

# Air Slide Table Series *MXS*

## How to Order

Air slide table

**MXS 12**  - **50** **AS** **FR** - **M9BW**  -

### Port thread type

Nii	M thread	ø6 to ø16
	Rc	
TN	NPT	ø20, ø25
TF	G	

### Bore size (Stroke (mm))

<b>6</b>	10, 20, 30, 40, 50
<b>8</b>	10, 20, 30, 40, 50, 75
<b>12</b>	10, 20, 30, 40, 50, 75, 100
<b>16</b>	10, 20, 30, 40, 50, 75, 100, 125
<b>20</b>	10, 20, 30, 40, 50, 75, 100, 125, 150
<b>25</b>	10, 20, 30, 40, 50, 75, 100, 125, 150

### Adjuster option

<b>Nil</b>	Without adjuster
<b>AS</b>	Adjuster on extension end
<b>AT</b>	Adjuster on retraction end
<b>A</b>	Adjuster on both ends
<b>BS</b> <sup>(1)</sup>	Absorber on extension end
<b>BT</b> <sup>(1)</sup>	Absorber on retraction end
<b>B</b> <sup>(1)</sup>	Absorber on both ends
<b>ASBT</b> <sup>(1)</sup>	Adjuster on extension end + Absorber on retraction end
<b>BSAT</b> <sup>(1)</sup>	Absorber on extension end + Adjuster on retraction end

Note 1) Options BS, BT and B are not available with the MXS6 series.

### Number of auto switches

<b>Nil</b>	2 pcs.
<b>S</b>	1 pc.
<b>n</b>	"n" pcs.

Made to order  
For details refer to page 55.

### Auto switch

**Nil** Without auto switch (Built-in magnet)

\* For the applicable auto switch models, refer to the table below. For the applicable auto switches for buffer, refer to page 73.

### Functional option

<b>Nil</b>	Standard
<b>F</b>	With buffer
<b>R</b> <sup>(2)</sup>	With end lock
<b>P</b>	Axial piping type
<b>FR</b> <sup>(2)</sup>	With buffer and end lock
<b>FP</b>	With buffer, Axial piping type

Note 2) Option R is not available with the MXS6 series.

### Option Combinations

Adjuster option	Functional option	Functional option					
		Nil	F	R	P	FR	FP
<b>Nil</b>		○	○	○	○	○	○
<b>AS</b>		○	○ <sup>(3)</sup>	○	○	○ <sup>(3)</sup>	○ <sup>(3)</sup>
<b>AT</b>		○	○	×	×	×	×
<b>A</b>		○	○ <sup>(3)</sup>	×	×	×	×
<b>BS</b>		○	×	○	○	×	×
<b>BT</b>		○	○	×	×	×	×
<b>B</b>		○	×	×	×	×	×
<b>ASBT</b>		○	○ <sup>(3)</sup>	×	×	×	×
<b>BSAT</b>		○	×	×	×	×	×

○: Available ×: Not available

Note 3) When the buffer mechanism and the stroke adjuster on extension end are combined, the buffer stroke will be shorter by the length adjusted by the stroke adjuster on the extension end.

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

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)				Pre-wired connector	Applicable load			
					DC	AC	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)		IC circuit	Relay, PLC		
Solid state switch	Diagnostic indication (2-color indication)	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	<b>M9NV</b>	<b>M9N</b>	●	●	●	○			○	IC circuit
				3-wire (PNP)				<b>M9PV</b>	<b>M9P</b>	●	●	●	○	○			
				2-wire				<b>M9BV</b>	<b>M9B</b>	●	●	●	○	○			
				3-wire (NPN)				<b>M9NVW</b>	<b>M9NW</b>	●	●	●	○	○			
				3-wire (PNP)				<b>M9PVW</b>	<b>M9PW</b>	●	●	●	○	○			
				2-wire				<b>M9BWW</b>	<b>M9BW</b>	●	●	●	○	○			
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	24 V	5 V	—	<b>A96V</b>	<b>A96</b>	●	—	●	—	—	IC circuit	—	
				2-wire				100 V	<b>A93V</b>	<b>A93</b>	●	—	●	—	—	—	Relay, PLC
								100 V or less	<b>A90V</b>	<b>A90</b>	●	—	●	—	—	—	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.

