

PRESSURE REDUCING & SUSTAINING VALVE - DOUBLE CHAMBER

Model IR-123-DC-50-3W-XZ

The Bermad Model IR-123-DC-50-3W-XZ Pressure Reducing & Sustaining Control Valve with hydraulic remote control is a double chambered, hydraulically operated, diaphragm actuated control valve that performs three independent functions. It sustains the preset minimum upstream pressure, reduces downstream pressure to a constant preset maximum, and it either opens or shuts in response to a remote pressure command. The Double Chamber Valve is a high performance valve, specially designed for quick response and challenging regulation requirements.



- [1] BERMAD Model IR-123-DC-50-3W-XZ opens upon pressure drop command, sustains filters back flush pressure and establishes reduced pressure zone.
- [2] Electromagnetic Flow Meter
- [3] Combination Air Valve Model IR-C10
- [4] Smart Irrigation Controller-OMEGA
- [5] Hydraulic Control Valve Model IR-105-Z
- [6] Kinetic Air Valve Model IR-K10

Features & Benefits

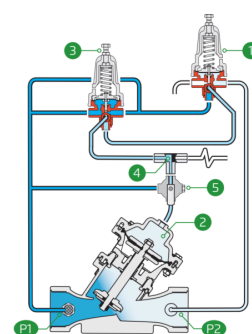
- Line Pressure Driven, Hydraulically Controlled On/Off
 - Protects downstream systems
 - Sustains upstream line pressure
 - Controls system fill-up
- Double Chamber Design
 - Full powered opening and closing
 - Decreased pressure loss
 - Low throttling noise
 - Non-slam closing characteristic
 - Protected diaphragm
- 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

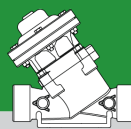
Typical Applications

- Automated Irrigation Systems
- Pressure Zone Prioritizing
- Line Fill-Up Control
- Pressure Reducing Systems
- Low Supplied Pressure Irrigation Systems
- Energy Saving Irrigation Systems

Operation:

The Pressure Reducing Pilot (PRP) [1] is hydraulically connected to the Valve Control Chamber [2] through the Pressure Sustaining Pilot (PSP) [3]. The PSP commands the valve to throttle closed should Upstream Pressure [P1] drop below setting. When [P1] rises above setting, the PSP switches and allows the PRP to control the valve, commanding it to reduce Downstream Pressure [P2]. The Shuttle Valve [4] closes upon pressure rise command, shutting the main valve. The Manual Selector [5] enables 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

PS 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

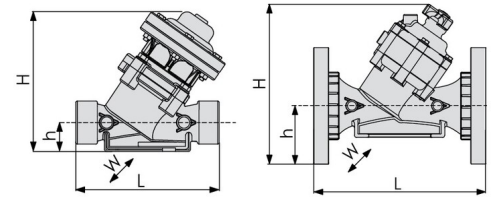
Tubing and Fittings:

Polyethylene and Polypropylene

*For other pilots please consult [BERMAD](http://BERMAD.com)

Technical Specifications

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



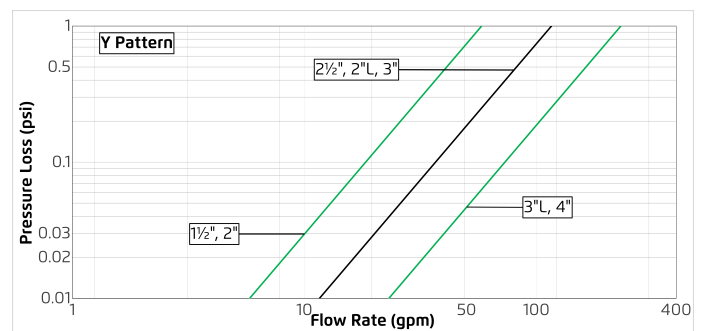
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1½" ; DN40	"Y" (globe)	Threaded	4	7⅞	7⅞	1⅞	5	0.034	58
2" ; DN50	"Y" (globe)	Threaded	4	9⅞	7⅞	1⅞	5	0.034	58
2"L ; DN50L	"Y" (globe)	Threaded	4.9	9⅞	8⅞	1⅞	5⅞	0.045	116
2½" ; DN50L	"Y" (globe)	Threaded	4.9	9⅞	8⅞	1⅞	5⅞	0.045	116
3" ; DN80	"Y" (globe)	Threaded	5	11⅞	9⅞	2⅞	5⅞	0.045	116
3" ; DN80	"Y" (globe)	Plastic Flanges	7.1	12⅞	11	4	7⅞	0.045	116
3" ; DN80	"Y" (globe)	Metal Flanges	11	12⅞	11	4	7⅞	0.045	116
3"L ; DN80L	"Y" (globe)	Threaded	13.1	13⅞	14	2⅞	8⅞	0.15	231
3"L ; DN80L	"Y" (globe)	Plastic Flanges	14.3	13⅞	15⅞	4	8⅞	0.15	231
3"L ; DN80L	"Y" (globe)	Metal Flanges	16.3	13⅞	15⅞	4	8⅞	0.15	231
4" ; DN100	"Y" (globe)	Plastic Flanges	16.8	14⅞	16	4½	8⅞	0.15	231
4" ; DN100	"Y" (globe)	Metal Flanges	21	14⅞	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"

Flow Chart



Differential Pressure & Flow Calculation

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

Cv = gpm @ ΔP of 1 psi

Q = gpm

ΔP = psi