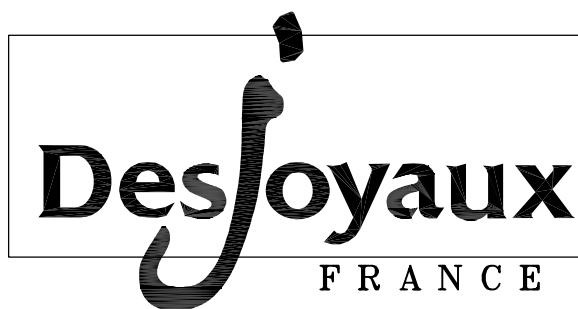


## INSTALLATION / MAINTENANCE AND USER MANUAL

### US INJECTED FILTERING PANEL - VINYL TYPE MODEL: PF.I 250 US - PF.I 250 V3 US



NOVEMBER 2010

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## **1 - The injected filtering panel - vinyl type**

The DESJOYAUX Piscines filtration system includes all traditional system functions. Its efficiency, coupled with easy maintenance, will provide you complete satisfaction.

### **• Principle**

The pump draws water through the skimmer opening on the front of the filtration panel. The water is immediately filtered through the filtration bag.

The water is drawn in by the pump and then is discharged into the pool.

### **• There are several versions of this filtration system**

- ▶ US injected filtering panel version with P18 US pump:
  - Single-speed pump, motor: power consumption 0.45kW / 60 cycles motor
  - Total assigned power: 450W
- ▶ US injected filtering panel version with PBI US pump:
  - Dual-speed pump, motor: low-speed power: 0.3kW / high-speed power: 1.6kW / 60 cycles motor
  - Total assigned power: 2200W

### **• Technical description**

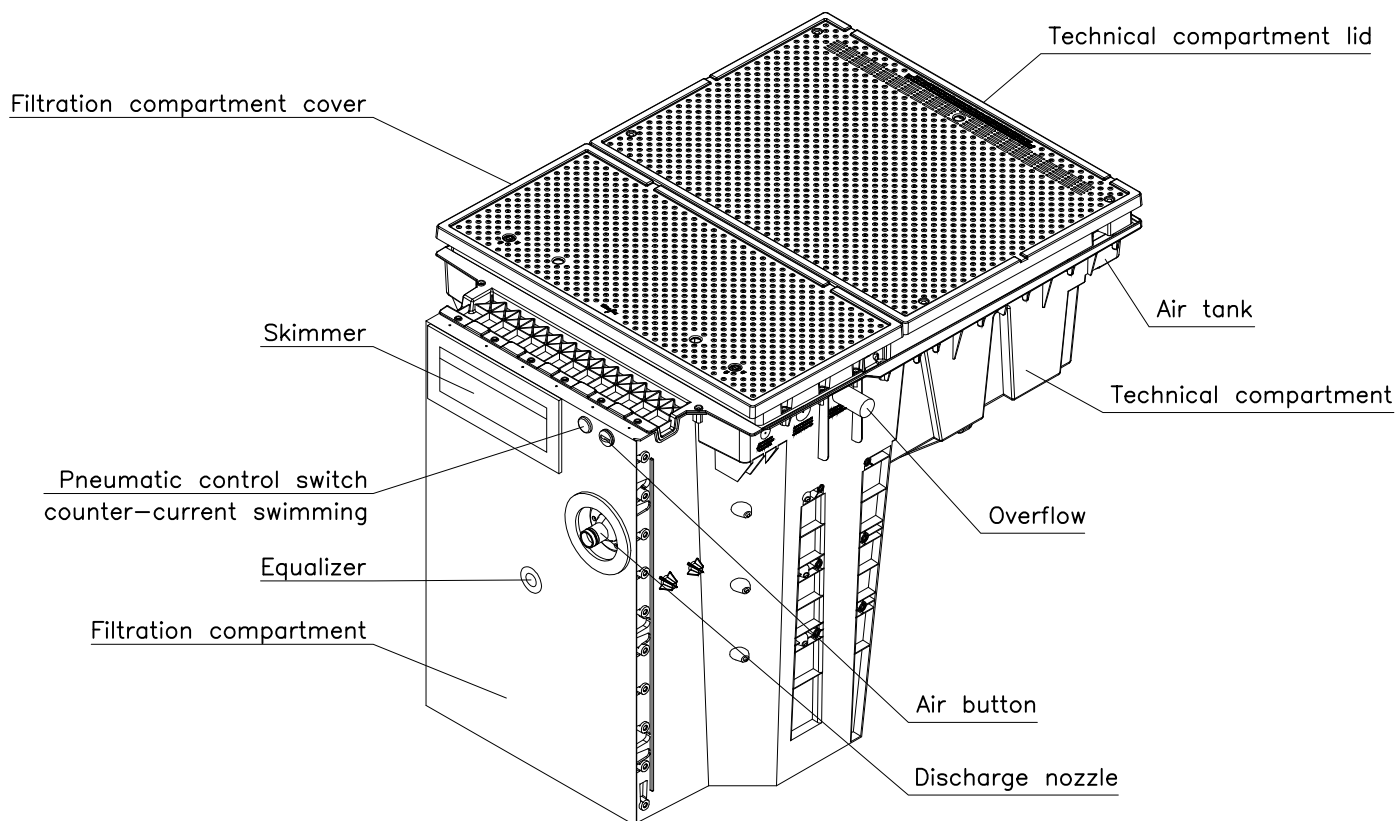
The Desjoyaux injected filtering panel incorporated with your swimming pool is fitted with the DESJOYAUX pump and incorporates the latest electrical and hydraulic technological innovations.

The electrical control panel comprises a 5mA ground fault circuit interrupteur (GFCI) provided to protect users from electrical shocks (it must be connected to the ground). The qualified electrician installing your system simply fits a 15A breaker in the electrical control panel outgoing power supply line.

Electrical control panel supplied with the injected filter panel: MODEL 90312 from FOREZ PISCINES.

The electrical control panel is inseparable from the filtration unit.

With this electrical control panel, you can decide, whenever you think necessary, to stop filtering. Artificial waves can be obtained by simply pushing the air switch located on the front of the filtration unit (with the two speed pump only).



## 2 - Technical specifications of the injected filtering panel - vinyl type

The injected filtering panel is equipped with features designed to optimise its installation and operation.

### • Technical compartment seal

A perfect seal is ensured between the swimming pool and the technical compartment owing to watertight pipe feedthroughs.

*PLEASE NOTE: the water level may be above the pipes. The filtration pump is thus always under load. Prior to disconnecting the pump pipe assembly, the two valves of the corresponding lines must be closed. These can be accessed from the technical compartment (intake line) and the filtration compartment (discharge line).*

### • Cooling of electrical components

The cooling of electrical components (pump) is carried out by perforations on the rear section of the technical compartment cover. The cover of the technical compartment must be secured with its four M8x25 screws.

### • Masonry

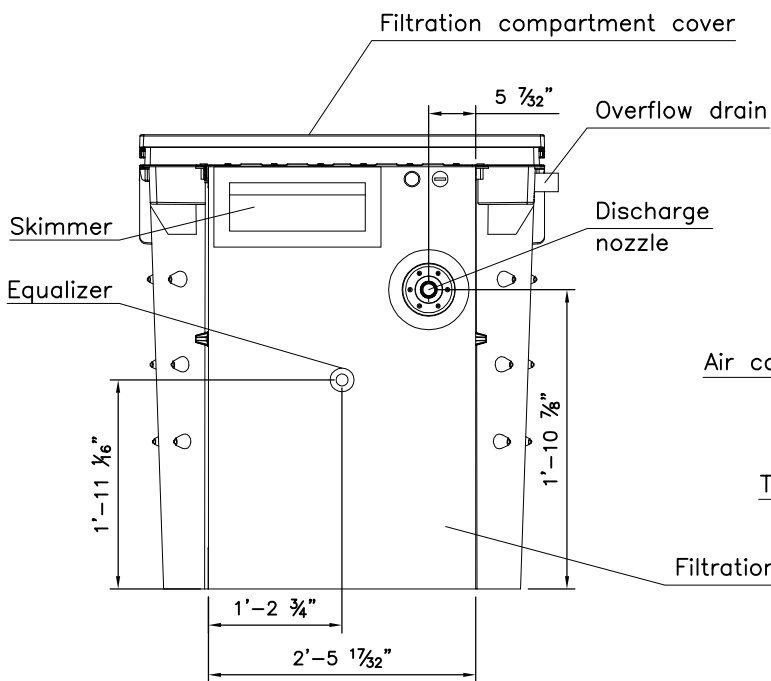
**WARNING: Carefully following the installation manual instructions, page 6.**

### • Mounting onto the structural panels

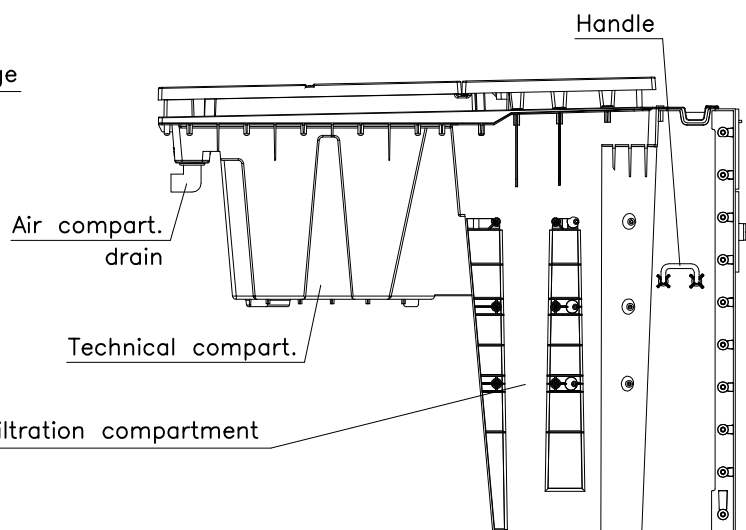
The injected filtering panel can be mounted onto the swimming pool's structural panels by means of the M8 washers and bolts provided.

