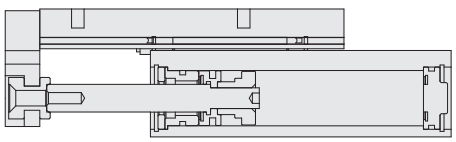
MDQ2 series Dual Rod Air Slide Table

Product features/ Code of order

CHELIC

Internal structure



Theoretical force

Bore size mm	Shaft dia. mm	Piston action	Piston area	Air pressure (kgf/cm²) 1	2	3	4	5	6	7
6	3	Push	0.5	—	1.0	1.5	2.0	2.5	3.0	3.5
		Pull	0.4	—	0.8	1.2	1.6	2.0	2.4	2.8
8	4	Push	1.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0
		Pull	0.7	0.7	1.4	2.1	2.8	3.5	4.2	4.9
12	6	Push	2.2	2.2	4.4	6.6	8.8	11	13.2	15.4
		Pull	1.7	1.7	3.4	5.1	6.8	8.5	10.2	11.9
16	8	Push	4.0	4.0	8.0	12	16	20	24	28
		Pull	3.0	3.0	6.0	9.0	12	15	18	21
20	10	Push	6.2	6.2	12.4	18.6	24.8	31	37.2	43.4
		Pull	4.7	4.7	9.4	14.1	18.8	23.5	28.2	32.9
25	12	Push	9.8	9.8	19.6	29.4	39.2	49	58.8	68.6
		Pull	7.5	7.5	15	22.5	30	37.5	45	52.5

Note: The above data are for reference only. When come to actual practice, frictional force and the mechanical efficiency have to be taken into considerations. (About 70%~80%)

Specification

Unit: mm

Item \ Bore size	Ø6	Ø8	Ø12	Ø16	Ø20	Ø25
Action	Double acting					
Fluid	Air					
Pressure range Kgf/cm² (kPa)	1 ~ 8.5 (100 ~ 850)					
Max. operating pressure Kgf/cm² (kPa)	9.5 (950)					
Ambient and fluid temperature ℃	0 ~ 60					
Piston speed mm/s	500 ~ 700					
Port size	M5×0.8				PT1/8	
Sensing device	With magnet					

Bore size and Stroke

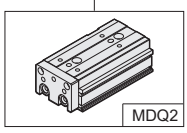
Unit: mm

Bore size	Standard stroke
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

Code of order

MDQ — 12 × 50 — SD 2 — B.M 2

Model



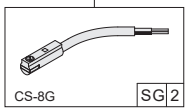
Bore size

6 – Ø 6 mm
8 – Ø 8 mm
12 – Ø 12 mm
16 – Ø 16 mm
20 – Ø 20 mm
25 – Ø 25 mm

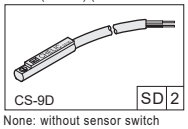
Stroke

Ø 6 – 10 ~ 50 mm
Ø 8 – 10 ~ 75 mm
Ø 12 – 10 ~ 100 mm
Ø 16 – 10 ~ 125 mm
Ø 20 – 10 ~ 150 mm
Ø 25 – 10 ~ 150 mm

Sensor switch

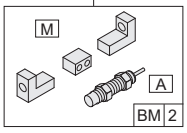


None: without sensor switch
SG : Sensor switch mark (CS-8G) (Suitable forØ6~Ø25)



None: without sensor switch
SD : Sensor switch mark(CS-9D)
SB : Sensor switch mark(CS-9B)
2 : Quantity of sensor switch
1 = 1PCS
2 = 2PCS (Suitable forØ12~Ø25)

Shock absorber



A : Shock absorber
B : Metal stopper
M : Shock absorber mounting sets
1 - 1 set (Front mounting base)
2 - 2 sets
3 - 1 sets (Rear mounting base) (option)

M The shock absorbers are fixed assembly which includes middle impact block and adjusting screw fixed seat on each right and left side.
(When you purchase, the fix seat assembly is whole set.)

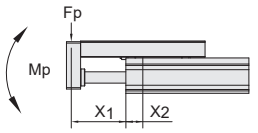
How to select Shock absorber

Bore size	Shock absorber	Max. absorb function
6	—	—
8	SAC-0806	0.2 kgf.m
12	SAC-0806	0.2 kgf.m
16	SAC-1008	0.4 kgf.m
20	SAC-1210	0.5 kgf.m
25	SAC-1210	0.5 kgf.m

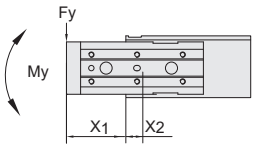
Expression: Shock absorber is mounted on the side of body so as to absorb the impact force.
(Please indicate AM mark number; M is shock absorber mounting sets)
M1 : Front shock absorber mounting sets
M2 : Front-back shock absorber mounting sets
M3 : Back shock absorber mounting sets

Allowable static load formula

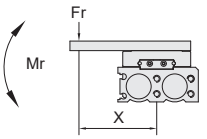
Pitch moment



Yaw moment



Rolling moment



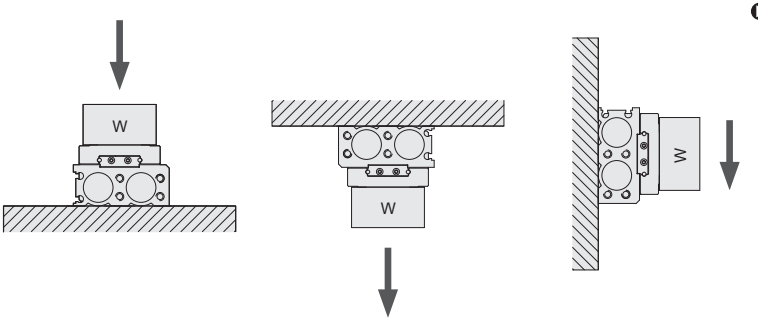
Allowable static load

Unit: N • m

Bore size	Moment allowable: Mp/My (N m) Stroke (mm)									Moment allowable: Mr (N m) Stroke (mm)								
	10	20	30	40	50	75	100	125	150	10	20	30	40	50	75	100	125	150
Ø6	1.4	1.4	1.4	2.8	2.8	-	-	-	-	1.4	1.4	1.4	2.8	2.8	-	-	-	-
Ø8	2.0	2.0	2.8	3.6	4.2	4.2	-	-	-	5.1	5.1	6.0	6.9	7.4	7.4	-	-	-
Ø12	4.7	4.7	4.7	7.2	7.2	15.0	15.0	-	-	11.0	11.0	11.0	13.0	13.0	14.0	14.0	-	-
Ø16	13	13	13	13	18	23	42	42	-	13	13	13	13	18	23	42	42	-
Ø20	19	19	19	19	27	36	84	84	84	19	19	19	19	27	36	84	84	84
Ø25	30	30	30	30	42	55	67	67	67	30	30	30	30	42	55	67	67	67

Note:
- Do not exceed the indicated load weight. When it is exceds operating limits, eccentric loads on guide will be excess and causing vibration on guide, that give inaccuracy and shorten life.
- Avoiding striking with external force.
- Inertia weight shall be applied in 1/10 of static load.

