

MCSS series

SLIDE CYLINDER



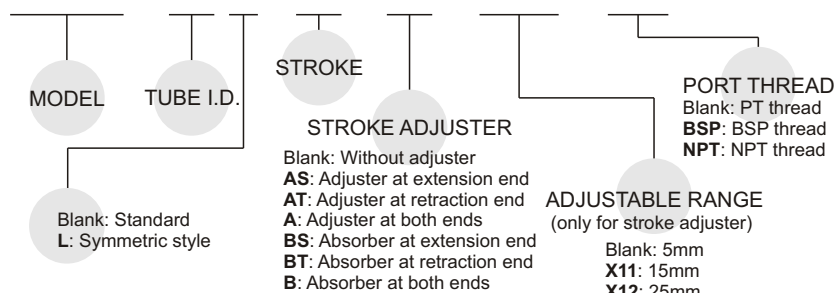
Table for standard stroke:

Tube I.D.	Stroke (mm)
φ 6	10, 20, 30, 40, 50
φ 8	10, 20, 30, 40, 50, 75
φ 12	10, 20, 30, 40, 50, 75, 100
φ 16	10, 20, 30, 40, 50, 75, 100, 125
φ 20, 25	10, 20, 30, 40, 50, 75, 100, 125, 150

※ Produce after received your orders.

Order example:

MCSS-20 L-50-AS-X12-BSP



*X12 (adjustable range: 25mm) is not available for MCSS-6.

*X11 and X12 are not available for shock absorber type.

*Shock absorber is not available on series MCSS-6.

*X11 and X12 adjusters cannot be ordered assembled with MCSS.

*Refer to the above figures for the dimensions.

Theoretical force:

Tube I.D. (mm)	Piston rod (mm)	Operating direction	Piston area (mm ²)	Operating pressure (MPa)						
				0.2	0.3	0.4	0.5	0.6	0.7	
6	3	OUT	57	11	17	23	29	34	40	
		IN	42	8	13	17	21	25	29	
8	4	OUT	101	20	30	40	51	61	71	
		IN	75	15	23	30	38	45	53	
12	6	OUT	226	45	68	90	113	136	158	
		IN	170	34	51	68	85	102	119	
16	8	OUT	402	80	121	161	201	241	281	
		IN	302	60	91	121	151	181	211	
20	10	OUT	628	126	188	251	314	377	400	
		IN	471	94	141	188	236	283	330	
25	12	OUT	982	196	295	393	491	589	687	
		IN	756	151	227	302	378	454	529	

(Unit: N)

Features:

- High precision combination of cylinder and linear rail.
- Flush fitting sensor groove.
- Magnetic as standard.

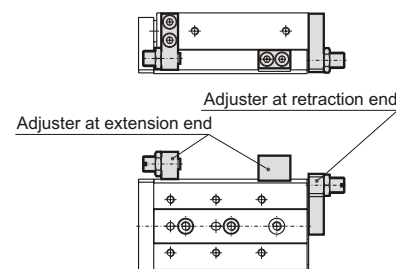
Specification:

Model	MCSS		
Acting type	Double acting		
Tube I.D. (mm)	6	8, 12, 16	20, 25
Port size	M3×0.5	M5×0.8	PT 1/8
Medium	Air		
Operating pressure range	1.5~7 kgf/cm ²		
Proof pressure	10 kgf/cm ²		
Ambient temperature	-5~+60°C (No freezing)		
Lubricator	Not required		
Cushion	Rubber bumper (Standard) Shock absorber (Option)		
Sensor switch	RCE, RCE1		

Stroke adjuster option:

Stroke adjuster

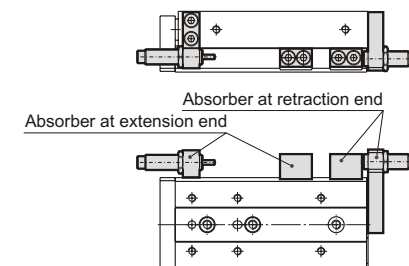
- Adjustable stroke range: 0~5mm
- AS: Adjuster at extension end
- AT: Adjuster at retraction end
- A: Adjuster at both ends



With shock absorber

- Enables adjustment of stroke.
- Absorbs the collision at stroke end and stops smoothly.

- BS: Absorber at extension end
- BT: Absorber at retraction end
- B: Absorber at both ends

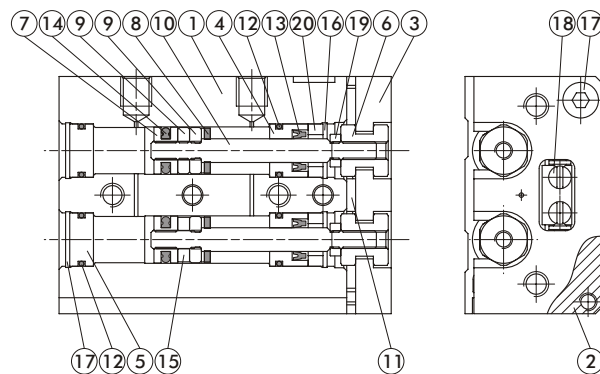


MCSS Inside structure & Parts list

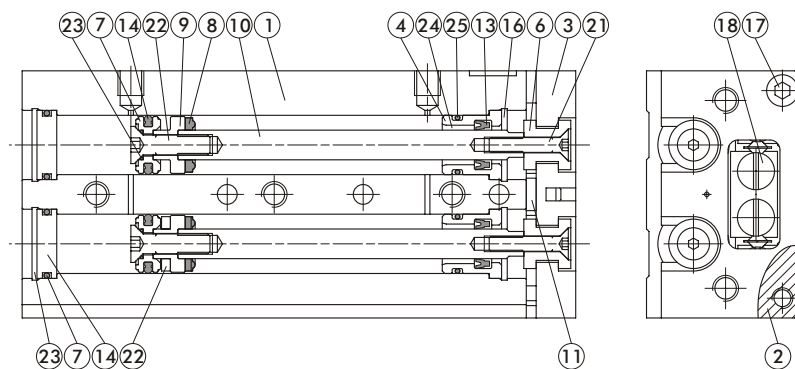
SLIDE CYLINDER



$\phi 6, \phi 8$



$\phi 12 \sim \phi 25$



Material

No.	Part name	Tube I.D.	6	8	12~25
1	Body		Aluminum alloy		
2	Table		Aluminum alloy		
3	Plate		Aluminum alloy		
4	Rod cover		Aluminum alloy		
5	Head cover		Aluminum alloy		
6	Floating connector		Stainless steel		
7	Piston		Stainless steel		※ 1
8	Cushion pad		NBR		
9	Spacer ring		※ 1	※ 2	※ 1
10	Piston rod		Stainless steel		
11	End cushion		PU		
12	Cover ring		NBR		
13	Rod packing		NBR		
14	Piston packing		NBR		
15	Magnet ring		Magnet material		
16	Snap ring		Spring steel	Stainless steel	
17	Bolt		Stainless steel		
18	Slide way		Bearing steel		

No.	Part name	Tube I.D.	6	8	12~25
19	Nut		Copper		
20	Rod cover washer		Stainless steel		
21	Floating connector bolt		Stainless steel		
22	Piston screw		—		※ 2
23	Piston gasket		—		NBR
24	Rod bush		Copper		
25	Cover ring		NBR		

