

## Level Control Valve with Modulating Vertical Float

### Model 750-67

- Reservoir filling
  - Low volume reservoirs
  - Large surface area reservoirs
  - Hydraulic backup
- Reservoir outlet
  - Reservoir level sustaining
  - Pump flow modulating

The Model 750-67 Level Control Valve with Modulating Vertical Float is a hydraulically controlled, diaphragm actuated control valve that controls reservoir filling to maintain constant water level, regardless of fluctuating demand.

The modified Model 75A-67, installed at reservoir outlet, sustains minimum reservoir level.



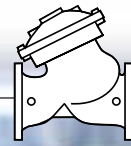
### Features and Benefits

- **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
  - Easy level setting
  - Less wear and tear
- **Balanced seal disk** – High flow capacity
- **In-line serviceable** – Easy maintenance
- **Flexible design** – Easy addition of features

### Major Additional Features

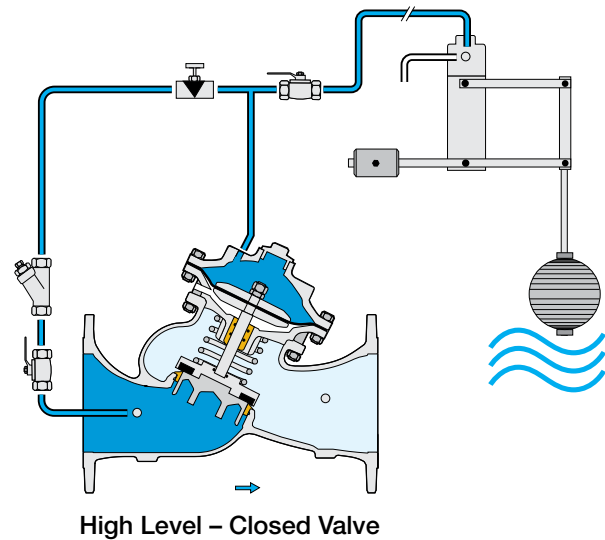
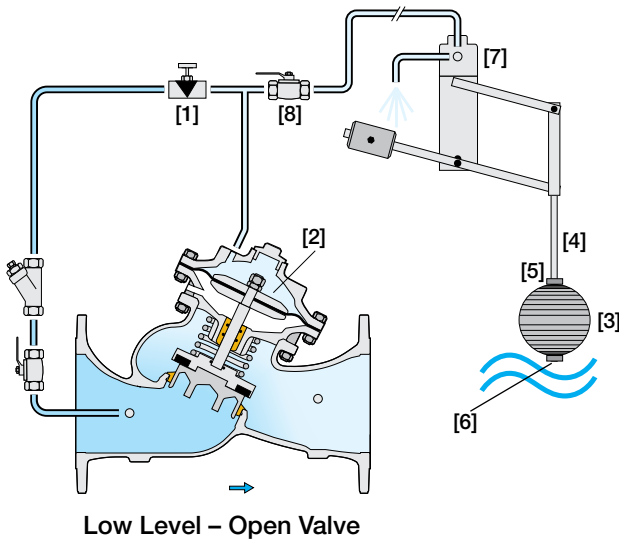
- Pressure sustaining – **753-67**
- Electric float backup – **750-67-65**
- Flow control – **757-67-U**
- Level sustaining – **75A-67**

See relevant BERMAD publications.



## Operation

The Model 750-67 is a float controlled valve equipped with an adjustable, 2-Way vertical float pilot assembly. The needle valve [1] continuously allows flow from valve inlet into the upper control chamber [2]. The float [3] is locked on the float assembly rod [4] between two adjustable stoppers [5] and [6]. Should level rise towards setting, the float pilot [7] 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. Cock valve [8] enables manual closing.



