PRESSURE REDUCING VALVE

WITH SOLENOID CONTROLLED

Model IR-220-55-3W-X

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-X either opens or shuts in response to an electric signal.

[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] BERMAD Combination Air Valve Model IR-C10
[3] BERMAD Kinetic Air Valve Model IR-K10

All images in this catalog are for illustration only

Features & Benefits

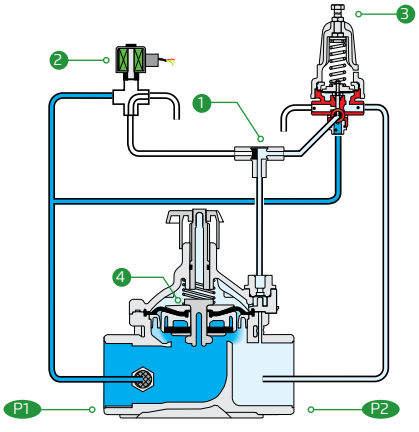
- Line Pressure Driven, Hydraulically Controlled
  - Protects downstream systems
  - Opens fully upon line pressure drop
  - Electrically controlled On/Off
- Smooth valve opening and closing
  - Accurate and stable regulation
  - Low operating pressure requirements
- Plastic Globe Hydro-Efficient Valve
  - 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 performance
  - Prevents diaphragm erosion and distortion
- Fully Supported & Balanced Diaphragm
  - Requires low actuation pressure
- User-Friendly Design
  - Simple in-line inspection and service

Typical Applications

- Computerized Irrigation Systems
- Drip Systems
- Pressure Reducing Stations
- Greenhouses Irrigation
- Systems Subject to Varying Supply Pressure
- Landscape
- Energy Saving Irrigation Systems

Operation:

The Shuttle Valve ❶ hydraulically connects the Solenoid ❷ or the Pressure Reducing Pilot (PRP) ❸ to the Valve Control Chamber ❹. 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.



Technical Data

Sizes: 1½-2"; DN40-50

Patterns:
Globe: 1½ & 2"; DN40 & 50
Angle: 1½ & 2"; DN40 & 50

End Connections:
Female Threads BSP; NPT

Pressure Rating:
10 bar; 145 psi

Operating Pressure Range:
0.5-10 bar; 7-145 psi

Setting Range:
1-7 bar; 15-100 psi

Setting ranges vary according to specific pilot spring. Please consult factory

Standard Materials:
Body & Cover:
Black PA6+33%GF

Diaphragm: NBR

Seals: NBR

Spring: Stainless Steel

Cover Bolts: Stainless Steel

Control Accessories: Plastic

Tubing and Fittings: Plastic

Solenoid Voltage Range:
S-390 & S-400: 24 VAC, 24 VDC
S-392-T & S-402: 9-20 VDC, Latch
S-982 & S-985: 12-50 VDC, Latch

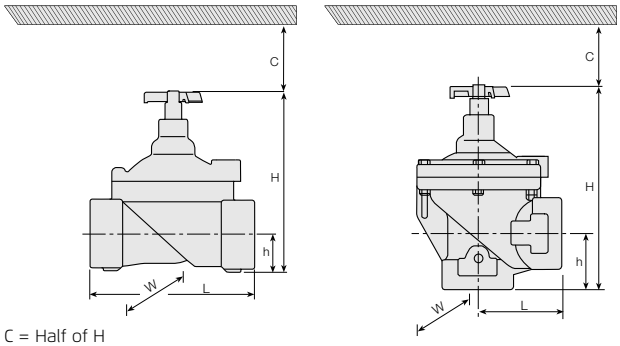
Other voltages available

Technical Specifications

Dimensions and Weights

Sizes Inch ; DN	1½" ; 40		2" ; 50	
Pattern	Globe	Angle	Globe	Angle
L (mm)	160	80	170	85
H (mm)	180	190	190	210
W (mm)	125	125	125	125
h (mm)	35	40	38	60
Weight (kg)	1	0.95	1.1	0.91

Note: For full technical details, refer to Engineering Section.

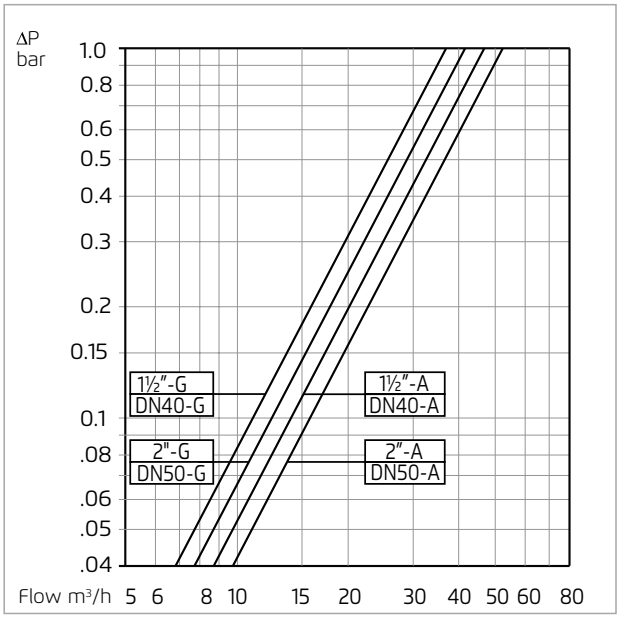


C = Half of H

Flow Properties

Sizes	Inch / DN	G	A	G	A
		1½" 40	1½" 40	2" 50	2" 50
KV		37	47	41	52

Flow Chart



Valve flow coefficient, Kv or Cv

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

Where:
Kv = Valve flow coefficient
Cv = Valve flow coefficient (flow in gpm at Diff. Press. 1 psi)

Q = Flow rate (m³/h; gpm)
P = Differential pressure (bar; psi)
Cv = 1.155 Kv