

# Solenoid Controlled Valve

## Model MN-710

Hydraulically operated valve that either opens fully or shuts off in response to electric signals.

The Bermad 700 Series valves are hydraulic operated, diaphragm actuated, oblique pattern, globe valves with a seat assembly and double chambered unitized actuator that can be disassembled from the body as a separate integral unit.

The valve's hydrodynamic body is designed for unobstructed flow path and provides high flow capabilities. They are made of the highest quality materials, suitable for different mining applications.



### Features and Benefits

- Self-operated valves that can work without an external source of power, just a command is needed:
  - Low power consumption
  - Low cost wiring
  - Normally Open, Normally Closed or Last Position
- Hydrodynamic wide globe valve body provides:
  - Higher flow (Kv/Cv) than standard globe valves
- Designed to stand up to the toughest conditions
  - Tamper resistant
  - Drip tight sealing
- Double chamber actuator design:
  - Full powered opening and closing (option "B")
  - Protected diaphragm
  - Simplified maintenance as it can be removed as a single unit. In-Line serviceable
- Flexible design - Easy addition of optional features
- Obstacle free flow path

### Major Additional Features

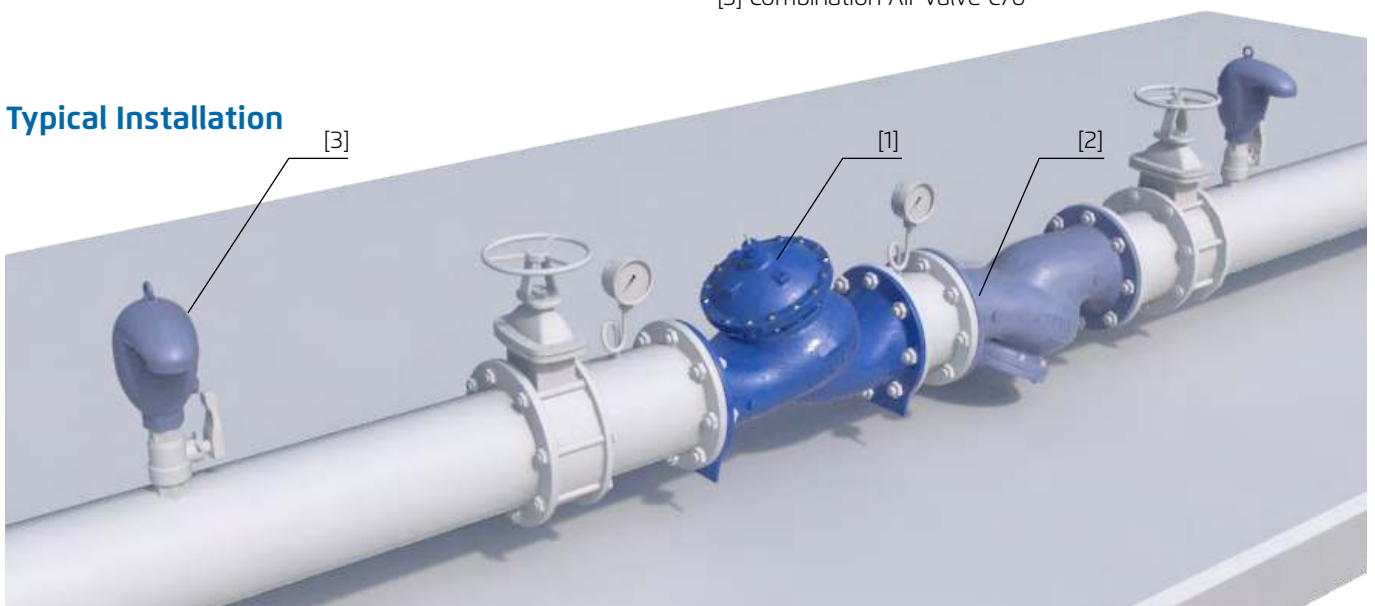
- Full powered opening & closing - **710 - B**
- Check feature - **710 - 20**
- Opening & closing speed control - **710 - 03**
- Relief override - **710 - 3Q**
- Closing surge prevention - **710 - 49**
- External pressure control - **710 - e**

