



The next generation of
off-mains wastewater
treatment

REWATEC[®]

Sequencing Batch Reactors (SBR)



The future of SBR wastewater treatment

The Premier Tech range of Rewatec sequencing batch reactors (SBRs) provide the ideal off-mains wastewater treatment solution for residential, commercial and industrial projects striving for a high treatment performance, with minimal energy consumption.

Proven in multiple markets, with thousands of installs already across the UK, our range of Rewatec SBR sewage treatment plants offers a robust and cost-effective option for the treatment of wastewater. CE and UKCA marked, and fully tested and certified to EN12566-3, our tanks are quick to install, simple to use and easy to service and maintain.

SUPERIOR PERFORMANCE

Installing a Rewatec SBR will ensure you conform to UK regulations for sewage treatment plant outflows. The standard effluent quality for our SBR systems is shown in the table (right) however, we can also manufacture bespoke solutions to meet specific effluent requirements for both large and small systems upon request.

Typical treatment results from our SBR systems (as per PIA test certification):

	Efficiency	Effluent
COD	95.1%	39 mg/l
BOD₅	98.5%	5 mg/l
SS	97.1%	13 mg/l
NH₄-N	98.0%	0.7 mg/l
N_{tot} (including nitrates)	83.1%	10 mg/l
P_{tot} (including phosphates)	68.5%	2.3 mg/l

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.

Rewatec Solido Smart

With highly durable super-reinforced polyethylene (PE) tanks for a population of 8–25 people available, our discreet Rewatec Solido Smart sewage treatment plants, provide the ultimate wastewater treatment solution for smaller off-mains applications.

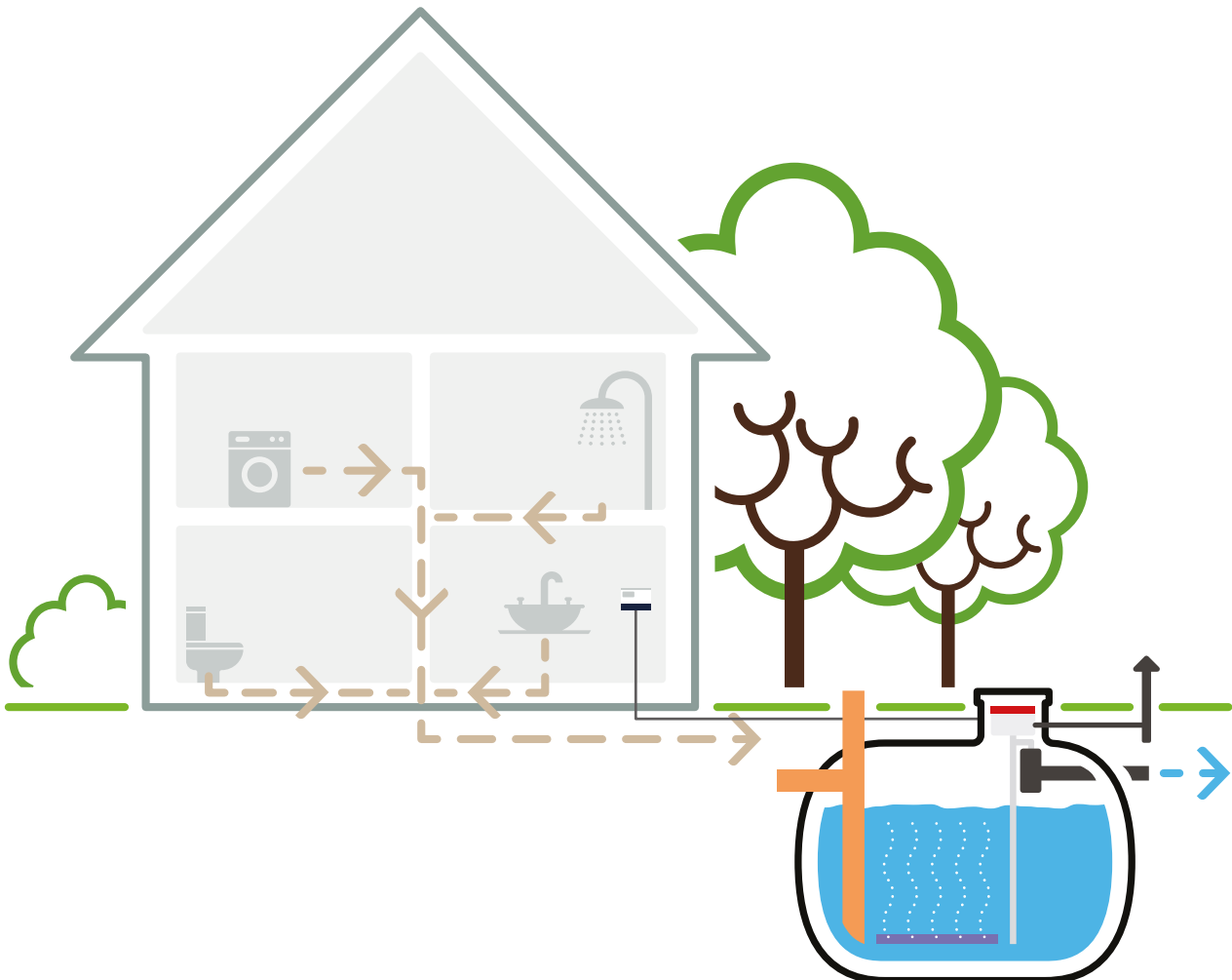
SYSTEM OPTIMISATION WITH THE REWATEC SOLIDO SMART CONTROL PANEL



