



Reinforced Polyethylene Septic Tank – Concrete Surround



Owner's Manual & Installation Guide

Rewatec™ Polyethylene Septic Tank Concrete Surround

Manual Version OM0017 Rev 6, UTG9506

Created On: 15 March 2022



**Installers: To Safeguard Warranty Please
Ensure You Are Using The Latest
Installation Manual – Visit:**

<https://www.premiertechaqua.com/en-gb/wastewater-treatment/septic-tank>



Customer Checklist

Complete Installation Record



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Register Your Warranty



10
Year

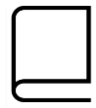
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See Maintenance Schedule



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Familiarise Yourself With This
Manual



Page 8>

Installation Record

Please record details of your Rewatec Septic Tank installation here and keep this document in a safe place.

Serial Number:

Commissioning Date:

Commissioning Company

Name: -----

Address: -----

Contact: -----

Service Company

Name: -----

Address: -----

Contact: -----

If you require assistance finding a service company, please contact Premier Tech. Your warranty is invalidated if you do not keep to a regular servicing schedule.



PT Water and Environment UK

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PT-WaterEnvironment.co.uk



Thank you for purchasing a Premier Tech product.

10 Year Warranty

To activate your warranty complete the form below to receive your warranty certificate by email:

premiertechaqua.com/en-gb/warranty-activation



- Your septic treatment plant is supplied with a 10-year Parts and Workmanship guarantee.
- This warranty is dependent upon the plant being installed, operated and maintained in accordance with this Installation, Operation and Maintenance manual.
- The Blower supplied with your Treatment Plant contains serviceable parts; these MUST be replaced, by a suitably qualified person, in line with the manufacturers operation and maintenance guide supplied.
- Proof of correct installation and plant maintenance (servicing) including purchase of serviceable parts MUST be retained, as these will be required in the event of any warranty claim.

Failure to comply with the above Terms and Conditions will invalidate 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.

NB: The final effluent pump on the pumped discharge models is covered by a 12-month guarantee.

Rewatec Septic Tank Maintenance Schedule

Details of servicing & maintenance requirements are located within this manual. Please use this page to record your tanks services and maintenance.

Your warranty is invalidated if you do not keep to a regular servicing schedule.

6 Month Check

Date:

Servicing Company:

Notes:

1st Annual Service

Date:

Servicing Company:

Notes:

2nd Annual Service

Date:

Servicing Company:

Notes:

3rd Annual Service

Date:

Servicing Company:

Notes:

4th Annual Service

Date:

Servicing Company:

Notes:

5th Annual Service

Date:

Servicing Company:

Notes:

6th Annual Service

Date:

Servicing Company:

Notes:

7th Annual Service

Date:

Servicing Company:

Notes:

Rewatec Septic Tank Maintenance Schedule

8th Annual Service

Date:

Servicing Company:

Notes:

9th Annual Service

Date:

Servicing Company:

Notes:

10th Annual Service

Date:

Servicing Company:

Notes:

11th Annual Service

Date:

Servicing Company:

Notes:

12th Annual Service

Date:

Servicing Company:

Notes:

13th Annual Service

Date:

Servicing Company:

Notes:

14th Annual Service

Date:

Servicing Company:

Notes:

15th Annual Service

Date:

Servicing Company:

Notes:

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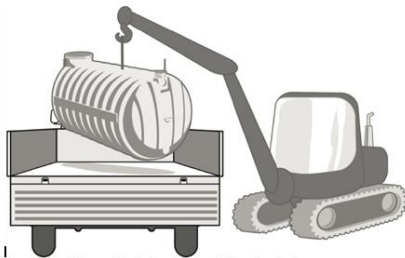
Installation Guidelines

General

1. These guidance notes refer only to the installation of Premier Tech Water & Environment underground Polyethylene Septic tanks suitable for concrete surround.
2. These guidance notes do not provide specific, site related installation instructions.
3. If in any doubt about any aspect of the installation, please contact Premier Tech Aqua.
4. Generally, the depth from finished ground level to the inlet invert should be no more than 1m meters.

