

Level Control Valve with Modulating Horizontal Float

Model: WW-450-60

- Reservoir filling
 - Low volume reservoirs
 - Large surface area reservoirs

The Model WW-450-60 Level Control Valve with Modulating Horizontal Float is a hydraulically controlled, diaphragm actuated control valve that controls reservoir filling to maintain constant water level, regardless of fluctuating demand.



Features and Benefits

- **Line pressure driven** – Independent operation
- **Modulating hydraulic float control**
 - “Always Full” reservoir
- **Advanced globe or angle hydro-efficient design**
 - Unobstructed flow path
 - Single moving part
 - Non-turbulent flow
 - High flow capacity
- **Fully supported & balanced diaphragm**
 - Low actuation pressure
 - Excellent low flow regulation performance
 - Progressively restrains valve closing
 - Prevents diaphragm distortion
- **External installation**
 - Easy access
 - Less wear and tear
- **In-line serviceable**
 - Easy maintenance
 - Minimal down time
- **Flexible design** – Easy addition of features

Major Additional Features

- Pressure sustaining – **WW-453-60**
- Flow control – **WW-457-60-U**
- Electric float backup – **WW-450-60-65**

See relevant BERMAD publications.



Operation

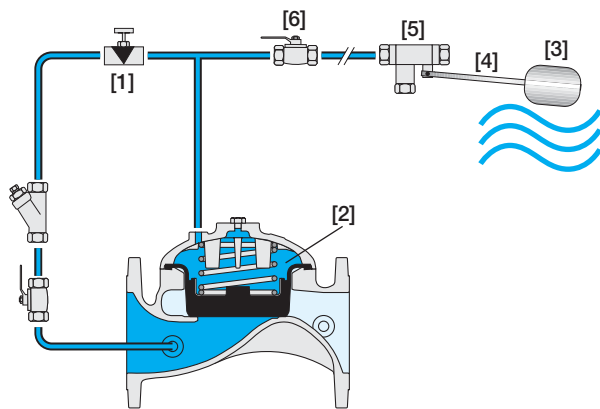
The Model WW-450-60 is a float controlled valve equipped with a 2-Way, horizontal float pilot assembly.

The needle valve [1] continuously allows flow from valve inlet into the control chamber [2]. The float [3] is attached to the float pilot arm [4]. The location of the float assembly & the position of the float determines the level setting.

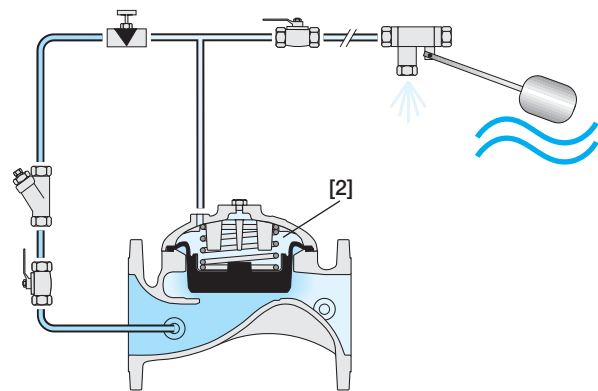
Should level rise towards setting, the float pilot [5] throttles, pressure in the control chamber accumulates causing the main valve to throttle closed, reducing filling rate, and eventually closing drip tight.

Should level fall, the float pilot releases pressure from the control chamber causing the main valve to modulate open.

The needle valve controls the closing speed. The cock valve [6] enables manual closing.



Valve Closed



Valve Open

Engineer Specifications

The Level Control Valve shall control reservoir filling to maintain constant water level regardless of fluctuating demand.

Main Valve: The valve shall be hydraulically controlled, elastomeric type globe valve with a rolling-diaphragm. The valve shall have an unobstructed flow path with no stem guide or supporting ribs. Valve actuation shall be accomplished by a fully peripherally supported, one-piece balanced rolling-diaphragm, vulcanized with a rugged radial seal disk. The diaphragm assembly shall be the only moving part. The valve shall have a removable cover for quick in-line service enabling all necessary inspection and servicing. Valve pressure rating shall be PN16. Valve construction materials shall be: Epoxy FB coated Ductile Iron body and cover, NR diaphragm & Stainless Steel spring.

The valve shall be supplied as an assembly, hydraulically tested and factory adjusted to customer requirements at an ISO 9000 and 9001 certified hydraulic laboratory.

