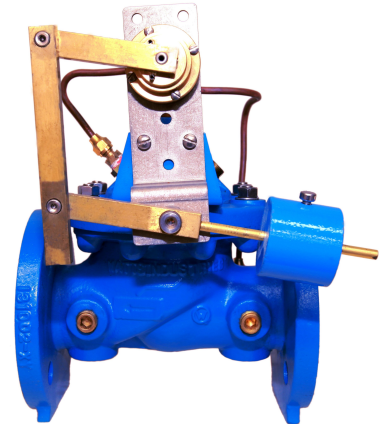


## On/Off Float Control Valve (W-M110-14)

### ◆ Application:

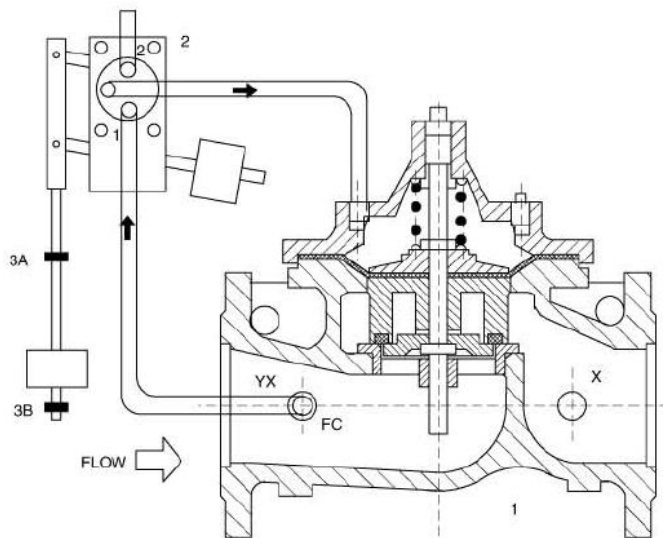
The Watts W-M110 On/Off Float Control Valve is made up of the main valve of hydraulic control valve and floating ball valve whose stroke can be adjusted, the main valve whose size is bigger than DN150 also adds an accelerator to accelerate opening or closing. The characteristic of the valve is a large range of liquid level control height. Controlled by high and low points in floating ball stem, can reduce the frequency of the main valve opening and closing and prolong the service life. It can be installed with the main valve or remote installation.



### ◆ Features:

1. Compact structure, reliable sealing;
2. Simple structure, convenient maintenance;
3. Control the main valve opening and closing through floating ball valve, making sure the water level inside the water tank keeps setting height;
4. The main valve opening or closing speed can be adjusted by the needle valve.

### ◆ Working Principles:



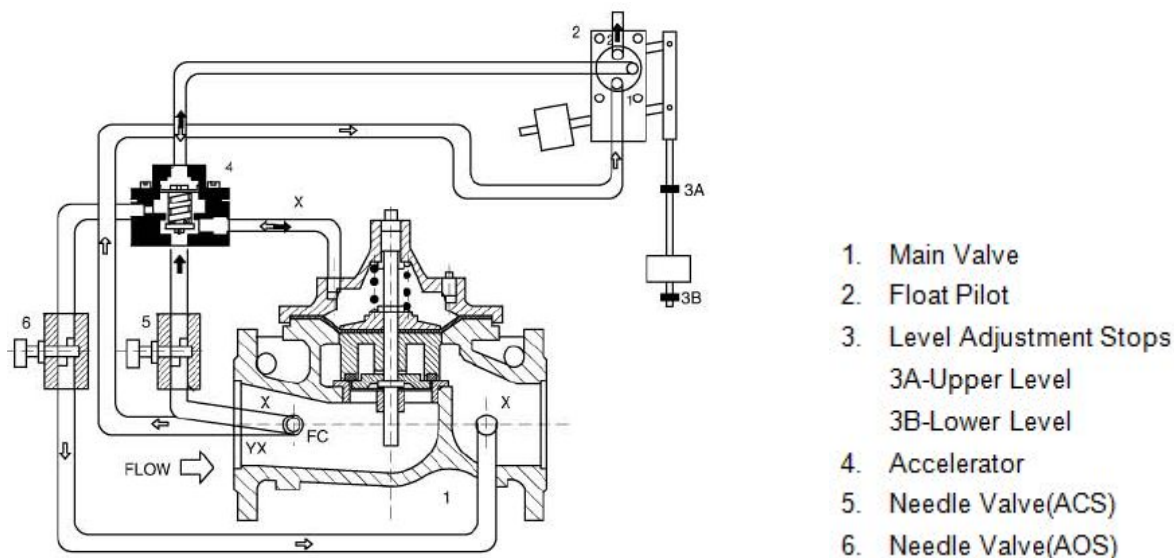
1. Main Valve
2. Float Pilot
3. Level Adjustment Stops

