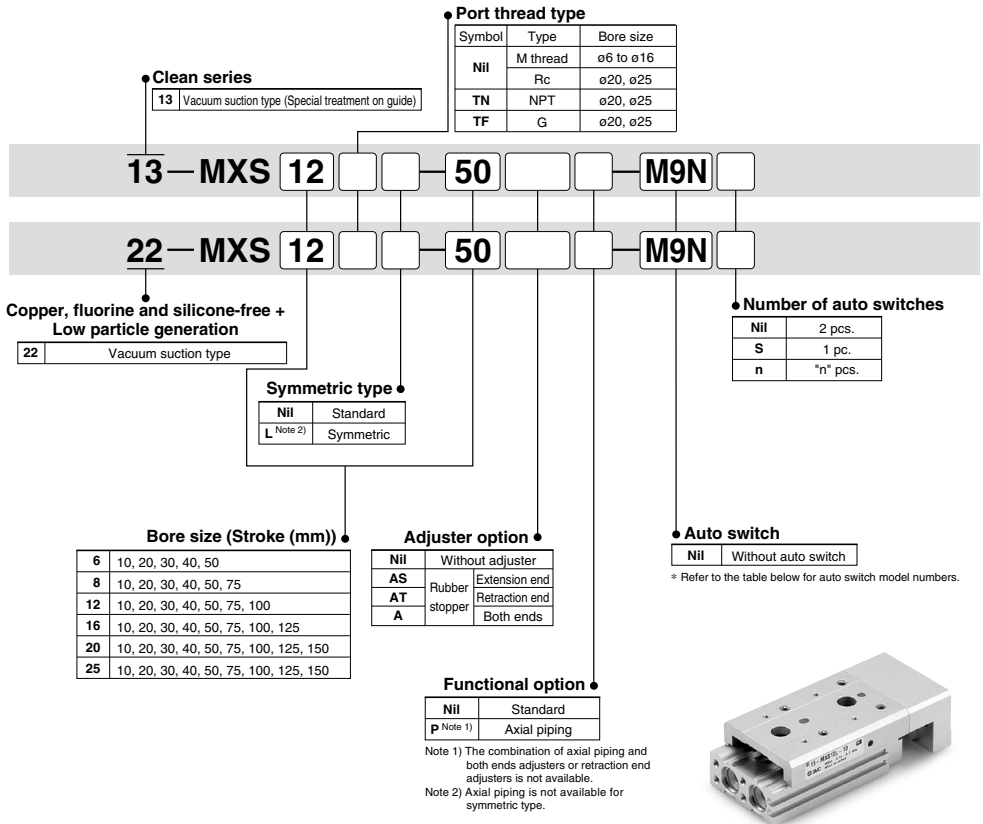


Series 13-22-MXS

ø6, ø8, ø12, ø16, ø20, ø25
Air Slide Table

RoHS

How to Order



Auto Switch Specifications (Refer to the WEB catalog for detailed specifications and auto switches not in the following table.)

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Auto switch model	Lead wire length (m) *		Applicable load	
					DC	AC	In-line	Electrical entry direction	0.5 (Nil)	3 (L)		
Reed auto switch	—	Grommet	Yes	2-wire	24 V	12 V	100 V	A93	●	●	—	Relay, PLC
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24 V	12 V	—	M9N	●	●	—	Relay, PLC
				2-wire		12 V		M9B	●	●		

* Lead wire length symbols: 0.5 m.....Nil (Example) A93
3 m.....L (Example) A93L

PLC: Programmable Logic Controller

Refer to page 889 for the applicable auto switch list.

Specifications

Bore size (mm)	6	8	12	16	20	25
Fluid	Air					
Action	Double acting					
Operating pressure	0.15 to 0.7 MPa					
Proof pressure	1.05 MPa					
Ambient and fluid temperature	-10 to 60°C (No freezing)					
Piston speed	50 to 300 mm/s					
Cushion	Rubber bumper (Standard, With stroke adjuster)					
Lubrication	Non-lube					
Stroke length tolerance	$^{+1}_0$ mm					
Grease	13-: Fluorine grease 22-: Lithium soap based grease					
Cleanliness class (ISO class)	Without adjuster	13-/22-: Class 5				
	Rubber stopper					

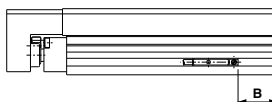
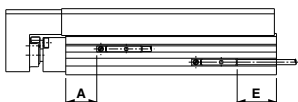
Suction Flow Rate of Vacuum Suction Type (Reference values)

Bore size	Suction flow rate L/min (ANR)
6, 8, 12	1
16	2
20	3
25	5

Adjuster Option Stroke Adjustment Range

With stroke adjuster	Extension end (AS)	Stroke adjustment range 0 to 5 mm
	Retraction end (AT)	
	Both ends (A)	

Auto Switch Proper Mounting Position (Detection at Stroke End)



