

PRESSURE RELIEF/ SUSTAINING VALVE

Model 430

Pressure relief/sustaining hydraulically operated control valve that can fulfill either of two separate functions: When installed in-line, it sustains minimum pre-set, upstream (back) pressure regardless of fluctuating flow or varying downstream pressure. When installed as a "branched from the line" circulation valve it relieves excessive line pressure when above maximum pre-set. BERMAD 400 series valves are hydraulically operated, simple and reliable, globe valves with full bore hydrodynamic body providing an unobstructed flow path and superior performance. The valves balanced rolling-diaphragm assembly is vulcanized with a rugged radial seal disk construction, performing as the valves only moving part.



Features and Benefits

- Line pressure driven – Independent operation
- Flexible design – Easy addition of features
- Advanced globe or angle hydro-efficient design
 - Unobstructed flow path
 - Single moving part
 - Non-turbulent flow
 - High flow capacity
- Fully supported & balanced diaphragm
 - Low actuation pressure
 - Excellent low flow regulation performance
 - Progressively restrains valve closing
 - Prevents diaphragm distortion
- In-line serviceable
 - Easy maintenance
 - Minimal down time

Major Additional Features

- UL Listed and FM Approved for Fire Protection 430-UL/FM
- Solenoid control – 430-55
- Quick pressure relief valve – 43Q
- Pressure sustaining & reducing valve – 423
- High sensitivity pilot – 430-12
- Level control & pressure sustaining valve – 453
- Electrically selected multi-level settings – 430-45
- High sensitivity hydraulic positioning – 430-85
- Electronic pressure sustaining valve – 438-03

See relevant BERMAD publications.

Operation - Pressure Sustaining (In-Line)

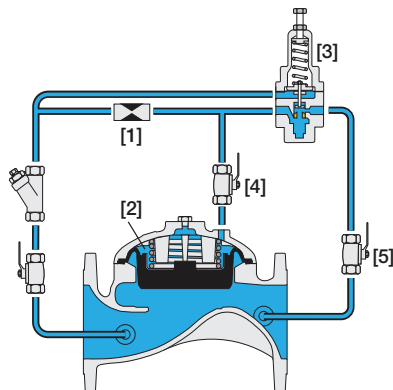
The Model 430 is a pilot controlled valve equipped with an adjustable, 2-Way pressure sustaining pilot.

The flow restriction [1] continuously allows flow from the main valve inlet into the control chamber [2]. The pilot [3] senses upstream pressure and should be set to minimum system pressure allowed.

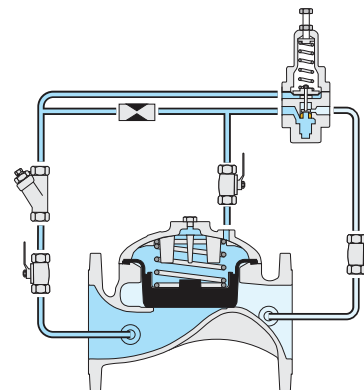
Should upstream pressure tend to fall below pilot setting, the pilot throttles, enabling pressure to accumulate in the control chamber, causing the main valve to throttle, sustaining upstream (back) pressure at pilot setting. Should upstream pressure be below pilot setting, the pilot closes, causing the main valve to close drip tight.

Should upstream pressure tend to rise above pilot setting, the pilot releases accumulated pressure causing the main valve to modulate open.

Closing cock valve [4] freezes valve opening rate. Downstream cock valve [5] enables manual closing.



Valve Regulates



Valve Closed
(upstream pressure below pilot setting)

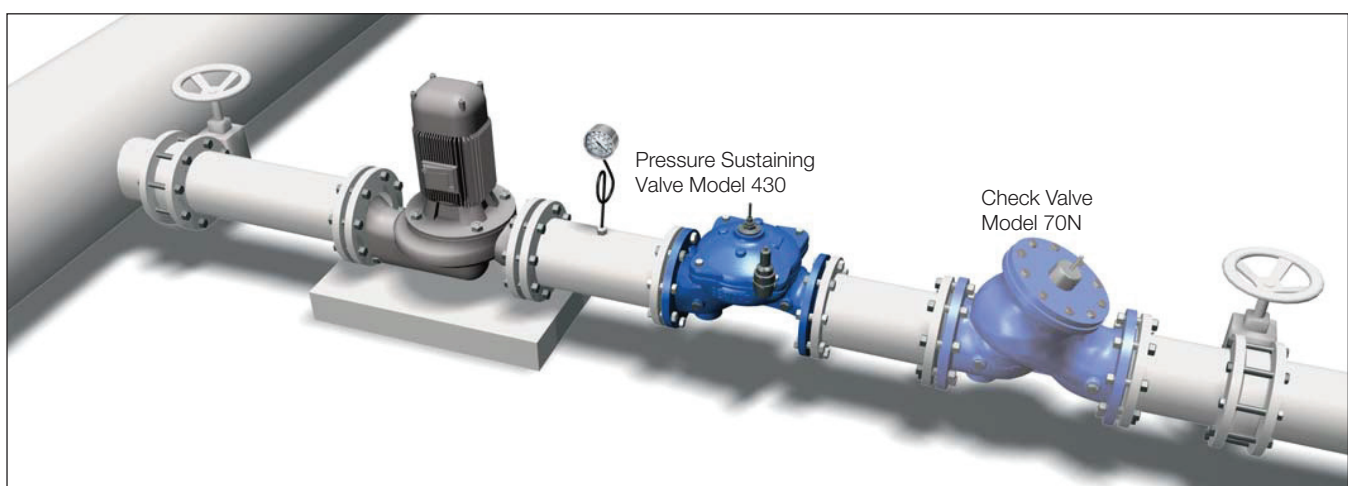
Typical Applications

Pump Overload and Cavitation Protection

The Model 430 sustains pump discharge pressure, preventing pump overload and cavitation damage caused by excessive demand.

By connecting the pilot sensing line to pump suction, the Model 430 becomes Model 430R which sustains pump suction pressure.

Where suction pressure regimes vary, the Model 436 is needed to limit pump flow by sustaining pump differential pressure.



For detailed Engineering & Specification data, IOM and CAD Drawings, visit the Model Page on the [BERMAD](https://www.bermad.com) website.