\* Since there are additional applicable auto switches than are listed, refer to page 82 for details.

\* For details on auto switches with a pre-wired connector, refer to pages 1784 and 1785.

\* Auto switches are shipped together (not assembled).

## Specifications



Bore size (mm)	6	8	12	16	20	25
<b>Piping port size</b>	M3 x 0.5	M5 x 0.8		Rc 1/8, NPT 1/8, G 1/8		
<b>Fluid</b>	Air					
<b>Action</b>	Double acting					
<b>Operating pressure</b>	0.15 to 0.7 MPa					
<b>Proof pressure</b>	1.05 MPa					
<b>Ambient and fluid temperature</b>	-10 to 60°C					
<b>Piston speed</b>	50 to 500 mm/s					
<b>Cushion</b>	Rubber bumper (Standard, With stroke adjuster) Shock absorber (Optional)					
<b>Lubrication</b>	Non-lube					
<b>Auto switch (Optional)</b>	Reed auto switch (2-wire, 3-wire) Solid state auto switch (2-wire, 3-wire) 2-color indication solid state auto switch (2-wire, 3-wire)					
<b>Stroke length tolerance</b>	$\begin{matrix} +1 \\ 0 \end{matrix}$ mm					

## Option

Adjuster options	With stroke adjuster	Extension end (AS)	Stroke adjustment range 0 to 5 mm
		Retraction end (AT)	
		Adjuster on both ends (A)	
With shock absorber	With shock absorber	Extension end (BS)	W/ shock absorber is not available with the MXS6 series.
		Retraction end (BT)	
		Absorber on both ends (B)	
Functional options	With buffer (F)	With end lock (R)	W/ end lock is not available with the MXS6 series.
		Axial piping type (P)	

\* For details of adjuster and functional option, refer to "Optional Specifications" on pages 70 to 73.



### Made to Order

(For details, refer to pages 1955 to 2021.)

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)
-X33	Without built-in auto switch magnet
-X39	Fluororubber seal
-X42	Anti-corrosive specifications for guide unit
-X45	EPDM seal

For clean room specifications, refer to "Pneumatic Clean Series" catalog.

## Standard Stroke

Model	Standard stroke (mm)
MXS6	10, 20, 30, 40, 50
MXS8	10, 20, 30, 40, 50, 75
MXS12	10, 20, 30, 40, 50, 75, 100
MXS16	10, 20, 30, 40, 50, 75, 100, 125
MXS20	10, 20, 30, 40, 50, 75, 100, 125, 150
MXS25	10, 20, 30, 40, 50, 75, 100, 125, 150

## Mass

Model	Standard stroke (mm)									Additional mass of adjuster option				Additional mass of functional option		
	10	20	30	40	50	75	100	125	150	Rubber stopper		Shock absorber		With buffer	With end lock	Axial piping type S: Stroke (mm)
	Extension end		Retraction end		Extension end		Retraction end		Extension end	Retraction end						
MXS6 (L)	80	100	115	155	180	—	—	—	—	10	5	—	—	30	—	13+0.15S
MXS8 (L)	150	160	190	235	285	410	—	—	—	15	9	35	45	40	40	26+0.17S
MXS12 (L)	325	325	325	385	480	660	890	—	—	30	20	50	60	80	90	43+0.21S
MXS16 (L)	570	570	580	640	760	1090	1370	1700	—	50	30	80	105	120	160	55+0.21S
MXS20 (L)	960	980	1010	1100	1250	1630	2150	2670	3190	100	71	170	205	140	310	150+0.45S
MXS25 (L)	1660	1680	1690	1840	2090	2650	3270	4140	4710	150	125	215	300	240	540	220+0.45S



## Theoretical Output

The dual rod ensures an output twice that of existing cylinders. (N)

Bore size (mm)	Rod size (mm)	Operating direction	Piston area (mm <sup>2</sup> )	Operating pressure (MPa)					
				0.2	0.3	0.4	0.5	0.6	0.7
6	3	OUT	57	11	17	23	29	34	40
		IN	42	8	13	17	21	25	29
8	4	OUT	101	20	30	40	51	61	71
		IN	75	15	23	30	38	45	53
12	6	OUT	226	45	68	90	113	136	158
		IN	170	34	51	68	85	102	119
16	8	OUT	402	80	121	161	201	241	281
		IN	302	60	91	121	151	181	211
20	10	OUT	628	126	188	251	314	377	440
		IN	471	94	141	188	236	283	330
25	12	OUT	982	196	295	393	491	589	687
		IN	756	151	227	302	378	454	529

