

Installation

1. Ensure enough space around the valve assembly for future maintenance and adjustments.
2. Prior to valve installation, flush the pipeline to insure flow of clean fluid through the valve.
3. For future maintenance, install Isolation gate valves upstream and downstream from BERMAD control valve.
4. Install the valve in the pipeline with the valve flow direction arrow in the actual flow direction.
5. For best performance, it is recommended to install the valve horizontally and upright.
6. After installation carefully inspect/correct any damaged accessories, piping, tubing or fittings.
7. Cross-Check solenoid specifications with design requirements and solenoid/coil label.
8. Ensure approved cable protection. Confirm that the wires data meet solenoid specifications.

Note: Energizing the solenoid coil when it is not fixed in its place, is dangerous and might burn the coil.

Commissioning & Calibration:

1. Confirm that the valve is installed in the flow direction.
2. Allow the valve to open by using the solenoid manual override or by operating the solenoid.
3. Open fully the upstream isolating valve.
4. Check the valve solenoid control feature by De-Energizing & Energizing the solenoid to close & open the valve.
5. **IMPORTANT!** For all 21T valves: In order to confirm valve function, first set the manual override to the "Closed" position and only then set to "Auto" position.

Troubleshooting

Symptom	Cause	Remedy
Valve fails to open	1. Not sufficient inlet pressure.	1. Check for sufficient inlet pressure.
	2. Not sufficient flow.	2. Create demand/flow.
	3. Solenoid functioning.	3. Check solenoid power supply, coil & Manual Override Handle position.
Valve fails to close	1. Control circuit is clogged.	1. Confirm flow through the internal control loop.
	2. Debris	2. Check for any debris trapped in the valve body.
	3. Diaphragm	3. Confirm diaphragm is not ruptured.
	4. Solenoid functioning.	4. Check solenoid power supply, coil & Manual Override Handle position.

Preventive Maintenance:

1. System operating conditions that effect on the valve should be checked periodically to determent the required preventative maintenance schedule.
2. Maintenance instructions:
 - 2.1. Tools required:
 - 2.1.1. Philips Screwdriver & ½" open Wrench
 - 2.2. Functional inspection including: closing, opening and regulation.
 - 2.3. Visual inspection to locate leaks and external damages
 - 2.4. Open the screw nuts and remove the cover unit from the valve body. Disassemble necessary control tubs.
 - 2.5. It is highly recommended to stock a reserve parts assembly for each size. This allows minimum system field work. And system down time.
 - 2.6. Disassemble the cover and examine the inside parts carefully for signs of wear, corrosion, or any other abnormal conditions.
 - 2.8. Replace worn parts and Diaphragm-Closure Assembly it is highly recommended to stock a reserve parts assembly for each size to allow minimum system down time.
 - 2.8. Winterizing /freezing prevention: drain the valve & the valve accessories (pilot, solenoid) on time.

Solenoid Control Valve

Installation Operation Maintenance

Model 210/21T



210 1½" - 2"



210 1½" - 2"
Latch



210 ¾" - 1"



21T ¾" - 1"
Latch

The BERMAD 2-Way Solenoid Controlled Valve is a Hydraulically operated, diaphragm actuated control valve with internal hydraulic Feed & Bleed control loop. The 210 and 21T 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.



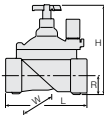
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Safety First

We believe that safety of personnel working with and around our equipment is highly important. Please take all the necessary action for your safety, before and during installation, and maintenance procedures.

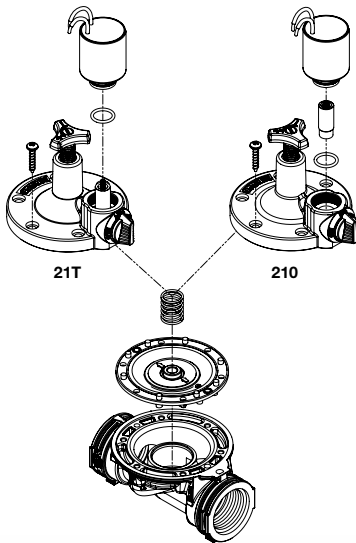
Dimensions and Weights



Pattern	Globe				
Size	DN20	DN25	DN40	DN50	
L (mm)	110	110	160	170	
H (mm)	115	115	180	190	
R (mm)	22	22	35	38	
W (mm)	78	78	125	125	
Weight (Kg)	0.35	0.33	1.0	1.1	

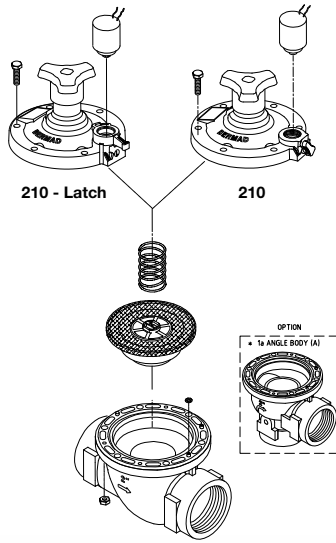
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DN: 20, 25
¾", 1"



2

DN: 40, 50
1½", 2"



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Technical Specifications

Available Patterns and Sizes:

Globe: DN: 20, 25, 40 & 50; ¾", 1", 1½", 2"

Available End Connections:

BSP-T; NPT female threads

Pressure Rating: 10 bar

Operating Pressure Range: 0.7-10 bar

Standard Materials:

- Body and Cover: Nylon Reinforced
- Metal Parts: Stainless Steel
- Diaphragm: NBR [Buna-N]
- Seals: NBR [Buna-N]
- Spring: Stainless Steel
- Cover bolts: Stainless Steel

Electrical Data

Solenoid S-390

Holding current: 125 mA

Inrush current: 250 mA

Protection: NEMA4

Solenoid : S-392 / S392T

Voltage Range: 6-20 V/DC

Pulse Width: 20-100 m/Sec

Recommended Capacitor: 4700 qF

Protection: NEMA4

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