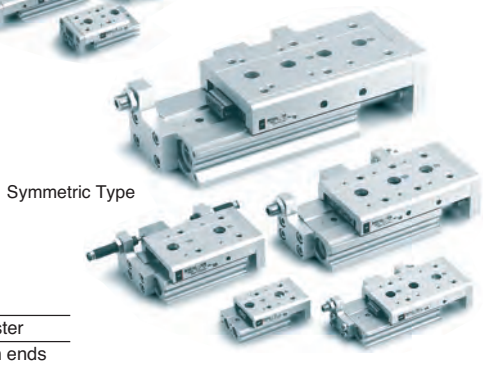
Air Slide Table
Series MXS
ø6, ø8, ø12, ø16, ø20, ø25

Standard Type



Symmetric Type

Features

- Work table and air cylinder are integrated. Air slide table is ideal for precise assembly.
- Improved workpiece mounting repeatability.
- Wide variety of options:
  Adjuster option, with stroke adjuster, with shock absorber, etc.
- Shock absorber and symmetric types are released.

How to Order

E MXS 20 L – 50 A

Cylinder type

—	Standard type
L	Symmetric type

Thread port type

—	M3	ø6
	M5	ø8 to ø16
E	G(PF)	ø20, ø25

Bore size (Stroke [mm])

6	10, 20, 30, 40, 50
8	10, 20, 30, 40, 50, 75
12	10, 20, 30, 40, 50, 75, 100
16	10, 20, 30, 40, 50, 75, 100, 125
20	10, 20, 30, 40, 50, 75, 100, 125, 150
25	10, 20, 30, 40, 50, 75, 100, 125, 150

Adjuster option

—	Without adjuster
A	Adjuster on both ends
B (1)	Absorber on both ends

Note 1) W/ Shock absorber is not available in model MXS6 (L).

Product Recommendation

Stocked items for fast delivery

Part Number	Stroke (□)	Part Number	Stroke (□)
MXS6-□	10, 20, 30, 40, 50	MXS12L-□	10, 20, 30, 40, 50, 75, 100
MXS6-□A	10, 20, 30, 40	MXS12L-□A	30, 75
MXS6L-□	10, 20, 30, 50	MXS16-□	10, 20, 30, 40, 50, 75, 100, 125
MXS8-□	10, 20, 30, 40, 50, 75	MXS16-□A	10, 20, 30, 40, 50, 75, 100, 125
MXS8-□A	10, 20, 30, 40, 50, 75	MXS16-□B	30, 50, 75, 100, 125
MXS8-□B	20, 30, 50, 75	MXS16L-□	10, 20, 30, 40, 50, 75, 100, 125
MXS8L-□	10, 20, 30, 40, 50, 75	EMXS20-□	10, 20, 30, 40, 50, 75, 100, 125, 150
MXS12-□	10, 20, 30, 40, 50, 75, 100	EMXS20L-□	10, 20, 30, 40, 50, 75, 100, 150
MXS12-□A	10, 20, 30, 40, 50, 75, 100	EMXS25-□	10, 20, 30, 40, 50, 75, 100, 125, 150
MXS12-□B	20, 30, 40, 50, 75, 100	EMXS25L-□	50, 75, 100

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

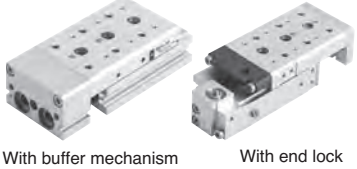
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series IDK - Moisture Control Tube - page 1149
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Technical Specifications

Bore size [mm]	6	8	12	16	20	25
Piping port size	M3	M5			1/8	
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					
Piston speed	50 to 500 mm/s					
Cushion	Rubber bumper (Standard, With stroke adjuster) Shock absorber (Option)					
Lubrication	Non-lube					
Auto switch (Option)	Reed switch D-A9□ Solid state switch (2-wire, 3-wire) D-M9□ 2-colour indication solid state switch (2-wire, 3-wire) D-M9□					
Stroke length tolerance	$^{+1}_{0}$ mm					

Further functional options available

Please contact us.



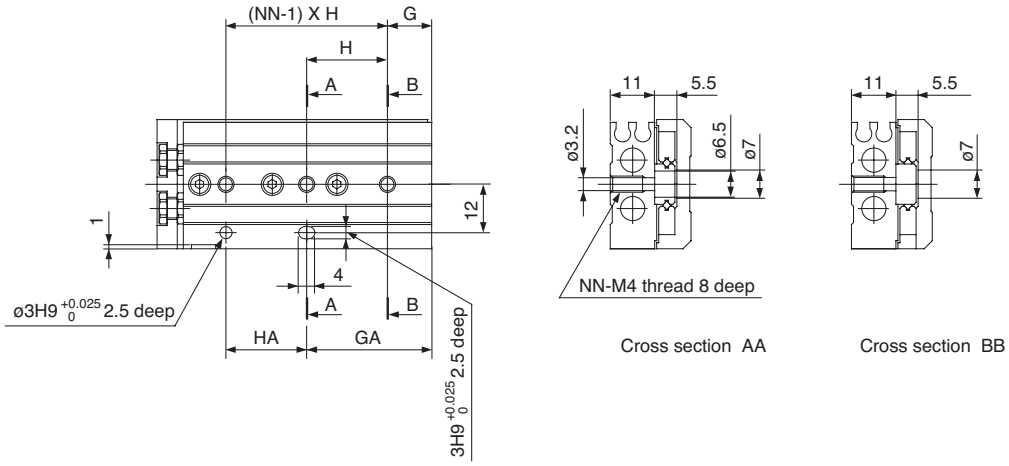
With buffer mechanism

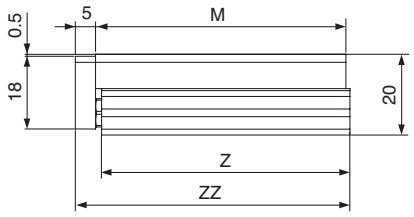
With end lock

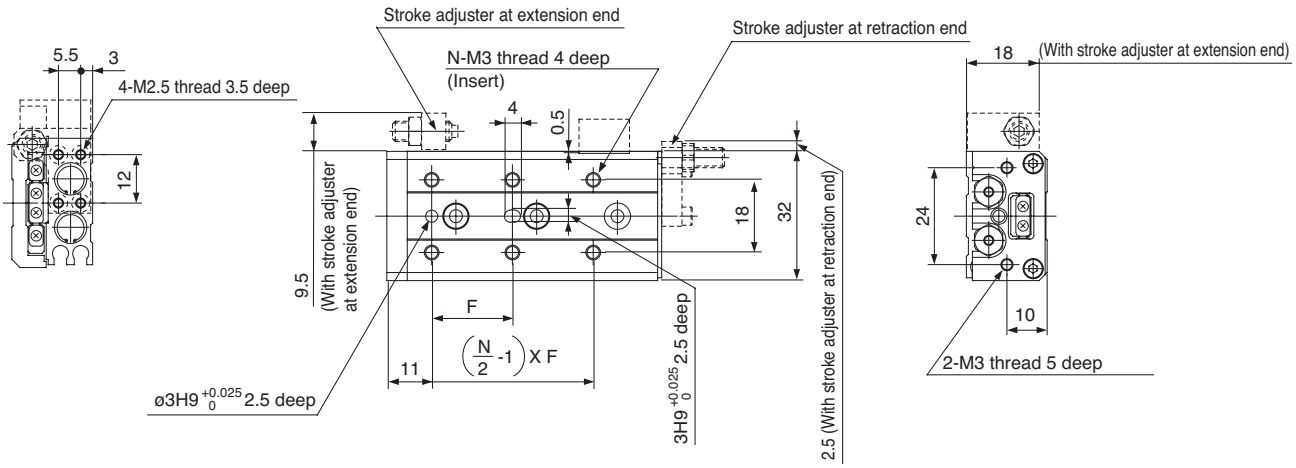
Actuators

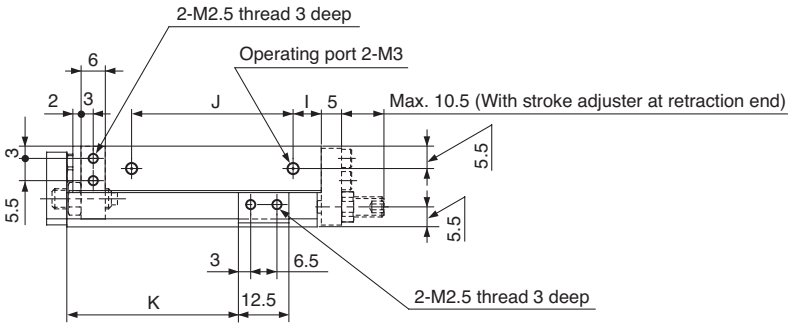
Dimensions MXS6: Standard type

Basic style







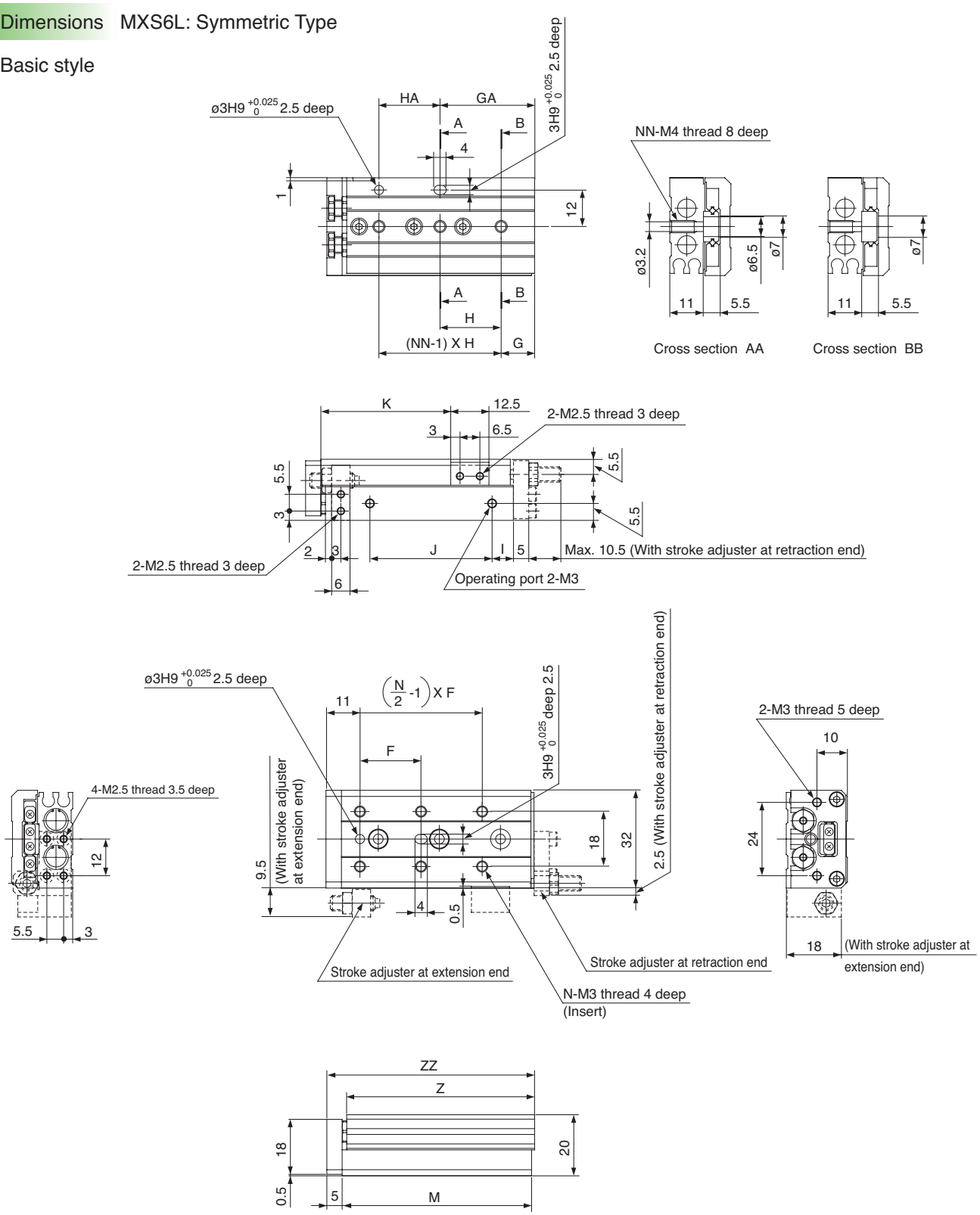


[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	M	Z	ZZ
MXS6-10	20	4	6	25	2	11	20	10	17	22.5	42	41.5	48
MXS6-20	30	4	6	35	2	21	20	10	27	32.5	52	51.5	58
MXS6-30	20	6	11	20	3	31	20	7	40	42.5	62	61.5	68
MXS6-40	28	6	13	30	3	43	30	19	50	52.5	84	83.5	90
MXS6-50	38	6	17	24	4	41	48	25	60	62.5	100	99.5	106

Dimensions MXS6L: Symmetric Type

Basic style

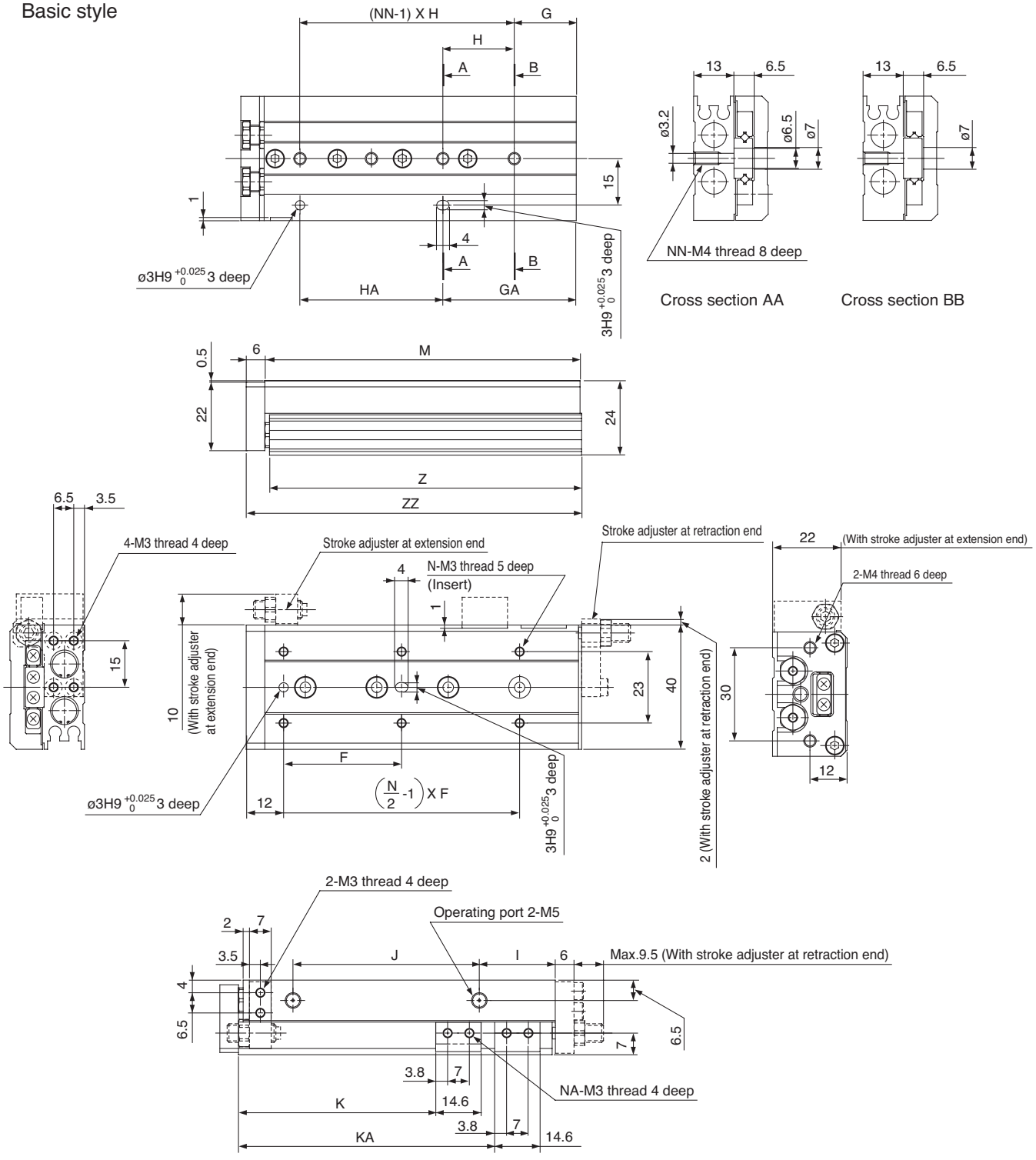


[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	M	Z	ZZ
MXS6L-10	20	4	6	25	2	11	20	10	17	22.5	42	41.5	48
MXS6L-20	30	4	6	35	2	21	20	10	27	32.5	52	51.5	58
MXS6L-30	20	6	11	20	3	31	20	7	40	42.5	62	61.5	68
MXS6L-40	28	6	13	30	3	43	30	19	50	52.5	84	83.5	90
MXS6L-50	38	6	17	24	4	41	48	25	60	62.5	100	99.5	106

Dimensions MXS8: Standard type

Basic style



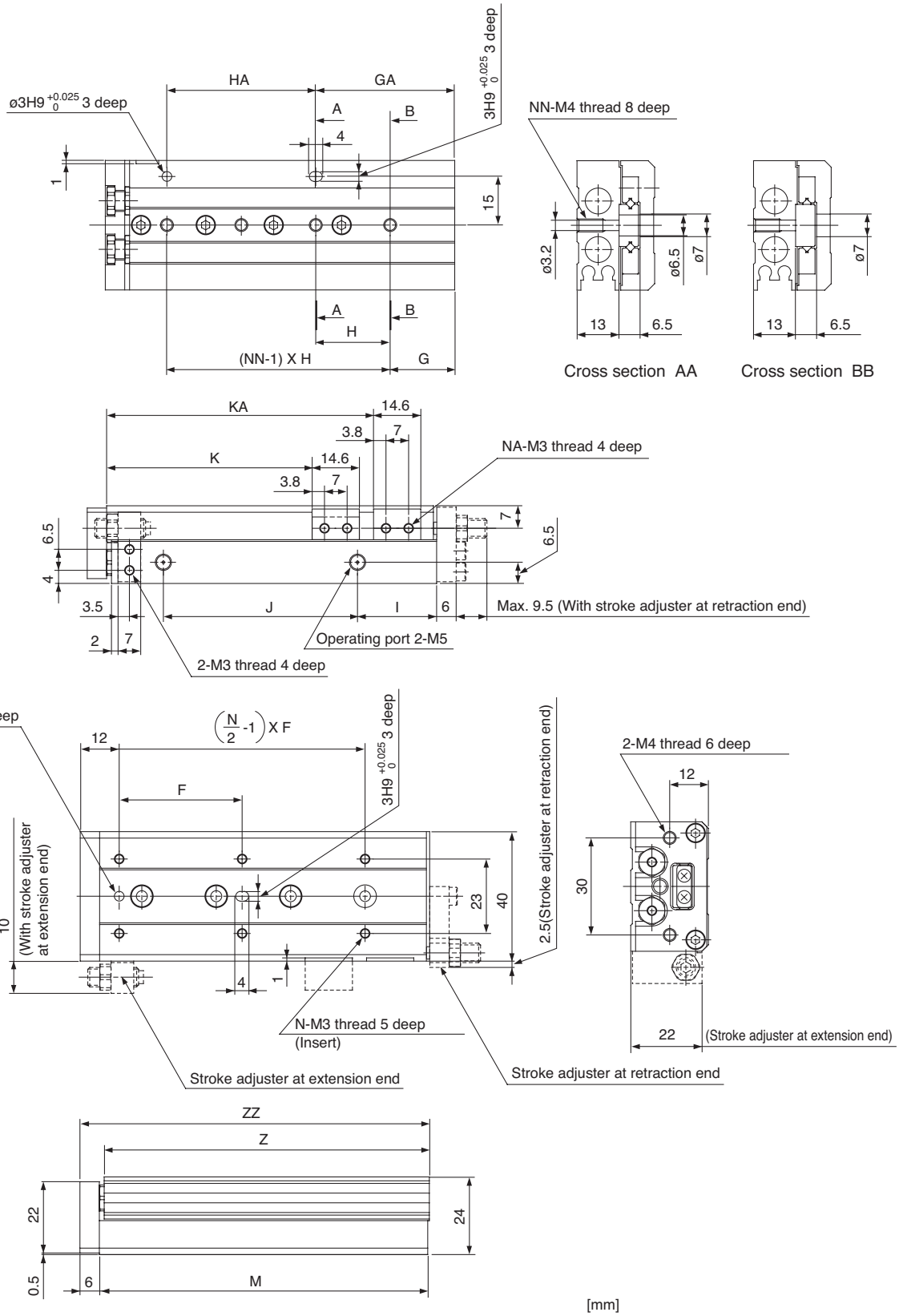
[mm]

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

Actuators

Dimensions MXS8L: Symmetric Type

Basic style

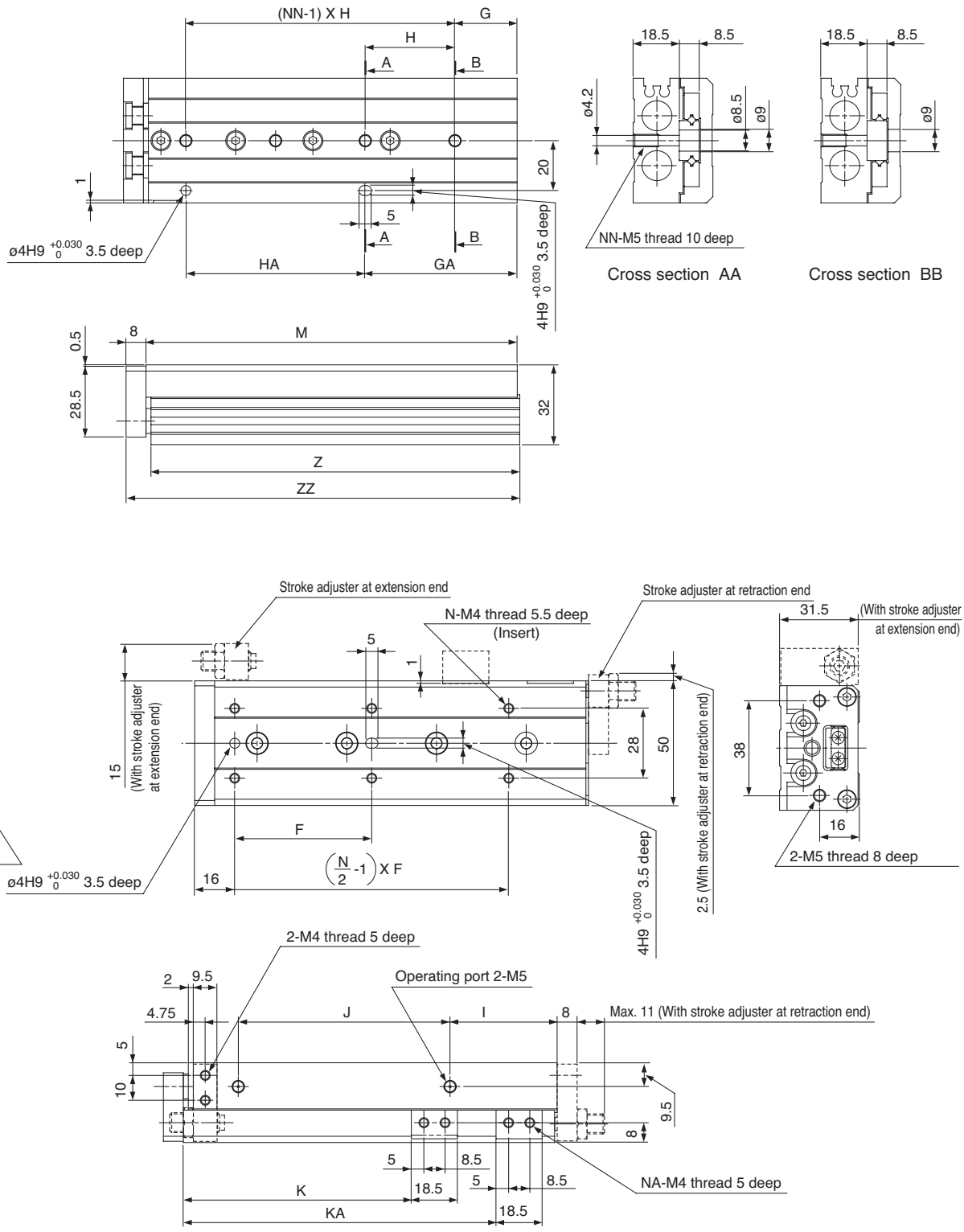


[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXS8L-10	25	4	9	28	2	17	20	13	19.5	23.5	—	2	49	48.5	56
MXS8L-20	25	4	12	30	2	12	30	8.5	29	33.5	—	2	54	53.5	61
MXS8L-30	40	4	13	20	3	33	20	9.5	39	43.5	—	2	65	64.5	72
MXS8L-40	50	4	15	28	3	43	28	10.5	56	53.5	—	2	83	82.5	90
MXS8L-50	38	6	20	23	4	43	46	24.5	60	63.5	82.5	4	101	100.5	108
MXS8L-75	50	6	27	28	5	83	56	38.5	96	88.5	132.5	4	151	150.5	158

Dimensions MXS12: Standard type

Basic style



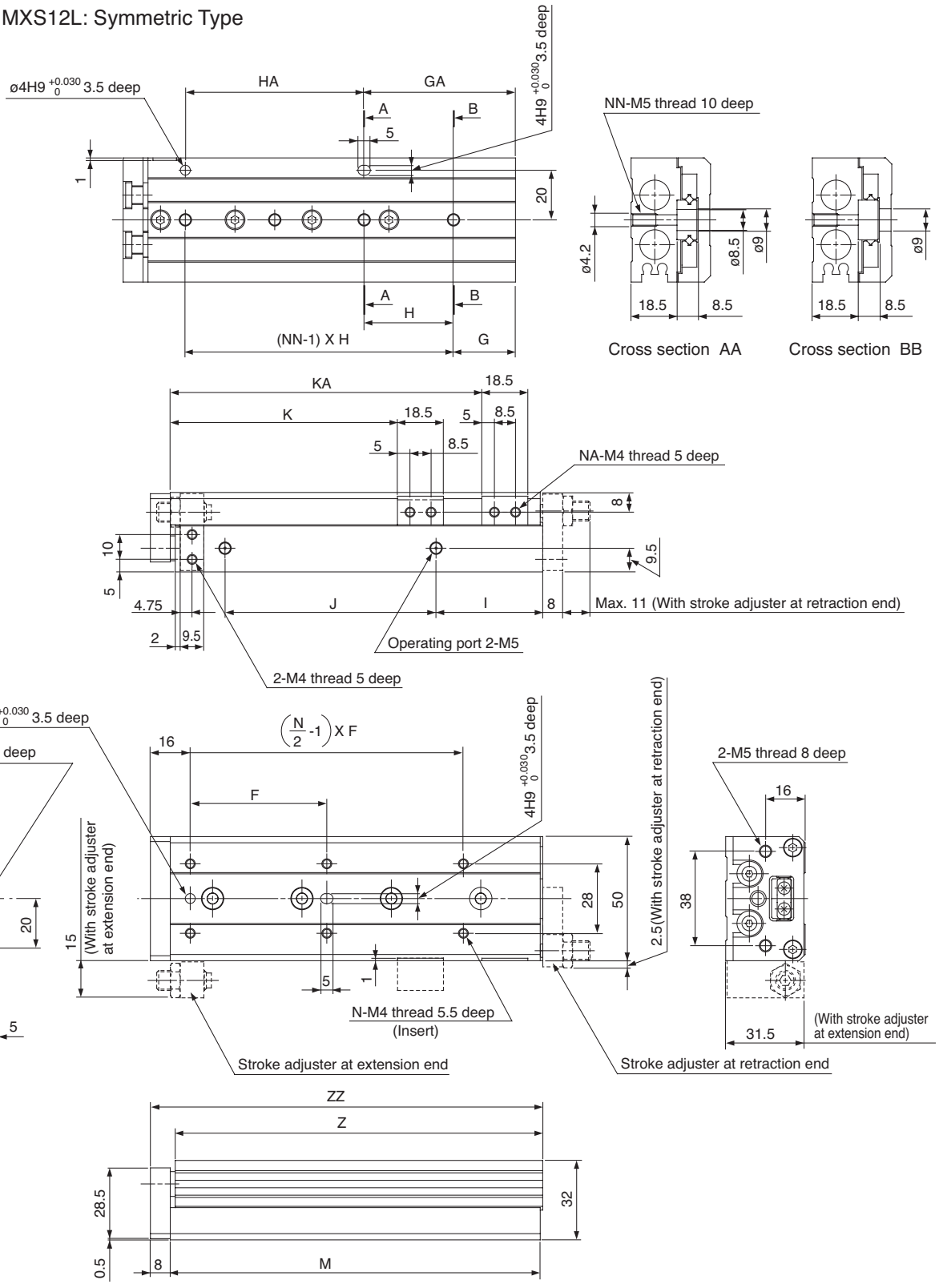
[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXS12-10	35	4	15	40	2	15	40	10	40	26.5	—	2	71	70	80
MXS12-20	35	4	15	40	2	15	40	10	40	36.5	—	2	71	70	80
MXS12-30	35	4	15	40	2	15	40	10	40	46.5	—	2	71	70	80
MXS12-40	50	4	17	25	3	42	25	10	52	56.5	—	2	83	82	92
MXS12-50	35	6	15	36	3	51	36	22	60	66.5	—	2	103	102	112
MXS12-75	55	6	25	36	4	61	72	43	85	91.5	125.5	4	149	148	158
MXS12-100	65	6	35	38	5	111	76	52	130	116.5	179.5	4	203	202	212

Actuators

Dimensions MXS12L: Symmetric Type

Basic style

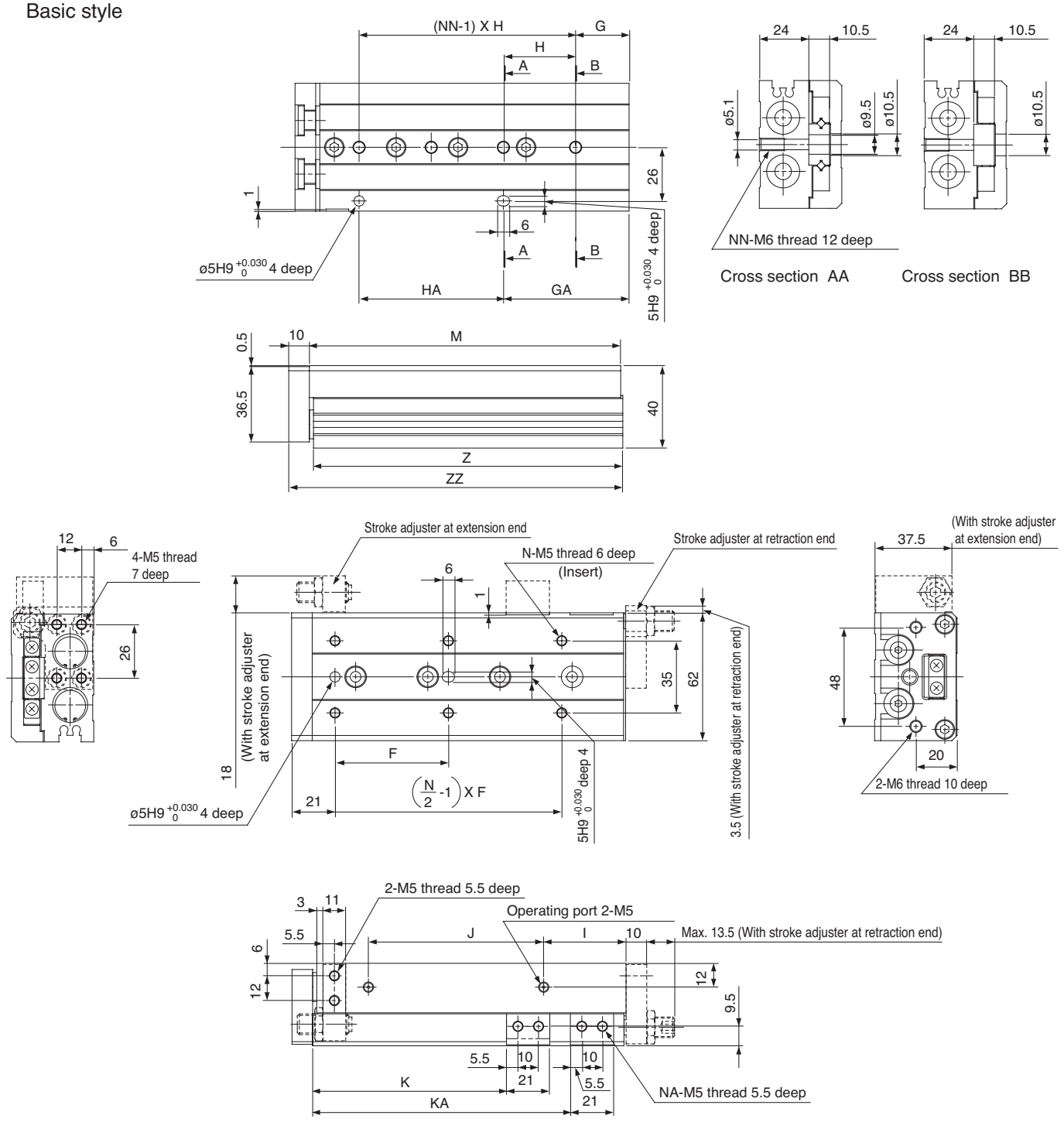


[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXS12L-10	35	4	15	40	2	15	40	10	40	26.5	—	2	71	70	80
MXS12L-20	35	4	15	40	2	15	40	10	40	36.5	—	2	71	70	80
MXS12L-30	35	4	15	40	2	15	40	10	40	46.5	—	2	71	70	80
MXS12L-40	50	4	17	25	3	42	25	10	52	56.5	—	2	83	82	92
MXS12L-50	35	6	15	36	3	51	36	22	60	66.5	—	2	103	102	112
MXS12L-75	55	6	25	36	4	61	72	43	85	91.5	125.5	4	149	148	158
MXS12L-100	65	6	35	38	5	111	76	52	130	116.5	179.5	4	203	202	212

Dimensions MXS16: Standard type

Basic style

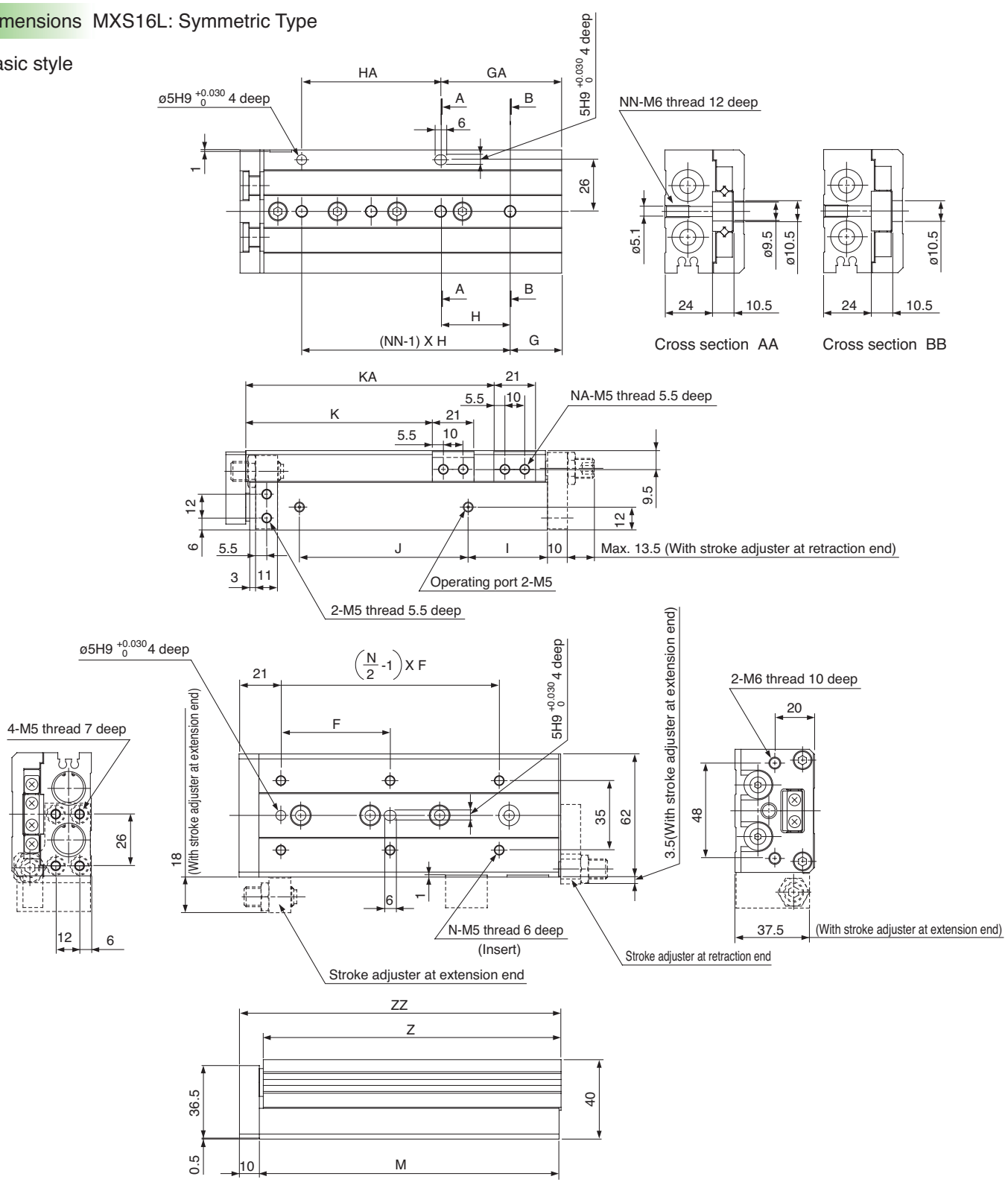


[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXS16-10	35	4	16	40	2	16	40	10	40	29	—	2	76	75	87
MXS16-20	35	4	16	40	2	16	40	10	40	39	—	2	76	75	87
MXS16-30	35	4	16	40	2	16	40	10	40	49	—	2	76	75	87
MXS16-40	40	4	16	50	2	16	50	10	50	59	—	2	86	85	97
MXS16-50	30	6	21	30	3	51	30	15	60	69	—	2	101	100	112
MXS16-75	55	6	26	35	4	61	70	40	85	94	125	4	151	150	162
MXS16-100	65	6	39	35	5	109	70	55	118	119	173	4	199	198	210
MXS16-125	70	8	19	35	7	159	70	68	155	144	223	4	249	248	260

Dimensions MXS16L: Symmetric Type

Basic style

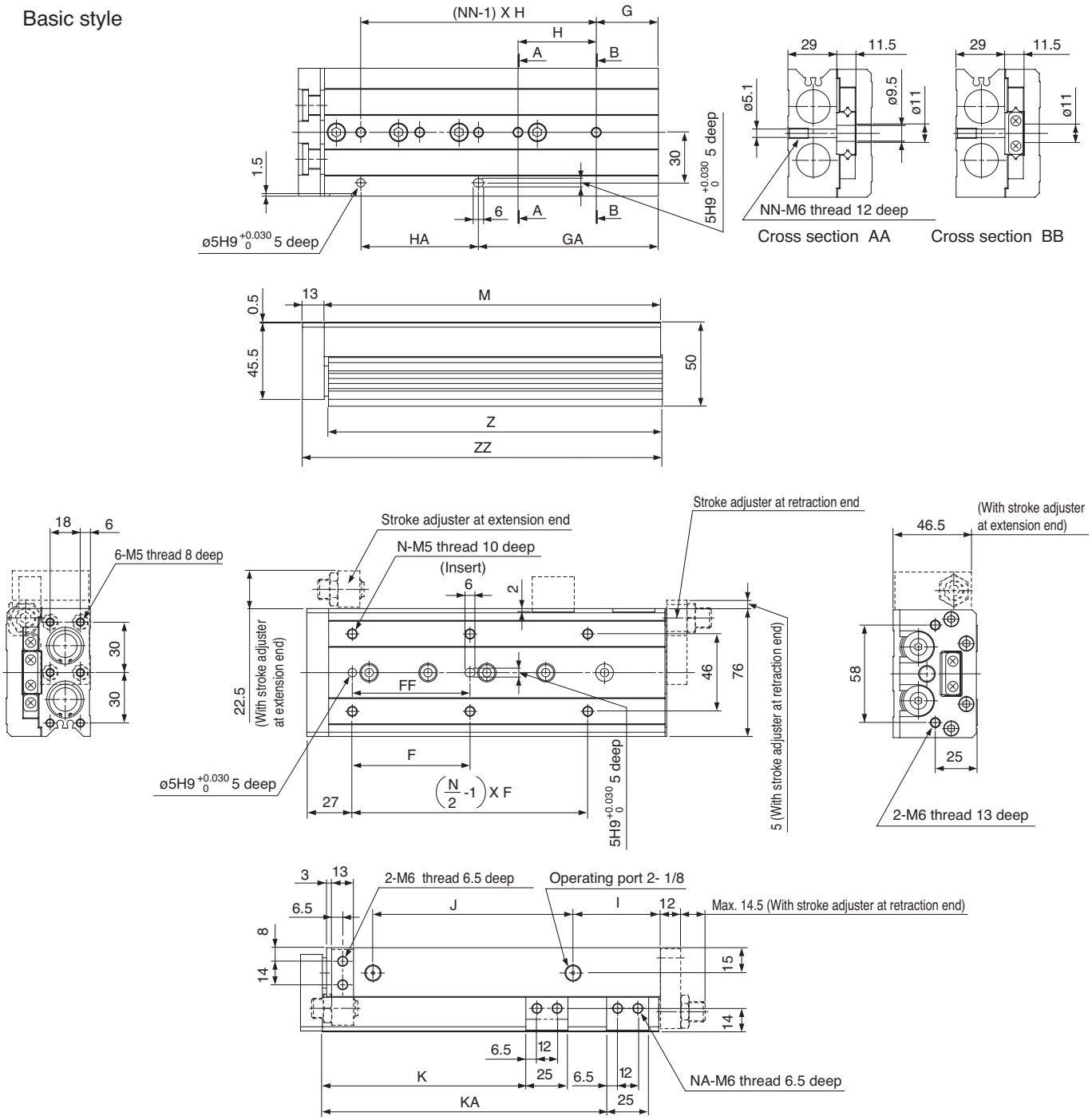


[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXS16L-10	35	4	16	40	2	16	40	10	40	29	—	2	76	75	87
MXS16L-20	35	4	16	40	2	16	40	10	40	39	—	2	76	75	87
MXS16L-30	35	4	16	40	2	16	40	10	40	49	—	2	76	75	87
MXS16L-40	40	4	16	50	2	16	50	10	50	59	—	2	86	85	97
MXS16L-50	30	6	21	30	3	51	30	15	60	69	—	2	101	100	112
MXS16L-75	55	6	26	35	4	61	70	40	85	94	125	4	151	150	162
MXS16L-100	65	6	39	35	5	109	70	55	118	119	173	4	199	198	210
MXS16L-125	70	8	19	35	7	159	70	68	155	144	223	4	249	248	260

Dimensions MXS20: Standard type

Basic style

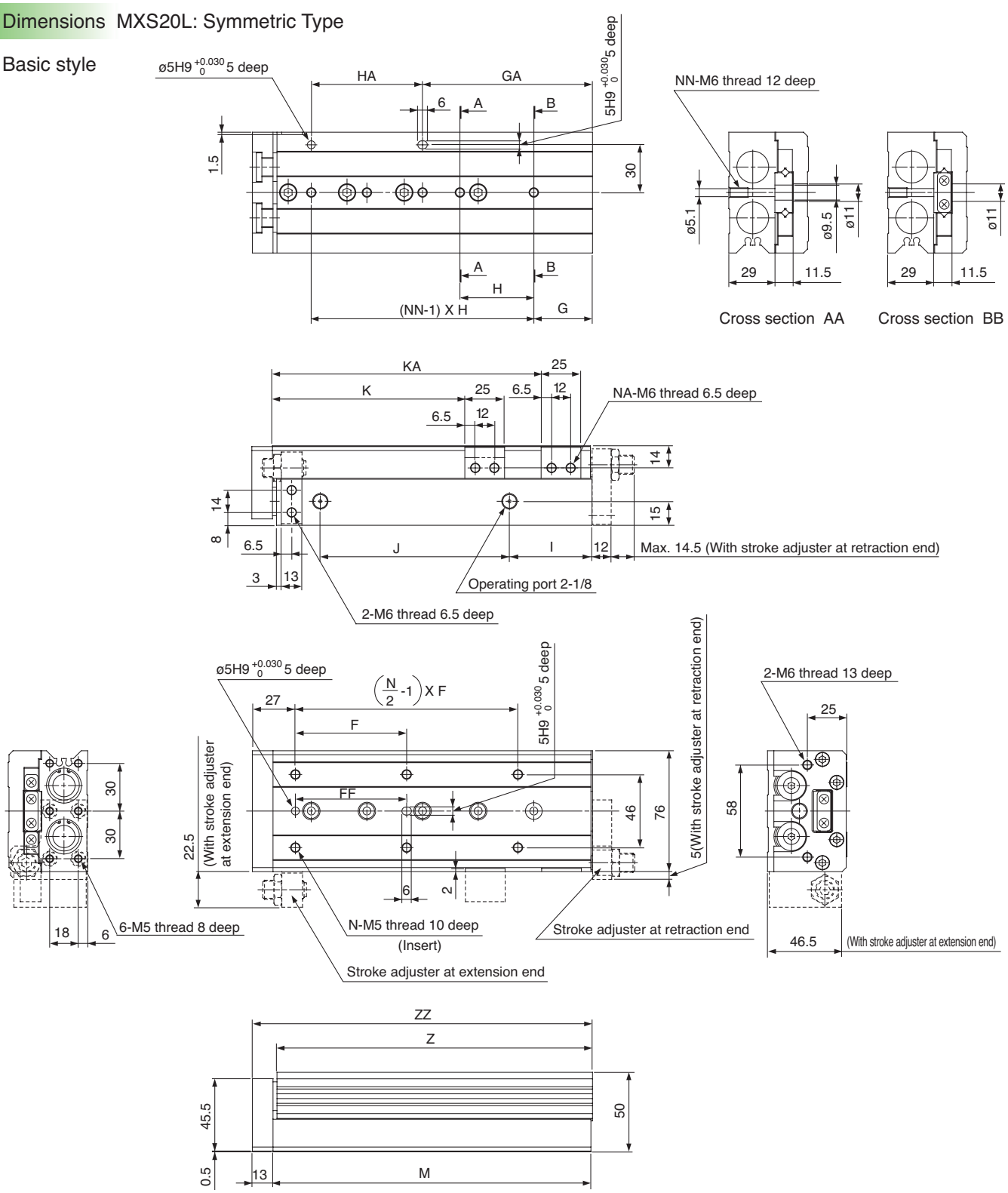


[mm]

Model	F	FF	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXS20-10	50	40	4	15	45	2	25	35	10	44	31	—	2	83	81.5	97
MXS20-20	50	40	4	15	45	2	25	35	10	44	41	—	2	83	81.5	97
MXS20-30	50	40	4	15	45	2	25	35	10	44	51	—	2	83	81.5	97
MXS20-40	60	50	4	15	55	2	35	35	10	54	61	—	2	93	91.5	107
MXS20-50	35	35	6	15	35	3	50	35	10	69	71	—	2	108	106.5	122
MXS20-75	60	60	6	19	35	4	54	70	10	108	96	—	2	147	145.5	161
MXS20-100	70	70	6	37	35	5	107	70	58	113	121	169	4	200	198.5	214
MXS20-125	70	70	8	41	38	6	155	76	70	155	146	223	4	254	252.5	268
MXS20-150	80	80	8	19	44	7	195	88	87	190	171	275	4	306	304.5	320

Dimensions MXS20L: Symmetric Type

Basic style

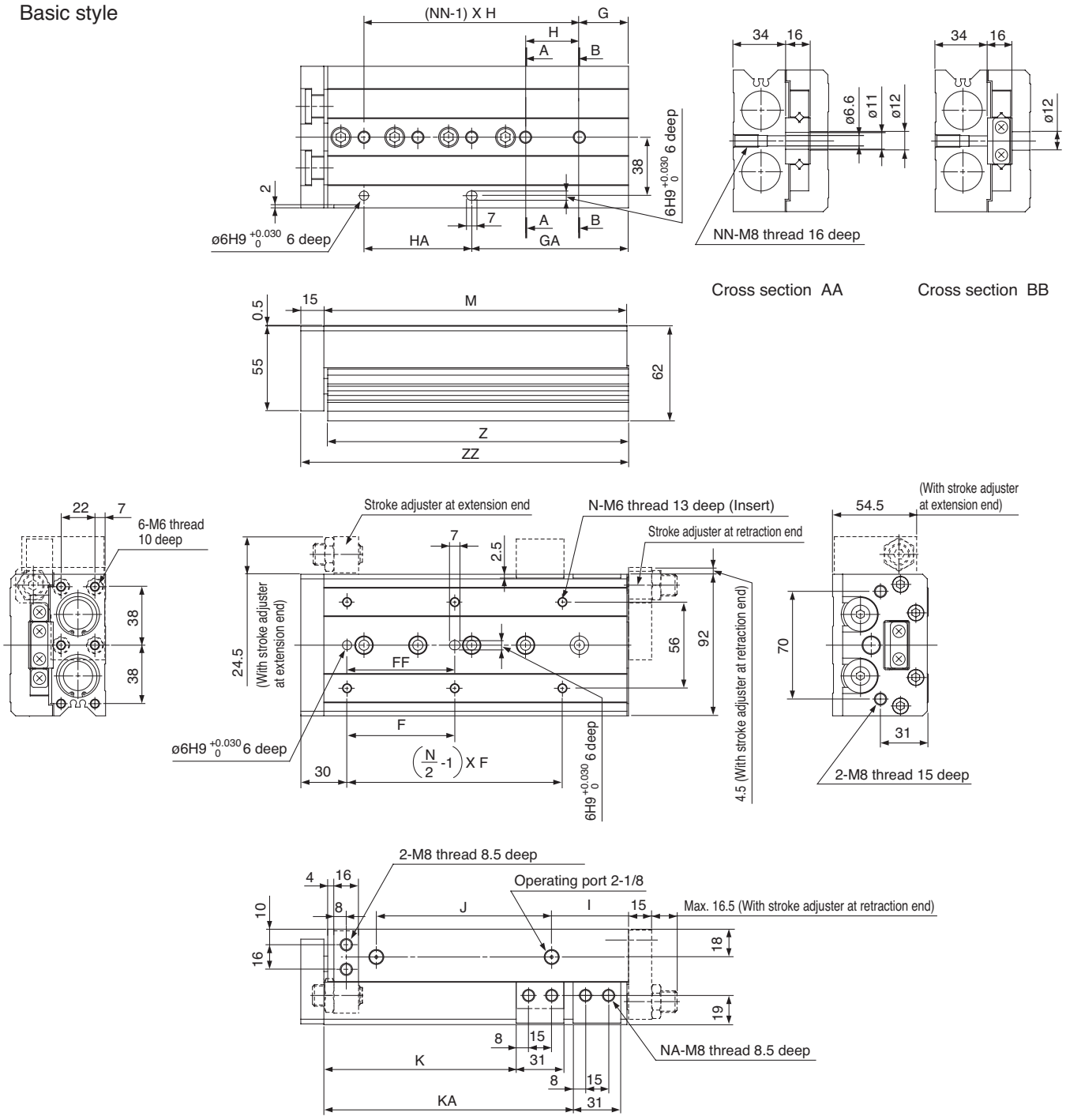


[mm]

Model	F	FF	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXS20L-10	50	40	4	15	45	2	25	35	10	44	31	—	2	83	81.5	97
MXS20L-20	50	40	4	15	45	2	25	35	10	44	41	—	2	83	81.5	97
MXS20L-30	50	40	4	15	45	2	25	35	10	44	51	—	2	83	81.5	97
MXS20L-40	60	50	4	15	55	2	35	35	10	54	61	—	2	93	91.5	107
MXS20L-50	35	35	6	15	35	3	50	35	10	69	71	—	2	108	106.5	122
MXS20L-75	60	60	6	19	35	4	54	70	10	108	96	—	2	147	145.5	161
MXS20L-100	70	70	6	37	35	5	107	70	58	113	121	169	4	200	198.5	214
MXS20L-125	70	70	8	41	38	6	155	76	70	155	146	223	4	254	252.5	268
MXS20L-150	80	80	8	19	44	7	195	88	87	190	171	275	4	306	304.5	320

Dimensions MXS25: Standard type

Basic style

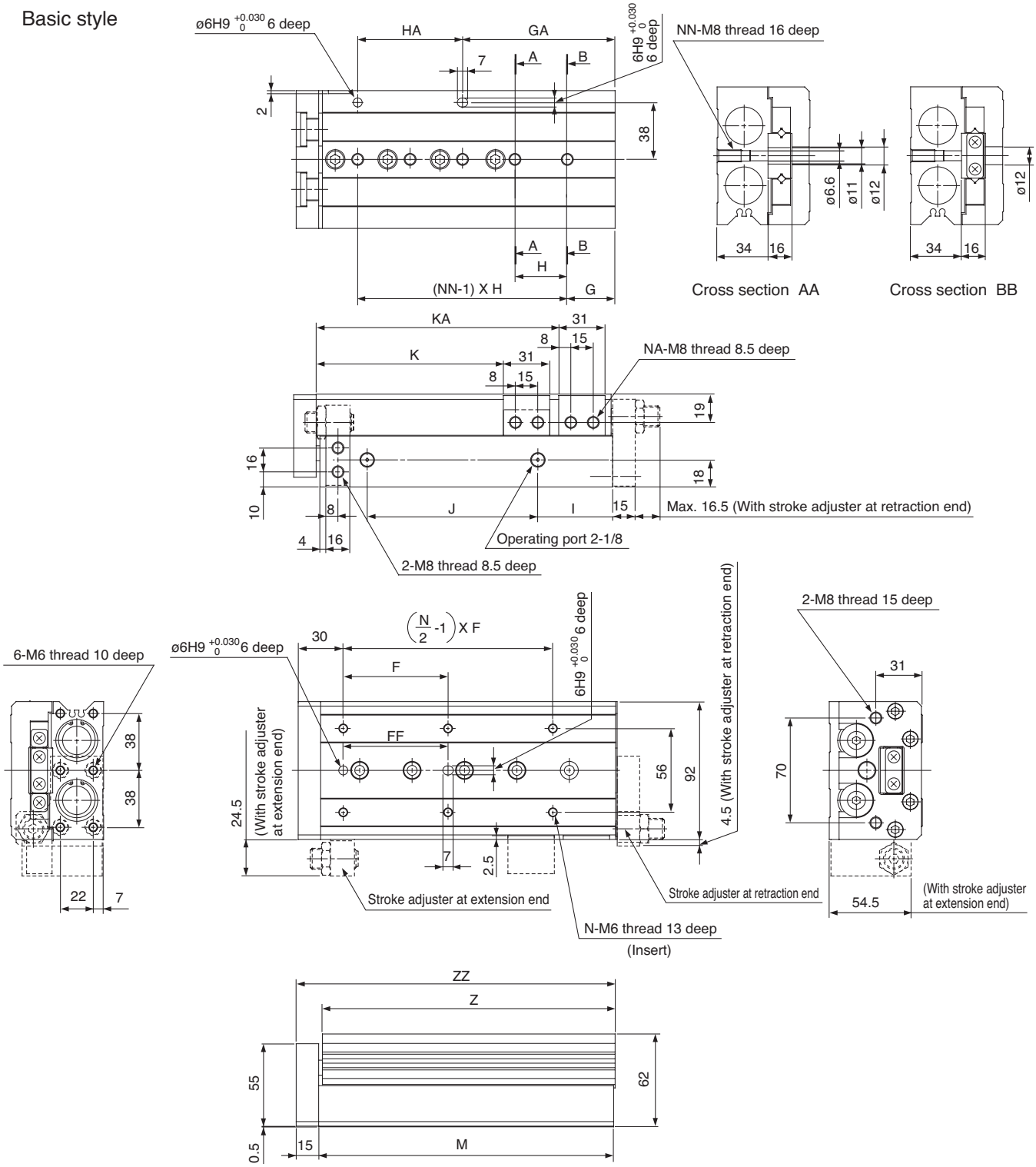


[mm]

Model	F	FF	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXS25-10	50	40	4	22	45	2	22	45	12	47	35	—	2	92	90.5	108
MXS25-20	50	40	4	22	45	2	22	45	12	47	45	—	2	92	90.5	108
MXS25-30	50	40	4	22	45	2	22	45	12	47	55	—	2	92	90.5	108
MXS25-40	60	50	4	22	55	2	22	55	12	57	65	—	2	102	100.5	118
MXS25-50	35	35	6	20	35	3	55	35	12	70	75	—	2	115	113.5	131
MXS25-75	60	60	6	26	35	4	61	70	33	90	100	—	2	156	154.5	172
MXS25-100	70	70	6	32	35	5	102	70	50	114	125	162	4	197	195.5	213
MXS25-125	75	75	8	40	38	6	154	76	67	155	150	218	4	255	253.5	271
MXS25-150	80	80	8	30	40	7	190	80	82	180	175	258	4	295	293.5	311

Dimensions MXS25L: Symmetric Type

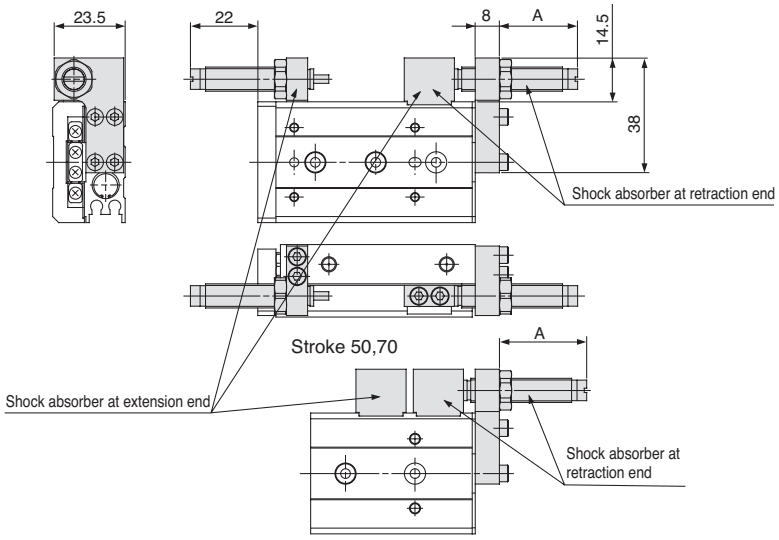
Basic style

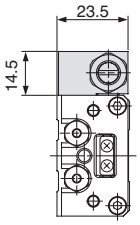


[mm]

Model	F	FF	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXS25L-10	50	40	4	22	45	2	22	45	12	47	35	—	2	92	90.5	108
MXS25L-20	50	40	4	22	45	2	22	45	12	47	45	—	2	92	90.5	108
MXS25L-30	50	40	4	22	45	2	22	45	12	47	55	—	2	92	90.5	108
MXS25L-40	60	50	4	22	55	2	22	55	12	57	65	—	2	102	100.5	118
MXS25L-50	35	35	6	20	35	3	55	35	12	70	75	—	2	115	113.5	131
MXS25L-75	60	60	6	26	35	4	61	70	33	90	100	—	2	156	154.5	172
MXS25L-100	70	70	6	32	35	5	102	70	50	114	125	162	4	197	195.5	213
MXS25L-125	75	75	8	40	38	6	154	76	67	155	150	218	4	255	253.5	271
MXS25L-150	80	80	8	30	40	7	190	80	82	180	175	258	4	295	293.5	311

With shock absorber (ø8) MXS8-□□BS, BT, B



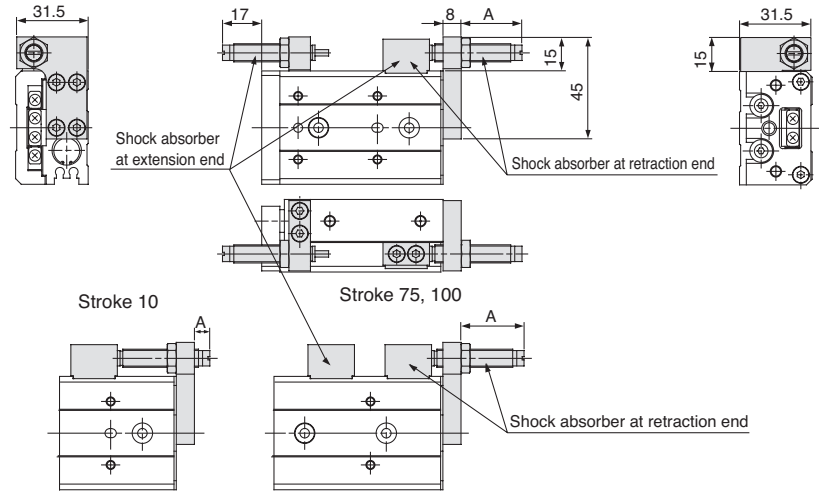


∗ Dimensions not indicated are the same as the basic style.

