

**Level Control Valve**  
CONDA® -VLC



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## 1 General Instructions

CONDA-VLC 3 ways body can be used with an angle or globe pattern making it suitable for every installation. Flanged to the incoming pipe and driven by a large float in stainless steel, the valve will automatically control the water level inside the tank by cutting off the supply whenever it reaches the maximum level to reopen again as soon as it drops. The VLC design has helped us obtain a perfectly balanced valve because the upstream pressure is acting both on the piston and the obturator, whose surface is the same, yielding two forces equal in magnitude but in opposite directions and therefore annulling each other. The valve is only driven by the movement of the float which, thanks to the double rods lever mechanism, leads the main shaft.

The internal cross sections have been designed in order to have a reduced passage to allow the discharge of large volume of water yet avoiding any sudden drop in pressure facilitating the opening of the valve itself.

## 2 Valve Operation

The main benefits are:

- High sensitivity, perfect water tightness even with low pressure values;
- Progressive movement of the obturator during opening and closing, that means transients effects are avoided;
- Excellent performance with low roughness coefficients and reduced maintenance;
- Working conditions that could engender lamination are avoided by using a gradual flow rate gasket retainer;
- Downstream of reservoirs or storage tanks to reduce and stabilize the water distribution pressure.

### 2.1 The sizing process

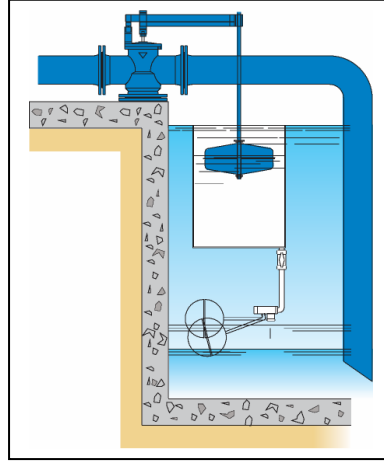
Purely as an indication the maximum flow rate (for angle pattern) as follows:

For your reference please find below the max. recommended flow rate:

- DN 40 = 2.9l/s
- DN 50 = 2.9l/s
- DN 65 = 6.7l/s
- DN 80 = 10l/s
- DN 100 = 15.5l/s
- DN 125 = 24l/s
- DN 150 = 38l/s
- DN 200 = 70l/s
- DN 250 = 75l/s

### 2.2 Maximum - minimum level regulation control

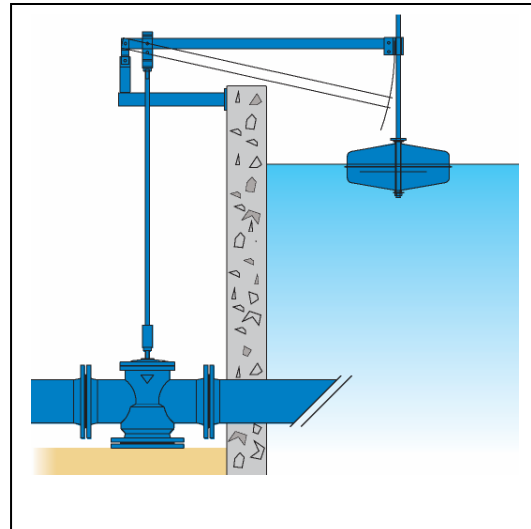
Float valves are usually designed to maintain a fixed water level inside the tank, despite that in some cases it is advisable to drain part of it to avoid moulds thanks to a proper air recirculation. In the picture below is explained how to obtain the regulation of the maximum — minimum level inside the tank using VLC.



Thanks to this solution the main valve will discharge water as soon as the preset minimum level of the tank has been reached. VLC will cut off the supply only when water, coming from the tank inside the container, will push the float upwards closing the obturator

### 2.3 Minimum level regulation

VLC can also be used the other way around. That is done simply by removing the smaller rod and by rotating the cover with an angle of 90°, with the result of interrupting the supply in correspondence of the minimum level to reopen again as soon as it goes up. valve to a value of (sp) (static pressure) equal to the set value adding the head loss dp calculated as from the previous chapter.



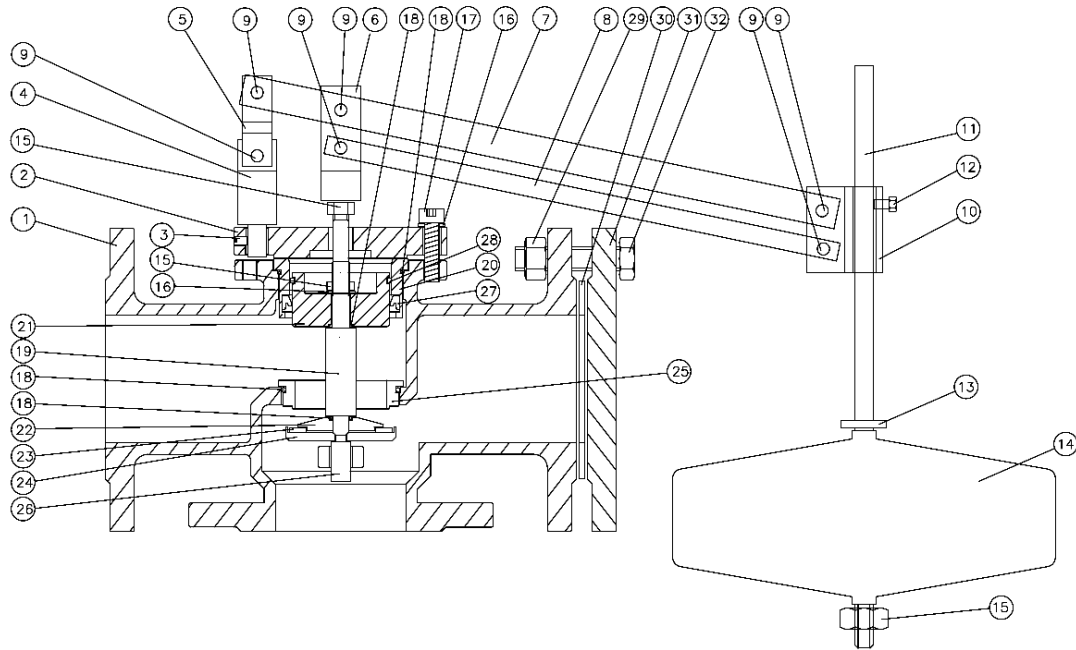
According to recent specifications valves tend to be more and more installed in places easy to access, keeping the tank as something strictly separated from the environment. In the picture on the right we will show you how to obtain the water level regulation and control having VLC positioned directly on the ground outside of the tank.