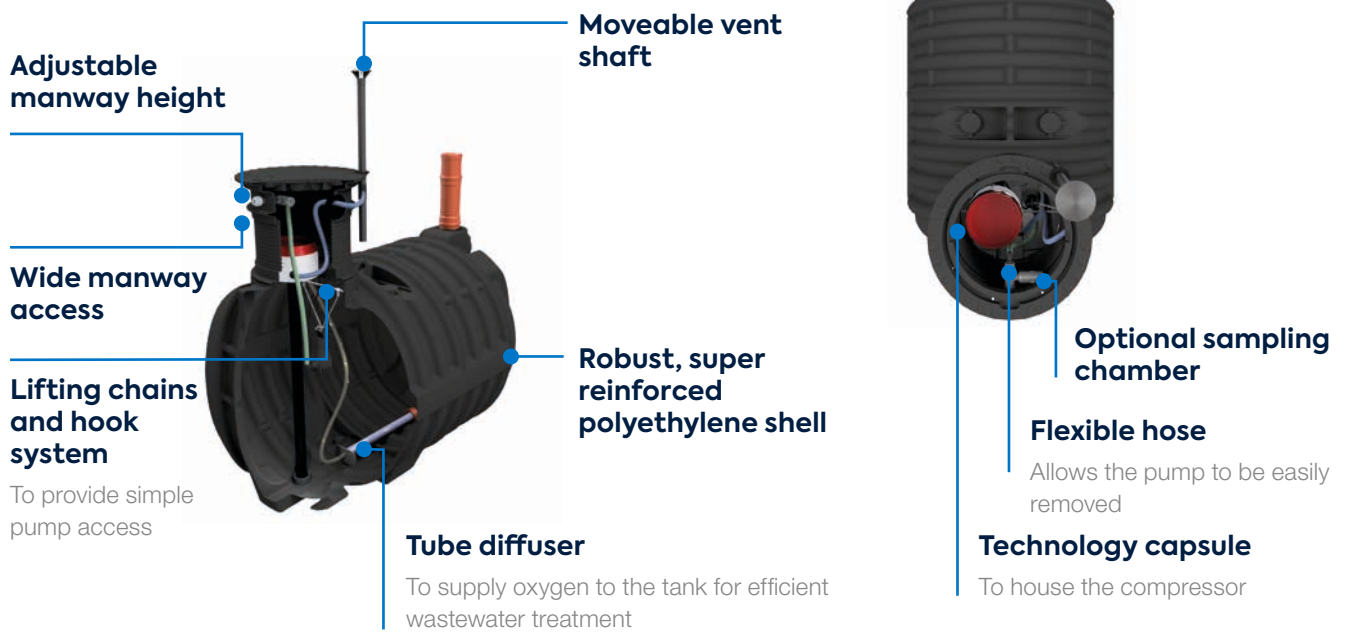
Each Rewatec Solido Smart is equipped with an electronic control panel to ensure that predetermined outflow values are maintained during operation.

When the number of habitants for a property is entered into the panel, the preset control parameters are automatically loaded.