[mm]

Model	Stroke adjustable range		A dimension (Retracted side mounting)
	Extending	Retracting	
MXS8-10	Max.20	5	22
MXS8-20		15	27
MXS8-30		15	26
MXS8-40		5	18
MXS8-50		20	29
MXS8-75		20	29

With shock absorber(ø12) MXS12-□□BS, BT, B

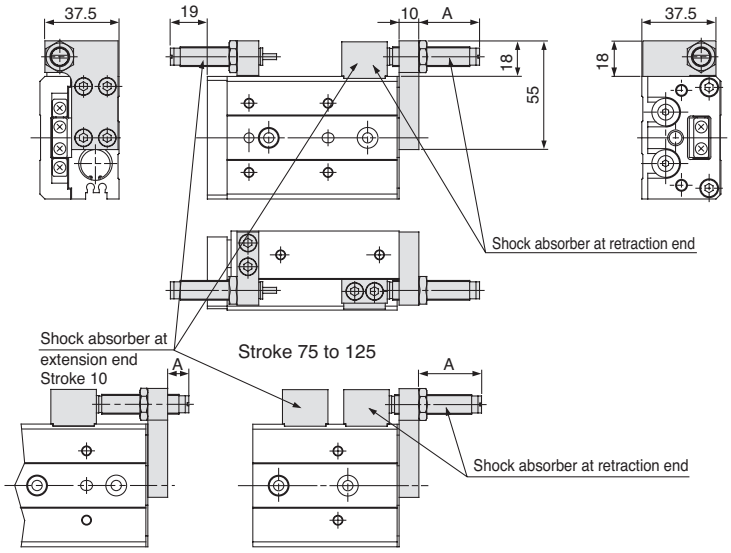


∗ Other dimensions not indicated are the same as the basic style.

[mm]

Model	Stroke adjustment range		A dimension (Retracted side mounting)
	Extending	Retracting	
MXS12-10	Max. 20	2	7
MXS12-20		5	17
MXS12-30		15	27
MXS12-40		15	25
MXS12-50		5	15
MXS12-75		15	28
MXS12-100		15	28

With shock absorber(ø16) MXS16-□□BS, BT, B

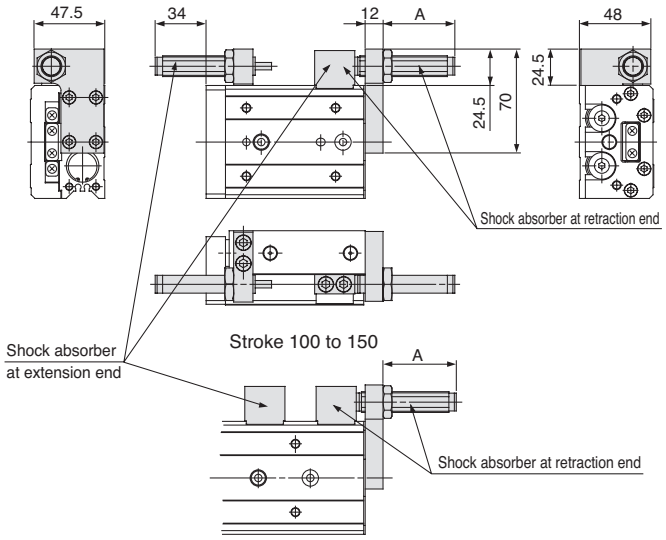


∗ Other dimensions not indicated are the same as the basic style.

[mm]

Model	Stroke adjustment range		A dimension (Retracted side mounting)
	Extending	Retracting	
MXS16-10	Max. 25	5	11
MXS16-20		10	21
MXS16-30		20	31
MXS16-40		20	31
MXS16-50		15	26
MXS16-75		20	32
MXS16-100		20	32
MXS16-125		20	32

With shock absorber(ø20) MXS20-□□BS, BT, B

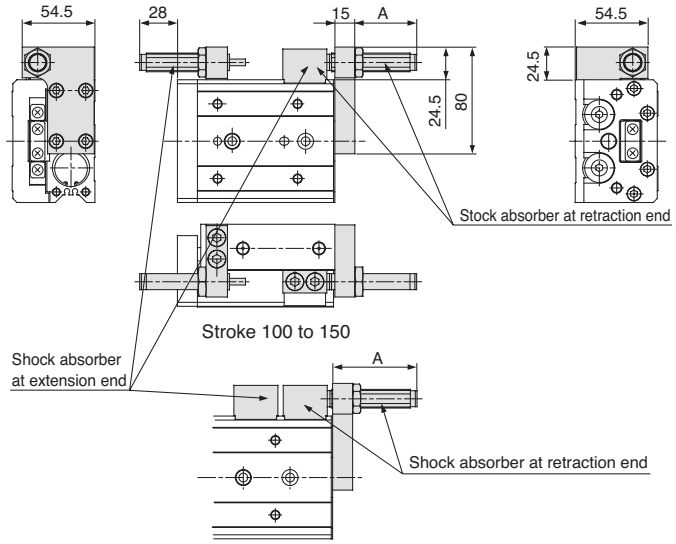


∗ Dimensions not indicated are the same as the basic style.

[mm]

Model	Stroke adjustable range		A dimention
	Extending	Retracting	(Retracted side mounting)
MXS20-10	Max. 40	5	28
MXS20-20		15	38
MXS20-30		25	48
MXS20-40		35	48
MXS20-50		30	43
MXS20-75		15	29
MXS20-100		35	49
MXS20-125		35	49
MXS20-150		35	49

With shock absorber(ø25) MXS25-□□BS, BT, B



∗ Dimensions not indicated are the same as the basic style.

[mm]

Model	Stroke adjustable range		A dimension
	Extending	Retracting	(Retracted side mounting)
MXS25-10	Max. 35	5	26
MXS25-20		15	36
MXS25-30		25	46
MXS25-40		35	46
MXS25-50		30	43
MXS25-75		15	27
MXS25-100		35	48
MXS25-125		35	46
MXS25-150		35	46

Option Specifications

How to Order Stroke Adjuster (Accessory)

MXS – AS 12 L – X11

Stroke adjuster

AS	Stroke adjuster	Extension end
AT		Retraction end
BS	Shock absorber	Extension end
BT		Retraction end

Applicable bore size [mm]

6	ø6
8	ø8
12	ø12
16	ø16
20	ø20
25	ø25

Symmetric type

–	Standard type
L	Symmetric type

Adjustable range (Stroke adjuster only)

–	5 mm	Standard
-X11	15 mm	Option
-X12	25 mm	

∗ -X12 (adjustable range: 25 mm) is not available in Series MXS6.
∗ -X11 and -X12 are not available for shock absorber type.
∗ W/ shock absorber is not available in Series MXS6.

How to Order Adjusting Bolt

MXS – A 12 27 – X11

Applicable bore size [mm]

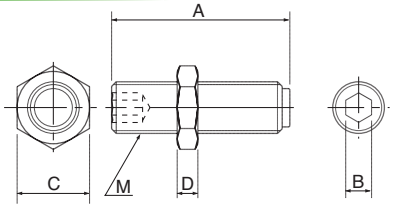
6	ø6
8	ø8
12	ø12
16	ø16
20	ø20
25	ø25

Adjustment range

–	5 mm
X11	15 mm
X12	25 mm

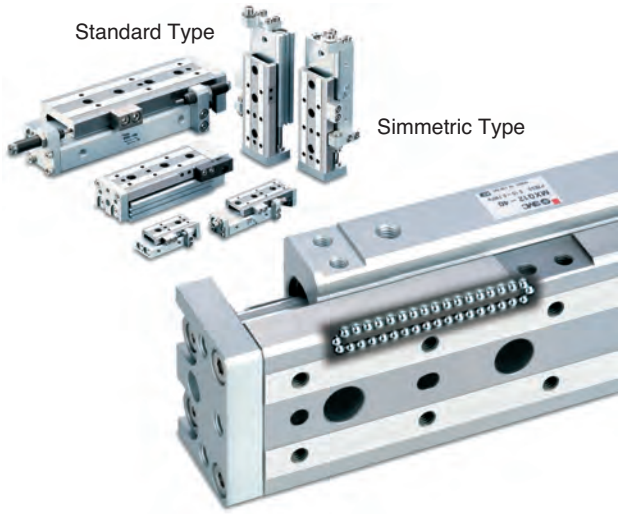
* -X12 (adjustable range: 25 mm) is not available in Series MXS6.
* Symmetric type is also the same.

Dimensions of Adjusting Bolt



Applicable size	Model	Stroke adjustment range [mm]	A	B	C	D	M
MXS6(L)	MXS-A627	5	16.5	2.5	7	3.5	M5
	MXS-A627-X11	15	26.5				
MXS8(L)	MXS-A827	5	16.5	3	8	4	M6
	MXS-A827-X11	15	26.5				
	MXS-A827-X12	25	36.5				
MXS12(L)	MXS-A1227	5	20	4	12	4	M8 x 1
	MXS-A1227-X11	15	30				
	MXS-A1227-X12	25	40				
MXS16(L)	MXS-A1627	5	24.5	5	14	4	M10 x 1
	MXS-A1627-X11	15	34.5				
	MXS-A1627-X12	25	44.5				
MXS20(L)	MXS-A2027	5	27.5	6	17	5	M12 x 1.25
	MXS-A2027-X11	15	37.5				
	MXS-A2027-X12	25	47.5				
MXS25(L)	MXS-A2527	5	32.5	6	19	6	M14 x 1.5
	MXS-A2527-X11	15	42.5				
	MXS-A2527-X12	25	52.5				

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



Features

- Integration of the guide rail and the table.
- Uses a recirculating linear guide for high rigidity and high precision.
- Air slide table for precision assembly processes.
- Improved load resistance.

How to Order

E MXQ 20 [ ] – 50 [A]

Cylinder type

—	Standard type
L	Symetric type

Thread port type

—	M5	ø6 to ø16
E	G(PF)	ø20, ø25

Adjuster option

—	Without adjuster	
A	Rubber stopper	Both ends
B (1)	Shock absorber	Both ends
C	Metal stopper	Both ends

Note 1) W/ shock absorber is not available in Series MXQ6.

Bore size/Stroke [mm]

6	10, 20, 30, 40, 50
8	10, 20, 30, 40, 50, 75
12	10, 20, 30, 40, 50, 75, 100
16	10, 20, 30, 40, 50, 75, 100, 125
20	10, 20, 30, 40, 50, 75, 100, 125, 150
25	10, 20, 30, 40, 50, 75, 100, 125, 150

Further functional options available

Please contact us.


With buffer mechanism


With end lock

Product Recommendation

Stocked items for fast delivery

Part Number	Stroke (□)	Part Number	Stroke (□)
MXQ6-□	10, 20, 30, 40, 50	MXQ12L-□	10, 20, 30, 40, 50, 75
MXQ6-□A	10	MXQ16-□	10, 20, 30, 40, 50, 75, 100, 125
MXQ6L-□	10, 20, 30, 40, 50	MXQ16-□B	30, 100, 125
MXQ8-□	10, 20, 30, 40, 50, 75	MXQ16L-□	20, 30, 40, 50, 75, 125
MXQ8-□A	10, 30	EMXQ20-□	10, 20, 30, 40, 50, 75, 100, 125, 150
MXQ8L-□	10, 20, 30, 50	EMXQ20L-□	40, 125
MXQ12-□	10, 20, 30, 40, 50, 75, 100	EMXQ25-□	10, 20, 30, 40, 50, 75, 100, 125, 150
MXQ12-□A	30	EMXQ25L-□	150
MXQ12-□B	30, 50		

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series IDK - Moisture Control Tube - page 1149
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Technical Specifications

Bore size [mm]	6	8	12	16	20	25
Piping port size	M5				1/8	
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					
Piston speed	50 to 500 mm/s (Adjuster option/Metal stopper: 50 to 200 mm/s)					
Cushion	Rubber bumper (Standard, Adjuster option/Rubber stopper) Shock absorber (Adjuster option/Shock absorber) None (Adjuster option/Metal stopper)					
Lubrication	Non-lube					
Stroke length tolerance	$^{+1}_{0}$ mm					

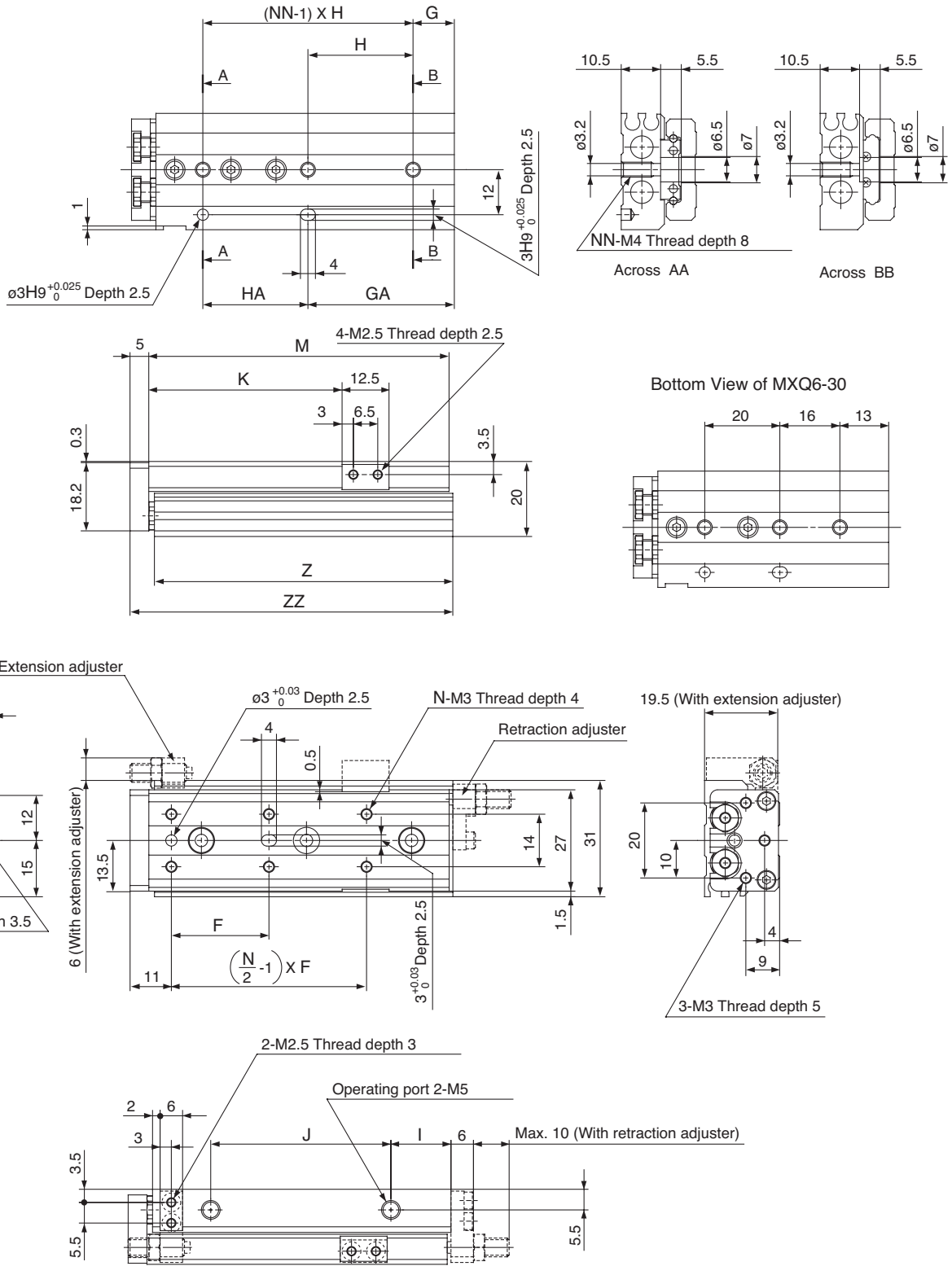
Shock Absorber Specifications

Shock absorber model		RB0805	RB0806	RB1007	RB1411	RB1412
Applicable slide table		MXQ8	MXQ12	MXQ16	MXQ20	MXQ25
Max. absorbing energy [J]		0.98	2.94	5.88	14.7	19.6
Absorbed stroke [mm]		5	6	7	11	12
Max. collision speed [mm/s]		50 to 500				
Max. used frequency [cycle/min]		80	80	70	45	45
Max. thrust tolerance [N]		245	245	422	814	814
Ambient temperature range		–10 to 60°C				
Spring force [N]	Expanded	1.96	1.96	4.22	6.86	6.86
	Compressed	3.83	4.22	6.86	15.30	15.98
Weight [g]		15	15	25	65	65

For more product options and details see our specific catalogues or on-line information.

Dimensions MXQ6: Standard type

Basic style



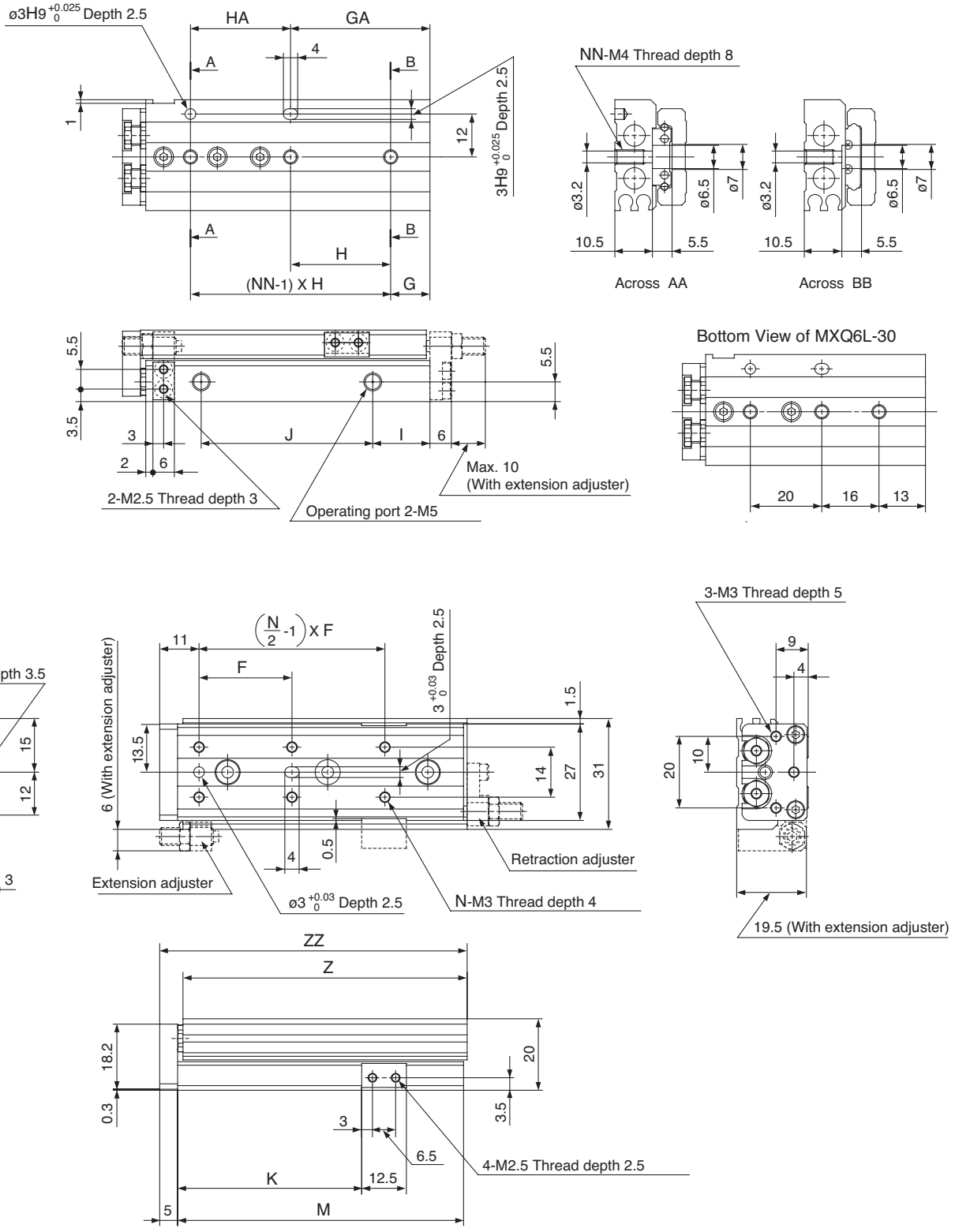
[mm]

	F	N	G	H	NN	GA	HA	I	J	K	M	Z	ZZ
MXQ6-10	22	4	6	23	2	13	16	9	17	21.5	42	41.5	48
MXQ6-20	25	4	13	26	2	13	26	9	27	31.5	52	51.5	58
MXQ6-30	21	6	—Note)	—Note)	3	29	20	9	37	41.5	62	61.5	68
MXQ6-40	26	6	11	28	3	39	28	16	48	51.5	80	79.5	86
MXQ6-50	27	6	21	28	3	49	28	9	65	61.5	90	89.5	96

Note) Refer to the bottom view of MXQ6-30.

Dimensions MXQ6L: Symmetric Style

Basic style



[mm]

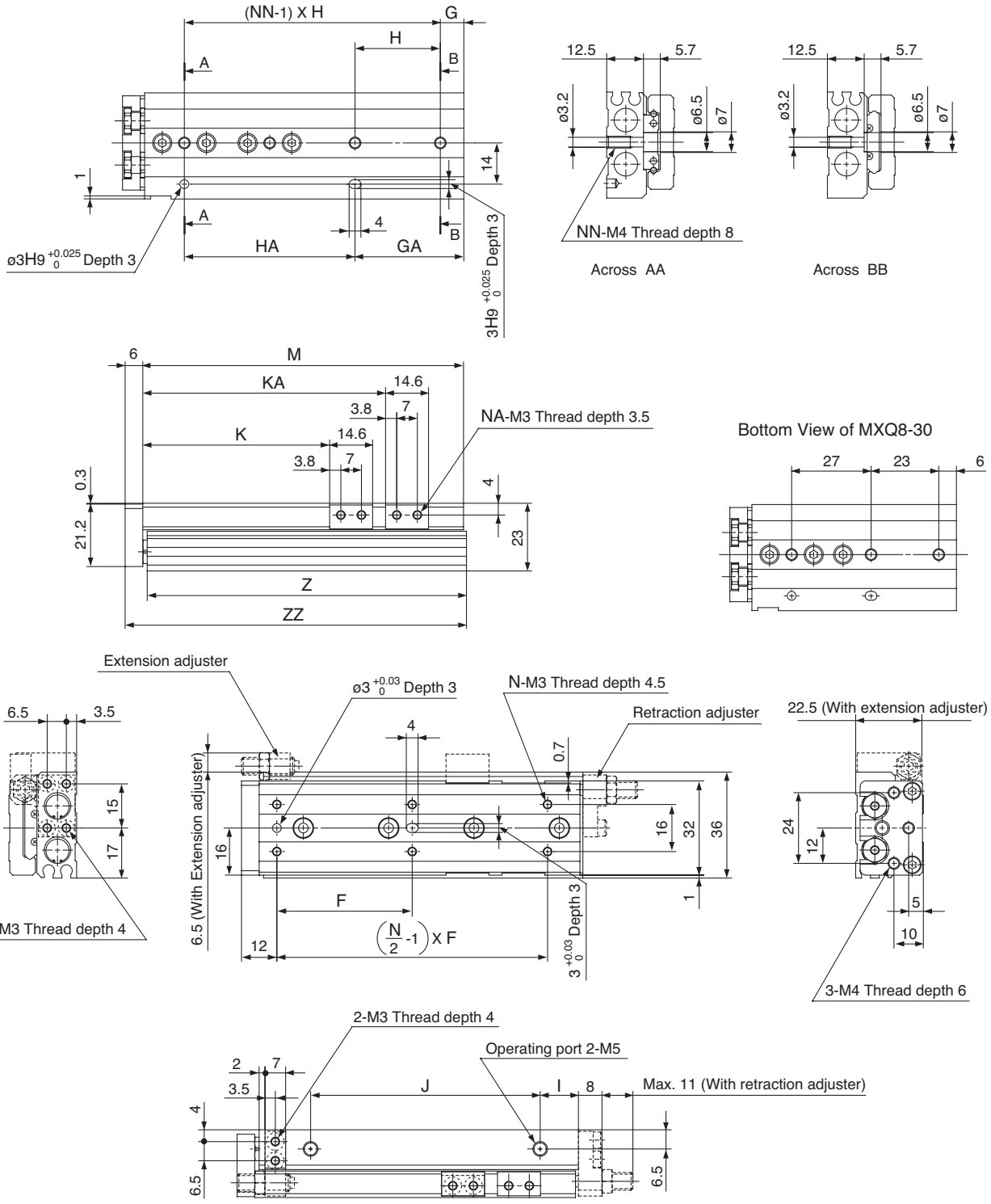
Model	F	N	G	H	NN	GA	HA	I	J	K	M	Z	ZZ
MXQ6L-10	22	4	6	23	2	13	16	9	17	21.5	42	41.5	48
MXQ6L-20	25	4	13	26	2	13	26	9	27	31.5	52	51.5	58
MXQ6L-30	21	6	—Note)	—Note)	3	29	20	9	37	41.5	62	61.5	68
MXQ6L-40	26	6	11	28	3	39	28	16	48	51.5	80	79.5	86
MXQ6L-50	27	6	21	28	3	49	28	9	65	61.5	90	89.5	96

Note) Refer to the bottom view of MXQ6L-30.

For more product options and details see our specific catalogues or on-line information.

Dimensions MXQ8: Standard type

Basic style



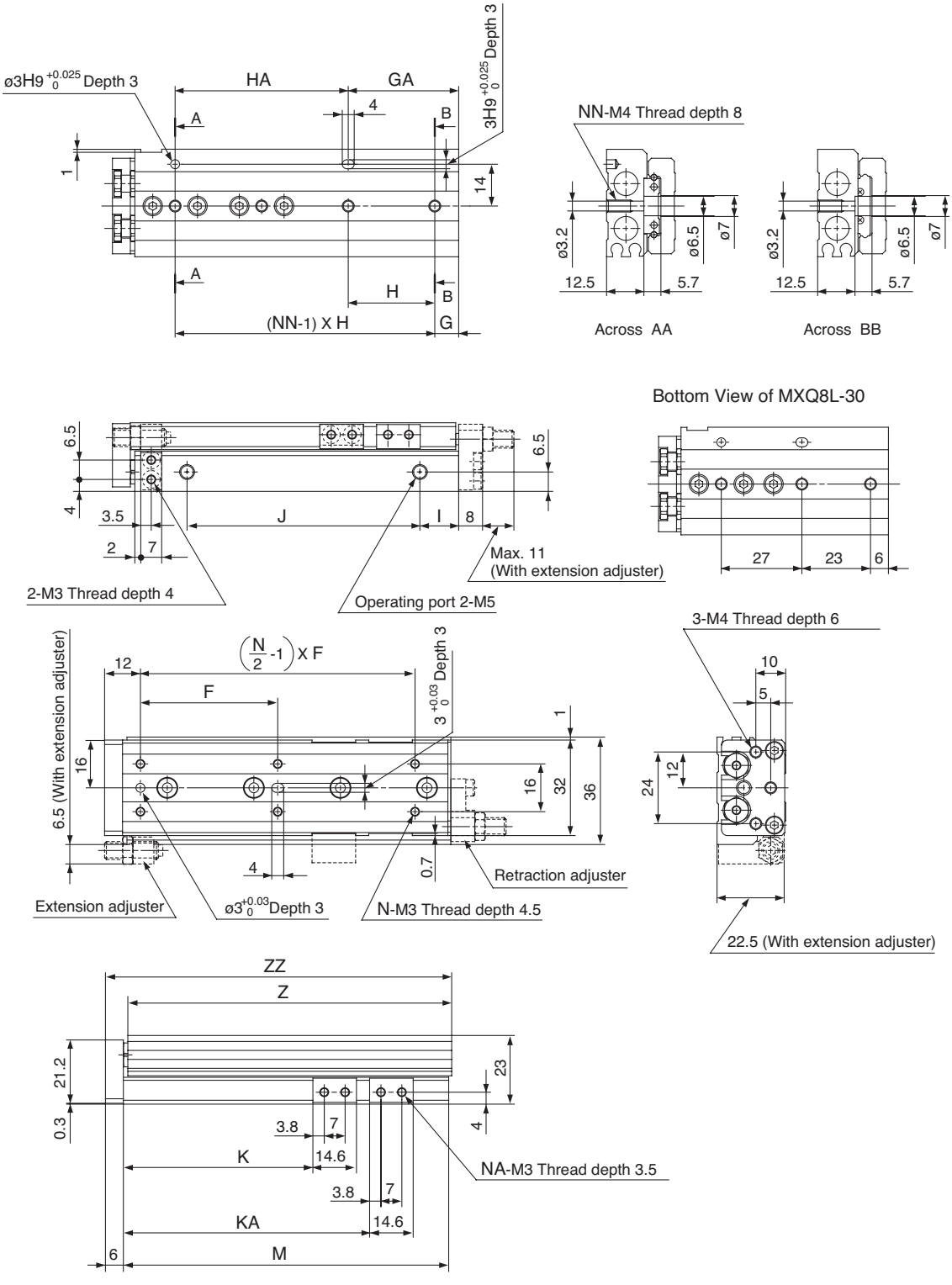
[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXQ8-10	25	4	7	25	2	13	19	11	17	23.5	—	4	46	45.5	53
MXQ8-20	25	4	14	28	2	14	28	10	28	33.5	—	4	56	55.5	63
MXQ8-30	26	6	—Note)	—Note)	3	29	27	12	40	43.5	—	4	70	69.5	77
MXQ8-40	32	6	8	31	3	39	31	14	52	53.5	—	4	84	83.5	91
MXQ8-50	46	6	8	29	4	37	58	13	78	63.5	82.5	8	109	108.5	116
MXQ8-75	50	6	31	30	4	61	60	12	105	88.5	112.5	8	135	134.5	142

Note) Refer to the bottom view of MXQ8-30.

Dimensions MXQ8L: Symmetric Style

Basic style



[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXQ8L-10	25	4	7	25	2	13	19	11	17	23.5	—	4	46	45.5	53
MXQ8L-20	25	4	14	28	2	14	28	10	28	33.5	—	4	56	55.5	63
MXQ8L-30	26	6	—Note)	—Note)	3	29	27	12	40	43.5	—	4	70	69.5	77
MXQ8L-40	32	6	8	31	3	39	31	14	52	53.5	—	4	84	83.5	91
MXQ8L-50	46	6	8	29	4	37	58	13	78	63.5	82.5	8	109	108.5	116
MXQ8L-75	50	6	31	30	4	61	60	12	105	88.5	112.5	8	135	134.5	142

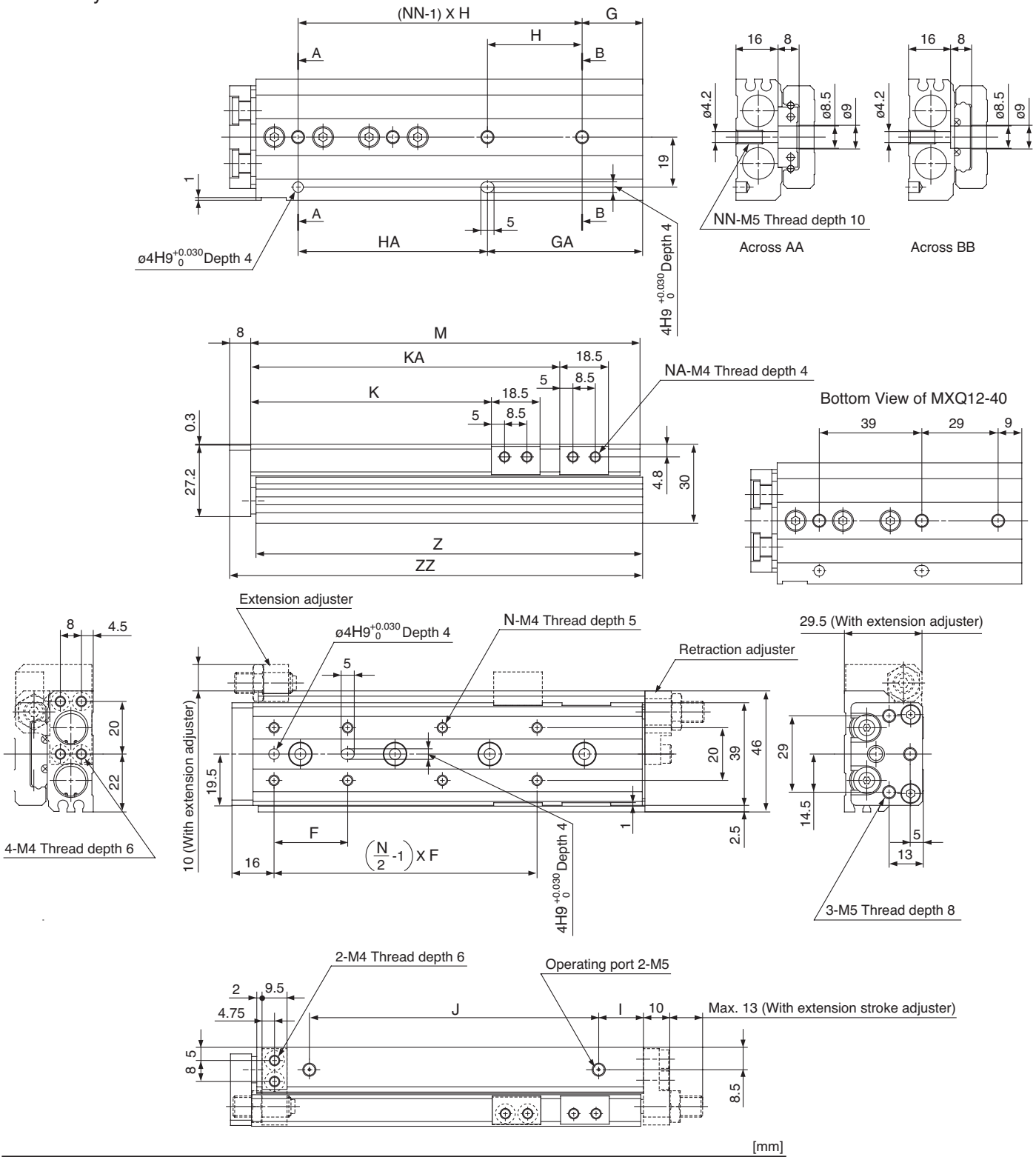
Note) Refer to the bottom view of MXQ8L-30.

For more product options and details see our specific catalogues or on-line information.

Actuators

Dimensions MXQ12: Standard type

Basic style



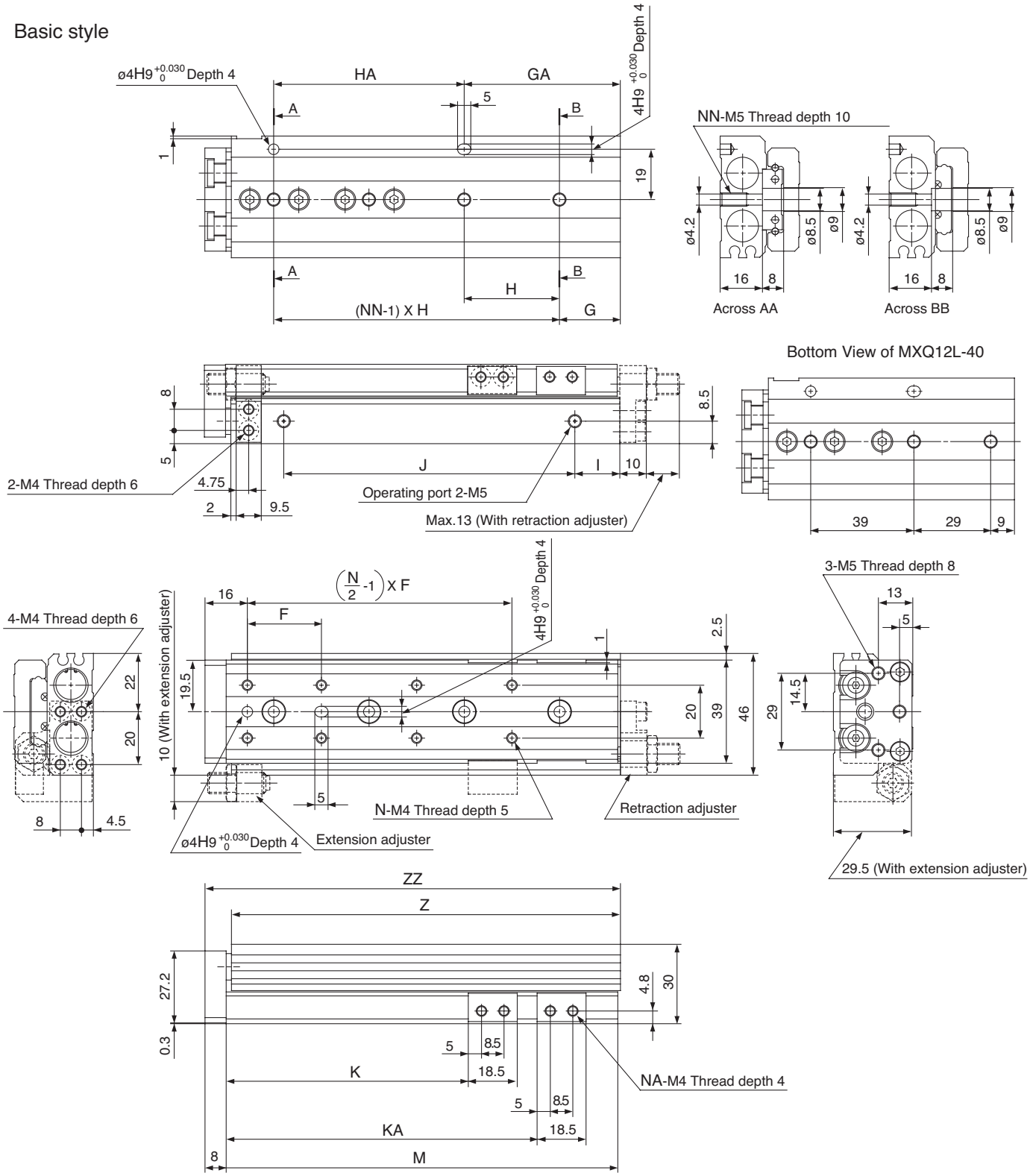
[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXQ12-10	28	4	18	32	2	18	32	12	34	26.5	—	4	67	66	76
MXQ12-20	28	4	18	32	2	18	32	12	34	36.5	—	4	67	66	76
MXQ12-30	38	4	20	40	2	20	40	14	42	46.5	—	4	77	76	86
MXQ12-40	34	6	—Note)	—Note)	3	38	39	15	58	56.5	—	4	94	93	103
MXQ12-50	34	6	9	39	3	48	39	13	70	66.5	—	4	104	103	113
MXQ12-75	36	8	23	36	4	59	72	17	110	91.5	117.5	8	148	147	157
MXQ12-100	36	10	12	36	5	84	72	17	135	116.5	142.5	8	173	172	182

Note) Refer to the bottom view of MXQ12-40.

Dimensions MXQ12L: Symmetric Style

Basic style



[mm]

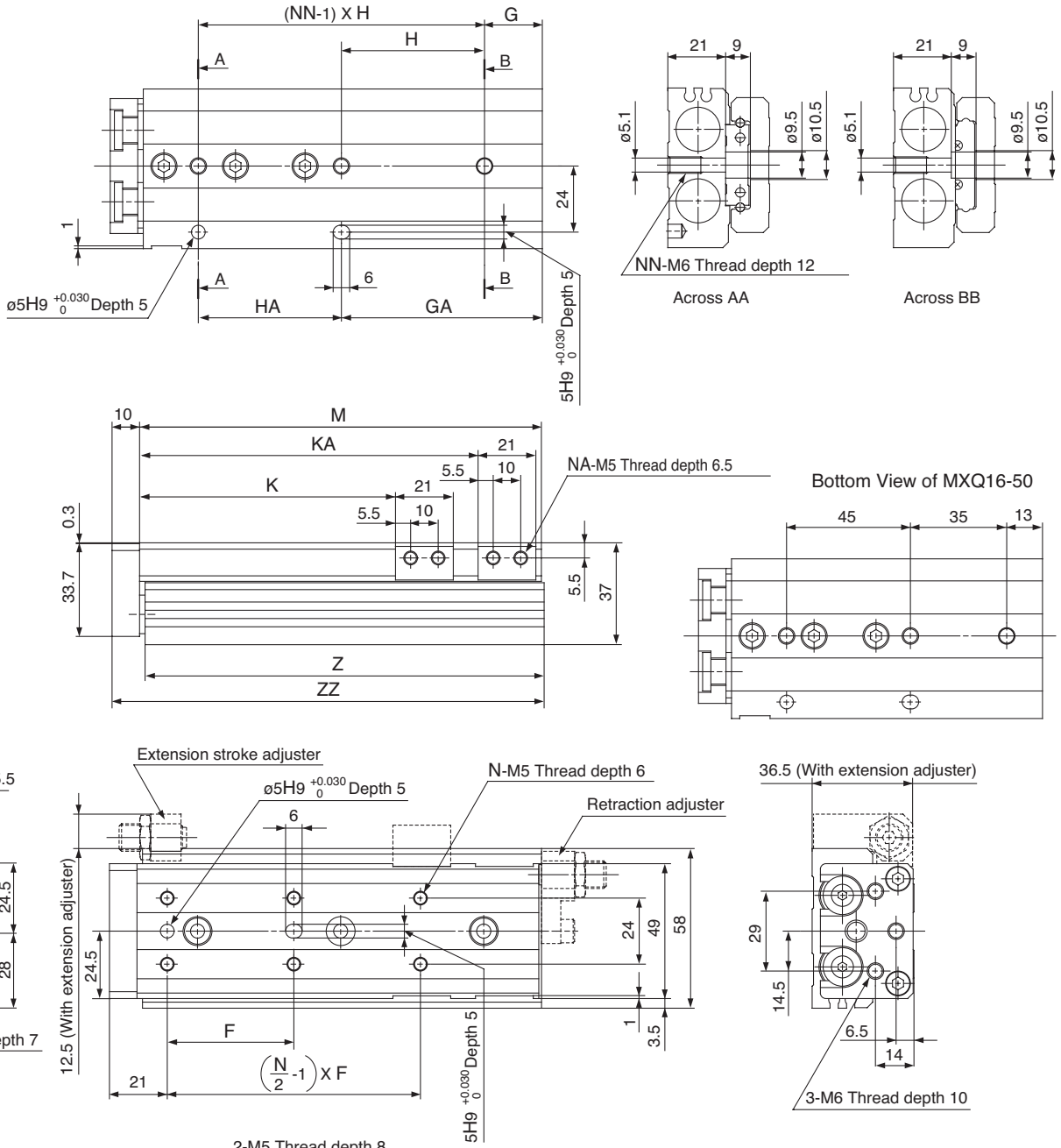
Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXQ12L-10	28	4	18	32	2	18	32	12	34	26.5	—	4	67	66	76
MXQ12L-20	28	4	18	32	2	18	32	12	34	36.5	—	4	67	66	76
MXQ12L-30	38	4	20	40	2	20	40	14	42	46.5	—	4	77	76	86
MXQ12L-40	34	6	—Note)	—Note)	3	38	39	15	58	56.5	—	4	94	93	103
MXQ12L-50	34	6	9	39	3	48	39	13	70	66.5	—	4	104	103	113
MXQ12L-75	36	8	23	36	4	59	72	17	110	91.5	117.5	8	148	147	157
MXQ12L-100	36	10	12	36	5	84	72	17	135	116.5	142.5	8	173	172	182

Note) Refer to the bottom view of MXQ12L-40.

For more product options and details see our specific catalogues or on-line information.

Dimensions MXQ16: Standard type

Basic style



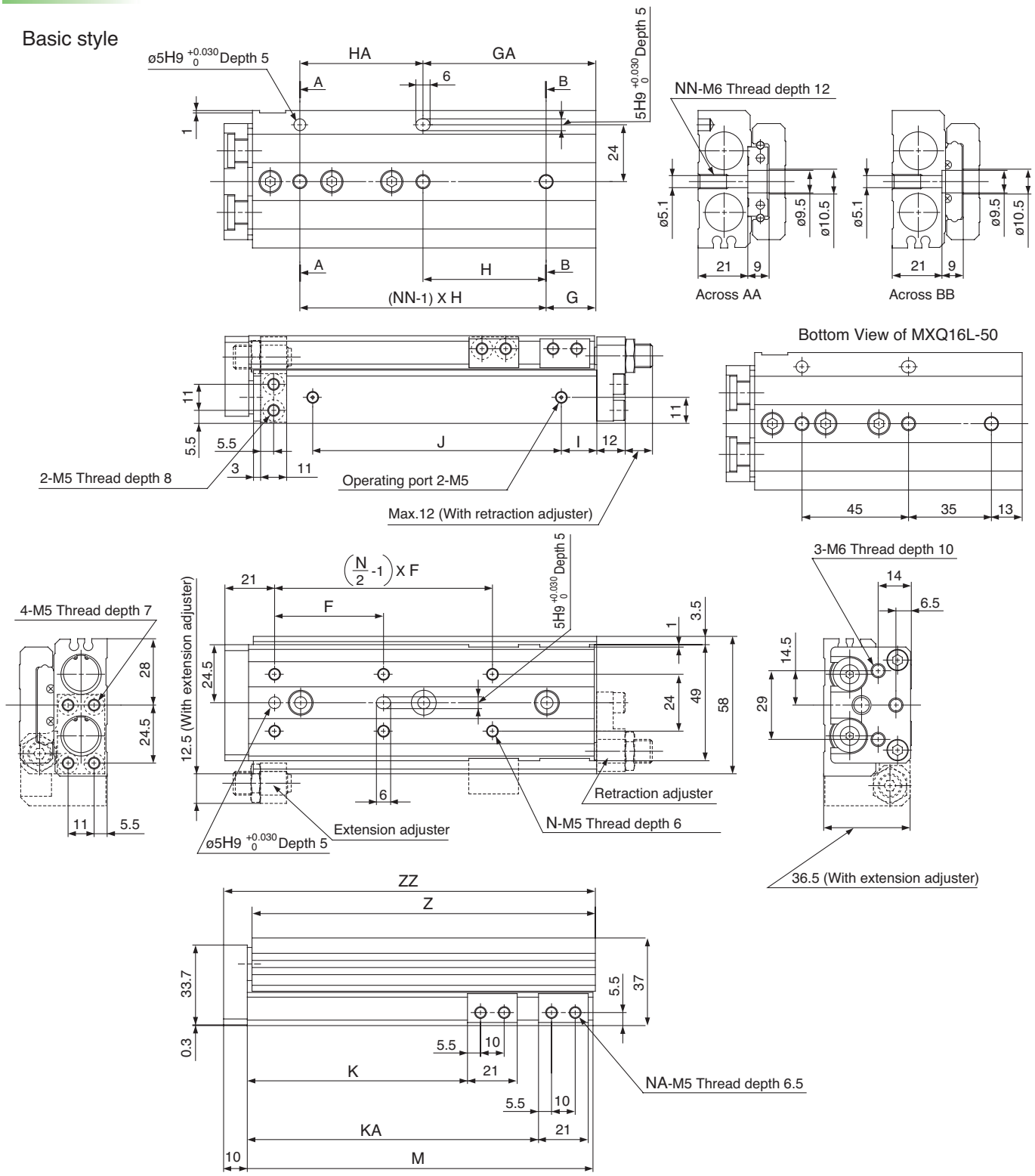
[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXQ16-10	38	4	18	39	2	18	39	12	40	28	—	4	78	77	89
MXQ16-20	38	4	18	39	2	18	39	12	40	38	—	4	78	77	89
MXQ16-30	48	4	19	48	2	19	48	12	50	48	—	4	88	87	99
MXQ16-40	58	4	19	58	2	19	58	12	60	58	—	4	98	97	109
MXQ16-50	40	6	—Note)	—Note)	3	48	45	20	68	68	91	8	114	113	125
MXQ16-75	46	6	21	52	3	73	52	15	105	93	123	8	146	145	157
MXQ16-100	44	8	36	44	4	80	88	18	145	118	166	8	189	188	200
MXQ16-125	44	10	17	44	5	105	88	23	165	143	191	8	214	213	225

Note) Refer to the bottom view of MXQ16-50.

Dimensions MXQ16L: Symmetric Style

Basic style



[mm]

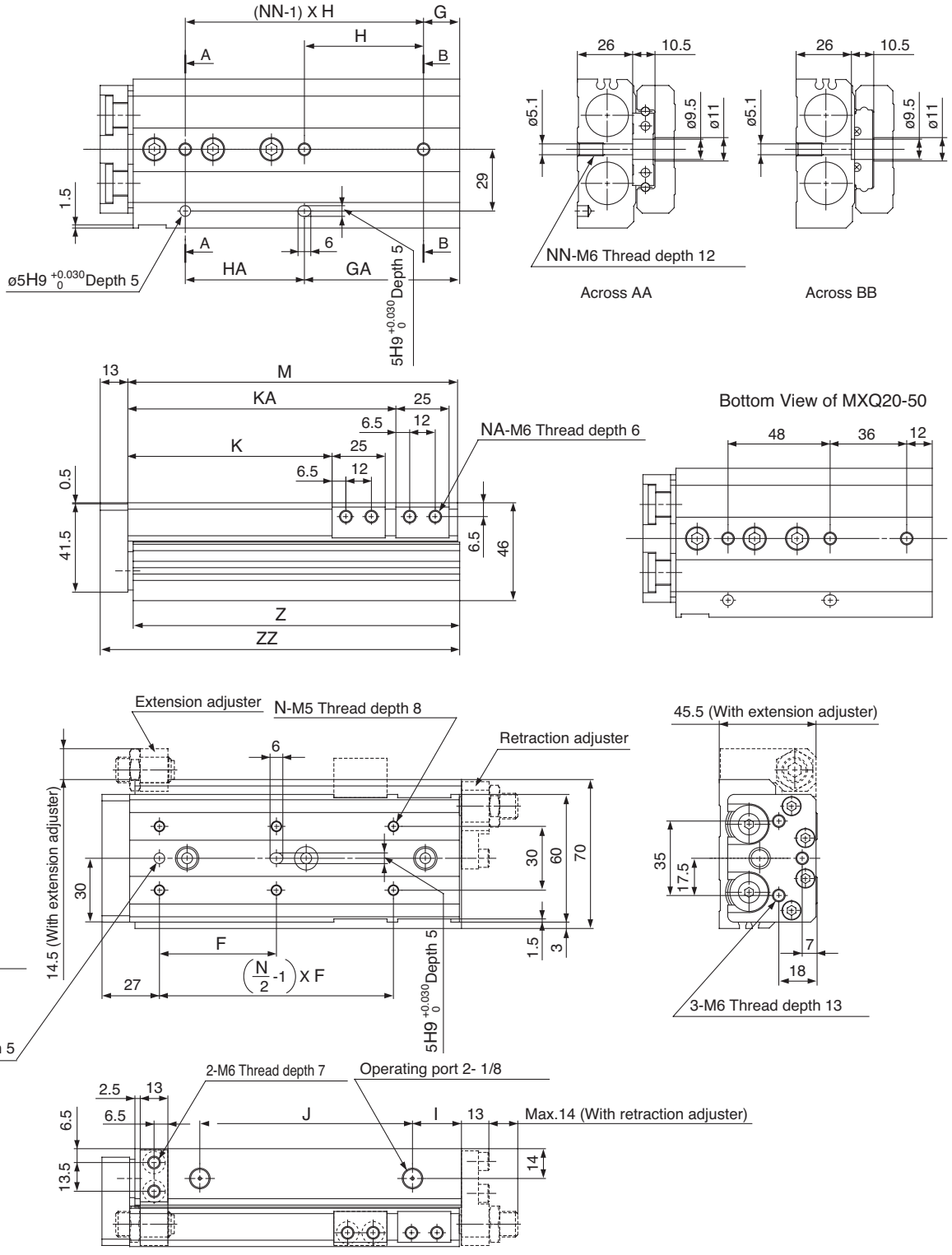
Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXQ16L-10	38	4	18	39	2	18	39	12	40	28	—	4	78	77	89
MXQ16L-20	38	4	18	39	2	18	39	12	40	38	—	4	78	77	89
MXQ16L-30	48	4	19	48	2	19	48	12	50	48	—	4	88	87	99
MXQ16L-40	58	4	19	58	2	19	58	12	60	58	—	4	98	97	109
MXQ16L-50	40	6	—Note)	—Note)	3	48	45	20	68	68	91	8	114	113	125
MXQ16L-75	46	6	21	52	3	73	52	15	105	93	123	8	146	145	157
MXQ16L-100	44	8	36	44	4	80	88	18	145	118	166	8	189	188	200
MXQ16L-125	44	10	17	44	5	105	88	23	165	143	191	8	214	213	225

Note) Refer to the bottom view of MXQ16L-50.

For more product options and details see our specific catalogues or on-line information.

