



SOLENOID CONTROLLED VALVE

With 2-Way Internal Controls & Trio Solenoid

Model IR-21T-N6-2W-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 & internal feed & internal bleed control loop. The BERMAD Model IR-21T-N6-2W-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-N6-2W-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

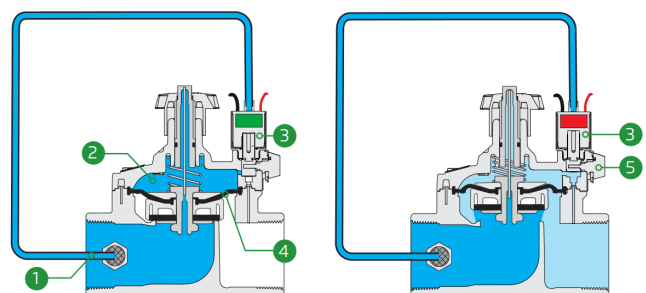
Typical Applications

- 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] & through the internal restriction. This creates superior closing force that moves the Diaphragm Assembly [4] toward a closed position.

Opened Position: energized the solenoid assembly [3], Closing the Solenoid causes it to discharge pressure from the Valve control chamber, thereby opening it. The Trio Override Handle [5] enables manual opening and closing of 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

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

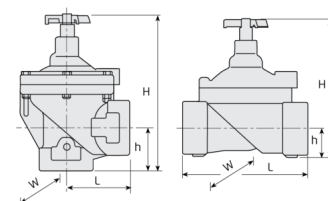
Latch

**For other pilots please consult [BERMAD](#)*

Technical Specifications

For other end connection types,

Please refer to [BERMAD](#) full engineering page.



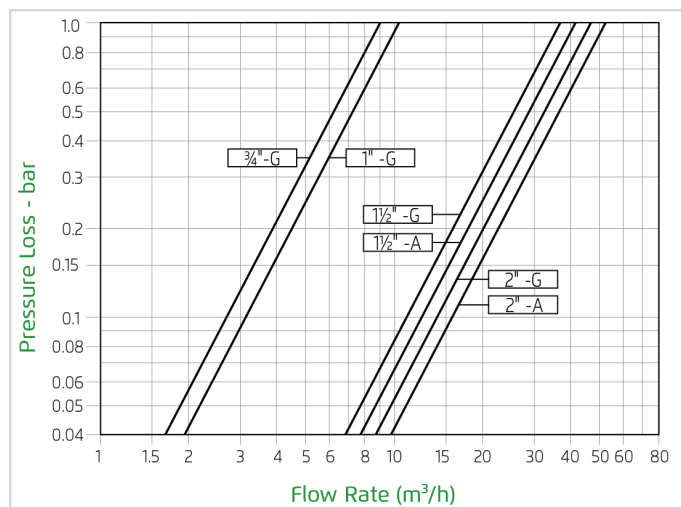
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
¾" ; DN20	Globe	Threaded	0.35	110	115	22	78	0.015	9
1" ; DN25	Globe	Threaded	0.33	110	115	22	78	0.015	9
1½" ; DN40	Globe	Threaded	1	160	180	35	125	0.072	37
1½" ; DN40	Angle	Threaded	0.95	80	190	40	125	0.072	41
2" ; DN50	Globe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

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

$K_v = m^3/h$ @ ΔP of 1 bar

$Q = m^3/h$

$\Delta P = \text{bar}$