PRESSURE REDUCING VALVE

Model IR-220-50-3W-XZ

The BERMAD Pressure Reducing Valve with hydraulic remote control is a hydraulically operated, diaphragm actuated control valve that reduces higher upstream pressure to lower constant downstream pressure and opens fully upon line pressure drop.
It either opens or shuts in response to a remote pressure command.
*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-220-50-3W-XZ Opens upon pressure drop, and establishes reduced pressure zone protecting laterals and distribution line.
[2] Combination Air Valve Model IR-C10

Features & Benefits

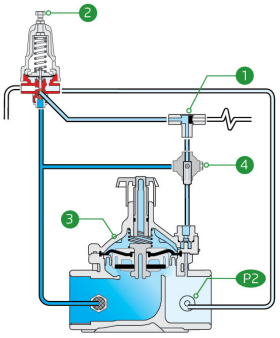
- Line Pressure Drive, Hydraulically Controlled
  - Protects downstream systems
  - Opens fully upon line pressure drop
- Smooth Valve Opening and Closing
  - Accurate and stable regulation
  - Low operating pressure requirements
- Composite Hydro-Efficient Globe Valve
  - Unobstructed flow path
  - 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 Pressure Reducing Pilot (PRP) [2] to the Valve Control Chamber [3] . The PRP commands the valve to throttle closed should Downstream Pressure [P2] rise above setting and to open fully when it drops below setting. Upon pressure rise command, the shuttle valve automatically switches, allowing pressurization of the control chamber, which causes the main valve to shut. The Manual Selector [4] enables manual closing.



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Technical Data

Pressure Rating:
150 psi

Operating Pressure Range:
10-150 psi

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	3-25 psi
K	Gray	7-43 psi
N	**Natural**	**12-95 psi**
V	Blue & White	15-150 psi

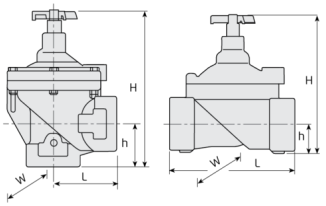
Standard spring - marked in bold

Tubing and Fittings:
Polyethylene and Polypropylene

**For other pilots please consult BERMAD*

Technical Specifications

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



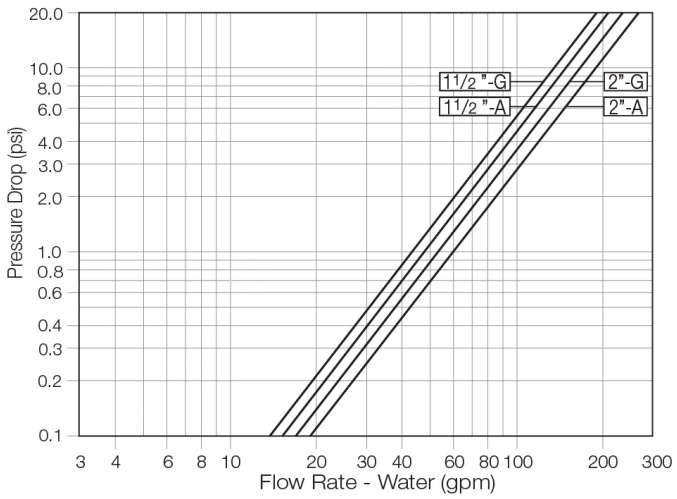
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1½" ; DN40	Globe	Threaded	2.2	6⅜	7⅛	1⅜	5	0.016	43
1½" ; DN40	Angle	Threaded	2.1	3⅛	7½	1⅝	5	0.016	47
2" ; DN50	Globe	Threaded	2.4	6¾	12¾	1½	5	0.016	54
2" ; DN50	Angle	Threaded	2	3⅜	8¼	2⅜	5	0.016	60

CCDV = Control Chamber Displacement Volume

Additional Features

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

Flow Chart



Differential Pressure & Flow Calculation

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

Cv = gpm @ ΔP of 1 psi
Q = gpm
ΔP = psi