

Rotary Actuator

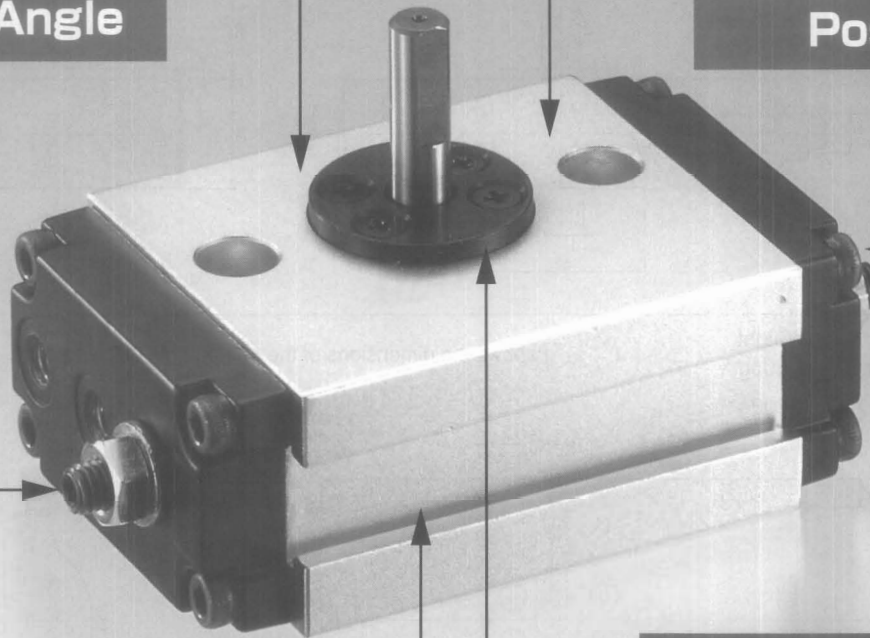
Smooth Operation with Free Backlash

Compact Body

Double Piston & High Reliability

Adjustable Swing Angle

Easy Adjustment at Start & Stop Positions



Minimum Thrust & Radial plays

Thrust Plays : $\pm 0.025\text{mm}$
Radial Plays : $\pm 0.075\text{mm}$

3 or 4-Stop position

Innovative for Pneumatic Industry

Two Sensor Switches (Optional)

4-Way Mounting

Front mounting
Rear mounting
Bottom mounting
Through mounting

RS01 Series (D)

Model Code No.

