

Quick Pressure Relief Valve

Model MN-83Q (For High Pressure Applications)

Quick Pressure Relief control valve hydraulically operated, that relieves excessive system pressure when this pressure rises above the pre-set value. It immediately, accurately, and with high repeatability responds to system pressure rise by fully opening.

Bermad 800 Series valves are hydraulic, pilot operated, piston actuated, oblique pattern, globe valves with a seat assembly and double chamber unitized actuator.

The valve's hydrodynamic body is designed for unobstructed flow path and provides excellent and highly effective modulation capacity for high differential pressure applications.

The 800 Series operate under difficult operation conditions with minimal cavitation and noise. They are made of the highest quality materials suitable for different mining solutions



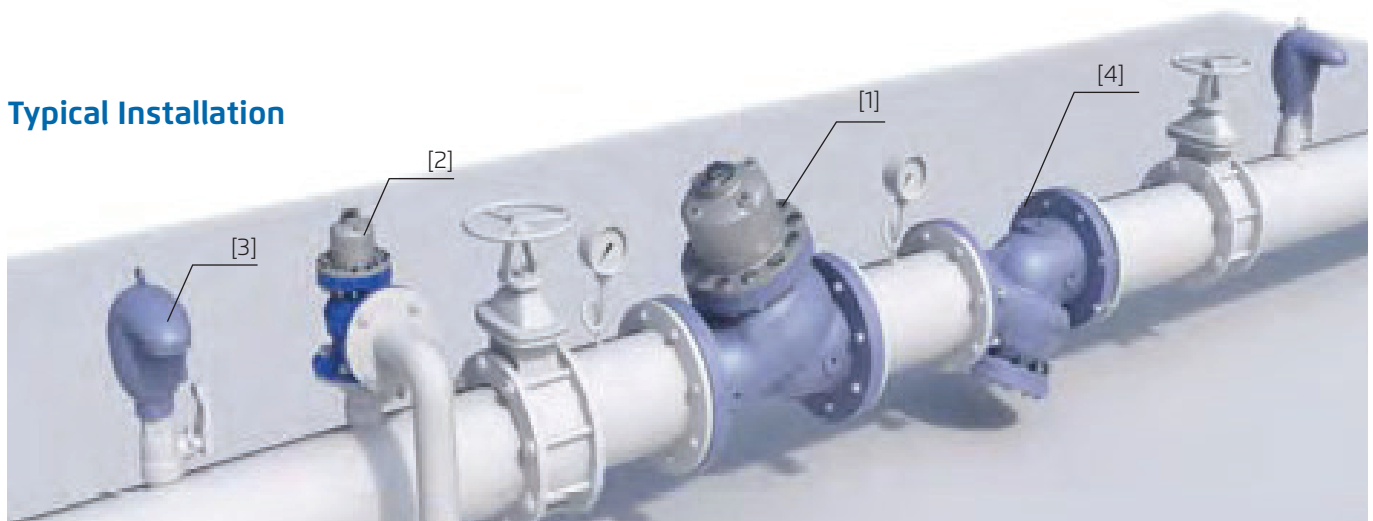
Features and Benefits

- Robust structure, piston actuated
 - High pressure service
- Designed to stand up to the toughest conditions
 - Tamper resistant
 - Excellent anti-cavitation properties
 - Wide flow range
 - High stability and accuracy
 - Drip tight sealing
- Double chamber actuator design
 - Provide rapid response to sudden changes in system conditions
 - Simplified maintenance as it can be removed as a single unit. In-line serviceable
- Balanced seal disc - High relief flow capacity
- Manual test valve - No setting change required
- Obstacle free flow path

List of Components:

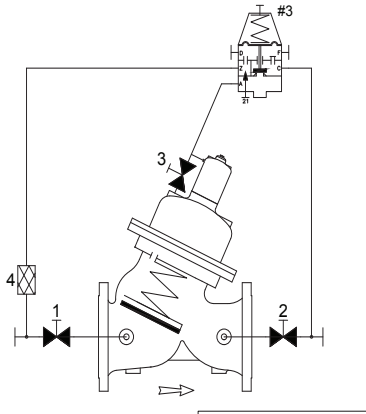
- [1] Pressure Reducing Valve MN-820
- [2] Quick Pressure Relief Valve MN-83Q
- [3] Combination Air Valve C70
- [4] Strainer MN-80F