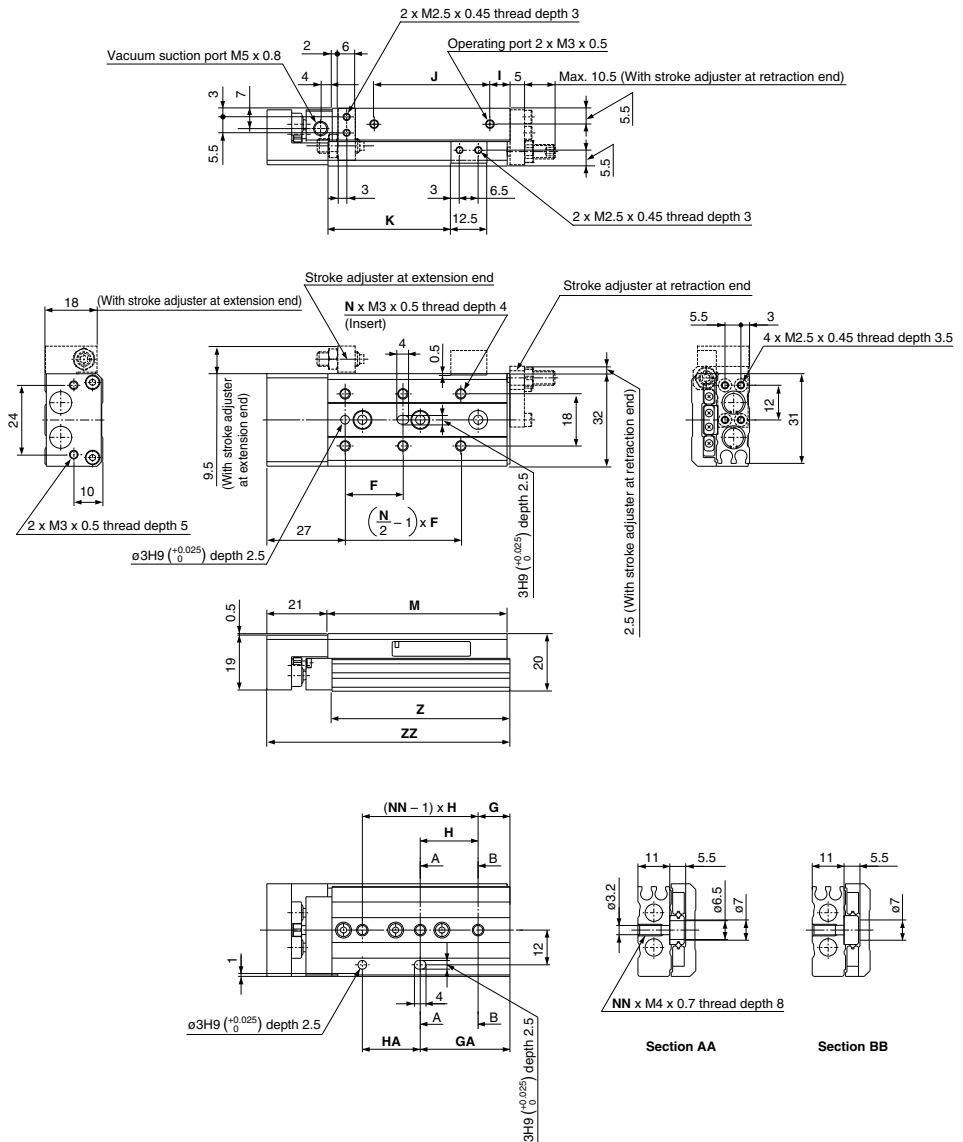
Reed auto switch: D-A93

Model	A	B										E										Auto switch operating range
		Stroke										Stroke										
		10	20	30	40	50	75	100	125	150	10	20	30	40	50	75	100	125	150			
13-/22-MXS6	5.9	5.6	5.6	5.6	17.6	23.6	—	—	—	—	3.6 (1.1)	3.6 (1.1)	3.6 (1.1)	15.6 (13.1)	21.6 (19.1)	—	—	—	—	—	—	4.5
13-/22-MXS8	7.6	10.9	5.9	6.9	14.9	22.9	47.9	—	—	—	8.9 (6.4)	3.9 (1.4)	4.9 (2.4)	12.9 (10.4)	18.9 (16.4)	45.9 (43.4)	—	—	—	—	—	5
13-/22-MXS12	11.6	28.4	18.4	8.4	10.4	20.4	41.4	70.4	—	—	26.4 (23.9)	16.4 (13.9)	6.4 (3.9)	8.4 (5.9)	18.4 (15.9)	39.4 (36.9)	68.4 (65.9)	—	—	—	—	6
13-/22-MXS16	16.3	28.7	18.7	8.7	8.7	13.7	38.7	61.7	86.7	—	26.7 (24.2)	16.7 (14.2)	6.7 (4.2)	6.7 (4.2)	11.7 (9.2)	36.7 (34.2)	59.7 (57.2)	84.7 (82.2)	—	—	—	7
13-/22-MXS20	18.9	32.6	22.6	12.6	12.6	17.6	31.6	59.6	88.6	115.6	30.6 (28.1)	20.6 (18.1)	10.6 (8.1)	10.6 (8.1)	15.6 (13.1)	29.6 (27.1)	57.6 (55.1)	86.6 (84.1)	113.6 (111.1)	—	—	8
13-/22-MXS25	23	37.5	27.5	17.5	17.5	20.5	36.5	52.5	85.5	100.5	35.5 (33)	25.5 (23)	15.5 (13)	15.5 (13)	18.5 (16)	34.5 (32)	50.5 (48)	83.5 (81)	98.5 (96)	—	—	8

(): denotes D-A93.

Solid state auto switch: D-M9B, D-M9N

Model	A	B										E										Auto switch operating range
		Stroke										Stroke										
		10	20	30	40	50	75	100	125	150	10	20	30	40	50	75	100	125	150			
13-/22-MXS6	10	9.6	9.6	9.6	21.6	27.6	—	—	—	—	−0.4	−0.4	−0.4	11.6	17.5	—	—	—	—	1.5		
13-/22-MXS8	11.6	14.9	9.9	10.9	18.9	26.9	51.9	—	—	—	4.9	−0.1	0.9	8.9	16.9	41.9	—	—	—	1.5		
13-/22-MXS12	15.6	32.4	22.4	12.4	14.4	24.4	45.4	74.4	—	—	22.4	12.4	2.4	4.4	14.4	35.4	64.4	—	—	2.5		
13-/22-MXS16	20.3	32.7	22.7	12.7	12.7	17.7	42.7	65.7	90.7	—	22.7	12.7	2.7	2.7	7.7	32.7	55.7	80.7	—	3		
13-/22-MXS20	22.9	36.6	26.6	16.6	16.6	21.6	35.6	63.6	92.6	119.6	26.6	16.6	6.6	6.6	11.6	25.6	53.6	82.6	109.6	3		
13-/22-MXS25	27	41.5	31.5	21.5	21.5	24.5	40.5	56.5	89.5	104.5	31.5	21.5	11.5	11.5	14.5	30.5	46.5	79.5	94.5	3		

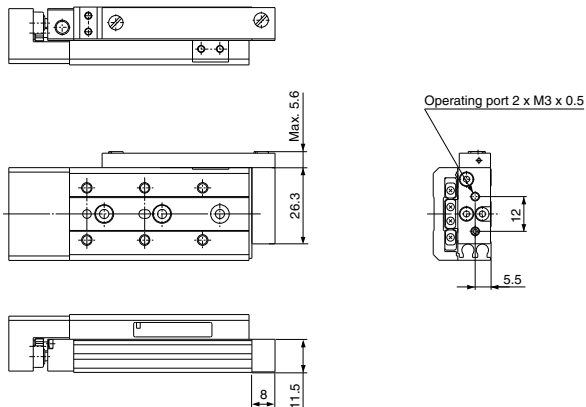
Dimensions: 13-22-MXS6**Basic**

Model	F	N	G	H	NN	GA	HA	I	J	K	M	Z	ZZ
13-22-MXS6-10	20	4	6	25	2	11	20	10	17	22.5	42	41.5	64
13-22-MXS6-20	30	4	6	35	2	21	20	10	27	32.5	52	51.5	74
13-22-MXS6-30	20	6	11	20	3	31	20	7	40	42.5	62	61.5	84
13-22-MXS6-40	28	6	13	30	3	43	30	19	50	52.5	84	83.5	106
13-22-MXS6-50	38	6	17	24	4	41	48	25	60	62.5	100	99.5	122

(mm)

