

Ecoflo® Peat filter systems (Fiberglass)

Owner's Manual – USA-NSF

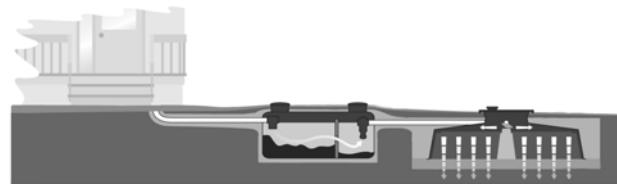
Congratulations on your purchase of an Ecoflo® Peat filter system from Premier Tech Environment (PTE). With the Ecoflo® Peat filter system, you have wisely chosen to protect your health as well as the environment. This manual contains information on system operation, maintenance, guidelines for use and warranties for the models ST-500/650 (-1,-2,-3) and STB-500/650 (-1,-2,-3). For additional information, please contact our customer service at 1 800 632-6356.

System description and Operating principle

The Ecoflo® Peat filter system is a wastewater treatment system designed to treat domestic wastewater. Your complete Ecoflo® Peat filter system includes a septic tank, an effluent filter, one or more Peat filters and, depending on the type of installation, a pumping station and a flow divider.

System description

The Ecoflo® Peat filter is made of a fiberglass shell including a natural filtering media especially selected to treat residential wastewater. A polyethylene lid securely fastened limits the access to the system. Under that lid is located a security panel that deflects the incoming air into 2 aeration channel to feed the filtering media. That lid also insulates the inside parts of the system.



The Ecoflo® Peat filter system has been tested and listed under standard 40. Each model of Ecoflo® Peat filter described here meets Class I requirements as per ANSI/NSF standard 40.

Inside the Ecoflo® Peat filter, a central support acts as a stand for the tipping bucket that split equally the influent on both sides of the central support. Four distribution plates (2 on each side of the central support) including holes are located over the filtering media and feed it uniformly with wastewater.

Operating principle

To be treated, the wastewater goes first into the septic tank where it is submitted to a primary treatment. Then it goes across the effluent filter to prevent solids discharge to the effluent before reaching the Ecoflo® Peat filter. Once inside the Ecoflo®, the water is directed into the tipping bucket in order to be split equally on the distribution plates located on both sides of the central support. These plates include channels and orifices that distribute uniformly the effluent on the top of the filtering media. Then, wastewater trickles down into the filtering media where its organic content is consumed by the bacteria before entering the absorption bed located underneath or being collected to be discharged elsewhere (if possible into a watercourse or in an other leaching field)

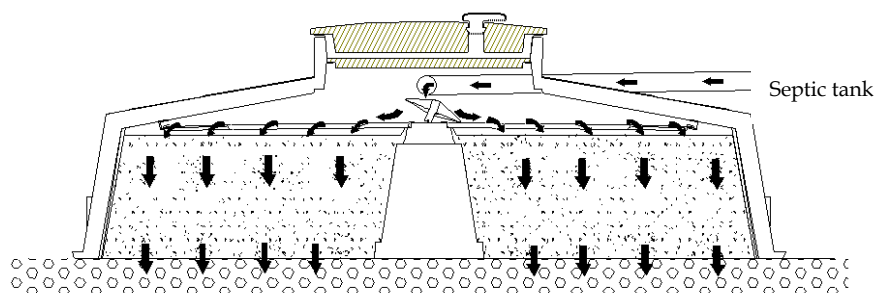


Figure 1 Water flow inside the Ecoflo® Peat filter

Model description

Capacity

The components of model the **Ecoflo® Peat filter systems** are described in the tables below.

