

# Pressure Reducing and Sustaining Valve

Normally Closed with Hydraulic Control

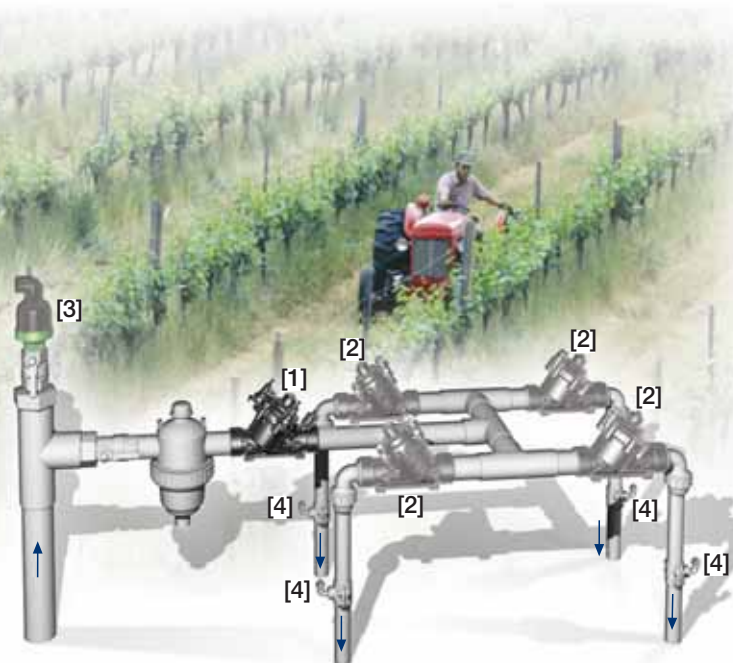
**IR-123-54-X**

The BERMAD Model IR-123-54-X is a hydraulically operated, diaphragm actuated control valve that sustains minimum preset upstream (back) pressure and reduces downstream pressure to a constant preset maximum. It is a Normally Closed valve, which opens in response to a remote pressure rise command and shuts in the absence of that command.



## Features and Benefits

- Line Pressure Driven, Normally Closed
  - Closes upon control failure
  - Protects downstream system
  - Prioritizes pressure zones
  - Controls system fill-up
  - Amplifies and relays weak remote command
- Engineered Plastic Valve with Industrial Grade Design
  - Highly durable, chemical and cavitation resistant
  - No internal bolts and nuts
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity – Low pressure loss
- Unitized Flexible Super Travel (FST) Diaphragm and Guided Plug
  - Accurate and stable regulation with smooth closing
  - Requires low actuation pressure
  - Prevents diaphragm erosion and distortion
- User-Friendly Design
  - Easy flow and pressure setting
  - Simple in-line inspection and service

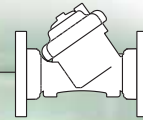


## Typical Applications

- Computerized Irrigation Systems
- Line Fill-Up Control Solutions
- Pressure Reducing Systems
- Remote and/or Elevated Plots
- Infield Filter Backwash Pressure Sustaining
- Energy Saving Irrigation Systems

- [1] BERMAD Model IR-123-54-X opens upon pressure rise command, sustains supply pressure, controls laterals and distribution line fill-up, and reduces their operating pressure.
- [2] BERMAD Solenoid Controlled Valve Model IR-110-N1-2W
- [3] BERMAD Air Valve Model ARA-A-P-P
- [4] BERMAD Vacuum Breaker Model ½"-ARV

# BERMAD Irrigation



## IR-I23-54-X

For full technical details, refer to Engineering Section.

