



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

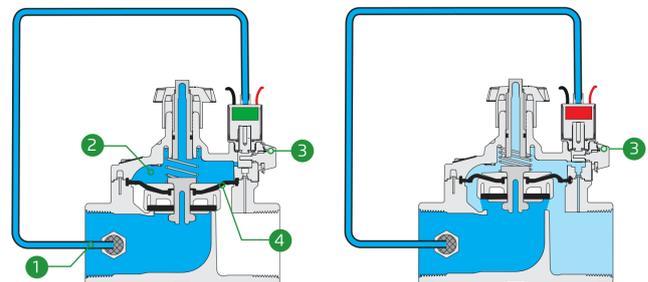
Typical Applications

- 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.





IR-21T-N5-2W-M

Technical Data

Pressure Rating:
150 psi

Operating Pressure Range:
10-150 psi

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](#)*

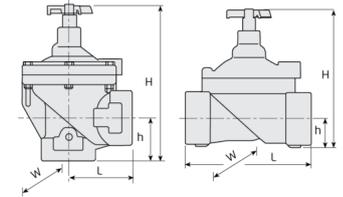
AC solenoid:
S-390-T-3W P.B.-24 V AC

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.



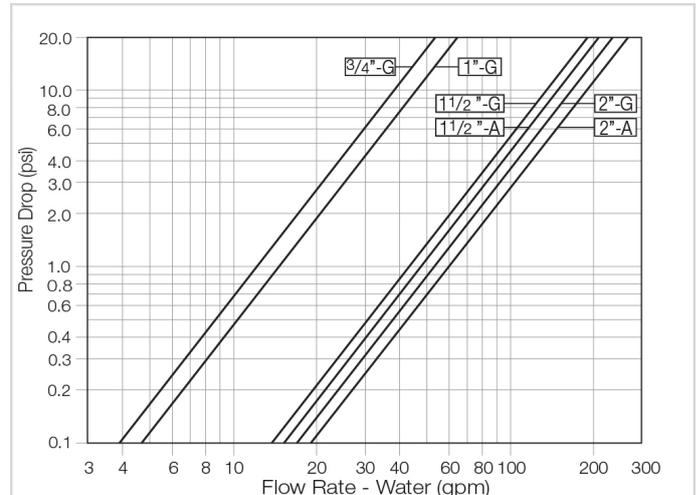
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
¾" ; DN20	Globe	Threaded	0.8	4¾	4¾	¾	3¾	0.003	10
1" ; DN25	Globe	Threaded	0.7	4¾	4¾	¾	3¾	0.003	10
1½" ; DN40	Globe	Threaded	2.2	6¾	7¾	1¾	5	0.016	43
1½" ; DN40	Angle	Threaded	2.1	3¾	7¾	1¾	5	0.016	47
2" ; DN50	Globe	Threaded	2.4	6¾	12¾	1½	5	0.016	54
2" ; DN50	Angle	Threaded	2	3¾	8¾	2¾	5	0.016	60

CCDV = Control Chamber Displacement Volume

Additional Features

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

Flow Chart



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

Differential Pressure & Flow Calculation

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

$Cv = \text{gpm @ } \Delta P \text{ of 1 psi}$
 $Q = \text{gpm}$
 $\Delta P = \text{psi}$