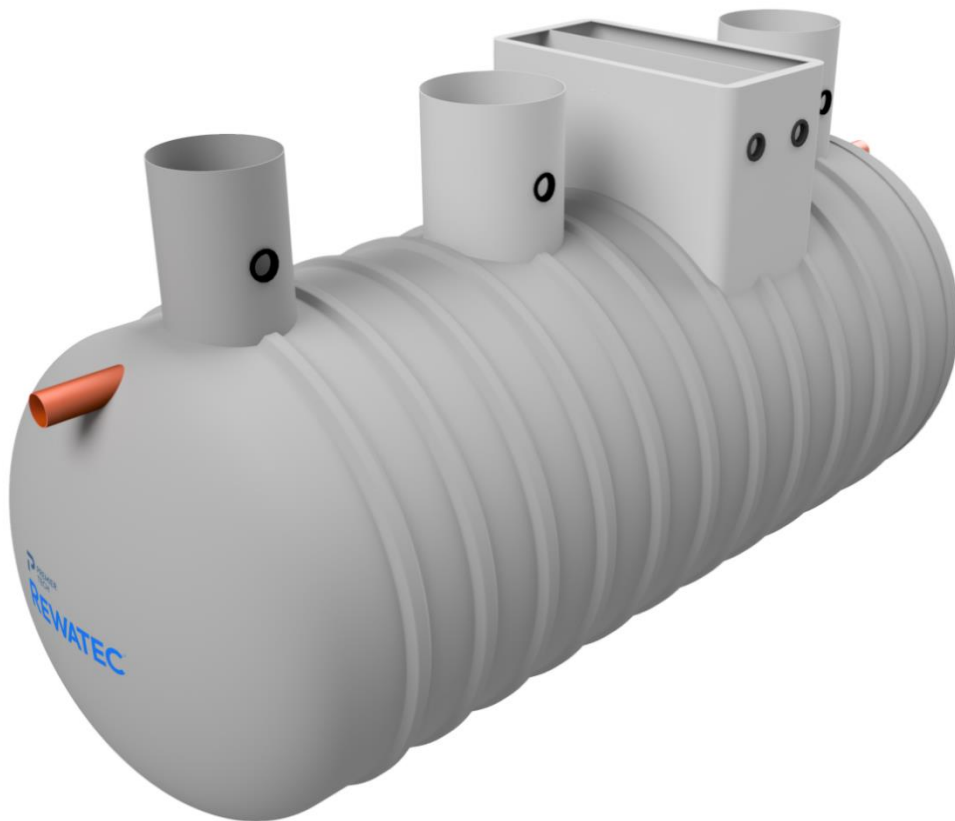


INSTALLATION & SERVICING GUIDE

Submerged aerated filters (SAF)

REWATEC®



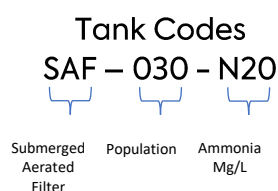
Installation & Servicing Guide

Rewatec SAF – Submerged Aerated Filter

Sewage Treatment Plant – Single, Twin & Three Tank Systems

Manual Version OM0057 Rewatec SAF Rev 1

For Plants Manufactured on or After: 27 July 2022



Unitank System			Two Tank System			Three Tank System		
Ammonia 20mg/L	Ammonia 10mg/L	Ammonia 5mg/L	Ammonia 20mg/L	Ammonia 10mg/L	Ammonia 5mg/L	Ammonia 20mg/L	Ammonia 10mg/L	Ammonia 5mg/L
SAF030N20	SAF060N10	SAF060N05	SAF350N20	SAF250N10	SAF250N05	SAF600N20	SAF500N10	SAF400N05
SAF035N20	SAF075N10	SAF075N05	SAF400N20	SAF300N10	SAF300N05			
SAF040N20	SAF100N10	SAF100N05	SAF500N20	SAF350N10	SAF350N05			
SAF050N20	SAF125N10	SAF125N05		SAF400N10				
SAF060N20	SAF150N10	SAF150N05						
SAF075N20	SAF200N10							
SAF100N20								
SAF125N20								
SAF150N20								
SAF200N20								
SAF250N20								
SAF300N20								



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



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

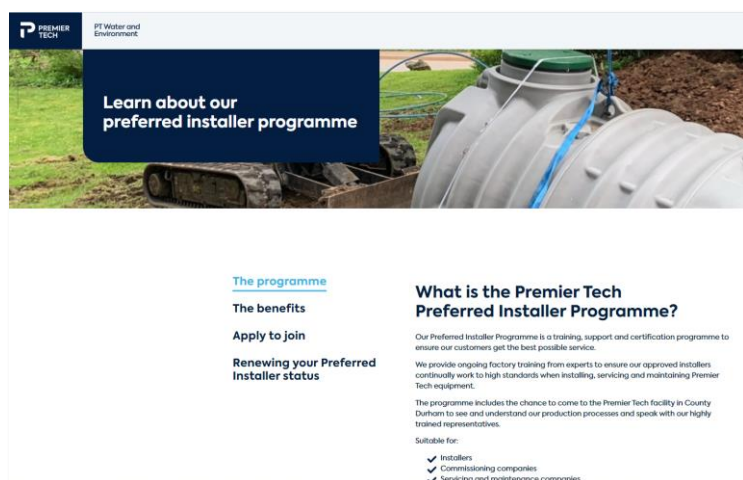
 This manual is designed for use by experienced sewage treatment tank installers & service providers. If you are not a professional installer you can obtain training from Premier Tech. (see below)

- 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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sales.ptwe.uk@premiertech.com

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



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 [Rewatec SAF Overview](#)
- ☐ 3 [Tank Handling](#)
- ☐ 4 [Offloading Inspection](#)
- ☐ 5 [Assessing Ground Conditions](#)
- ☐ 6 [Locating Tank & Hole Excavation](#)
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- ☐ 8 [Connections & Assembly Process](#)
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- ☐ [Servicing & Maintenance Guide](#)
- ☐ [Sludge Removal](#)



Hyperlinked Document

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.

