



## General Description



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The actuator model range O is a piston type hydraulically/pneumatically-powered linear valve actuator designed to operate a "fail-closed" or "fail-open" safety valve. It is also available in the double acting version for the stay put option. It is ideally suited for wellhead safety valve applications, header valves, flow and gathering lines; it can also be used for storage valve and casing relief valve applications.

The O range actuator is quite compact, easy to maintain and be removed from the valve bonnet, and engineered to ensure years of trouble-free service in the harshest of environments and operating conditions both on-shore and off-shore.

The actuator can be delivered as an actuated bonnet assembly ready to be mounted on another manufacturer's valve and as an actuated valve assembly ready to be placed in service.

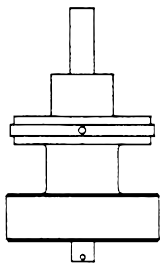
### Main Characteristics and Performances

- Improved Corrosion Control:** All non-stainless components are coated providing resistance against the corrosive effect of harsh environments.
- Longer Top Shaft Seal Life:** The top shaft seals are designed for dynamic sealing applications; the top shaft seals are protected from dirt and debris by a dedicated rod wiper. With these two design features, the actuator guarantees a longer seal life requiring minimal maintenance.
- Over-Pressurization Protection:** A pressure relief device protects the piston and cylinder assembly from over-pressurization and protects personnel from injury. It is located externally for easy inspection and replacement.
- Non-Pressurized Spring Housing:** The non-pressurized housing is designed as a structural protective member for the actuator cylinder, piston and springs. This prevents any injury to personnel or equipment in the event of debris or tools impacting the housing.
- Multiple Safeguards Against Well Fluids Contamination:** The bonnet incorporates multiple safeguards against the invasion of well fluids into the actuator housing. These safeguards are:

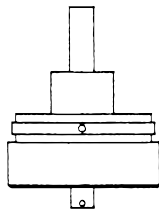
- Metal to metal back seat/stem seal
- Multiple bonnet stem seals
- Packing integrity port
- Secondary backup seals utilize O-rings

- Confirmation of Bonnet Stem / Back Seat Seal Integrity:** The bonnet is designed with a test fitting below the bonnet seals. This test fitting provides for verification of the bonnet stem metal to metal backseat pressure sealing integrity.
- Permanent and Tamper Proof Drift Setting:** The valve drift is provided with Stainless Steel drift shims that are located on the top of the packing retainer. The shims location inside the spring housing ensures that the valve drift is tamper proof.
- Personnel Safety:** Actuator can be completely removed and disassembled using simple hand tools. The cylinder module can be removed from the housing without removing the actuator from bonnet. The springs can be easily removed from the compressed position to the relaxed position or free length by hand using a wrench.
- Position Indication:** The rising stem design provides a clear visual indication of the valve position
- Quick Disconnect:** The actuator design allows an easy and quick disconnection of the entire power section from the bonnet assembly by means of clamps reducing time required during maintenance
- Supply Connection Position:** The actuator design allows different position for the power connection for an easy installation in any position
- Bonnet:** The actuator design allows different bonnet design A - extended, B - flush mount
- Wire Cutting:** As part of a surface safety system, the actuator will shear the wireline and seal off the flow from the well in any catastrophic event

### Bonnet Design



Type "a"



Type "b"

### Actuator Specifications

Maximum Operating Pressure:	345 bar - 5,000 psi
Test Pressure:	518 bar - 7,500 psi
API Material Class:	BB
API Temperature Rating:	P -29° C to 82° C (-20° F to 180° F)

