Pressure Reducing Valve

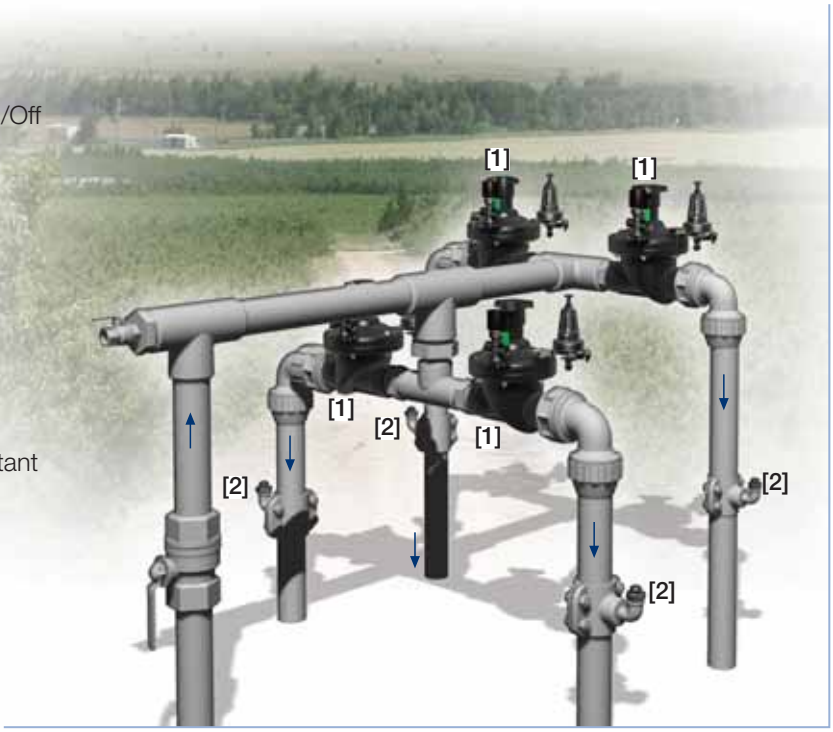
with Solenoid Control for Drip-Tape Applications

IR-220-55-b

The BERMAD Pressure Reducing Valve with Solenoid Control is a hydraulically operated, diaphragm actuated control valve that accurately reduces higher upstream pressure to very low and stable preset downstream pressure regardless of fluctuating demand or varying upstream pressure.
The BERMAD Model IR-220-55-b either opens or shuts in response to an electric signal.

Features and Benefits

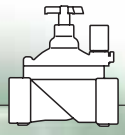
- Line Pressure Driven, Electrically Controlled On/Off
  - Protects downstream systems
- Pressure Reducing Servo Pilot Controlled
  - Dynamic integrated needle valve
  - Easily settable to 0.5 bar; 7 psi
  - Very low hysteresis
- Plastic Globe Hydro-Efficient Valve
  - Unobstructed flow path
  - Single 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-Tape Systems
- Low Set Pressure Applications
- Remote and/or Elevated Plots
- Distribution Centers
- Energy Saving Irrigation Systems

[1] BERMAD Model IR-220-55-b opens in response to electric signal, and establishes reduced pressure zone protecting laterals and distribution line.
[2] BERMAD Vacuum Breaker Model ½"-ARV

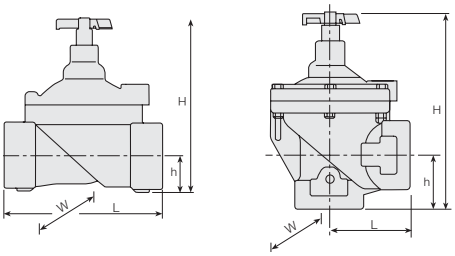


For full technical details, refer to Engineering Section.

