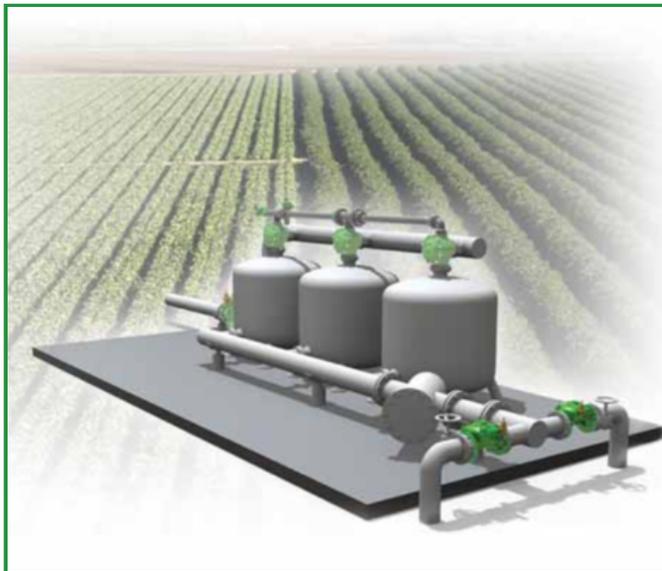


# PRESSURE SUSTAINING VALVE

## Model IR-430-50-2W-R

The BERMAD Pressure Sustaining with Hydraulic Remote Control is a hydraulically operated, diaphragm actuated control valve that sustains minimum preset upstream pressure regardless of fluctuating flow or varying downstream pressure. It either opens or shuts in response to a remote pressure command. When installed offline, it relieves excessive line pressure.



[1] BERMAD Model IR-430-50-2W-R opens upon pressure drop command sustaining filter back flush pressure

### Features & Benefits

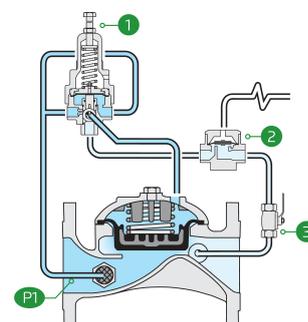
- Hydraulic Pressure Control
  - Line Pressure Driven, Hydraulically controlled On/Off
  - Sustains supply pressure and controls system fill-up
  - Relieves excessive pressure protecting pump and system
- Advanced Hydro-Efficient Globe Design
  - Unobstructed flow path
  - Single moving part
  - High flow capacity
- Fully Supported & Balanced Diaphragm
  - Requires low actuation pressure
  - Excellent low flow regulation performances
  - Progressively restrains valve closing
  - Prevents diaphragm distortion
- User-Friendly Design
  - Easy pressure setting
  - Simple in-line inspection and service

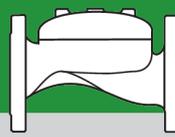
### Typical Applications

- Automated Irrigation Systems
- Pressure Zone Prioritizing
- Line Fill-Up Control
- Line Emptying Prevention
- Irrigation Machines
- Distribution Centers
- Low Supplied Pressure Irrigation Systems

### Operation:

The Pressure Sustaining pilot (PSP) [1] commands the Valve to throttle closed should upstream pressure [P1] drop below pilot setting, and to modulate open when it rises above setting. The Hydraulic Relay Valve [2] closes upon Remote Command pressure rise, shutting the main Valve. The downstream cock valve [3] enables manual closing.





Technical Data

**Pressure Rating:**  
16 bar

**Operating Pressure Range:**  
0.5-16 bar

**Materials**

**Body & Cover:**  
Cast iron (up to 8") Ductile iron (10" & 12")

**Diaphragm:**  
NR, Nylon fabric reinforced

**Spring:**  
Stainless Steel

*\*Other materials are available on request*

**Control Loop Accessories**

**PS Pilot:** PC-20-A-MP

**Pilot Spring Range:**

Spring	Spring Color	Setting range
N	Natural	0.8-6.5 bar
V	Blue & White	1.0-10.0 bar

