# SOLENOID CONTROLLED VALVE - DOUBLE CHAMBER

## Model IR-110-DC-3W-X

The BERMAD Model IR-110-DC-3W-X Solenoid Controlled Valve is a double chambered, hydraulically operated, diaphragm actuated control valve that opens and closes drip-tight in response to an electric signal. The Double Chamber Valve is high performance valve and operates at low pressures.


**[1]** BERMAD Model IR-110-DC-3W-X Opens in response to electric signal.
**[2]** Kinetic Air Valve Model IR-K10
**[3]** Combination Air Valve Model IR-C10
**[4]** RTU-Remote Terminal Unit

### Features & Benefits

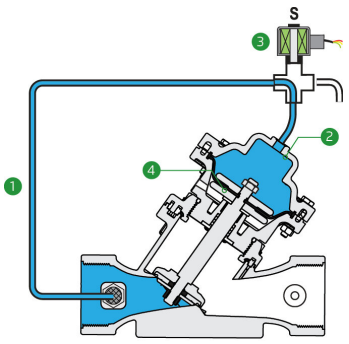
- Hydraulic Control Valve with Solenoid Control
  - Line pressure driven
  - Electrically controlled On/Off
  - Suitable also for remote and/or elevated systems
- Double Chamber Design
  - Full powered opening and closing
  - Non-slam closing characteristic
  - Protected diaphragm
- Engineered Composite Valve with Industrial Grade Design
  - hYflow 'Y' Valve Body with "Look Through" design
  - Ultra-high flow capacity at low pressure loss
- User-Friendly Design
  - Simple in-line inspection and service, Easy maintenance
  - Simple in-line conversion from single to double chamber

### Typical Applications

- Automated Irrigation Systems
- Drip Systems
- Sprinklers & Micro-Sprinklers
- Low Pressure Systems
- End-Line Flushing (Distribution Line, Irrigation Machine) - "Flush-'n-Stop"
- Proportional Pressure Reducing
- Non-Slam Closing (or moderate closing)
- Active Double Chambered (B)-Full Powered Opening & Closing

### Operation:

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

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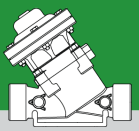




## Technical Data

**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

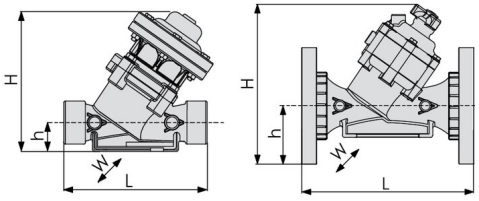
**Tubing and Fittings:**
Polyethylene and Polypropylene

**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.



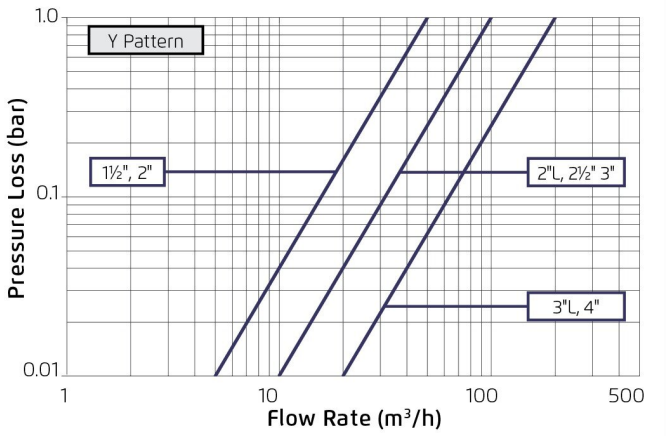

| Size | Pattern | End Connection | Weight (Kg) | L (mm) | H (mm) | h (mm) | W | CCDV (Lit) | KV |
|---|---|---|---|---|---|---|---|---|---|
| 1½" ; DN40 | "Y" (globe) | Threaded | 1.7 | 200 | 194 | 40 | 126 | 0.13 | 50 |
| 2" ; DN50 | "Y" (globe) | Threaded | 1.7 | 230 | 196 | 40 | 126 | 0.13 | 50 |
| 2"L ; DN50L | "Y" (globe) | Threaded | 2.2 | 230 | 220 | 43 | 135 | 0.17 | 100 |
| 2½" ; DN50L | "Y" (globe) | Threaded | 2.2 | 230 | 220 | 43 | 135 | 0.17 | 100 |
| 3" ; DN80 | "Y" (globe) | Threaded | 2.3 | 298 | 232 | 55 | 135 | 0.17 | 100 |
| 3" ; DN80 | "Y" (globe) | Plastic Flanges | 3.2 | 308 | 277 | 100 | 200 | 0.17 | 100 |
| 3" ; DN80 | "Y" (globe) | Metal Flanges | 5.1 | 308 | 277 | 100 | 200 | 0.17 | 100 |
| 3"L ; DN80L | "Y" (globe) | Threaded | 6 | 338 | 356 | 60 | 210 | 0.55 | 200 |
| 3"L ; DN80L | "Y" (globe) | Plastic Flanges | 6.5 | 343 | 395 | 100 | 210 | 0.55 | 200 |
| 3"L ; DN80L | "Y" (globe) | Metal Flanges | 7.4 | 343 | 395 | 100 | 210 | 0.55 | 200 |
| 4" ; DN100 | "Y" (globe) | Plastic Flanges | 7.6 | 364 | 407 | 112 | 224 | 0.55 | 200 |
| 4" ; DN100 | "Y" (globe) | Metal Flanges | 9.5 | 364 | 407 | 112 | 224 | 0.55 | 200 |

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 |
|---|---|---|
| K/L | Auxiliary Closing / Lifting Spring (for 100-DC models only) | 1½"-4" / DN40-100 |

### 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