

FDi Disinfection Filter

Owner's Manual - Québec

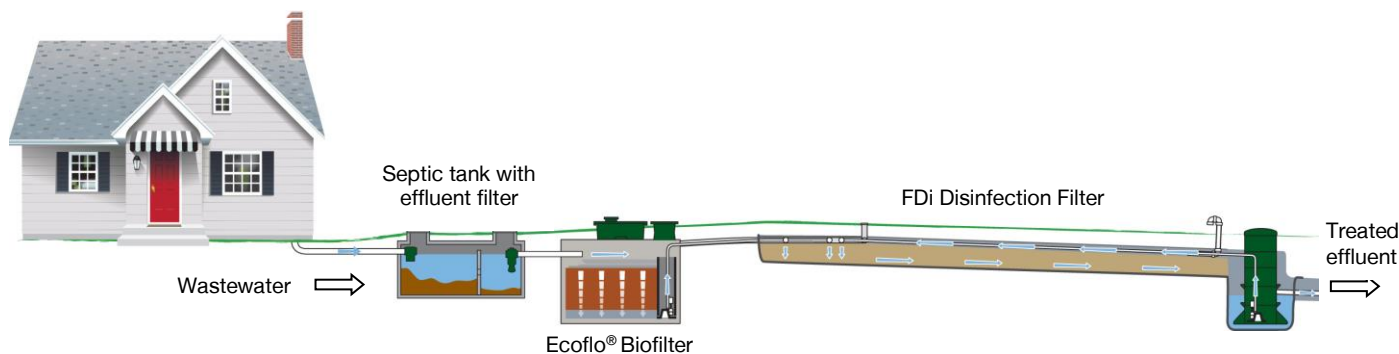
*Congratulations on your purchase of a **FDi Disinfection Filter** system from **Premier Tech Aqua (PTA)**. With the **FDi Disinfection Filter** system, you have wisely chosen to protect your health as well as the environment. This manual contains information on the operation, operating guidelines, maintenance and warranties of the **FDi Disinfection Filter**.*

*The **FDi disinfection filter** coupled with an **Ecoflo® Biofilter** is a tertiary treatment system with disinfection **certified under NQ 3680-910 (Class V)**. The system includes a septic tank, an effluent filter, an **Ecoflo® Biofilter** and a **FDi disinfection filter**. All information relative to the operation, operating guidelines as well as the maintenance of the septic tank, effluent filter and **Ecoflo® Biofilter** can be found in the **Septic tank and the Ecoflo® Biofilter Owner's manual**. For additional information, please contact our customer service at **1-800-632-6356** or visit our website at **PREMIERTECHAQUA.COM**.*

Table of contents

1. Operating Principle	1
2. Operating Guidelines	2
2.1 Type of wastewater that can be treated	2
2.2 Recommendations	3
2.3 What you must know	3
3. FDi Disinfection Filter Attributes	4
4. Maintenance	5
4.1 Septic tank	5
4.2 Ecoflo® Biofilter	5
4.3 FDi Disinfection Filter	5
5. Sampling	5
6. What to do in case of... ..	5
6.1 An activated alarm.....	5
6.2 A prolonged power failure	5
6.3 Flooding	6
6.4 Backflow	6
6.5 Odours	6
Certificat of Warranty for the FDi Disinfection Filter	7
Notice of New Property Owner	9

1. Operating Principle



The FDi disinfection filter is designed to reduce the concentration of pathogenic organisms at the Ecoflo® Biofilter's effluent for sites where it is impossible to infiltrate wastewater through an absorption bed or polishing field. The FDi

is made up of a waterproof membrane which contains a wastewater distribution system, a filtering sand bed with an aeration device, a treated wastewater collection system and a pumping station allowing for both the recirculation of the water at the FDi's inlet and the sampling of the treated effluent.

