Level Control Valve

with Bi-Level Electric Float

- Reservoir filling
  - Very low supply pressure
  - Low noise generation
  - Energy cost critical systems
  - Systems with poor water quality
- Reservoir outflow
  - Distribution routing
  - Sewerage “fill and flush” systems

The Model 750-65 Level Control Valve with Bi-Level Electric Float is a hydraulically operated, diaphragm actuated control valve that controls reservoir filling in response to an electric float switch signal, opening at pre-set low level and shutting off at pre-set high level. The double chamber actuated Model 750-65-B is powered to fully open and close even at very low pressure.

Features and Benefits

- **Line pressure driven** – Independent operation
- **Bi-Level electric float switch**
  - On/off service
  - Low cavitation damage
  - No hydraulic sensing tubes
  - Simplified float installation and setting
  - Suited to various float switches
- **Solenoid controlled**
  - Low power consumption
  - Normally Open or Normally Closed main valve
- **Double chamber**
  - Full powered closing
  - Low throttling noise
  - Non-slam closing characteristic
  - Protected diaphragm
- **External installation**
  - Easy access to valve and float
  - Less wear and tear
- **In-line serviceable** – Easy maintenance

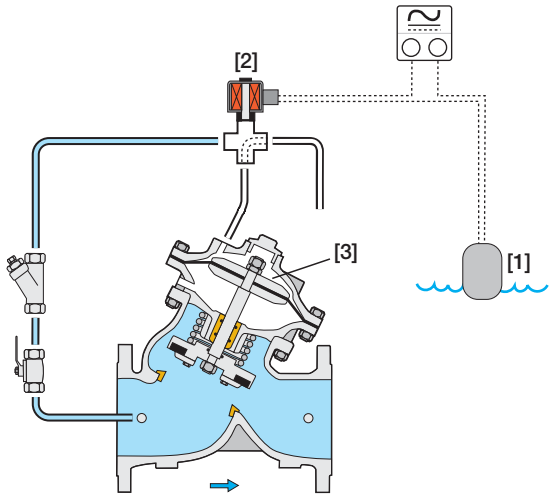
Major Additional Features

- Full powered opening & closing – **750-65-B**
- Closing surge prevention – **750-65-49**
- Hydraulic float backup – **750-65-66**
- Altitude pilot backup – **750-65-80**
- Relief override – **750-65-3Q**
- Pressure sustaining valve – **753-65**
- Flow control valve – **757-65-U**
- Level sustaining – **75A-65**

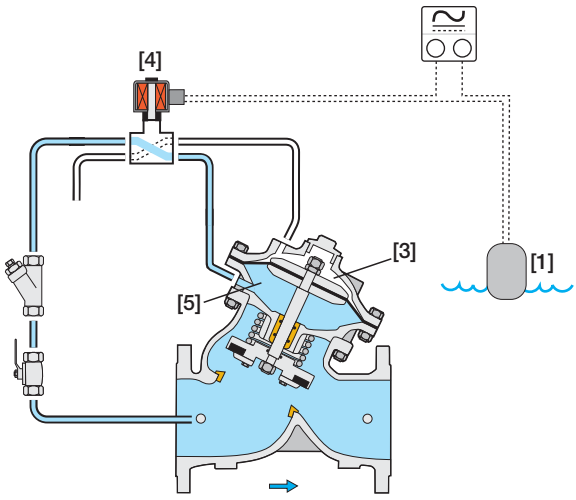
See relevant BERMAD publications.

Operation

The Model 750-65 is a solenoid controlled valve equipped with a bi-level electric float switch* and a solenoid pilot.**
The float switch **[1]** closes at pre-set low level, energizing the solenoid **[2]**, and opens at pre-set high level, de-energizing it.
Should the level drop, the solenoid is energized, causing the upper control chamber **[3]** to vent, opening the main valve.
Should the level rise, the solenoid is de-energized, and pressure is applied to the upper control chamber harnessing line pressure to close the main valve.
For 8" (200 mm) valves and larger, an accelerator quickens valve response.
For full powered operation (Model 750-65-B): The 4-Way solenoid **[4]**, when energized, actively pressurizes the lower chamber **[5]** to powerfully open the main valve.
* Other switching means are available.
** Normally Closed and Normally Open main valves are available.



