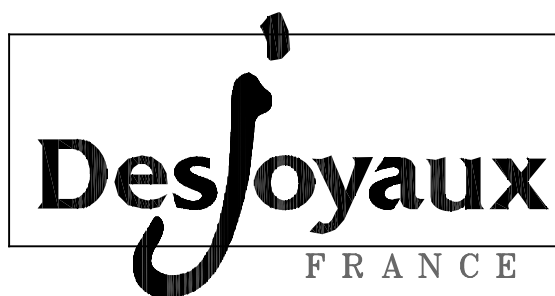


# INSTALLATION AND OPERATING GUIDE

## FILTRATION UNIT GR.I 181



JANUARY 2018

Translation of the original instructions

This guide contains the instructions required to install and use your *GR.I 181 filtration unit* for private domestic pools.

**We recommend that you carefully read the various sections of this guide and file this document in a safe place for future reference. Keep in mind all the safety requirements and recommendations below.**



This filtration system complies with the requirements of European Low Voltage Directives (2014/35 / EU), EMC (2014/30 / EU) and RoHS (2011/65 / EU).

Compliance has been checked in accordance with EN/IEC 60335-1, EN/IEC 60335-2-41 and EN/IEC 60598-2-18 (current editions).

This filtration system also complies with the European standards for private domestic pools NF EN 16582 and NF EN 16713.

Electrical connection must be made by a qualified electrician and must comply with standards and/or regulations in force in the country where the unit is being installed.

When installed in accordance with the recommendations below, this filtration system meets the requirements of electrical standards NF C15-100, HD 60364 and IEC 60364 (current editions).

In keeping with the EU directive on electronic waste (WEEE), this product should not be disposed of with household waste but must be collected separately.

For more information, please contact your local authorities or your distributor.



#### **Safety instructions and warnings:**

The use of a massage hose connected to the water discharge pipe presents a potential danger when the jet is directed at a person above the water level (risk of eye injury).

Any modification to the positioning of valves or the pump type may cause a variation of flow and result in an increase of the suction speed.

In case of doubt concerning the pump or the filtration system, contact your installer.

**This device is not intended for use by children under the age of 8 or individuals with limited physical, sensory or mental capacities or limited experience/knowledge, unless they are supervised by an individual responsible for their safety or receive instructions from the latter as to how the device should be used and understand the risks involved. Children should not play with the appliance. Cleaning and maintenance should not be performed by children without supervision.**

Made in France.

Translation of the original instructions

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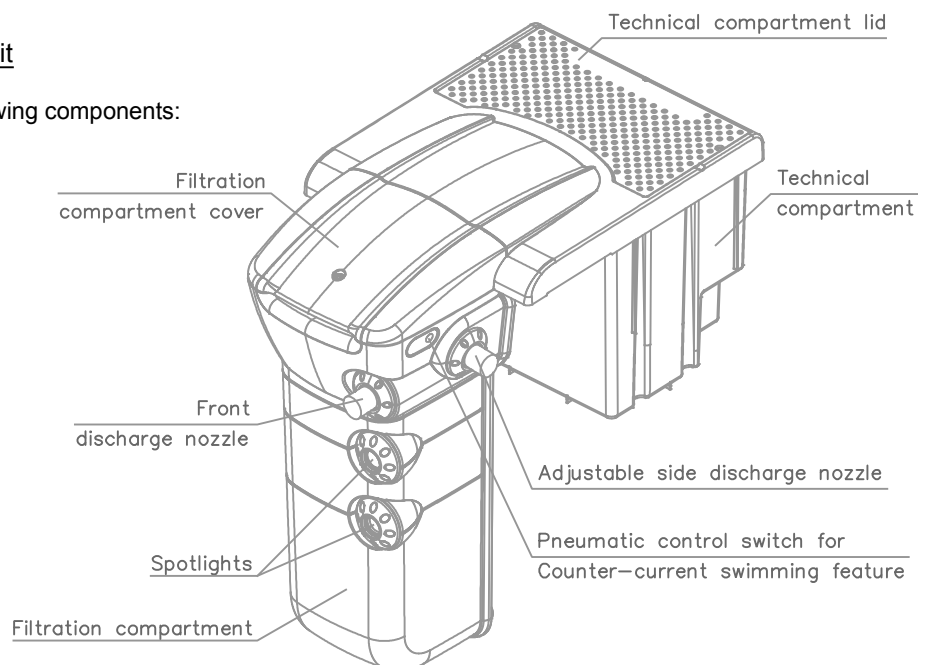
## 1. Presentation of the GR.I 181 filtration unit

- There are several standard version of this filtration system:
  - ▶ GR.I 181 P18 version: GR.I 181 unit equipped with a P18 pump:
    - Single-speed pump, motor: power consumption 450W (50 or 60Hz)
    - Total assigned power with the spotlights: 595W
  - ▶ GR.I 181 P25 version: GR.I 181 unit equipped with a P25 pump:
    - Single speed pump, absorbed power 1205W (50 or 60Hz)
    - Total assigned power with lighting spotlights: 1426W
  - ▶ GR.I 181 PBi version: GR.I 181 unit equipped with a PBi pump:
    - Dual-speed pump, motor: low-speed power: 370W / high-speed power: 2100W
    - Total assigned power with the spotlights: 2410W
- Each standard version can be equipped with optional adaptation piping for:
  - a by-pass heating system, or
  - a salt electrolyser, or
  - an electric heater.

### • Configuration of the GR.I 181 filtration unit

The GR.I 181 filtration unit consists of the following components:

- an immersed "filtration compartment" equipped with 2 spotlights, skimmer opening, and the front and side (adjustable) discharge nozzles. The filtration compartment contains the filter element and the connecting pipes with the technical compartment.
- a "technical compartment", inserted into a masonry housing at the edge of the pool deck, which houses the pump and its connecting pipes, the transformer for the two spotlights and the electrical connection box.



### • Operating principle

The pump draws water through the skimmer opening on the side of the filtration unit. The water is immediately filtered through the filtration bag (6 or 15 microns).

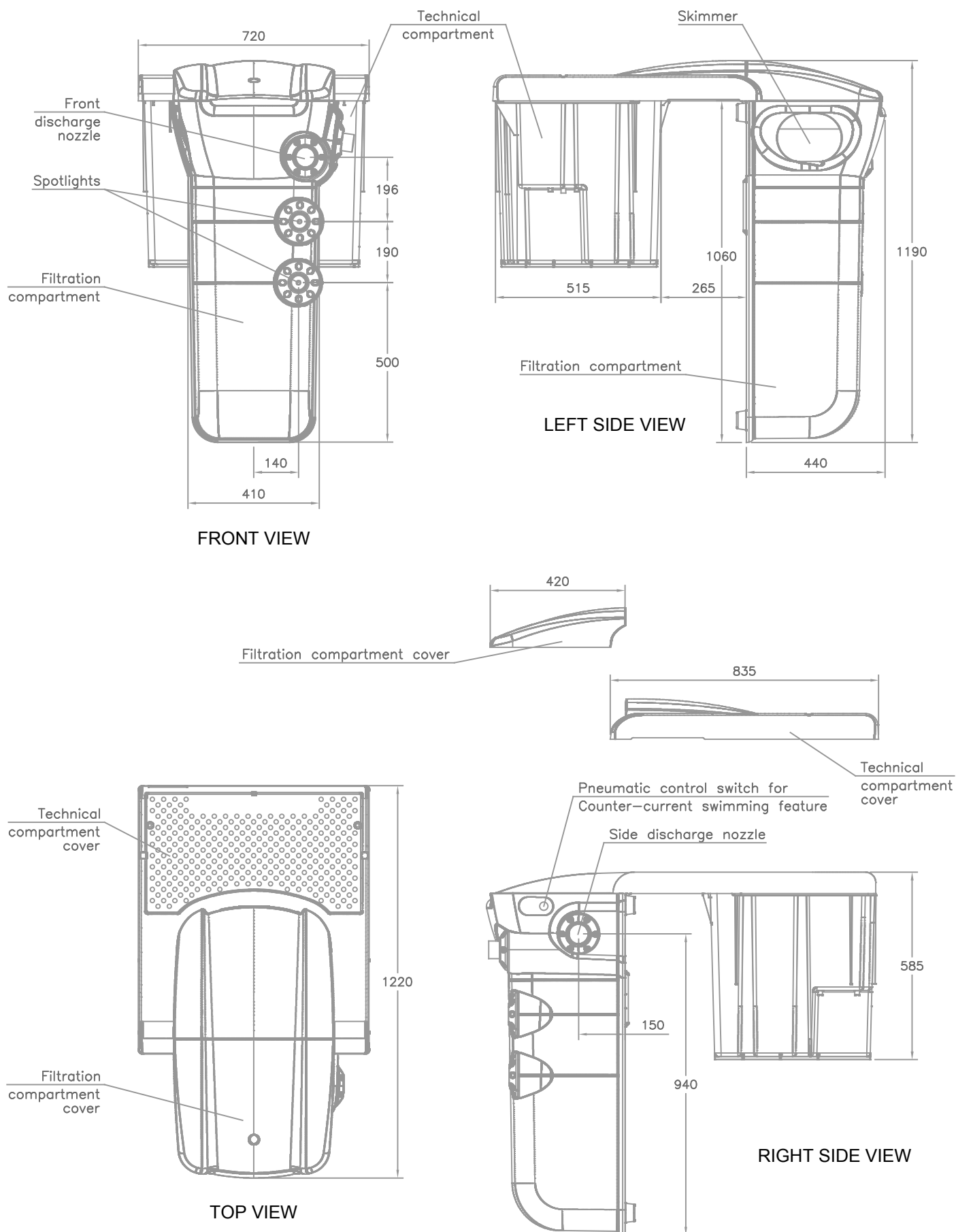
The water is drawn in by the pump and then discharged into the pool.