#### 1. DN100 and smaller

The On-Off Float Control Valve is designed to open fully or close drip-tight as commanded by the Float Control Pilot. The Float Pilot may be either valve or remote mounted. The valve closes drip tight when water level reaches the adjustable high-level setpoint, and opens fully when water level is below the adjustable low-level setpoint, allowing a calculated “draw-down” of water level to increase tank circulation.

The On-Off Float Pilot commands the routing of fluid and pressure into and out of the cover chamber of the main valve. When water level reaches the adjustable high-level setpoint, the Float Pilot connects

the cover chamber of the valve to upstream pressure, closing the valve drip tight. The valve remains closed as water level decreases. When water level reaches the adjustable low-level setpoint, the Float Pilot connects the cover chamber of the valve to atmosphere (wet drain), opening the valve fully. High and low levels are separately adjustable by positioning stop collars on the float rod(s) at desired opening and closing setpoints. If desired, the on-off action of the valve can be “reversed” by modifying the hydraulic connections of the On-Off Float Pilot.



## 2. DN150 and larger

The On-Off Float Control Valve is designed to open fully or close drip-tight as commanded by the Float Control Pilot. The Float Control Pilot may be either valve or remote mounted..The valve closes drip tight when water level reaches the adjustable high-level setpoint 3A, and opens fully when water level is below the adjustable low-level setpoint 3B, allowing a calculated “draw-down” of water level to increase tank circulation.

The On-Off Float pilot directs upstream pressure into and out of the cover chamber of the 3-way Accelerator Pilot. When the cover of the Accelerator Pilot is pressurized, the main valve cover chamber is vented downstream, causing the valve to open fully. When the cover of the Accelerator Pilot is de-pressurized, the main valve cover chamber is connected to upstream pressure, causing the valve to close drip tight. Valve opening and closing speeds are separately adjustable. When water level reaches the adjustable high-level setpoint, the Float Pilot de-pressurizes the cover chamber or the 3-Way Accelerator, closing the valve drip tight. The valve remains closed as water level decreases. When water level reaches the adjustable low-level setpoint, the Float Pilot pressurizes the cover chamber of the 3-Way Accelerator, opening the valve fully. High and low levels are separately adjustable by positioning stop collars on the float rod(s) at desired opening and closing setpoints. If desired, the on-off action of the valve can be “reversed” by modifying the hydraulic connections of the On-Off Float Pilot.

### ◆ Technical Parameters:

Nominal Diameter:	DN50~DN200
Nominal Pressure:	PN16
Float Ball Diameter:	φ125mm
Working Temperature:	0℃~80℃
Minimum differential pressure:	0.035MPa