RS01 - 18 D - α + β

Series Name

Cylinder Bore

13 : 13mm

14 : 14mm

16 : 16mm

18 : 18mm

22 : 22mm

Stop Position Type

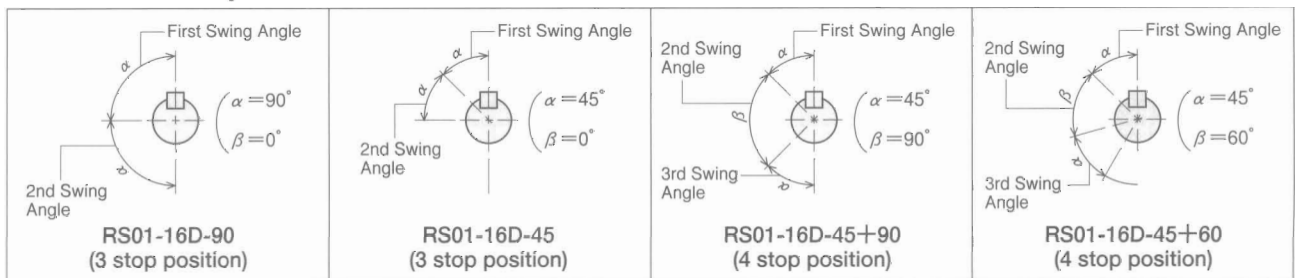
D : 3 or 4 stop position type

Description of Nominal (Standard) Swing Angle

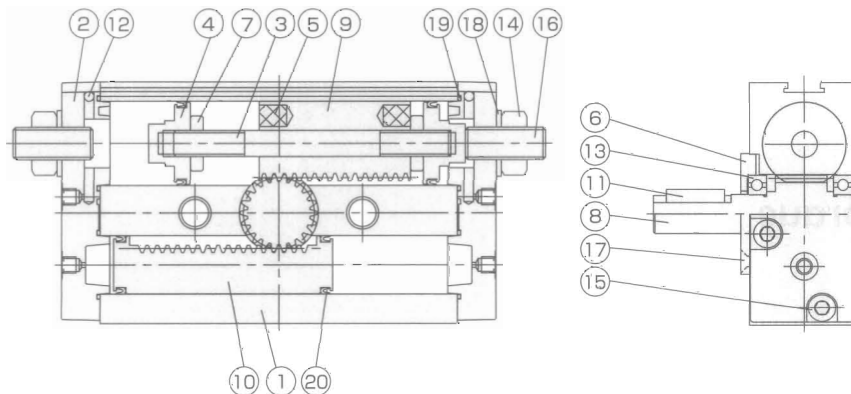
	α	β
3 stop position type	First & 2nd Swing Angle	(Blank)
	However, $90^\circ \geq \alpha \geq 15^\circ$	
4 stop position type	First & 3rd Swing Angle	2nd Swing Angle
	However, $90^\circ \geq \alpha \geq 15^\circ$, $180^\circ \geq 2\alpha + \beta$	

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

Model Examples



Internal Structure



Parts List

No.	Name	Material	No.	Name	Material
1	Main Body	Aluminium Alloy	11	Key	Carbon Steel
2	Head Cover	Aluminium Alloy	12	Steel Ball	Bearing Steel Ball
3	Piston Rod	Mild Steel	13	Bearing	Bearing Steel
4	Piston	Stainless Steel	14	Hexagonal Nut	Mild Steel
5	Magnet	Resin	15	Slotted Head Bolt	Chrome Molybdenum Steel
6	Pinion Cover	Mild Steel	16	Slotted Head Bolt	Chrome Molybdenum Steel
7	Nut	Brass	17	Cross Slotted Screw	Mild Steel
8	Pinion Rod	Carbon Steel	18	Fastener Seal	NBR
9	Rack	Stainless Steel	19	O Ring	NBR
10	Rack Piston	Carbon Steel	20	Piston Packing	NBR

Specifications

		RS01-13D- $\alpha + \beta$	RS01-14D- $\alpha + \beta$	RS01-16D- $\alpha + \beta$	RS01-18D- $\alpha + \beta$	RS01-22D- $\alpha + \beta$
Stop Positions		3 or 4				
Cylinder Bore	(mm)	13+18	14+20	16+24	18+26	22+30
Shaft Diameter	(mm)	$\phi 6^{+0}_{-0.015}$	$\phi 8^{+0}_{-0.015}$	$\phi 10^{+0}_{-0.018}$	$\phi 12^{+0}_{-0.018}$	$\phi 15^{+0}_{-0.018}$
Fluid		Air				
Operating Pressure	(MPa)	0.3~0.7		0.2~0.7		
Proof Pressure	(MPa)	1.05				
Ambient Temperature		5~60				
Standard Swing Angle	(°)	180 $\geq 2\alpha \geq 30$				
		180 $\geq 2\alpha + \beta$				
Adjustable Swing Angle	(°)	30~90		30~95		
		120~180		120~185		
Detecting Swing Angle	(°)	30~90		20~95		
		30~180		20~185		
Cushion		None				
Permissible Kinetic Energy	(J)	0.004	0.001	0.035	0.007	0.11
Theoretical Torque *	(N·m)	0.48P	0.9P	1.6P	2.8P	4.2P
Permissible Radial Load	(N)	0.49	1.96	3.92	5.86	3.92
Permissible Thrust Load	(N)	0.25	0.98	1.96	2.94	1.96
Air Port Size		M5×0.8				
Main Body Weight	(g)	270	460	800	1200	1800
Inner Volume (one cycle)	(cc)	3+6.5	6+12	10+23	18+37	31+58

For the swing angle beyond the Standard Swing Angle (180°), consult New-Era Co., Ltd.

The above Adjustable Swing Angle is recommendatory.