※ 1: Aluminum alloy ※ 2: Stainless steel

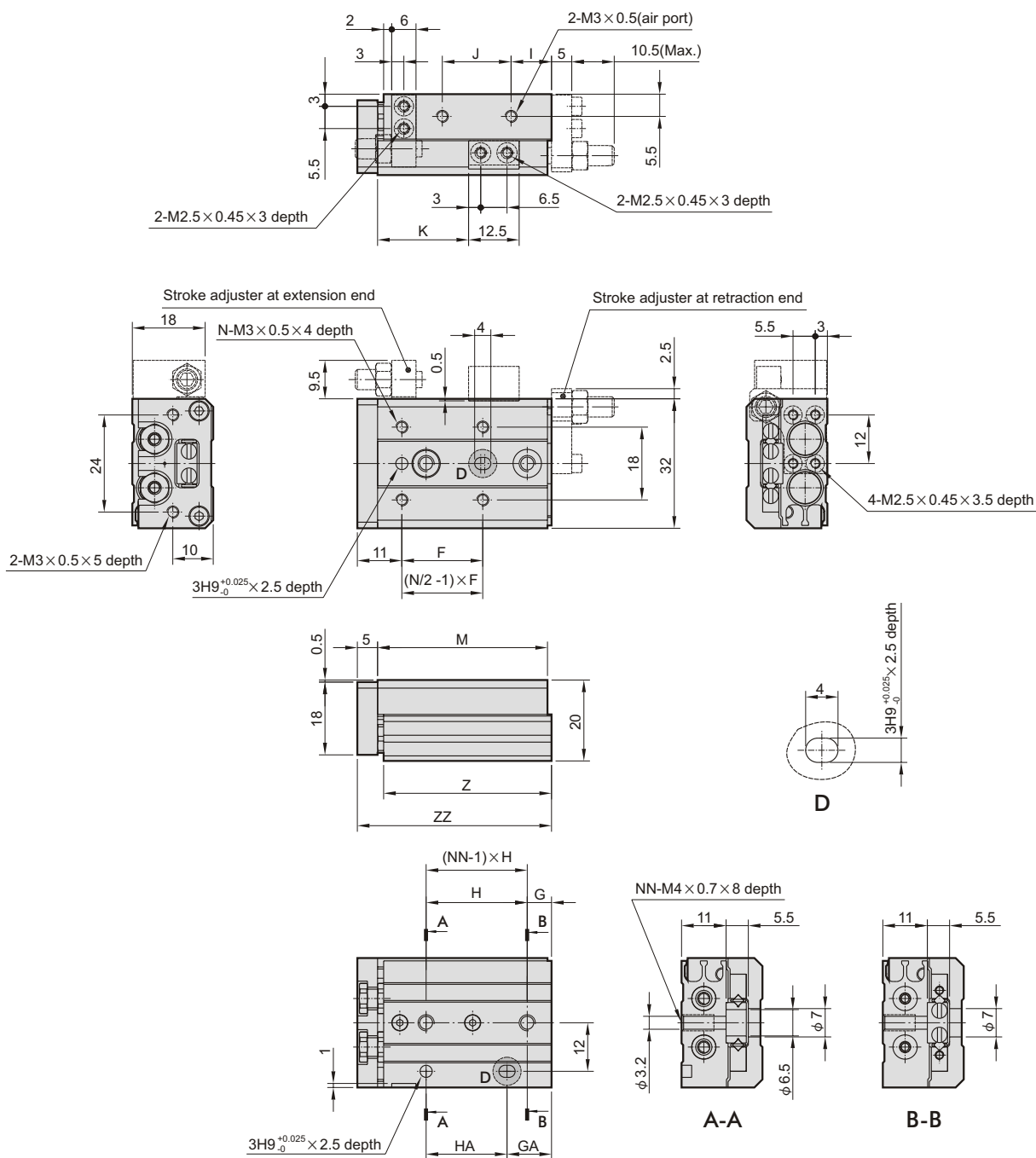
Cylinder weight:

(unit:g)

Stroke (mm)	Tube I.D.					
	$\phi 6$	$\phi 8$	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$
10	78	137	335	536	1001	1573
20	98	148	339	546	1012	1587
30	111	171	343	552	1020	1605
40	147	216	393	630	1098	1735
50	172	255	482	723	1254	1930
75	—	367	684	1030	1690	2553
100	—	—	910	1341	2214	3180
125	—	—	—	1646	2729	4082
150	—	—	—	—	3310	4420