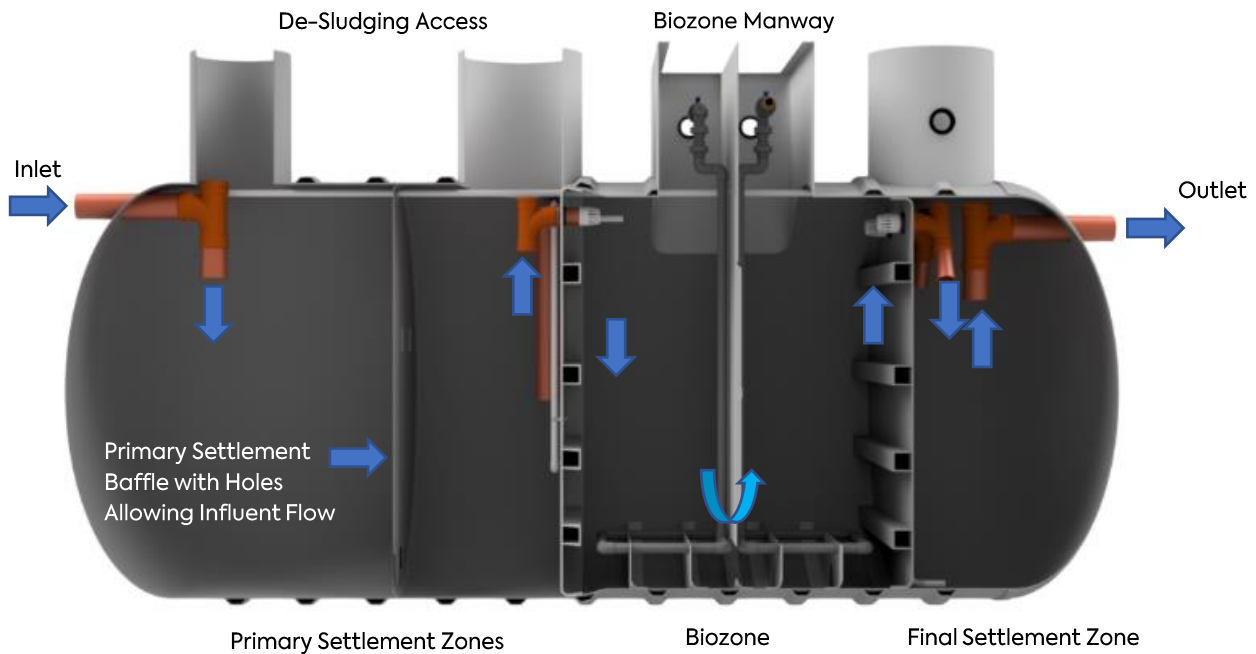
The offloading of the treatment plant and the correct installation is the responsibility of the owner. It is strongly recommended that a contractor with an adequate understanding of drainage and sewer systems should install the plant.

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.

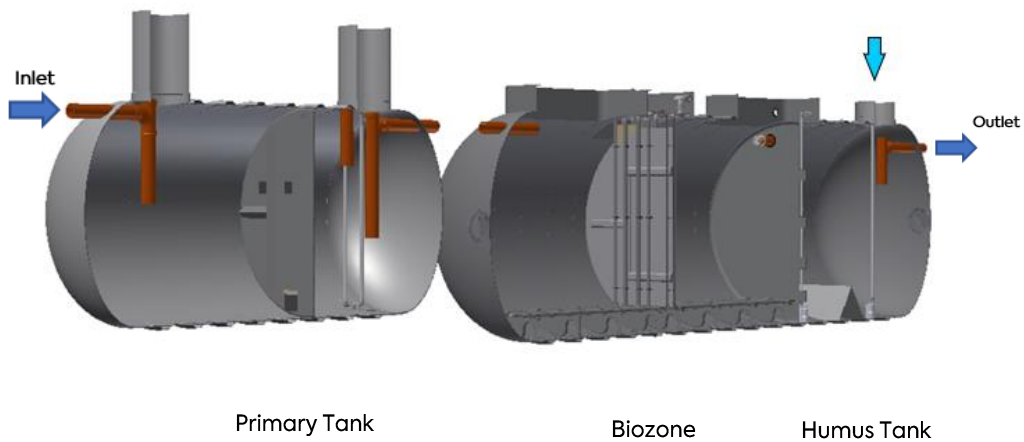
Soakaways, drains and emptying of Primary Tanks and Humus Tanks remain the responsibility of the owner, as does the prevention of the influx of surface water or backing up of the soakaways or treated effluent drains and as such are not covered by any service agreement. We shall not be liable for any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

2. Rewatec SAF Overview

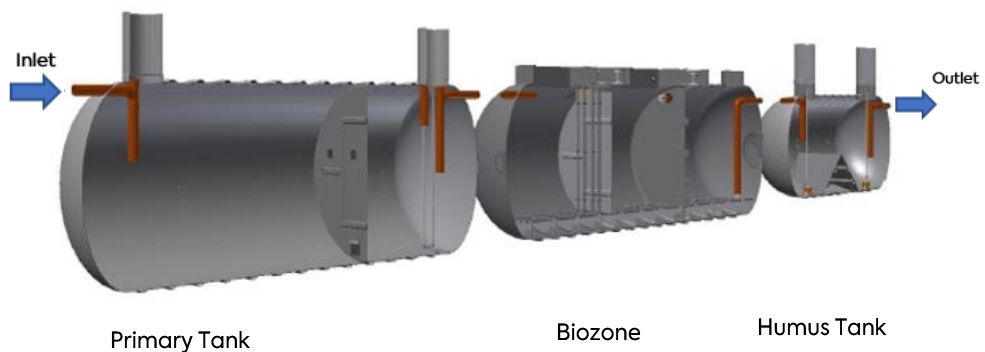
Single Tank System



Two Tank System



Three Tank System



How does the Rewatec SAF work?

Step 1 – In typical installations, wastewater first flows into the primary settlement tank. The purpose of this tank is simple; to balance the flow when subjected to variation and to separate solids from liquids (and store such matter until it is removed via periodic desludging).

