



# **filsa**

level controllers  
for solids and liquids

## **PNEUMATIC LEVEL CONTROLLERS FOR LIQUIDS**

### **L-27 TYPE**

FOR AUTOMATIC CONTROL OF PUMPS AND LIQUID LEVEL INDICATION  
IN TANKS AND CONTAINERS AT ATMOSPHERIC PRESSURE.



- ***Single or double signal***
- ***Without float***
- ***Easy to install***
- ***Sturdy***
- ***Versatile***



## LEVEL CONTROLLERS FOR LIQUIDS

### GENERAL INFORMATION

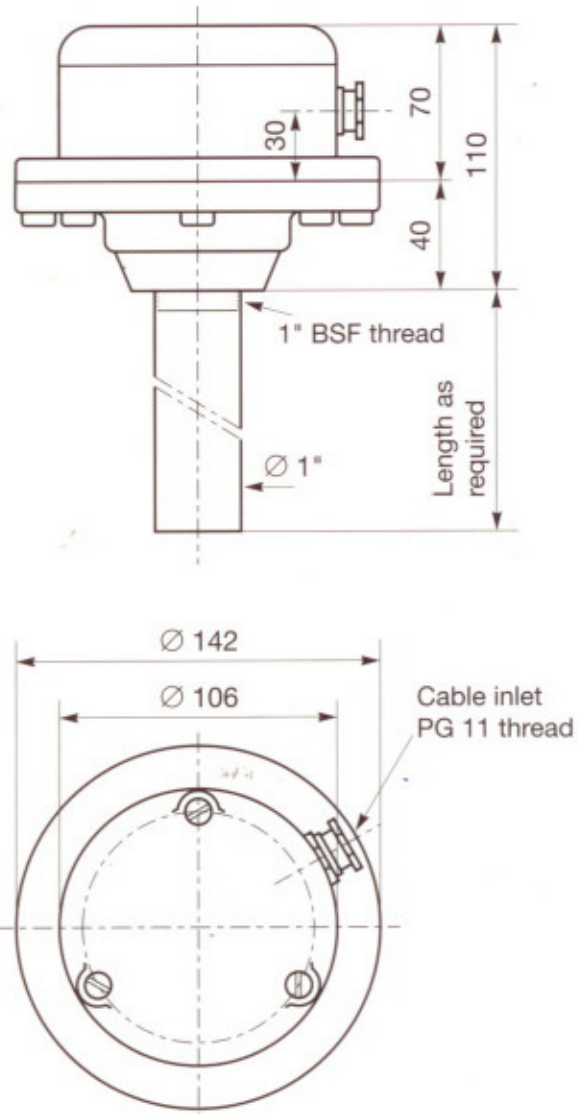
The L-27 level controllers consist of one or two micro-switches actuated by a pressure sensitive membrane. The action on the switch is carried out by the pressure of the air column entrapped in the tube and the pressure chamber, located under the membrane. A water head between 3 and 15 cm (depending on the model) above the vertical tube inlet is sufficient to trigger the switch.

### MOUNTING

Mounting is very simple. They can be installed in almost any kind and size of container using a 1" pipe, which can be plastic, carbon or stainless steel, etc. The tube should be faced, and the screw tapped into it should be long enough to exert a uniform pressure on the gasket located at the tube base, to assure an absolute tightness. Otherwise, the entrapped air would escape and the switch would not be triggered.

Whenever it is possible, the controllers should be installed with the membrane in a horizontal plane. However, if required, they can be installed in other positions without altering their performance. The distance between the tank and the controller can be as much as 50 metres. The linkage between the controller and the 1" tube in the tank should be through an 8 mm I.D. tube.

### DIMENSIONS



## AUTOMATIC CONTROL AT FILLING, WITH TWO SINGLE SIGNAL CONTROLLERS.

When the liquid level almost reaches the inlet of the low level pipe, the pump will start and will remain in operation until the liquid reaches and rises above the inlet of the high level pipe. At this moment, the pump will stop and will remain so until the liquid again reaches the low level, repeating the cycle.

