

CVS Controls Ltd is dedicated to providing you with the right Emergency Shut Down System to best suit your applications needs.

A wide array of individual products to add to your current configurations, or a complete package, is available.

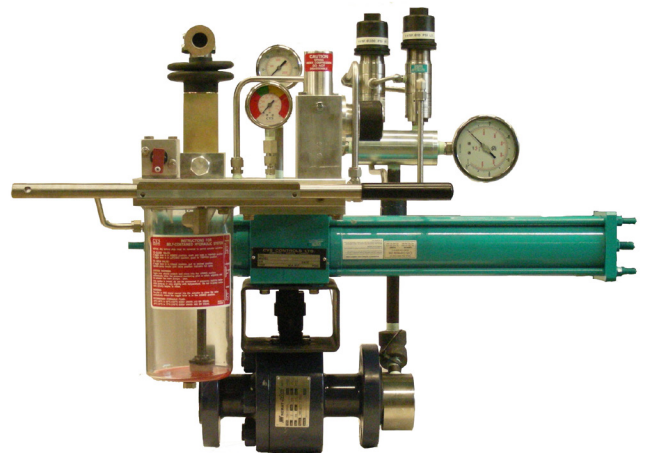
Contact a CVS Controls representative to assist you in finding the best ESD Solution for your application.



## CVS Controls Ltd. Self Contained Hydraulic Pump

The CVS Self Contained Pump provides reliable emergency shutdown when an external power source or fuel gas is not available or not reliable. The unit uses clean hydraulic fluid. Used in conjunction with a linear or rotary spring return hydraulic operator, the CVS Self Contained Pump is a fail-safe system which is suitable for ball, plug or other quarter-turn valves as well as reverse-acting gate valves or other linear operated valves.

This pump has been proven reliable under the most demanding operating and environmental conditions. It is designed to be the foundation for a flexible sensing and control system, and has built-in temperature compensation and pressure relief.



Available in pressure configurations from 100-2250 psi.

## CVS Controls Ltd.

### Series D Scotch Yoke Actuator

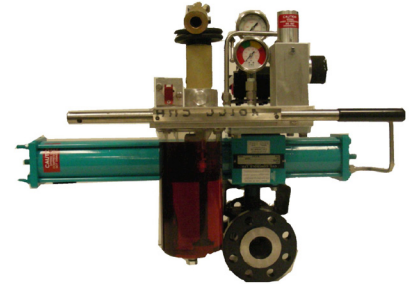
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The CVS Series D Hydraulic Actuator uses a scotch yoke mechanism to convert linear piston motion to a 90 degree rotation. The CVS D Series actuator incorporates key materials for construction, such as aluminum drive case, fiber wound cylinders, and does not use brass or bronze components, which allow for use in sour gas applications.

The CVS D Series actuator is well suited for operating plug, ball, butterfly, dampers and other devices requiring 90° turn rotation. ( $\pm 4^\circ$  of additional angle adjustment)



CVS Series 35-SRM100



## CVS Controls Ltd

### Rack and Pinion Actuators

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Rack and Pinion Actuators are used to open or close ball or butterfly valves with 90° rotation. The actuators are activated by pneumatic or hydraulic fluid. The supply pressure pushes pistons together or apart causing the pinion shaft to rotate opening or closing the valve. The actuators can be double acting or spring return. Double acting requires supply pressure to open and close the actuator.

Single acting actuators require supply pressure to open the actuator. When the supply pressure is removed the springs push the pistons back to the original position. Single acting actuators can be fail open or fail closed. CVS actuators are available in sizes 52 to 700 with torques 50 in/lbs to 1089970 in/lbs.



CVS actuators are temperature rated from -50°C (-58°F) to 80°C (176°F) with standard seals made of low temperature nitrile. The actuators adhere to ISO 9001: ISO5211, DIN3337, and VDI/VDE 3845 NAMUR standards. Each actuator has position indication with NAMUR drive slot for positioners and pneumatic connections. The output shaft and valve mounts meet NAMUR standards. Each actuator has stroke adjustment 0° to 90°, +/-4 degrees. Direction of shaft rotation can be done easily by inverting the pistons.



## CVS Controls Ltd

### 7970 Pressure Pilot

The CVS 7970 is a versatile sensor that can be programmed to detect and react to either increasing pressure or decreasing pressure with an adjustable range of 2 to 10,000 PSI (.138 to 689.5 bar). Temperature rating to -40°C .

When used within standard safety systems, a pressure sensor monitors a specific media or process pressure source for changes to the normal operating range. Loss of pressure within the control circuit will begin a shutdown sequence or trigger an alarm, and pressure sensors can also indirectly operate on/off flow control valves or pneumatic driven pumps.