At the Ecoflo® Biofilter's outlet, the water is directed towards the FDi disinfection filter in order to attain a "tertiary treatment level with disinfection" (Class V). The FDi disinfection filter is equipped with an inlet zone that feeds the sand filter vertically. This inlet zone consists of a layer of clean crushed stone resting on a filtering sand layer. For Ecoflo® Biofilters equipped with an integrated pump, the effluent is distributed over the inlet zone through a pump and a low-pressure distribution system. For watertight bottom Ecoflo® Biofilters without an integrated pump, the effluent is distributed over the inlet zone through the PSA-240L pumping station and a low-pressure distribution system. As for Ecoflo® Biofilters with an opened or perforated bottom, the water percolates within the biofilter before it reaches the FDi's inlet zone (located directly at the base of the biofilter) by gravity. Those feeding systems allow for optimal distribution over the entire surface of the FDi's inlet zone. After having vertically percolated through the sand layer, the water flows slowly along the FDi's entire length to finally be directed towards the final disposal mode through a collection pipe.

The FDi's operating principle allows for the continuous or intermittent use of the system without requiring any particular precaution or having any impact on the quality of the treatment. No specific action from the owner is required to start the system, he must however, comply with the operating guidelines described in this manual.

The FDi's dimensions as well as the model and number of Ecoflo® Biofilters (consult the Ecoflo® Biofilter Owner's manual) are determined either according to the number of bedrooms in a house or to the total daily domestic water flow of any building.

FDi disinfection filter dimensions

Total daily flow	Number of bedrooms	FDi disinfection filter length	FDi system width
1 080 L	2 or less	7 m	4.8 m
1 260 L	3		5.6 m
1 440 L	4		6.4 m
1 620 L	4		7.2 m
1 800 L	5		2 sections of 4.0 m
2 160 L	6		2 sections of 4.8 m
3 240 L	---		2 sections of 7.2 m

The FDi disinfection filter coupled with an Ecoflo® Biofilter is certified **Class V** (tertiary treatment system with disinfection) as defined under NQ 3680-910 standard of the Bureau de Normalisation du Québec (BNQ).

2. Operating Guidelines

2.1 Type of wastewater that can be treated

By the Ecoflo® Biofilter (advanced secondary treatment system)

Domestic wastewater (for example: wastewater from isolated dwellings).

By the FDi disinfection filter (tertiary treatment system)

Treated domestic wastewater that mandatorily comes from a treatment system including an **Ecoflo® Biofilter** certified under NQ 3680-910 standard for advanced secondary treatment level (Class III).

Drinking water filtration system

If your house is equipped with a drinking water filtration system (for example: water softener, greensand filter, etc.), **its backwash must never be sent to the wastewater treatment system, it may affect the FDi disinfection filter's operation.**

2.2 Recommendations

It is **NOT RECOMMENDED** to discharge any of the following substances into the septic system:

- Oil and grease (motor oil, cooking oil, etc.);
- Wax and resins;
- Paints and solvents;
- Any kind of petroleum product;
- Any kind of pesticide;
- Any kind of septic tank additive;
- Any kind of toxic substance;
- Anything not easily biodegradable (for example, coffee beans, cigarette butts, sanitary napkins, tampons, condoms, cotton swab, etc.).



Comply with the following guidelines :

- **NEVER** open the lid or enter the TLP-FDi disinfection filter's tank without prior authorization.
- **NEVER** cover or bury the access lids of your septic system's components. Make sure all lids of the septic system are at least 50 mm (2") above the surface of the landscaped lot.
- **NEVER** install a riser on the access of the TLP-FDi recirculation tank.
- **NEVER** discharge water from a water softener backwash in your septic system.
- **NEVER** connect a drain pipe, roof gutter, sump pump or air conditioner drain to the septic system.
- **NEVER** drive a vehicle or place objects weighing more than 225 kg (500 lb) within 3 m (10') of the FDi disinfection filter and inform the people responsible of landscaping about this guideline.
- **NEVER** let anything accumulate on top of the septic system (for example: blown snow, pile of rocks, etc.). The overload could damage your system.
- **NEVER** use automatic toilet bowl cleaners.
- **NEVER** plant trees within 2 m (6' 5") of the FDi disinfection filter.

By respecting these guidelines, you contribute to the proper operation of the system and help prolong the life of your septic installation. Failure to abide by these guidelines may, at Premier Tech Aqua's discretion, render the warranty invalid.

2.3 What you must know

Owner's responsibility

The owner must respect all existing laws and regulations regarding the system's effluent quality and its discharge into the environment.