Transportation, Unloading and Storage of Tanks

1. Tanks must be held down during transportation using nylon straps, do not use chains, cables or wire ropes to hold tanks.
2. Do not over tighten straps, causing deformation of the tank shell.
3. Ensure tanks are empty before attempting to lift or move.
4. Tanks are best lifted by utilising the moulded lifting eye and webbing lifting strap(s) as shown below – do not use chains, cables or wire ropes in contact with the tank.



From 3 to 5m³, it needs 1 single nylon strap (1 handling ring)
From 6 to 12m³, it needs 2 nylon straps (2 handling rings)

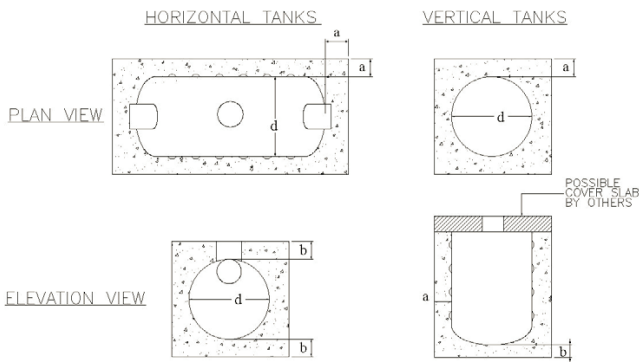
5. It is recommended that a lifting beam is used for tanks longer than 8 meters.
6. Tanks may be lifted with suitable site equipment, but great care is needed to control the lift and to ensure the tank is not damaged.
7. Move tanks only by lifting and setting, do not drag or roll.
8. Do not drop or roll tanks from the delivery vehicle.
9. Place tanks carefully onto a smooth level even surface, free from rocks, large stones or other debris that could cause point loads on the tank shell.
10. In high wind conditions, consideration should be given to strapping down the tanks to prevent damage.

Pre-Installation Inspection

1. Tanks should be subject to a visual inspection prior to installation. Special consideration should be given to strap positions. Check for any signs of impact damage to the main shell and other components.
2. Any damage should be notified to the delivery driver and to Premier Tech Water & Environment.
3. Do not undertake any unauthorised repairs, as this will invalidate the tank warranty.
4. Check the invert depth is correct, the tank is correct grade for concrete surround and that the inlet and outlet pipe orientations are correct
5. Where present, all fixings (nuts, bolts, screw fixings etc) should be checked and retightened to correct any movement during transport. Premier Tech Water & Environment do not accept responsibility for fixings that have not been checked prior to the tank entering service.

Excavation

1. Excavations should be planned with due regard to Health & Safety requirements and should be either shored or battered back to a “safe” angle.
2. The excavation should allow for the minimum concrete surround thickness (tank sides /ends and base) as shown in the table below, while taking into account any shoring used.
3. Ground instability at formation level e.g. running sand, may necessitate over-excavation and stabilisation with hardcore or blinding concrete.



Tank Diameter (mm)	'a' Minimum (mm)	'b' Minimum (mm)
Millenium R 3m3	150	150
Millenium R 4m3	150	150
Millenium 5m3	150	150
Millenium 6m3	200	200
Millenium 8m3	200	200
Millenium 10m3	200	200

Buoyancy and Anchoring

The dimensions, in the above table, may need to be increased if there is a risk of high ground water level at the tank location. To avoid floatation, we recommend a factor of safety of 1.5 against floatation. Mass concrete has a minimum density of 2,300 kg/m³

Concrete Specification

1. The specification for the concrete mix to surround the tank should be selected by the tank installer taking into account the site conditions and application requirements.
2. For a typical non-structural application in good ground conditions, with non-aggressive soils, a concrete with a 28-day compressive strength of 20 to 30N/mm² with a 25 to 50mm slump, complying with the relevant BS EN, is generally suitable. For non-typical applications, aggressive soils or structural applications specialist advice should be obtained.

Lift Height (rate of rise)

Determine the lift height (m), or rate of rise (m/h) for the specific concrete type used, to ensure that a design pressure (P max) of 15kN/m² on the tank is not exceeded.

Vibration

The design of the tank assumes minimal compaction of the surrounding concrete. Where necessary, this may be extended to include light internal vibration. Do not use deep revibration which will substantially increase the pressure on the tank, possibly causing failure.

