Pressure Reducing Valve

Model MN-120

Hydraulically self-operated, pressure reducing control valve which uses the hydraulic forces of the line pressure to reduce upstream pressure to lower constant downstream pressure, regardless of varying upstream pressure.

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

The valve controls the pressure to be applied to the module leaching system in order to control a constant leaching rate inside the module. The local control of each module results in significant leaching solution savings.

Features and Benefits

- Designed to stand up to the toughest conditions
  - High stability and accuracy
  - Drip tight sealing
- h**Y**flow "Y" Valve Body
  - Meets rough service conditions with high UV, chemical and cavitation resistance
  - End-to-end "look-through" design and full bore seat with unobstructed flow path
  - Free of any in-line ribs, supporting cage or shafts
  - Enables ultra-high flow capacity with minimal head loss.
- In-line serviceable - Easy maintenance
  - No bolts in the cover. Its cover ring fastens valve cover tobody, stiffening and strengthening the valve body
- Unitized Flexible Super Travel (FST) Diaphragm and Guided Plug Assembly
  - Smooth closing.
  - Requires low actuation pressure.
  - Prevents diaphragm erosion and distortion.
- Flexible design - Easy addition of features
  - Simple in-line inspection and service
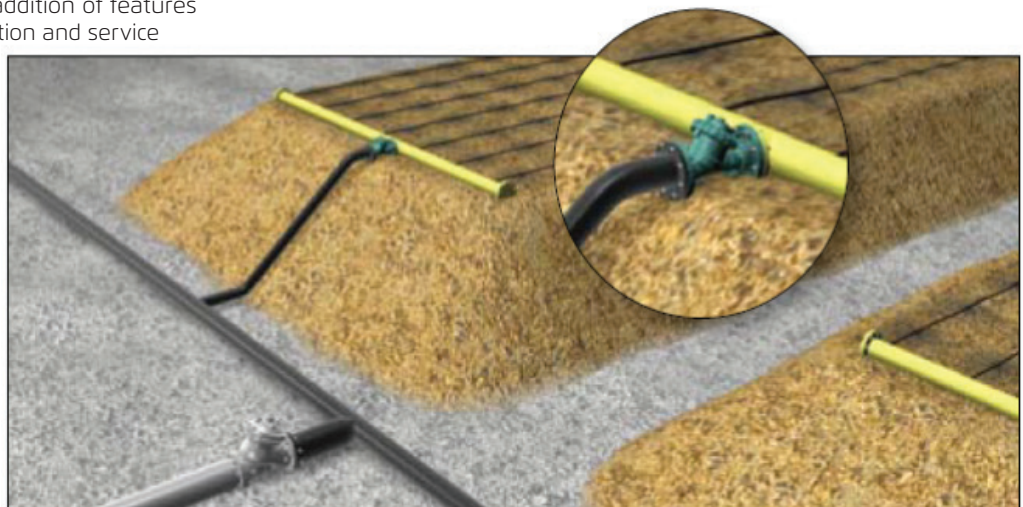
Major Additional Features

- 3 - Way control - **120 - X**
- ON/OFF Solenoid Control - **120 - 55**
- Electrically selected multi-level setting - **120 - 45**
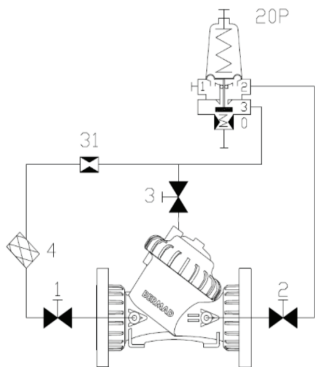
See relevant BERMAD publications

Typical Application

- Leaching rate control in heap leach systems

Typical Installation

Control Schematic (*)

Standard Configuration

1	2W Isolation Valve
2	2W Isolation Valve
3	2W Isolation Valve
4	Control Filter
31	Restriction Orifice
20P	2W Pressure Reducing Pilot

Additional features (OPTIONAL)

F	Large Control Filter
6	Pressure Gauge

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

Operation

- Model MN-120 is equipped with an adjustable pressure reducing pilot, which senses downstream pressure.
- Should this pressure rises above pilot setting, pilot throttles, enabling pressure in the control chamber to accumulate, causing the main valve to throttle closed, decreasing downstream pressure to pilot setting.
- Should downstream pressure falls below pilot setting, the pilot releases accumulated pressure, and the main valve modulates open.

Pilot Options

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

Spring	Setting Range	
	PSI	bar
L	12 - 85	0.8 - 6
U/V	7 - 43	0.5 - 3

L Standard

Pressure Rating

	NYLON Body			Polypropylene Body		
Max. Recommended Pressure	150 PSI			90 PSI		
Available End Connection	Flanged ANSI#150	Grooved ANSI/AWWA C606	Threaded	Flanged ANSI#150	Grooved ANSI/AWWA C606	Threaded

Materials

Components		Base Solutions Applications	Acid Solutions Applications (**)
Main Valve	Body & Cover	Nylon 6, Glass Filled	Polypropylene
	Internals	Stainless Steel 316	Stainless Steel 316
	Elastomers	NBR	Viton
Pilot	Body	Nylon 6, Glass Filled	Polypropylene
	Internals	Stainless Steel	Stainless Steel 316
	Elastomers	NBR	Viton
Control Loop Accessories	Accessories	PVC / Stainless Steel 316	PVC / Stainless Steel 316
	Tubing & Fittings	Polypropylene / Stainless Steel 316	Polypropylene / 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.
- Minimum operating pressure: 0.7 bar / 10 PSI.

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