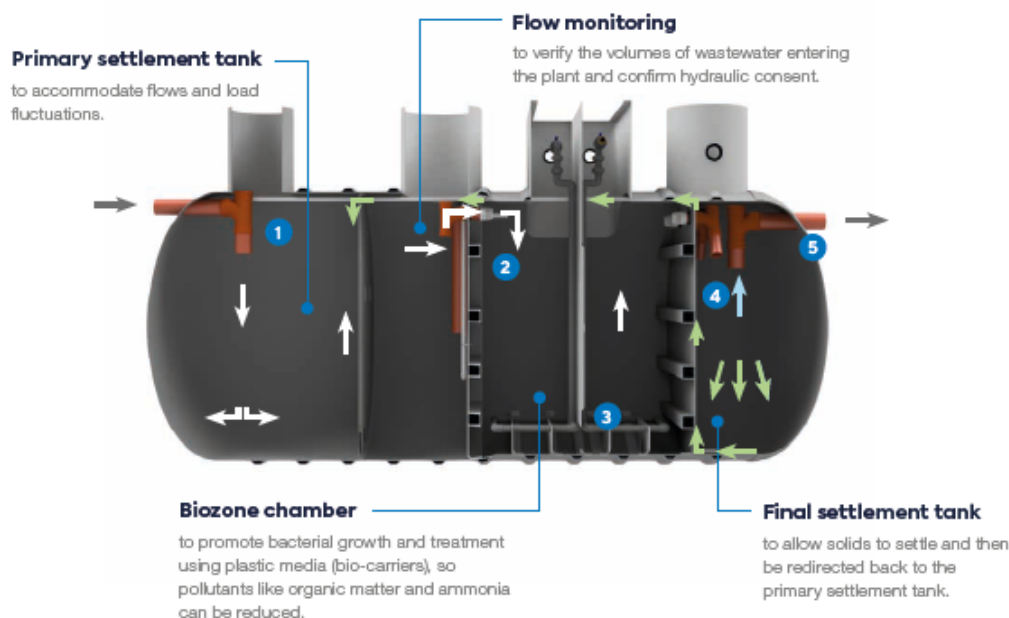
Step 2 – Wastewater flow passes from the primary settlement tank to the biozone chamber. The biozone is designed with two coarse bubble aeration arrangements to prevent blockages from floating biomass and to increase the efficiency of oxygen being supplied to the chamber. Above each of these legs, plastic bio-media - each shaped with a large surface area to encourage biomass growth, treats the wastewater and minimises the size of the reactor.

Step 3 – A blower, housed in an external kiosk, delivers air to the bottom of the biozone to provide oxygen for the biomass, further stimulating growth to support the oxidation process. The air stream promotes the efficient mixing of wastewater effluent with the bio-media present in the tank.

Step 4 – After treatment, wastewater flows into the final settlement tank. Settled sludge (dead biomass) accumulates at the bottom of the tank before being redirected to the primary settling area via re-circulation (enabling partial nutrients (TN, TP) removal).

Step 5 – The treated wastewater (final effluent) is subsequently discharged from the SAF via the outlet pipe. This can either be via gravity displacement or via an external pump station, depending on the water table and site requirements.

DSAF – The Rewatec DSAF incorporates the same working principles as the Rewatec SAF however it also incorporates pumps in both the primary and final settlement tank. This is to regulate the circulation of the nutrients transformed in the process and to ensure contact between nutrients and microorganisms. At the end of the process, nutrients are converted to inert gases (N_2) or inert solids (Phosphorus-based) and leave the plant as emissions or as sludge.



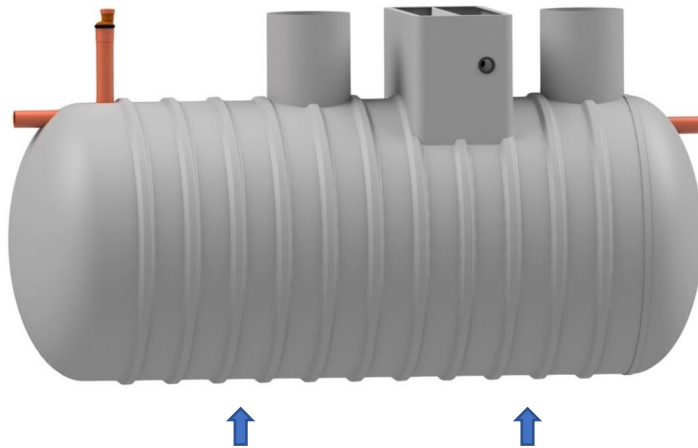
Kiosks



All Premier Tech kiosks are manufactured from steel under undergo a 3-stage powder coating paint process in green finish (white where specified).

All Kiosks come with transportation legs to be removed upon final installation.

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.

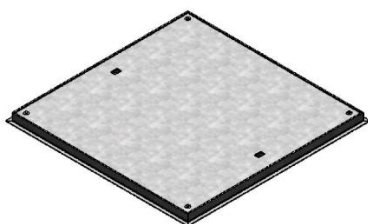
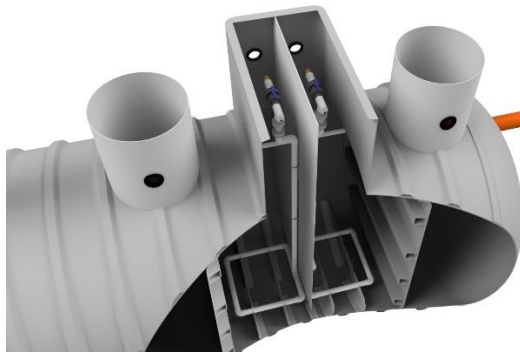
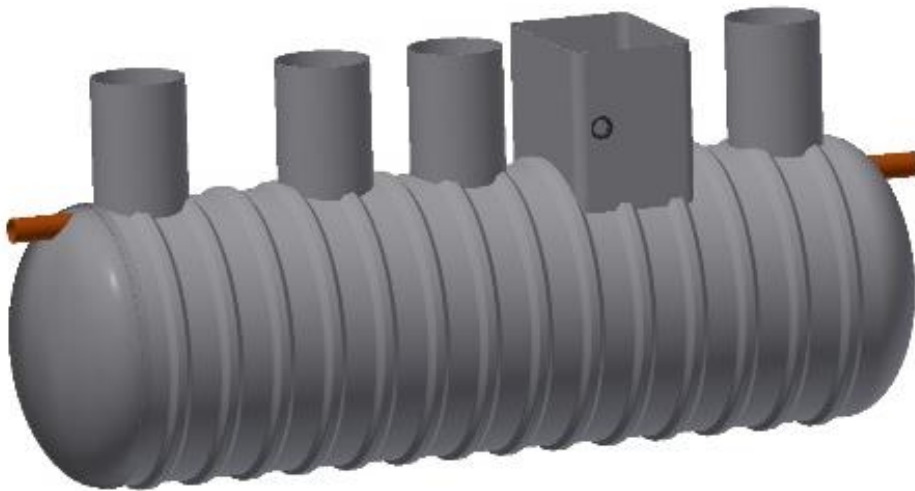
WARNING: Failure to comply may result in damage to the unit and/or injury to site personnel. When working in a deep excavation, ensure all necessary safety precautions are taken to provide safe working conditions for site personnel.

