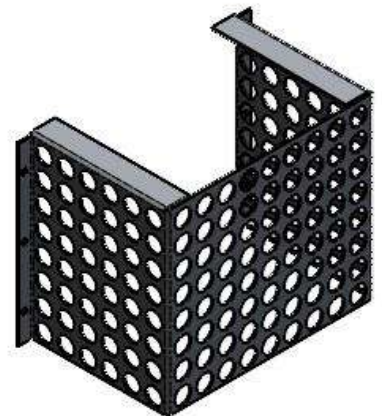


FILTRELEC® Products and Accessories

Developed in partnership with:



TOTAL



Document revisions

Rev.	Date	Comments	Preparation	Signature	Approval	Signature
0	01/03/2019	Design evolution (from Rev M)	PGO	PGO	JFO	JFO
1	26/08/2020	Modification of replacement kit	PGO	PGO	JFO	JFO
2	01/12/2020	Added PFK welded version	PGO	PGO	JFO	JFO
3	14/06/2022	Added instruction manual part number	VVR	VVR	RLE	RLE
4	05/08/2022	Added F15 filter. Deleted return kit. PREF2 as an accessory	RLE	RLE	JFO	JFO
5	18/01/2023	Added F6 Green	VVR	VVR	JFO	JFO
6	06/09/2023	addition of F15/F6Green spare kit and PFK update	VVR	VVR	JFO	JFO



FILTRELEC instruction manual

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I - SAFETY INSTRUCTIONS

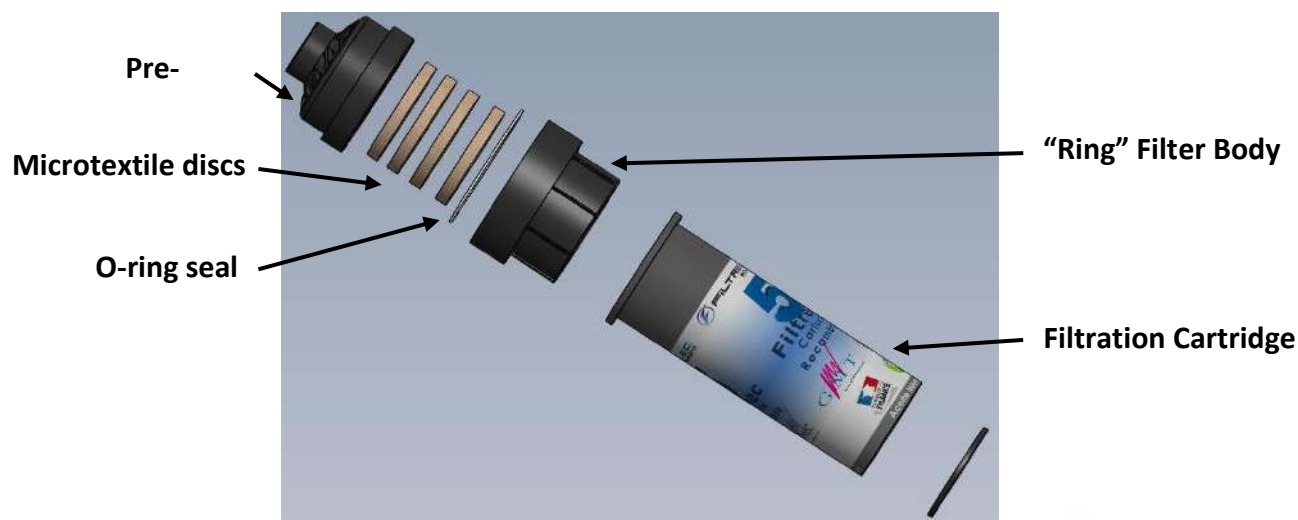
- Always wear a hard hat, cut resistant gloves and safety shoes during the entire installation.
- As the products are likely to be contaminated by hydrocarbons, wear the appropriate personal protective equipment during maintenance operations (waterproof gloves, overalls, goggles, helmet, safety shoes).
- Do not manually carry more than 55 kg for men and 25 kg for women. If the weight is between 55kg and 105kg, carry the load with several people, otherwise use a lifting device (Article R4541-9 of the French Labour Code).
- When installing the accessories, be sure to squat down to limit the strain on your back.