For periodic usage, or periods with no usage such as holidays, “economic mode” can be selected to reduce aeration by 50% of the set value for a total of 30 days – maximising energy efficiency whilst also reducing cost. After this time period, the system will return to the predetermined values that have been set.



REWATEC SOLIDO SMART OPERATION



EXAMPLE APPLICATIONS

- Primary residencies
- Seasonal residencies (holiday homes)
- Residential/smaller commercial developments
- Caravan parks and campsites
- Golf courses
- Hospitality venues
- Office buildings

Rewatec Solido Smart benefits



EASY INSTALLATION

- Easy to lift/manoeuvre
- Manway height can be adjusted on-site
- Tank can be installed with a granular or concrete backfill depending on site ground conditions



SUPERIOR PERFORMANCE

- Manage organic and hydraulic load fluctuations
- Reduce energy bills with intermittent aeration cycles
- Efficient wastewater treatment and nutrient removal



BUILT TO LAST

- Leak-proof
- Robust and durable
- Ribbed sidewalls for structural strength
- Super-reinforced polyethylene design as standard



TOTAL PROTECTION FOR PEACE OF MIND

- PIA certified design that adheres to EA and Natural England regulations
- Protects properties and commercial sites
- Preserves our environment

Phosphorus removal with the Rewatec Solido Smart +P

Phosphorus removal is a wastewater treatment option for properties in ecologically sensitive areas, where strict effluent standards are needed to protect lakes and rivers for future generations.

The Rewatec Solido Smart +P, available for a population of 6 to 25 people, is the ideal sewage treatment plant for areas where very low levels of both phosphorus and nitrogen are required.

This sewage treatment plant uses chemical dosing alongside aeration to achieve 90% phosphorus removal and 75% nitrogen removal from wastewater.

Combined with the proven SBR treatment technology, a high-quality polyethylene design and durable components, the Rewatec Solido Smart +P guarantees long-term performance and peace of mind, even in the most challenging of environments.



How does the Rewatec Solido Smart +P work?

The Rewatec Solido Smart +P works in the same way as a conventional SBR system, whereby timed aeration cycles break down solids and provide oxygen to microorganisms that feed on organic pollutants to treat wastewater.

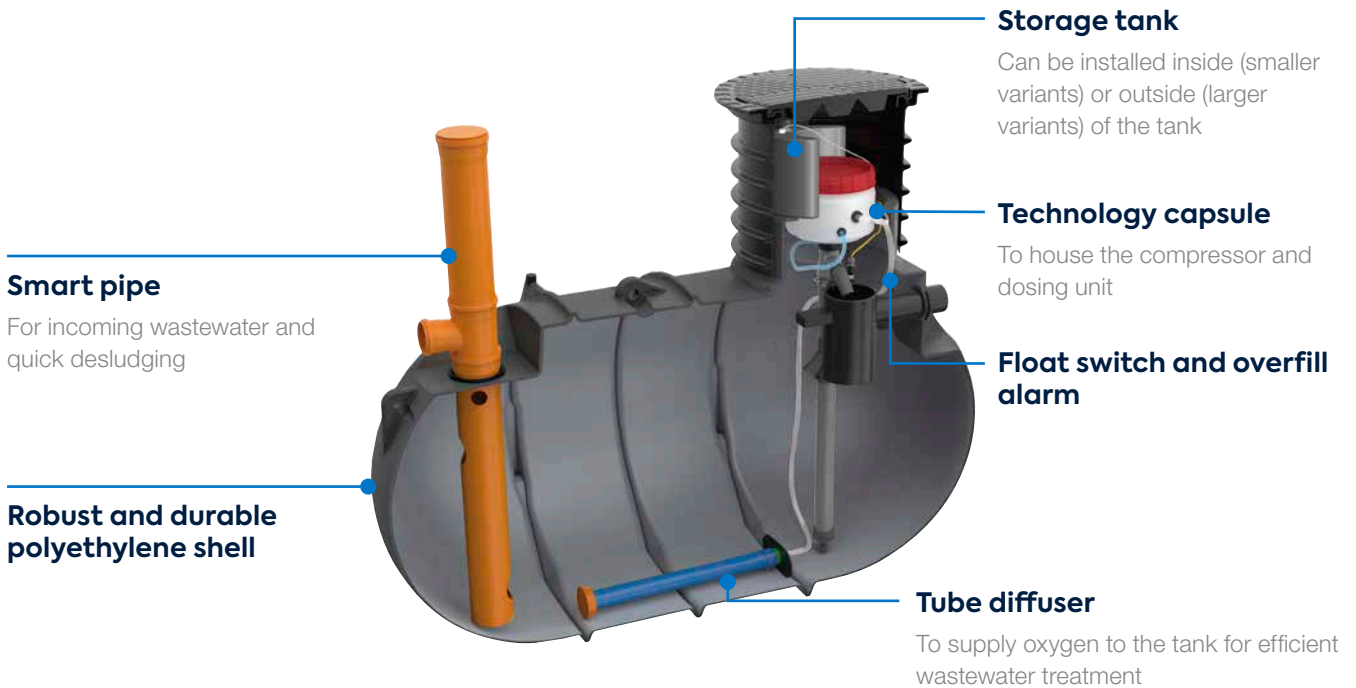
However, inside the Rewatec Solido Smart +P, a dosing tank system regularly drip feeds a very small dose of polyaluminium chloride into the chamber of the tank, to further reduce the level of phosphate concentration by up to 90%.

