PRESSURE REDUCING VALVE - DOUBLE CHAMBER

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

The BERMAD Model IR-120-DC-50-3W-XZ Pressure Reducing Valve with hydraulic remote control is a double chambered, hydraulically operated, diaphragm actuated control valve that reduces higher upstream pressure to lower constant downstream pressure and opens fully upon line pressure drop. The Double Chamber Valve is a high performance valve, specially designed for quick response and challenging regulation requirements.

[1] BERMAD Model IR-120-DC-50-3W-XZ opens upon pressure drop command, and establishes reduced pressure zone protecting laterals and distribution line.
[2] Solenoid Control Valves Model IR-210
[3] Combination Air Valve Model IR-C10
[4] Kinetic Air Valve Model IR-K10
[5] RTU-Remote Terminal Unit

Features & Benefits

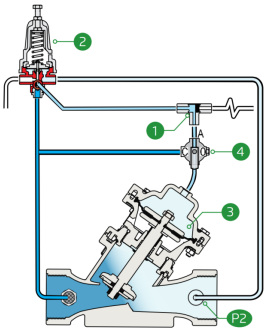
- Line Pressure Driven, Hydraulically Controlled
  - Protects downstream systems
  - Opens fully upon line pressure drop
- Double Chamber Design
  - Full powered opening and closing
  - Decreased pressure loss
  - Non-slam closing characteristic
  - Protected diaphragm
- Engineered Composite Valve with Industrial Grade Design
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity at low pressure loss
- User-Friendly Design
  - Simple in-line inspection and service

Typical Applications

- Pressure Reducing Systems
- Systems Subject to Varying Supply Pressure
- 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.



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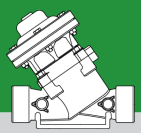


Technical Data

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

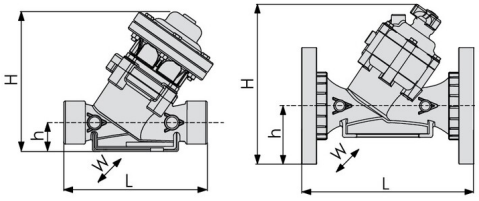
Standard spring - marked in bold

Tubing and Fittings:
Polyethylene and Polypropylene

**For other pilots please consult BERMAD*

Technical Specifications

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



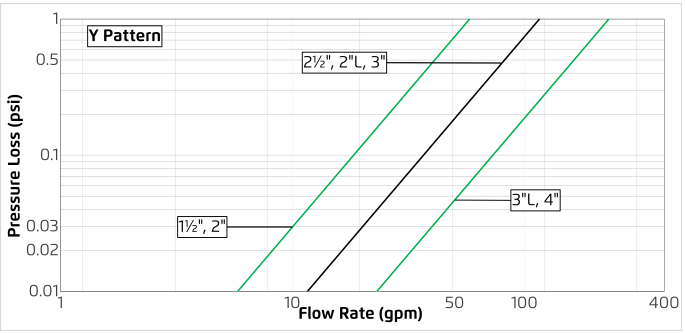
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1½" ; DN40	"Y" (globe)	Threaded	4	7⅞	7⅝	1⅝	5	0.034	58
2" ; DN50	"Y" (globe)	Threaded	4	9⅛	7¾	1⅝	5	0.034	58
2"L ; DN50L	"Y" (globe)	Threaded	4.9	9⅛	8¾	1¾	5⅜	0.045	116
2½" ; DN50L	"Y" (globe)	Threaded	4.9	9⅛	8¾	1¾	5⅜	0.045	116
3" ; DN80	"Y" (globe)	Threaded	5	11¾	9¼	2¼	5⅜	0.045	116
3" ; DN80	"Y" (globe)	Plastic Flanges	7.1	12⅛	11	4	7⅞	0.045	116
3" ; DN80	"Y" (globe)	Metal Flanges	11	12⅛	11	4	7⅞	0.045	116
3"L ; DN80L	"Y" (globe)	Threaded	13.1	13⅜	14	2⅜	8⅜	0.15	231
3"L ; DN80L	"Y" (globe)	Plastic Flanges	14.3	13½	15⅝	4	8⅜	0.15	231
3"L ; DN80L	"Y" (globe)	Metal Flanges	16.3	13½	15⅝	4	8⅜	0.15	231
4" ; DN100	"Y" (globe)	Plastic Flanges	16.8	14⅜	16	4½	8⅞	0.15	231
4" ; DN100	"Y" (globe)	Metal Flanges	21	14⅜	16	4½	8⅞	0.15	231

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
K/L	Auxiliary Closing / Lifting Spring (for 100-DC models only)	1½"-4"
5	Plastic Test Point	1½"-4"
7	½" Anti Vacuum at Valve Downstream	1½"-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