The CVS 7970 is a two position, three-way pilot with universal ports (H, O, L), automatic reset (spring return) and pressure balance spool.



High Pressure Pilot



Low Pressure Pilot



High/Low Pilot Arrangement

## CVS Controls Ltd

### Limit Switches

#### CVS-500

The CVS 500 Limit Switch is designed for valves and actuators in hazardous locations. The limit switch is CSA approved and is rated for EXdIIBT6 explosion proof, zone 1, class 1, division 1. Temperature rating -40°C.

This unit is equipped with standard NAMUR shaft and bracket for easy mounting to NAMUR actuators, as well as a secure waterproof case with multi angle top and side visual indicators.

Available switch configurations are 2 single pole single throw, through 4 single pole double throw. Optional proximity sensors are also available.

Standard CVS 500 Limit Switch is 2 Single Pole Double Throw(0.6A 125Vdc, 0.3A 250VDC, 16A 125/250VAC) and optional proximity sensors (P16AM-D3N: 8~30VDC, <=150mA or P&F sensors NJ2-V3-N: 8VDC, detected<=1mA, not detected>=3mA)



#### CVS 410-3W

The CVS 410-3W is designed for valves and actuators in hazardous locations.

The pneumatic solenoid valve is a two position three way valve and electrically actuated with a spring return spool.

The limit switch with pneumatic solenoid valve is CSA approved and is rated EXdIIBT6 explosion proof zone 1, class 1, division 1. Temperature rating -40°C.

Includes a standard NAMUR shaft and bracket for easy mounting to NAMUR actuators, and a secure waterproof case with multi angle top and side visual indicator.

Uses two single pole, double throw mechanical switches rated (0.6A 125VDC, 0.3A 250VDC, 16A 125/250VAC).

Optional two proximity sensors for sensing switch location (8-30VDC, <=150mA or 8VDC, detected<=1mA, not detected>=3mA).

The solenoid coil is 24VDC (1.2W) or optional 48,220, 380VAC. Solenoid valve is available as a 3/2 or 5/2 valve.



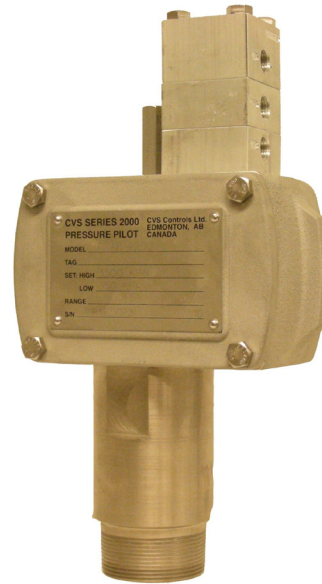
## CVS Controls Ltd

### 2000 Pressure Pilot

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The CVS 2000 Pressure Pilot is a High and Low Pressure sensing unit, used to monitor process or pipeline pressure in high/low pressure shut down installation. Operated by either hydraulic or pneumatic signal. By utilizing a spring loaded piston, the CVS 2000 Pressure Pilot is able to sense the pre-set pressure settings and activate a pilot valve.

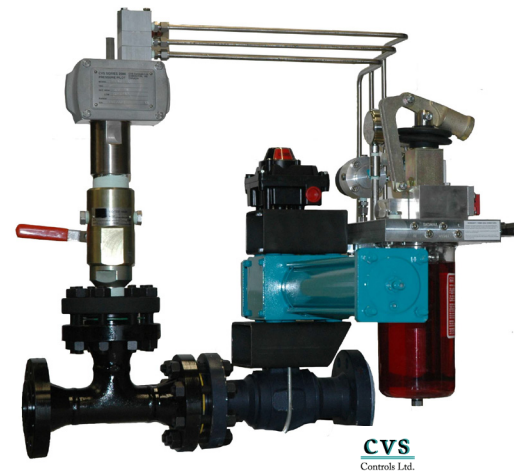
- Adjustable pressure range from 10 psi to 6000 psi (0.7 bar to 413 bar)
- Easy field adjustable set points
- Operating temperature range from 46°C to 100°C (-50°F to 212°F)
- Available in both manual and automatic reset configurations
- Ideal for use as a part of a complete CVS Shutdown System (ESD)
- Signal/Supply pressure up to 150 psig
- Standard 2" NPT threaded input connection (additional options available upon request)



## Spools

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CVS Controls Ltd. has a dedicated welding and fabrication shop located in Edmonton, Alberta. Custom designed valve spools can be provided to mount your ESD application to your specifications as required.



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