Dimensions: ¹³⁻²²**MXS6**

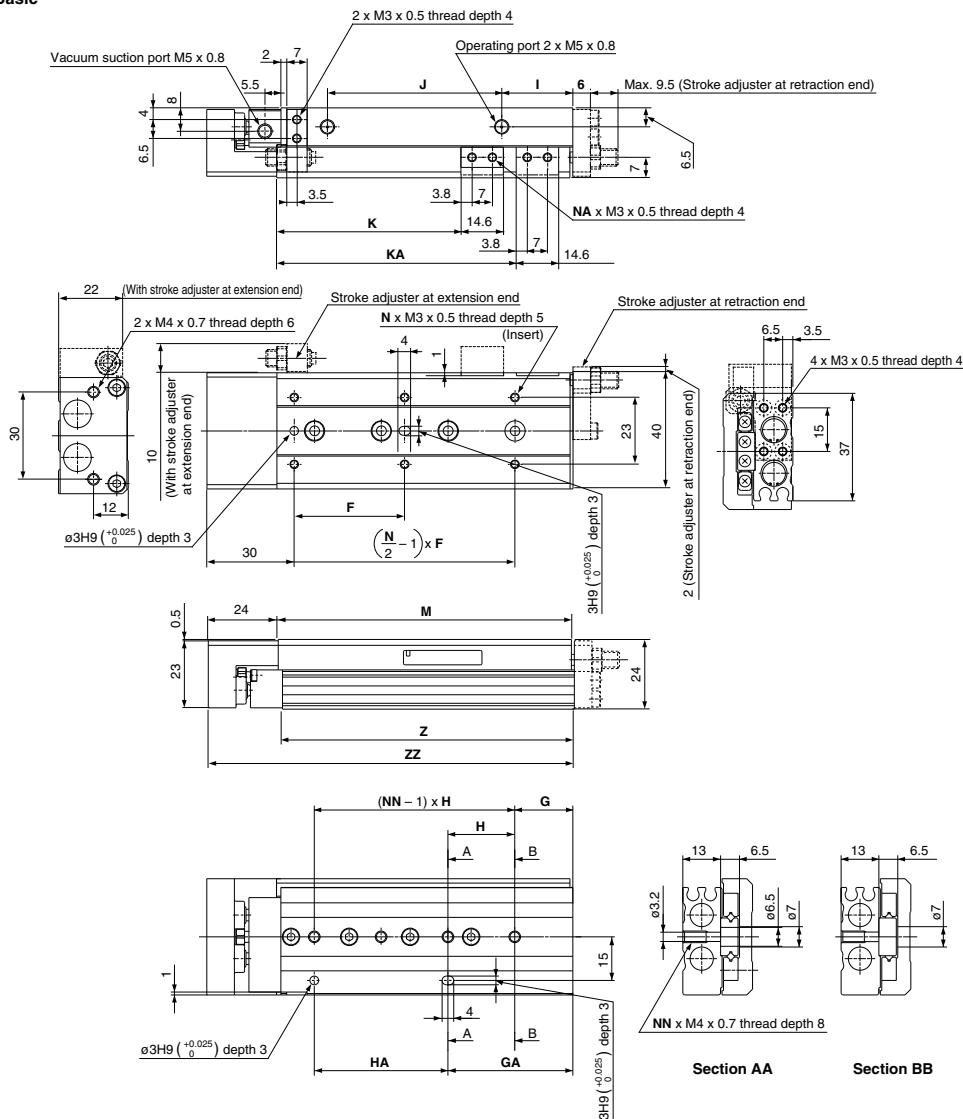
Axial piping (ø6): ¹³⁻²²**MXS6-□□P**



* Other dimensions are the same as those of basic type.

Dimensions: 13-22-MXS8

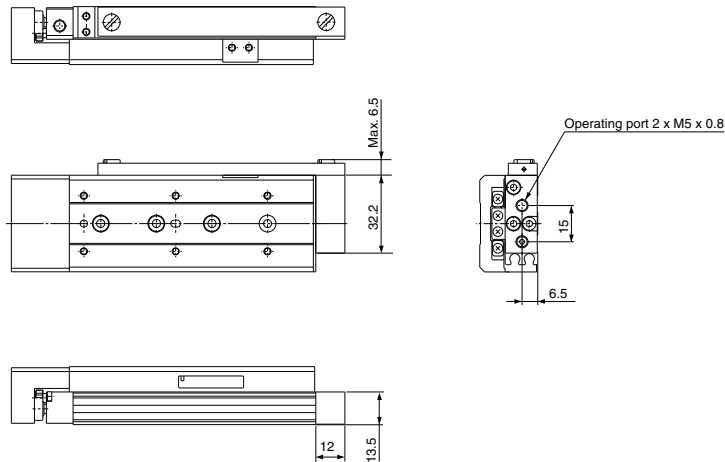
Basic



Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
13-/22-MXS8-10	25	4	9	28	2	17	20	13	19.5	23.5	—	2	49	48.5	74
13-/22-MXS8-20	25	4	12	30	2	12	30	8.5	29	33.5	—	2	54	53.5	79
13-/22-MXS8-30	40	4	13	20	3	33	20	9.5	39	43.5	—	2	65	64.5	90
13-/22-MXS8-40	50	4	15	28	3	43	28	10.5	56	53.5	—	2	83	82.5	108
13-/22-MXS8-50	38	6	20	23	4	43	46	24.5	60	63.5	82.5	4	101	100.5	126
13-/22-MXS8-75	50	6	27	28	5	83	56	38.5	96	88.5	132.5	4	151	150.5	176

Dimensions: 13-22-MXS8

Axial piping (ø8): 13-22-MXS8-□□P



* Other dimensions are the same as those of basic type.

Directional
Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation
Equipment

Modular F. R.

