

KOGANEI

Air Cylinder

GT SLIDE TABLE

INSTRUCTION MANUAL Ver.1.0

Handling Instructions and Precautions

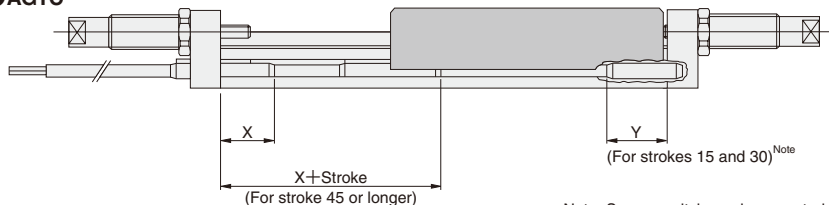


Sensor switch

Mounting location of end of stroke detection sensor switch

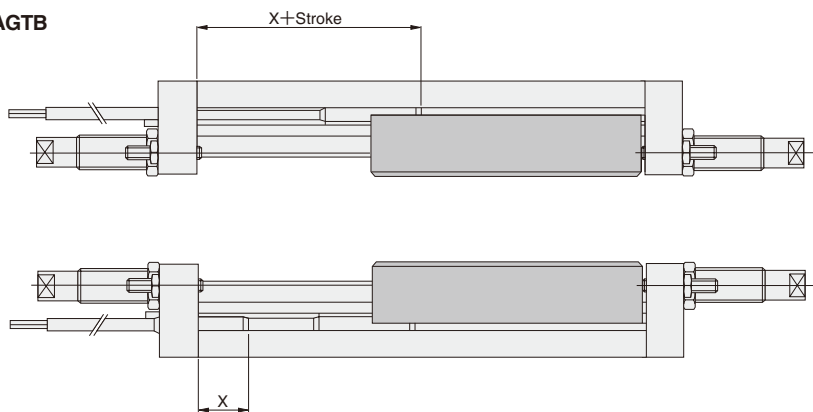
When the sensor switch is mounted in the locations shown below (the figures in the tables are reference values), the magnet comes to the maximum sensing location of the sensor switch at the end of the stroke.

●AGTC



Note: Sensor switch can be mounted on stroke 45 or longer.

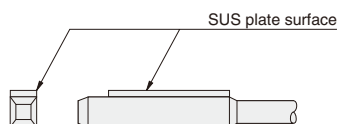
●AGTB



Sensor switch	mm [in.]	
	X	Y
ZC301	11 [0.433]	19 [0.748]
ZC305	14.5 [0.571]	19.5 [0.768]
ZC330	12.5 [0.492]	20.5 [0.807]
ZC353	12.5 [0.492]	20.5 [0.807]

Mounting

Mount the sensor switch so that the SUS plate surface faces up.



Caution: Mount the sensor switch using the supplied hexagon socket setscrews. Tighten the hexagon socket setscrew with a tightening torque of 19.6 N·cm [1.7in·lbf]. Overtightening could damage the sensor switch.



General precautions

Piping

Always thoroughly blow off (use compressed air) the tubing before connecting it to the cylinder. Entering chips, sealing tape, rust, etc., generated during piping work could result in air leaks or other defective operation.

Atmosphere

1. If using in locations subject to dripping water, dripping oil, etc., or to large amounts of dust, use a cover to protect the unit.
2. The product cannot be used when the media or ambient atmosphere contains any of the substances listed below.
Organic solvents, phosphate ester type hydraulic oil, chlorine gas, or acids, etc.

Lubrication

Inside cylinder of this product can be used without lubrication, if lubrication is required, use Turbine Oil Class 1 (ISO VG32) or equivalent.

Avoid using spindle oil or machine oil.

Periodic greasing is required for the outside surface of the cylinder body.

Apply the recommended grease sufficiently every 300km [186mi.] of traveling distance.

Recommended grease: Lithium soap-based grease

Atmosphere

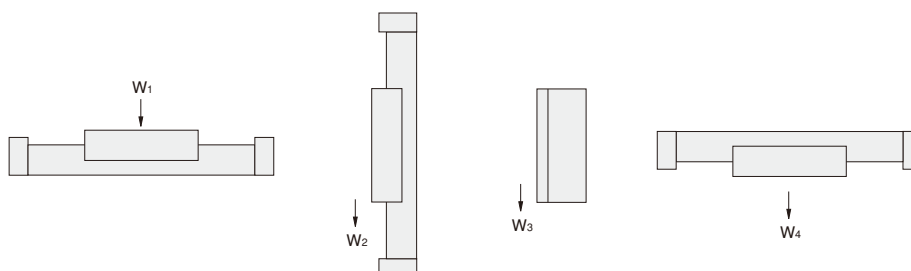
1. Use air for the media. For the use of any other media, consult us.
2. Air used for the cylinder should be clean air that contains no deteriorated compressor oil, etc. Install an air filter (filtration of a minimum 40 μm) near the cylinder or valve to remove collected liquid or dust. In addition, drain the air filter periodically.

