PREMIER TECH

USER GUIDE

REWATEC

Solido Smart Sewage Treatment Plant



Important Information

Please Read Before Using Your Sewage Treatment Plant

Rewatec Solido Smart
3000L & 4000L

Sequencing Batch Reactor (SBR) - Sewage Treatment Plant



Contents

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Warranty Registration

Thank you for purchasing a Rewatec Solido SMART.

25 Year Shell Warranty
3 Year Technology Warranty
3 Year Pump Warranty

Please Register Your Warranty Online Now

Warranty Registration



https://www.premiertechaqua.com/en-gb/warranty-activation

- Please register your warranty within 6 months of tank purchase.
- Registering your warranty allows the manufacturer to know the location of your tank if purchased from a third party.
- Proof of correct installation and regular plant maintenance (servicing) including purchase of serviceable parts MUST be retained, as these will be required in the event of any warranty claim.
- Premier Tech strongly recommend that the installation of the purchased product is carried out by an experienced installer.
- Premier Tech will not uphold the guarantee on the purchased equipment if the routine maintenance has not been performed and documented.
- Failure to comply with the above Terms and Conditions will invalidate the warranty.

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, 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.

Examples of situations where the warranty is void:

- 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.

Permitting



You require a legal water usage permit to operate a small wastewater treatment plant if you discharge more than 2m^3 (2000 litres) of wastewater per day.

The approval/start-up of a small wastewater treatment plant can be performed only by a specialist company and must be documented with a start-up log within the installation manual provided to your installer.

Organising an Installer & Servicing Agent



You must ensure you use a suitably qualified company to install your sewage treatment plant and provide ongoing servicing.

Recent Building Regulations (Part H 2010 – BS EN 12566) state that regular emptying and maintenance of small sewage treatment plants must be undertaken by the homeowner at least once per year.

Please record details of your installer and servicing agent below.

Failure to keep to a regular servicing schedule will void the warranty on your tank.

Premier Tech can provide information on servicing agents in your area if required.

Installation Agents Name: _____

Installation Agents Address: _____

City: County: Postcode: Tel:

Email:

Date Installed:

Product Installed: *(e.g. 3000L Gravity)*

Servicing Agents Name: _____

Servicing Agents Address: _____

City: County: Postcode: Tel:

Email:

Health & Safety

Caution:

The electrical components must be connected, started up, and opened only by qualified authorised personnel. The power cord must be protected with a 30 mA residual-current circuit breaker.

Caution:

The technology capsule must be opened ONLY by a specialist company and ONLY when the power is switched off.

Caution:

The SBR should be installed by qualified personnel only. Make sure that the technical components can be accessed without any danger. Any deviations from the installation instructions provided are the responsibility of the specialist company and must be agreed upon with PTAU. Any access to the system when required to do so is permitted only if the power has been switched off and the applicable accident prevention regulations are observed (oxygen deficiency).

For the operation of the small wastewater treatment plant installation

Caution:

Electrical components are to be connected, started up, and opened only by authorised specialist personnel. The power cord must be protected with a 30 mA residual-current circuit breaker.

Caution:

The small wastewater treatment plant should be installed by qualified personnel only. Make sure that the technical components can be accessed without any danger. Any deviations from the installation instructions provided are the responsibility of the specialist company and must be agreed upon with the manufacturer. Never enter the system unless the power has been switched off and the applicable accident prevention regulations are being observed (oxygen deficiency).

Caution:

The connection of the small wastewater treatment plant to the mains supply must be performed only by a specialist electrical company.

- 30 mA residual-current circuit breaker provided
- Check the correct operation of the mains connection (for example: is the protective earth conductor intact?)

Operation

Caution:

Never disconnect the mains plug during regular plant operation.

The bacteria in the SBR must have a regular supply of oxygen.

For this reason, do not interrupt the power supply to the treatment plant, even during longer periods of absence (such as holidays).

Caution:

Maintenance work must be carried out only by an authorised specialist company. The proper operation of the small wastewater treatment plant must be checked regularly (twice a year, ideally) as part of a maintenance contract.

Caution:

The technology capsule must be opened ONLY by a specialist company and ONLY when the power is switched off.

Caution:

Disconnect the plugs for all electrical plant components before entering the small wastewater treatment plant.

Caution:

There may be a lack of oxygen in wastewater treatment plants. Act with special care when you enter the small wastewater treatment plant for repair or maintenance purposes.

