

# HYDRAULIC PISTON ACTUATORS



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**The RCE Hydraulic Actuator** combines simplicity with ease of maintenance to provide an extraordinary value in a SSV actuator. Its operating principle and rugged design make this actuator inherently trouble-free. This hydraulic actuator design has eliminated the problems of downtime and added safety features vital to today's customer requirements. This actuator is designed for most surface safety applications.

The RCE Hydraulic Actuator utilizes concepts that eliminate galling, misalignment, and distortion during operation. The close tolerance problem has been eliminated by providing wear bearings in the actuator and bonnet to suspend the top shaft and bonnet stem from contacting metal during operation.

RCE has designed into each model series, and size of hydraulic actuator the industry's strongest compression spring. This is important to ensure gate valve closure. No special tools are required when loading the compression spring. Ease of repair and service has been provided by designing the top plug assembly so that it can be removed easily and quickly. To remove the actuator from the bonnet remove 8 hex head bolts with a crescent wrench, then lift the actuator from the bonnet. RCE actuator philosophy emphasizes safety and reliability, compact and simple design, fast response time, easy maintenance, optional use of control pressure and quality in manufacture and service.

## Features

- The top shaft is designed to eliminate the transfer of torque to the gate, seats and bonnet stem when using a manual override. A larger lower shoulder prevents the top shaft from being expelled from actuator. The top shaft is protected from metal to metal contact by a wear bearing and top seal cartridge.
- In most cases, the actuator and bonnet design allows the customer to convert a hydraulic system to a pneumatic system by exchanging actuator assemblies.
- Helical compression spring provides maximum closure to valve with 900 to 1.000 lbs. at full closed position.
- Top plug assembly enables top shaft seal replacement without disassembly of actuator. Top plug assembly incorporate a rod wiper to keep shaft sealing area clean for longer life of seals.
- All weld formations are full penetration welds under ASME section IX.
- Base plate ring provides for a 360° actuator rotation when exacting plumbing is required for control pressure inlet.
- A permanent drift adjustment is accomplished by use of stainless steel spacers. Actuator removal does not affect drift adjustment.
- All non-stainless actuator and bonnet components are coated for resistance to marine environment.
- The standard RCE hydraulic actuator material meets NACE MR-01-75 requirements.
- Pressure inlet and relief flow passages are 500 NPT. Larger ports are stronger and help eliminate trash buildup.
- The base plate ring to lower housing design utilizes the eight bolts to their strength. The bolts are loaded to use the entire length and diameter. This concept is stronger, safer and more reliable.

