

# Hydraulic Actuator

## Accurate, reliable PRV control



Palmer Environmental's ControlMate range of PRV controllers are supplied with a Hydraulic Actuator (patent pending) - a novel device used as the interface between the electronic controller and the hydraulic PRV.

1. The Hydraulic Actuator is fitted in place of the adjusting screw of the standard pilot on the PRV
2. To adjust the PRV outlet, the ControlMate progressively extends or retracts the moving "rod" of the actuator in small steps under closed loop control
3. The moving rod exerts a force on the pilot's spring in a similar manner to that of the adjusting screw in a standard PRV installation
4. The main PRV outlet follows its pilot valve setting, controlling the Actuator's moving rod.

This leads to very accurate and repeatable control of the PRV outlet pressure.

### In-built safety

- In 2-point pressure control applications, the two required pressure settings are mechanically set and locked on the Actuator. The outlet pressure of the main PRV cannot be outside of these values. In full modulating applications, the minimum and maximum pressures within which the controller can operate are set and locked on the Actuator.
- This means that failure of electronics, incorrect operation by the user, burst or frozen pipes, etc. cannot cause closure of the main PRV.

### Ease of installation

- Compared to the old, "bias chamber" approach, the Hydraulic Actuator is very easy to install. No "wet" part of the pilot needs to be accessed and no extra mechanical frictions, O-rings, diaphragm loading, etc. are imposed on the normal operation of the pilot.
- The Hydraulic Actuator can easily be adapted to different manufacturers' pilots (versions available for Cla-Val, Bermad, Bayard, Magisco and other PRVs).

### Smooth PRV control

- Bias chambers that are sandwiched between the "wet" and "spring" parts of the pilot may adversely affect its operation. The Hydraulic Actuator has no such effect and therefore allows much smoother control of the PRV.

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## Technical Specification

### Dimensions

115mm x 185mm x 85mm (standard; may differ according to PRV type)

### Weight

1.2kg

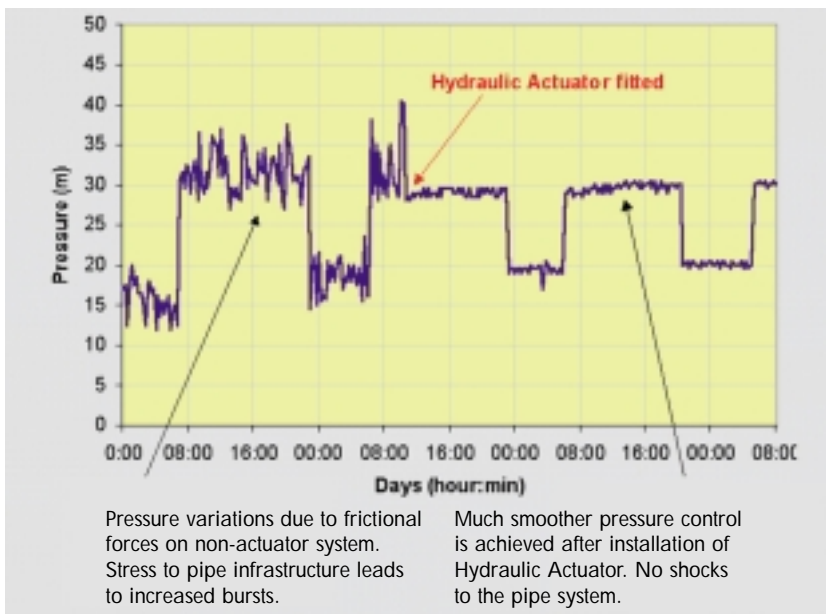
### Construction material

Brass

The availability of the Hydraulic Actuator eliminates two of the main technical weaknesses associated with the use of "bias" chambers (or dual-chamber pilots in older controllers). Firstly, it is no longer necessary to use a so-called MRA (a small pressure regulator) to generate an intermediate pressure to carry out a 2-point control function. Secondly, using the Hydraulic Actuator with its built-in mechanical minimum setting, there is no longer the possibility of valve closure due to electronics failure, operator error, leakage of the MRA, etc.



Hydraulic Actuator with Cla-Val pilot



Comparison between PRV used with bias chamber and after installation of Hydraulic Actuator

**Palmer Environmental is the world leader in the field of leakage control equipment.**

Our product range includes:

- Data loggers for flow, pressure and other parameters
- Leak noise logging, correlation and acoustic systems
- Permalog® – telemetry-based installed leak detection system
- Pressure management systems for controlling PRV operation
- GSM, radio telemetry, land-line and other communications systems
- Integrated network management software

**For details of our full product range, or for information on a specific product, please contact Palmer Environmental or your Palmer representative.**

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