PRESSURE REDUCING & SUSTAINING VALVE - DOUBLE CHAMBER

Model IR-123-DC-3W-XZ

The BERMAD Model IR-123-DC-3W-XZ Pressure Reducing & Sustaining Control Valve is a double chambered, hydraulically operated, diaphragm-actuated control valve that sustains minimum preset upstream (back) pressure and reduces downstream pressure to a constant preset maximum. The Double Chamber Valve is a high performance valve, specially designed for quick response and challenging regulation requirements.

[1] BERMAD Model IR-123-DC-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] Filter Backwash Hydraulic Valve Model IR-350
[5] Hydraulic Control Valve Model IR-105-Z
[6] Kinetic Air Valve Model IR-K10

Features & Benefits

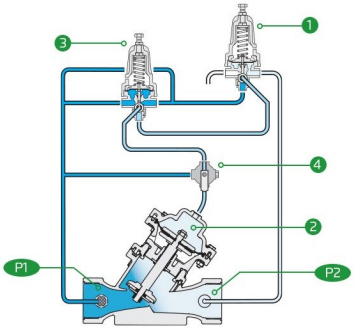
- Line Pressure Driven, Hydraulically Controlled
  - Protects downstream systems
  - Prioritizes pressure zones
  - Controls system fill-up
- Double Chamber Design
  - Full powered opening and closing
  - Decreased pressure loss
  - Low throttling noise
  - Non-slam closing characteristic
  - Protected 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

- Line Fill-Up Control Solutions
- Line Emptying Prevention
- Pressure Reducing Systems
- Infield Filters Backwash Pressure Sustaining
- 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 Manual Selector [4] enables local manual closing.



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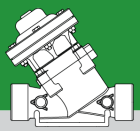


Technical Data

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

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

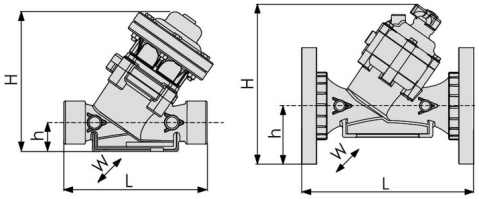
Standard spring - marked in bold

Tubing and Fittings:
Polyethylene and Polypropylene

**For other pilots please consult BERMAD*

Technical Specifications

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



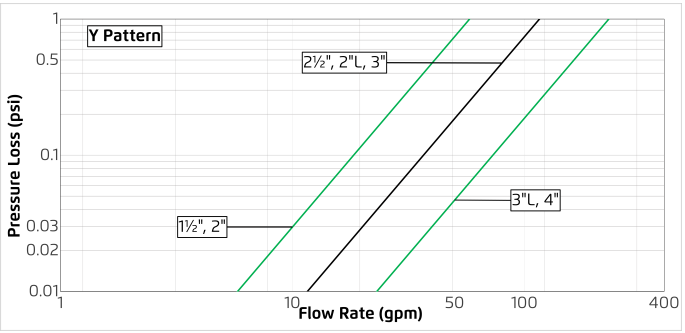
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1½" ; DN40	"Y" (globe)	Threaded	4	7⅞	7⅝	1⅝	5	0.034	58
2" ; DN50	"Y" (globe)	Threaded	4	9⅛	7¾	1⅝	5	0.034	58
2"L ; DN50L	"Y" (globe)	Threaded	4.9	9⅛	8¾	1¾	5⅜	0.045	116
2½" ; DN50L	"Y" (globe)	Threaded	4.9	9⅛	8¾	1¾	5⅜	0.045	116
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"

Flow Chart



Differential Pressure & Flow Calculation

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

Cv = gpm @ ΔP of 1 psi
Q = gpm
ΔP = psi