

## Flow Control Valve

Normally Closed with Hydraulic Control

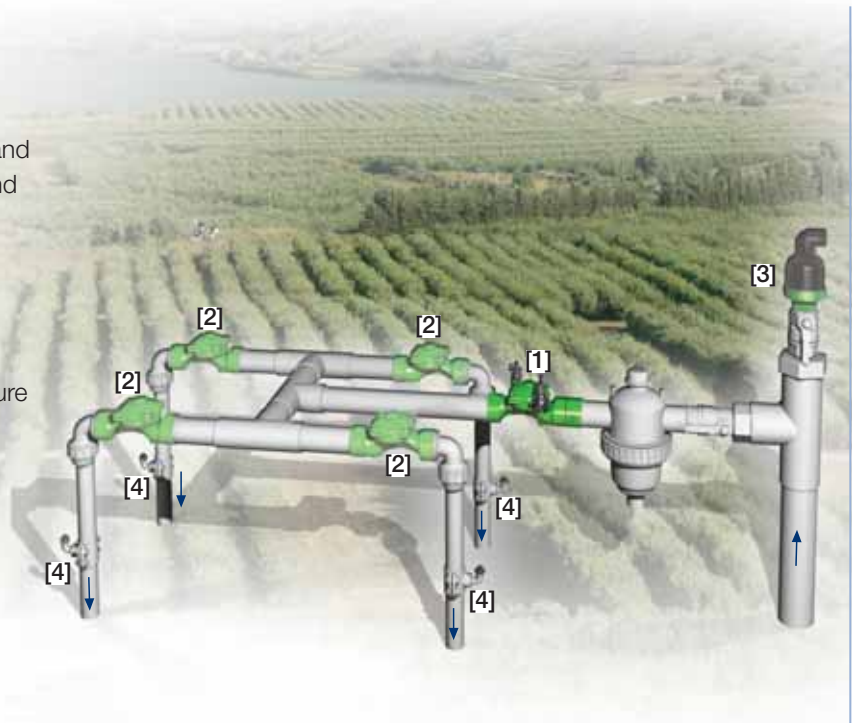
IR-470-54-bKU

The BERMAD Normally Closed, Flow Control Valve with Hydraulic Control is a hydraulically operated, diaphragm actuated control valve that limits system demand to a constant preset maximum flow rate. 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

- Hydraulic Pressure Control, Normally Closed
  - Closes upon control failure
  - Limits fill-up rate and consumer over-demand
  - 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 opening and 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

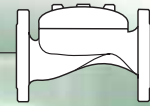


### Typical Applications

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

- [1] BERMAD Model IR-470-54-bKU opens upon pressure rise command, limits consumer over-demand, and controls laterals and distribution line fill-up.
- [2] BERMAD On/Off Control Valve Model IR-405-Z
- [3] BERMAD Air Valve Model ARA-A-P-P
- [4] BERMAD Vacuum Breaker Model 1/2"-ARV

# BERMAD Irrigation



**400 Series**

Flow Control

**IR-470-54-bKU**

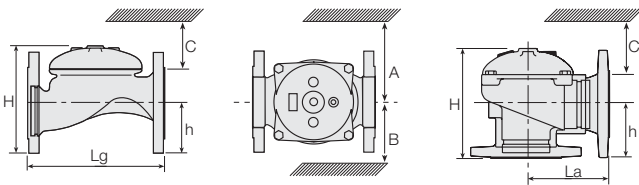
For full technical details, refer to Engineering Section.

## Technical Specifications

### Dimensions and Weights

Pattern		Globe						Angle				
Connections		Threaded						Fl.				
Size	DN Inch	40 1 1/2"	50 2"	65 2 1/2"	80R 3"R	80 3"	100 4"	50 2"	65 2 1/2"	80R 3"R	80 3"	100 4"
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 6	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		1 1/2" DN40	2" DN50	2 1/2" DN65	3"R DN80R	3" DN80	4" 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:** ±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

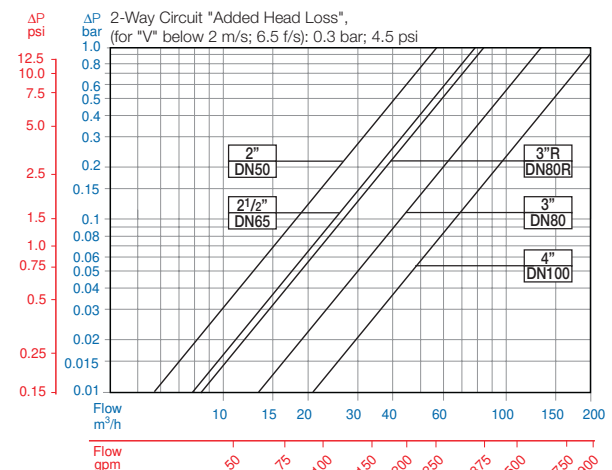
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

Sector	Size	Primary Feature	Additional Feature	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage -Main Valve Position	Tubing & Fittings	Additional Attributes
IR	1 1/2"-4" <small>Other sizes available on request.</small>	470	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 <sup>(1)</sup>		I
			IS 14 (ISO 10/4 Holes)		14				Flow Stem <sup>(1)</sup>		M
			ANSI-125		A1						
			JIS-10		J1						
			BST-D		BD						
			Grooved		VI						

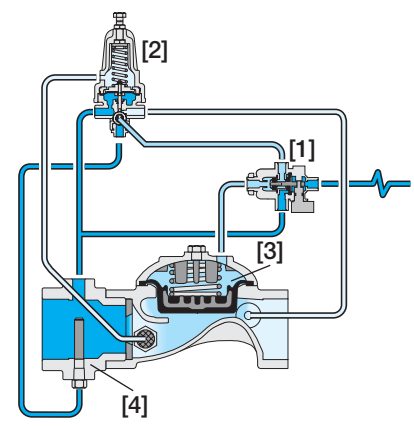
For available end connections/sizes, see End Connections Table above.

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

## Flow Chart



## Operation



The 3-Way Hydraulic Relay Valve (3W-HRV) [1] hydraulically connects the Flow Pilot (FP) [2] to the Valve Control Chamber [3]. Pressure Differential [ΔP] across the Orifice Assembly [4] is in direct proportion to demand. The FP continuously senses [ΔP] and commands the Valve to throttle closed should demand rise above pilot setting. The 3W-HRV switches upon pressure drop command, directing line pressure into the control chamber, and thereby causing the main Valve to shut. The 3W-HRV also features local manual closing.



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