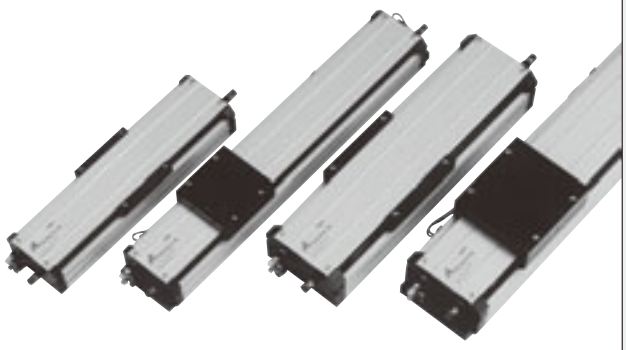
CAD drawing data catalog is available.



KOGANEI

ACTUATORS GENERAL CATALOG

alpha series

RT SLIDE TABLES B TYPE

CONTENTS

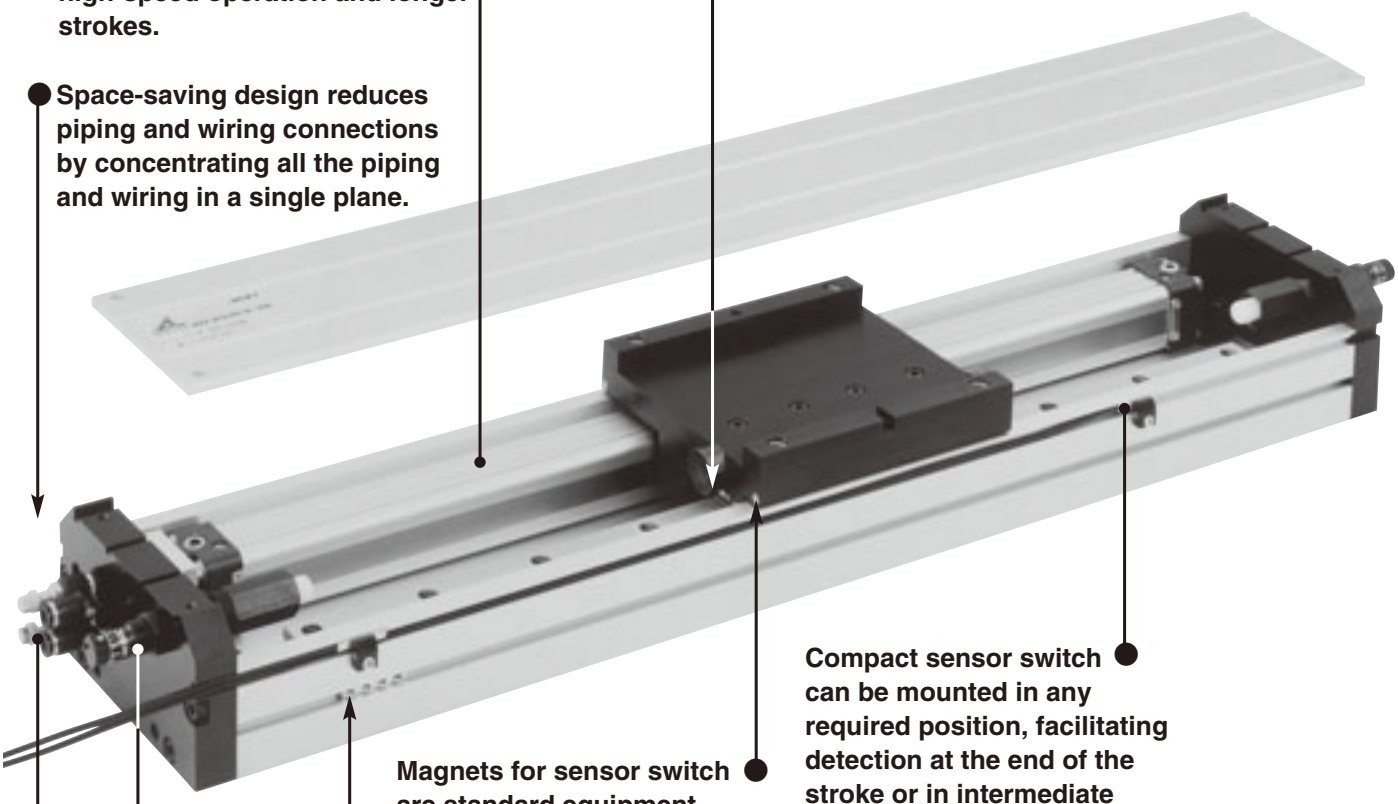
⚠ **Caution** **Before use, be sure to read the "Safety Precautions" on p. 57.**

More precision

alpha series

We have added advanced positioning precision and high rigidity to the pneumatic actuator.
The Koganei Alpha Series further enhances the drive module concept, supporting superior applications and labor savings in FA line design and manufacturing with higher performance.