Pressure Control
Equipment

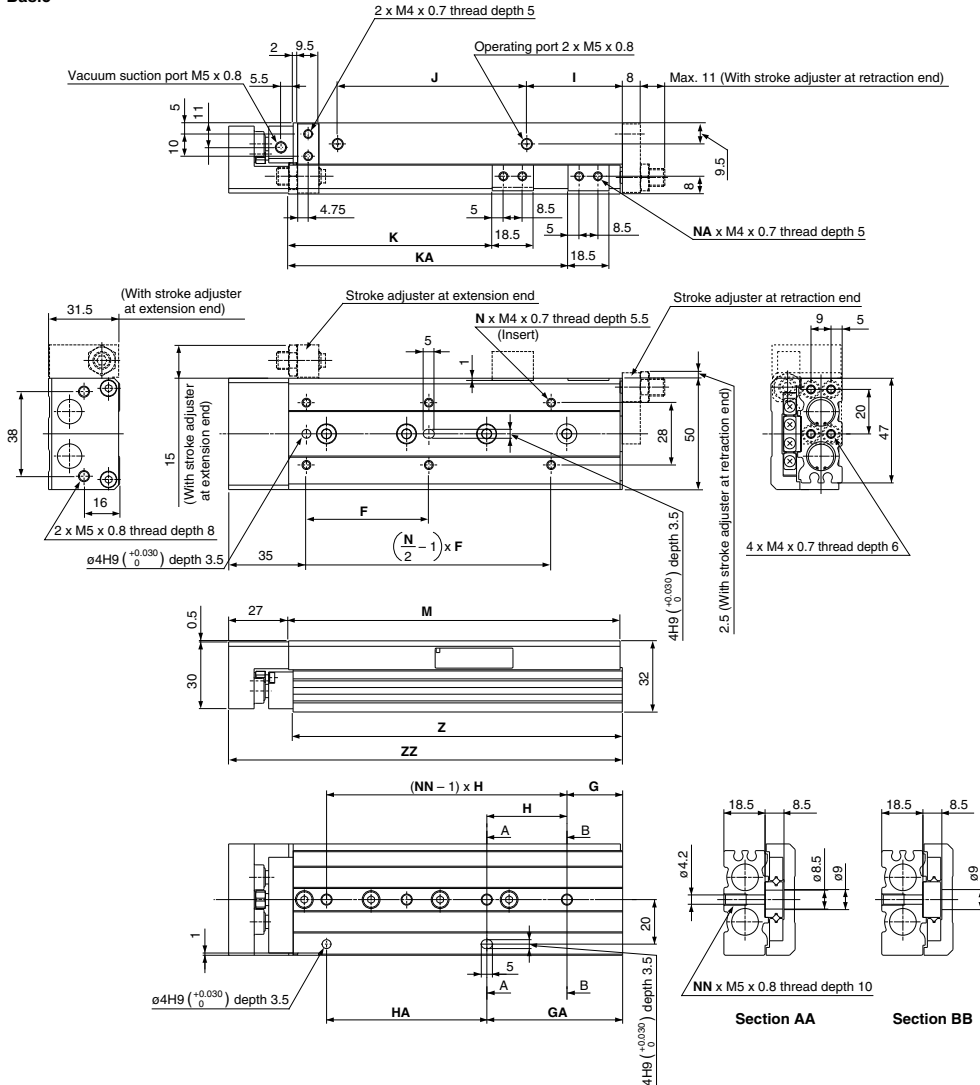
Fittings & Tubing

Flow Control
Equipment

Pressure Switches/
Pressure Sensors



785  Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

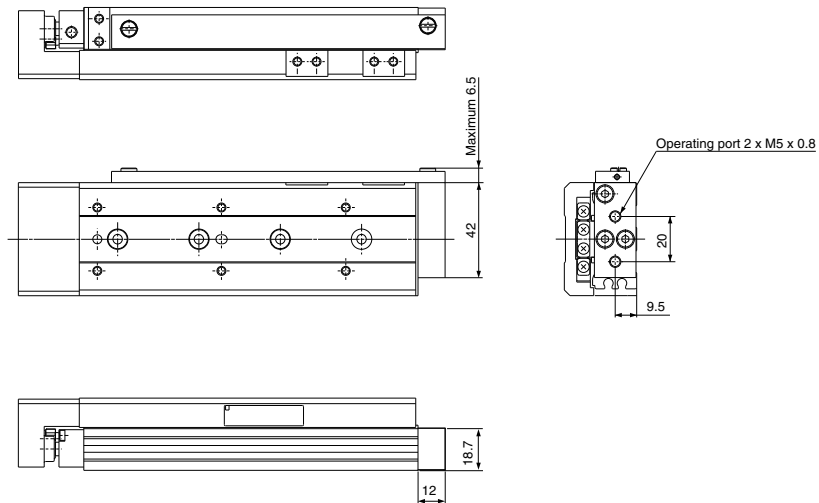
Dimensions: 13-22-MXS12**Basic**

(mm)

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
13-/22-MXS12-10	35	4	15	40	2	15	40	10	40	26.5	—	2	71	70	99
13-/22-MXS12-20	35	4	15	40	2	15	40	10	40	36.5	—	2	71	70	99
13-/22-MXS12-30	35	4	15	40	2	15	40	10	40	46.5	—	2	71	70	99
13-/22-MXS12-40	50	4	17	25	3	42	25	10	52	56.5	—	2	83	82	111
13-/22-MXS12-50	35	6	15	36	3	51	36	22	60	66.5	—	2	103	102	131
13-/22-MXS12-75	55	6	25	36	4	61	72	43	85	91.5	125.5	4	149	148	177
13-/22-MXS12-100	65	6	35	38	5	111	76	52	130	116.5	179.5	4	203	202	231

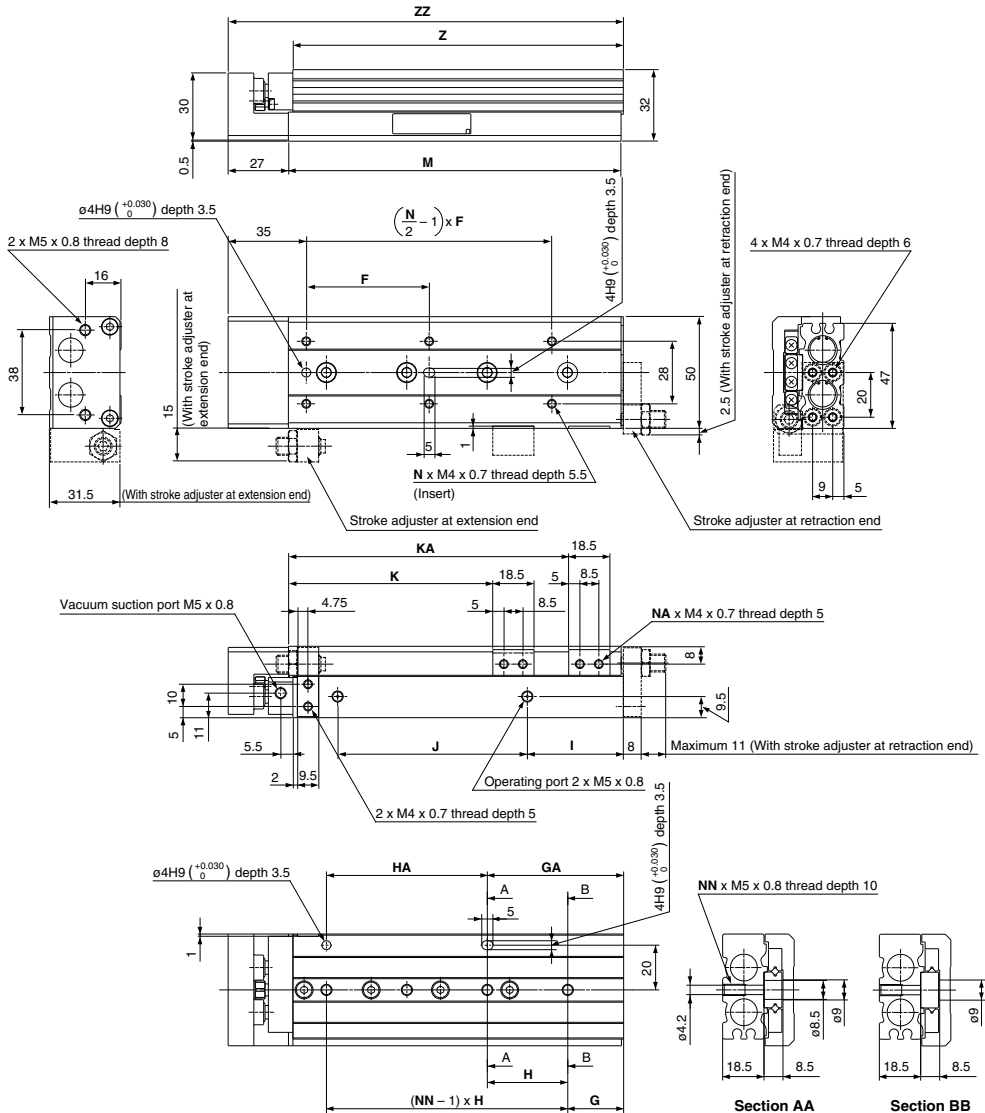
Dimensions: ¹³⁻²²MXS12

Axial piping (ø12) ¹³⁻²²MXS12-□□P



* Other dimensions are the same as those of basic type.