Description:
- X1 is the distance from body to point of load.
- X2 is the center distance from body to slide.
- X is the distance from (Fr) point of load to slide rail holder.



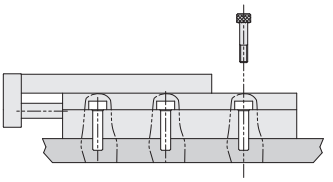
Maximum allowable load weight

Unit: Kg

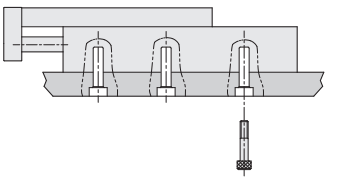
Bore size	Maximum allowable load weight
Ø 6	0.6
Ø 8	1
Ø 12	2
Ø 16	4
Ø 20	6
Ø 25	9

Mounting type

Top mounting



Bottom mounting



Vertical mounting (Body tapped)

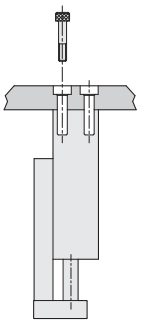
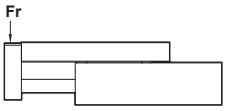


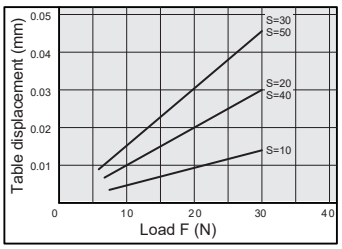
Table deflection (Reference)

- Table displacement due to pitch moment load

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



Ø6



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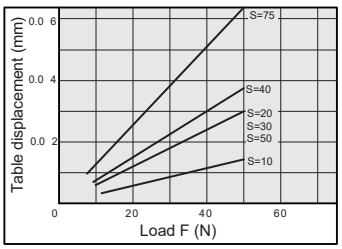
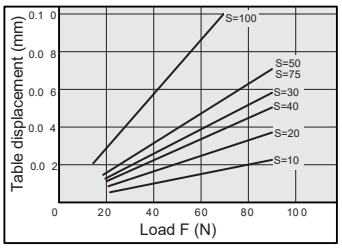
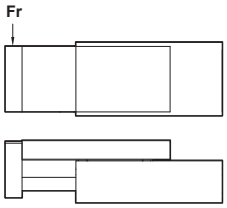


Ø12



- Table displacement due to yaw moment load

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



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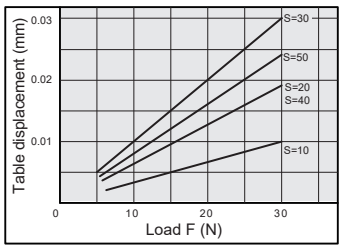

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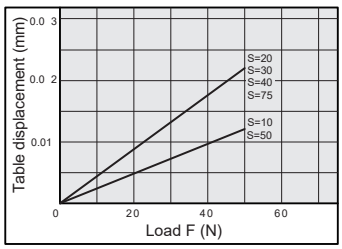

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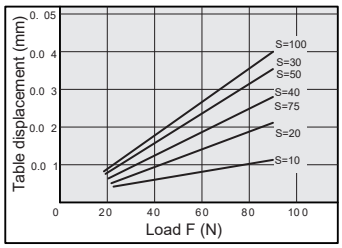
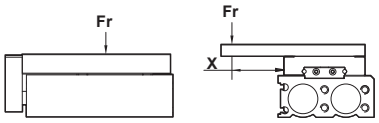


- Table displacement due to roll moment load

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



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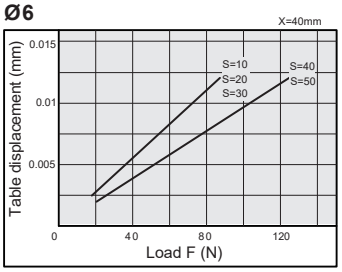

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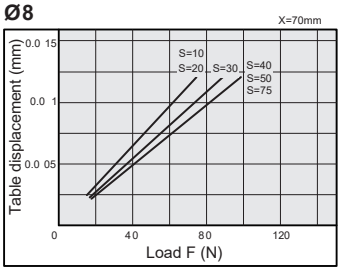

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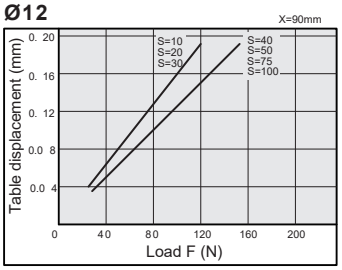
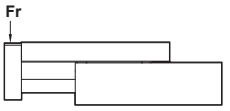


Table deflection (Reference)

Table displacement due to pitch moment load

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



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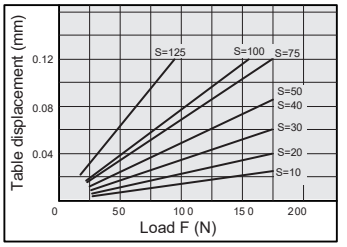

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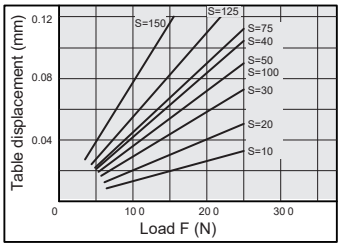