Note) Theoretical output (N) = Pressure (MPa) x Piston area (mm<sup>2</sup>)

MXH

MXU

MXS

MXQ

MXF

MXW

MXJ

MXP

MXY

MTS

D-□

-X□

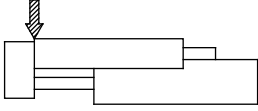
Individual

-X□

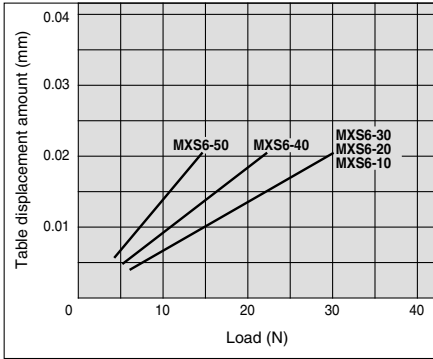
## Table Deflection (Reference Values)

### Table displacement due to pitch moment load

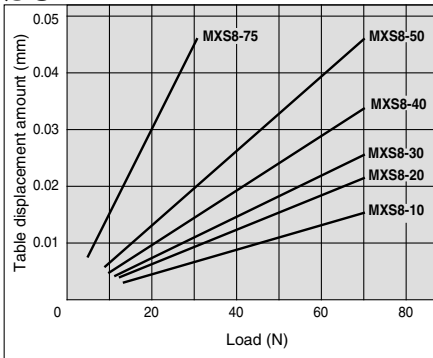
Table displacement when loads are applied to the section marked with the arrow at the full stroke.



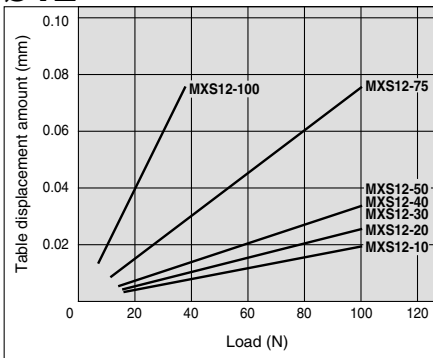
**ø6**



**ø8**

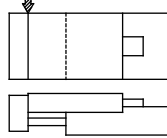


**ø12**

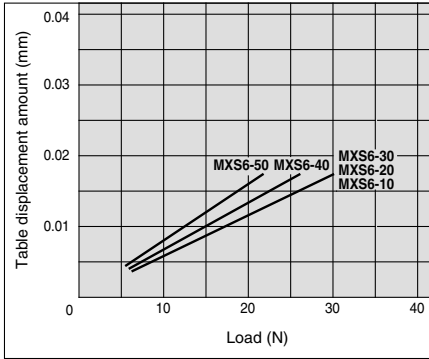


### Table displacement due to yaw moment load

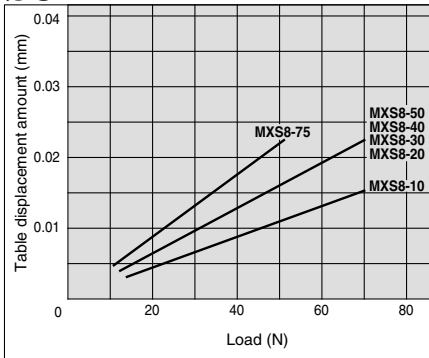
Table displacement when loads are applied to the section marked with the arrow at the full stroke.



