

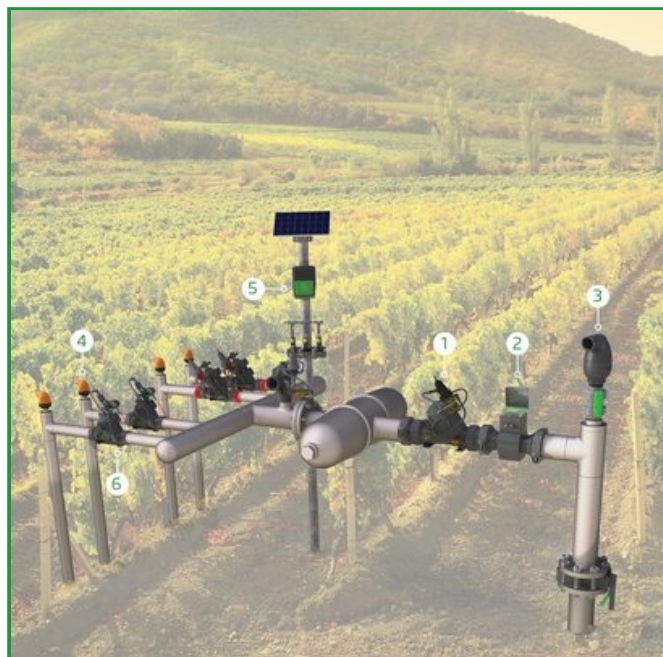


PRESSURE REDUCING VALVE

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

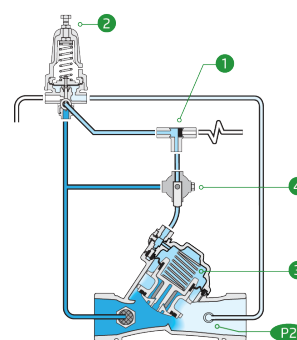
- Line Pressure Driven, Hydraulically Controlled
 - Protects downstream systems
 - Opens fully upon line pressure drop
- Engineered Composite Valve with Industrial Grade Design
 - Highly durable, chemical and cavitation resistant
 - Adaptable on-site to a wide range of end connection
- hYflow 'Y' Valve 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:

16 bar

Operating Pressure Range:

0.5-16 bar

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	0.5-3.0 bar
N	Natural	0.8-6.5 bar
V	Blue & White	1.0-10.0 bar
P	White	1.0-16.0 bar

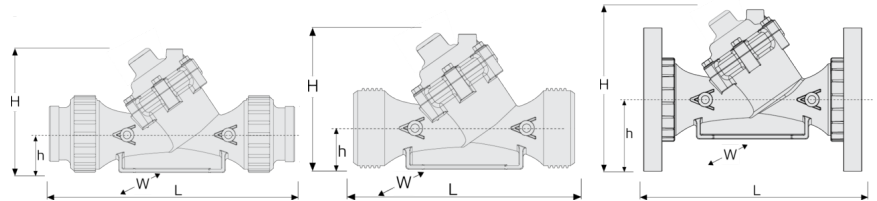
Standard spring - marked in bold

Tubing and Fittings:

Reinforced Nylon and Brass

Technical Specifications

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



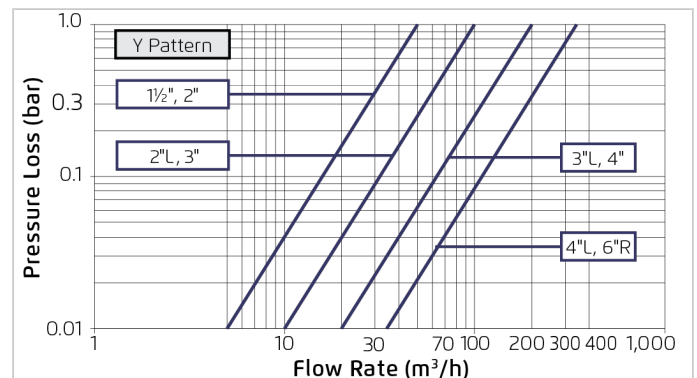
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
1½" ; DN40	Oblique	Threaded	1.2	200	172	40	97	0.12	50
2" ; DN50	Oblique	Threaded	1.3	230	172	40	97	0.12	50
2" ; DN50	Oblique	Grooved	1.4	284	172	40	97	0.12	50
2"L ; DN50L	Oblique	Threaded	1.6	230	172	43	135	0.15	100
2"L ; DN50L	Oblique	Grooved	1.7	284	172	43	135	0.15	100
3" ; DN80	Oblique	Threaded	1.8	298	181	55	135	0.15	100
3" ; DN80	Oblique	Grooved	1.9	384	188	62	135	0.15	100
3" ; DN80	Oblique	Metal Flanges	4.6	308	226	100	200	0.15	100
3"L ; DN80L	Oblique	Threaded	3.3	298	243	60	168	0.62	200
3"L ; DN80L	Oblique	Grooved	3.4	384	245	62	168	0.62	200
3"L ; DN80L	Oblique	Metal Flanges	6.1	310	282	100	200	0.62	200
4" ; DN100	Oblique	Grooved	4.1	384	245	62	168	0.62	200
4" ; DN100	Oblique	Metal Flanges	7.8	350	294	112	224	0.62	200
4"L ; DN100L	Oblique	Grooved	7.3	400	313	84	226	1.15	340
4"L ; DN100L	Oblique	Metal Flanges	11.2	442	340	112	226	1.15	340
6"R ; DN150R	Oblique	Metal Flanges	18.2	470	377	149	287	1.15	340

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 / DN40-150R

Flow Chart



Differential Pressure & Flow Calculation

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

Kv = m³/h @ ΔP of 1 bar

Q = m³/h

ΔP = bar