

Owner's manual ECOFLO Linear biofilter EL15 model series

Owner's manual - Ecoflo® linear biofilter

Premier Tech congratulates you on acquiring the Ecoflo linear biofilter. By choosing the Ecoflo linear biofilter, you are helping to protect your property, your health, and the environment. This document contains information concerning the process, instructions for use, maintenance, and guarantees of the Ecoflo linear biofilter.

The Ecoflo linear biofilter is certified according to the NSF/ANSI 40 standard. This certification includes a septic/primary tank, an effluent filter, and the Ecoflo linear biofilter. All information relating to the operation, instructions for use, maintenance of the septic/primary tank, and the effluent filter are presented in this manual. For more information, please contact our customer service at 1800 632-6356 or visit our website at *PT-WaterEnvironment.com*.

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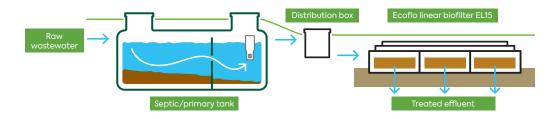
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1 PROCESS OVERVIEW

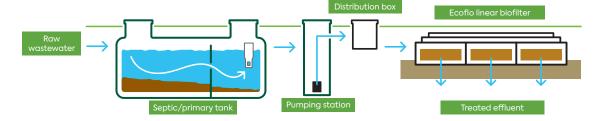
The Ecoflo linear biofilter treatment system is a class I treatment system certified according to NSF/ANSI 40 standard. This certification includes a septic/primary tank, an effluent filter, a distribution box, and a number of treatment modules (proportional to the flow to be treated) positioned on a sand layer surface.

The figures below represent the three possible distribution options for the Ecoflo linear biofilter treatment system:

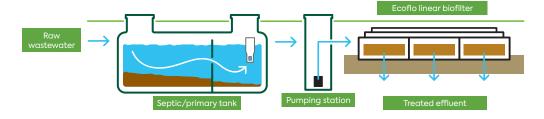
1.1 GRAVITY



1.2 PUMP TO GRAVITY



1.3 LOW PRESSURE



1.4 PRIMARY TREATMENT

The septic/primary tank is the first step of the treatment chain. It clarifies wastewater by letting suspended solids settle to the bottom and prevents clogs in tdownstream components by retaining floating matter. An effluent filter is installed at the outlet.

The septic/primary tank and the effluent filter must comply with local regulations. Premier Tech Water and Environment recommends using a septic/primary tank with a minimum working capacity equivalent to about twice the daily flow.

1.5 FEEDING AND DISTRIBUTION

Feeding and distribution of the wastewater from the primary treatment tank to the treatment modules can be achieved by three different methods:

- 1. A distribution box (gravity distribution)
- 2. Pumping station with a distribution box (pump-to-gravity distribution)
- 3. Pumping station with low-pressure distribution

1.6 ECOFLO LINEAR BIOFILTER

Wastewater travels through the perforated distribution channel of each treatment module and is discharged onto the surface of the filtration pads. Treatment begins as wastewater percolates through the pads. Particles get filtered while microorganisms within the pads perform an aerobic degradation of organic matter. Treatment is completed in the sand layer beneath the pads. Treated water returns to the environment by infiltrating into the soil directly underneath the Ecoflo linear biofilter. This treatment process makes it possible for treated wastewater class I treatment level per NSF/ANSI 40 standard.

The operating principle of the Ecoflo linear biofilter allows permanent or intermittent use without requiring any special precautions and without affecting the quality of the treatment. No special action is required from the owner to get the system up and running. The minimum number of treatment modules is determined by the total daily flow of water to be treated, according to local regulations.

1.7 PRODUCT NOMENCLATURE

There are several Ecoflo linear models available that have different characteristics which are identified by the model number and the dispersal option. The choice of model is based on the number of bedrooms in the residence or the total daily volume of domestic wastewater generated by any other type of building. It is also determined based on the surface area required, existing topography, and soil characteristics.

The following table presents nomenclature used for the Ecoflo linear biofilter models. All of these models are certified in compliance with NSF/ANSI 40 standard.

