Level Control Valve
with Modulating Horizontal Float

Model 750-60

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

The Model 750-60 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
- **Double chamber**
  - Full powered closing
  - Non-slam closing characteristic
  - Protected diaphragm
- **External installation**
  - Easy access to valve and float
  - Less wear and tear
- **Balanced seal disk –** High flow capacity
- **In-line serviceable –** Easy maintenance
- **Flexible design –** Easy addition of features

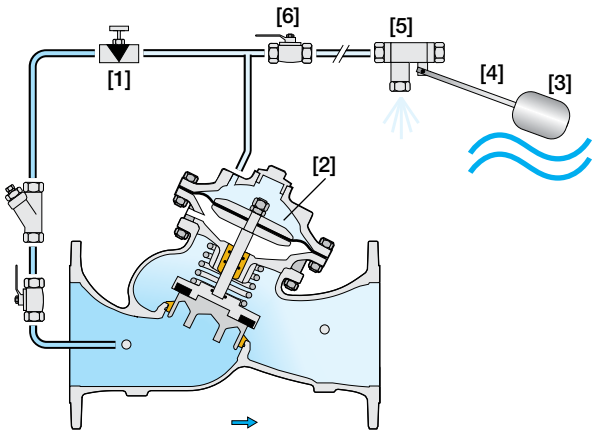
Major Additional Features

- Pressure sustaining – **753-60**
- Flow control – **757-60-U**
- Electric float backup – **750-60-65**

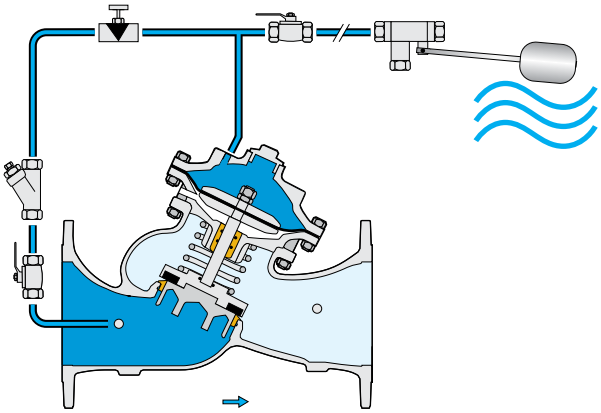
See relevant BERMAD publications.

Operation

The Model 750-60 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 upper 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 upper 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 upper control chamber causing the main valve to modulate open.
The needle valve controls the closing speed. The cock valve **[6]** enables manual closing.



Low Level – Open Valve



High Level – Closed Valve

Pilot System Specifications

Standard Materials:

Float Pilot:
Body: Stainless Steel or Brass
Internals: Plastic
Tubing & Fittings:
Stainless Steel 316 or Copper & Brass
Accessories:
Stainless Steel 316, Bronze, Brass and Synthetic Rubber Elastomers

Notes:

- Working temperature: Water up to 50ºC (125ºF)
- Float pressure rating: 16 bar (230 psi)
- Recommended continuous flow velocity: 0.3-6.0 m/sec ; 1-20 ft/sec
- Minimum operating pressure: 0.7 bar ; 10 psi. For lower pressure requirements consult factory

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 750-60 overcomes these difficulties by separating the mechanical float from the hydraulic valve itself.

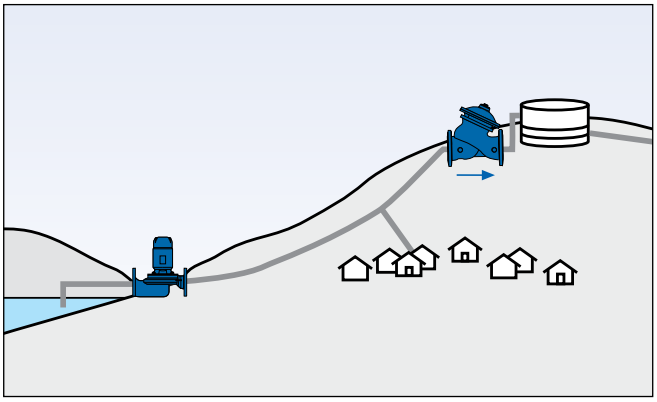
Consider replacing the “60” horizontal float assembly with the “67” vertical float assembly for:

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

Level Control Valve with
Modulating Horizontal Float
Model 750-60

Pumping to Uphill Reservoir

In a reservoir system, where a **pump provides pressure**, consumers are prioritized over reservoir filling by installing the **Model 753-60** Level Control and Pressure Sustaining Valve.



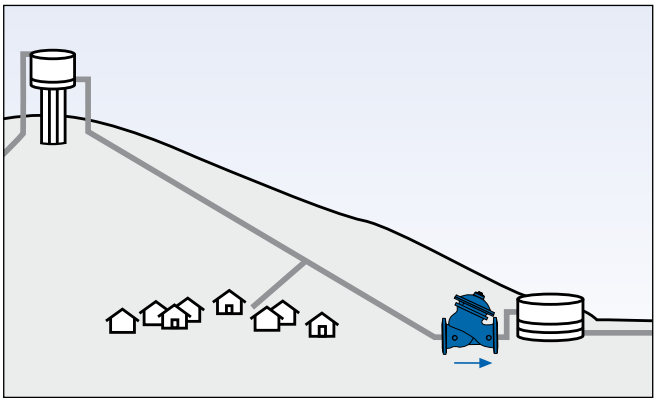
Gravity Filling a Downhill Reservoir

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

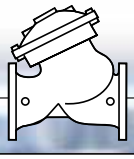
Defining the pressure set point for the standard level control and pressure sustaining valve is usually impossible, as there is only a very small potential differential pressure to operate the valve.

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

Install the **Model 757-60-U** Level and Flow Control Valve.



BERMAD Waterworks



700 Series

Technical Data

Size Range: DN40-900 ; 1½–36”
End Connections (Pressure Ratings):
Flanged: ISO PN16, PN25 (ANSI Class 150, 300)
Threaded: BSP or NPT
Others: Available on request
Valve Patterns: “Y” (globe) & angle, globe (DN600-900 ; 24”-36”)
Working Temperature: Water up to 80°C ; 180°F
Standard Materials:
Body & Actuator: Ductile Iron
Internals: Stainless Steel, Bronze & coated Steel
Diaphragm: Synthetic Rubber Nylon fabric-reinforced
Seals: Synthetic Rubber
Coating: Fusion Bonded Epoxy, RAL 5005 (Blue) approved for drinking water or Electrostatic Polyester Powder

Differential Pressure Calculation

$$\Delta P = \left(\frac{Q}{(Kv;Cv)}\right)^2$$

ΔP = Differential Pressure for fully open valve (bar; psi)

Q = Flow rate (m^3/h; gpm)

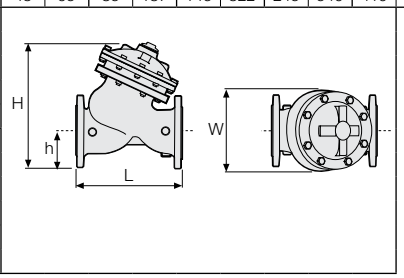
Kv = Metric system - valve flow coefficient (flow in m^3/h at 1 bar ΔP with 15°C water)

Cv = US system - Valve flow coefficient (flow in gpm at 1 psi ΔP with 60°F water)