MCSS Dimensions $\phi 6$

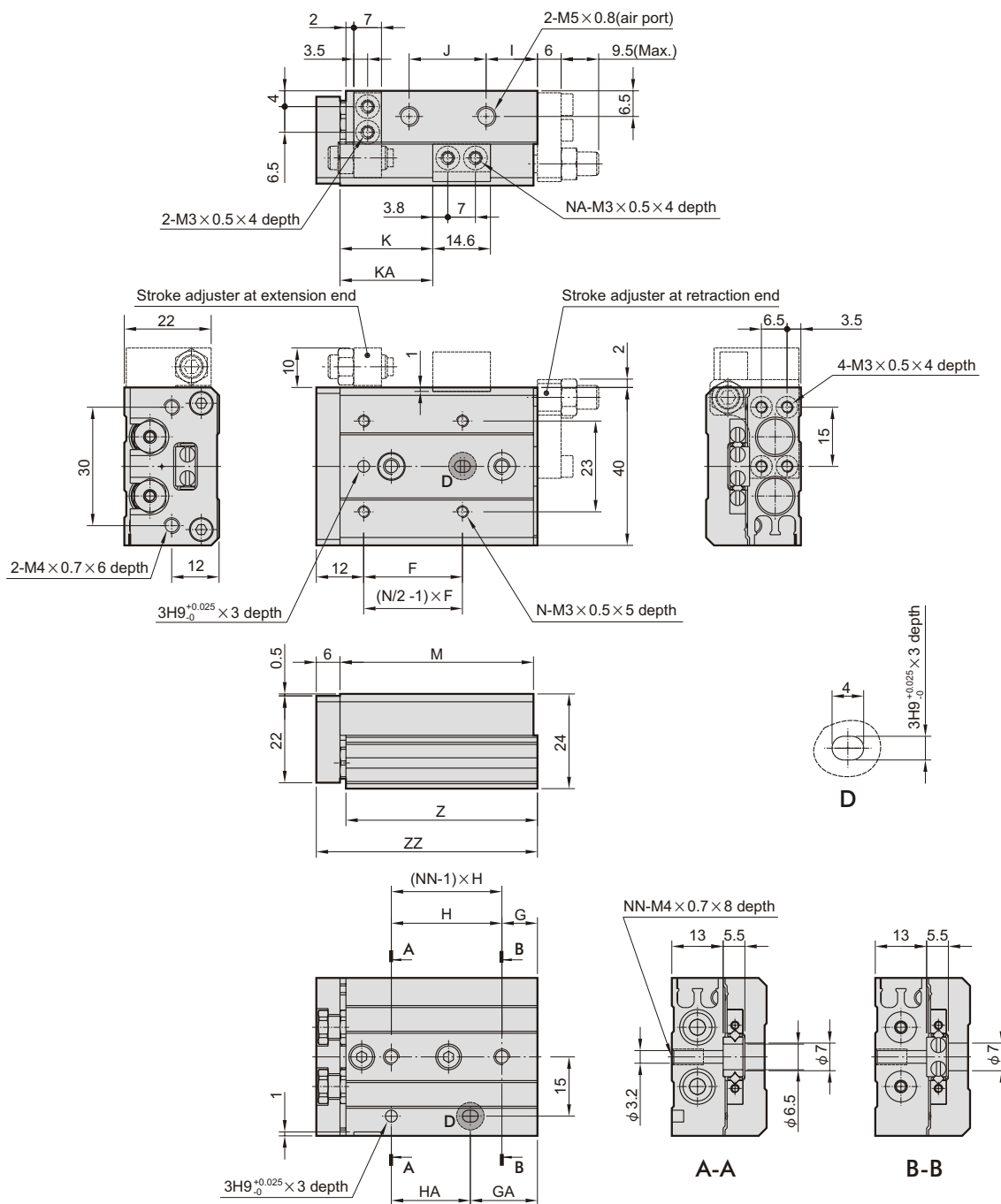
SLIDE CYLINDER



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

MCSS Dimensions $\phi 8$

SLIDE CYLINDER



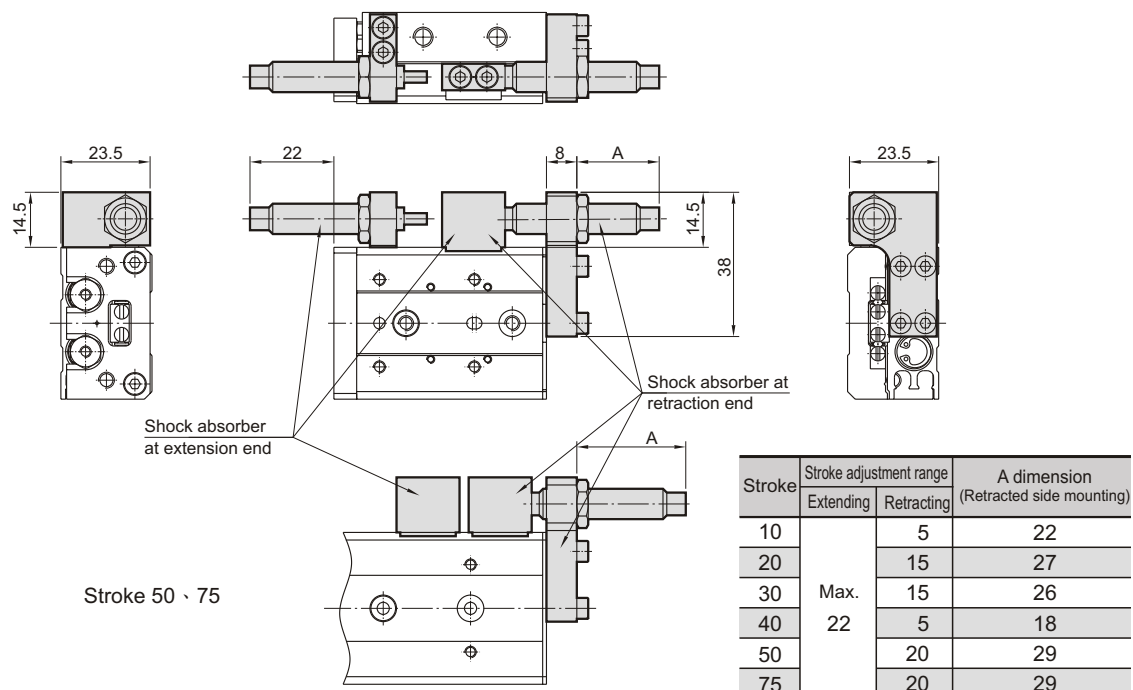
Code Stroke	F	G	GA	H	HA	I	J	K	KA	M	N	NA	NN	Z	ZZ
10	25	9	17	28	20	13	19.5	23.5	-	49	4	2	2	48.5	56
20	25	12	12	30	30	8.5	29	33.5	-	54	4	2	2	53.5	61
30	40	13	33	20	20	9.5	39	43.5	-	65	4	2	3	64.5	72
40	50	15	43	28	28	10.5	56	53.5	-	83	4	2	3	82.5	90
50	38	20	43	23	46	24.5	60	63.5	82.5	101	6	4	4	100.5	108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

MCSS With shock absorber $\phi 8$

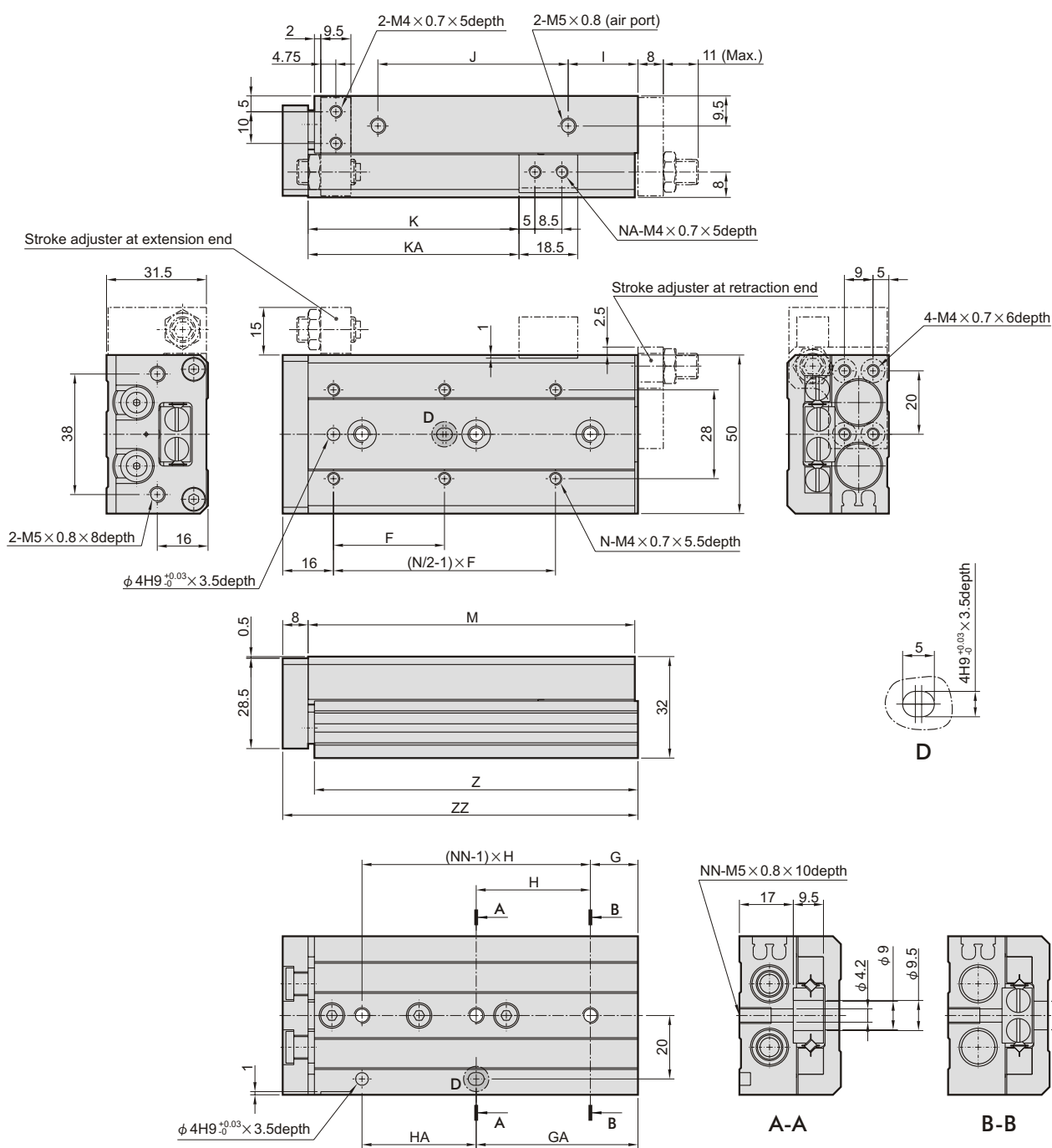
SLIDE CYLINDER



$\phi 8$



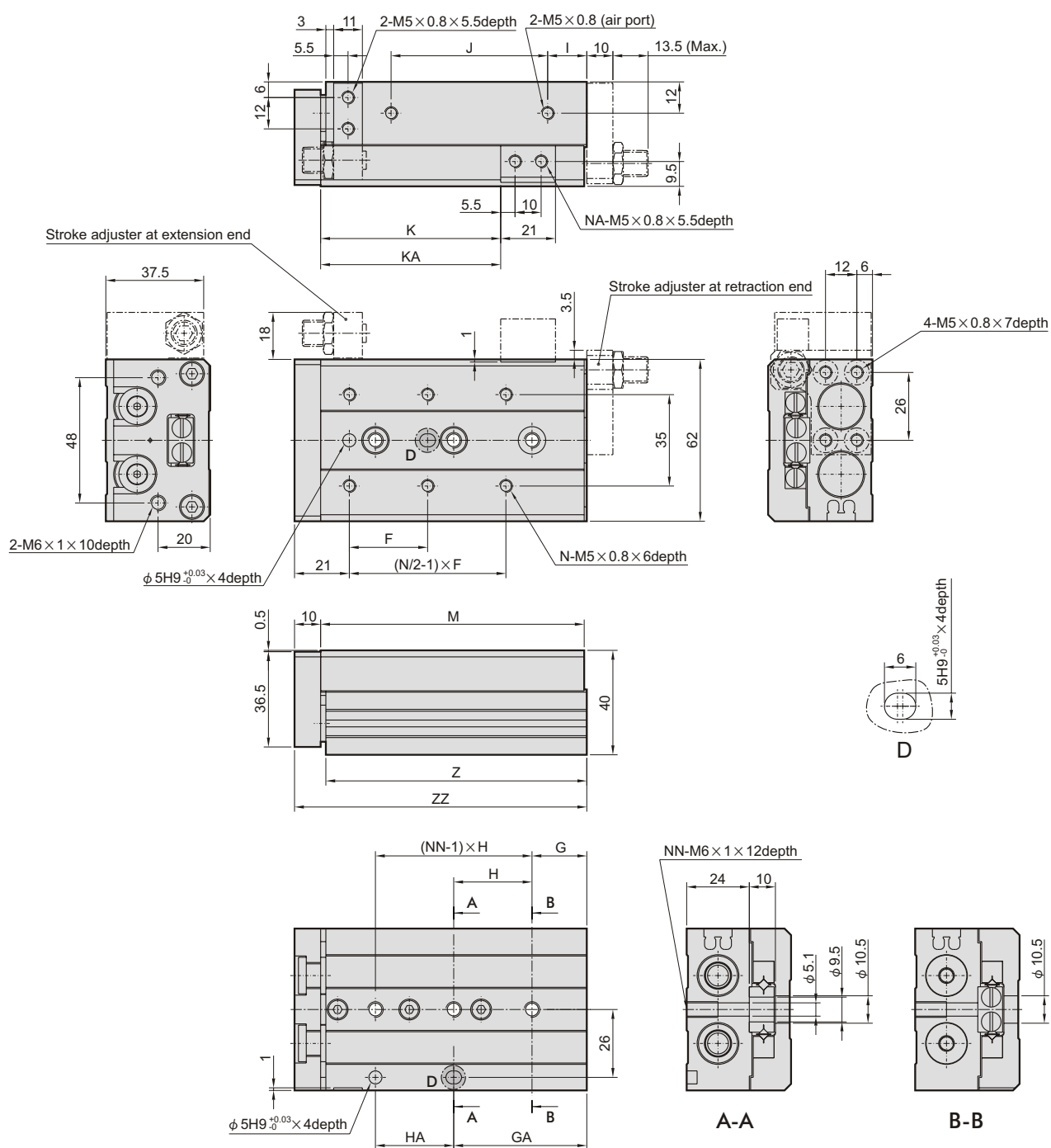
※Other dimensions not indicated are the same as the basic style.



