RTO1 Series – 2 stop position type – Registration of Design
Rotary Actuator

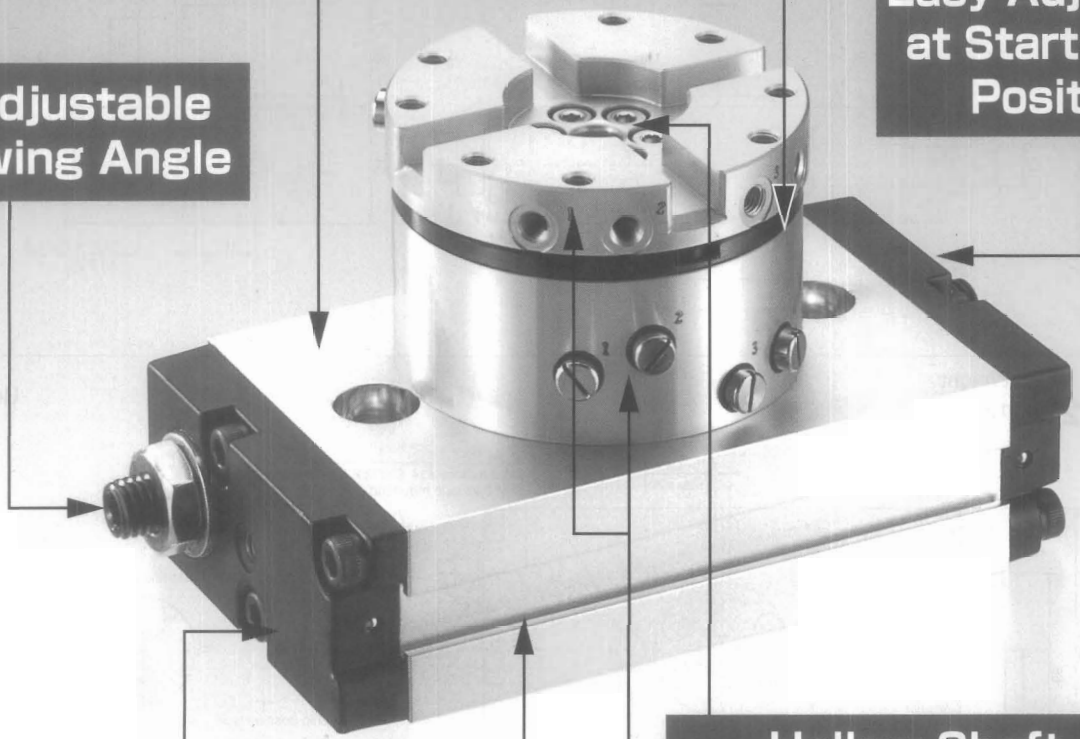
Smooth Operation with Free Backlash

Compact Body & High Torque

High Reliable Bearing Adopted

Easy Adjustment at Start & Stop Positions

Adjustable Swing Angle



Built-in Air Cushion

Hollow Shaft
Available Inner Wiring & Piping

Swivel Joint
Free from swinging Piping

4–Way Mounting
Front mounting
Rear mounting
Bottom mounting
Through mounting

Two Sensor Switches (Optional)

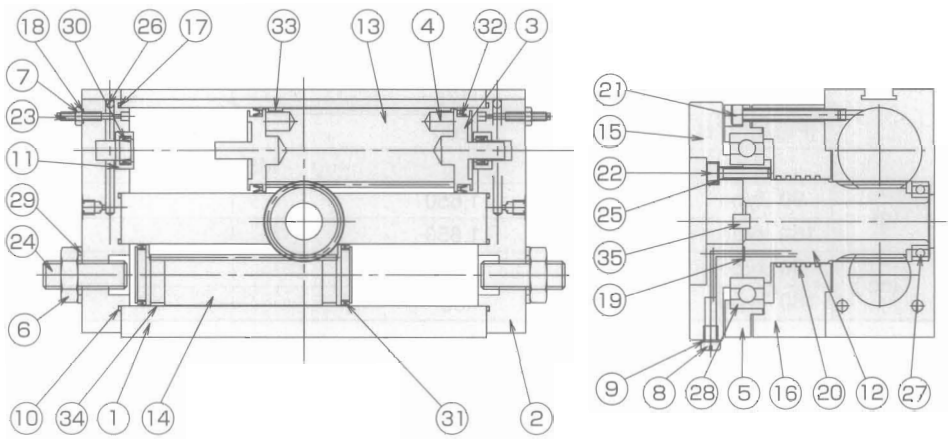
Model Code No.

