

# Flow Control and Pressure Reducing Valve with Solenoid Control

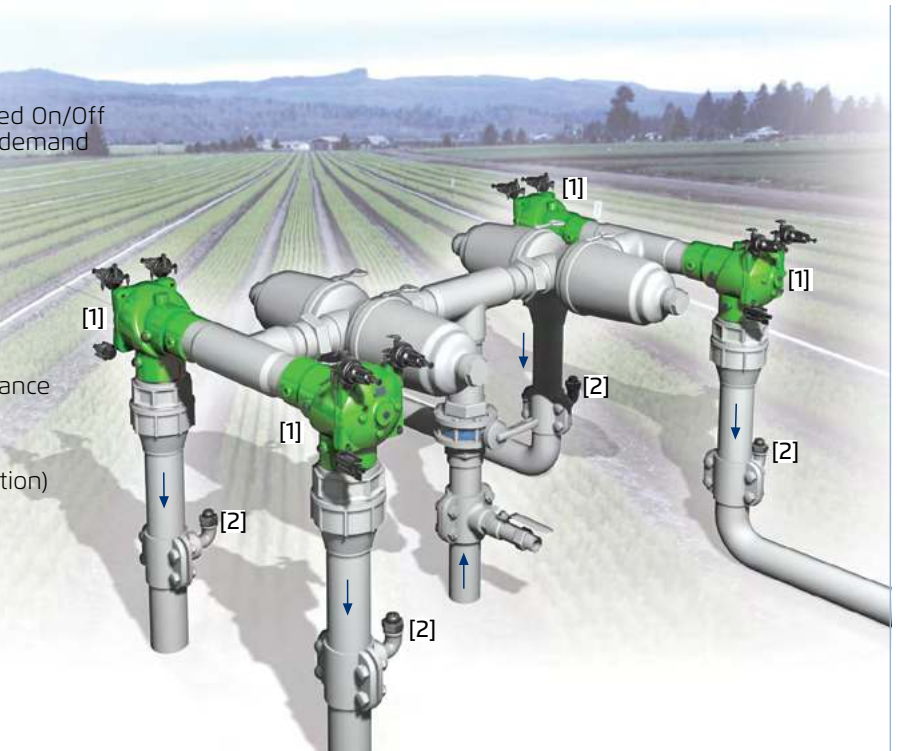
## IR-472-55-bKU

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

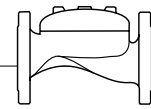


### Typical Applications

- 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



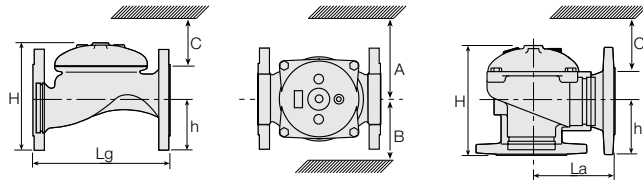
For full technical details, refer to Engineering Section.

## Technical Specifications

### Dimensions and Weights

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

The orifice assembly adds to valve length.



## Technical Data

### End connections:

Size		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  $\Delta P$  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.

## How to Order

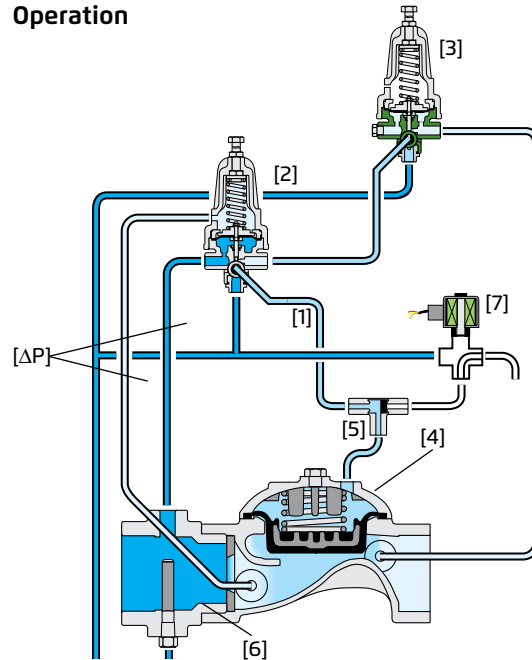
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

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			

For available end connections/sizes, see End Connections Table above.

(1) Standard Irrigation Cover & Diaphragm are unfitted 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  $\Delta P$  across the Orifice Assembly [6] is in direct proportion to demand. The FP, continuously sensing  $\Delta P$ , 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.