GT SLIDE TABLES

Specifications

Model			AGTB10	AGTB16	AGTB25	AGTC10	AGTC16
Item							
Bore size	mm [in.]		10 [0.394]	16 [0.630]	25 [0.984]	10 [0.394]	16 [0.630]
Operation type			Double acting type				
Media			Air				
Operating pressure range	MPa [psi.]		0.16~0.7 [23~102]	0.12~0.7 [17~102]	0.10~0.7 [15~102]	0.16~0.7 [23~102]	0.12~0.7 [17~102]
Proof pressure	MPa [psi.]		1.03 [149]				
Operating temperature range	°C [°F]		0~60 [32~140]				
Operating speed range	mm/s [in./sec.]		100~300 [3.9~11.8] (With shock absorber: 100~500 [3.9~19.7])				
Cushion			Shock absorber (Optional)				
Lubrication	Cylinder portion	Not required (If lubrication is required, use Turbine Oil Class 1 [ISO VG32] or equivalent.)					
	Guide portion	Required (Lithium soap-based grease) ^{Note}					
Repeatability	mm [in.]		±0.025 [±0.001]				
Traveling parallelism	mm [in.]		0.08 [0.0031]				
Stroke adjusting range	mm [in.]		-16~0 [-0.630~0]	-12~0 [-0.472~0]	-20~0 [-0.787~0]	-16~0 [-0.630~0]	
Maximum load capacity N [lbf.]	With shock absorber	Horizontal mount (W1)	29.4 [6.6]	39.2 [8.8]	49.0 [11.0]	14.7 [3.3]	19.6 [4.4]
		Except horizontal mount (W2, W3, W4)	29.4 [6.6]	39.2 [8.8]	39.2 [8.8]	14.7 [3.3]	19.6 [4.4]
	No shock absorber	Horizontal mount (W1)	14.7 [3.3]	19.6 [4.4]	29.4 [6.6]	4.9 [1.1]	9.8 [2.2]
		Except horizontal mount (W2, W3, W4)	14.7 [3.3]	19.6 [4.4]	29.4 [6.6]	4.9 [1.1]	9.8 [2.2]
Port size			M5×0.8				

Note: Apply grease on the raceway surface of the track rail every 6 months or every 300km [186mi.] of traveling distance.



Shock Absorber Specifications

Model Item	KSHA6×5-A	KSHA6×5-B	KSHA6×5-D	KSHA6×5-DE	KSHA6×8-D	KSHA6×8-E	KSHA6×8-F
Maximum absorption J [ft·lbf]	0.1 [0.07]	0.29 [0.21]	0.98 [0.72]	1.47 [1.08]	0.98 [0.72]	1.96 [1.45]	2.94 [2.17]
Absorbing stroke mm [in.]	5 [0.197]				8 [0.315]		
Maximum impact speed mm/s [in./sec.]	1000 [39.4]						
Maximum operating frequency cycle/min	60				30		
Spring return force ^{Note} N [lbf]	4.02 [0.90]				6.47 [1.45]		
Angle variation	1° or less				3° or less		
Operating temperature range °C [°F]	0~60 [32~140]						

Note: The value obtained at the retracted position.

Remarks: 1. For shock absorbers, see the General Catalog of Air Treatment, Auxiliary, Vacuum or technical documents.

2. Tighten the shock absorber mounting nuts with a tightening torque of 637N·cm [56.4in·lbf].

Bore Size and Stroke

● AGTB mm	
Bore size	Standard strokes
10	15, 30, 45, 60, 75, 90, 105, 120
16	
25	

● AGTC mm	
Bore size	Standard strokes
10	15, 30, 45, 60, 75, 90, 105, 120
16	

Mass

● AGTB g [oz.]		15	30	45	60	75	90	105	120
Bore size mm [in.]	Stroke mm								
10 [0.394]		320 [11.29]	350 [12.35]	420 [14.81]	490 [17.28]	570 [20.11]	640 [22.57]	720 [25.40]	790 [27.87]
16 [0.630]		440 [15.52]	480 [16.93]	580 [20.46]	680 [23.99]	790 [27.87]	890 [31.39]	1000 [35.27]	1100 [38.80]
25 [0.984]		670 [23.63]	730 [25.75]	880 [31.04]	1030 [36.33]	1190 [41.98]	1340 [47.27]	1500 [52.91]	1650 [58.20]

● AGTC g [oz.]		15	30	45	60	75	90	105	120
Bore size mm [in.]	Stroke mm								
10 [0.394]		230 [8.11]	250 [8.82]	300 [10.58]	350 [12.35]	410 [14.46]	460 [16.23]	510 [17.99]	560 [19.75]
16 [0.630]		280 [9.88]	310 [10.93]	380 [13.40]	440 [15.52]	520 [18.34]	580 [20.46]	650 [22.93]	720 [25.40]

Additional mass of options

Shock absorber (for 2 pcs.)