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

MCSS Dimensions $\phi 16$

SLIDE CYLINDER



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

Technical drawing of the SHOCK-STOP 100 shock absorber, showing dimensions and stroke adjustment options.

Dimensions:

- Top view: 31.5, 17.1, 8, 15, 45
- Side view: 15, 45
- End view: 31.5

Stroke Adjustment:

Stroke 10, Stroke 75, 100

Shock absorber at extension end

Shock absorber at retraction end

Stroke	Stroke adjustment
10	Max. 21.2
20	
30	
40	
50	

Stroke	Stroke adjustment range		A dimension (Retracted side mounting)
	Extending	Retracting	
10	Max. 21.2	1.6	6.6
20		8.6	16.6
30		18.6	26.6
40		16.6	24.6
50		6.6	14.6
75		19.6	27.6
100		19.6	27.6

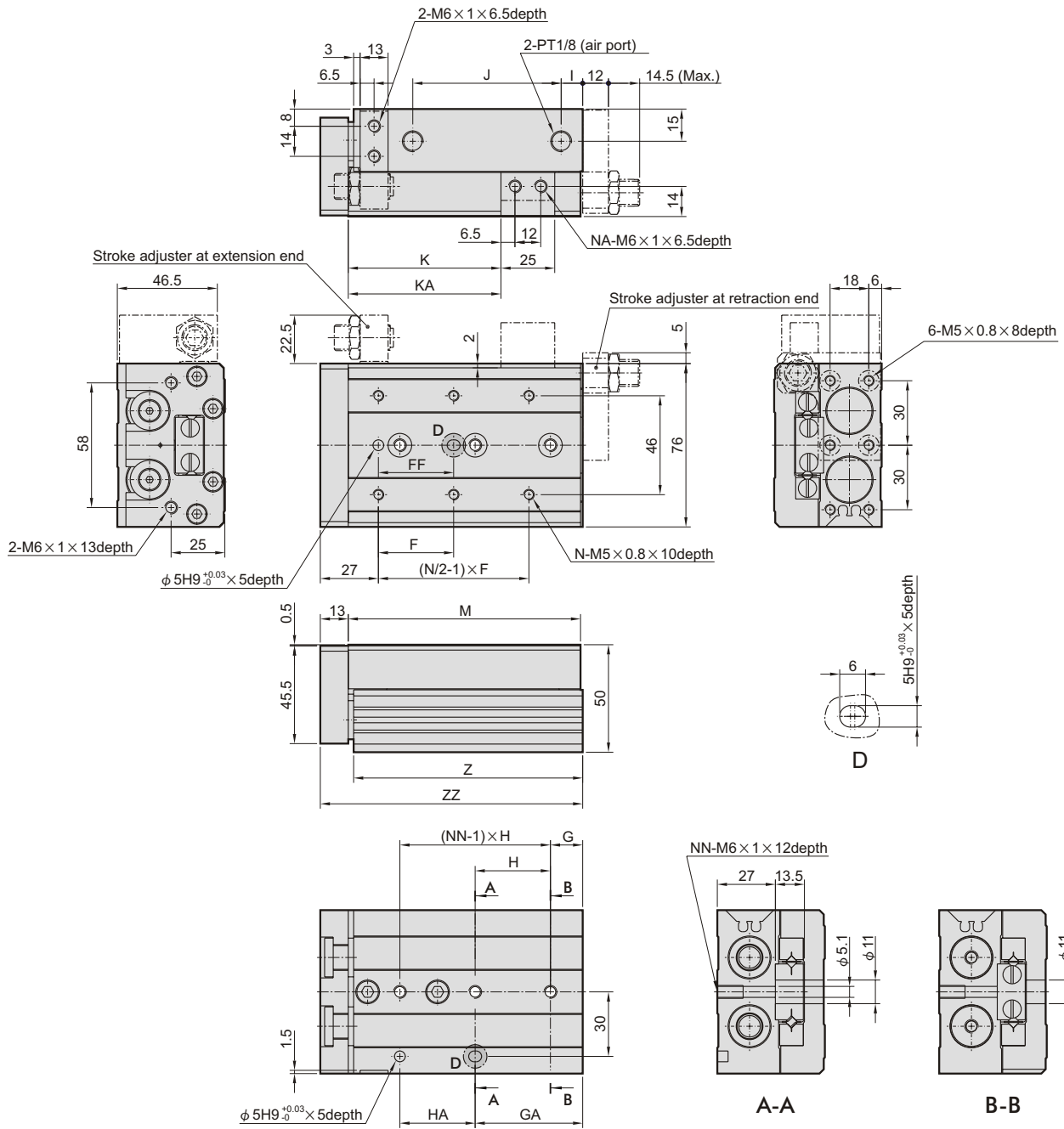
Stroke	Stroke adjustment	
	Extending	Retracting
10	Max. 26	
20		
30		
40		
50		
75		
100		

Stroke	Stroke adjustment range		A dimension (Retracted side mounting)
	Extending	Retracting	
10	Max. 26	6	11
20		13	21
30		23	31
40		23	31
50		18	26
75		24	32
100		24	32
125		24	32