Ø25

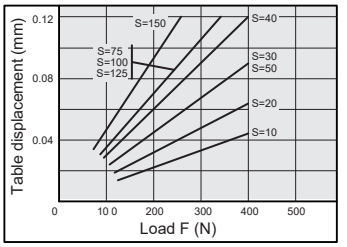
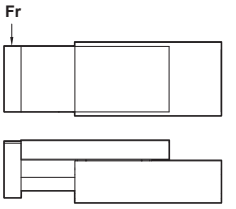


Table displacement due to yaw moment load

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



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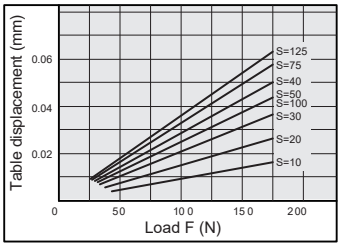

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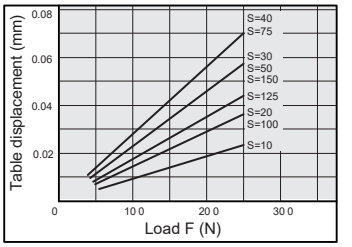

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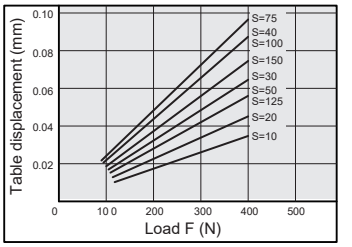
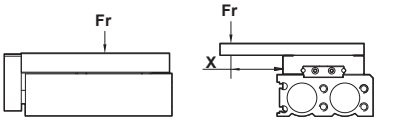


Table displacement due to roll moment load

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



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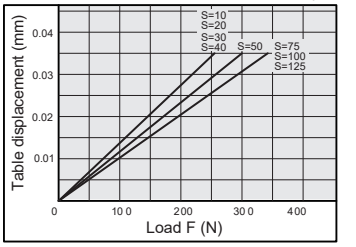

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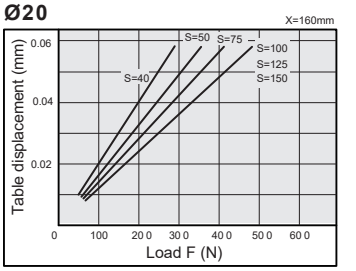

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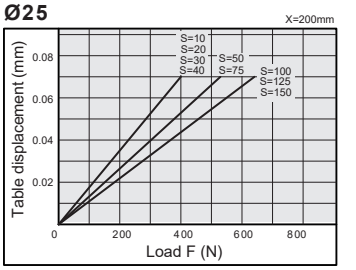
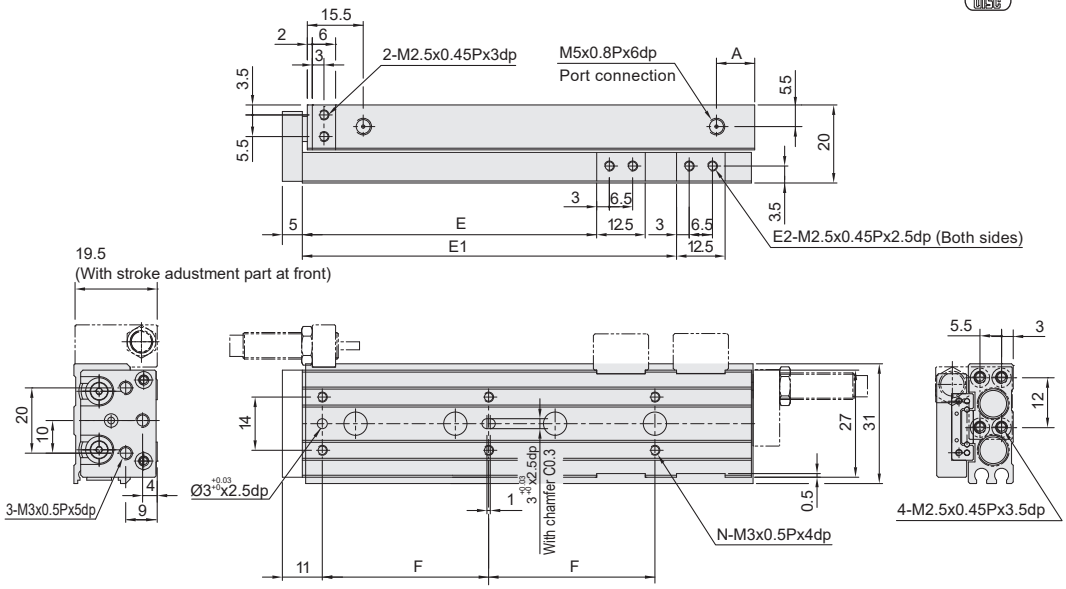
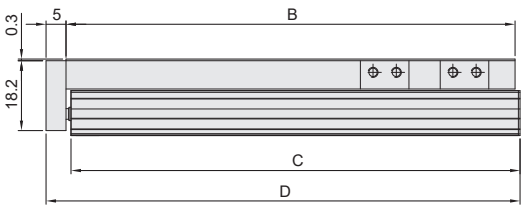


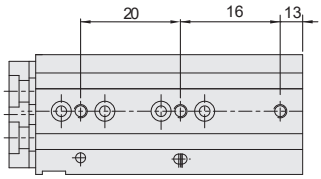
MDQ2 Ø6 × □

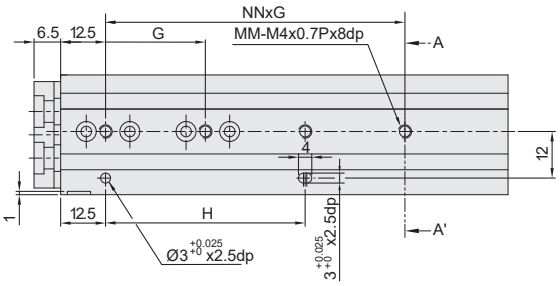
MDQ2 6 × □ ST

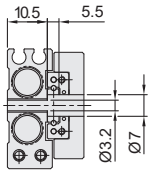




MDQ2 6x30 Bottom view







SECTION A-A'