Table 1 - Ecoflo linear biofilter model name

EL15-XXX-YY					
xxx		Refers to number of modules			
VV	CD	Refers to combined treatment and dispersal			
YY	SD	Refers to single point discharge			
Module loading rate		6.8 gal/ft*d (84 L/m*d)			
Filtration pad length		46.6 in (1.183 m)			

2 INSTRUCTIONS FOR USE

2.1 TYPES OF WATER THAT CAN BE TREATED

Wastewater characteristics

The treatment performance of the Ecoflo linear biofilter depends on the wastewater's characteristics. Wastewater must be of domestic origin to be compatible with the biological treatment process and to ensure a sustainable treatment performance (neutral pH, sufficient alkalinity, and the absence of inhibitory substances).

Drinking water treatment system

Backwash from domestic water treatment devices may adversely affect a septic system. Premier Tech always recommends keeping them out of your system and to discharge them into an independent dispersal component if local jurisdiction allows for one.

Otherwise, you must follow state and local regulations for tank and dispersal area sizing. Please contact Premier Tech for recommendations when discharging backwash directly in your septic system.

2.2 RECOMMENDATIONS

Keep the following products out of your sinks, toilets, and treatment system:

- oil and grease (engine, frying, etc.)
- wax and resin
- paint and solvent
- any petroleum product
- pesticides of all kinds
- any form of septic/primary tank additive
- non-biodegradable objects (coffee beans, cigarette butts, sanitary napkins, tampons, condoms, cotton swabs, etc.)
- pharmaceuticals
- pipe or conduit cleaners
- toxic products
- household cleaning products in large quantities

Follow these guidelines:

- Never open the lid or access the inside of your septic system.
- Never cover or bury the lids of any component of your septic system. Backfill should be no higher than 50 mm (2") below the lid.
- Never discharge backwash water from a water softener into your septic system.
- Never connect a drainage line, roof gutter, sump, dewatering pump, or air conditioning drain to your septic system.
- Never use an automatic toilet cleaner.
- Never plant a tree within 2 m (6') of the Ecoflo linear biofilter.
- Never discharge wastewater from a recreational vehicle (tent-trailer, caravan, etc.) Into your septic system.
- Never drive a vehicle or place an object weighing more than 225 kg (500 lb) within 3 m (10') of the distribution box.
- Never drive a vehicle over or place an object weighting more than 340 kg (750 lb) within 2 m (6') of the treatment system.

Complying with these instructions contributes to the septic system's proper functioning and may help increase the Ecoflo linear biofilter treatment system's lifespan. Failure to comply with these guidelines may result in the invalidation of the warranty at Premier Tech's discretion.

2.3 WHAT YOU NEED TO KNOW

Responsibility of the owner

The owner must comply with the requirements of existing laws and regulations that apply in terms of system treatment performance and quality of the water discharged into the environment. Responsibility for the design, construction, use, and maintenance of a wastewater treatment system relies on the owner.

Beware of heavyweight vehicles

It is important not to drive a vehicle and never place heavy objects weighing more than 340 kg (750 lb) within 2 m (6') of the Ecoflo linear biofilter. When any work is being carried out, it is very important to notify all concerned parties (installer, landscaper, owner, snowblower, etc.) of the installation's location to avoid damaging the septic system components. We recommend identifying and taking note of the location of the various components of your septic system.







About your home

Your home must have a functional vent and plumbing that comply with the applicable standards of your local building code. Premier Tech strongly recommends the use of a 100 mm (4") nominal PVC SDR-35 pipe for the ventilation. Obtain authorization from your local authorities and inform Premier Tech before making changes to your home or modifying the Ecoflo linear biofilter. Failure to comply with these guidelines may result in the invalidation of the warranty at Premier Tech's discretion.

3 MAINTENANCE

3.1 PRIMARY TREATMENT

It is essential to comply with the septic/primary tank servicing and maintenance requirements prescribed by local regulations and the manufacturer to ensure your septic system's proper functioning.