Dimensions: ¹³⁻₂₂₋MXS12L / Symmetric Type



Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ	(mm)
13-/22-MXS12L-10	35	4	15	40	2	15	40	10	40	25.5	—	2	71	70	99	
13-/22-MXS12L-20	35	4	15	40	2	15	40	10	40	35.5	—	2	71	70	99	
13-/22-MXS12L-30	35	4	15	40	2	15	40	10	40	45.5	—	2	71	70	99	
13-/22-MXS12L-40	50	4	17	25	3	42	25	10	52	55.5	—	2	83	82	111	
13-/22-MXS12L-50	35	6	15	36	3	51	36	22	60	65.5	—	2	103	102	131	
13-/22-MXS12L-75	55	6	25	36	4	61	72	43	85	115	125.5	4	149	148	177	
13-/22-MXS12L-100	65	6	35	38	5	111	76	52	130	116.5	179.5	4	203	202	231	

Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

Pressure Control Equipment

Fittings & Tubing

Flow Control Equipment

Pressure Switches/ Pressure Sensors

Vacuum suction port M5 x 0.8

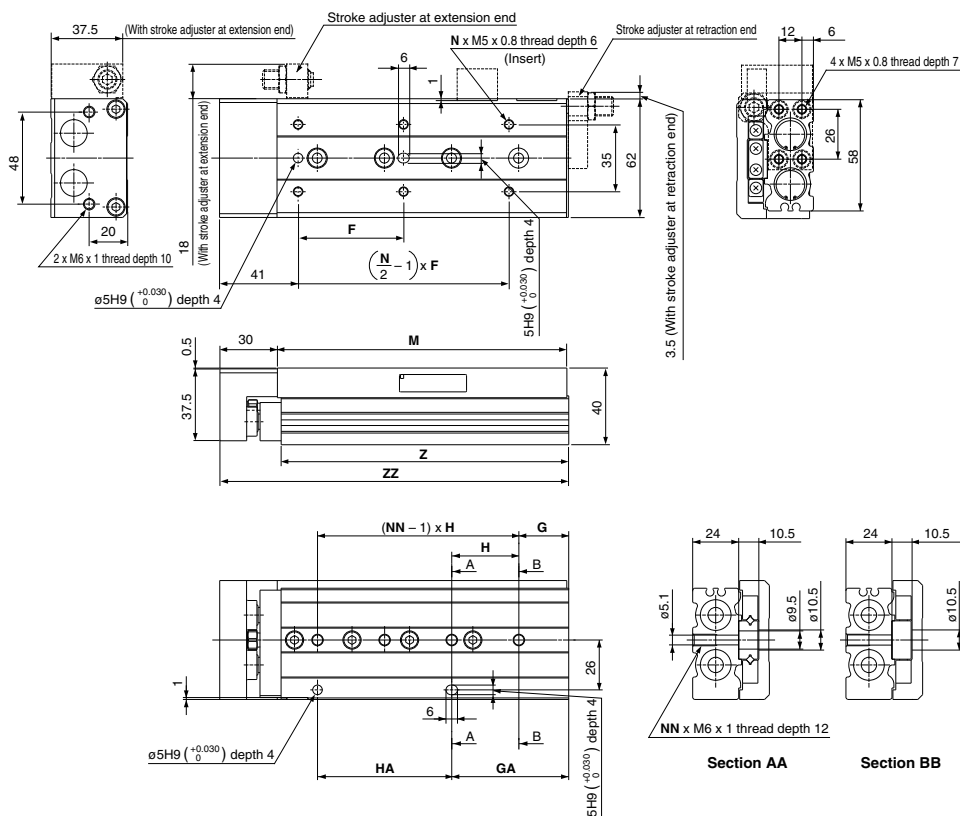
2 x M5 x 0.8 thread depth 5.5

Operating port 2 x M5 x 0.8

Maximum 13.5 (With stroke adjuster at retraction end)

NA x M5 x 0.8 thread depth 5.5

Dimensions: 11, 3, 6, 12, 12, 5.5, 5.5, 10, 10, 10, 12, 9.5, 5.5, K, KA, 21, 5.5, 10, 10, 5.5, 21, 11, 3, 6, 12, 12, 5.5, 10



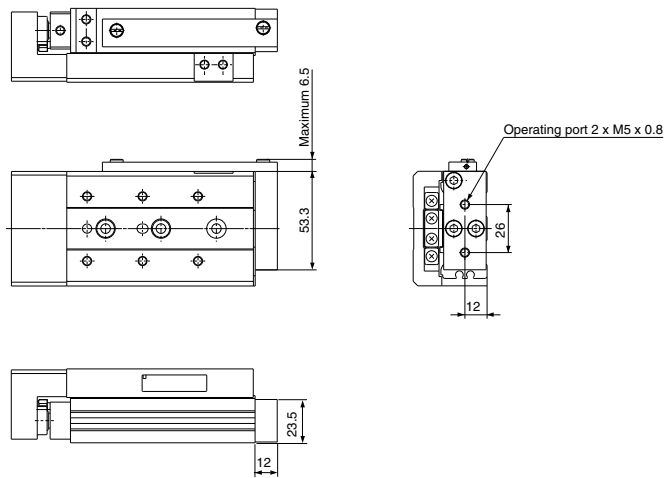
Section AA

Section BB

															(mm)	
Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ	
13-/22-MXS16-10	35	4	16	40	2	16	40	10	40	29	—	2	76	75	107	
13-/22-MXS16-20	35	4	16	40	2	16	40	10	40	39	—	2	76	75	107	
13-/22-MXS16-30	35	4	16	40	2	16	40	10	40	49	—	2	76	75	107	
13-/22-MXS16-40	40	4	16	50	2	16	50	10	50	59	—	2	86	85	117	
13-/22-MXS16-50	30	6	21	30	3	51	30	15	60	69	—	2	101	100	132	
13-/22-MXS16-75	55	6	26	35	4	61	70	40	85	94	125	4	151	150	182	
13-/22-MXS16-100	65	6	39	35	5	109	70	55	118	119	173	4	199	198	230	
13-/22-MXS16-125	70	8	19	35	7	159	70	68	155	144	273	4	249	248	280	

Dimensions: ¹³⁻²²⁻**MXS16**

Axial piping (ø16) ¹³⁻²²⁻**MXS16-□□P**



* Other dimensions are the same as those of basic type.

Directional
Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation
Equipment

Modular F. R.

