

INSTALLATION GUIDE

ECOFLO®

Sustainable septic solution



Installation & Servicing Guide

Ecoflo 26PE & Above

Manual Version OM0059 Rev 2


22 August 2022



**Please Ensure You Are Using The
Latest Ecoflo Installation Manual**



Downloadable from <https://www.premiertechaqua.com/en-gb/wastewater-treatment/sewage-treatment-plant-ecoflo>

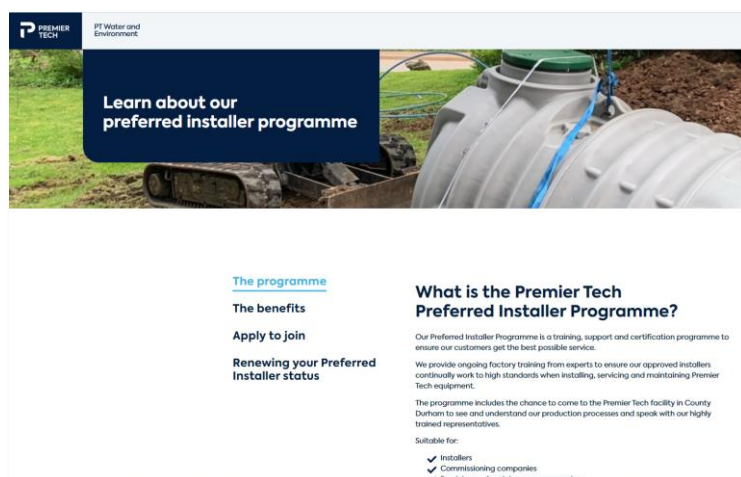
 This manual is designed for use by experienced sewage treatment tank installers & service providers. If you are not a professional installer you can obtain training from Premier Tech. (see below)

- Premier Tech are proud to warrant the workmanship and components of the tank for the time period shown in this manual.
- Installers, commissioning agents and service providers must ensure they adhere to the installation guidelines and allow for site specific environmental conditions.

Premier Tech Water & Environment provide full training for installers and servicing agents.

For more information see:

<https://www.premiertechaqua.com/en-gb/en-gb/preferred-installer-programme>



PT Water and
Environment UK

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[Premiertechaqua.com/en-gb](https://www.premiertechaqua.com/en-gb)





Installation & Commissioning Checklist

Property Owners Name/Business Name:

Property Address:

City:

County:

Postcode:

Tel:

Installation Agents Name:

Installation Agents Address:

City:

County:

Postcode:

Tel:

Date Installation Carried Out:

TANK MODEL:

TANK SERIAL NUMBER:

This document constitutes guidance only – it is the responsibility of the installing agent to ensure the wastewater treatment plant is installed correctly, fully functional & operating as intended. For assistance please contact Premier Tech Water & Environment 0191 587 8650 / sales.ptwe.uk@premiertech.com

- ☐ 1 Health & Safety
- ☐ 2 Ecoflo Overview
- ☐ 3 Tank Handling
- ☐ 4 Offloading Inspection
- ☐ 5 Locating Tank & Hole Excavation
- ☐ 6 Installation
- ☐ 7 Do's & Don'ts

- ☐ Servicing & Maintenance Guide

1. Health & Safety

You must read these warnings carefully before installing or using the equipment. Should the equipment be transferred to a new owner, always ensure that all relevant documents are supplied.

Observe all hazard labels and take appropriate action to avoid exposure to the risks indicated.

Take care to maintain correct posture, particularly when lifting. Use appropriate lifting equipment when necessary.



- Only experienced contractors should carry out installation, following the guidelines.
- The unit should have a Pre-Service Agreement Inspection by a competent engineer.
- A qualified electrician should carry out electrical work.
- Covers must be kept locked.
- Observe all hazard labels and take appropriate action to avoid exposure to the risks indicated.

Clothing

- We recommend the use of a dust mask and gloves when cutting components.
- Any person carrying out maintenance on the equipment should wear suitable protective clothing, including gloves.

Working Area

- Ensure that the working area is adequately lit.
- Ensure that you are familiar with safe working areas and accesses.
- Use only the designated access walkways. Do not walk on the cover or deep well safety mesh(es).
- Ensure proper footing and balance at all times.
- Avoid any sharp edges.

Maintenance and Inspection Procedures

- Should you wish to inspect the operation of the equipment, please observe all necessary precautions, including those listed below, which apply to maintenance procedures.
- The power supply to the equipment must be isolated at the control panel(s) before lifting the covers.
- If the equipment has to run with the covers off, all care must be taken to avoid contact with moving parts and electrical components or conductors.
- Drive guards must be replaced and secured if removed during maintenance.
- Once power has been isolated, the control panel must be kept locked shut to avoid accidental re-connection whilst work or inspection is being carried out.

Desludging

- Desludging should be carried out by a licensed waste disposal contractor holding the relevant permits to transport and dispose of sewage sludge.
- The contractor must refer to the desludge instructions in the Operating Handbook, a copy of the instructions is fastened under the covers.

Disclaimer: This document constitutes installation and inspection guidance only – it is the responsibility of the installation company to ensure the wastewater treatment plant is fully functional & operating as intended.

United Kingdom Health and Safety At Work Act 1974.