RT SLIDE TABLES
(B TYPE)



A proven and reliable slit type rodless cylinder achieves high-speed operation and longer strokes.

Linear guide ensures excellent linearity and heavy load capacity.

Space-saving design reduces piping and wiring connections by concentrating all the piping and wiring in a single plane.

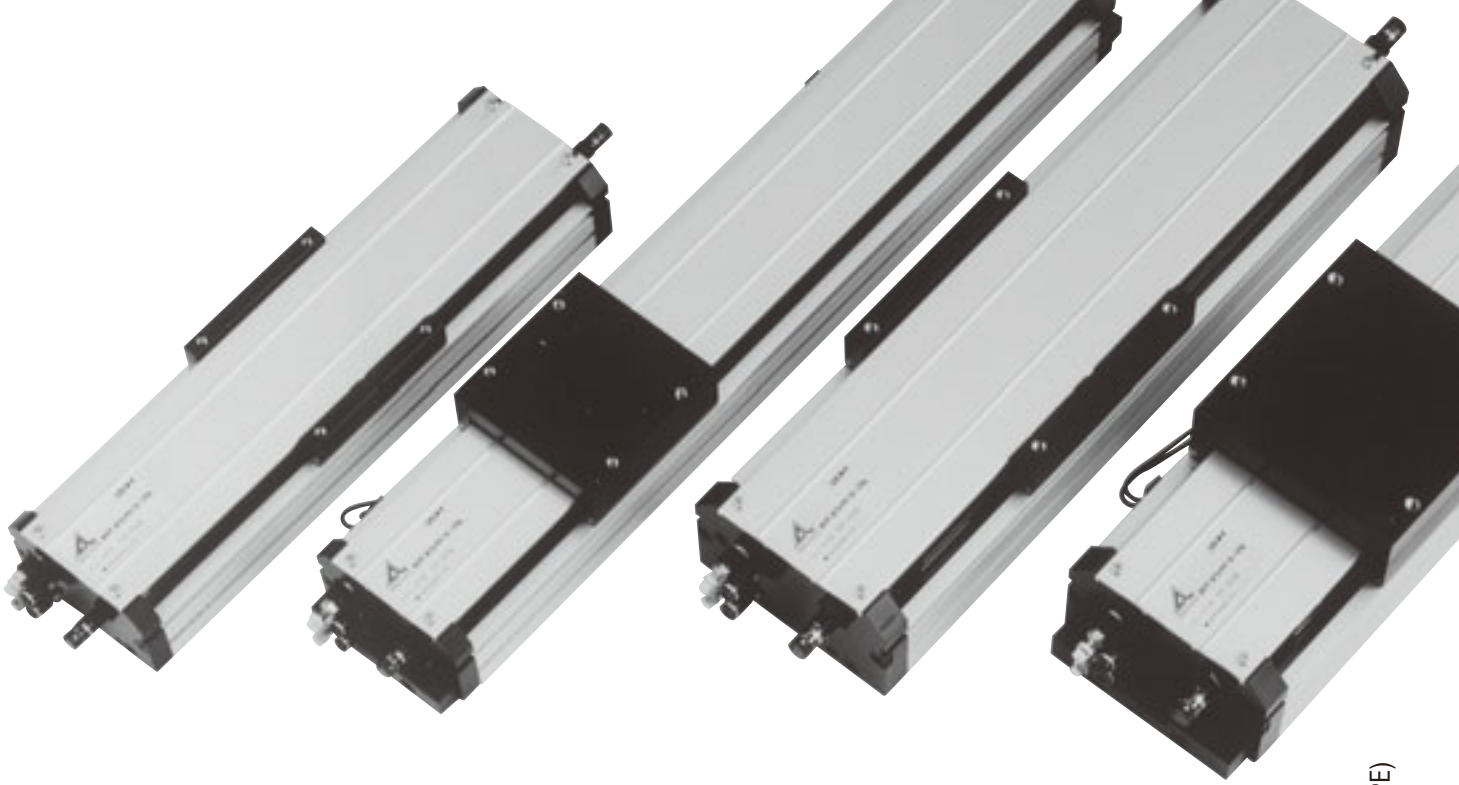
Compact sensor switch can be mounted in any required position, facilitating detection at the end of the stroke or in intermediate positions.