Model 750-65



Model 750-65-B

Engineer Specifications

The Level Control Valve shall control reservoir filling in response to an electric float switch signal, opening at pre-set low level and shutting off at pre-set high level. The double chamber actuated Model 750-65-B shall be powered to fully open and close even at very low pressure.

Main Valve: The main valve shall be a center guided, diaphragm actuated globe valve of either oblique (Y) or angle pattern design. The body shall have a replaceable, raised, stainless steel seat ring. The valve shall have an unobstructed flow path, with no stem guides, bearings, or supporting ribs. The body and cover shall be ductile iron. All external bolts, nuts, and studs shall be Duplex® coated. All valve components shall be accessible and serviceable without removing the valve from the pipeline.

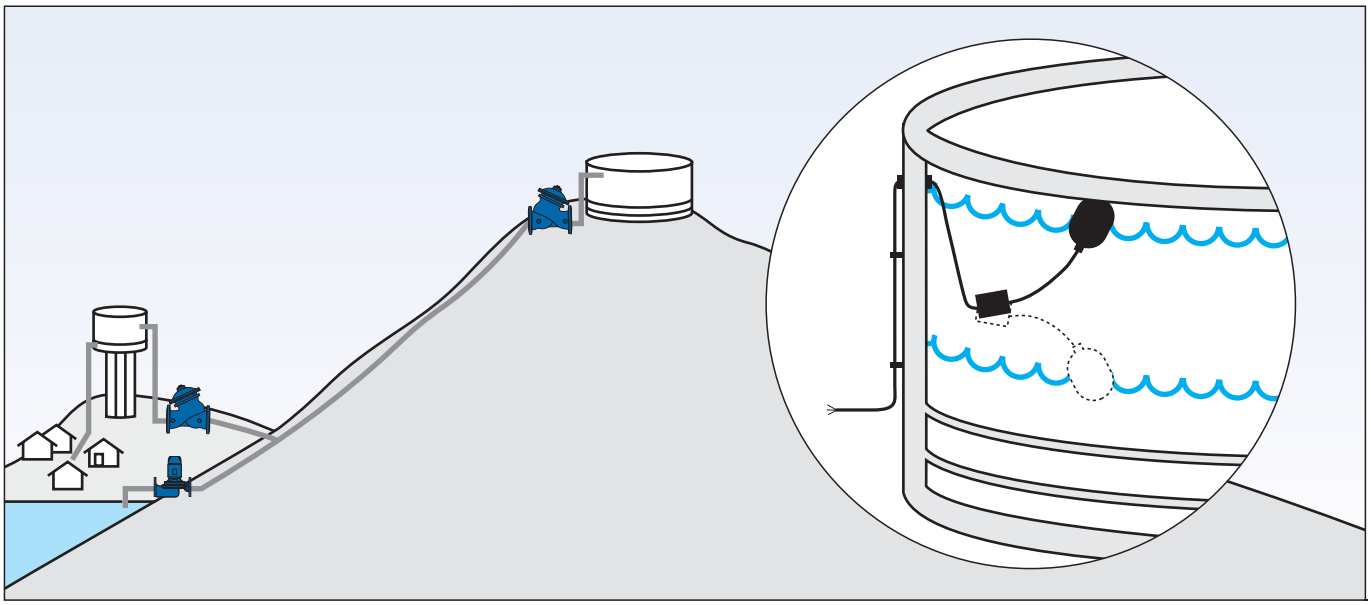
Actuator: The actuator assembly shall be double chambered with an inherent separating partition between the lower surface of the diaphragm and the main valve. The entire actuator assembly (seal disk to top cover) shall be removable from the valve as an integral unit. The stainless steel valve shaft shall be center guided by a bearing in the separating partition. The replaceable radial seal disk shall include a resilient seal and shall be capable of accepting a V-Port Throttling Plug by bolting.

Control System: The control system shall consist of an electrical level sensor, a solenoid pilot (for 10" and larger valves, an accelerator shall be added to the solenoid), an isolating cock valve, and a filter. All fittings shall be forged brass or 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 NSF, WRAS, and other recognized standards.

