



SOLENOID CONTROLLED VALVE

With 3-Way Control And Flow Stem

Model IR-110-3W-XM

The BERMAD Solenoid Controlled Valve is a hydraulically operated, diaphragm actuated control valve that opens and shuts in response to an electric signal.



[1] BERMAD Model IR-110-3W-X opens in response to an electric signal.

[2] Kinetic Air Valve Model K10

[3] Combination Air Valve Model C10

[4] Smart Irrigation Controller-OMEGA

Features & Benefits

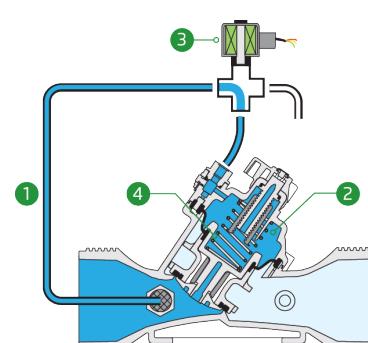
- Hydraulic Control Valve
 - Line pressure driven
 - Electrically controlled On/Off
- Engineered Composite Valve with Industrial Grade Design
 - Adaptable on-site to a wide range of end connection
 - Articulated flange connections that eliminate line bending and hydraulic stresses
 - Highly durable, chemical and cavitation resistant
- 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
 - Smooth closing
 - Requires low actuation pressure
 - Prevents diaphragm erosion and distortion
- User-Friendly Design
 - Simple in-line inspection and service

Typical Applications

- Automated Irrigation Systems
- Remote and/or Elevated Systems
- Distribution Centers
- Low Supplied Pressure Irrigation Systems
- Energy Saving Irrigation Systems

Operation:

Line Pressure [1] is applied to the Control Chamber [2] through the opened 3-Way Solenoid [3]. This creates a superior closing force that moves the Diaphragm Assembly [4] toward a closed position. Closing the solenoid causes it to discharge pressure from the control chamber, thereby opening the valve.





Technical Data

Pressure Rating:

150 psi

Operating Pressure Range:

7-150 psi

Materials

Body & Cover:
Polyamide 6 & 30% GF

Diaphragm:
NR, Nylon fabric reinforced

Spring:
Stainless Steel

Control Loop Accessories

Tubing and Fittings:
Polyethylene and
Polypropylene

AC solenoid:
S-390-T-3W

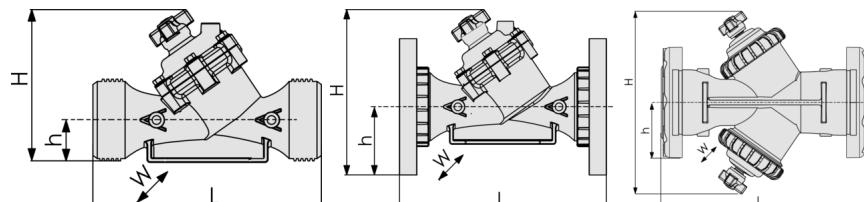
DC solenoid:
S-390-T-3W

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

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

Technical Specifications

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



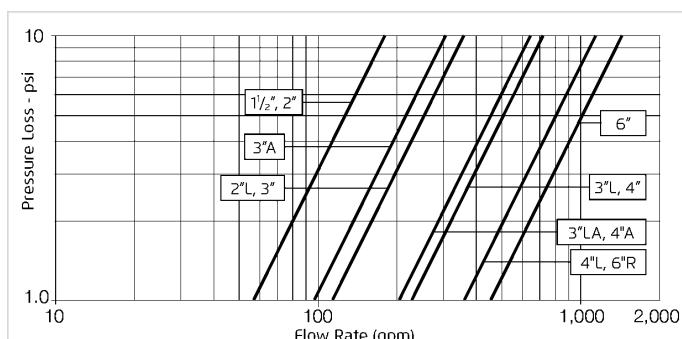
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1½" ; DN40	Oblique	Threaded	2.4	7½	6½	1%	3½	0.026	58
2" ; DN50	Oblique	Threaded	2.7	9½	6½	1%	3½	0.026	58
2½" ; DN50L	Oblique	Threaded	3	9½	7½	1¼	5%	0.033	116
2½" ; DN65	Oblique	Threaded	3	9½	7½	1¼	5%	0.033	116
3" ; DN80	Oblique	Threaded	4	11¾	7½	2¼	5%	0.033	116
3" ; DN80	Oblique	Plastic Flanges	6	12½	9½	4	7½	0.033	116
3" ; DN80	Oblique	Metal Flanges	10	12½	9½	4	7½	0.033	116
3½" ; DN80L	Oblique	Threaded	7	11¾	9½	2½	6%	0.136	231
3½" ; DN80L	Oblique	Plastic Flanges	8.2	12½	12½	4	7½	0.136	231
3½" ; DN80L	Oblique	Metal Flanges	10.1	12½	12½	4	7½	0.136	231
4" ; DN100	Oblique	Plastic Flanges	10	13¾	13	4½	8½	0.136	231
4" ; DN100	Oblique	Metal Flanges	16.3	13¾	13	4½	8½	0.136	231
4" ; DN100L	Oblique	Plastic Flanges	20.2	17½	13½	4½	9	0.253	393
4" ; DN100L	Oblique	Metal Flanges	24.7	17½	13½	4½	9	0.253	393
6"R ; DN150R	Oblique	Metal Flanges	36	18½	14½	5½	11%	0.253	393
6" ; DN150	Boxer	Grooved	26	19	15¼	4	18¾	2x0.136	462
6" ; DN150	Boxer	Plastic Flanges	27.6	19¾	15¼	5%	18¾	2x0.136	462

CCDV = Control Chamber Displacement Volume • Threaded = BSP & NPT are available. External thread is available for 2" and 2½" only. • Other End Connections are available on request. For dimensions and weights of adapters or valves with adapters please consult with customer service.

Additional Features

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

Flow Chart



Differential Pressure & Flow Calculation

$$\Delta P = \left(\frac{Q}{Cv} \right)^2 \quad Cv = \text{gpm} @ \Delta P \text{ of 1 psi}$$

Q = gpm
 ΔP = psi