Technical Specifications

Dimensions and Weights

Pattern		Globe		Angle	
Size	DN	40	50	40	50
	inch	1½	2	1½	2
L	mm	160	170	80	85
	inch	6.3	6.7	6.1	3.3
H	mm	180	190	190	210
	inch	7.1	7.5	7.5	8.3
h	mm	35	38	40	60
	inch	1.4	1.5	1.6	2.4
W	mm	125	125	125	125
	inch	4.9	4.9	4.9	4.9
Weight	Kg.	1	1.1	0.95	0.91
	lb.	2.2	2.4	2.1	2.0

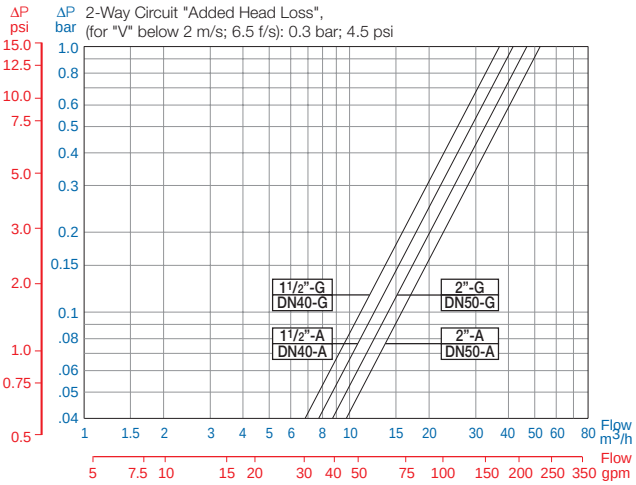


Technical Data

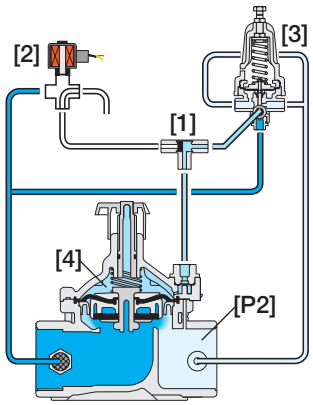
Sizes: 1½-2"; DN40-50
Patterns:
Globe: 1½ & 2"; DN40 & 50
Angle: 1½ & 2"; DN40 & 50
End Connections: Female Threads BSP; NPT
Pressure Rating: 10 bar; 145 psi
Operating Pressure Range: 0.5-10 bar; 7-145 psi
Setting Range: 0.5-1.7 bar; 7-25 psi
Setting ranges vary according to specific pilot spring. Please consult factory.

Materials:
Body, Cover and Plug: Reinforced Nylon
Diaphragm: NR
Seals: NBR [Buna–N] and NR
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 & S-402: 9-20 VDC, Latch
S-982 & S-985: 12-50 VDC, Latch
Other voltages available: For full electric data, refer to Accessories Section.

Flow Chart



Operation



The Shuttle Valve **[1]** hydraulically connects the Solenoid **[2]** or the Pressure Reducing Servo Pilot (PRSP) **[3]** to the Valve Control Chamber **[4]**. When the solenoid is closed, the PRSP commands the Valve to throttle closed, preventing Downstream Pressure **[P2]** from rising above pilot setting. In response to an electric signal, the solenoid switches, directing line pressure thought the shuttle valve into the control chamber. This causes the Valve to shut. The solenoid also features local manual closing.

How to Order

Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

Sector	Size	Primary Feature	Additional Feature	Pattern	Construction Materials	End Connections	Control Type	Additonal Attributes	Voltage -Main Valve Position
IR	1½-2"	220	55	G	P	BP	2W/3W	b	4AC

Golbe	G
Angle	A

BSP	BP
NPT	NP

Servo	b
Flow Stem	Z
Low Preset Pressure (below 2 bae)	2
Plastic Pressure Test Point	5

Other attributes available on request

9VDC –	Latch	9DS
12VDC –	Latch	1DS
24VDC –	N.C.	4DC
24VDC –	N.O.	4DC
24VAC –	N.C.	4AC
24VAC –	N.O.	4AO
24VAC, Lightning Proof –	N.C.	4RC
24VAC, Lightning Proof –	N.O.	4RO

Other attributes available on request