



# 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

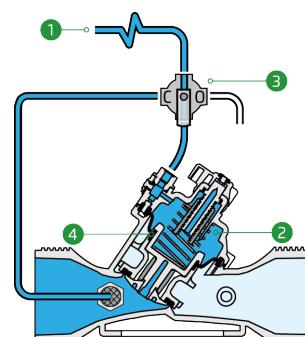
- Hydraulic Control Valve
  - Line pressure driven
  - Hydraulically On/Off controlled
- Engineered Composite Valve with Industrial Grade Design
  - Adaptable on-site to a wide range of end connection
  - Highly durable, chemical and cavitation resistant
- hYflow 'Y' Valve Body with "Look Through" Design
  - 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:

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

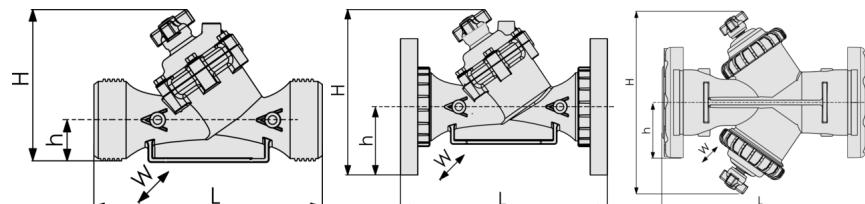
#### Tubing and Fittings:

Polyethylene and

Polypropylene

## Technical Specifications

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



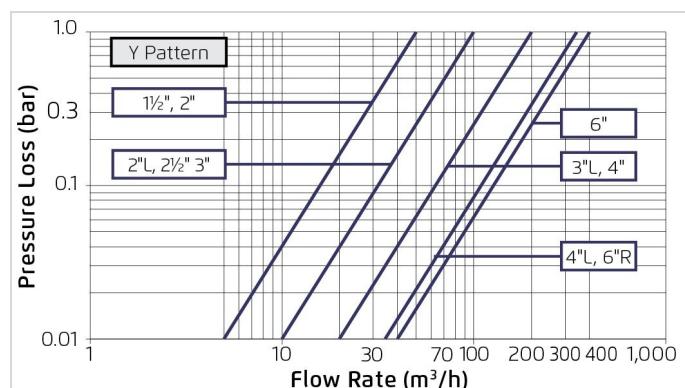
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
1½" ; DN40	Oblique	Threaded	1.1	200	173	40	97	0.12	50
2" ; DN50	Oblique	Threaded	1.2	230	173	40	97	0.12	50
2½" ; DN50L	Oblique	Threaded	1.5	230	187	43	135	0.15	100
2½" ; DN65	Oblique	Threaded	1.5	230	187	43	135	0.15	100
3" ; DN80	Oblique	Threaded	1.6	298	199	55	135	0.15	100
3" ; DN80	Oblique	Metal Flanges	4.4	308	244	100	200	0.15	100
3" ; DN80	Oblique	Plastic Flanges	2.5	308	244	100	200	0.15	100
3½" ; DN80L	Oblique	Threaded	3	298	278	60	168	0.62	200
3½" ; DN80L	Oblique	Metal Flanges	4.6	308	317	100	200	0.62	200
3½" ; DN80L	Oblique	Plastic Flanges	3.7	308	317	100	200	0.62	200
4" ; DN100	Oblique	Metal Flanges	7.4	350	329	112	224	0.62	200
4" ; DN100	Oblique	Plastic Flanges	4.6	350	329	112	224	0.62	200
4" ; DN100L	Oblique	Metal Flanges	11.2	442	340	112	226	1.15	340
4" ; DN100L	Oblique	Plastic Flanges	9.2	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

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"R, 6"R)	1½"-6" / DN40-150
5	Plastic Test Point	1½"-4" / DN40-100
V3	Victaulic PVC Adaptors 3"	3" / DN80
V4	Victaulic PVC Adaptors 4"	4" / DN100

## Flow Chart



2-Way circuit "Added Head Loss" (for "V" below 2 m/s): 0.3 bar

## Differential Pressure & Flow Calculation

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

$Kv = m^3/h @ \Delta P$  of 1 bar

$Q = m^3/h$

$\Delta P = \text{bar}$