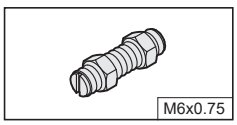
Dimension

Unit: mm

Mark / Stroke	A	B	C	D	E	E_1	E_2	F	G	NN	H	N	MM
10	9	42	41.5	48	21.5	—	2	22	23	1	16	4	2
20	9	52	51.5	58	31.5	—	2	25	26	1	26	4	2
30	9	62	61.5	68	41.5	—	2	21	—	2	20	6	3
40	16	80	79.5	86	51.5	67.5	4	26	28	2	28	6	3
50	9	90	89.5	96	61.5	77.5	4	27	28	2	28	6	3

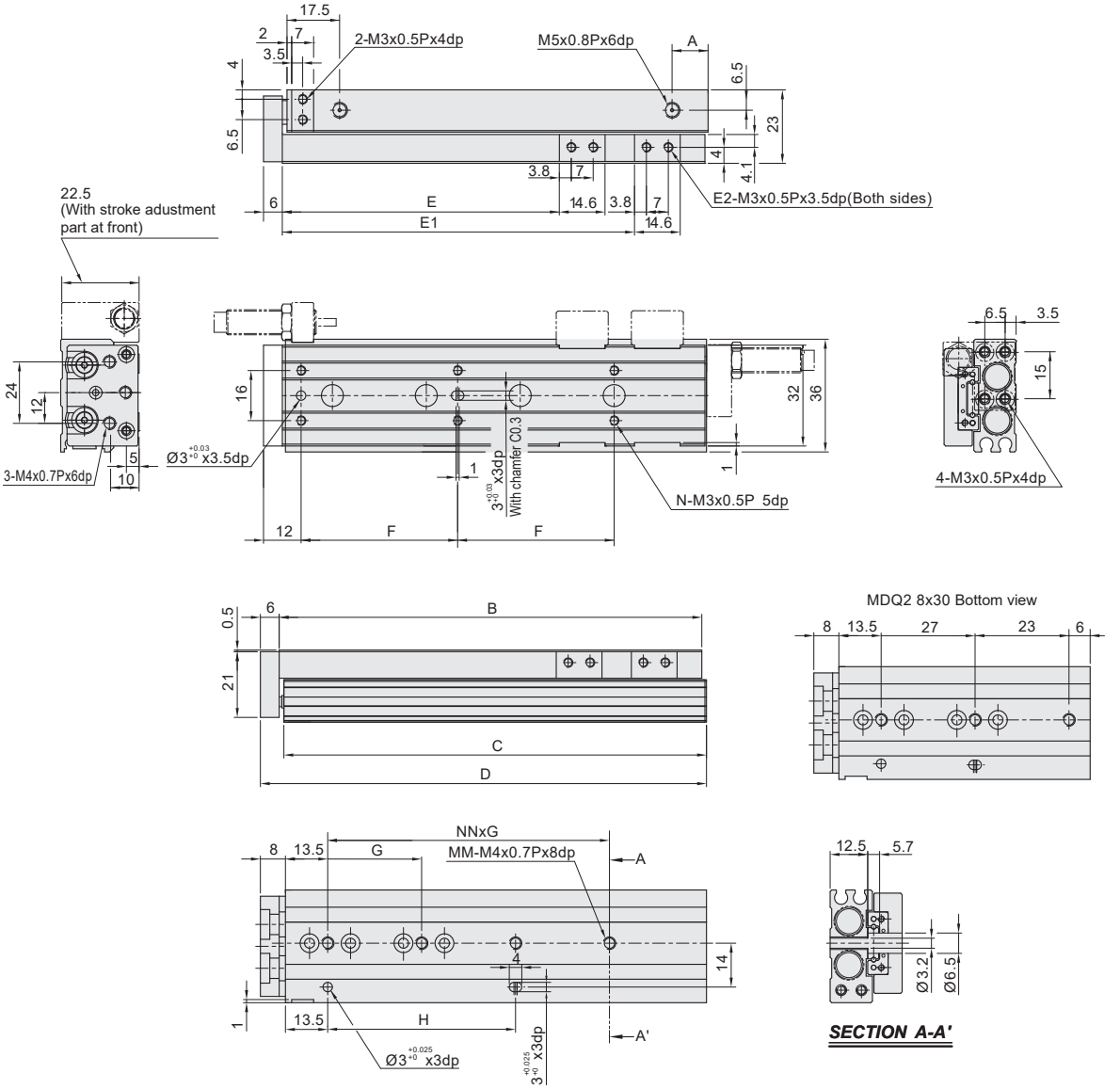
Option

Metal stopper



MDQ2 Ø8 × □

MDQ2 8 × □ ST



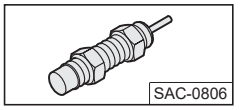
Dimension

Unit: mm

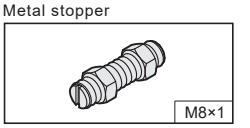
Mark / Stroke	A	B	C	D	E	E1	E2	F	G	NN	H	N	MM
10	11	46	45.5	53	23.5	—	4	25	25	1	19	4	2
20	10	56	55.5	63	33.5	—	4	25	28	1	28	4	2
30	12	70	69.5	77	43.5	—	4	26	—	2	27	6	3
40	14	84	83.5	91	53.5	69.4	4	32	31	2	31	6	3
50	13	109	108.5	116	63.5	94.4	8	46	29	3	58	6	4
75	12	135	134.5	142	88.5	120.4	8	50	30	3	60	6	4