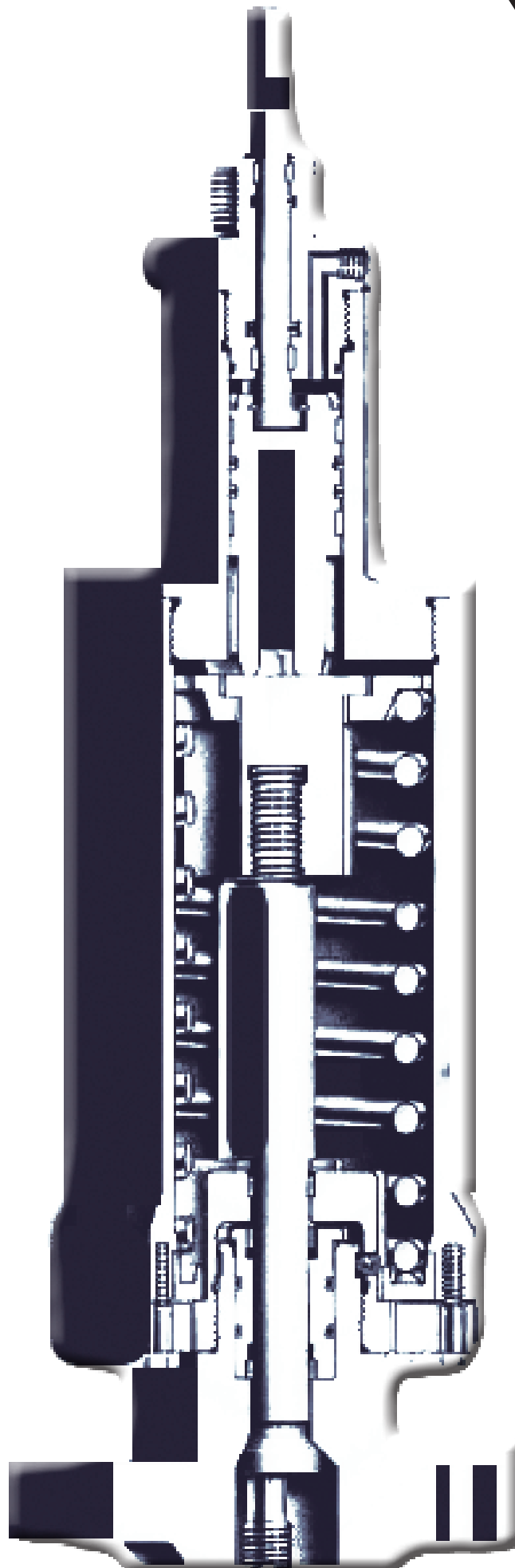


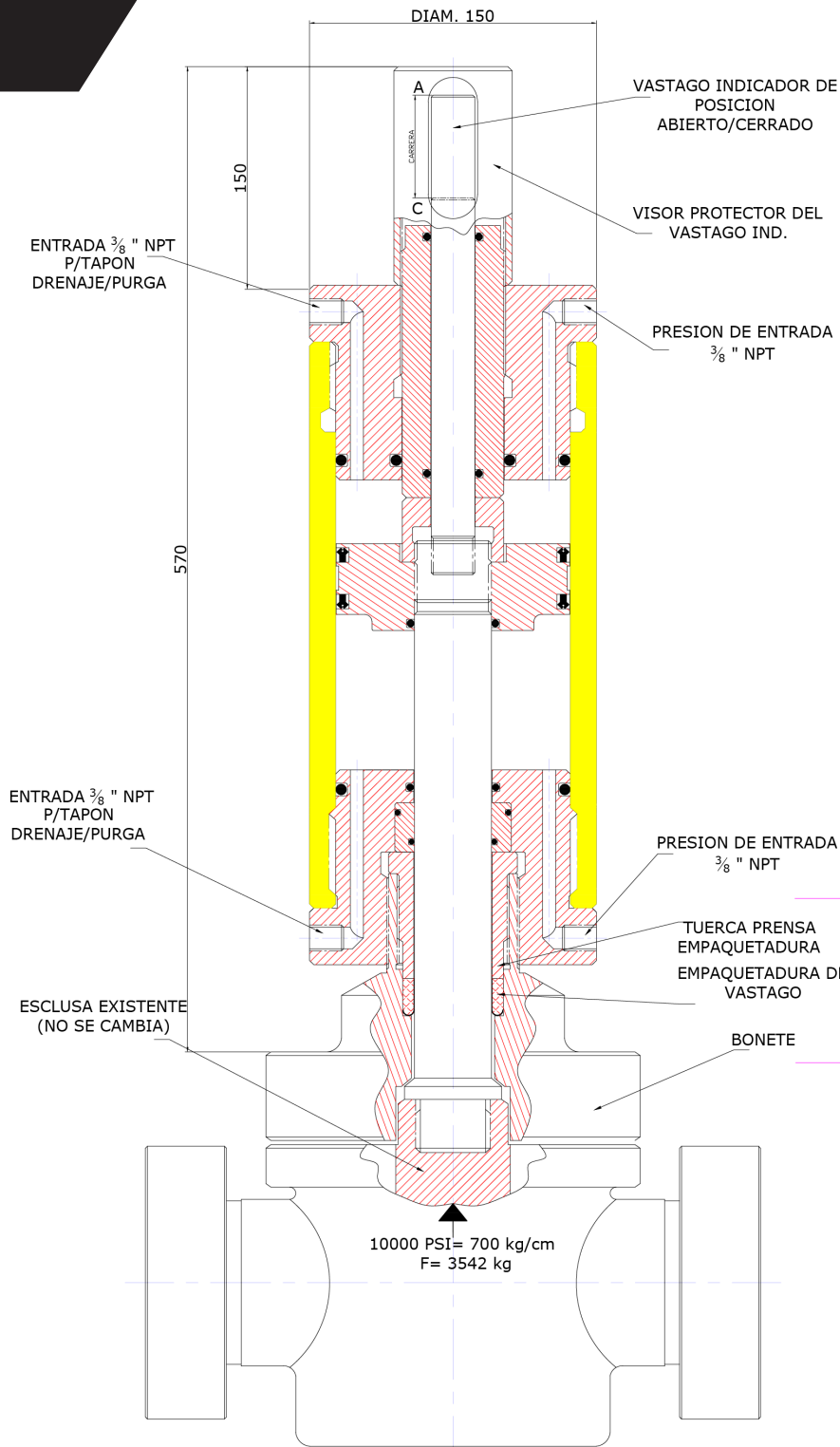
## ***Fail closed operation***

The SSV valve with a RCE Actuator is normally supplied in the fail-closed configuration. Hydraulic actuator supply pressure drives the valves reverse ported gate down and holds it in the open position under normal operating conditions. In the event of an abnormal condition, the actuator supply pressure is released or bled off by quick exhaust mechanisms, allowing the valve to close by body pressure acting on the bonnet stem diameter and spring force. Restoring of Hydraulic Actuator supply pressure automatically reopens the valve. When required, the valve can be configured with a fail open gate design for a vent or blow-down system.

## ***Self contained SSV/S CSSV safety control system***

This panel, when joined in tandem with the SSV/S CSSV provides a true and totally self-contained hydraulic control system with sequenciatcand fool proof opening and closing orcedure.





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Actuador hidráulico para válvula esclusa  
*Hydraulic piston actuator for sluice valve*

