PRESSURE REDUCING VALVE

With 3-Way Control & Manual Selector & Flow Stem

Model IR-120-3W-XZM

The BERMAD Pressure Reducing Valve 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.

[1] BERMAD Model IR-120-3W-XZ establishes reduced pressure zone, protecting laterals and distribution line.
[2] Combination Air Valve Model IR-C10
[3] Combination Air Valve Model IR-C30

Features & Benefits

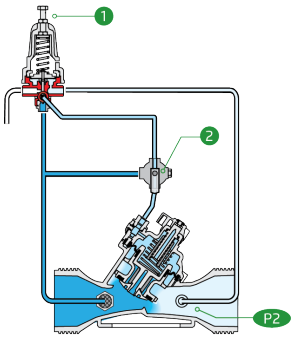
- Line Pressure Driven, Hydraulically Controlled
  - Protects downstream systems
  - Opens fully upon line pressure drop
- Engineered Composite Valve with Industrial Grade Design
  - Adaptable on-site to a wide range of end connection
  - Articulated flange connections that eliminate line bending and hydraulic stresses
  - Highly durable, chemical and cavitation resistant
- 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 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
- Distribution Centers
- Energy Saving Irrigation Systems

Operation:

The Pressure Reducing Pilot [1] commands the main valve to throttle closed should Downstream Pressure [P2] rise above pilot setting, and to open fully when it drops below pilot setting. The Manual Selector [2] enables local manual closing.



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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:

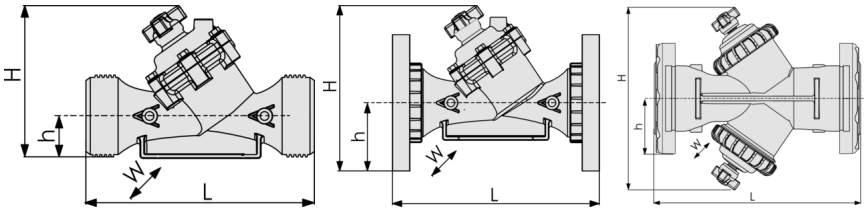
Spring	Spring Color	Setting range
J	Green	3-25 psi
K	Gray	7-43 psi
N	**Natural**	**12-95 psi**
V	Blue & White	15-150 psi

Standard spring - marked in bold

Tubing and Fittings:
Polyethylene and Polypropylene

Technical Specifications

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



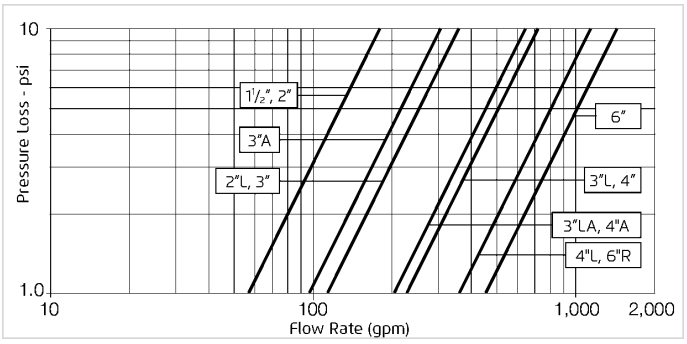
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1½" ; DN40	Oblique	Threaded	2.4	7⅞	6⅞	1⅝	3⅜	0.026	58
2" ; DN50	Oblique	Threaded	2.7	9⅛	6⅞	1⅝	3⅜	0.026	58
2"L ; DN50L	Oblique	Threaded	3	9⅛	7⅜	1¾	5⅜	0.033	116
2½" ; DN65	Oblique	Threaded	3	9⅛	7⅜	1¾	5⅜	0.033	116
3" ; DN80	Oblique	Threaded	4	11¾	7⅞	2¼	5⅜	0.033	116
3" ; DN80	Oblique	Plastic Flanges	6	12⅛	9⅝	4	7⅞	0.033	116
3" ; DN80	Oblique	Metal Flanges	10	12⅛	9⅝	4	7⅞	0.033	116
3"L ; DN80L	Oblique	Threaded	7	11¾	9⅛	2⅜	6⅝	0.136	231
3"L ; DN80L	Oblique	Plastic Flanges	8.2	12⅛	12½	4	7⅞	0.136	231
3"L ; DN80L	Oblique	Metal Flanges	10.1	12⅛	12½	4	7⅞	0.136	231
4" ; DN100	Oblique	Plastic Flanges	10	13⅞	13	4½	8⅞	0.136	231
4" ; DN100	Oblique	Metal Flanges	16.3	13⅞	13	4½	8⅞	0.136	231
4"L ; DN100L	Oblique	Plastic Flanges	20.2	17½	13⅜	4½	9	0.253	393
4"L ; DN100L	Oblique	Metal Flanges	24.7	17½	13⅜	4½	9	0.253	393
6"R ; DN150R	Oblique	Metal Flanges	36	18½	14⅞	5⅞	11⅜	0.253	393
6" ; DN150	Boxer	Grooved	26	19	15¼	4	18¾	2x0.136	462
6" ; DN150	Boxer	Plastic Flanges	27.6	19⅞	15¼	5⅝	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"L, 6"R)	1½"-6"
5	Plastic Test Point	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