FDi disinfection filter outlet

When work has to be executed on the lot after the septic system's installation (e.g.: landscaping, yard maintenance, etc.), it is imperative that the owner maintains the system's drainage by avoiding to block the gravel zone which constitutes the outlet.

Keep heavy objects off your septic system

Never drive a vehicle or place objects weighing more than 225 kg (500 lb) within 3 m (10') of the FDi disinfection filter. **If you are planning to do some landscaping or any other type of work, make sure you advise those involved** so they do not damage your septic system. **Do not let snow (shovelled or blown) accumulate on top of the septic system**, the overload could damage it. For those previous reasons, it is recommended to mark and indicate the location of your system's components.

About your home

Your home must be equipped with an air vent that is in proper working order and all plumbing must comply with the applicable standards of your municipality's building code. Premier Tech Aqua strongly recommends using a 100 mm (4") diameter pipe for the air vent. Any change in the use of your building or modification to your Ecoflo® Biofilter or FDi disinfection filter must be authorized by your local authorities. Premier Tech Aqua must also be informed of such changes or modifications. Otherwise, the warranty of your Ecoflo® Biofilter and FDi disinfection filter will be null and void.

3. FDi Disinfection Filter Attributes

The FDi disinfection filter integrates a recirculation station that allows for the recirculation of treated water towards the inlet zone of the system. Electromechanical components are included with that station as described below.

The recirculation station is equipped with a pump, an on/off float and an alarm float. Both the floats and the pump are connected to a control box (DCU-FDi). This control box must be installed inside the house and be visible in case its light indicator is activated. The following information explains the purpose of control box's components.

The light indicator is activated when a water recirculation problem occurs. In that event, the problem must be verified: communicate with Premier Tech Aqua's After-Sales Service Department. The light indicator may be deactivated by pressing the “**RÉARMEMENT / RESET**” button. This button can also be used to test a recirculation cycle and thus check the FDi's status. To do so, press and hold down the button for 5 seconds.

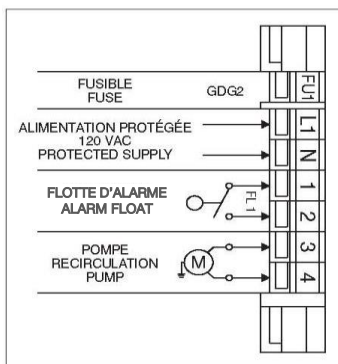
Electrical connections

All electric connections must be done by a **certified electrician**. Furthermore, the use of waterproof wire connectors is mandatory with the recirculation station's electric connection box. Premier Tech Aqua recommends that the electric connection box be installed outside of the station, on a post above the ground surface. That way, it won't be submerged and it will be accessible at all times.

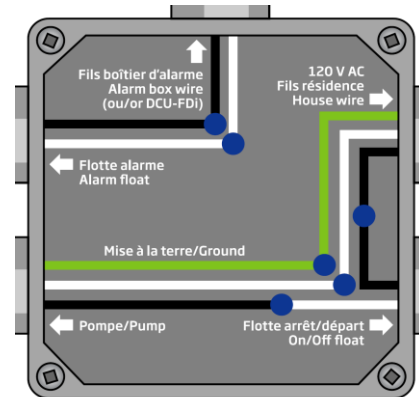
Use one (1) independent circuit breaker for the connection of the DCU-FDi. Do not connect anything else to that circuit breaker (e.g.: electric household equipment). The Ecoflo® Biofilter's electric components must also be connected to independent circuit breakers (one (1) circuit breaker to operate the pump and one (1) circuit breaker for the alarm box). Details for the connection of the Ecoflo® Biofilters are presented in its Owner's manual.



DCU-FDi control box



Electrical wiring



Electrical junction box

4. Maintenance

4.1 Septic tank

Empty your septic tank regularly. This helps keep your septic system in proper working order. It is essential that you comply with the requirements for septic tank maintenance described in the *Regulation respecting waste water disposal systems for isolated dwellings (Q-2, r.22)*.

If your home is equipped with a garbage disposal or a sewage pump, we strongly recommend emptying your septic tank more frequently. Using this kind of equipment increases the amount of sludge in the septic tank.