Typical Installation





Control Schematic (*)



Standard Configuration

- 1 2W Isolation Valve
- 2 2W Isolation Valve
- 3 2W Isolation Valve
- 4 Control Filter
- 21 Needle Valve
- #3 2W Pressure Sustaining Pilot

Additional features (OPTIONAL)

- V V-Port Plug
- F Large Control Filter
- F1 Extra Large Control Filter
- 6 Pressure Gauge
- I Visual Position Indicator
- S Electric Limit Switch
- Q Position Transmitter 4-20 mA
- U Orifice Plate

(*) As a reference only. Components may vary based on valve's size and class.

Operation

- Model MN-830 is equipped with an adjustable pressure sustaining pilot, which senses upstream pressure and should be set to the minimum allowed system pressure.
- Should this pressure tends to fall below the pilot setting, the pilot throttles, enabling pressure in the control chamber to accumulate; thereby, causing the main valve to throttle closed, sustaining upstream (back) pressure at the pilot setting.
- Should the upstream pressure tends to rise above pilot setting, the pilot releases the accumulated pressure in control chamber, and the main valve modulates open.
- Opening and/or closing speed can be hydraulically set using an opening and/or closing needle valve (optional).

Pilot Options

Various pilots and calibration springs are available. Select according to valve size and operation conditions. For more details check pressure sustaining pilots product page.



| | | |
|-------------------|--------|------|
| Adjustment Ranges | PSI | Bar |
| | 30-430 | 2-30 |
| | 30-650 | 2-45 |

Pressure Rating

| Class 300 | | | |
|---------------------------|------------------|------------------------|----------|
| Max. Recommended Pressure | 600 PSI | | |
| Available End Connection | Flanged ANSI#300 | Grooved ANSI/AWWA C606 | Threaded |

Materials

| Components | | Water Applications | Thermal Shock Applications | Base Solutions Applications | Acid Solutions Applications (**) |
|--------------------------|---------------------|---------------------|----------------------------|-----------------------------|----------------------------------|
| Main Valve | Body | Ductile Iron | Carbon Steel | Ductile Iron | Stainless Steel 316 |
| | Cover | Stainless Steel 316 | Stainless Steel 316 | Stainless Steel 316 | Stainless Steel 316 |
| | Internals | Stainless Steel | Stainless Steel | Stainless Steel | Stainless Steel 316 |
| | | Brass/Coated Steel | Brass/Coated Steel | Coated Steel | |
| | Elastomers | Synthetic rubber | Synthetic rubber | Synthetic rubber | Viton |
| Coating | Fusion Bonded Epoxy | Fusion Bonded Epoxy | Fusion Bonded Epoxy | Uncoated | |
| Pilot | Body | Brass/Bronze | Stainless Steel 316 | Stainless Steel 316 | Stainless Steel 316 |
| | Internals | Stainless Steel | Stainless Steel | Stainless Steel 316 | Stainless Steel 316 |
| | | Brass | | | |
| Elastomers | Synthetic rubber | Synthetic rubber | Synthetic rubber | Viton | |
| Control Loop Accessories | Accessories | Brass/Bronze | Stainless Steel 316 | Stainless Steel 316 | Stainless Steel 316 |
| | Tubing & Fittings | Brass | Stainless Steel 316 | Stainless Steel 316 | Stainless Steel 316 |

(**) For highly aggressive acid solutions: Super Duplex, Hastelloy C-276, SMO-254 6-MO. Others by request.

Notes:

- Inlet pressure, outlet pressure and flow rate are required for optimal sizing and cavitation analysis.
- Recommended average flow velocity: 0.1-3.5m/sec; 0.3-11ft/sec.. Maximum intermittent flow velocity: 7.5m/sec-23ft/sec
- Minimum operating pressure: 2 bar / 30 PSI.

