

Water Level Control [FLDI1] Pilot- 70550 and Pilot 31-10F

Applicable models:

100,300,500

Sizes:

1½" - 8" \ 40-200mm

1. Function Description

An automatic, float-pilot water level control valve.

The valve will modulate to maintain a steady, predetermined level in the reservoir and will keep a driptight close position in case the level is higher than the float-pilot location.

2. Technical Features

- Media: Water; Natural, non-aggressive fluids
- Pressure-rating PN16 or PN25 (250psi or 360 psi) per the specific valve-model
- Temp. range:

S300/100: 2 - 80°C (35 - 176°F)

- S500: 2 60°C (35 140°F)
- Flow speed for continuous operation: 0.05 5.5 m/sec (0.3 18 ft/sec)
- Max. flow speed for intermittent operation: 8 m/sec (26 ft/sec)

Notes:

- In case the designed\actual operating conditions are not suited with the above defined standardfeatures – please contact the Dorot Applications-Engineering.
- Refer to the specific valve-model publications for further details

3. Safety Guidelines

- Injury or damage to the system\surrounding may occur if installation, commissioning, operation and maintenance instructions are not followed or if applicable codes of practice and regulations are ignored.
- The Dorot valves are designed for use in fresh water-systems. Please consult the Dorot Applications-Engineering in case other media is to be used
- Be sure to de-pressurize the valve, prior to any disassembly of valve or control-trim parts.
- Electrical works (e.g. connection of solenoid-valves, limit-switches etc.) must be executed by certified electrician.
- Errors in the layout-design, installation or operation may affect the valve's performance and may risk the system and the operator\users. Please note the system's layout, installation and commissioning of valves is the responsibility of the system's designer, installer and/or user.
- In any case of doubt and prior to taking any further action please contact the Dorot representative for assistance.



4. Installation



- a. The valve can be installed in any position though installation with the bonnet facing up is recommended for ease of maintenance.
- b. Flow direction should match the engraved arrow on the bonnet.
- c. Flush pipeline, upstream the valve, before assembly of the control-valve.
- d. Two ways to install the system:
- e. Fig. 1- The valve is located above the water level. The pilot is attached to the valve by a bracket. It is advisable to throttle the pipe's outlet when installation is above the water level, to reduce noise and increase the flow rate.
- f. Fig. 2- Separate installation of valve and pilot. The pilot is connected to the tank wall or a suspension rod (not supplied).

Float pilot Connections:

The pilot body has four ports, marked \underline{P} (ressure), \underline{V} (ent), \underline{T} (op) and \underline{B} (ottom). Port **P** connected to upstream of the main valve Port **T** connected to Pilot 3110F port 1 Port **B** connected to Pilot 3110F port 5 Port **V** open to the atmosphere

Assembly instructions:

1.Drill 10mm bore in the tank wall. Take care that the spacing will match the distance of the pilot's suspension plate.

- 2.Insert rivets [A]
- 3.Assemble brackets [B] using bolts [C]

4.Connect the Suspension plate of the pilot to the brackets by bolts [D] and lock by the nuts.







5. Control-Trim design



6. Commissioning & Adjustment

- a. Close the valve by closing the water source.
- b. Connect the pilot to the water tank.
- c. The pilot should be connected to the tank at the water height required.
- d. Connect the pilot to the 3W ball-valve, using the $\frac{3}{2}$ " tube
 - Note- On the pilot valve, the T-connector and the selector valve has green and red marked to right connection of tubes.
- e. Switch selector valve in to A (Auto) position
- f. Open the water to fill the tank.

() Charging the downstream system must be slow so to prevent pressure-surges

No Indicato



Air-bleed in S-300/500 valves

This should be done with the control-chamber pressurized (main-valve closed)

Using the supplied Allen key – open the air-bleed-screw at the top of the bonnet and re-close it when only water and no air is discharged (refer to the drawing on the right).

In case an indicator-rod exist – using hand force only – release and tighten the round nut at the top of the indicator-guide.

7. Manual Activation ① Note that

The valve can be opened or closed manually by operating the selector valve.

Turn the handle toward port "Open" or "close" respectively.



① Return the valves [d] to "open" position after maintenance is completed.

8. Maintenance

g. Inspect and clean the in-line filter [c] as water quality dictates. This service should be cleaned once in a few months.

During this operation, the main valve must be isolated from external pressures by closure of up- stream isolating valve [b].

h. Inspect valve performance by checking water level in the tank periodically.





Extraction of screen element, filter



9. Troubleshooting		
Genearl check list	Ball valves [b]	All must be opened when operated
	Scheme	Verify that the tubing is consistent with
		the scheme
	Release air trapped in the control	
	chamber (S300 only)	
	Filter	Check and clean
Valve fails to open	Valve [b] is closed	Open [b]
	Pilot is stuck on close position	Check the mobility of the float – if
		float isn't mobile replace pilot
		Check connection of the weight to the
		pilot
	Water running out of the	Verify that pilot is assembled beneath
	overflow tube	the overflow tube (note that you can
		add an extension for this purpose)
	Connection of the control tube-	Verify that the tubes are connected
	incorrectly	according to the green/red ringes
Valve fails to close	Verify that Diaphragm is not	Replace diaphragm if needed
	leaking	
	Detect for clogged ports or	
	fittings	