



PRESSURE REDUCING VALVE

With 3-Way Solenoid Control And Flow Stem

Model IR-120-55-3W-XM

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-120-55-3W-X either opens or shuts in response to an electric signal.



[1] BERMAD Model IR-120-55-3W-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

[4] Smart Irrigation Controller-OMEGA

Features & Benefits

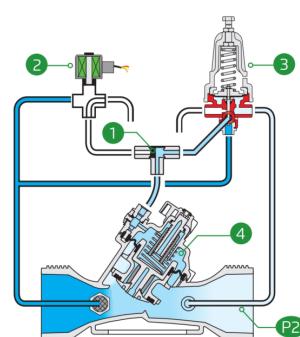
- Hydraulic Pressure Control with Solenoid Control
 - Line pressure driven
 - Protects downstream systems
 - Opens fully upon line pressure drop
 - Electrically controlled On/Off
- Engineered Composite Valve with Industrial Grade Design
 - Highly durable, chemical and cavitation resistant
 - No internal bolts and nuts
- hYflow 'Y' Valve Body with "Look Through" Design
 - Ultra-high flow capacity at low pressure loss
- Unitized "Flexible Super Travel" (FST) Diaphragm and Guided Plug
 - Accurate and stable regulation with smooth closing
 - Requires low opening and actuation pressure
 - Prevents diaphragm erosion and distortion
- Simple In-Line Inspection and Service

Typical Applications

- Automated Irrigation Systems
- Pressure Reducing Systems
- Systems Subject to Varying Supply Pressure
- Remote and/or Elevated Plots
- Distribution Centers
- 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 setting. 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

Pressure Rating:

150 psi

Operating Pressure Range:

7-150 psi

Materials
Body & Cover:
 Polyamide 6 & 30% GF

Diaphragm:
 NR, Nylon fabric reinforced

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

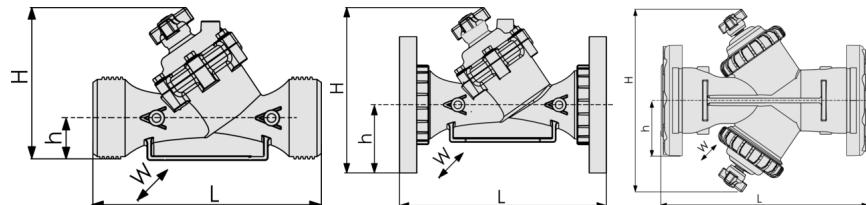
Standard spring - marked in bold

Tubing and Fittings:
 Polyethylene and
 Polypropylene

DC latch solenoid:
 S-982-3W P.B.

**For other solenoids please consult [BERMAD](#)*

Technical Specifications

 For other patterns and end connection types,
 Please refer to [BERMAD](#) full engineering page.


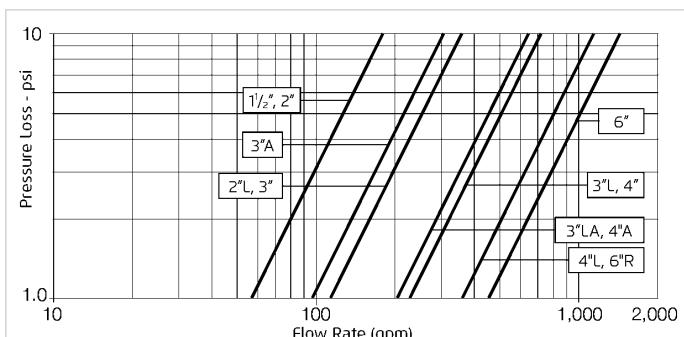
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1½" ; DN40	Oblique	Threaded	2.4	7½	6½	1%	3½	0.026	58
2" ; DN50	Oblique	Threaded	2.7	9½	6½	1%	3½	0.026	58
2½" ; DN50L	Oblique	Threaded	3	9½	7½	1¼	5%	0.033	116
2½" ; DN65	Oblique	Threaded	3	9½	7½	1¼	5%	0.033	116
3" ; DN80	Oblique	Threaded	4	11¾	7½	2¼	5%	0.033	116
3" ; DN80	Oblique	Plastic Flanges	6	12½	9½	4	7½	0.033	116
3" ; DN80	Oblique	Metal Flanges	10	12½	9½	4	7½	0.033	116
3½" ; DN80L	Oblique	Threaded	7	11¾	9½	2½	6%	0.136	231
3½" ; DN80L	Oblique	Plastic Flanges	8.2	12½	12½	4	7½	0.136	231
3½" ; DN80L	Oblique	Metal Flanges	10.1	12½	12½	4	7½	0.136	231
4" ; DN100	Oblique	Plastic Flanges	10	13¾	13	4½	8½	0.136	231
4" ; DN100	Oblique	Metal Flanges	16.3	13¾	13	4½	8½	0.136	231
4" ; DN100L	Oblique	Plastic Flanges	20.2	17½	13½	4½	9	0.253	393
4" ; DN100L	Oblique	Metal Flanges	24.7	17½	13½	4½	9	0.253	393
6"R ; DN150R	Oblique	Metal Flanges	36	18½	14½	5½	11%	0.253	393
6" ; DN150	Boxer	Grooved	26	19	15¼	4	18¾	2x0.136	462
6" ; DN150	Boxer	Plastic Flanges	27.6	19¾	15¼	5%	18¾	2x0.136	462

CCDV = Control Chamber Displacement Volume • **Threaded** = BSP & NPT are available. External thread is available for 2" and 2½" only. • Other End Connections are available on request. For dimensions and weights of adapters or valves with adapters please consult with customer service.

Additional Features

Code	Description	Size Range
M	Flow Stem (*Exclude sizes 4"R, 6"R)	1½"-6"
5	Plastic Test Point	1½"-4"
Z	Manual Selector	1½"-4"
V3	Victaulic PVC Adaptors 3"	3"
V4	Victaulic PVC Adaptors 4"	4"

Flow Chart



Differential Pressure & Flow Calculation

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

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