Option

Shock absorber

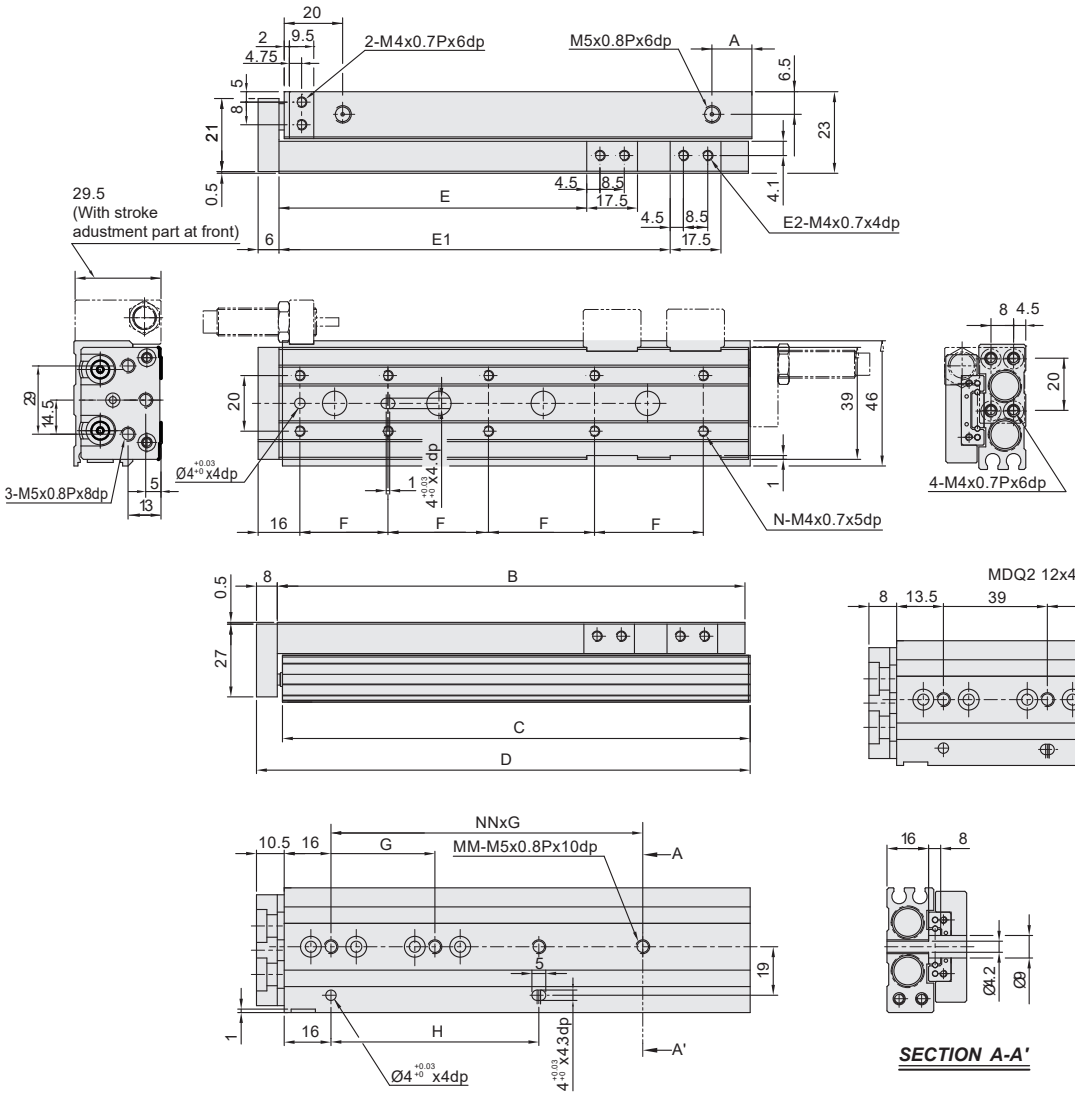


Metal stopper



MDQ2 Ø12 × ▭

MDQ2 12 × ▭ ST



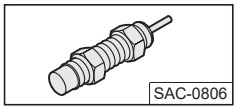
Dimension

Unit: mm

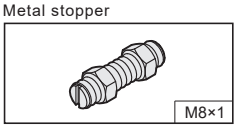
Mark / Stroke	A	B	C	D	E	E_1	E_2	F	G	NN	H	N	MM
10	12	67	66	76	26.5	—	8	28	32	1	32	4	2
20	12	67	66	76	36.5	—	4	28	32	1	32	4	2
30	14	77	76	86	46.5	—	4	38	40	1	40	4	2
40	15	94	93	103	56.5	—	8	34	—	2	39	6	3
50	13	104	103	113	66.5	—	8	34	39	2	39	6	3
75	17	148	147	157	91.5	129.5	8	36	36	3	36	8	4
100	17	173	172	182	116.5	154.5	8	36	36	4	36	10	5