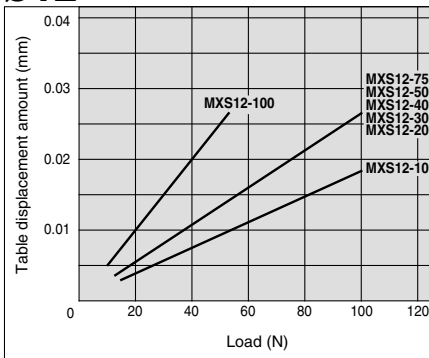
**ø6**



**ø8**

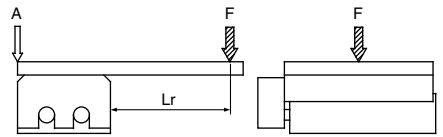


**ø12**

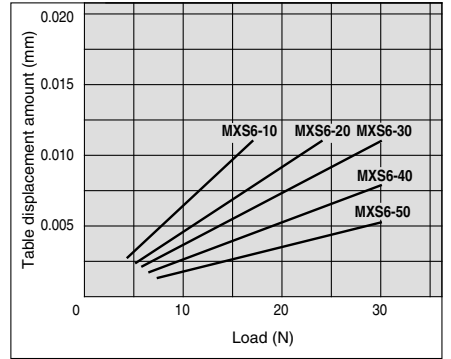


### Table displacement due to roll moment load

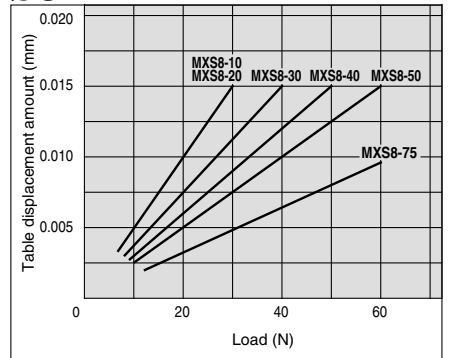
Table displacement of section A when loads are applied to the section F with the slide table retracted.



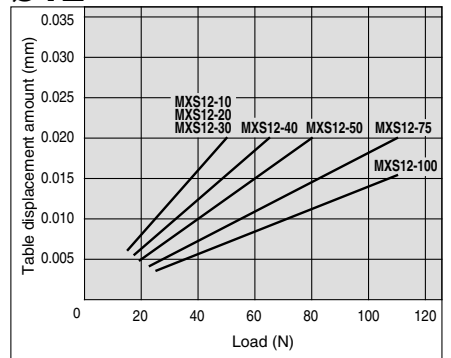
**ø6**



**ø8**



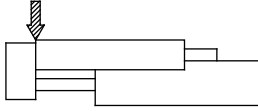
**ø12**



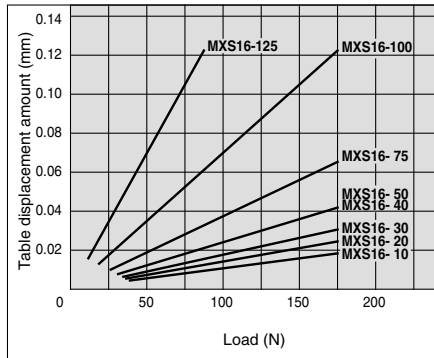
The graphs below show the table displacement when the static moment load is applied to the table. The graphs do not show the loadable mass. Refer to the Model Selection for the loadable mass.

## Table displacement due to pitch moment load

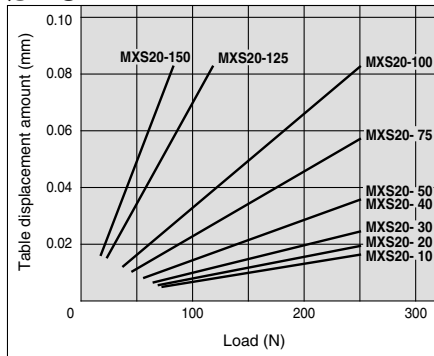
Table displacement when loads are applied to the section marked with the arrow at the full stroke.