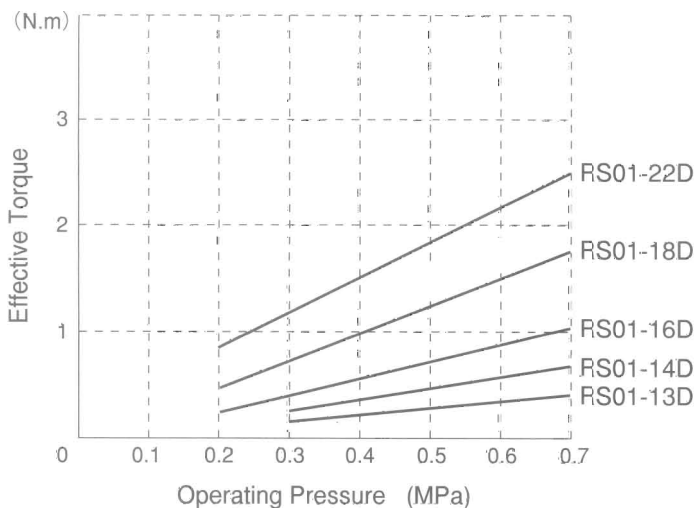
The above "Detecting Swing Angle" is shown the Swing Angle Range detected by Sensor Switches.

A speed controller is recommended to control a swing speed.

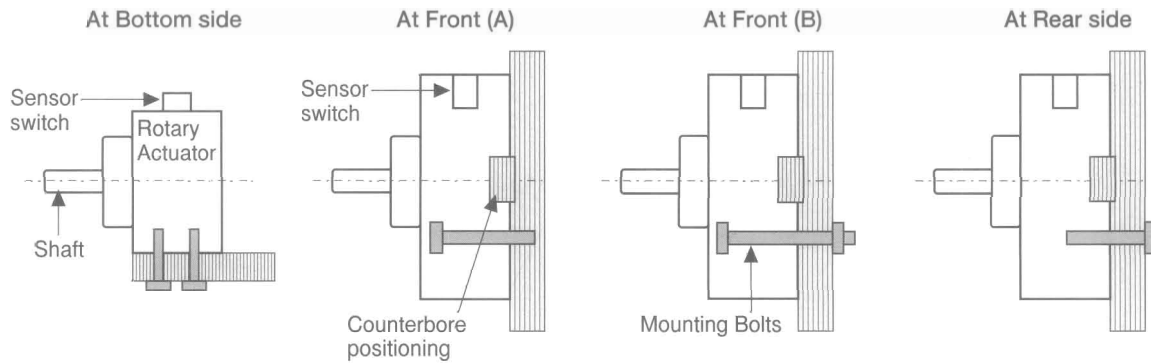
* Theoretical Torque can be calculated by the following formula using Operating Pressure (MPa).

(Example): Theoretical Torque (N·m) = (Coefficient in the above list) × (Operating Pressure, MPa)