If your home has a sink garbage disposal, we strongly recommend emptying your septic/primary tank more frequently. The use of a garbage disposal system leads to a greater accumulation of sludge in the septic/primary tank. We recommend keeping the invoices with your owner's manual as proof of your septic system maintenance.

3.2 EFFLUENT FILTER

Under the normal operating conditions described in this document, a regulatory compliant effluent filter should function throughout the septic/primary tank's lifespan. To ensure this, the effluent filter must be cleaned each time the septic/primary tank is emptied, as established and suggested by local authorities. The condition of the effluent filter must be checked once a year and cleaned if needed. The presence of outlines that arrive at more than 75 mm (3") over the outlet's invert and that are noticeable on the effluent filter casing and tank walls is a sign of a clogged effluent filter.

3.3 DISTRIBUTION BOX

It is normal for residues to accumulate over time in the distribution box due to the composition of the water it receives. It is therefore important to clean it during the annual maintenance of your system to ensure it operates normally over the entire life of the treatment system and make sure that are the outlet delivers proper amount of wastewater to each row of treatment modules.

3.4 ECOFLO LINEAR BIOFILTER

While the Ecoflo linear biofilter does not require any particular maintenance, we recommend using the provided observation ports during your system's annual maintenance to inspect for improper functioning or for excessive biomat accumulation within the protective chambers. The presence of biomat on the surface of the filtration pads and the sand layer is normal, but excessive biomat accumulation may lead to water flowing off the surface of the filtration pads and down their sides. In the event of excess biomat accumulation, contact a Premier Tech representative for a more extensive investigation and intervention.

The sampling device does not need to be maintained, but the protective cap must remain in place.

The ventilation shaft requires no maintenance. Ensure its opening is unobstructed (debris, rocks, snow, etc.) and that there is proper air circulation.

The table 2 below summarizes the maintenance schedule proposed by Premier Tech for all components of the Ecoflo linear biofilter.

For any information regarding maintenance and operation of the Ecoflo linear biofilter, please contact Premier Tech Water and Environment at 1,800-632-6356.

Table 2 - Recommended maintenance schedule

Item	To do	Frequency
Distribution box (when applicable)	Verify performance. Clean and adjust levelers.	Each visit
Pumping station (when applicable)	Verify structural integrity. Test pump and floats.	Once a year
Low-pressure pipes (when applicable)	Inspect manifold condition (if accessible). Backflush and clean pipes.	Once a year
Filtration pads	Verify condition of the pads' surface with a camera through the observation port.	Once a year
Protective chambers	Verify structural integrity.	Once a year
Absorption area (presence of water into the sand layer)	Verify water level.	Once a year
Area around installation	Verify general site condition and inspect for overly saturated soil, seepage, etc.	Each visit
Septic/primary tank	Verify structural integrity. Measure sludge and scum.	Once a year
Effluent filter	Clean effluent filter.	Once a year

4 WHAT TO DO IN CASE OF...



4.1 FLOOD

Some areas are prone to flooding or upwelling. Both can interfere with the proper functioning of your septic system. Please notify Premier Tech Water and Environment after-sales service if this happens at your home.



4.2 BACKFLOW

Sewage backup in a residence happens rarely. The septic/primary tank is usually the primary main. Call your system's installer or your local septic/primary tank service provider to correct the situation.



4.3 ODORS

Any septic system is likely to generate gases and, consequently, odours. The positioning of the residence's vent, as well as other surrounding factors unrelated to the treatment system itself, can affect the dispersion of gases. If you notice any foul odours, Premier Tech Water and Environment service will help you find the cause(s).



4.4 A PROLONGED POWER FAILURE (FOR INSTALLATION WITH PUMPING STATION)

Protect the system's components against freezing in the event of a prolonged winter power failure, or if you are planning to shut down your system in winter.

If one of these situations occurs, or If you have any questions about restarting your system, contact Premier Tech Water and Environment.

If you have any questions, comments, or concerns, do not hesitate to contact Premier Tech Water and Environment at 1–800–632–6356.



