

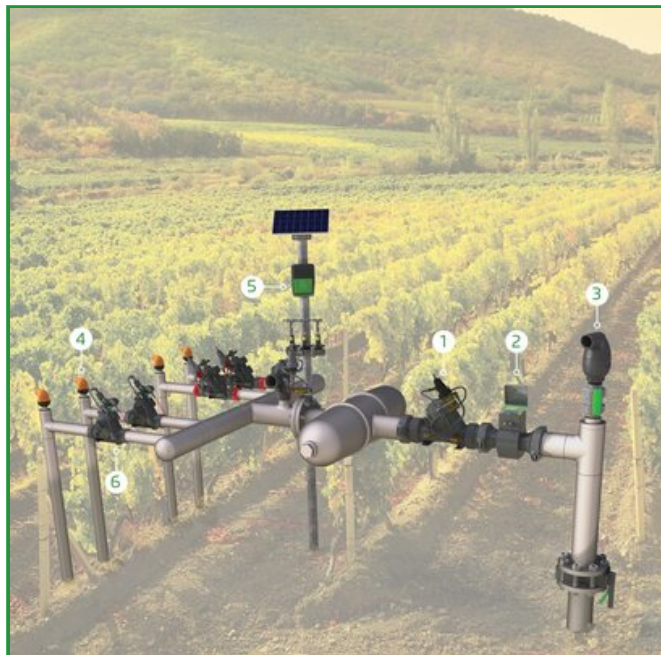


PRESSURE REDUCING VALVE

For High Pressure, With Hydraulic Remote Control

Model IR-120-50-HP-3W-XZ

The BERMAD Pressure Reducing Valve with hydraulic remote control is a hydraulically operated, diaphragm actuated control valve, designed for high pressure, 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.



- [1] BERMAD Model IR-120-50-HP-3W-XZ opens upon pressure drop command, and establishes reduced pressure zone protecting laterals and distribution lines.
- [2] Electromagnetic Flow Meter Model M10 (composite)
- [3] Combination Air Valve Model C30
- [4] Kinetic Air Valve Model K10
- [5] Smart Irrigation Controller-OMEGA
- [6] Pressure Reducing Valve (Top Pilot) Model IR-12T-55-3W-X

Features & Benefits

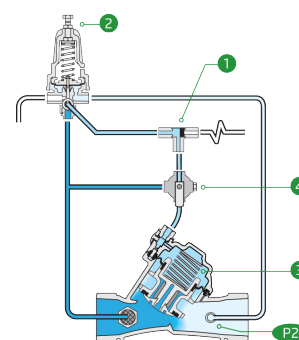
- Line Pressure Driven, Hydraulically Controlled
 - Protects downstream systems
 - Opens fully upon line pressure drop
- Engineered Composite Valve with Industrial Grade Design
 - Highly durable, chemical and cavitation resistant
 - Adaptable on-site to a wide range of end connection
- hYflow 'Y' Valve Body with "Look Through" Design
 - Ultra-high flow capacity at low pressure loss
- Unitized Flexible 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 Stations
- Systems Subject to Varying Supply Pressure
- Distribution Centers
- 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.





Technical Data

Pressure Rating:
250 psi

Operating Pressure Range:
7-250 psi

Materials

Body & Cover:
Reinforced Polyamide

Diaphragm:
EPDM

Spring:
Stainless Steel

Control Loop Accessories

PR Pilot: PC-SHARP-X-MP

Pilot Spring Range:

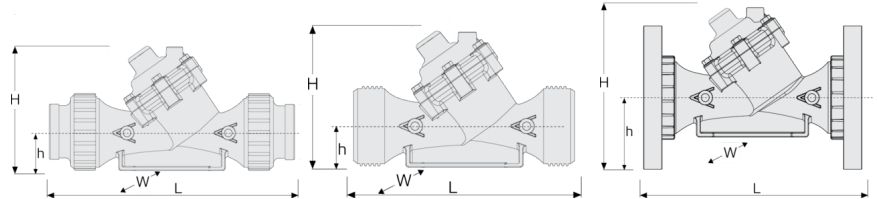
Spring	Spring Color	Setting range
K	Gray	7-43 psi
N	Natural	12-95 psi
V	Blue & White	15-150 psi
P	White	15-230 psi

Standard spring - marked in bold

Tubing and Fittings:
Reinforced Nylon and Brass

Technical Specifications

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



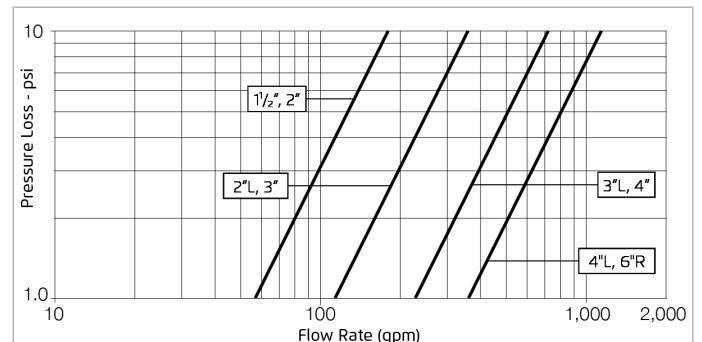
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1½" ; DN40	Oblique	Threaded	2.6	7⅞	6⅞	1⅞	3⅞	0.026	58
2" ; DN50	Oblique	Threaded	2.9	9⅞	6⅞	1⅞	3⅞	0.026	58
2" ; DN50	Oblique	Grooved	3.1	11¼	6⅞	1⅞	3⅞	0.026	58
2"L ; DN50L	Oblique	Threaded	3.6	9⅞	6⅞	1⅞	5⅞	0.033	116
2"L ; DN50L	Oblique	Grooved	3.8	11¼	6⅞	1⅞	5⅞	0.033	116
3" ; DN80	Oblique	Threaded	4	11¼	7⅞	2¼	5⅞	0.033	116
3" ; DN80	Oblique	Grooved	4.1	15⅞	7⅞	2¼	5⅞	0.033	116
3" ; DN80	Oblique	Metal Flanges	10	12⅞	8⅞	4	7⅞	0.033	116
3"L ; DN80L	Oblique	Threaded	7.3	11¼	9⅞	2⅞	6⅞	0.136	231
3"L ; DN80L	Oblique	Grooved	7.5	15⅞	9⅞	2⅞	6⅞	0.136	231
3"L ; DN80L	Oblique	Metal Flanges	13.5	12⅞	11⅞	4	7⅞	0.136	231
4" ; DN100	Oblique	Grooved	9	15⅞	9⅞	2⅞	6⅞	0.136	231
4" ; DN100	Oblique	Metal Flanges	17.2	13⅞	11⅞	4½	8⅞	0.136	231
4"L ; DN100L	Oblique	Grooved	16.1	15¼	12⅞	3⅞	9	0.253	393
4"L ; DN100L	Oblique	Metal Flanges	24.7	17⅞	13⅞	4½	9	0.253	393
6"R ; DN150R	Oblique	Metal Flanges	40.1	18½	14⅞	5⅞	11⅞	0.253	393

CCDV = Control Chamber Displacement Volume • **Threaded** = BSP & NPT are available.

Additional Features

Code	Description	Size Range
6	Pressure Gauge up to 16 bar ¼" male connector	1½"-6"R

Flow Chart



Differential Pressure & Flow Calculation

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

Cv = gpm @ ΔP of 1 psi

Q = gpm

ΔP = psi