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

### • Characteristics of the GR.I 181 filtration unit

- Rapid installation, easy to use, reliable and economical
- Surface water intake
- Corrosion-proof materials
- Very little head loss
- Mixing of surface water and at depth by gyration
- Built-in spotlights
- Filtration through suction
- Easy servicing
- Reduced after-sales service
- High degree of filtration, 6 or 15 microns
- Exceptional cleanability of the filter bags by water jet or, if necessary, by washing machine.

## 2. General views



### 3. Technical specifications and instructions prior to the installation and operation of the GR.I 181 filtration unit

The GR.I 181 filtration unit is equipped with features designed to optimise installation and operation.

- Hermetic technical compartment

A perfect seal is ensured between the swimming pool and the technical compartment by means of hermetic pipe feedthroughs.  
**CAUTION:** the cover of the technical compartment must be securely closed at all times by means of its 2 mounting screws.

- Masonry

Only 2 support columns are required to support the filtration unit.  
Refer to the installation instructions thereafter.

- Spotlights

**Turn on the spotlights only once they are fully immersed.**

**NEVER** use alcohol or solvents to clean the spotlight. Use only soapy water.

- Pump removal

Before disconnecting and removing the pump, the connecting pipes must be drained by unscrewing the two purge plugs located on the suction and discharge lines in the filtration compartment.

Do not forget to securely tighten these 2 plugs before reinstalling the pump.

- Installation of optional piping

- If your installation requires a by-pass, order the piping that is specially adapted to the GR.I 181.

All pipes passing through the technical compartment wall must be made hermetic by means of specially designed hermetic feedthrough elements.

In addition, if you foresee the installation of by-pass heating equipment at a later time, we strongly recommend that the necessary connecting pipes be installed during the construction phase.

- If your installation is equipped with an electric heater, order the piping that is specially adapted to the GR.I 181.

- The standard discharge piping must be modified if the salt electrolyser system is installed.

Refer to the electrolyser's installation manual.

- Buried pipes

Buried pipes (particularly when fitting a bypass) must be subjected to a pressure strength test before and after backfilling (NF EN 16 713-2) to ensure that they have not suffered any damage during the installation.

- Locking the filtration compartment cover

We also recommend that the filter compartment cover be kept closed using the ¼-turn lock in order to secure access to the skimmer basket and treatment products.

- Filtering bags

Use only Desjoyaux filtering bags

#### 4. List of tools required for assembly.

- Not supplied

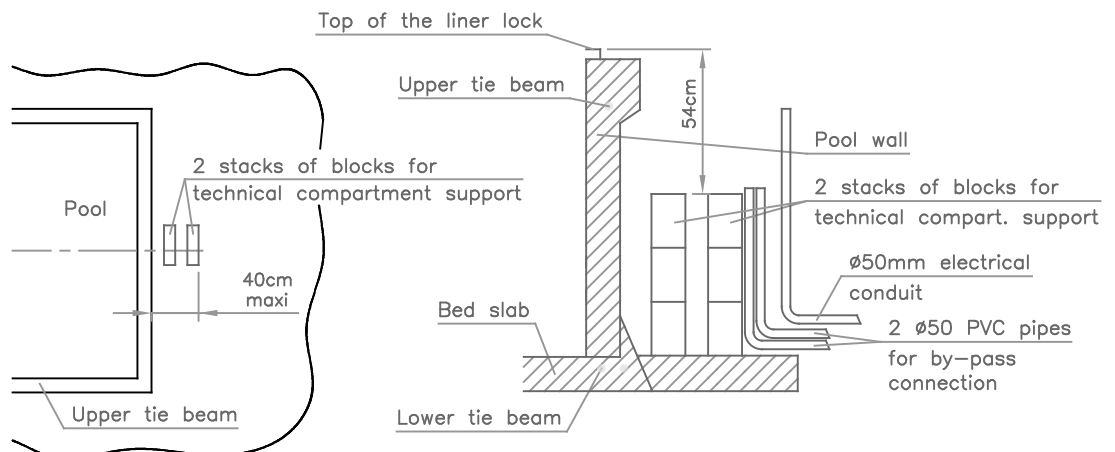
Phillips screwdriver  
 Flathead screwdriver  
 Builder's rule  
 Spirit level  
 Adjustable wrench  
 Cement  
 Sand  
 Solid breeze blocks  
 D50 red sheath for electric cables  
 Vacuum cleaner for laying the liner  
 Desjoyaux multi-conductor cable  
 Pipe wrench 17 or 19 mm (depending on pump)  
 Allen wrench 5

#### 5. GR.I 181 installation and operating instructions

##### 5.1 - Support masonry

When the pool's masonry and filtration unit location is being built, construct two parallel tiers of blocks, at the filtration unit and parallel to the structure (a maximum of 40cm from the outside of the pool wall), up to 54cm from the upper edge of the pool (top of the liner lock).

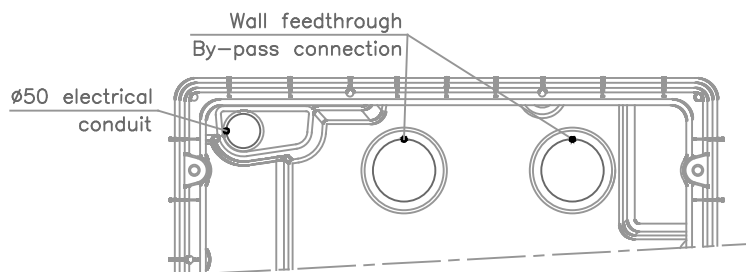
- For the filtration unit's electrical connection, remember to route Ø50 conduit to just behind the unit's 2 support columns.
- For the by-pass piping connection, also route 2 Ø50 PVC pipes to the back of unit's 2 support columns.



- During the backfill operation, remember not to backfill around the filtration unit above the supporting blocks.

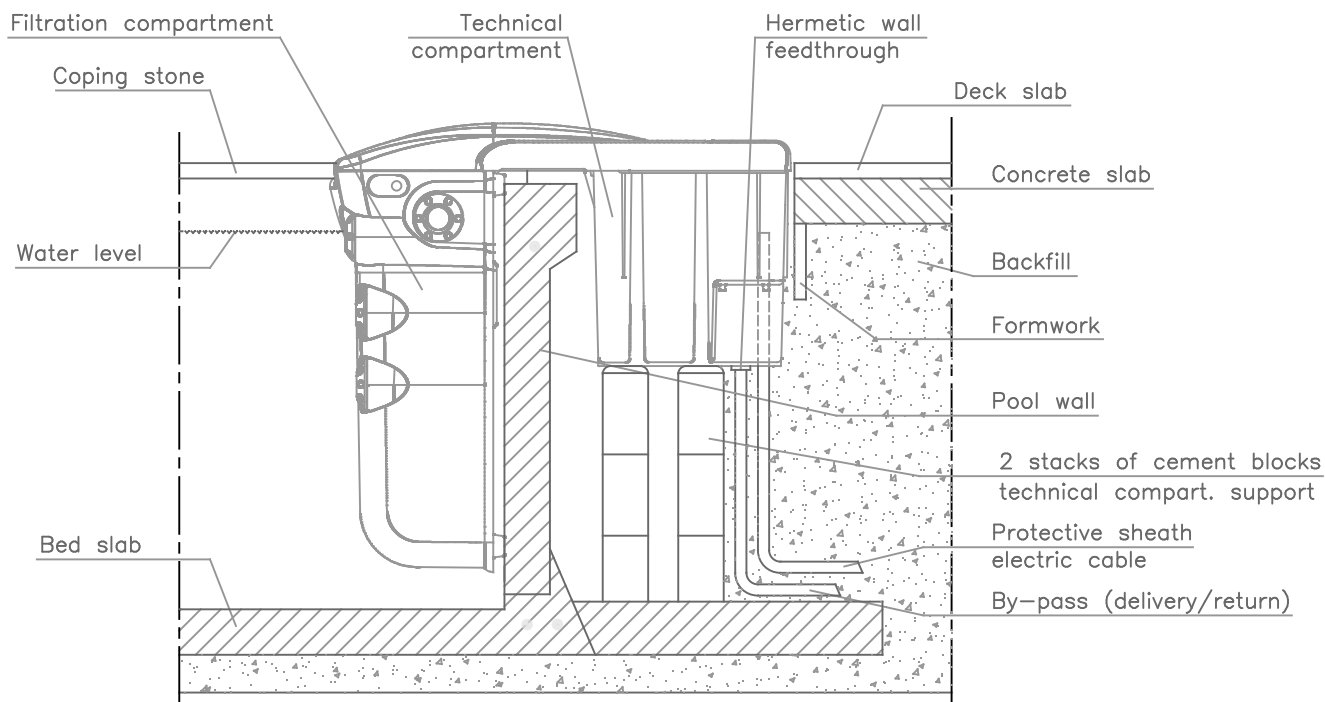
## 5.2 - Positioning the filtration unit