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

MCSS Dimensions $\phi 20$

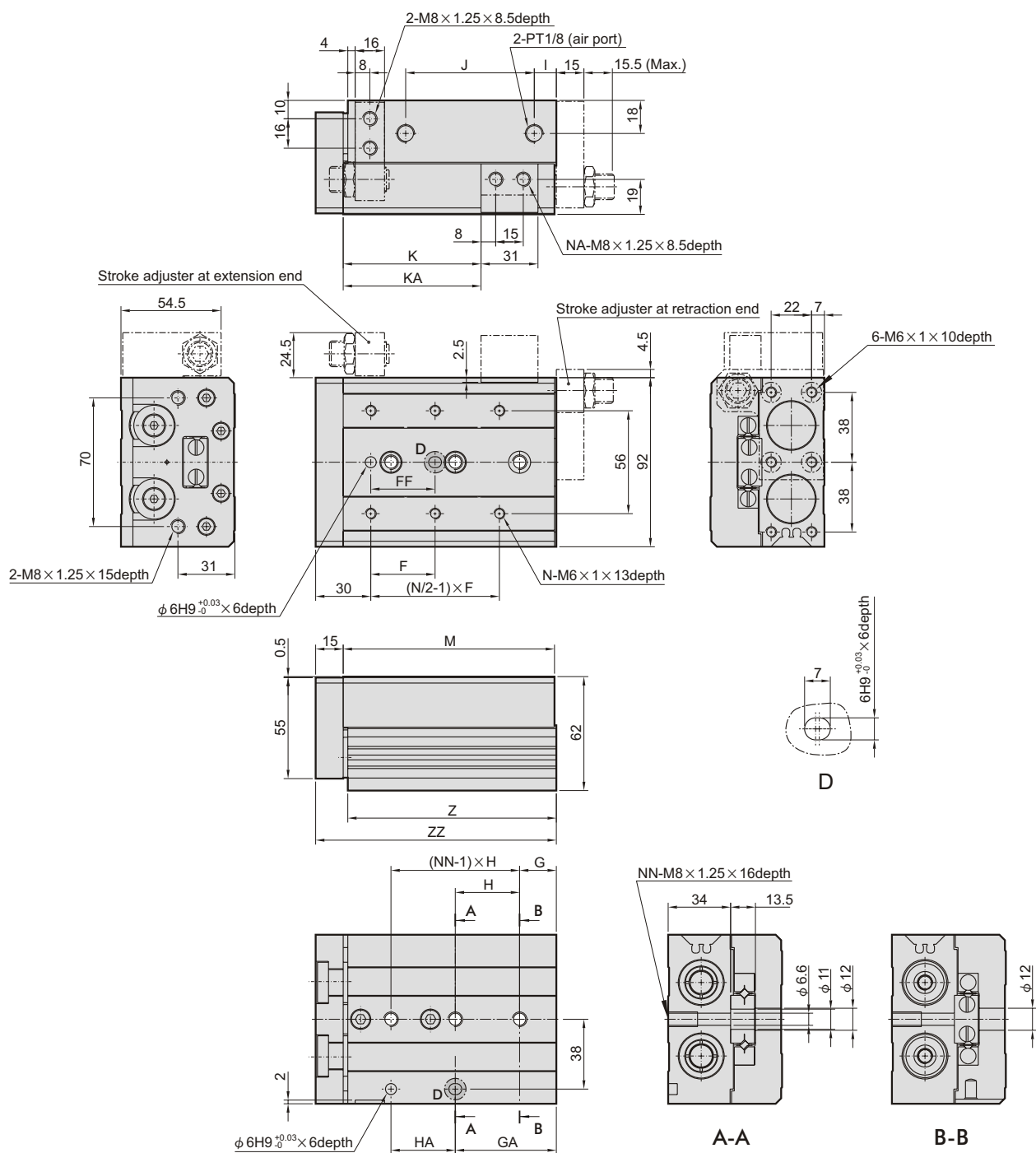
SLIDE CYLINDER



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

MCSS Dimensions $\phi 25$

SLIDE CYLINDER



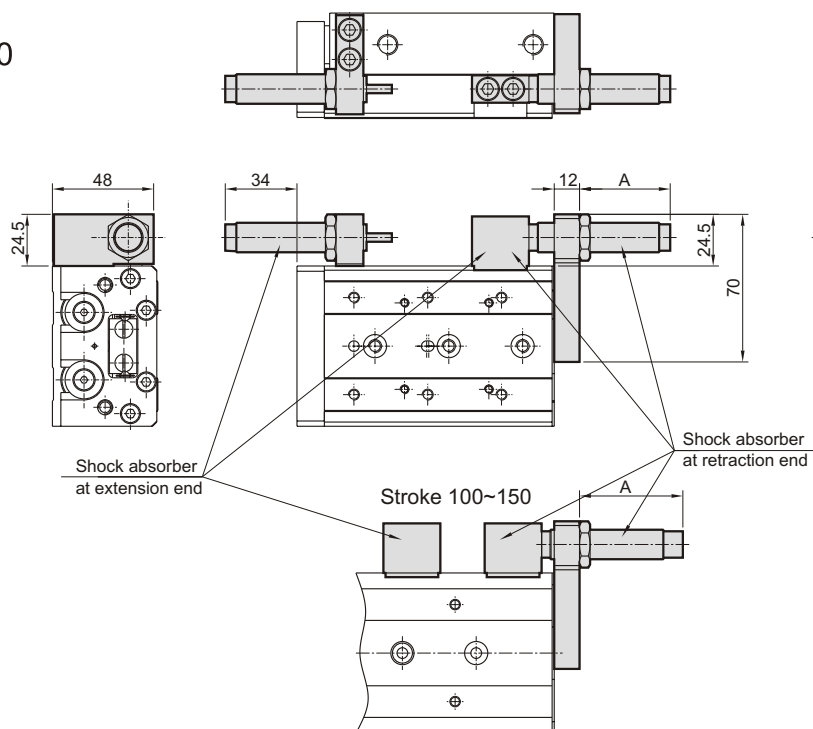
Code Stroke	F	FF	G	GA	H	HA	I	J	K	KA	M	N	NA	NN	Z	ZZ
10	50	40	22	22	45	45	12	47	35	-	92	4	2	2	90.5	108
20	50	40	22	22	45	45	12	47	45	-	92	4	2	2	90.5	108
30	50	40	22	22	45	45	12	47	55	-	92	4	2	2	90.5	108
40	60	50	22	22	55	55	12	57	65	-	102	4	2	2	100.5	118
50	35	35	20	55	35	35	12	70	75	-	115	6	2	3	113.5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

MCSS With shock absorber $\phi 20$, $\phi 25$

SLIDE CYLINDER



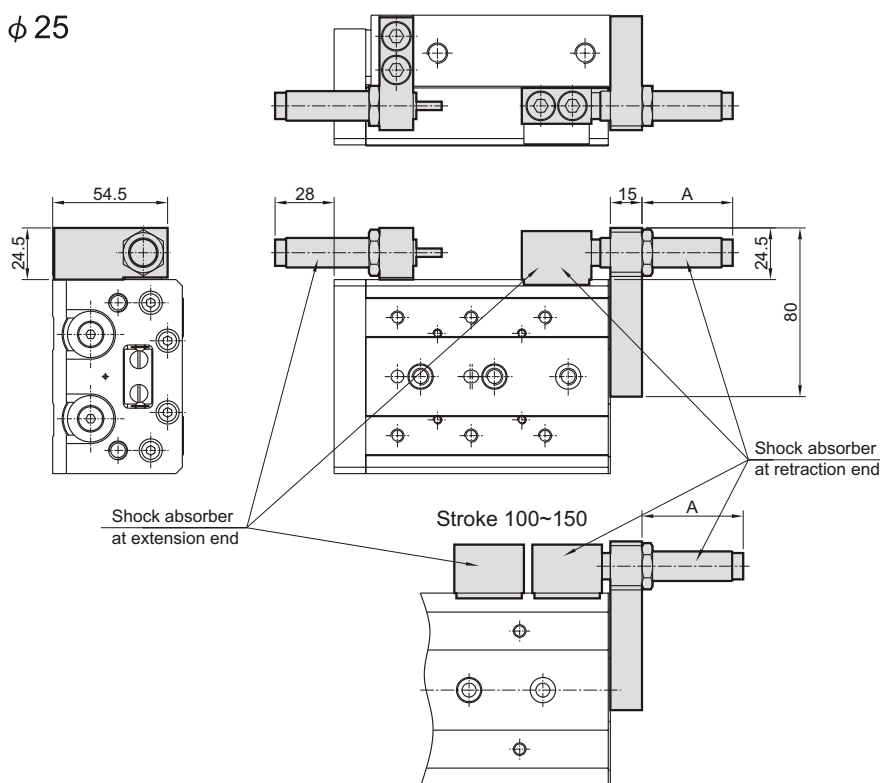
$\phi 20$



Stroke	Stroke adjustment range		A dimension (Retracted side mounting)
	Extending	Retracting	
10	Max. 42.5	10	27
20		20	37
30		30	47
40		37	47
50		33	43
75		15	29
100		35	49
125		35	49
150		35	49