Option

Shock absorber



Metal stopper



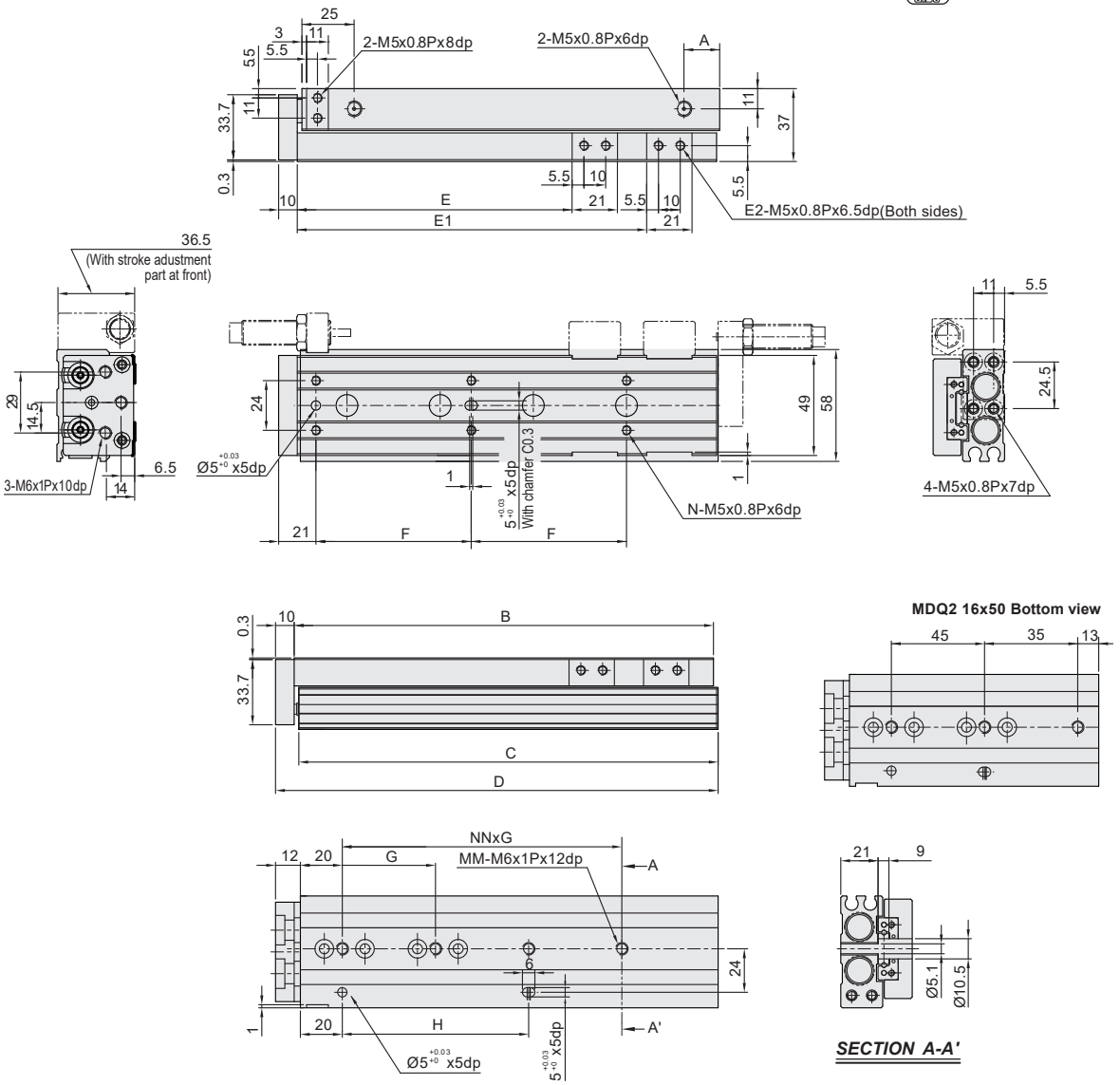
MDQ2 series Dual Rod Air Slide Table

Dimensions - Ø16

CHELIC

MDQ2 Ø16 × □

MDQ2 16 × □ ST



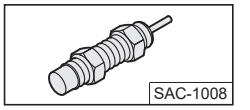
Dimension

Unit: mm

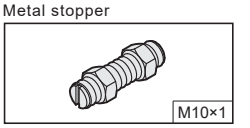
Mark / Stroke	A	B	C	D	E	E1	E2	F	G	NN	H	N	MM
10	12	78	77	89	28	57	4	38	39	1	39	4	2
20	12	78	77	89	38	—	2	38	39	1	39	4	2
30	12	88	87	99	48	—	2	48	48	1	48	4	2
40	12	98	97	109	58	—	2	58	58	1	58	4	2
50	20	114	113	125	68	93	4	40	—	2	45	6	3
75	15	146	145	157	93	125	4	46	52	2	52	6	3
100	18	189	188	200	118	168	4	44	44	3	88	8	4
125	23	214	213	225	143	193	4	44	44	4	88	10	5

Option

Shock absorber

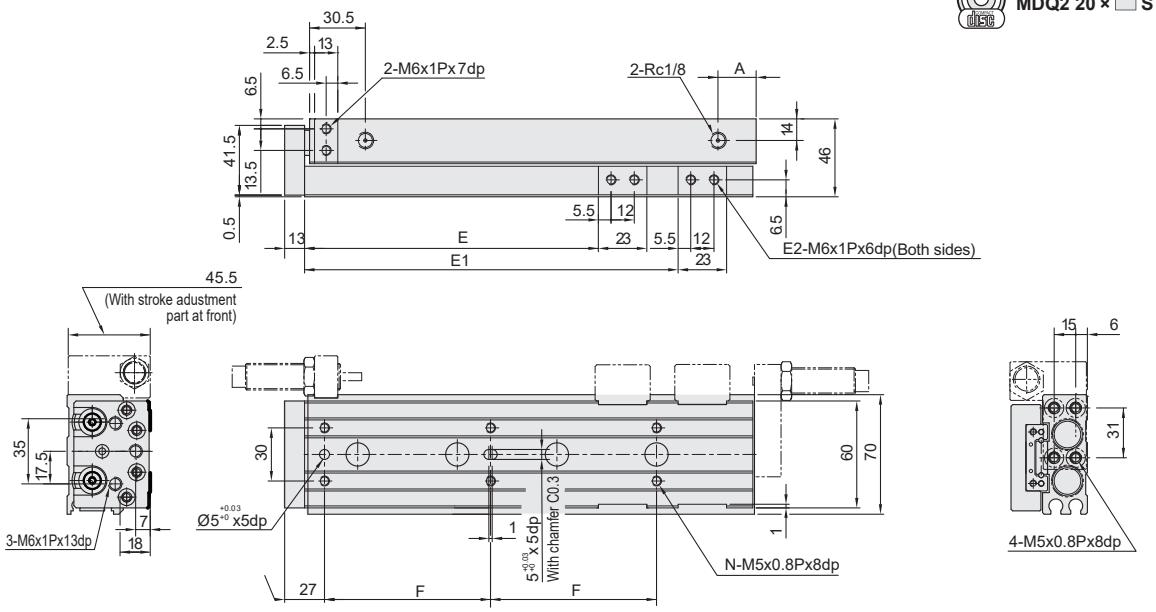


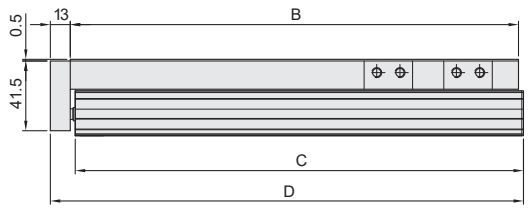
Metal stopper



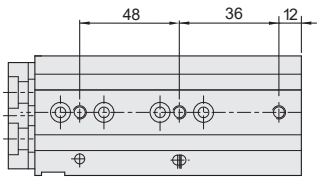
MDQ2 Ø20 × ▭

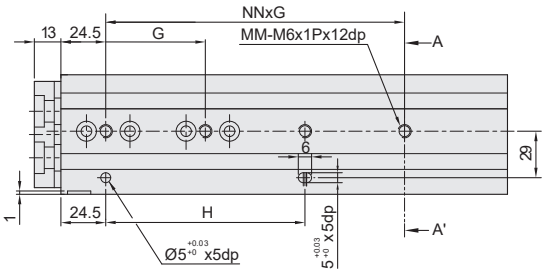
MDQ2 20 × ▭ ST

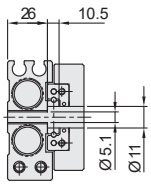




MDQ2 20x50 Bottom view







SECTION A-A'

