

# Flow Control and Pressure Reducing Valve with Solenoid Control

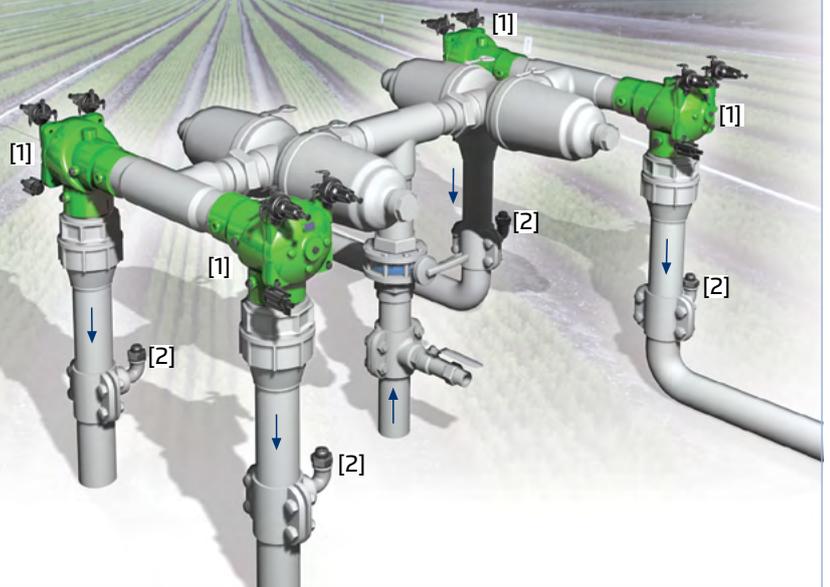
## IR-472-55-bKU

The BERMAD Model IR-472-55-bKU is a hydraulically operated, diaphragm actuated control valve that limits demand and reduces downstream pressure to constant preset maximum values. It either opens or shuts in response to an electric signal.



### Features and Benefits

- Line Pressure Driven, Electrically Controlled On/Off
  - Limits fill-up rate and consumer over-demand
  - Protects downstream system
- 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
  - Progressively restrains valve closing
  - Prevents diaphragm distortion
- Hydraulic Flow Sensor (upstream installation)
  - No moving parts
  - No need for flow straightening
- User-Friendly Design
  - Easy pressure setting
  - Simple in-line inspection and service

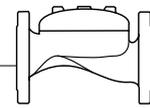


### Typical Applications

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

[1] BERMAD Model IR-472-55-bKU opens in response to electric signal, limits over-demand, and controls laterals and distribution line fill-up, while reducing operating pressure.

[2] BERMAD Vacuum Breaker Model ½"-ARV



For full technical details, refer to Engineering Section.

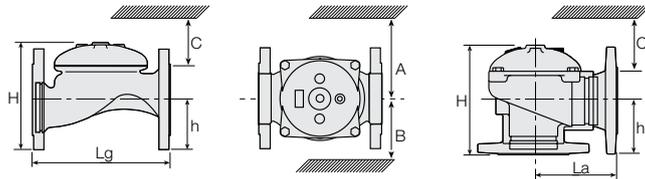
Flow Control & Pressure Reducing

### Technical Specifications

#### Dimensions and Weights

Pattern	Globe						Angle					
	Threaded						Fl.					
Connections	Threaded						Fl.					
Size	40	50	65	80R	80	100	50	65	80R	80	100	
DN	1½"	2"	2½"	3"	3"	4"	2"	2½"	3"	3"	4"	
Inch												
Lg	mm inch	153 6	180 7.1	210 8.3	210 8.3	255 10.0	320 12.6	N.A.	N.A.	N.A.	N.A.	N.A.
La	mm inch	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	86 3.4	110 4.3	110 4.3	110 4.3	160 6.3
H	mm inch	87 3.4	114 4.5	132 5.2	140 5.5	165 6.5	242 9.5	136 5.4	180 7.1	178 7	184 7.2	223 8.8
C	mm inch	52 2	68 2.7	80 3.1	84 3.3	100 3.9	145 5.7	82 3.2	108 4.2	107 4.2	110 4.3	134 5.3
h	mm inch	29 1.1	39 1.5	45 1.8	53 2.1	55 2.2	112 4.4	61 2.4	93 3.7	91 3.6	80 3.1	112 4.4
A; B	mm inch	130 5	130 5	130 5	140 5.5	175 7	312 12.3	130 5.1	130 5.1	140 5.5	175 6.9	312 12.3
Weight	Kg lb.	2 4.4	4 8.8	5.7 12.6	5.8 12.8	13 28.7	28 61.7	4.4 9.7	5.8 12.8	7 15.4	11 24.3	26 57.3

The orifice assembly adds to valve length.