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.
- ☐ Check kiosk 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

Installation Guides Available from Premier Tech:



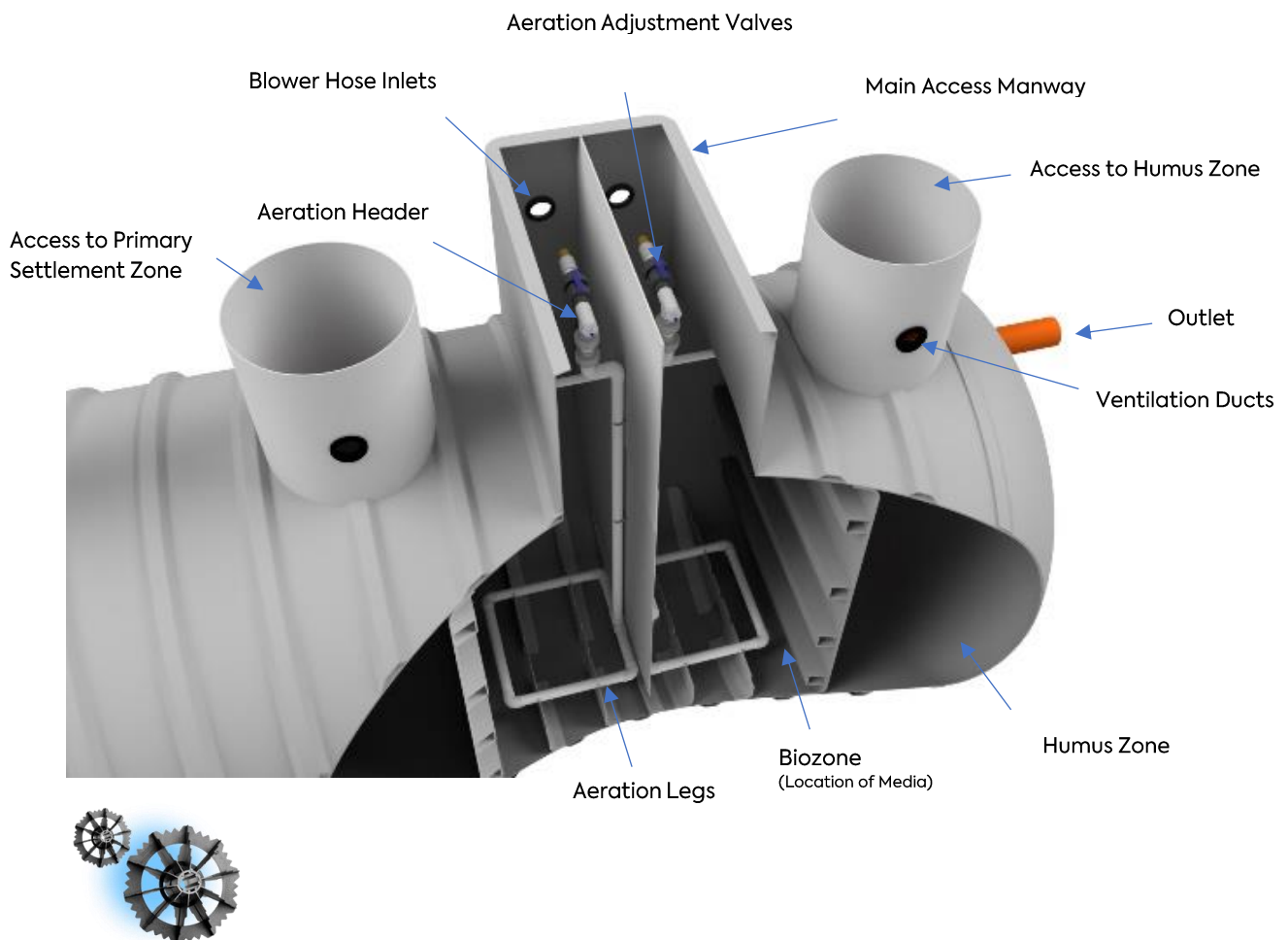
- UTG9501 Granular Surround for Class 1 Shells
- UTG9502 Concrete Surround for Class 1 and Class 2 Shells

The following instructions are offered for guidance only. Premier Tech accept no responsibility for incorrect off-loading or installation.

If you are in any doubt about any aspect of the installation, please contact Premier Tech.

6. Connections & Assembly

Plant Overview



Media located in biozone (Creates necessary biological environment for bacteria growth)



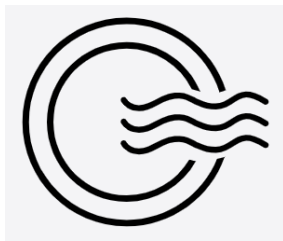
Ensure adequate ventilation.

- Ensure that an existing vent stack is in place or is supplied to the building serving the treatment plant.
- Provide an air inlet by connecting a local low-level vent (cowl) to the 110mm grommet on the side of the tank turret. This will ensure aerobic conditions for the micro-organisms within the biozone. Ensure ventilation complies with the building regulations.
- The blower located inside the kiosk is fed with air through the ventilation slots in the kiosk ensure the kiosk air inlet vents have sufficient supply of fresh air.

Deep Invert Units

For all DEEP INVERT and VERY DEEP INVERT units please contact Premier Tech Water & Environment for installation and on-site assembly instructions.

Air Distribution Adjustment



The air distribution within the bio-zone is sensitive to the distribution manifold being installed level. Ideally equal quantities of air should come from each of the 2 distribution points, this can be judged quite effectively by observing the streams of bubbles from ground level above the biozone.

There should be even aeration across the tank width, where bubbles are relatively scarce the valve needs to be opened, and conversely closed where bubbles are excessive. This is a trial-and-error process on the initial installation and thereafter adjustments should be rare.

Airlifts

An airlift works by aerating the liquid in a tube and causing this mixture to be less dense than the surrounding water. Thus, the aerated liquor moves up the tube by the pressure of the surrounding non-aerated water which forces it to rise. There is a limit to which an airlift will be effective.

Forward Feed

The forward feed should not be set to operate for too long otherwise it can hydraulically overload the design of the plant. The forward feed provides a balancing function, lowering the primary tank so that peak flows to the bio-zone are smoothed out. The forward feed timer valve settings are present from the manufacturer.