Magnets for sensor switch are standard equipment.

T-slots with built-in square nuts that improve the versatility and ease of mounting are placed in 2 rows along the bottom of the body, and in 1 row each on either side of the body.

Adjustable shock absorber that improves repeatability at the end of the stroke, enables fine stroke adjustment, and reduces shocks and noise, is optional equipment.

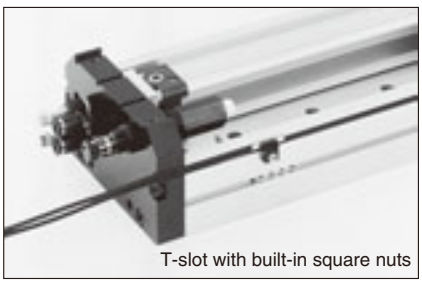
A speed controller with quick fitting is standard equipment.



The Alpha Series RT slide table installs a proven slit type rodless cylinder and linear guide within a slim, thin-type body. This high-performance actuator offers superior positioning accuracy, linearity, and heavy load capacity.

Cylinder offers reliability, high-speed operation, and longer strokes.

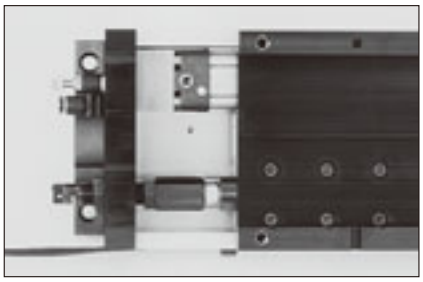
The actuator uses a highly reliable slit type rodless cylinder. Standard type offers long strokes of up to 1200mm (with bore size of ϕ25 [0.984in.]). Moreover, a fast operating speed range of 200～1000mm/s [7.9～39.4in./sec.] brings about a highly effective system with faster cycle time.



T-slot with built-in square nuts

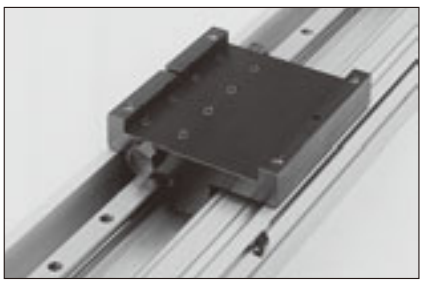
Adjustable shock absorber which enables high-speed operation is optional equipment.

The repeatability at the end of the stroke has been further improved, and an adjustable shock absorber that greatly reduces shock and noise is optional equipment.



High precision linear guide offers heavy load capacity and high linearity.

High precision linear guide is installed within a flat and compact body. Responds to large loads and bending moment to ensure high linearity.



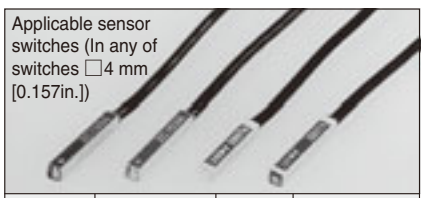
Concentrated placement of piping and wiring offers space-saving design.

The air piping connection port and the wiring outlet for the sensor switch are concentrated on a single plane, while a speed controller with quick fitting is standard equipment, for compact piping and wiring that allows rational space-saving equipment design.

Instantly and easily responds to more flexible and accurate drive controls.

Because built-in magnets for sensor switch are standard, mounting a sensor switch in a required position is all that is needed to enable detection at the end of the stroke or intermediate position.

Applicable sensor switches (In any of switches □4 mm [0.157in.])



Model	Type	Indicator lamp	Voltage
ZC130□	Solid state type	Available	DC10～28V
ZC153□	Solid state type	Available	DC4.5～28V
CS5T□	Reed switch type	Not available	DC5～28V AC85～115V
CS11T□	Reed switch type	Available	DC10～28V