Table 1 Ecoflo® Peat filter systems with opened bottom

Ecoflo® Peat filter system	Flow rate (gpd)	Septic tank capacity (gal)	Effluent filter model	Number of Ecoflo® Peat filter	
				Model 500	Model 650
ST-500-1	420	1000	EFT-080R	1	-
ST-650-1	600	1000	EFT-080R	-	1
ST-500-2	840	2000	EFT-080RH	2	-
ST-650-2	1200	2000	EFT-080RH	-	2
ST-650-3	1500	2500	EFT-080RH2	-	3

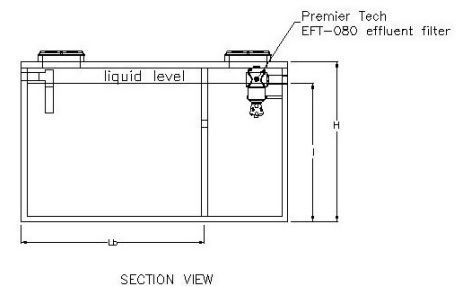
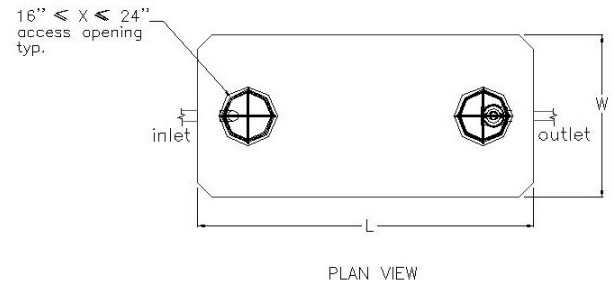
Table 2 Ecoflo® Peat filter systems with closed bottom

Ecoflo® Peat filter system	Flow rate (gpd)	Septic tank capacity (gal)	Effluent filter model	Number of Ecoflo® Peat filter	
				Model 500	Model 650
STB-500-1	420	1000	EFT-080R	1	-
STB-650-1	600	1000	EFT-080R	-	1
STB-500-2	840	2000	EFT-080RH	2	-
STB-650-2	1200	2000	EFT-080RH	-	2
STB-650-3	1500	2500	EFT-080RH2	-	3

Septic tank

The septic tank included in your Ecoflo® Peat filter system respect the following specifications.

Criteria ¹	Objectives		
Shape	Rectangular		
Length to width ratio ²	$1.4 \leq L/W \leq 2.8$		
Liquid level	$l \geq 36''$		
Air space over liquid level	$a \geq 7''$		
Access over inlet and outlet	$16'' \leq x \leq 24''$ (circular or rectangular)		
Internal baffle location from the inlet side ($\pm 5\%$)	$0.5 \leq L_b/L \leq 0.7$		
Invert of the opening(s) in internal baffle (from the bottom of the tank)	$\geq 20''$		
Inlet device	Baffle, tee or elbow ³		
Length (L)	1000 gal	2000 gal	2500 gal
	$95'' \leq L \leq 130''$	$135'' \leq L \leq 165''$	$135'' \leq L \leq 165''$
Width (W)	$47'' \leq W \leq 72''$	$62'' \leq W \leq 87''$	$62'' \leq W \leq 87''$
Height (total) (H)	$47'' \leq H \leq 75''$	$60'' \leq H \leq 85''$	$70'' \leq H \leq 95''$
Liquid level (l)	$36'' \leq l \leq 60''$	$45'' \leq l \leq 65''$	$60'' \leq l \leq 80''$
Outlet device (Could be inside or outside the septic tank ⁴)	EFT-080R effluent filter	EFT-080RH effluent filter	EFT-080RH2 effluent filter



1: Based on CSA and/or BNQ criteria and/or on state regulation.

2: Based on external dimensions.

3: Minimum diameter of 4 inches for tee and elbow.

4: If the effluent filter is located in a separate container (such as Premier Tech TLF-240) after the septic tank, it could be the same type of device as specified for the inlet.

Tank material

The tank material must be made of concrete or polyethylene and respect the specifications described hereunder:

Concrete

- 28 days minimum compressive strength ≥ 3600 psi
- The thickness of walls, top and bottom are at least 3 inches;
- Tanks is reinforced to resist without structural cracking stresses caused during handling and installation;
- All reinforcement have a clear cover of at least 1 inch.

Polyethylene

- Polyethylene comply with ASTM Standard D 1248, Class B (requiring an ultraviolet stabiliser) or Class C (requiring a minimum of 1% carbon black)
- Stress crack resistance ≥ 150 h when measured in accordance with ASTM Standard D 1693
- The thickness of walls, top, bottom and covers is at least $\frac{3}{16}$ inch.

Quality control program

Septic tanks are subjected to a quality control program by the manufacturer. It consists of controlling:

- raw material in terms of specifications described above;
- wall thickness;
- watertightness;
- septic tank assembly.