RT01 - 18 B - 90

- RT01 — Series Name
- 18 — Cylinder Bore
  - 18 : 18mm
  - 22 : 22mm
- B — Stop Position Type
  - B : 2 stop position (with Air Cushion)
- 90 — Standard Swing Angle
  - 90 : 90°
  - 180 : 180°

Sensor switch : Refer to "Selection from New-Era Sensor Switch" (Page 265)

Internal Structure



Parts List

No.	Name	Material	No.	Name	Material
1	Main Body	Aluminium Alloy	19	O Ring	NBR
2	Head Cover	Aluminium Alloy	20	O Ring	NBR
3	Piston	Brass	21	Slotted Head Screw	Carbon Tool Steel
4	Magnet	Resin	22	Slotted Head Screw	Carbon Tool Steel
5	Bearing Retainer	Mild Steel	23	Needle	Stainless Steel
6	Hexagonal Nut	Mild Steel	24	Slotted Head Screw	Carbon Tool Steel
7	Hexagonal Nut	Mild Steel	25	Spring Plate Washer	Carbon Steel
8	Plug	Mild Steel	26	Steel Ball	Mild Steel
9	Gasket	Mild Steel + NBR	27	Bearing	Bearing Steel
10	Gasket	NBR	28	Bearing	Bearing Steel
11	Packing Holder	Brass	29	Fastener Seal	Mild Steel+NBR
12	Pinion Rod	Carbon Steel	30	Packing	NBR
13	Rack	Stainless Steel	31	Packing	NBR
14	Rack Piston	Carbon Steel	32	Packing	NBR
15	Table (SwivelJoint upper)	Aluminium Alloy	33	Wearing	Teflon
16	Case (SwivelJoint lower)	Aluminium Alloy	34	Wearing	Teflon
17	O Ring	NBR	35	Key	Carbon Steel
18	O Ring	NBR			

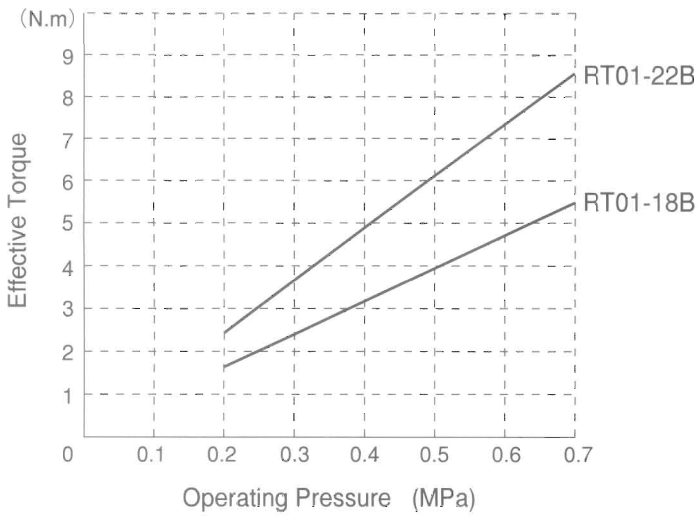
Specifications

				RT01-18B-90 RT01-18B-180	RT01-22B-90 RT01-22B-180
Stop Positions				2	
Cylinder Bore			(mm)	18+26	22+30
Fluid				Air	
Operating Pressure			(MPa)	0.2~0.7	
Proof Pressure			(MPa)	1.05	
Ambient Temperaure			(℃)	5~60	
Standard Swing Angle			(°)	90 or 180	
Adjustable Swing Angle	(°)	90° type		70~95	
		180° type		160~185	
Detecting Swing Angle	(°)	90° type		20~95	
		180° type		20~185	
Cushion				Air Cushion	
Cushioning Angle			(°)	40	
Permissible Kinetic Energy			(J)	0.28	0.42
Theoretical Torque *			(N·m)	8.6×Operating pressure	14×Operating pressure
Permissible Moment			(N·m)	6.5	10
Permissible Radial Load			(N)	185	430
Permissible Thrust Load		(Pull)	N	175	400
		(Push)	N	260	600
Air Port Size				M5×0.8	
Main Body Weight	(g)	90° type		1,650	2,620
		180° type		1,650	2,620
Inner Volume (one cycle)	(cc)	90° type		27	44
		180° type		55	89