Specifications

Item \ Model		ARTB16	ARTB25
Bore size	mm [in.]	16 [0.630]	25 [0.984]
Operation type		Double acting type	
Media		Air	
Operating pressure range	MPa [psi.]	0.15～0.8 [22～116]	
Proof pressure	MPa [psi.]	1.2 [174]	
Operating temperature range	°C [°F]	0～60 [32～140]	
Operating speed range	mm/s [in./sec.]	200～1000 [7.9～39.4]	
Cushion	Standard	Variable cushion (Stroke ϕ 16 : 6mm [0.236in.], ϕ 25 : 17mm [0.669in.])	
	Option	Shock absorber	
Lubrication	Cylinder portion	Not required	
	Guide portion	Required (Lithium soap-based grease)Note1	
Repeatability	mm [in.]	±0.05 [±0.002]	
ParallelismNote2	mm [in.]	0.2 [0.008]	
Stroke adjusting range	mm [in.]	−22～0 [–0.866～0] (To the specified stroke, 11 [0.433] on each side)	−26～0 [–1.024～0] (To the specified stroke, 13 [0.512] on each side)
Maximum load capacityNote3	N [lbf.]	196.1 [44.1]	294.2 [66.1]
Applicable tube size for speed controller		ϕ 4	ϕ 6

Notes: 1. Apply lithium soap-based grease on the raceway surface of the track rail every 6 months or every 300km [186mi.] of traveling distance.
2. This is the parallelism between the table's upper surface and the bottom surface of the body. It is not the same as the traveling parallelism.
3. This shows the maximum load capacity values with the installation of shock absorbers. For details, see the shock absorber capacity graph on p.1011.

Shock Absorber Specifications

Item \ Model		KSH6×10-S	KSH8×10C-S
Applicable cylinder		ARTB16	ARTB25
Maximum absorption	J [ft·lbf]	2.9 [2.14]	5.9 [4.35]
Absorbing stroke	mm [in.]	10 [0.394]	
Maximum impact speed	mm/s [in./sec.]	1000 [39.4]	
Maximum operating frequency	cycle/min	30	
Spring return force (At the retracted position)	N [lbf.]	9.2 [2.07]	15.7 [3.53]
Angle variation		3° or less	
Operating temperature range	°C [°F]	0～60 [32～140]	

Order Codes

ART **B** **16×500** – □ – □ – □ – □ – □ □

Alpha series RT slide table

B type

Bore size × Stroke

Mounting brackets
Blank : No foot mounting bracket
1A : With 2 foot mounting brackets

Plate
Blank : No sub-plate
P : With sub-plate

Shock absorbers
Blank : No shock absorber
(Two stroke adjusting bolts supplied)
S : With shock absorbers
(Two shock absorbers supplied)

Sensor switch Note

Blank	: No sensor switch		
ZC130	: Solid state type	with indicator lamp	DC10～28V
ZC153	: Solid state type	with indicator lamp	DC4.5～28V
CS5T	: Reed switch type	without indicator lamp	DC5～28V AC85～115V
CS11T	: Reed switch type	with indicator lamp	DC10～28V

Note: Mount the sensor switch so that the surface showing the model marking faces down.

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

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

Number of sensor switches
1：With 1 sensor switch
2：With 2 sensor switches
3：With 3 sensor switches
4：With 4 sensor switches

■Order codes for options only

Foot mounting bracket

1A – ARTB □

Bore size
16：For ϕ 16 [0.630in.]
25：For ϕ 25 [0.984in.]

Basic cylinder type

Sub-plate

P – ARTB □

Bore size
16：For ϕ 16 [0.630in.]
25：For ϕ 25 [0.984in.]

Basic cylinder type

Sensor switch (With holder)

□ □ **– ARTB**

Basic cylinder type

Sensor switch
ZC130
ZC153
CS5T
CS11T

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

Only sensor holder

C1 – ARTB

Basic cylinder type

Shock absorber (With stopper nut)

KSH □

6×10-S：For ϕ 16 [0.630in.]
8×10C-S：For ϕ 25 [0.984in.]

Bore Size and Stroke

mm

Bore size	Standard strokes
16	200, 250, 300, 350, 400, 450, 500, 550, 600, 800, 1000
25	200, 250, 300, 350, 400, 450, 500, 550, 600, 800, 1000, 1200

Mass

●Mass of slide table

g [oz.]

Bore size mm \ Stroke mm	200	250	300	350	400	450
16	4230 [149.2]	4610 [162.6]	4980 [175.7]	5360 [189.1]	5730 [202.1]	6110 [215.5]
25	8960 [316.0]	9600 [338.6]	10240 [361.2]	10890 [384.1]	11530 [406.7]	12180 [429.6]

Bore size mm \ Stroke mm	500	550	600	800	1000	1200
16	6480 [228.6]	6860 [242.0]	7230 [255.0]	8730 [307.9]	10230 [360.8]	—
25	12810 [451.9]	13460 [474.8]	14090 [497.0]	16660 [587.7]	19230 [678.3]	21800 [769.0]

●Additional mass of options

Shock absorbers (for 2 pcs.)

g [oz.]