Effective Torque



Installation Examples



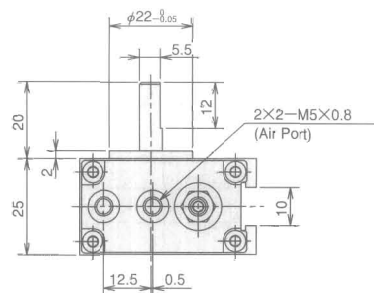
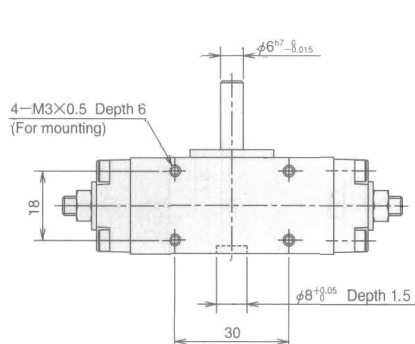
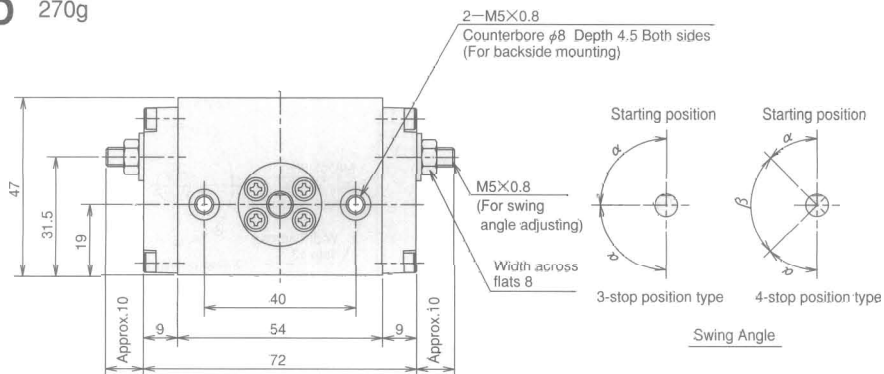
	Specifications of Mounting holes / thread			
	At Bottom side	At Front (A)	At Front (B)	At Rear side
RS01-13D	4×M3×0.5 Depth 6	2×M5×0.8 Through Counterbored $\phi 8$ Depth 4.5		2×M5×0.8 Through
RS01-14D	2×M5×0.8 Depth 6	2×M6×1 Through Counterbored $\phi 9.5$ Depth 5.5		2×M6×1 Through
RS01-16D	4×M4×0.7 Depth 6	2×M8×1.25 Through Counterbored $\phi 11$ Depth 6.5		2×M8×1.25 Through
RS01-18D	4×M5×0.8 Depth 7	2×M10×1.5 Through Counterbored $\phi 14$ Depth 8.5		2×M10×1.5 Through
RS01-22D	2×M6×1 Depth 8	2×M10×1.5 Through Counterbored $\phi 14$ Depth 8.5		2×M10×1.5 Through

RS01(D)

Dimensions

Unit : mm

Weight
RS01-13D 270g

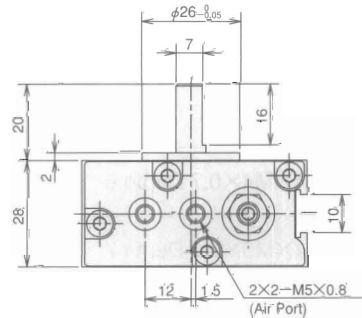
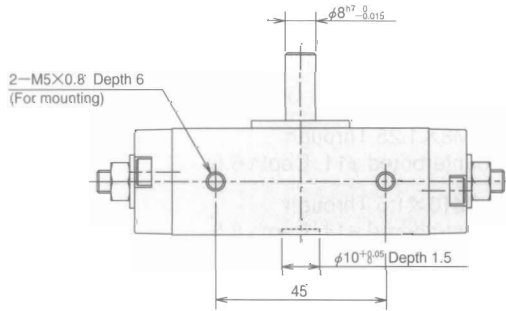
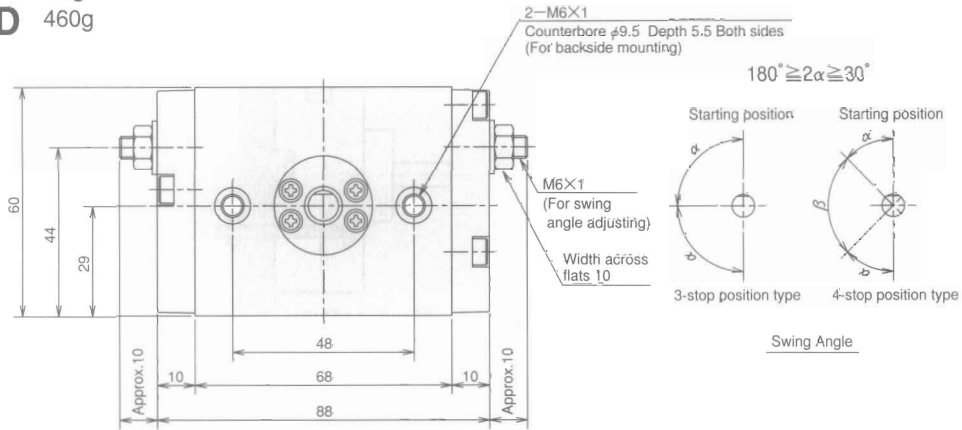


RS01 Series (D)