Impact of Concrete on Discharge

The effects of concrete discharge impact are considerable. These effects must be considered to ensure the maximum pressure of 15kN/m² on the tank is not exceeded. Under no circumstances should concrete be discharged directly onto the tank.

Live Load

If the tank is installed in an area where traffic, or other superimposed loadings can be applied, a structural engineer should be consulted, to design a reinforced concrete slab spanning over the tank. This is to prevent the load being transmitted to the tank (or its concrete surround). If this slab is constructed immediately above the tank, it should be separated from the concrete surrounding the tank by compressible material.

Tank Burial Depth

1. This grade of tank is designed to be installed below ground and completely surrounded with concrete.
2. Generally, the depth from finished ground level to the inlet invert should be no more than one metre. If the tank is installed outside these parameters it may suffer irreparable damage. Should you be in any doubt regarding suitable shell application please contact Premier Tech Water & Environment.

Control of Groundwater

Tanks must not be subjected to buoyant forces during installation, taking account of ground water levels and surface water run-off, and their accumulation in the tank excavation.

Installation Procedure

1. Maintain a completely dry excavation until the final pour of concrete has set. Failure to do this may result in voids beneath the tank and subsequent tank failure.
2. Place the concrete in the base of the excavation to form a level and smooth base onto which the tank can be placed. The base concrete thickness should be in accordance with the information provided above.
3. Place the tank onto the concrete base, while the concrete is still wet, and determine the correct orientation for the tank pipework. Connect the pipework to the tank, ensuring correct alignment.
4. Fill the tank with clean water to a depth of 300mm and recheck the pipework levels and connections. Commence backfilling evenly around the tank with concrete ensuring there are no voids, particularly at the bottom of the tank shell. Continue filling the tank with water whilst evenly backfilling with concrete around the tank ensuring that the progressive water level is no more than 300mm above the concrete level.
5. Connect and seal turret extensions prior to completing the concrete encasement of the main tank (the height shown in the above table). Allow the concrete to cure. The turret extension should be trimmed from the bottom to the required height before connection to the tank.
6. Using appropriate formwork continue pouring concrete around the tank superstructure, i.e. access turrets, in lift heights not exceeding 500mm, allowing the concrete to set between each lift. The lift height, rate of concrete rise, or concrete compaction must not be to an extent which causes any part of the tank superstructure to distort, as this will damage the tank.
7. Complete the backfill to ground level using free flowing granular material. Ensure the cover and frame(s) are correctly secured.

Access Shaft Extensions

1. Access extensions should be surrounded with concrete poured in 500mm lifts, allowing an initial set between each lift. The pressure from concrete placed in higher lifts may cause access extensions to distort or collapse.
2. Loose shafts should be sealed using silicon sealant, sika_ex –291, or similar prior to installation to prevent ingress of groundwater under high water table conditions. It is the installation contractor's responsibility to ensure a watertight seal.
3. The turrets should be braced internally to prevent from bowing at each point with extendable braces and plywood or a temporary shuttering internally. Braces should be placed at all four sides of the shaft as well as in the connection between shafts if more than one extension issued. Alternatively, casting a concrete sleeve or 'chimney' could be constructed in the presence of braces. The design of the surround should be able to support the vertical loading that the tank will be subjected to during its lifespan once the installation is completed.

Threaded Inspection Points/Ventilation

1. The red/green threaded inspection/rodding points above the inlet connection are not required for the UK/Irish market. Rodding access should be provided at the upstream manhole and these threaded covers should be securely tightened and backfilled with the tank.
2. Septic Tank ventilation would generally be via the stack pipes on the property/properties served or a remote vent taken from the inlet drainage line.

Operating Instructions

Septic Tank:

In general, the tank must be pumped out:

- When sludge has reached 50% of the tank's capacity by volume.
- At least once every year for all wastewater and septic tanks.
- Tanks must be pumped out at a steady pace, while simultaneously adding clear water. The filter must be cleaned and rinsed.

Always comply with the advice of the local authorities.