Dimensions MXQ20: Standard type

Basic style



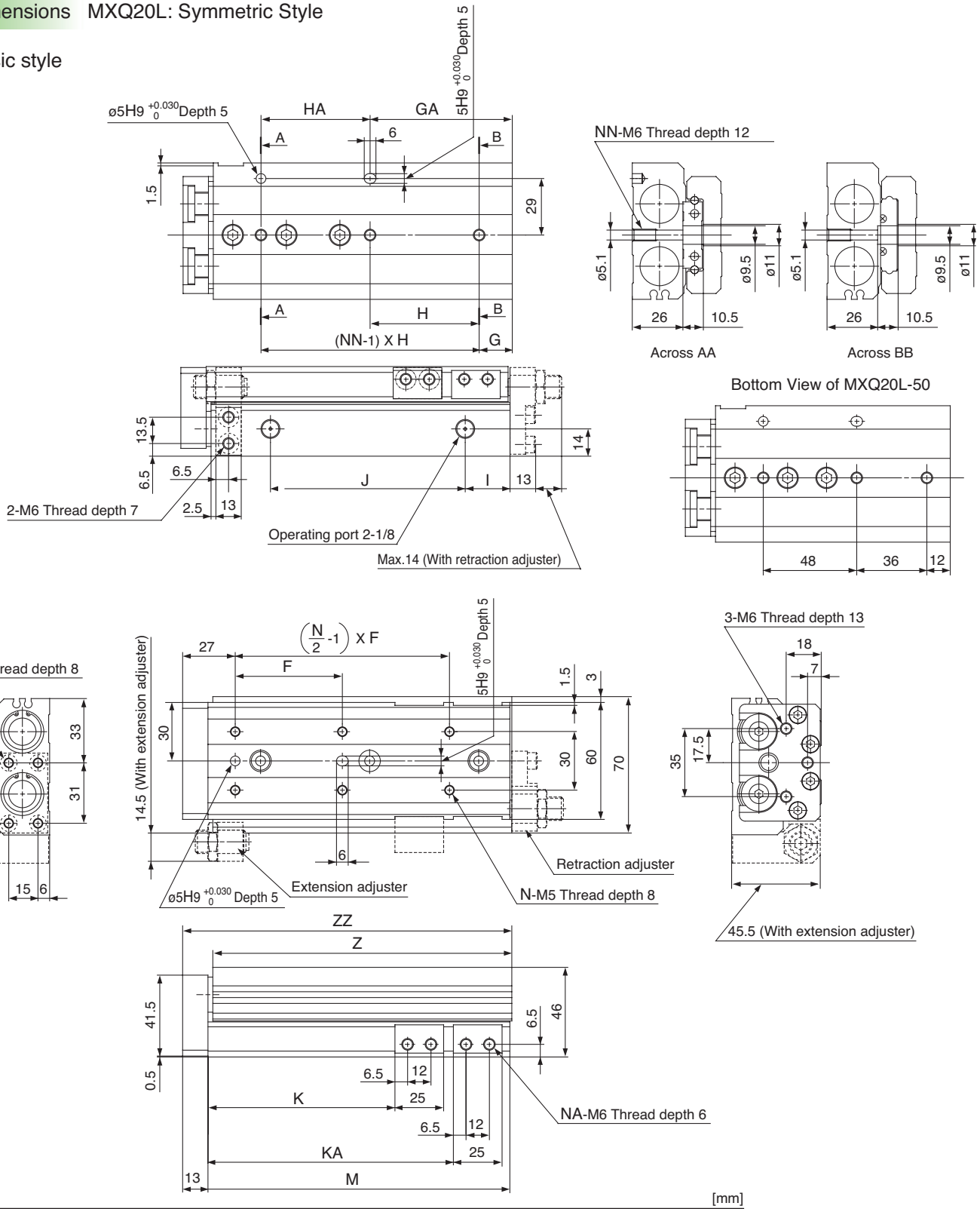
[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXQ20-10	45	4	22	46	2	18	50	16	46	31	—	4	94	92.5	108
MXQ20-20	40	4	22	46	2	18	50	16	46	41	—	4	94	92.5	108
MXQ20-30	48	4	22	46	2	18	50	16	46	51	—	4	94	92.5	108
MXQ20-40	58	4	22	56	2	22	56	16	56	61	—	4	104	102.5	118
MXQ20-50	42	6	—Note)	—Note)	3	48	48	18	72	71	—	4	122	120.5	136
MXQ20-75	55	6	17	56	3	73	56	23	100	96	126	8	155	153.5	169
MXQ20-100	50	8	18	56	4	74	112	25	155	121	183	8	212	210.5	226
MXQ20-125	55	8	37	59	4	96	118	18	190	146	211	8	240	238.5	254
MXQ20-150	62	8	56	62	4	118	124	21	215	171	239	8	268	266.5	282

Note) Refer to the bottom view of MXQ20-50.

Dimensions MXQ20L: Symmetric Style

Basic style



[mm]

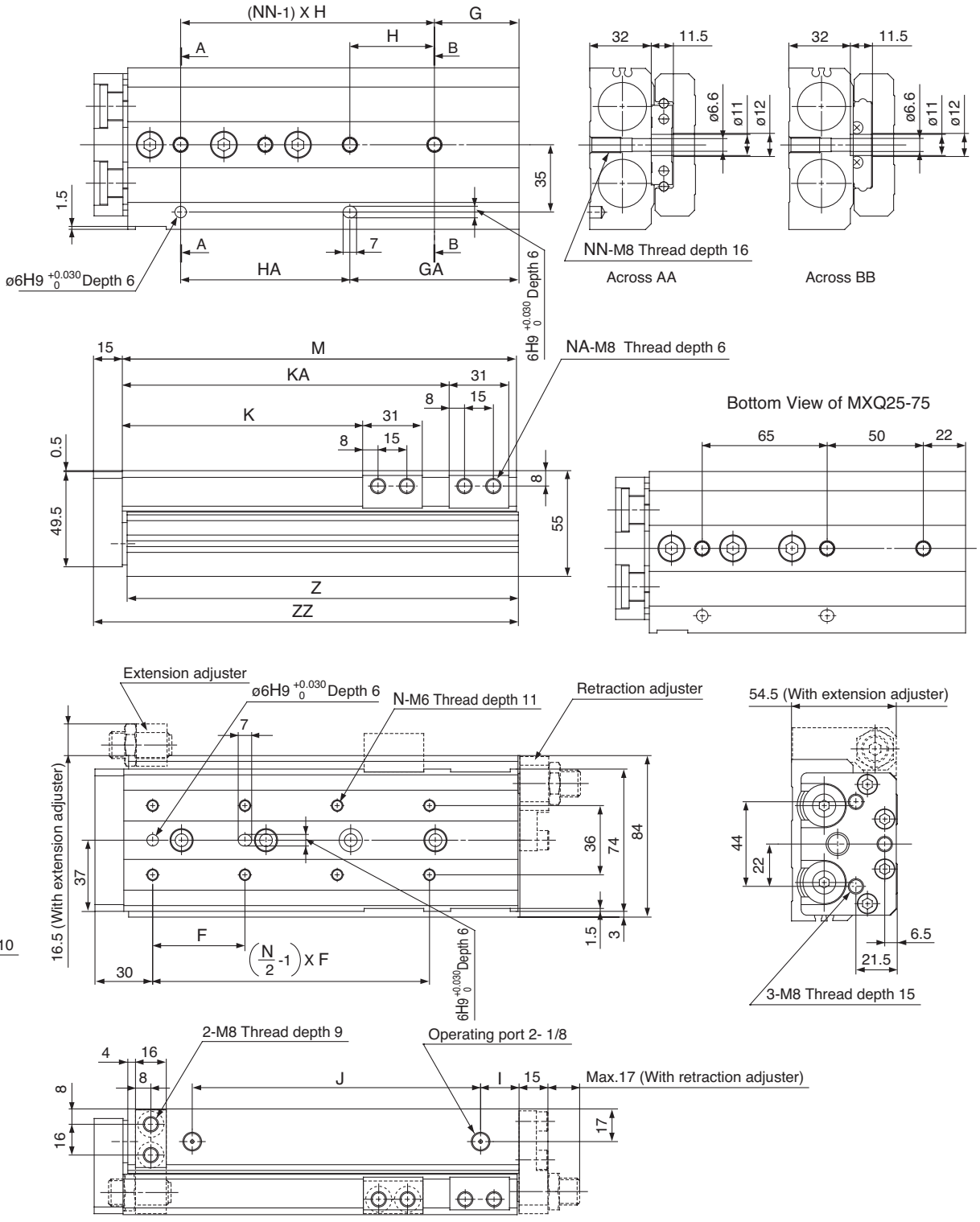
Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXQ20L-10	45	4	22	46	2	18	50	16	46	31	—	4	94	92.5	108
MXQ20L-20	40	4	22	46	2	18	50	16	46	41	—	4	94	92.5	108
MXQ20L-30	48	4	22	46	2	18	50	16	46	51	—	4	94	92.5	108
MXQ20L-40	58	4	22	56	2	22	56	16	56	61	—	4	104	102.5	118
MXQ20L-50	42	6	—Note)	—Note)	3	48	48	18	72	71	—	4	122	120.5	136
MXQ20L-75	55	6	17	56	3	73	56	23	100	96	126	8	155	153.5	169
MXQ20L-100	50	8	18	56	4	74	112	25	155	121	183	8	212	210.5	226
MXQ20L-125	55	8	37	59	4	96	118	18	190	146	211	8	240	238.5	254
MXQ20L-150	62	8	56	62	4	118	124	21	215	171	239	8	268	266.5	282

Note) Refer to the bottom view of MXQ20L-50.

For more product options and details see our specific catalogues or on-line information.

Dimensions MXQ25: Standard type

Basic style



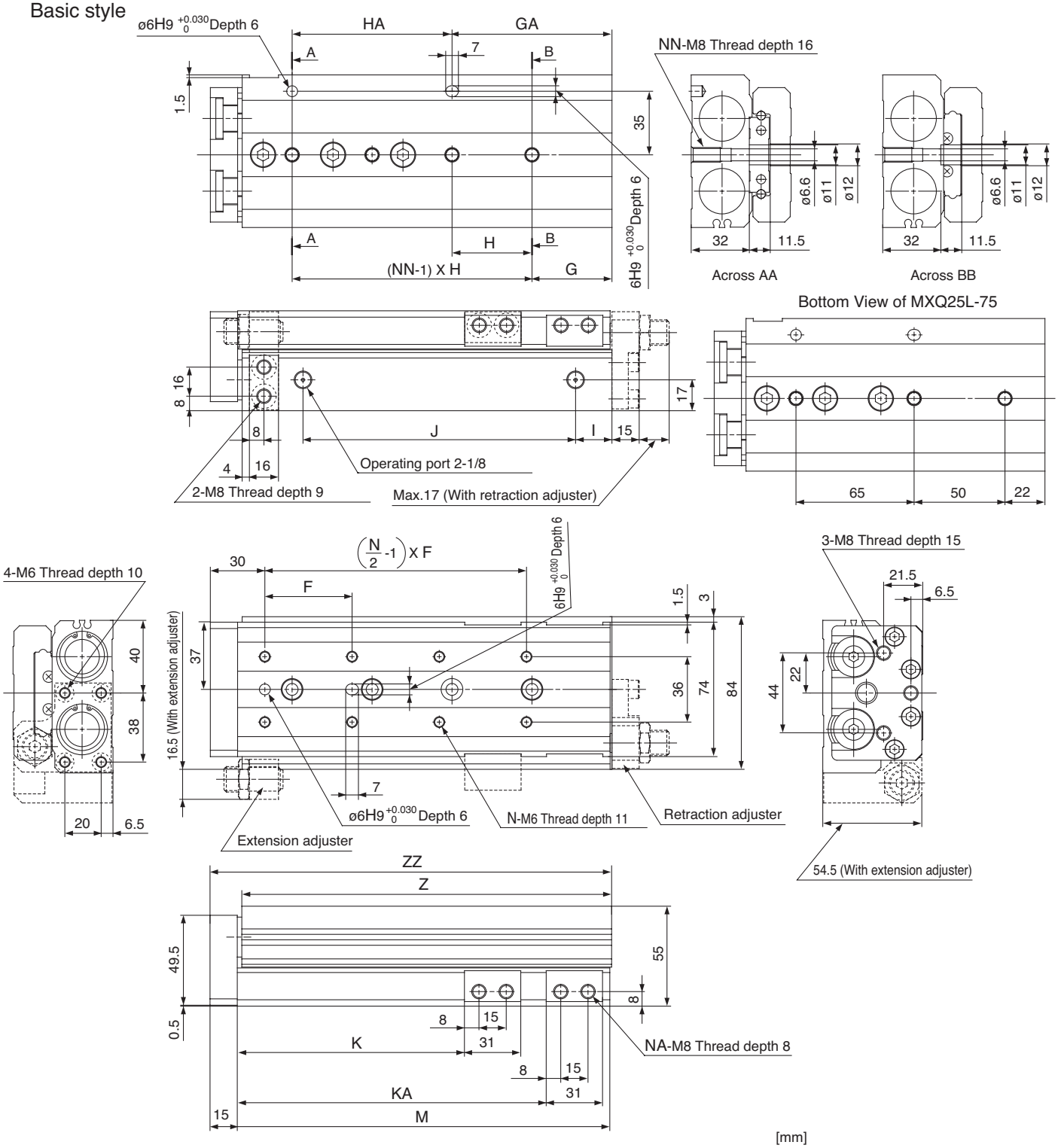
[mm]

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXQ25-10	55	4	23	55	2	23	55	16	56	35	—	4	107	105.5	123
MXQ25-20	46	4	23	55	2	23	55	16	56	45	—	4	107	105.5	123
MXQ25-30	55	4	23	55	2	23	55	16	56	55	—	4	107	105.5	123
MXQ25-40	65	4	23	65	2	23	65	16	66	65	—	4	117	115.5	133
MXQ25-50	75	4	32	80	2	32	80	16	90	75	—	4	141	139.5	157
MXQ25-75	60	6	— Note)	— Note)	3	72	65	31	100	100	—	4	166	164.5	182
MXQ25-100	48	8	44	44	4	88	88	20	150	125	170	8	205	203.5	221
MXQ25-125	60	8	31	66	4	97	132	18	205	150	223	8	258	256.5	274
MXQ25-150	65	8	56	66	4	122	132	18	230	175	248	8	283	281.5	299

Note) Refer to the bottom view of MXQ25-75.

Dimensions MXQ25L: Symmetric Style

Basic style



[mm]

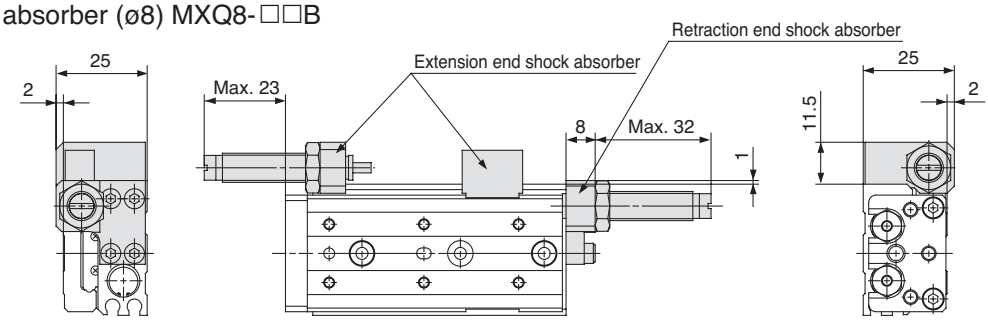
Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
MXQ25L-10	55	4	23	55	2	23	55	16	56	35	—	4	107	105.5	123
MXQ25L-20	46	4	23	55	2	23	55	16	56	45	—	4	107	105.5	123
MXQ25L-30	55	4	23	55	2	23	55	16	56	55	—	4	107	105.5	123
MXQ25L-40	65	4	23	65	2	23	65	16	66	65	—	4	117	115.5	133
MXQ25L-50	75	4	32	80	2	32	80	16	90	75	—	4	141	139.5	157
MXQ25L-75	60	6	—Note)	—Note)	3	72	65	31	100	100	—	4	166	164.5	182
MXQ25L-100	48	8	44	44	4	88	88	20	150	125	170	8	205	203.5	221
MXQ25L-125	60	8	31	66	4	97	132	18	205	150	223	8	258	256.5	274
MXQ25L-150	65	8	56	66	4	122	132	18	230	175	248	8	283	281.5	299

Note) Refer to the bottom view of MXQ25L-75.

For more product options and details see our specific catalogues or on-line information.

Actuators

Dimensions With shock absorber (ø8) MXQ8-□□B

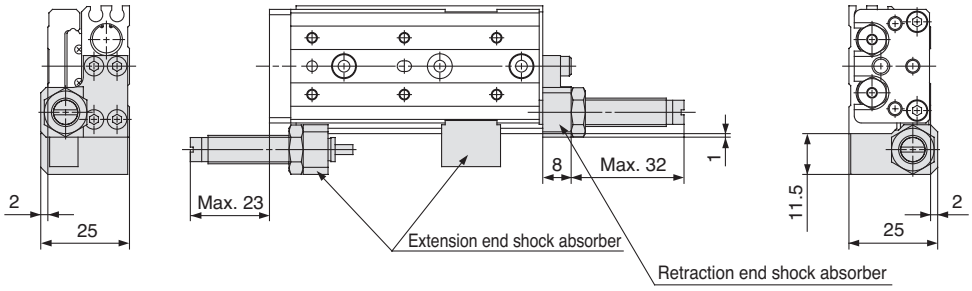


Adjustable Range of Stroke [mm]

Extension End	Retraction End
20	20

∗ Dimensions not indicated are the same as basic style.

With shock absorber (ø8) MXQ8L-□□B

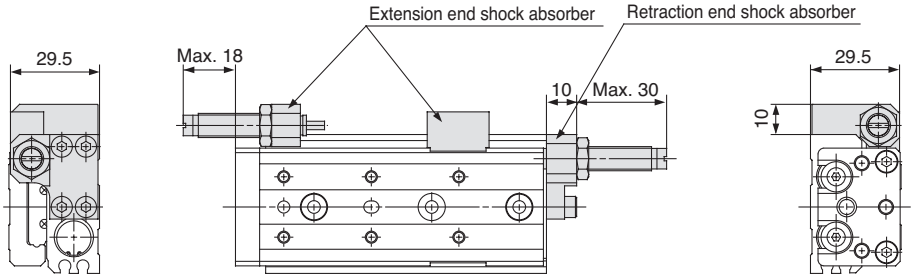


Adjustable Range of Stroke [mm]

Extension End	Retraction End
20	20

∗ Dimensions not indicated are the same as basic style.

With shock absorber(ø12) MXQ12-□□B

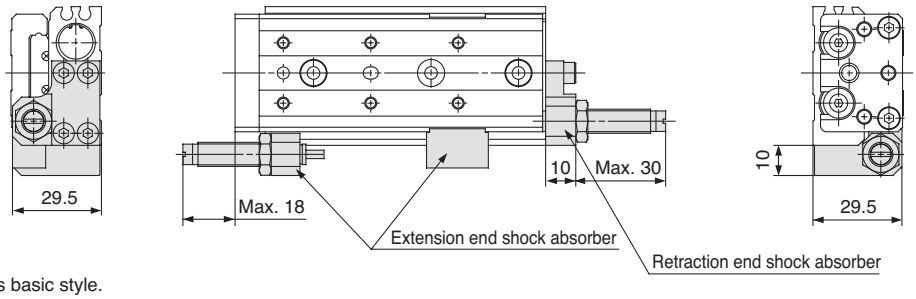


Adjustable Range of Stroke [mm]

Extension End	Retraction End
18	18

∗ Dimensions not indicated are the same as basic style.

With shock absorber(ø12) MXQ12L-□□B

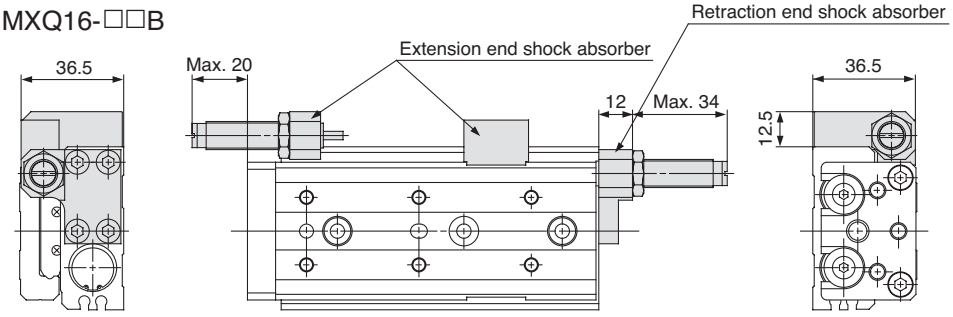


Adjustable Range of Stroke [mm]

Extension End	Retraction End
18	18

∗ Dimensions not indicated are the same as basic style.

With shock absorber(ø16) MXQ16-□□B



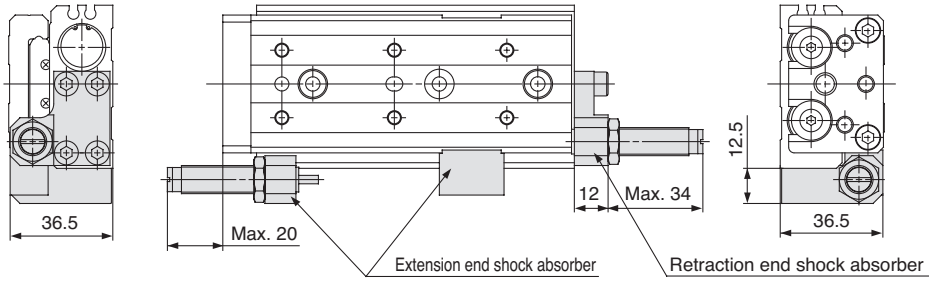
Adjustable Range of Stroke [mm]

Extension End	Retraction End
22	22

∗ Dimensions not indicated are the same as basic style.

Actuators

With shock absorber(ø16) MXQ16L-□□B

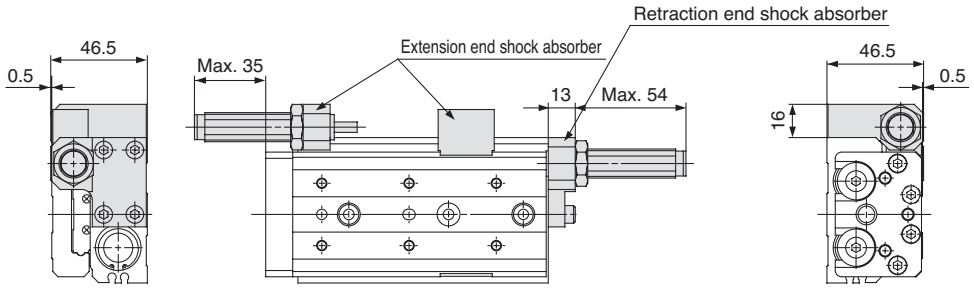


Adjustable Range of Stroke [mm]

Extension End	Retraction End
22	22

∗ Dimensions not indicated are the same as basic style.

With shock absorber(ø20) MXQ20-□□B

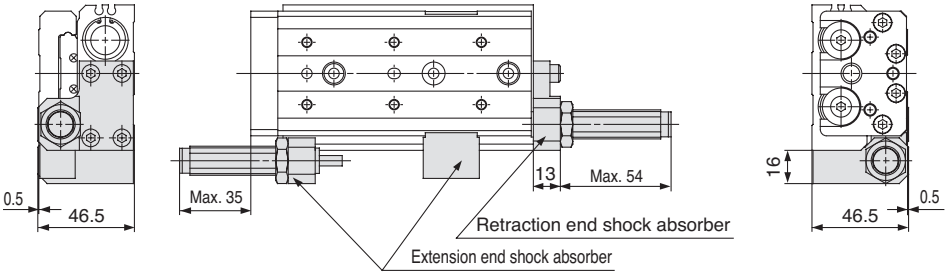


Adjustable Range of Stroke [mm]

Extension End	Retraction End
35	35

∗ Dimensions not indicated are the same as basic style.

With shock absorber(ø20) MXQ20L-□□B

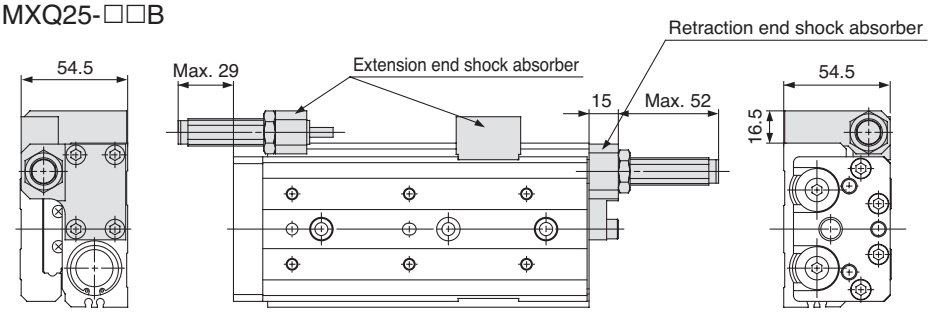


Adjustable Range of Stroke [mm]

Extension End	Retraction End
35	35

∗ Dimensions not indicated are the same as basic style.

With shock absorber(ø25) MXQ25-□□B

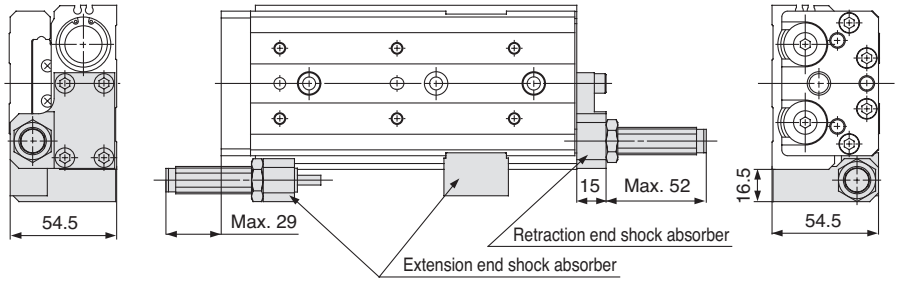


Adjustable Range of Stroke [mm]

Extension End	Retraction End
35	35

∗ Dimensions not indicated are the same as basic style.

With shock absorber(ø25) MXQ25L-□□B



Adjustable Range of Stroke [mm]

Extension End	Retraction End
35	35

∗ Dimensions not indicated are the same as basic style.

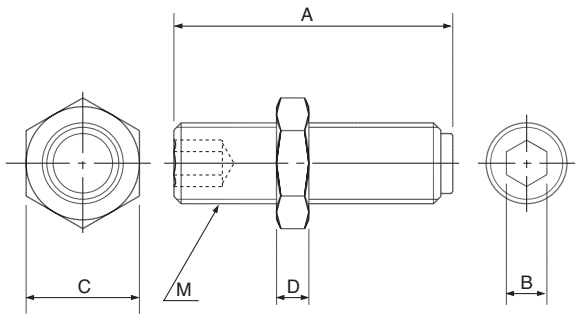
For more product options and details see our specific catalogues or on-line information.

Actuators

Actuators

Option Specifications

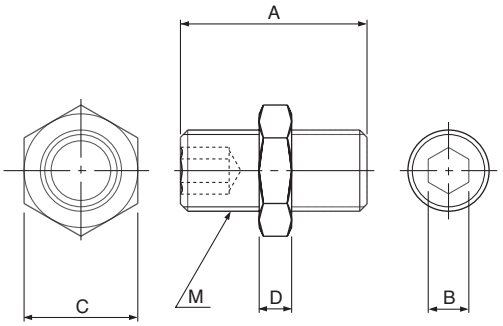
Dimensions of Adjusting Bolt/Rubber Stopper



[mm]

Applicable size	Model	Stroke adjustment range [mm]	A	B	C	D	M
MXQ6(L)	MXQ-A627	5	16.5	2.5	7	3	M5
	MXQ-A627-X11	15	26.5				
MXQ8(L)	MXQ-A827	5	19.5	3	8	3.5	M6
	MXQ-A827-X11	15	29.5				
	MXQ-A827-X12	25	39.5				
MXQ12(L)	MXQ-A1227	5	23.5	4	12	4	M8 x 1
	MXQ-A1227-X11	15	33.5				
	MXQ-A1227-X12	25	43.5				
MXQ16(L)	MXQ-A1627	5	24.5	5	14	4	M10 x 1
	MXQ-A1627-X11	15	34.5				
	MXQ-A1627-X12	25	44.5				
MXQ20(L)	MXQ-A2027	5	27.5	6	17	5	M12 x 1.25
	MXQ-A2027-X11	15	37.5				
	MXQ-A2027-X12	25	47.5				
MXQ25(L)	MXQ-A2527	5	32.5	6	19	6	M14 x 1.5
	MXQ-A2527-X11	15	42.5				
	MXQ-A2527-X12	25	52.5				

Dimensions of Adjusting Bolt/Metal Stopper



[mm]

Applicable size	Model	Stroke adjustment range [mm]	A	B	C	D	M
MXQ6(L)	MXQ-A638	5	15.5	2.5	7	3	M5
	MXQ-A638-X11	15	25.5				
MXQ8(L)	MXQ-A838	5	18	3	8	3.5	M6
	MXQ-A838-X11	15	28				
	MXQ-A838-X12	25	38				
MXQ12(L)	MXQ-A1238	5	22	4	12	4	M8 x 1
	MXQ-A1238-X11	15	32				
	MXQ-A1238-X12	25	42				
MXQ16(L)	MXQ-A1638	5	23	5	14	4	M10 x 1
	MXQ-A1638-X11	15	33				
	MXQ-A1638-X12	25	43				
MXQ20(L)	MXQ-A2038	5	27	6	17	5	M12 x 1.25
	MXQ-A2038-X11	15	37				
	MXQ-A2038-X12	25	47				
MXQ25(L)	MXQ-A2538	5	30	6	19	6	M14 x 1.5
	MXQ-A2538-X11	15	40				
	MXQ-A2538-X12	25	50				

How to Order Adjusting Bolt/Rubber Stopper

MXQ – A **12** 27 – **X11**

Applicable bore size [mm]

6	ø6
8	ø8
12	ø12
16	ø16
20	ø20
25	ø25

Adjustment range

–	5 mm
-X11	15 mm
-X12	25 mm

∗ -X12 (adjusting range: 25 mm) is not available in Series MXQ6.
∗ For dimensions, refer to the figure above.
∗ Symmetric type is also the same.

How to Order Adjusting Bolt/Metal Stopper

MXQ – A **12** 38 – **X11**

Applicable bore size [mm]

6	ø6
8	ø8
12	ø12
16	ø16
20	ø20
25	ø25

Adjustment range

–	5 mm
-X11	15 mm
-X12	25 mm

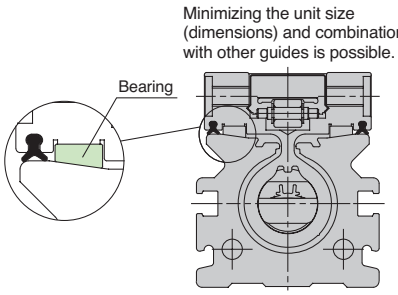
∗ -X12 (adjusting range: 25 mm) is not available in Series MXQ6.
∗ For dimensions, refer to the figure above.
∗ Symmetric type is also the same.

Mechanically Jointed Rodless Cylinder
Basic Type
Series MY1B

ø10, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Features

- Can be combined with a variety of guides to accommodate conditions. Simple design without guide facilitates space savings.



How to Order

E MY1B 25 G – 300

Port thread type

Symbol	Type	Bore size
—	M thread	ø10, ø16, ø20
E	G	ø25 to ø100

Basic type

Bore size [mm]

16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

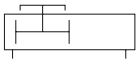
Centralised piping (one end)

Stroke

Bore size [mm]	Standard stroke [mm]*	Max. manufacturable stroke [mm]
10 and 16	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000	3000
20, 25, 32, 40 50, 63, 80, 100		5000

* Strokes are manufacturable in 1mm increments, up to the maximum stroke. However, when exceeding a 2000mm stroke, specify "-XB11" at the end of the model number.

Symbol



Product Recommendation

Stocked items for fast delivery

MY1B10G-100	MY1B10G-600	MY1B16G-500	MY1B16G-1200	MY1B20G-500	MY1B20G-1000
MY1B10G-200	MY1B16G-100	MY1B16G-600	MY1B20G-100	MY1B20G-600	MY1B20G-1200
MY1B10G-300	MY1B16G-200	MY1B16G-700	MY1B20G-200	MY1B20G-700	EMY1B50G-600
MY1B10G-400	MY1B16G-300	MY1B16G-800	MY1B20G-300	MY1B20G-800	EMY1B50G-800
MY1B10G-500	MY1B16G-400	MY1B16G-1000	MY1B20G-400	MY1B20G-900	

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Technical Specifications

Bore size [mm]		10	16	20	25	32	40	50	63	80	100
Fluid		Air									
Action		Double acting									
Operating pressure range		0.2 to 0.8MPa	0.1 to 0.8MPa								
Proof pressure		1.2MPa									
Ambient and fluid temperature		5 to 60°C									
Cushion		Rubber bumper	Air cushion								
Lubricaton		Non-lube									
Stroke length tolerance		1000 or less $^{+1.8}_{0}$ 1001 to 3000 $^{+2.8}_{0}$	2700 or less $^{+1.8}_{0}$, 2701 to 5000 $^{+2.8}_{0}$								
Port size	Front/Side ports	M5			1/8		1/4	3/8		1/2	
	Bottom ports (centralized piping type only)		ø4		ø6	ø6	ø8	ø10	ø10	ø18	ø18

For more product options and details see our specific catalogues or on-line information.

Stroke Adjusting Unit Specifications

Bore size [mm]	10		16
Unit symbol	A	H	A
Configuration and shock absorber	With adjusting bolt	RB 0805 + With adjusting bolt	With adjusting bolt
Stroke fine adjusting range [mm]	0 to -5		0 to -5.6
Stroke adjusting range	When exceeding the stroke fine adjusting range, please consult SMC		

Bore size [mm]	20			25			32			40		
Unit symbol	L			L			L			L		
Configuration and shock absorber	RB0806 + With adjusting bolt			RB1007 + With adjusting bolt			RB1412 + With adjusting bolt			RB1412 + With adjusting bolt		
Unit symbol	A	L	H	A	L	H	A	L	H	A	L	H
Configuration and shock absorber	With adjusting bolt	RB 806 + With adjusting bolt	RB 1007 + With adjusting bolt	With adjusting bolt	RB 1007 + With adjusting bolt	RB 1412 + With adjusting bolt	With adjusting bolt	RB 1412 + With adjusting bolt	RB 2015 + With adjusting bolt	With adjusting bolt	RB 1412 + With adjusting bolt	RB 2015 + With adjusting bolt
Stroke fine adjusting range [mm]	0 to -6			0 to -11.5			0 to -12			0 to -16		
Stroke adjusting range	When exceeding the stroke fine adjusting range, please consult SMC											

Shock Absorber Specifications

Model		RB 0805	RB 0806	RB 1007	RB 1412	RB 2015
Max. energy absorption [J]		1.0	2.9	5.9	19.6	58.8
Stroke absorption [mm]		5	6	7	12	15
Max. impact speed [mm/s]		1000	1500	1500	1500	1500
Max. operating frequency (cycles/min)		80	80	70	45	25
Spring force [N]	Extended	1.96	1.96	4.22	6.86	8.34
	Compressed	3.83	4.22	6.86	15.98	20.50
Operating temperature range [°C]		5 to 60				

Piston Speed

Bore size [mm]		10	16 to 100
Without stroke adjusting unit		100 to 500mm/s	100 to 1000mm/s
Stroke adjusting unit	A unit	100 to 200mm/s	100 to 1000mm/s Note 1)
	H unit + L unit	100 to 1000mm/s	100 to 1500mm/s Note 2)

Note 1) Be aware that when the stroke adjusting range is increased by manipulating the adjusting bolt, the air cushion capacity decreases. The piston speed should be 100 to 200mm per second.
Note 2) For centralized piping, the piston speed is 100 to 1000mm per second.
Note 3) Use at a speed within the absorption capacity range.

Options

Stroke Adjusting Unit Numbers.

Bore size [mm] / Unit no.	10	16	20	25	32	40
A unit	MY-A10A	MY-A16A	MY-A20A	MY-A25A	MY-A32A	MY-A40A
L unit	–	–	MY-A20L	MY-A25L	MY-A32L	MY-A40L
H unit	MY-A10H	–	MY-A20H	MY-A25H	MY-A32H	MY-A40H

Shock Absorbers for H unit and L unit.

Bore size [mm] / Type	10	20	25	32	40
L unit	–	RB0806	RB1007	RB1412	
H unit	RB0805	RB1007	RB1412	RB2015	

Side Support Part Numbers.

Bore size [mm] / Type	10	16	20	25	32
Side support A	MY-S10A	MY-S16A	MY-S20A	MY-S25A	
Side support B	MY-S10B	MY-S16B	MY-S20B	MY-S25B	

Bore size [mm] / Type	40	50	63	80	100
Side support A	MY-S32A		MY-S50A	MY-S63A	
Side support B	MY-S32B		MY-S50B	MY-S63B	

Floating Joint Numbers.

Bore size [mm]	10	16	20	25	32
Model	MY-J10	MY-J16	MY-J20	MY-J25	MY-J32

Bore size [mm]	40	50	63	80	100
Model	MY-J40	MY-J50	MY-J63	MY-J80	MY-J100

Maximum Allowable Moment/Maximum Load Weight

Model	Bore size [mm]	Max. allowable moment [N·m]			Max. allowable load [kg]		
		M_1	M_2	M_3	m_1	m_2	m_3
MY1B	10	0.8	0.1	0.3	5.0	1.0	0.5
	16	2.5	0.3	0.8	15	3.0	1.7
	20	5.0	0.6	1.5	21	4.2	3.0
	25	10	1.2	3.0	29	5.8	5.4
	32	20	2.4	6.0	40	8.0	8.8
	40	40	4.8	12	53	10.6	14
	50	78	9.3	23	70	14	20
	63	160	19	48	83	16.6	29
	80	315	37	95	120	24	42
	100	615	73	184	150	30	60

Maximum allowable moment

Select the moment from within the range of operating limits shown in the graphs. Note that the maximun allowable load value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable load for the selected conditions.

Maximum allowable load

Select the load from within the range of limits shown in the graphs. Note that the maximun allowable moment value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable moment for the selected conditions.

Sizing of MY1 Cylinders

The figures above are given as an indication mainly as a comparison between different models and bore sizes of MY1.

The static moments, dynamic moments and applied loads are combined together as a series of factors, the total of wich must not exceed a defined value.

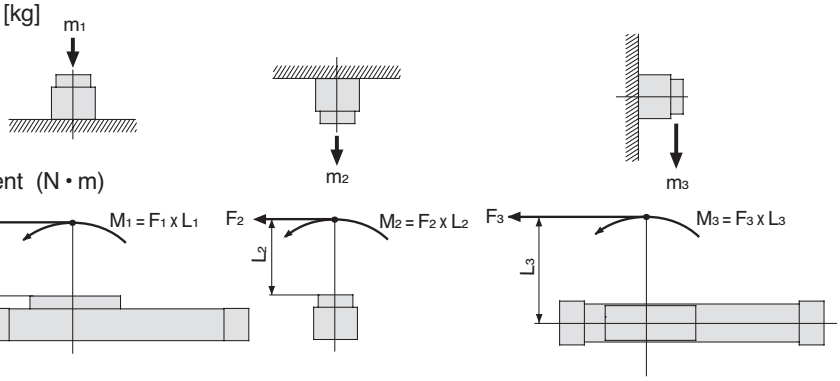
Formal sizing depends upon the use of graphs and equations wich are not present in this catalogue to calculate these factors. Alternatively a software program, is available to perform the calculation.

If seeling and MY1 cylinder for a new application, please contact SMC for assistance with sizing.

Design precautions

We recommend installing an external shock absorber when the cylinder is combined with another guide (connection with floating bracket, etc.) and the maximum allowable load is exceeded, or when the operating speed is 1000 to 1500mm/s for bore sizes ø16, ø50, ø63, ø80 and ø100.

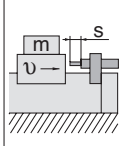
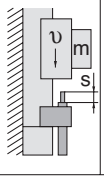
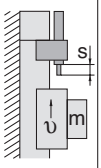
Load [kg]



Moment (N • m)

Calculation of absorbed energy for stroke adjusting unit with built-in shock absorber

Unit: N·m

Type of impact	Horizontal	Vertical (downward)	Vertical (upward)
			
Kinetic energy E_1	$\frac{1}{2}m \cdot \upsilon^2$		
Kinetic energy E_2	$F \cdot s$	$F \cdot s + m \cdot g \cdot s$	$F \cdot s - m \cdot g \cdot s$
Absorbed energy E	$E_1 + E_2$		

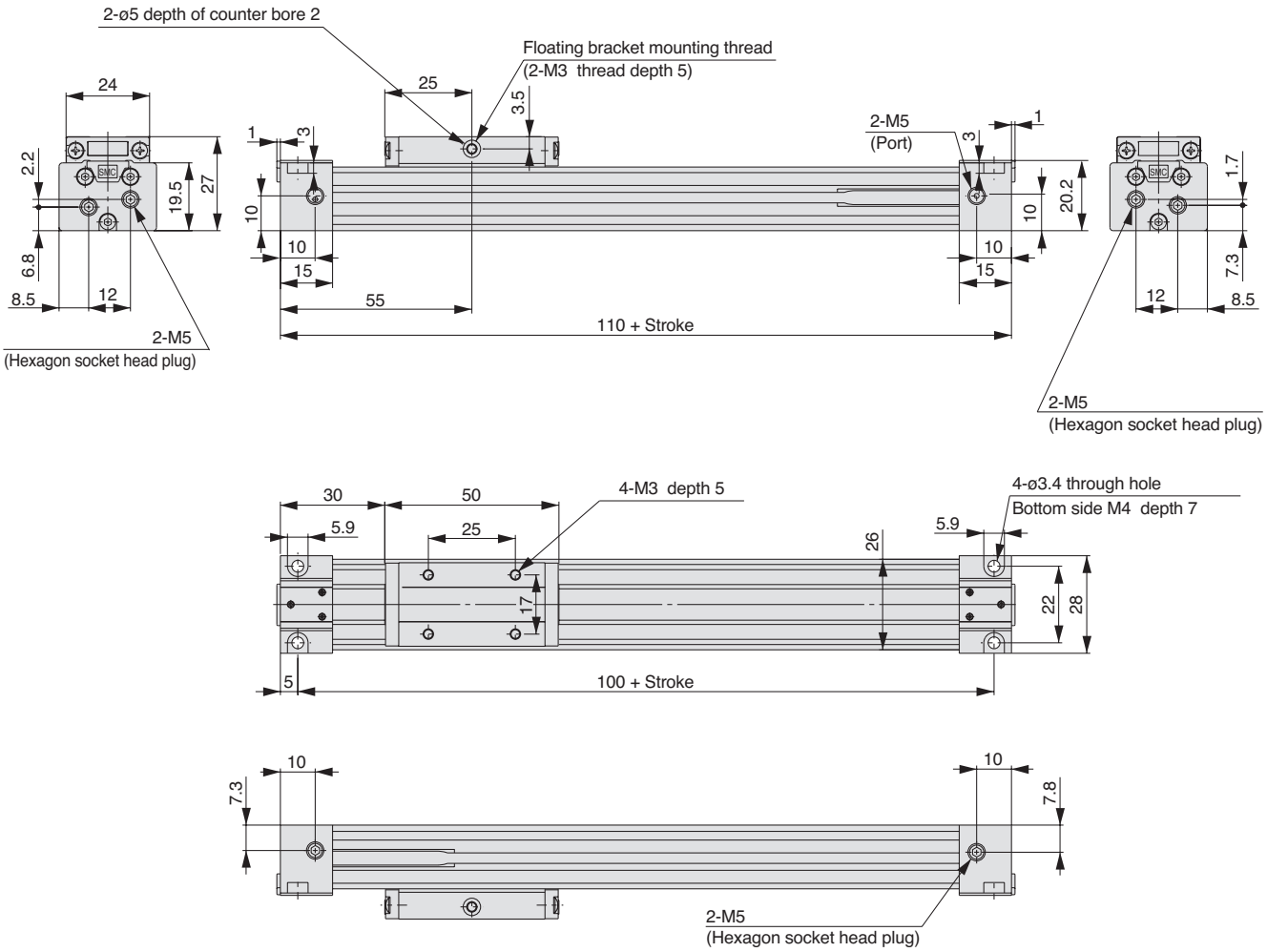
Symbols
- υ: Speed of impacting object [m/s]
- m: Weight of impacting object [kg]
- F: Cylinder thrust [N]
- g: Gravitational acceleration [9.8m/s²]
- s: Shock absorber stroke [m]

Note) The speed of the impacting object is measured at the time of impact with the shock absorber.

Actuators

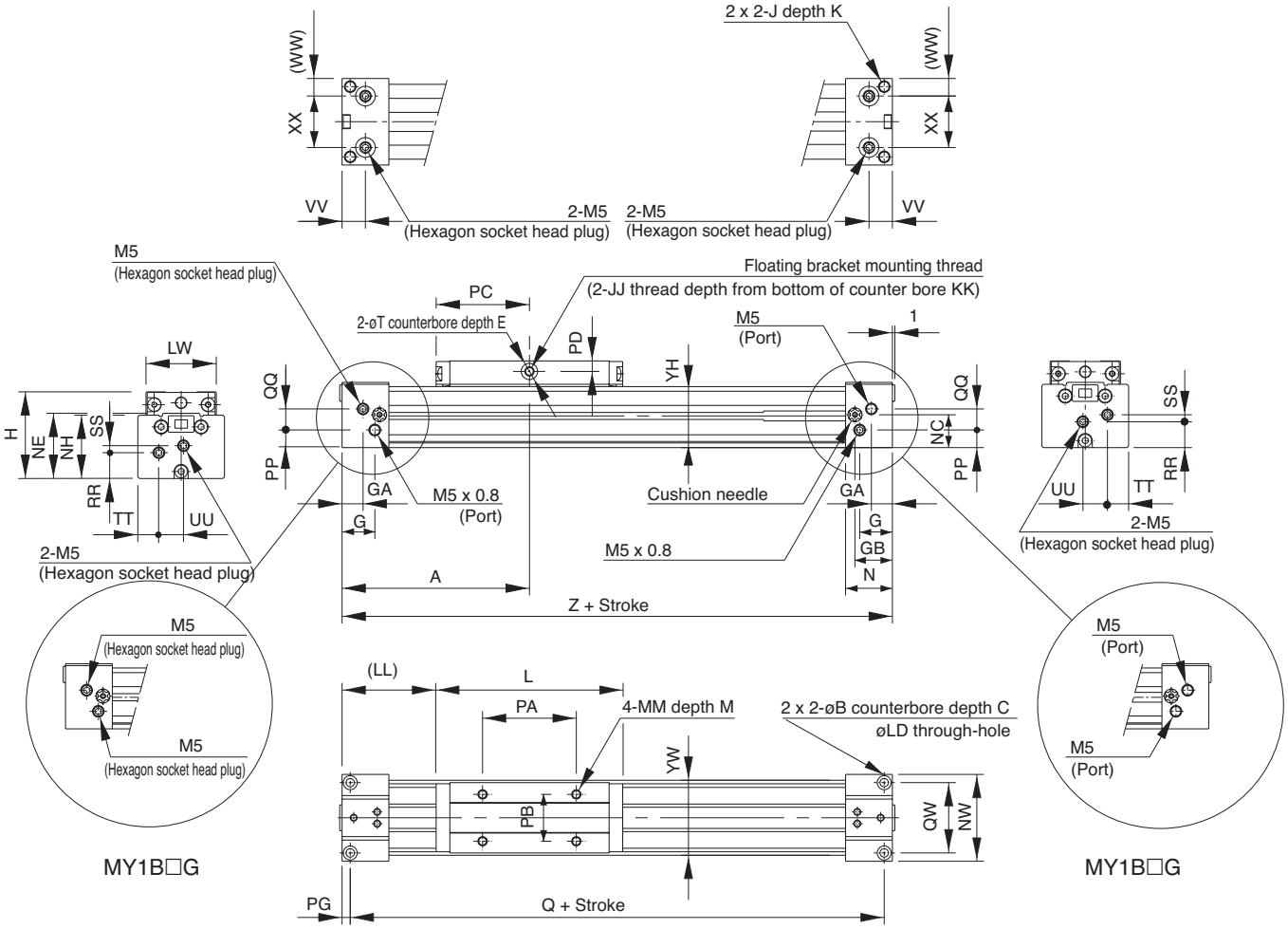
Dimensions Centralized Piping Type ø10

MY1B10G — Stroke



Dimensions Centralized Piping Type ø16, ø20

MY1B16G/20G — Stroke

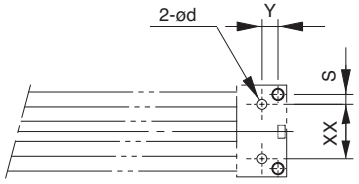


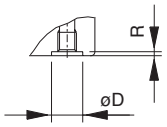
[mm]

Model	A	B	C	E	G	GA	GB	H	J	JJ	K	KK	L	LD	LL	LW	M	MM	N	NC	NE
MY1B16G	80	6	3.5	2	14	9	16	37	M5	M4	10	6.5	80	3.5	40	30	6	M4	20	14	27.8
MY1B20G	100	7.5	4.5	2	12.5	12.5	17.5	46	M6	M4	12	10	100	4.5	50	37	8	M5	25	17.5	34

[mm]

Model	NH	NW	PA	PB	PC	PD	PG	PP	Q	QQ	QW	RR	SS	T	TT	UU	VV	WW	XX	YH	YW	Z
MY1B16G	27	37	40	20	40	4.5	3.5	7.5	153	9	30	11	3	7	9	10.5	10	7.5	22	26	32	160
MY1B20G	33.5	45	50	25	50	5	4.5	11.5	191	11	36	14.5	5	8	10.5	12	12.5	10.5	24	32.5	40	200





Bottom ported
(Applicable O-ring)

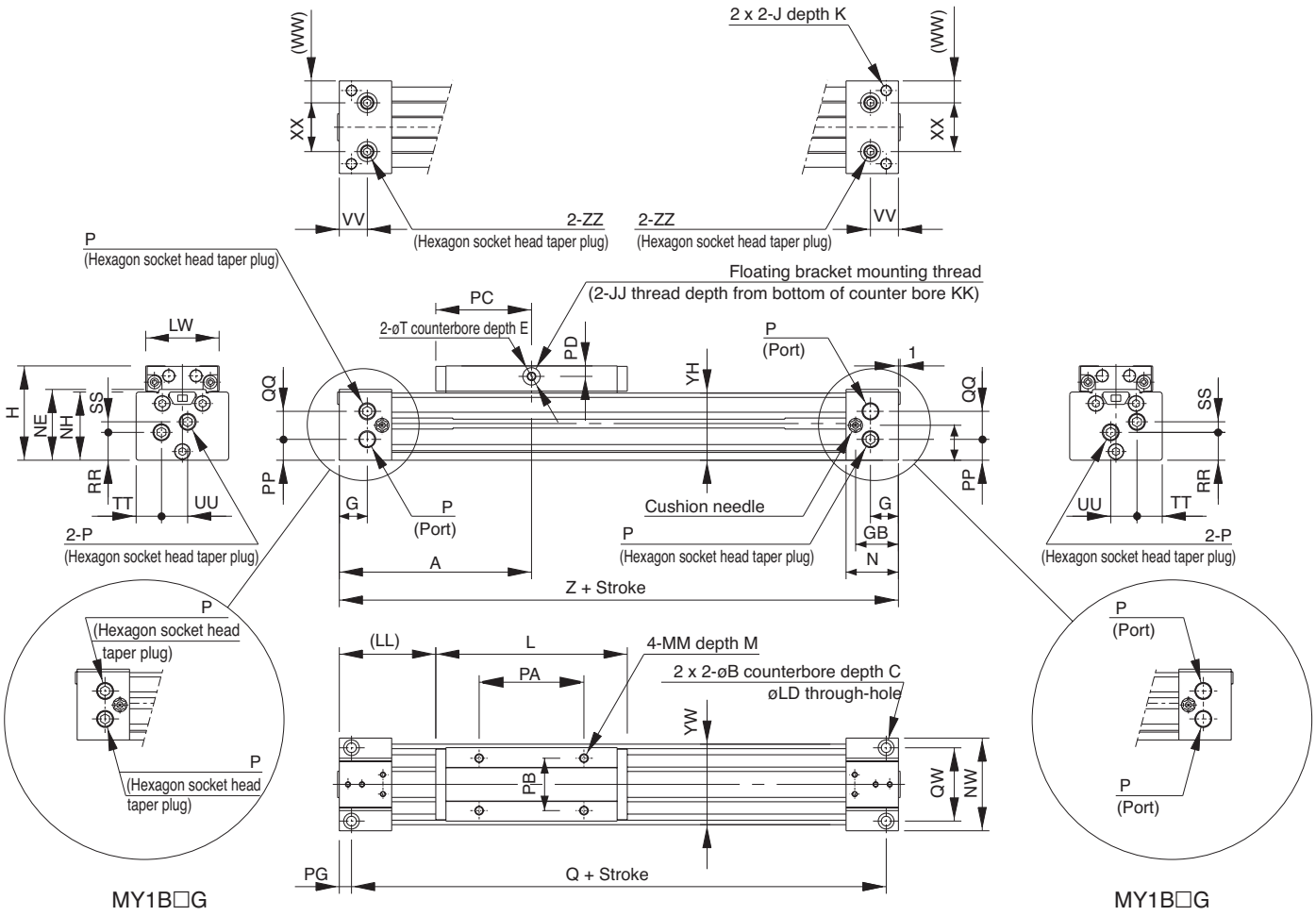
Hole Size for Centralized Piping on the Bottom

Model	WX	Y	S	d	D	R	Applicable O-ring
MY1B16G	22	6.5	4	4	8.4	1.1	C6
MY1B20G	24	8	6	4	8.4	1.1	

(Machine the mounting side to the dimensions below.)

Dimensions Centralized Piping Type ø25, ø32, ø40

MY1B25G/32G/40G — Stroke



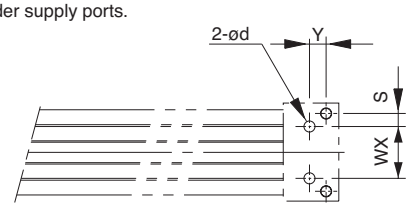
[mm]

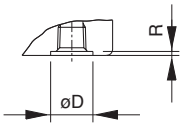
Model	A	B	C	E	G	GB	H	J	JJ	K	KK	L	LD	LL	LW	M	MM	N	NC	NE	NH	NW
MY1B25G	110	9	5.5	2	16	24.5	54	M6	M5	9.5	9	110	5.6	55	42	9	M5	30	20	40.5	39	53
MY1B32G	140	11	6.6	2	19	30	68	M8	M5	16	10	140	6.8	70	52	12	M6	37	25	50	49	64
MY1B40G	170	14	8.5	2	23	36.5	84	M10	M6	15	13	170	8.6	85	64	12	M6	45	30.5	63	61.5	75

[mm]

Model	P	PA	PB	PC	PD	PG	PP	Q	QQ	QW	RR	SS	T	TT	UU	VV	WW	XX	YH	YW	Z	ZZ
MY1B25G	1/8	60	30	55	6	7	12	206	16	42	16	6	10	14.5	15	16	12.5	28	38.5	46	220	Rc 1/16
MY1B32G	1/8	80	35	70	10	8	17	264	16	51	23	4	10	16	16	19	16	32	48	55	280	Rc 1/16
MY1B40G	1/4	100	40	85	12	9	18.5	322	24	59	27	10.5	14	20	22	23	19.5	36	60.5	67	340	Rc 1/8

"P" indicates cylinder supply ports.