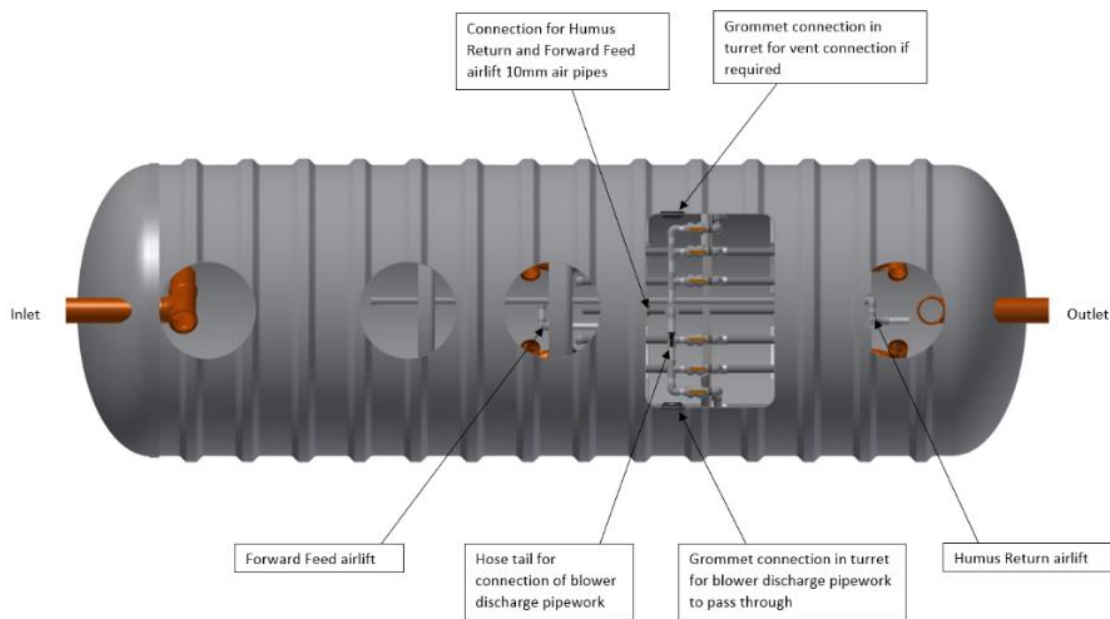
Humus Return

The humus or final settling tanks have material that needs settling as part of the biological

process of the treatment of wastewater. The spent biomass needs to be returned to the primary tank for co-settlement. For humus return timer valve settings.

- Ensure adequate point of discharge – either into a soakaway or into a “flowing” watercourse.
- Provide a proper cable duct to the control panel or install an armoured cable.
- Ensure adequate ventilation.

Plan View of SAF



Tank shown for information only, actual design may differ.

7. Kiosk & Electrical Installation



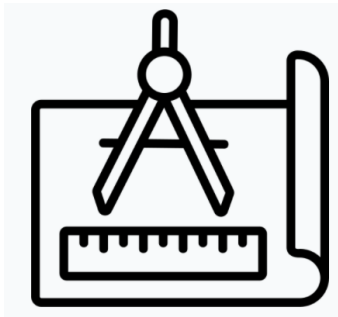
Electrical installation of this equipment should be conducted by a fully qualified electrician.

- Provide a cable duct or install an armoured cable to the control panel.
- Isolate the main power supply to the control panel before opening it. Panel isolator has to be fully in the “OFF” position.
- Incorporate a miniature circuit breaker (MCB) in the power supply to the unit. Remember that if the MCB trips the unit will not be running, so a dedicated MCB is recommended.

Before working on either the blower or the optional final effluent pump station the mains electrical supply must be isolated.

The blower is supplied with power via the electrical control panel; it is arranged to run continuously.

The optional forward feed/final effluent pump, where applicable, is arranged to have constant power supply, with the pump itself activated through an integral float-switch.



All electrical drawings are located inside the kiosk.

Data sheets will have been provided to you. If you do not have a data sheet please contact Premier Tech.

+44 (0) 191 587 8650
sales.ptwe.uk@premiertech.com

A Warning Beacon is fitted to the electrical kiosk to provide warning of:

- Air Blower failure
- High temperature in kiosk
- High air blower discharge pressure
- Low air blower discharge pressure
- Other specified issues (See kiosk manual)





Ensure the kiosk is positioned on a concrete plinth where water cannot build up.

The location of the kiosk is site dependent but things to take into account are:

- 10m distance from plant. (Further distance is possible – contact Premier Tech)
- Sheltered location where possible.
- Away from sources of damage (ie Vehicles)
- Away from human/animal contact.
- Account for blower noise if locating close to people.

Site Loading



The supply to the unit should be provided through a dedicated circuit via isolation and protection devices consistent with the requirements for fixed equipment and in accordance with the latest regulations issued by the Institute of Electrical Engineers.

Power supply and other relevant details are displayed on the wiring drawing located inside the kiosk. Contact Premier Tech if further details are required.

The supply to the unit should be fed through a dedicated MCB. Units fitted with the optional Final Effluent Pump Station, where applicable, uses an additional feed to the pump isolator. In particular, Earth Leakage Devices provided for normal domestic protection must not form part of the supply circuit to this unit.

The control kiosk should be sited within 10 meters of the unit. Suitably sized cable protected in a cable duct or suitably sized steel-armoured cable should be used to run between the kiosk and the supply point. All glands used in the kiosk, must be weatherproof.

All connections made to the junction enclosure should be via correctly sized and rated glands.

Check all power terminals for tightness prior to commissioning. Loose connections will cause overheating with the possibility of fire. (Electrical connections can loosen in transit or during installation procedure).

Images for Illustration Purposes Only

Kiosks vary in design.



Forward Feed and Humus
Return Airlift Timer Valve

10mm Forward Feed and
Humus return airlift air
pipework connections to
blower (push fit connectors)

Blower discharge pipework
to plant (through duct)



8. Start-Up & Commissioning Procedure



The unit should be commissioned before sewage is allowed to enter the system.

Electrical connections and cabling should be checked by a qualified electrician.

1. Check that the overload setting on the starter has the correct value, as shown in the SPECIFICATIONS section of this manual.

- TH1 is the ventilation fan thermostat, this is set to 45 degrees centigrade.
- TH2 is a reset thermostat and is set to 40 degrees centigrade.
- TH3 is a high temperature cut off thermostat and is set to 50 degrees centigrade.

These temperature settings protect the blower from overheating by enabling and disabling the cooling fan.

2. Fill the unit with clean water until there is a discharge from the outlet. This is best done by using a hosepipe in the inlet manholes. Fill the different chambers of the tank at a uniform rate.
3. Switch on the main power supply to the blower, the blower should run continuously.

Checked by.....Signature.....

The Treatment Plant is now operational. However, the process relies on the growth of micro-organisms in the Biological Zone.

The time taken for these naturally occurring organisms to develop is dependent on temperature and can be up to 6 – 8 weeks in winter.

When the biology has 'matured' in this way, the treatment process will be completely established.