Dimensions

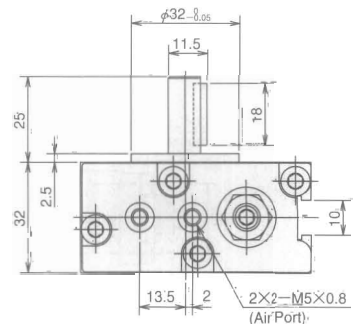
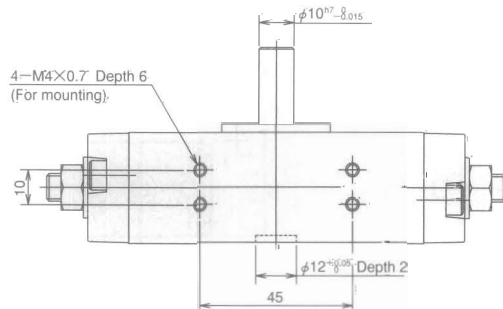
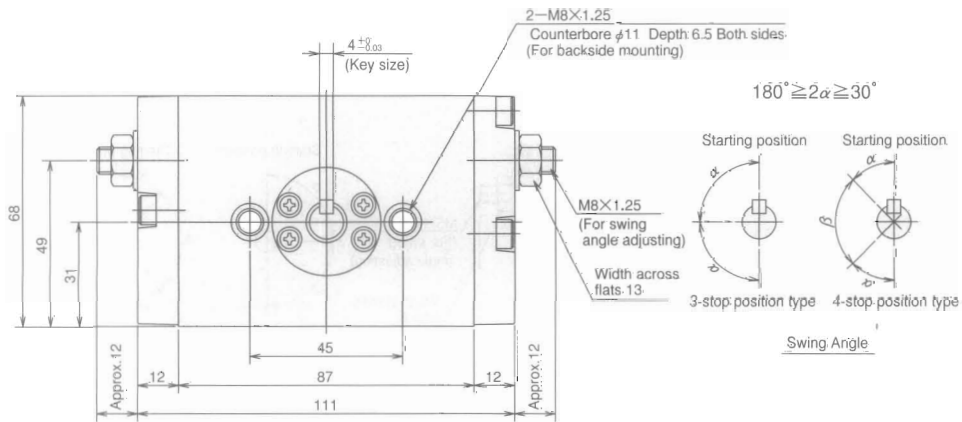
Unit : mm