## Pilot System Specifications

### Standard Materials:

#### Float Pilot:

Body: Brass or Stainless Steel 316  
 Elastomers: Synthetic Rubber  
 Internal parts: Stainless Steel 316 & Brass  
 Lever system: Brass or Stainless Steel 316  
 Float: Plastic  
 Float rod: Stainless Steel  
 Base plate: Fusion bonded epoxy coated Steel or Stainless Steel 316

#### Tubing & Fittings:

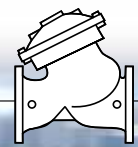
Stainless Steel 316 or Copper & Brass

#### Accessories:

Stainless Steel 316, Bronze, Brass and Synthetic Rubber Elastomers

### Notes:

- Rod length: 54 cm (21")
- Each extension rod adds 56 cm (22"). One extension rod supplied
- Extra counterweight might be required depending on rod length and high operating pressure
- If inlet pressure is below 0.7 bar (10 psi) or above 10 bar (150 psi), consult factory
- Minimum operating pressure: 0.7 bar ; 10 psi. For lower pressure requirements consult factory
- Recommended continuous flow velocity: 0.3-6.0 m/sec ; 1-20 ft/sec
- See BERMAD float installation recommendations



## Typical Applications

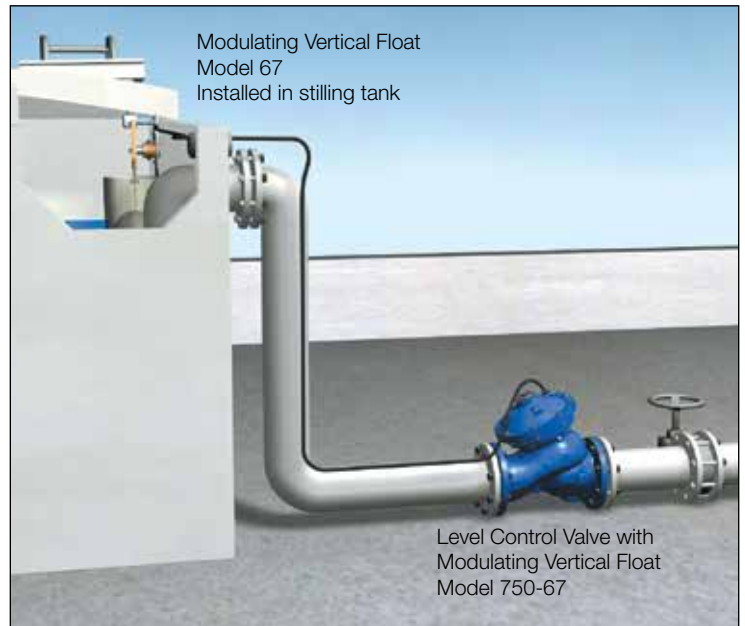
### Rooftop Reservoirs

Rooftop reservoir level control is attained by electric control of the basement pumps according to reservoir level. As overflow of a rooftop reservoir can cause costly damage, hydraulic backup protection is recommended.

Where system design requires an “always full” rooftop reservoir, the Model 750-67 Modulating Level Control Valve:

- Ensures the reservoir is “always full”
- Closes securely to prevent overflow

Secured closing, even after long periods of the valve being open, is ensured by the fully developed hydraulic closing force associated with the double chamber design.



