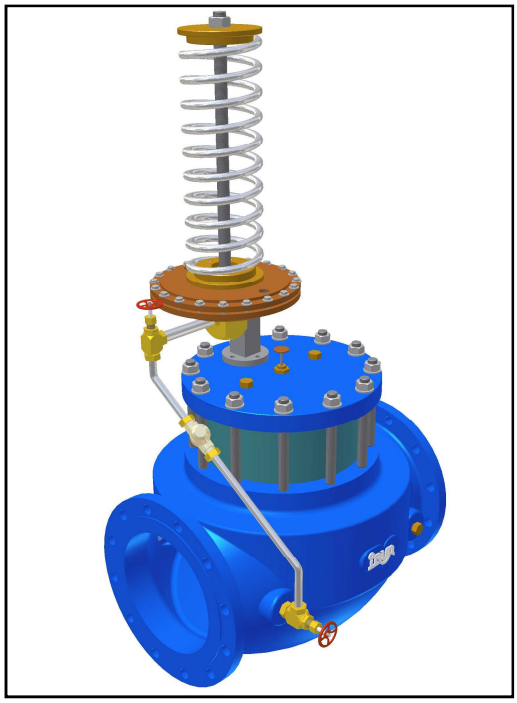
FIG 2320 ALTITUDE VALVE

General description of the valve



Balanced-piston control valve Fig. 2320, hydraulically / pilot operated, globe type, top-entry design (for easy maintenance). Full-ported for high capacity. Long vee-ports or multi orifice cylinders for precise control. The valve will be supplied with an altitude pilot to be connected to the tank side.

Minimum inlet pressure required: 0,7 bar.

Function: the valve shall operate automatically to close when water level reaches the upper stop to prevent overflow and to open when the float contacts the lower stop.

The closing and opening speed shall be controlled by means of a needle valves installed in the pilot system which also shall include a strainer with fine mesh screen.

The basic pattern consists in a globe type piston control valve with double chamber (balanced). The altitude pilot will be reading the height of the water level in order to open or close the main valve.

The main features of the valve are:

Flanged body
Hydraulic piston
V-port crown or multi-orifice cylinder
Cover
High sensitivity altitude pilot
Pilot tubing loop

<u>Standard construction materials:</u>

- Standard body and cover material is GJS-500-7 Ductile iron, and other materials may be supplied upon request, such as: WCB carbon steel, A304 stainless steel, Duplex, Super duplex, etc.
- Seat made of A304 stainless steel, may be replaced in line and on-site
- Main valve internals of stainless steel and/or bronze.
- Elastomers: Synthetic Rubber
- Standard coating: interior and exterior with minimum 200 micron thickness

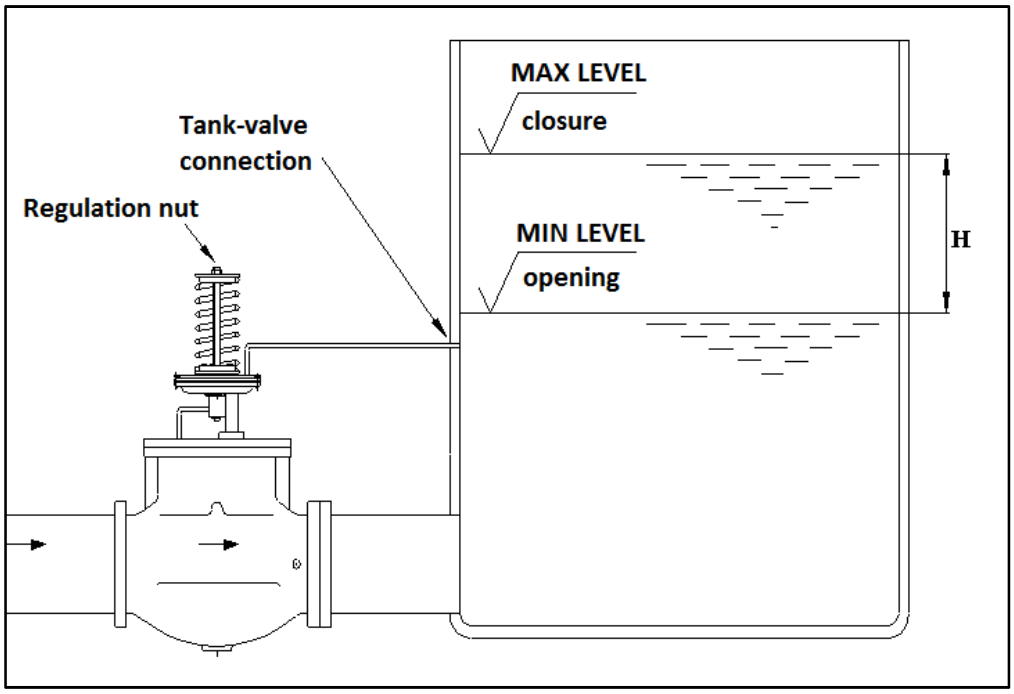
Applied standards

Flanges: EN1092-2
Hydraulic tests: DIN3840
Construction materials: UNE36801

Operation

The altitude hydraulic pilot detects continuously the water level in the tank. When the level reaches the maximum value, the valve closes and opens again once the level has decreased about 300mm below this maximum level.