APPENDIX 1 | NOTICE OF OWNERSHIP CHANGE

THIS FORM MUST BE RETURNED TO PREMIER TECH WATER AND ENVIRONMENT

1, Premier avenue, Premier Tech Campus, Rivière-du-Loup, Quebec G5R 6C1 or info.ptwe.na@premiertech.com

Have you recently sold or purchased a property where wastewater was treated by a Premier Tech system? Please complete the information below to the best of your knowledge to ensure a quick and accurate update of the client file.

Name						
Indicate if you are ☐ Former☐ New ov		Premier Tec	h customer numl	oer		
Address of the site where Pren	nier Tech's syster	n is installed				
Address		Street	City	Provin	ce/State	Postal code/Zip code
Name of new owner						
Mailing address (if different fro	om the site where	the system is	installed)			
Address		Street	City	Provin	ce/State	Postal code/Zip code
Language of correspondence	☐ English☐ French	Corres	pondence metho	od	□ En	nail estal service
Phone (office) Ph	one	(home) Emo	iil			
☐ I declare that the residence whe or will change ownership on this Date		ystem is instal	ed as indicated at t	the site ac	ldress	has changed
16						
If you are the FORMER owner ☐ I have provided the owner's manual and the system warranty certificate that is included with this document to the new owners. I informed them about local regulation's maintenance, annual inspection and contract renewal requirements as applicable. It is strongly suggested to renew maintenance contract every year (no later than December 31 of each year) to benefit from the product's warranties and to ensure that the system complies with the regulations.						
Signature			Date			
If you are the NEW owner						
☐ I declare that I have received the conditions.	manual owner's ma	nual and the w	arranty certificate a	nd I agree	to abi	de by their
☐ I understand that annual mainten my annual maintenance contract warranties and ensure that the sy	every year (no later	than December	er 31 of each year) to			
Signature			 Date			

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APPENDIX 2 | MAINTENANCE PROGRAM AND WARRANTY ACTIVATION FORM – ECOFLO LINEAR BIOFILTER

THIS FORM MUST BE RETURNED TO PREMIER TECH WATER AND ENVIRONMENT

1, Premier avenue, Premier Tech Campus, Rivière-du-Loup, Quebec G5R 6C1 or info.ptwe.na@premiertech.com

Dear customer,

Congratulations on your acquisition of a Premier Tech Ecoflo linear biofilter treatment system. To activate your warranty, please complete and return this document to Premier Tech. This document will also confirm your registration to our maintenance program. As per local requirements, every sewage system shall be operated and maintained in accordance with manufacturer specifications. Preventive maintenance shall be performed annually after the commissioning of your Ecoflo linear biofilter treatment system. A local service contractor will perform the maintenance of your system. Please do not hesitate to contact us at 1 800-632-6356 or write to us at *info.ptwe.na@premiertech.com* if you have any questions.

Customer'	s name:										
Address of	installatio										
Address of	installatio	n:									
Address					Street		City	Provir	nce/State	Postal code	e/Zip code
Mailing ad	dress:										
Address					Street		City	Droude	nce/State	Postal code	. /7:>
Address					Street		City	Provir	ice/State	Postal code	e/Zip code
Phone number:		(home)	Phone number:		(work)	Email:					
Language	of corresp	ondence:	☐ English☐ French		Corres	oondenc	e method:		☐ Em	nail stal servic	е
Model		Quantity	of treatment r	nodules	Installatio	on date	Serial nu	ımber	Date	of initial	usage
☐ Ecoflo lin	ear biofilter										
Residence type:	☐ Principa		Installation type:		construction of existing s	system	If waterfr	ont·	Lake River		cean
Please indicate if your property is not accessible by car, and, if so, by which means of transportation you will make available to have the maintenance visit done by a Premier Tech Service representative:											

Continued on back

Soil test performed by: (Company's name)		
Plans designed by: (Company's name)		
Installer: (Company's name)		
Signed in: (City)	This: (Date)	

PREMIER TECH WATER AND ENVIRONMENT L	TD .
Represented by:	I declare having read the information contained in the owner's manual as well as the Premier Tech maintenance program and agreement terms and conditions on back of this document. I understand this information, the scope of these conditions, and my responsibilities as user of an onsite treatment system and I agree to adhere and annually renew the maintenance program of Premier Tech as required by the local regulation in effect.
JEAN-DANIEL CHABOT North America Client Solutions Direct	Owner's signature

IMPORTANT REMINDER

According to certain regulations in effect, this document must be sent to your municipality as proof of registration with the Premier Tech maintenance program. Please inquire with your municipality.