Section 6(a) of this Act requires manufacturers to advise their customers on the safety and the handling precautions to be observed when installing, operating, maintaining and servicing their products.

The user's attention is therefore drawn to the following:

1. The appropriate sections of this manual must be read before working on the equipment.
2. Installation and servicing must only be carried out by suitably trained or qualified personnel.
3. Normal safety precautions must be taken and appropriate procedures observed to avoid accidents

Health

It is the customer's responsibility to ensure that all necessary health and safety control measures as well as suitable protective clothing/equipment is available.

Leptospirosis – what is Leptospirosis and are you at risk?

Two types of Leptospirosis infection affect people in the UK.

1. Weil's Disease – this is a serious and sometimes fatal infection that is transmitted to humans by contact with soil, water or sewage contaminated with urine from infected rats.
2. Hardjo-type Leptospirosis – this is transmitted from cattle to humans.

What are the symptoms?

Both diseases start with a flu-like illness with a persistent and severe headache, muscle pains and vomiting. Jaundice appears around the fourth day of the illness.

How might I catch it?

The bacteria can enter the body via cuts and scratches and through the lining of the mouth and throat or through the eyes.

How can I prevent it?

After having worked in contact with sewage or anything contaminated with sewage, wash your hands and forearms thoroughly with soap and water. If your clothes, boots or tools are contaminated with sewage, wash thoroughly after handling them.

- **Take immediate** action to wash thoroughly any cut, scratch or abrasion of the skin as soon as possible. Apply antiseptic to the wound, cover with cotton wool or gauze, and protect with a waterproof plaster.
- **DO NOT** handle food, drink or smoking materials without first washing your hands.

If you contract the symptoms described above after coming into contact with sewage, report it to your doctor immediately and advise him/her of the circumstances.

Sewer Gases

Sewage gases are potentially hazardous; it may be necessary to open the biozone treatment manhole cover to perform routine maintenance or to adjust the biozone air distribution system. **Take suitable precautions including venting of unit and the use of suitable personal protection equipment when engaged in these operations.** Work of this nature should not be conducted by an individual; there should be a minimum of two responsible individuals, one performing the task and one available in the event of an incident. All tasks and operations near the waste-water treatment plant must be adequately risk assessed.

DO NOT enter the primary (septic) tank associated with the treatment system.

DO NOT leave the access/manhole covers to the plant open for any longer than is necessary. Temporary barriers and warning signs should be erected around any open covers or manways as appropriate. While the tanks are installed underground there is still a potential for falls from a height and drowning to occur should an individual fall through a manway access.

Responsibility

The owner of the Sewage Treatment Plant is entirely responsible for plant operation and ensuring that the effluent quality does not breach applicable Discharge Consent Standards.

The offloading of the treatment plant and the correct installation is the responsibility of the owner. It is strongly recommended that a contractor with an adequate understanding of drainage and sewer systems should install the plant.

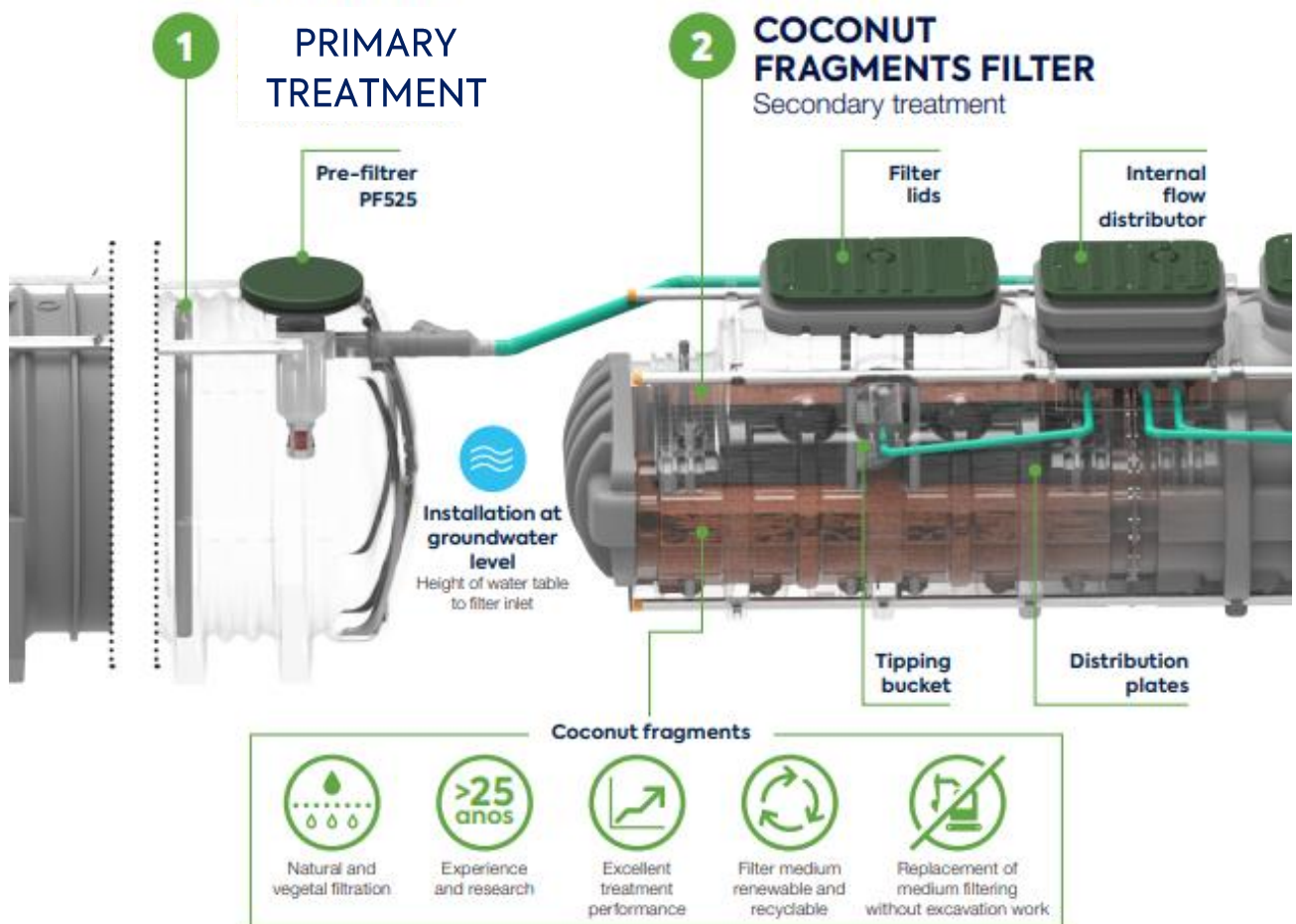
We can provide details of our service partners in your area who will be able to provide you with a quotation for Servicing. You are reminded that the existence of a service agreement with a service company does not transfer full responsibility for general maintenance that must be conducted in accordance with the accompanying instructions. It is still also the owner's responsibility to ensure that servicing and desludging of plant is carried out.

