



# SOLENOID CONTROLLED VALVE

## With 2-Way Internal Controls & Trio Solenoid

### Model IR-21T-N5-2W-M

The BERMAD 2-Way Solenoid Controlled Valve with Trio integrated Open-Auto-Close manual selector, is a hydraulically operated, diaphragm actuated control valve with external feed & internal bleed control loop. The BERMAD Model IR-21T-N5-2W-M opens and closes drip-tight in response to an electric signal, which causes the solenoid to open or close the valve's internal hydraulic loop.

\*This valve is designated for irrigation use only and not for other uses! Manufacturer warranty is limited to the permitted use only.



[1] The BERMAD Model IR-21T-N5-2W-M opens and closes drip-tight in response to an electric signal, which causes the solenoid to open or close the valve's internal hydraulic loop.

### Features & Benefits

- Line Pressure Driven, Electrically Controlled On/Off
- Smooth Valve Opening and Closing
  - Dry environments
  - Low operating pressure requirements
- Composite Hydro-Efficient Globe Valve
  - Unobstructed flow path
  - Single moving part
  - High flow capacity
  - Highly durable, chemical and cavitation resistant
- Unitized Flexible Diaphragm and Guided Plug
  - Prevents diaphragm erosion and distortion
- Fully Supported & Balanced Diaphragm
  - Requires low actuation pressure
- User-Friendly Design
  - Simple in-line inspection and service

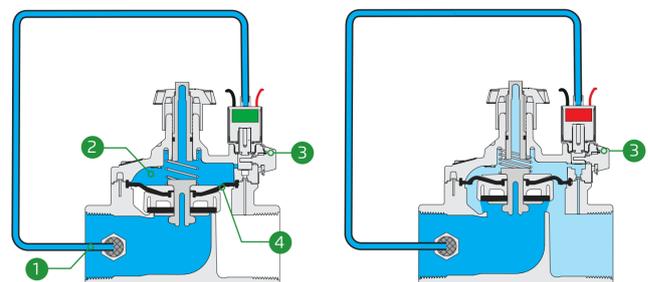
### Typical Applications

- Automated Irrigation Systems
- Greenhouses Irrigation
- Systems Subject to Varying Supply Pressure
- Landscape
- Energy Saving Irrigation Systems

### Operation:

**Closed Position:** Line Pressure [1] is applied to the Control Chamber [2] through the opened 3-Way Solenoid actuator [3]. This creates superior closing force that moves the Diaphragm Assembly [4] toward a closed position.

**Opened Position:** Electric command to the solenoid causes it to switch position, discharging pressure from the control chamber Through internal passage in the valve and thereby opening the valve.





### Technical Data

**Pressure Rating:**  
10 bar

**Operating Pressure Range:**  
0.7-10 bar

#### Materials

**Body & Cover:**  
Polyamide 6 & 30% GF

**Diaphragm:**  
NBR

**Spring:**  
Stainless Steel

#### Control Loop Accessories

**Tubing and Fittings:**  
Polyethylene and  
Polypropylene

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

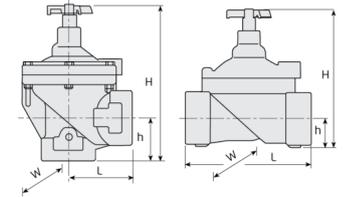
**AC solenoid:**  
S-390-T-3W P.B.-24 V AC

**DC solenoid:**  
S-390-T-3W P.B.-24 V DC

**DC latch solenoid:**  
S-392-T-3W-9-20 V DC  
Latch

### Technical Specifications

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



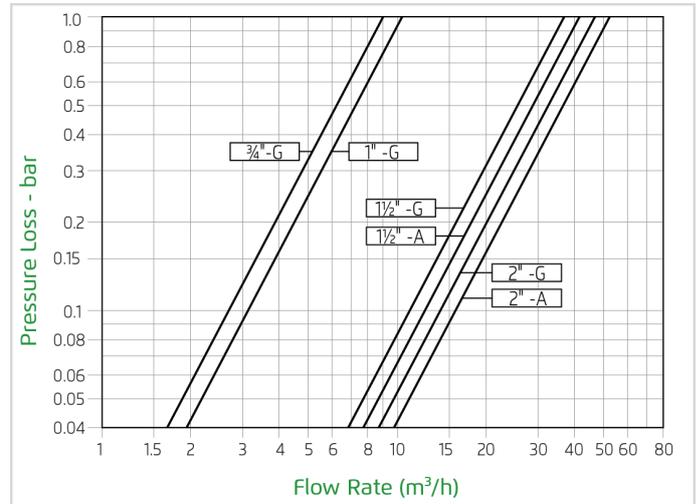
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
¾" ; DN20	Globe	Threaded	0.35	110	115	22	78	0.015	9
1" ; DN25	Globe	Threaded	0.33	110	115	22	78	0.015	9
1½" ; DN40	Globe	Threaded	1	160	180	35	125	0.072	37
1½" ; DN40	Angle	Threaded	0.95	80	190	40	125	0.072	41
2" ; DN50	Globe	Threaded	1.1	170	190	38	125	0.072	47
2" ; DN50	Angle	Threaded	0.91	85	210	60	125	0.072	52

CCDV = Control Chamber Displacement Volume

#### Additional Features

Code	Description	Size Range
5	Plastic Test Point	¾"-2" / DN20-50
7	½" Anti Vacuum at Valve Downstream	¾"-2" / DN20-50

#### Flow Chart



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

#### Differential Pressure & Flow Calculation

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

$Kv = m^3/h @ \Delta P \text{ of } 1 \text{ bar}$   
 $Q = m^3/h$   
 $\Delta P = \text{bar}$