To have a complete record of the maintenance done on your septic system, we recommend you keep the proof of maintenance (invoice) with the Owner's Manual.

4.2 Ecoflo® Biofilter

The maintenance of your Ecoflo® Biofilter is done by our local PTA partner network. This service includes a visual inspection of all components and a verification of the operation as well as maintenance of the filtering media. **For maintenance purposes and to replace the filtering media, you must ensure that your system's lid is easily accessible.** Never cover or bury the lid of the Ecoflo® Biofilter. After each inspection, you will be given a maintenance record, keep it with the Owner's Manual in a safe place.

4.3 FDi disinfection filter

Article 87.16 of the *Regulation respecting wastewater disposal systems for isolated dwellings (Q-2, r.22)* stipulates that any tertiary treatment system with disinfection **must be installed, used and maintained in accordance with the manufacturer's manuals.** Note that the FDi disinfection filter requires no maintenance. However, annual inspection among other electromechanical components TLP-FDi, is mandatory according to the product's BNQ certification.

5. Sampling

Article 87.30.1 of the *Regulation respecting wastewater disposal systems for isolated dwellings (Q-2, r.22)* stipulates that **the owner** of a tertiary treatment system with disinfection **must, at least once per six-month period, have a sample of the system's effluent analyzed to determine the concentration of fecal coliforms.** The owner must send the analysis reports within 30 days of their receipt to the municipality in whose territory the treatment system is situated. In addition, the owner must keep the reports for 5 years and make them available to the Minister's request.

Premier Tech Aqua also provides an effluent analysis service every 6 months.

6. What to do in case of...

6.1 An activated alarm

If an alarm is activated, unrelated to a power failure, contact Premier Tech Aqua's After-Sales Service Department so the problem can be identified and corrected.

6.2 A prolonged power failure

If a power failure that occurs during winter is prolonged, protect the components of your septic system against freezing. If you have any questions to restart your system, contact Premier Tech Aqua's After-Sales Service Department.

6.3 Flooding

Certain sites are prone to flooding or to rises in groundwater levels. This can lead to a malfunction in your septic system or alter the performance of your Ecoflo® Biofilter, FDi disinfection filter or of any other wastewater treatment installation. If this happens, contact Premier Tech Aqua's After-Sales Service Department.

6.4 Backflow

Backflow rarely occurs. But if it does happen, the septic tank is usually the cause. Your septic tank installer or septic tank pumper can generally take care of the situation.

6.5 Odours

All septic systems are apt to generate gases and odours. The position of the air vent, as well as other factors unrelated to the FDi disinfection filter itself, can prevent septic gases from dispersing properly and lead to odours. If this happens, contact Premier Tech Aqua's After-Sales Service Department.



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The information contained in this document is based upon the latest information available at the time of publication and is designed to provide you with a general introduction to our products. We make no warranties or representations as to its accuracy. We are continually updating and improving our products and reserve the right to amend, discontinue, alter or change specifications and prices without prior notice. The FDi Disinfection Filter is protected under patents: US7790035 and CA2625508. Notice issued on 2016-01-12. For current data regarding all patent application(s) and patent(s) for this product or any part thereof, consult the website patentmarking.premiertech.com (reference: 8995).

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Certificat of Warranty for the FDi Disinfection Filter

1. PREAMBLE

Premier Tech Technologies Ltd. (hereinafter called "Premier Tech") is proud to provide its customers with an exclusive wastewater treatment system guaranteed by an innovative Warranty.

For the application and interpretation of this Warranty, "Customer" shall mean the person who has purchased an **FDi Disinfection Filter** (with or without disinfection tertiary treatment) (hereinafter called "Initial Purchaser"), for a residential installation, as well as any subsequent purchaser (hereinafter called "Subsequent Purchaser(s)"), in accordance with the provisions of section 8 of this Warranty. "Successor(s)" shall mean any other person entitled to exercise the same rights as the Customer under the law.

2. NATURE OF THE WARRANTY

The following warranty is conditional to and only applies if the **FDi Disinfection Filter** has been installed by an installer authorized by Premier Tech and used by the Customer in accordance with the installation, maintenance and operation instructions as described in the Installation Guide and the Owner's Manual.