### 3 - Overviews

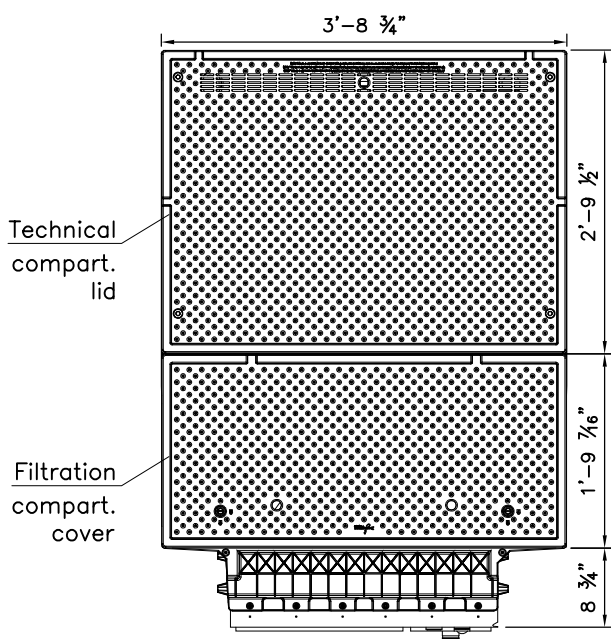
#### EXCLUDING FILTRATION COMPARTMENT CHIMNEYS



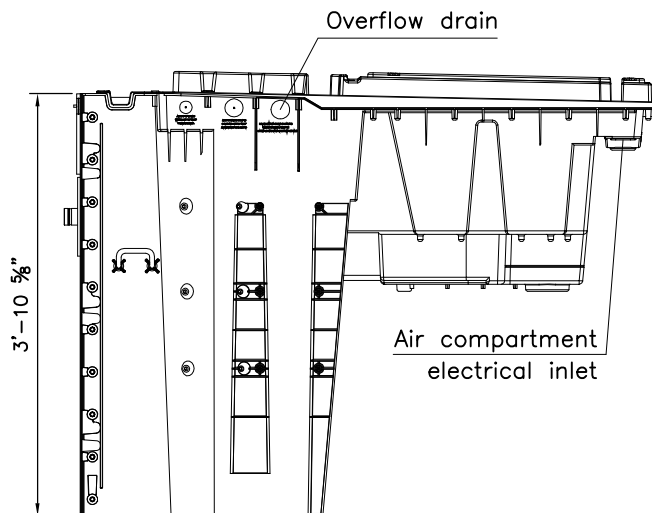
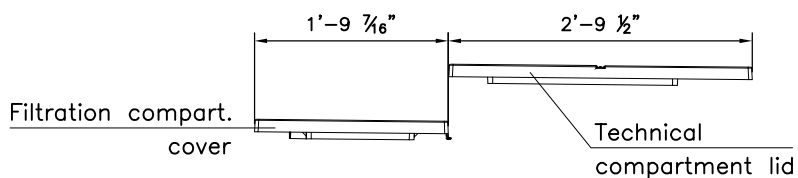
FRONT VIEW



LEFT SIDE VIEW



TOP VIEW



RIGHT SIDE VIEW

## **4 - Important instructions**

### **• Mounting onto Des'co panels**

When mounting the filter panel onto the Des'co panels, ensure proper alignment of the filtration panel liner lock with that of adjacent panels.

N.B.: It may be necessary to cut the chimney of the adjacent Des'co prior to fitting the filter panel.

### **• Drain connection**

Make sure that the drains are correctly connected:

- no high point, from the air compartment located under the technical compartment cover perforations. This compartment is designed to collect and drain away rainwater.
- no high point, from the overflow located on the right-hand side of the filtration panel. This overflow connection is designed to prevent overflow.

<b>PLEASE NOTE: these two pipes must be connected separately to the drains; provide two lines.</b>
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The air and overflow compartment drains must be connected to suitable drainage: dry well, rainwater or sewer. See rules defined by your town's sanitation department.

Due to special equipment in the technical compartment of the filtration panel (float switch), there is no need to connect the technical compartment to a wastewater line.

### **• Filling the pool**

When filling the pool, make sure that you fill the filtration compartment.  
The water levels in the pool and filtration panel must be balanced.

### **• Technical compartment cover**

Make sure that the cover of the technical compartment is always secured with its four M8x25 screws.

### **• Filtration compartment cover locking system**

We also recommend that the filtration compartment cover be kept closed using the two 1/4 turn locks in order to secure access to the skimmer basket and treatment products.

### **• Filter panel gradient**

A gradient is already built into the frame of the filter panel in order to ensure that the filtration panel integrates perfectly with the pool deck. In that way, the PF.I 250 US and the PF.I 250 V3 US models are built with 2 different gradients, respectively 1% and 2.08%, so that integration with different pool decks is made easier.

## 5 - Installation instructions

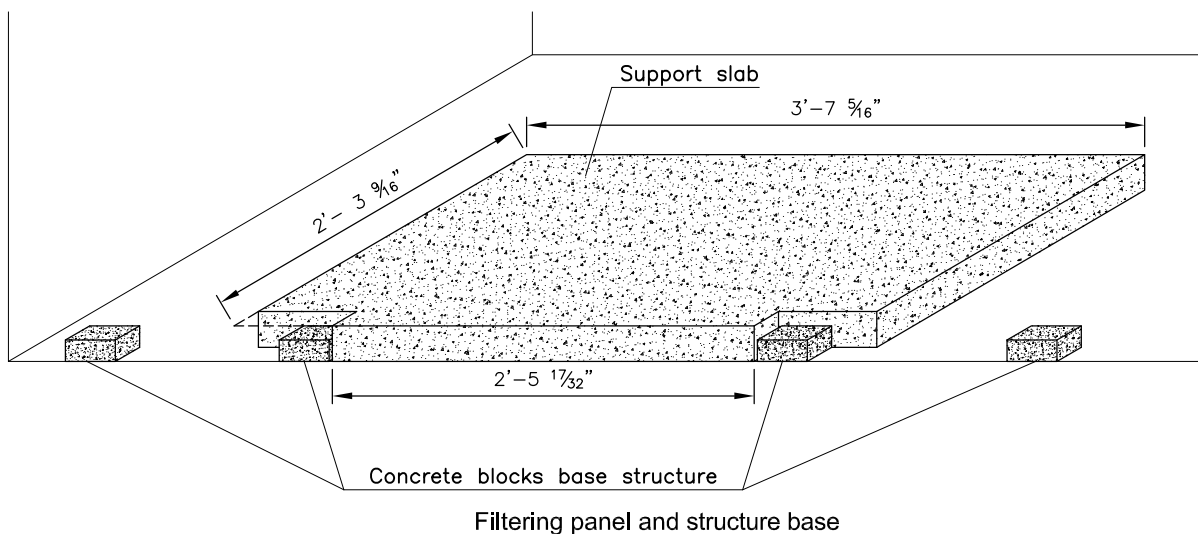
### Introduction

The purpose of the following procedure is to guide you while fitting the injected filtering panel. You should read this before starting assembly.

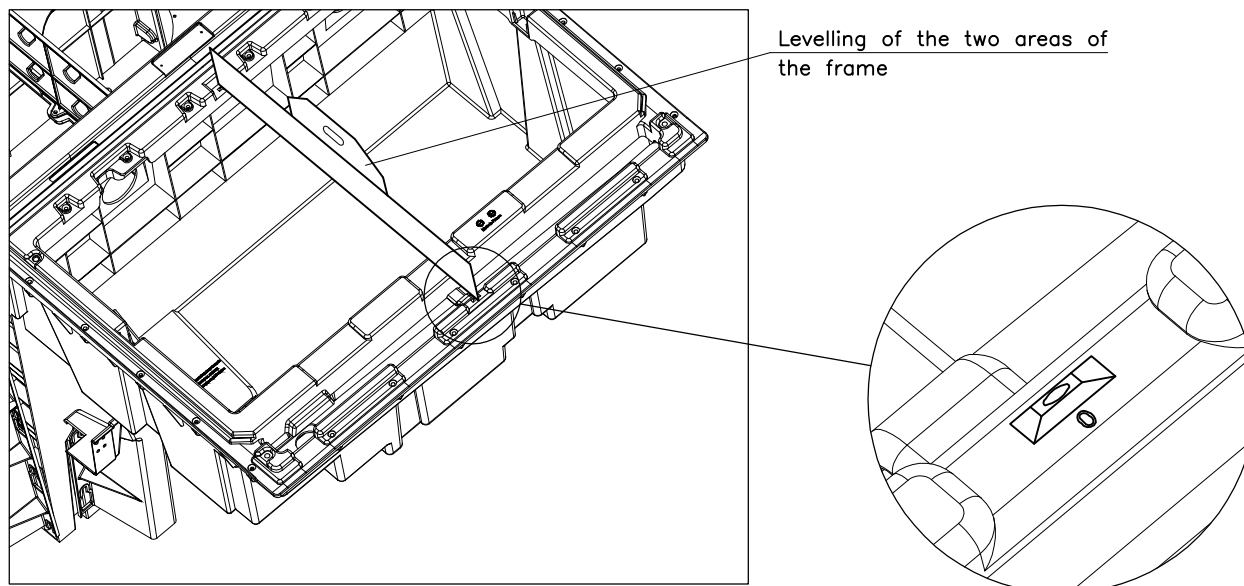
For compliant installation, the indicated dimensions must be respected.

### 5.1 - Installing the injected filtering panel - vinyl type - and fitting the filtration compartment chimneys

- Before fitting the filtering panel, remove the filtration compartment and technical compartment covers and remove all accessories from the technical compartment (rings, bags, etc.).
- When handling the filtering panel, you can use the two handles on either side of the filtration compartment.
- The filtering panel must be installed on a slab measuring  $2'-5\frac{17}{32}''/3'-7\frac{5}{16}''$  wide, by  $2'-3\frac{9}{16}''$  deep. The slab's thickness provides a solid base for the filtering panel, but also serves to align the filtering panel liner lock with that of the adjacent panels.