Bore size mm [in.]	Mass
16 [0.630]	25 [0.88]
25 [0.984]	55 [1.94]

The above table shows the additional mass to the standard products with stroke adjusting bolts.

Foot mounting brackets (for 2 pcs.)

g [oz.]

Bore size mm [in.]	Mass
16 [0.630]	115 [4.06]
25 [0.984]	260 [9.17]

Plate

g [oz.]

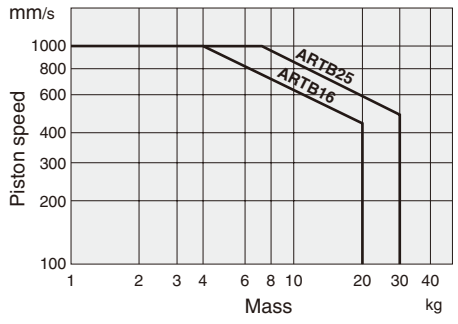
Bore size mm [in.]	Mass
16 [0.630]	390 [13.76]
25 [0.984]	1040 [36.68]

Sensor switch (for 1 pc.)

g [oz.]

Model	Mass
ZC130□	20 [0.71]
ZC153□	20 [0.71]
CS5T□	20 [0.71]
CS11T□	20 [0.71]

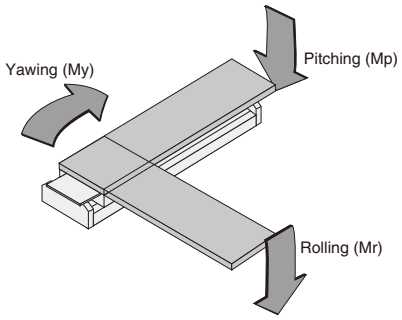
Shock Absorber Capacity Graph



1mm/s = 0.0394in./sec.
1kg = 2.205lb.

Allowable Bending Moment and Displacement

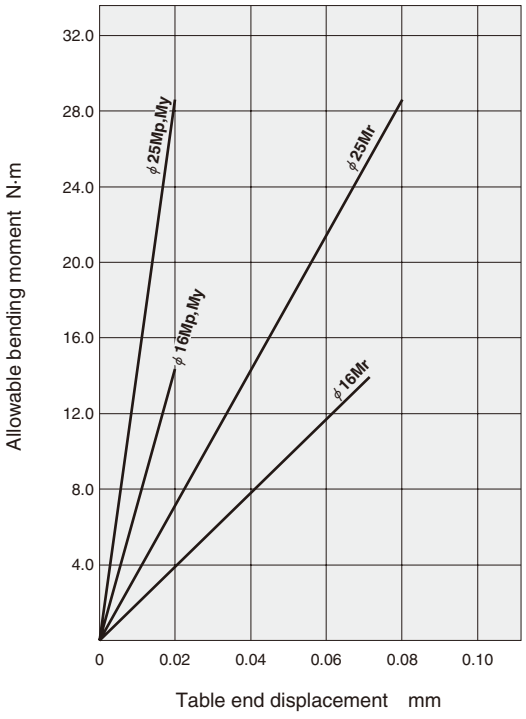
●Allowable bending moment



N·m [ft·lbf]

Direction of moment \ Bore size mm [in.]	Pitching (Mp)	Yawing (My)	Rolling (Mr)
16 [0.630]	14.7 [10.8]	14.7 [10.8]	14.7 [10.8]
25 [0.984]	29.4 [21.7]	29.4 [21.7]	29.4 [21.7]

●Table end displacement at allowable bending moment



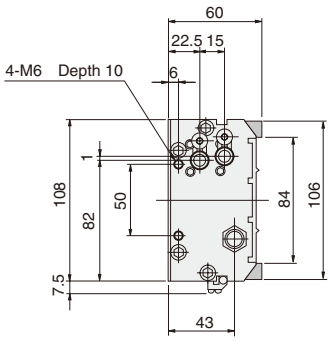
1N·m = 0.7376ft·lbf
1mm = 0.0394in.

