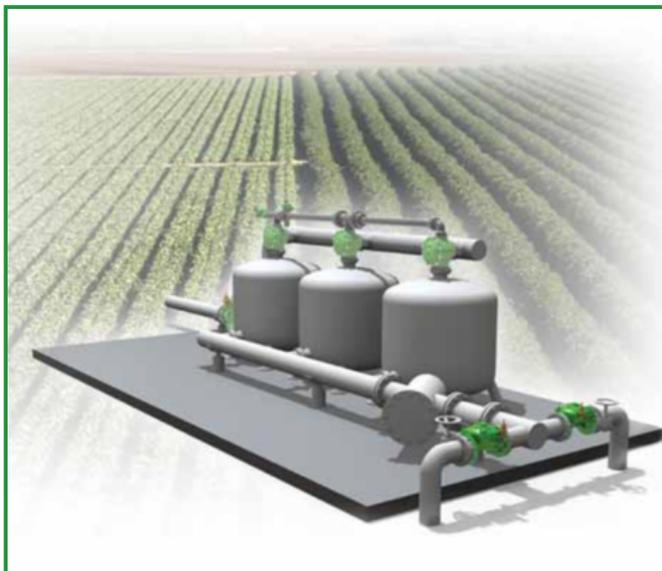


# PRESSURE SUSTAINING VALVE

## Model IR-430-55-2W-R

The BERMAD Pressure Sustaining Valve with Solenoid 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 an electric signal.



[1] BERMAD Model IR-430-55-2W-R opens in response to an electric signal, sustains filters back flush pressure, and controls system fill-up.

### Features & Benefits

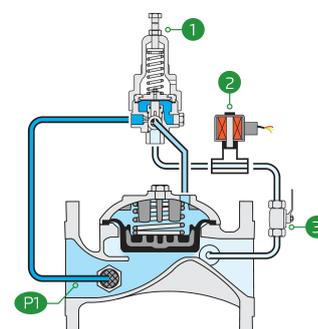
- Line Pressure Driven PSV Electrically Controlled On/Off
  - Controls system fill-up
  - Relieves excessive pressure protecting pump and system
  - Switches between pressure regimes
  - Wide range of pressures and voltages
- Advanced Hydro-Efficient Globe Design
  - Unobstructed flow path
  - Single 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
- Simple In-Line Inspection and Service

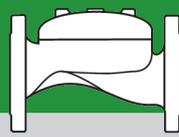
### Typical Applications

- Downhill Supply Lines
- Line Emptying Prevention
- Line Fill-Up Control
- Systems with Various Pressure Regimes
- Backup for Reservoir Supply Valves
- Pump Overload and Cavitation Protection
- Pump Minimum Flow Safeguard

### 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 it. Switching OFF the Solenoid [2] causes the main Valve to shut. The downstream Cock Valve [3] enables manual closing.





**Technical Data**

**Pressure Rating:**  
250 psi

**Operating Pressure Range:**  
7-250 psi

**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	12-95 psi
V	Blue & White	15-150 psi

*Standard spring - marked in bold*

**Tubing and Fittings:**  
Reinforced Nylon and Brass

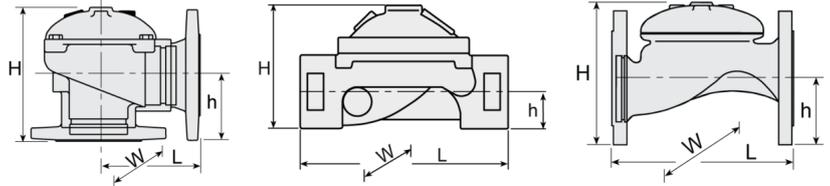
**AC solenoid:**  
S-400-3W

**DC latch solenoid:**  
S-402-3W M.B.  
S-982-3W M.B.

*\*For other solenoids and pilots please consult [BERMAD](#)*

**Technical Specifications**

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



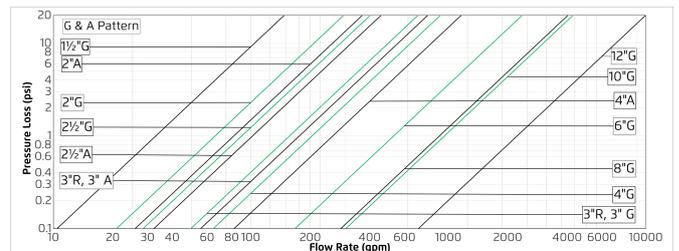
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	w	CCDV (Gal)	CV
1" ; DN25	Globe	Threaded	2.4	4%	2%	1%	2%	0.005	15
1½" ; DN40	Globe	Threaded	4.4	6%	3%	1½"	3%	0.016	33
2" ; DN50	Globe	Threaded	8.8	7%	4½"	1½"	4%	0.03	66
2" ; DN50	Globe	Flanged	19.8	8%	6%	3%	6%	0.03	66
2" ; DN50	Globe	Grooved	11	8%	4½"	1½"	4%	0.03	66
2" ; DN50	Angle	Threaded	9.7	3½"	5%	2½"	4%	0.03	82
2" ; DN50	Angle	Flanged	19.8	4%	7%	3%	6%	0.03	82
2½" ; DN65	Globe	Threaded	12.6	8%	5½"	1½"	5%	0.05	90
2½" ; DN65	Globe	Flanged	23.1	8%	7	3½"	7	0.05	90
2½" ; DN65	Angle	Threaded	12.8	4%	7½"	3¾"	5½"	0.05	102
3R" ; DN80R	Globe	Threaded	12.9	8%	5½"	2½"	5%	0.08	157
3R" ; DN80R	Globe	Flanged	28	8%	7%	4	7%	0.08	157
3R" ; DN80R	Angle	Threaded	15.4	4%	7	3%	5½"	0.08	176
3" ; DN80	Globe	Threaded	28.7	10%	6½"	2½"	6%	0.08	157
3" ; DN80	Globe	Flanged	41.9	9%	8½"	4	7%	0.08	157
3" ; DN80	Globe	Grooved	23.4	9%	6½"	1½"	6%	0.08	157
3" ; DN80	Angle	Threaded	24.3	4%	7¼"	3¼"	6%	0.08	176
3" ; DN80	Angle	Flanged	37.5	6%	8%	4	7%	0.08	176
3" ; DN80	Angle	Grooved	22.1	4%	11	3%	6%	0.08	176
4" ; DN100	Globe	Flanged	61.7	12%	9%	4½"	8%	0.18	236
4" ; DN100	Globe	Grooved	35.7	12%	7%	2½"	8	0.18	236
4" ; DN100	Angle	Flanged	57.3	6%	8¾"	4½"	8%	0.18	260
4" ; DN100	Angle	Grooved	35.3	6%	8¾"	4½"	8%	0.18	260
6" ; DN150	Globe	Flanged	149.9	16%	13%	5½"	12%	0.52	529
6" ; DN150	Globe	Grooved	108	16%	11%	3%	12%	0.52	529
8" ; DN200	Globe	Flanged	275.6	19%	17	6¾"	14¾"	1.02	902
10" ; DN250	Globe	Flanged	308.6	23%	18½"	8	16	1.02	957
12" ; DN300	Globe	Flanged	639.3	28%	25	9%	22%	3.63	2231

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

**Additional Features**

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

**Flow Chart**



2-Way circuit "Added Head Loss" (for "V" below 6.5 f/s): 4.5 psi

**Differential Pressure & Flow Calculation**

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

$Cv = \text{gpm @ } \Delta P \text{ of 1 psi}$   
 $Q = \text{gpm}$   
 $\Delta P = \text{psi}$

