

Pneumatic Rotary Actuators

VALVECO IS A MEMBER OF HALLEY & MELLOWES GROUP OF COMPANIES



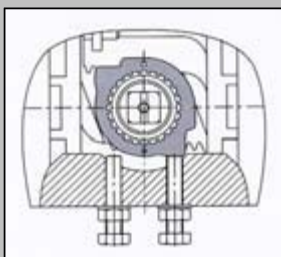
RACK & PINION DESIGN

Construction

- A) Body:** Extruded Aluminium alloy Body is hard Anodized with both internal and external corrosion protection for longer life and lower coefficient of friction.
- B) Piston Rack & Pinion:** Diecasted Aluminium dual Piston Rack is designed in compact construction for symmetric mounting position and long life cycle and fast operation. Reverse rotation can be accomplished in the field by simply inverting the pistons. Electroless Nickel plated Pinion Shaft make high efficiency through involute gearing with optimized bearing and designed in Blow-out Proof with some internal safety rings.
- C) Double Travel Stops & Cam:** Dual independent external Travel Stops allow an easy and precise adjustment up to full $\pm 5^\circ$ in both directions in the open and close positions for an accurate valve alignment. The Cam inserted on the top side of Pinion Shaft is limited in its rotation by adjusting Travel Stops and is designed to absorb the maximum rated torque of the actuator and the maximum impact loads.
- D) Compact & Modular Design:** The compact design with identical body and end caps simplifies the conversion from double acting or single acting configurations by adding and removing the modular spring cartridge.
- E) Mounting:** Actuators are in full conformance to the latest worldwide specifications relating to the accessories and valve mounting interfaces as like ISO 5211, DIN 3337 and VDI/VDE 3845 NAMUR.



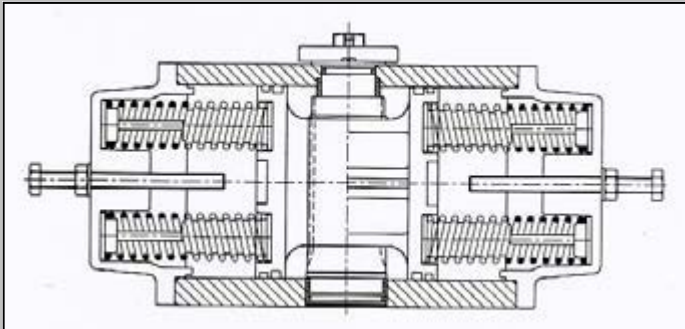
FULL OPEN / CLOSE POSITION ADJUSTMENT



Our actuator stroke is adjusted upto $\pm 5^\circ$ in both directions. Left special bolt is for open adjustment and Right special bolt is for close adjustment.



100% Travel Stop Adjustment

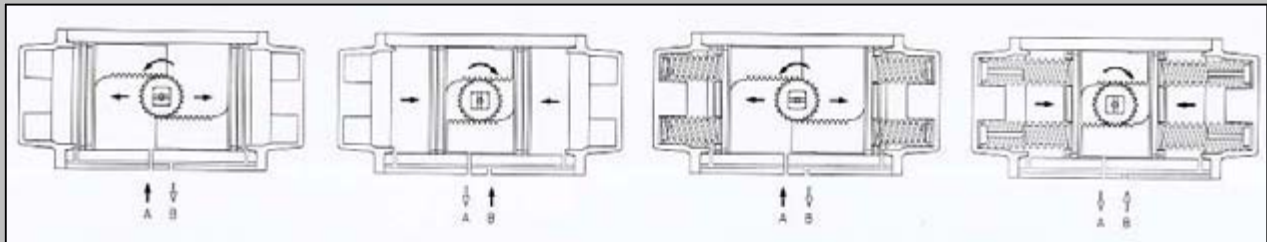


When the customers require to make the actuator stroke in less than 90° as like 15°, 45°, 60°, 80°. The actuator is supplied with longer bolts in both end caps to allow stroke adjustment from 0° to 90°.