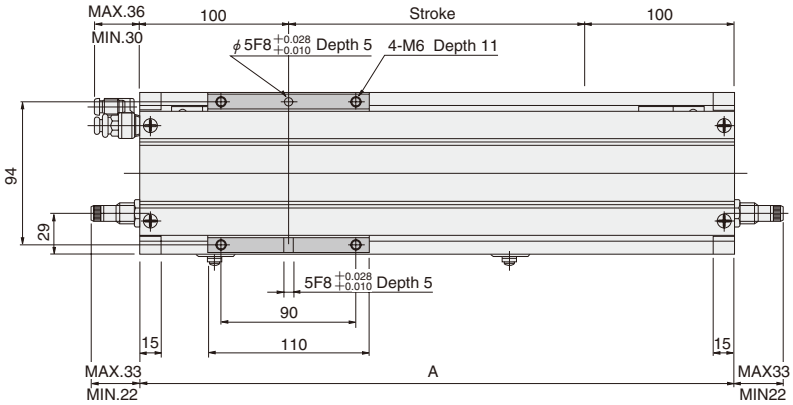
Dimensions of ARTB16 (mm)

● ϕ16 [0.630in.] ●Maximum load capacity 196.1N [44.1lbf.] (With shock absorbers)

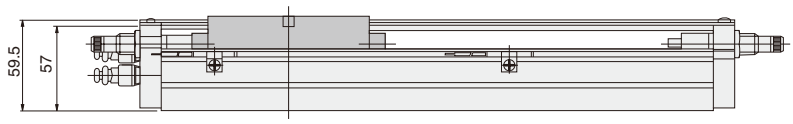
CAD ARTB-16

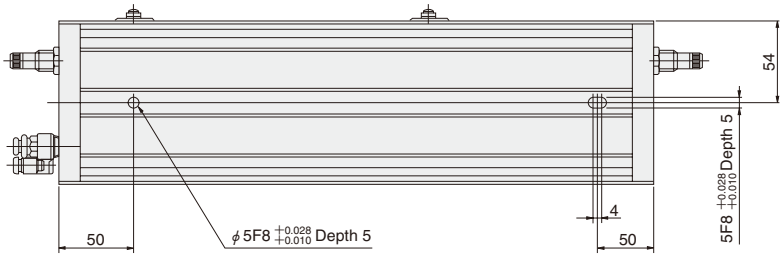
●Drawings show specification strokes.



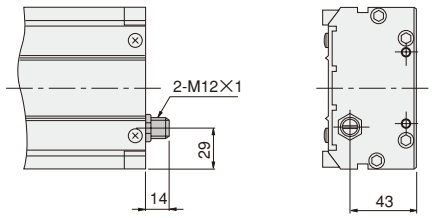


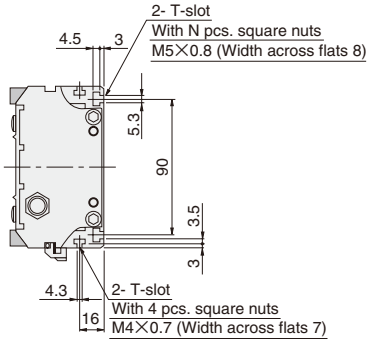
Stroke \ Code	A	N
200	400	4
250	450	4
300	500	6
350	550	6
400	600	6
450	650	6
500	700	6
550	750	6
600	800	8
800	1000	8
1000	1200	10





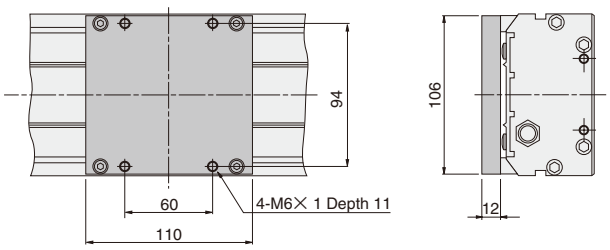
■Stroke adjusting bolt (standard)





