Flow Control Valve

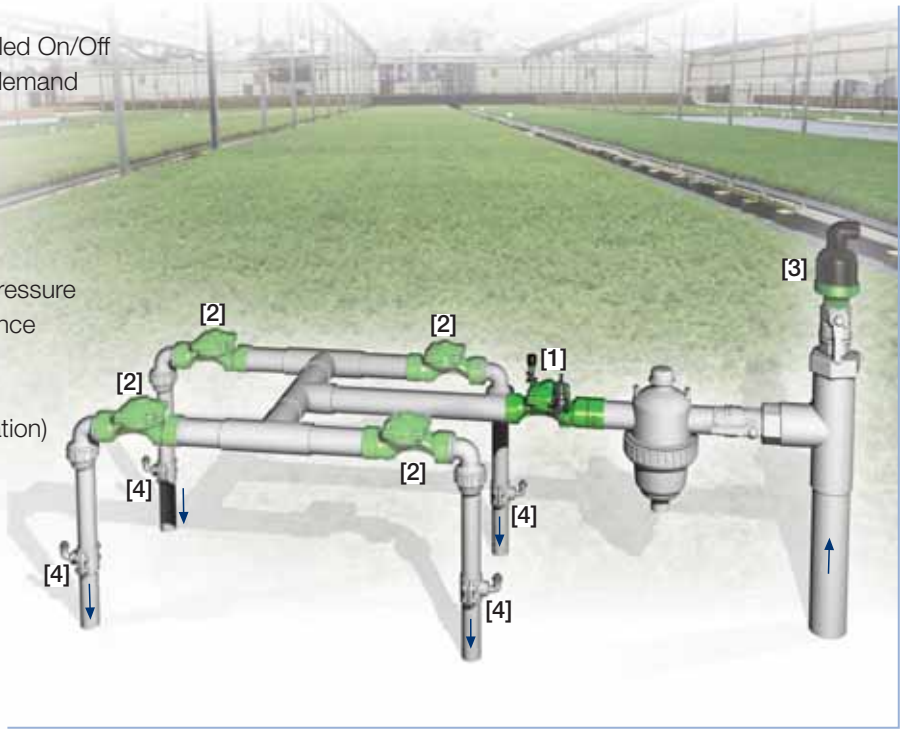
with Solenoid Control

IR-470-55-bKU

The BERMAD Model IR-470-55-bKU is a hydraulically operated, diaphragm actuated control valve that limits system demand to a constant preset maximum flow rate. 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
- 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
- User-Friendly Design
  - Easy pressure setting
  - Simple In-Line Inspection and Service

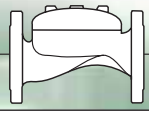


Typical Applications

- 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-470-55-bKU opens in response to electric signals, 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-I-P
[4] BERMAD Vacuum Breaker Model ½"-ARV

BERMAD Irrigation



400 Series

Flow Control

IR-470-55-bKU

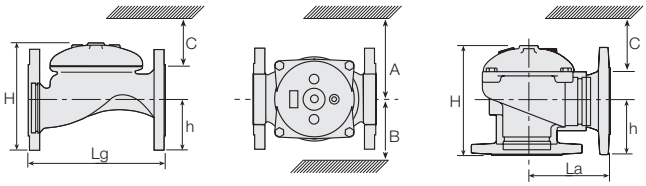
For full technical details, refer to Engineering Section.

Technical Specifications

Dimensions and Weights

Pattern		Globe						Angle				
Connections		Threaded					Fl.	Threaded				Fl.
Size	DN / Inch	40 1½"	50 2"	65 2½"	80R 3"R	80 3"	100 4"	50 2"	65 2½"	80R 3"R	80 3"	100 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	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

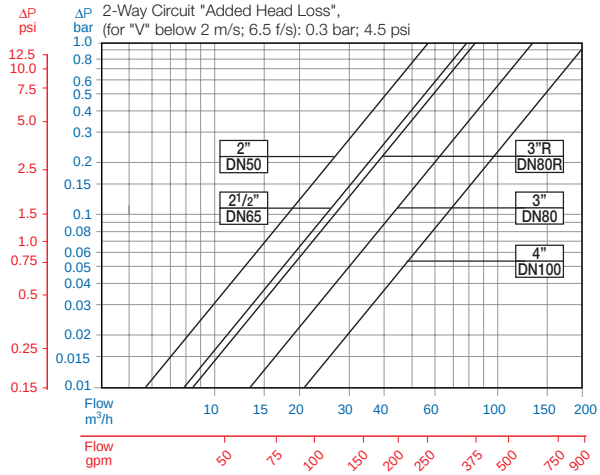
End connections:

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

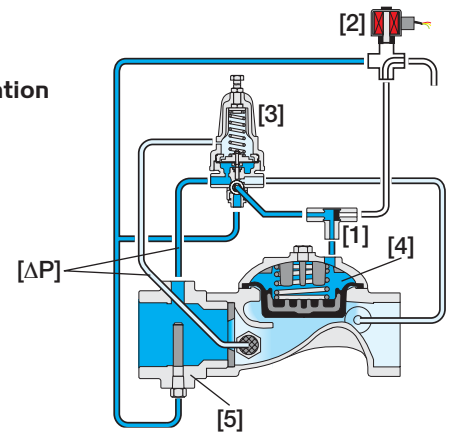
Pressure Rating: 10 bar; 145 psi
Operating Pressure Range: 0.5-10 bar; 7-145 psi
For lower pressure requirements, consult factory
Setting Range: ±20% from valve predetermined flow
Orifice diameter is calculated in accordance with desired ΔP at predetermined flow.
Although the standard calculated ΔP is 0.4 bar; 5.5 psi, the actual head loss is 0.2 bar; 2.8 psi.

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.

Flow Chart



Operation



The Shuttle Valve **[1]** hydraulically connects the Solenoid **[2]** or the Flow Pilot (FP) **[3]** to the Valve Control Chamber **[4]**. Pressure Differential **[ΔP]** across the Orifice Assembly **[5]** is in direct proportion to demand. When the solenoid is closed, the FP, continuously sensing **[ΔP]**, commands the Valve to throttle closed should demand rise above setting.
In response to an electric signal, the solenoid switches, directing line pressure through the shuttle valve into the control chamber, thereby shutting the main Valve.
The solenoid also features local manual closing.

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	Additonal Attributes
IR	1½-4"	470	55	-	G	I	BP	PG	4AC	PP	bKU

Other sizes available on request.

Globe	G
Angle	A

BSP	BP
NPT	NP
ISO-16	16
ISO-10	10
IS 14 (ISO 10/4 Holes)	14
ANSI-125	A1
JIS-10	J1
BST-D	BD
Grooved	VI

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

9VDC –	Latch	9DS
12VDC –	Latch	1DS
24VDC –	N.C.	4DC
24VDC –	N.O.	4DC
24VAC –	N.C.	4AC
24VAC –	N.O.	4AO
24VAC, Lightning Proof –	N.C.	4RC
24VAC, Lightning Proof –	N.O.	4RO

Other electrical ratings are available.

Plastic Tubing & Fittings	PP
Plastic Tubing & Brass Fittings	PB

Servo	b
Plastic Control Accessories	K
Orifice Assembly	U
Valve Position Indicator(1)	I
Flow Stem(1)	M

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

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