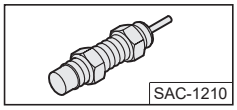
Dimension

Unit: mm

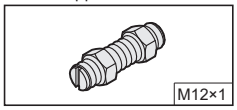
Mark / Stroke	A	B	C	D	E	E1	E2	F	G	NN	H	N	MM
10	16	94	92.5	108	31	70	4	45	46	1	50	4	2
20	16	94	92.5	108	41	70	4	40	46	1	50	4	2
30	16	94	92.5	108	51	—	2	48	46	1	50	4	2
40	16	104	102.5	118	61	—	2	58	56	1	56	4	2
50	18	122	120.5	136	71	98	4	42	—	2	48	6	3
75	23	155	153.5	169	96	131	8	55	56	2	56	6	3
100	25	212	210.5	226	121	188	8	50	56	3	112	8	4
125	18	240	238.5	254	146	216	8	55	59	3	118	8	4
150	21	268	266.5	282	171	244	8	62	62	3	124	8	4

Option

Shock absorber



Metal stopper



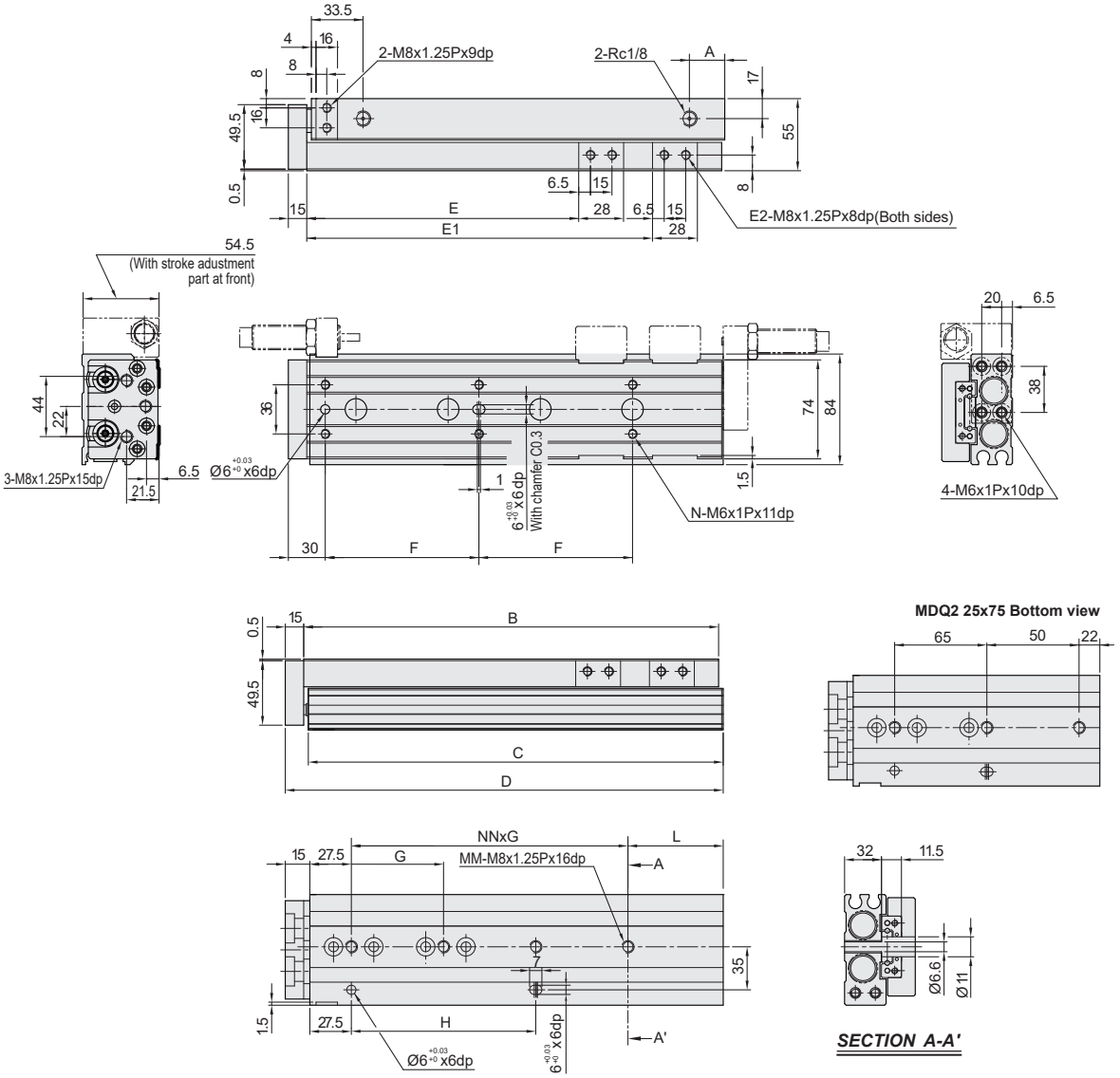
MDQ2 series Dual Rod Air Slide Table

Dimensions - Ø25

CHELIC

MDQ2 Ø25 × ▭

MDQ2 25 × ▭ ST



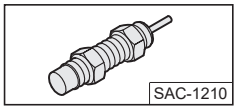
Dimension

Unit: mm

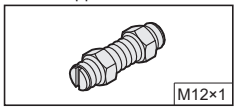
Mark / Stroke	A	B	C	D	E	E1	E2	F	G	NN	H	N	MM	L
10	16	107	105.5	123	36.5	77.5	4	55	55	1	55	4	2	23
20	16	107	105.5	123	46.5	77.5	4	46	55	1	55	4	2	23
30	16	107	105.5	123	56.5	—	4	55	55	1	55	4	2	23
40	16	117	115.5	133	66.5	—	4	65	65	1	65	4	2	23
50	16	141	139.5	157	76.5	111.5	4	75	80	1	80	4	2	32
75	31	166	164.5	182	101.5	136.5	4	60	—	2	65	6	3	—
100	20	205	203.5	221	126.5	175.5	8	48	44	3	88	8	4	44
125	18	258	256.5	274	151.5	228.5	8	60	66	3	132	8	4	31
150	18	283	281.5	299	176.5	253.5	8	65	66	3	132	8	4	56