II - PRODUCTS

Make sure all required parts are available before proceeding with installation.

In case of discrepancy, please write it on the delivery note presented by the carrier and contact us IMMEDIATELY, either by phone at +33 (0)4.90.85.08.64, or by mail at gmt@gmtinternational.fr in order to report the missing or damaged parts. Unless reservations are made, the goods are deemed to be in conformity in number and in apparent good condition. The lack of signature without justification engages the responsibility of the consignee of the load.

II.1. The FILTRELEC® F5 Filter



II.1.a. Maintenance of the integrated prefilter

Depending on the operating conditions, the components present inside the prefilter must be cleaned at least once a year* by rinsing with clean water, or must be replaced. Otherwise, the accumulation of leaves, dust, sand and other debris may cause clogging of the prefilter inlet.

*depending upon exposure to dust and leaves



FILTRELEC® F5

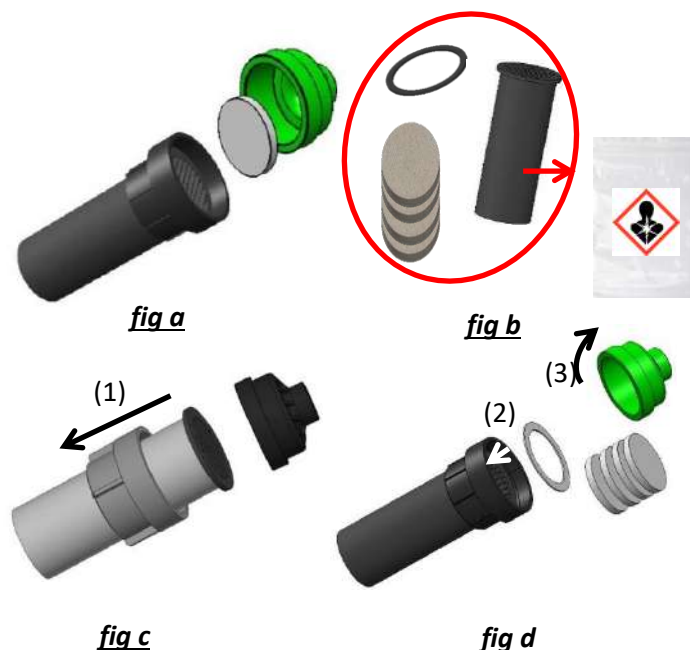
II.1.b. Maintenance of FILTRELEC® F5 filter

In the event of regular leakage from the transformer, we recommend placing absorbent pads at the bottom of the bund or below the leak, thus minimizing an early saturation of the FILTRELEC® F5 filter.

In case of presence of oil in the bund, it is recommended to clean the tank and remove the oil before replacing the filter cartridge.

II.1.c. Integrated prefilter and filtering cartridge maintenance and replacement procedure, with the replacement spare kit

1. Close the FILTRELEC® F5 KIT valve
2. Unscrew the FILTRELEC® F5 filter from the valve
3. Unscrew the integrated prefilter (*fig a*)
4. Use your regular waste stream to treat the hydrocarbon contaminated waste (*fig b*)
5. Take the cartridge off from the « ring » filter body as well as the o-ring seal and add them to the soiled waste (*fig b*)
6. Take a new filtering cartridge from the SPARE REPLACEMENT KIT and slowly slide the cartridge inside the “ring” body until it fits into the “ring” filter body (1). (*fig c*)



7. Place the new o-ring seal on top of the of the cartridge (2), ensuring correct positioning (*fig d*)
8. Position the 3 white micro-textile discs delivered with the SPARE REPLACEMENT KIT, into the integrated prefilter (3), ensuring that they do not overflow out of the prefilter body (*fig d*)
9. Reassemble the Prefilter and Cartridge/Ring Body assembly, taking care not to damage the threads
10. Screw the assembly back onto the valve or threaded outlet with Teflon. It must be horizontal or inclined downwards to allow water to flow by gravity* (25° max / horizontal)
11. Open the valve at the end of this operation

Refer also to the paragraph II.2.c for additional cautions.

* : For any other type of operation, please contact us.

