

# Flow Control and Pressure Reducing Valve with Solenoid Control

## IR-472-55-bRU

The BERMAD Flow Control and Pressure Reducing Valve with Solenoid Control is a hydraulically operated, diaphragm actuated control valve that performs three independent functions. It controls system demand to a preset maximum flow rate; it reduces downstream pressure to a constant preset maximum, and it either opens or shuts in response to an electric signal from an irrigation computer.

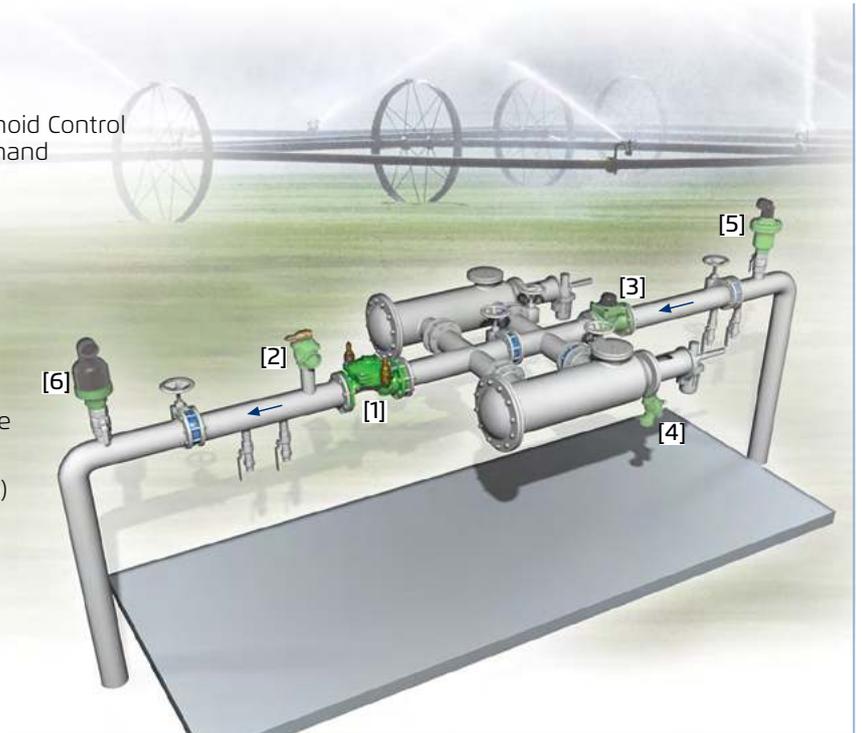


### Features and Benefits

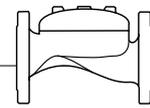
- Hydraulic Flow & Pressure Control with Solenoid Control
  - Limits fill-up rate and consumer over-demand
  - Protects downstream systems
  - Electrically controlled On/Off
- Advanced Globe Hydro-Efficient Design
  - Unobstructed flow path
  - Single moving part
  - High flow capacity
- Fully Supported & Balanced Diaphragm
  - Requires low actuation pressure
  - Excellent low-flow regulation performance
  - Prevents diaphragm distortion
- Hydraulic Flow Sensor (upstream installation)
  - No Moving parts
  - No need for flow straightening
- Simple In-Line Inspection and Service

### Typical Applications

- Computerized Irrigation Systems
- Remote and/or Elevated Plots
- Line Fill-Up Control
- Multiple Independent Consumer Systems
- Pressure Reducing Stations
- Irrigation Machines
- Distribution Centers
- Filter Stations



- [1] BERMAD Model IR-472-55-bRU opens in response to an electric signal, limits fill-up rate and consumer over-demand, and reduces system pressure.
- [2] BERMAD Relief Valve Model IR-43Q-R
- [3] BERMAD Water Meter Model WPH
- [4] BERMAD Filter Flush Valve Model IR-405-Z
- [5] BERMAD Air Valve Model ARC-A-I-I
- [6] BERMAD Air Valve Model ARC-A-P-I



## IR-472-55-bRU

For full technical details, refer to Engineering Section.

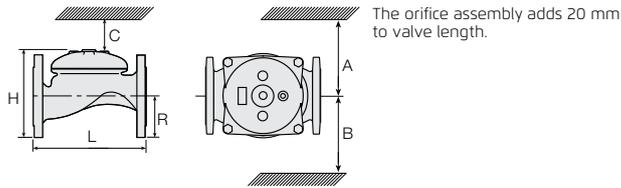
## 400 Series

Flow Control

### Technical Specifications

#### Dimensions and Weights

Size	DN Inch	80 3	100 4	150 6	200 8	250 10	300 12	350 14	400 16
L	mm	250	320	415	500	605	725	742	742
	inch	9.8	12.6	16.3	19.8	23.8	28.5	29.2	29.2
H	mm	210	242	345	430	460	635	655	965
	inch	8.3	9.5	13.6	16.9	18.1	25	25.8	38
C	mm	125	145	207	258	276	381	393	579
	inch	5	5.7	8.2	10.2	10.9	15	15.5	22.8
R	mm	100	112	140	170	202	242	260	300
	inch	3.9	4.4	5.5	6.7	8	9.5	10.2	11.8
A; B	mm	300	312	353	383	403	490	494	500
	inch	11.8	12.3	13.9	15.1	15.9	19.3	19.4	19.7
Weight	Kg	19	28	68	125	140	290	358	377
	lb.	41.9	61.7	149.9	275.6	308.6	639.3	789.2	831.1



### Technical Data

Patterns and Sizes: Globe: 3-16"; DN80-400

Angle: 3-4"; DN80-100

#### End Connections:

Size		3"	4"	6"	8-16"
		DN80	DN100	DN150	DN200-400
Threaded	Globe	■			
	Angle	■			
Flanged	Globe	■	■	■	■
	Angle	■			
Grooved	Globe	■		■	
	Angle	■	■		

**Pressure Rating:** 16 bar; 232 psi

**Operating Pressure Range:** 0.5-16 bar; 7-232 psi

For lower pressure requirements, consult factory.