9. Shutdown Procedure



Temporary absence of influent flow will not be detrimental as the blower will continue to recycle flows within the system. However, in circumstances where the flow may be interrupted for more than 2 MONTHS, the plant should be shut down by the following procedure:

1. De-sludge the system in accordance with the instructions in the MAINTENANCE SCHEDULE section of this manual.
2. Empty wastewater from all tank internals.
3. Refill the system with clean water as described above.
4. Switch off the mains supply.

10. Fault Finding

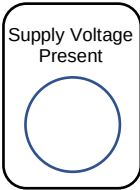
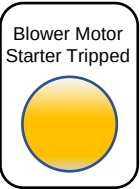
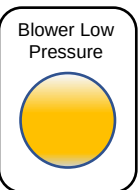
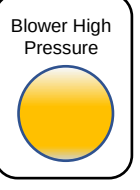
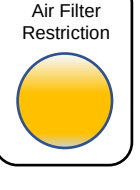
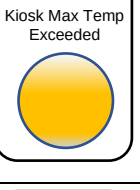
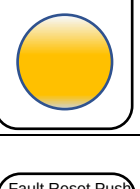
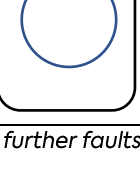


Symptom – Absence of Bubbles in the Biozone

Symptom – Fault	Potential Cause	Remedy
Blowers not running (flashing amber beacon)	Blowers stopped	Check power supply to relevant blower is switched on at the relevant control panel. If switch is on call a qualified electrician.
	Blower starter trip	Switch off the power and reset the MCB. Switch on, and the system should restart automatically. If it does not, switch off the power and call a qualified electrician.
	Blower stops after a short operating period	Check the condition of the blower air supply filter located on the side of the kiosk. The filter includes a pressure sensor that will turn off the blower if the pressure loss across the filter is too high
	Blower tripped due to high heat levels in the kiosk	The blower will restart once the heat level in the kiosk reduces to below a predetermined level. Where the kiosk is fitted with ventilation assist fan it may be necessary to adjust the ventilation fan thermostat.
Absence of Bubbles in a SAF biozone	Blower tripped due to power cut	Do nothing. When power is restored, the system will restart automatically.
	Supply fault	Switch off the power. Switch on, and the system should restart automatically. If it does not, switch off the power and call a qualified electrician.
	Blocked aeration pipework	Check if blower is running and air is being discharged from the blower pressure release valve. If yes. Stop the blower and investigate the pipework blockage. Check all SAF Tank aeration valves are not closed
Uneven Air Distribution in SAF tank	Uneven distribution	Adjust the air distribution valves to give an even aeration pattern
	Blocked Aeration Drop Leg(s)	Allow aeration from only one valve by turning off the other in the SAF biozone. The increased air pressure in the other leg should clear blockages if any.
Foaming in the SAF Tanks	Process start up	Natural part of the plant maturation process and will subside over time. If foaming is excessive anti foam agent can be used.

Symptom – Wastewater is backing up (only for integral final effluent pump station)

Final Effluent Lift Pump tripped due to:	
1. Pump Strainer Blocked	Remove the pump and clean the strainer as outlined in the Maintenance Schedule . Reset the overload by pushing the reset button inside the starter and switch on. If the overload trips again, there is a fault with the pump and/or the wiring. Contact your supplier or a qualified electrician.
2. Pump Impeller Jammed	Remove the pump as outlined in the Maintenance Schedule and remove the obstruction. Reset the overload by pushing the reset button and switch on. If the overload trips again, there is a problem with the pump and/or wiring. Contact your supplier or a qualified electrician.
3. Power Cut	Do nothing. When power is restored, the system will restart automatically.
4. Supply (MCB tripped)	Switch off the power and reset the MCB. Switch on, and the system should restart automatically. If it does not, switch off the power and call a qualified electrician.

Panel Indication/Fault Finding Guide	
	The supply healthy light indicates that there is voltage present in the control panel. If this indicator is not lit, check your supply to the kiosk or consult a qualified electrician.
	The blower motor tripped light indicates there has been a short circuit or an overload in the blower electrical circuit, the trip can be reset with the control panel. It is recommended that if this lamp is illuminated and the blower will not restart after the trip has been reset, you should consult a qualified service electrician/engineer.
	The blower low pressure light indicates that there has been a pressure loss from the blower pipework. Check the pipe connections are secure and for any signs of air leakage, an abnormal low level in the tank may also cause this signal. The blower pressure can be verified by the pressure gauge, the low-pressure signal will illuminate at a pressure of 150 mbar or below. If the levels in the tank are particularly low, this will also cause the low-pressure light to illuminate.
	The blower high pressure light, indicates that there is an air flow restriction within the blower pipe work. Check the pipe work for any signs of damage or crushing, check that the air diffuser valves have not been shut off. Once the checks have been completed and the problem rectified, the reset button may be pressed, the blower will re-start. If the problem is still present, then the blower will stop and the signal will illuminate again.
	The blower 'Air Filter Restriction' light, indicates that there is a restriction within the blower air filter. Remove the filter and check the condition, clean the existing filter or replace with a new filter. Check for any debris around the filter intake and remove/clean if necessary. Once the filter has been cleaned/replaced, the reset button may be pressed and the blower will re-start. If the problem is still present then the blower will stop and the signal will illuminate again.
	The kiosk max ambient temp light indicates that the internal temperature of the kiosk has exceeded the recommended operation temperature of the blower. The system will shut down the blower until the temperature returns to an acceptable level. Once this occurs the blower will restart automatically and continue to operate as normal. (This is part of the normal operation of the plant) Check that the louvre vents on the kiosk are not blocked or restricted so air can flow freely into the kiosk.
	The blower motor thermal protection light indicates that the motor temperature has exceeded its designed working parameter. This is part of the motor protection circuit and will self-reset and restart once the motor has cooled down. It is recommended that if this lamp is illuminated and the blower will not restart after the motor has cooled, you should consult a qualified service engineer/electrician.
	If there has been a high pressure, or filter restriction fault, the reset button will need to be pressed once the fault has been rectified.

For further faults relevant to more advanced kiosks, please see wiring diagrams supplied inside the kiosk.