General Recommendations

- Do not pump out septic tanks during periods of heavy rainfall.
- Septic tanks must be pumped out at a steady rate with clear water being added at the same time (fill the tank with water after finish emptying).
- These operations must be carried out by a certified, qualified professional who is trained and equipped for this type of work. Never smoke when removing caps during procedures (inspection, maintenance) (presence of H₂S).
- Wear waterproof gloves to avoid skin contact during handling.
- Operations must be done during off-peak periods of the day to avoid any influx of effluent to the tank.
- Have a container and garden hose or pressure-washer on hand.
- After the procedure (inspection, maintenance), check to ensure correct function by flushing several tanks of water to the tank.

Integrated Filter (effluent filter*):

- During normal use, the integrated filter collects particles from the septic tank and can gradually become clogged. It must be cleaned regularly. We recommend yearly inspection of the filter and cleaning as necessary.
- Cleaning must be performed using a water jet, with the filter placed above the manhole so that waste falls back into the septic tank. The filter must be cleaned every time the septic tank is emptied. Maintenance frequency may vary depending on how the filter is used.
- If grease is stuck to the filter, place the filter in a waterproof container and wash with hot water (liquefaction).

(* Purflo PF17 or Polylok)

Cleaning the PURFLO PF 17 Filter

Step 1

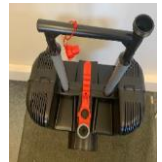
- Locate the septic tank's manhole.
- After unlocking the cover (1/4 turn), pull back the cover, signal that you are working and secure the perimeter.
- Make sure no water is flowing into the septic tank when the filter is removed for cleaning.

Step 2

- Empty the tank partially or completely (if necessary).

Step 3

- Remove the filter completely, holding it upright and using the handle, until disconnected from the secured filter connector.
- Make sure that the van guillotine on the secured filter connector seals the tank outlet.
- Pull the plug out of the handle, position the garden hose fitting* onto the filter hookup, connect the hose, hold the filter above the manhole, then turn on the water.
- With the water running at its highest volume, move the filter up and down repeatedly (vertically) to rinse the inside of the filter, so that waste falls back into the tank (*male 20 x 27 fitting).



Step 4

- Turn off the water, remove the hose, put the plug back into position on the handle, put the hose fitting back into its initial casing, put the filter back into its secured filter connector.
- Push the filter and secured filter connector downwards until it stops.
- The secured filter connector van guillotine must have disengaged from the tank outlet.



Step 5

- Put the cover back on and lock it (1/4 turn lock).

Troubleshooting

Saturation or clogging, non-liquefaction of material:

Check:

- That only wastewater is entering the tank
- The various levels (grease, water, sludge)
- The date that the tank was last emptied, and how it was done
- For biological and chemical causes (i.e. unusual, excessive or constant disposal of harmful or non-biodegradable products like bleach, antibiotics, drain cleaners, etc.)
- The tank's dimensions (i.e. undersized parts, overload, etc.)

Spillover of nondegraded matter outside of a tank or filter clog:

Check:

- The size of the device (i.e. device not large enough for regular use)
- The date the tank was last pumped out (i.e. not emptied often enough)
- If the rainwater drainage system is separate (i.e. rainwater is entering the tank)
- How often the filter is cleaned (clean it - if the filter contains filtering material, replace it)

Odours

Check:

- That manhole covers and fittings for the tank inlet are waterproof
- That traps are effective (i.e. inadequate flow, clog)
- The upper section of the vent pipe (i.e. nominal $\varnothing < 100\text{mm}$, output below the roof line)
- That there is sufficient airflow in the tank above the scum (the layer of fat or scum is too thick, etc.)
- The indicators listed above as specific inspections

Based on these checks, the necessary corrective operations are done and operations (frequency of pump out and cleaning) are adapted.

YOU MUST NOT dispose of the following products in your treatment chain:

- Water softener cleaning water
- Oils and fats (motors, deep-frying, etc.)
- Waxes and resins
- Paints and solvents
- Petroleum products (and by-products)
- Any type of pesticide
- Any type of septic tank additive that is non-biodegradable and/or non-biological, that has no enzymatic action
- Any toxic product
- Any object that is not readily biodegradable (e.g., sanitary pads, wipes, tampons, cotton swabs, etc.)

WARNING: Septic tanks are intended to receive domestic wastewater – NOT water infiltration -- that is free from non-degradable matter and highly concentrated chemicals such as bleach, drain cleaner and antibiotics. All other uses must be examined on a case by case basis.

