

Actuators

Pressure Control Model HSRA-2 Hydraulic Actuator

Like the Model RA-ESD (Emergency Shutdown System) Actuator, the Model HSRA-2 Hydraulic Self-Contained ESD System is designed to provide immediate shutdown of a well or pipeline even in the most remote locations. The major difference is that this actuator has been designed specifically for 2-1/16" 2,000 to 5,000 psi applications. As a result, the actuator design is smaller, lighter and more compact than any comparable actuator on the market. This compact system consists of a streamlined reduced volume hydraulic actuator, a pump module, and a sensing pilot.

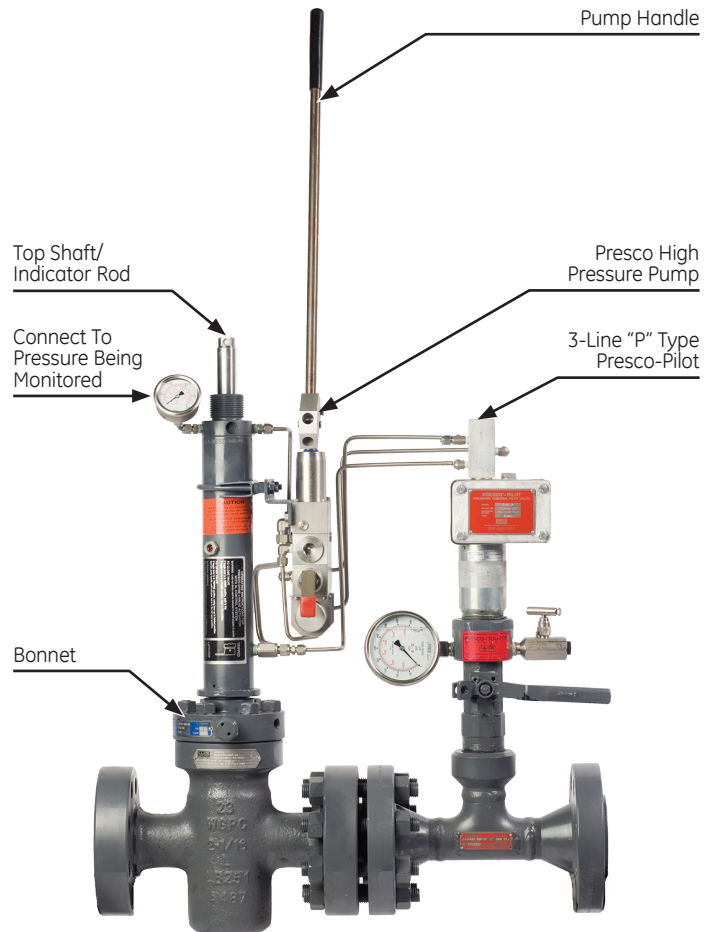
The HSRA-2 system is armed by first determining the criteria for shutdown. With the pilot set to sense the shutdown criteria, the gate valve is ready to be opened. The hand pump transfers hydraulic fluid from the reservoir below the actuator piston into the actuator cylinder, compressing the preloaded spring and opening the valve. When the valve is fully opened, the latching trip valve is automatically engaged and the system is armed.

If, during normal operation, the predetermined shutdown criteria is sensed by the pilot valves or other signal, the latching trip valve is automatically "tripped", causing the control circuit to vent. The pressurized hydraulic fluid in the actuator cylinder, assisted by the preloaded spring below the actuator piston and the process fluid, flows back to the reservoir. The gate valve returns to the closed position.

Remote shutdown or automatic trip control for other monitoring devices, such as pressure pilots, liquid levels and detected leaks is available.

Features —

- Totally manual and requires no external power source — no electricity, no pipeline pressurized gas, no nitrogen gas bottles, etc. — to operate
- Completely self-contained to prevent contaminants from entering and causing internal corrosion that could damage the system



3-Line "P" Type Presco-Pilot on an Assembly with a Model 1000 Valve, Model HSRA-2 Actuator and Presco High Pressure Pump

- Two distinct pressures from a single pump module: high pressure for the actuator circuit and low pressure for the control circuit
- High spring pre-load ensures enough force to close the gate valve at zero flowline pressures
- Reduced volume minimizes closing time



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Accessories —

- Manual accessories
 - Lock open devices available in both manual and positive configurations with non-fusible and fusible options
 - Clear polymer stem protector
- Electric accessories
 - Electric limit switches
 - Electric-hydraulic powered ESD control system
 - Solar-powered ESD control system
 - Solenoid for remote closing
- Remote Presco-Tee with high-low pilot for monitoring pressure in the well or pipeline
- Telemetry application systems
- Pressure pilots

Specifications —

Model HSRA-2	
Valve Size	2-1/16" (2,000 psi thru 5,000 psi)
API Specification	API 6A
Hydraulic Actuator	Standard Service
PR2	Annex F
Temperature	-50°F to +150°F (-46°C to +66°C)
Maximum Working Pressure	5,000 psi (345 bars)
Maximum Test Pressure	7,500 psi (517 bars)



GE imagination at work

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