Model	Mass g [oz.]
KSHA6×5-□	20 [0.71]
KSHA6×8-□	40 [1.41]

Sensor switch (for 1 pc.)

Model	Mass ^{Note} g [oz.]
ZC330	20 [0.71]
ZC353	20 [0.71]
ZC301	20 [0.71]
ZC305	20 [0.71]

Note: For a lead wire length of 1000mm [39in.]

Remark: Tighten the mounting screw for sensor switch with a tightening torque of 19.6N·cm [1.7in·lbf].

Order Codes

AGT □ 10×30 — □ — □ □ □

Bore size × Stroke

Type
B : B type
C : C type

Alpha series GT slide table

Shock absorber model (with 2 pcs.)
Blank : No shock absorber
A : KSHA6×5-A
B : KSHA6×5-B
C : KSHA6×5-D
D : KSHA6×5-DE
E : KSHA6×8-D
F : KSHA6×8-E
G : KSHA6×8-F

Lead wire length
A : 1000mm [39in.]
B : 3000mm [118in.]

Number of sensor switches
1 : With 1 sensor switch
2 : With 2 sensor switches

Sensor switch
Blank : No sensor switch
ZC330 : Solid state type 2-lead wire with indicator lamp DC10~28V
ZC353 : Solid state type 3-lead wire with indicator lamp DC4.5~28V
ZC301 : Reed switch type 2-lead wire without indicator lamp AC85~115V, DC5~28V
ZC305 : Reed switch type 2-lead wire with indicator lamp DC10~28V

● For details of sensor switches, see p.1544.

● Order code for sensor switches only (with mounting screw, and they can be used for both AGTB and AGTC)

□ □ — AGTB

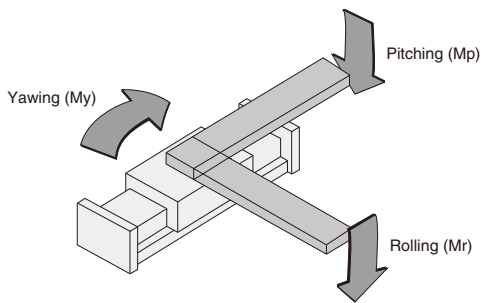
Lead wire length
A : 1000mm [39in.]
B : 3000mm [118in.]

Sensor switch
ZC330
ZC353
ZC301
ZC305

※ When just the mounting screw for sensor switch is required, consult us.
Order code : Y093139

Allowable Moment and Displacement

● Allowable moment



Pitching and yawing

		N·m [ft·lbf]							
Bore size mm [in.]	Stroke mm	15	30	45	60	75	90	105	120
10 [0.394]									
16 [0.630]		5.0 [3.67]	5.0 [3.67]	7.0 [5.14]	7.0 [5.14]	10.0 [7.35]	10.0 [7.35]	15.0 [11.06]	15.0 [11.06]
25 [0.984]									

		N·m [ft·lbf]							
Bore size mm [in.]	Stroke mm	15	30	45	60	75	90	105	120
10 [0.394]		2.5 [1.84]	2.5 [1.84]	3.5 [2.57]	3.5 [2.57]	5.0 [3.67]	5.0 [3.67]	8.0 [5.88]	8.0 [5.88]
16 [0.630]									

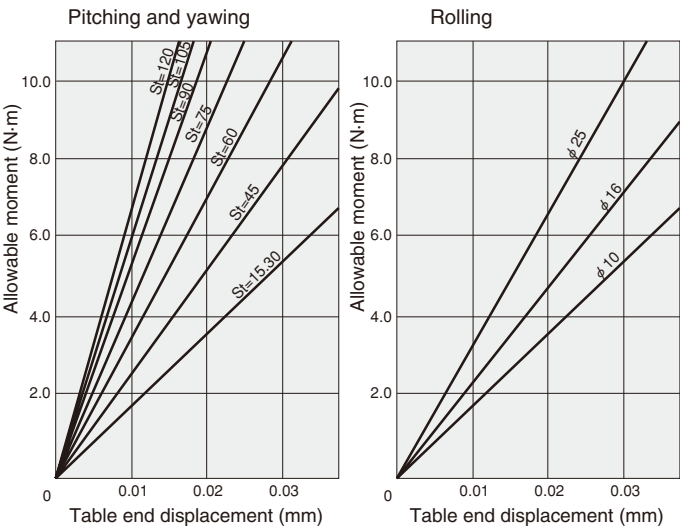
Rolling

		N·m [ft·lbf]	
Bore size mm [in.]	Stroke mm	15~120	
10 [0.394]		7.0 [5.16]	
16 [0.630]		8.0 [5.90]	
25 [0.984]		10.0 [7.38]	