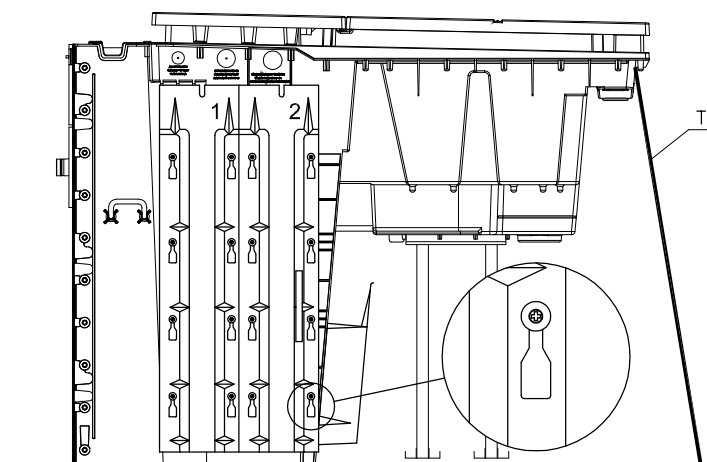


- Bolt the filtering panel to the structural panels using the M8 washers and bolts provided.  
NOTE: The technical compartment support is already mounted on the filtration panel. It must be suspended and does not touch the ground, it shall be masoned later.
- Ensure that the liner lock on the front of the filtering panel is properly aligned with that of the adjacent Des'co panels.
- Check that the top of the filtration panel (without the covers) is perfectly level by placing an aluminium rule on the two areas of the frame provided for this purpose and identified accordingly.  
WARNING: The water drainage is already provided for on the filtration panel.
- Temporarily block, if necessary, the rear of the technical compartment with a wooden spar.

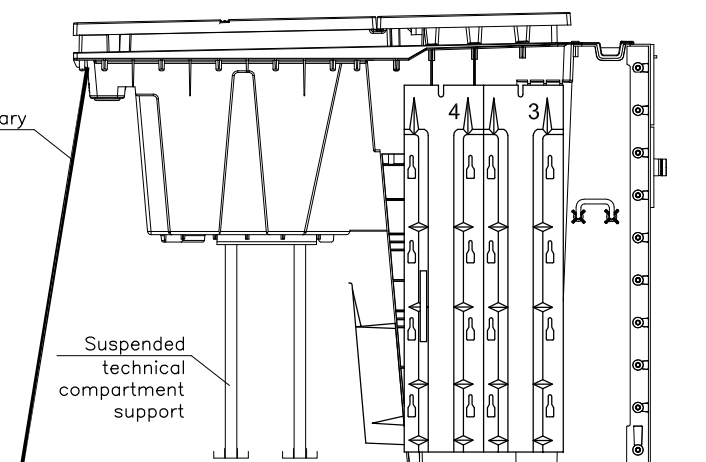


- Fit the four chimneys supplied with the filtering panel and numbered 1 to 4 according to the diagram below. To position the chimneys, simply slide them onto the washers and screws on the filtration compartment.

DO NOT REMOVE THE SCREWS WHEN FITTING THE CHIMNEYS.

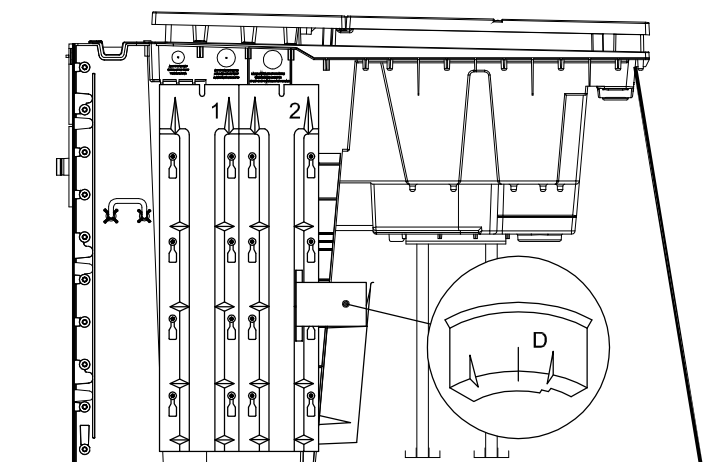


RIGHT SIDE VIEW

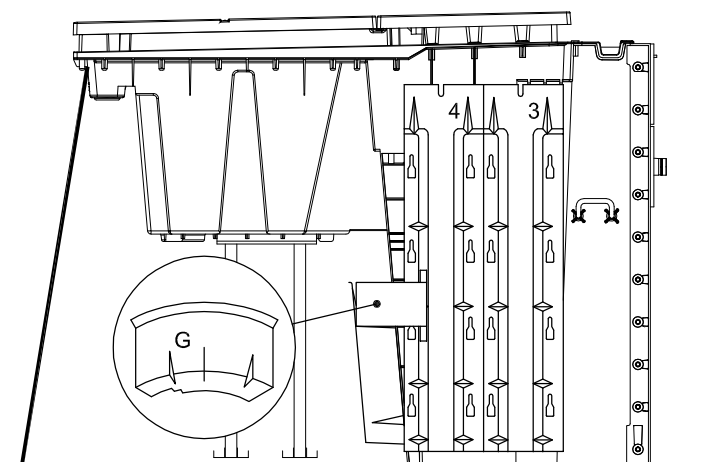


LEFT SIDE VIEW

- In order to ensure structural continuity, insert the upper tie beam angles identified D and G, as shown below.

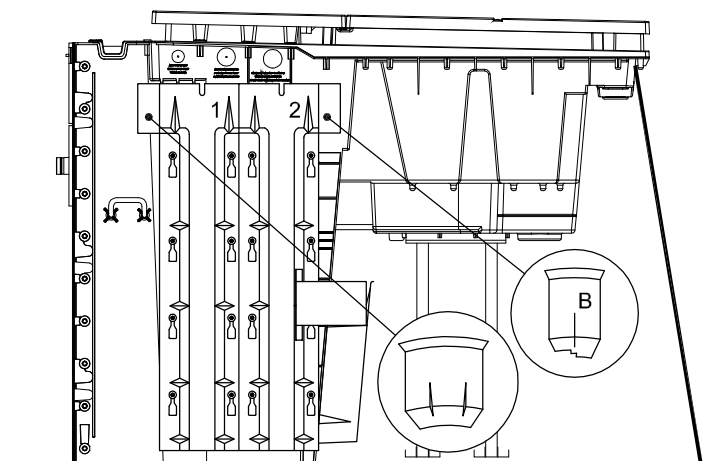


RIGHT SIDE VIEW

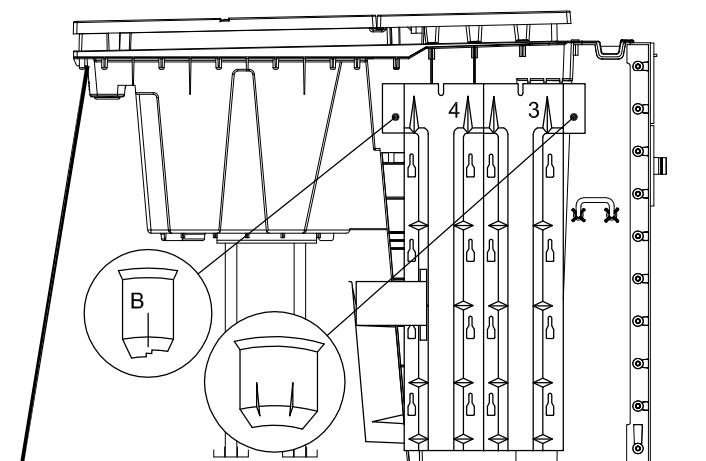


LEFT SIDE VIEW

- To finish, fit the 4 tie beam plugs supplied with the filtering panel, as shown in the diagram below.



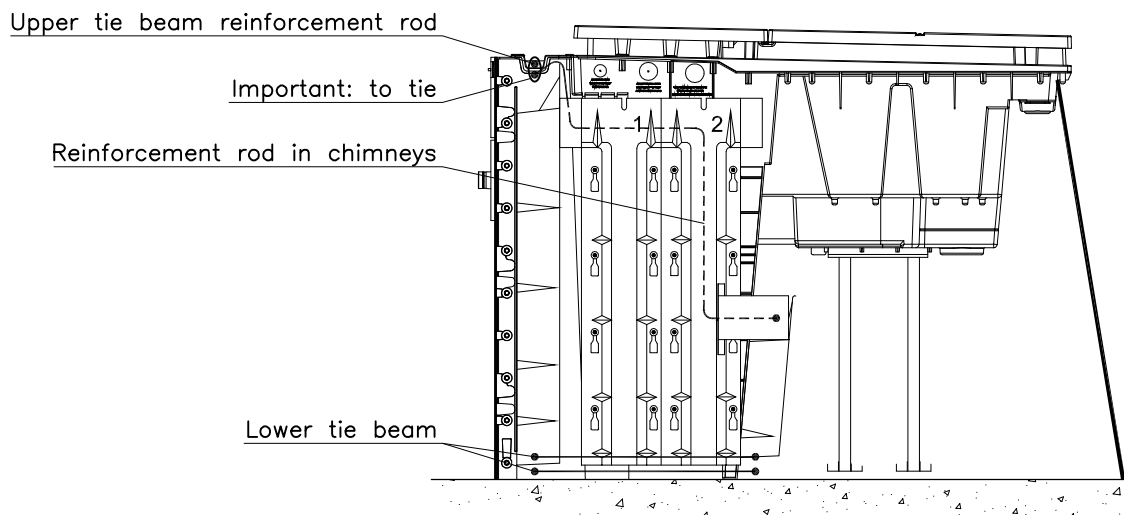
RIGHT SIDE VIEW



LEFT SIDE VIEW

## 5.2 - Technical compartment reinforcement and support

- Install the upper and lower tie beam reinforcement rods: the lower tie beam reinforcement rods must circumvent the filtration compartment, the upper tie beam reinforcement rod passes over the trough located to the rear of the liner lock. Also pass a reinforcement rod inside the side and rear chimneys of the filtration compartment, using the feedthroughs provided for this purpose.  
Bind it with the upper tie beam reinforcement rod over a length of at least 50cm.