See relevant BERMAD publications

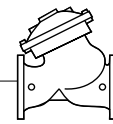
### List of Components:

- [1] Solenoid Controlled Valve 710
- [2] Strainer 70F
- [3] Combination Air Valve C70

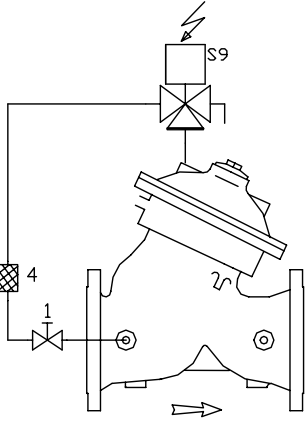
### Typical Installation



All images in this catalog are for illustration only



## Control Schematic (\*)



### Standard Configuration

- 1 2W Isolation Valve
- 4 Control Filter
- S9 Solenoid / Motorized Ball Valve

### Additional features (OPTIONAL)

- F Large Control Filter
- F1 Extra Large Control Filter
- I Visual Position Indicator
- S Electric Limit Switch

(\*) As a reference only. Components may vary based on valve's size and class. For poor quality fluids, motorized ball valve option is highly recommended

## Operation

- The main valve is equipped with either a 3-way solenoid pilot or a motorized ball valve - MVB.
- To close the main valve, the solenoid - or the MVB - applies upstream pressure to the upper control chamber, harnessing valve differential pressure to power the diaphragm actuator.
- To fully open the main valve, the solenoid - or the MVB - vents the control chamber pressure.
- Opening speed can be set hydraulically using an opening needle valve (optional).
- Closing speed can be set hydraulically using a closing needle valve (optional)

## Electrical Data

### Solenoid Data:

**Voltages:** (AC): 24, 110, 220  
(DC): 12, 24, 110, 220

### Power Consumption:

(AC): 30VA, inrush; 15VA (8W) holding  
(DC): 8W

### Motorized Ball Valve Data:

**Voltages:** (AC): 24, 110, 220  
(DC): 24

### Power Consumption:

(AC/DC): 45W



## Pressure Rating

	Class 150			Class 300		
Max. Recommended Pressure	250 PSI			400 PSI		
Available End Connection	Flanged ANSI#150	Grooved ANSI/AWWA C606	Threaded	Flanged ANSI#300	Grooved ANSI/AWWA C606	Threaded

## Materials

Components		Water Applications	Thermal Shock Applications	Base Solutions Applications	Acid Solutions Applications (**)
Main Valve	Body & Cover	Ductile Iron	Carbon Steel	Ductile Iron	Stainless Steel 316
	Internals	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel 316
		Brass/Coated Steel	Brass/Coated Steel	Coated Steel	
	Elastomers	Synthetic rubber	Synthetic rubber	Synthetic rubber	Viton
Coating	Fusion Bonded Epoxy	Fusion Bonded Epoxy	Fusion Bonded Epoxy	Uncoated	
Solenoid	Body	Brass	Brass	Stainless Steel 316	Stainless Steel 316
	Internals	Stainless Steel	Stainless Steel	Stainless Steel 316	Stainless Steel 316
Motorized Ball Valve	Elastomers	Synthetic rubber	Synthetic rubber	Synthetic rubber	Viton
	Body/Internals	Stainless Steel 316	Stainless Steel 316	Stainless Steel 316	Stainless Steel 316
Control Loop Accessories	Accessories	Brass/Bronze	Stainless Steel 316	Stainless Steel 316	Stainless Steel 316
	Tubing & Fittings	Brass	Stainless Steel 316	Stainless Steel 316	Stainless Steel 316

(\*\*) For highly aggressive acid solutions: Super Duplex, Hastelloy C-276, SMO-254 6-MO. Others by request.

### Notes:

- Inlet pressure and flow rate are required for optimal sizing.
- Maximum recommended flow velocity: 6m/sec; 18ft/sec. Intermittent: 7.5m/sec; 21ft/sec.
- Minimum operating pressure: 0.7 bar / 10 PSI. For lower pressure requirements consult factory.