Caution:

Always comply with the relevant accident prevention regulations. There should always be two people present when a WWTP is inspected. Never enter after a person has fallen unconscious; call for help instead.

Caution:

Secure open treatment tanks from rolling over. Always close the treatment tank securely after completing the work on the wastewater treatment plant by turning the child safety latch on the Top Cover to the lock position.

Caution:

Before opening the control unit or performing repairs on the plant, you must disconnect the mains plug.

Note:

A small wastewater treatment plant is a stationary electrical system. Like all electrical systems of this type, its safety should be tested annually by an electrical technician as per BS EN 61557 or BS 7919:2000. Recommended checks are: the measurement of the insulating resistance, protective earth conductor resistance & the replacement leakage current.

How do Rewatec SBR systems work?

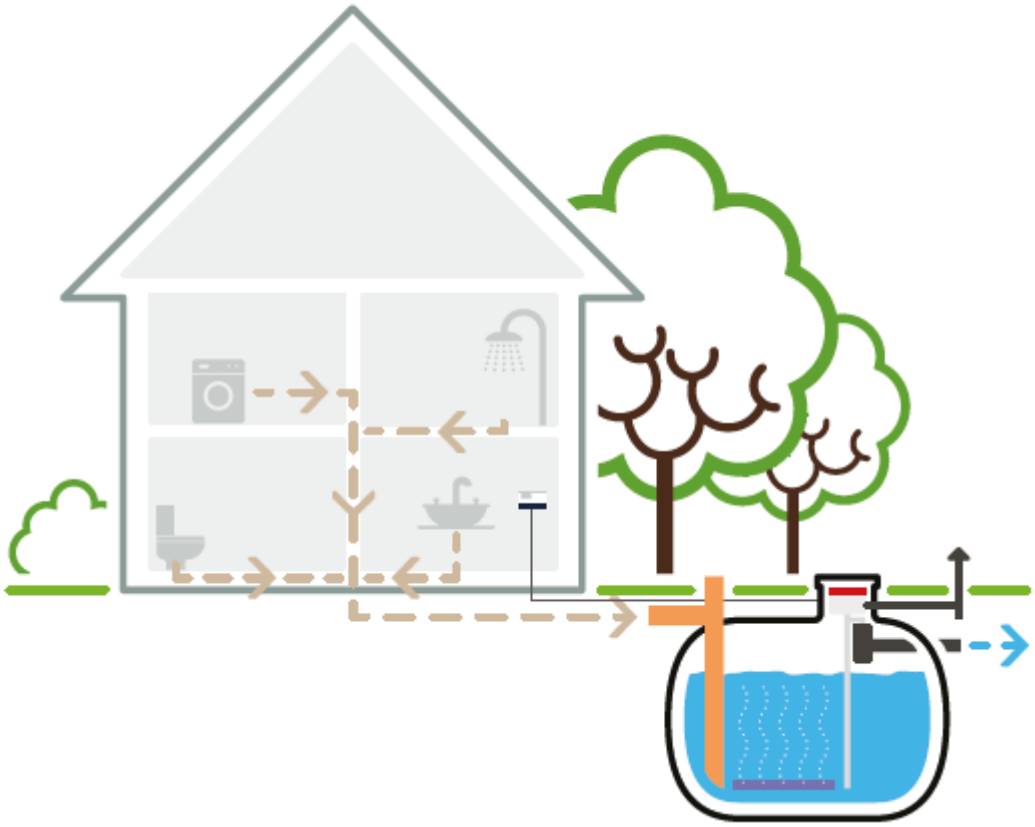
Inside our SBR systems, intermittent, time-controlled operation cycles promote the breakdown of pollutants and provide oxygen to microorganisms that feed on organic wastewater pollutants.

After the reaction, remaining solids – including microorganisms, sink to the bottom of the tank. Some remain inside the tank to treat the next batch of wastewater and are known as activated sludge.

Receiving system and final discharge

As solids settle on the bottom of the SBR, treated wastewater forms at the surface. This is then removed by a lifting mechanism (pump or airlift). The effluent – which is now free from pollutants, can then be safely discharged.

All Rewatec SBR tanks that are manufactured from polyethylene are available with either a gravity outlet (airlift version) or an integrated pump outlet (pump version). Our SBR glass-reinforced plastic (GRP) tanks are only available with a pump outlet.



First 3 Months – Running-In Phase



Building a stable biological function is a prerequisite for ensuring your plant operates as it was designed to. The purification efficiency of the SBR is based on micro-organism activity. It is a living system.

Your plant should be configured by a specialist company to suit your usage requirements during installation & commissioning.