Control System: The control system shall consist of a 2-Way, horizontal float pilot assembly, a needle valve, isolating cock valves, and a filter. Washing the filter shall not require isolating the main valve. All tubing and fittings shall be Stainless Steel. The assembled valve shall be hydraulically tested.

Quality Assurance: The valve manufacturer shall be certified according to the ISO 9001 Quality Assurance Standard. The main valve shall be certified as a complete drinking water valve according to WRAS, and other recognized standards.



Typical Applications

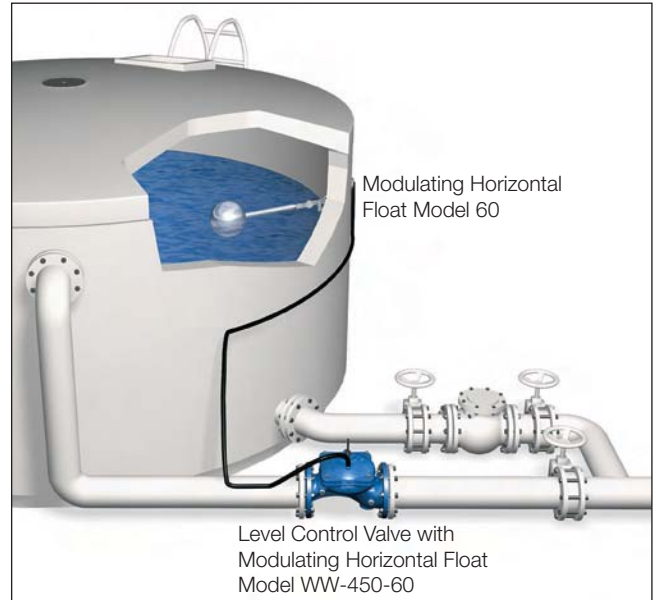
Infrastructure Installation

Ordinary mechanical level control valves present various problems:

- Valves are often at inaccessible locations
- Float and arm assemblies are heavy and cumbersome
- Relatively low maximum pressure
- Tendency for mechanical devices to leak
- Increased valve corrosion due to humid environment inside the tank
- Difficult maintenance

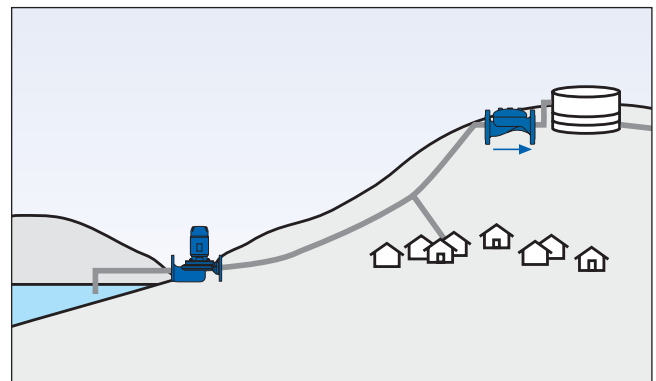
The Model WW-450-60 overcomes these difficulties by separating the mechanical float from the hydraulic valve itself. Consider replacing the “60” horizontal float assembly with the “67” vertical float assembly for:

- Heavy-duty service
- Easy level setting
- Resistance to aggressive or corrosive fluids



Pumping to Uphill Reservoir

In a reservoir system, where a pump provides pressure, consumers are prioritized over reservoir filling by installing the Model WW-453-60 Level Control and Pressure Sustaining Valve.



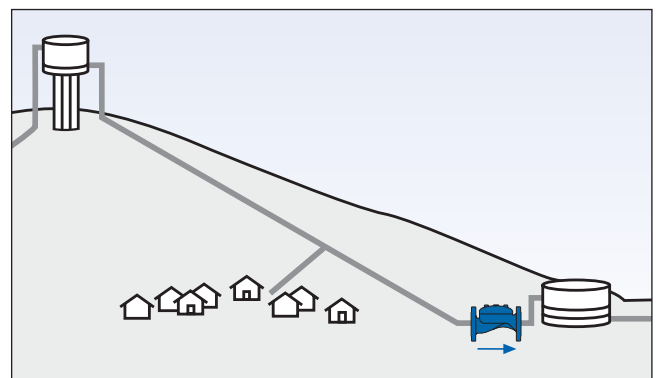
Gravity Filling a Downhill Reservoir

Where a reservoir provides pressure to consumers and fills a low lying reservoir, the consumers should be prioritized over filling the lower reservoir.

Defining the pressure set point for the standard level control and pressure sustaining valve is usually impossible, as there is only a very small potential differential pressure to operate the valve.