**Setting Range:** 1-10 bar; 15-145 psi

**Flow Setting Range:** ±20% from valve predetermined flow  
Orifice diameter is calculated in accordance with desired  $\Delta P$  at predetermined flow: Although the standard calculated  $\Delta P$  is 0.4 bar; 5.5 psi, the actual head loss is 0.2 bar; 2.8 psi.

### Materials:

**Body and Cover:**

Polyester Coated Cast or (10"; DN250 and larger) Ductile Iron

**Spring:** Stainless Steel

**Diaphragm:** Nylon fabric Reinforced NR with rugged insert

**Control Accessories:** Brass

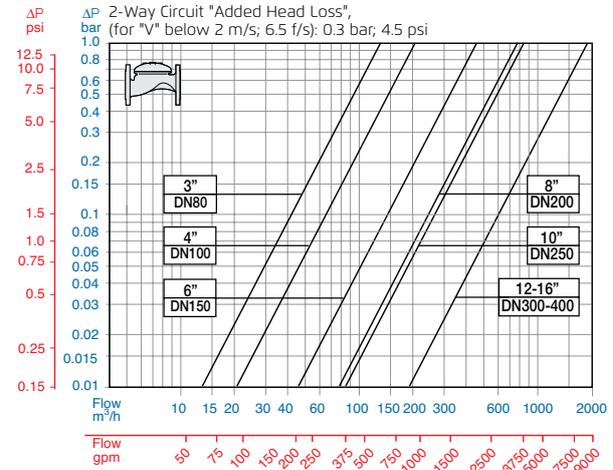
**Tubing and Fittings:** Reinforced Plastic and Brass

### How to Order

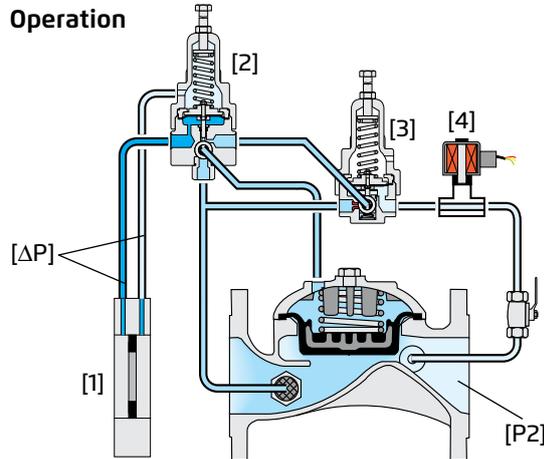
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

Sector	Size	Primary Feature	Additional Feature	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage - Main Valve Position	Tubing & Fittings	Additional Attributes
IR	3-16"	472	55	-	G	I	16	PG	4AC	PB	bRU
Other sizes available on request.											
Globe		G	ISO-16		16	9VDC -	Latch	9DS	Plastic Tubing & Brass Fittings	PB	
Angle (up to 4"; DN100)		A	ISO-10		10	12VDC -	Latch	1DS	Copper Tubing & Brass Fittings	CB	
Cast Iron (up to 8"; DN200)		I	IS 14 (ISO 10/4 Holes)		14	24VDC -	N.C.	4DC			b
Ductile Iron (10"; DN250 & above)		C	ANSI-125		A1	24VAC -	N.C.	4AC	Servo		R
			ANSI-150		A5	24VAC -	N.O.	4AO	Metal Control Accessories		U
			JIS-10		J1	24VAC, Lightning Proof -	N.C.	4RC	Orifice Assembly		I
			BST-D		BD	24VAC, Lightning Proof -	N.O.	4RO	Valve Position Indicator <sup>(1)</sup>		
			Grooved (3-6"; DN80-150 only)		VI	Other electrical ratings are available.					
			Other end connections available on request								

### Flow Chart



### Operation



Pressure Differential  $[\Delta P]$  across the Orifice Assembly [1] is in direct proportion to demand. The Flow Pilot [2] continuously senses  $[\Delta P]$  and commands the Valve to throttle closed should demand rise above pilot setting, and to modulate open when demand drops. The Pressure Reducing Pilot [3] controls the Valve to prevent Downstream Pressure [P2] from rising above pilot setting. The Solenoid [4] closes in response to an electric signal, shutting the main Valve.

### Solenoid Voltage Range:

S-390 & S-400: 24 VAC, 24 & VDC

S-392 & S-402: 9-20 VDC, Latch

S-982 & S-985: 12-50 VDC, Latch

Other Voltages available



info@bermad.com • www.bermad.com

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