II.2. The FILTRELEC® F5 system for installation on containment bund

II.2.a. Content

- 1 FILTRELEC® F5 filter
- 1 F/F 1½" diameter valve
- 1 M/F 1½" 90° elbow
- 1 Teflon tape roll
- 1 instruction manual

II.2.b. Installation

Containment bunds must be assembled and installed before the FILTRELEC system is installed.

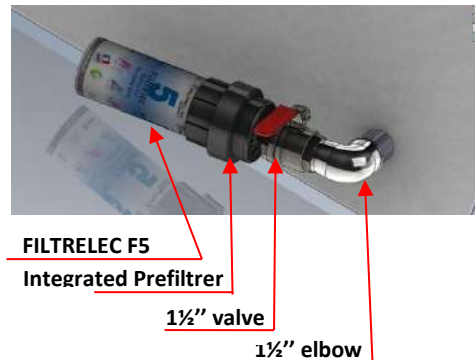
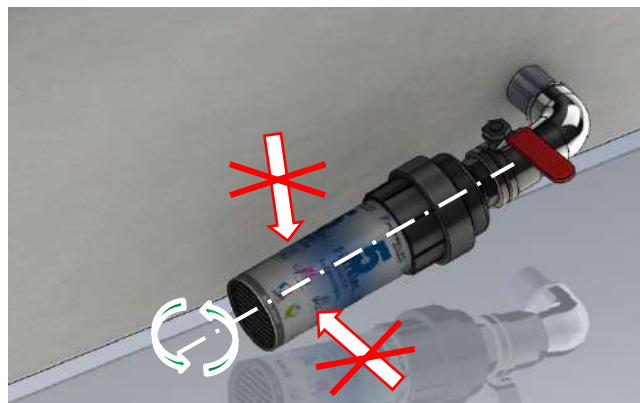
1. Remove the 1½" plug from the external connection reserved for the FILTRELEC® filtration systems.
2. Assemble the 90° elbow onto the bund, then install the valve using Teflon tape to ensure watertightness.
3. Assemble the FILTRELEC® F5 filter with Teflon tape. The assembly should be horizontal or inclined downwards to allow water to flow by gravity* (25° max / horizontal).
4. Open the valve at the end of this operation.

* : For any other type of operation, please contact us.

II.2.c. Additional precautions

To ensure a tight seal, simply tighten by hand and then, at the first sign of resistance, tighten an additional half turn. Under no circumstances should excessive tightening be used as this may deform the thread or damage the part without improving the seal.

The filter should be tightened in line with the axis and any radial forces that cause torque to the whole kit should be avoided, as described in the following diagram:



II.3. The FILTRELEC® F5 REPLACEMENT SPARE Kit

Content:

- 2 FILTRELEC® F5 cartridges
- 2 o-ring seals
- 2 x 3 microtextile discs
- 2 Teflon tape rolls
- 1 instruction manual

This kit is intended to replace the filter cartridge when it is saturated. The procedure for maintenance and replacement of the filter and prefilterer is described below in points II.1.a to II.1.c.



X 2



X 2



X 2



X 2



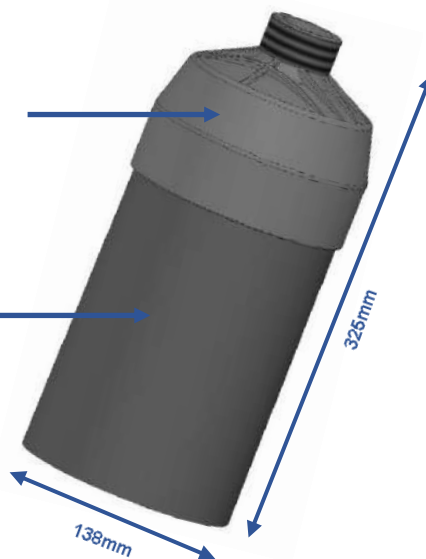
X 1

II.4. The FILTRELEC® F15 and F6 Green Filter



Built-in pre-filter

Filtration cartridge



II.4.a. Maintenance of the integrated prefilter

Depending on the operating conditions, the components present inside the prefilter should be cleaned approximately once a year* by rinsing with clean water, or must be replaced. Otherwise, the accumulation of leaves, dust, sand and other debris may cause clogging of the prefilter inlet.

For the F15 and F6green, the upper part is glued and cannot be dismantled. A tool must be used to remove the 3 foam discs located inside the filter head via the 1.5-inch inlet, then replace them inside. A replacement kit is available on request (see photo).