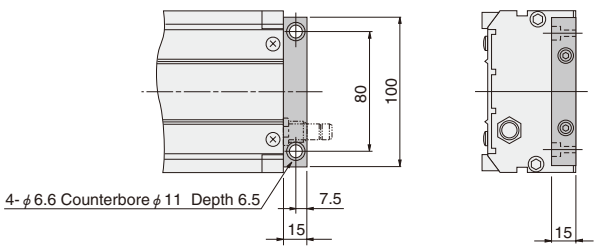
■Sub-plate: -P

CAD ARTB-OP



■Foot mounting bracket: -1A

CAD ARTB-OP

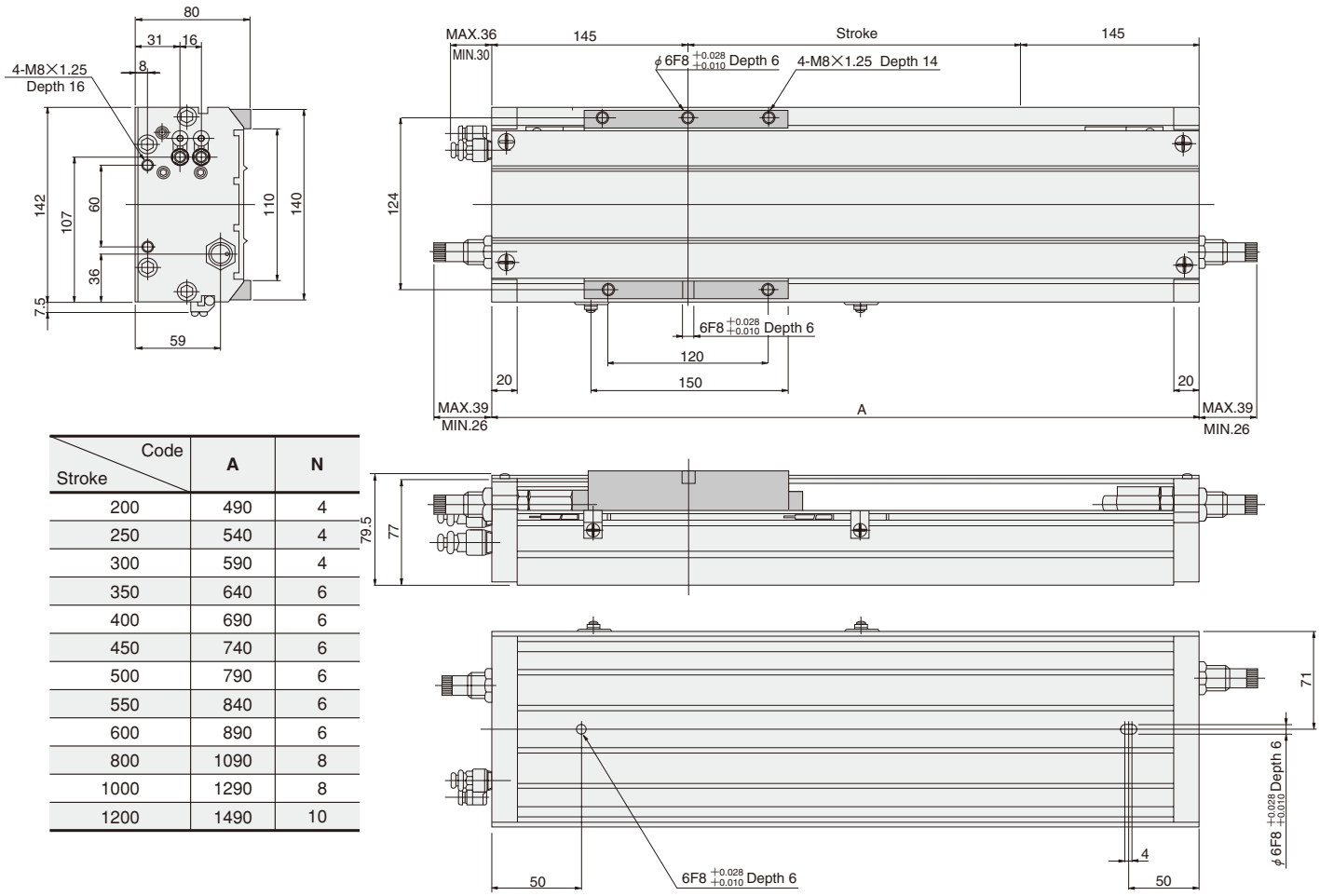


Dimensions of ARTB25 (mm)

● ϕ25 [0.984in.] ● Maximum load capacity 294.2N [66.1lbf.] (With shock absorbers)

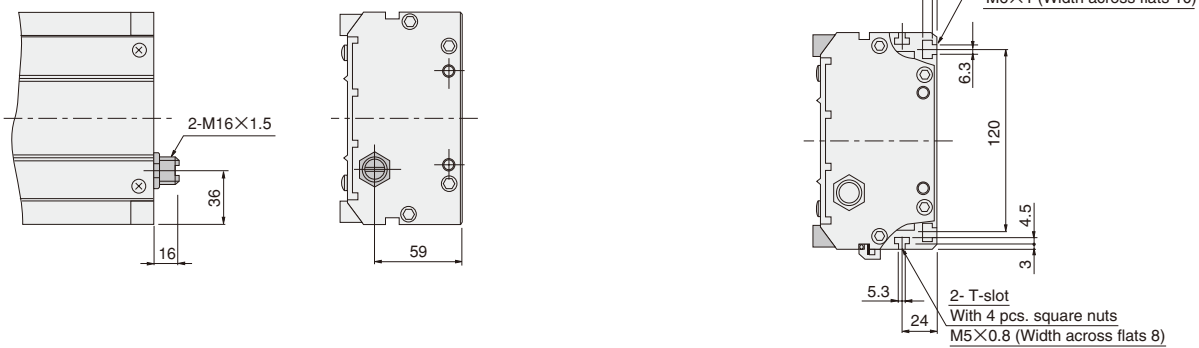
CAD ARTB-25

●Drawings show specification strokes.