### 3 Installation

#### 3.1 Drawings

The sectional drawings below provide of the general design / configuration of the valves. For illustrations relating to specific valve series and further information please refer to the respective type series booklets.

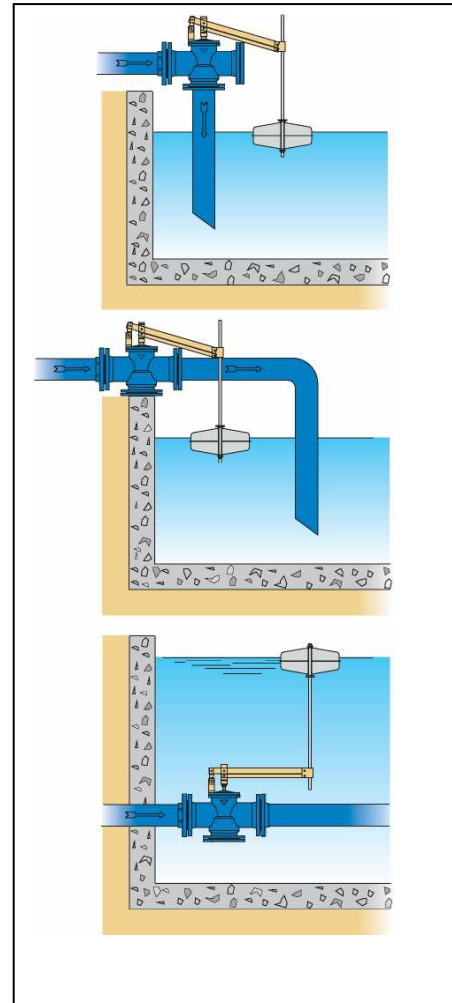
Type	DN	PN	Material	Type leaflet No.
CONDA® -VLC	25-250	16	Ductile Iron EN-GJS-400-15	9195.51-10



Sectional drawings (VLC)

### 3.2 List of components

Part No.	Description
1	Body
2	Bonnet
3	Screw
4	Lower junction
5	Upper junction
6	Shaft pin
7	Upper shaft
8	Lower shaft
9	Pin
10	Float junction
11	Float tube
12	Screw
13	Elastic join
14	Float
15	Nut
16	Washer
17	Screw
18	O-ring
19	Shaft
20	Guide bush
21	Piston
22	Gasket guide
23	Flat gasket
24	Disc
25	Ring seat
26	Nut
27	Gasket
28	Guide Ring
29	Nut
30	Gasket
31	Blind Flange
32	Screw



### 3.3 General

-The valve is usually installed inside the tank even though in some cases it can be placed outside as from recent solutions

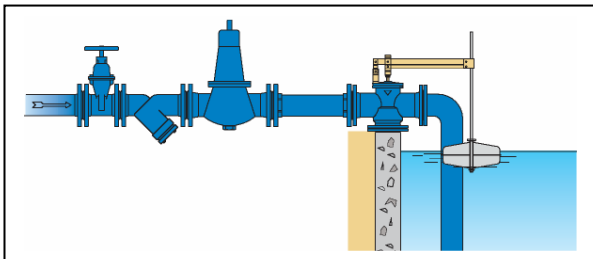
-Make sure that the supply pipe has the flanges drilled according to the requested PN, and that VLC is positioned in a horizontal position and properly fixed and sustained.

-Gate valves have to be installed to allow maintenance operations.

-Position the valve in a place easy to be reached and wide enough for maintenance and control purposes.

-Observe the overflow level and make sure that the outlet flange is always above it to avoid backflow.

-Before installing VLC proceed with an accurate pipe cleaning to prevent debris, stones or dirt from damaging its internal components. Shouldn't that be possible we strongly recommend to install a filter upstream.



## 4 Maintenance

Maintenance and repair work must be done only by specialised operators. In any case, it is necessary to use adequate spare parts and utensils, even in emergency cases, because if different parts are used the perfect functioning of the valve is no longer guaranteed.

Before removing the valve from the pipeline, repairing or doing maintenance work remember to:

- Loosen the closing cover
- Unscrew the nuts of the stuffing box or stem-nut
- Remove actuator mounted directly on the valve
- Unscrew the drain plug

It is absolutely necessary to depressurize the valve.

The manager of the plant has the responsibility to establish adequate controlling interval and maintenance checks.

The duration of the valve that is maintenance free may be prolonged by performing the following operations:

- Lubricating the moving parts: stems, screws of the stuffing box

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