2.1. TLP-FDi recirculation tank

Premier Tech warrants the TLP-FDi recirculation tank of the **FDi Disinfection Filter** (parts and labour) against any manufacturing defect for a period of two (2) years from the date of purchase by the Initial Purchaser (proof of purchase required).

2.2. DCU-FDi control panel, pump and floats

Premier Tech also warrants the DCU-FDi control panel, the pump and the floats included with the **FDi Disinfection Filter** against any manufacturing defect for a period of two (2) years (parts only), from the date of purchase by the Initial Purchaser (proof of purchase required). The first year of the warranty also covers the labour.

2.3. Other components

Premier Tech also warrants all other components of the **FDi Disinfection Filter** (parts and labour) against any manufacturing defect for a period of one (1) year from the date of purchase by the Initial Purchaser (proof of purchase required).

This conventional warranty is given by Premier Tech to its customers in addition to the legal warranties and is expressly limited to the text of this certificate.

3. NOTICE

For this Warranty to be valid, the Customer must notify Premier Tech in writing immediately upon the appearance of any indication of an anomaly or irregularity in the **FDi Disinfection Filter**.

Such notice shall be mailed to Premier Tech's Head Office at 1, avenue Premier, Rivière-du-Loup, Québec, G5R 6C1, CANADA or by facsimile at (418) 862-6642.

Upon receipt of this notice, Premier Tech shall examine the situation and, if necessary, take appropriate corrective measures in accordance with the terms of this Warranty.

4. GENERAL EXCLUSIONS

The following damages or problems are excluded from the warranty:

- (a) Any damage or problem caused by a fortuitous event or "force majeure," such as, without limiting the generality of the foregoing, an earthquake, a flood, frost, hurricane, landslide, explosion or dynamiting;
- (b) Any damage or problem caused by the fault or act of a third party including, without limiting the generality of the foregoing, the execution of landscaping work;
- (c) Any damage or problem arising from a defective installation carried out by a person trained by Premier Tech, or any installation, modification, correction or addition carried out by a person not trained by Premier Tech;
- (d) Any damage or problem arising from any installation, modification, correction or addition to the treatment system carried out after installation of the **FDi Disinfection Filter** without prior written approval from Premier Tech;
- (e) Any damage or problem caused by the use of a septic tank that does not comply with the applicable regulations and/or with Premier Tech's specifications, as described in the Owner's Manual;
- (f) Any damage or problem, if it is shown that the usage of the **FDi Disinfection Filter** was not in accordance with the instructions and guidelines described in the Owner's Manual;
- (g) Any damage or problem, if the inspection or maintenance of the **FDi Disinfection Filter** was not carried out by a person authorized by Premier Tech, in accordance with the Maintenance Agreement;
- (h) Any damage or problem caused by an omission or act of the Customer or the Customer's Successors including, without limiting the generality of the foregoing, refusal to allow access to the system for maintenance;
- (i) Any damage or problem, if it is found that the Customer or the Customer's Successors have modified or changed the use of the property serviced by the **FDi Disinfection Filter** resulting in the alteration of the nature or quality of wastewater being treated and/or that constitutes a violation of the applicable regulations;
- (j) Any damage or problem caused by and/or resulting from the work carried out to access to the **FDi Disinfection Filter**, including, without limiting the generality of the foregoing, excavation, snow removal or demolition;
- (k) Any damage or problem resulting from condition of the site or of the soil and not reported or not properly reported to Premier Tech by the Customer or the person undertaking the site investigation.

5. PARTICULAR EXCLUSIONS

It is further expressly understood that the Customer may not carry out or cause to be carried out any repair or verification of the **FDi Disinfection Filter** sold to him, or attempt to carry out any work or to apply any corrective measures whatsoever to said work, before notifying Premier Tech in accordance with the provisions of section 3 of this Warranty and before Premier Tech has visited the site, within a reasonable time following receipt of said notice, to assess the situation.

If the installation is not performed by an installer trained by Premier Tech Aqua or if the Customer carries out or causes to be carried out repairs, or attempts to repair or to apply corrective measures of any kind whatsoever to the **FDi Disinfection Filter** sold to him without prior authorization by Premier Tech, this Warranty shall be considered null and void and Premier Tech shall be considered completely discharged from any and all of its obligations under this Warranty.