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

$\phi 25$



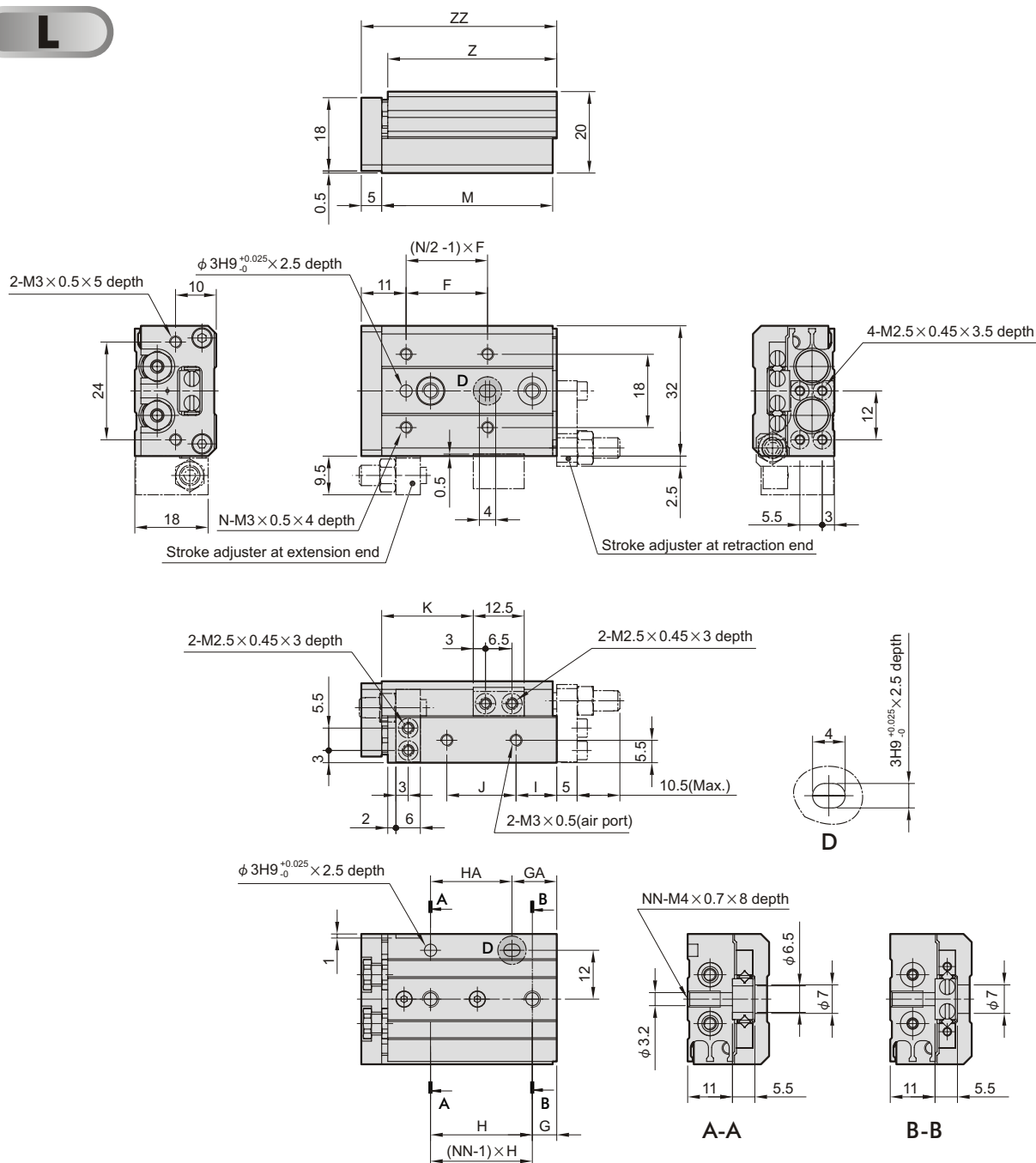
Stroke	Stroke adjustment range		A dimension (Retracted side mounting)
	Extending	Retracting	
10	Max. 39.5	10	25
20		20	35
30		30	45
40		35	45
50		33	43
75		17	27
100		38	48
125		36	46
150		36	46