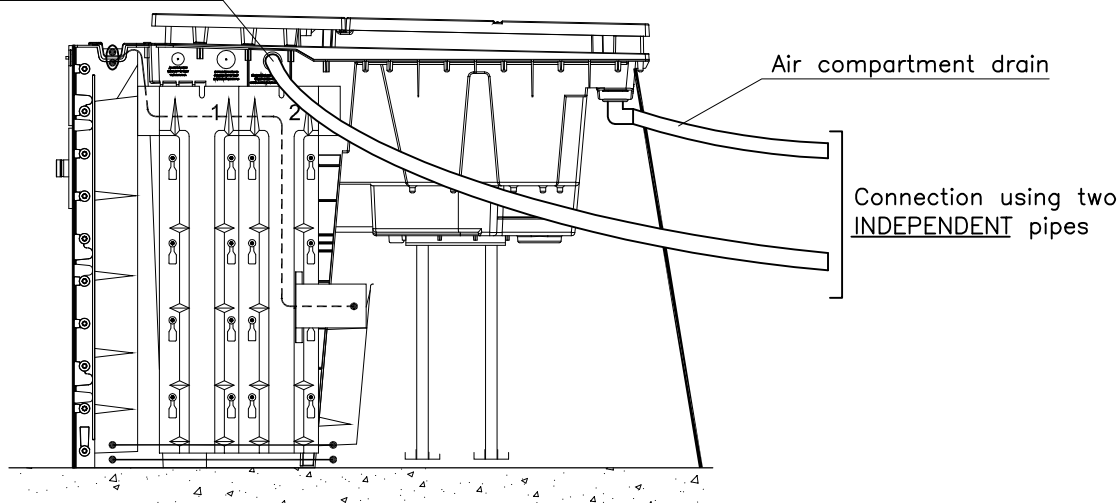


## 5.3 - Wastewater connection

- Glue the wastewater connection piece on the overflow outlet (Ø50mm / Ø2" PVC reducer).
- Connect the overflow and air compartment outlets separately to suitable drainage, rainwater a sewer.  
See rules defined by your town's sanitation department.  
**IMPORTANT:** care should be taken to route drain pipes without a high point in order to prevent water from flowing back into the filtration panel.
- Also connect the by-pass connecting pipes.
- Install two conduits in the air compartment:
  - one for the incoming electrical conduit
  - one for grounding.
 Each conduit should enter the air compartment at least 2".

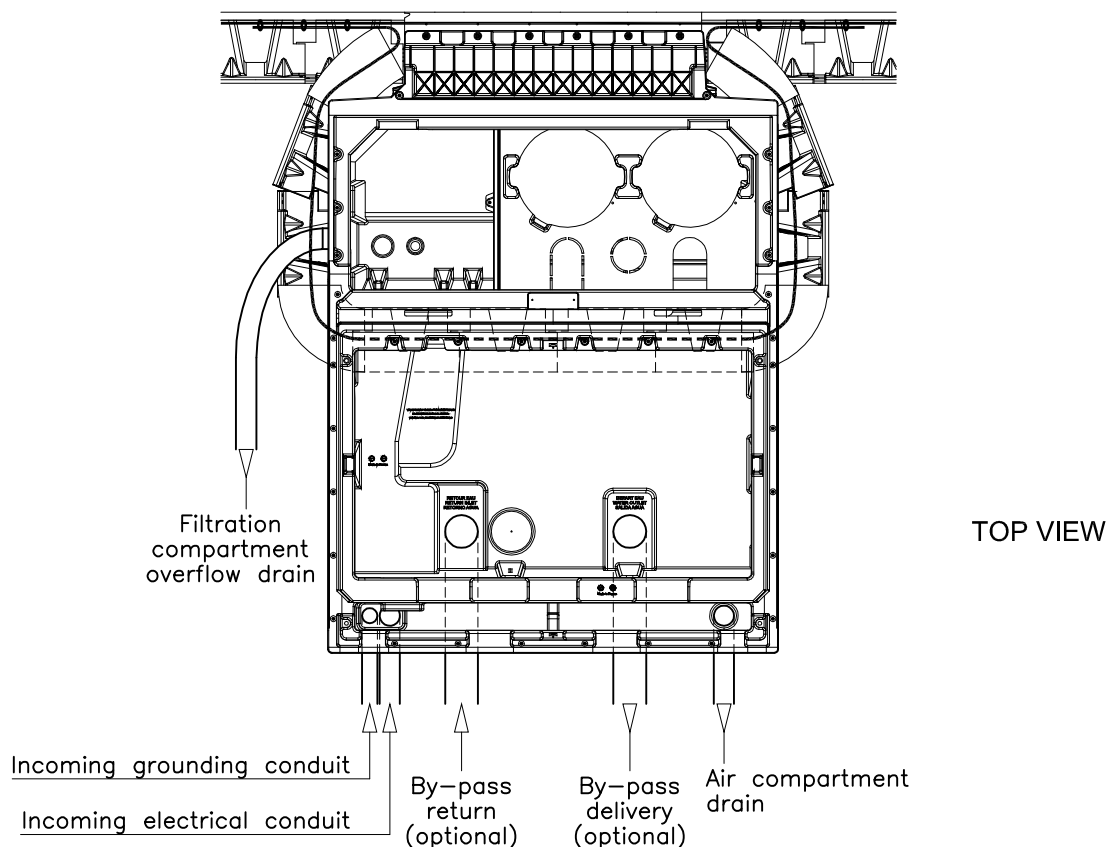
**IMPORTANT:** the two pipes must be connected separately to the wastewater connection; provide two lines.

Filtration compartment overflow connection



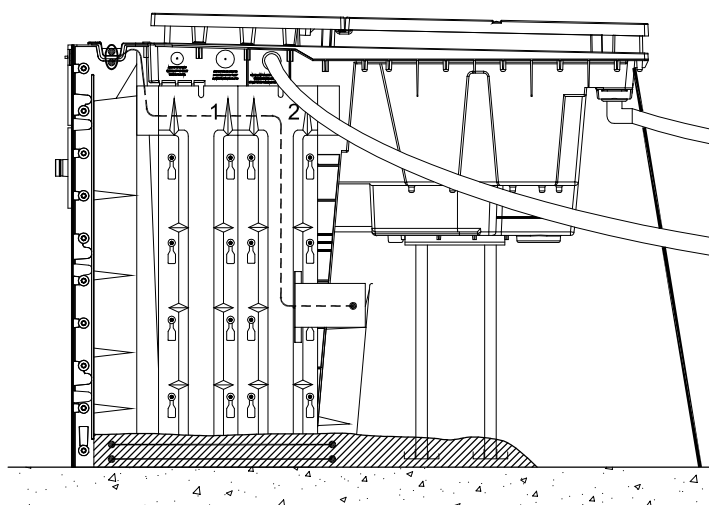
SIDE VIEW





#### 5.4 - Swimming pool concrete work

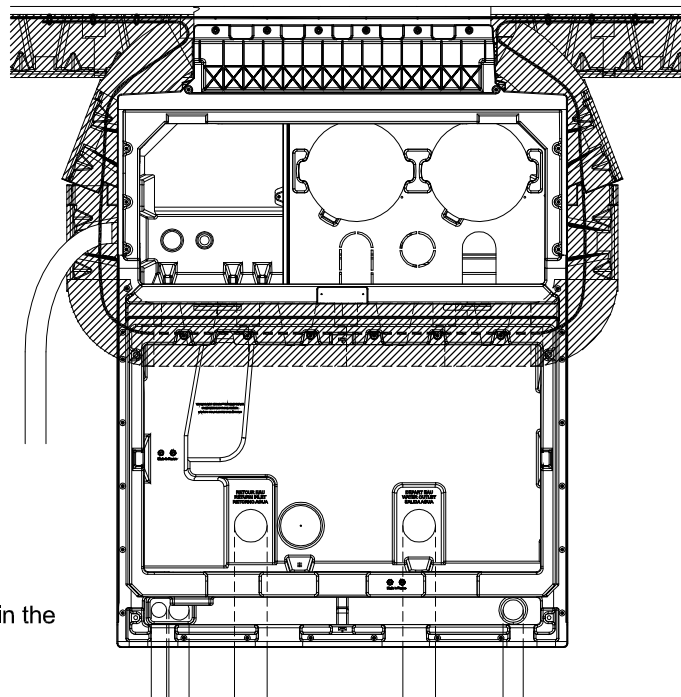
- Before pouring the pool, care should be taken to protect the upper part of the filtering panel.
- Pour the pool normally:
  - lower tie beam, pouring a generous quantity of concrete around the filtration compartment,
  - bed slab
  - chimneys and upper tie beam, along with the chimneys in the filtration compartment (pour carefully).
- Remember to fill in open spaces with concrete and particularly the play between the structure panels and the first chimneys of the filtration compartment.
- Pour the base of the technical compartment's PVC support.



SIDE VIEW

NOTE: The front portion of the overflow piping shall also be imbedded in the concrete.

- Once the concrete has dried, the temporary wedge (spar) located at the rear of the filter panel can be removed.



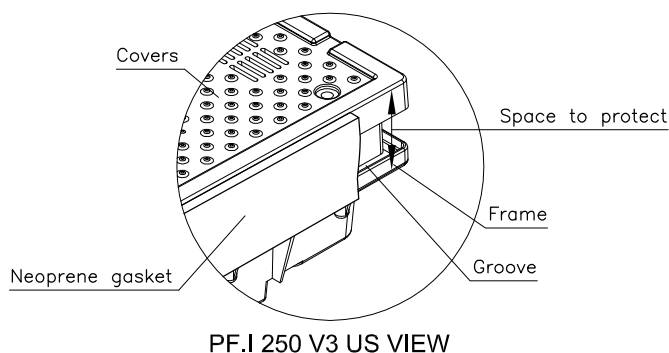
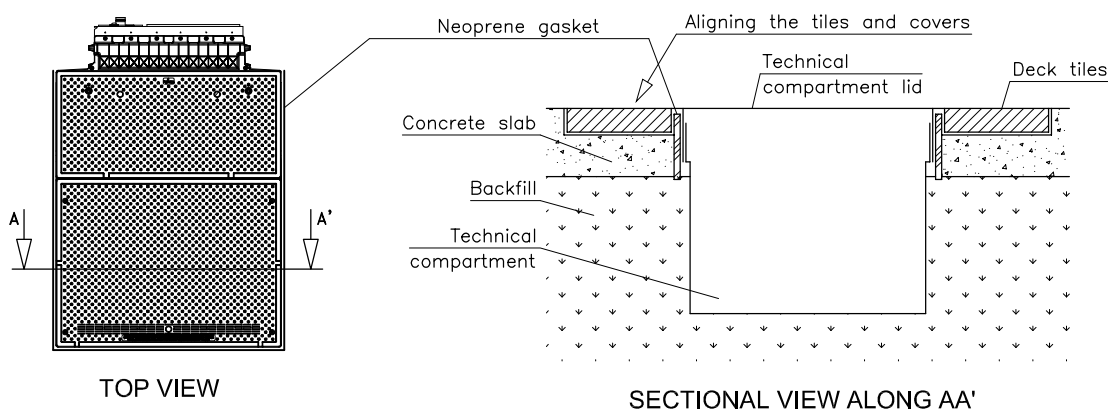
TOP VIEW

## 5.5 - Pouring the pool deck slab

- Backfill around the pool.
- Fit the covers on both the filtration compartment and the technical compartment.
- On the outside of the filtration compartment and technical compartment covers, add a sufficient amount of neoprene foam to create the space needed to properly handle the cover.  
WARNING: The space between the frame and the technical / filtration covers has to IMPERATIVELY protected by neopren foam in order to avoid filling the groove with concrete. The groove is necessary to ensure proper water runoff (rainwater, overflow, etc...).
- Secure the technical compartment cover using the four M8x25 screws.
- The pool deck slab can now be poured.