During the first week of operation, it is recommended to carry out a daily function check by checking the electronic control panel for error messages.

If there are any error messages report this to your servicing agent immediately.



If the control unit beeps and the red LED warning light flashes:

- Note the error text from the display
- Turn off the warning signal by pressing the middle key on the control unit

Immediately inform your service provider.

Control Panel Password



The control panel is password protected.

The password changes on a daily basis and is designed to ensure only an experienced installer or servicing agent can access and alter the settings of the system.

Please do not attempt to access the control panel to change settings.

The only time you will need to access the control panel is to enable Holiday Mode. See below for information.

If you have any question regarding this, please contact Premier Tech.

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sales.ptwe.uk@premiertech.com

Usage

Strong cleaning agents often contain substances that feed on the oxygen necessary for the purification process and can compromise the active 'good' bacteria within your sewage treatment plant.

The use of washing and cleaning solutions should be kept to a minimum to achieve optimal effluent quality. Biodegradable agents (eco-friendly biodegradable) instead of chlorine are recommended.

Please familiarise yourself with the following.

Example of minimising usage of cleaning solutions:

Laundry – try to spread laundry over a period of time. As an example, if you have 4 loads, spread this out over a period of 3 to 4 days rather than doing all on the same day.



<u>Do Not</u> Allow The Following Items or Substances To Enter Your Sewage Treatment Plant:

Causes of Blockages (Use bin instead)

- ☐ Adhesive plasters
- ☐ Bathroom wipes, wet
- ☐ Bird sand
- ☐ Cat litter
- ☐ Cigarettes
- ☐ Condoms
- ☐ Corks
- ☐ Cotton swabs
- ☐ Frying oil/grease/fats
- ☐ Hair (insofar as can be avoided)
- ☐ Nappy wipes, oily cloths
- ☐ Razor blades
- ☐ Sanitary towels
- ☐ Sanitary towels, tampons
- ☐ Textiles (cleaning cloths etc.)
- ☐ Wallpaper adhesive (Use recycling point)

Causes of Overloading (Use bin instead)

- ☐ Ash
- ☐ Cooking oil
- ☐ Food leftovers (solid and liquid, e.g. out-of-date milk)

Causes of Environmental Contamination

- ☐ Backwash water from water softening plants
- ☐ Chemicals
- ☐ Cleaning agent
- ☐ Engine oil
- ☐ Insecticide
- ☐ Medications
- ☐ Oily waste
- ☐ Paint
- ☐ Paintbrush cleaner
- ☐ Paint thinner
- ☐ Pesticide
- ☐ Varnish

Usage Patterns

The plant is designed to cope with changing patterns of usage.

Please explain to your installer/commissioning agent how you intend to use the plant. This includes:

Number of People:



How many people will normally be within the household or building at most times and if this number fluctuates significantly.

The system does not need to be altered for short-term changes in occupancy.

Example – System set to 4 PE (Population).
3 more people visit for a weekend.
No need to adjust system.

Example – System set for 6 PE (Population).
4 people leave the property for a week.
No need to adjust system.

Longer Dormant Periods/ Holiday Mode:





Control Panel Display

If you will leave the property for extended periods of time. (e.g. holidays or if the property is a holiday home).

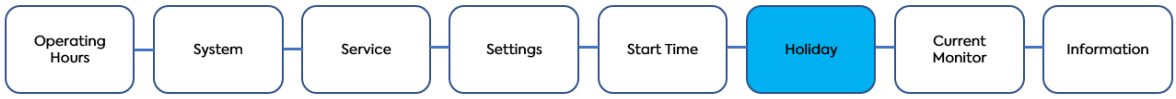
There is a 'Holiday Mode' on the panel.

Activate Holiday Mode – this can be utilised for up to 1 month. If you have not returned to the property after 1 month the system will automatically return to original operation.

When the property is inhabited, switch off holiday mode.

If you have any question regarding this, please contact Premier Tech.

Scroll to 'Holiday' High level menu to activate or switch off holiday mode.



Do Not Switch the Tank Off



Your sewage treatment plant is a living biological system. DO NOT switch the tank off. This can affect the ongoing operational efficiency. If you need to switch the tank off consult a service agent.

Never allow the tank to remain empty. This creates an imbalance of external and internal forces. (Information: When the tank is de-sludged the contents should be replaced with clean water)



In Case of Power Cut

Without power, the tank will essentially operate as a septic tank where the emergency overflow is connected for the pumped version.

