

## Level and Flow Control Valve

with Bi-Level Vertical Float

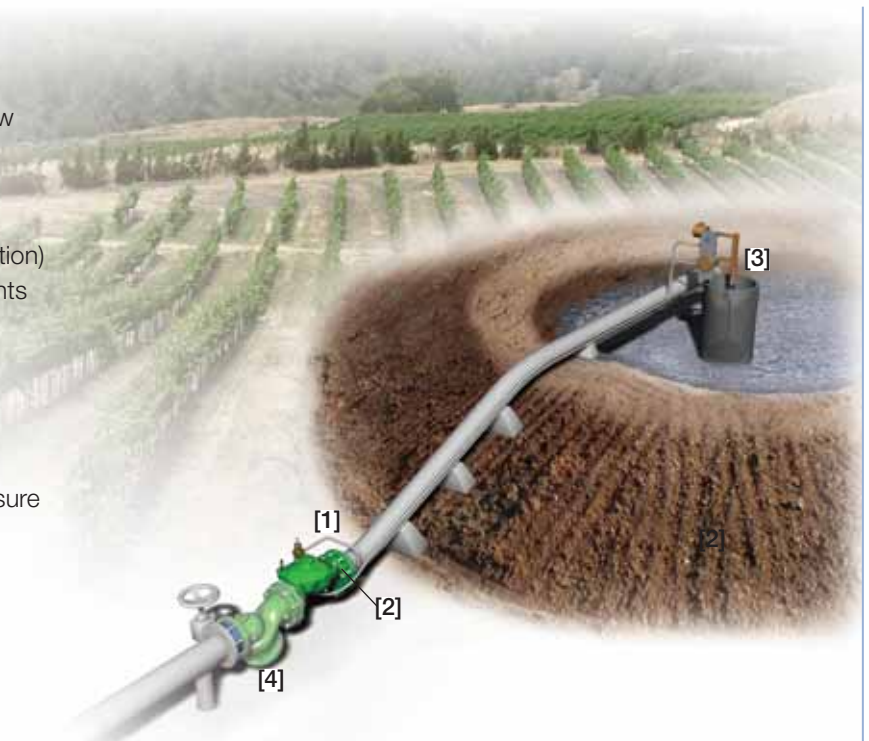
IR-457-66-U

The BERMAD Model IR-457-66-U Level and Flow Control Valve with Bi-Level Vertical Float is a hydraulically operated, diaphragm actuated control valve that controls reservoir filling, opening at preset reservoir low level, and shutting at preset high level. During filling, it limits the flow to a maximum preset value.



### Features and Benefits

- Line Pressure Driven, Level & Flow Control
  - Maintains pump and system designed flow
- Bi-Level Hydraulic Vertical Float
  - On/Off service
  - Flexible level adjusting range
- Hydraulic Flow Sensor (downstream installation)
  - No moving parts nor electronic components
  - Valve cavitation damage protection
- Advanced Globe Hydro-Efficient Design
  - Unobstructed flow path
  - Single moving part
- Fully Supported & Balanced Diaphragm
  - Requires low opening and actuation pressure
  - Excellent low flow regulation performance
  - Progressively restrains valve closing
  - Prevents diaphragm distortion
- User Friendly Design
  - Easy access to valve and float
  - Simple in-line inspection and service



### Typical Applications

- Full Range of Low Level Reservoirs
- Unavailable Power Supply Locations
- Limited Flow Capacity Systems
- Reservoirs Subject to High Inlet Pressure
- Pressure Braking Reservoirs in Gravity Fed Lines
- Systems Irrigated Directly from Fill-Up Line

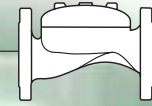
[1] BERMAD Model IR-457-66-U opens at reservoir preset low level, limiting fill-up rate to preset maximum, and shuts at reservoir preset high level.

[2] BERMAD Flow Sensor Model "U"

[3] BERMAD Bi-Level Vertical Float Model "66" in stilling tank

[4] BERMAD Strainer Model 70F

# BERMAD Irrigation



## IR-457-66-U

For full technical details, refer to Engineering Section.