		N·m [ft·lbf]	
Bore size mm [in.]	Stroke mm	15~120	
10 [0.394]		1.0 [0.74]	
16 [0.630]			

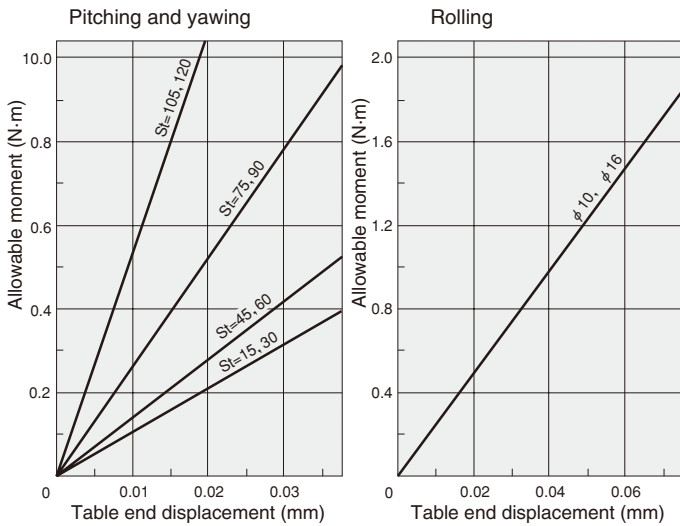
● Table end displacement when applying allowable moment (reference value)

● AGTB



1N·m = 0.7376ft·lbf
1mm = 0.0394in.