Bottom ported (ZZ)
(Applicable O-ring)

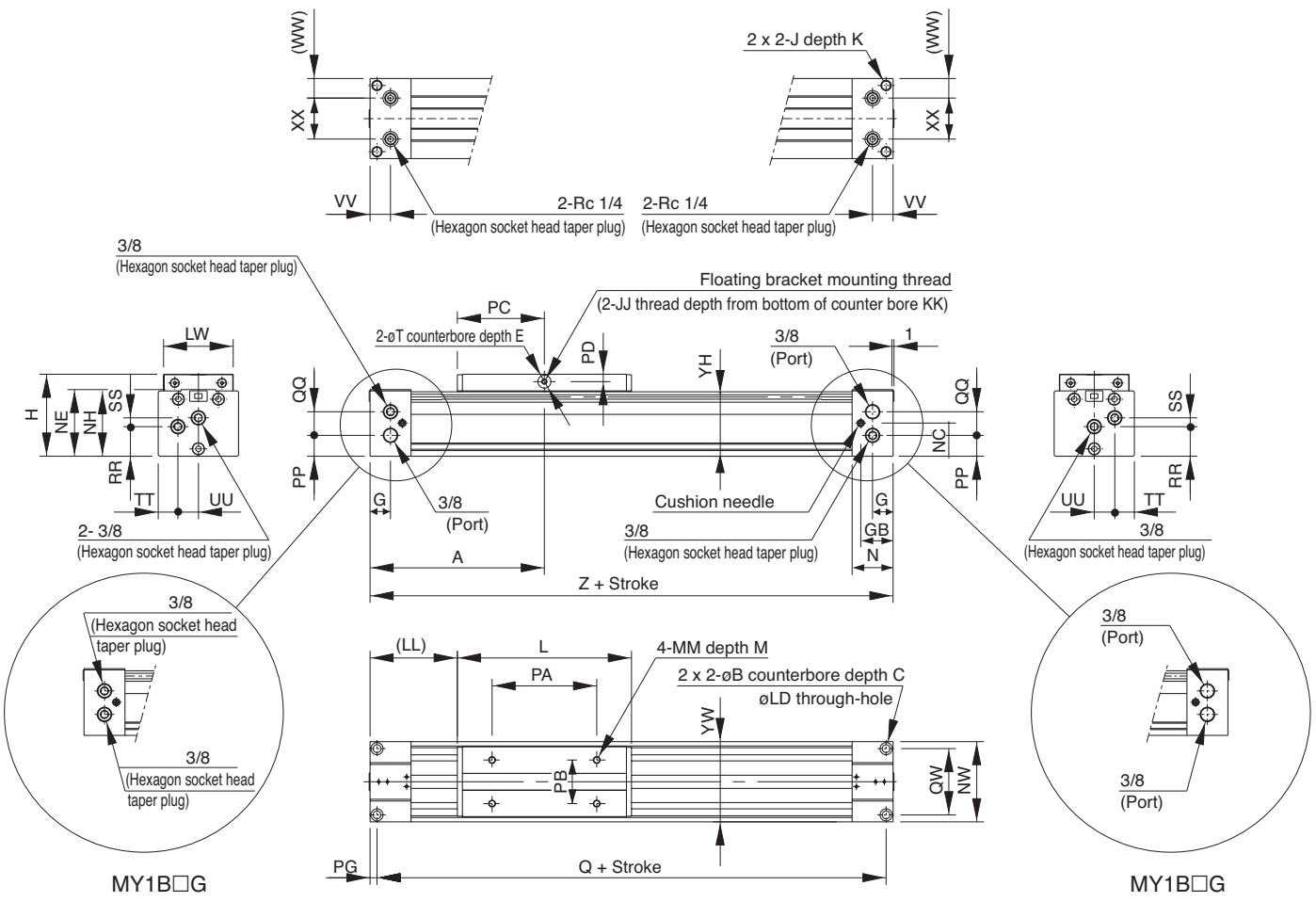
Hole Size for Centralized Piping on the Bottom

Model	WX	Y	S	d	D	R	Applicable O-ring
MY1B25G	28	9	7	6	11.4	1.1	C9
MY1B32G	32	11	9.5	6	11.4	1.1	
MY1B40G	36	14	11.5	8	13.4	1.1	C11.2

(Machine the mounting side to the dimensions below.)

Dimensions Centralized Piping Type ø50, ø63

MY1B50G/63G — Stroke

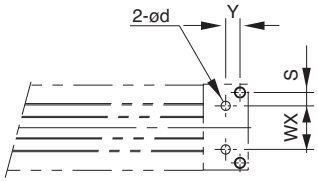


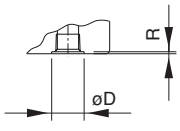
[mm]

Model	A	B	C	E	G	GB	H	J	JJ	K	KK	L	LD	LL	LW	M	MM	N	NC	NE
MY1B50G	200	14	8.5	3	23.5	37	94	M12	M6	25	17	200	9	100	80	14	M8	47	38	76.5
MY1B63G	230	17	10.5	3	25	39	116	M14	M8	28	24	230	11	115	96	16	M8	50	51	100

[mm]

Model	NH	NW	PA	PB	PC	PD	PG	PP	Q	QQ	QW	RR	SS	T	TT	UU	VV	WW	XX	YH	YW	Z
MY1B50G	75	92	120	50	100	8.5	8	24	384	27	76	34	10	15	22.5	23.5	23.5	22.5	47	74	92	400
MY1B63G	95	112	140	60	115	9.5	10	37.5	440	29.5	92	45.5	13.5	16	27	29	25	28	56	94	112	460





Bottom ported
(Applicable O-ring)

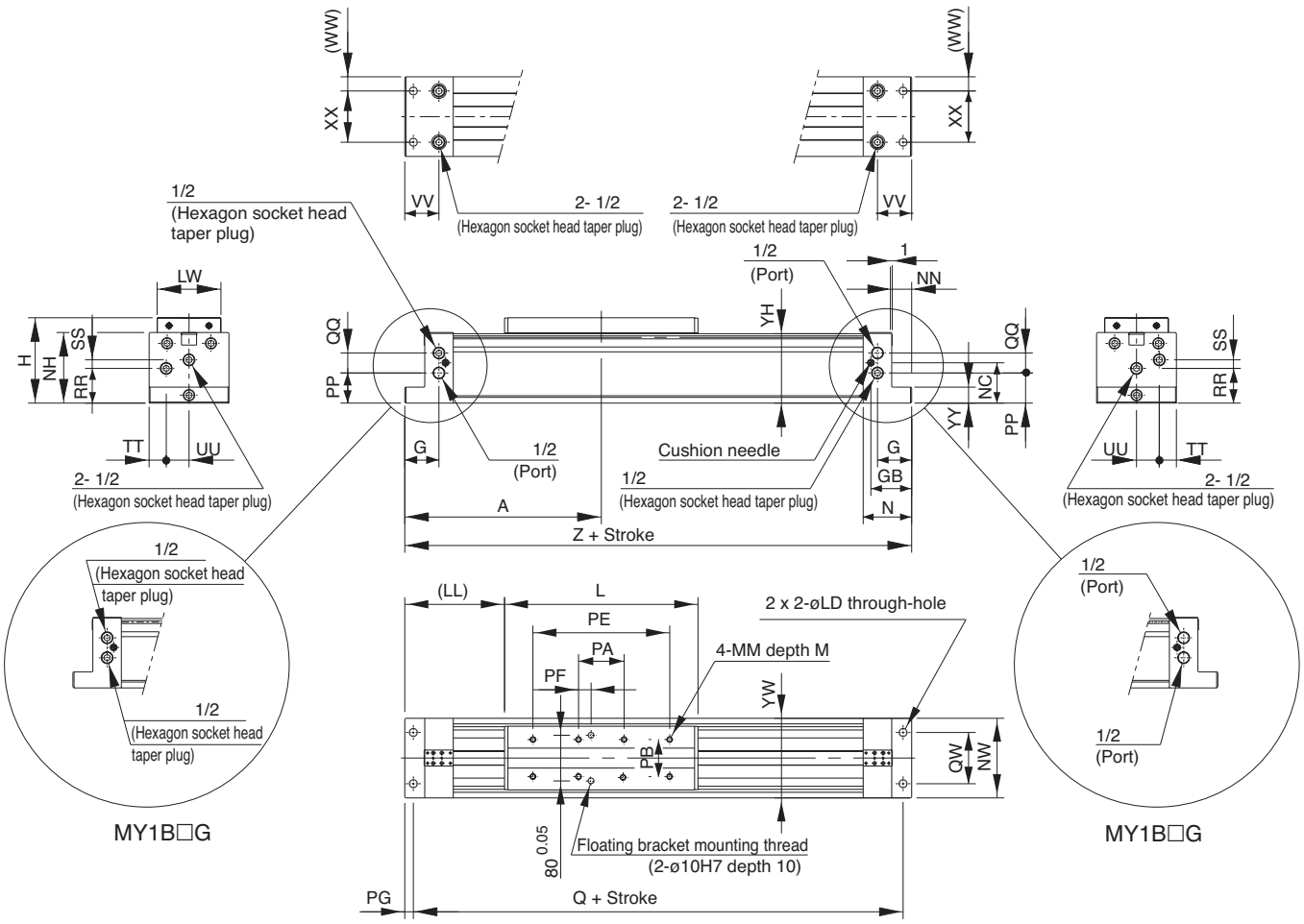
Hole Size for Centralized Piping on the Bottom

Model	WX	Y	S	d	D	R	Applicable O-ring
MY1B50G	47	15.5	14.5	10	17.5	1.1	C15
MY1B63G	56	15	18	10	17.5	1.1	

(Machine the mounting side to the dimensions below.)

Dimensions Centralized Piping Type ø80, ø100

MY1B80G/100G — Stroke

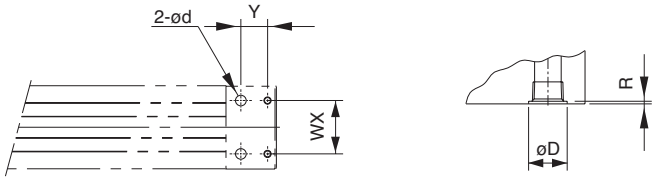


[mm]

Model	A	G	GB	H	L	LD	LL	LW	M	MM	N	NC	NH	NN	NW	PA	PB	PE
MY1B80G	345	60	71.5	150	340	14	175	112	20	M10	85	71	124	35	140	80	65	240
MY1B100G	400	70	79.5	190	400	18	200	140	25	M12	95	85	157	45	176	120	85	280

[mm]

Model	PF	PG	PP	Q	QQ	QW	RR	SS	TT	UU	VV	WW	XX	YH	YW	YY	Z
MY1B80G	22	15	53	660	35	90	61	15	30	40	60	25	90	122	140	28	690
MY1B100G	42	20	69	760	38	120	75	20	40	48	70	28	120	155	176	35	800



Bottom ported
(Applicable O-ring)

Hole Size for Centralized Piping on the Bottom

Model	WX	Y	d	D	R	Applicable O-ring
MY1B80G	90	45	18	26	1.8	P22
MY1B100G	120	50	18	26	1.8	

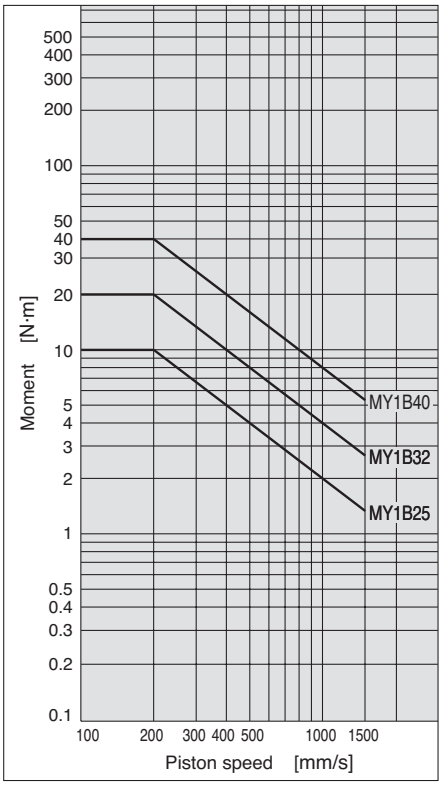
(Machine the mounting side to the dimensions below.)

Maximum Allowable Moment/Maximum Load Weight

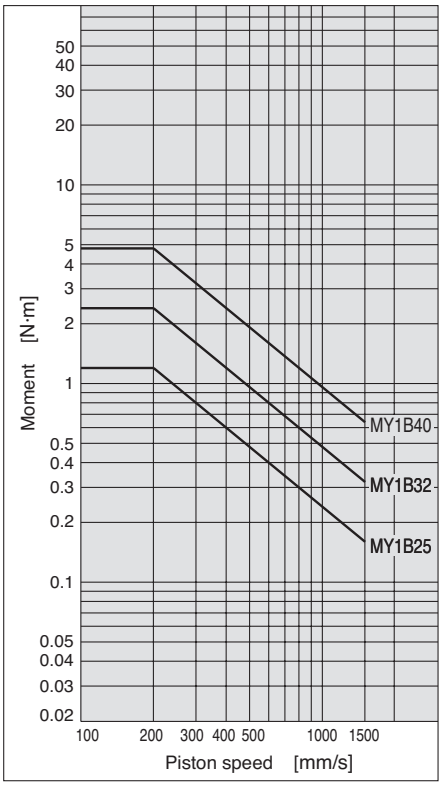
Maximum Allowable Moment

Select the moment from within the range of operating limits shown in the graphs. Note that the maximum load weight value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the load weight for the selected conditions.

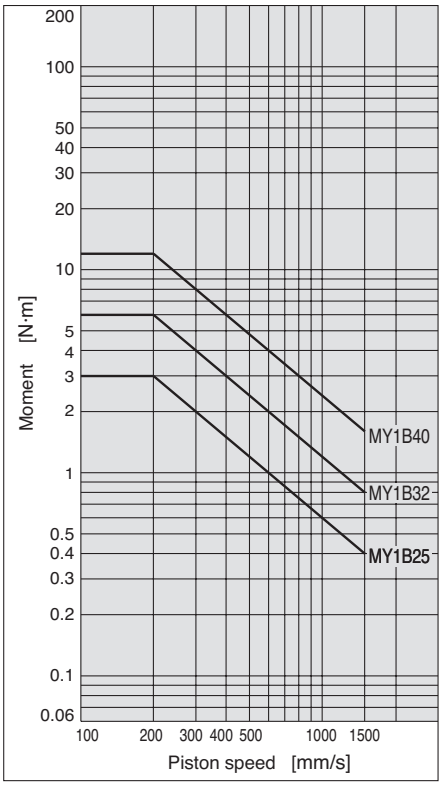
MY1B/M1



MY1B/M2



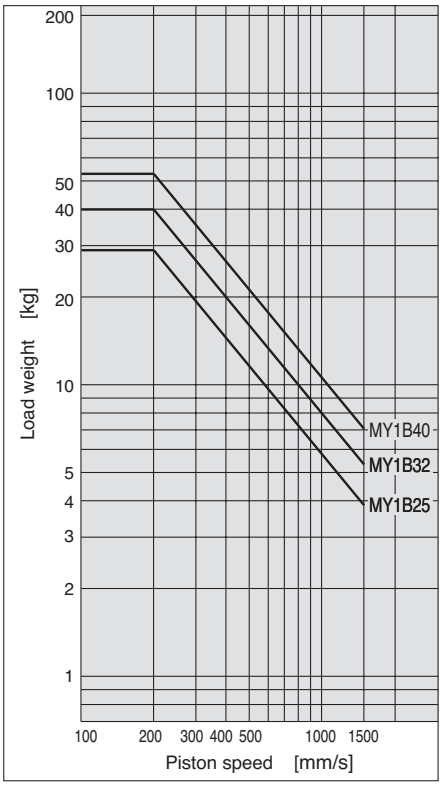
MY1B/M3



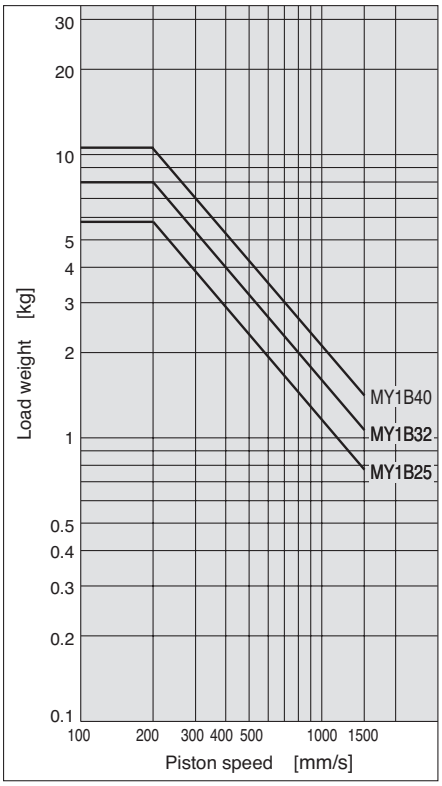
Maximum Load Weight

Select the load weight from within the range of limits shown in the graphs. Note that the maximum allowable moment value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable moment for the selected conditions.

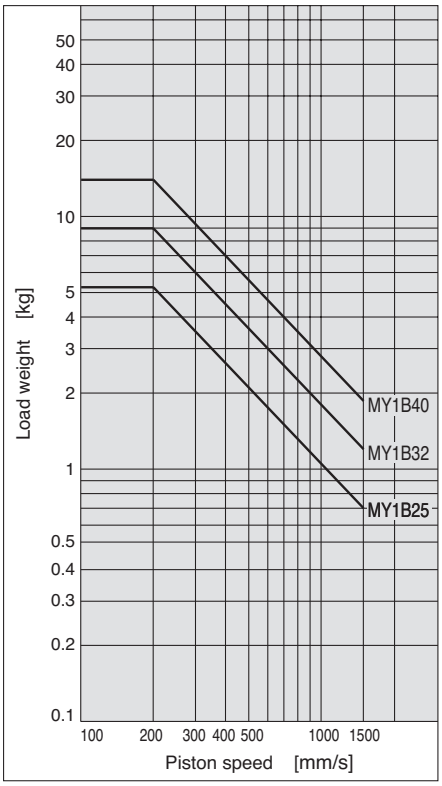
MY1B/m1



MY1B/m2

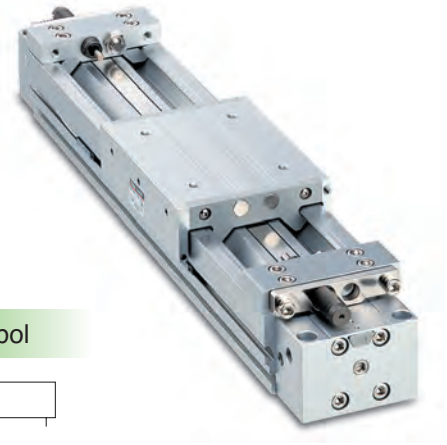


MY1B/m3



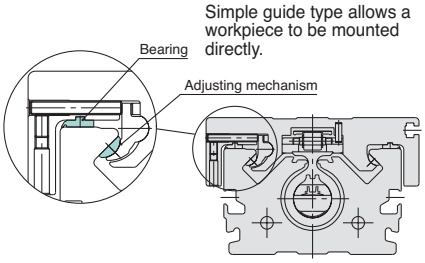
Actuators

Mechanically Jointed Rodless Cylinder
Slide Bearing Guide Type
Series MY1M
ø16, ø20, ø25, ø32, ø40, ø50, ø63

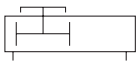


Features

- Integral guide allows use in a wide range of conveyor systems.



Symbol



How to Order

E MY1M 25 G – 300

Port thread type

Symbol	Type	Bore size
—	M thread	ø16, ø20
E	G	ø25 to ø63

Slide bearing guide type

Bore size [mm]

16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm

Centralised piping (one end)

Stroke

Bore size [mm]	Standard stroke [mm] *	Maximum manufacturable stroke [mm]
16	100, 200, 300, 400, 500, 600, 700 800, 900, 1000, 1200, 1400, 1600 1800, 2000	3000
20, 25, 32, 40, 50, 63		5000

* Strokes are manufacturable in 1 mm increments, up to the maximum stroke. However, when exceeding a 2000 mm stroke, specify "-XB11" at the end of the model number.

Product Recommendation

Stocked items for fast delivery

MY1M16G-100	MY1M20G-100	MY1M20G-700	EMY1M25G-300	EMY1M32G-400	EMY1M40G-500
MY1M16G-200	MY1M20G-200	MY1M20G-800	EMY1M25G-400	EMY1M32G-500	EMY1M40G-600
MY1M16G-300	MY1M20G-300	MY1M20G-900	EMY1M25G-500	EMY1M32G-600	EMY1M40G-800
MY1M16G-400	MY1M20G-400	MY1M20G-1000	EMY1M25G-600	EMY1M32G-800	EMY1M40G-1200
MY1M16G-500	MY1M20G-500	EMY1M25G-100	EMY1M25G-800	EMY1M32G-1000	
MY1M16G-600	MY1M20G-600	EMY1M25G-200	EMY1M32G-300	EMY1M40G-400	

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series ASR/ASQ - Air Saving Valves - www.smc.eu
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Technical Specifications

Bore size [mm]		16	20	25	32	40	50	63
Fluid		Air						
Action		Double acting						
Operating pressure range		0.15 to 0.8 MPa						
Proof pressure		1.2 MPa						
Ambient and fluid temperature		5 to 60°C						
Cushion		Air cushion						
Lubrication		Non-lube						
Stroke length tolerance		1000 or less $^{+1.8}_{0}$ 1001 to 3000 $^{+2.8}_{0}$		2700 or less $^{+1.8}_{0}$, 2701 to 5000 $^{+2.8}_{0}$				
Piping port size	Front/Side port	M5		1/8		1/4	3/8	
	Bottom port	ø4		ø6	ø6	ø8	ø10	ø10

Actuators

Stroke Adjusting Unit Specifications

Bore size [mm]	16	20		25		32		40		50		63	
Unit symbol	A	A	H	A	H	A	H	A	H	A	H	A	H
Configuration Shock absorber model	With adjusting bolt	With adjusting bolt	RB 1007 with adjusting bolt	With adjusting bolt	RB 1412 with adjusting bolt	With adjusting bolt	RB 2015 with adjusting bolt	With adjusting bolt	RB 2015 with adjusting bolt	With adjusting bolt	RB 2725 with adjusting bolt	With adjusting bolt	RB 2725 with adjusting bolt
Fine stroke adjustment range [mm]	0 to –5.6	0 to –6		0 to –11.5		0 to –12		0 to –16		0 to –20		0 to –25	
Stroke adjustment range	When exceeding the stroke fine adjustment range: Please consult SMC.												

Bore size [mm]	16	20	25	32	40	50	63
Unit symbol	L	L	L	L	L	L	L
Configuration Shock absorber model	RB 806 with adjusting bolt	RB 0806 with adjusting bolt	RB 1007 with adjusting bolt	RB 1412 with adjusting bolt	RB 1412 with adjusting bolt	RB 2015 with adjusting bolt	RB 2015 with adjusting bolt

Shock Absorber Specifications

Model		RB 0806	RB 1007	RB 1412	RB 2015	RB 2725
Max. energy absorption [J]		2.8	5.9	19.6	58.8	147
Stroke absorption [mm]		6	7	12	15	25
Max. collision speed [mm/s]		1500				
Max. operating frequency [cycle/min]		80	70	45	25	10
Spring force [N]	Extended	1.96	4.22	6.86	8.34	8.83
	Retracted	4.22	6.86	15.98	20.50	20.01
Operating temperature range [°C]		5 to 60				

Piston Speed

Bore size [mm]		16 to 63
Without stroke adjusting unit		100 to 1000 mm/s
Stroke adjusting unit	A unit	100 to 1000 mm/s (1)
	H unit + L unit	100 to 1500 mm/s (2)

Note 1) Be aware that when the stroke adjusting range is increased by manipulating the adjusting bolt, the air cushion capacity decreases. Also, when exceeding the air cushion stroke ranges he piston speed should be 100 to 200 mm per second.
Note 2) The piston speed is 100 to 1000 mm/s for centralized piping.
Note 3) Use at a speed within the absorption capacity range.

Options

Stroke Adjusting Unit Part No.

Unit no. \ Bore [mm]	16	20	25	32
A unit	MYM-A16A	MYM-A20A	MYM-A25A	MYM-A32A
L unit	MYM-A16L	MYM-A20L	MYM-A25L	MYM-A32L
H unit	–	MYM-A20H	MYM-A25H	MYM-A32H

Unit no. \ Bore [mm]	40	50	63
A unit	MYM-A40A	MYM-A50A	MYM-A63A
L unit	MYM-A40L	MYM-A50L	MYM-A63L
H unit	MYM-A40H	MYM-A50H	MYM-A63H

Side Support Part No.

Type \ Bore [mm]	16	20	25	32
Side support A	MY-S16A	MY-S20A	MY-S25A	MY-S32A
Side support B	MY-S16B	MY-S20B	MY-S25B	MY-S32B

Type \ Bore [mm]	40	50	63
Side support A	MY-S40A		MY-S63A
Side support B	MY-S40B		MY-S63B

Shock Absorbers for H Units + L Units

Unit no. \ Bore size [mm]	16	20	25	32	40	50	63
H unit	–	RB1007	RB1412	RB2015		RB2725	
L unit	RB0806		RB1007	RB1412		RB2015	

For more product options and details see our specific catalogues or on-line information.

Actuators

Maximum Allowable Moment/Maximum Load Weight

Model	Bore size [mm]	Maximum allowable moment [N·m]			Maximum load weight [kg]		
		M_1	M_2	M_3	m_1	m_2	m_3
MY1M	16	6.0	3.0	1.0	18	7	2.1
	20	10	5.2	1.7	26	10.4	3
	25	15	9.0	2.4	38	15	4.5
	32	30	15	5.0	57	23	6.6
	40	59	24	8.0	84	33	10
	50	115	38	15	120	48	14
	63	140	60	19	180	72	21

Maximum allowable moment

Select the moment from within the range of operating limits shown in the graphs. Note that the maximun allowable load value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable load for the selected conditions.

Maximum allowable load

Select the load from within the range of limits shown in the graphs. Note that the maximun allowable moment value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable moment for the selected conditions.

Sizing of MY1 Cylinders

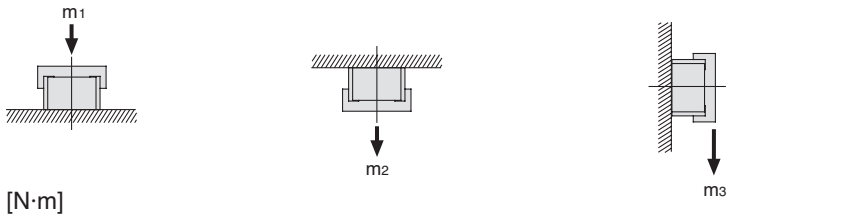
The figures above are given as an indication mainly as a comparison between different models and bore sizes of MY1.

The static moments, dynamic moments and applied loads are combined together as a series of factors, the total of wich must not exceed a defined value.

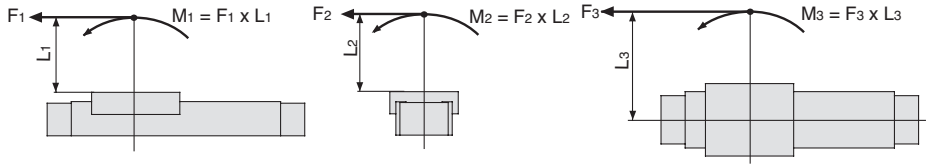
Formal sizing depends upon the use of graphs and equations wich are not present in this catalogue to calculate these factors. Alternatively a software program, is available to perform the calculation.

If seeling and MY1 cylinder for a new application, please contact SMC for assistance with sizing.

Load weight [kg]

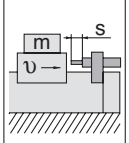
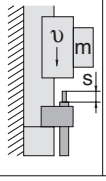
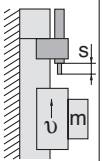


Moment [N·m]



Calculation of absorbed energy for stroke adjusting unit with built-in shock absorber

Unit: N·m

Type of impact	Horizontal	Vertical (downward)	Vertical (upward)
			
Kinetic energy E_1	$\frac{1}{2}m \cdot \upsilon^2$		
Kinetic energy E_2	$F \cdot s$	$F \cdot s + m \cdot g \cdot s$	$F \cdot s - m \cdot g \cdot s$
Absorbed energy E	$E_1 + E_2$		

Symbols
- υ: Speed of impacting object [m/s]
- m: Weight of impacting object [kg]
- F: Cylinder thrust [N]
- g: Gravitational acceleration [9.8m/s²]
- s: Shock absorber stroke [m]

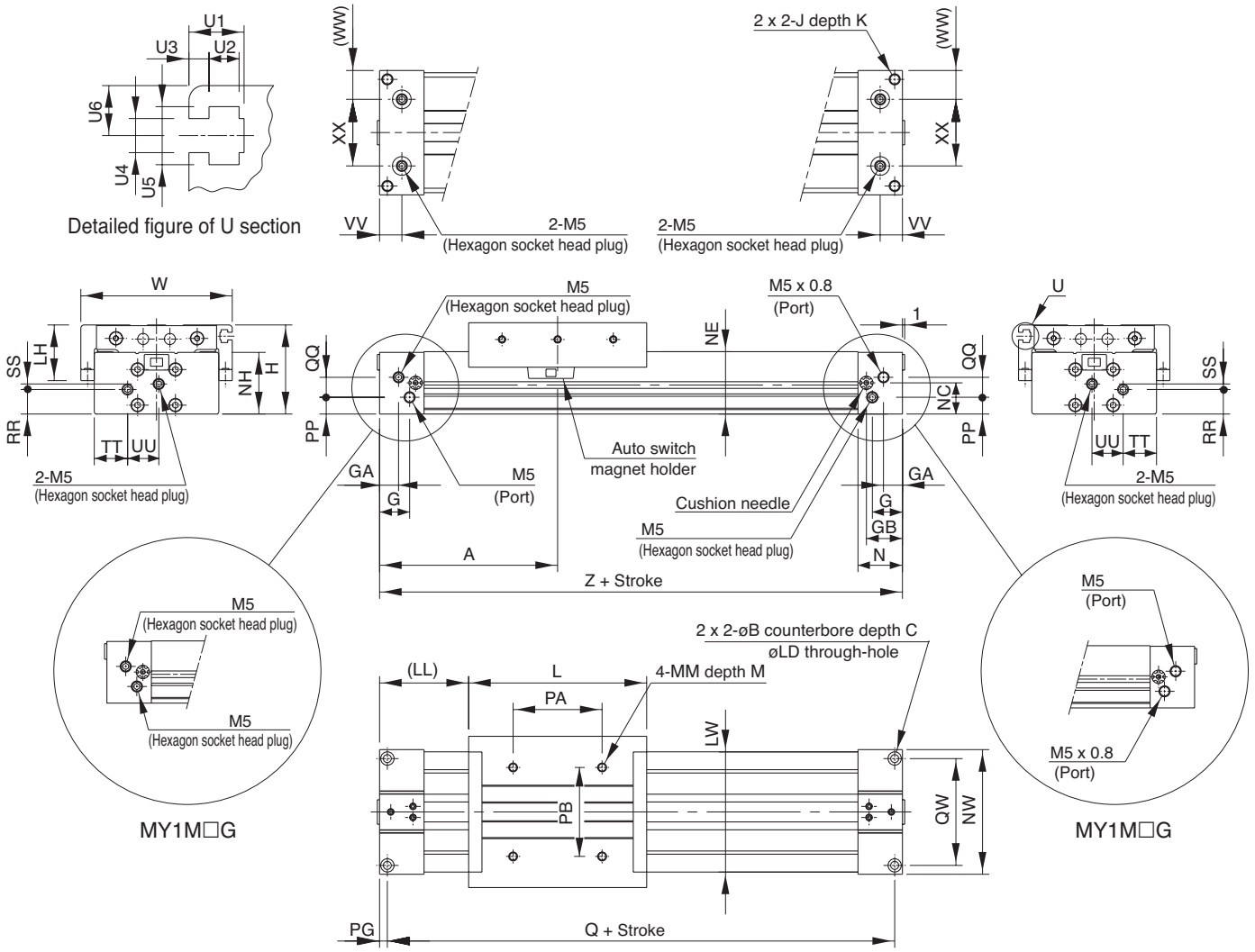
Note) The speed of the impacting object is measured at the time of impact with the shock absorber.

Actuators

Dimensions

Centralized Piping Type ø16, ø20

MY1M16G/20G — Stroke



[mm]

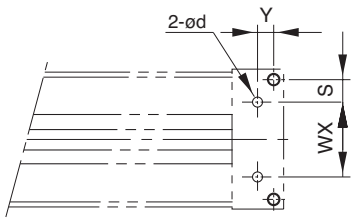
Model	A	B	C	G	GA	GB	H	J	K	L	LD	LH	LL	LW	M	MM	N	NC	NE	NH	NW	PA
MY1M16G	80	6	3.5	13.5	8.5	16.2	40	M5	10	80	3.6	22.5	40	54	6	M4	20	14	28	27.7	56	40
MY1M20G	100	7.5	4.5	12.5	12.5	20	46	M6	12	100	4.8	23	50	58	7.5	M5	25	17	34	33.7	60	50

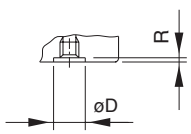
[mm]

Model	PB	PG	PP	Q	QQ	QW	RR	SS	TT	UU	VV	W	WW	XX	Z
MY1M16G	40	3.5	7.5	153	9	48	11	2.5	15	14	10	68	13	30	160
MY1M20G	40	4.5	11.5	191	10	45	14.5	5	18	12	12.5	72	14	32	200

Detailed Dimensions of U Section

Model	U1	U2	U3	U4	U5	U6
MY1M16G	5.5	3	2	3.4	5.8	5
MY1M20G	5.5	3	2	3.4	5.8	5.5





Bottom ported
(Applicable O-ring)

Hole Size for Centralized Piping on the Bottom

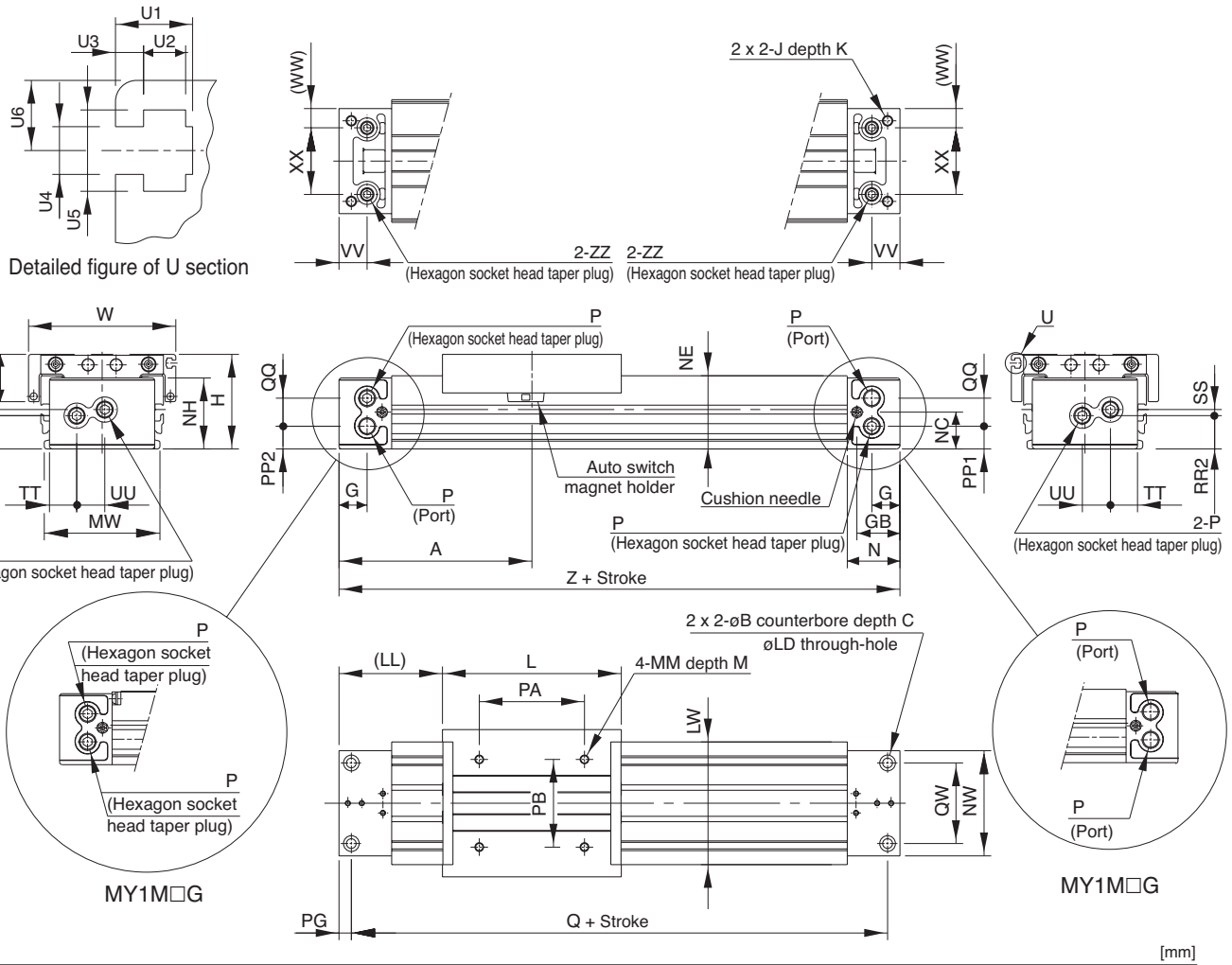
Model	WX	Y	S	d	D	R	Applicable O-ring
MY1M16G	30	6.5	9	4	8.4	1.1	C6
MY1M20G	32	8	6.5	4	8.4	1.1	

(Machine the mounting side to the dimensions below.)

Dimensions

Centralized Piping Type ø25, ø32, ø40

MY1M25G/32G/40G — Stroke



[mm]

Model	A	B	C	G	GB	H	J	K	L	LD	LH	LL	LW	M	MM	MW	N	NC	NE	NH	NW	P	PA
MY1M25G	110	9	5.5	17	24.5	54	M6	9.5	102	5.6	27	59	70	10	M5	66	30	21	41.8	40.5	60	1/8	60
MY1M32G	140	11	6.5	19	30	68	M8	16	132	6.8	35	74	88	13	M6	80	37	26	52.3	50	74	1/8	80
MY1M40G	170	14	8.5	23	36.5	84	M10	15	162	8.6	38	89	104	13	M6	96	45	32	65.3	63.5	94	1/4	100

"P" indicates cylinder supply ports.

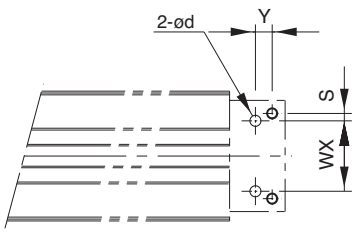
[mm]

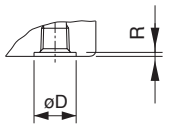
Model	PB	PG	PP1	PP2	Q	QQ	QW	RR1	RR2	SS	TT	UU	VV	W	WW	XX	Z	ZZ
MY1M25G	50	7	12.7	17.2	206	16	46	18.9	17.9	4.1	15.5	16	16	84	11	38	220	Rc 1/16
MY1M32G	60	8	15.5	18.5	264	16	60	22	24	4	21	16	19	102	13	48	280	Rc 1/16
MY1M40G	80	9	17.5	20	322	26	72	25.5	29	9	26	21	23	118	20	54	340	Rc 1/8

Detailed Dimensions of U Section

[mm]

Model	U1	U2	U3	U4	U5	U6
MY1M25G	5.5	3	2	3.4	5.8	5
MY1M32G	5.5	3	2	3.4	5.8	7
MY1M40G	6.5	3.8	2	4.5	7.3	8





Bottom ported (ZZ)
(Applicable O-ring)

Hole Size for Centralized Piping on the Bottom

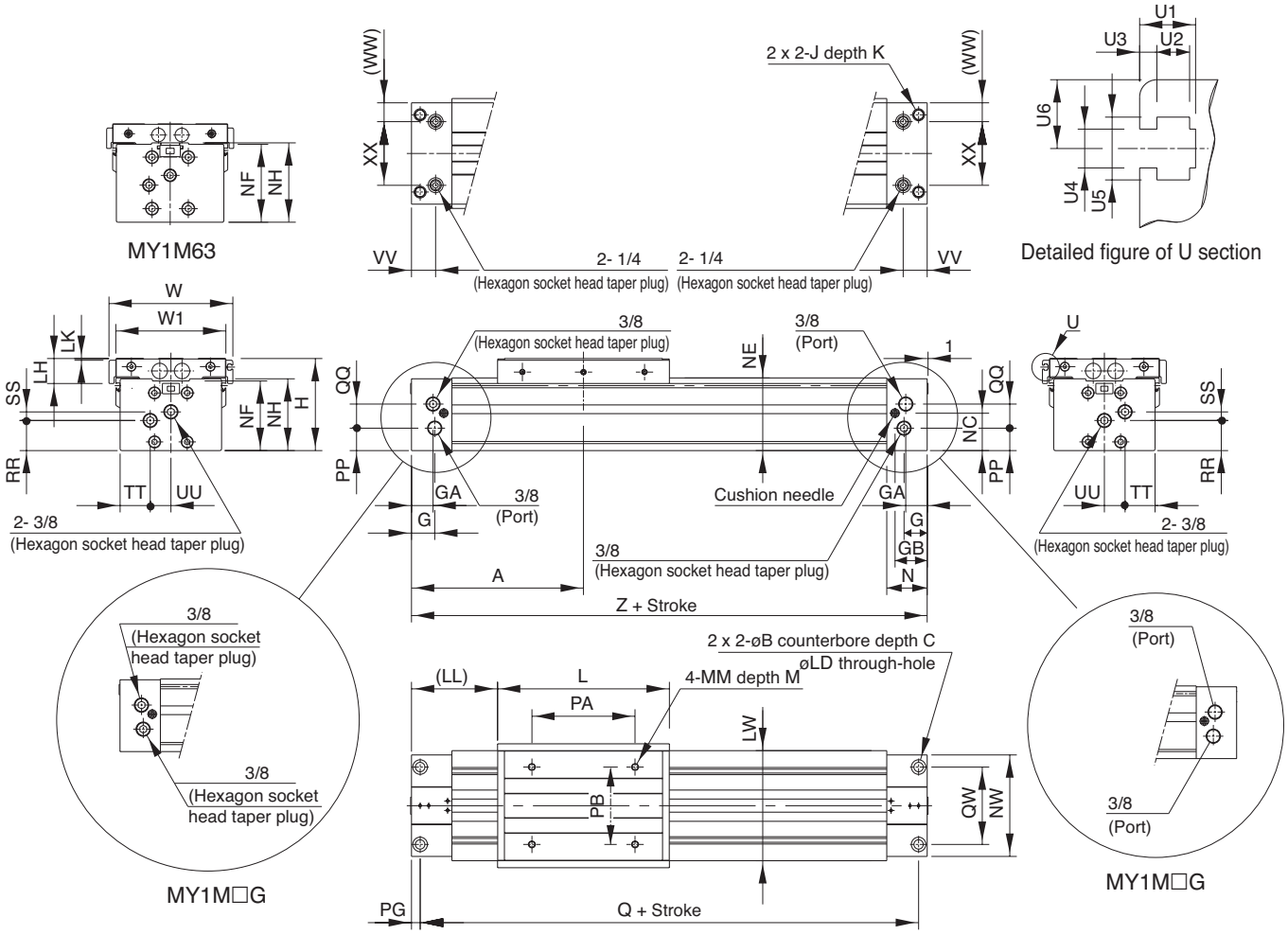
Model	WX	Y	S	d	D	R	Applicable O-ring
MY1M25G	38	9	4	6	11.4	1.1	C9
MY1M32G	48	11	6	6	11.4	1.1	
MY1M40G	54	14	9	8	13.4	1.1	C11.2

(Machine the mounting side to the dimensions below.)

Dimensions

Centralized Piping Type ø50, ø63

MY1M50G/60G — Stroke



[mm]

Model	A	B	C	G	GA	GB	H	J	K	L	LD	LH	LK	LL	LW	M	MM	N	NC	NE	NF	NH	NW	PA
MY1M50G	200	17	10.5	27	25	37.5	107	M14	28	200	11	29	2	100	128	15	M8	47	43.5	84.5	81	83.5	118	120
MY1M63G	230	19	12.5	29.5	27.5	39.5	130	M16	32	230	13.5	32.5	5.5	115	152	16	M10	50	56	104	103	105	142	140

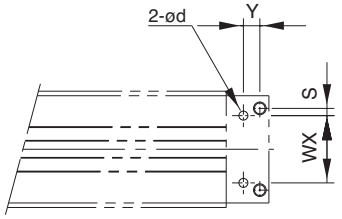
[mm]

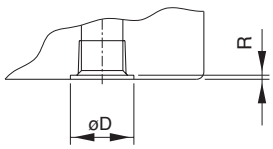
Model	PB	PG	PP	Q	QQ	QW	RR	SS	TT	UU	VV	W	W1	WW	XX	Z
MY1M50G	90	10	26	380	28	90	35	10	35	24	28	144	128	22	74	400
MY1M63G	110	12	42	436	30	110	49	13	43	28	30	168	152	25	92	460

Detailed Dimensions of U Section

[mm]

Model	U1	U2	U3	U4	U5	U6
MY1M50G	6.5	3.8	2	4.5	7.3	8
MY1M63G	8.5	5	2.5	5.5	8.4	8





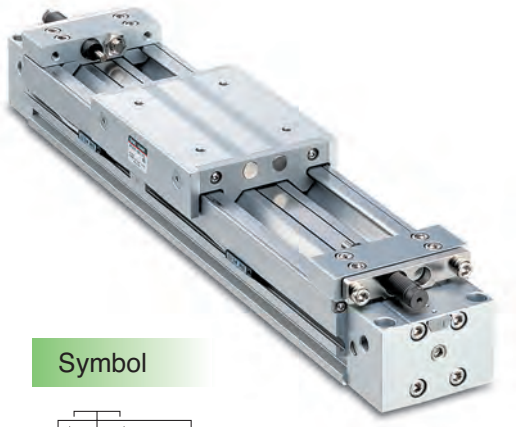
Bottom ported
(Applicable O-ring)

Hole Size for Centralized Piping on the Bottom

Model	WX	Y	S	d	D	R	Applicable O-ring
MY1M50G	74	18	8	10	17.5	1.1	C15
MY1M63G	92	18	9	10	17.5	1.1	

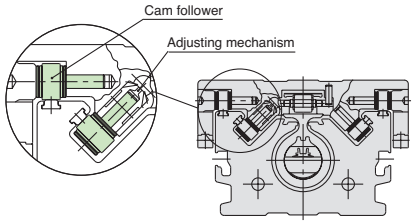
(Machine the mounting side to the dimensions below.)

Mechanically Jointed Rodless Cylinder
Cam Follower Guide Type
Series MY1C
ø16, ø20, ø25, ø32, ø40, ø50, ø63

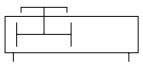


Features

- Makes smooth operation possible even with an off-set load.
- Improved moment resistance, and availkable in long strokes.



Symbol



How to Order

E MY1C 25 G – 300

- E: Port thread type
- MY1C: Cam follower guide type
- 25: Bore size [mm]
- G: Centralised piping (one end)
- 300: Stroke

Symbol	Type	Bore size
—	M thread	ø16, ø20
E	G	ø25 to ø63

16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm

Bore size [mm]	Standard stroke [mm] *	Maximum manufacturable stroke [mm]
16	100, 200, 300, 400, 500, 600, 700 800, 900, 1000, 1200, 1400, 1600 1800, 2000	3000
20, 25, 32, 40 50, 63		5000

* Strokes are manufacturable in 1 mm increments, up to the maximum stroke. However, when exceeding a 2000 mm stroke, specify "-XB11" at the end of the model number.

Product Recommendation

Stocked items for fast delivery

MY1C16G-100	MY1C16G-400	MY1C20G-200	MY1C20G-500	EMY1C25G-300	EMY1C32G-300
MY1C16G-200	MY1C16G-500	MY1C20G-300	MY1C20G-600	EMY1C25G-400	EMY1C32G-400
MY1C16G-300	MY1C20G-100	MY1C20G-400	MY1C20G-800	EMY1C25G-700	EMY1C40G-600
					EMY1C40G-900

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)
- D-Y7PWL (PNP 2-colour indication)
- D-Y7NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Technical Specifications

Bore size [mm]		16	20	25	32	40	50	63
Fluid		Air						
Action		Double acting						
Operating pressure range		0.15 to 0.8 MPa						
Proof pressure		1.2 MPa						
Ambient and fluid temperature		5 to 60°C						
Cushion		Air cushion						
Lubrication		Non-lube						
Stroke length tolerance		1000 or less $^{+1.8}_{0}$, 1001 to 3000 $^{+2.8}_{0}$		2700 or less $^{+1.8}_{0}$, 2701 to 5000 $^{+2.8}_{0}$				
Piping port size	Front/Side port	M5		1/8		1/4	3/8	
	Bottom port	ø4		ø6	ø6	ø8	ø10	ø10

Related Products

Series ASR/ASQ - Air Saving Valves - www.smc.eu
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Stroke Adjusting Unit Specifications

Bore size [mm]	16	20		25		32		40		50		63	
Unit symbol	A	A	H	A	H	A	H	A	H	A	H	A	H
Configuration Shock absorber model	With adjusting bolt	With adjusting bolt	RB 1007 with adjusting bolt	With adjusting bolt	RB 1412 with adjusting bolt	With adjusting bolt	RB 2015 with adjusting bolt	With adjusting bolt	RB 2015 with adjusting bolt	With adjusting bolt	RB 2725 with adjusting bolt	With adjusting bolt	RB 2725 with adjusting bolt
Fine stroke adjustment range [mm]	0 to –5.6	0 to –6		0 to –11.5		0 to –12		0 to –16		0 to –20		0 to –25	
Stroke adjustment range	When exceeding the stroke fine adjustment range: Please consult SMC.												

Bore size [mm]	16	20	25	32	40	50	63
Unit symbol	L	L	L	L	L	L	L
Configuration Shock absorber model	RB 0806 with adjusting bolt	RB 0806 with adjusting bolt	RB 1007 with adjusting bolt	RB 1412 with adjusting bolt	RB 1412 with adjusting bolt	RB 2015 with adjusting bolt	RB 2015 with adjusting bolt

Shock Absorber Specifications

Model		RB 0806	RB 1007	RB 1412	RB 2015	RB 2725
Max. energy absorption [J]		2.8	5.9	19.6	58.8	147
Stroke absorption [mm]		6	7	12	15	25
Max. collision speed [mm/s]		1500				
Max. operating frequency [cycle/min]		80	70	45	25	10
Spring force [N]	Extended	1.96	4.22	6.86	8.34	8.83
	Retracted	4.22	6.86	15.98	20.50	20.01
Operating temperature range [°C]		5 to 60				

Piston Speed

Bore size [mm]		16 to 63
Without stroke adjusting unit		100 to 1000 mm/s
Stroke adjusting unit	A unit	100 to 1000 mm/s (1)
	H unit + L unit	100 to 1500 mm/s (2)

Note 1) Be aware that when the stroke adjusting range is increased by manipulating the adjusting bolt, the air cushion capacity decreases. Also, when exceeding the air cushion stroke ranges he piston speed should be 100 to 200 mm per second.
Note 2) The piston speed is 100 to 1000 mm/s for centralized piping.
Note 3) Use at a speed within the absorption capacity range.

Options

Stroke Adjusting Unit Part No.

Unit no. \ Bore [mm]	16	20	25	32
A unit	MYM-A16A	MYM-A20A	MYM-A25A	MYM-A32A
L unit	MYM-A16L	MYM-A20L	MYM-A25L	MYM-A32L
H unit	–	MYM-A20H	MYM-A25H	MYM-A32H

Unit no. \ Bore [mm]	40	50	63
A unit	MYM-A40A	MYM-A50A	MYM-A63A
L unit	MYM-A40L	MYM-A50L	MYM-A63L
H unit	MYM-A40H	MYM-A50H	MYM-A63H

Side Support Part No.

Type \ Bore [mm]	16	20	25	32
Side support A	MY-S16A	MY-S20A	MY-S25A	MY-S32A
Side support B	MY-S16B	MY-S20B	MY-S25B	MY-S32B

Type \ Bore [mm]	40	50	63
Side support A	MY-S40A		MY-S63A
Side support B	MY-S40B		MY-S63B

Shock Absorbers for H Units and L Units

Unit no. \ Bore size [mm]	16	20	25	32	40	50	63
H unit	–	RB1007	RB1412	RB2015		RB2725	
L unit	–	RB8006	RB1007	RB1412		RB2015	

For more product options and details see our specific catalogues or on-line information.

Actuators

Maximum Allowable Moment/Maximum Load Weight

Model	Bore size [mm]	Maximum allowable moment [N·m]			Maximum load weight [kg]		
		M_1	M_2	M_3	m_1	m_2	m_3
MY1C	16	6.0	3.0	2.0	18	7	2.1
	20	10	5.0	3.0	25	10	3
	25	15	8.5	5.0	35	14	4.2
	32	30	14	10	49	21	6
	40	60	23	20	68	30	8.2
	50	115	35	35	93	42	11.5
	63	150	50	50	130	60	16

Maximum allowable moment

Select the moment from within the range of operating limits shown in the graphs. Note that the maximun allowable load value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable load for the selected conditions.

Maximum allowable load

Select the load from within the range of limits shown in the graphs. Note that the maximun allowable moment value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable moment for the selected conditions.

Sizing of MY1 Cylinders

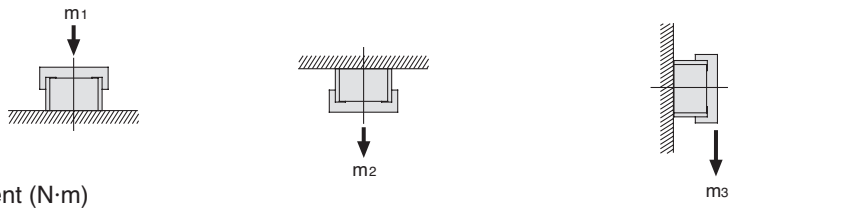
The figures above are given as an indication mainly as a comparison between different models and bore sizes of MY1.

The static moments, dynamic moments and applied loads are combined together as a series of factors, the total of wich must not exceed a defined value.

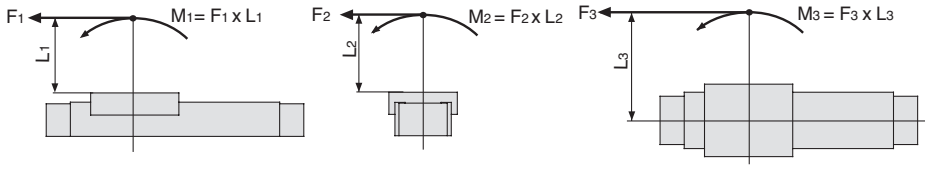
Formal sizing depends upon the use of graphs and equations wich are not present in this catalogue to calculate these factors. Alternatively a software program, is available to perform the calculation.

If seeling and MY1 cylinder for a new application, please contact SMC for assistance with sizing.

Load weight [kg]

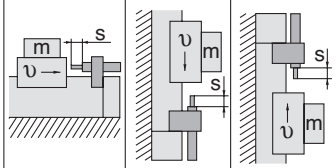


Moment (N·m)



Calculation of absorbed energy for stroke adjusting unit with built-in shock absorber

Unit: N·m

	Horizontal	Vertical (downward)	Vertical (upward)
Type of impact			
Kinetic energy E_1	$\frac{1}{2}m \cdot \upsilon^2$		
Kinetic energy E_2	$F \cdot s$	$F \cdot s + m \cdot g \cdot s$	$F \cdot s - m \cdot g \cdot s$
Absorbed energy E	$E_1 + E_2$		

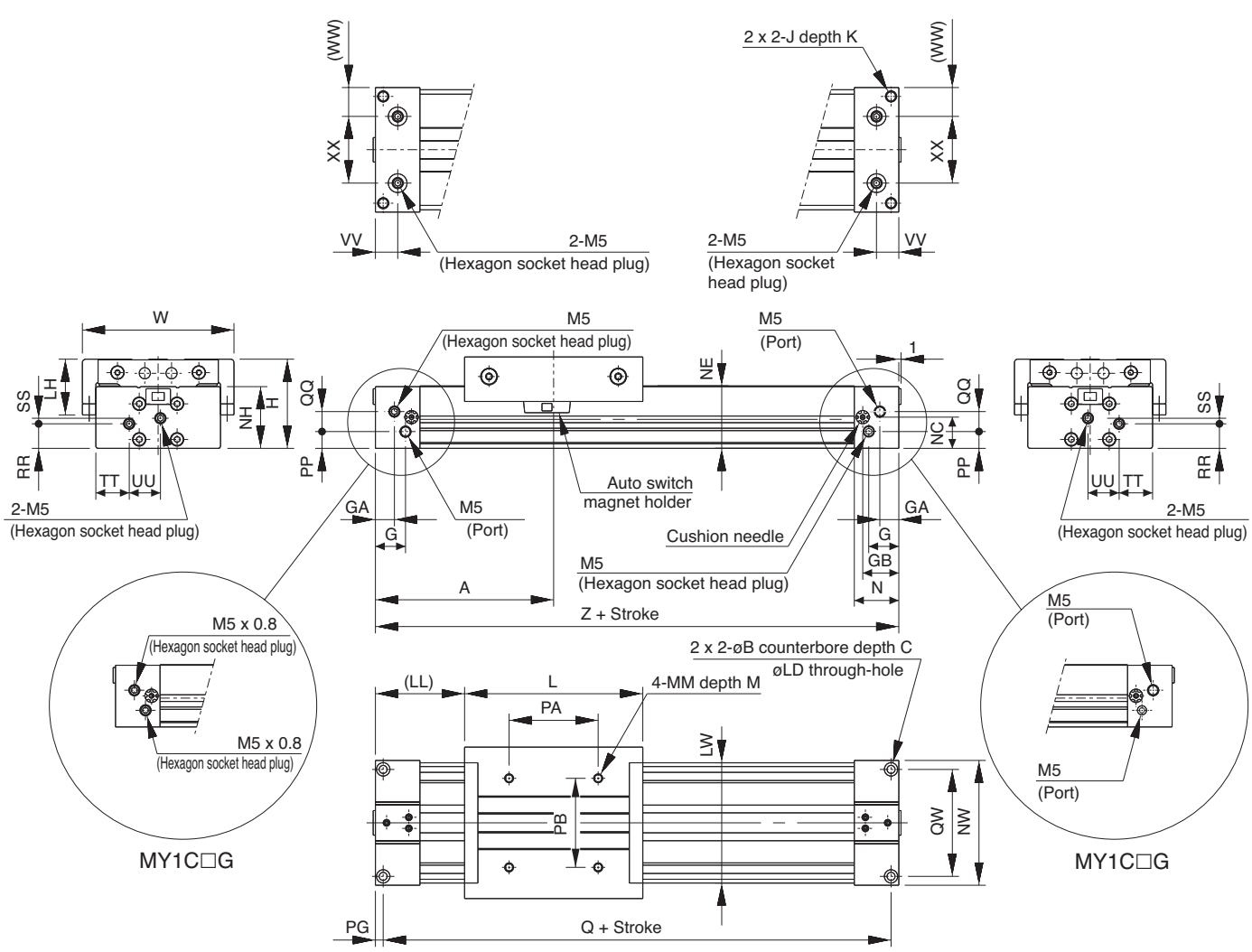
Symbols
- υ: Speed of impacting object [m/s]
- m: Weight of impacting object [kg]
- F: Cylinder thrust [N]
- g: Gravitational acceleration [9.8m/s²]
- s: Shock absorber stroke [m]

Note) The speed of the impacting object is measured at the time of impact with the shock absorber.