Soakaways, drains and emptying of Primary Tanks and Humus Tanks remain the responsibility of the owner, as does the prevention of the influx of surface water or backing up of the soakaways or treated effluent drains and as such are not covered by any service agreement. We shall not be liable for any damage or loss, including consequential loss, caused by the failure of any pumping equipment.

2. Ecoflo Overview

ECOFLO[®]

READY-TO-INSTALL SOLUTION



TREATMENT PERFORMANCE

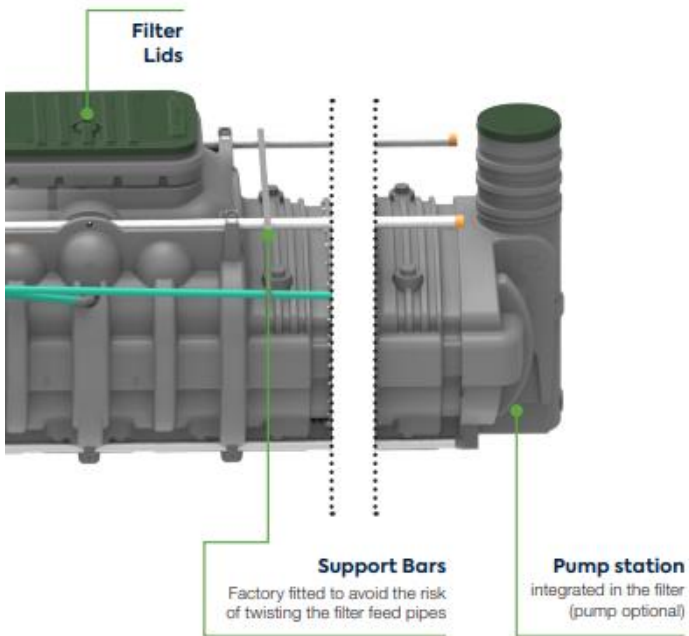
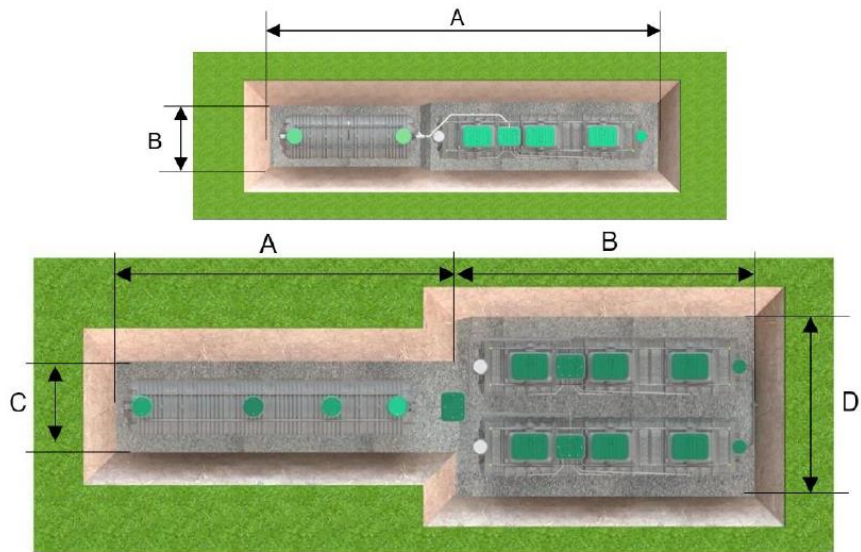
Discharge requirements			
PARAMETERS	CONCENTRATION	MINIMUM PERFORMANCE	TREATED EFFLUENT
BOD ₅	25 mg O ₂ /L	70-90 %	10 mg O ₂ /L (97 %)
COD	125 mg O ₂ /L	75 %	85 mg O ₂ /L (88 %)
TSS	35 mg/L	75 %	13 mg/L (96 %)

Tests carried out in the laboratory on raw water at 361 mg/L of TSS, 310 mg/L of BOD₅ and 706 mg/L of COD.
Average concentrations of 26 assessments carried out according to the requirements of EN 12 566-3.