*depending upon exposure to dust and leaves



II.4.b. Maintenance of FILTRELEC® F15 and F6 Green filter

Replace the complete filter in case of saturation (no more water flow coming out of the filter cartridge).

In case of regular leaks from the transformer, we recommend placing absorbent pads at the bottom of the tank, or under the leak, to limit early saturation of the FILTRELEC® F15 or F6 Green.

If there is oil at the bottom of the pan, it is recommended to clean the pan and drain the oil before replacing the filter.



II.4.c. Maintenance procedure and replacement of the FILTRELEC® F15 and F6Green integrated pre-filter and filter cartridge using the Replacement KIT

1. Close the FILTRELEC® F15 or F6Green kit valve.
2. Unscrew the FILTRELEC® F15 or F6Green filter from the valve.
3. The filter and prefilter assembly is glued together, do not attempt to separate them (fig a).
4. Use your usual disposal process to treat all waste soiled with hydrocarbons (fig b).
5. Using a claw tool ** (1) supplied in the kit, remove the 3 micro-textiles discs (white) from the head of the filter cartridge and add them to the soiled waste (fig c).
6. Replace the 3 micro-textiles discs (white) supplied in your KIT RECHANGE prefilter F15 or F6Green in the prefilter, one by one and flat on the inside, putting pressure all around the disc so that they are well positioned inside (fig d).
7. If, after cleaning or replacing the pre-filter, the filter remains saturated. Simply replace it with a new one.
8. Screw the assembly back onto the valve or threaded outlet with Teflon. The filter must be horizontal or inclined downwards to allow water to flow by gravity* (25° max / horizontal).
9. Open the valve at the end of the operation.



fig a



fig b



fig c



fig d

See also paragraph II.2.c for additional precautions.

* : For any other type of operation, please contact us.

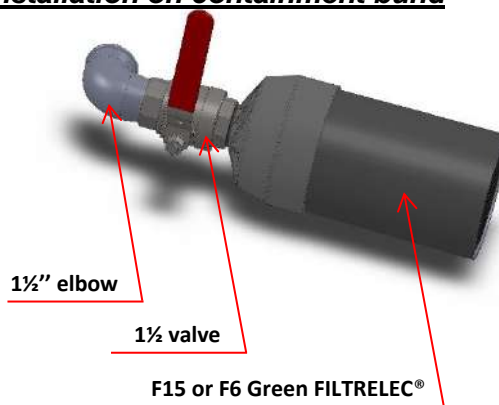
** : If you do not have our claw tool, a similar tool can be used to carry out this operation, taking care not to damage the foam discs.



II.5. The FILTRELEC® F15 and F6 Green system for installation on containment bund

II.5.a. Content

- 1 FILTRELEC® F15 or F6 Green filter
- 1 F/F 1½" diameter valve
- 1 M/F 1½" 90° elbow
- 1 Teflon tape roll
- 1 instruction manual



II.5.b. Installation

Containment bunds must be assembled and installed before the FILTRELEC® system is installed.

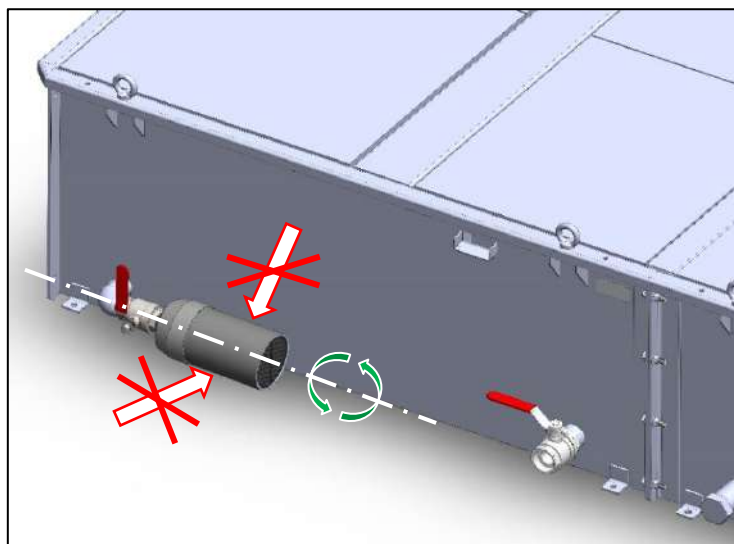
1. Remove the 1½" plug from the external connection reserved for the FILTRELEC® filtration systems.
2. Assemble the 90° elbow onto the bund, then install the valve using Teflon tape to ensure watertightness.
3. Assemble the FILTRELEC® F15 or F6 Green filter with Teflon tape. The assembly should be horizontal or inclined downwards to allow water to flow by gravity* (25° max / horizontal).
4. Open the valve at the end of this operation.