The residual effects of the aeration in the tank means the tank will continue to operate for up to 1 day without power. This depends on a number of factors such as environmental conditions, usage and influent.

Once power resumes, the tank and the control panel will resume automatically.

Life Expectancy of the Tank



50 Years

Your sewage treatment plant shell is manufactured from polyethylene and built to last.

Upholding a regular servicing schedule will increase its life expectancy. Like any product, the level of maintenance it receives has a fundamental bearing upon the overall life expectancy.

The polyethylene tank shell is recyclable – electrical components must be disposed of properly.

Servicing & Maintenance



Ensuring your sewage treatment plant is regularly maintained is necessary to ensure the operational efficiency of your 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 your wastewater treatment plant and void your warranty.

Your chosen servicing agent will provide you with information on what is carried out during an annual service.

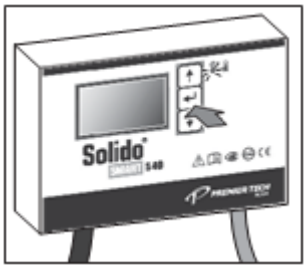
Please ask your servicing company to view the service document and ask them to run through this with you. Please record servicing in the schedule document on the next page.

■ Monthly User Check

1. If you see an error message or the alarm sounds contact your servicing agent.
2. Visually check the tank and surrounding componentry for signs of damage/leakages or anything which appears incorrect.

The control panel allows a professional servicing agent to set numerous parameters to suit your individual needs.

The control panel is not designed to be operated by the end user unless switching on the holiday mode. Once the plant is configured, the menus within the panel should only be accessed, if necessary, by a professional wastewater treatment servicing agent.



Solido SMART Maintenance Schedule

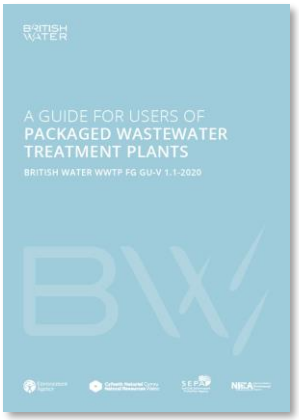
Your tank must undergo a regular servicing programme. Please use this page to record services and maintenance.

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

1st Annual Service Date: Servicing Company: Notes:	**6th Annual Service** Date: Servicing Company: Notes:
2nd Annual Service Date: Servicing Company: Notes:	**7th Annual Service** Date: Servicing Company: Notes:
3rd Annual Service Date: Servicing Company: Notes:	**8th Annual Service** Date: Servicing Company: Notes:
4th Annual Service Date: Servicing Company: Notes:	**9th Annual Service** Date: Servicing Company: Notes:
5th Annual Service Date: Servicing Company: Notes:	**10th Annual Service** Date: Servicing Company: Notes:

Additional Resources

British Water's "A Guide For Users Of Packaged Wastewater Treatment Plants" can be found on the British Water website.
https://www.britishwater.co.uk



Certificate

Premier Tech Water and Environment Ltd.
2 Whitehouse Way, South West Industrial Estate, SR8 2RA, Peterlee, County Durham, UK

EN 12566-3, Annex A, B and C
Small wastewater treatment systems for up to 50 PT

Small wastewater treatment system "Rewatec Solido Smart"
One-chamber SBR system in one PE tank

Test report PIA2015-239B22.e

Evaluation of the nominal sequences of the 38-week

Nominal organic daily load	0.30 kg BOB_5/d
Nominal hydraulic daily load	0.90 m³/d
Material	Polyethylene
Watertightness	pass
Structural behaviour (pit test)	pass (also wet
Durability	pass

Treatment efficiency

	Efficiency	Effluent
COD	95.1 %	39 mg/l
BOD_5	98.5 %	5 mg/l
NH_4-N*	98.0 %	0.7 mg/l
N_{inl}	83.1 %	10 mg/l
P_{tot}	68.5 %	2.3 mg/l
SS	97.1 %	1 3 mg/l

Evaluation of the complete 38-week testing

Electrical consumption 0.81 kWh/d

**determined for temperatures ⩾ 12 ° C in the bioreactor*

Tested by:

PIA – Prüfinstitut für Abwassertechnik GmbH
(PIA GmbH)
Hergenrather Weg 30
52074 Aachen, Germany

This document replaces neither the declaration of performance nor the CE marking.

PIA - Sustainable Certification
geprüft - tested- testé

Notified Body No.: 1739

M. Wermter/ D.Schmitz November 2021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