- At the top of the two stacks of blocks, pour a concrete levelling course 51.5cm from the top of the liner lock in order to finish off the filtration unit support base.
- Position the filtration unit. Make sure that the unit rests correctly on top of the pool wall. Remove the technical compartment cover and check that the top of the unit is level.
- Slide the Ø50 electrical conduit through the opening provided at the back of the GR.I 181 technical compartment.
- If necessary, glue the 2 PVC by-pass connecting pipes in the two feedthroughs provided in the bottom of the technical compartment.



TOP VIEW - TECHNICAL COMPARTMENT

- Place a form around the technical compartment (using rigid cardboard, for example) which will provide sufficient space to remove the unit from its location. This formwork must remain in place until the deck has been laid around the swimming pool.
- Finish backfilling around the filtration unit, and finalise the pool masonry work (installation of the coping stones and pool deck area).



## 5.3 - Liner installation

- CAUTION: The GR.I 181 filtration unit must be removed in order to install the liner.
- The installation of the liner requires no special commentary.

## 5.4 - Commissioning the GR.I 181 filtration unit

- The filtration unit must be put into service once the installation of your pool is completed and at the start of each season.
- Install the filtration unit on the wall of the pool. Care must be taken so as not to damage the liner.
- Finish filling the pool to the upper 2/3 of the skimmer window.
- Before installing the pump in the technical compartment, the pump's turbine must be turned manually via the pump's inlet opening (19mm tubular elbow wrench for the PBi pump, 17mm for the P18 pump).



- Place the filtration pump inside the technical compartment.
- Connect the intake line to the pump's intake opening by tightening the 2¾" connecting nut - remember to fit the O-ring in place.
- Connect the intake line with the flexible sleeve and the two Ø63 clamps provided.
- Fill the body of the filtration pump with water through the discharge opening.
- Connect the discharge line to the pump's discharge opening by tightening the 2¾" connecting nut - remember to fit the O-ring in place.
- Connect the discharge line with a Ø75mm collar using the No. 5 Allen wrench (not provided).
- REMEMBER TO SECURELY TIGHTEN THE TWO PURGE BUTTONS ON THE INTAKE AND DISCHARGE LINES OF THE FILTRATION COMPARTMENT.
- Have all electrical connections performed by a qualified electrician (see instructions regarding the electrical connections).
- Install the filtering bag (see installation of accessories).
- Initiate filtration by setting the switch on "MANU" (on the electrical control panel) and allow it to operate for 2 or 3 days.
- CAUTION: before closing the technical compartment cover, check for leaks on all 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.

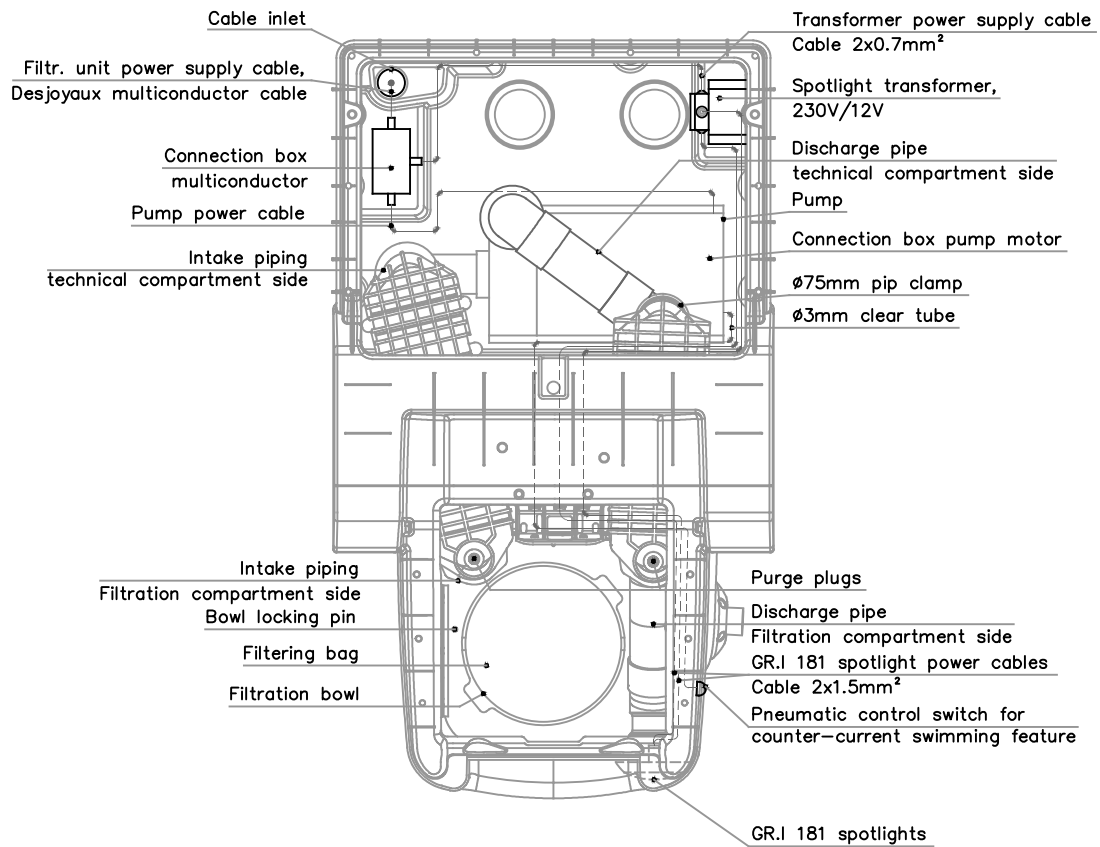
### **5.5 - GR.I 181 filtration unit winter shut-down operations**

- Position the ground fault circuit interrupter (GFCI) to "OFF".
- Turn the circuit breakers inside the box to "OFF".
- Turn the switches inside the box to "OFF".
- Unscrew the two purge plugs located in the suction and discharge lines in the filtration compartment.
- Unscrew the cover's 2 retaining screws and open the technical compartment.
- Unscrew the Ø63 and Ø75 clamps on the pump's connecting lines and remove the two intake and discharge lines by unscrewing the pump's 2 connecting nuts.  
Be careful not to lose the 2 O-rings.
- Using a screwdriver, open the connection box and unplug the pump and transformer connectors.
- Remove, drain and store the pump in a dry area, far away from chlorinated products.
- Unscrew (2 screws) and remove the connection box from the technical compartment.
- Remove the technical compartment power supply cable through the opening provided for this purpose (without removing the plug or cable gland).
- If a by-pass heater connecting pipe is installed, unscrew the nuts from the 2 by-pass wall feedthroughs at the bottom of the technical compartment.
- Remove the GR.I 181 filtration unit from its masonry housing and store it in a location which is protected from inclement weather.
- Place the power supply cable in the connection box. Fit the winter storage covers on the box in order to seal the unused openings.
- Close the connection box securely. The box should be left in the technical compartment's masonry housing until such time as the GR.I 181 filtration unit is put back into service.