### PLEASE NOTE:

- The upper level of the concrete slab of your pool deck must be such that the tiling laid on this slab is flush with the top of the technical compartment cover.
- The coping and the deck tiling must follow the slope of both the filtration compartment and technical compartment covers to ensure proper water runoff (rainwater, overflow, etc.).
- Once the deck tiling has been laid, the neoprene foam around the covers can be removed.



PF.I 250 V3 US VIEW

## 5.6 - Liner installation

### Foreword

The liner can only be installed after the following operations have been performed:

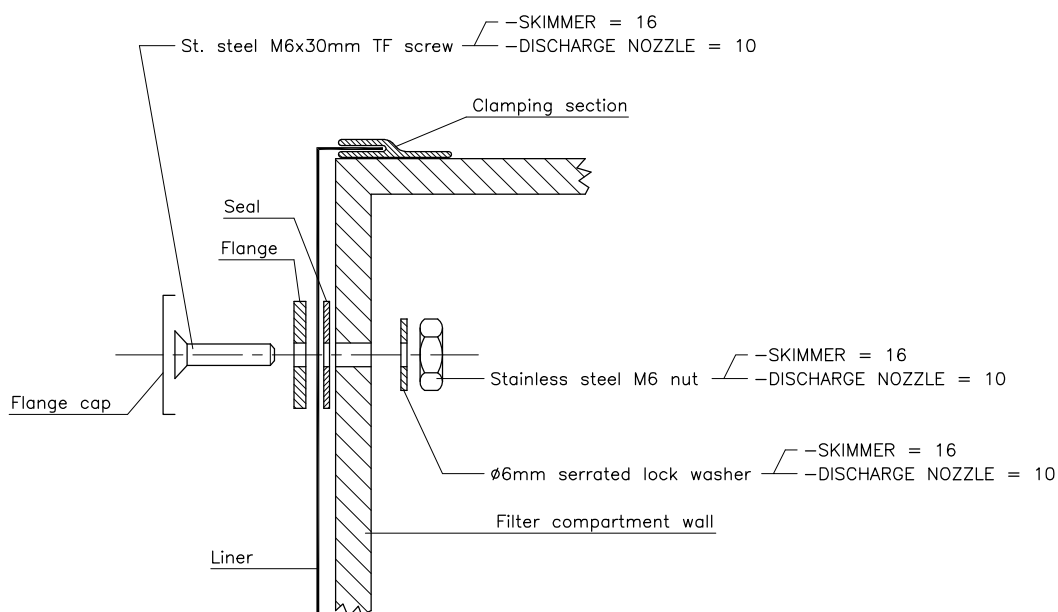
- Remove the filtration bowls.
- Using scotch tape, tape off the filtration compartment's overflow opening and make sure that the intake and discharge pipe valves are closed.
- Tape down the filtration compartment cover to block all air intake.
- Stick the adhesive seals of the skimmer, discharge and equalizer onto the front of the filtering panel, making sure that the holes are aligned.
- Before installing the liner, make sure that the following are clean:
  - the front of the filtration panel,
  - the entire inside surface of the swimming pool.

### Attaching the liner to the front of the filtration panel

- Install your liner by hooking it onto the filtration panel's liner lock profile.
- Use a vacuum cleaner to ensure that the liner fits fully against the pool walls. Remove all folds.
- Fill the pool to 1'-3  $\frac{3}{4}$ " above the bottom of the Des'co panels.
- Begin by fitting the skimmer flange. Position the rectangular flange on its location against the liner.
- Position all of the flange screws by piercing the liner (16 6x30 CS head screws).
- Using a cutter, cut a slot inside the flange in order to fit the washers and nuts inside the filtration compartment. The liner on the inside of the flange is cut away only when the liner is completely installed.

PLEASE NOTE: remember to secure the skimmer weir (4 screws at the bottom of the flange).

- Next fit the discharge nozzle flange.



- After having carefully cut away the liner inside the wall feedthrough, secure the grille supplied to the equalizer using the four 5x30 screws.
- Using a cutter, carefully cut the liner inside the flanges.
- Fit the flange covers onto the skimmer flange and the discharge nozzle flange.
- Carefully pierce the liner at the hole of the air switch and pneumatic control switch.
- Position and strongly screw down the air switch and pneumatic control switch into place and insert their respective clear tubes.

#### Liner installation - finishing operations

- Turn off the vacuum cleaner and reattach the liner.
- Place the liner lock strip in the liner lock.
- Finish filling your pool making sure that the two intake and discharge valves (red handles) are properly closed.

### **5.7 - Commissioning of the filtering panel**

The injected filtering panel must be commissioned following the installation of your pool and at the start of each season.

#### Foreword

- Make sure that the two valves are closed to prevent any water from entering the technical compartment.
- Fill the pool up to 1" from the top of the skimmer window.
- Before installing the pump in the technical compartment, its turbine must be operated manually via the pump inlet (19mm tubular socket wrench for PBI US pump, 17mm for P18 US pump).
- Place the filtration pump inside the technical compartment.
- To install a PBI pump, connect the clear tube of the pump's pneumatic control switch through the small cable gland designed for this purpose, which must first of all be uncapped. For other types of pump, the clear tube should not be connected and the pipe gland cap should be left in place.
- Connect the suction piping.
- FILL THE PUMP WITH WATER THROUGH THE DISCHARGE PIPING.
- Connect the by-pass discharge piping.
- Have all electrical connections performed by a qualified electrician (see instructions regarding electrical connections).

#### Filtration operation

- Open both valves.
- Fit the filtering bowls and the filtering bags (see installation of accessories).
- The filtering bowls must be correctly positioned by locking them using the red pin on the spacer in the filtration compartment.
- Initiate filtration by positioning the switch on "MANU" (on the electrical control panel) and allow it to operate for 2 or 3 days.
- PLEASE NOTE: before closing the technical compartment cover, check for leaks on all of the pipe connections.
- After 2-3 days of filtration, program the filtration period on the control timer.
- Position the switch on "AUTO" so that filtration is carried out according to the desired programming schedule and refer to the user's manual for further information concerning filtration time adjustment and water treatment operations.

## **6 - Procedure for winterizing the injected filtering panel**

**IMPORTANT :**

- THIS OPERATION MUST ONLY BE PERFORMED BY A QUALIFIED ELECTRICIAN.
- The swimming pool filter panel must be winterized as late as possible and returned to service as early as possible in order to make winterizing fully efficient.

### **6.1 - Pool cleaning**

- Clean the water line.
- Vacuum thoroughly.

### **6.2 - Stop filtration**

- Press "TEST" button to disable GFCI.
- Flip control panel to "OFF" position.
- We do recommend to lower the water level of about 2 feet.

### **6.3 - Winterizing the filter panel - Technical compartment**

- Open filtration compartment, close valve on suction and return manifold (remove the filtering bowls).
- Open the technical housing.
- Using tools, remove pump pipes (suction and by-pass manifold).
- Disconnect the pump plug.
- Disconnect the ground plug.
- Remove the pump (with cable and junction box).

**CAUTION:** the main supply female connector must stay in the technical compartment.

- Drain the pump. Store it in a dry place, away from chlorinated products.

### **6.4 - Winterizing the filter panel - Filtration compartment**

- Take out filtration bag, wash and dry.
- Remove filter holder, wash and store.
- Place two winterization floaters in lieu of the filter holder.