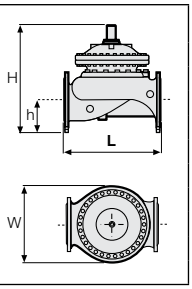
Cv = 1.155 Kv

Flow Data & Dimensions Table

		DN / Size	40	1.5”	50	2”	65	2.5”	80	3”	100	4”	150	6”	200	8”	250	10”	300	12”	350	14”	400	16”	450	18”	500	20”
Flow Data	700ES	Kv / Cv - Flat	54	62	57	66	60	69	65	75	145	167	395	456	610	705	905	1,045	1,520	1,756	-	-	2,250	2,599	-	-	4,070	4,701
		Kv / Cv - V-Port	46	53	48	56	51	59	55	64	123	142	336	388	519	599	769	888	1,292	1,492	-	-	1,913	2,209	-	-	3,460	3,996
	700 & 700EN	Kv / Cv - “Y” Flat	42	49	50	58	55	64	115	133	200	230	460	530	815	940	1,250	1,440	1,850	2,140	1,990	2,300	3,310	3,820	3,430	3,960	3,550	4,100
		Kv / Cv - “Y” V-Port	36	41	43	49	47	54	98	113	170	200	391	450	693	800	1,063	1,230	1,573	1,820	1,692	1,950	2,814	3,250	2,916	3,370	3,018	3,490
700-ES	PN16; 25	L (mm / inch)	230	9.1	230	9.1	290	11.4	310	12.2	350	13.8	480	18.9	600	23.6	730	28.7	850	33.5	-	-	1,100	43.3	-	-	1,250	49.2
		W (mm / inch)	150	5.9	165	6.5	185	7.3	200	7.9	235	9.3	300	11.8	360	14.2	425	16.7	530	20.9	-	-	626	24.6	-	-	838	33
		h (mm / inch)	80	3.1	90	3.5	100	3.9	105	4.1	125	4.9	155	6.1	190	7.5	220	8.7	250	9.8	-	-	320	12.6	-	-	385	15.2
		H (mm / inch)	240	9.4	250	9.8	250	9.8	260	10.2	320	12.6	420	16.5	510	20.1	605	23.8	725	28.5	-	-	895	35.2	-	-	1,185	46.7
		Weight (Kg/lb)	10	22	10.8	23.8	13.2	29	15	33	26	57.2	55	121	95	209	148	326	255	561	-	-	437	960	-	-	1,061	2,334
700-EN	PN16; 25	L (mm / inch)	-	-	-	-	-	-	310	12.2	350	13.8	480	18.9	600	23.6	730	28.7	850	33.5	-	-	-	-	-	-	-	-
		W (mm / inch)	-	-	-	-	-	-	200	7.9	235	9.3	320	12.6	390	15.4	480	18.9	550	21.7	-	-	-	-	-	-	-	-
		h (mm / inch)	-	-	-	-	-	-	100	3.9	118	4.6	150	5.9	180	7.1	213	8.4	243	9.6	-	-	-	-	-	-	-	-
		H (mm / inch)	-	-	-	-	-	-	305	12	369	14.5	500	19.7	592	23.3	733	28.9	841	33.1	-	-	-	-	-	-	-	-
		Weight (Kg/lb)	-	-	-	-	-	-	21	46.2	31	68.2	70	154	115	253	198	436	337	741	-	-	-	-	-	-	-	-
700 Flanged	“Y” PN16 Class 150	L (mm / inch)	205	8.1	210	8.3	222	8.7	250	9.8	320	12.6	415	16.3	500	19.7	605	23.8	725	28.5	733	28.9	990	39	1,000	39.4	1,100	43.3
		W (mm / inch)	155	6.1	165	6.5	178	7	200	7.9	223	8.8	320	12.6	390	15.4	480	18.9	550	21.7	550	21.7	740	29.1	740	29.1	740	29.1
		h (mm / inch)	78	3.1	83	3.3	95	3.7	100	3.9	115	4.5	143	5.6	172	6.8	204	8	242	9.5	268	10.6	300	11.8	319	12.6	358	14.1
		H (mm / inch)	239	9.4	244	9.6	257	10.1	305	12	366	14.4	492	19.4	584	23	724	28.5	840	33.1	866	34.1	1,108	43.6	1,127	44.4	1,167	45.9
		Weight (Kg/lb)	9.1	20	10.6	23	13	29	22	49	37	82	75	165	125	276	217	478	370	816	381	840	846	1,865	945	2,083	962	2,121
	“Y” PN25 Class 300	L (mm / inch)	205	8.1	210	8.3	222	8.7	264	10.4	335	13.2	433	17	524	20.6	637	25.1	762	30	767	30.2	1,024	40.3	1,030	40.6	1,136	44.7
		W (mm / inch)	155	6.1	165	6.5	185	7.3	207	8.1	250	9.8	320	12.6	390	15.4	480	18.9	550	21.7	570	22.4	740	29.1	740	29.1	750	29.5
		h (mm / inch)	78	3.1	83	3.3	95	3.7	105	4.1	127	5	159	6.3	191	7.5	223	8.8	261	10.3	295	11.6	325	12.8	357	14.1	389	15.3
		H (mm / inch)	239	9.4	244	9.6	257	10.1	314	12.4	378	14.9	508	20	602	23.7	742	29.2	859	33.8	893	35.2	1,133	44.6	1,165	45.9	1,197	47.1
		Weight (Kg/lb)	10	22	12.2	27	15	33	25	55	43	95	85	187	146	322	245	540	410	904	434	957	900	1984	967	2,132	986	2,174
700 Threaded	“Y” PN16; 25 Class 150; 300	L (mm / inch)	155	6.1	155	6.1	212	8.3	250	9.8																		
		W (mm / inch)	122	4.8	122	4.8	122	4.8	163	6.4																		
		h (mm / inch)	40	1.6	40	1.6	48	1.9	56	2.2																		
		H (mm / inch)	201	7.9	202	8	209	8.2	264	10.4																		
		Weight (Kg/lb)	5.5	12	5.5	12	8	18	17	37																		
	Angle PN16; 25 Class 150; 300	L (mm / inch)	-	-	121	4.8	140	5.5	159	6.3																		
		W (mm / inch)	-	-	122	4.8	122	4.8	163	6.4																		
		R (mm / inch)	-	-	40	1.6	48	1.9	55	2.2																		
		h (mm / inch)	-	-	83	3.3	102	4	115	4.5																		
		H (mm / inch)	-	-	225	8.9	242	9.5	294	11.6																		
		Weight (Kg/lb)	-	-	5.5	12	7	15	15	33																		