The setting of this value is done by means of the upper nut of the altitude pilot.



STORAGE, INSTALLATION AND MAINTENANCE

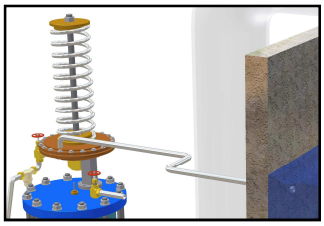
STORAGE

It is recommended the storage of the valves keeping the factory packing in an under roof place, dry and with a temperature non higher than 45ºC. It is important to avoid that any sealing gasket can be damaged before installation.

INSTALLATION

In order to achieve a correct valve performance, it is important to keep some installation rules:

The valve must be installed following the indicated flow direction
In order to allow the pilot read the water level, the customer must connect on site, the upper connection of the pilot with the inner side of the tank. This can be done using Ø 20mm tubing.



The lower part of the pilot is connected with the upper side of the piston. The pilot has also another outlet which will evacuate the water contained inside the piston once the valve is working.

It is recommended to install an isolating valve upstream of the altitude valve in order to make easier any maintenance works on it.

MAINTENANCE

Although in normal working conditions, the altitude valve does not require of any periodic maintenance, it is recommended a visual inspection at least each 6 months in order to check the overall status of the valve.

It is also recommended a revision of the pilot loop strainer every 2 or 3 months.

If any leakage is detected when the valve is in closed position, it could be caused by any external elements which impede the complete closure.

Prior to any internal inspection the isolation valve must be closed and the valve depressurized.

It must be periodically checked that the tubing is not clogged due to the accumulation of dirt.

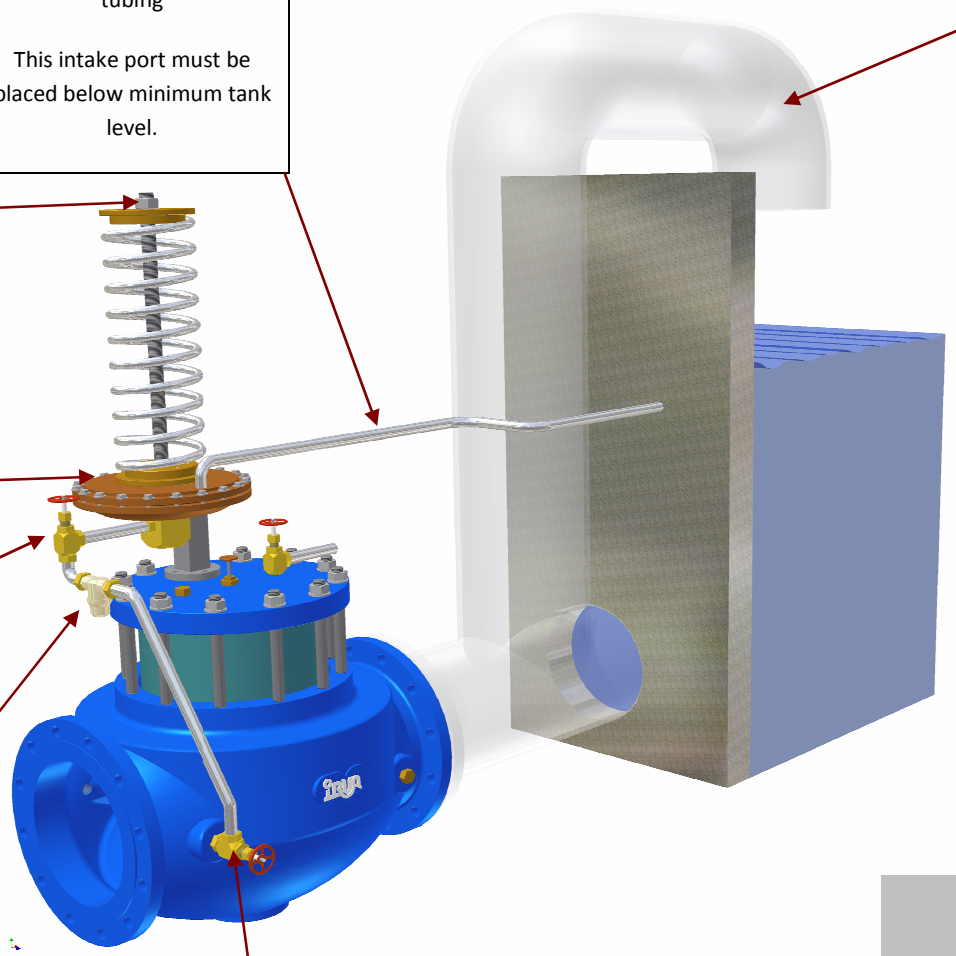
Connection tubing between tank and pilot high point. The connection must be performed on site using copper, polyethylene, etc tubing

This intake port must be placed below minimum tank level.