Dimensions

Centralised Piping Type ø16, ø20

MY1C16G/20G — Stroke

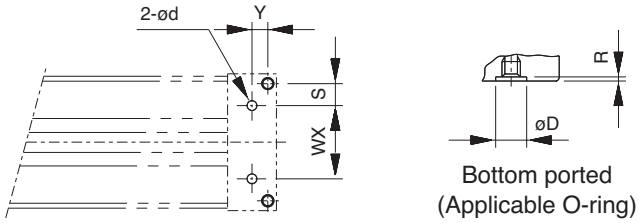


[mm]

Model	A	B	C	G	GA	GB	H	J	K	L	LD	LH	LL	LW	M	MM	N	NC
MY1C16G	80	6	3.5	13.5	8.5	16.2	40	M5	10	80	3.6	22.5	40	54	6	M4	20	14
MY1C20G	100	7.5	4.5	12.5	12.5	20	46	M6	12	100	4.8	23	50	58	7.5	M5	25	17

[mm]

Model	NE	NH	NW	PA	PB	PG	PP	Q	QQ	QW	RR	SS	TT	UU	VV	W	WW	XX	Z
MY1C16G	28	27.7	56	40	40	3.5	7.5	153	9	48	11	2.5	15	14	10	68	13	30	160
MY1C20G	34	33.7	60	50	40	4.5	11.5	191	10	45	14.5	5	18	12	12.5	72	14	32	200



Hole Sizes for Centralised Piping on the Bottom

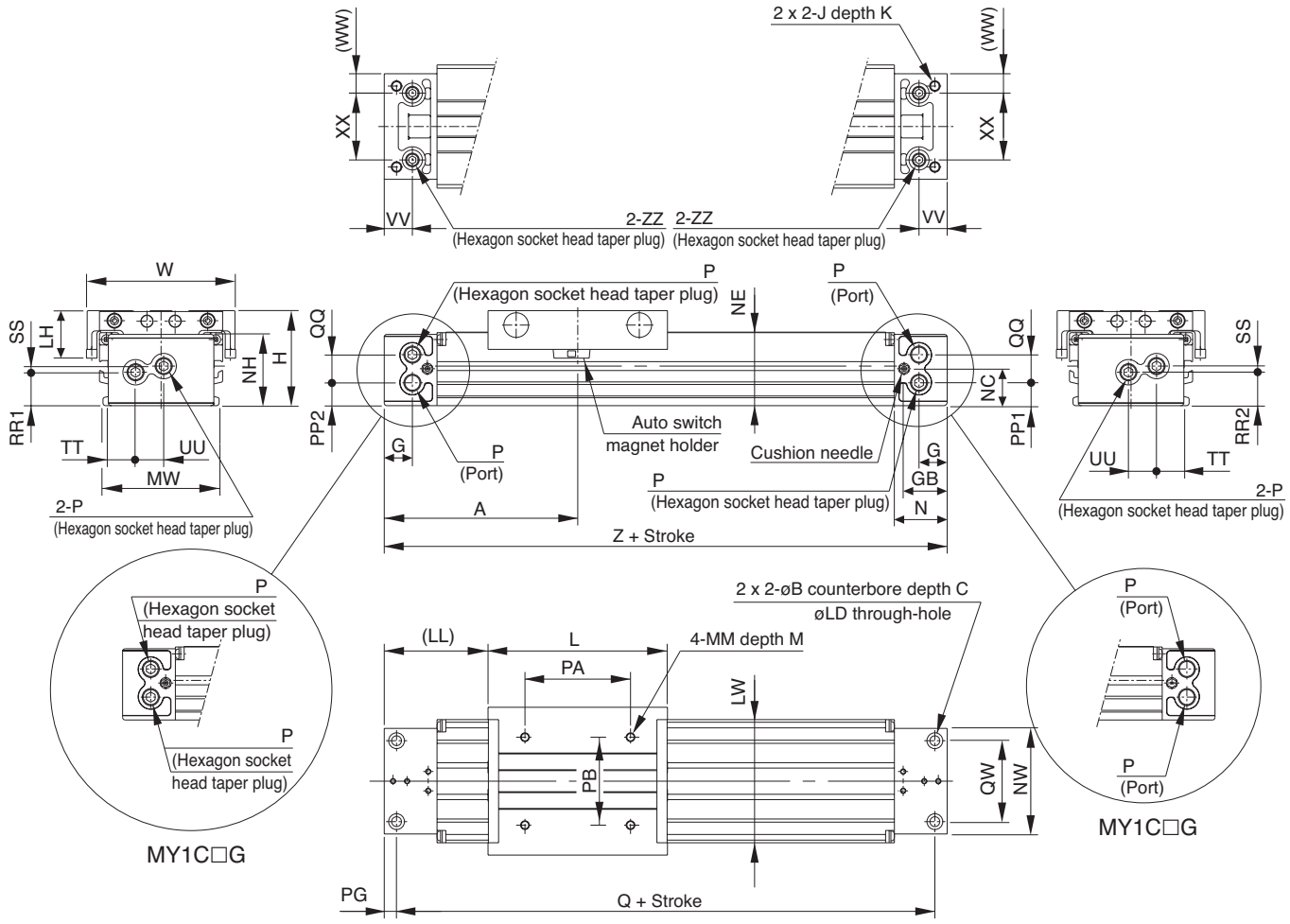
Model	WX	Y	S	d	D	R	Applicable O-ring
MY1C16G	30	6.5	9	4	8.4	1.1	C6
MY1C20G	32	8	6.5	4	8.4	1.1	

(Machine the mounting side to the dimensions below.)

Dimensions

Centralised Piping Type ø25, ø32, ø40

MY1C25G/32G/40G — Stroke



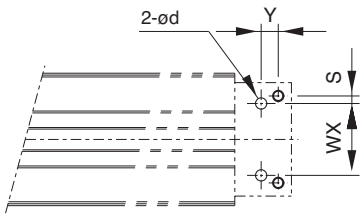
[mm]

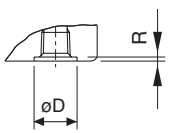
Model	A	B	C	G	GB	H	J	K	L	LD	LH	LL	LW	M	MM	MW	N	NC	NE	NH	NW	P	PA
MY1C25G	110	9	5.5	17	24.5	54	M6	9.5	102	5.6	27	59	70	10	M5	66	30	21	41.8	40.5	60	1/8	60
MY1C32G	140	11	6.5	19	30	68	M8	16	132	6.8	35	74	88	13	M6	80	37	26	52.3	50	74	1/8	80
MY1C40G	170	14	8.5	23	36.5	84	M10	15	162	8.6	38	89	104	13	M6	96	45	32	65.3	63.5	94	1/4	100

"P" indicates cylinder supply ports.

[mm]

Model	PB	PG	PP1	PP2	Q	QQ	QW	RR1	RR2	SS	TT	UU	VV	W	WW	XX	Z	ZZ
MY1C25G	50	7	12.7	12.7	206	15.5	46	18.9	17.9	4.1	15.5	16	16	84	11	38	220	Rc 1/16
MY1C32G	60	8	15.5	18.5	264	16	60	22	24	4	21	16	19	102	13	48	280	Rc 1/16
MY1C40G	80	9	17.5	20	322	26	72	25.5	29	9	26	21	23	118	20	54	340	Rc 1/8





Bottom ported (ZZ)
(Applicable O-ring)

Hole Size for Centralised Piping on the Bottom

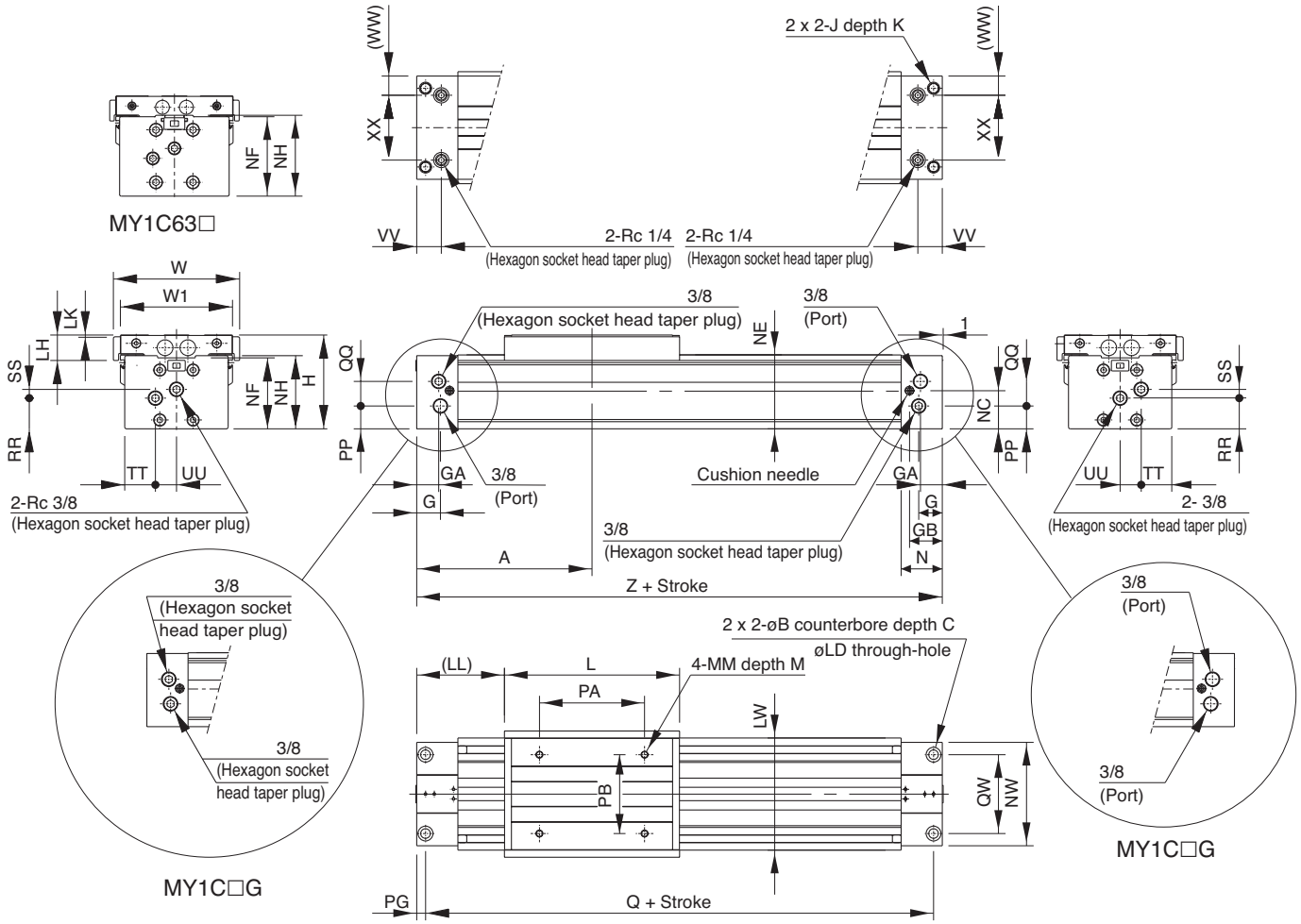
Model	WX	Y	S	d	D	R	Applicable O-ring
MY1C25G	38	9	4	6	11.4	1.1	C9
MY1C32G	48	11	6	6	11.4	1.1	
MY1C40G	54	14	9	8	13.4	1.1	C11.2

(Machine the mounting side to the dimensions below.)

Dimensions

Centralised Piping Type ø50, ø63

MY1C50G/63G — Stroke

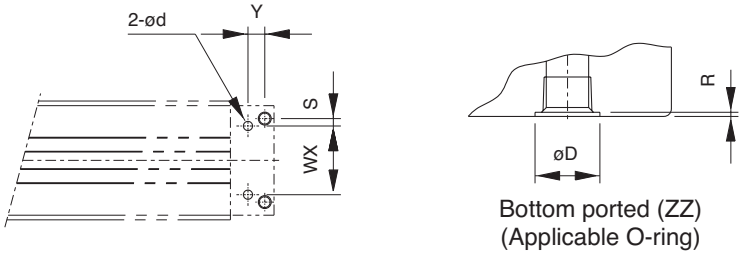


[mm]

Model	A	B	C	G	GA	GB	H	J	K	L	LD	LH	LK	LL	LW	M	MM	N	NC	NE
MY1C50G	200	17	10.5	27	25	37.5	107	M14	28	200	11	29	2	100	128	15	M8	47	43.5	84.5
MY1C63G	230	19	12.5	29.5	27.5	39.5	130	M16	32	230	13.5	32.5	5.5	115	152	16	M10	50	60	104

[mm]

Model	NF	NH	NW	PA	PB	PG	PP	Q	QQ	QW	RR	SS	TT	UU	VV	W	W1	WW	XX	Z
MY1C50G	81	83.5	118	120	90	10	26	380	28	90	35	10	35	24	28	144	128	22	74	400
MY1C63G	103	105	142	140	110	12	42	436	30	110	49	13	43	28	30	168	152	25	92	460



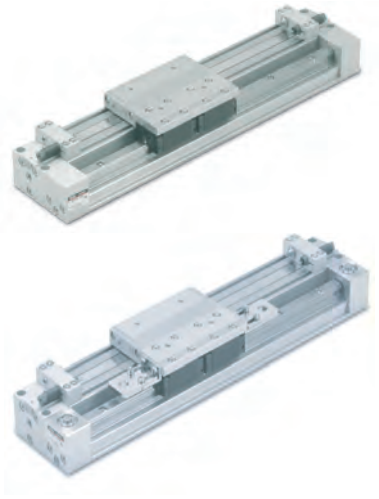
Bottom ported (ZZ)
(Applicable O-ring)

Hole Size for Centralised Piping on the Bottom

Model	WX	Y	S	d	D	R	Applicable O-ring
MY1C50G	74	18	8	10	17.5	1.1	C15
MY1C63G	92	18	9	10	17.5	1.1	

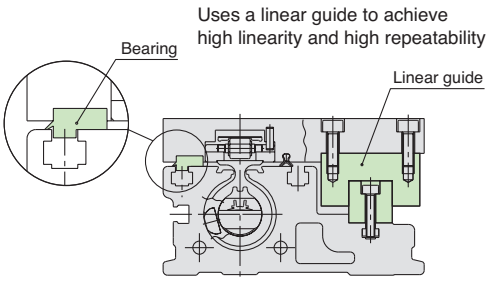
(Machine the mounting side to the dimensions below.)

Mechanically Jointed Rodless Cylinder
High Precision Guide Type
Series MY1H
ø10, ø16, ø20, ø25, ø32, ø40

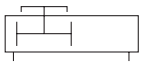


Features

- Small and medium sizes ø10 to ø40 are ideal for pick & place.



Symbol



How to Order

E MY1H 25 G – 300

Port thread type

Symbol	Type	Bore size
—	M thread	ø10, ø16, ø20
E	G	ø25 to ø40

High precision guide type

Bore size [mm]

10	10 mm
16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm

Centralised piping (one end)

Stroke

Bore size [mm]	Standard stroke * [mm]	Maximum manufacturable stroke [mm]
10, 16, 20	50, 100, 150, 200 250, 300, 350, 400 450, 500, 550, 600	1000
25, 32, 40		1500

* Strokes are manufacturable in 1 mm increments, up to the maximum stroke. However, add "-XB10" to the end of the part number for non-standard strokes from 51 to 599. Also when exceeding a 600 mm stroke, specify "-XB11" at the end of the model number. (Except ø10)

Product Recommendation

Stocked items for fast delivery

MY1H10G-100	MY1H16G-250	MY1H20G-300	MY1H25G-300	MY1H32G-150	MY1H32G-500
MY1H10G-150	MY1H16G-300	MY1H20G-350	MY1H25G-350	MY1H32G-200	MY1H40G-150
MY1H10G-200	MY1H16G-350	MY1H20G-400	MY1H25G-400	MY1H32G-250	MY1H40G-200
MY1H10G-300	MY1H16G-400	MY1H20G-600	MY1H25G-450	MY1H32G-300	MY1H40G-250
MY1H10G-400	MY1H20G-100	MY1H25G-100	MY1H25G-500	MY1H32G-350	MY1H40G-300
MY1H16G-100	MY1H20G-150	MY1H25G-150	MY1H25G-600	MY1H32G-400	MY1H40G-400
MY1H16G-150	MY1H20G-200	MY1H25G-200	MY1H32G-50	MY1H32G-450	MY1H40G-500
MY1H16G-200	MY1H20G-250	MY1H25G-250	MY1H32G-100		

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Specifications

Bore size [mm]		10	16	20	25	32	40
Fluid		Air					
Action		Double acting					
Operating pressure range		0.2 to 0.8 MPa {2.0 to 8.2 kgf/cm²}	0.1 to 0.8 MPa				
Proof pressure		1.2 MPa					
Ambient and fluid temperature		5 to 60°C					
Cushion		Rubber bumper	Air cushion				
Lubrication		Non-lube					
Stroke length tolerance		+1.8 0					
Piping port size	Front/Side port	M5			1/8		1/4
	Bottom port		ø4		ø5	ø6	ø8

Stroke Adjusting Unit Specifications

Bore size [mm]	10	16	20		25		32		40	
Unit symbol	H	A	A	H	A	H	A	H	A	H
Configuration Shock absorber model	RB 0805 with adjusting bolt	With adjusting bolt	With adjusting bolt	RB 0807 with adjusting bolt	With adjusting bolt	RB 1412 with adjusting bolt	With adjusting bolt	RB 2015 with adjusting bolt	With adjusting bolt	RB 2015 with adjusting bolt
Fine stroke adjustment range [mm]	0 to –10	0 to –5.6	0 to –6		0 to –11.5		0 to –12		0 to –16	
Stroke adjustment range	When exceeding the stroke fine adjustment range: Please consult SMC.									

Bore size [mm]	16	20	25	32	40
Unit symbol	L	L	L	L	L
Configuration Shock absorber model	RB 0806 with adjusting bolt	RB 0806 with adjusting bolt	RB 1007 with adjusting bolt	RB 1412 with adjusting bolt	RB 1412 with adjusting bolt

Shock Absorber Specifications

Model		RB 0805	RB 0806	RB 1007	RB 1412	RB 2015
Max. energy absorption [J]		1.0	2.9	5.9	19.6	58.8
Stroke absorption [mm]		5	6	7	12	15
Max. collision speed [mm/s]		1000	1500	1500	1500	1500
Max. operating frequency [cycle/min]		80	80	70	45	25
Spring force [N]	Extended	1.96	1.86	4.22	6.86	8.34
	Retracted	3.83	4.22	6.86	15.98	20.50
Operating temperature range [°C]		5 to 60				

Piston Speed

Bore size [mm]		10	16 to 40
Without stroke adjusting unit		100 to 500 mm/s	100 to 1000 mm/s
Stroke adjusting unit	A unit	100 to 200 mm/s	100 to 1000 mm/s (1)
	H unit + L unit	100 to 1000 mm/s	100 to 1500 mm/s (2)

Note 1) Be aware that when the stroke adjusting range is increased by manipulating the adjusting bolt, the air cushion capacity decreases. Also, when exceeding the air cushion stroke ranges the piston speed should be 100 to 200 mm per second.
Note 2) The piston speed is 100 to 1000 mm/s for centralized piping.
Note 3) Use at a speed within the absorption capacity range.

Options

Stroke Adjusting Unit Part No.

Bore [mm] / Unit no.	10	16	20	25	32	40
A unit	—	MYH-A16A	MYH-A20A	MYH-A25A	MYH-A32A	MYH-A40A
L unit	—	MYH-A16L	MYH-A20L	MYH-A25L	MYH-A32L	MYH-A40L
H unit	MYH-A10H	—	MYH-A20H	MYH-A25H	MYH-A32H	MYH-A40H

Side Support Part No.

Type / Bore [mm]	10	16	20
Side support A	MY-S10A	MY-S16A	MY-S20A
Side support B	MY-S10B	MY-S16B	MY-S20B

Type / Bore [mm]	25	32	40
Side support A	MY-S25A	MY-S32A	MY-S40A
Side support B	MY-S25B	MY-S32B	MY-S40B

Shock Absorbers for L and H Units

Unit type / Bore size [mm]	10	16	20	25	32	40
L unit	—	RB0806		RB1007	RB1412	
H unit	RB0805	—	RB1007	RB1412	RB2015	

For more product options and details see our specific catalogues or on-line information.

Actuators

Maximum Allowable Moment/Maximum Load Weight

Model	Bore size [mm]	Maximum allowable moment [N·m]			Maximum load weight [kg]		
		M_1	M_2	M_3	m_1	m_2	m_3
MY1H	10	0.8	1.1	0.8	6.1	6.1	6.1
	16	3.7	4.9	3.7	10.8	10.8	10.8
	20	11	16	11	17.6	17.6	17.6
	25	23	26	23	27.5	27.5	27.5
	32	39	50	39	39.2	39.2	39.2
	40	50	50	39	50	50	50

Maximum allowable moment

Select the moment from within the range of operating limits shown in the graphs. Note that the maximun allowable load value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable load for the selected conditions.

Maximum allowable load

Select the load from within the range of limits shown in the graphs. Note that the maximun allowable moment value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable moment for the selected conditions.

Sizing of MY1 Cylinders

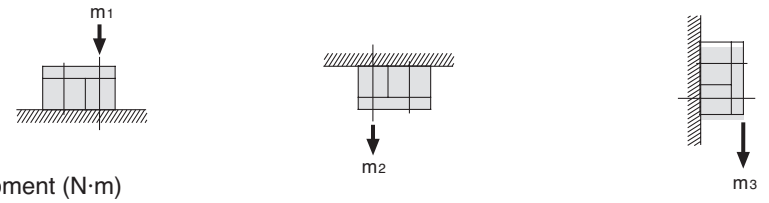
The figures above are given as an indication mainly as a comparison between different models and bore sizes of MY1.

The static moments, dynamic moments and applied loads are combined together as a series of factors, the total of wich must not exceed a defined value.

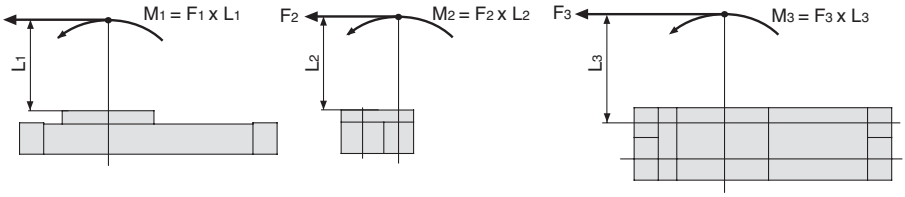
Formal sizing depends upon the use of graphs and equations wich are not present in this catalogue to calculate these factors. Alternatively a software program, is available to perform the calculation.

If seeling and MY1 cylinder for a new application, please contact SMC for assistance with sizing.

Load weight (kg)



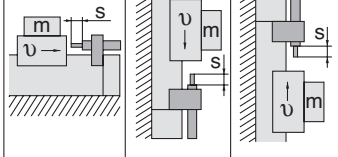
Moment (N·m)



Calculation of Absorbed Energy

For stroke adjusting unit with built-in shock absorber

Unit: N·m

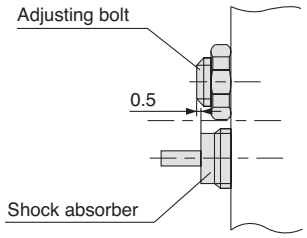
	Horizontal	Vertical (downward)	Vertical (upward)
Type of impact			
Kinetic energy E_1	$\frac{1}{2}m \cdot \upsilon^2$		
Kinetic energy E_2	$F \cdot s$	$F \cdot s + m \cdot g \cdot s$	$F \cdot s - m \cdot g \cdot s$
Absorbed energy E	$E_1 + E_2$		

Symbols
υ: Speed of impacting object [m/s]
m: Weight of impacting object [kg]
F: Cylinder thrust [N]
g: Gravitational acceleration [9.8m/s²]
s: Shock absorber stroke [m]

Note) The speed of the impacting object is measured at the time of impact with the shock absorber.

⚠ Caution

1. Refer to the figure below when using the adjusting bolt to perform stroke adjustment.
When the effective stroke of the shock absorber decreases as a result of stroke adjustment, the absorption capacity decreases dramatically. Secure the adjusting bolt at the position where it protrudes approximately 0.5 mm from the shock absorber.



2. Do not use a shock absorber together with air cushion.

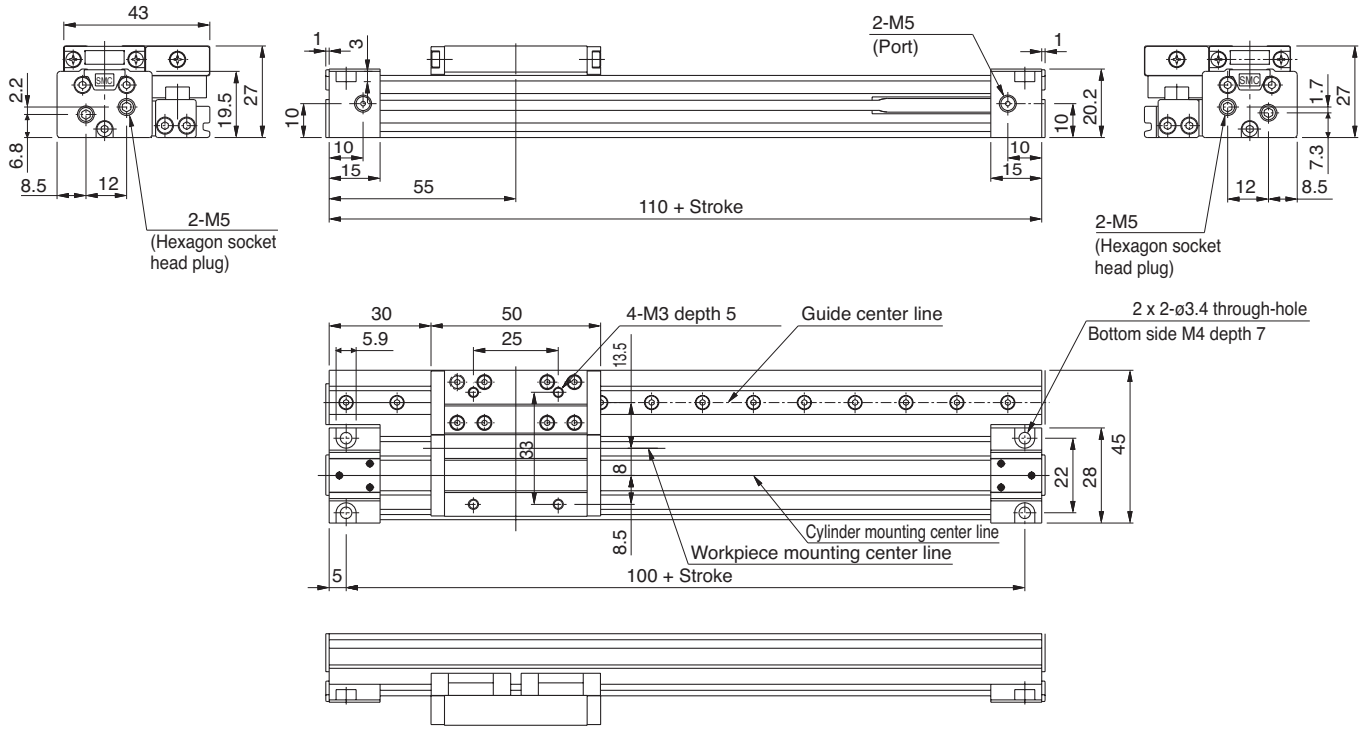
Air Cushion Stroke

[mm]

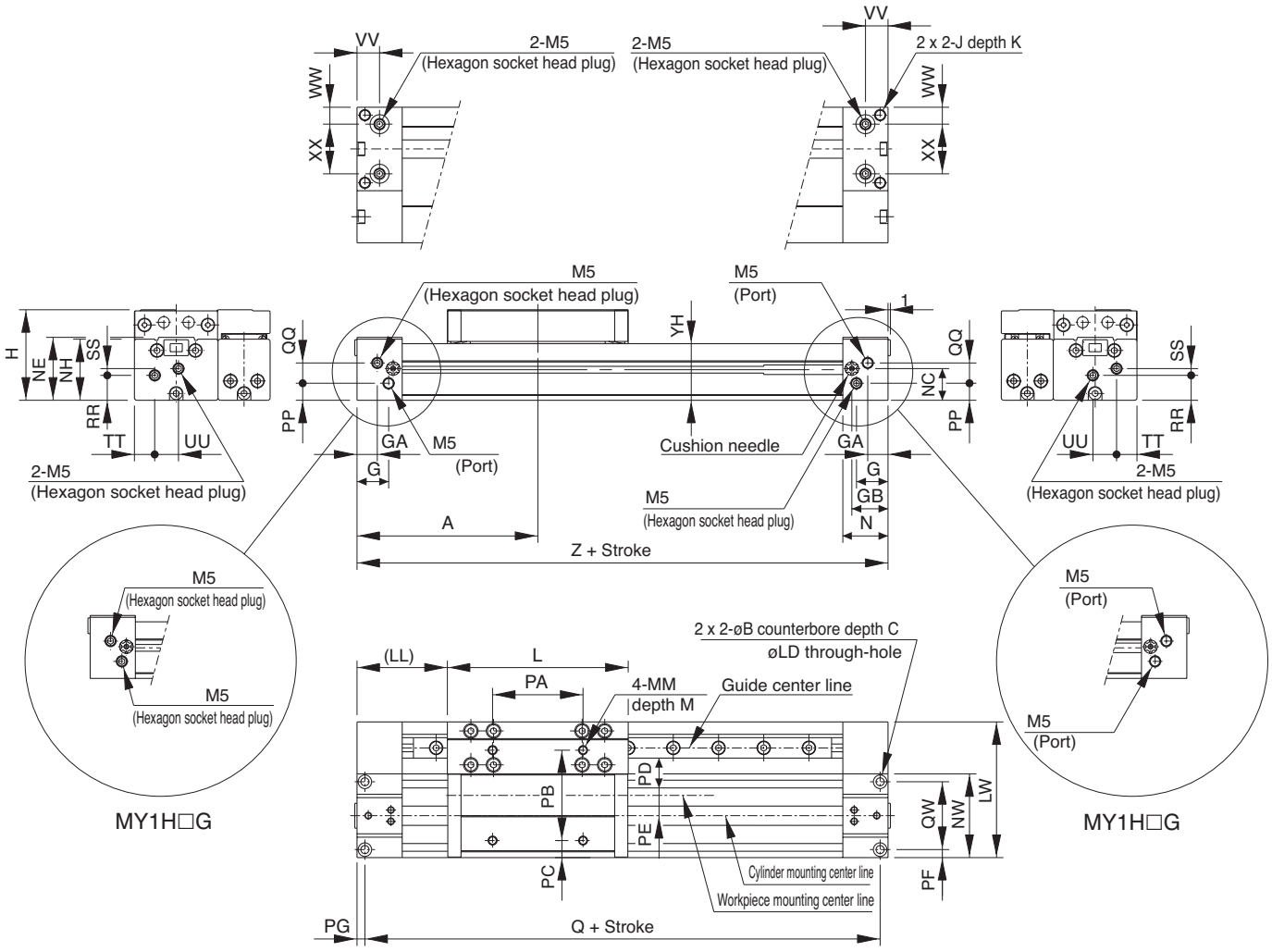
Bore size [mm]	Cushion stroke
16	12
20	15
25	15
32	19
40	24

Dimensions

Centralized Piping Type ø10 MY1H10G — Stroke



Dimensions Centralized Piping Type ø16, ø20 MY1H16G/20G — Stroke

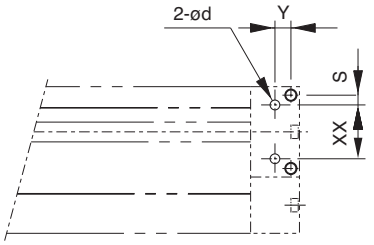


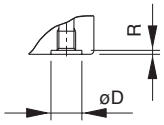
[mm]

Model	A	B	C	G	GA	GB	H	J	K	L	LD	LL	LW	M	MM	N	NC	NE	NH	NW
MY1H16G	80	6	3.5	14	9	16	40	M5	10	80	3.5	40	60	7	M4	20	14	27.8	27	37
MY1H20G	100	7.5	4.5	12.5	12.5	17.5	46	M6	12	100	4.5	50	78	8	M5	25	17.5	34	33.5	45

[mm]

Model	PA	PB	PC	PD	PE	PF	PG	PP	Q	QQ	QW	RR	SS	TT	UU	VV	WW	XX	YH	Z
MY1H16G	40	40	7.5	21	9	3.5	3.5	7.5	153	9	30	11	3	9	10.5	10	7.5	22	25	160
MY1H20G	50	40	14.5	27	12	4.5	4.5	11.5	191	11	36	14.5	5	10.5	12	12.5	10.5	24	31.5	200





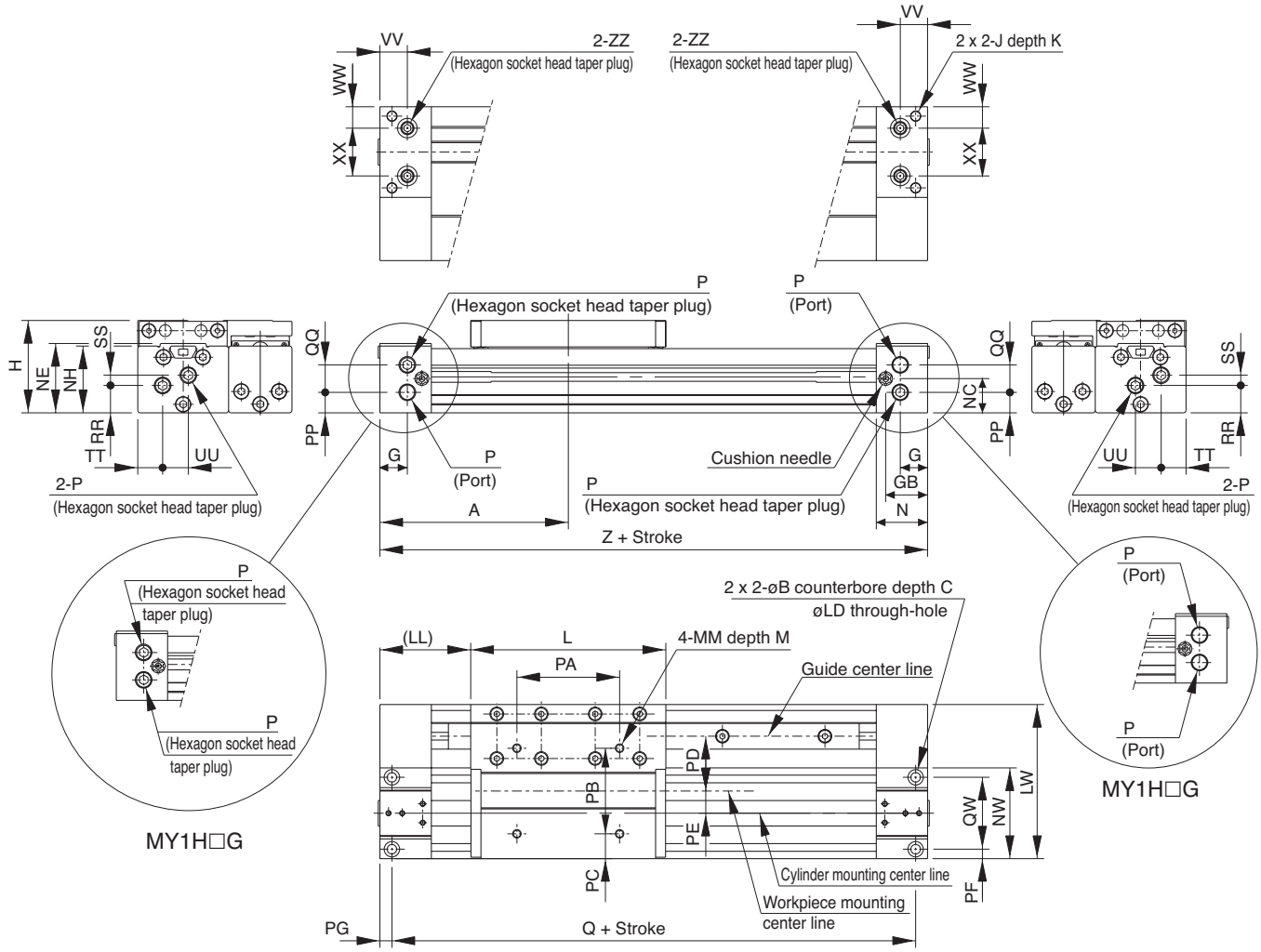
Bottom ported
(Applicable O-ring)

Hole Size for Centralized Piping on the Bottom

Model	WX	Y	S	d	D	R	Applicable O-ring
MY1H16G	22	6.5	4	4	8.4	1.1	C6
MY1H20G	24	8	6	4	8.4	1.1	

(Machine the mounting side to the dimensions below.)

Dimensions Centralized Piping Type ø25, ø32, ø40 MY1H25G/32G/40G — Stroke



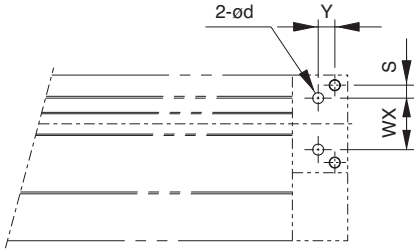
[mm]

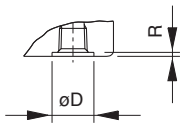
Model	A	B	C	G	GB	H	J	K	L	LD	LL	LW	M	MM	N	NC	NE	NH	NW	P
MY1H25G	110	9	5.5	16	24.5	54	M6	9.5	114	5.4	53	90	9	M5	30	20	40.5	39	53	1/8
MY1H32G	140	11	6.6	19	30	68	M8	16	140	6.8	70	110	13	M6	37	25	50	49	64	1/8
MY1H40G	170	14	8.5	23	36.5	84	M10	15	170	8.6	85	121	13	M6	45	30.5	63	61.5	75	1/4

"P" indicates cylinder supply ports.

[mm]

Model	PA	PB	PC	PD	PE	PF	PG	PP	Q	QQ	QW	RR	SS	TT	UU	VV	WW	XX	YH	Z	ZZ
MY1H25G	60	50	14.5	32	13	5.5	7	12	206	16	42	16	6	14.5	15	16	12.5	28	37.5	220	Rc 1/16
MY1H32G	80	60	15	42	13	6.5	8	17	264	16	51	23	4	16	16	19	16	32	47	280	Rc 1/16
MY1H40G	100	80	20.5	37.5	23	8	9	18.5	322	24	59	27	10.5	20	22	23	19.5	36	59.5	340	Rc 1/8





Bottom ported (ZZ)
(Applicable O-ring)

Hole Size for Centralized Piping on the Bottom

Model	WX	Y	S	d	D	R	Applicable O-ring
MY1H25□	28	9	7	6	11.4	1.1	C9
MY1H32□	32	11	9.5	6	11.4	1.1	
MY1H40□	36	14	11.5	8	13.4	1.1	C11.2

(Machine the mounting side to the dimensions below.)

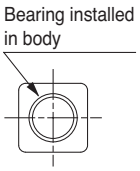
For more product options and details see our specific catalogues or on-line information.

Magnetically Coupled Rodless Cylinder
Basic Type
Series CY3B

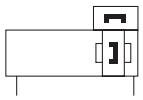
ø6, ø10, ø15, ø20, ø25, ø32, ø40, ø50, ø63

Features

- Upgraded version of space saving magnetically rodless cylinder!
- Mounting dimensions are identical with those of series CY1 except ø6.



Symbol



How to Order

CY3 B 25 TF — 300

Basic type

Bore size

6	6 mm	32	32 mm
10	10 mm	40	40 mm
15	15 mm	50	50 mm
20	20 mm	63	63 mm
25	25 mm		

Port thread type

Symbol	Type	Bore size
—	M thread	6, 10, 15
TF	G	20, 25, 32, 40 50, 63

Standard stroke

Bore size [mm]	Standard stroke [mm]	Maximum available stroke [mm]
6	50, 100, 150, 200	300
10	50, 100, 150, 200, 250, 300	500
15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	1000
20	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800	1500
25		3000
32		
40	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	3000
50		5000
63		

Note 1) Please contact SMC if the maximun stroke will be exceeded.
Note 2) The longer the stroke, the larger the amount of deflection in a cylinder tube. Pay attention to the mounting bracket and clearance value.

Note) Strokes are manufacturable in 1 mm increments, up to the maximum stroke. However when exceeding a 2000 mm stroke, specify "-XB11" at the end of the model number. (Except ø6 to ø 20)

Product Recommendation

Stocked items for fast delivery

CY3B6-50	CY3B15-50	CY3B15-350	CY3B20TF-300	CY3B25TF-300	CY3B32TF-300	CY3B40TF-600
CY3B6-150	CY3B15-100	CY3B15-400	CY3B20TF-350	CY3B25TF-350	CY3B32TF-350	CY3B40TF-700
CY3B10-150	CY3B15-150	CY3B15-450	CY3B20TF-400	CY3B25TF-400	CY3B32TF-400	CY3B40TF-800
CY3B10-200	CY3B15-200	CY3B15-500	CY3B20TF-500	CY3B25TF-450	CY3B32TF-500	
CY3B10-250	CY3B15-250	CY3B15-600	CY3B25TF-100	CY3B25TF-500	CY3B32TF-700	
CY3B10-300	CY3B15-300	CY3B20TF-200	CY3B25TF-200	CY3B25TF-600	CY3B40TF-500	

Related Products

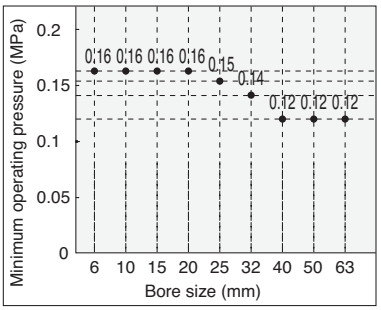
Series AS - Speed Controllers - page 1238
Series SY - Valves - page 65, 101, 417
Series SV - valves - page 20
Series VQC - Valves - page 193, 211

Technical Specifications

Fluid	Air
Proof pressure	1.05 MPa
Max. operating pressure	0.7 MPa
Min. operating pressure	Refer to the minimum operating pressure table.
Ambient and fluid temperature	–10 to 60°C
Piston speed	50 to 500 mm/s
Cushion	Rubber bumper on both ends
Lubrication	Non-lube
Stroke length tolerance	0 to 250 st: $^{+1.0}_{0}$, 251 to 1000 st: $^{+1.4}_{0}$, 1001 st to: $^{+1.8}_{0}$
Mounting orientation	Horizontal, Inclined, Vertical Note)
Mounting nut (2 pcs.)	Standard equipment

Note 1) When mounted vertically do not attempt a pneumatic intermediate stop.

Minimum Operating Pressure



Note) Values show when the cylinder is driving without load.

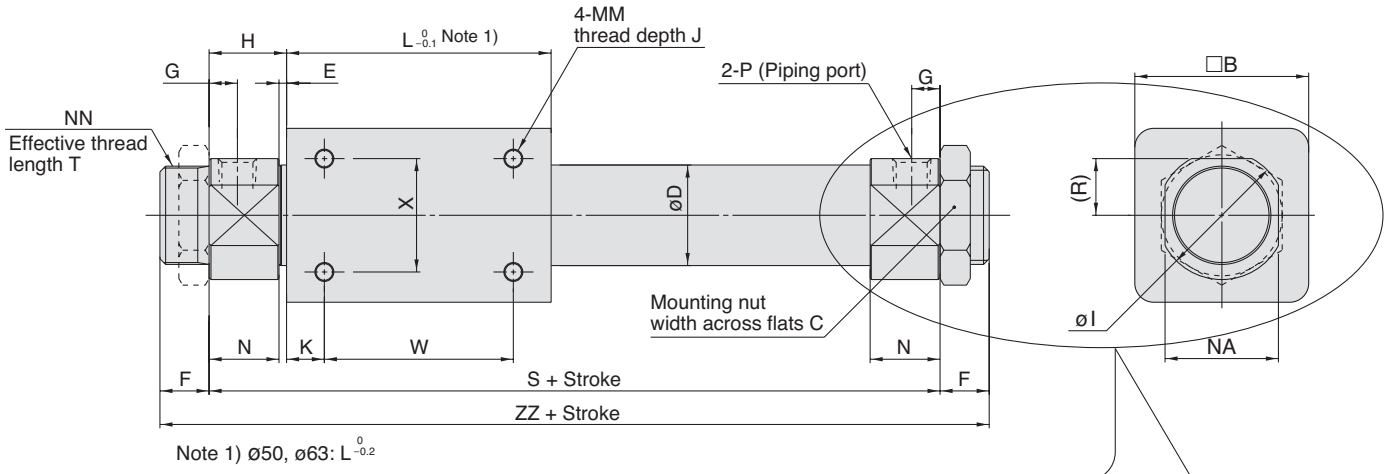
Magnetic Holding Force

Bore size [mm]	6	10	15	20	25	32	40	50	63
Holding force [N]	19.6	53.9	137	231	363	588	922	1471	2256

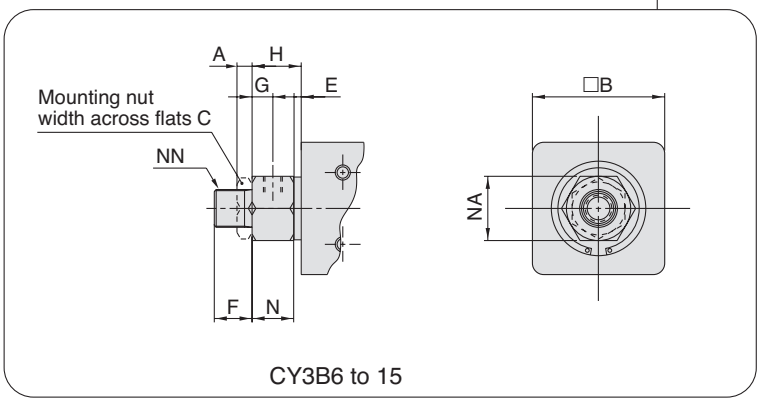
Actuators

Dimensions

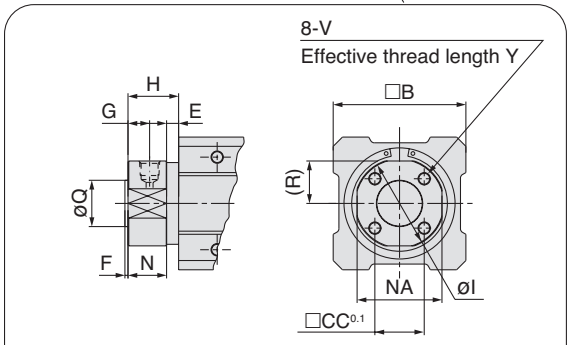
Basic type
CY3B6 to 63



Note 1) ø50, ø63: L 0 -0.2



CY3B6 to 15



CY3B50, 63

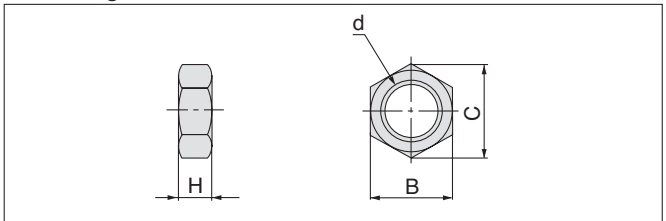
[mm]

Model	A	B	C	CC	D	E	F	G	H	I	J	K	L	MM	N	NA	NN	Q	R	S	T	V
CY3B6	4	17	8*	—	7.6	4	8*	5	13.5*	—	4.5	5	35	M3	9.5*	10*	M6*	—	—	62*	6.5	—
CY3B10	4	25	14	—	12	1.5	9	5	12.5	—	4.5	4	38	M3	11	14	M10 x 1	—	—	63	7.5	—
CY3B15	4	35	14	—	16.6*	2	10	5.5	13	—	6	11	57	M4	11	17	M10 x 1	—	—	83	8	—
CY3B20	8	36	26	—	21.6*	2*	13	7.5*	20	28	6	8	66	M4	18*	24	M20 x 1.5	—	12*	106	10	—
CY3B25	8	46	32	—	26.4*	2*	13	7.5*	20.5	34	8	10	70	M5	18.5*	30	M26 x 1.5	—	15*	111	10	—
CY3B32	8	60	32	—	33.6*	2*	16	8*	22	40	8	15	80	M6	20*	36	M26 x 1.5	—	18*	124	13	—
CY3B40	10	70	41	—	41.6*	3*	16	11	29	50	10	16	92	M6	26*	46	M32 x 2	—	23*	150	13	—
CY3B50	—	86	—	32	52.4*	8	2	14	33	58*	12	25	110	M8	25	55	—	30 -0.007 -0.037	27.5*	176	—	M8
CY3B63	—	100	—	38	65.4*	8	2	14	33	72*	12	26	122	M8	25	69	—	32 -0.007 -0.043	34.5*	188	—	M10

Model	W	X	Y	ZZ	P (Piping port)	
					Nil	TF*
CY3B6	25	10	—	78*	M3*	—
CY3B10	30	16	—	81	M5	—
CY3B15	35	19	—	103	M5	—
CY3B20	50	25	—	132	—	G 1/8
CY3B25	50	30	—	137	—	G 1/8
CY3B32	50	40	—	156	—	G 1/8
CY3B40	60	40	—	182	—	G 1/4
CY3B50	60	60	16	180	—	G 1/4
CY3B63	70	70	16	192	—	G 1/4

Note 2) The astrisk denotes the dimensions which are different from the CY1B series.

Mounting Nut/Included in the package (2 pcs).



Part no.	Applicable bore size [mm]	d	H	B	C
SNJ-006B	6	M6	4	8	9.2
SNJ-016B	10, 15	M10 x 1.0	4	14	16.2
SN-020B	20	M20 x 1.5	8	26	30
SN-032B	25, 32	M26 x 1.5	8	32	37
SN-040B	40	M32 x 2.0	10	41	47.3

For more product options and details see our specific catalogues or on-line information.

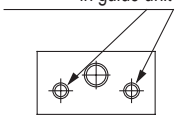
Magnetically Coupled Rodless Cylinder
Slider Type: Slide Bearing
Series CY1S

ø6, ø10, ø15, ø20, ø25, ,ø32, ø40

Features

- Load can be directly mounted strokes available up to1500 mm.
- Long life with no external leakage.
- With auto switches and shock absorbers.

Slide bearing installed in guide unit



Symbol

How to Order

Slide bearing: **E CY1S 25 H – 300**

With auto switch: **E CDY1S 25 H – 300**

- With switch rail
- Slider type (Slide bearing)
- Bore size
- Thread type
- Magnetic holding force
- Standard stroke

Bore size	
6	6 mm
10	10 mm
15	15 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm

Symbol	Type	Bore size
–	M thread	6, 10, 15
E	G	20, 25, 32, 40

Magnetic holding force	
H	6 to 40
L	15 to 40

Bore size [mm]	Standard stroke [mm]	Maximum manufacturable stroke [mm]
6	50, 100, 150, 200	300
10	50, 100, 150, 200, 250, 300	500
15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	750
20	100, 150, 200, 250, 300, 350	1000
25	400, 450, 500, 600, 700, 800	1500
32		
40	100, 150, 200, 250, 300, 350 400, 450, 500, 600, 700, 800 900, 1000	1500

Product Recommendation

Stocked items for fast delivery

CDY1S6H-50	CDY1S10H-200	CDY1S15H-200	ECDY1S25H-150	ECDY1S32H-250
CDY1S6H-150	CDY1S10H-250	CDY1S15H-250	ECDY1S25H-200	ECDY1S32H-600
CDY1S6H-200	CDY1S10H-300	CDY1S15H-300	ECDY1S25H-250	ECDY1S32H-800
CDY1S10H-50	CDY1S15H-50	CDY1S15H-350	ECDY1S25H-300	
CDY1S10H-100	CDY1S15H-100	CDY1S15H-400	ECDY1S25H-350	
CDY1S10H-150	CDY1S15H-150	CDY1S15H-500	ECDY1S25H-400	

Auto Switches

D-F7PWL (PNP 2-colour indication)
D-F79WL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series IDK - Moisture Control Tube - page 1148
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Technical Specifications

Fluid	Air
Proof pressure	1.05 MPa
Maximum operating pressure	0.7 MPa
Minimum operating pressure	0.18 MPa
Ambient and fluid temperature	–10 to 60° C
Piston speed *	50 to 400 mm/s
Cushion	Rubber bumper on both ends
Lubrication	Non-lube
Stroke length tolerance	0 to 250 st: $^{+1.0}_{0}$, 251 to 1000 st: $^{+1.4}_{0}$, 1001 st and up: $^{+1.8}_{0}$
Mounting orientation	Free

* In the case of setting an auto switch (CDY1S) at the intermediate position, the maximum piston speed is subject to restrict for detection upon the response time of a load (Relays, Sequence controller, etc.)

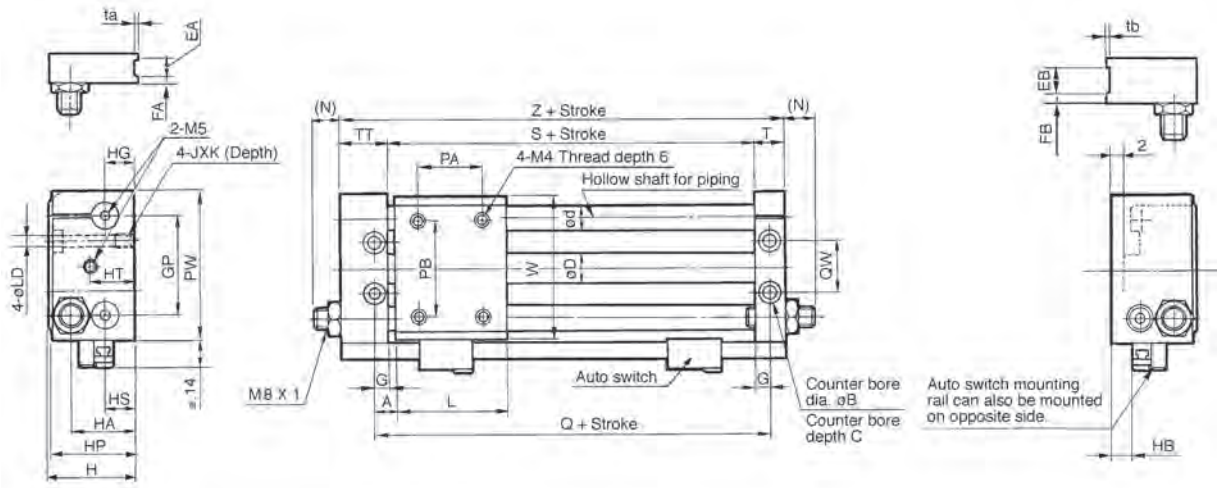
Magnetic Holding Force [N]

Bore size [mm]		6	10	15	20	25	32	40
Holding force	H type	19.6	53.9	137	231	363	588	922
	L type	—	—	81.4	154	221	358	569

Replacement Parts: Seal Kits

Bore size [mm]	Kit No.
6	CY1S6-PS-N
10	CY1S10-PS-N
15	CY1S15-PS-N
20	CY1S20-PS-N
25	CY1S25-PS-N
32	CY1S32-PS-N
40	CY1S40-PS-N

Dimensions Slider type/Slide bearing CDY1S6/10



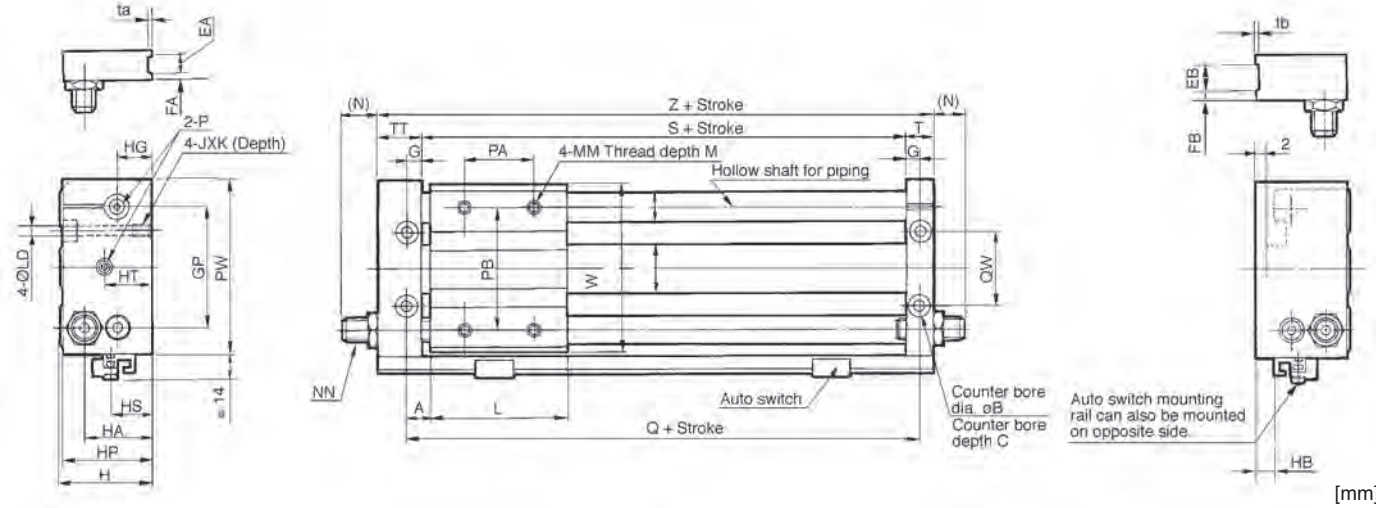
[mm]

Model	A	B	C	D	d	EA	EB	FA	FB	G	GP	H	HA	HB*	HG	HP	HS	HT
CY1S6	6	6.5	3	7.6	8	—	—	—	—	5	32	27	19	4	8	26	8	17
CY1S10	7.5	8	4	12	10	6	12	3	5	6.5	40	34	25.5	10	12	33	14	18

Model	J x K	L	LD	(N)	PA*	PB	PW	Q	QW	S	T	TT	ta	tb	W	Z
CY1S6	M4 x 6.5	40	3.5	11	25	25	50	52	16	42	10	16	—	—	46	68
CY1S10	M5 x 9.5	45	4.3	10.5	25	38	60	60	24	47	12.5	20.5	0.5	1.0	58	80

* PA dimensions are for split from center. HB dimensions are for CDY1S.