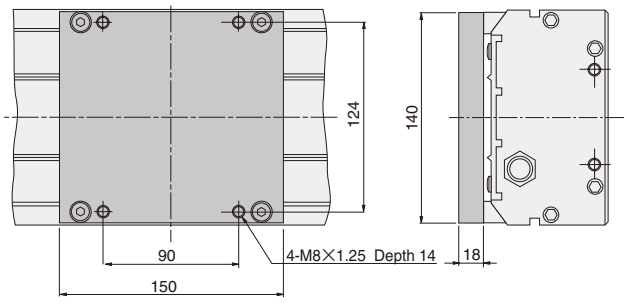
Stroke \ Code	A	N
200	490	4
250	540	4
300	590	4
350	640	6
400	690	6
450	740	6
500	790	6
550	840	6
600	890	6
800	1090	8
1000	1290	8
1200	1490	10

■Stroke adjusting bolt (standard)



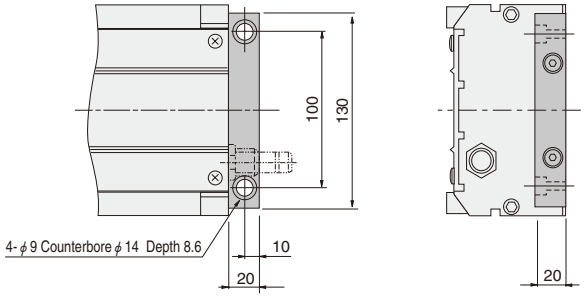
■Sub-plate: -P

CAD ARTB-OP



■Foot mounting bracket: -1A

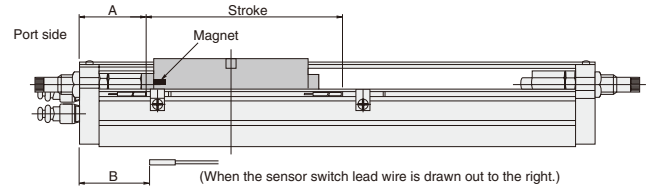
CAD ARTB-OP



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 table are reference values), the magnet comes to the maximum sensing location of the sensor switch at the end of the stroke.



mm [in.]

Sensor switch	ARTB16		ARTB25	
	A	B	A	B
ZC130, ZC153	31.5 [1.240]	39.5 [1.555]	56.5 [2.224]	64.5 [2.539]
CS5T	33 [1.299]	41 [1.614]	58 [2.283]	66 [2.598]
CS11T	32.5 [1.280]	37.5 [1.476]	57.5 [2.264]	62.5 [2.461]

Caution: Mount the sensor switch so that the surface showing the model marking faces down.

General precautions

Piping

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

Atmosphere

Do not engage in electric welding close to the RT slide table. The welding spatters could damage the outer seal band.
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, sulphur dioxide, chlorine gas, or acids, etc.

Lubrication

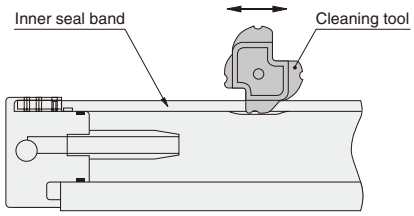
The product can be used without lubrication, if lubrication is required, use Turbine Oil Class 1 **(ISO VG32)** or equivalent.

Media

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

Maintenance

The RT slide table is structurally incapable of completely preventing air leakage to the outside. Nevertheless, particles adhering to the inner seal band are the most common cause of initial-stage air leakages, and this type of failure is easily remedied.
First, loosen the outer seal band setscrews, remove the outer seal band, and apply approx. 0.1MPa [15psi.] of air pressure to the RT slide table. Next, insert a cleaning tool inside the cylinder barrel slit and then, while pressing down on the inner seal band and moving it along the slit, use air to blow off the particles.



Cautions: 1. Always wear protective glasses during operations.
2. When performing maintenance, use the special cleaning tool provided. Use of a screwdriver or other tool could damage the inner seal band or cylinder barrel.
3. If the above maintenance fails to stop the air leakage, follow instructions in the user's manual to perform a overhaul.