### Technical Data

#### End connections:

Size	End Connections					
	1½"	2"	2½"	3"	3"	4"
	DN40	DN50	DN65	DN80R	DN80	DN100
Threaded	Globe	■	■	■	■	■
	Angle					
Flanged	Globe		■	■	■	■
	Angle					
Grooved	Globe		■	■	■	■
	Angle					

**Pressure Rating:** 10 bar; 145 psi

**Operating Pressure Range:** 0.5-10 bar; 7-145 psi

For lower pressure requirements, consult factory

**Setting Range:** 1-7 bar; 15-100 psi

Setting ranges vary according to specific pilot spring.

Please consult factory.

**Flow Setting Range:** ±20% from valve predetermined flow

Orifice diameter is calculated in accordance with desired ΔP at predetermined flow. Although the standard calculated ΔP is 0.4 bar; 5.5 psi, the actual head loss is 0.2 bar; 2.8 psi.

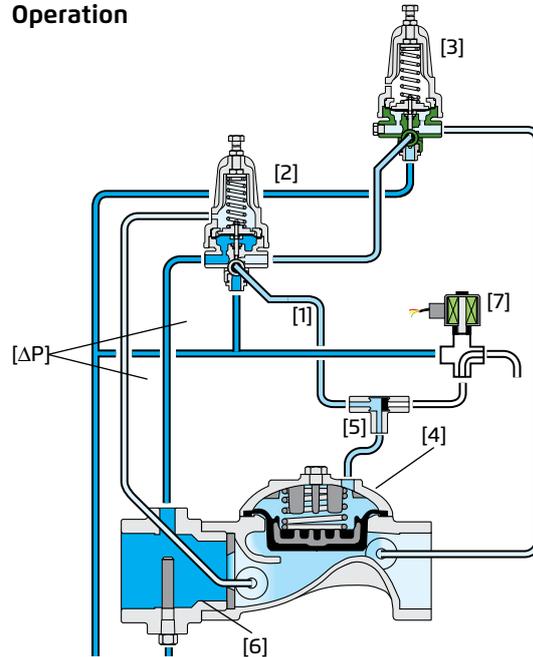
### How to Order

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	1½"-4" <small>Other sizes available on request.</small>	472	55	-	G	I	BP	PG	4AC	PP	bKU
Globe		G	BSP		BP	9VDC -	Latch	9DS		Servo	b
Angle		A	NPT		NP	12VDC -	Latch	1DS		Plastic Control Accessories	K
			ISO-16		16	24VDC -	N.C.	4DC		Orifice Assembly	U
			ISO-10		10	24VDC -	N.O.	4DC		Valve Position Indicator <sup>(1)</sup>	I
			IS 14 (ISO 10/4 Holes)		14	24VAC -	N.C.	4AC		Flow Stem <sup>(1)</sup>	M
			ANSI-125		A1	24VAC -	N.O.	4AO			
			JIS-10		J1	24VAC, Lightning Proof -N.C.		4RC			
			BST-D		BD	24VAC, Lightning Proof -N.O.		4RO			
			Grooved		VI						
						Other electrical ratings are available.					
						Plastic Tubing & Fittings		PP			
						Plastic Tubing & Brass Fittings		PB			

(1) Standard Irrigation Cover & Diaphragm are unaffiliated to Attributes I, M. Other additional attributes are optional. Please consult full-stop.

### Operation



Shuttle Valve [1] (SV-1) hydraulically connects the Flow Pilot (FP) [2] or the Pressure Reducing Pilot (PRP) [3] to the Valve Control Chamber [4], through Shuttle Valve [5] (SV-5). Pressure Differential [ΔP] across the Orifice Assembly [6] is in direct proportion to demand. The FP, continuously sensing [ΔP], commands the Valve to throttle closed should demand rise above setting. The PRP commands the AMV to reduce Downstream Pressure [P2] to pilot setting. In response to an electric signal, the Solenoid [7] switches and pressurizes SV-5, which thereby directs line pressure into the control chamber, shutting the 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.

For full electric data, refer to Accessories Section.