11. Equipment Specification



Tank

Material Specification:	Glass Reinforced Polyester Resin with interior and exterior Gel Coat – 1: 2.5 Glass/Resin Ratio.
Colour:	Grey

Kiosks

Fabricated steel powder coated (Green)

Range	PE	Kiosk Size (mm)
SAF	30	750x705x503
SAF	35	
SAF	40	
SAF	50	
SAF	60	1350x850x500
SAF	75	
SAF	100	
SAF	125	
SAF	150	
SAF	200	
SAF	250	
SAF	200	1515x950x500
SAF	250	
SAF	300	
SAF	350	
SAF	400	
SAF	500	
SAF	600	

Blowers 30PE to 50PE

	SAF 30	SAF 35 & 40	SAF 50
Material Specification:	2 x Secoh JDK-S-200	2 x Secoh JDK-S-250	1 x SV 200/2 Becker
Outlet Connection:	26mm od	26mm od	G 2"
Voltage:	230v / 1 phase / 50 Hz	230v / 1 phase / 50 Hz	26kg
Rated Power:	2 x 0.21kW	2 x 0.225kW	220/240v / 1 phase / 50 Hz / 1.1kw

Blowers 60PE to 600PE

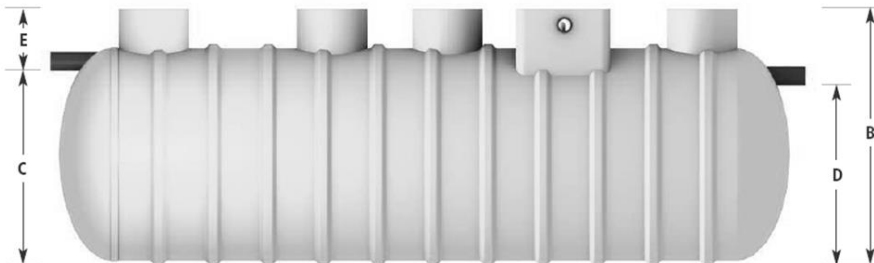
Plant	SAF060	SAF075	SAF100	SAF125	SAF150	SAF200	SAF250	SAF300	SAF 350	SAF 400	SAF 500	SAF 600
Outlet Connection:	1¼"	1¼"	1¼"	1¼"	1½"	1½"	2"	2"	2"	2"	2"	2"
Supply Voltage:	230V 1 phase 50 Hz	230V 1 phase 50 Hz	230V 1 phase 50 Hz	400V 3-phase 50 Hz	400V 3-phase 50 Hz	400V 3-phase 50 Hz	400V 3-phase 50 Hz	400V 3-phase 50 Hz	400V 3-phase 50 Hz	400V 3-phase 50 Hz	400V 3-phase 50 Hz	400V 3-phase 50 Hz
Rated Power:	1.1 kW	1.1 kW	1.1kW	1.5kW	1.5kW	2.2kW	3.0kW	4.0kW	3.0 kW	4.0 kW	8.0 kW	8.0 kW
Kiosk Code Prefix	SAF-2042A	SAF-2042A	SAF-2055A	SAF-2084B	SAF-2084B	SAF-2112A	SAF-2187A	SAF-3185C	SAF-2187B	SAF-3185B	SAF-3260B	SAF-3260C

Specifications & Dimensions

Unitank SAF System

Product Code	Population Equivalent	Dia (m)	Overall Length (m)	Pipework Fittings (mm)	Dry weather flow (DWF) (m3/day)	Max load per day		
						BOD5 (kg/day)	NH4-N (kg/day)	Desludging Interval
Rewatec SAF030 N20	30	1.8	4.6	160	4.5	1.8	0.24	120
Rewatec SAF035 N20	35	1.8	5.4	160	5.3	2.1	0.28	120
Rewatec SAF040 N20	40	1.8	5.9	160	6.0	2.4	0.32	120
Rewatec SAF050 N20	50	1.8	7.3	160	7.5	3.0	0.40	120
Rewatec SAF060 N20	60	2.5	4.1	160	9.0	3.6	0.48	≥ 90
Rewatec SAF060 N10	60	2.5	4.5	160	9.0	3.6	0.48	≥ 90
Rewatec SAF060 N05	60	2.5	5.3	160	9.0	3.6	0.48	≥ 90
Rewatec SAF075 N20	75	2.5	4.5	160	11.3	4.5	0.60	≥ 90
Rewatec SAF075 N10	75	2.5	5.5	160	11.3	4.5	0.60	≥ 90
Rewatec SAF075 N05	75	2.5	6.0	160	11.3	4.5	0.60	≥ 90
Rewatec SAF100 N20	100	2.5	6.0	160	15.0	6.0	0.80	≥ 90
Rewatec SAF100 N10	100	2.5	7.2	160	15.0	6.0	0.80	≥ 90
Rewatec SAF100 N05	100	2.5	7.8	160	15.0	6.0	0.80	≥ 90
Rewatec SAF125 N20	125	2.5	7.2	160	18.8	7.5	1.00	≥ 90
Rewatec SAF125 N10	125	2.5	9.0	160	18.8	7.5	1.00	≥ 90
Rewatec SAF125 N05	125	2.5	9.6	160	18.8	7.5	1.00	≥ 90
Rewatec SAF150 N20	150	2.5	9.0	160	22.5	9.0	1.20	≥ 90
Rewatec SAF150 N10	150	2.5	10.6	160	22.5	9.0	1.20	≥ 90
Rewatec SAF150 N05	150	2.5	11.5	160	22.5	9.0	1.20	≥ 90
Rewatec SAF200 N20	200	2.5	10.6	160	30.0	12.0	1.60	≥ 90
Rewatec SAF200 N10	200	2.5	12.7	160	30.0	12.0	1.60	≥ 90
Rewatec SAF200 N05	200	3	14.2	160	30.0	12.0	1.60	≥ 90
Rewatec SAF250 N20	250	2.5	12.7	160	37.5	15.0	2.00	≥ 90
Rewatec SAF300 N20	300	3	11.4	160	45.0	18.0	2.40	≥ 90

Larger options are available upon request.



PRODUCT REFERENCE (PE)	TANK DIA (mm)	INLET/ OUTLET PIPE DIA (mm)	B (mm)	C (mm)	D (mm)	E (mm) STANDARD INVERT DEPTH	EMPTY WEIGHT (Approx in tonnes)
SAF030	1.8	160	2625	1625	1500	1000	1.2
SAF035	1.8	160	2625	1625	1500	1000	1.3
SAF040	1.8	160	2625	1625	1500	1000	1.4
SAF050	1.8	160	2625	1625	1500	1000	1.6
SAF060 And Above	2.5	160	3300	2300	TBC	TBC	TBC
SAF060 And Above	3.0	160	3300	2800	TBC	TBC	TBC

Deeper inverts can be accommodated with extension shafts.

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.

■ Weekly

- Check the operation of the Blower. Remove the manhole cover over the central bio-zone and confirm that aerated liquor is being circulated through the media pack. This will be noticed by air bubbles rising in the biozone. If the air distribution is uneven then the air manifold needs to be levelled (see Air Distribution Adjustment in the Installation Section)
- Check and confirm that there are no leaks from the exposed pipework.
- Check the final effluent discharging from the unit. If it is cloudy or contains suspended particles, check the humus return is functional.