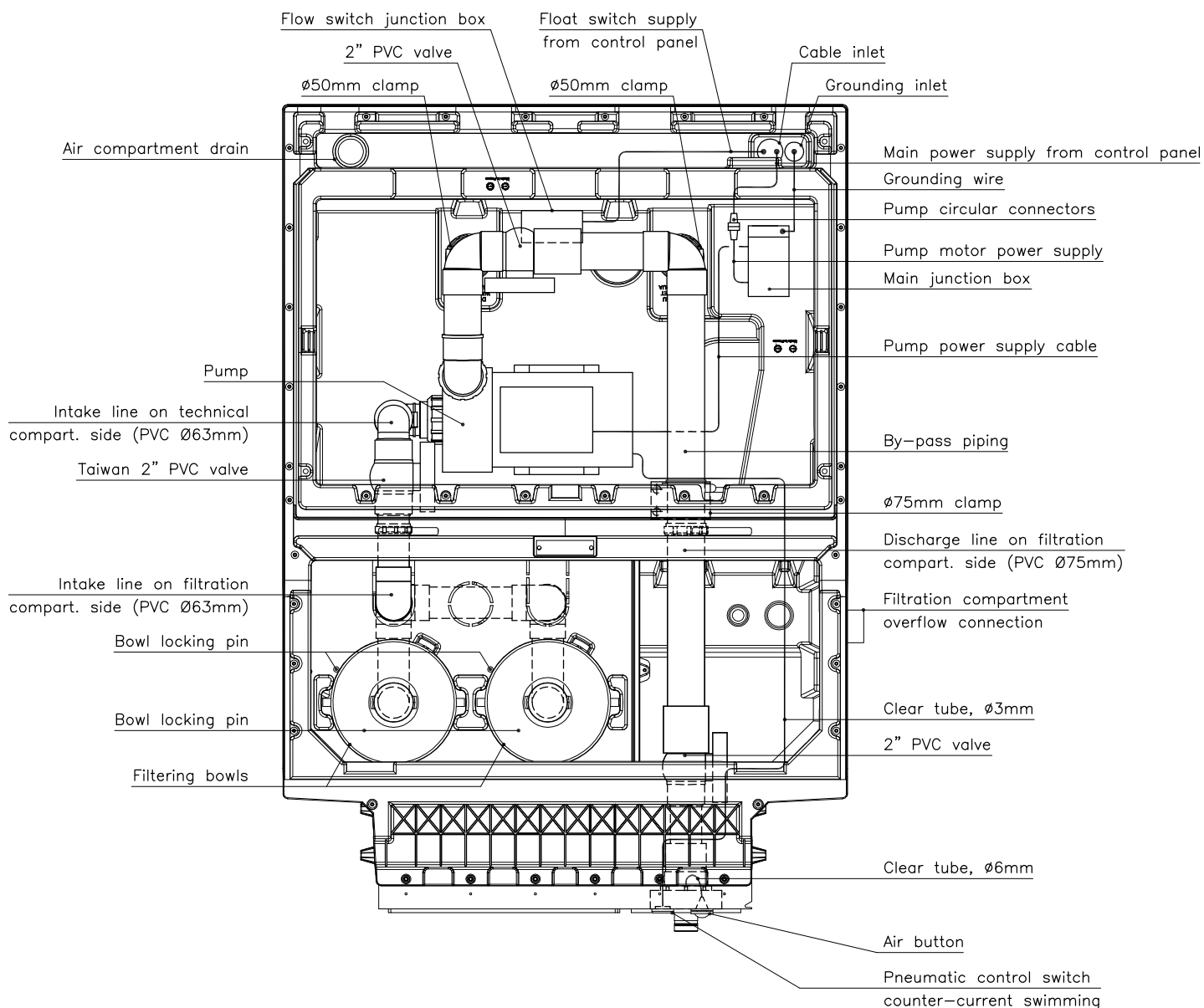
### **6.5 - Pool winterizing**

- Use a suitable winterising product in the pool.
- Spread along the pool walls.
- Place floaters diagonally across the pool.
- Cover with a pool cover suitable for winter preferably opaque and solid.

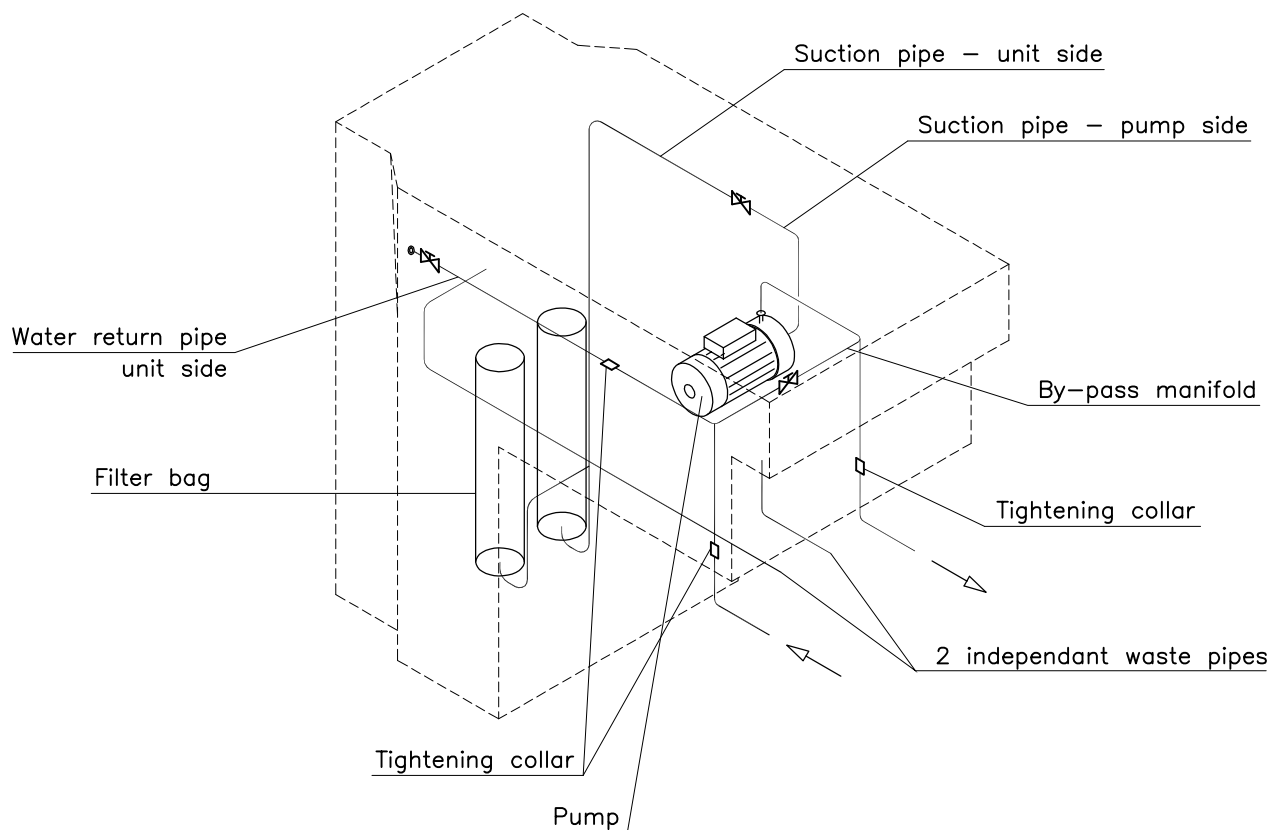
In springtime, to start up, proceed as above, in the reverse order.

It is imperative when you plug the pump to connect the N°6 solid copper wire first.

## 7 - Injected filtering panel - Top view



## 8 - By-pass hydraulic installation



## 9 - IMPORTANT SAFETY INSTRUCTIONS

### ***READ AND FOLLOW ALL INSTRUCTIONS:***

- The installation of the filtration unit has to be done by a qualified swimming pool installer.
- All electrical installations must be carried out by a qualified electrician in compliance with existing standards and codes.
- **WARNING:** To reduce the risk of shock, connect only to supply circuit protected by a ground fault circuit interrupter (GFCI). The ground fault circuit interrupter is only efficient if the ground is properly connected.
- The ground fault circuit interrupter (GFCI) must be tested once a month by pressing the test button located on the remote control panel as shown in the diagram while the system is powered, and the GFCI set.  
Note. When testing the GFCI, the circuit will be disconnected when the test button is pressed. If this is not the case, turn off the power to the remote control panel and call a qualified electrician to make the necessary repairs.
- The filtration unit is designed to work in conjunction with the remote electrical control panel. No other control panel should be used, otherwise safety will be compromised.
- The electrical control panel provided shall be installed at least 3.5 meters away from the swimming pool.
- **WARNING:** To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all time.
- **Caution.** This filtration unit is for use with permanently installed in ground pools. Do not use with storable pools. A permanently installed pool is constructed in or on the ground or in a building such that it cannot be readily disassemble for storage. A storable pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity.
- Do not attempt to repair the equipment, repairs should be performed by a qualified person. Warranty is voided in case of tampering and safety of the equipment could be compromised.