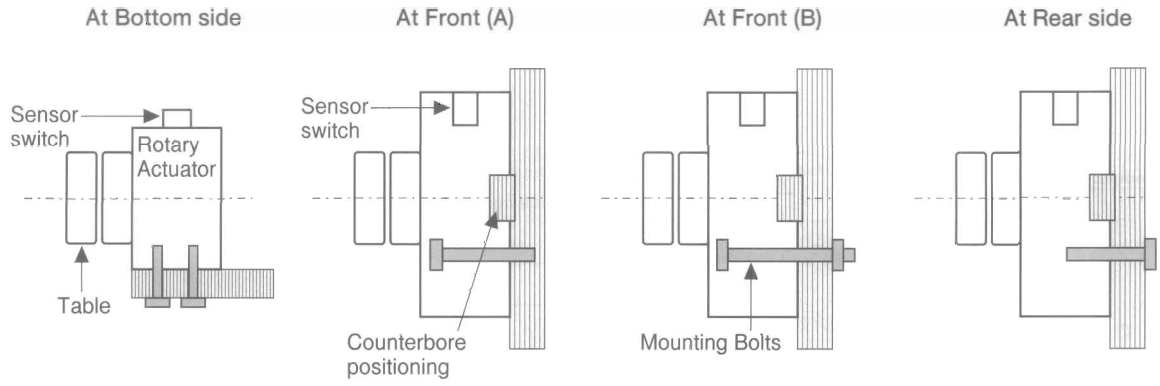
For the swing angle beyond the Standard Swing Angle (180°), consult New-Era Co., Ltd.
The above Adjustable Swing Angle is recommendatory.
The above "Detecting Swing Angle" is shown the Swing Angle Range datected by Sensor Switches.
A speed controller is recommended to control a swing speed.

* *Theoretical Torque can be calculated by the following formula using Operating Pressure (MPa).*
(Example): Theoretical Torque (N·m) = (Coefficient in the above list) × (Operating Pressure, MPa)

Effective Torque



Installation Examples

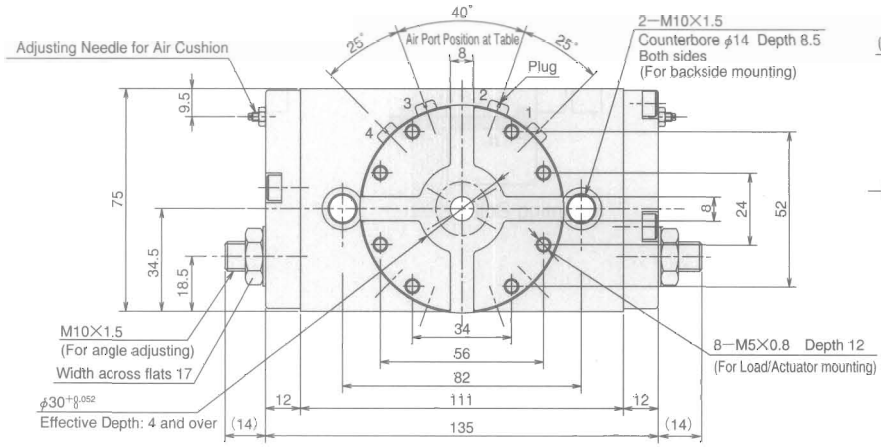


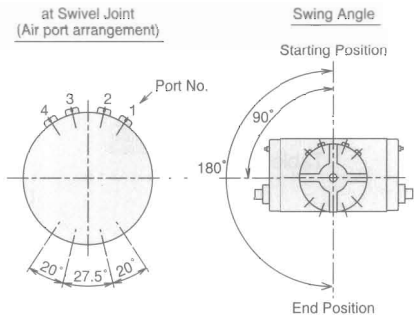
	Specifiocations of Mounting holes / thread			
	At Bottom side	At Front (A)	At Front (B)	At Rear side
RT01-18B	4×M5×0.8 Depth 7	2×M10×1.5 Through Counterbored ϕ14 Depth 8.5		2×M10×1.5 Through
RT01-22B	4×M6×1 Depth 8	2×M10×1.5 Through Counterbored ϕ14 Depth 8.5		2×M10×1.5 Through