APPENDIX 3 | CERTIFICATE OF WARRANTY FOR THE ECOFLO LINEAR BIOFILTER

1. Preamble

Premier Tech Water and Environment Ltd. (hereinafter called "Premier Tech") provides its customers an exclusive warranty on Premier Tech's wastewater treatment system filtering medium and manufacture components.

For the application and interpretation of this warranty, "customer" shall mean the person who has purchased an Ecoflo linear biofilter (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

Premier Tech warrants to the customer that the Ecoflo linear biofilter's filtering medium shall function according to specifications for a period of twenty-four (24) months from the delivery date (or ortherwise specified by local regulations) to the initial purchaser or its representatives (as per delivery bonds).

Subject to limitations, such as the limitations included in the previous paragraph and Sections 2.2, Premier Tech also warrants the Ecoflo linear biofilter's manufactured components against any manufacturing defect for a period of two (2) years from the date of purchase by the initial purchaser (proof of purchase required).

Premier Tech's conventional warranty is expressly limited to the text of this certificate and valid provided the Ecoflo linear biofilter was installed in accordance with applicable regulations and with the manufacturer's recommendations.

3. Notice

For this warranty to be valid, the customer must notify Premier Tech in writing without delay upon the appearance of any indication of an anomaly or irregularity in the Ecoflo linear biofilter.

Such notice shall be mailed to Premier Tech's Head Office at 1, avenue Premier, Rivière-du-Loup, Quebec, G5R 6C1, Canada, by facsimile at (418) 862-6642, or by email at info.ptwe.na@premiertech.com.

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, design, or construction carried out by a person trained by Premier Tech, or any installation, design, construction, modification, correction, or addition carried out by a person not trained by Premier Tech;
- (d) any damage or problem arising from any installation, design construction, modification, correction, or addition to the treatment system carried out after installation of the Ecoflo linear biofilter without prior written approval from Premier Tech;
- (e) any damage or problem caused by the use of a septic/primary tank manufactured by a third party;
- (f) any damage or problem, if it is shown that the usage of the Ecoflo linear biofilter
 was not in accordance with the instructions and guidelines described in the owner's
 manual;
- (g) any damage or problem, if the maintenance or inspection of the Ecoflo linear biofilter
 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 Ecoflo linear biofilter 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 Ecoflo linear biofilter including, without limiting the generality of the foregoing, excavation, snow removal or demolition;
- (k) any damage or problem resulting from the 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 Ecoflo linear biofilter sold to him/her, 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

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 Ecoflo linear biofilter sold to him without prior written 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 Ecoflo linear biofilter's filtering medium and/or one or several components of the Ecoflo linear biofilter.

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 Ecoflo linear biofilter, its parts and/or manufactured 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 Ecoflo linear biofilter 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 Ecoflo linear biofilter's filtering medium and manufactured components.

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 ownership change" to Premier Tech within sixty (60) days, 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 Ecoflo linear biofilter.

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 Ecoflo linear biofilter 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 \$200 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.

People and Technologies making a difference

Making a difference for our planet — for 100 years

At Premier Tech, People and Technologies have connected in lasting, transformative ways for the last 100 years, giving life to products and services that have helped to feed, protect, and improve our world.

We aren't slowing down. Premier Tech is 100 years young, and our experts continue to innovate and redefine what is possible through effective, efficient, and sustainable solutions. We are driven by our shared passion, and are committed to spend our next 100 years protecting our resources for the future.

- founded in 1923
- family business
- 3,000 team members in North America
- · 25 manufacturing facilities in North America
- 5,200 team members worldwide





CUSTOMER SERVICE

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