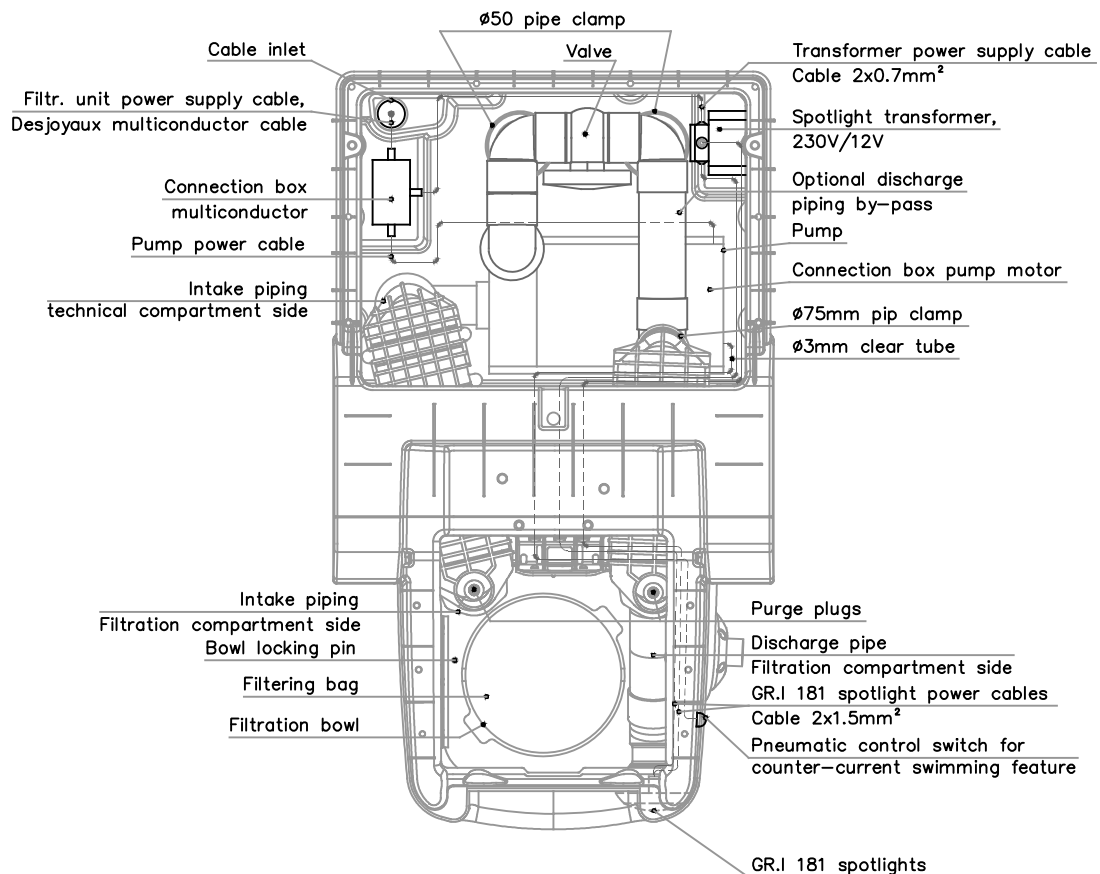
Refer to the operating manual for further information concerning swimming pool shut down (winterisation) procedures.

## 6. Detailed views

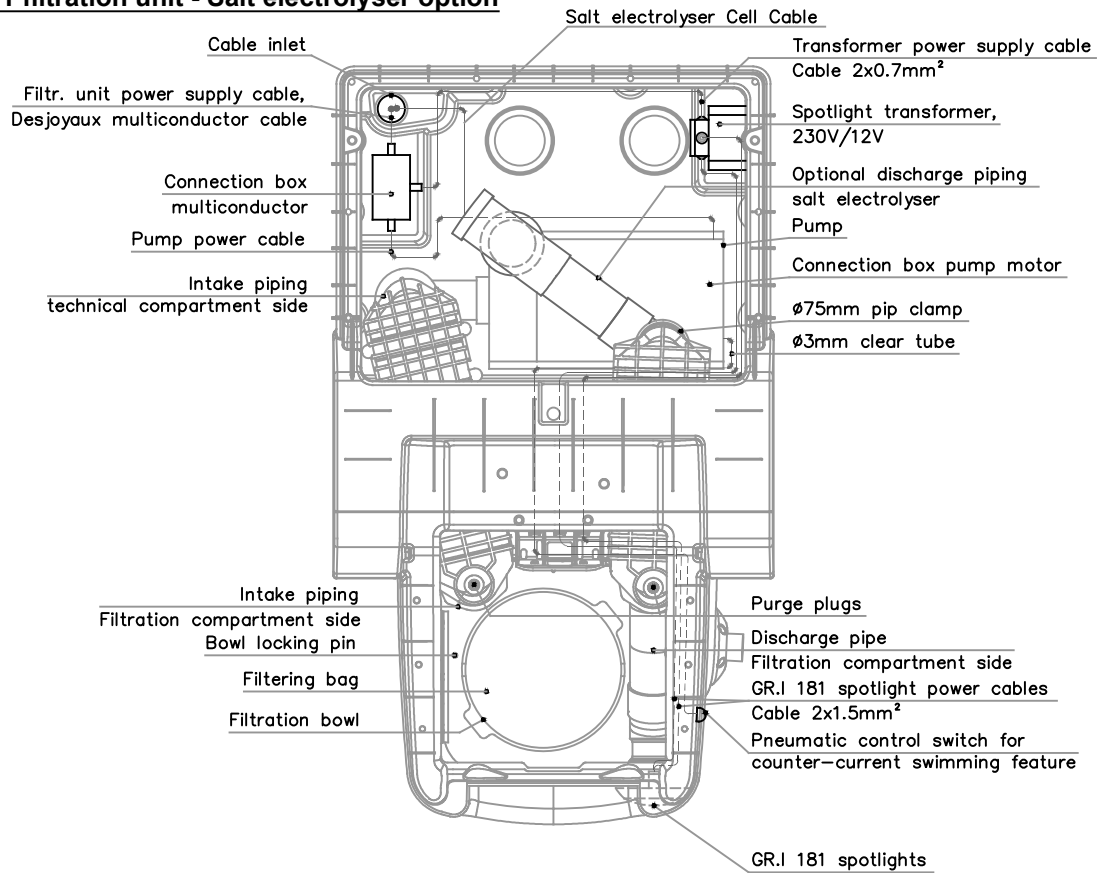
### 6.1 - GR.I 181 filtration unit - Standard version



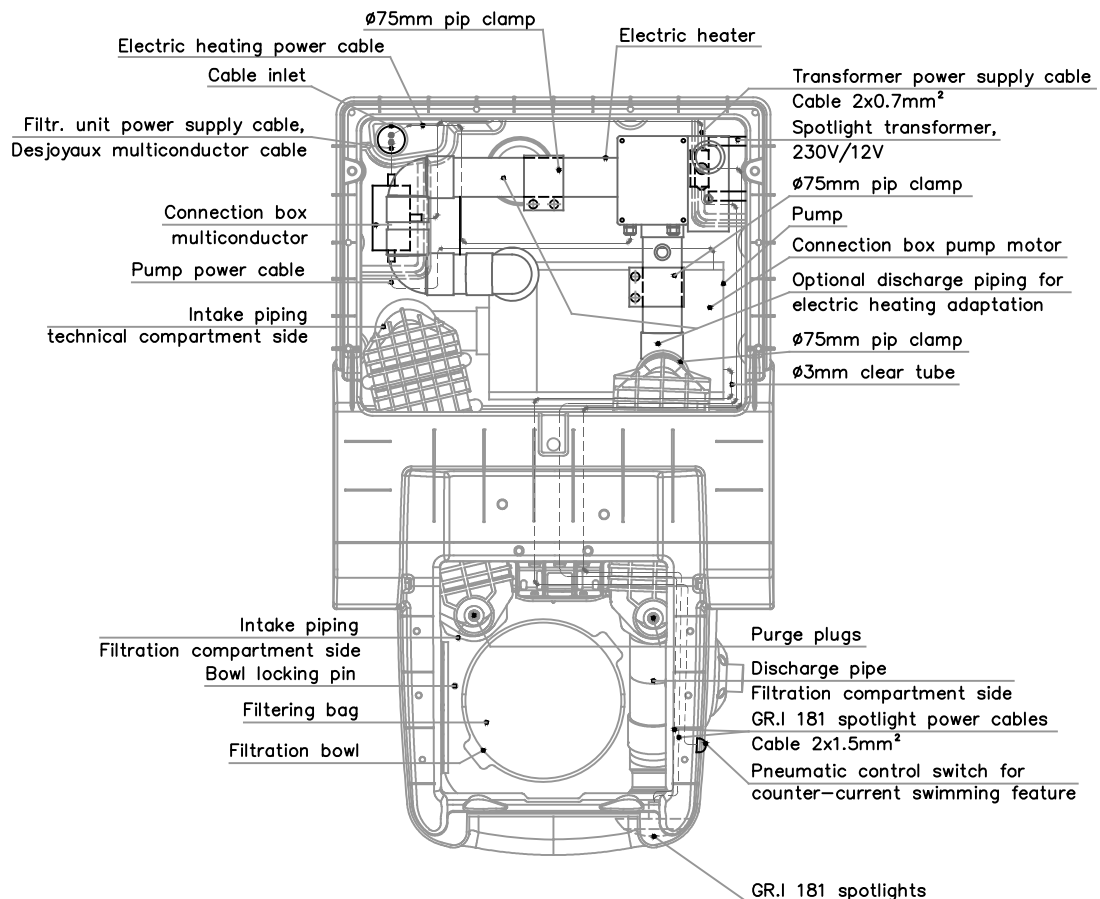
### 6.2 - GR.I 181 filtration unit - By-pass option



### 6.3 - GR.I 181 filtration unit - Salt electrolyser option



### 6.4 - GR.I 181 filtration unit - Electric heater option



## **7. General electrical instructions**

### **7.1 - Electrical connections**

**Electrical connection must be made by a qualified electrician and must comply with standards and/or regulations in force in the country where the unit is being installed.**

When installed in accordance with the recommendations below, this filtration system meets the requirements of electrical standards NF C15-100, HD 60364 and IEC 60364 (current editions).