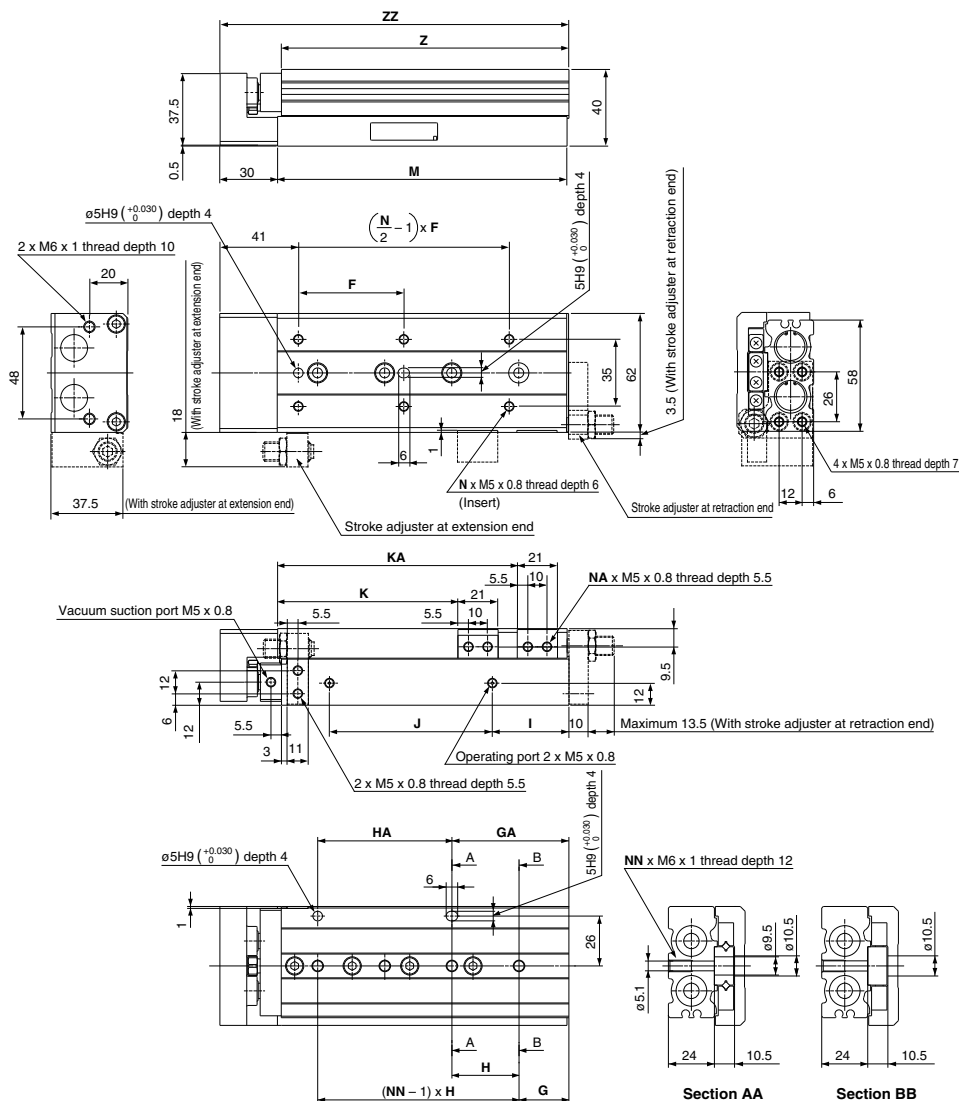
Pressure Control
Equipment

Fittings & Tubing

Flow Control
Equipment

Pressure Switches/
Pressure Sensors

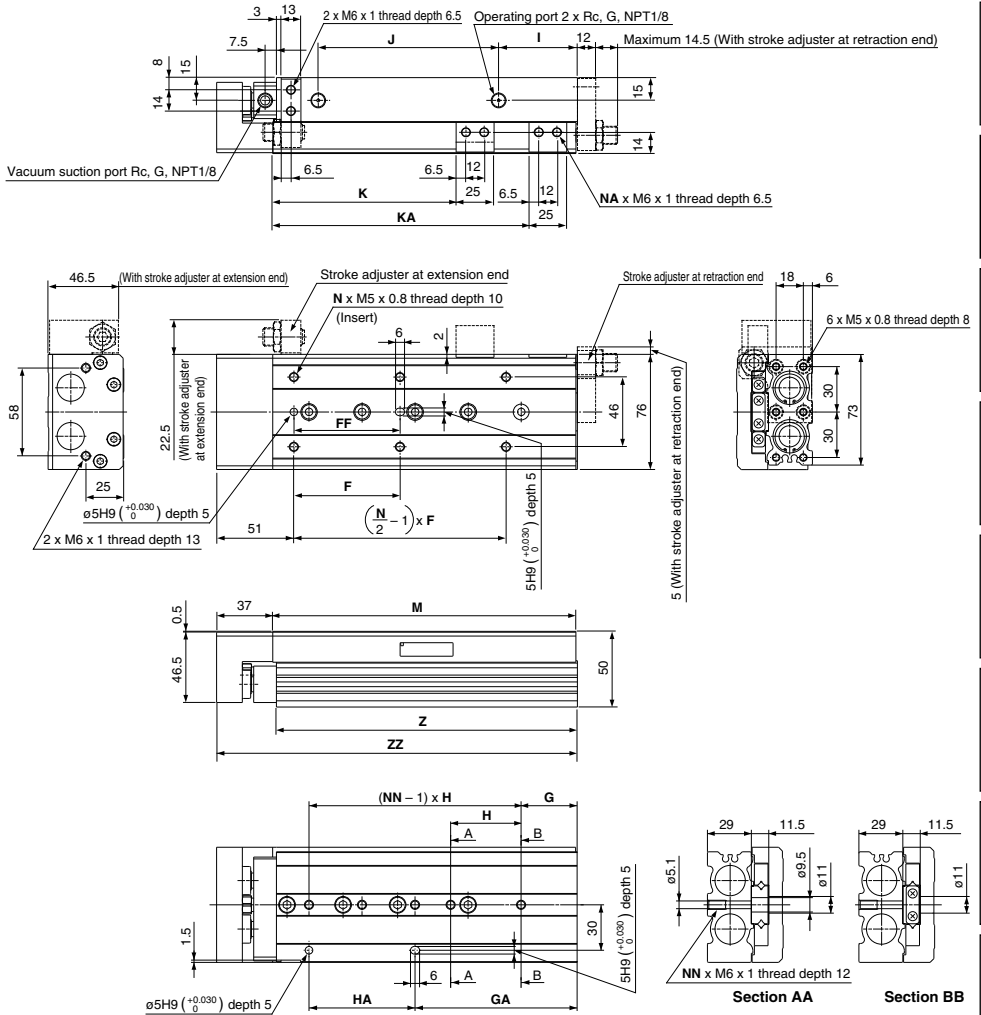
Dimensions: **13-22-MXS16L / Symmetric Type**



Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
13-/22-MXS16L-10	35	4	16	40	2	16	40	10	40	29	—	2	76	75	107
13-/22-MXS16L-20	35	4	16	40	2	16	40	10	40	39	—	2	76	75	107
13-/22-MXS16L-30	35	4	16	40	2	16	40	10	40	49	—	2	76	75	107
13-/22-MXS16L-40	40	4	16	50	2	16	50	10	50	59	—	2	86	85	117
13-/22-MXS16L-50	30	6	21	30	3	51	30	15	60	69	—	2	101	100	132
13-/22-MXS16L-75	55	6	26	35	4	61	70	40	85	94	125	4	151	150	182
13-/22-MXS16L-100	65	6	39	35	5	109	70	55	118	119	173	4	199	198	230
13-/22-MXS16L-125	70	8	19	35	7	159	70	68	155	144	223	4	249	248	280

