130	P3800230	P3800330	P3800430	P3800530	P3800630

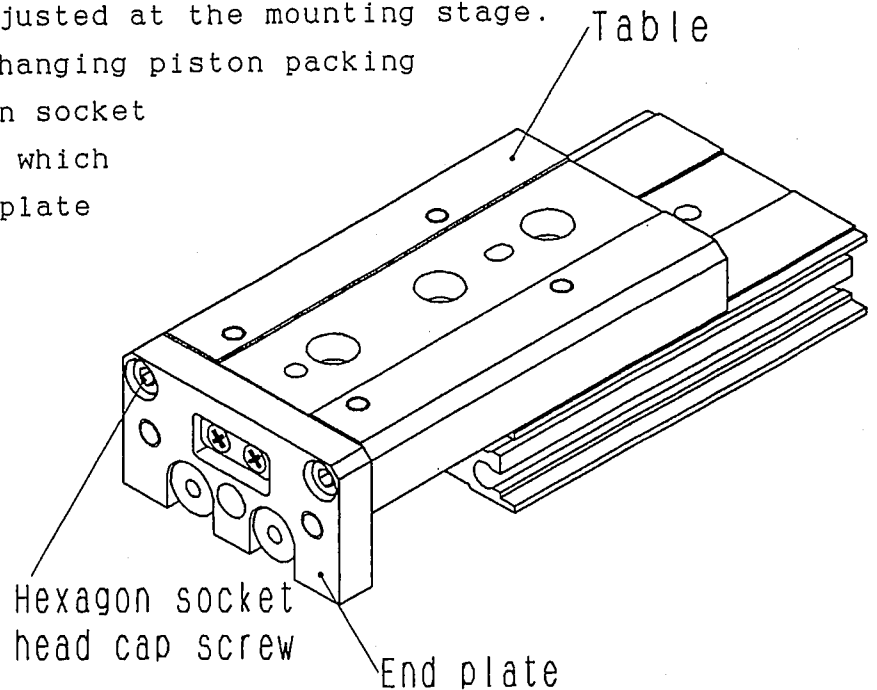
5.Maintenance

5-1 Notes

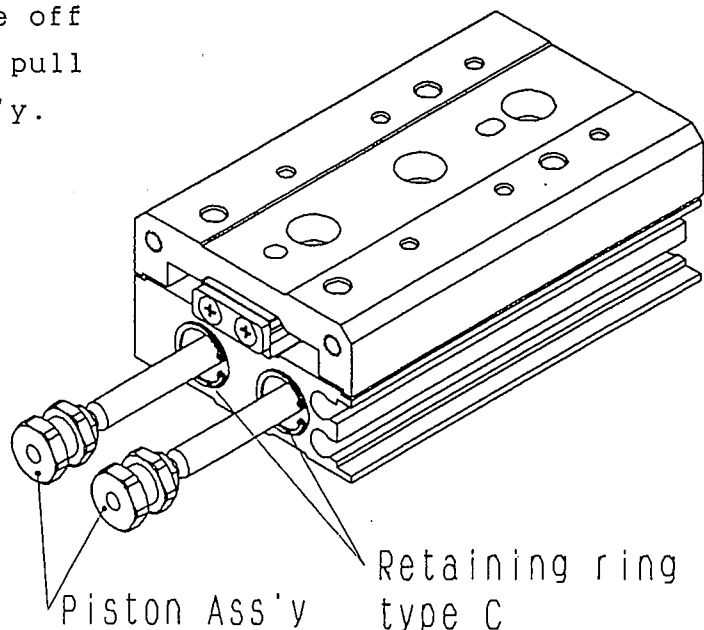
- A** ① Replenishment of grease to the guide section
No grease replenishment is necessary for pre-lubrication.
When it is necessary to replenish, lithium based grease should be used.
- A** ② Replenishment of grease during piston packing replacement.
Apply special grease to the piston packing section and the sliding section.
(Grease No.:GR-L)
- ③ The cross roller part which is the guide system of the Air slide table, should not be taken apart because the pre-load has been already adjusted at the mounting stage.

5-2 Procedures of the changing piston packing

1. Loosen the Hexagon socket head cap screw which connects the end plate and table.



2. Put the Retaining ring type C, and take off with the tool, then pull out the piston Ass'y.



3. Change the piston packing.

Revision history

SMC Corporation

4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021 JAPAN

Tel: + 81 3 5207 8249 Fax: +81 3 5298 5362

URL <https://www.smcworld.com>

Note: Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.
© 2019 SMC Corporation All Rights Reserved