Option

Shock absorber



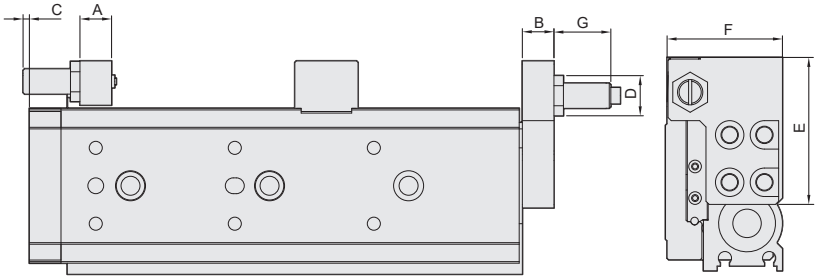
Metal stopper

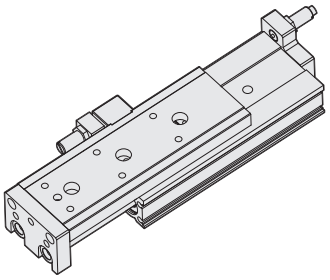


Stroke adjustment and with Shock absorber

— A With shock absorber

MDQ2 dimensions

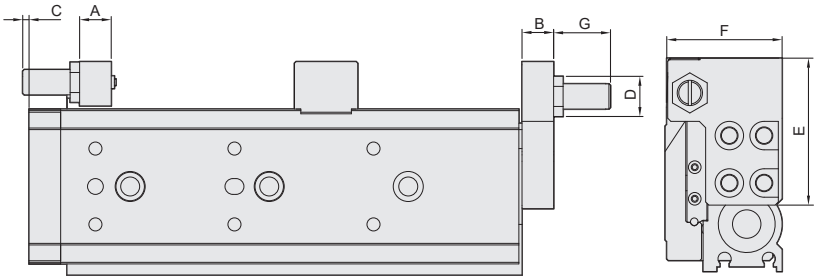


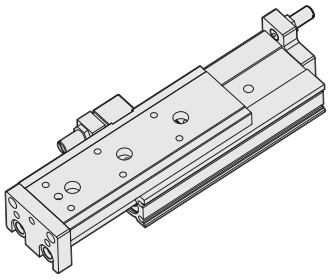


Size / Mark / Model	A	B	C	D	E	F	G								
							10ST	20ST	30ST	40ST	50ST	75ST	100ST	125ST	150ST
MDQ2 Ø6	7	8	20.5	14.5	38	23.5	20.1	25.1	24.1	16.1	27.1	—	—	—	—
MDQ2 Ø8	7	8	20.5	14.5	38	23.5	20.1	25.1	24.1	16.1	27.1	27.1	—	—	—
MDQ2 Ø12	9.5	8	15.5	15	45	31.5	5	15	25	23	13	26	26	—	—
MDQ2 Ø16	11	12	17	15	49.5	36.5	32	13	13	13	32	32	32	32	—
MDQ2 Ø20	13	12	18.5	16	58	46.5	38	38	20	20	38	38	38	38	38
MDQ2 Ø25	16	15	18.5	16	63	54.5	38	38	20	20	38	38	38	38	38

— B With metal stopper

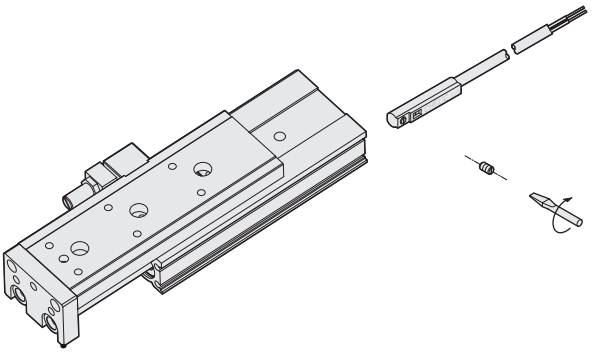
MDQ2 dimensions





Size / Mark / Model	A	B	C	D	E	F	G	Stroke adjustment
MDQ2 Ø6	6	6	16.5	12.5	32	19.5	15	0 ~ 5 mm
MDQ2 Ø8	7	8	20.5	14.5	38	23.5	19	0 ~ 15 mm
MDQ2 Ø12	9.5	8	4.5	15	45	31.5	19	0 ~ 15 mm
MDQ2 Ø16	11	12	13	15	49.5	36.5	22	0 ~ 15 mm
MDQ2 Ø20	13	12	8.5	16	58	46.5	34	0 ~ 15 mm
MDQ2 Ø25	16	15	8.5	16	63	54.5	34	0 ~ 15 mm

Sensor switch mounting type



Sensing range

Sensor switch is fixed on the cylinder body.The magnetic piston head will activate the Sensor switch when it enters the operating range. It has 0.5mm differential.

Operating range

When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch.(Please refer to the below table)

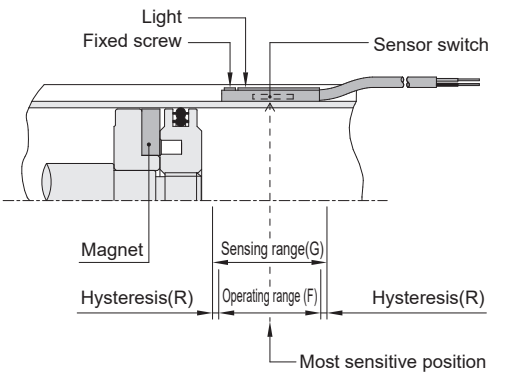
Unit: mm

Model	CS-8G	
Bore size	Operating range (F)	Hysteresis(R)
Ø6	4	1
Ø8	2.5	1
Ø12	4.5	1
Ø16	5.3	1.2
Ø20	5.3	1.2
Ø25	5.7	1.5

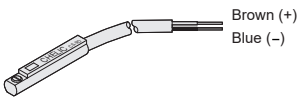
Unit: mm

Model	CS-9D(B)	
Bore size	Operating range (F)	Hysteresis(R)
Ø6	-	-
Ø8	-	-
Ø12	8	1
Ø16	10	1.2
Ø20	11	1.2
Ø25	9	1.5

Sensor switch setting and operating range

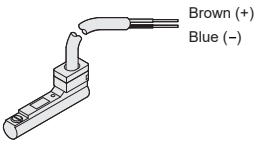


Sensor switch introduction



CS-9D

Voltage: DC 5~120V
AC 5~120V



CS-9B

Voltage: DC 5~120V
AC 5~120V