Dimensions

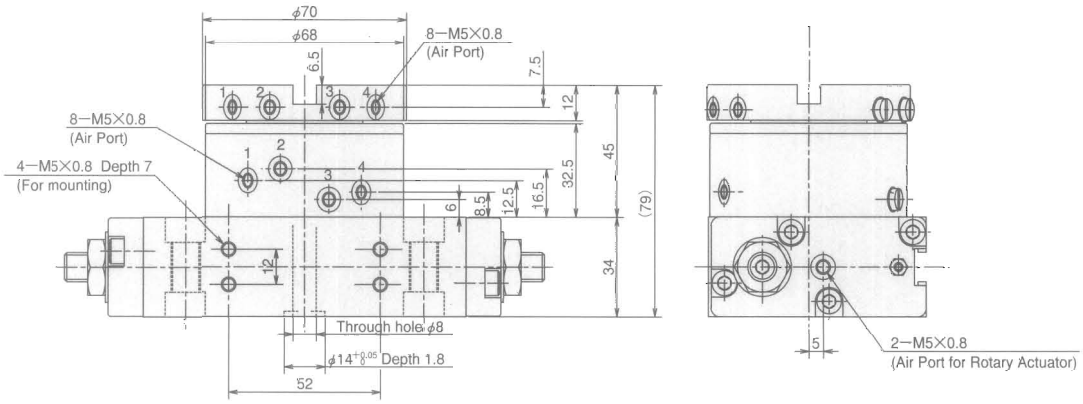
Unit : mm

	Weight
RT01-18B-90	1,650g
RT01-18B-180	1,650g





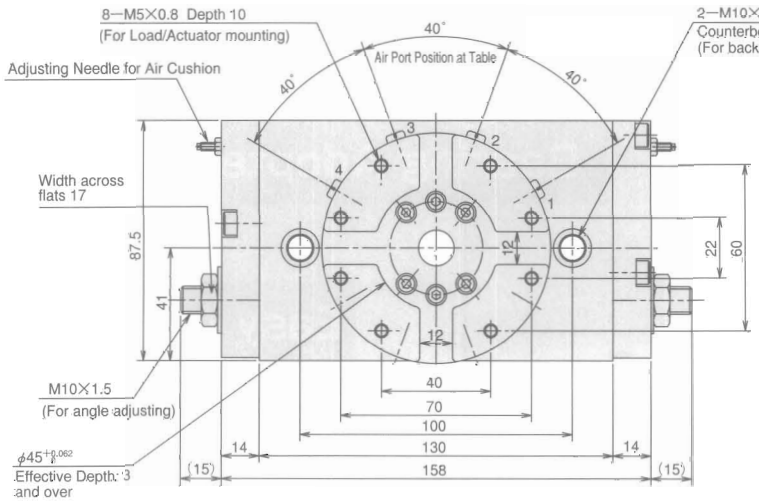
Note:
*Select the air ports which are provided at both rotor and table portion.
*Plug up the non-used ports.

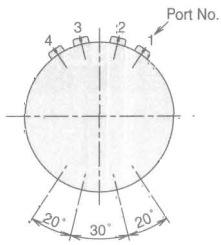


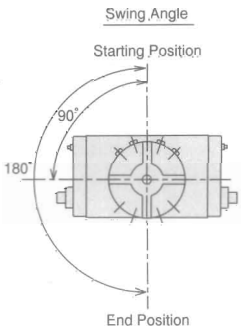
■Dimensions

Unit : mm

	Weight
RT01-22B-90	2,620g
RT01-22B-180	2,620g







Note:
*Select the air ports which are provided at both rotor and table portion.
*Plug up the non-used ports.