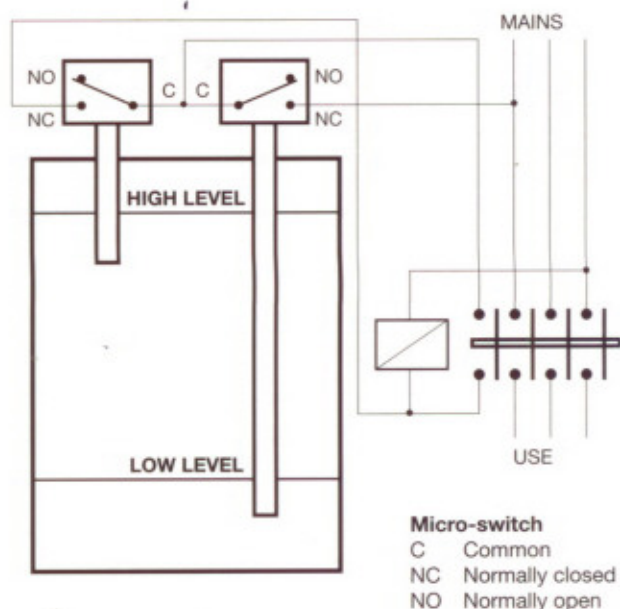
**REGULATION.** The required differential is achieved by changing the distance between the inlets of the low level and high level pipes.

**LOW LEVEL. Start.**

The pipe inlet should be 5 cm lower than the required level.

**HIGH LEVEL. Stop.**

The pipe inlet should be 10 cm lower than the required level.



## AUTOMATIC CONTROL, AT FILLING, WITH ONE L-27 DOUBLE SIGNAL CONTROLLER.

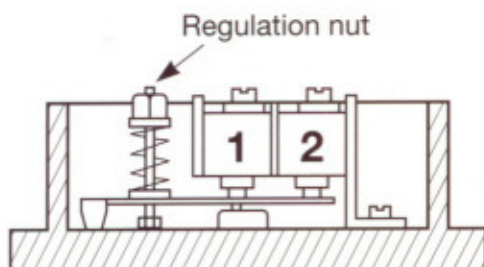
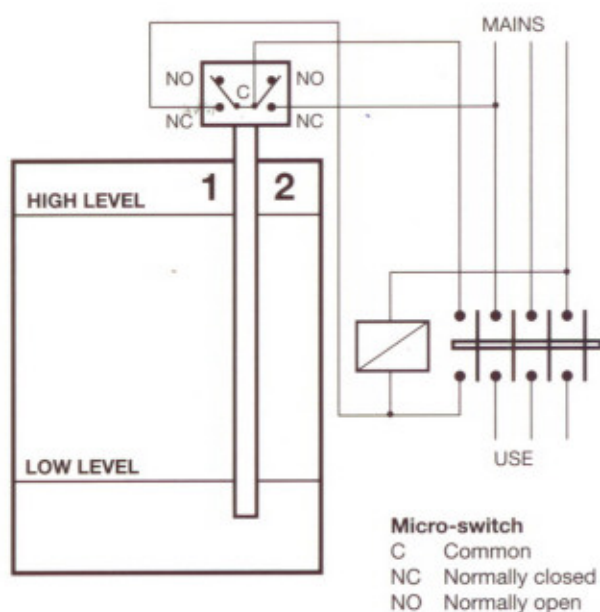
When the liquid level almost reaches the low level, the pump will start up and will remain in operation until the liquid reaches the high level. Then it will stop. The pump will remain stopped until the liquid again reaches the low level, repeating the cycle.

**LOW LEVEL. Start.**

The pipe inlet should be 5 cm lower than the required level.

**HIGH LEVEL. Stop.**

These controllers have a built-in regulation system to achieve the required differential between the start up and the stop. The minimum differential is 30 cm and the maximum 1 m. Tightening the regulation nut increases the differential between the high and low levels, up to a maximum of 1 metre.