■ Three/Four Monthly Check (Scheduled Service)

- Switch off the power supply and unlock the mains isolator.
- Inspect and clean the air distribution manifold, clean and if necessary replace the blower air filter.
- Ensure that the water level in the biozone is above weir level (desludge tube) before resuming operation and switching the blower on.
- Switch the Isolator to the ON position to resume operation. Ensure that there are no leaks from the delivery pipework.
- Conduct primary tank desludging and humus when necessary. (When scum is evident)

Integrated filter (Where Provided)

During normal use the integrated filter will not collect particles from the primary tank but may gradually become clogged. Where provided it should be checked every six months as part of the maintenance schedule 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 primary tank.
- 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).

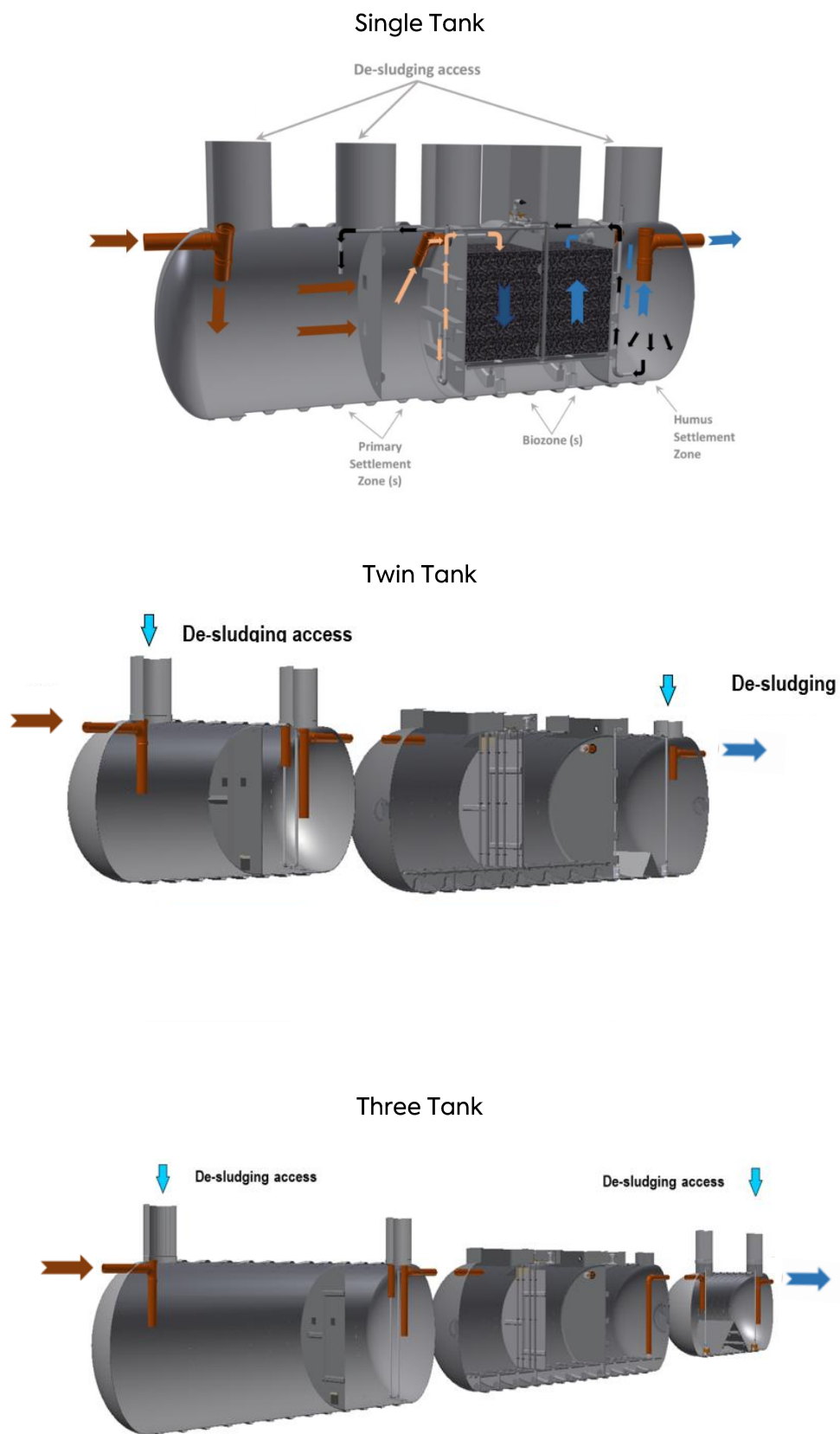
Shell Warranty – 25 Years*

Technology & Pump Warranty – 1 Years*

Design Life – 50 Years*

*Only when regular servicing schedule adhered to.

De-Sludging Instructions



Please note that it is ESSENTIAL to refill the primary tank and humus tank with clean water as quickly as possible after de-sludging.

Primary Tank De-sludging.

NOTE : This operation is required at different intervals depending upon specific site conditions and effluent discharge standards. The recommended interval between de-sludging of the primary tank is shown on the table in the Specifications & Dimensions section.

De-sludge the Primary stage using a conventional suction tanker.

Remove the manhole covers from the tank. Ensure that all openings are adequately guarded. Insert the suction hose from the tanker into the compartments of the primary stage and remove all the contents. After desludging, it is ESSENTIAL that the primary tank are refilled with clean water, as quickly as possible.

Humus Tank De-sludging

NOTE : This operation is only required during a plant shut down procedure, or if crust formation is evident.

Remove the manhole covers from the tank. Ensure that all openings are adequately guarded. Insert the suction hose from the tanker into the compartments of the primary stage and remove all the contents. After desludging, it is ESSENTIAL that the humus tank is refilled with clean water as quickly as possible.

Note: A log must be kept recording the frequency of emptying and the service provider. Any non-conformance or issues encountered during de-sludging operations should also be recorded in this log. Failure to maintain an adequate log of both the service history and de-sludging operation will invalidate the plant warranty.

Note: The waste should be removed under the terms of The Waste Management Code of Practice. The Code imposes a duty of care on the waste producer to ensure that the cleansing contractor is registered with the Environment Regulator and that the final disposal of the waste is to a licensed facility.

Sampling

Sampling and its verification according to the legal water usage permit In addition, sampling is to be performed and the following values are to be verified (the legal water usage permit is authoritative here):

BOD₅

NH₄-N

TSS

TP (if required)

PH, TN, TP, COD (if required)

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.