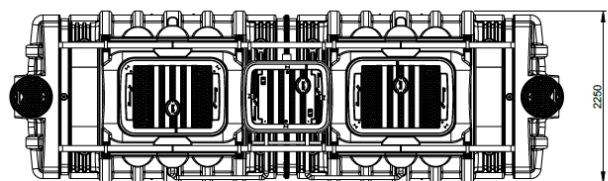
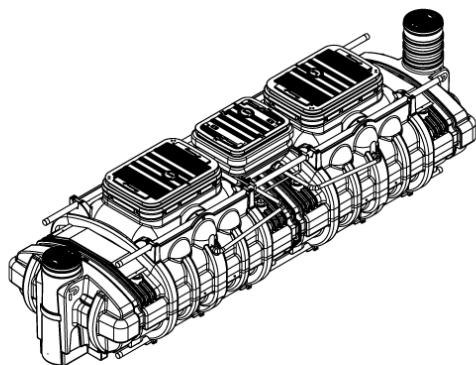
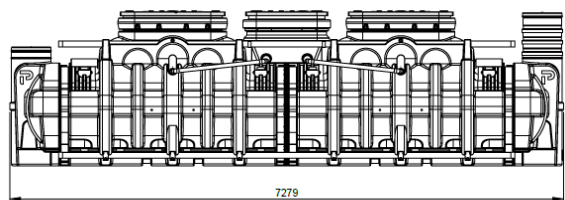
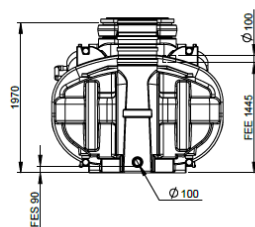
**PREMIER
TECH**
undertakes to comply
with the legal
requirements in force.


Ecoflo Model	Septic Tank
26PE	1 x 6m ³
38PE	1 x 8m ³
50PE	1 x 10m ³

Modelo	Fosa séptica 1 L x W (m)	Fosa séptica 2 L x W (m)	Biofiltro Ecoflo L x W (m)	Dimensiones excavación A x B x C x D (m)	Superficie excavación (m ²)
26 HE	4,78 x 2,05	-	7,28 x 2,25	13,56 x 3,25	44
38 HE	5,36 x 2,32	-	10,25 x 2,25	17,10 x 3,32	57
50 HE	6,64 x 2,32	-	13,28 x 2,25	21,42 x 3,32	71