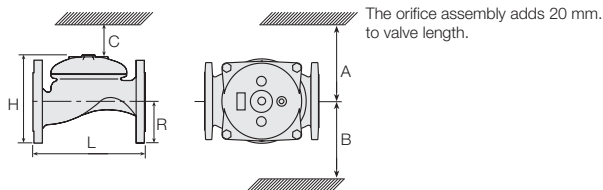
## 400 Series

### Reservoirs

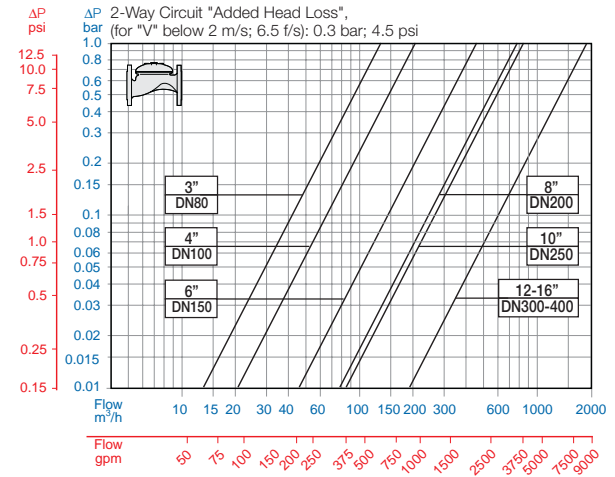
## Technical Specifications

### Dimensions and Weights

Size	DN Inch	80 3	100 4	150 6	200 8	250 10	300 12	350 14	400 16
L	mm	250	320	415	500	605	725	742	742
	inch	9.8	12.6	16.3	19.8	23.8	28.5	29.2	29.2
H	mm	210	242	345	430	460	635	655	965
	inch	8.3	9.5	13.6	16.9	18.1	25	25.8	38
C	mm	125	145	207	258	276	381	393	579
	inch	5	5.7	8.2	10.2	10.9	15	15.5	22.8
R	mm	100	112	140	170	202	242	260	300
	inch	3.9	4.4	5.5	6.7	8	9.5	10.2	11.8
A; B	mm	300	312	353	383	403	490	494	500
	inch	11.8	12.3	13.9	15.1	15.9	19.3	19.4	19.7
Weight	Kg	19	28	68	125	140	290	358	377
	lb.	41.9	61.7	149.9	275.6	308.6	639.3	789.2	831.1



### Flow Chart



## Technical Data

**Patterns and Sizes:** Globe: 3-16"; DN80-400 Angle: 3-4"; DN80-100

**End Connections:**

Size		3"	4"	6"	8-16"
		DN80	DN100	DN150	DN200-400
Threaded	Globe	■			
	Angle	■			
Flanged	Globe	■	■	■	■
	Angle	■	■		
Grooved	Globe	■	■	■	
	Angle	■	■		

**Pressure Rating:** 16 bar; 232 psi

**Operating Pressure Range:** 0.5-16 bar; 7-232 psi

For lower pressure requirements, consult factory

**Setting Range:** ±25% from valve predetermined flow

Orifice diameter is calculated in accordance with desired ΔP at predetermined flow. Setting ranges vary according to specific pilot spring. Please consult factory.

**Materials:**

**Body and Cover:**

Polyester Coated Cast or (10"; DN250 and larger) Ductile Iron

**Spring:** Stainless Steel

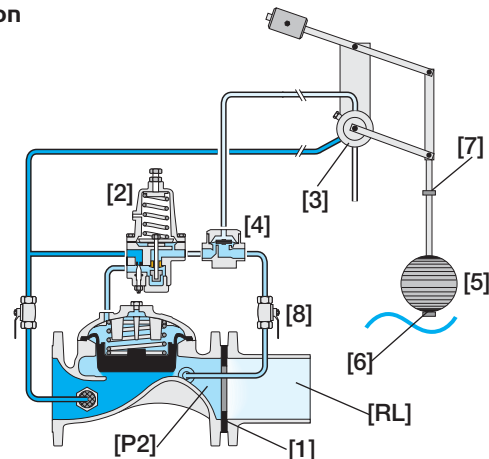
**Diaphragm:** Nylon fabric Reinforced NR with rugged insert

**Bolts, Studs and Nuts:** Zinc-Cobalt plated Steel

**Control Accessories:** Brass

**Tubing and Fittings:** Reinforced Plastic and Brass

## Operation



Pressure differential across the Orifice [1] is in direct proportion to flow. The Pressure Reducing Pilot [2] senses orifice upstream pressure [P2] and commands the Valve to throttle closed should this pressure rise above pilot setting. Orifice downstream pressure is determined by Reservoir Level [RL]. Upon level rise beyond sliding range, the Float Pilot [3] switches open directing line pressure to close the 2-Way Hydraulic Relay Valve [4], which causes the Valve to shut. Level drop causes the FP switch to close, opening the Valve. As long as the Float [5] is between stoppers [6] and [7], the Valve remains in its last position. The downstream Cock Valve [8] enables 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	Additional Attributes
IR	3-16" <small>Other sizes available on request.</small>	457	66	-	G	I	16	PG	-	PB	U
		Globe Angle (up to 4"; DN100)	ISO-16 ISO-10 IS 14 (ISO 10/4 Holes) ANSI-125 ANSI-150 JIS-10 BST-D Grooved (3-6"; DN80-150 only)		16 10 14 A1 A5 J1 BD VI	Plastic Tubing & Brass Fittings Copper Tubing & Brass Fittings		PB CB		Orifice Assembly Large Control Filter Valve Position Indicator <sup>(1)</sup> Flow Stem <sup>(1)</sup>	U F I M
		Cast Iron (up to 8"; DN200) Ductile Iron (10"; DN250 & above)									<sup>(1)</sup> Standard Irrigation Cover & Diaphragm are unfitted to Attributes I, M. Other attributes available on request.

Other end connections available on request



info@bermad.com • www.bermad.com

The information herein is subject to change without notice. BERMAD shall not be held liable for any errors. All rights reserved. © Copyright by BERMAD. PC4AE57-66 05