



HYDRAULIC CONTROL VALVE

With Manual Selector And Flow Stem

Model IR-105-ZM

The BERMAD Hydraulic Control Valve is a hydraulically operated, diaphragm actuated control valve that opens and shuts in response to a local or remote pressure command.



[1] BERMAD Model IR-105-Z opens upon local manual command.

[2] Kinetic Air Valve Model IR-K10

[3] Combination Air Valve Model IR-C10

[4] Electromagnetic Flow Meter

[5] Pressure Sustaining Valve Model IR-130-55-3W-X

Features & Benefits

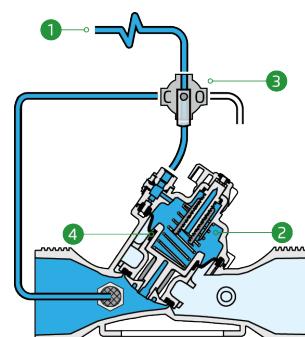
- Hydraulic Control Valve
 - Line pressure driven
 - Hydraulically On/Off controlled
- Engineered Composite Valve with Industrial Grade Design
 - Adaptable on-site to a wide range of end connection
 - Highly durable, chemical and cavitation resistant
- hYflow 'Y' Valve Body with "Look Through" Design
 - Ultra-high flow capacity at low pressure loss
- Unitized "Flexible Super Travel" (FST) Diaphragm and Guided Plug
 - 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
- Distribution Centers
- Low Supplied Pressure Irrigation Systems
- Energy Saving Irrigation Systems

Operation:

Hydraulic Command [1] is applied to the Control Chamber [2] through the Manual Selector [3]. This creates superior closing force that moves the Diaphragm Assembly [4] to a closed position. Discharging of pressure from the control chamber, by turning the manual selector, causes the line pressure acting on the lower side of the diaphragm assembly to move the valve to an open position.





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

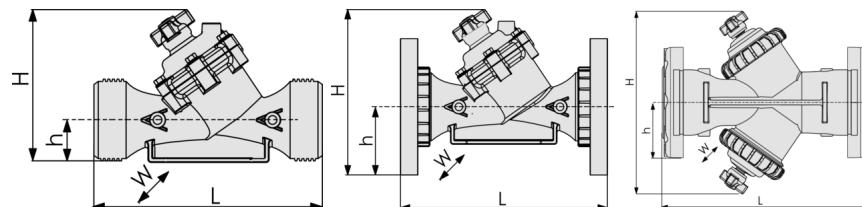
Tubing and Fittings:

Polyethylene and

Polypropylene

Technical Specifications

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



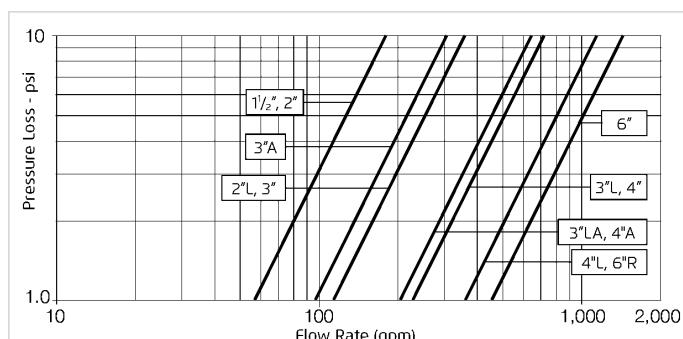
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1½" ; DN40	Oblique	Threaded	2.4	7½	6½	1%	3½	0.026	58
2" ; DN50	Oblique	Threaded	2.7	9½	6½	1%	3½	0.026	58
2½" ; DN50L	Oblique	Threaded	3	9½	7½	1¼	5%	0.033	116
2½" ; DN65	Oblique	Threaded	3	9½	7½	1¼	5%	0.033	116
3" ; DN80	Oblique	Threaded	4	11¾	7½	2¼	5%	0.033	116
3" ; DN80	Oblique	Metal Flanges	10	12½	9½	4	7½	0.033	116
3" ; DN80	Oblique	Plastic Flanges	6	12½	9½	4	7½	0.033	116
3½" ; DN80L	Oblique	Threaded	7	11¾	9½	2½	6%	0.136	231
3½" ; DN80L	Oblique	Metal Flanges	10.1	12½	12½	4	7½	0.136	231
3½" ; DN80L	Oblique	Plastic Flanges	8.2	12½	12½	4	7½	0.136	231
4" ; DN100	Oblique	Metal Flanges	16.3	13¾	13	4½	8½	0.136	231
4" ; DN100	Oblique	Plastic Flanges	10	13¾	13	4½	8½	0.136	231
4" ; DN100L	Oblique	Metal Flanges	24.7	17½	13½	4½	9	0.253	393
4" ; DN100L	Oblique	Plastic Flanges	20.2	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"
V3	Victaulic PVC Adaptors 3"	3"
V4	Victaulic PVC Adaptors 4"	4"

Flow Chart



2-Way circuit "Added Head Loss" (for "V" below 6.5 f/s): 4.5 psi

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