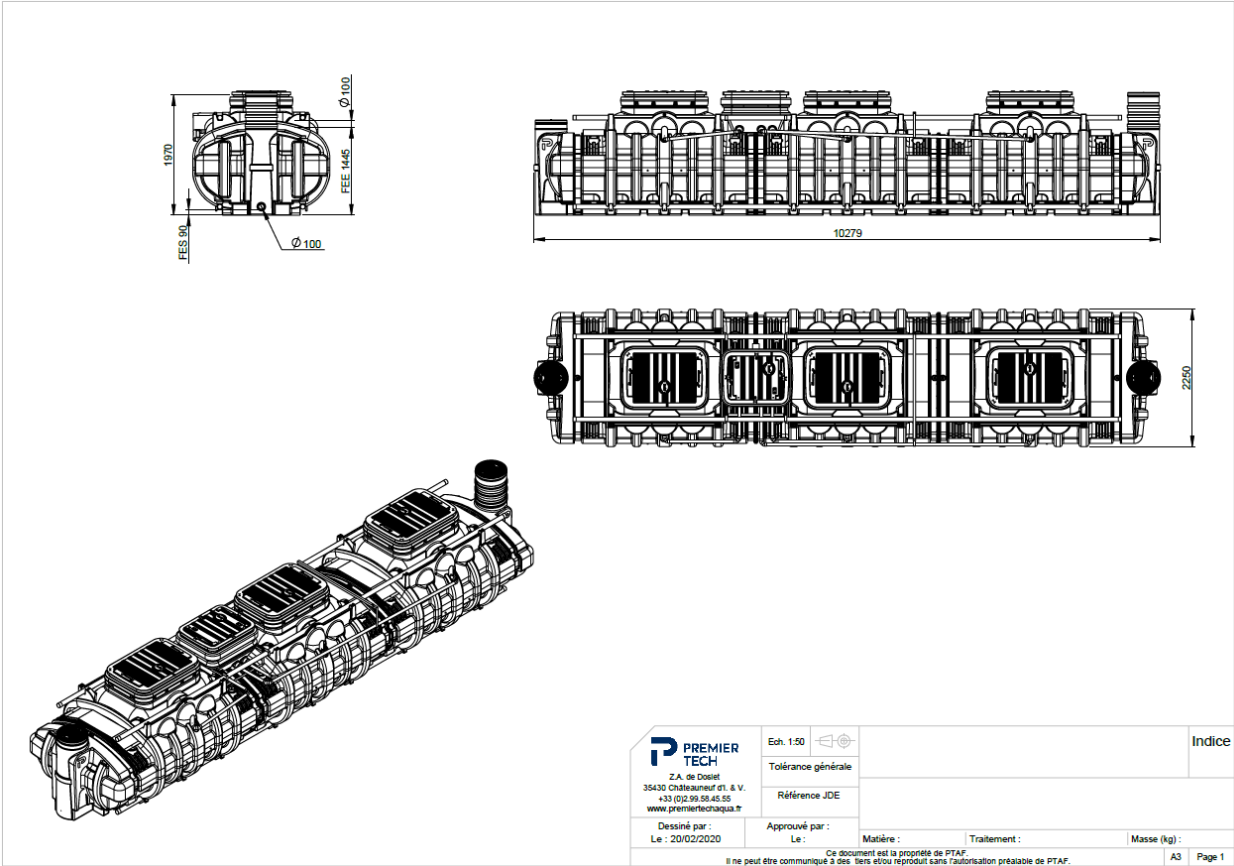


Ecoflo 26PE (Population Equivalent)

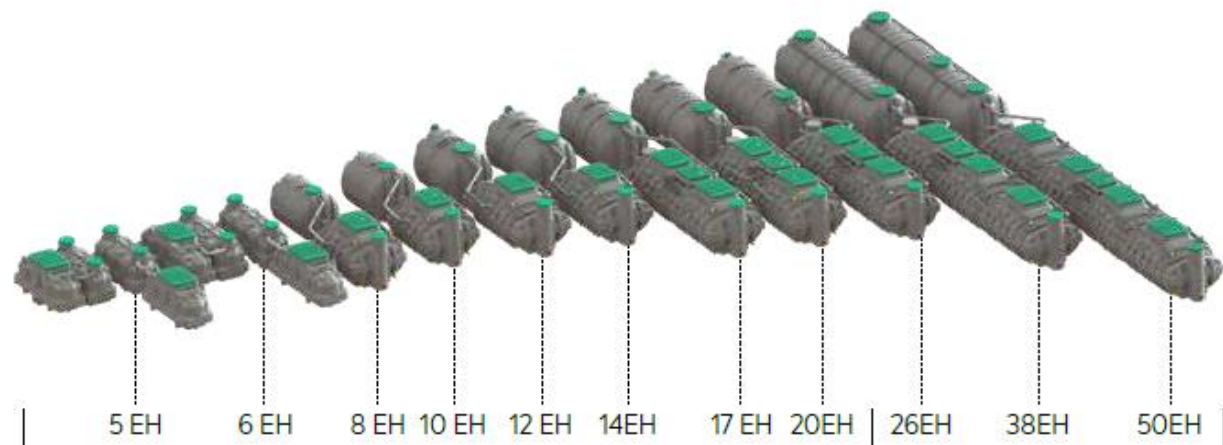
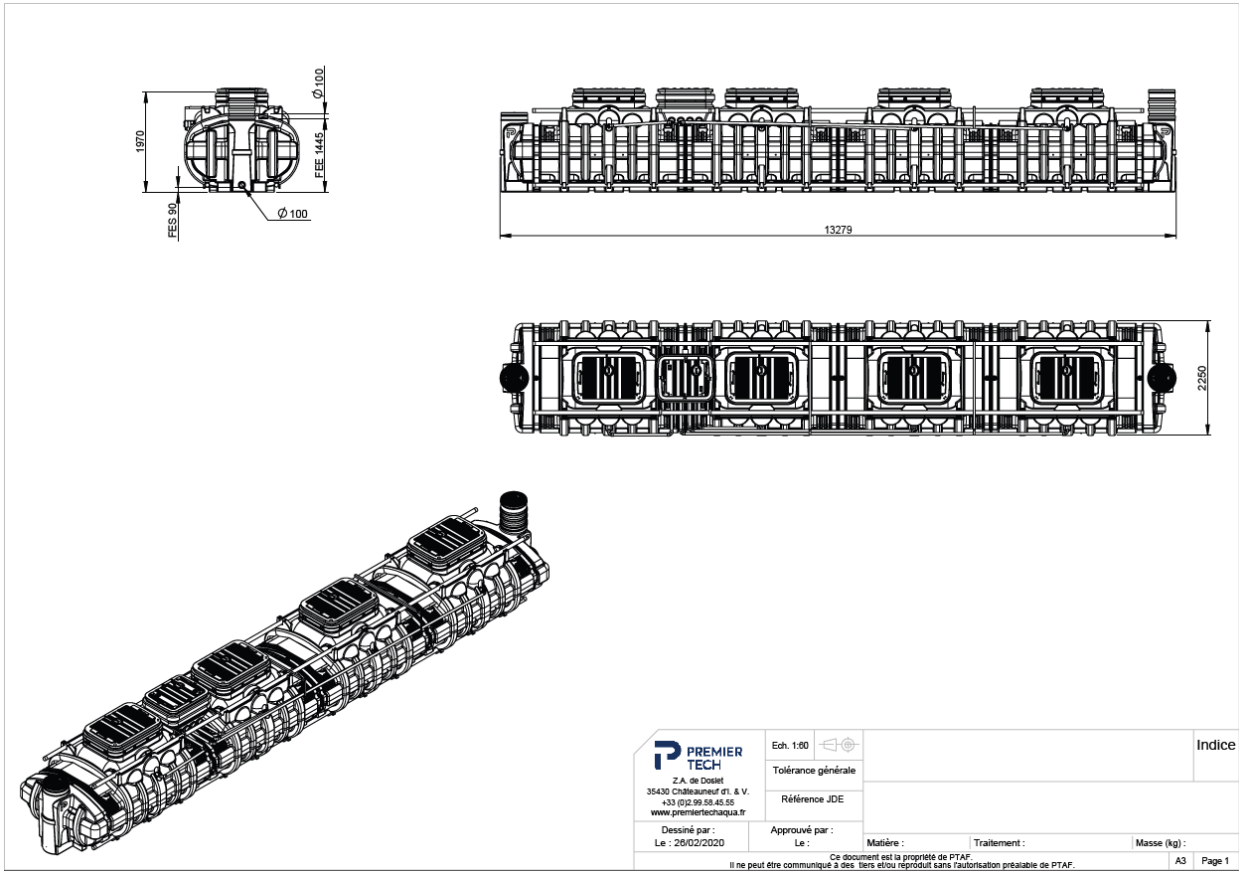