The solution: Rather than controlling the pressure during filling, control the filling flow ensuring sufficient pressure for consumers.

Install the Model WW-457-60-U Level and Flow Control Valve.

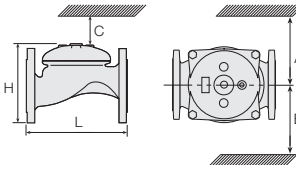




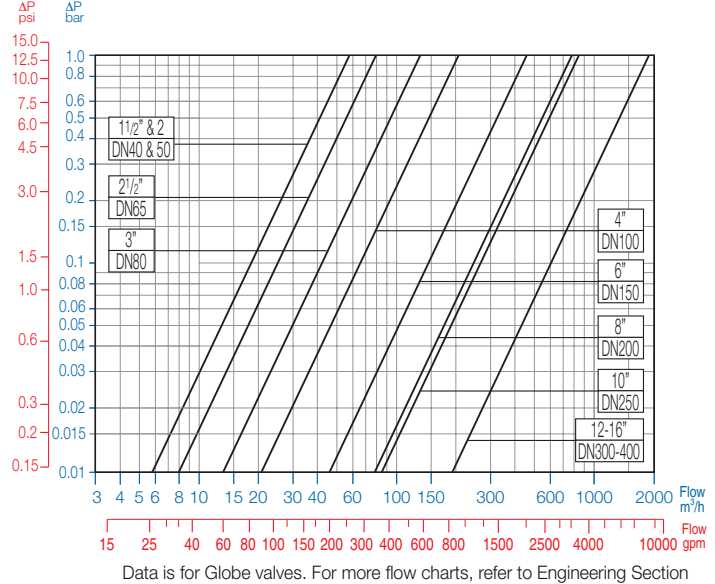
Technical Specifications

Dimensions and Weights

	Size		A, B		C		L		H		Weight	
	DN	inch	DN	inch	DN	inch	DN	inch	DN	inch	kg	lbs
Flange	40	1½	330	13	68	2.7	205	8.1	152	6	8	17.6
	50	2	330	13	68	2.7	205	8.1	155	6.1	9	19.8
	65	2½	340	13	110	4.3	205	8.1	178	7	11	23.1
	80	3	350	14	125	4.9	250	9.8	210	8.3	19	41.9
	100	4	360	14	145	5.7	320	12.6	242	9.5	28	61.7
	150	6	400	16	205	8.1	415	16.3	345	13.6	68	149.9
	200	8	430	17	260	10	500	19.7	430	16.9	125	275.6
	250	10	450	18	275	11	605	23.8	460	18.1	140	308.6
	300	12	515	20	380	15	725	28.5	635	25.0	290	639.3
	350	14	545	22	395	16	742	29.2	655	25.8	358	789.2
400	16	550	22	580	23	742	29.2	695	27.4	377	831.1	
Groove	50	2	310	12	65	2.6	205	8.1	108	4.3	5	11
	80	3	335	13	125	4.9	250	9.8	155	6.1	11	23.4
	100	4	350	14	145	5.7	320	12.6	191	7.5	16	35.7
	150	6	400	16	205	8.1	415	16.3	302	11.9	49	108



Flow Chart



Main Valve

Pressure Ratings: ISO PN16; ANSI Class 150

Connections Standard:

Flanged: ISO 7005-2 (PN10 & 16); ANSI B16.42 (#150)

Grooved: ANSI C606

Threaded: Rp ISO 7/1 (BSP.P) or NPT

Others: Available on request

Operating Pressure Range: 0.5-16 bar; 7-250 psi

For lower pressure requirements, consult factory

Working Temperature: Water up to 50°C (122°F)

Standard Materials:

Body and Cover:

Electrostatic Polyester Powder, RAL 5010 (Blue)

Coated Ductile Iron

Spring: Stainless Steel 302

Diaphragm: Nylon fabric Reinforced NR with rugged insert

Bolts, Studs and Nuts: Zinc-Cobalt plated Steel

Control System

Float Standard Materials:

Pilot body: Stainless Steel or Brass

Internals: Plastic

Working temperature: Water up to 50°C (125°F)

Pressure rating: 16 bar (230 psi)

If inlet pressure is below 0.7 bar (10 psi) or above 10 bar (150 psi) consult factory

Control Accessories:

Bronze, Brass, Stainless Steel & NBR

Tubing and Fittings:

Stainless Steel

How to Order

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

