



# PRESSURE SUSTAINING VALVE

## With Electric Override

### Model IR-130-59-3W-X

The BERMAD Model IR-130-59 is a hydraulically operated, diaphragm actuated control valve designed to maintain proper backwash pressure in filtration systems. During normal irrigation the valve is wide open creating minimal pressure head loss and conserving pumping energy. In response to an electric signal, supplied simultaneously to system flushing command, the IR-130-59 modulates closed, sustaining minimum preset upstream (back) pressure to filters manufacturer recommendations.



**[1]** BERMAD wide open Model IR-130-59-NO minimizes pressure loss during irrigation and, in response to an electric signal, sustains filters backwash pressure.

**[2]** Kinetic Air Valve

**[3]** Combination Air Valve

**[4]** Electromagnetic Water Meter

**[5]** Pressure Reducing Valve

## Features and Benefits

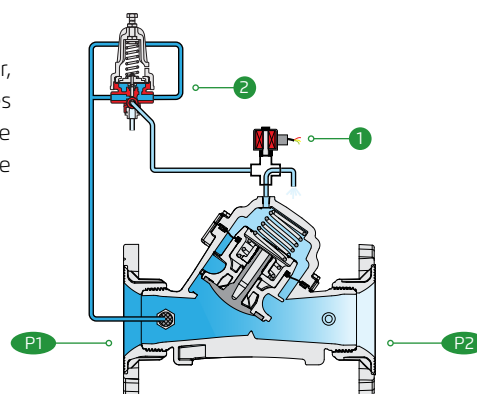
- Hydraulic Valve with Solenoid Control
  - Short response time
  - Maintains low energy system during irrigation
  - Sustains filter station proper backwash pressure
  - Sustains upstream line pressure, controlling system fill up
- Engineered Plastic Valve with Industrial Grade Design
  - Adaptable on-site to a wide range of end connection sizes and types
  - Highly durable, chemical & cavitation resistant
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity at Low pressure loss
- Unitized Flexible Super Travel Diaphragm with a 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

- Disc or Media Filter station flush assist
- Remote and/or Elevated Plots
- Pressure Zone Prioritizing
- Line Fill-Up Control
- Line Emptying Prevention
- Low Supplied Pressure Irrigation Systems
- Large Surface Area Reservoirs
- Low Volume Reservoirs

## Operation:

The de-energized Solenoid **1** drains the main valve control chamber, causing the main Valve to open wide, energizing the solenoid activates the Pressure Sustaining Pilot **2**, which commands the Valve to throttle should Upstream Pressure **P1** drop below pilot setting, and to modulate open when **P1** rises above it.





### IR-130-59-X

#### Technical Data

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

**Operating Pressure Range:**  
0.5-10 bar; 7-145 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:**  
Polyamid 6 & 30% GF

**Diaphragm:**  
NR, Nylon fabric reinforced

**Seals:** NR

**Spring:** Stainless Steel

**Cover Bolts:** Stainless Steel

#### Control Accessories:

**Tubing and Fittings:**  
Plastic

#### Pilot Spring Range:

Spring	Spring color	Setting Range
J	Green	0.2-1.7 bar
K	Gray	0.5-3.0 bar
N	Colorless	0.8-6.5 bar

#### Solenoid Voltage Range:

**S-390 & S-400:**  
24 VAC, 24 VDC

**S-392-T & S-402:**  
9-20VDC Latch

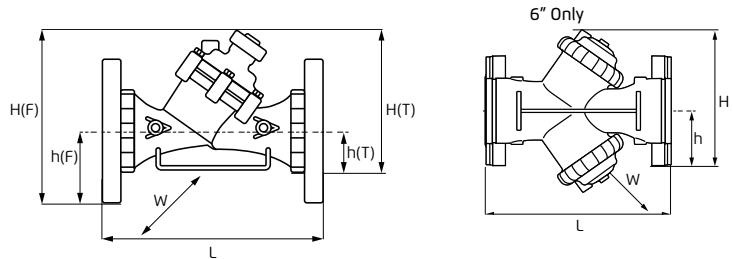
**S982 & S985:**  
12-50 VDC Latch

**Other Voltages available**

#### Technical Specifications

#### Y Pattern Valves Dimensions & Weights

For [BERMAD](#) angle, dual & T pattern, Please see our full engineering page.



Sizes Inch ; DN	1½" ; 40	2" ; 50		2"L ; 50	2½" ; 65	Rc (BSP.T), NPT	3" ; 80	
End Connections	Rc (BSP.T), NPT	Rc (BSP.T), NPT	G (BSP.F)	Rc (BSP.T), NPT	G (BSP.F)	Rc (BSP.T), NPT	Universal Flanges	
							Metal	Plastic
L (mm)	200	230	230	230	230	298	308	308
H (F) (mm)	—	—	—	—	—	—	244	244
H (T) (mm)	173	173	173	187	187	199	—	—
h (F) (mm)	—	—	—	—	—	—	100	100
h (T) (mm)	40	40	40	43	43	55	—	—
W (mm)	97	97	97	135	135	135	200	200
CCDV (lit)	0.12	0.12	0.12	0.15	0.15	0.15	0.15	0.15
Weight (kg)	1.1	1.2	1.2	1.47	1.47	1.6	4.4	2.5

Sizes Inch ; DN	3"L ; 80L		4" ; 100		4"L ; 100L		6"R ; 150R	6" ; 150	6" ; 150		
End Connections	Rc (BSP.T), NPT	Universal Flanges		Universal Flanges		Universal Flanges		Groove	Universal Flanges		
		Metal	Plastic	Metal	Plastic	Metal	Plastic		Metal		
L (mm)	298	308	308	350	350	442	442	400	470	480	504
H (F) (mm)	—	317	317	329	329	340	340	286	377	198	286
H (T) (mm)	278	—	—	—	—	—	—	—	—	—	—
h (F) (mm)	—	100	100	112	112	112	112	57	149	100	143
h (T) (mm)	60	—	—	—	—	—	—	—	—	—	—
W (mm)	168	200	200	224	224	226	226	226	287	475	475
CCDV (lit)	0.62	0.62	0.62	0.62	0.62	1.15	1.15	1.15	1.15	2 x 0.62	2 x 0.62
Weight (kg)	3	4.4	3.5	7.5	4.6	13.5	10	8	16.5	11	12.5

CCDV = Control Chamber Displacement Volume • **BSPT** = Internal Threaded • **BSP.F** = External Threaded • Other End Connections are available on request. For dimensions and weights of adapters or valve with adapters please consult with customer service

#### Flow Properties

Sizes Inch DN	1½" 40	2" 50	2"L 50L	2½" 65
KV	50	50	100	100

Sizes Inch DN	3" 80	3"L 80L	4" 100	4"L 100L	6" R 150L	6" 150
KV	100	200	200	340	340	400

#### Valve Flow Coefficient

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

$Kv = m^3/h @ \Delta P \text{ of } 1 \text{ bar}$   
 $Q = m^3/h$   
 $\Delta P = \text{bar}$

#### Flow Chart