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

SLIDE CYLINDER

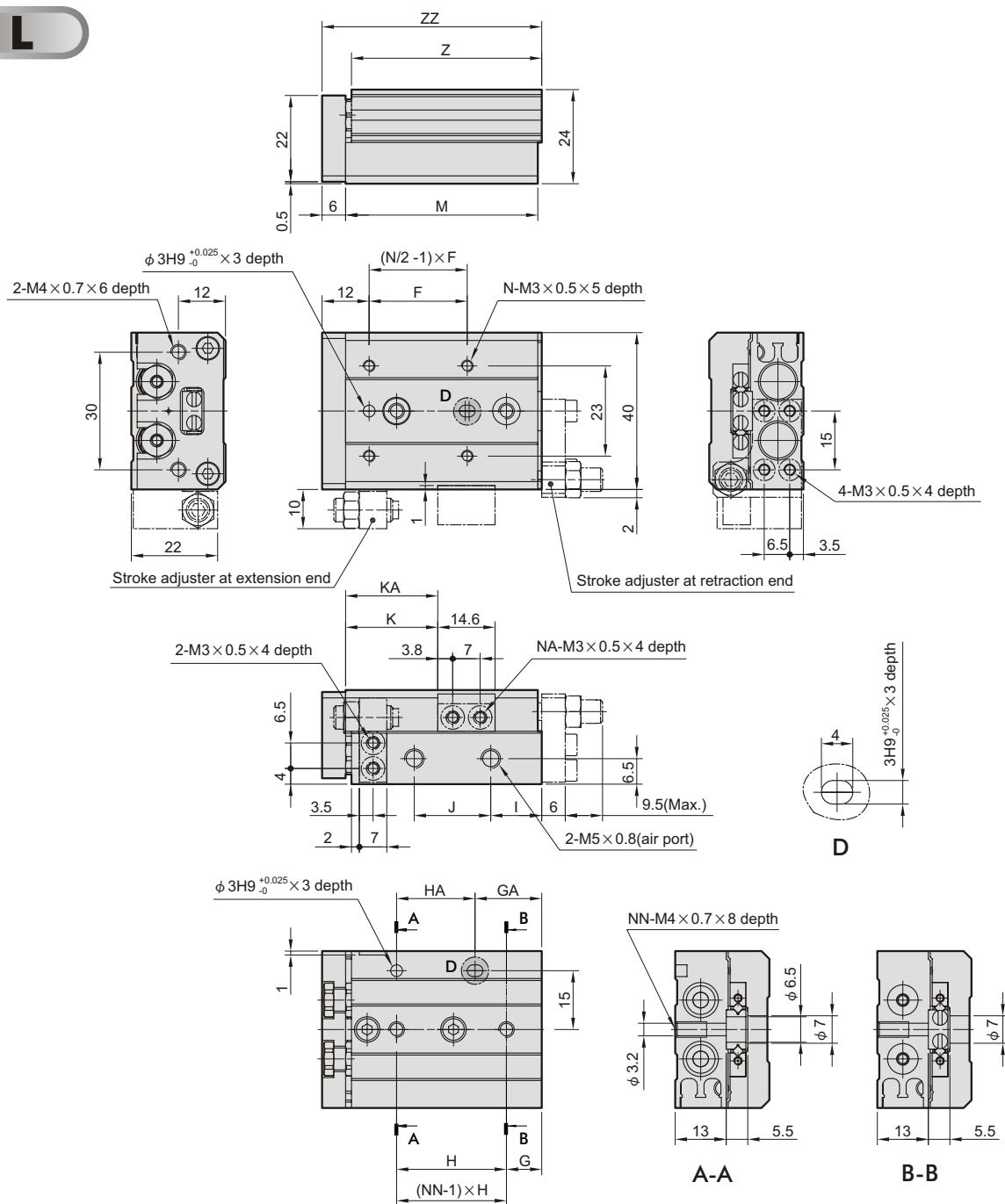


L



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

L



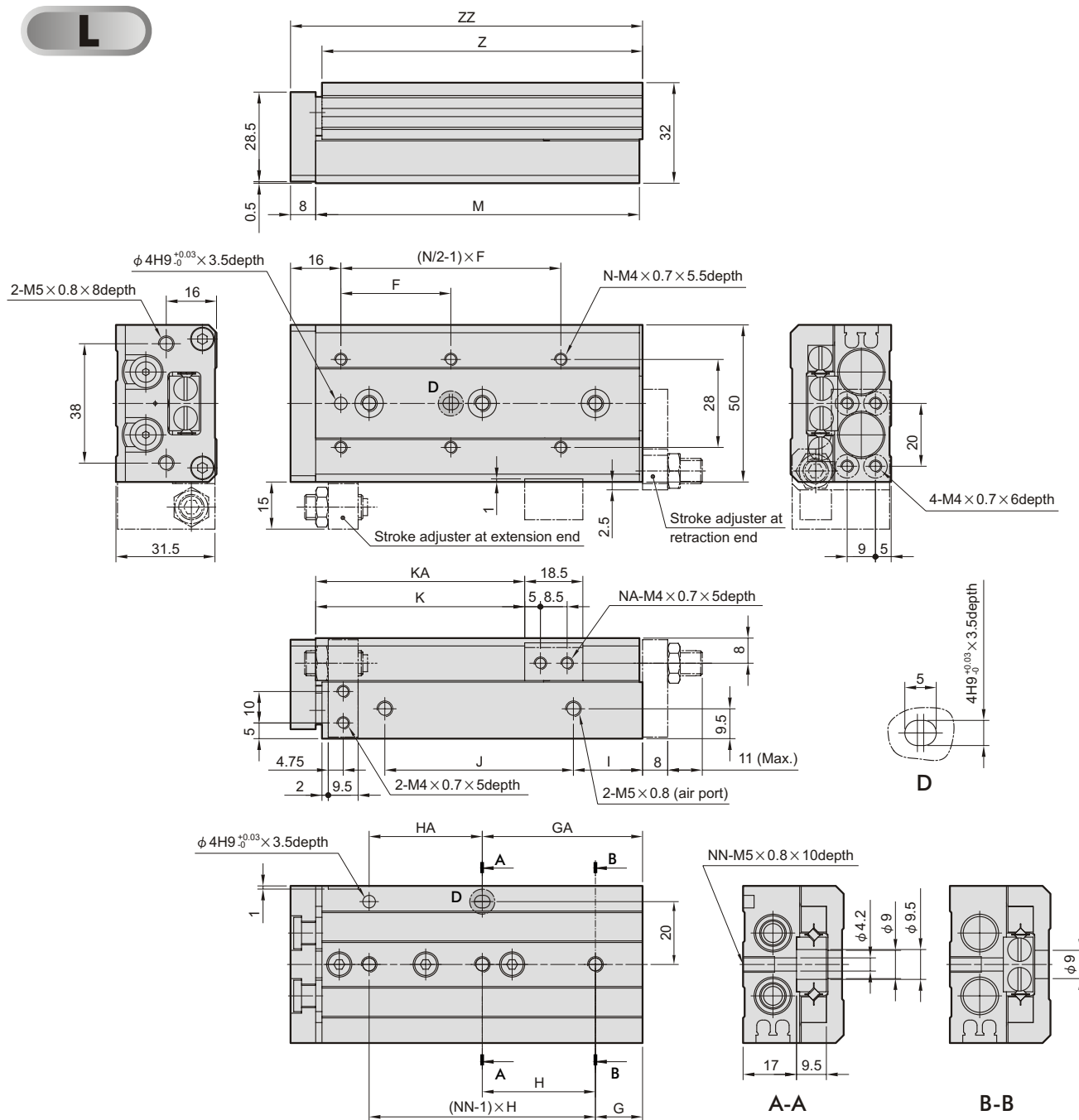
Code Stroke	F	G	GA	H	HA	I	J	K	KA	M	N	NA	NN	Z	ZZ
10	25	9	17	28	20	13	19.5	23.5	-	49	4	2	2	48.5	56
20	25	12	12	30	30	8.5	29	33.5	-	54	4	2	2	53.5	61
30	40	13	33	20	20	9.5	39	43.5	-	65	4	2	3	64.5	72
40	50	15	43	28	28	10.5	56	53.5	-	83	4	2	3	82.5	90
50	38	20	43	23	46	24.5	60	63.5	82.5	101	6	4	4	100.5	108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

MCSS Symmetric style $\phi 12$

SLIDE CYLINDER



L



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

SLIDE CYLINDER



L



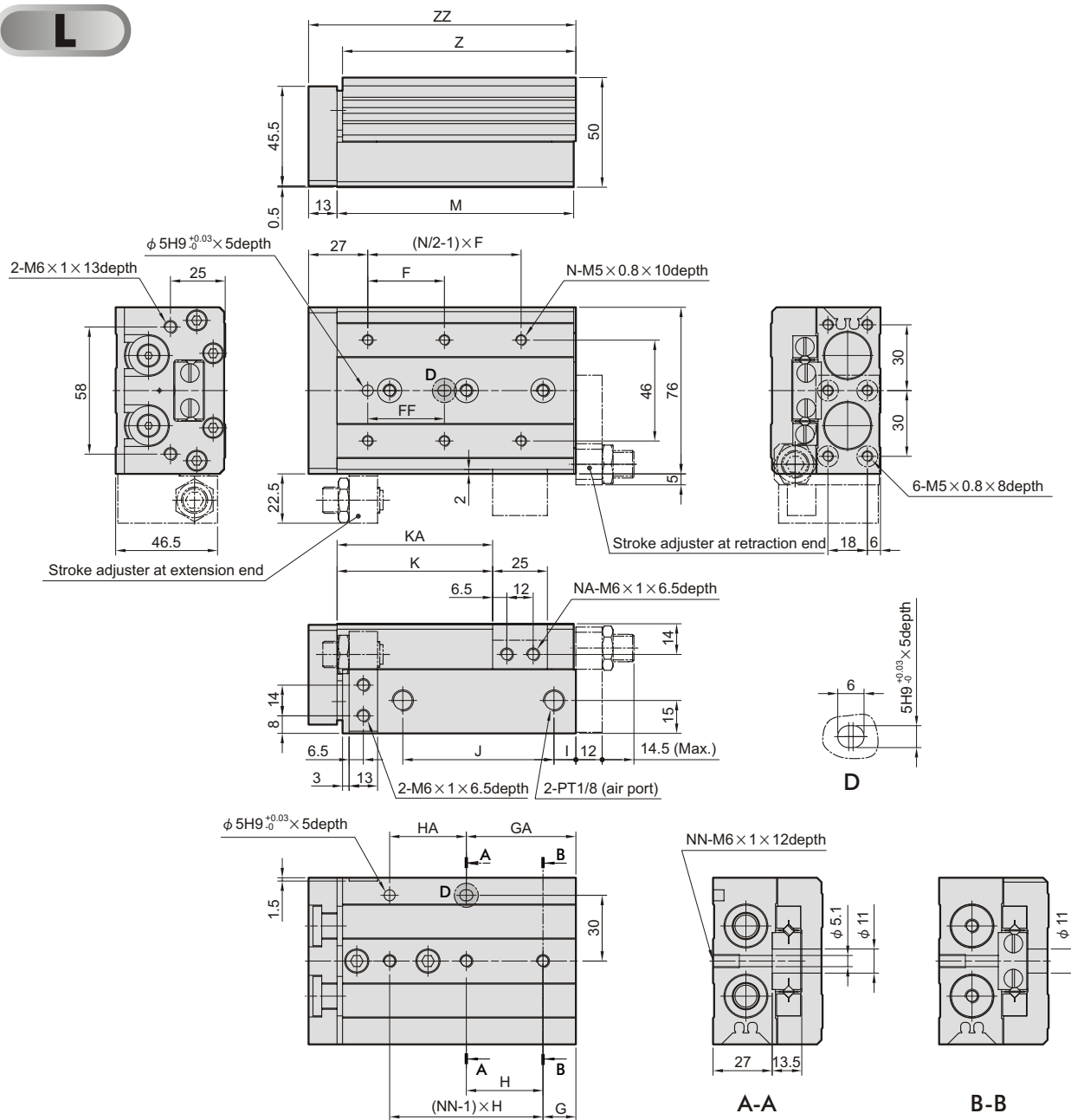
Code Stroke	F	G	GA	H	HA	I	J	K	KA	M	N	NA	NN	Z	ZZ
10	35	16	16	40	40	10	40	29	-	76	4	2	2	75	87
20	35	16	16	40	40	10	40	39	-	76	4	2	2	75	87
30	35	16	16	40	40	10	40	49	-	76	4	2	2	75	87
40	40	16	16	50	50	10	50	59	-	86	4	2	2	85	97
50	30	21	51	30	30	15	60	69	-	101	6	2	3	100	112
75	55	26	61	35	70	40	85	94	125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

MCSS Symmetric style $\phi 20$

SLIDE CYLINDER



L



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

SLIDE CYLINDER



L



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

Order example of stroke adjuster:

MCSS — 20 L — AS — X12

MODEL

TUBE I.D.