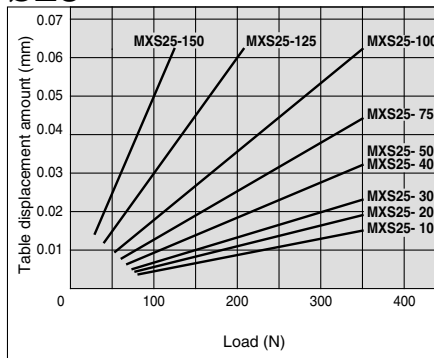
**ø16**



**ø20**

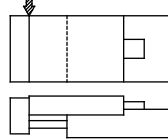


**ø25**

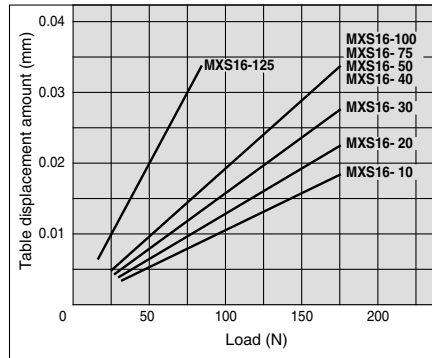


## Table displacement due to yaw moment load

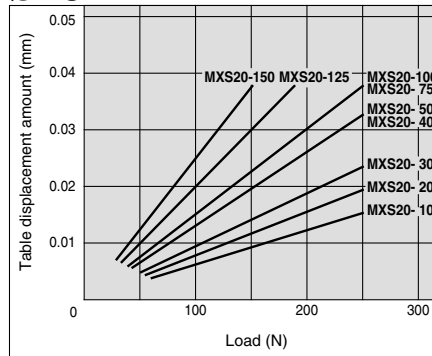
Table displacement when loads are applied to the section marked with the arrow at the full stroke.



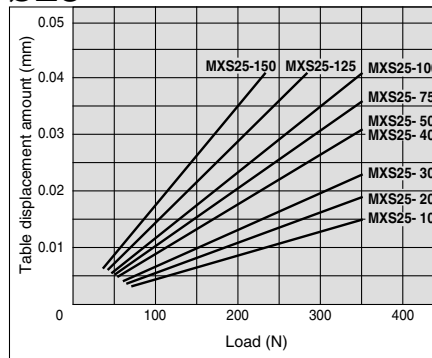
**ø16**



**ø20**

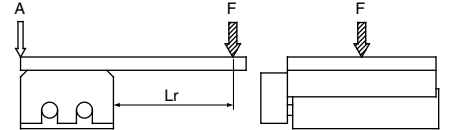


**ø25**

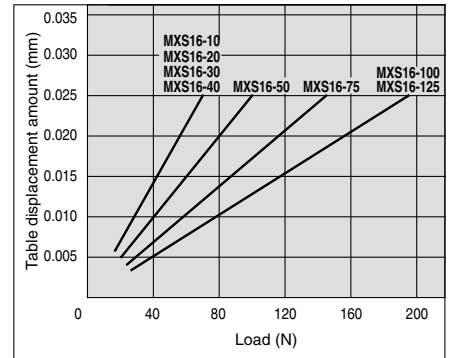


## Table displacement due to roll moment load

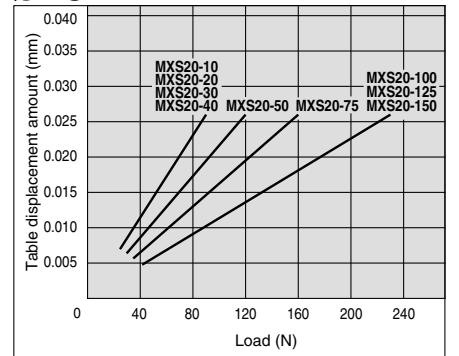
Table displacement of section A when loads are applied to the section F with the slide table retracted.