 PREMIER TECH Z.A. de Doslet 35430 Châteauneuf d'I. & V. +33 (0)2 95 09 45 55 www.premiertechqua.fr	Ech. 1:40			Indice
	Tolérance générale			
	Référence JDE			
	Dessiné par : PELW Le : 25/02/2020	Approuvé par : Le :	Matière : Traitement :	Masse (kg) : 2068739.00
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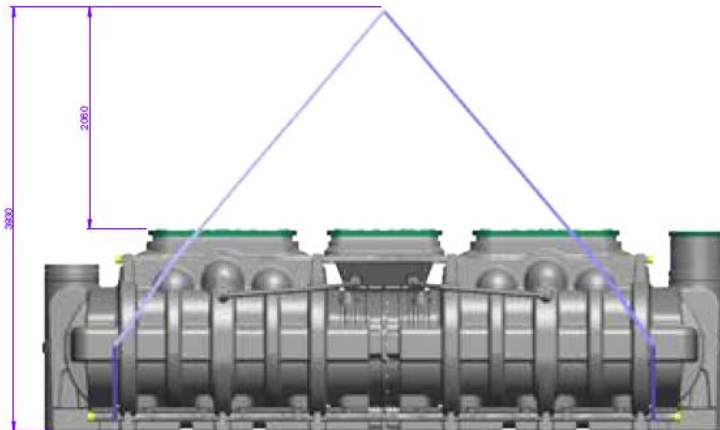
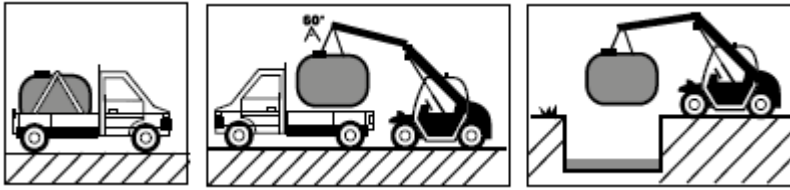
Ecoflo 38PE (Population Equivalent)



Ecoflo 50PE (Population Equivalent)



3. Tank Handling



- ☐ Use webbed slings positioned around the tank for approximately every 1.8m of tank length. (2.5m diameter tanks). For 3.0m diameter tanks position every 2.0m. Ask Premier Tech for details. (Do NOT use any other item such as rope or chain)



- ☐ Lift using a suitable mechanical device such as a crane or digger.
- ☐ Take care not to damage the tank
- ☐ **DO NOT** lift the tank if it contains water.
- ☐ **DO NOT** subject the unit to sharp impacts.
- ☐ Use the lifting eyes on the top of the unit when lifting the plant.
- ☐ **NEVER** attempt to lift the unit by attaching lifting gear to the inlet/outlet pipe.

WARNING: Failure to comply may result in damage to the unit and/or injury to site personnel. When working in a deep excavation, ensure all necessary safety precautions are taken to provide safe working conditions for site personnel.

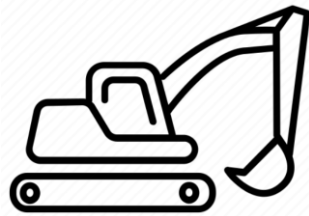
4. Offloading Inspection



The transport company and contractor is responsible for off-loading of all items of equipment. Unless otherwise agreed.

- ☐ Check tank for signs of transit damage.
- ☐ Ensure all manway covers are present.
- ☐ Other components supplied. (Pumps/Float Switches/Piping etc)
- ☐ Any additional options ordered are present.

5. Locating the Tank & Hole Excavation



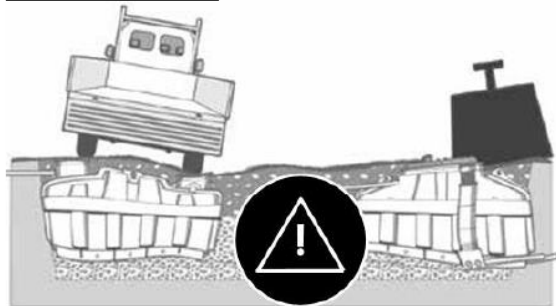
The installation should be carried out in accordance with the requirements of the Construction and Building Regulations.

