PRESSURE SUSTAINING VALVE

With 3-Way Solenoid Control & Flow Stem

Model IR-130-55-3W-XM

The BERMAD Model IR-130-55-3W-X 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.

[1] BERMAD Model IR-130-55-X opens in response to electric signal, sustains supply system pressure preventing emptying, and controls laterals and distribution lines fill-up.
[2] Solenoid Control Valve Model IR-21T
[3] Combination Air Valve Model IR-C10
[4] Kinetic Air Valve Model IR-K10
[5] Smart Irrigation Controller-OMEGA

Features & Benefits

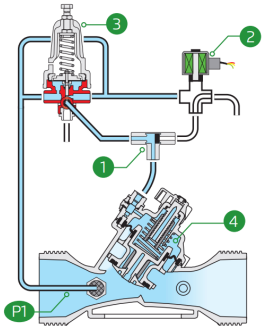
- Line Pressure Driven, Electrically Controlled On/Off
  - Prioritizes pressure zones & controls system fill-up
  - Sustains upstream line pressure
  - Opens fully upon line pressure rise
- Engineered Composite Valve with Industrial Grade Design
  - Highly durable, chemical and cavitation resistant
  - No internal bolts and nuts
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity at low pressure loss
- Unitized "Flexible Super Travel" (FST) Diaphragm and Guided Plug
  - Accurate and stable regulation with smooth closing
  - Requires low actuation pressure
  - Prevents diaphragm erosion and distortion
- Simple In-Line Inspection and Service

Typical Applications

- Automated Irrigation Systems
- Line Fill-Up Control Solutions
- Line Emptying Prevention
- Remote and/or Elevated Plots
- Infield Filters Backwash Pressure Sustaining
- Energy Saving Irrigation Systems

Operation:

The Shuttle Valve [1] hydraulically connects the Solenoid [2] or the Pressure Sustaining Pilot (PSP) [3] to the Valve Control Chamber [4] . When the solenoid is closed, the PSP commands the valve to throttle closed should Upstream Pressure [P1] drop below setting and to open fully when [P1] rises above setting. In response to an electric signal, the solenoid switches, directing line pressure through the shuttle valve into the control chamber, and thereby causing the main valve to shut. The solenoid also features local manual closing.



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Technical Data

Pressure Rating:
10 bar

Operating Pressure Range:
0.5-10 bar

Materials

Body & Cover:
Polyamide 6 & 30% GF

Diaphragm:
NR, Nylon fabric reinforced

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

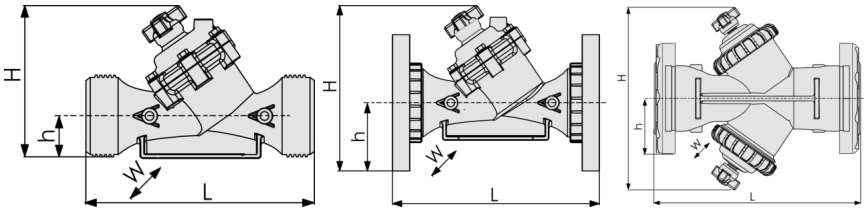
Standard spring - marked in bold

Tubing and Fittings:
Polyethylene and Polypropylene

DC latch solenoid:
S-982-3W P.B.

Technical Specifications

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

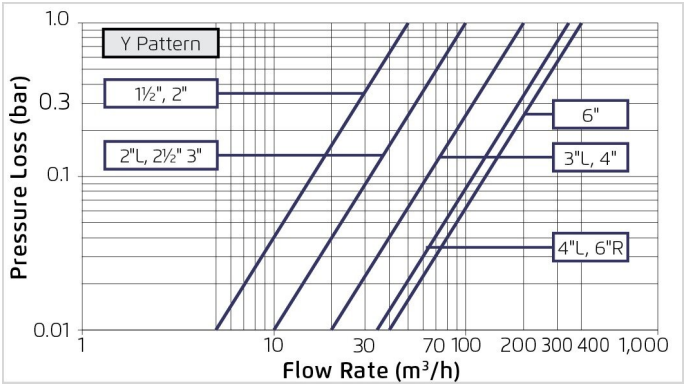


Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
1½" ; DN40	Oblique	Threaded	1.1	200	173	40	97	0.12	50
2" ; DN50	Oblique	Threaded	1.2	230	173	40	97	0.12	50
2"L ; DN50L	Oblique	Threaded	1.5	230	187	43	135	0.15	100
2½" ; DN65	Oblique	Threaded	1.5	230	187	43	135	0.15	100
3" ; DN80	Oblique	Threaded	1.6	298	199	55	135	0.15	100
3" ; DN80	Oblique	Plastic Flanges	2.5	308	244	100	200	0.15	100
3" ; DN80	Oblique	Metal Flanges	4.4	308	244	100	200	0.15	100
3"L ; DN80L	Oblique	Threaded	3	298	278	60	168	0.62	200
3"L ; DN80L	Oblique	Plastic Flanges	3.7	308	317	100	200	0.62	200
3"L ; DN80L	Oblique	Metal Flanges	4.6	308	317	100	200	0.62	200
4" ; DN100	Oblique	Plastic Flanges	4.6	350	329	112	224	0.62	200
4" ; DN100	Oblique	Metal Flanges	7.4	350	329	112	224	0.62	200
4"L ; DN100L	Oblique	Plastic Flanges	9.2	442	340	112	226	1.15	340
4"L ; DN100L	Oblique	Metal Flanges	11.2	442	340	112	226	1.15	340
6"R ; DN150R	Oblique	Metal Flanges	16.5	470	377	149	287	1.15	340
6" ; DN150	Boxer	Grooved	11	480	387	100	475	2x0.62	400
6" ; DN150	Boxer	Plastic Flanges	12.5	504	387	143	475	2x0.62	400

Additional Features

Code	Description	Size Range
M	Flow Stem (*Exclude sizes 4"L, 6"R)	1½"-6" / DN40-150
5	Plastic Test Point	1½"-4" / DN40-100
Z	Manual Selector	1½"-4" / DN40-100
V3	Victaulic PVC Adaptors 3"	3" / DN80
V4	Victaulic PVC Adaptors 4"	4" / DN100

Flow Chart



Differential Pressure & Flow Calculation

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

Kv = m³/h @ ΔP of 1 bar
Q = m³/h
ΔP = bar