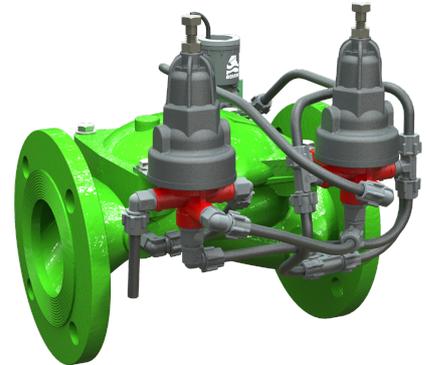


PRESSURE REDUCING & SUSTAINING VALVE

Model IR-423-55-3W-KX

The BERMAD Model IR-423-55-3W-KX 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 either opens or shuts in response to an electric signal.



- [1] BERMAD Model IR-423-55-3W-KX opens in response to electric signal, sustains filters back flush pressure and establishes reduced pressure zone.
- [2] Hydrometer Model IR-900-M0-Magnetic Drive
- [3] Combination Air Valve Model IR-C10
- [4] Combination Air Valve Model IR-C30
- [5] Smart Irrigation Controller-OMEGA

Features & Benefits

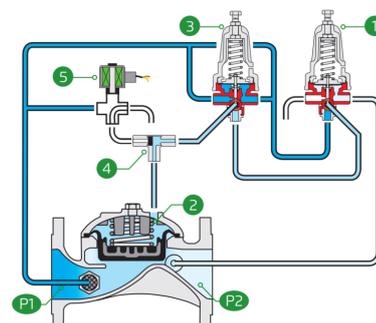
- Line Pressure Driven, Electrically Controlled On/Off
 - Protects downstream systems
 - Prioritizes pressure zones
 - Controls system fill-up
 - Sustains upstream line pressure
- Advanced Hydro-Efficient Globe Design
 - Unobstructed flow path
 - Single moving part
 - High flow capacity
- Fully Supported & 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
- Line Fill-Up Control Solutions
- Pressure Reducing Systems
- Remote and/or Elevated Plots
- Infield Filters Backwash Pressure Sustaining
- Systems Subject to Varying Supply Pressure
- Distribution Centers

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 Shuttle Valve [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] to a maximum preset value. In response to an electric signal, the Solenoid [5] switches and pressurizes the shuttle valve, which then blocks the pilots and transmits line pressure into the control chamber, shutting the valve.





Technical Data

Pressure Rating:
150 psi

Operating Pressure Range:
7-150 psi

Materials

Body & Cover:
Cast Iron

Diaphragm:
NR, Nylon fabric reinforced

Spring:
Stainless Steel

**Other materials are available on request*

Control Loop Accessories

PR Pilot: PC-SHARP-X-P

PS Pilot: PC-SHARP-X-P

Pilot Spring Range:

Spring	Spring Color	Setting range
J	Green	3-25 psi
K	Gray	7-43 psi
N	Natural	12-95 psi
V	Blue & White	15-150 psi

Standard spring - marked in bold

Tubing and Fittings:

Polyethylene and Polypropylene

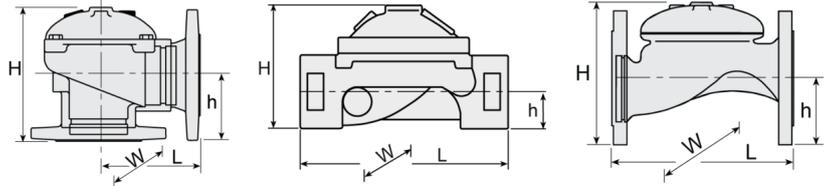
AC solenoid:
S-390-T-3W

DC latch solenoid:
S-392-T-3W P.B

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

Technical Specifications

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



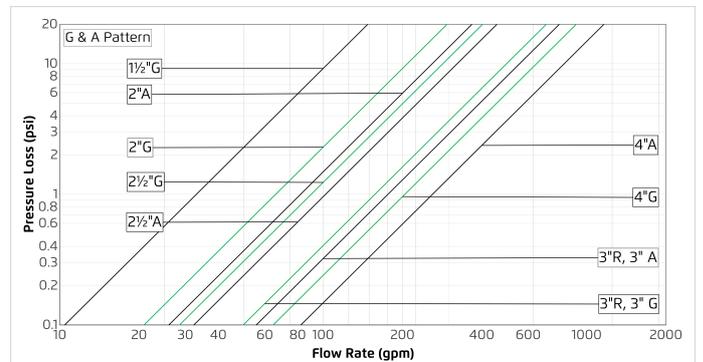
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	w	CCDV (Gal)	CV
1" ; DN25	Globe	Threaded	2.4	4½	2¾	1¾	2¾	0.005	15
1½" ; DN40	Globe	Threaded	4.4	6	3¾	1¼	3	0.016	33
2" ; DN50	Globe	Threaded	8.8	7	4½	1½	4¾	0.03	66
2" ; DN50	Globe	Flanged	19.8	8	6	3	6	0.03	66
2" ; DN50	Globe	Grooved	11	8	4	1	4	0.03	66
2" ; DN50	Angle	Threaded	9.7	3½	5¾	2½	4¾	0.03	82
2" ; DN50	Angle	Flanged	19.8	4¾	7	3¾	6	0.03	82
2½" ; DN65	Globe	Threaded	12.6	8	5	1	5	0.05	90
2½" ; DN65	Globe	Flanged	23.1	8	7	3½	7	0.05	90
2½" ; DN65	Angle	Threaded	12.8	4	7	3¾	5	0.05	102
3R" ; DN80R	Globe	Threaded	12.9	8	5½	2	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	6½	2¼	6	0.08	157
3" ; DN80	Globe	Flanged	41.9	9	8	4	7	0.08	157
3" ; DN80	Globe	Grooved	23.4	9	6	1	6	0.08	157
3" ; DN80	Angle	Threaded	24.3	4	7	3¾	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

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

Additional Features

Code	Description	Size Range
I	Position Indicator Assembly	1½"-4"
M	Flow Stem	1½"-4"
5	Plastic Test Point	1½"-4"

Flow Chart



Differential Pressure & Flow Calculation

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

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