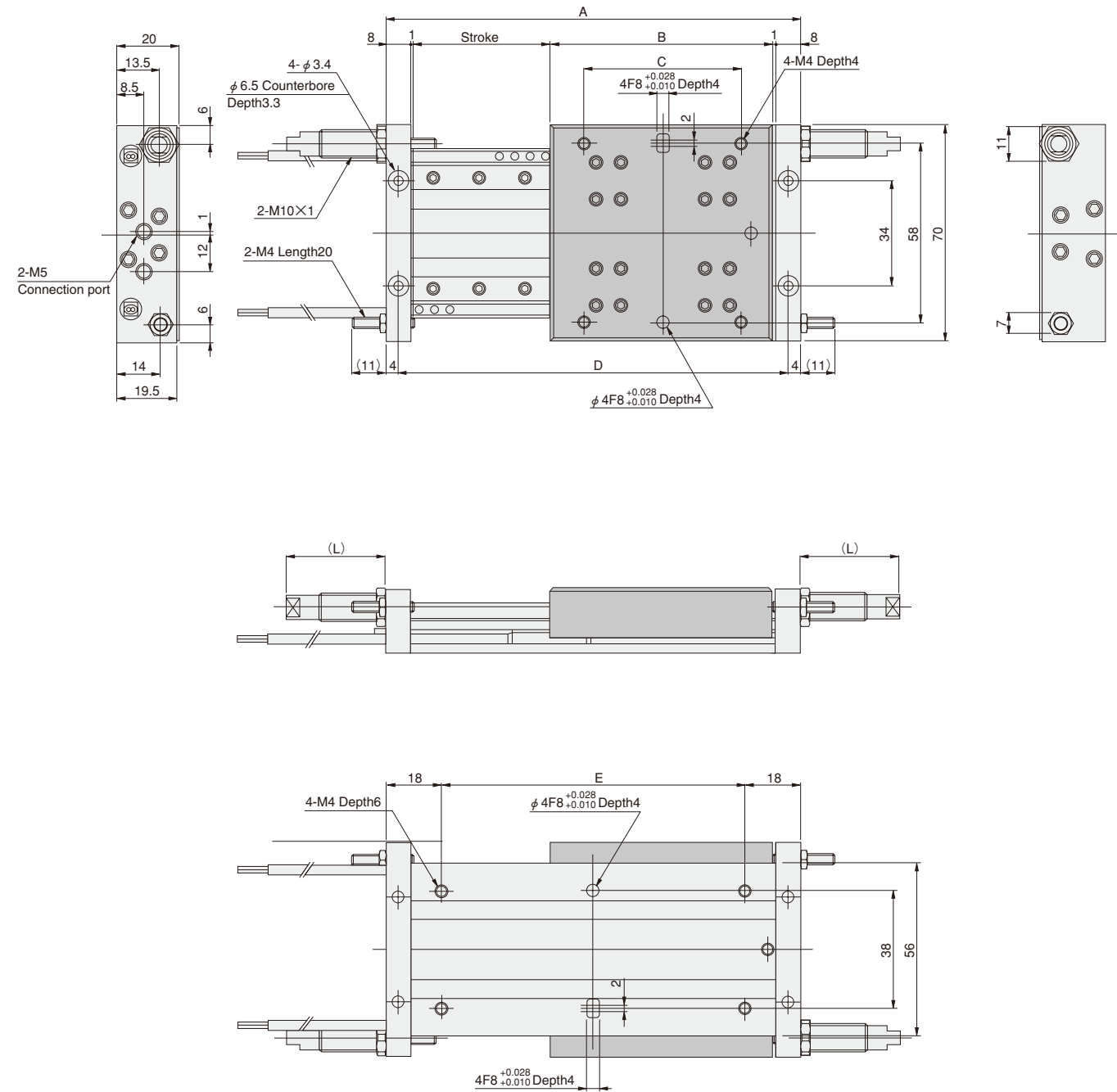
● AGTC



1N·m = 0.7376ft·lbf
1mm = 0.0394in.

● $\phi 10$ [0.394in.] ● Maximum load capacity 29.4N [6.6lbf.] (With shock absorbers)

● Drawings show specification strokes.



Shock Absorber L Dimension Table

Stroke	Code	A	B	C	D	E
15		91	58	35	83	55
30		106	58	35	98	70
45		136	73	50	128	100
60		166	88	65	158	130
75		196	103	80	188	160
90		226	118	95	218	190
105		256	133	110	248	220
120		286	148	125	278	250

L dimension	MIN.	MAX.
-A (KSHA6×5-A)	9.5	17.5
-B (KSHA6×5-B)	9.5	17.5
-C (KSHA6×5-D)	9.5	17.5
-D (KSHA6×5-DE)	9.5	17.5
-E (KSHA6×8-D)	24	32
-F (KSHA6×8-E)	24	32
-G (KSHA6×8-F)	24	32

Technical drawing of the 2500 Series 1000mm Stroke Linear Actuator, showing front, side, and detail views with dimensions and callouts.

Front View Dimensions:

- Overall width: 26
- Top flange width: 19.5
- Top flange offset: 11
- Top flange thickness: 6
- Body height: 5
- Body height: 14
- Bottom flange thickness: 6
- Overall width: 25.5

Side View Dimensions:

- Stroke: 1000
- Top flange offset: 10
- Top flange thickness: 1
- Body height: 44
- Body height: 64
- Body height: 76
- Bottom flange offset: 10
- Bottom flange thickness: 1
- Overall width: 5
- Overall width: 9