***SAVE THESE INSTRUCTIONS.***

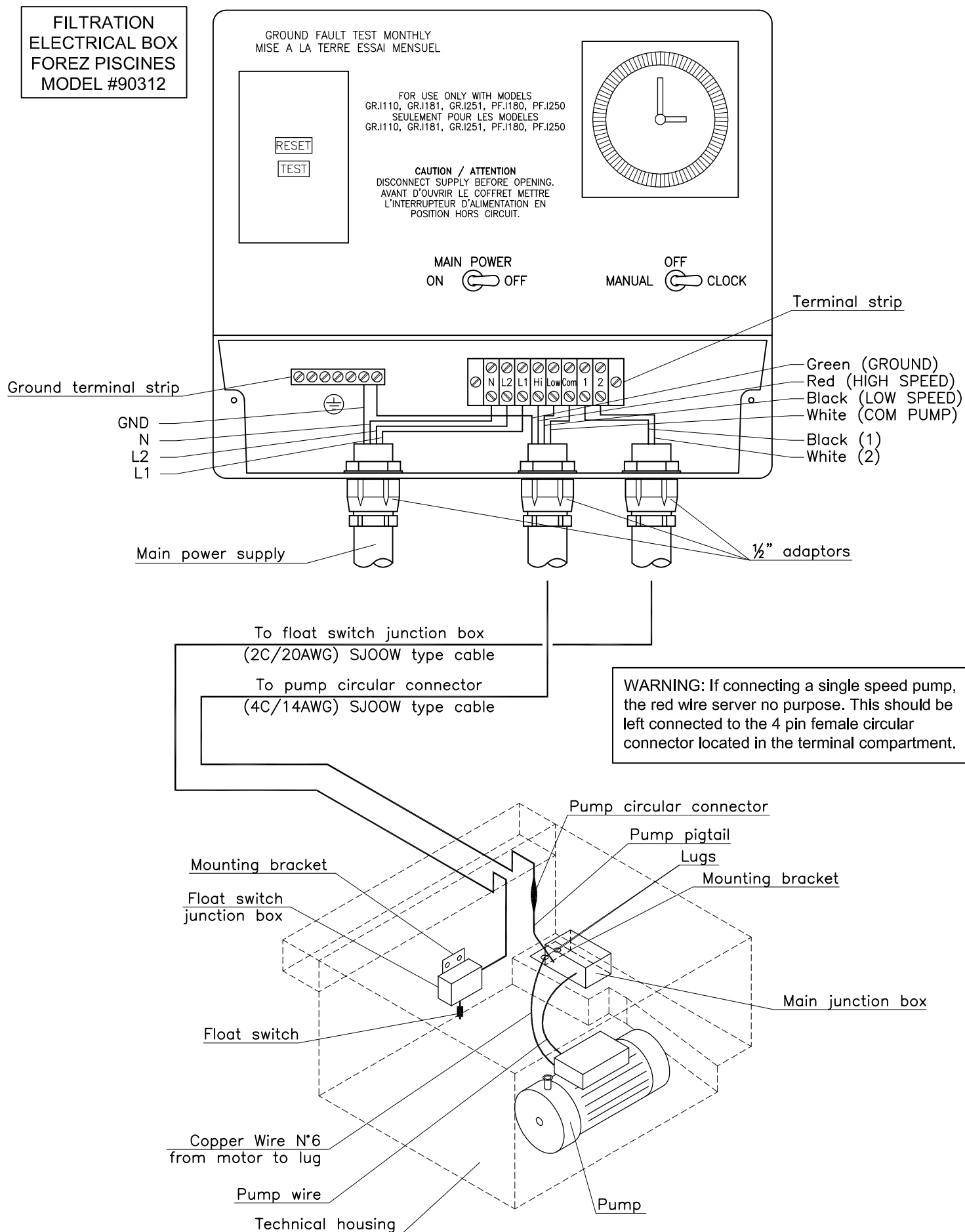


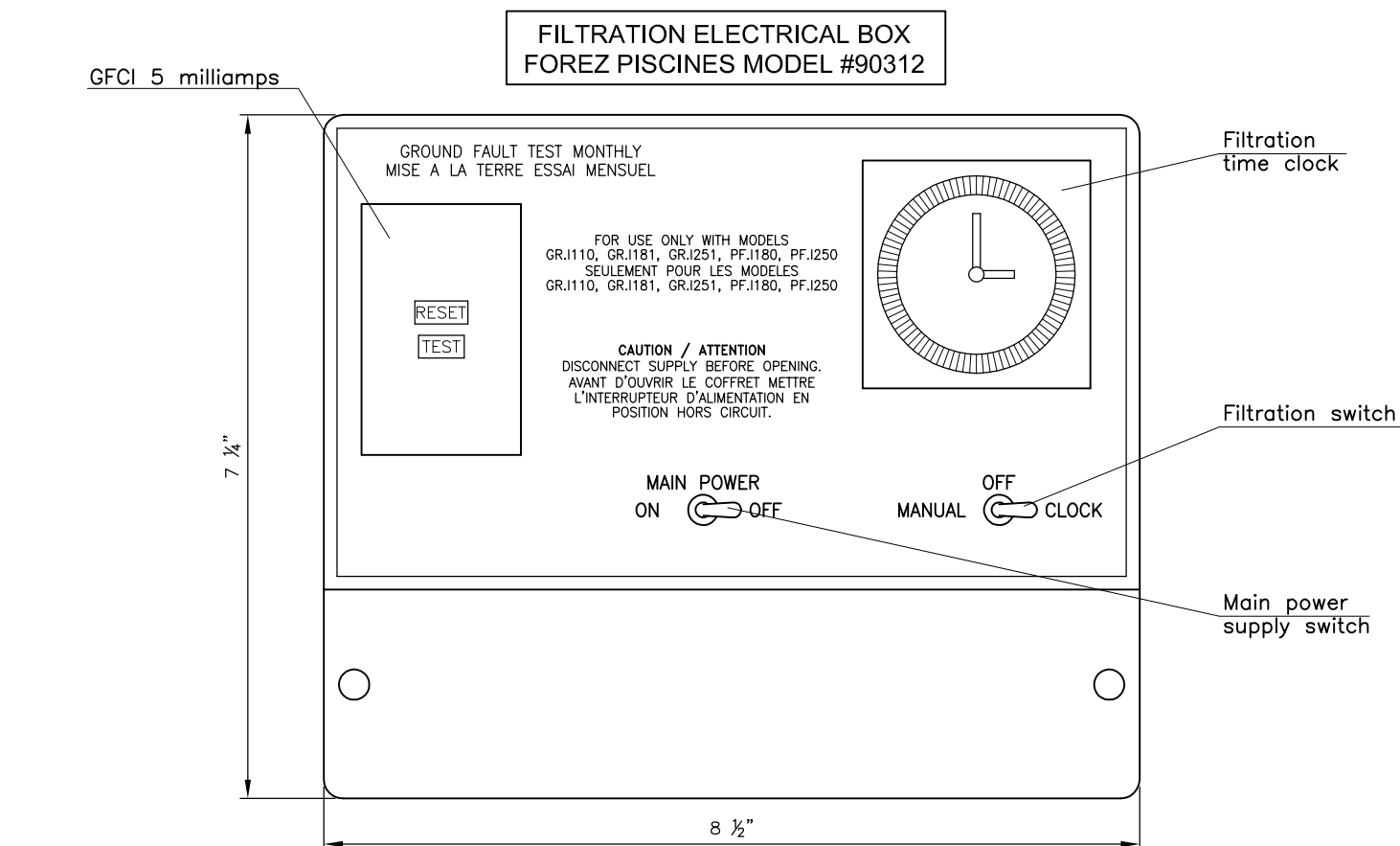
## 10 - Electrical installation procedure

*All electrical installations must be carried out by a qualified electrician, in compliance with existing standards and codes.*

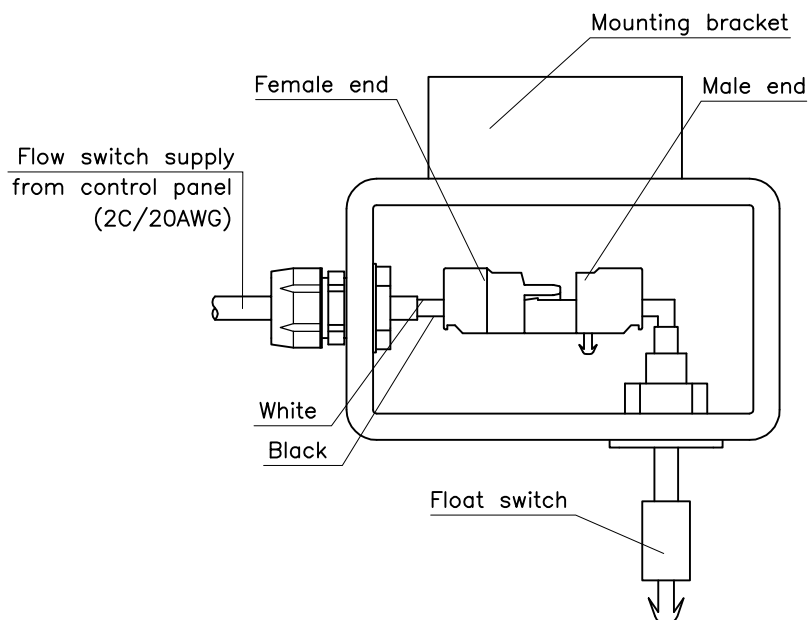
- The ground fault circuit interrupter installed in the electrical control panel is only efficient if the ground is connected. Connection of the ground must mandatorily be checked and confirmed in compliance.
- It is recommended that the installer advise the user of the need to test the ground fault circuit interrupter once a month by pressing the test button when the panel is powered and the GFCI set.
- The installation of the control panel provided requires a 120/240V, 60Hz, 15A supply protected by 5mA ground fault circuit interrupter (GFCI).
- If connected to a circuit protected by fuses, use with 20A Branch Circuit type fuses with this unit.
- See attached diagrams for hook-ups.
- A solid n°8 AWG ground wire has to be hooked up between the main distribution panel and the filtration unit to provide adequate protection as required per the electrical codes.
- Use suitable type cables as per required.
- Three bonding screw are provided with the filter unit to facilitate the bonding of non-electrical or electrical equipment associated with the pool (all metal parts of the swimming pool, metal conduit and metal piping, within 5 feet (1.5m) of the inside walls of a swimming pool). Use a solid n°8 AWG minimum ground conductor.
- Prior to all electrical servicing, the power must be switched off by pressing the test button on the GFCI.
- If the GFCI does not trip off, cut the electrical power supply up line.
- The electrical power supply is automatically shut off if there is water in the bottom of the filtration unit's technical compartment.
- The electrical control panel can only be reset after the technical compartment has been totally drained.
- The electrical control panel is reset by pressing the central button on the remote control switch.
- Turn installation power back on by resetting the GFCI.

