

Flow Control and Pressure Reducing Valve

Normally Closed with Hydraulic Control

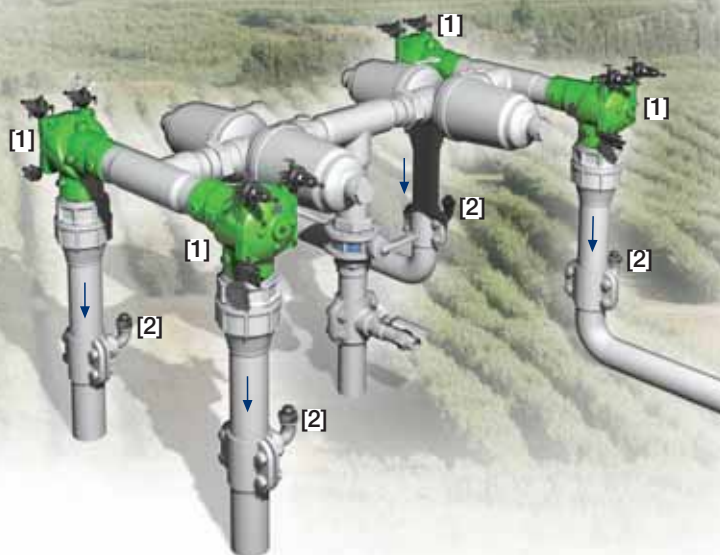
IR-472-54-bKU

The BERMAD Model IR-472-54-bKU is a hydraulically operated, diaphragm actuated control valve that limits demand and reduces downstream pressure to constant preset maximum values. It is a Normally Closed valve, which opens in response to a remote pressure rise command and shuts in the absence of that command.



Features and Benefits

- Line pressure driven, Normally Closed
 - Closes upon control failure
 - Limits fill-up rate and consumer over-demand
 - Protects downstream system
 - Amplifies and relays weak remote command
- 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
- 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-472-54-bKU opens upon pressure rise command, limits over-demand, and controls laterals and distribution line fill-up, while reducing operating pressure.
- [2] BERMAD Vacuum Breaker Model 1/2"-ARV

BERMAD Irrigation



IR-472-54-bKU

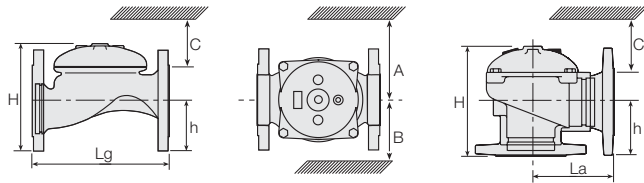
400 Series
Flow Control & Pressure Reducing

Technical Specifications

Dimensions and Weights

Pattern	Connections	Globe						Angle									
		Threaded						Fl.	Threaded						Fl.		
Size	DN	40	50	65	80R	80	100	50	65	80R	80	100	50	65	80R	80	100
	Inch	1½"	2"	2½"	3"R	3"	4"	2"	2½"	3"R	3"	4"	2"	2½"	3"R	3"	4"
Lg	mm	153	180	210	210	255	320	N.A.	N.A.	N.A.	N.A.	N.A.	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.	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	6	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"R	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

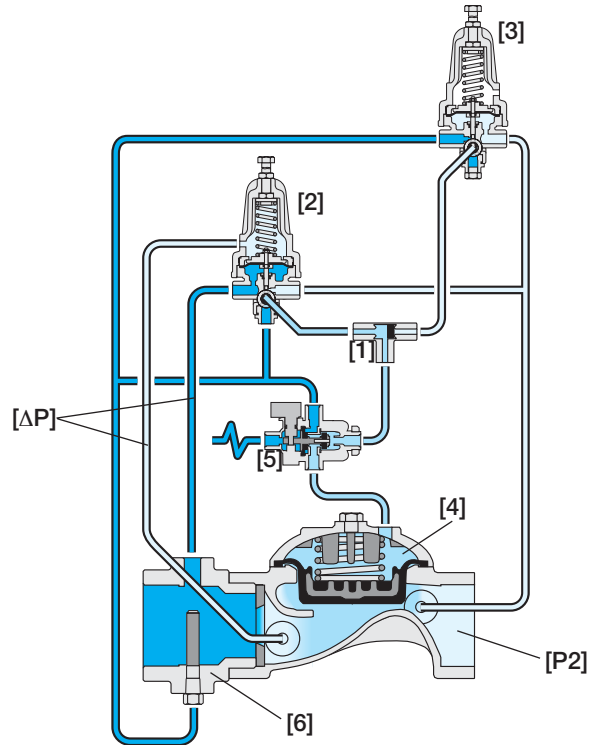
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

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	54	-	G	I	BP	PG	-	PP	bKU
Globe		G	BSP		BP	Plastic Tubing & Fittings		PP	Servo		b
Angle		A	NPT		NP	Plastic Tubing & Brass Fittings		PB	Plastic Control Accessories		K
			ISO-16		16				Orifice Assembly		U
			ISO-10		10				Valve Position Indicator ⁽¹⁾		I
			IS 14 (ISO 10/4 Holes)		14				Flow Stem ⁽¹⁾		M
			ANSI-125		A1						
			JIS-10		J1						
			BST-D		BD						
			Grooved		VI						

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



The Shuttle Valve [1] hydraulically connects the Flow Pilot (FP) [2] or the Pressure Reducing Pilot (PRP) [3] to the Valve Control Chamber [4], through the 3-Way Hydraulic Relay Valve (3W-HRV) [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. Upon a pressure drop command, the 3W-HRV switches and directs line pressure into the control chamber, shutting the Valve.



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