- Hermetic electrical boxes shall be installed outside the zone of protection, that is at a distance greater than 3.5m from any location around of the swimming pool.
- All of the connections in the connection boxes must be retightened.
- A 16A circuit breaker must be installed in series at the head of the power supply line of the filtration unit's electrical box (upline from the GFCI).
- Refer to the electrical diagrams below concerning the electrical connections.

### **7.2 - Burying of electrical cables**

- Under a path or sidewalk, cables should be buried at a minimum depth of 0.85 metre.
- In other cases, the minimum depth is 0.5 metre.
- If the cables are not routed through conduit, red warning netting must be placed above it (Be advised, certain types of cables can be buried without having to be routed through conduit).

### **7.3 - Notes**

- The cover of the technical compartment which gives access to the electrical components (pumps, transformer) must be locked down with the screws provided for this purpose.
- Prior to maintenance or servicing in the technical compartment, disconnect the mains power supply to the unit.
- The power supply to the pump is single-phase; only certain heaters can be run on three-phase current.
- The pump is equipped with a single-phase P18 motor, the black wire No. 6 (refer to the filtration electrical box) is not used. Simply leave it connected to the 4-pin female connector in the multiconductor connection box.
- The power supply must be grounded:
  - in France, it must be of acceptable value and its resistance must be measured periodically;
  - in Belgium, the ground connection must have a value of 30 ohms (for domestic installations).

#### **IMPORTANT NOTE:**

*The GFCI (30mA) in:*

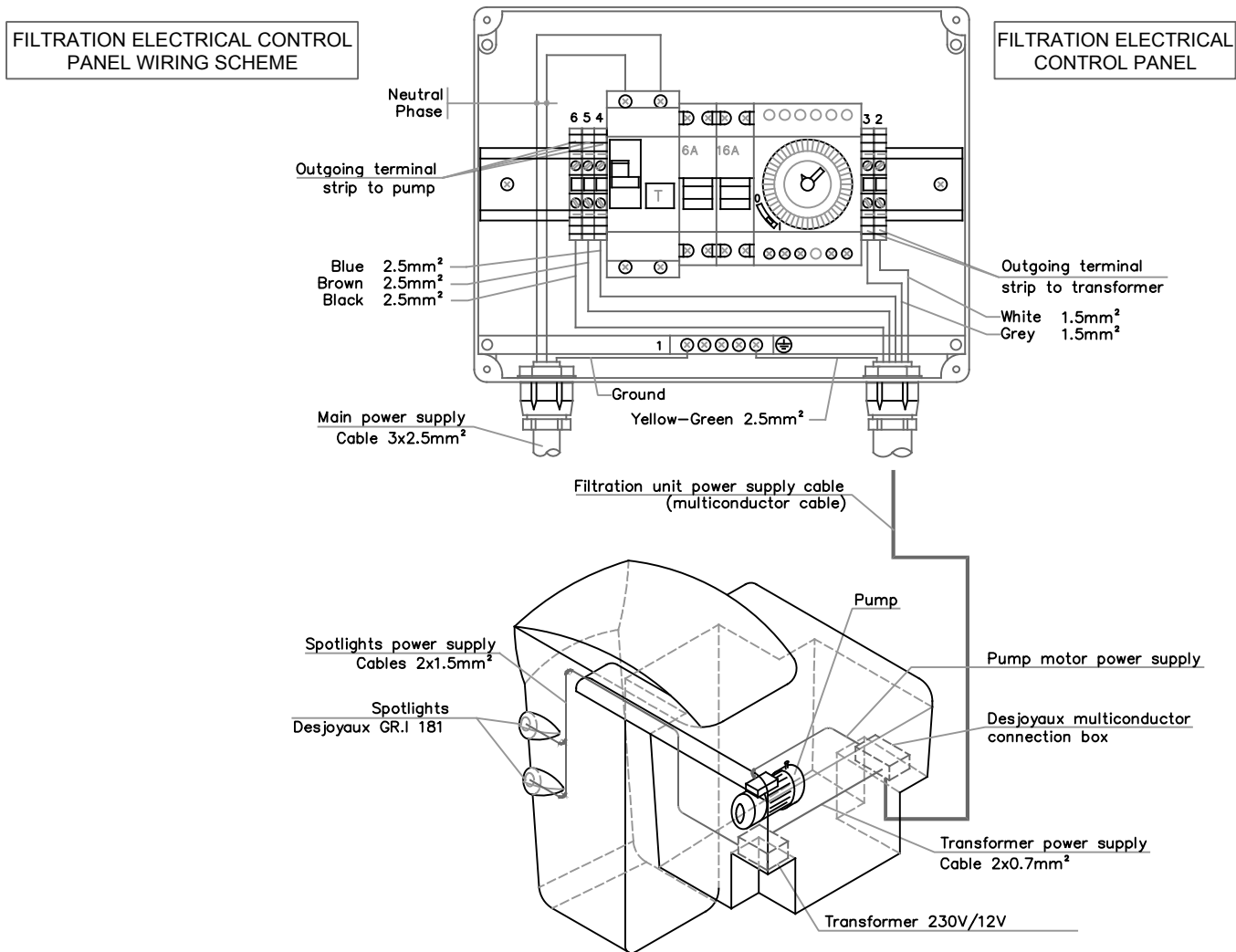
- *the filtration box;*
- *the electric heater / blower differential boxes,*
- must be tested periodically (at least once per month).*

*The GFCI must trip when the test button is pressed.*

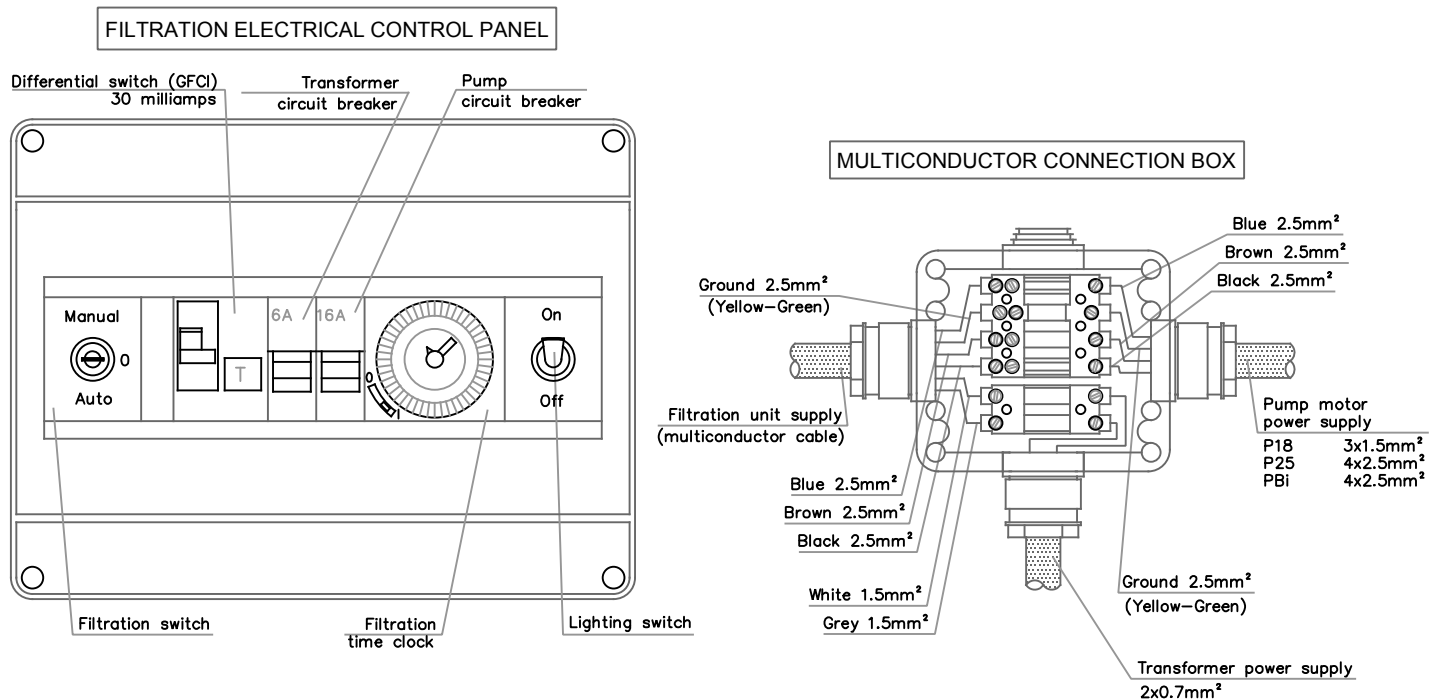
- *This test must be performed when power is supplied to the GFCI;*
- *If the GFCI does not trip, disconnect the power upline and call a qualified electrician.*