Dimensions: 13-22- MXS20

Basic



Model	F	FF	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
13-/22-MXS20-10	50	40	4	15	45	2	25	35	10	44	31	—	2	83	81.5	121
13-/22-MXS20-20	50	40	4	15	45	2	25	35	10	44	41	—	2	83	81.5	121
13-/22-MXS20-30	50	40	4	15	45	2	25	35	10	44	51	—	2	83	81.5	121
13-/22-MXS20-40	60	50	4	15	55	2	35	35	10	54	61	—	2	93	91.5	131
13-/22-MXS20-50	35	35	6	15	35	3	50	35	10	69	71	—	2	108	106.5	146
13-/22-MXS20-75	60	60	6	19	35	4	54	70	10	108	96	—	2	147	145.5	185
13-/22-MXS20-100	70	70	6	37	35	5	107	70	58	113	121	169	4	200	198.5	238
13-/22-MXS20-125	70	70	8	41	38	6	155	76	70	155	146	223	4	254	252.5	292
13-/22-MXS20-150	80	80	8	19	44	7	195	88	87	190	171	275	4	306	304.5	344

Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

Pressure Control Equipment

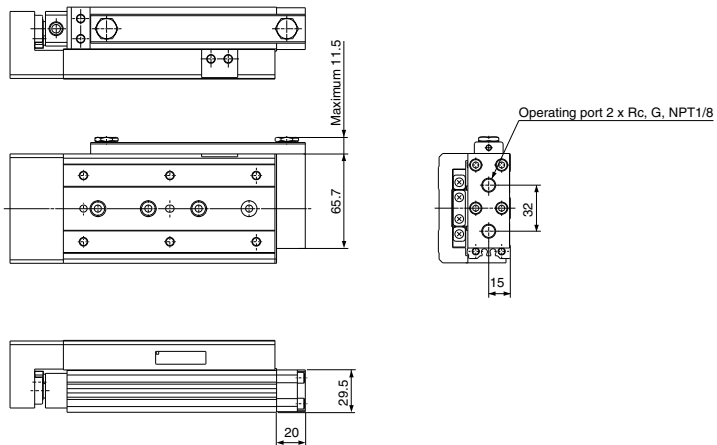
Fittings & Tubing

Flow Control Equipment

Pressure Switches/ Pressure Sensors

Dimensions: ¹³⁻²²MXS 20

Axial piping (ø20) ¹³⁻²²MXS20-□□P



* Other dimensions are the same as those of basic type.

Technical Drawing of MXS20L Series Hydraulic Cylinder

Dimensions and Features:

- Overall Dimensions:** Z (Total Length), M (Mounting Flange Width), 46.5 (Mounting Flange Thickness), 0.5 (Mounting Flange Width), 37 (Mounting Flange Width), 50 (Cylinder Body Diameter).
- Stroke and Mounting:** F (Stroke), FF (Mounting Flange Width), N x M5 x 0.8 thread depth 10 (Insert), Stroke adjuster at extension end, Stroke adjuster at retraction end.
- Ports and Connections:** Vacuum suction port Rc, G, NPT1/8, Operating port 2 x Rc, G, NPT1/8, 2 x M6 x 1 thread depth 6.5.
- Section Views:** Section AA (End View), Section BB (End View).
- Material and Finish:** 51 (Material), 5H9 (+0.030/0) depth 5 (Finish).

Table 1: Dimensions (mm)

Model	F	FF	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
13-22-MXS20L-10	50	40	4	15	45	2	25	35	10	44	31	—	2	83	81.5	121
13-22-MXS20L-20	50	40	4	15	45	2	25	35	10	44	41	—	2	83	81.5	121
13-22-MXS20L-30	50	40	4	15	45	2	25	35	10	44	51	—	2	83	81.5	121
13-22-MXS20L-40	60	50	4	15	55	2	35	35	10	54	61	—	2	93	91.5	131
13-22-MXS20L-50	35	35	6	15	35	3	50	35	10	69	71	—	2	108	106.5	146
13-22-MXS20L-75	60	60	6	19	35	4	54	70	10	108	96	—	2	147	145.5	185
13-22-MXS20L-100	70	70	6	37	35	5	107	70	58	113	121	169	4	200	198.5	238
13-22-MXS20L-125	70	70	8	41	38	6	155	76	70	155	146	223	4	254	252.5	292
13-22-MXS20L-150	80	80	8	19	44	7	195	88	87	190	171	275	4	306	304.5	344

Table 2: Dimensions (mm)

Model	F	FF	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
13-22-MXS20L-10	50	40	4	15	45	2	25	35	10	44	31	—	2	83	81.5	121
13-22-MXS20L-20	50	40	4	15	45	2	25	35	10	44	41	—	2	83	81.5	121
13-22-MXS20L-30	50	40	4	15	45	2	25	35	10	44	51	—	2	83	81.5	121
13-22-MXS20L-40	60	50	4	15	55	2	35	35	10	54	61	—	2	93	91.5	131
13-22-MXS20L-50	35	35	6	15	35	3	50	35	10	69	71	—	2	108	106.5	146
13-22-MXS20L-75	60	60	6	19	35	4	54	70	10	108	96	—	2	147	145.5	185
13-22-MXS20L-100	70	70	6	37	35	5	107	70	58	113	121	169	4	200	198.5	238
13-22-MXS20L-125	70	70	8	41	38	6	155	76	70	155	146	223	4	254	252.5	292
13-22-MXS20L-150	80	80	8	19	44	7	195	88	87	190	171	275	4	306	304.5	344

Basic

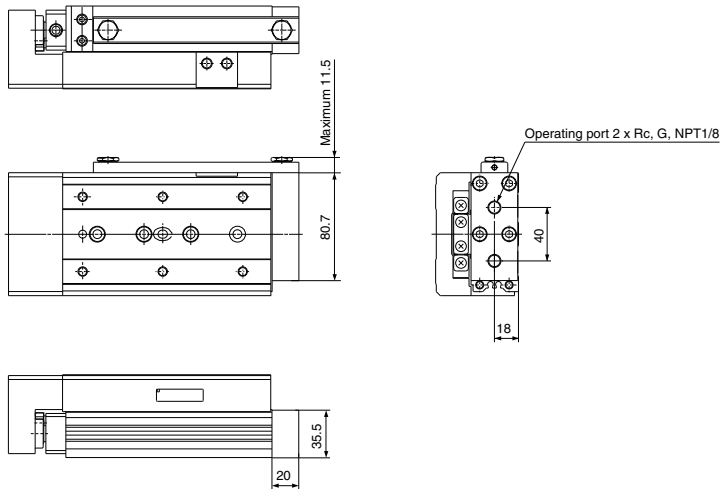


Section BB

															(mm)	
Model	F	FF	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
13-/22-MXS25-10	50	40	4	22	45	2	22	45	12	47	35	—	2	92	90.5	133.5
13-/22-MXS25-20	50	40	4	22	45	2	22	45	12	47	45	—	2	92	90.5	133.5
13-/22-MXS25-30	50	40	4	22	45	2	22	45	12	47	55	—	2	92	90.5	133.5
13-/22-MXS25-40	60	50	4	22	55	2	22	55	12	57	65	—	2	102	100.5	143.5
13-/22-MXS25-50	35	35	6	20	35	3	55	35	12	70	75	—	2	115	113.5	156.5
13-/22-MXS25-75	60	60	6	26	35	4	61	70	33	90	100	—	2	156	154.5	197.5
13-/22-MXS25-100	70	70	6	32	35	5	102	70	50	114	125	162	4	197	195.5	238.5
13-/22-MXS25-125	75	75	8	40	38	6	154	76	67	155	150	218	4	255	253.5	296.5
13-/22-MXS25-150	80	80	8	30	40	7	190	80	82	180	175	258	4	295	293.5	336.5

Dimensions: ¹³⁻₂₂₋**MXS25**

Axial piping (ø25) ¹³⁻₂₂₋**MXS25-□□P**



* Other dimensions are the same as those of basic type.