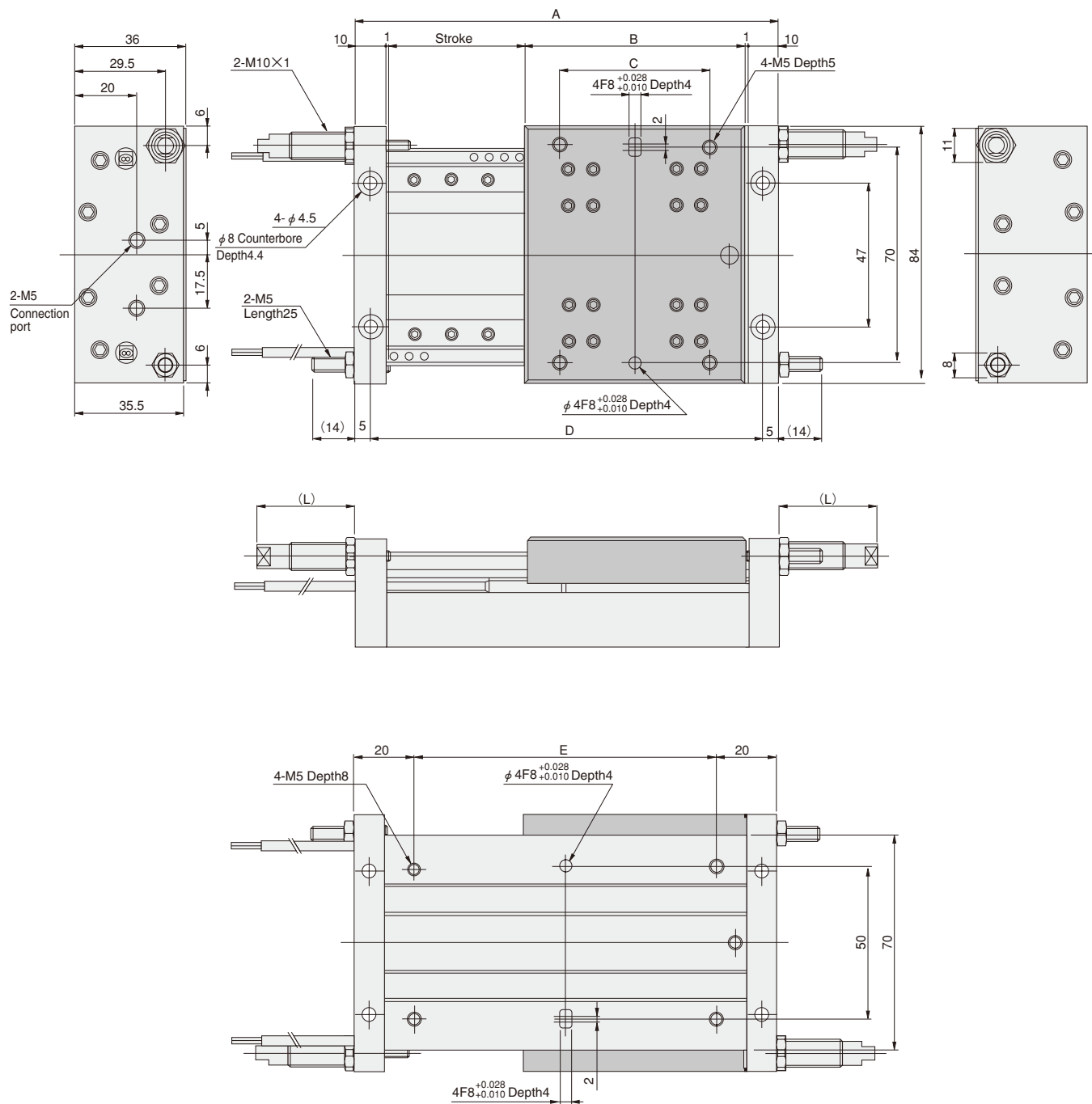
Detail View Dimensions:

- 4- $\phi 4.5$
- $\phi 8$ Counterbore Depth4.4
- 2-M10 \times 1
- 2-M4 Length20
- 4-M4 Depth4
- 4F8 $^{+0.028}_{+0.010}$ Depth4
- 2
- 4F8 $^{+0.028}_{+0.010}$ Depth4
- Stroke
- B
- C
- D
- E
- L

Code Stroke	A	B	C	D	E
15	95	58	35	85	55
30	110	58	35	100	70
45	140	73	50	130	100
60	170	88	65	160	130
75	200	103	80	190	160
90	230	118	95	220	190
105	260	133	110	250	220
120	290	148	125	280	250

Model \ L dimension	MIN.	MAX.
-A (KSHA6×5-A)	9.5	15.5
-B (KSHA6×5-B)	9.5	15.5
-C (KSHA6×5-D)	9.5	15.5
-D (KSHA6×5-DE)	9.5	15.5
-E (KSHA6×8-D)	24	30
-F (KSHA6×8-E)	24	30
-G (KSHA6×8-F)	24	30

● $\phi 25$ [0.984in.] ● Maximum load capacity 49.0N [11.0lbf.] (With shock absorbers)