## 7.4 - Connection diagram

**Important:** The maximum allowable breaking capacity at 230V is 4.5kA (for domestic applications). The installer must modify the breaking capacity of the protective devices if the installation requires this.

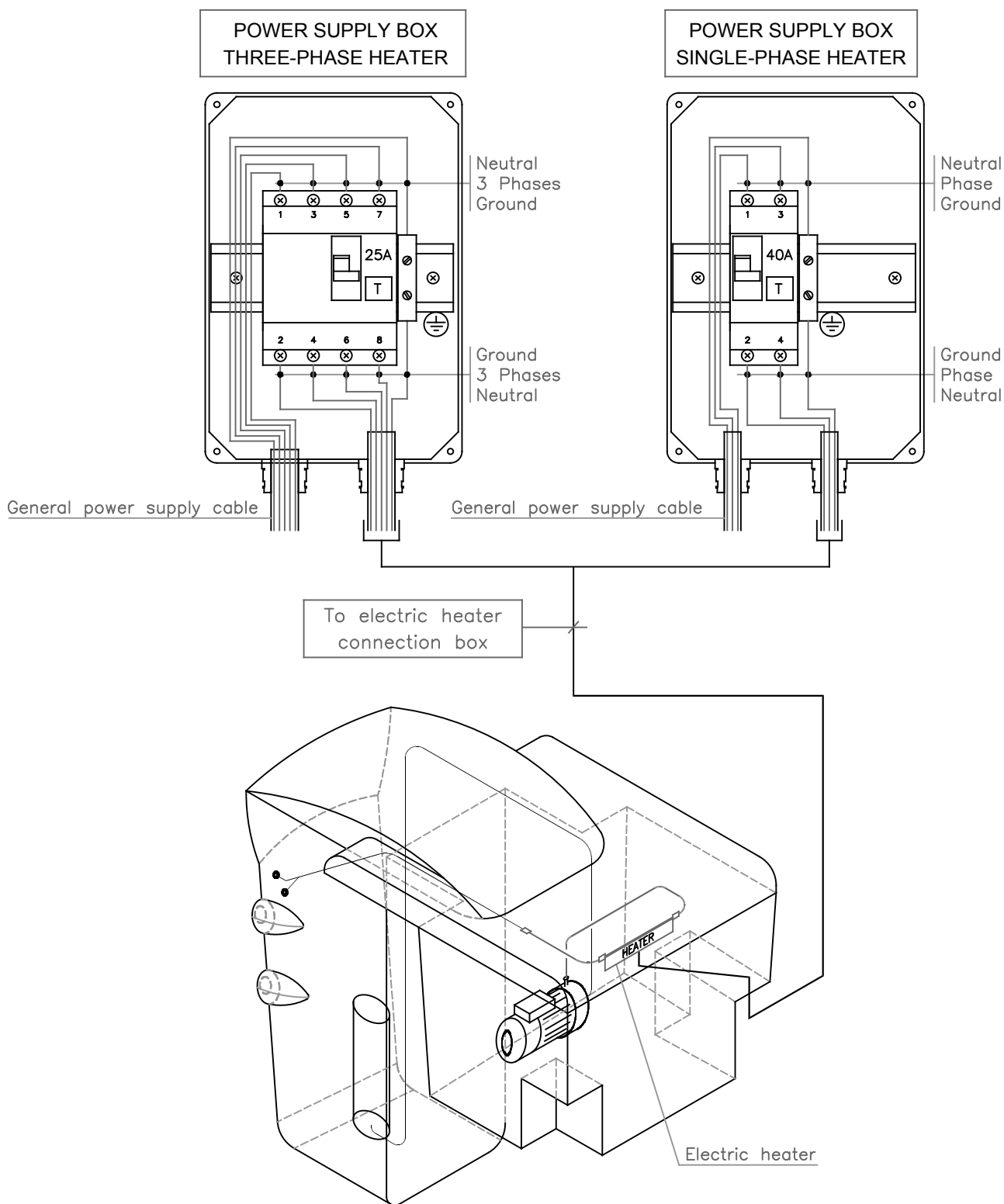


NOTE: If the P18 motor is in single speed mode, the black wire No.6 serves no purpose. This should be left connected to the 4-pin female connector located in the multiconductor connection box.



### 7.5 - Electric heater connection diagrams

**CAUTION:** the electric heater requires that a second power cable be installed, in addition to the multiconductor cable required for the filtration and lighting system (see cable size below).



THREE PHASE	BREAKER	Cable size
6kW heater	16A	5x2.5mm <sup>2</sup>
9kW heater	16A	5x2.5mm <sup>2</sup>
12kW heater	20A	5x4mm <sup>2</sup>

SINGLE PHASE	BREAKER	Cable size
6kW heater	32A	3x4mm <sup>2</sup>
9kW heater	50A	3x6mm <sup>2</sup>

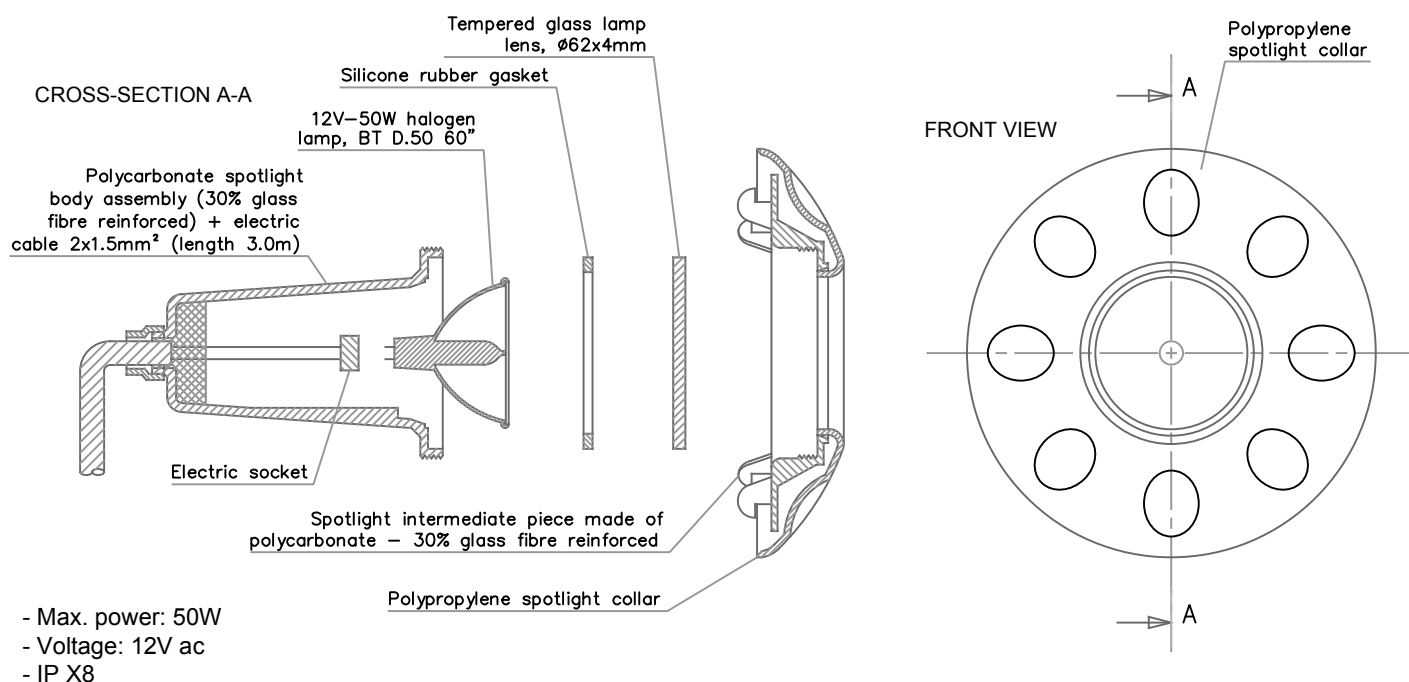
## 8. Spotlight lamp change procedure on the GR.I 181 filtration unit

Only the 12-volt, 50-watt BT D.50 60° halogen lamps can be installed.