The water inlet to the tank can be done either by the top or by the bottom.

ALTITUDE PILOT:

By means of turning the upper nut clockwise, the max level of the tank will be increased (valve closure) and vice versa.



Lower outlet orifice of the pilot for atmospheric evacuation of water once the main valve opens.

Needle valve:

Closure speed regulation. Clockwise: lower speed.

Filter:

It is recommended to keep periodic revisions in order to avoid clogging in the pilot loop.

Isolation valve:

Normally open.

By closing it, the main valve will remain opened.

Close for filter maintenance.

Altitude Valve / Tank level control Fig. 2320

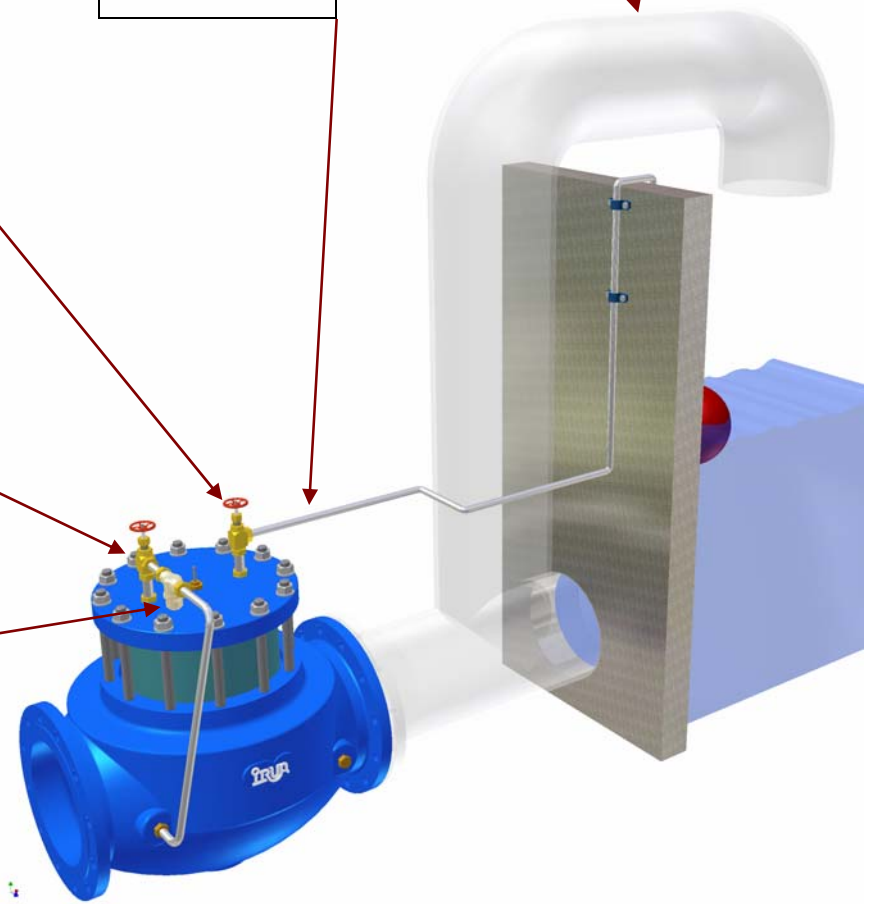
Two discharge options:
Above or below the float pilot

Ø15 mm. approx.
Tube connection between pilot and top of the main valve

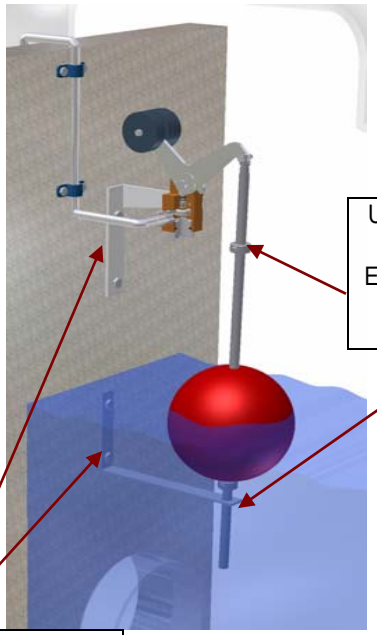
Needle Valve:
Opening speed control.
Turn clockwise to decrease opening speed.

Needle Valve:
Closing speed control.
Turn clockwise to decrease closing speed.

Strainer:
It is recommended periodical maintenance to remove external particles accumulated.



FLOAT PILOT with Counterweight (detail)
To be installed inside the tank



Upper and Lower water levels / Easily modified at site

Pilot 2 Fixing Points to the internal tank wall

Pilot Operated Level Control Float Valve Fig. 2810