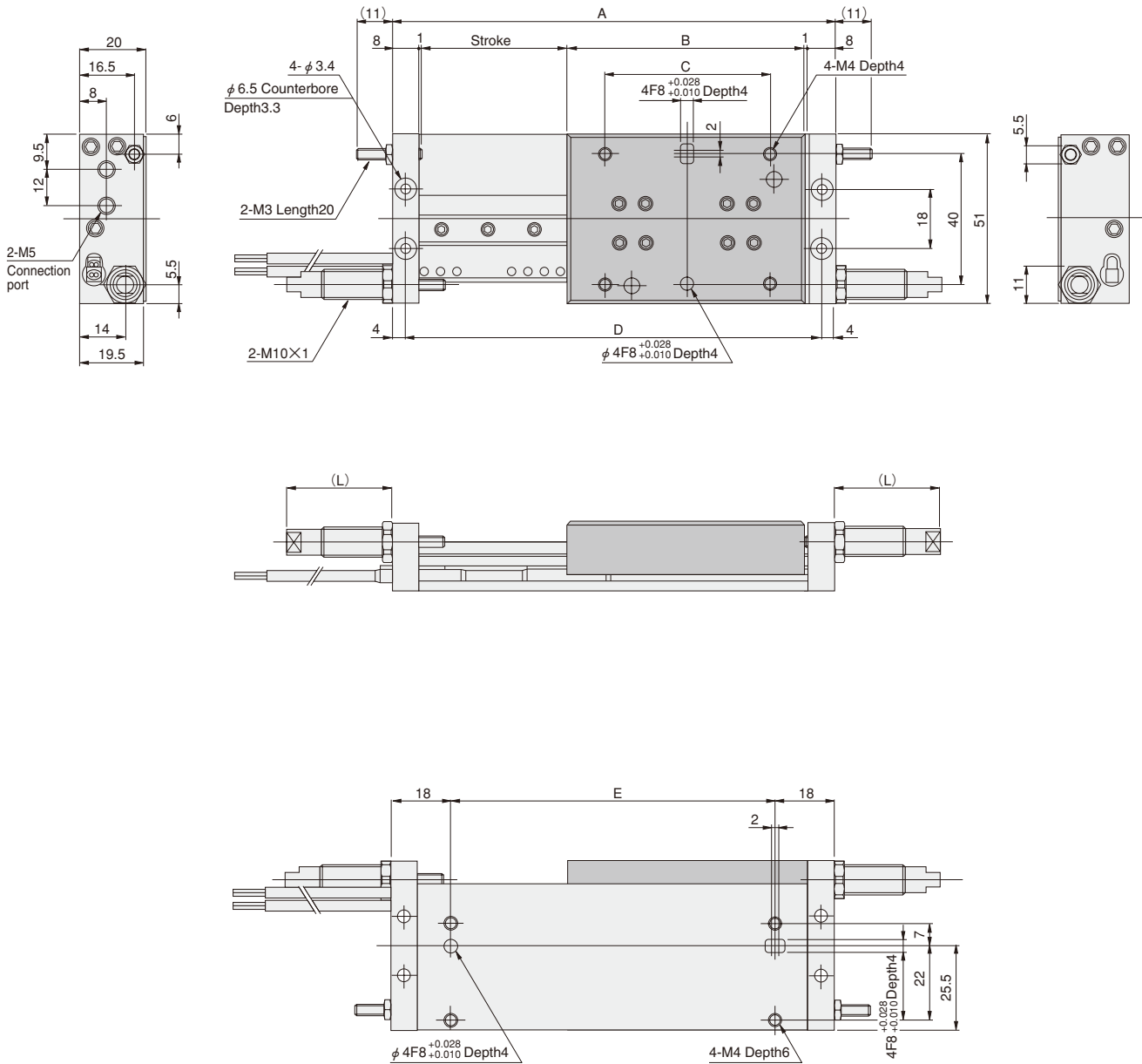


■ Shock Absorber L Dimension Table

Code Stroke	A	B	C	D	E
15	95	58	35	85	55
30	110	58	35	100	70
45	140	73	50	130	100
60	170	88	65	160	130
75	200	103	80	190	160
90	230	118	95	220	190
105	260	133	110	250	220
120	290	148	125	280	250

Model \ L dimension	MIN.	MAX.
-A (KSHA6×5-A)	5.5	15.5
-B (KSHA6×5-B)	5.5	15.5
-C (KSHA6×5-D)	5.5	15.5
-D (KSHA6×5-DE)	5.5	15.5
-E (KSHA6×8-D)	20	30
-F (KSHA6×8-E)	20	30
-G (KSHA6×8-F)	20	30

● $\phi 10$ [0.394in.] ● Maximum load capacity 14.7N [3.3lbf.] (With shock absorbers)

