

FLOW CONTROL VALVE

Model: 470-U

The Model 470-U Flow Control Valve is a hydraulically operated, diaphragm actuated control valve that maintains pre-set maximum flow, regardless of fluctuating demand or varying system pressure.

- Prioritizing main system over sub-system
- Limiting consumers over demand
- Controlling pipeline fill rate
- Pump overload & cavitation protection

Features and Benefits

- Line pressure driven – Independent operation
- Hydraulic flow sensor (upstream installation)
 - No moving parts
 - No electronic components
 - No need for flow straightening
- 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
- Flexible design – Easy addition of features
- In-line serviceable – Easy maintenance



Major Additional Features

- Solenoid control – 470-55-U
- High sensitivity pilot – 470-12-U
- Pressure Reducing – 472-U
- Level & flow control valve – 457-U
- Electronic control valve – 418-03

See relevant BERMAD publications.

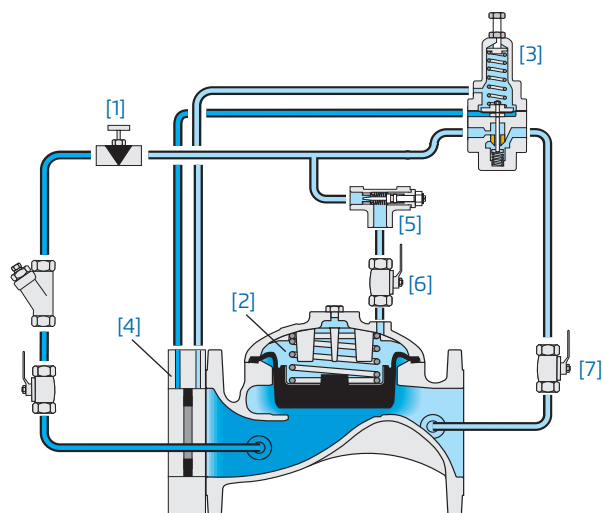
Operation

The Model 470-U is a pilot controlled valve equipped with an adjustable, 2-Way flow pilot and an orifice assembly.

The needle valve [1] continuously allows flow from valve inlet into the control chamber [2]. The pilot [3] senses the differential pressure across the orifice plate [4]. Should this differential pressure rise above pilot setting, the pilot throttles, enabling pressure to accumulate in the control chamber, causing the main valve to throttle closed, and

limiting flow to the pilot setting. Should orifice differential pressure fall below pilot setting, the pilot releases accumulated pressure causing the main valve to modulate open.

The needle valve controls the closing speed. The one-way flow control needle valve [5] stabilizes the valve's reaction by restricting the flow out of the control chamber. Closing cock valve [6] freezes valve opening rate. Downstream cock valve [7] enables manual closing.



Typical Applications

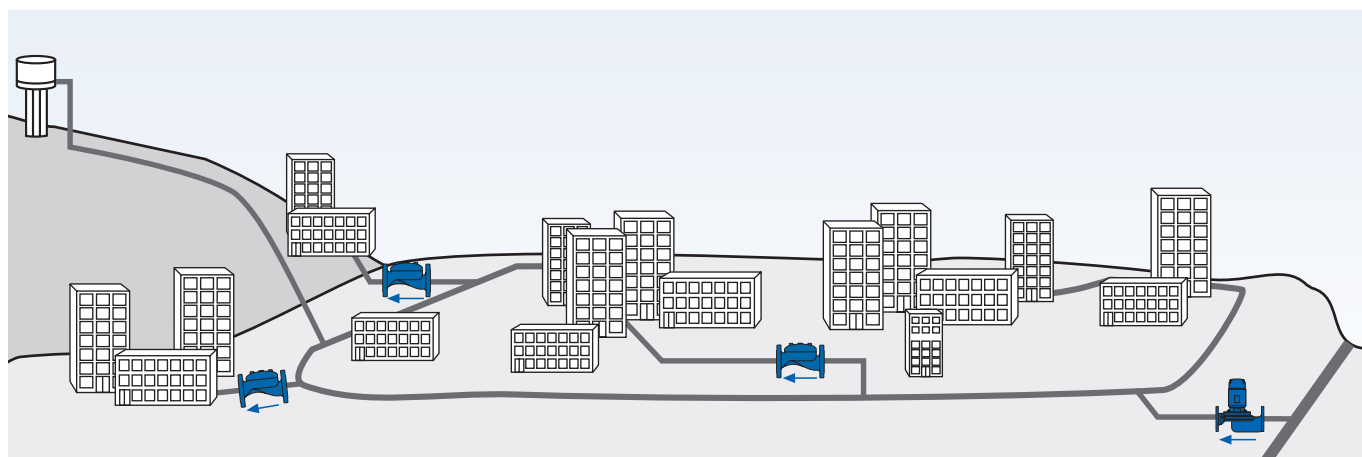
Distribution Networks

System design starts from expected flow range that determines major system components:

- Pump stations: Characteristics, location, quantity
- Supply lines: Layout, class, size
- Reservoirs: Location, volume, head

Significant deviation from designed flow range might disrupt water supply or even damage system components. Appropriate design, placement, and use of the Model 470-U protects the system from excessive flow.

When pressure reducing is also required, choosing the Model 472-U, instead of the Model 470-U, completes the solution.



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