Ecoflo[®] Peat filter

There are actually four different models of Ecoflo[®] Peat filter available.

Regarding the effluent discharge, there are two types of Ecoflo[®] Peat Filters. The first one has an opened bottom allowing the effluent disposal by infiltration directly underneath the filtering media. The second one includes an impermeable bottom able to collect and direct the treated effluent to a disposal field, a tertiary treatment or a direct discharge to a watercourse. These models are identified by two letters: ST (open bottom) and STB (collecting bottom).

There are also two sizes of Ecoflo[®] Peat filter that are currently available which are the ST(B)-500(1,2,3) and ST(B)-650(1,2,3). Both sizes have the same hydraulic loading rate. The ST(B)-500 series have a nominal filtering area of 49 ft² allowing a flow rate of 420 gal/d and the ST(B)-650 series have a nominal surface area of 70 ft² allowing a flow rate of 600 gal/d.

The quantity of Ecoflo[®] Peat filters per system is indicated by the numbers 1,2,3.
All of these models include a shell made of fibreglass.

Guidelines for Use

Type of wastewater that can be treated by an Ecoflo® Peat filter:

Domestic wastewater (e.g.: wastewater from individual residences).

To ensure optimum treatment efficiency and operation of any septic installation (Ecoflo® Peat filter, leach field, etc.):

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

- Water softener backwash;
- Oil and grease (engine oil, cooking oil, etc.);
- Wax and resin;
- Paint and solvent;
- Petroleum products;
- Pesticide of any kind;
- Any kind of septic tank additive;
- Toxic substances;
- Anything not easily biodegradable (e.g. coffee beans, cigarette butts, sanitary napkins, tampons, condoms, cotton swab, etc.).



AND:

- NEVER cover or bury the access lid of the Ecoflo® Peat filter system;
- NEVER open or enter the Ecoflo® Peat filter without prior authorization;
- NEVER install a riser on an Ecoflo® Peat filter ST-500 or ST-650. For the models STB-500 and STB-650 with collecting bottom, use ONLY ONE (1) PTE's extension kit STR-080F;
- NEVER plant trees within 16, 4' of the Ecoflo® Peat filter lid and within 6, 5' of the absorption bed;
- NEVER connect a drain pipe or roof gutter or sump pump or air conditioner unit drain to the septic system;
- DO NOT let anything accumulate on top of the septic system (e.g.: blown snow). The surcharge can cause damage to your system;
- NEVER use an automatic toilet bowl cleaner;

By respecting these guidelines, you contribute to the proper functioning of your septic installation and increase your chances to lengthen the life of the filtering media of your Ecoflo® Peat filter system.

Note:

The Ecoflo® Peat filter operating principle allows the system to be used continuously or intermittently without requiring any particular precaution (see **Guidelines for Use**) and without any impact on the quality of the treatment. No action is required from the owner to start the system.

Keep heavy weights off your septic installation

Never drive vehicles or place objects weighing more than **500 lb within 16, 4' of your Ecoflo® Peat filter** system's lid. 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 shovel or blow snow that would accumulate on top of the septic system.** The overload could cause damage. Mark or indicate the location of your system's components.

About your home

The home must be equipped with an air vent that is in proper working order and complies with the applicable standards. Premier Tech Environment strongly recommends using a 4" Ø pipe for the air vent. Any change in the use or function of your home, or any modification to your Ecoflo® Peat filter system must be authorized by the local authorities, and Premier Tech Environment must be informed. The warranty for the Ecoflo® Peat filter system will be void if this condition has not been fully respected.

Maintenance

Ecoflo® Biofilter

The owner of a biofiltration system **shall follow the manufacturer's recommendations regarding the maintenance of the system.** For that purpose, he must at all times have a valid contract with the manufacturer or its representative, and **a copy of the contract must be filed with the local authorities.**

Annual maintenance is essential to the proper operations of your Ecoflo® Peat filter. Therefore, your biofilter must receive an annual service for the duration of its useful life. The first bi-annual maintenance¹ charges are already included in the purchase price of your Ecoflo® Peat filter system. Afterwards, a maintenance agreement must be established with Premier Tech Environment (PTE). The renewal of the maintenance agreement is essential to ensure the warranty of your Ecoflo® Peat filter system. The cost of the agreement will be determined by PTE at time of renewal.