Modulating Vertical Float  
Model 67  
Installed in stilling tank

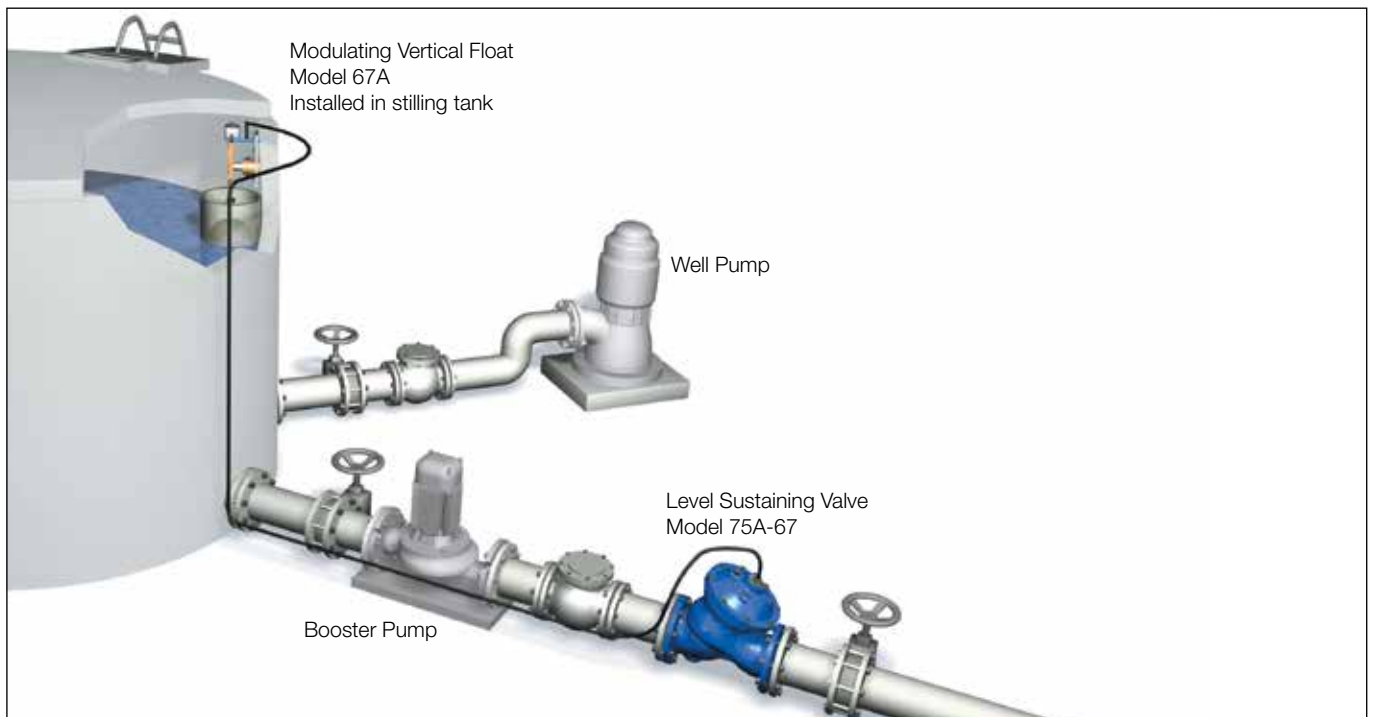
Level Control Valve with  
Modulating Vertical Float  
Model 750-67

### Pump Flow Control According to Balancing Reservoir Level

Where well drawdown effects the inflow to a balancing reservoir and outflow varies according to demand, the booster pump to consumers requires protection against:

- Impeller cavitation
- Pump overload
- Air suction

The Model 75A-67 responds to the balancing reservoir level and provides this protection by dynamically restricting outflow when inflow to the balancing reservoir drops due to drawdown.

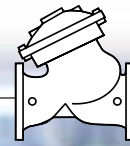


Modulating Vertical Float  
Model 67A  
Installed in stilling tank

Well Pump

Level Sustaining Valve  
Model 75A-67

Booster Pump



### Technical Data

**Size Range:** DN40-900 ; 1/2-36"

**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

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

$\Delta P$  = Differential Pressure for fully open valve (bar; psi)

$Q$  = Flow rate (m<sup>3</sup>/h; gpm)

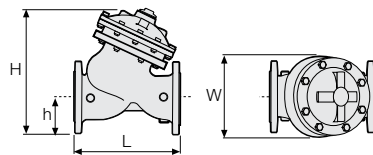
$Kv$  = Metric system - valve flow coefficient  
(flow in m<sup>3</sup>/h at 1 bar  $\Delta P$  with 15°C water)

$Cv$  = US system - Valve flow coefficient  
(flow in gpm at 1 psi  $\Delta P$  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	700 & 700ES	Kv / Cv - Flat																											
	700 & 700EN	Kv / Cv - V-Port																											
	700 & 700EN	Kv / Cv - "Y" Flat																											
700-ES	PN16; 25	Kv / Cv - "Y" V-Port																											
		L (mm / inch)																											
		W (mm / inch)																											
		h (mm / inch)																											
		H (mm / inch)																											
700-EN	PN16; 25	Weight (Kg/lb)																											
		L (mm / inch)																											
		W (mm / inch)																											
		h (mm / inch)																											
		H (mm / inch)																											
700 Flanged	"Y" PN16 Class 150	Weight (Kg/lb)																											
		L (mm / inch)																											
		W (mm / inch)																											
		h (mm / inch)																											
		H (mm / inch)																											
	"Y" PN25 Class 300	Weight (Kg/lb)																											
		L (mm / inch)																											
		W (mm / inch)																											
		h (mm / inch)																											
		H (mm / inch)																											
700 Threaded	"Y" PN16; 25 Class 150; 300	Weight (Kg/lb)																											
		L (mm / inch)																											
		W (mm / inch)																											
		h (mm / inch)																											
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	"Y" PN25 Class 300	Weight (Kg/lb)																											
		L (mm / inch)																											
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### 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

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