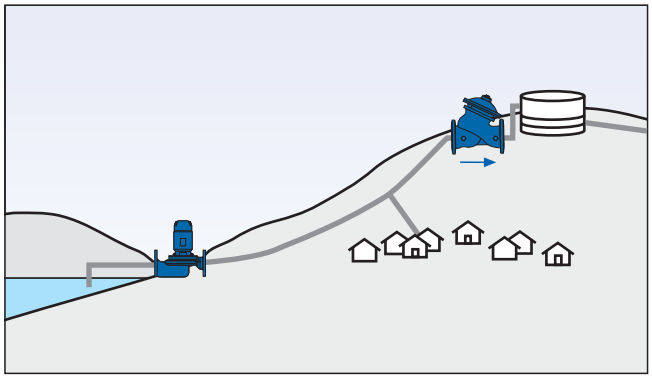
Typical Applications

Reservoirs vary in their characteristics – location, elevation, filling & emptying, flow & pressure, surface area, etc. These various characteristics require various level control valve solutions.
The Model 750-65 is the ideal solution for level control in reservoirs – shallow and deep, low and high elevation, rooftop and basement, in water towers, and wherever electric power is available.



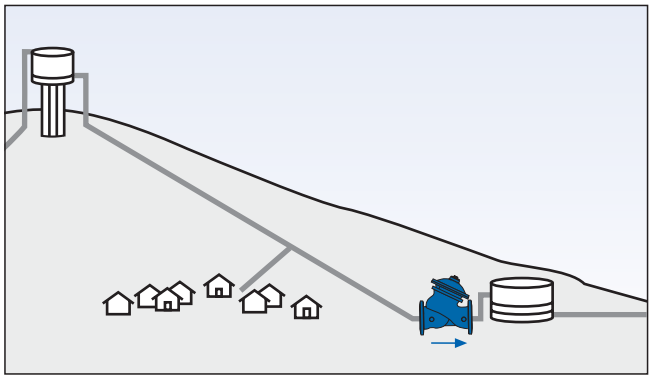
Pumping to Uphill Reservoir

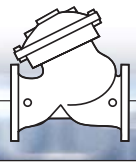
In a reservoir system where a **pump provides pressure**, consumers are prioritized over reservoir filling by installing the **Model 753-65** Level Control and Pressure Sustaining Control Valve.



Gravity Filling a Downhill Reservoir

Where a **reservoir provides pressure** to consumers and fills a lower elevation 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 757-65-U** Level and Flow Control Valve.





700 Series

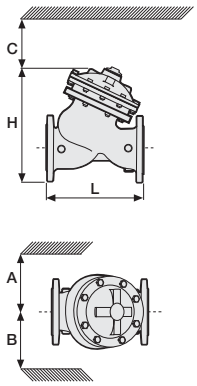
Model 750-65

Technical Data

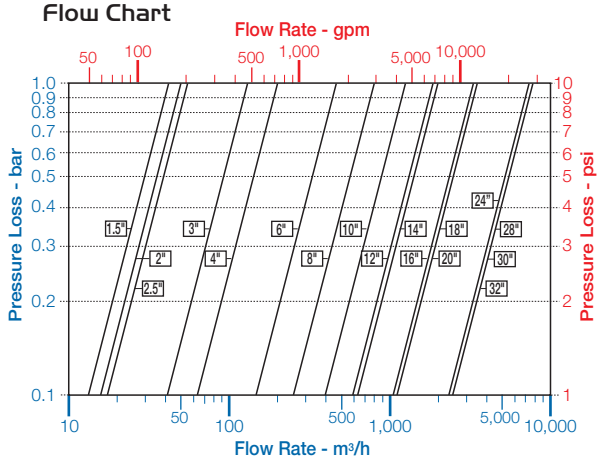
Dimensions and Weights

Size		A, B		C		L		H		Weight	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
40	1½"	350	14	180	7	205	8.1	239	9.4	9.1	20
50	2	350	14	180	7	210	8.3	244	9.6	10.6	23
65	2½"	350	14	180	7	222	8.7	257	10.1	13	29
80	3"	370	15	230	9	250	9.8	305	12.0	22	49
100	4"	395	16	275	11	320	12.6	366	14.4	37	82
150	6"	430	17	385	15	415	16.3	492	19.4	75	165
200	8"	475	19	460	18	500	19.7	584	23.0	125	276
250	10"	520	21	580	23	605	23.8	724	28.5	217	478
300	12"	545	22	685	27	725	28.5	840	33.1	370	816
350	14"	545	22	685	27	733	28.9	866	34.1	381	840
400	16"	645	26	965	38	990	39.0	1108	43.6	846	1865
450	18"	645	26	965	38	1000	39.4	1127	44.4	945	2083
500	20"	645	26	965	38	1100	43.3	1167	45.9	962	2121