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The maintenance of your Ecoflo® Peat filter is carried out by Premier Tech Environment or an authorized agent. This service includes a visual inspection of all components to ensure the system is functioning properly and an effluent quality inspection consisting of a visual assessment for color turbidity and an olfactory assessment for odor. It also includes the raking of the filtering media on an annual basis and the cleaning of the failure sensing device of the tipping bucket. **Easy access to your system's lid is essential for maintenance and for filtering media replacement purposes.** You will be given a maintenance record after each inspection, which you should keep with this manual in a safe place. If a problem is observed during the inspection that cannot be remedied at the time of the inspection, the maintenance record will include an estimated date of correction.

At the end of its eight (8) year useful life, the filtering media of your Ecoflo® Peat filter must be replaced before its condition likely reduces the treating performance of the system. The filtering media is easily pumped out with the help of a truck usually used to empty septic tanks. The installation of the new filtering media is performed by an authorized agent. Before its replacement, the condition of the filter is thoroughly analyzed by one of our specialists. If the filtering media is not solicited in an abusive manner and if the guidelines for use are respected, the filtering media might be extended for an additional year.

Septic tank

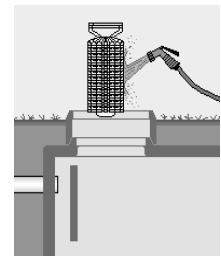
Empty your septic tank regularly. This helps keep your septic system in proper working order. The pumping standards of the septic tank are prescribed by local authorities and must be respected. For main residences, the septic tank should be inspected yearly. It should be pumped out (first and second compartments) at least every 2 years or when a maximum depth of sludge of 20 inches is reached in the first compartment, whichever comes first. However, when a by-law governing the pumping of septic tanks has been adopted by a municipality or county, a septic tank may be pumped by measuring the scum or sludge layer. Consult your local regulations for prescribed inspection and pumping frequency.

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

We recommend that you keep proof of pumping (invoice) with this owner's manual so as to keep a record of complete septic system maintenance.

Premier Tech EFT-080R (H/H2) Effluent filter

We recommend an inspection of the effluent filter once a year. Cleaning of the effluent filter should be done each time the septic tank is pumped. However, the frequency of maintenance will depend on wastewater flow, regulation requirement and the type of establishment. Pull the cartridge out of its container and gently hose it off to remove any scum. You should do this while holding the filter over the septic tank first compartment so that scum washes back into the tank.



¹ Bi-annual maintenance for the first two years and annual maintenance for the following years, according to the NSF specifications.

PSA-240, PSA-240H, PSA-240L pumping station (if needed)

Bottom sludge in the PSA-240, PSA-240H or PSA-240L pumping station should be pumped at the same time as the septic tank, or as needed.

Visual and audio alarm Unit

The Ecoflo® Peat filter system is equipped with a high-water alarm float fixed to the effluent filter and another one is included in the Ecoflo® Peat filter. Both floats are connected to an alarm panel. This panel must be installed inside the residence so the alarm can be heard as soon as it comes on. The operation of this unit is described below.



If water reaches an unusually high level, the visual and audio alarm comes on. To turn it off, push the "SILENCE" button. It is important to note that this will not solve the problem. If this situation happens, call a service representative right away. You can test the alarm system to make sure it is operating properly by pushing the "TEST" button; the visual and audio signals should come on.

What to do in case of...

Flooding

Certain sites are prone to flooding or have high groundwater table level. This can lead to a malfunction of the Ecoflo® Peat filter system or any other septic system. If this happens, contact Premier Tech Environment.

Backflow

Backflow rarely occurs in homes. It is generally caused by the septic tank. If it happens, the visual and audio alarms will come on. Your septic system installer or septic tank pumper can usually take care of the situation.

Odours

The position of the air vent, as well as other factors unrelated to the Ecoflo® Peat filter, can prevent proper dispersion of septic gases and lead to odours. If this happens, contact Premier Tech Environment for solutions.