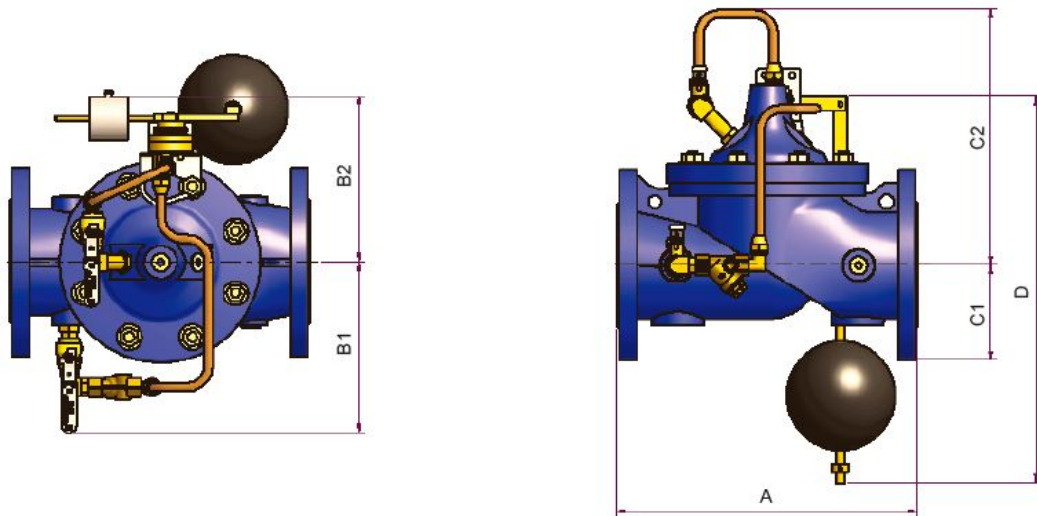
Working Medium:	Water
Level control height:	≤ 465mm
Connection Type:	Flanged
Connection Standard:	ISO7005-2:2004/BS, EN1092-2:1997

◆ **Material:**

Part	Body / Bonnet	Stem/Seat	Diaphragm	Sealing	Float Ball
Material	Ductile Iron with Epoxy	Stainless Steel	NBR + Nylon	NBR	Plastic

◆ **Installation Dimensions:**

Connection Dimension: GB/T 17241.6;



Size DN (mm)	Dimension parameter (mm)					
	A	B1	B2	C1	C2	D
50	230	85.7	168	82.5	279	448
65	290	85.7	168	92.5	290	448
80	310	199	169	100	275	448
100	350	199	193	110	297	448
125	400	209	213	125	354	448
150	480	286	213	142.5	358	448
200	600	324	272	170	404	448

\*Please contact the local salesmen if the size ≥DN200 are needed.

◆ **Typical Application:**

Water supply tank in industry enterprise and residential building;

◆ **Installation Instructions:**

- (1) Inlet pressure of main valve is 0.035MPa bigger than outlet pressure of main valve;
- (2) Install valve horizontally "in line" (cover facing up). Avoid installing valves 6" and larger vertically;
- (3) While installing the main valve with needle valve, we have to close the needle valve, then return out (counterclockwise)1.5~2.5 turn so as to initially set, after finished, we adjust it accordingly as system demands;

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- (4) While installing, we have to adjust the position between setpoint 3A and 3B, floater should be protected with cover from damage of water wave;
- (5) If we install float pilot with remote, we pay attention to it below;
- 1) Diameter for copper pipe that connect both main valve and float pilot is more than 3/8", and, the pipe length doesn't exceed 10 feet, if exceed 10 feet, then choose 1/2" copper pipe or pipe connector;
  - 2) End connection: in case of main valve with no accelerator( no more than 4" ), Port 1 of float pilot is connected with inlet of main valve, and, port 2 for float pilot is connected with atmosphere, ports C is connected with the cover chamber of main valve. In case of main valve with accelerator, Port 1 of float pilot is connected with atmosphere, and, port 2 for float pilot is connected with inlet of main valve, ports C is connected with the cover chamber of main valve(1/8NPT);
  - 3) Adjust the stem for float ball and weight, in the meantime, take the float ball from stem, and through the position of additional weight, make stop collar of float pilot is at midpoint of switch on and switch off limit position, at that time, if add a force to lever, stop collar can switch on or off the position quickly, then install the float ball on the stem;
  - 4) Adjust the position between upper limit and low limit on the stem per control water level of tank.