- Disconnect from the transformer to the electrical panel.
- Disconnect the spotlight's power supply cable in the transformer connection box.
- Loosen the corresponding cable gland in the technical compartment, then pull the spotlight's power cable in the filtration compartment.
- Unclip the spotlight from the filtration compartment by turning it approximately 1/4 turn in order to disengage the retaining tabs.
- Remove the spotlight with its power supply cable.
- Unscrew the collar + intermediate piece assembly to separate the body.
- Remove the glass window, while being careful not to lose the gasket.
- Remove the lamp.
- Install a new lamp while being extremely careful to correctly insert the electric socket onto the lamp base.
- Check to ensure that the gasket is in good condition and not pinched, then replace the glass.
- Tighten the collar + intermediate piece on the body. When tightening, make sure that the window is correctly centred in the base of the housing. Tighten to ensure that the gasket is slightly flattened.
- Insert the power supply cable, then secure the spotlight on the filter compartment.
- Introduce the power cable into the technical compartment through the cable gland provided for this purpose.
- Reconnect the spotlight's power supply cable in the transformer connection box.
- After turning the spotlight on for the first time, make sure that no air bubbles are present. Bubbles are an indication that the unit is leaking. If bubbles are noted, remove the spotlight again and check the gasket and the condition of glass lens.

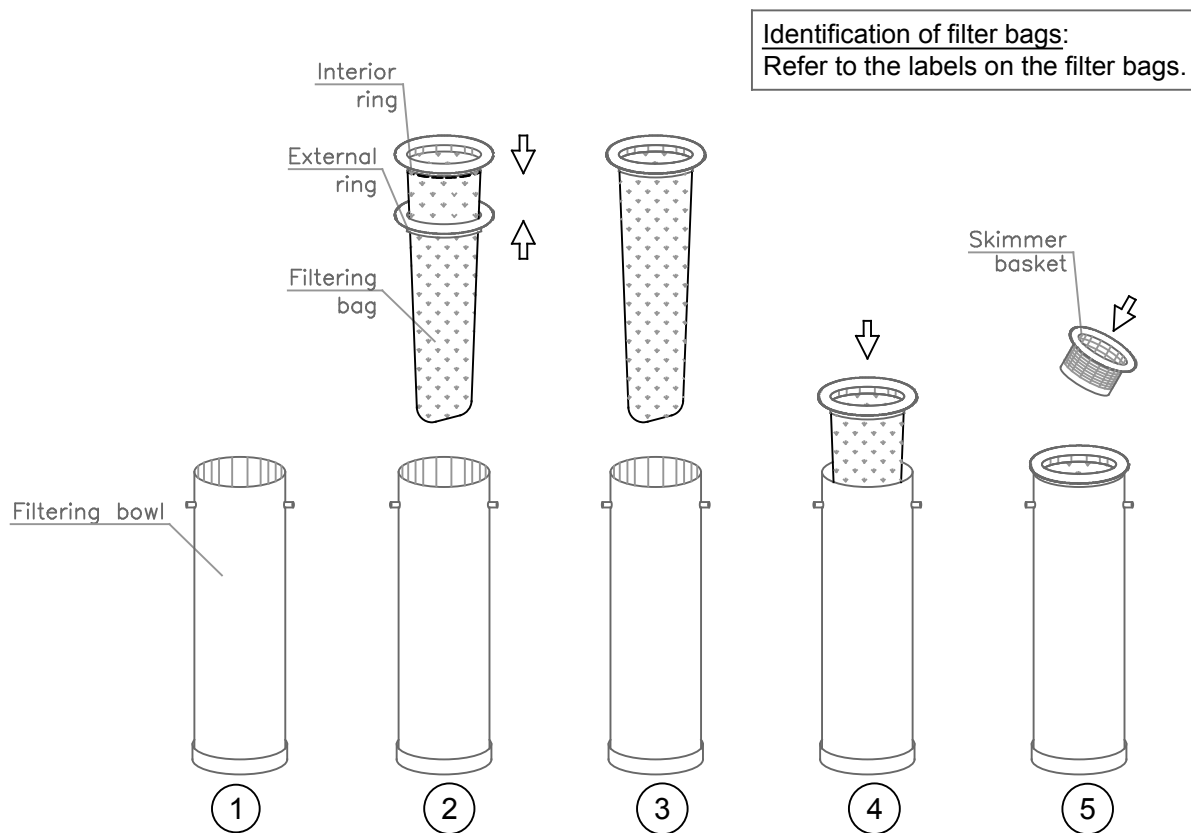
**CAUTION:** Do not use alcohol or solvents to clean the spotlight. Use only soapy water.