Dosing is also time controlled using a timer and a peristaltic pump. This ensures that the dose takes place at the end of each aeration cycle to guarantee optimal results.

The Rewatec Solido Smart +P is manufactured with a gravity outlet only. For situations where it isn't possible for the final effluent to gravitate towards the discharge location, an external polyethylene pump station can be supplied.

90% PHOSPHORUS (INCLUDING PHOSPHATES) AND 75% NITROGEN (INCLUDING NITRATES) REMOVAL

Rewatec Solido Smart +P operation



Rewatec SBR GRP

Our robust glass reinforced plastic (GRP) SBR systems provide a reliable wastewater treatment performance for larger commercial and industrial applications.

Manufactured in the UK as a single tank solution, our SBR GRP systems are suitable for a population of over 25 people. With a team of expert in-house engineers, we can design and manufacture a bespoke solution to meet virtually any PE requirement.

ENHANCE YOUR SYSTEM WITH THE REWATEC SBR GRP CONTROL PANEL

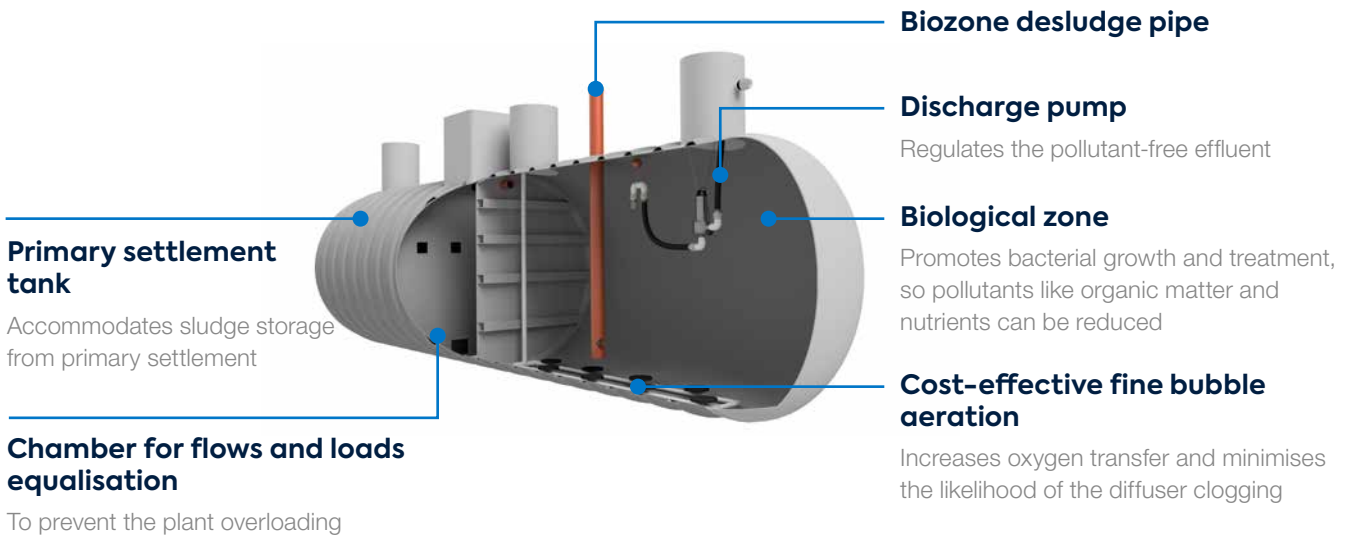


Each Rewatec SBR GRP tank is equipped with an electronic control panel which can be used to optimise the system.