STROKE ADJUSTER

ADJUSTABLE RANGE
(only for stroke adjuster)

Blank: Standard
L: Symmetric style

Blank: Without adjuster
AS: Adjuster at extension end
AT: Adjuster at retraction end
A: Adjuster at both ends
BS: Absorber at extension end
BT: Absorber at retraction end
B: Absorber at both ends

Blank: 5mm
X11: 15mm
X12: 25mm

*X12 (adjustable range: 25mm) is not available for MCSS-6.

*X11 and X12 are not available for shock absorber type.

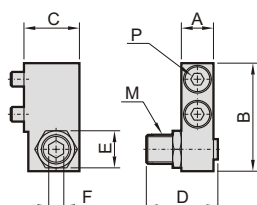
*Shock absorber is not available on series MCSS-6.

*X11 and X12 adjusters cannot be ordered assembled with MCSS.

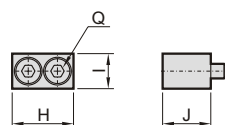
*Refer to the above figures for the dimensions.

Stroke adjuster at extension end:

Mounted to body



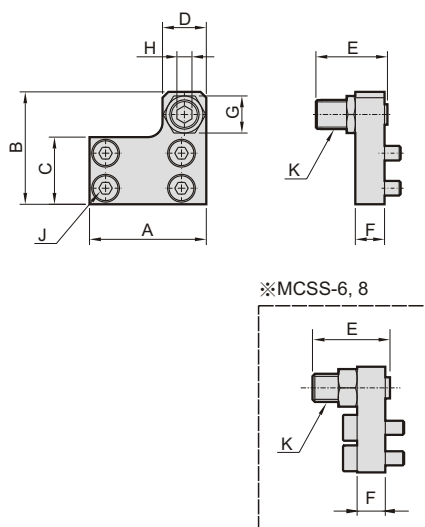
Mounted to table



Tube I.D.	Order code	Adjustable stroke range (mm)	Mounted to body								Mounted to table			
			A	B	C	D	E	F	M	P*	H	I	J	Q*
6	MCSS-6-AS	5	6	17.8	10.5	16.5	7	2.5	M5×0.8	M2.5×10	12.5	6	8.5	M2.5×8
	MCSS-6-AS-X11	15				26.5								
8	MCSS-8-AS	5	7	21.5	11	16.5	8	3	M6×1	M3×10	14.6	7	10	M3×10
	MCSS-8-AS-X11	15				26.5								
	MCSS-8-AS-X12	25				36.5								
12	MCSS-12-AS	5	9.5	31	16	20	11	4	M8×1	M4×16	18.5	10	13	M4×12
	MCSS-12-AS-X11	15				30								
	MCSS-12-AS-X12	25				40								
16	MCSS-16-AS	5	11	37	19	24.5	14	5	M10×1	M5×16	21	12	16.5	M5×16
	MCSS-16-AS-X11	15				34.5								
	MCSS-16-AS-X12	25				44.5								
20	MCSS-20-AS	5	13	45.5	24	27.5	17	6	M12×1.25	M6×20	25	13	21	M6×20
	MCSS-20-AS-X11	15				37.5								
	MCSS-20-AS-X12	25				47.5								
25	MCSS-25-AS	5	16	53.5	26.5	32.5	19	6	M14×1.5	M8×25	31	17	25.5	M8×25
	MCSS-25-AS-X11	15				42.5								
	MCSS-25-AS-X12	25				52.5								

* Size of hexagon socket head cap screws

Stroke adjuster at retraction end:

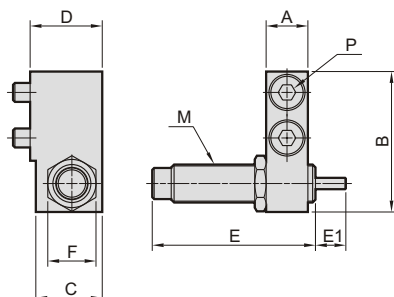


Tube I.D.	Order code	Adjustable stroke range (mm)	A	B	C	D	E	F	G	H	J*	K
6	MCSS-6-AT	5	21	19	10.5	8	16.5	5	7	2.5	M2.5×8	M5×0.8
	MCSS-6-AT-X11	15					26.5					
8	MCSS-8-AT	5	25	22.5	12.5	9	16.5	6	8	3	M3×10	M6×1
	MCSS-8-AT-X11	15					26.5					
	MCSS-8-AT-X12	25					36.5					
12	MCSS-12-AT	5	32	31	18.5	13	20	8	12	4	M4×8	M8×1
	MCSS-12-AT-X11	15					30					
	MCSS-12-AT-X12	25					40					
16	MCSS-16-AT	5	40	38.5	23	15	24.5	10	14	5	M5×10	M10×1
	MCSS-16-AT-X11	15					34.5					
	MCSS-16-AT-X12	25					44.5					
20	MCSS-20-AT	5	50	48	29	21	27.5	12	17	6	M5×12	M12×1.25
	MCSS-20-AT-X11	15					37.5					
	MCSS-20-AT-X12	25					47.5					
25	MCSS-25-AT	5	60	58	35	23	32.5	15	19	6	M6×16	M14×1.5
	MCSS-25-AT-X11	15					42.5					
	MCSS-25-AT-X12	25					52.5					

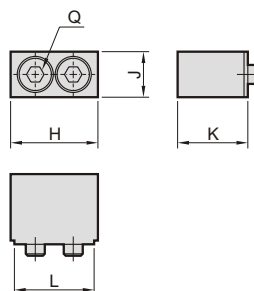
* Size of hexagon socket head cap screws

Stroke adjuster at extension end:

Mounted to body



Mounted to table

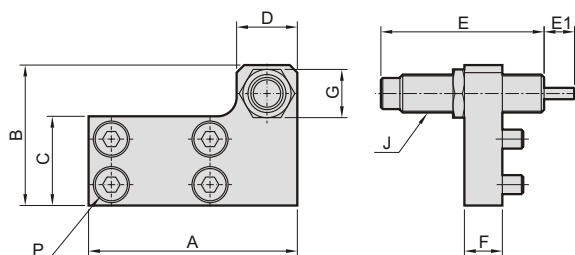


Tube I.D.	Order code	Mounted to body									Mounted to table				
		A	B	C	D	E	E1	F	M	P*	H	J	K	L	Q*
8	MCSS-8-BS	7	23	14	15.5	40.6	6	11	M8×1	M3×16	16.6	7	15.5	14.6	M3×16
12	MCSS-12-BS	9.5	31	14.5	16	40.6	6	11	M8×1	M4×16	20.5	10	15	18.5	M4×12
16	MCSS-16-BS	11	37	17.5	19	47	7	12.7	M10×1	M5×16	23	12	18.5	21	M5×16
20	MCSS-20-BS	13	45.5	23.5	26	67	12	19	M14×1.5	M6×25	27	13	25.5	25	M6×25
25	MCSS-25-BS	16	53.5	23.5	26.5	67	12	19	M14×1.5	M8×25	33	17	25.5	31	M8×25

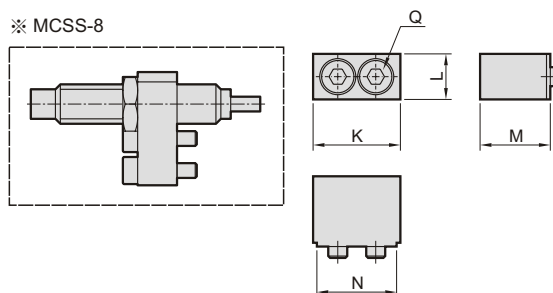
* Size of hexagon socket head cap screws

Stroke adjuster at retraction end:

Mounted to body



Mounted to table



Tube I.D.	Order code	Mounted to body										Mounted to table				
		A	B	C	D	E	E1	F	G	J	P*	K	L	M	N	Q*
8	MCSS-8-BT	38	23	12.5	14	40.6	6	8	12	M8×1	M3×12	16.6	7	15.5	14.6	M3×16
12	MCSS-12-BT	45	31	18	14	40.6	6	8	11	M8×1	M4×8	20.5	10	15	18.5	M4×12
16	MCSS-16-BT	55	37	23.5	16	47	7	10	12.7	M10×1	M5×10	23	12	18.5	21	M5×16
20	MCSS-20-BT	70	47	29	23	67	12	12	19	M14×1.5	M5×12	27	13	25.5	25	M6×25
25	MCSS-25-BT	80	54	35	23	67	12	15	19	M14×1.5	M6×16	33	17	25.5	31	M8×25

* Size of hexagon socket head cap screws