General Technical Data

- **Standard Working Temperature**
 - * -20°C ~ +80°C (-4°F ~ 175°F)
 - * available upto -40°C only by changing to the O-ring material.
- **Maximum Working Pressure**
150psig
- **Operating Media**
 - * Clean, Dry Air, Hydraulic Oil
 - * Non-Corrosive Gas
- **Travel Stop**
 - * Rack & Pions: $\pm 5^\circ$
 - * Scotch Yoke DA: $\pm 5^\circ$
 - * Scotch Yoke SR: $\pm 5^\circ$
 - * Heavy duty: $\pm 8^\circ$
- **Rotation:** 90°
- **Air Supply:** 40psi - 150 psi
- **Permanently Lubricated Units**

Operation

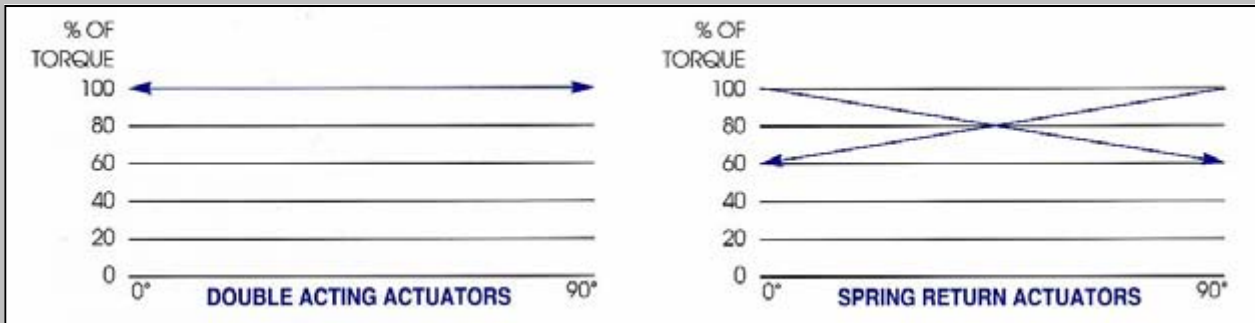


- **Double Acting Operation**
CCW
Air is supplied to port A forcing the pistons away from each other (toward ends), rotating drive pinion counter clockwise and exhausting air out of Port B.
CW
Air is supplied to Port B forcing the pistons toward each other (toward center), rotating drive pinion clockwise and exhausting air out of Port A.
- **Spring Return Operation**
CCW
Air is supplied to port A forcing the pistons away from each other (toward ends), rotating drive pinion counter clockwise, compressing springs and exhausting air out of Port B.
FAIL CW
Air failure (loss of pressure) allows compressed springs to force pistons towards each other (toward center), rotating drive pinion clockwise and exhausting air out of Port A

(Unit is capable of failure in counter clockwise direction by reversing pistons inside of housing).

TORQUE CURVES & TORQUE OUTPUT INFORMATION

SDAC10 - SDAC1750 Rack & Pinion Design



Torque Output SDAC10 - SDAC1750 Double Acting Torque

MODEL	PSI@ BAR@	40 2.8	60 4.2	70 5	80 5.6	100 7	120 8.4
SDAC 10	N.m	3.6	5.4	604	7.2	9.0	10.8
	lbf.in	31.8	47.7	56.7	63.5	79.4	95.3
SDAC 20	N.m	9	14	17	19	24	28
	lbf.in	83	125	149	167	209	250
SDAC 40	N.m	20	29	35	39	49	59
	lbf.in	173	260	309	346	433	519
SDAC 80	N.m	45	67	80	90	112	135
	lbf.in	397	596	709	794	993	1192
SDAC 130	N.m	63	95	113	126	158	189
	lbf.in	558	837	997	1116	1395	1674
SDAC 200	N.m	86	128	153	171	214	257
	lbf.in	758	1136	1353	1515	1894	2273
SDAC 300	N.m	146	218	260	291	364	437
	lbf.in	1288	1933	2301	2577	3221	3865
SDAC 500	N.m	209	314	374	418	523	628
	lbf.in	1852	2778	3307	3704	4630	5556
SDAC 850	N.m	393	589	701	785	982	1178
	lbf.in	3475	5213	6206	6951	8688	10426
SDAC 1200	N.m	584	876	1043	1168	1460	1752
	lbf.in	5168	7752	9228	10336	12920	15504
SDAC 1750	N.m	685	1027	1223	1370	1712	2054
	lbf.in	6061	9091	10823	12121	15152	18182