



PRESSURE SUSTAINING VALVE

With 3-Way Solenoid Control & Flow Stem

Model IR-230-55-3W-MX

The BERMAD Model IR-230-55-MX is a hydraulically operated, diaphragm actuated control valve that sustains minimum preset upstream (back) pressure and opens fully when line pressure is in excess of setting. It either opens or shuts in response to an electric signal.

*This valve is designated for irrigation use only and not for other uses! Manufacturer warranty is limited to the permitted use only.



- [1] BERMAD Model IR-230-55-MX opens in response to electric signal, sustains supply system pressure preventing emptying, and controls laterals and distribution lines fill-up.
- [2] Filter Backwash Hydraulic Valve Model IR-350
- [3] Combination Air Valve Model C10
- [4] Vacuum Breaker

Features & Benefits

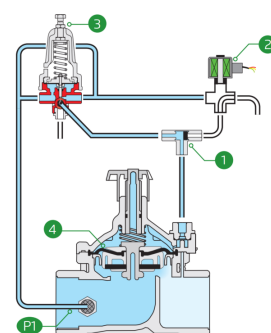
- Line Pressure Drive, Hydraulically Controlled
 - Sustains upstream line pressure, controlling system fill up
 - Relieves excessive pressure protecting pump and system
- Composite Hydro-Efficient Globe Valve
 - Unobstructed flow path
 - Single moving part
 - High flow capacity
 - Highly durable, chemical and cavitation resistant
- Unitized Flexible Diaphragm and Guided Plug
 - Excellent low flow regulation performances
 - Prevents diaphragm erosion and distortion
- Fully Supported & Balanced Diaphragm
 - Requires low actuation pressure
- User-Friendly Design
 - Simple in-line inspection and service

Typical Applications

- Automated Irrigation Systems
- Pressure Zone Prioritizing
- Greenhouses Irrigation
- Filter Stations
- Control of Fertilization Systems

Operation:

The Shuttle Valve [1] hydraulically connects the Solenoid [2] or the Pressure Sustaining Pilot (PSP) [3] to the Valve Control Chamber [4]. The PSP commands the valve to throttle closed should Upstream Pressure [P1] drop below setting and to open fully when [P1] rises above setting. The valve either opens or shuts in response to an electric signal.





Technical Data

Pressure Rating:

10 bar

Operating Pressure Range:

0.7-10 bar

Materials

Body & Cover:

Polyamide 6 & 30% GF

Diaphragm:

NBR

Spring:

Stainless Steel

Control Loop Accessories

PS Pilot: PC-SHARP-X-P

Pilot Spring Range:

Spring	Spring Color	Setting range
J	Green	0.2-1.7 bar
K	Gray	0.5-3.0 bar
N	Natural	0.8-6.5 bar
V	Blue & White	1.0-10.0 bar

Standard spring - marked in bold

Tubing and Fittings:

Polyethylene and Polypropylene

AC solenoid:

S-390-T-2W

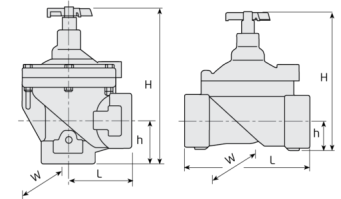
DC latch solenoid:

S-390-T-2W

Technical Specifications

For other end connection types,

Please refer to [BERMAD](#) full engineering page.



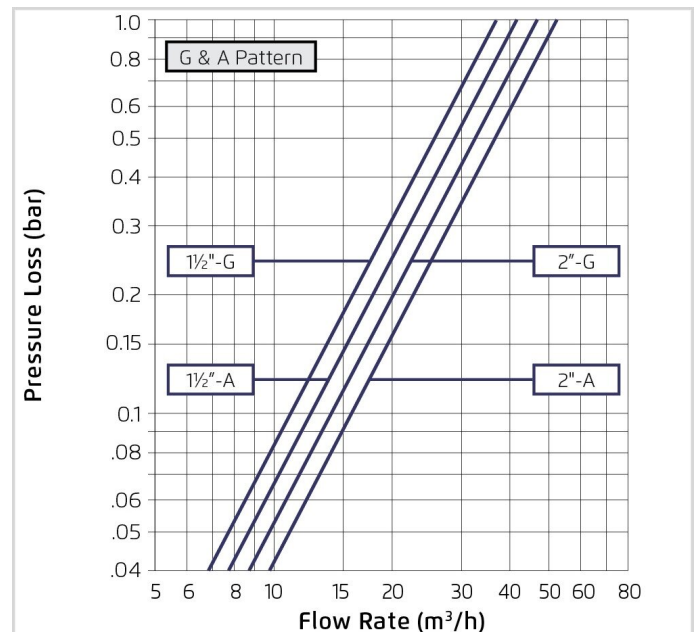
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
1½" ; DN40	Globe	Threaded	1	160	180	35	125	0.072	37
1½" ; DN40	Angle	Threaded	0.95	80	190	40	125	0.072	41
2" ; DN50	Globe	Threaded	1.1	170	190	38	125	0.072	47
2" ; DN50	Angle	Threaded	0.91	85	210	60	125	0.072	52

CCDV = Control Chamber Displacement Volume

Additional Features

Code	Description	Size Range
5	Plastic Test Point	1½"-2" / DN40-50

Flow Chart



Differential Pressure & Flow Calculation

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

$K_v = m^3/h$ @ ΔP of 1 bar

$Q = m^3/h$

$\Delta P = \text{bar}$