**TO BE USED ONLY IN THE CASE OF IMMERSION IN WATER  
OPERATES ONLY WITH A 50VA SAFETY TRANSFORMER, MINIMUM**

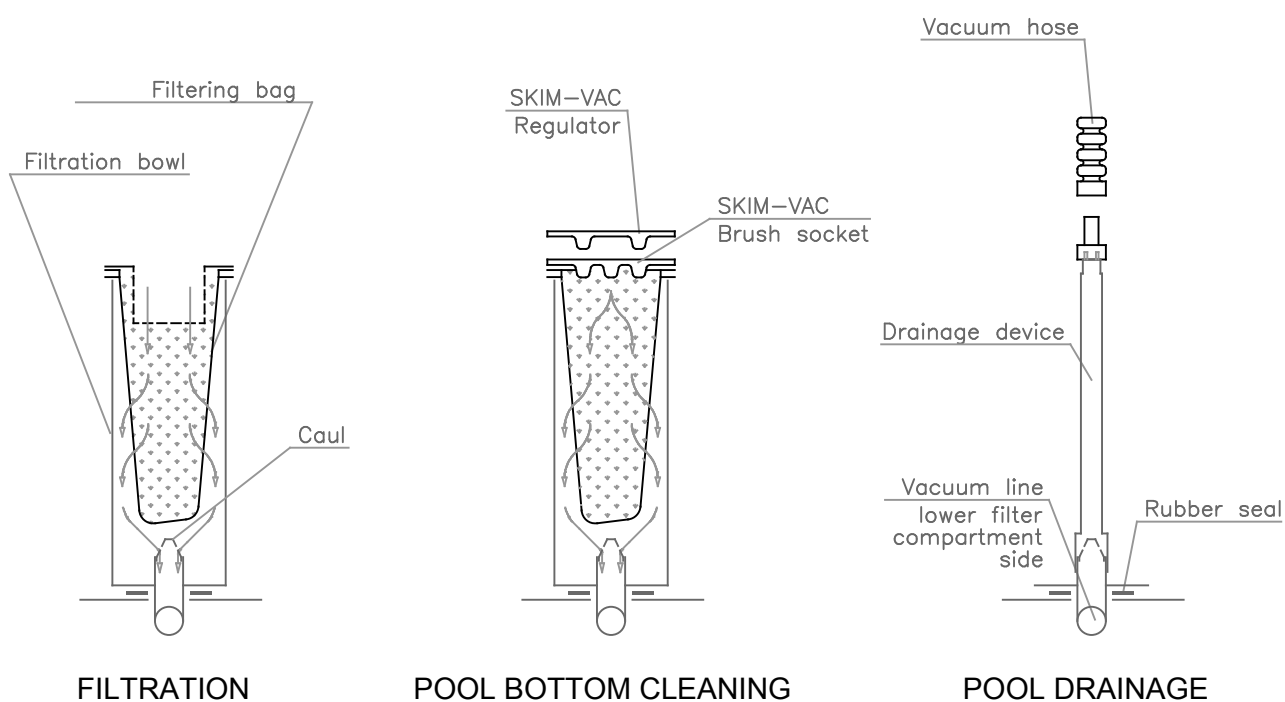


COMPLIES WITH SWIMMING POOL LIGHTING STANDARD: NF EN 60598-2-18

## 9. Installation of filtration accessories



## INSTALLATION

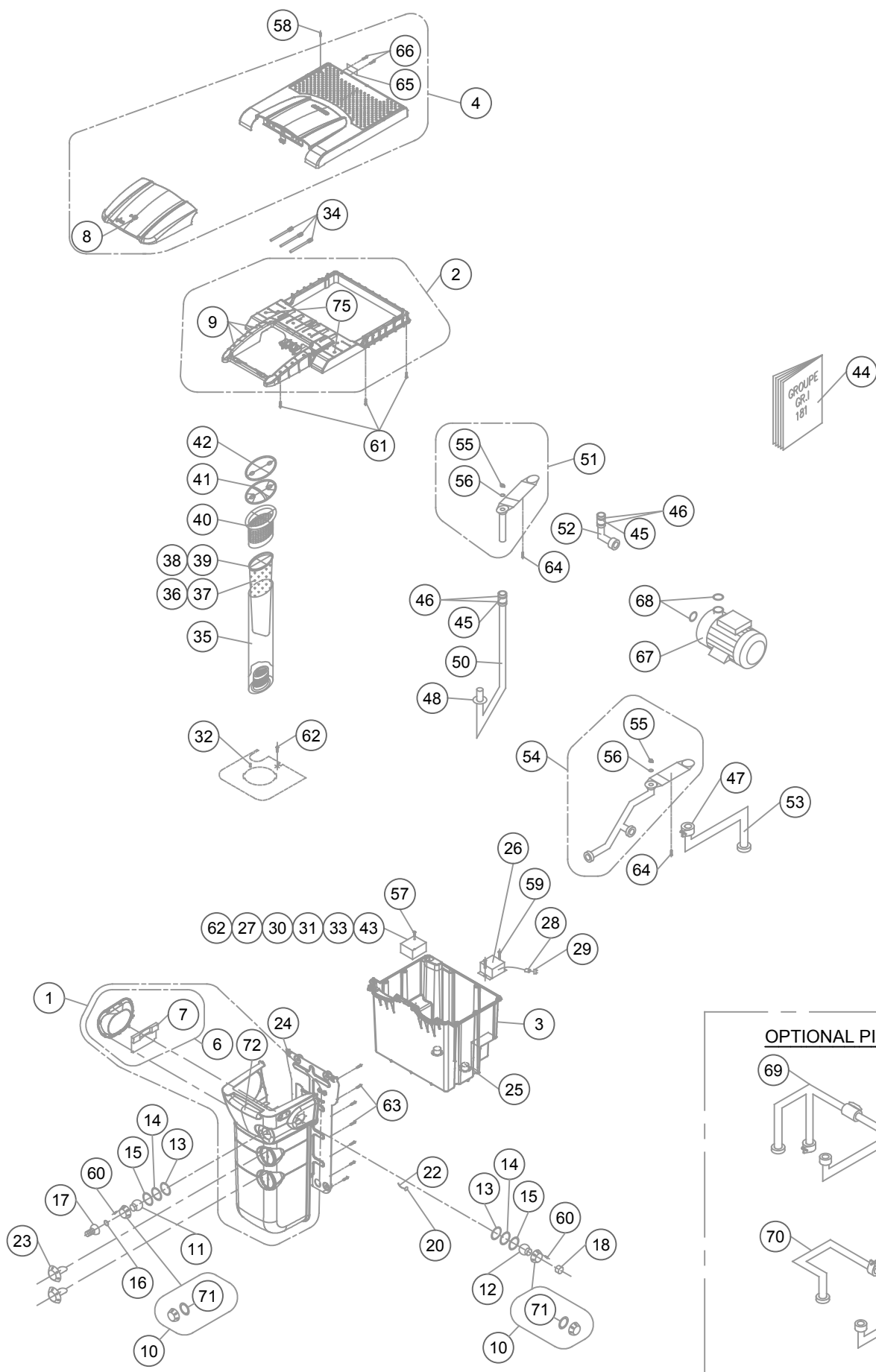


## OPERATION



**10. Technical Burst**

Révision 0.5 of 12/01/2018 [07/06 -> ]



# 11. Nomenclature

Révision 0.5 of 12/01/2018 [07/06 -&gt; ]

Item	Description	Qty	Code
1	COMP FILT GR.I 181	1	17750
2	FRAME GR.I 181	1	17758
3	TECHNICAL COMPARTMENT GR.I 181	1	17761
4	SOUNDPROOF COVER GR.I 181 WHITE	1	22323
5			
6	SKIMMER WINDOW GR.I 181	1	17751
7	SKIMMER WEIR GR.I 181	1	17753
8	FILT COVER LOCK GR.I 181 WHITE	1	17976
9	FRAME PLUG D.10 GR.I 181-251-441	6	17779
10	FLANGE NOZZLE GR.I 181-251-441	2	17756
11	BALL JOINT	1	09021
12	BALL JOINT ADJUSTABLE	1	09870
13	SEAL NOZZLE JOINT 73X60 THK 1.5MM	2	09817
14	SEAL NOZZLE JOINT 73X60 THK 9MM	2	09586
15	SEAL NOZZLE JOINT SPHERICAL	2	09024
16	SEAL CONNECT DRAIN 43X34 THK 5 MM	1	09818
17	DRAIN CONNECTION	1	01749
18	NUT WHITE 40X49 MM	1	09871
19			
20	PNEU BUTTON	1	09074
21			
22	TUBE CLEAR 0.003	1.45ML	09075
23	SPOTLIGHT 50W GR.I 181- 251 - 441 (PER 6)	2	19955
24	BACK PLATE GR.I 181	1	17755
25	WALL FEEDTHROUGH BY-PASS	2	90035
26	TRANSFO SEALED 2X50 VA	1	20651
27	TICINO BOX 23983	1	09084
28	CG 9+COMPLETE FAST SYSTEM	1	09664
29	CONNECTOR MF 2 PIN RED	1	09090
30	CG 16+COMPLETE FAST SYSTEM	1	09680
31	CONNECT F 4-PIN BLACK	1	09658
32	BOWL LOCKING PIN	1	08921
33	TUV LABEL	1	09217
34	CG ISO 20 LONG	3	17737
35	BOWL INJ H 690 MM	1	09147
36	FILT BAG 15 MIC (PER 12)	1	19694
37	FILT BAG 6 MIC (PER 12)	1	19695
38	RING BAG EXT (PER 24)	1	19688
39	RING BAG INT (PER 24)	1	19687
40	BASKET WHITE BOWL TOP (PER 6)	1	19666
41	SKIM VAC BRUSH SOCKET (PER 24 )	1	19689
42	SKIM VAC REGULATOR (PER 24)	1	19690
43	WINTER PLUG	2	09823
44	DOC TECH GR.I 181	1	17733
45	SLEEVE D63 MM	2	01747
46	CLAMP SS D63 MM	4	01750

Item	Description	Qty	Code
47	CLAMP FLEXIBLE D 75 MM	1	09837
48	SEAL BOTTOM BOWL D75 MM	1	09761
49	ALLEN WRENCH 5 MM	1	90067
50	PIPE INT LW FILT GR.I-PF.I 180-GR.I 181	1	95220
51	PIPE INT UP FILT GR.I 181	1	17740
52	PIPE INT TECH GR.I 181	1	17742
53	PIPE DISC TECH GR.I 181	1	17747
54	PIPE DISC FILT GR.I 181	1	17743
55	PLUG PURGE GR.I 110-GR.I 181	2	10150
56	SEAL PURGE PIPE GR.I 110-GR.I 181	2	10151
57	SCREW SS A2 TICINO BOX	4	90018
58	SCREW SS A4 PANHEAD 8x20 SLOTTED	2	09019
59	SCREW SELF-TAPPING SS A4 PANHEAD 5.5x19 POZIDRIVE	2	09794
60	SCREW SELF-TAPPING SS A4 CSK 5.5x25.4 POZIDRIVE	12	09797
61	WOOD SCREW A2 PANHEAD 6x30 POZIDRIVE	22	10133
62	WOOD SCREW A4 PANHEAD 4x13 POZIDRIVE	3	90236
63	WOOD SCREW A4 PANHEAD 4x20 POZIDRIVE	15	17748
64	WOOD SCREW A4 PANHEAD 6x45 POZIDRIVE	8	17749
65	ID PLATE GR.I 181	1	17760
66	SCREW SELF-TAPPING A4 PANHEAD 3.9x9.5 POZIDRIVE	2	09795
67	PUMP	1	
68	O-RING D 67 THK 4 MM	2	09022
69	BY-PASS GR.I 181	option	17780
70	ADAPT LASER GR.I 181	option	17939
71	O-RING FOR NOZZLE	2	09766
72	COMP FILT SPOILER GR.I 181 WHITE	1	18373
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75	FRAME PLUG D.24 GR.I 181-251-441	2	19068
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