The frequency of aeration cycles, can be adjusted to maximise the efficiency of the blowers within the biozone of the tank to limit energy usage.

In addition, an optional dissolved oxygen (D.O.) probe can be installed to automatically detect when there is an abundance of oxygen in the tank. As such, when loading / occupancy is lower, the aeration supply will be automatically altered to cater for such adjustments, again limiting energy usage whilst also reducing cost.

Rewatec SBR GRP operation



EXAMPLE APPLICATIONS

- Larger commercial developments
- Industrial sites
- Large caravan parks and campsites
- Wineries and distilleries
- Café's and restaurants
- Food manufacturing plants
- Abattoirs



Rewatec SBR GRP sewage treatment plant benefits



COMPACT AND DISCREET

- Biological treatment in a single tank
- Robust kiosk to house electronic equipment
- Silent and odourless operation



SUPERIOR PERFORMANCE

- Manage organic and hydraulic load fluctuations
- Reduce energy bills with intermittent aeration cycles
- Bespoke solution to meet effluent requirements



BUILT TO LAST

- Leak-proof
- Robust and weatherproof
- Durable GRP shells



PEACE OF MIND

- Efficient wastewater treatment
- Preserves properties and commercial sites
- Low maintenance

OPTIONS AND ACCESSORIES

From shaft extensions to heavy duty covers, we have an extensive range of options and accessories for our Rewatec SBR systems. Contact Premier Tech to find out more.

TRAINING FOR PROFESSIONALS

At Premier Tech we provide a full range of training programmes to fully meet the requirements of our professional partners. If you require functionality guidance on our Rewatec SBR systems, or a more detailed training course for installations, we can provide a tailored solution to meet your needs.

WARRANTY

For over 50 years, we have proudly developed sustainable and long-lasting products that make a real difference for our customers, our professional partners, and, above all, our planet.

Our experience in the industry means that we can provide you with a 25 year shell and construction warranty for our Rewatec SBR systems.

TECHNICAL SPECIFICATIONS (REWATEC SOLIDO SMART)

PE	Chamber	Outlet	Length (mm)	Width (mm)	Height (mm)
8	Single	Gravity/pump	2,330	1,520	2,230-2,630*
10	Single	Gravity/pump	2,480	1,650	2,304-2,720*
12	Single	Gravity/pump	2,400	2,010	2,625-3,035*
18	Single	Gravity/pump	2,765	2,310	2,915-3,350*
25	Single	Gravity/pump	3,400	2,310	2,915-3,350*

TECHNICAL SPECIFICATIONS (REWATEC SOLIDO SMART +P)

PE	Chamber	Outlet	Length (mm)	Width (mm)	Height min-max (mm)
6	Single	Gravity/pump	2,420	1,420	2,470-2,570*
9	Single	Gravity/pump	2,420	1,700	2,750-2,850*
12	Single	Gravity/pump	2,400	2,010	2,625-3,035*
15	Single	Gravity/pump	2,765	2,310	2,915-3,350*
25	Single	Gravity/pump	3,400	2,310	2,915-3,350*

An external polyethylene pump station is required for the pump outlet.

*Minimum height is as standard, maximum height corresponds to the maximum manway extension

For further technical information on our Rewatec SBR GRP systems, please contact Premier Tech.



PT Water and Environment

2 Whitehouse Way,
South West Industrial Estate
Peterlee, Co Durham
SR8 2RA UNITED KINGDOM

+44 (0) 191 5878650
sales.ptwe.uk@premiertech.com
PT-WaterEnvironment.co.uk



The information contained in this document was current and consistent with the information available at the time of publication. Premier Tech Ltd. makes no warranties or representations as to its accuracy. Because of its continuous improvement policy, Premier Tech Ltd. and its affiliated companies reserve the right to change and/or discontinue the manufacture of any product and/or modify technical data and prices, for any reason whatsoever and at its sole discretion, without further notice and without liability to anyone in this regard.

© 2022 Premier Tech Ltd. All rights reserved.
Printed in United Kingdom

UK
20220226