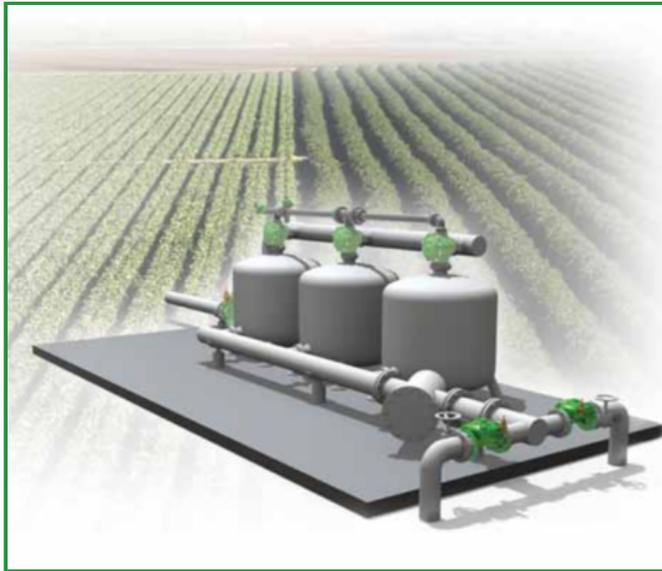


PRESSURE SUSTAINING VALVE

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

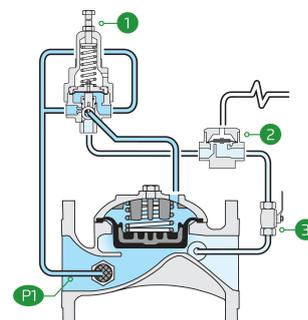
- Hydraulic Pressure Control
 - Line Pressure Driven, Hydraulically controlled On/Off
 - Sustains supply pressure and controls system fill-up
 - Relieves excessive pressure protecting pump and system
- Advanced Hydro-Efficient Globe Design
 - Unobstructed flow path
 - Single moving part
 - High flow 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

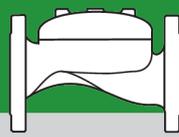
Typical Applications

- 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:
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

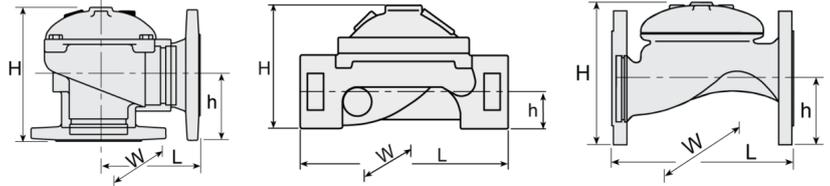
Tubing and Fittings:

Reinforced Nylon and Brass

**For other pilots please consult BERMAD*

Technical Specifications

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



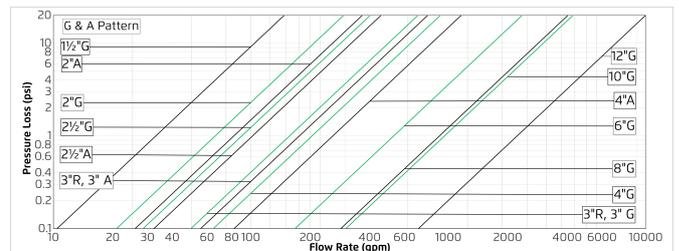
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	w	CCDV (Gal)	CV
1" ; DN25	Globe	Threaded	2.4	4%	2 3/4	1 3/8	2 7/8	0.005	15
1 1/2" ; DN40	Globe	Threaded	4.4	6%	3 3/8	1 1/4	3%	0.016	33
2" ; DN50	Globe	Threaded	8.8	7%	4 1/2	1 1/2	4%	0.03	66
2" ; DN50	Globe	Flanged	19.8	8%	6 1/8	3 1/2	6%	0.03	66
2" ; DN50	Globe	Grooved	11	8 3/8	4 1/4	1 1/4	4%	0.03	66
2" ; DN50	Angle	Threaded	9.7	3 1/2	5 3/8	2 1/2	4%	0.03	82
2" ; DN50	Angle	Flanged	19.8	4%	7%	3%	6%	0.03	82
2 1/2" ; DN65	Globe	Threaded	12.6	8%	5 1/4	1 1/8	5%	0.05	90
2 1/2" ; DN65	Globe	Flanged	23.1	8%	7	3 1/2	7	0.05	90
2 1/2" ; DN65	Angle	Threaded	12.8	4%	7 7/8	3 3/4	5%	0.05	102
3R" ; DN80R	Globe	Threaded	12.9	8%	5 1/2	2 1/8	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%	5%	0.08	176
3" ; DN80	Globe	Threaded	28.7	10%	6 1/2	2 1/4	6%	0.08	157
3" ; DN80	Globe	Flanged	41.9	9%	8 1/4	4	7%	0.08	157
3" ; DN80	Globe	Grooved	23.4	9%	6 1/8	1 1/8	6%	0.08	157
3" ; DN80	Angle	Threaded	24.3	4%	7 1/4	3 1/4	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%	4 1/2	8%	0.18	236
4" ; DN100	Globe	Grooved	35.7	12%	7%	2 1/2	8	0.18	236
4" ; DN100	Angle	Flanged	57.3	6%	8 3/4	4 1/2	8%	0.18	260
4" ; DN100	Angle	Grooved	35.3	6%	8 3/4	4 1/2	8%	0.18	260
6" ; DN150	Globe	Flanged	149.9	16%	13%	5 1/2	12%	0.52	529
6" ; DN150	Globe	Grooved	108	16%	11%	3%	12%	0.52	529
8" ; DN200	Globe	Flanged	275.6	19%	17	6 3/4	14%	1.02	902
10" ; DN250	Globe	Flanged	308.6	23%	18 1/2	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	1 1/2"-12"
I	Position Indicator Assembly	1 1/2"-12"
M	Flow Stem	1 1/2"-12"

Flow Chart



Differential Pressure & Flow Calculation

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

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