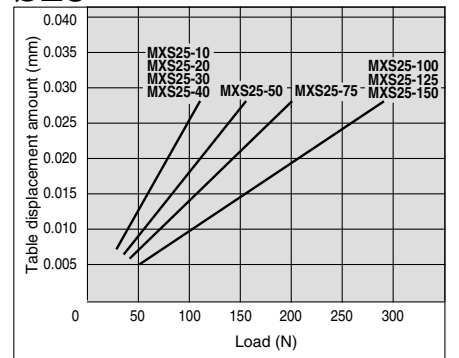
**ø16**



**ø20**



**ø25**



MXH

MXU

MXS

MXQ

MXF

MXW

MXJ

MXP

MXY

MTS

D-□

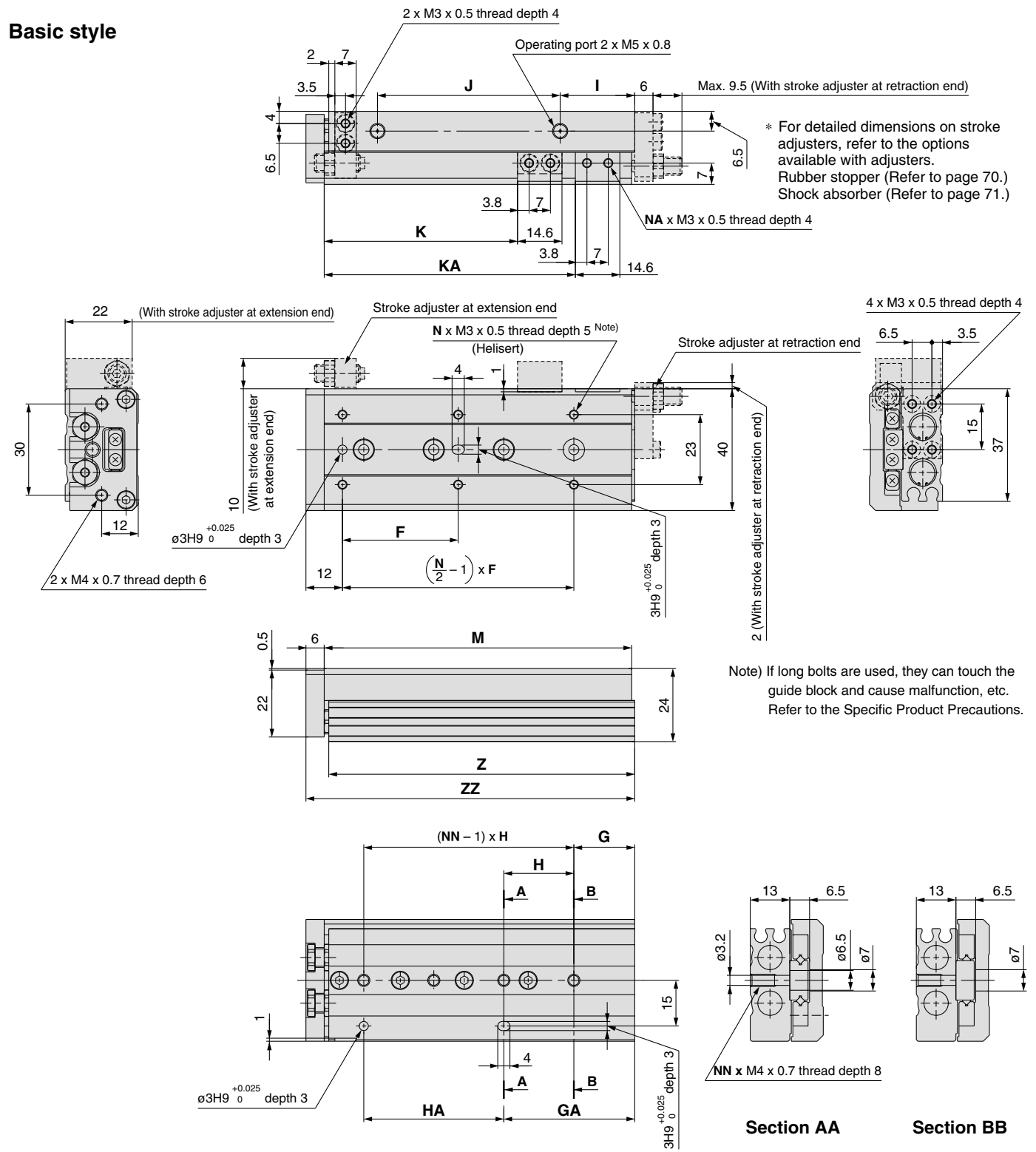
-X□

Individual  
-X□

# Series MXS

## Dimensions: MXS8

### Basic style



(mm)

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXS8-10	25	4	9	28	2	17	20	13	19.5	23.5	—	2	49	48.5	56
MXS8-20	25	4	12	30	2	12	30	8.5	29	33.5	—	2	54	53.5	61
MXS8-30	40	4	13	20	3	33	20	9.5	39	43.5	—	2	65	64.5	72
MXS8-40	50	4	15	28	3	43	28	10.5	56	53.5	—	2	83	82.5	90
MXS8-50	38	6	20	23	4	43	46	24.5	60	63.5	82.5	4	101	100.5	108
MXS8-75	50	6	27	28	5	83	56	38.5	96	88.5	132.5	4	151	150.5	158