* : For any other type of operation, please contact us.

II.5.c. Additional precautions

To ensure a tight seal, simply tighten by hand and then, at the first sign of resistance, tighten an additional half turn. Under no circumstances should excessive tightening be used as this may deform the thread or damage the part without improving the seal.

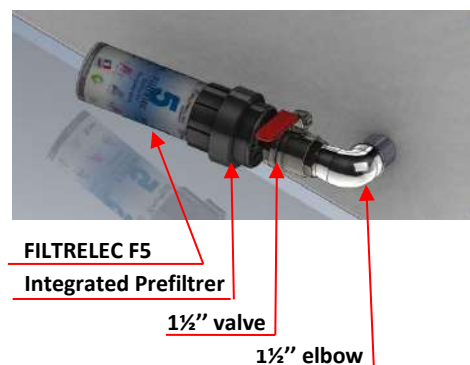
The filter should be tightened in line with the axis and any radial forces that cause torque to the whole kit should be avoided, as described in the following diagram:



II.6. The FILTRELEC ECODESIGN® system to be fastened onto a concrete pit

II.6.a. Content

- 1 FILTRELEC ECODESIGN®
- 1 F/F 2" diameter valve
- 1 M/F 2" diameter elbow
- 1 Teflon tape
- 1 instruction manual



II.6.b. Specific installation for a concrete pit

1. Install a wall feed-through or a sealable tap on the concrete pit.
2. Seal the outlet with waterproof concrete or a gasket resistant to hydrocarbons and high temperatures.
3. Screw the elbow, the valve and then the FILTRELEC ECODESIGN® 15M2 (or M2GREEN) filter together, ensuring that each element is watertight using Teflon. The assembly must be horizontal or inclined downwards to allow the water to flow by gravity* (25° max / horizontal).
4. Open the valve after this operation.

* : For any other type of operation, please consult us.

II.7. The FILTRELEC® 15S kit for embedded installation

II.7.a. Content

- 1 FILTRELEC® 15S filter for embedded installation
- 1 coupling sleeve
- 5 attachment screws
- 1 instruction manual

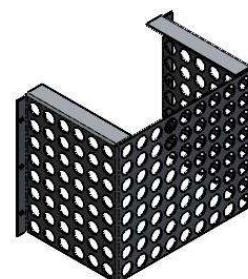


II.7.b. Installation

1. Seal the sleeve in the pit, ensuring that a 25° slope is maintained for optimum drainage.
2. Insert the FILTRELEC® 15S filter to be embedded into the sleeve.
3. Tighten the 5 attachment screws.

II.7.c. Maintenance

In order to protect the FILTRELEC® 15S kit from premature clogging due to the environment (dust, sand, leaves...), a PFB pre-filtration system can be installed upstream (option III.2).



II.7.d. Maintenance procedure

Depending on the conditions of use, the grid at the top of the FILTRELEC® 15S filter must be cleaned at least once a year by running it through with clear water. Indeed, foliage, dust, sand or any other element can block it and the FILTRELEC® 15S filter inlet can become clogged.

1. Loosen the 5 attachment screws.
2. Remove the dirty FILTRELEC filter from the sleeve.
3. Insert a new filter.
4. Tighten the 5 mounting screws.



II.8. Waste disposal of products contaminated with hydrocarbons

FILTRELEC® filters (regardless of the model) contaminated by hydrocarbons are considered as waste. Use your usual channel to treat all waste soiled with hydrocarbons.