6. INDEMNITIES AND DAMAGES

Subject to the application of the provisions and exclusions provided for in this Warranty, Premier Tech's liability and obligations regarding any corrective measure carried out or any attempt to correct an indicated problem shall be limited to replacing the filter media and/or one or several components of the **FDi Disinfection Filter** and to supplying the required labour, if applicable.

7. LIMITATION OF LIABILITY

Premier Tech's compensation or indemnification obligation shall be limited to the provisions of section 6 of this Certificate of Warranty and Premier Tech shall not be held liable for any other damage or loss that may have been suffered or incurred by the Customer or any third party in connection with the **FDi Disinfection Filter**, its parts and/or components which originate thereof.

No additional warranty, express or implied, hence excluding any direct or indirect consequential damages (not limited to but including third parties loss) concerning the design, sale or use of the **FDi Disinfection Filter** and/or services provided by Premier Tech is hereby granted. Premier Tech's liability under its warranty obligation shall in no case exceed the cost of the **FDi Disinfection Filter**.

8. TRANSFER OF OWNERSHIP

In the event of transfer of ownership, sale, assignment or disposal in any way whatsoever of the Customer's property to a third party, this Warranty shall continue to apply if and only if the Subsequent Purchaser or the Successor confirms, by forwarding the attached "Notice of New Property Owner" to Premier Tech within a reasonable delay, that he/she is the new owner of the property, he/she understands and is aware of the content of this Certificate of Warranty and accepts its terms and conditions.

The person who proceeds with the transfer, sale, assignment or disposal of any way whatsoever of the property undertakes to hand over to the Subsequent Purchaser or the Successor the Certificate of Warranty provided upon completion of the work, as well as the Owner's Manual and, if applicable, the Maintenance and Environmental Monitoring Program for the **FDi Disinfection Filter**.

Failure to abide by the terms and conditions of section 8 of this Certificate of Warranty may, at Premier Tech's discretion, render it invalid or to be rejected.

9. INSPECTION

The Customer and/or the Customer's Successors shall allow Premier Tech or its duly authorized representatives to carry out all necessary monitoring and inspections, as required, for implementation of this Warranty.

If the Customer and/or the Customer's Successors notify Premier Tech of an alleged defect or malfunction of the **FDi Disinfection Filter** and that, after inspection, it is found that no such defect or malfunction exists, or, that such defect or malfunction is excluded from or does not apply to the Warranty, a minimum charge of \$150.00 plus direct expenses shall be paid by the Customer and/or the Customer's Successors for the cost of the inspection.

10. INTERPRETATION

The terms and conditions of this Warranty shall be interpreted according to and governed by the provisions of this Warranty and the legislation in effect in the Province of Quebec.

11. PRIORITY OF THE CERTIFICATE OF WARRANTY

This Warranty supersedes any contract or understanding, written or verbal, entered into between the Customer and Premier Tech. In the event of contradiction between this Warranty and any other documents and/or contracts entered into between the Customer and Premier Tech, this Warranty shall prevail.

12. PURCHASERS AND SUCCESSORS

Subject to the provisions of this Warranty and especially those of section 8, this Warranty shall continue to be valid for Subsequent Purchasers and Successors and shall continue to have full effect until the end of the agreed Warranty period provided for in section 2 of this Certificate.

Notice of New Property Owner

SEND A COPY TO PREMIER TECH AQUA

Name of previous owner: _____

I, the undersigned, _____ hereby declare that I have acquired the property located at

Civic Number

Street

City

Province or State

ZIP or Postal Code

(_____) _____
Phone number

I have read and I understand the warranty provided by Premier Tech Technologies Ltd for the FDi disinfection filter. I wish to benefit from this warranty for the remaining period, if any, and from the date of the transfer of ownership, that is, _____. I accept to be bound by this warranty and by any and all of the clauses, undertakings and conditions set forth therein. I have had the opportunity to examine the FDi disinfection filter and declare myself satisfied with it at the time of this transfer. I ask Premier Tech Technologies Ltd. to take note of this transfer of ownership.

Signature: _____ Date: _____

Name of new owner: _____
(please print)

Language preference: ☐ English ☐ French

New owner's e-mail address: _____