*Standard spring - marked in bold*

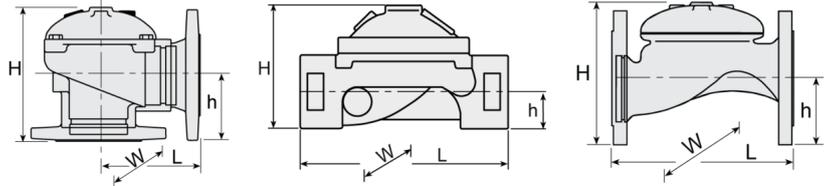
**Tubing and Fittings:**

Reinforced Nylon and Brass

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

Technical Specifications

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



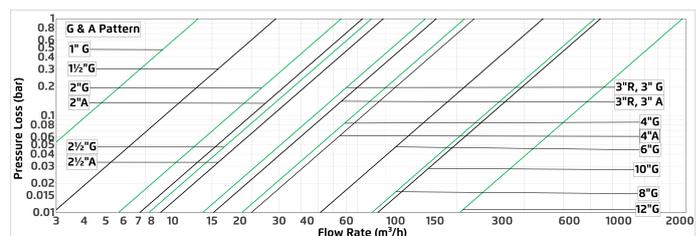
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	w	CCDV (Lit)	KV
1" ; DN25	Globe	Threaded	1.1	115	68	34	71	0.02	13
1½" ; DN40	Globe	Threaded	2	153	87	29	98	0.06	29
2" ; DN50	Globe	Threaded	4	180	114	39	119	0.113	57
2" ; DN50	Globe	Flanged	9	205	155	78	155	0.113	57
2" ; DN50	Globe	Grooved	5	205	108	31	119	0.113	57
2" ; DN50	Angle	Threaded	4.4	86	136	61	119	0.113	71
2" ; DN50	Angle	Flanged	9	120	160	83	155	0.113	71
2½" ; DN65	Globe	Threaded	5.7	210	132	45	129	0.179	78
2½" ; DN65	Globe	Flanged	10.5	205	178	89	178	0.179	78
2½" ; DN65	Angle	Threaded	5.8	110	180	93	131	0.179	88
3R" ; DN80R	Globe	Threaded	5.8	210	140	53	129	0.291	136
3R" ; DN80R	Globe	Flanged	12.1	210	200	100	200	0.291	136
3R" ; DN80R	Angle	Threaded	7	110	178	91	131	0.291	152
3" ; DN80	Globe	Threaded	13	255	165	55	170	0.291	136
3" ; DN80	Globe	Flanged	19	250	210	100	200	0.291	136
3" ; DN80	Globe	Grooved	10.6	250	155	46	170	0.291	136
3" ; DN80	Angle	Threaded	11	110	184	80	170	0.291	152
3" ; DN80	Angle	Flanged	17	153	205	101	200	0.291	152
3" ; DN80	Angle	Grooved	10	120	194	90	170	0.291	152
4" ; DN100	Globe	Flanged	28	320	242	112	223	0.668	204
4" ; DN100	Globe	Grooved	16.2	320	191	61	204	0.668	204
4" ; DN100	Angle	Flanged	26	160	223	112	223	0.668	225
4" ; DN100	Angle	Grooved	16	160	223	112	204	0.668	225
6" ; DN150	Globe	Flanged	68	415	345	140	306	1.973	458
6" ; DN150	Globe	Grooved	49	415	302	85	306	1.973	458
8" ; DN200	Globe	Flanged	125	500	430	170	365	3.858	781
10" ; DN250	Globe	Flanged	140	605	460	202	405	3.858	829
12" ; DN300	Globe	Flanged	290	725	635	242	580	13.75	1932

CCDV = Control Chamber Displacement Volume • Threaded = BSP & NPT are available.

Additional Features

Code	Description	Size Range
F	Large Control Filter	1½"-12" / DN40-300
I	Position Indicator Assembly	1½"-12" / DN40-300
M	Flow Stem	1½"-12" / DN40-300

Flow Chart



2-Way circuit "Added Head Loss" (for "V" below 2 m/s): 0.3 bar

Differential Pressure & Flow Calculation

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

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