Directional
Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation
Equipment

Modular F. R.

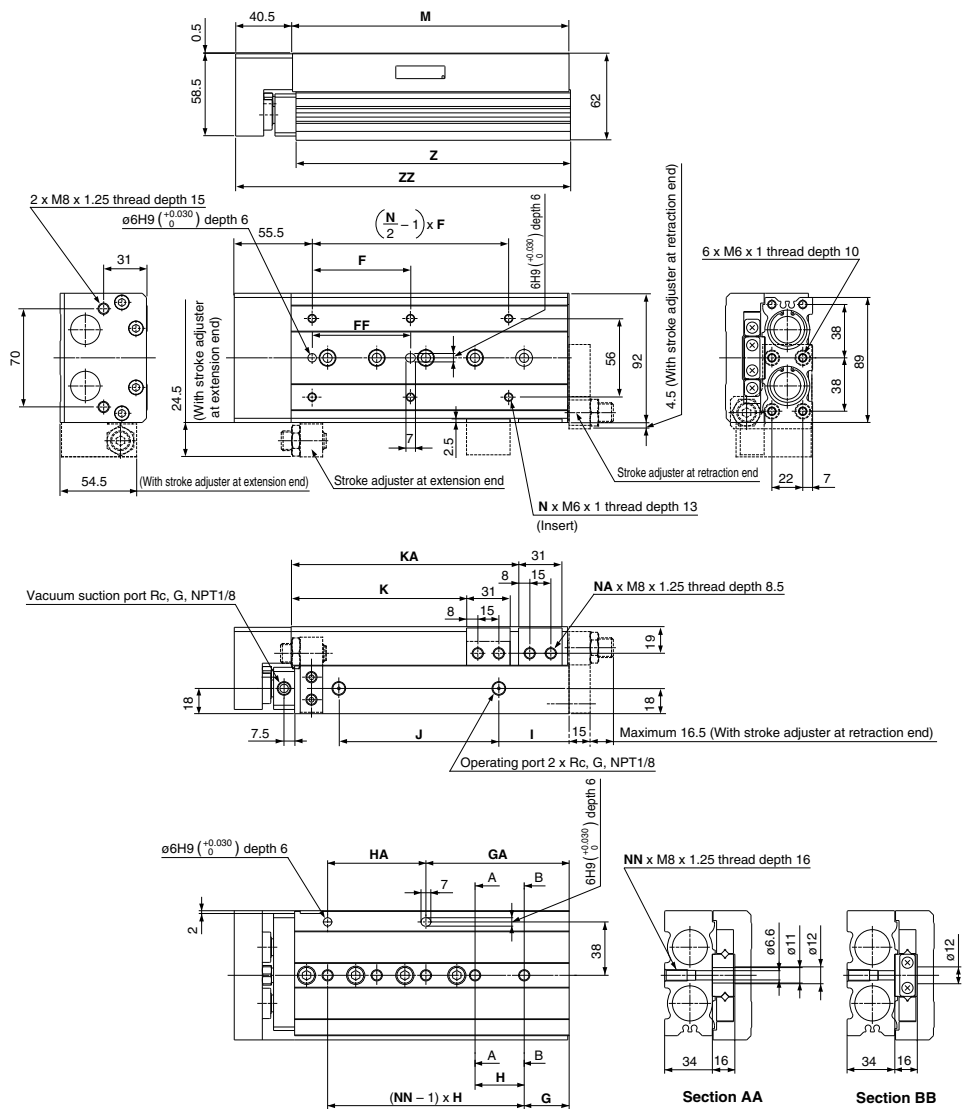
Pressure Control
Equipment

Fittings & Tubing

Flow Control
Equipment

Pressure Switches/
Pressure Sensors

Dimensions: $\frac{13}{22}$ -MXS25L / Symmetric Type



Model	F	FF	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
13-/22-MXS25L-10	50	40	4	22	45	2	22	45	12	47	35	—	2	92	90.5	133.5
13-/22-MXS25L-20	50	40	4	22	45	2	22	45	12	47	45	—	2	92	90.5	133.5
13-/22-MXS25L-30	50	40	4	22	45	2	22	45	12	47	55	—	2	92	90.5	133.5
13-/22-MXS25L-40	60	50	4	22	55	2	22	55	12	57	65	—	2	102	100.5	143.5
13-/22-MXS25L-50	35	35	6	20	35	3	55	35	12	70	75	—	2	115	113.5	156.5
13-/22-MXS25L-75	60	60	6	26	35	4	61	70	33	90	100	—	2	156	154.5	197.5
13-/22-MXS25L-100	70	70	6	32	35	5	102	70	50	114	125	162	4	197	195.5	238.5
13-/22-MXS25L-125	75	75	8	40	38	6	154	76	67	155	150	218	4	255	253.5	296.5
13-/22-MXS25L-150	80	80	8	30	40	7	190	80	82	180	175	258	4	295	293.5	336.5

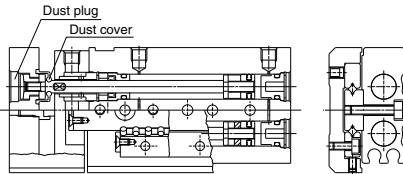
Made to Order

Dust cover and dust plug made by fluororubber -X52

13-MXS Standard model no. -X52

Material used for the dust cover and dust plug has been changed from silicone rubber to fluororubber.

Note 1) Dimensions are the same as those of standard type.



⚠ Specific Product Precautions

Be sure to read this before handling.

Handling

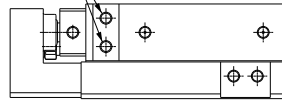
⚠ Caution

Plug the port after removing the stroke adjuster at the extension end.

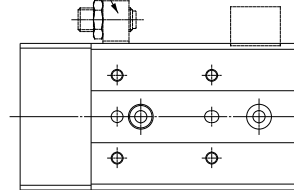
Otherwise particle generation may occur because the prepared hole of the mounting screw penetrates the body. Contact SMC for more information.

Cylinder bore size (mm)	25
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Extension end stroke adjuster mounting screw
(Generates particles because it penetrates to the body.)

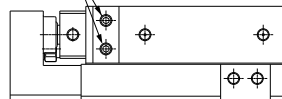


Stroke adjuster at extension end



In case of without extension end adjuster type, port is plugged with a hexagon socket set screw at the time of shipment.

Hexagon socket set screw



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