Weight
RS01-14D 460g



Weight
RS01-16D 800g

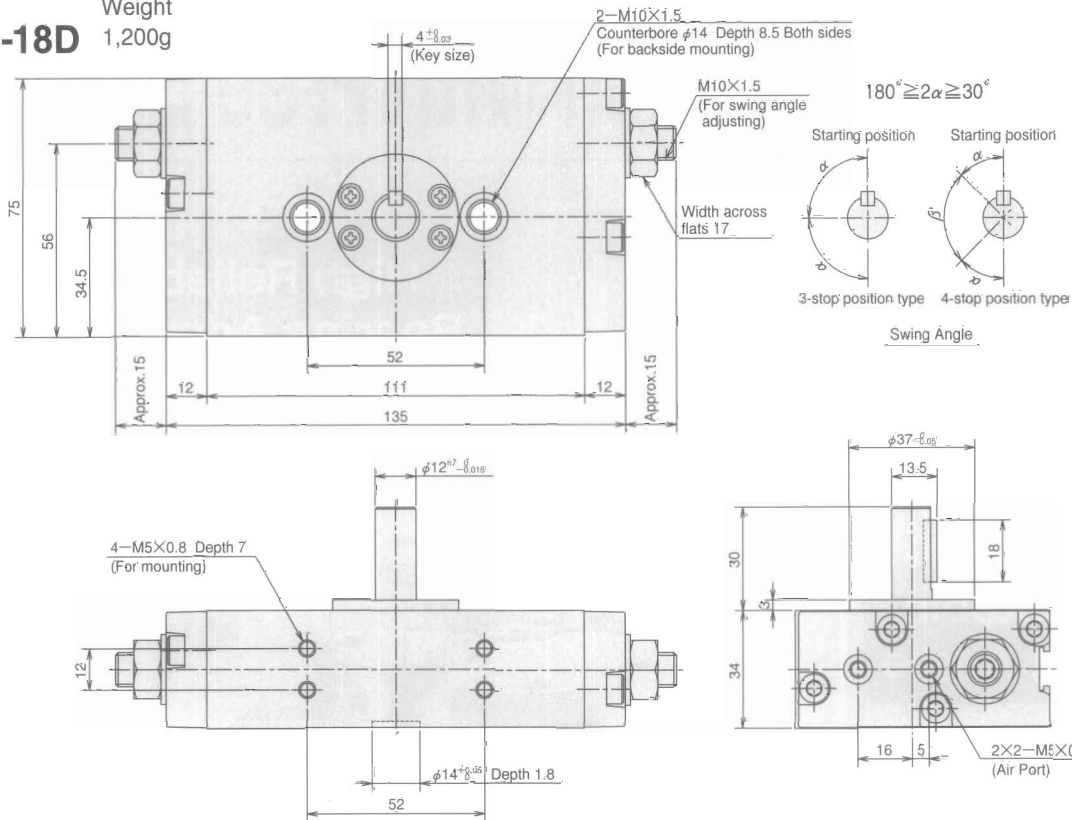
Unit : mm



Unit : mm

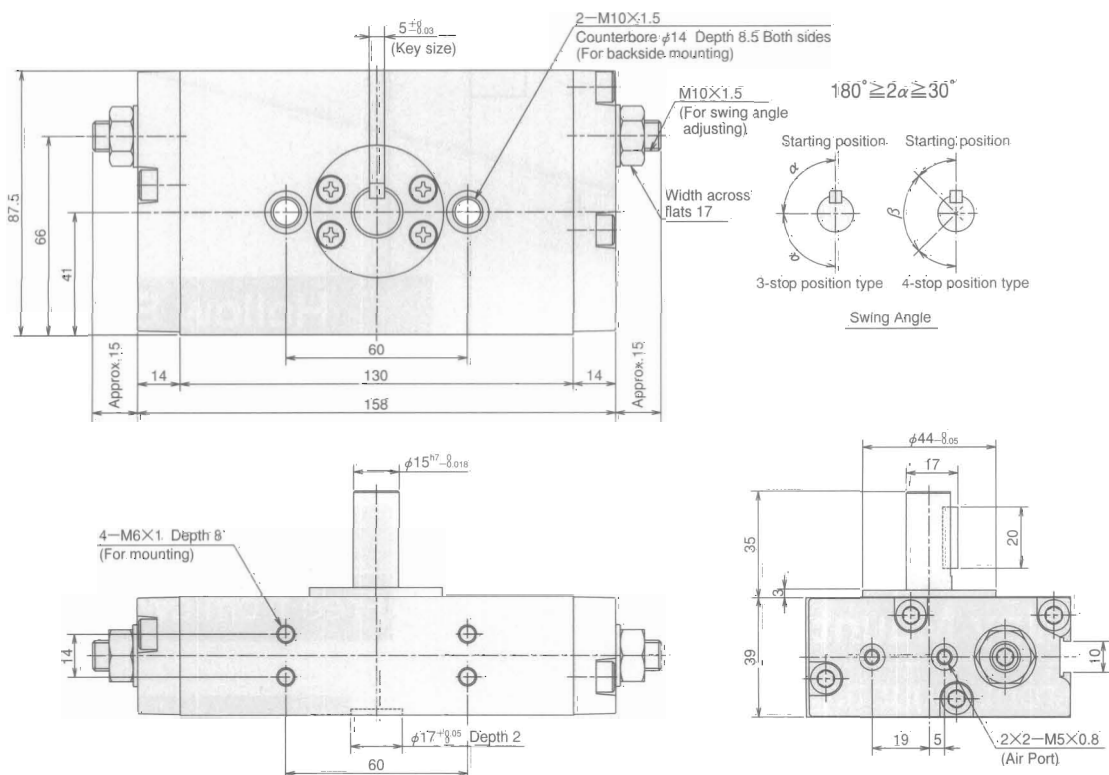
Dimensions

RS01-18D Weight 1,200g



RS01-22D Weight: 1,800g

Unit : mm



RS01(D)