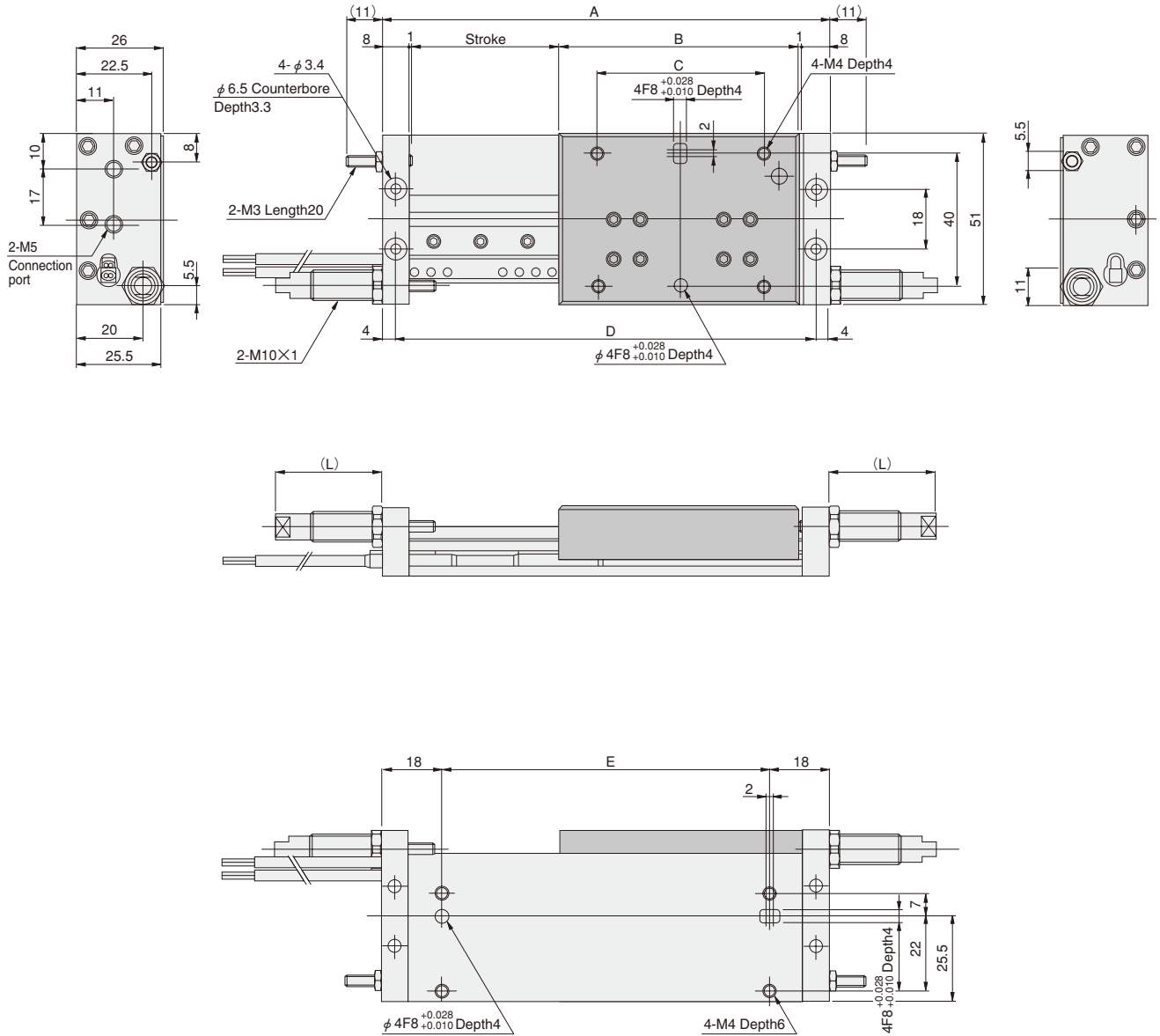


Shock Absorber L Dimension Table

Stroke \ Code	A	B	C	D	E
15	91	58	35	83	55
30	106	58	35	98	70
45	136	73	50	128	100
60	166	88	65	158	130
75	196	103	80	188	160
90	226	118	95	218	190
105	256	133	110	248	220
120	286	148	125	278	250

L dimension	MIN.	MAX.
Model		
-A (KSHA6×5-A)	9.5	17.5
-B (KSHA6×5-B)	9.5	17.5
-C (KSHA6×5-D)	9.5	17.5
-D (KSHA6×5-DE)	9.5	17.5
-E (KSHA6×8-D)	24	32
-F (KSHA6×8-E)	24	32
-G (KSHA6×8-F)	24	32

● $\phi 16$ [0.630in.] ● Maximum load capacity 19.6N [4.4lbf.] (With shock absorbers)



Shock Absorber L Dimension Table

Code	A	B	C	D	E
Stroke					
15	91	58	35	83	55
30	106	58	35	98	70
45	136	73	50	128	100
60	166	88	65	158	130
75	196	103	80	188	160
90	226	118	95	218	190
105	256	133	110	248	220
120	286	148	125	278	250

L dimension	MIN.	MAX.
Model		
-A (KSHA6 \times 5-A)	9.5	17.5
-B (KSHA6 \times 5-B)	9.5	17.5
-C (KSHA6 \times 5-D)	9.5	17.5
-D (KSHA6 \times 5-DE)	9.5	17.5
-E (KSHA6 \times 8-D)	24	32
-F (KSHA6 \times 8-E)	24	32
-G (KSHA6 \times 8-F)	24	32