### FILTRATION BOX CONNECTION DIAGRAM

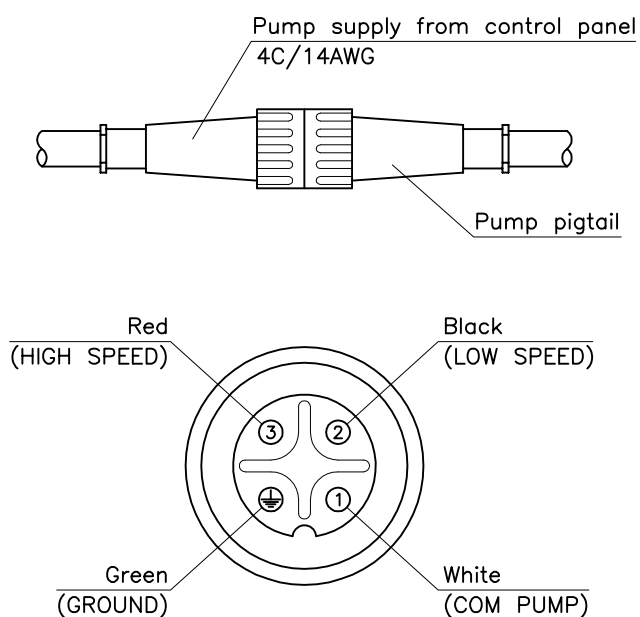




### FLOAT SWITCH CONNECTIONS



### PUMP CONNECTIONS

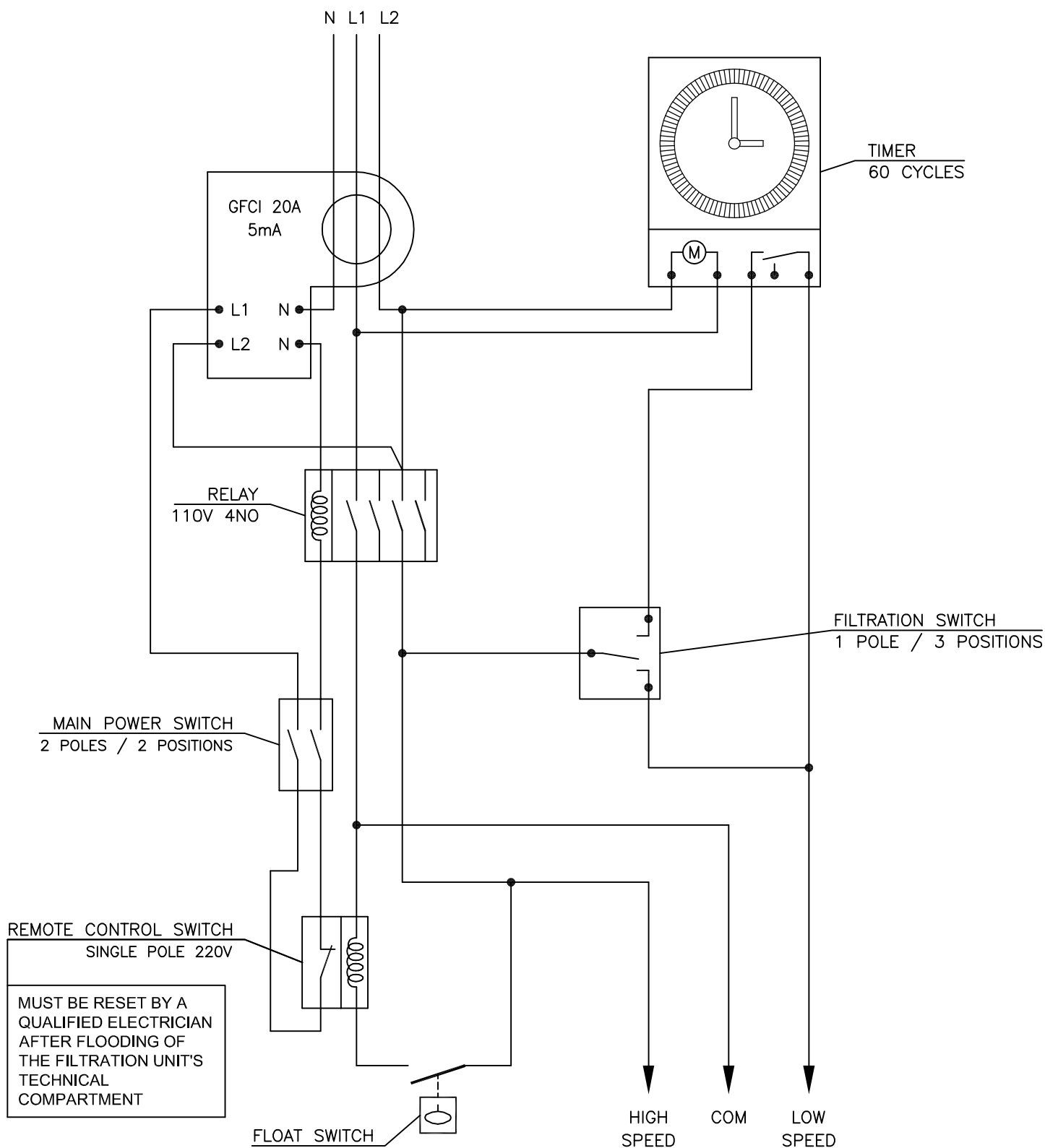


**CAUTION:**  
COVER CLOSING SCREW TIGHTENING TORQUE: 1.2Nm  
TOP CAP CABLE GLAND TIGHTENING TORQUE: 2Nm

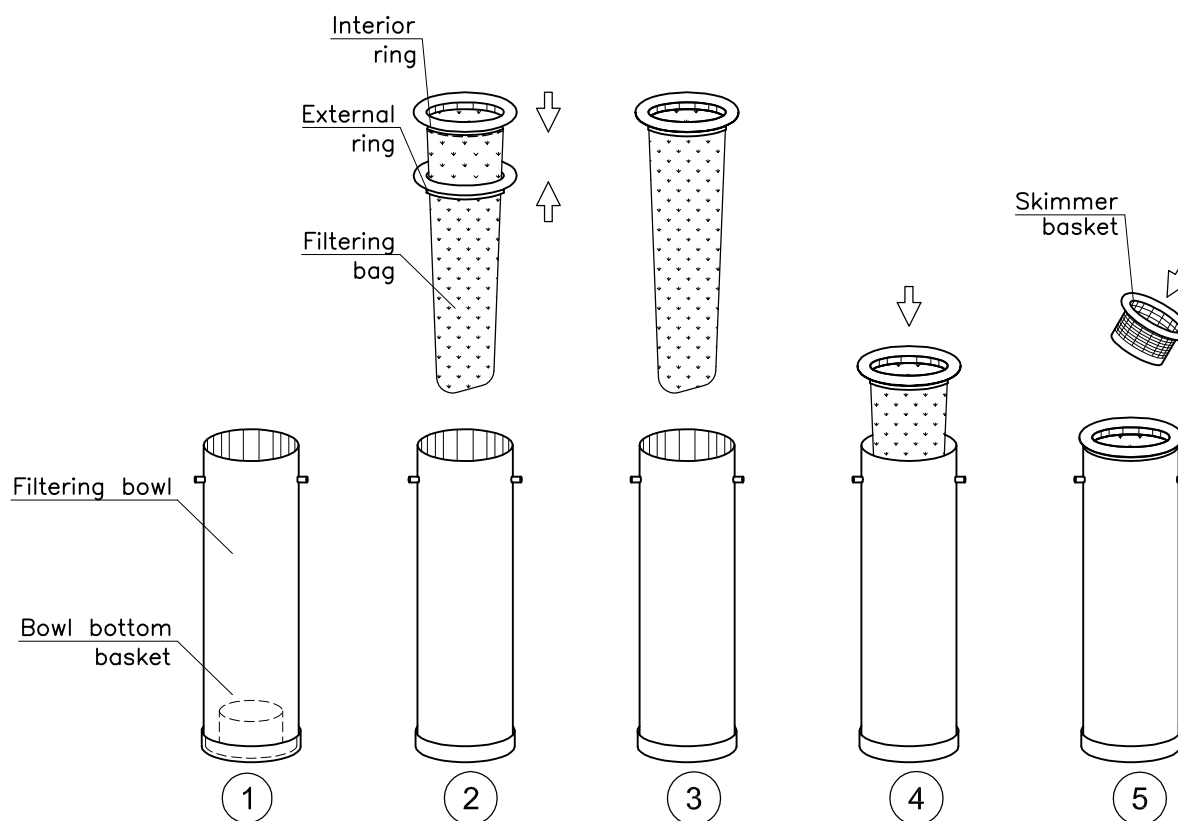
**WARNING:** If connecting a single speed pump, the red wire server no purpose. This should be left connected to the 4 pin female circular connector located in the terminal compartment.

# INTERNAL WIRING

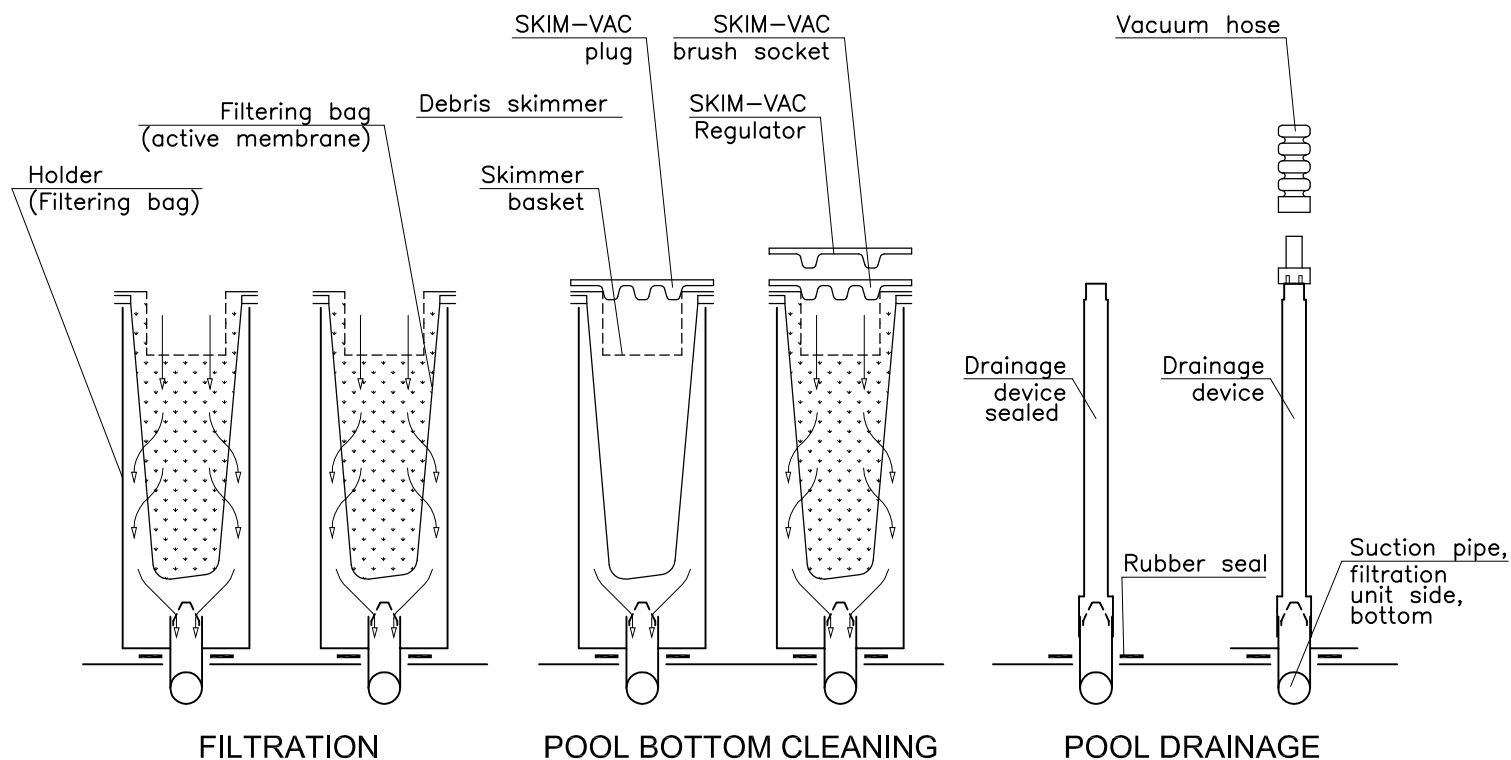
## FILTRATION ELECTRICAL BOX FOREZ PISCINES MODEL #90312



## 11. INSTALLATION OF ACCESSORIES



## INSTALLATION



## OPERATION