		DN / Size	600	24"	700	28"	750	30"	800	32"	900	36"
	Globe PN16 Class 150	L (mm / inch)	1,450	57.1	1,650	65	1,750	68.9	1,850	72.8	1,850	72.8
		W (mm / inch)	1,250	49.2	1,250	49.2	1,250	49.2	1,250	49.2	1,250	49.2
		h (mm / inch)	470	18.5	490	19.3	520	20.5	553	21.8	600	23.6
		H (mm / inch)	1,965	77.4	1,985	78.1	2,015	79.3	2,048	80.6	2,095	82.5
		Weight (Kg/lb)	3,250	7,150	3,700	8,140	3,900	8,580	4,100	9,020	4,250	9,350
	Globe PN25 Class 300	L (mm / inch)	1,500	59.1	1,650	65	1,750	68.9	1,850	72.8	1,850	72.8
		W (mm / inch)	1,250	49.2	1,250	49.2	1,250	49.2	1,250	49.2	1,250	49.2
		h (mm / inch)	470	18.5	490	19.3	520	20.5	553	21.8	600	23.6
		H (mm / inch)	1,965	77.4	1,985	78.1	2,015	79.3	2,048	80.6	2,095	82.5
		Weight (Kg/lb)	3,500	7,700	3,700	8,140	3,900	8,580	4,100	9,020	4,250	9.370



Specify when ordering:

- Size
- Main model
- Additional features
- Pattern
- Body material
- End connection
- Coating
- Voltage & main valve position
- Tubing & Fittings materials
- Operational data (according to model)
- Pressure data
- Flow data
- Reservoir level data
- Settings

* Use Bermad’s Waterworks Ordering Guide

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