Resurgence near the Ecoflo® Peat filter

That situation rarely occurs. But it may happen if the soil is waterlogged, if there is excessive water consumption or if there is insufficient fill. If this happens, contact Premier Tech Environment for solutions.

To obtain information such as serial number, system capacity, system classification or service, you should refer to the system data plate located on the alarm panel or inside of the main access of the system by removing the plastic green lid. To access the system data plate in the Ecoflo® Peat filter main access, you have to unscrew the lag screws located at corner of the lid. Do not remove the blue insulating board located inside the main access which sealed the filtering media with Premier Tech ty-raps.

**FOR ANY PROBLEM, QUESTION OR COMMENT,
DO NOT HESITATE TO CONTACT OUR CUSTOMER SERVICE
AT 1 800 632-6356**



**Premier Tech
Environment**

☎ 1 800 632-6356
☎ 418 862-6642
@ pte@premiertech.com
🌐 www.ptenv.com

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. Ecoflo® is a brand of Premier Tech Ltd. The Ecoflo® Biofilter is protected under patent: Canada 2 149 202, 2 022 097 and 2 499 637 (patent pending), USA 5 618 414, 5 206 206 and 7 097 768 and Europe 0 836 585 and 1 539 325.

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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 **Ecoflo® Peat filter system ST(B)-500(1,2)** and/or **ST(B)-650(1,2,3)** certified by NSF (which may be composed, depending on the type of system, of a EFT-080R, EFT-080RH or EFT-080RH2 Effluent filter and a septic tank) (hereinafter called "Initial Purchaser"), 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.

NATURE OF THE WARRANTY

Premier Tech warrants the components of its Ecoflo® Peat filter system as follow:

- Premier Tech warrants that the filtering media of the Ecoflo® Peat filter shall function properly for a period of 8 (eight) years from the date of its installation.
- Premier Tech warrants all parts of the EFT-080R, EFT-080RH and EFT-080RH2 Effluent filter against any manufacturing defect for a period of two (2) years from the date of its installation.
- Premier Tech warrants all part of the Septic Tank PST-500 against any manufacturing defect for a period of then (10) years from the date of its installation.
- Premier Tech also warrants any other type and model against any manufacturing defect for a period of two (2) years from the date of its installation, provided that such septic tank complies with Premier Tech's specifications (SPEC), as detailed in the Owner's Manual.
- Except as otherwise prescribed in this Certificate of Warranty, Premier Tech warrants the fiberglass components and other components of the Ecoflo® Peat filter system against any manufacturing defect for a period of ten (10) years from the date of installation.

The date of installation shall be the date written on the maintenance agreement.

This Warranty of effectiveness, sound manufacture and durability is provided by Premier Tech to the Customer in addition to the legal Warranty or other Customer's rights, in accordance with any applicable law.

Premier Tech's conventional Warranty is expressly limited to the text of this Certificate and valid provided the Ecoflo® Peat filter system were 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 immediately upon the appearance of any indication of an anomaly or irregularity in the Ecoflo® Peat filter system.

Such notice shall be mailed to Premier Tech 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 Ecoflo® Peat Filter system 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 (SPEC), as described in the Owner's Manual;
- (f) Any damage or problem, if it is shown that the usage of the Ecoflo® Peat filter system was not in accordance with the instructions and guidelines described in the Owner's Manual;
- (g) Any damage or problem, if the maintenance of the Ecoflo® Peat filter system 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® Peat filter system 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® Peat filter system, 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 Ecoflo® Peat filter system 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 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® Peat filter system 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 filtering media and/or one or several components of the Ecoflo® Peat filter system and to supplying the required labor, 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 Ecoflo® Peat filter system.

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 Warranty Transfer" 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 Ecoflo® Peat filter system.

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® Peat filter system 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 USD 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.

Certificate of Warranty for Ecoflo® Peat Filter system

Notice of Warranty Transfer

Name of the previous Owner : _____

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

Number Street

City

Province

Postal code

() _____

Phone number

I have read and I understand the warranty provided by Premier Tech Technologies Ltd for the Ecoflo® Peat filter system. 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 Ecoflo® Peat filter system 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 of new owner : _____

Date : _____

Name of new owner: (print) _____

New owner's E-mail address: _____
(if available)