**1 LOW LEVEL SWITCH**  
**2 HIGH LEVEL SWITCH**



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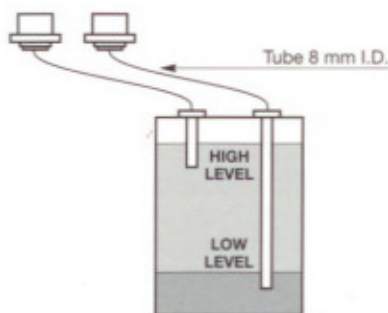
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## TECHNICAL CHARACTERISTICS

|                    |                                                                                                                                                                                                                                                                                                |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Case and cover     | Aluminium                                                                                                                                                                                                                                                                                      |
| Pressure chamber   | Glass reinforced polyester. Acceptable pressure, 4 bar.                                                                                                                                                                                                                                        |
| Connecting pipe    | Tapped 1" BSF                                                                                                                                                                                                                                                                                  |
| Membrane           | Standard: Neoprene. On request: Viton, Teflon, Stainless Steel, etc.                                                                                                                                                                                                                           |
| Switches           | <b>SINGLE SIGNAL:</b> Single pole, inverter, 10 Amp. 250 V a.c. Two switches on request.<br><b>DOUBLE SIGNAL:</b> Two single pole inverters, 10 Amp. 250 V a.c.                                                                                                                                |
| Actuating pressure | <b>SINGLE SIGNAL:</b> 10 cm water column above the pipe inlet. 14 cm with two switches.<br><b>SINGLE SIGNAL, SENSITIVE:</b> From 3 cm water column.<br><b>DOUBLE SIGNAL:</b> Can be regulated between 10 and 100 cm.<br><b>DOUBLE SIGNAL, SENSITIVE:</b> Can be regulated between 3 and 30 cm. |
| Cable inlet        | Threaded hole for PG 11.                                                                                                                                                                                                                                                                       |
| IP Rating          | IP 50, IP 53. Consult for explosion proof.                                                                                                                                                                                                                                                     |
| Temperature        | Consult for temperatures above 60 °C.                                                                                                                                                                                                                                                          |

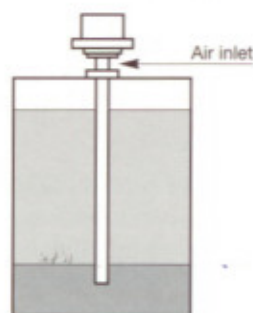
IF THE CONTROLLER IS INSTALLED OUTSIDE, OR IN ENVIRONMENTS WHERE CONDENSATION CAN OCCUR, IT IS ADVISABLE TO PROTECT IT WITH A THERMO-INSULATING MATERIAL.

## MOUNTING SUGGESTIONS



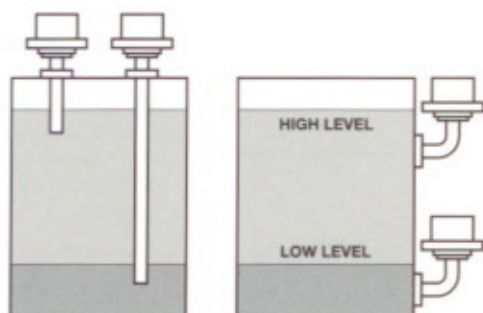
### REMOTELY LOCATED CONTROLLER

With this system, the controller can be located up to 50 m from the tank. The connecting tube should be slightly sloped towards the tank to prevent liquid build-up in the case that condensation occurs.

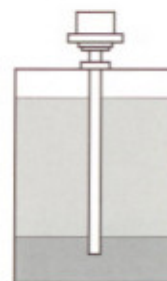


### LEVEL CONTROL WITH PRESSURIZED AIR INJECTION

By injecting a small flow of air into the controller tube, it is possible to control thick liquids and also liquids with high temperature oscillations.



Level control with two single signal controllers



Level control with one double signal controller.  
Maximum variation between high and low levels:  
100 cm.

FILSA strives to improve its products, and reserves the right to modify designs, materials and data without prior notice.