During the course of the installation, the following minimum equipment will be required:

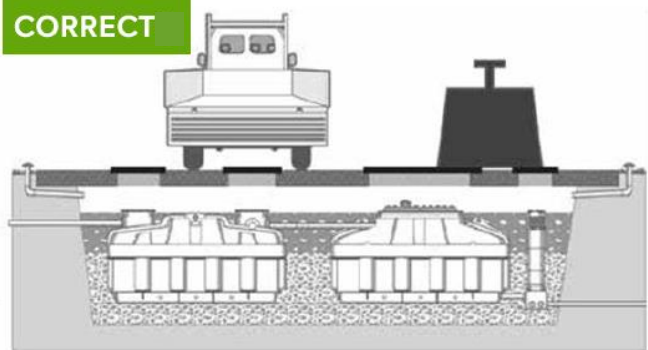
- Conventional construction equipment and plant.
- Concrete to 20 Newton/mm and 30-50 mm slump.
- Rivets and waterproof mastic for sealing the turret to the sump
- An adequate supply of fresh water to fill the tank at the same rate as backfilling.
- De-watering equipment when necessary.
- Lifting straps or ropes of the correct length and adequate S.W.L

6. Installation

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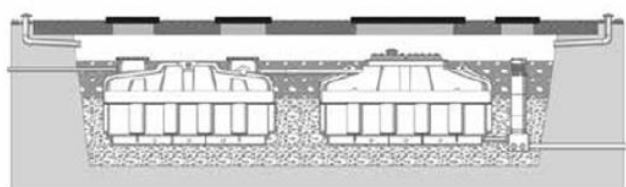
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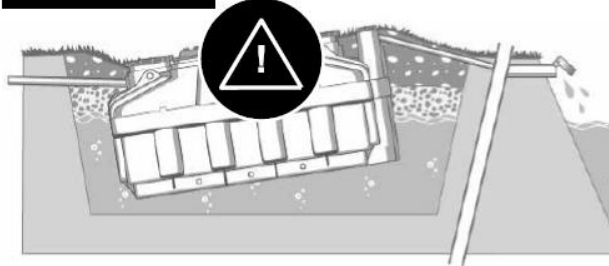
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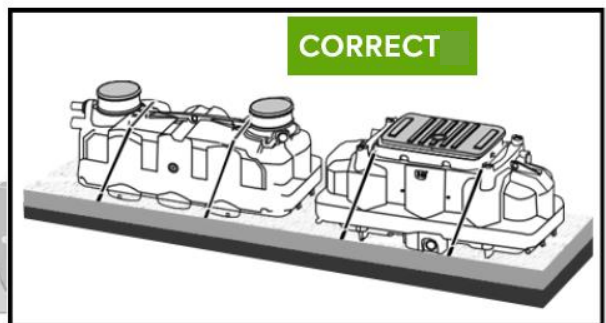
CORRECT



INCORRECT



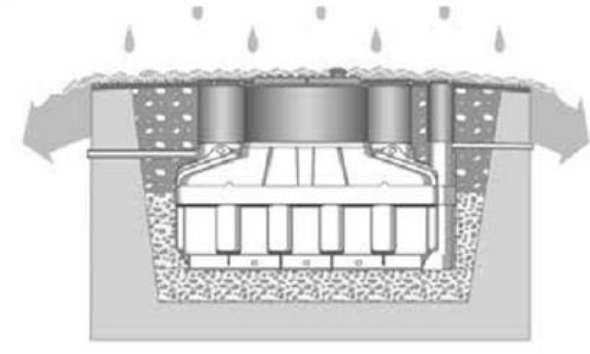
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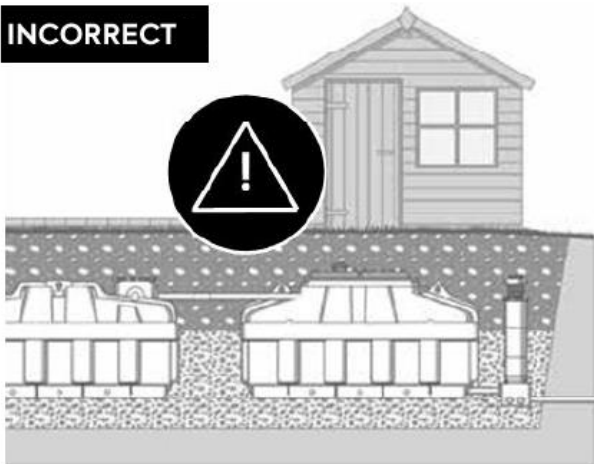
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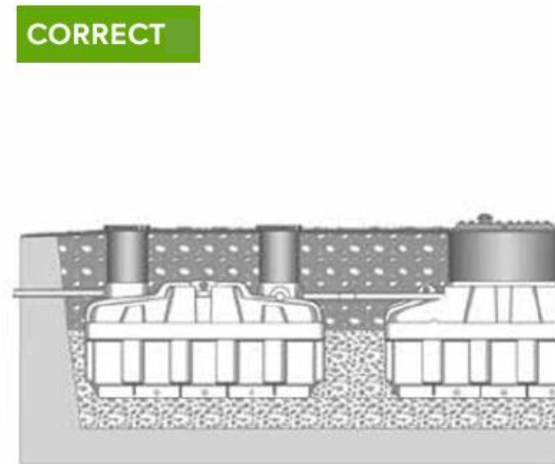
CORRECT



INCORRECT



CORRECT



7. Do's and Don'ts

Don't

The following harmful products impair the proper functioning of wastewater treatment

- Pharmaceutical products
- Acids or derivatives
- Hygiene products (towels, tampons)
- Non-biodegradable products (oils, mineral, cardboard, plastic, rubber etc)
- Product whose pH is not between 5.5-8.5

Do

The following harmful products in low quantity can be evacuated through the individual wastewater treatment unit

- Dishwashing detergents
- Washing machine detergents
- Boiler condensation evacuated to the plant only by gravity.