Data is for Y-pattern, flanged, PN16 valves
Weight is for PN16 basic valves
"C" enables removing the actuator in one unit
"L", ISO standard lengths available
For more dimensions and weights tables, refer to Engineering Section



Flow Chart



Data is for Y-pattern, flat disk valves
For more flow charts, refer to Engineering Section

Main Valve

Valve Patterns: "Y" (globe) & angle
Size Range: 1½–32" (40-800 mm)
End Connections (Pressure Ratings):
Flanged: ISO PN16, PN25 (ANSI Class 150, 300)
Threaded: BSP or NPT
Others: Available on request
Working Temperature:
Water up to 80°C (180°F)
Standard Materials:
Body & Actuator: Ductile Iron
Internals:
Stainless Steel, Bronze & coated Steel
Diaphragm:
NBR Nylon fabric-reinforced
Seals: NBR
Coating:
Fusion Bonded Epoxy, RAL 5005 (Blue) NSF & WRAS approved or Electrostatic Polyester Powder, RAL 6017 (Green)

Control System

Standard Materials:
Accessories:
Bronze, Brass, Stainless Steel & NBR
Tubing: Copper or Stainless Steel
Fittings: Forged Brass or Stainless Steel
Solenoid Standard Materials:
Body: Brass or Stainless Steel
Elastomers: NBR, or FPM (Viton®)
Enclosure: Molded epoxy
Solenoid Electrical Data:
Voltages:
(ac): 24, 110-120, 220-240, (50-60 Hz)
(dc): 12, 24, 110, 220
Power Consumption:
(ac): 30 VA, inrush; 15 VA (8W), holding or 70 VA, inrush; 40 VA (17.1W), holding
(dc): 8-11.6W

Values might vary according to specific solenoid model

Float switch
Max. Current: 16A@250V
Fluid specific weight: 0.95-1.10
Working temperature:
Water up to 60ºC (140ºF)
Dimensions: Length – 124 mm (4.9")
Width – 90 mm (3.5")
Cable length – 4.9 m (16 ft.)

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		Pattern	Body Material	End Connections	Coating	Voltage & Position	Tubing & Fittings	Additonal Attributes
WW	6"	750	65	–	Y	C	16	EB	4AC	CB	VI

Sector: WW – Waterworks

Size: 6" – 1½ - 32"

Primary Feature: 750 – Level Control

Additional Feature:

Closing Surge Prevention	49
Modulating Horizontal Float	60
Bi-Level Electric Float	65
Bi-Level Vertical Float	66
Modulating Vertical Float	67
Altitude Pilot	80
Modulating Altitude Pilot	82
Sustaining Altitude Pilot	83
Bi-Level Altitude Control	86
2-14 Meter Setting Altitude Pilot	M6
5-22 Meter Setting Altitude Pilot	M5
15-35 Meter Setting Altitude Pilot	M4
25-70 Meter Setting Altitude Pilot	M8

Multiple choices permitted

Pattern:

Oblique (up to 20")	Y
Angle (up to 18")	A
Globe (24-32" only)	G

Body Material:

Ductile Iron Standard	C
Cast Steel	S
St. Steel 316	N
Nickel Alumin. Bronze	U

End Connections:

ISO-16	16
ISO-25	25
ANSI-150	A5
ANSI-300	A3
JIS-16	J6
JIS-20	J2

Coating:

Epoxy FB Blue	EB
Polyester Green	PG
Polyester Blue	PB
Uncoated	UC

Voltage & Position:

24VAC/50Hz - N.C.	4AC
24VAC/50Hz - N.O.	4AO
24VDC - N.C.	4DC
24VDC - N.O.	4DO
24VDC - L.P.	4DP
220VAC/50-60Hz N.C.	2AC
220VAC/50-60Hz N.O.	2AO

Tubing & Fittings:

Copper Tubing & Brass Fittings	CB
Plastic Tubing & Brass Fittings	PB
St. St. 316 Tubing & Fittings	NN

Additonal Attributes:

Double Chambered	B
Valve Position Indicator	I
Large Control Filter	F
V-Port Throttling Plug	V
Orifice Assembly	U
Electric Limit Switch	S
St. St. 316 Control Accessories	N
St. St. 316 Internal Trim (Closure & Seat)	T
St. St. 316 Actuator Internal Assembly	D
Delrin Bearing	R
Viton Elastomers for Seals & Diaphragm	E

Multiple choices permitted

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