CDY1S15/20/25/32/40



[mm]

Model	A	B	C	D	d	EA	EB	FA	FB	G	GP	H	HA	HB*	HG	HP	HS	HT	J x K	L
CY1S15 CDY1S15	7.5	9.5	5	16.6	12	6	13	3	6	6.5	52	40	29	1	13	39	15	21	M6 x 9.5	60
CY1S20 CDY1S20	10	9.5	5.2	21.6	16	—	—	—	—	8.5	62	46	36	4.5	17	45	25.5	20	M6 x 9.5	70
CY1S25 CDY1S25	10	11	6.5	26.4	16	8	14	4	7	8.5	70	54	40	9	20	53	23	20	M8 x 10	70
CY1S32 CDY1S32	12.5	14	8	33.6	20	8	16	5	7	9.5	86	66	46	13	24	64	27	24	M10 x 15	85
CY1S40 CDY1S40	12.5	14	8	41.6	25	10	20	5	10	10.5	104	76	57	17	25	74	31	25	M10 x 15	95

Model	LD	M	MM	(N)	NN	P	PA*	PB	PW	Q	QW	S	T	TT	ta	tb	W	Z
CY1S15	5.6	8	M5	8.5	M8 x 1.0	M5	30	50	75	75	30	62	12.5	22.5	0.5	1	72	97
CY1S20	5.6	10	M6	10	M10 x 1	Rc1/8	40	70	90	90	38	73	16.5	25.5	—	—	87	115
CY1S25	7	10	M6	12	M14 x 1.5	Rc1/8	40	70	100	90	42	73	16.5	25.5	0.5	1	97	115
CY1S32	8.7	12	M8	11.5	M20 x 1.5	Rc1/8	40	75	122	110	50	91	18.5	28.5	0.5	1	119	138
CY1S40	8.7	12	M8	11.5	M20 x 1.5	Rc1/4	65	105	145	120	64	99	20.5	35.5	1	1	142	155

* PA dimensions are for split from center. HB dimensions are for CDY1S.

Compact Guide Cylinder
Series MGP
ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Features

- Weight reduced.
- Guide rod shortened.
- Auto switches can be mounted directly on 2 surfaces.
- 3 types of bearing can be selected.
  (Slide bearing, ball bushing and high precision ball bushing).
- 4 types of mounting are possible.
- Piping is possible from 2 directions.

How to Order

Compact Guide Cylinder: **MGP** [M] [25] [TF] – [30] **Z**

Compact guide cylinder: MGP

Bearing type:

M	Slide bearing
L	Ball bushing bearing
A	High precision ball bushing

Bore size:

12	12 mm	40	40 mm
16	16 mm	50	50 mm
20	20 mm	63	63 mm
25	25 mm	80	80 mm
32	32 mm	100	100 mm

Thread type:

—	M5 x 0.8 (ø12, 16)
TF	G (ø20 to ø100)

Cylinder stroke [mm]:

Bore size [mm]	Standard stroke [mm]
12, 16	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250
20, 25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
32 to 100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400

Product Recommendation

Stocked items for fast delivery

Part Number	Stroke (□)	Part Number	Stroke (□)
MGPL12-□Z	10, 20, 30, 40, 50, 75	MGPM16-□Z	10, 20, 30, 40, 50, 75, 100, 125, 150, 175
MGPL16-□Z	10, 20, 30, 40, 50, 75, 100	MGPM20TF-□Z	20, 30, 40, 50, 75, 100, 125, 150, 175
MGPL20TF-□Z	20, 30, 50, 75, 100	MGPM25TF-□Z	20, 30, 40, 50, 75, 100, 125, 150
MGPL25TF-□Z	20, 30, 40, 50, 75, 100	MGPM32TF-□Z	25, 50, 75, 100, 125, 150, 200
MGPL32TF-□Z	25, 50	MGPM40TF-□Z	25, 50, 75, 100, 125, 150, 175, 200
MGPL40TF-□Z	50	MGPM50TF-□Z	25, 50, 75, 100, 125, 200
MGPL50TF-□Z	50, 75, 175	MGPM63TF-□Z	25, 50, 75, 125, 200
MGPM12-□Z	10, 20, 30, 40, 50, 75, 100, 125, 150	MGPM80TF-□Z	25, 75

Specifications

Bore size	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Action	Double acting									
Fluid	Air									
Proof pressure	1.5 MPa									
Maximum operating pressure	1.0 MPa									
Minimum operating pressure	0.12 MPa		0.1 MPa							
Ambient and fluid temperature	-10 to 60°C (No freezing)									
Piston speed Note)	50 to 500 mm/s								50 to 400 mm/s	
Cushion	Rubber bumper on both ends									
Lubrication	Not required (Non-lube)									
Stroke length tolerance	$^{+1.5}_{0}$ mm									

Note) Maximum speed with no load.
Make a model selection, considering a load.

Auto Switches

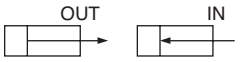
- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series D-7K/D-RK - Trimmer Auto Switch - page 1032
Series ASR/ASQ - Air Saving Valves - www.smc.eu
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Theoretical Output



[N]

Bore size [mm]	Rod size [mm]	Operating direction	Piston area [mm²]	Operating pressure [MPa]								
				0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
12	6	OUT	113	23	34	45	57	68	79	90	102	113
		IN	85	17	25	34	42	51	59	68	76	85
16	8	OUT	201	40	60	80	101	121	141	161	181	201
		IN	151	30	45	60	75	90	106	121	136	151
20	10	OUT	314	63	94	126	157	188	220	251	283	314
		IN	236	47	71	94	118	141	165	188	212	236
25	10	OUT	491	98	147	196	245	295	344	393	442	491
		IN	412	82	124	165	206	247	289	330	371	412
32	14	OUT	804	161	241	322	402	483	563	643	724	804
		IN	650	130	195	260	325	390	455	520	585	650
40	14	OUT	1257	251	377	503	628	754	880	1005	1131	1257
		IN	1103	221	331	441	551	662	772	882	992	1103
50	18	OUT	1963	393	589	785	982	1178	1374	1571	1767	1963
		IN	1709	342	513	684	855	1025	1196	1367	1538	1709
63	18	OUT	3117	623	935	1247	1559	1870	2182	2494	2806	3117
		IN	2863	573	859	1145	1431	1718	2004	2290	2576	2863
80	22	OUT	5027	1005	1508	2011	2513	3016	3519	4021	4524	5027
		IN	4646	929	1394	1859	2323	2788	3252	3717	4182	4646
100	26	OUT	7854	1571	2356	3142	3927	4712	5498	6283	7069	7854
		IN	7323	1465	2197	2929	3662	4394	5126	5858	6591	7323

Note) Theoretical output [N] = Pressure [MPa] x Piston area [mm²]

Weight

Slide Bearing: MGPM12 to 100

[kg]

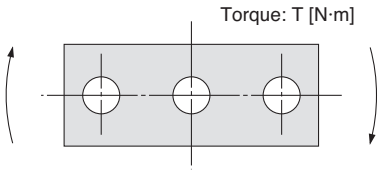
Bore size [mm]	Standard stroke [mm]															
	10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
12	0.22	0.25	—	0.29	0.33	0.36	0.46	0.55	0.66	0.75	0.84	0.93	1.11	—	—	—
16	0.32	0.37	—	0.42	0.46	0.51	0.66	0.78	0.94	1.06	1.18	1.31	1.55	—	—	—
20	—	0.59	—	0.67	0.74	0.82	1.06	1.24	1.43	1.61	1.80	1.99	2.42	2.79	3.16	3.53
25	—	0.84	—	0.94	1.04	1.14	1.50	1.75	2.00	2.25	2.50	2.75	3.35	3.85	4.34	4.84
32	—	—	1.41	—	—	1.77	2.22	2.57	2.93	3.29	3.65	4.00	4.90	5.61	6.33	7.04
40	—	—	1.64	—	—	2.04	2.52	2.92	3.32	3.71	4.11	4.50	5.47	6.26	7.06	7.85
50	—	—	2.79	—	—	3.38	4.13	4.71	5.30	5.89	6.47	7.06	8.55	9.73	10.9	12.1
63	—	—	3.48	—	—	4.15	4.99	5.67	6.34	7.02	7.69	8.37	10.0	11.4	12.7	14.1
80	—	—	5.41	—	—	6.26	7.41	8.26	9.10	9.95	10.8	11.6	13.9	15.6	17.3	19.0
100	—	—	9.12	—	—	10.3	12.0	13.2	14.4	15.6	16.9	18.1	21.2	23.6	26.1	28.5

Ball Bushing: MGPL12 to 100, High Precision Ball Bushing: MGPA12 to 100

[kg]

Bore size [mm]	Standard stroke [mm]															
	10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
12	0.21	0.24	—	0.27	0.32	0.35	0.43	0.50	0.59	0.67	0.75	0.83	0.99	—	—	—
16	0.31	0.35	—	0.40	0.47	0.51	0.62	0.72	0.85	0.96	1.06	1.17	1.38	—	—	—
20	—	0.60	—	0.66	0.79	0.85	1.01	1.17	1.36	1.52	1.68	1.84	2.17	2.49	2.81	3.13
25	—	0.87	—	0.96	1.12	1.20	1.41	1.62	1.86	2.06	2.27	2.48	2.92	3.33	3.75	4.16
32	—	—	1.37	—	—	1.66	2.08	2.37	2.74	3.03	3.31	3.60	4.25	4.82	5.39	5.97
40	—	—	1.59	—	—	1.92	2.38	2.70	3.11	3.44	3.77	4.09	4.81	5.46	6.11	6.76
50	—	—	2.65	—	—	3.14	3.85	4.34	4.97	5.47	5.96	6.45	7.57	8.56	9.54	10.5
63	—	—	3.33	—	—	3.91	4.71	5.29	6.01	6.59	7.17	7.75	9.05	10.2	11.4	12.5
80	—	—	5.27	—	—	6.29	7.49	8.21	8.92	9.64	10.4	11.1	12.9	14.3	15.7	17.2
100	—	—	8.62	—	—	10.1	11.8	12.9	13.9	15.0	16.0	17.1	19.6	21.7	23.8	25.9

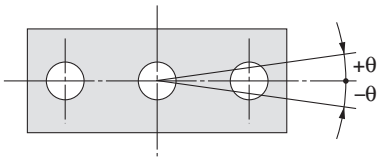
Allowable Rotational Torque of Plate



T [N·m]

Bore size [mm]	Bearing type	Stroke [mm]															
		10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
12	MGPM	0.39	0.32	—	0.27	0.24	0.21	0.43	0.36	0.31	0.27	0.24	0.22	0.19	—	—	—
	MGPL/A	0.61	0.45	—	0.35	0.58	0.50	0.37	0.29	0.24	0.20	0.18	0.16	0.12	—	—	—
16	MGPM	0.69	0.58	—	0.49	0.43	0.38	0.69	0.58	0.50	0.44	0.40	0.36	0.30	—	—	—
	MGPL/A	0.99	0.74	—	0.59	0.99	0.86	0.65	0.52	0.43	0.37	0.32	0.28	0.23	—	—	—
20	MGPM	—	1.05	—	0.93	0.83	0.75	1.88	1.63	1.44	1.28	1.16	1.06	0.90	0.78	0.69	0.62
	MGPL/A	—	1.26	—	1.03	2.17	1.94	1.52	1.25	1.34	1.17	1.03	0.93	0.76	0.65	0.56	0.49
25	MGPM	—	1.76	—	1.55	1.38	1.25	2.96	2.57	2.26	2.02	1.83	1.67	1.42	1.24	1.09	0.98
	MGPL/A	—	2.11	—	1.75	3.37	3.02	2.38	1.97	2.05	1.78	1.58	1.41	1.16	0.98	0.85	0.74
32	MGPM	—	—	6.35	—	—	5.13	5.69	4.97	4.42	3.98	3.61	3.31	2.84	2.48	2.20	1.98
	MGPL/A	—	—	5.95	—	—	4.89	5.11	4.51	6.34	5.79	5.33	4.93	4.29	3.78	3.38	3.04
40	MGPM	—	—	7.00	—	—	5.66	6.27	5.48	4.87	4.38	3.98	3.65	3.13	2.74	2.43	2.19
	MGPL/A	—	—	6.55	—	—	5.39	5.62	4.96	6.98	6.38	5.87	5.43	4.72	4.16	3.71	3.35
50	MGPM	—	—	13.0	—	—	10.8	12.0	10.6	9.50	8.60	7.86	7.24	6.24	5.49	4.90	4.43
	MGPL/A	—	—	9.17	—	—	7.62	9.83	8.74	11.6	10.7	9.83	9.12	7.95	7.02	6.26	5.63
63	MGPM	—	—	14.7	—	—	12.1	13.5	11.9	10.7	9.69	8.86	8.16	7.04	6.19	5.52	4.99
	MGPL/A	—	—	10.2	—	—	8.48	11.0	9.74	13.0	11.9	11.0	10.2	8.84	7.80	6.94	6.24
80	MGPM	—	—	21.9	—	—	18.6	22.9	20.5	18.6	17.0	15.6	14.5	12.6	11.2	10.0	9.11
	MGPL/A	—	—	15.1	—	—	23.3	22.7	20.6	18.9	17.3	16.0	14.8	12.9	11.3	10.0	8.94
100	MGPM	—	—	38.8	—	—	33.5	37.5	33.8	30.9	28.4	26.2	24.4	21.4	19.1	17.2	15.7
	MGPL/A	—	—	27.1	—	—	30.6	37.9	34.6	31.8	29.3	27.2	25.3	22.1	19.5	17.3	15.5

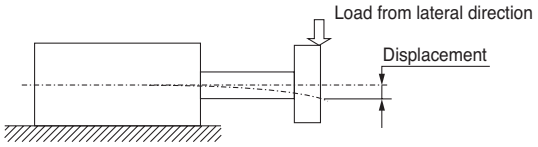
Non-rotating Accuracy of Plate



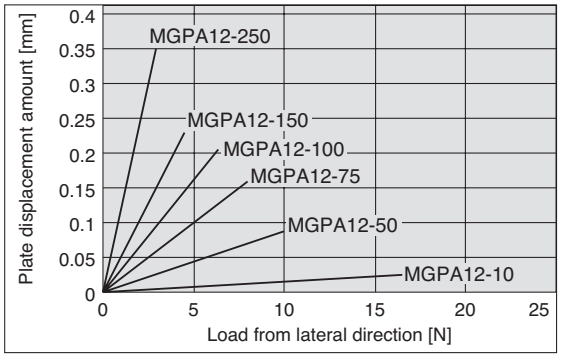
Non-rotating accuracy θ when retracted and when no load is applied should be not more than the values shown in the table.

Bore size [mm]	Non-rotating accuracy θ		
	MGPM	MGPL	MGPA
12	±0.07°	±0.05°	±0.01°
16			
20	±0.06°	±0.04°	
25			
32	±0.05°	±0.03°	
40			
50	±0.04°	±0.03°	
63			
80	±0.03°	±0.03°	
100			

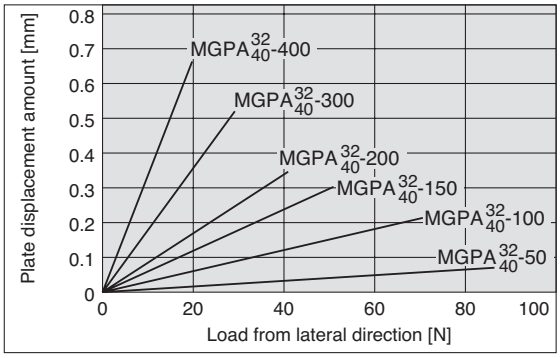
High Precision Ball Bushing/MGPA Plate Displacement Amount (Reference Values)



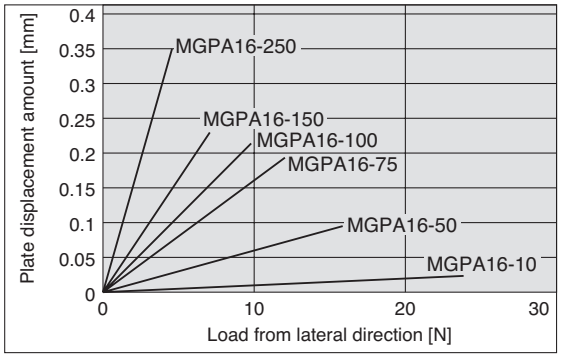
MGPA12



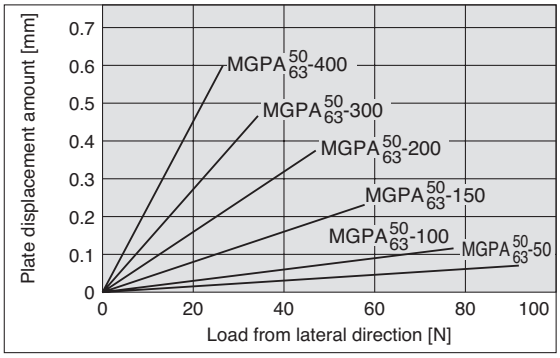
MGPA32/40



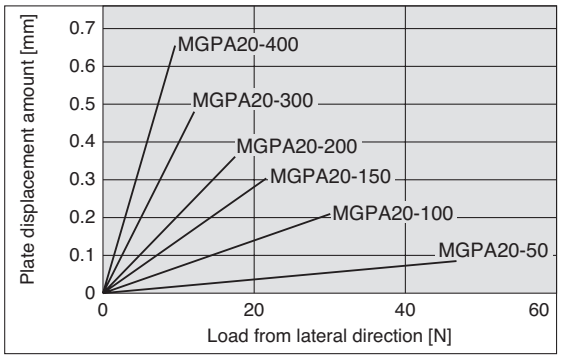
MGPA16



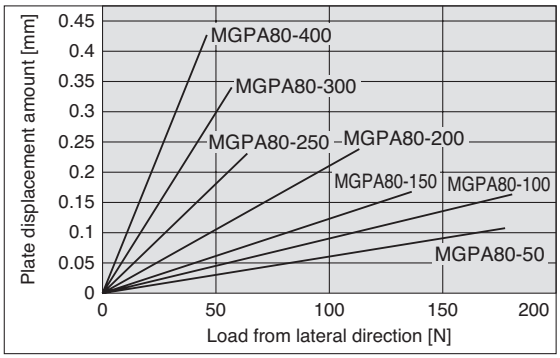
MGPA50/63



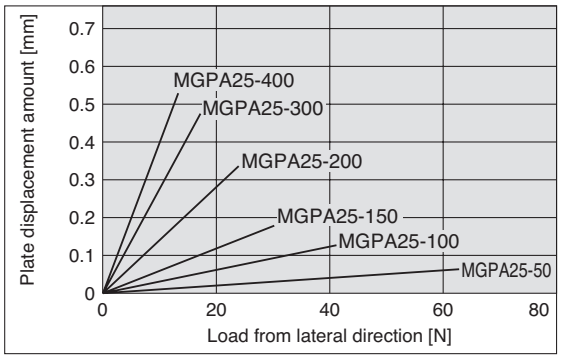
MGPA20



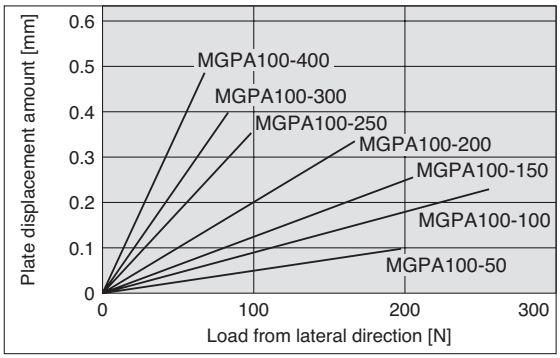
MGPA80



MGPA25



MGPA100

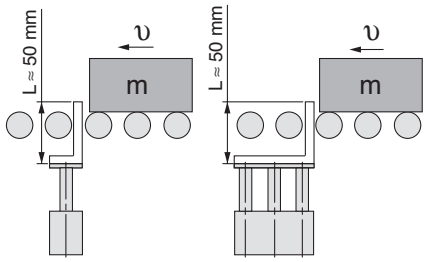


Note 1) The guide rod and self-weight for the plate are not included in the above displacement values.
Note 2) Allowable rotating torque, and operating range when used as a lifter, are the same as MGPL series.

For more product options and details see our specific catalogues or on-line information.

Operating Range when Used as Stopper

Bore Size: ø12 to ø25/MGPM12 to 25 (Slide bearing)



∗ When selecting a model with a longer L dimension, be sure to choose a bore size which is sufficiently large.

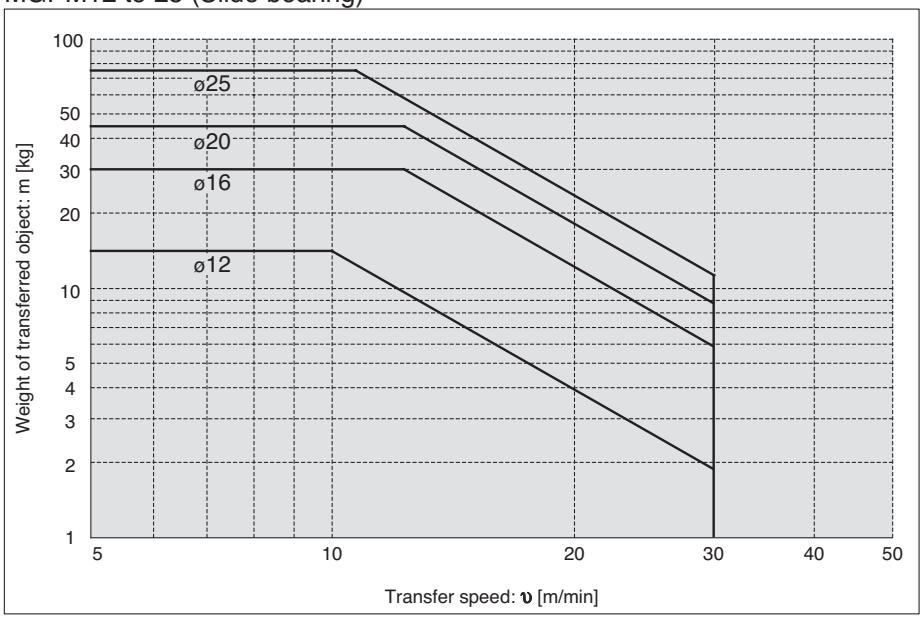
⚠Caution

Caution on handling

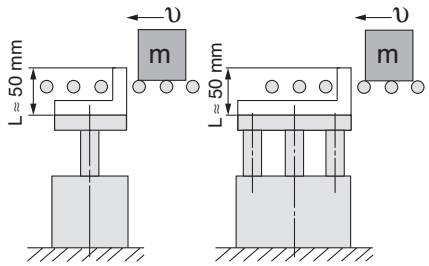
Note 1) When using as a stopper, select a model with 30 stroke or less.

Note 2) The MGPL (Ball bushing) and the MGPA (High precision ball bushing) cannot be used as a stopper.

MGPM12 to 25 (Slide bearing)



Bore Size: ø32 to ø100/MGPM32 to 100 (Slide bearing)



∗ When selecting a model with a longer L dimension, be sure to choose a bore size which is sufficiently large.

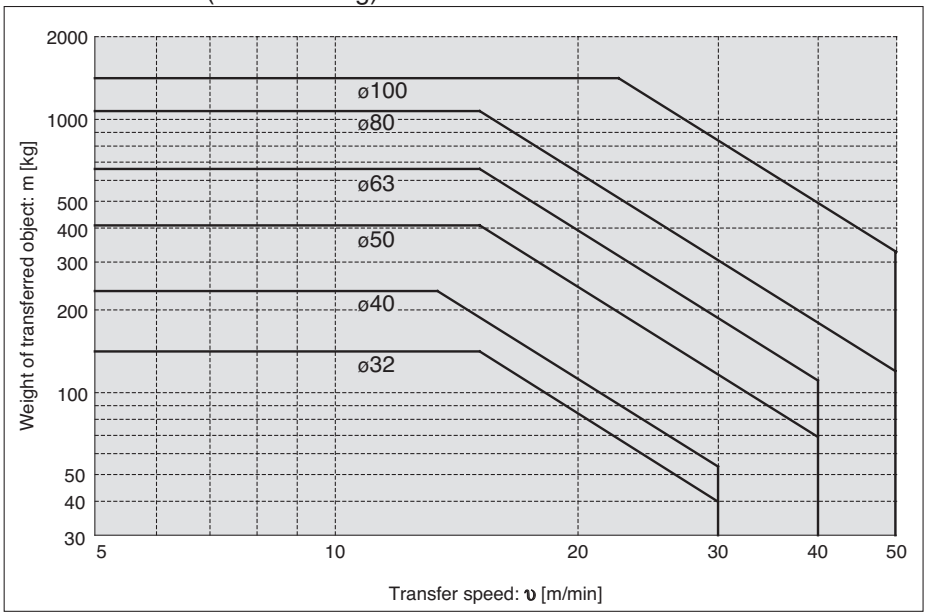
⚠Caution

Caution on handling

Note 1) When using as a stopper, select a model with 50 stroke or less.

Note 2) The MGPL (Ball bushing) and the MGPA (High precision ball bushing) cannot be used as a stopper.

MGPM32 to 100 (Slide bearing)



Replacement Parts/Seal Kit

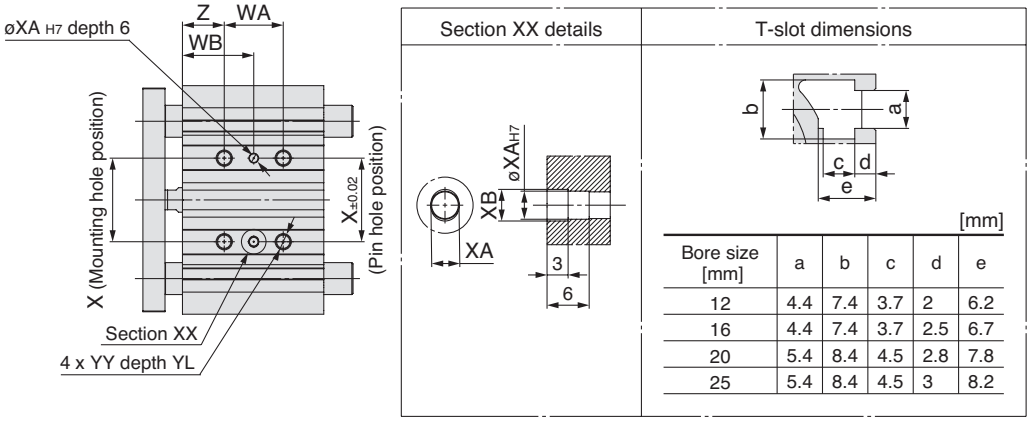
Bore size [mm]	Kit no.
12	MGP12-Z-PS
16	MGP16-Z-PS
20	MGP20-Z-PS
25	MGP25-Z-PS
32	MGP32-Z-PS

Bore size [mm]	Kit no.
40	MGP40-Z-PS
50	MGP50-Z-PS
63	MGP63-Z-PS
80	MGP80-Z-PS
100	MGP100-Z-PS

∗ Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

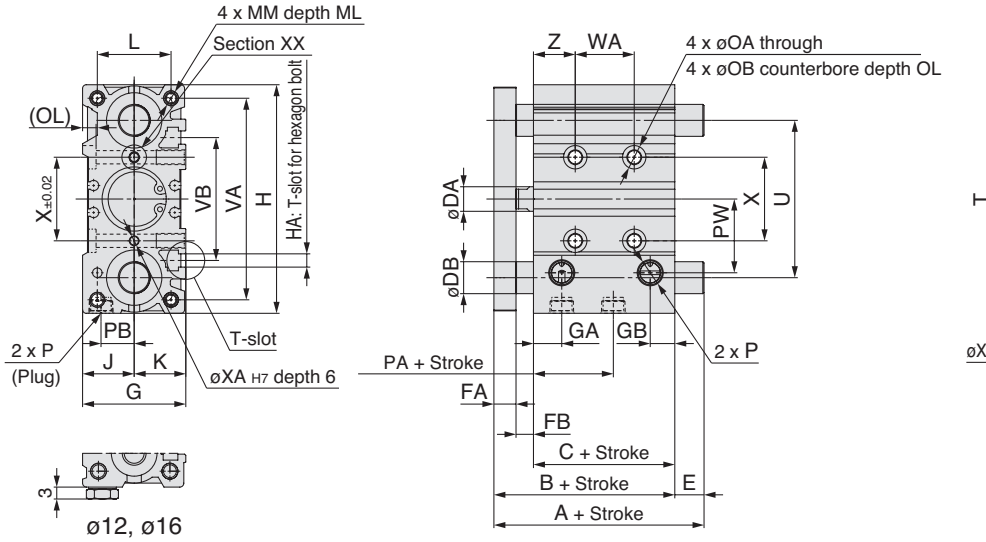
Dimensions

ø12 to ø25/MGPM, MGPL, MGPA



[mm]

Bore size [mm]	a	b	c	d	e
12	4.4	7.4	3.7	2	6.2
16	4.4	7.4	3.7	2.5	6.7
20	5.4	8.4	4.5	2.8	7.8
25	5.4	8.4	4.5	3	8.2



∗ The use of a slot (width XA, length XB, depth 3) allows for a relaxed pin pitch tolerance, with the pin hole (øXAH7, depth 6) as the reference, without affecting mounting accuracy.
∗ Bore size ø12 and ø16: M5 x 0.8 port, Bore size ø20 or more: G port.

MGPM, MGPL, MGPA Common Dimensions

[mm]

Bore size [mm]	Standard stroke [mm]	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P	
																					—	TF
12	10,20,30,40,50,75,100	42	29	6	7	6	26	10	7	58	M4	13	13	18	M4 x 0.7	10	M4 x 0.7	4.3	8	4.5	M5 x 0.8	—
16	125,150,175,200,250	46	33	8	7	6	30	10.5	7.5	64	M4	15	15	22	M5 x 0.8	12	M5 x 0.8	4.3	8	4.5	M5 x 0.8	—
20	20,30,40,50,75,100,125,150	53	37	10	8	8	36	11.5	9	83	M5	18	18	24	M5 x 0.8	13	M5 x 0.8	5.4	9.5	5.5	—	G1/8
25	175,200,250,300,350,400	53.5	37.5	10	9	7	42	11.5	10	93	M5	21	21	30	M6 x 1.0	15	M6 x 1.0	5.4	9.5	5.5	—	G1/8

Bore size [mm]	PA	PB	PW	Q	R	S	T	U	VA	VB	WA					WB					X	XA	XB	YY	YL	Z
											30 st or less	Over 30 st 100 st or less	Over 100 st 200 st or less	Over 200 st 300 st or less	Over 300 st	30 st or less	Over 30 st 100 st or less	Over 100 st 200 st or less	Over 200 st 300 st or less	Over 300 st						
12	13	8	18	14	48	22	56	41	50	37	20	40	110	200	—	15	25	60	105	—	23	3	3.5	M5 x 0.8	10	5
16	14.5	10	19	16	54	25	62	46	56	38	24	44	110	200	—	17	27	60	105	—	24	3	3.5	M5 x 0.8	10	5
20	13.5	10.5	25	18	70	30	81	54	72	44	24	44	120	200	300	29	39	77	117	167	28	3	3.5	M6 x 1.0	12	17
25	12.5	13.5	30	26	78	38	91	64	82	50	24	44	120	200	300	29	39	77	117	167	34	4	4.5	M6 x 1.0	12	17

MGPM (Slide bearing) A, DB, E Dimensions

[mm]

Bore size [mm]	A				DB	E			
	50 st or less	Over 50 st 100 st or less	Over 100 st 200 st or less	Over 200 st		50 st or less	Over 50 st 100 st or less	Over 100 st 200 st or less	Over 200 st
12	42	60.5	82.5	82.5	8	0	18.5	40.5	40.5
16	46	64.5	92.5	92.5	10	0	18.5	46.5	46.5
20	53	77.5	77.5	110	12	0	24.5	24.5	57
25	53.5	77.5	77.5	109.5	16	0	24	24	56

MGPL (Ball bushing)
MGPA (High precision ball bushing) A, DB, E Dimensions

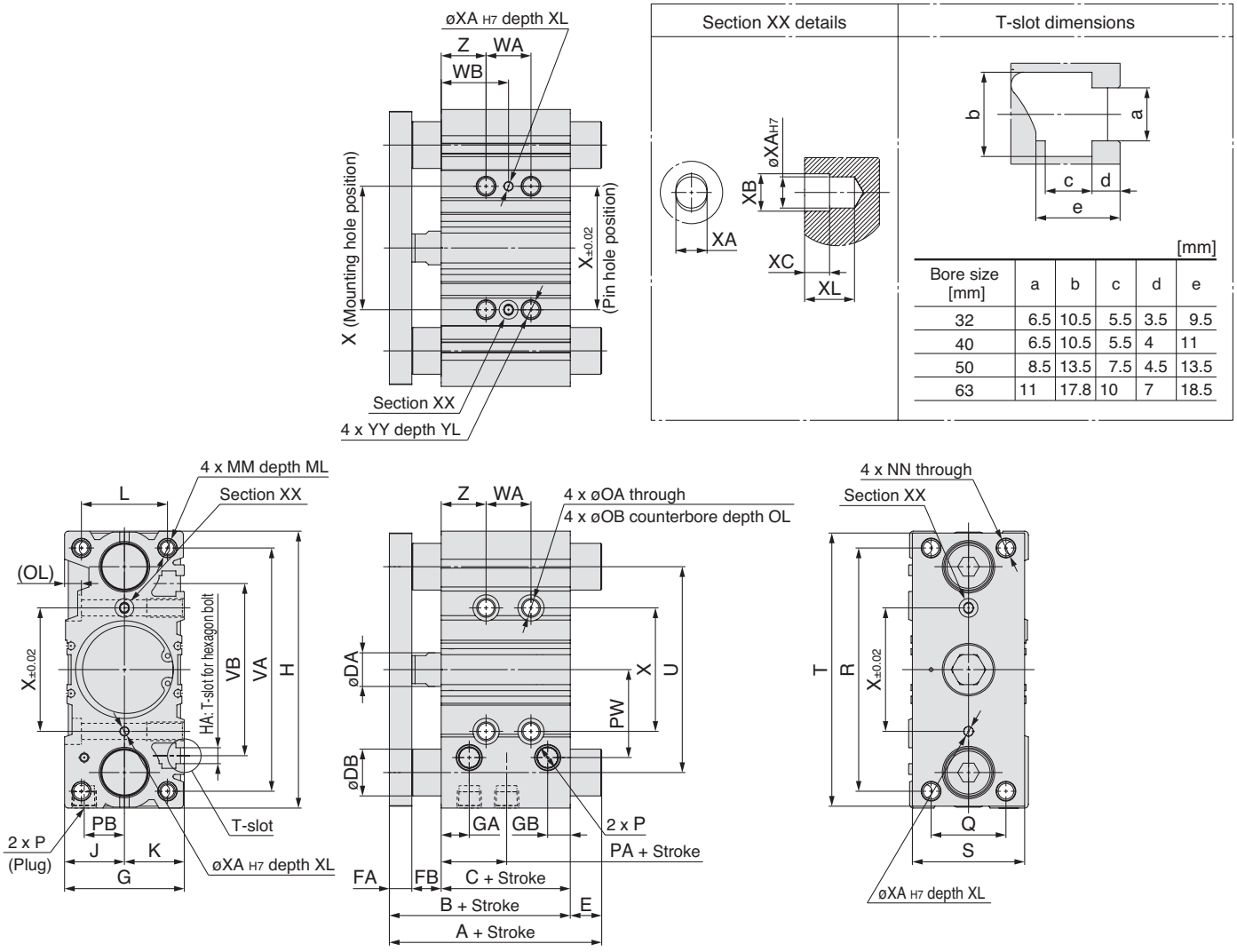
[mm]

Bore size [mm]	A				DB	E			
	30 st or less	Over 30 st 100 st or less	Over 100 st 200 st or less	Over 200 st		30 st or less	Over 30 st 100 st or less	Over 100 st 200 st or less	Over 200 st
12	43	55	84.5	84.5	6	1	13	42.5	42.5
16	49	65	94.5	94.5	8	3	19	48.5	48.5
20	59	76	100	117.5	10	6	23	47	64.5
25	65.5	81.5	100.5	117.5	13	12	28	47	64

For more product options and details see our specific catalogues or on-line information.

Dimensions

ø32 to ø63/MGPM, MGPL, MGPA



[mm]

Bore size [mm]	a	b	c	d	e
32	6.5	10.5	5.5	3.5	9.5
40	6.5	10.5	5.5	4	11
50	8.5	13.5	7.5	4.5	13.5
63	11	17.8	10	7	18.5

∗ The use of a slot (width XA, length XB, depth XC) allows for a relaxed pin pitch tolerance, with the pin hole (øXAH7, depth XL) as the reference, without affecting mounting accuracy.

MGPM, MGPL, MGPA Common Dimensions

[mm]

Bore size [mm]	Standard stroke [mm]	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P / TF
32	25,50,75	59.5	37.5	14	10	12	48	12	9	112	M6	24	24	34	M8 x 1.25	20	M8 x 1.25	6.7	11	7.5	G1/8
40	100,125,150	66	44	14	10	12	54	15	12	120	M6	27	27	40	M8 x 1.25	20	M8 x 1.25	6.7	11	7.5	G1/8
50	175,200,250	72	44	18	12	16	64	15	12	148	M8	32	32	46	M10 x 1.5	22	M10 x 1.5	8.6	14	9	G1/4
63	300,350,400	77	49	18	12	16	78	15.5	13.5	162	M10	39	39	58	M10 x 1.5	22	M10 x 1.5	8.6	—	9	G1/4

Bore size [mm]	PA	PB	PW	Q	R	S	T	U	VA	VB	WA 25 st or less	WA Over 25 st 100 st or less	WA Over 100 st 200 st or less	WA Over 200 st 300 st or less	WA Over 300 st	WB 25 st or less	WB Over 25 st 100 st or less	WB Over 100 st 200 st or less	WB Over 200 st 300 st or less	WB Over 300 st	X	XA	XB	XC	XL	YY	YL	Z
32	6.5	16	35.5	30	96	44	110	78	98	63	24	48	124	200	300	33	45	83	121	171	42	4	4.5	3	6	M8 x 1.25	16	21
40	13	18	39.5	30	104	44	118	86	106	72	24	48	124	200	300	34	46	84	122	172	50	4	4.5	3	6	M8 x 1.25	16	22
50	9	21.5	47	40	130	60	146	110	130	92	24	48	124	200	300	36	48	86	124	174	66	5	6	4	8	M10 x 1.5	20	24
63	13	28	58	50	130	70	158	124	142	110	28	52	128	200	300	38	50	88	124	174	80	5	6	4	8	M10 x 1.5	20	24

MGPM (Slide bearing) A, DB, E Dimensions

[mm]

Bore size [mm]	A 50 st or less	A Over 50 st 200 st or less	A Over 200 st	DB	E 50 st or less	E Over 50 st 200 st or less	E Over 200 st
32	75	93.5	129.5	20	15.5	34	70
40	75	93.5	129.5	20	9	27.5	63.5
50	88.5	109.5	150.5	25	16.5	37.5	78.5
63	88.5	109.5	150.5	25	11.5	32.5	73.5

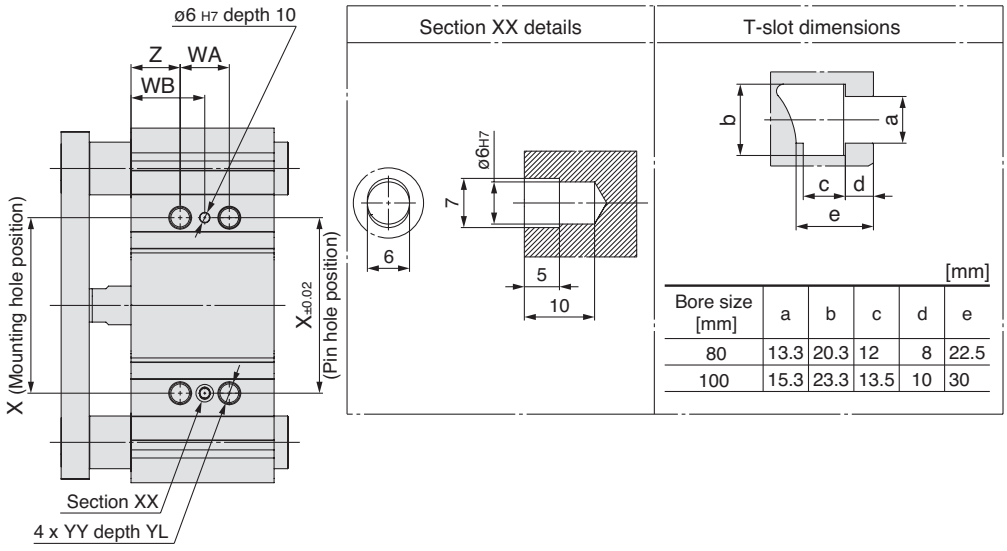
MGPL (Ball bushing)
MGPA (High precision ball bushing) A, DB, E Dimensions

[mm]

Bore size [mm]	A 50 st or less	A Over 50 st 100 st or less	A Over 100 st 200 st or less	A Over 200 st	DB	E 50 st or less	E Over 50 st 100 st or less	E Over 100 st 200 st or less	E Over 200 st
32	79.5	96.5	116.5	138.5	16	20	37	57	79
40	79.5	96.5	116.5	138.5	16	13.5	30.5	50.5	72.5
50	91.5	112.5	132.5	159.5	20	19.5	40.5	60.5	87.5
63	91.5	112.5	132.5	159.5	20	14.5	35.5	55.5	82.5

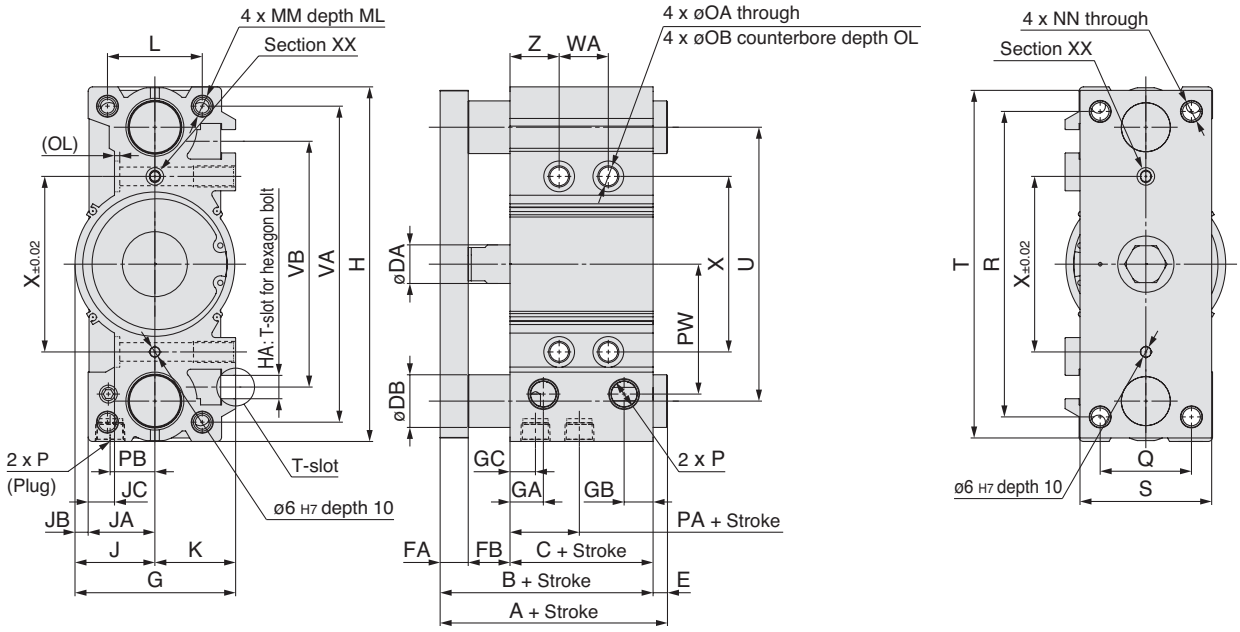
Dimensions

ø80, ø100/MGPM, MGPL, MGPA



[mm]

Bore size [mm]	a	b	c	d	e
80	13.3	20.3	12	8	22.5
100	15.3	23.3	13.5	10	30



∗ The use of a slot (width X6, length 7, depth 5) allows for a relaxed pin pitch tolerance, with the pin hole (ø6H7, depth 10) as the reference, without affecting mounting accuracy.

MGPM, MGPL, MGPA Common Dimensions

[mm]

Bore size [mm]	Standard stroke [mm]	B	C	DA	FA	FB	G	GA	GB	GC	H	HA	J	JA	JB	JC	K	L	MM	ML	NN	OA	OB	OL	P / TF
80	25,50,75,100 125,150,175,200 250,300,350,400	96.5	56.5	22	16	24	91.5	19	16.5	14.5	202	M12	45.5	38	7.5	15	46	54	M12 x 1.75	25	M12 x 1.75	10.6	17.5	3	G3/8
100		116	66	26	19	31	111.5	22.5	20.5	18	240	M14	55.5	45	10.5	10	56	62	M14 x 2.0	31	M14 x 2.0	12.5	20	8	G3/8

Bore size [mm]	PA	PB	PW	Q	R	S	T	U	VA	VB	WA					WB					X	YY	YL	Z
											25 st or less	Over 25 st 100 st or less	Over 100 st 200 st or less	Over 200 st 300 st or less	Over 300 st	25 st or less	Over 25 st 100 st or less	Over 100 st 200 st or less	Over 200 st 300 st or less	Over 300 st				
80	14.5	25.5	74	52	174	75	198	156	180	140	28	52	128	200	300	42	54	92	128	178	100	M12 x 1.75	24	28
100	17.5	32.5	89	64	210	90	236	188	210	166	48	72	148	220	320	35	47	85	121	171	124	M14 x 2.0	28	11

MGPM (Slide bearing) A, DB, E Dimensions

[mm]

Bore size [mm]	A			DB	E		
	50 st or less	Over 50 st 200 st or less	Over 200 st		50 st or less	Over 50 st 200 st or less	Over 200 st
80	104.5	131.5	180.5	30	8	35	84
100	126.5	151.5	190.5	36	10.5	35.5	74.5

MGPL (Ball bushing)
MGPA (High precision ball bushing) A, DB, E Dimensions

[mm]

Bore size [mm]	A				DB	E			
	25 st or less	Over 25 st 50 st or less	Over 50 st 200 st or less	Over 200 st		25 st or less	Over 25 st 50 st or less	Over 50 st 200 st or less	Over 200 st
80	104.5	128.5	158.5	191.5	25	8	32	62	95
100	119.5	145.5	178.5	201.5	30	3.5	29.5	62.5	85.5

For more product options and details see our specific catalogues or on-line information.

Compact Guide Cylinder With Air Cushion Series MGP

ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Features

- All advantages of MGP plus.
- Air cushion type standardized.
  An air cushion has been added to the compact guide cylinder to suppress vibration and noise at the stroke end.
  It can absorb nearly three times as much kinetic energy as a rubber bumper.
- Recessed cushion adjustment screw.

How to Order

MGP **M** **32** **TF** – **50** **A**

- A: With air cushion
- 50: Cylinder stroke [mm]
- M: Bearing type
- 32: Bore size
- TF: Thread type

Bearing type

M	Slide bearing
L	Ball bushing bearing

Bore size

16	16 mm	50	50 mm
20	20 mm	63	63 mm
25	25 mm	80	80 mm
32	32 mm	100	100 mm
40	40 mm		

Thread type

—	M5 (ø16)
TF	G (ø20 to ø100)

Cylinder stroke [mm]

Bore size [mm]	Standard stroke [mm]
16	25, 50, 75, 100, 125, 150, 175, 200, 250
20 to 63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
80, 100	50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400

Product Recommendation

Stocked items for fast delivery

Part Number	Stroke (□)	Part Number	Stroke (□)
MGPL16-□A	25, 50, 75, 100	MGPM20TF-□A	25, 50, 75, 100, 125, 150, 175, 200
MGPL20TF-□A	25, 50, 75, 100, 150	MGPM25TF-□A	25, 50, 75, 100, 125, 200
MGPL25TF-□A	25, 50, 75, 100	MGPM32TF-□A	25, 50, 75, 100, 125, 150, 175, 200, 300
MGPL32TF-□A	25, 50, 75, 100, 150, 250	MGPM40TF-□A	25, 50, 75, 100, 125, 150, 175, 200, 250
MGPL40TF-□A	25, 50, 75, 100	MGPM50TF-□A	25, 50, 75, 100, 125, 200
MGPL50TF-□A	50	MGPM63TF-□A	50, 75, 100, 200
MGPM16-□A	25, 50, 75, 100, 125		

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

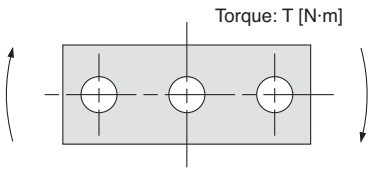
Series D-7K/D-RK - Trimmer Auto Switch - page 1032
Series ASR/ASQ - Air Saving Valves - www.smc.eu
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Technical Specifications

Action	Double acting	
Fluid	Air	
Proof pressure	1.5 MPa	
Maximum operating pressure	1.0 MPa	
Minimum operating pressure	ø16	0.15 MPa
	ø20 to ø100	0.12 MPa
Ambient and fluid temperature	–10 to 60°C (No freezing)	
Piston speed	ø16 to ø63	50 to 500 mm/s
	ø80, ø100	50 to 400 mm/s
Cushion	Air cushion on both ends (Without bumper)	
Lubrication	Non-lube	
Stroke length tolerance	$^{+1.5}_{0}$ [mm]	

Actuators

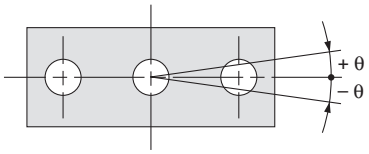
Allowable Rotational Torque of Plate



T [N·m]

Bore size [mm]	Bearing type	Stroke											
		25	50	75	100	125	150	175	200	250	300	350	400
16	MGPM	0.53	0.84	0.69	0.58	0.50	0.44	0.40	0.36	0.30	—	—	—
	MGPL	1.27	0.86	0.65	0.52	0.43	0.37	0.32	0.28	0.23	—	—	—
20	MGPM	0.99	2.23	1.88	1.63	1.44	1.28	1.16	1.06	0.90	0.78	0.69	0.62
	MGPL	2.66	1.94	1.52	1.57	1.34	1.17	1.03	0.93	0.76	0.65	0.56	0.49
25	MGPM	1.64	3.51	2.96	2.57	2.26	2.02	1.83	1.67	1.42	1.24	1.09	0.98
	MGPL	4.08	3.02	2.38	2.41	2.05	1.78	1.58	1.41	1.16	0.98	0.85	0.74
32	MGPM	6.35	6.64	5.69	4.97	4.42	3.98	3.61	3.31	2.84	2.48	2.20	1.98
	MGPL	5.95	5.89	5.11	6.99	6.34	5.79	5.33	4.93	4.29	3.78	3.38	3.04
40	MGPM	7.00	7.32	6.27	5.48	4.87	4.38	3.98	3.65	3.13	2.74	2.43	2.19
	MGPL	6.55	6.49	5.62	7.70	6.98	6.38	5.87	5.43	4.72	4.16	3.71	3.35
50	MGPM	13.0	13.8	12.0	10.6	9.50	8.60	7.86	7.24	6.24	5.49	4.90	4.43
	MGPL	9.17	11.2	9.8	12.8	11.6	10.7	9.80	9.10	7.95	7.02	6.26	5.63
63	MGPM	14.7	15.6	13.5	11.9	10.7	9.69	8.86	8.16	7.04	6.19	5.52	4.99
	MGPL	10.2	12.5	11.0	14.3	13.0	11.9	11.0	10.2	8-84	7.80	6.64	6.24
80	MGPM	—	26.0	22.9	20.5	18.6	17.0	15.6	14.5	12.6	11.2	10.0	9.11
	MGPL	—	25.2	22.7	20.6	18.9	17.3	16.0	14.8	12.9	11.3	10.0	8.94
100	MGPM	—	41.9	37.5	33.8	30.9	28.4	26.2	24.4	21.4	19.1	17.2	15.7
	MGPL	—	41.7	37.9	34.6	31.8	29.3	27.2	25.3	22.1	19.5	17.3	15.5

Non-rotating Accuracy of Plate



For non-rotating accuracy without load, use a value no more than the values in the table as a guide.

Bore size [mm]	Non-rotating accuracy θ	
	MGPM	MGPL
16	±0.08°	±0.10°
20	±0.07°	±0.09°
25		
32	±0.06°	±0.08°
40		
50	±0.05°	±0.06°
63		
80	±0.04°	±0.05°
100		

Allowable lateral load (normal load)

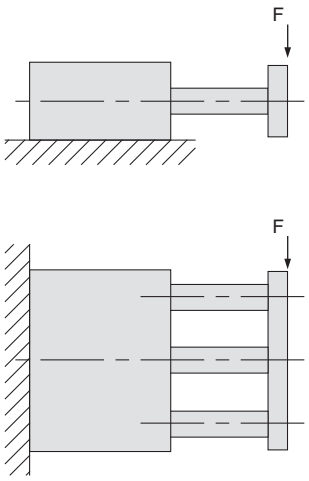
F[N]

Bore size [mm]	Bearing type	Stroke											
		25	50	75	100	125	150	175	200	250	300	350	400
16	MGPM	29	46	37	32	27	24	22	20	16	–	–	–
	MGPL	69	47	35	28	23	20	17	15	12	–	–	–
20	MGPM	46	103	87	75	66	59	54	49	42	36	32	29
	MGPL	123	90	70	73	62	54	48	43	35	30	26	23
25	MGPM	64	137	116	100	88	79	71	65	55	48	43	38
	MGPL	159	118	93	94	80	70	62	55	45	38	33	29
32	MGPM	203	213	182	159	142	127	116	106	91	80	71	64
	MGPL	191	189	164	224	203	186	171	158	137	121	108	98
40	MGPM	203	213	182	159	142	127	116	106	91	80	71	64
	MGPL	190	189	163	224	203	185	171	158	137	121	108	97
50	MGPM	296	314	273	241	216	195	179	164	142	125	111	101
	MGPL	208	255	223	290	264	242	224	207	181	159	142	128
63	MGPM	296	314	273	241	216	195	179	164	142	125	111	101
	MGPL	206	253	221	288	262	240	221	205	178	157	140	126
80	MGPM	–	416	368	329	298	272	251	232	202	179	161	146
	MGPL	–	405	364	331	302	278	256	238	207	181	161	143
100	MGPM	–	558	498	450	410	377	349	325	285	254	229	208
	MGPL	–	555	503	460	423	390	362	337	294	259	230	206

1N: Approx. 0.102kgf

Note) This is a simplified table of lateral load resistance of MGP when a lateral load is applied. For consideration of offset loads and for any sizing when piston speeds in excess of 50mm per second please refer to the graphs contained in the SMC BEST catalogue.

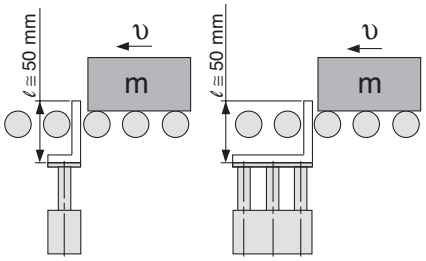
Allowable lateral load (air cushion)



Actuators

Operating Range when Used as Stopper

Bore size 16 to 25/MGPM16 to 25 (Slide bearing)



∗ When selecting a model with a longer ℓ dimension, be sure to choose a bore size which is sufficiently large.

