PRESSURE REDUCING VALVE

Model IR-220-55-3W-MX

The BERMAD Pressure Reducing Control Valve with solenoid control is a hydraulically operated, diaphragm actuated control valve that reduces higher upstream pressure to lower constant downstream pressure regardless of fluctuating demand, and opens fully upon line pressure drop.
The BERMAD Model IR-220-55-3W-MX either opens or shuts in response to an electric signal.
*This valve is designated for irrigation use only and not for other uses! Manufacturer warranty is limited to the permitted use only.

[1] BERMAD Model IR-220-55-3W-X opens in response to electric signal, and establishes reduced pressure zone protecting laterals and distribution line.
[2] Combination Air Valve Model IR-C10
[3] Kinetic Air Valve Model IR-K10

Features & Benefits

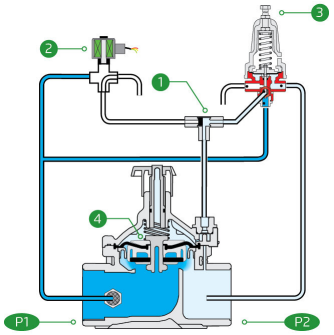
- Line Pressure Driven, Hydraulically Controlled
  - Protects downstream systems
  - Opens fully upon line pressure drop
  - Electrically controlled On/Off
- Smooth Valve Opening and Closing
  - Accurate and stable regulation
  - Low operating pressure requirements
- Composite Hydro-Efficient Globe Valve
  - Unobstructed flow path
  - Single moving part
  - High flow capacity
  - Highly durable, chemical and cavitation resistant
- Unitized Flexible Diaphragm and Guided Plug
  - Excellent low flow regulation performances
  - Prevents diaphragm erosion and distortion
- Fully Supported & Balanced Diaphragm
  - Requires low actuation pressure
- User-Friendly Design
  - Simple in-line inspection and service

Typical Applications

- Automated Irrigation Systems
- Drip Systems
- Pressure Reducing Systems
- Systems Subject to Varying Supply Pressure
- Landscape
- Energy Saving Irrigation Systems

Operation:

The Shuttle Valve [1] hydraulically connects the Solenoid [2] or the Pressure Reducing Pilot (PRP) [3] to the Valve Control Chamber [4] . When the solenoid is closed, the PRP commands the valve to throttle closed should Downstream Pressure [P2] rise above setting and to open fully when [P2] is below seting. In response to an electric signal, the solenoid switches, directing line pressure through the shuttle valve into the control chamber, shutting the valve. The solenoid also features local manual closing.



All images in this catalog are for illustration only

Technical Data

Pressure Rating:
10 bar

Operating Pressure Range:
0.7-10 bar

Materials

Body & Cover:
Polyamide 6 & 30% GF

Diaphragm:
NBR

Spring:
Stainless Steel

Control Loop Accessories

PR Pilot: PC-SHARP-X-P

Pilot Spring Range:

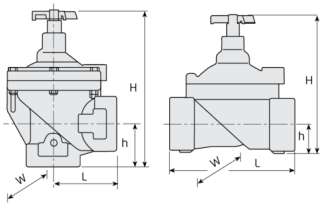
Spring	Spring Color	Setting range
J	Green	0.2-1.7 bar
K	Gray	0.5-3.0 bar
N	**Natural**	**0.8-6.5 bar**
V	Blue & White	1.0-10.0 bar

Standard spring - marked in bold

Tubing and Fittings:
Polyethylene and Polypropylene

Technical Specifications

For other end connection types,
Please refer to BERMAD full engineering page.



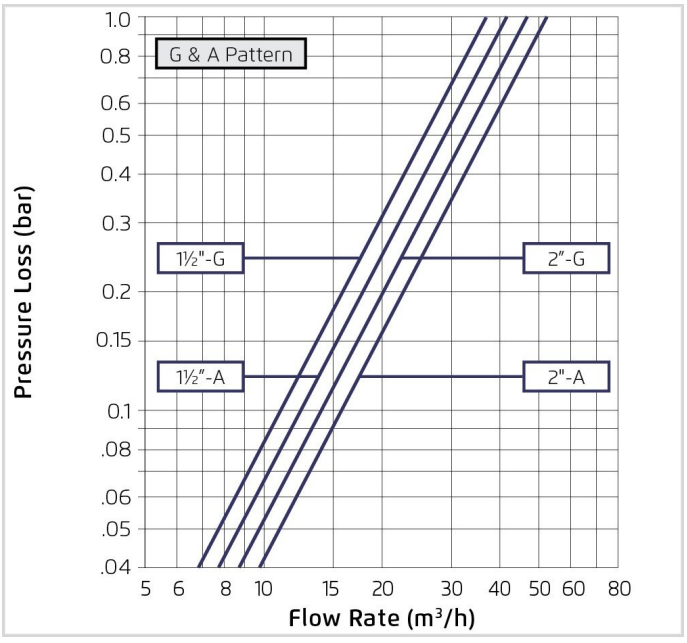
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
1½" ; DN40	Globe	Threaded	1	160	180	35	125	0.072	37
1½" ; DN40	Angle	Threaded	0.95	80	190	40	125	0.072	41
2" ; DN50	Globe	Threaded	1.1	170	190	38	125	0.072	47
2" ; DN50	Angle	Threaded	0.91	85	210	60	125	0.072	52

CCDV = Control Chamber Displacement Volume

Additional Features

Code	Description	Size Range
M	Flow Stem	1½"-2" / DN40-50
5	Plastic Test Point	1½"-2" / DN40-50
Z	Manual Selector	1½"-2" / DN40-50

Flow Chart



Differential Pressure & Flow Calculation

$$\Delta P = \left(\frac{Q}{Kv}\right)^2$$

Kv = m³/h @ ΔP of 1 bar
Q = m³/h
ΔP = bar