Servicing Guide for Professionals



Servicing & Maintenance



Ensuring the sewage treatment plant is regularly maintained is necessary to ensure the operational efficiency of the tank and to limit the possibility of any faults occurring.

■ Servicing

This should be conducted by a professional wastewater treatment servicing agent as a matter of course at least once a year. Failure to do this could impact the performance of the wastewater treatment plant and void the warranty.

■ Maintenance

Performing correct servicing of the Ecoflo biofilter will help to extend the useful life of the system and always maintain high performance. We recommend carrying out at least one annual maintenance of all the equipment of the installation.

During maintenance operations, minimum safety measures must be complied with to avoid operator accidents.



Septic Tank

Every year the pre-filter must be cleaned to prevent it from clogging and a de-sludge to avoid excessive accumulation of solids. This frequency may vary depending on usage.

The emptying of the septic tank must always be carried out by a company specialized in the management of sewage sludge.

It is important to clean the PF-525 pre-filter every time the biofilter is maintained.

Ecoflo Biofilter

Biofilter maintenance consists of a series of stages that must be followed in the following order:

1. Wash Internal Components

Once the biofilter lids are open, and before removing the internal components, we recommend pre-washing the visible internal components (tilt discharger and distribution plates) with a hose and thus removing a first part of the biomass that may be adhered to the components.

While the internal components are being removed, they continue to be washed to remove the maximum biomass.

This operation must always be carried out in the biofilter access and thus avoid contaminating the surroundings of the installation.



Septic tank should be de-sludged. The emptying of the septic tank must always be carried out by a company specialized in the management of sewage sludge

Clean the PF-525 filter.

2. Rake the filter media

When the internal components have been removed, the first 20-30cm of the filter medium surface must be raked to break up the biomass retained on the surface and favor aeration, absorption and treatment. In this way, the longevity of the filter medium is also ensured.



3. Reposition Internal Components

When the biofilter is scarified, the internal components can be replaced. It is a good time to check the levelness of the tilting unloader and other internal components.



Troubleshooting Guide

Problem	Solution
Odour problems in the home	<p>Check the presence of the primary ventilation (ventilation of all the water evacuations of the house: tightness of the siphons under the washbasins and sinks).</p> <p>Verify the presence of secondary ventilation, between the septic tank and the biofilter.</p> <p>Check that the Ecoflo vents are not obstructed.</p>
Odour problem around the system	<p>Check the presence and performance of the secondary ventilation</p> <p>Check (once the rectangular cover of the filter is opened) the balance of the bucket and the condition of the filter (no solid waste should be evident)</p>
Lid does not close	<p>Verify that the location of the cover is clear, that nothing prevents its correct installation and verify the adjustment of the locks.</p> <p>For safety reasons, the covers must be locked.</p>
Tilting distributor not working	Contact Premier Tech
My installation is clogged, the residual water goes up to my house	Contact a plumber or plumber to diagnose the source of the problem.
Poor quality of treated water	<p>Check the operation of the distributor inside the biofilter and the quality of distribution on the plates.</p> <p>Check if there is accumulation of water near the walls (scarify the filter medium, if necessary, at least 20cm)</p>
Poor water quality	<p>Verify the functioning of the distribution inside the biofilter and the quality of distribution on the plates.</p> <p>Check if there is accumulation of water near the walls (rake the filter medium, if necessary, at least 20cm).</p>
In case of flood	<p>A diagnosis should be made after flooding an ecoflo filter. This diagnosis consists of evaluating the general state of the system (septic tank, prefilter, effluent distribution, filter medium distribution, structure, presence of sludge, etc).</p> <p>The state of the coconut husk fragments.</p>

Items Not Covered Under the Warranty

- Premier Tech Water & Environment Ltd accepts no liability for any damage or loss, including consequential loss, caused by the failure of any equipment supplied and shall not be liable for any labour involved for the removal or replacement of its equipment or the subsequent transportation, handling or packaging of any part or parts thereof.
- In no case will Premier Tech Water & Environment Ltd be liable for loss incurred because of interruption of service or for consequential damages, labour or expense required to repair defective units, 3rd party costs nor shall this constitute a cause for the cancellation of the contract of purchase and sale.
- Specifically exempt from this warranty are limited life of consumable components subject to normal wear and tear, such as air pump vanes, diaphragms and filters.

Service charges will be incurred (including parts and labour), where the following has occurred:

- Failure to follow installation instructions or failure to follow operating and maintenance procedures.
- Accidental damage caused outside of Premier Tech's control.
- Unauthorised alterations made to the treatment plant.
- Improper use.
- Tampering.