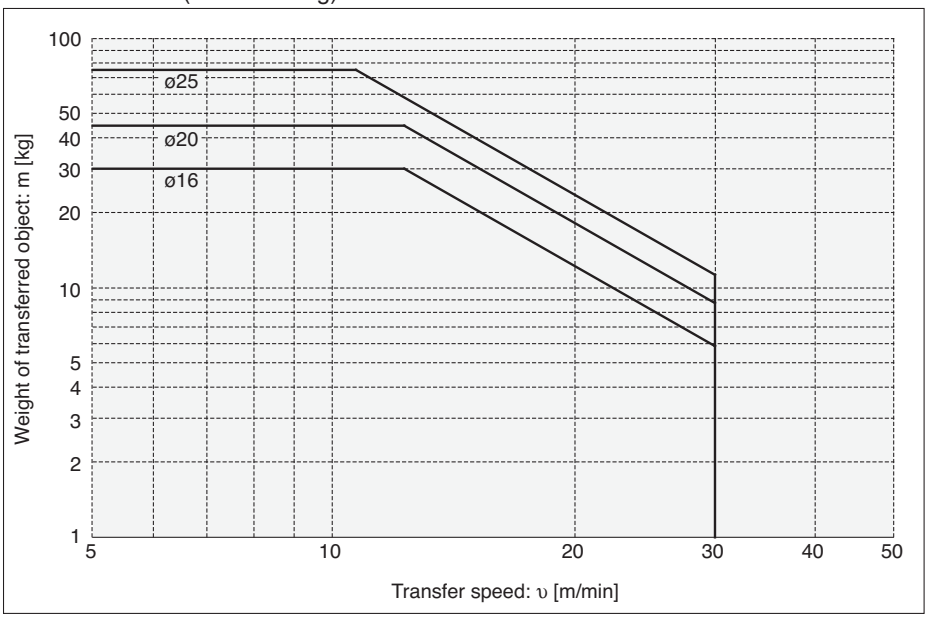
⚠Caution

Caution on handling

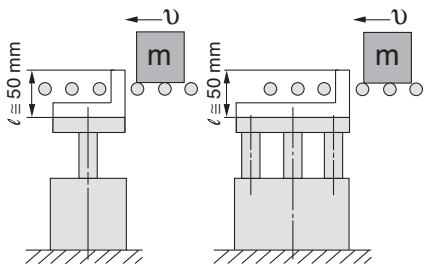
Note 1) When using as a stopper, select a model with 25 stroke or less.

Note 2) Model MGPL (Ball bushing bearing) cannot be used as a stopper.

MGPM16 to 25 (Slide bearing)



Bore Size 32 to 100/MGPM32 to 100 (Slide bearing)



∗ When selecting a model with a longer ℓ dimension, be sure to choose a bore size which is sufficiently large.

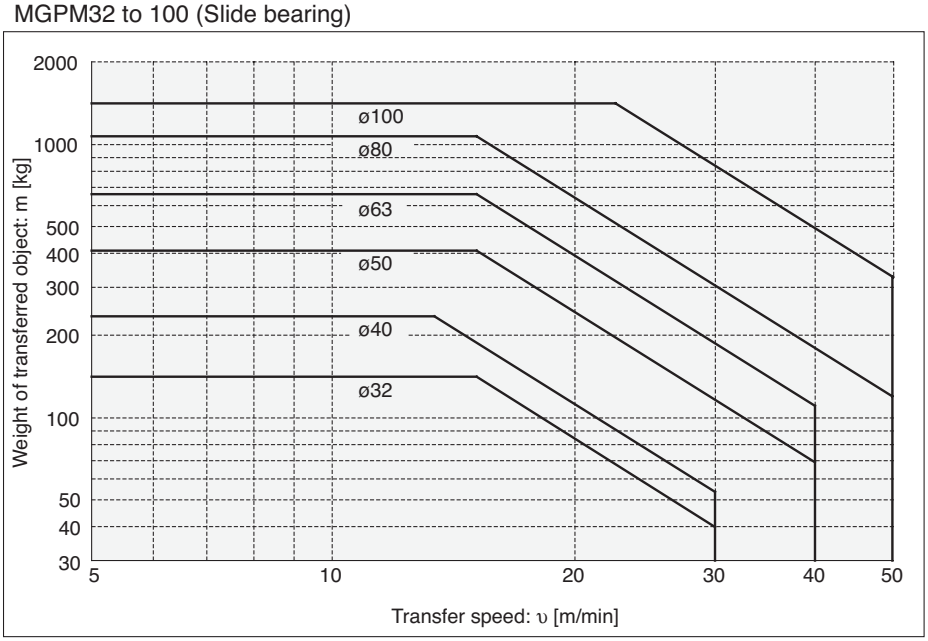
⚠Caution

Caution on handling

Note 1) When using as a stopper, select a model with 50 stroke or less.

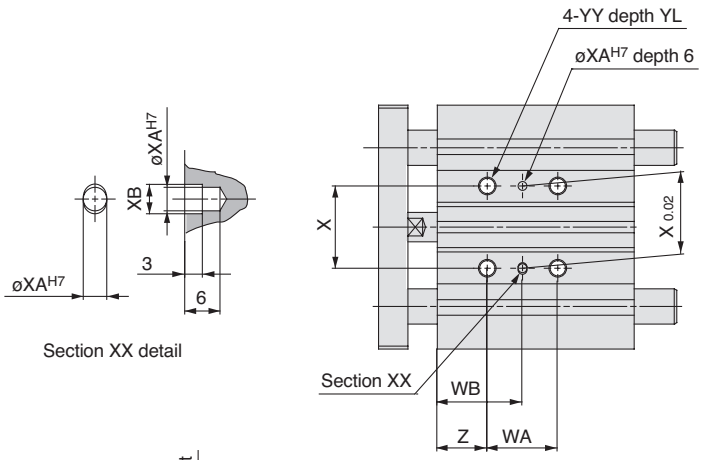
Note 2) Model MGPL (Ball bushing bearing) cannot be used as a stopper.

MGPM32 to 100 (Slide bearing)

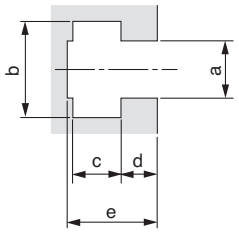


Actuators

Dimensions ø16 to ø25/MGPM, MGPL (With Air Cushion)

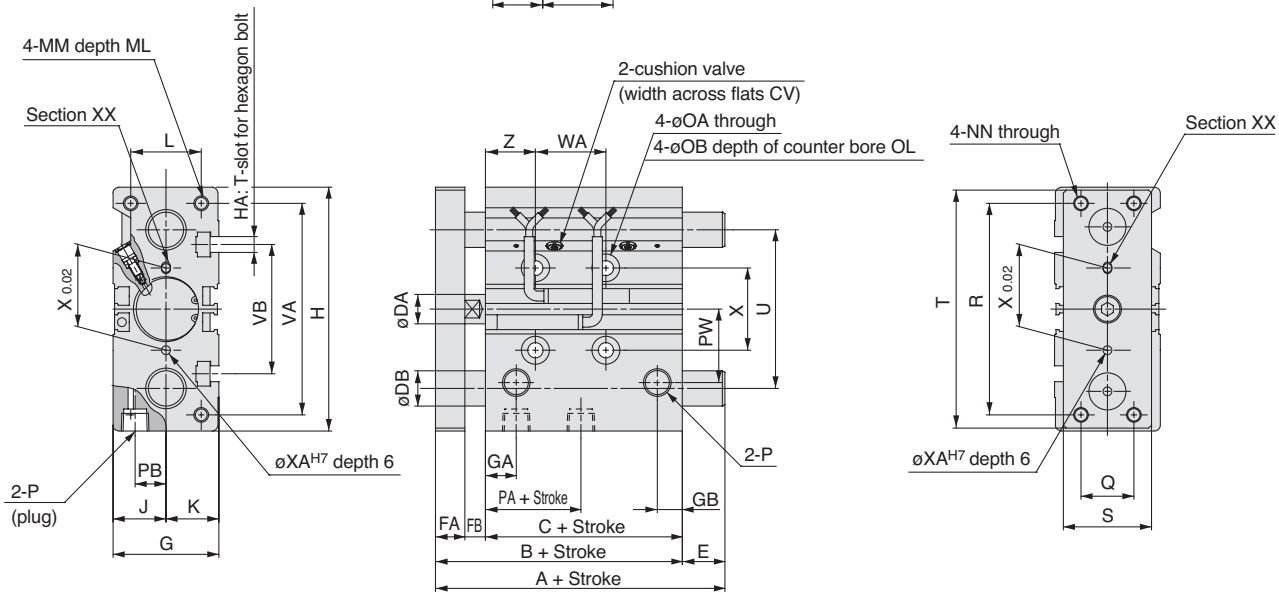


T-slot dimensions



[mm]

Bore size [mm]	a	b	c	d	e
16	4.4	7.4	3.7	2.5	6.7
20	5.4	8.4	4.5	2.8	7.8
25	5.4	8.4	4.5	3	8.2



Note 1) Contact SMC for intermediate strokes.
Note 2) When adjusting the ø16 cushion valve, use a 3mm flat head watchmakers screw driver.

MGPM, MGPL Common dimensions

[mm]

Bore size [mm]	Standard stroke [mm]	B	C	CV	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P	PA	PB	PW	Q
16	25, 50, 75, 100, 125, 150, 175, 200, 250	71	58	—	8	8	5	30	11	8	64	M4	15	15	22	M5	12	M5	4.3	8	4.5	M5	40	10	19	16
20	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	78	62	1.5	10	10	6	36	10.5	8.5	83	M5	18	18	24	M5	13	M5	5.6	9.5	5.5	G1/8	37.5	10.5	25	18
25		78.5	62.5	1.5	12	10	6	42	11.5	9	93	M5	21	21	30	M6	15	M6	5.6	9.5	5.5	G1/8	37.5	13.5	30	26

Bore size [mm]	Standard stroke [mm]	R	S	T	U	VA	VB	WA				WB				X	XA	XB	YY	YL	Z
								75st or less	100 to 175st	200 to 250st	300 or more	75st or less	100 to 175st	200 to 250st	300 or more						
16	25, 50, 75, 100, 125, 150, 175, 200, 250	54	25	62	46	56	38	44	110	—	—	27	60	—	—	24	3	3.5	M5	10	5
20	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	70	30	81	54	72	44	44	120	200	300	39	77	117	167	28	3	3.5	M6	12	17
25		78	38	91	64	82	50	44	120	200	300	39	77	117	167	34	4	4.5	M6	12	17

MGPM (slide bearing)/Dimensions A, DB, E

[mm]

Bore size [mm]	A					DB	E				
	25st	50st	75st or 100st	125st to 200st	250st or more		25st	50st	75st or 100st	125st to 200st	250st or more
16	71	89.5	71	95	95	10	0	18.5	0	24	24
20	78	86.5	84.5	84.5	122	12	0	8.5	6.5	6.5	44
25	78.5	87	85	85	122	16	0	8.5	6.5	6.5	43,5

MGPL (ball bushing)/Dimensions A, DB, E

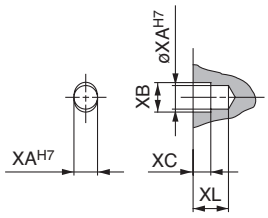
[mm]

Bore size [mm]	A					DB	E				
	25st	50, 75st	100st	125st to 200st	250 or more		25st	50, 75st	100st	125st to 200st	250 to 400st
16	80	71	71	95	95	8	9	0	0	24	24
20	95	80	99	104	122	10	17	2	21	26	44
25	100.5	85.5	99.5	104.5	122	13	22	7	26	26	43.5

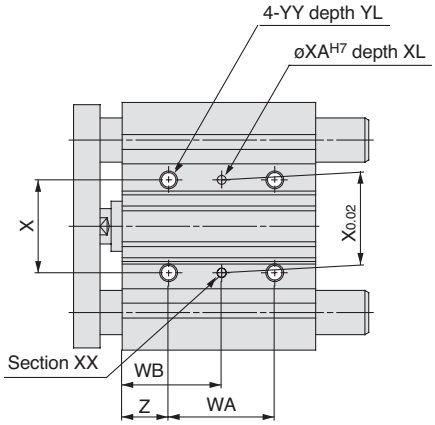
For more product options and details see our specific catalogues or on-line information.

Actuators

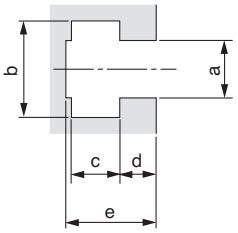
Dimensions ø32 to ø63/MGPM, MGPL (With Air Cushion)



Section XX detail

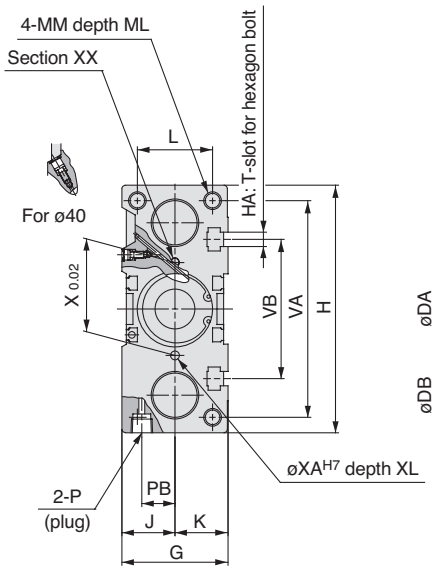


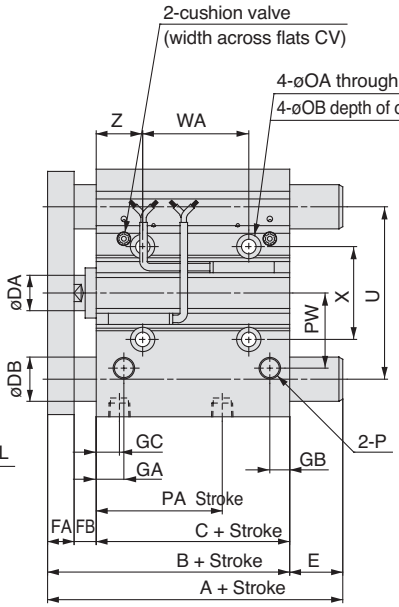
T-slot dimensions

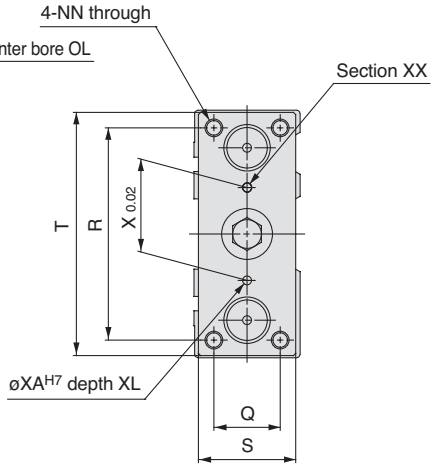


[mm]

Bore size [mm]	a	b	c	d	e
32	6.5	10.5	5.5	3.5	9.5
40	6.5	10.5	5.5	4	11
50	8.5	13.5	7.5	4.5	13.5
63	11	17.8	10	7	18.5







Contact SMC for intermediate strokes.

MGPM, MGPL Common dimensions

[mm]

Bore size [mm]	Standard stroke [mm]	B	C	CV	DA	FA	FB	G	GA	GB	GC	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P	PA	PB	PW	Q
32	25, 50, 75, 100,125, 150, 175, 200, 250, 300, 350, 400	84.5	62.5	1.5	16	12	10	48	12.5	9	12.5	112	M6	24	24	34	M8	20	M8	6.6	11	7.5	G1/8	32	15	35.5	30
40		91	69	1.5	16	12	10	54	14	10	14	120	M6	27	27	40	M8	20	M8	6.6	11	7.5	G1/8	38	18	39.5	30
50		97	69	2.5	20	16	12	64	14	11	12	148	M8	32	32	46	M10	22	M10	8.6	14	9	G1/4	34	21.5	47	40
63		102	74	2.5	20	16	12	78	16.5	13.5	16.5	162	M10	39	39	58	M10	22	M10	8.6	14	9	G1/4	39	28	58	50

Bore size [mm]	Standard stroke [mm]	R	S	T	U	VA	VB	WA				WB				X	XA	XB	XC	XL	YY	YL	Z
								75st or less	100 to 175st	200 to 250st	300 or more	75st or less	100 to 175st	200 to 250st	300 or more								
32	25, 50, 75, 100,125, 150, 175, 200, 250, 300, 350, 400	96	44	110	78	98	63	48	124	200	300	45	83	121	171	42	4	4.5	3	6	M8	16	21
40		104	44	118	86	106	72	48	124	200	300	46	84	122	172	50	4	4.5	3	6	M8	16	22
50		130	60	146	110	130	92	48	124	200	300	48	86	124	174	66	5	6	4	8	M10	20	24
63		130	70	158	124	142	110	52	128	200	300	50	88	124	174	80	5	6	4	8	M10	20	24

MGPM (slide bearing)/Dimensions A, DB, E

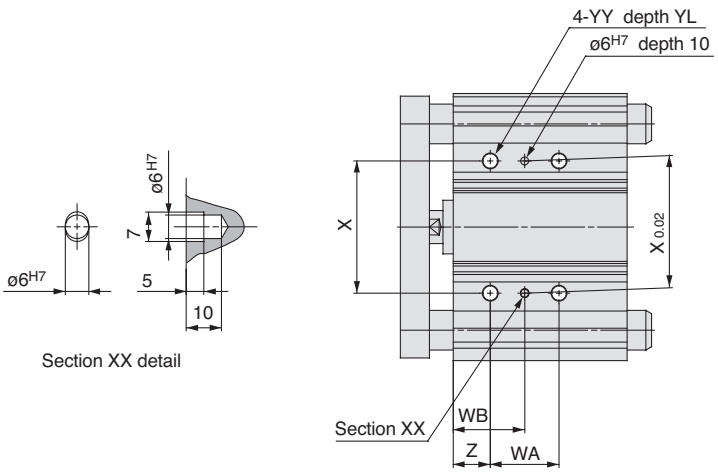
[mm]

Bore size [mm]	A				DB	E			
	25st	50st	75st to 200st	250st to 400st		25st	50st	75st to 200st	250st to 400st
32	97	127	102	140	20	12.5	42.5	17.5	55.5
40	97	127	102	140	20	6	36	11	49
50	106.5	131.5	118	161	25	9.5	34.5	21	64
63	106.5	131.5	118	161	25	4.5	29.5	16	59

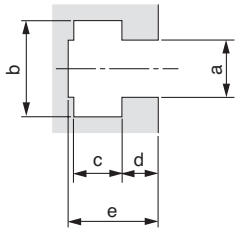
MGPL (ball bushing)/Dimensions A, DB, E

Bore size [mm]	A						DB	E					
	25st	50st	75st	100st	125st to 200st	250st to 400st		25st	50st	75st	100st	125st to 200st	250st to 400st
32	84.5	123	98	115.5	118	140	16	0	38.5	13.5	31	33.5	55.5
40	91	123	98	115.5	118	140	16	0	32	7	24.5	27	49
50	97	127.5	114	159	134	161	20	0	30.5	17	62	37	64
63	102	127.5	114	159	134	161	20	0	25.5	12	57	32	59

Dimensions ø80, ø100/MGPM, MGPL (With Air Cushion)

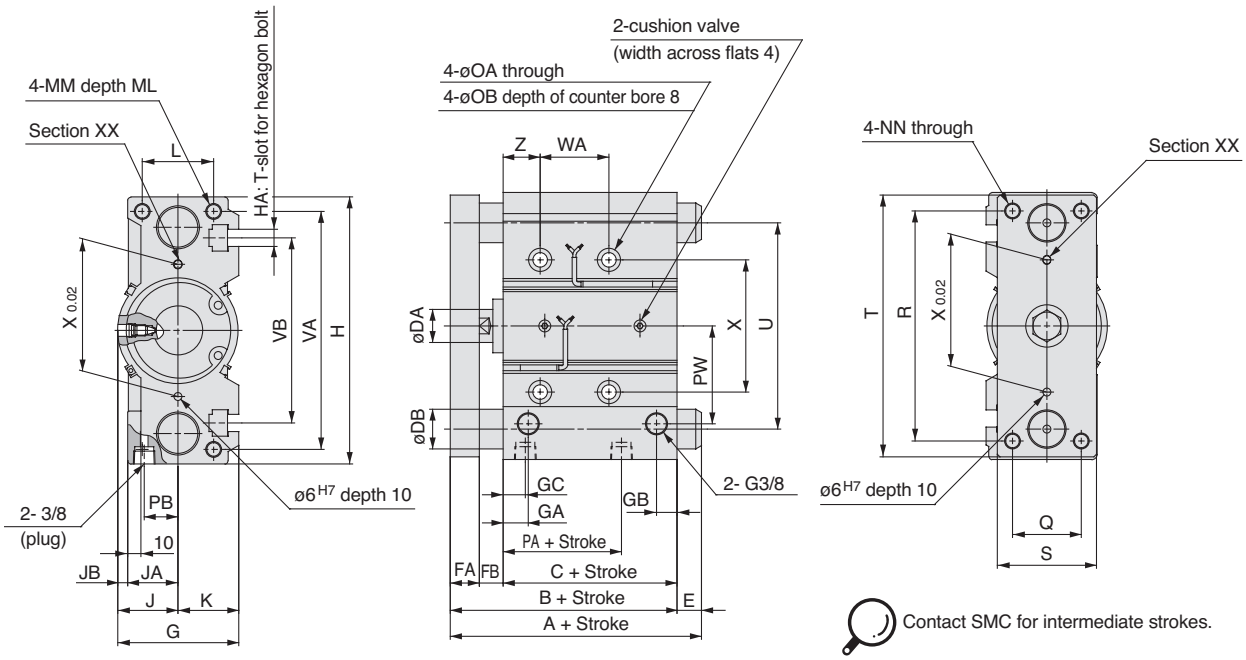


T-slot dimensions



[mm]

Bore size [mm]	a	b	c	d	e
80	13.3	20.3	12	8	22.5
100	15.3	23.3	13.5	10	30



MGPM, MGPL Common dimensions

[mm]

Bore size [mm]	Standard stroke [mm]	B	C	DA	FA	FB	G	GA	GB	GC	H	HA	J	JA	JB	K	L	MM	ML	NN	OA	OB	PA	PB	PW
80	50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	121.5	81.5	25	22	18	91.5	19	15.5	14.5	202	M12	45.5	38	7.5	46	54	M12	25	M12	10.6	17.5	39.5	25.5	74
100		141	91	30	25	25	111.5	23	19	18	240	M14	55.5	45	10.5	56	62	M14	31	M14	12.5	20	42.5	32.5	89

Bore size [mm]	Standard stroke [mm]	Q	R	S	T	U	VA	VB	WA				WB				X	YY	YL	Z
									50, 75st	100 to 175st	200 to 250st	300 or more	50, 75st	100 to 175st	200 to 250st	300 or more				
80	50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	52	174	75	198	156	180	140	52	128	200	300	54	92	128	178	100	M12	24	28
100		64	210	90	236	188	210	166	72	148	220	320	47	85	121	171	124	M14	28	11

MGPM (slide bearing)/Dimensions A, DB, E

[mm]

Bore size [mm]	A			DB	E		
	50st	75st to 200st	250st to 400st		50st	75st to 200st	250st to 400st
80	167	142	193	30	45.5	20.5	71.5
100	187	162	203	36	46	21	62

MGPL (ball bushing)/Dimensions A, DB, E

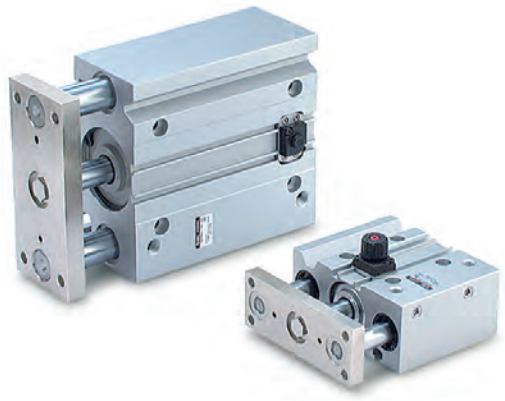
[mm]

Bore size [mm]	A			DB	E		
	50st	75st to 200st	250st to 400st		50st	75st to 200st	250st to 400st
80	168.5	160	193	25	47	38.5	71.5
100	178.5	180	203	30	37.5	39	62

For more product options and details see our specific catalogues or on-line information.

Actuators

Compact Guide Cylinder
With End Lock
Series MGP
ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



Features

- End lock type introduced.
- Holds the cylinder's home position even if the air supply is cut off.
- Compact body length is only 25mm longer than standard for ø20 to ø63.
- Compact body length is only 50mm longer than standard ø80 and ø100.
- Otherwise as per standard MGP.

How to Order

MGP **M** **32** **TF** – **100** – **H** **N**

Bearing type

M	Slide bearing
L	Ball bushing bearing

Bore size

20	20 mm	50	50 mm
25	25 mm	63	63 mm
32	32 mm	80	80 mm
40	40 mm	100	100 mm

Thread type

TF	G

Lock position

H	Head end lock
R	Rod end lock

Manual release type

N	Non-lock type
L	Lock type

Cylinder stroke [mm]

Bore size [mm]	Standard stroke [mm]
20, 25, 32, 40, 50, 63, 80, 100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400

Technical Specifications

Action	Double acting	
Fluid	Air	
Proof pressure	1.5 MPa	
Maximum operating pressure	1.0 MPa	
Minimum operating pressure	0.15 MPa *	
Ambient and fluid temperature	–10 to 60°C (No freezing)	
Piston speed	ø20 to ø63	50 to 500 mm/s
	ø80, ø100	50 to 400 mm/s
Cushion	Rubber bumper on both ends	
Lubrication	Non-lube	
Stroke length tolerance	$^{+1.5}_{0}$ mm	

* 0.1 MPa except the lock unit.

Lock Specifications

Lock position	Head end, Rod end							
Holding force (Max.) N	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
	215	330	550	860	1340	2140	3450	5390
Backlash	2 mm or less							
Manual release	Non-lock type, Lock type							

Adjust switch positions for operation at both the stroke end and backlash (2 mm) movement positions.

Product Recommendation

Auto Switches

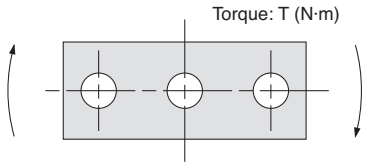
- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series D-7K/D-RK - Trimmer Auto Switch - page 1032
Series ASR/ASQ - Air Saving Valves - www.smc.es
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Allowable Rotational Torque of Plate

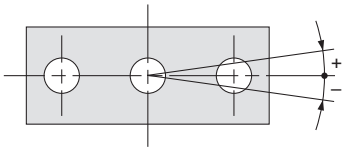


–T [N·m]

Bore size [mm]	Bearing type	Stroke [mm]											
		25	50	75	100	125	150	175	200	250	300	350	400
20	MGPM	0.99	0.75	1.88	1.63	1.44	1.28	1.16	1.06	0.90	0.78	0.69	0.62
	MGPL	2.66	1.94	1.52	1.25	1.34	1.17	1.03	0.93	0.76	0.65	0.56	0.49
25	MGPM	1.64	1.25	2.96	2.57	2.26	2.02	1.83	1.67	1.42	1.24	1.09	0.98
	MGPL	4.08	3.02	2.38	1.97	2.05	1.78	1.58	1.41	1.16	0.98	0.85	0.74
32	MGPM	6.35	5.13	5.69	4.97	4.42	3.98	3.61	3.31	2.84	2.48	2.20	1.98
	MGPL	5.95	4.89	5.11	4.51	6.34	5.79	5.33	4.93	4.29	3.78	3.38	3.04
40	MGPM	7.00	5.66	6.27	5.48	4.87	4.38	5.98	3.65	3.13	2.74	2.43	2.19
	MGPL	6.55	5.39	5.62	4.96	6.98	6.38	5.87	5.43	4.72	4.16	3.71	3.35
50	MGPM	13.0	10.8	12.0	10.6	9.50	8.60	7.86	7.24	6.24	5.49	4.90	4.43
	MGPL	9.17	7.62	9.83	8.74	11.6	10.7	9.83	9.12	7.95	7.02	6.26	5.63
63	MGPM	14.7	12.1	13.5	11.9	10.7	9.69	8.86	8.16	7.04	6.19	5.52	4.99
	MGPL	10.2	8.48	11.0	9.74	13.0	11.9	11.0	10.2	8.84	7.80	6.94	6.24
80	MGPM	21.9	18.6	22.9	20.5	18.6	17.0	15.6	14.5	12.6	11.2	10.0	9.11
	MGPL	15.1	23.3	22.7	20.6	18.9	17.3	16.0	14.8	12.9	11.3	10.0	8.94
100	MGPM	38.8	33.5	37.5	33.8	30.9	28.4	26.2	24.4	21.4	19.1	17.2	15.7
	MGPL	27.1	30.6	37.9	34.6	31.8	29.3	27.2	25.3	22.1	19.5	17.3	15.5

Model selection is the same as MGP/standard type.

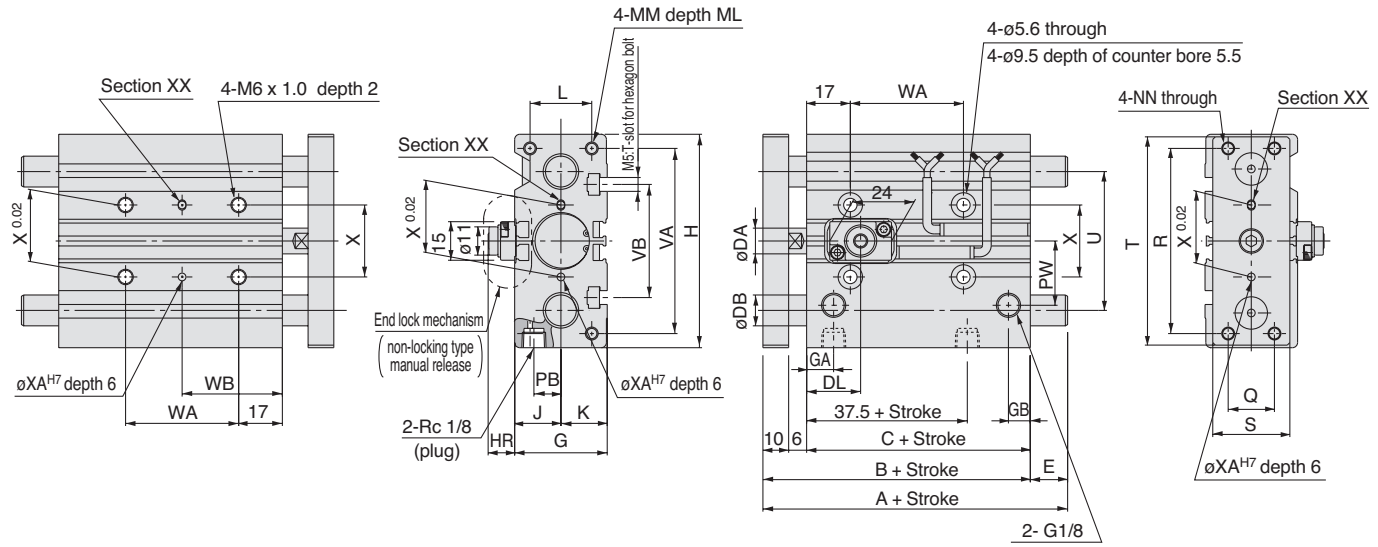
Non-rotating Accuracy of Plate



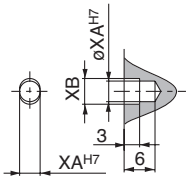
For non-rotating accuracy without load, use a value no more than the values in the table as a guide.

Bore size [mm]	Non-rotating accuracy θ	
	MGPM	MGPL
20	±0.07°	±0.09°
25		
32	±0.06°	±0.08°
40		
50	±0.05°	±0.06°
63		
80	±0.04°	±0.05°
100		

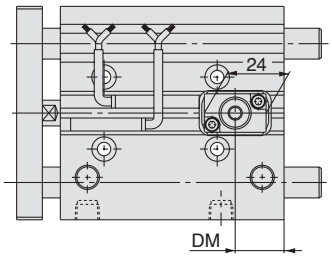
Dimensions ø20, ø25



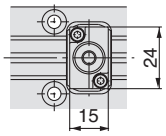
With front lock



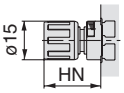
Section XX detail



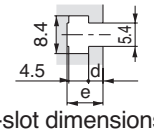
With rear lock



For ø25



End lock mechanism
(Locking type manual release)



T-slot dimensions [mm]

Bore size [mm]	d	e
20	2.8	7.8
25	3	8.2

[mm]

Bore size [mm]	Standard stroke [mm]	B	C	DA	G	GA	GB	H	J	K	L	MM	ML	NN	PB	PW	Q	R
20	25, 50, 75, 100, 125, 150, 175 200, 250, 300, 350, 400	78	62	10	36	10.5	8.5	83	18	18	24	M5	13	M5	10.5	25	18	70
25		78.5	62.5	12	42	11.5	9	93	21	21	30	M6	15	M6	13.5	30	26	78

[mm]

Bore size [mm]	S	T	U	VA	VB	WA				WB				X	XA	XB
						75st or less	Over 75st to 175st	Over 175st to 250st	Over 250st	75st or less	Over 75st to 175st	Over 175st to 250st	Over 250st			
20	30	81	54	72	44	44	120	200	300	39	77	117	167	28	3	3.5
25	38	91	64	82	50	44	120	200	300	39	77	117	167	34	4	4.5

End lock mechanism dimensions [mm]

Bore size [mm]	DL	DM	HR	HN
20	21	19	10.5	22
25	26.5	16	8	19.5

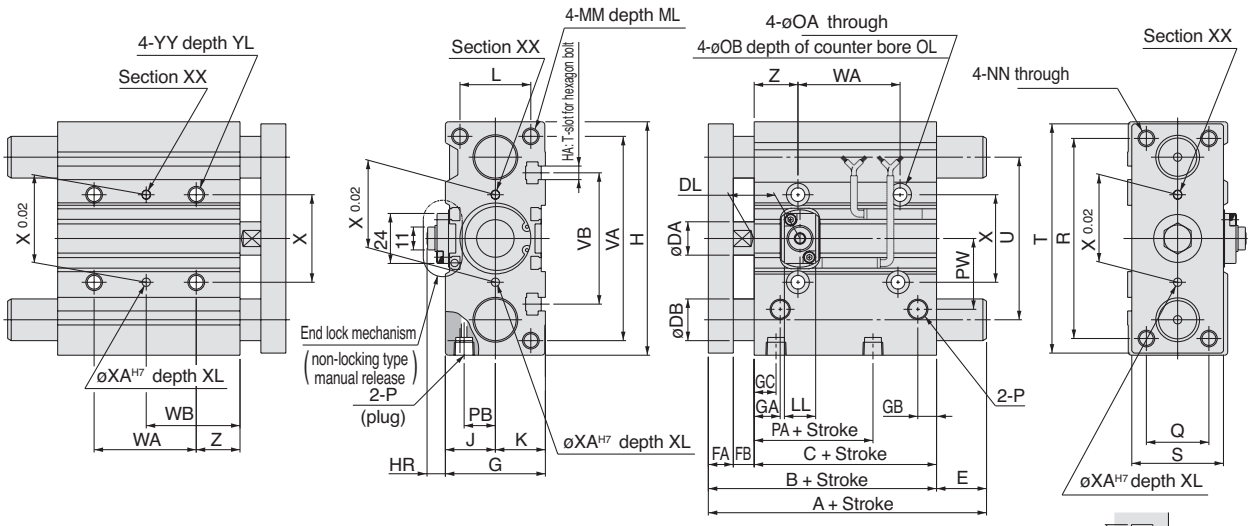
MGPM (slide bearing)/Dimensions A, DB, E [mm]

Bore size [mm]	A			DB	E		
	25st or less	Over 25st to 175st	Over 175st		25st or less	Over 25st to 175st	Over 175st
20	78	84.5	122	12	0	6.5	44
25	78.5	85	122	16	0	6.5	43.5

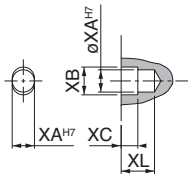
MGPL (ball bushing)/Dimensions A, DB, E [mm]

Bore size [mm]	A			DB	E		
	75st or less	Over 75st to 175st	Over 175st		75st or less	Over 75st to 175st	Over 175st
20	80	104	122	10	2	26	44
25	85.5	104.5	122	13	7	26	43.5

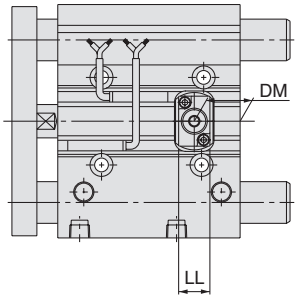
Dimensions ø32 to ø63



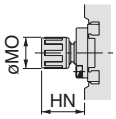
With front lock



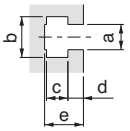
Section XX detail



With rear lock



End lock mechanism
(Locking type manual release)



T-slot dimensions [mm]

Bore size [mm]	a	b	c	d	e
32	6.5	10.5	5.5	3.5	9.5
40	6.5	10.5	5.5	4	11
50	8.5	13.5	7.5	4.5	13.5
63	11	17.8	10	7	18.5

[mm]

Bore size [mm]	Standard stroke [mm]	B	C	DA	FA	FB	G	GA	GB	GC	H	HA	J	K	L	MM	ML	NN	OA
32	25, 50, 75, 100 125, 150, 175 200, 250, 300 350, 400	84.5	62.5	16	12	10	48	12.5	9	12.5	112	M6	24	24	34	M8	20	M8	6.6
40		91	69	16	12	10	54	14	10	14	120	M6	27	27	40	M8	20	M8	6.6
50		97	69	20	16	12	64	14	11	12	148	M8	32	32	46	M10	22	M10	8.6
63		102	74	20	16	12	78	16.5	13.5	16.5	162	M10	39	39	58	M10	22	M10	8.6

[mm]

Bore size [mm]	OB	OL	P	PA	PB	PW	Q	R	S	T	U	VA	VB	WA				WB			
														75st or less	Over 75st to 175st	Over 175st to 275 st	Over 275st	75st or less	Over 75st to 175st	Over175st to 275 st	Over 275st
32	11	7.5	G1/8	32	15	35.5	30	96	44	110	78	98	63	48	124	200	300	45	83	121	171
40	11	7.5	G1/8	38	18	39.5	30	104	44	118	86	106	72	48	124	200	300	46	84	122	172
50	14	9	G1/4	34	21.5	47	40	130	60	146	110	130	92	48	124	200	300	48	86	124	174
63	14	9	G1/4	39	28	58	50	130	70	158	124	142	110	52	128	200	300	50	88	124	174

[mm]

Bore size [mm]	X	XA	XB	XC	XL	YY	YL	Z
32	42	4	4.5	3	6	M8	16	21
40	50	4	4.5	3	6	M8	16	22
50	66	5	6	4	8	M10	20	24
63	80	5	6	4	8	M10	20	24

MGPM (slide bearing)/Dimensions A, DB, E

[mm]

Bore size [mm]	A			DB	E		
	25st or less	Over 25st to 175st	Over 175st		25st or less	Over 25st to 175st	Over 175st
32	97	102	140	20	12.5	17.5	55.5
40	97	102	140	20	6	11	49
50	106.5	118	161	25	9.5	21	64
63	106.5	118	161	25	4.5	16	59

End lock mechanism

[mm]

Bore size [mm]	DL	DM	HR	HN (max.)	LL	MO
32	22	22	9.5	21	15	15
40	26	23	11.5	25.5	21	19
50	24	23	13	27	21	19
63	25	25.5	11	25	21	19

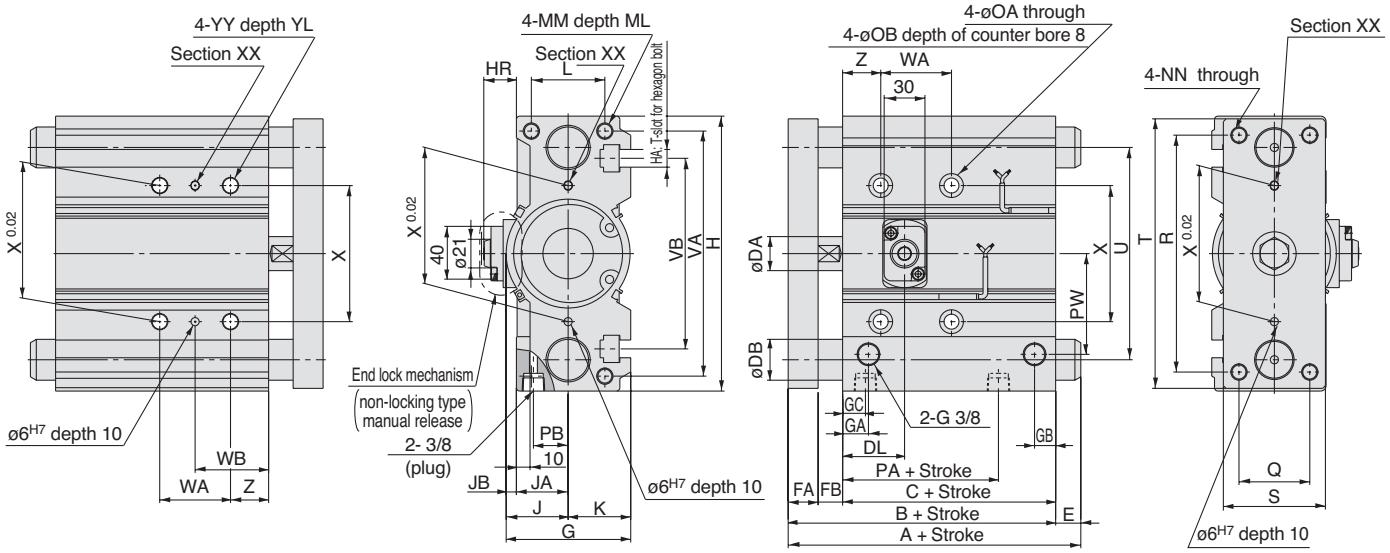
MGPL (ball bushing)/Dimensions A, DB, E

[mm]

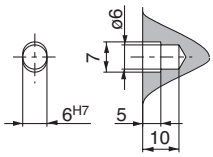
Bore size [mm]	A				DB	E			
	25st or less	Over 25st to 75st	Over 75st to 175st	Over 175st		25st or less	Over 25st to 75st	Over 75st to 175st	Over 175st
32	84.5	98	118	140	16	0	13.5	33.5	55.5
40	91	98	118	140	16	0	7	27	49
50	97	114	134	161	20	0	17	37	64
63	102	114	134	161	20	0	12	32	59

For more product options and details see our specific catalogues or on-line information.

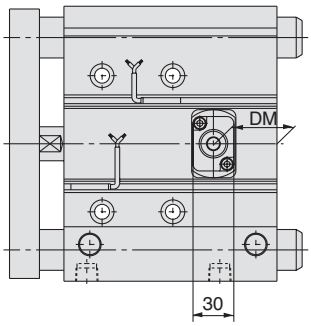
Dimensions ø80, ø100



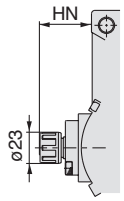
With front lock



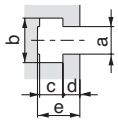
Section XX detail



With rear lock



End lock mechanism
(Locking type manual release)



T-slot dimensions

[mm]

Bore size [mm]	a	b	c	d	e
80	13.3	20.3	12	8	22.5
100	15.3	23.3	13.5	10	30

[mm]

Bore size [mm]	Standard stroke [mm]	B	C	DA	FA	FB	G	GA	GB	GC	H	HA	J	JA	JB	K	L
80	25, 50, 75, 100, 125, 150, 175 200, 250, 300, 350, 400	146.5	106.5	25	22	18	91.5	19	15.5	14.5	202	M12	45.5	38	7.5	46	54
100		166	116	30	25	25	111.5	23	19	18	240	M14	55.5	45	10.5	56	62

[mm]

Bore size [mm]	MM	ML	NN	OA	OB	PA	PB	PW	Q	R	S	T	U	VA	VB	WA			
																50st or less	Over 50st to 150st	Over 150st to 250st	Over 250st
80	M12 x 1.75	25	M12	10.6	17.5	64.5	25.5	74	52	174	75	198	156	180	140	52	128	200	300
100	M14 x 2.0	31	M14	12.5	20	67.5	32.5	89	64	210	90	236	188	210	166	72	148	220	320

[mm]

Bore size [mm]	WB				X	YY	YL	Z
	50st or less	Over 50st to 150st	Over 150st to 250st	Over 250st				
80	54	92	128	178	100	M12	24	28
100	47	85	121	171	124	M14	28	11

End lock mechanism dimensions [mm]

Bore size [mm]	DL	DM	HR	HN
80	45.5	40.5	24	38.5
100	49	43.5	26.5	41

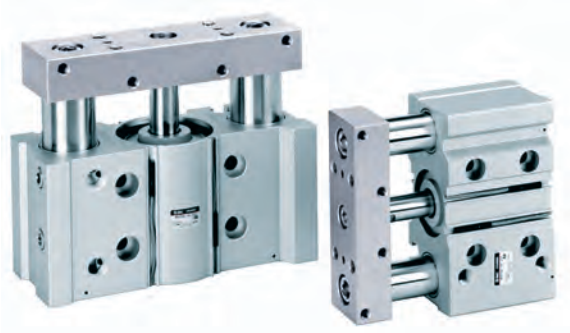
MGPM (slide bearing)/Dimensions/A, DB, E [mm]

Bore size [mm]	A		DB	E	
	150st or less	Over 150st		150st or less	Over 150st
80	146.5	193	30	0	46.5
100	166	203	36	0	37

MGPL (ball bushing)/Dimensions A, DB, E [mm]

Bore size [mm]	A		DB	E	
	150st or less	Over 150st		150st or less	Over 150st
80	160	193	25	13.5	46.5
100	180	203	30	14	37

Compact Guide Cylinder
Heavy Duty Guide Rod Type
Series MGPS
ø50, ø80



Features

- Heavy duty guide rod type with improved load resistance.
- Large diameter guide rods.
- Lateral load resistance: 10% increase
  - Eccentric load resistance: 25% increase
  - Impact load resistance: 140% increase
  (Compared with MGPM50 compact guide cylinder)

How to Order

MGP S 50 TF – 50

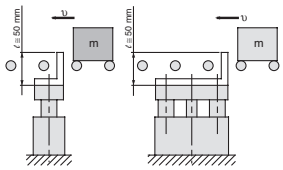
- S: Heavy duty guide rod type
- 50: Bore size

50	50 mm
80	80 mm

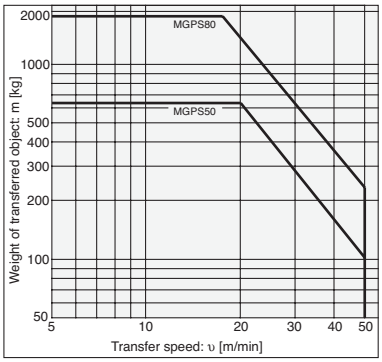
- 50: Cylinder stroke [mm]

Bore size [mm]	Standard stroke [mm]
50, 80	25, 50, 75, 100, 125, 150, 175, 200

Operating Range when Used as Stopper



* When selecting a model with a longer ℓ dimension, be sure to choose a bore size which is sufficiently large.



⚠Caution on handling
Note) When using as a stopper, select a model with 50 stroke or less.

Product Recommendation

Stocked items for fast delivery

MGPS50TF-25 | MGPS50TF-50 | MGPS50TF-75 | MGPS50TF-125 | MGPS80TF-25 | MGPS80TF-50

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

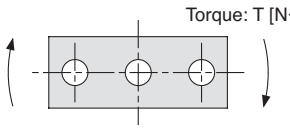
Related Products

Series D-7K/D-RK - Trimmer Auto Switch - page 1032
Series ASR/ASQ - Air Saving Valves - www.smc.es
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Technical Specifications

Action	Double acting
Fluid	Air
Proof pressure	1.5 MPa
Maximum operating pressure	1.0 MPa
Minimum operating pressure	0.1 MPa
Ambient and fluid temperature	–10 to 60°C (No freezing)
Piston speed	50 to 400 mm/s
Cushion	Rubber bumper on both ends
Lubrication	Non-lube
Stroke length tolerance	$^{+1.5}_{0}$ mm

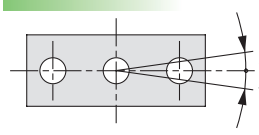
Allowable Rotational Torque of Plate



T [N·m]

Bore size [mm]	Model	Standard stroke [mm]							
		25	50	75	100	125	150	175	200
50	MGPS50	15	12	16	15	13	12	11	9.8
80	MGPS80	49	41	51	45	41	38	35	32

Non-rotating Accuracy of Plate



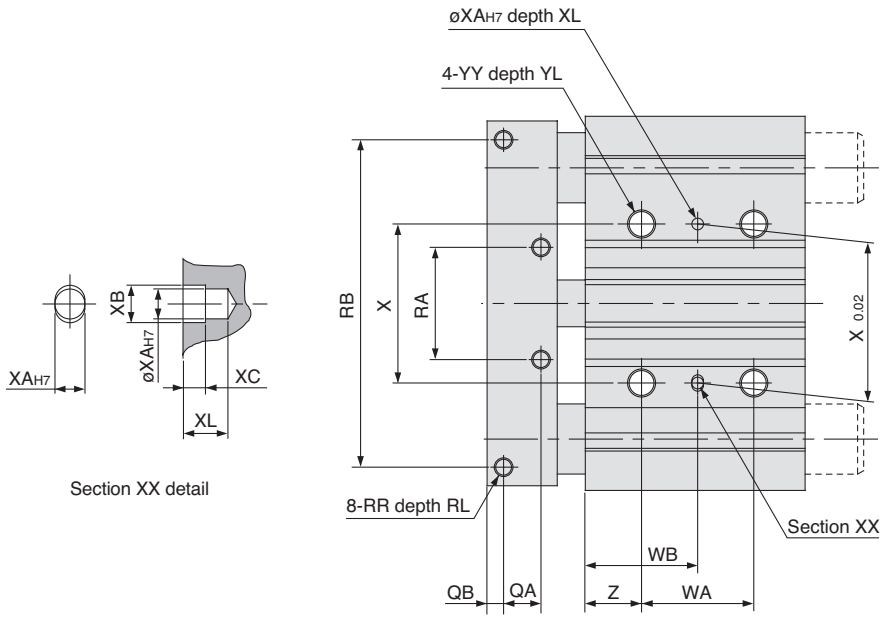
For non-rotating accuracy θ without load, use a value no more than the values in the table as a guide.

Bore size [mm]	Model	Non-rotating accuracy θ
50	MGPS50	±0.05°
80	MGPS80	±0.04°

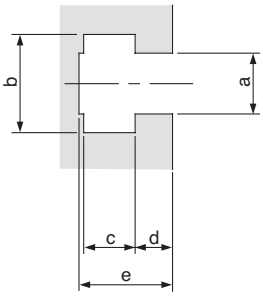
For more product options and details see our specific catalogues or on-line information.

Actuators

Dimensions MGPS50/80

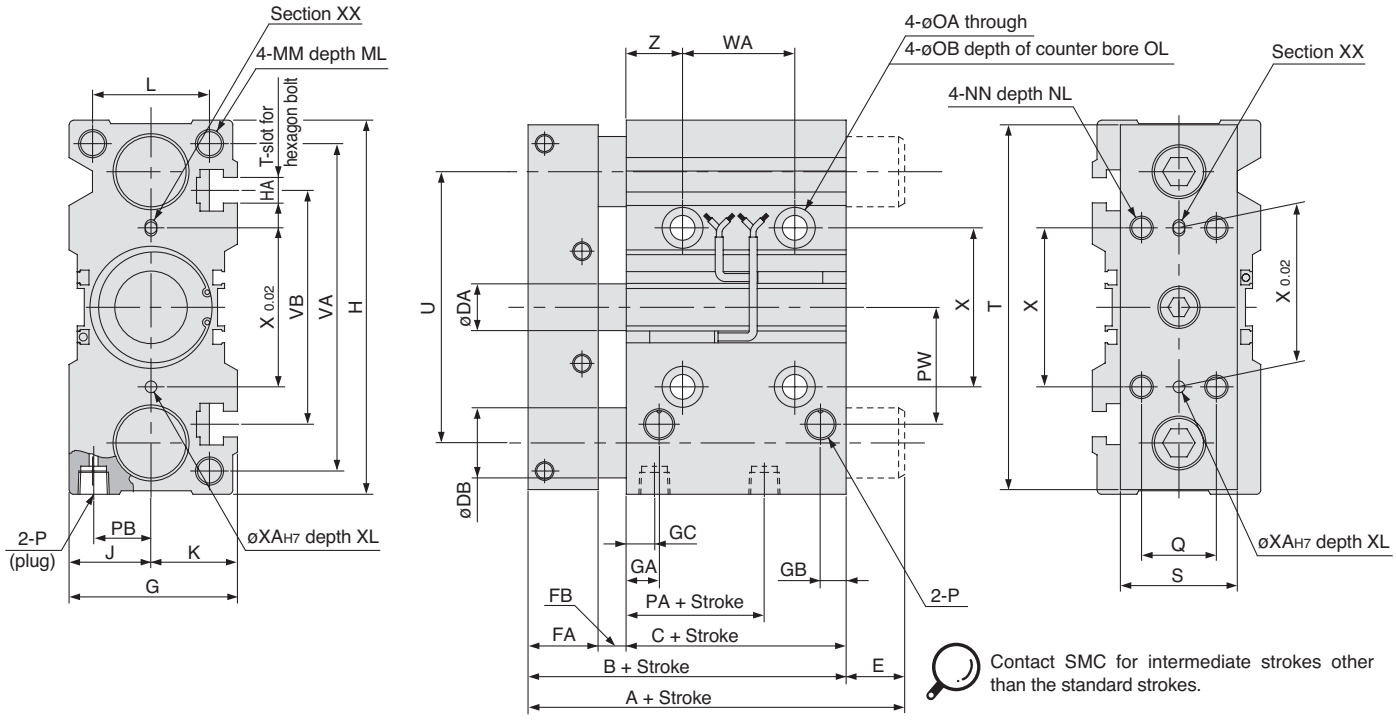


T-slot dimensions



[mm]

Bore size [mm]	T-slot dimensions				
	a	b	c	d	e
50	11	17.8	10	6	17.5
80	13.3	20.3	12	8	22.5



Contact SMC for intermediate strokes other than the standard strokes.

Dimensions

[mm]

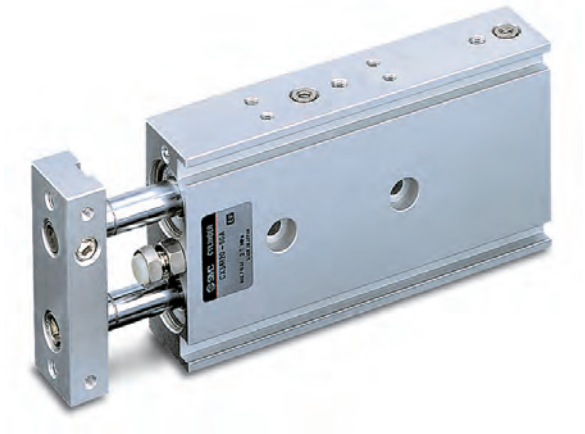
Bore size [mm]	Standard stroke [mm]	A		B	C	DA	DB	E		FA	FB	G	GA	GB	GC	H	HA	J	K	L
		25, 50st	Over 50st					25, 50st	Over 50st											
50	25, 50, 75, 100, 125, 150, 175, 200	86	110	86	44	20	30	0	24	30	12	72	14	11	12	160	M10	35	37	50
80		118	151	118	65	25	45	0	33	35	18	95	19	24	14.5	242	M12	47	48	66

Bore size [mm]	Standard stroke [mm]	MM	ML	NN	NL	OA	OB	OL	P	PA	PB	PW	Q	QA	QB	RA	RB	RR	RL
50	25, 50, 75, 100, 125, 150 ,175, 200	M12	20	M10	20	10.6	17.5	13	G1/4	9	24.5	50	32	16	7	48	140	M8	14
80		M16	32	M12	24	12.5	20	17.5	G3/8	14.5	29	77	40	18	9	80	200	M10	20

Bore size [mm]	Standard stroke [mm]	S	T	U	VA	VB	WA			WB			X	XA	XB	XC	XL
							25st	50, 75, 100st	Over 100st	25st	50, 75, 100st	Over 100st					
50	25, 50, 75, 100, 125, 150, 175, 200	50	156	116	140	100	24	48	124	36	48	86	68	5	6	4	8
80		65	228	170	214	138	28	52	128	42	54	92	100	6	7	5	10

Bore size [mm]	Standard stroke [mm]	YY	YL	Z
50	25, 50, 75, 100, 125, 150, 175, 200	M12 x 1.75	24	24
80		M14 x 2	28	28

Dual Rod Cylinder
Compact Type
Series CXSJ
ø6, ø10, ø15, ø20, ø25, ø32



Features

- Dual-Rod Cylinder with guide function for pick-and-place applications.
- Non-rotating accuracy: ±0.1°
- Adjustable stroke range: 0 to –5 mm.
- 3-side work piece mounting is a reality.