## 100 Series hYflow

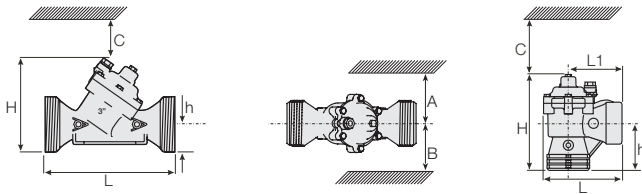
Pressure Reducing  
& Sustaining

### Technical Specifications

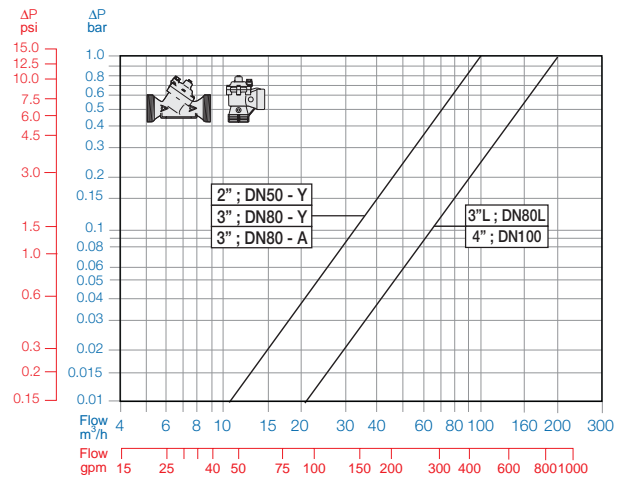
#### Dimensions and Weights

Pattern Size	Angle DN Inch	Y (Oblique)				
		80-T 3-T	50-T 2-T	65-T* 2 1/2-T*	80-T 3-T	80L-T 3L-T
L (L1)	mm	187 (130)	230	230	298	300
	inch	7.4 (5.1)	9.1	9.1	11.7	11.8
H (Hf)	mm	235 (245)	170 (185)	170 (185)	180 (195)	240
	inch	9.3 (9.6)	6.7 (7.3)	6.7 (7.3)	7.1 (7.7)	9.5
C	mm	53	140	140	140	180
	inch	2.1	6	6	6	8
h	mm	117	40	40	50	60
	inch	4.6	1.6	1.6	2.0	2.4
A; B	mm	320	135	135	190	190
	inch	12.6	6	6	8	8
Weight	Kg	1.6	1.35	1.4	1.6	3.0
	lb.	3.5	3.0	3.1	3.5	6.6

\* 2 1/2"; DN65 Male Thread BSP-F, for PVC glue Unions.



#### Flow Chart



### Technical Data

#### Valve Configurations & Size:

Oblique: 2, 2 1/2, 3, 3L, 4 & 6"; DN50, 65, 80, 80L, 100 & 150

Angle: 3"; DN80

#### End Connections:

Threaded: 2, 2 1/2, 3 & 3"; DN50, 65, 80 & 80L

Flanged: 3, 3L, 4, & 6"; DN80, 80L, 100 & 150

Grooved: 6"; DN150

**Pressure Rating:** 10 bar; 145 psi

**Operating Pressure Range:** 0.35-10 bar; 5-145 psi

**Setting Range:** 1-7 bar; 15-100 psi

Setting ranges vary according to specific pilot spring. Please consult factory.

#### Materials:

**Body, Cover and Plug:** Glass-Filled Nylon

**Diaphragm:** NR, Nylon Fabric Reinforced

**Seals:** NR

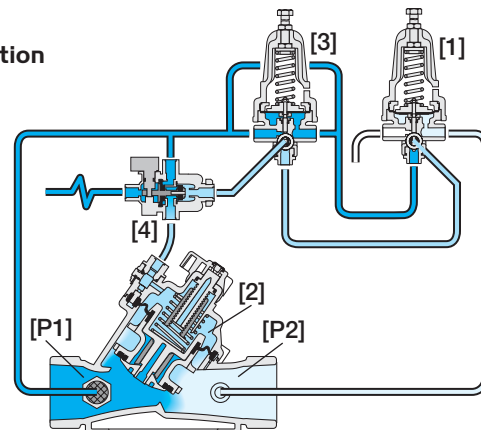
**Spring:** Stainless Steel

**Cover Bolts:** Stainless Steel

**Control Accessories:** Plastic

**Tubing and Fittings:** Plastic

#### Operation



The Pressure Reducing Pilot (PRP) [1] is hydraulically connected to the Valve Control Chamber [2] through the Pressure Sustaining Pilot (PSP) [3] and the 3-Way Hydraulic Relay Valve (3W-HRV) [4]. 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].

Upon a pressure drop command, the 3W-HRV switches, blocks the pilots and directs line pressure into the control chamber, shutting the Valve.

### How to Order

Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

Sector	Size	Primary Feature	Additional Feature	Pattern	Construction Materials	End Connections	Control Type	Voltage -Main Valve Position	Additional Attributes
IR	2-4"	123	54	Y	P	BP	3W	-	X
	Other sizes available on request.								
		Oblique Angle (3"; DN80 Only)	Y A		Threaded BSP (Female) Threaded NPT (Female) Plastic Flanges* Metal Flanges* ("Corona")	BP NP FF CC	3-Way Control Manual Selector Flow Stem with Position Indicator Other attributes available on request		X Z MP

\* Comply to: ISO PN10, ANSI #125/150, Jis K-10, BS-D



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