III - ACCESSORIES

III.1. PFBS pre-filtration system

III.1.a. Contents

- 1 metal pre-filtration cage (Fig. a)
- 2 sheets of white micro textile to be folded (Fig. b)

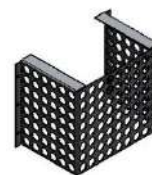


Fig. a



Fig. b

III.1.b. Installation on a concrete pit

1. Mount the PFB at the bottom of the pit, in the place provided for this purpose, ensuring that drainage is centred as much as possible in relation to the cage.
2. Position the white microtextile sheet(s) inside so that it(they) fill the entire space (Fig c) and under the 2 edges so that they can be perfectly retained.

Fig. c



III.2. PFK pre-filtration system

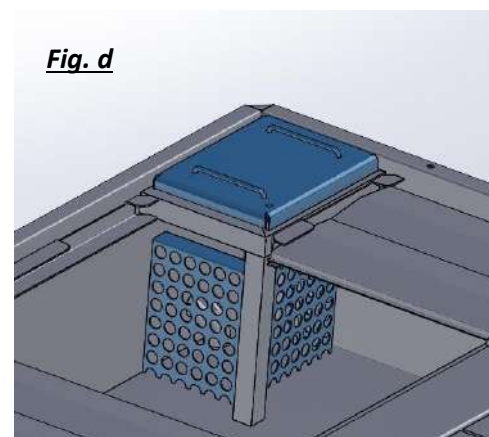
III.2.a. Content

- 1 metal pre- filtration cage (Fig. d)
- 2 sheets of white micro textile to be folded (Fig. b)

III.2.b. Installation

1. Open the access hatch if present, or lift the shutters.
2. Position the white microtextile sheet(s) inside so that it(they) fill the entire space (fig c)
3. Close the access hatch.

Fig. d

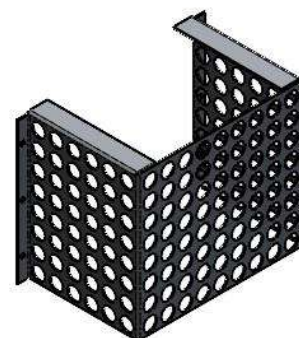


III.3. Maintenance

- Depending on the conditions of use, the internal elements of the PFK/PFB must be cleaned at least once a year by running them through with clear water, or otherwise must be replaced. If the environment is highly exposed to the elements (foliage, dust, sand or any other element that may block the pre-filtration system), it is advisable to plan more frequent visits.
- Even in the absence of a major incident, we recommend replacing the white microtextile sheet(s) every 3 years to ensure optimal performance.

III.4. Maintenance procedure

1. Close the external valve to protect the downstream FILTRELEC® equipment.
2. Clean the inside of the tank (pump out all fluids if necessary).
3. Open the box if necessary (stand-alone version).
4. Clean with water or replace the white microtextile sheets.
5. Replace the elements correctly in the cage.
6. lose the cover and screw on the wing nuts (stand-alone version).
7. Open the valve.





FILTRELEC instruction manual

IV - RECOMMENDED SERVICE LIFE AND MAINTENANCE

FILTRELEC® products are made of hydrophobic and oleophilic absorbent polymers that are particularly stable between -40°C and +80°C. This temperature stability offers an optimal life span. In the absence of oil, the filter keeps all its properties year after year. Our experience allows us to estimate both life span and absorption capacity as follows:

Product Reference	Life cycle #1: Water only	Life cycle #2: Significant oil leak
	Maximum recommended service life	Estimated oil leak volume resulting in filter blockage, depending on oil concentration
FILTRELEC® F5	Unlimited for the filter media, provided that the plastic housing maintains its initial condition	± 0,4 liters
FILTRELEC® F15		± 0,8 liters
FILTRELEC® F6 Green		± 0,8 liters
FILTRELEC® 15S		± 0,8 liters

V - PRECAUTIONS AND LIMITATIONS OF USE

- The FILTRELEC® product range is effective on mineral oils or natural ester oil from natural origin (Green).
- Use the FILTRELEC® accessory only with the equipment for which it was sold.
- Do not step on the FILTRELEC® accessory.
- Make sure that the water drainage at the outlet of the FILTRELEC® product is not clogged.

VI - IN THE EVENT OF A TRANSFORMER INCIDENT

In the event of an incident, it is necessary to replace or clean the equipment. Please refer to the maintenance procedure in the chapter of the equipment concerned which the FILTRELEC® product is associated with.