How to Order

Thread type

—	M thread	ø6 to ø25
TF	G 1/8	ø32

CXS J M 6 □ – 50

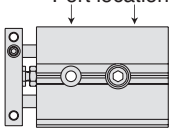
Compact type

Bearing type

M	Slide bearing
L	Ball bushing bearing

Standard piping

Port location



Bore size/Stroke [mm]

Bore size [mm]	Standard stroke
6	10, 20, 30, 40, 50
10	10, 20, 30, 40, 50, 75
15	10, 20, 30, 40, 50, 75, 100
20	
25	
32	

Product Recomendation

Stocked items for fast delivery

CXSJM6-10	CXSJM10-10	CXSJM10-75	CXSJM15-75	CXSJM20-75	CXSJL10-30
CXSJM6-20	CXSJM10-20	CXSJM15-10	CXSJM15-100	CXSJL6-10	
CXSJM6-30	CXSJM10-30	CXSJM15-20	CXSJM20-10	CXSJL6-20	
CXSJM6-40	CXSJM10-40	CXSJM15-30	CXSJM20-30	CXSJL10-10	
CXSJM6-50	CXSJM10-50	CXSJM15-50	CXSJM20-50	CXSJL10-20	

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series IDK - Moisture Control Tube - page 1149
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Technical Specifications

Bore size [mm]	6	10	15	20	25	32
Fluid	Air (Non-lube)					
Proof pressure	1.05 MPa					
Max. operating pressure	0.7 MPa					
Min. operating pressure	0.15 MPa	0.1 MPa		0.05 MPa		
Ambient and fluid temperature	–10 to 60°C (With no freezing)					
Piston speed	30 to 800 mm/s		30 to 700 mm/s		30 to 600 mm/s	
Cushion	Rubber bumper on both ends					
Stroke adjustable range	0 to –5 mm compared to the standard stroke					
Port size	M3	M5				G 1/8
Allowable kinetic energy	0.016 J	0.064 J	0.095 J	0.17 J	0.27 J	0.32 J

* The maximum piston speed shown in the table above is for extension.
The maximum piston speed for retraction is approximately 70% that of extension.

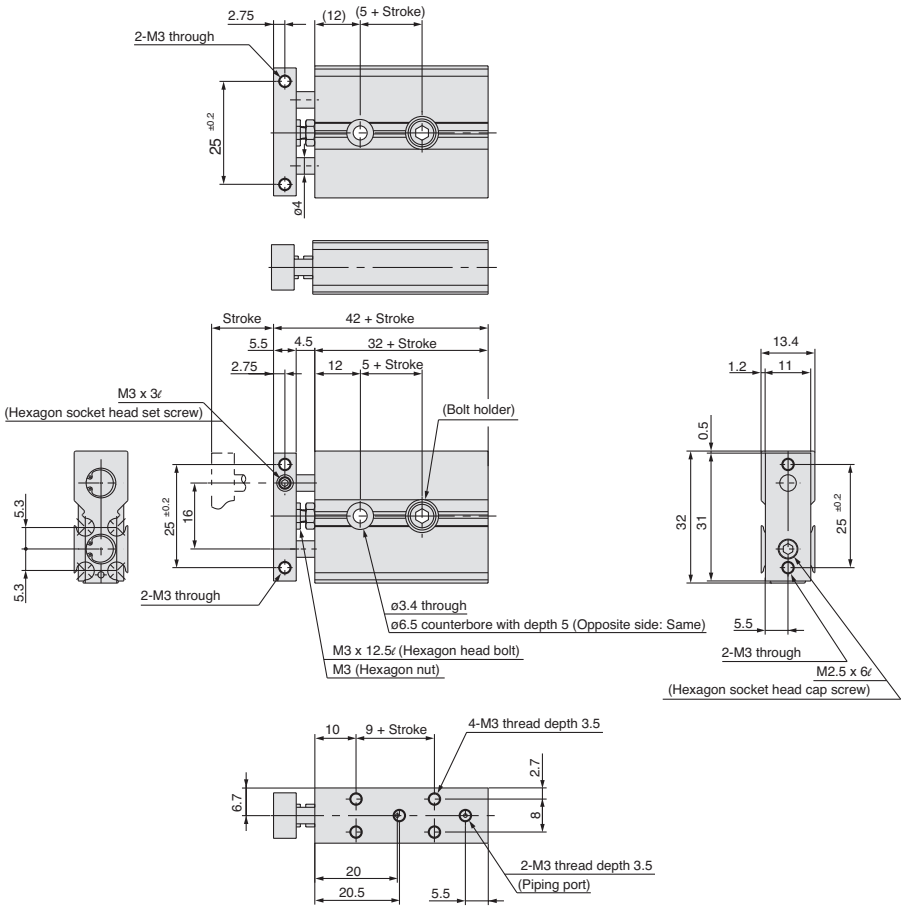
Replacement Parts: Seal Kit

Model	Seal kit no.
CXSJM6	CXSJM6-PS
CXSJM10	CXSJM10-PS
CXSJM15	CXSM15-PS
CXSJM20	CXSM20-PS
CXSJM25	CXSM25-PS
CXSJM32	CXSM32-PS
CXSJL6	CXSJL6-PS
CXSJL10	CXSJL10-PS
CXSJL15	CXSL15APS
CXSJL20	CXSL20APS
CXSJL25	CXSL25APS
CXSJL32	CXSL32APS

For more product options and details see our specific catalogues or on-line information.

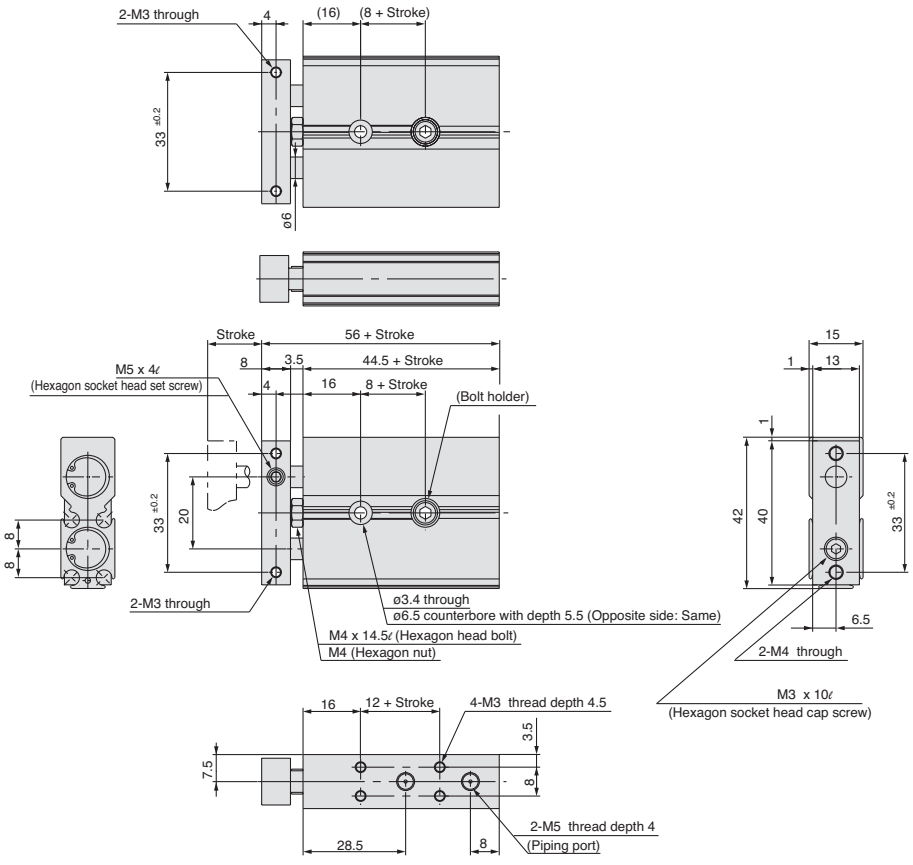
Dimensions

ø6 Standard Piping



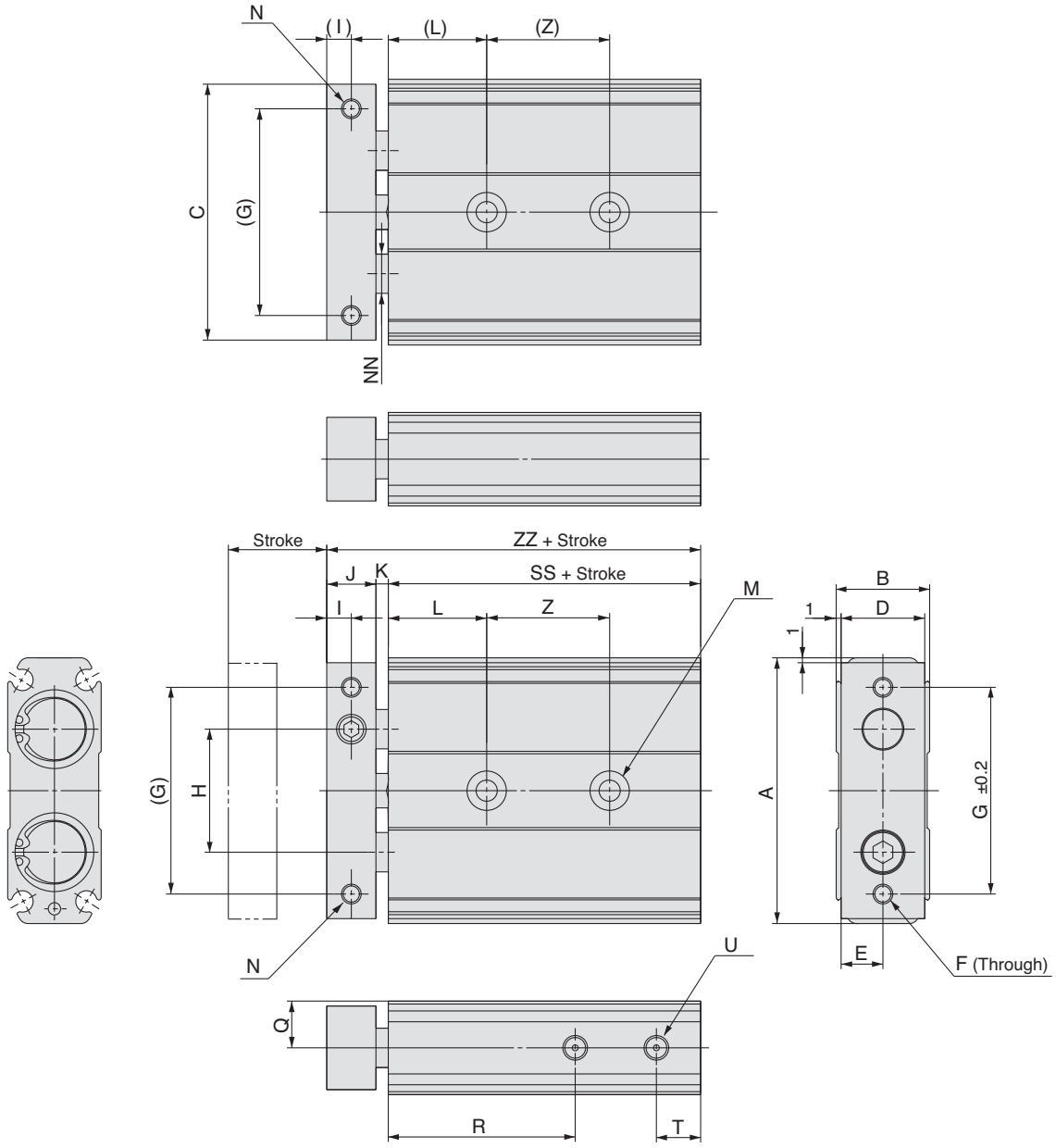
Dimensions

ø10 Standard Piping



Dimensions

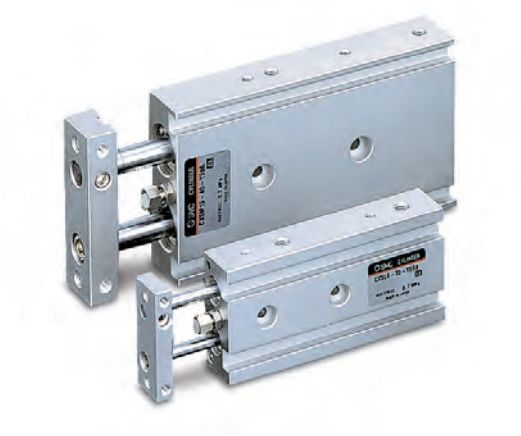
ø15 to 32 Standard Piping



Bore size [mm]	A	B	ZZ	C	D	E	F	G	H	I	J	K	L	M	N	NN	Q	R	T	U	SS
15	54	19	70	52	17	8.5	2-M5	42	25	5	10	2.5	20	2 x 2-ø4.3 through 2 x 2-ø8 counterbore with depth 4.3	2-M4 with depth 6	ø8	9.5	38	9	2- M5 thread depth 4	57.5
20	62	24	84	60	22	11	2-M5	50	29	6	12	4.5	25	2 x 2-ø5.5 through 2 x 2-ø9.5 counterbore with depth 5.3	2-M4 with depth 6	ø10	12	45	9	2- M5 thread depth 4	67.5
25	73	29	87	71	27	13.5	2-M6	60	35	6	12	4.5	30	2 x 2-ø6.5 through 2 x 2-ø11 counterbore with depth 6.3	2-M5 with depth 7.5	ø12	14.5	46	9	2- M5 thread depth 4	70.5
32	94	37	100.5	92	35	17.5	2-M6	75	45	8	16	4	30	2 x 2-ø6.5 through 2 x 2-ø11 counterbore with depth 6.3	2-M5 with depth 7.5	ø16	18.5	56	10	2- G1/8 thread depth 5	80.5

Symbol / Stroke / Bore size [mm]	Z			
	10, 20	30, 40, 50	75	100
15	25	35	45	55
20	30	40	60	60
25	30	40	60	60
32	40	50	70	70

Dual Rod Cylinder
Basic Type
Series CXS
ø6, ø10, ø15, ø20, ø25, ø32



Features

- Dual-Rod Cylinder with guide function for pick-and-place applications.
- Non-rotating accuracy: 0.1.
- Adjustable stroke range: 0 to –5mm.
- 3-side work piece mounting is a reality.

How to Order

Port thread type

Symbol	Type	Bore Size
–	M Thread	ø6 to ø20
E	G1/8	ø25, ø32

Made to order

–	Standard
XB11	Long stroke type

E CXS M 25 – 100 – □

Bearing type

M	Slide bearing
L	Ball bushing bearing

Bore size/Stroke [mm]

Bore size [mm]	Standard stroke
6	10, 20, 30, 40, 50
10	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75
15, 20 25, 32	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100

Product Recommendation

Stocked items for fast delivery

Part Number	Stroke (□)	Part Number	Stroke (□)
CXSL6-□	10, 20, 30, 40, 50	CXSM10-□-XB11	80, 90, 100, 110, 120, 125, 150
CXSL10-□	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75	CXSM15-□	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100
CXSL10-□-XB11	80, 90, 100, 110, 120, 125, 150	CXSM15-□-XB11	110, 120, 125, 150
CXSL15-□	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100	CXSM20-□	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100
CXSL15-□-XB11	110, 120, 125, 150	CXSM20-□-XB11	110, 120, 125, 150, 175, 200
CXSL20-□	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100	ECXSL25-□	10, 15, 20, 30, 40, 50, 75, 100
CXSL20-□-XB11	110, 120, 125, 150, 175, 200	ECXSL32-□	10, 20, 30, 40, 100
CXSM6-□	10, 20, 30, 40, 50	ECXSM25-□	10, 15, 20, 30, 40, 50, 60, 75, 90, 100
CXSM10-□	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75	ECXSM32-□	10, 15, 20, 25, 30, 40, 50, 75, 80, 100

Technical Specifications

Bore size [mm]	6	10	15	20	25	32
Fluid	Air (Non-lube)					
Proof pressure	1.05 MPa					
Maximum operating pressure	0.7 MPa					
Minimum operating pressure	0.15 MPa	0.1 MPa		0.05 MPa		
Ambient and fluid temperature	–10 to 60°C (No freezing)					
Piston speed	30 to 300 mm/s	30 to 800 mm/s	30 to 700 mm/s		30 to 600 mm/s	
Cushion	Rubber bumper					
Stroke adjustable range	0 to -5 mm compared to the standard stroke					
Port size	M5				G1/8	
Bearing type	Slide bearing, Ball bushing bearing (Same dimensions for both)					
Allowable kinetic energy	0.0023 J	0.064 J	0.095 J	0.17 J	0.27 J	0.32 J

∗ The maximum piston speed shown in the table above is for extension.
The maximum piston speed for retraction is approximately 70% that of extension.

Auto Switches

- D-Y7PWL (PNP 2-colour indication)
- D-Y7NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series IDK - Moisture Control Tube - page 1149
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Replacement parts: Seal Kits

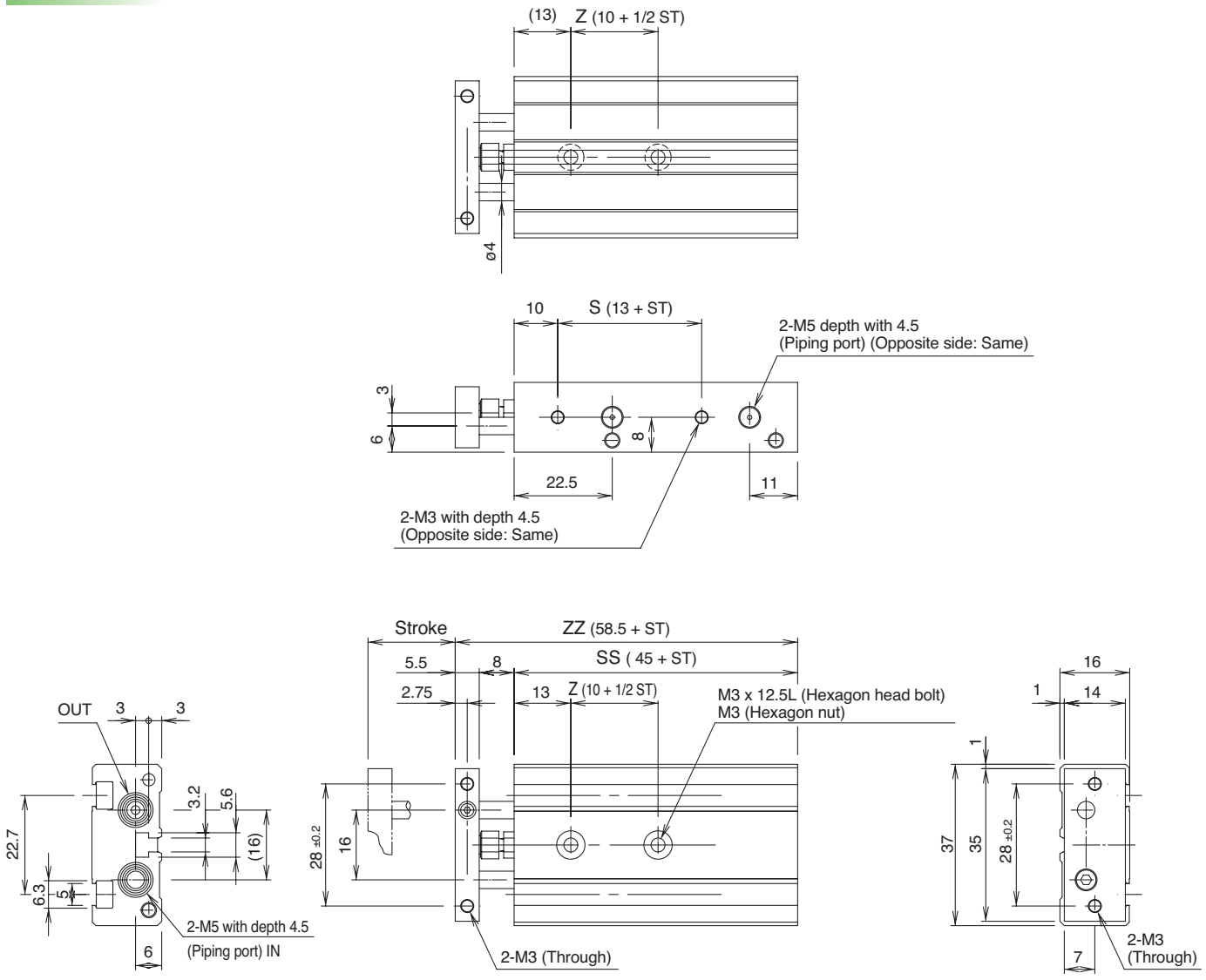
Bore size [mm]	Seal kit no.
6	CXSM6-PS
10	CXSM10APS
15	CXSM15-PS
20	CXSM20-PS
25	CXSM25-PS
32	CXSM32-PS

* Seal kits consist of items 19 through 21, and can be ordered by using the seal kit number corresponding to each bore size.

Bore size [mm]	Seal kit no.
6	CXSL6–PS
10	CXSL10 B PS
15	CXSL15 A PS
20	CXSL20 A PS
25	CXSL25 A PS
32	CXSL32 A PS

* Seal kits consist of items 22 through 24, and can be ordered by using the seal kit number corresponding to each bore size.

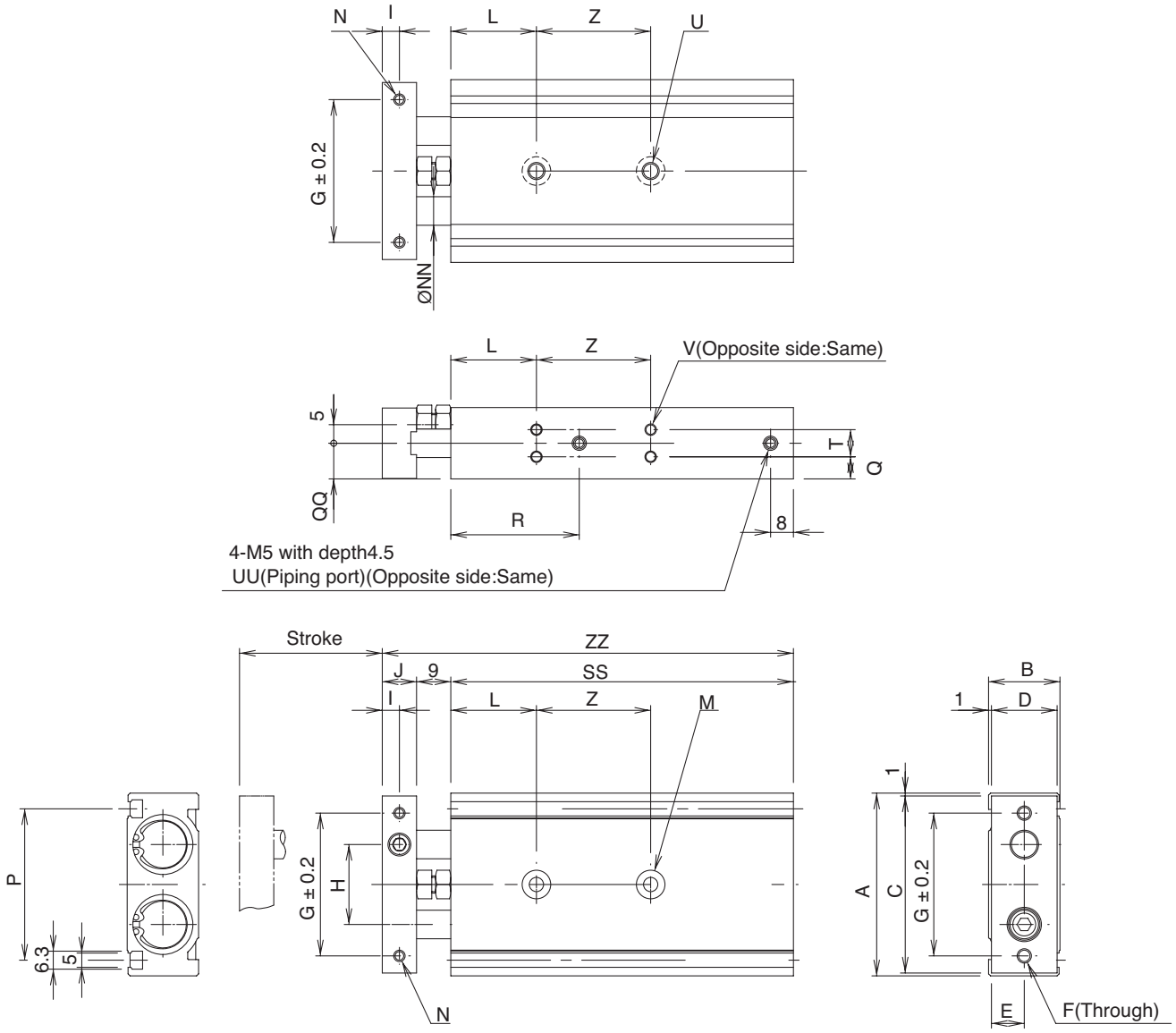
Dimensions ø6



[mm]

Model	Stroke	Z	S	SS	ZZ
CXS□6-10	10	15	23	55	68.5
CXS□6-20	20	20	33	65	78.5
CXS□6-30	30	25	43	75	88.5
CXS□6-40	40	30	53	85	98.5
CXS□6-50	50	35	63	95	108.5

Dimensions ø10, ø15



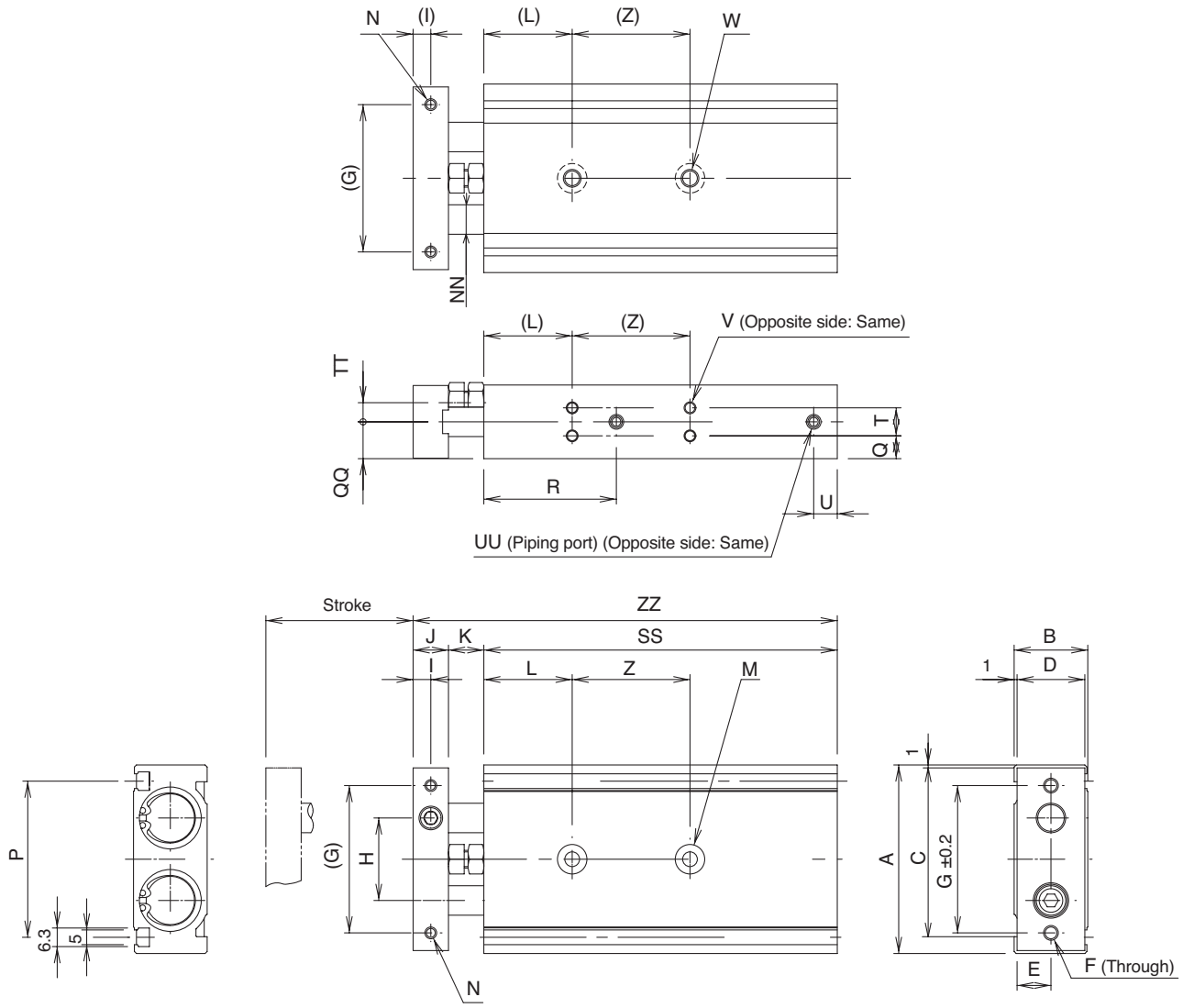
[mm]

Model	A	B	C	D	E	F	G	H	I	J	L	M	N	NN	P	Q	QQ	R	U	V
CXS□10	46	17	44	15	7.5	2-M4	35	20	4	8	20	2-ø3.4 through 2-ø6.5 counterbore with depth 3.3	2-M3 with depth 5	ø6	33.6	8.5	7	30	2-M4 with depth 7	4-M3 with depth 4.5
CXS□15	58	20	56	18	9	2-M5	45	25	5	10	30	2-ø4.3 through 2-ø8 counterbore with depth 4.4	2-M4 with depth 6	ø8	48	10	10	38.5	2-M5 with depth 8	4-M4 with depth 5

Strokes

Model \ Symbol / Stroke	SS															Z					ZZ																			
	10	15	20	25	30	35	40	45	50	60	70	75	80	90	100	10, 15 20, 25	30, 35, 40, 45, 50	60, 70, 75	80	90, 100	10	15	20	25	30	35	40	45	50	60	70	75	80	90	100					
CXS□10	65	70	75	80	85	90	95	100	105	115	125	130	–	–	–	30	40	50	–	–	82	87	92	97	102	107	112	117	122	132	142	147	–	–	–					
CXS□15	70	75	80	85	90	95	100	105	110	120	130	135	140	150	160	25	35	45	45	55	89	94	99	104	109	114	119	124	129	139	149	154	159	169	179					

Dimensions ø20, ø25, ø32



[mm]

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	NN	P
CXS□20	64	25	62	23	11.5	2-M5	50	28	6	12	12	30	2-ø5.5 through 2-ø9.5 counterbore with depth 5.3	2-M4 with depth 6	ø10	53
CXS□25	80	30	78	28	14	2-M6	60	35	6	12	12	30	2-ø6.9 through 2-ø11 counterbore with depth 6.3	2-M5 with depth 7.5	ø12	64
CXS□32	98	38	96	36	18	2-M6	75	44	8	16	14	30	2-ø6.9 through 2-ø11 counterbore with depth 6.3	2-M5 with depth 8	ø16	76

Model	Q	QQ	R	T	TT	U	UU	V	W
CXS□20	7.75	12.5	45	9.5	6.5	8	4-M5 with depth 4.5	8-M4 with depth 5.5	2-M6 with depth 10
CXS□25	8.5	15	46	13	9	9	4- G1/8 with depth 6.5	8-M5 with depth 7.5	2-M8 with depth 12
CXS□32	9	19	56	20	11.5	10	4- G1/8 with depth 6.5	8-M5 with depth 7.5	2-M8 with depth 12

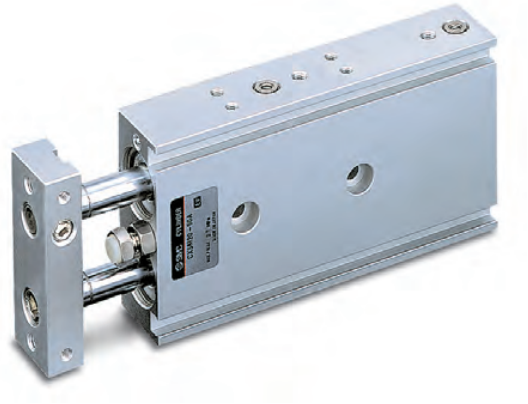
Strokes

Symbol / Stroke / Model	SS															Z			ZZ														
	10	15	20	25	30	35	40	45	50	60	70	75	80	90	100	10, 15, 20, 25	30, 35, 40, 45, 50	60, 70, 75, 80, 90, 100	10	15	20	25	30	35	40	45	50	60	70	75	80	90	100
CXS□20	80	85	90	95	100	105	110	115	120	130	140	145	150	160	170	30	40	60	104	109	114	119	124	129	134	139	144	154	164	169	174	184	194
CXS□25	82	87	92	97	102	107	112	117	122	132	142	147	152	162	172	30	40	60	106	111	116	121	126	131	136	141	146	156	166	171	176	186	196
CXS□32	92	97	102	107	112	117	122	127	132	142	152	157	162	172	182	40	50	70	122	127	132	137	142	147	152	157	162	172	182	187	192	202	212

For more product options and details see our specific catalogues or on-line information.

Dual Rod Cylinder With Air Cushion Series CXS

ø20, ø25, ø32



Features

- Dual-Rod Cylinder with guide function for pick-and-place applications.
- Air cushion only minimally adds to overall length, compared with the standard type cylinder.
- Improved allowable kinetic energy: Two to three times that of the standard type.
- Improved noise reduction: Reduction of more than 6dB is possible.

How to Order

Thread type

Symbol	Type	Bore size [mm]
—	M	ø20
TF	G	ø25, ø32

CXS **M** **25** **TF** – **100** **A**

Bearing type

M	Slide bearing

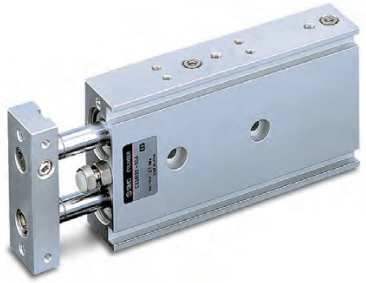
Air cushion

Bore size/Stroke [mm]

Bore size [mm]	Stroke
20	20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100
25, 32	25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100

Also available

With ball bush bearings.



Please contact SMC for details

Product Recommendation

Stocked items for fast delivery

CXSM20-25A	CXSM20-75A	CXSM25TF-25A	CXSM25TF-100A	CXSM25TF-50A
CXSM20-50A	CXSM20-100A	CXSM25TF-50A	CXSM32TF-25A	CXSM32TF-100A

Auto Switches

- D-Y7PWL (PNP 2-colour indication)
- D-Y7NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series IDK - Moisture Control Tube - page 1149
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Technical Specifications

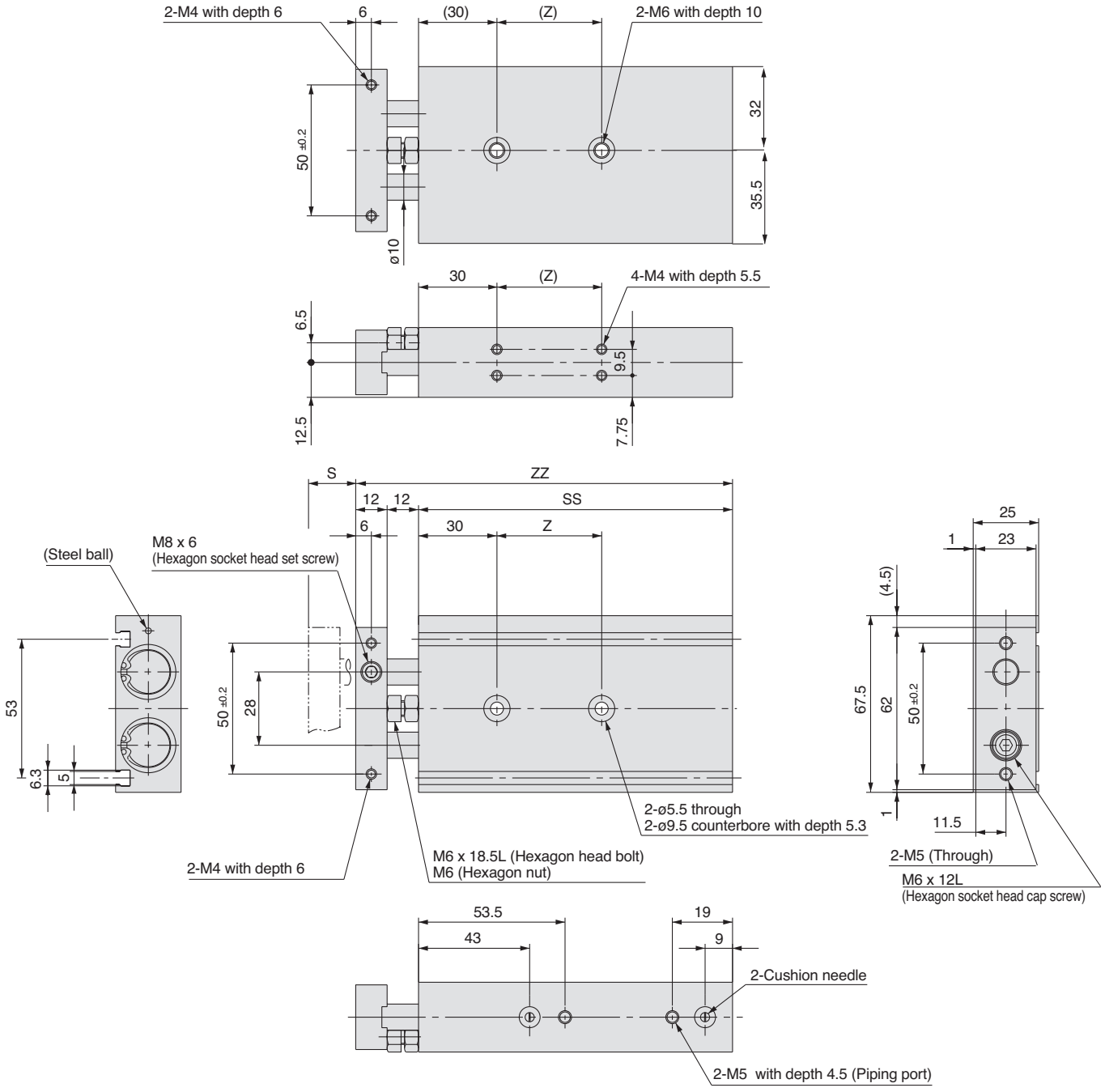
Bore size [mm]	20	25	32
Fluid	Air (Non-lube)		
Proof pressure	1.05 MPa		
Maximum operating pressure	0.7 MPa		
Minimum operating pressure	0.1 MPa		
Ambient and fluid temperature	–10 to 60°C (No freezing)		
Piston speed Note)	50 to 1000 mm/s		
Port size	M5	G1/8	
Bearing type	Slide bearing, Ball bushing bearing (Same dimensions for both)		
Cushion	Air cushion (Both ends)		

Note) The maximum piston speed shown in the table above is for extension.
The maximum piston speed for retraction is approximately 70% that of extension.

Replacement parts: Seal kits

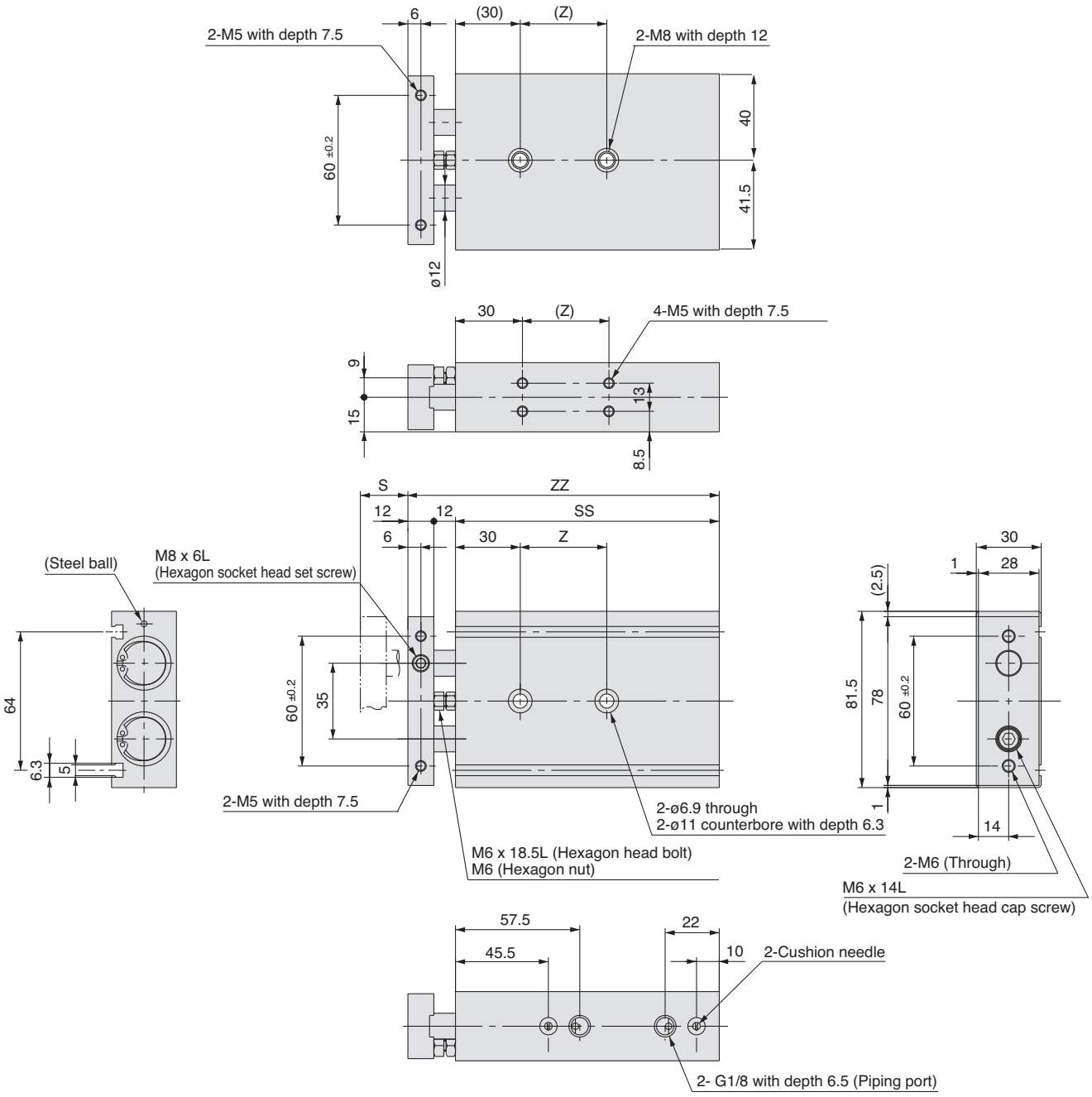
Bore size [mm]	Seal kit no.
20	CXSM20A-PS
25	CXSM25A-PS
32	CXSM32A-PS

Dimensions ø20



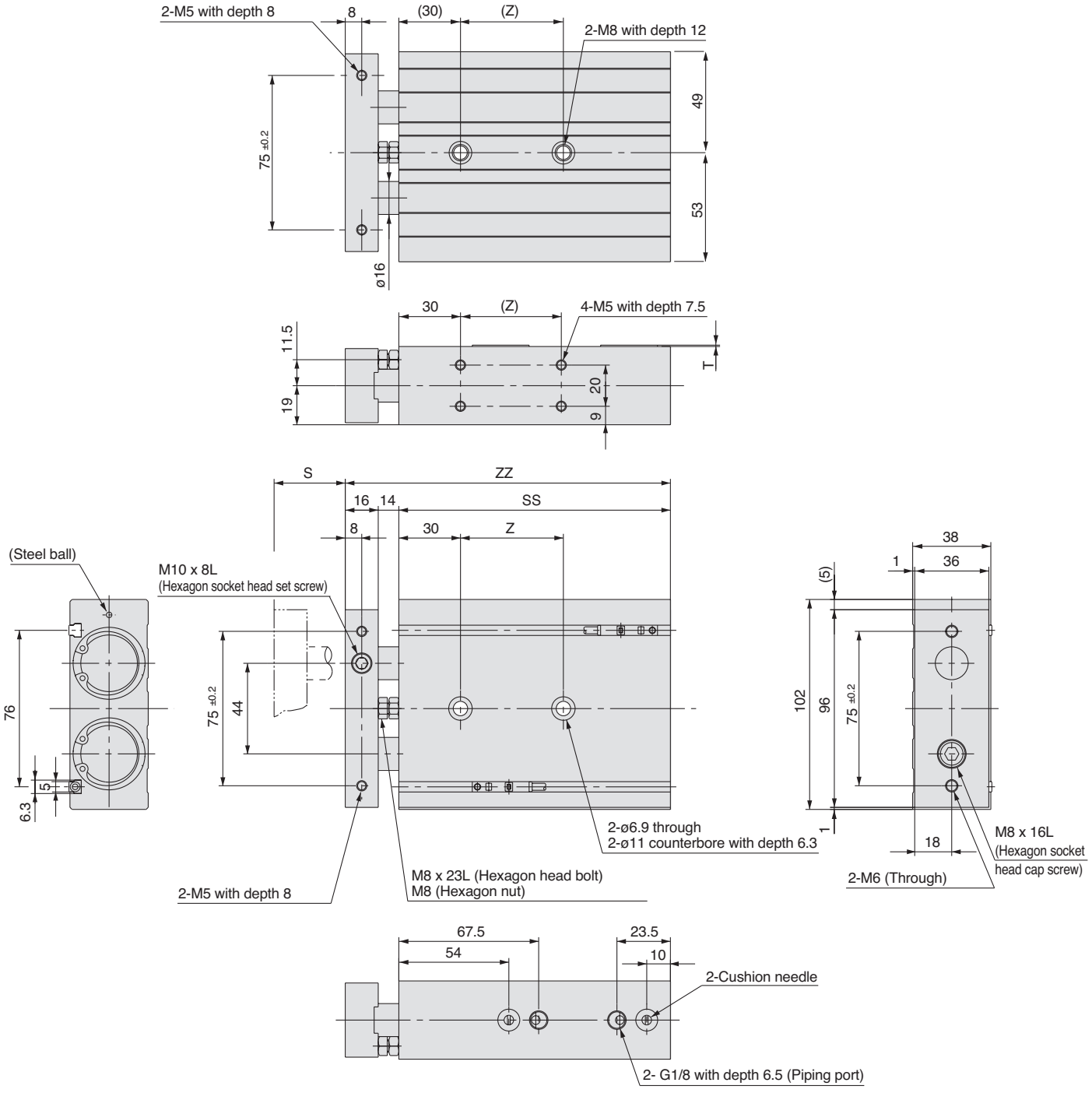
Part no.	S	SS	ZZ	Z
CXSM20- 20A	20	92	116	30
CXSM20- 25A	25	97	121	
CXSM20- 30A	30	102	126	40
CXSM20- 35A	35	107	131	
CXSM20- 40A	40	112	136	
CXSM20- 45A	45	117	141	
CXSM20- 50A	50	122	146	
CXSM20- 60A	60	132	156	60
CXSM20- 70A	70	142	166	
CXSM20- 75A	75	147	171	
CXSM20- 80A	80	152	176	
CXSM20- 90A	90	162	186	
CXSM20-100A	100	172	196	

Dimensions ø25



Part no.	S	SS	ZZ	Z
CXSM25- 25A	25	100	124	30
CXSM25- 30A	30	105	129	40
CXSM25- 35A	35	110	134	
CXSM25- 40A	40	115	139	
CXSM25- 45A	45	120	144	
CXSM25- 50A	50	125	149	
CXSM25- 60A	60	135	159	60
CXSM25- 70A	70	145	169	
CXSM25- 75A	75	150	174	
CXSM25- 80A	80	155	179	
CXSM25- 90A	90	165	189	
CXSM25-100A	100	175	199	

Dimensions: ø32



Part no.	S	SS	ZZ	Z
CXSM32- 25A	25	112	142	40
CXSM32- 30A	30	117	147	50
CXSM32- 35A	35	122	152	
CXSM32- 40A	40	127	157	
CXSM32- 45A	45	132	162	
CXSM32- 50A	50	137	167	
CXSM32- 60A	60	147	177	70
CXSM32- 70A	70	157	187	
CXSM32- 75A	75	162	192	
CXSM32- 80A	80	167	197	
CXSM32- 90A	90	177	207	
CXSM32-100A	100	187	217	

Dual Rod Cylinder
With End Lock. For Retraction Side
Series CXS
ø6, ø10, ø15, ø20, ø25, ø32

Features

- Dual-Rod Cylinder with guide function for pick-and-place applications, with end lock.
- Non-rotating accuracy: 0.1
- 3-side work piece mounting is a reality.

How to Order

Thread type

—	M thread	ø6 to ø20
TF	G 1/8	ø25, ø32

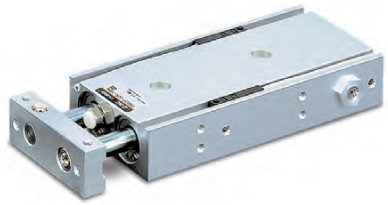
CXS **M** **25** **TF** — **50** **R**

- Bearing type: **M** Slide bearing
- With end lock for retraction side
- Bore size/Stroke [mm]:

Bore size [mm]	Stroke [mm]
6, 10, 15	10, 20, 30, 40, 50
20, 25, 32	10, 20, 30, 40, 50, 75, 100

Also available

With ball bush bearings.



Please contact SMC for details

Technical Specifications

Bore size [mm]	6	10	15	20	25	32
Fluid	Air (Non-lube)					
Proof pressure	1.05 MPa					
Maximum operating pressure	0.7 MPa					
Minimum operating pressure	0.3 MPa					
Ambient and fluid temperature	–10 to 60°C (No freezing)					
Piston speed Note)	30 to 300 mm/s	30 to 800 mm/s	30 to 700 mm/s		30 to 600 mm/s	
Cushion	Bumper is standard on both ends					
Port size	M5				G1/8	
Bearing type	Slide bearing, Ball bushing bearing (Same dimensions for both)					
Allowable kinetic energy	0.0023 J	0.064 J	0.095 J	0.17 J	0.27 J	0.32 J

Note) The maximum piston speed shown in the table above is for extension. The maximum piston speed for retraction is approximately 70% that of extension.

Lock Specifications

Lock specifications	Rear end lock					
Bore size [mm]	6	10	15	20	25	32
Maximum holding force [N]	14.7	39.2	98.1	157	235	382
Manual release	Non-lock type					

Product Recommendation

Auto Switches

- D-Y7PWL (PNP 2-colour indication)
- D-Y7NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

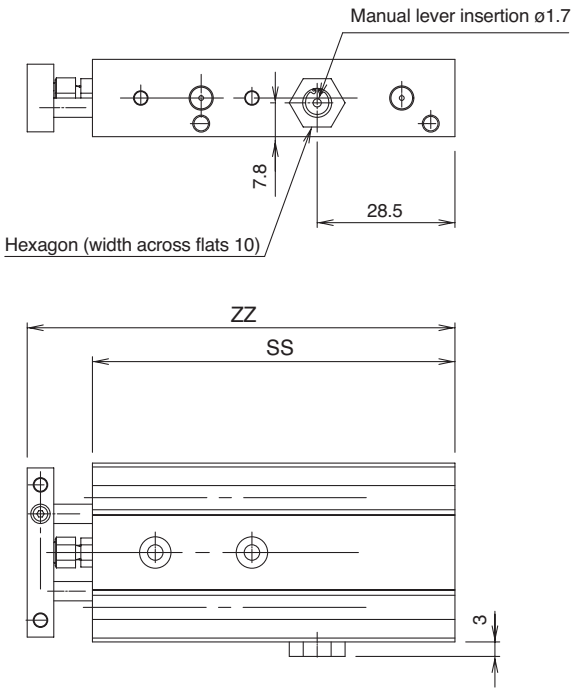
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series IDK - Moisture Control Tube - page 1149
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Replacement parts: Seal kits

Bore size [mm]	Seal kit no.
6	CXSRM6-PS
	CXSRL6APS
10	CXSRM10-PS
	CXSRL10APS
15	CXSRM15-PS
	CXSRL15APS
20	CXSRM20-PS
	CXSRL20APS
25	CXSRM25-PS
	CXSRL25APS
32	CXSRM32-PS
	CXSRL32APS

Dimensions ø6, ø10, ø15

CXSM6-□R

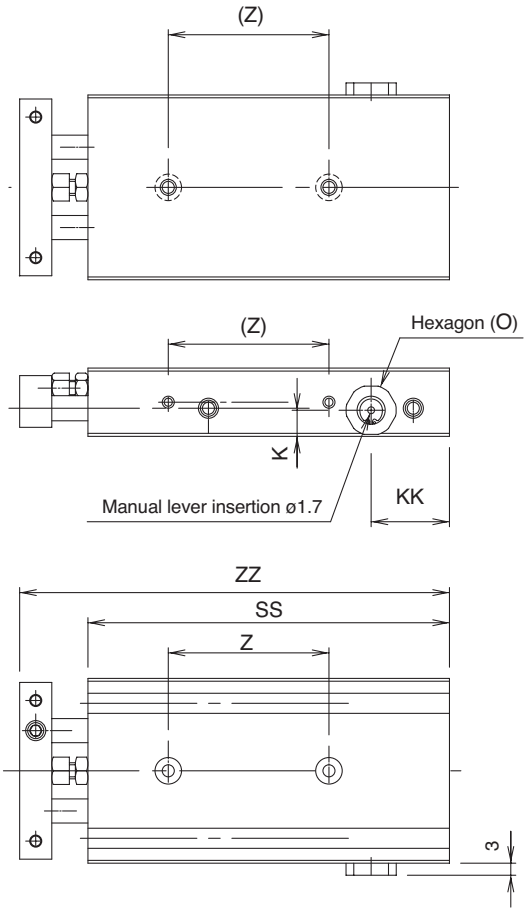


[mm]

Model	SS	ZZ
CXSM6-10R	75	88.5
CXSM6-20R	85	98.5
CXSM6-30R	95	108.5
CXSM6-40R	105	118.5
CXSM6-50R	115	128.5

∗ Dimensions other than those listed above are the same as for the standard type.

CXSM$^{10}_{15}$-□R



[mm]

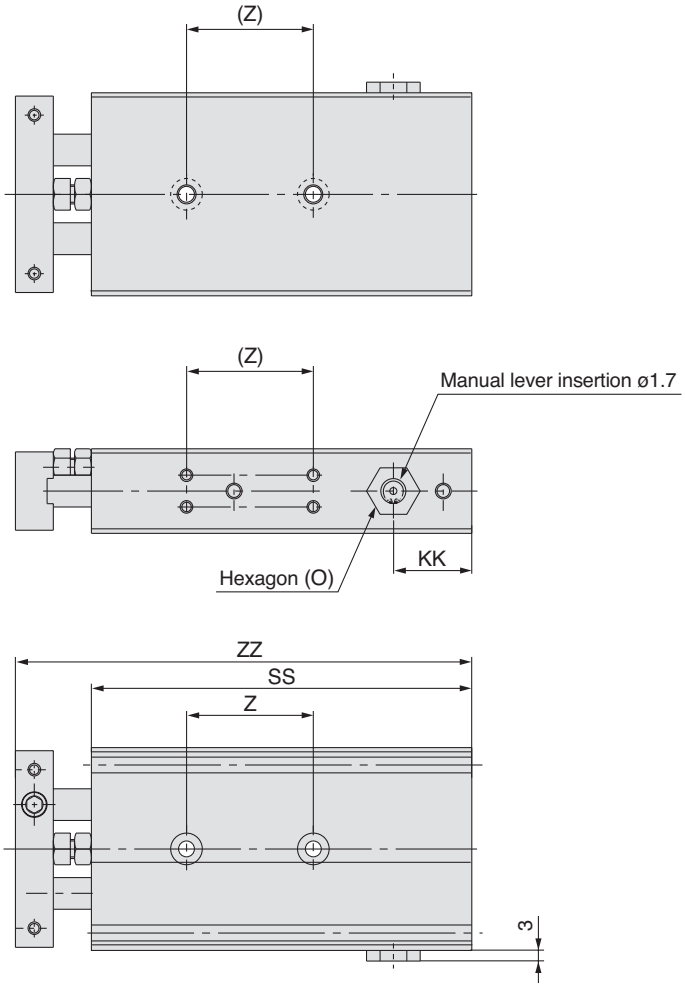
Model	K	O
CXSM10-□R	6.5	Width across flats 12
CXSM15-□R	8.5	Width across flats 13

[mm]

Model \ Symbol / Stroke	KK					SS					Z					ZZ				
	10	20	30	40	50	10	20	30	40	50	10	20	30	40	50	10	20	30	40	50
CXSM10-□R	19.5			24.5		80	90	100	115	125	30	40		50		97	107	117	132	142
CXSM15-□R	20.5					90	100	110	120	130	35			45		109	119	129	139	149

∗ Dimensions other than those listed above are the same as for the standard type.

Dimensions ø20, ø25, ø32



[mm]

Model	O
CXSM20-□R	Width across flats 13
CXSM25-□R	Width across flats 16
CXSM32-□R	Width across flats 19

[mm]

Symbol / Stroke / Model	KK							SS							Z							ZZ						
	10	20	30	40	50	75	100	10	20	30	40	50	75	100	10	20	30	40	50	75	100	10	20	30	40	50	75	100
CXSM20-□R	22					27	22	100	110	120	130	140	170	190	40			60			80	124	134	144	154	164	194	214
CXSM25-□R	24.5		29.5		24.5			107	117	132	142	147	172	197	40		60				80	131	141	156	166	171	196	221
CXSM32-□R	29					34	49	122	132	142	152	162	192	232	50		70			90		152	162	172	182	192	222	262

∗ Dimensions other than those listed above are the same as for the standard type.