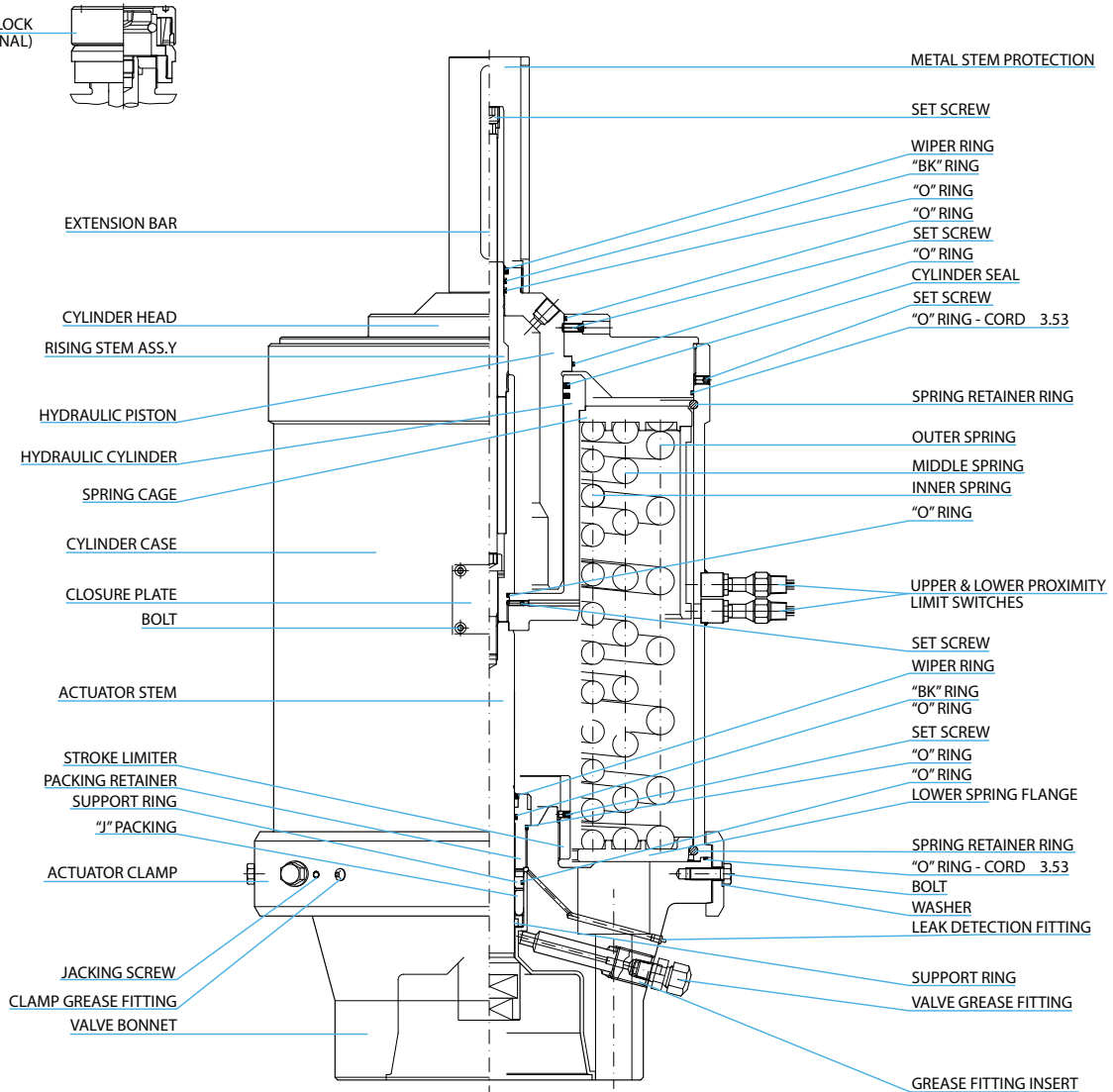
### Bonnet Specifications

Bonnets Available for Valve Brands:	Any Manufacturer (with Current Interface Drawing)
Size Range Available:	API 6A 1 13/16" through 7 1/16" *
Pressure Ranges Available:	See Control Pressure Chart
API Material Classes Available:	AA, BB, CC (non-NACE)
	DD-0,5 / DD-1,5 / DD-NL
	EE-0,5 / EE-1,5 / EE-NL
	FF-0,5 / FF-1,5 / FF-NL
	HH-NL
API Product Specification Levels Available	PSL-1, 2 or 3
API Temperature Ratings Available:	L through X
	* other sizes available upon request





## Performance data



### Applications

- For Surface Systems:
  - Wellhead Wings
  - Secondary Master Valves,
  - Flow lines valves,
  - Gathering valves,
  - Pipeline valves,
  - Heater valves

### Certifications

- API 6A
- ATEX
- PED

### Features

- Compact design
- Designed to withstand fire and to guarantee fail safe position
- Hydraulic cylinder from bar, thus no welding
- Easy replaceable even when the valve is in operation
- Easy maintenance (the stem packing can be replaced when the valve is in operation)
- Overpressurization prevention system
- Back seat capability design
- Visual position indicator
- Customized bonnet and stem connections
- Extensive Range of Bonnet Materials
- Designed to accept a full range of accessories

### Benefits

- Heavy duty design to withstand service life
- Easy maintenance design
- Low life cycle costs
- Easy installation on any valve

### Accessories

- Heat sensitive lock open system
- Metal or Transparent stem protector
- Mechanical or Hydraulic Over-ride
- Electrical position Indicator

### Additional

Special accessories may be supplied upon request

