



10/02/26

DRAINAGE AND PPTW SUMMARY NOTE

Dear Sir / Madam

**Proposed conversion of agricultural barn to C3 dwelling
Barn & Farmyard, Oysters Farm, Gutch Common SP7 9BE**

In the light of advice – see Appendix 1 - and experience elsewhere in Wiltshire, the Applicant has taken the 'standard' option: a Graf One2Clean - Appendix 2.

On the basis of the Graf One2Clean documentation:

- The proposed 5/6-person PPTW is (correctly and slightly) oversized for the development;
- Its certified performance and operating characteristics demonstrate enhanced nutrient removal;

With the proposed One2Clean system in place, the development:

- Would not result in an adverse effect on the integrity of the River Avon SAC, subject to the purchase of part of a credit;
- Would comply with Regulation 63 of the Conservation of Habitats and Species Regulations 2017;

Appendix 1



Proposed Barn conversion at Oysters Farm – Nutrient Statement

Project: Barns at Oysters

Date: 10th February 2026

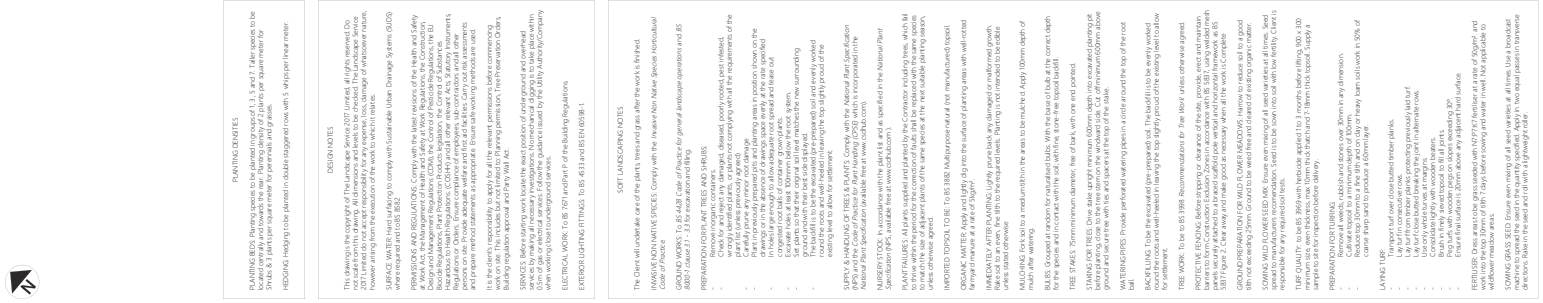
Subject: Nutrient Neutrality

[A] Background

This Statement provides the information required by Wiltshire Council to support the full planning application for the conversion of an agricultural barn to a C3 dwelling, with associated hard and soft landscaping, at Oysters Farm, Gutch Common, SP7 9BE. The information is submitted under Regulation 63 of the Conservation of Habitats and Species Regulations 2017. The full description of the proposal is:

“SELF BUILD conversion of agricultural barn (non designated heritage asset) to C3 residential, demolition of modern dilapidated timber barn, minor alterations to retained barns, hard and soft landscaping, nutrient neutrality, Pre-Packaged Treatment Works (PPTW) and hard and soft landscaping.”

In January 2024, Defra issued a policy paper designating a number of sensitive river catchments affected by nutrient pollution. The River Avon Special Area of Conservation (SAC) is included, having been assessed as being in unfavourable condition due to excess phosphorous. As a result, any local planning authority within the Hampshire Avon catchment must ensure that new residential development is phosphorous neutral before planning permission can be granted.



ID	Qty	Latin Name	Plant Use	Strawberry Size	Remarks
Strawbs	36	Pteroporum lichen Mureur		5 - 10L	
Strawbs	258	Carpinus betulus Hill		5 - 10L	
Strawbs	9	Pteroporum lichen Corbail		5 - 10L	
Strawbs	9	Acer Green Gosh		5 - 10L	
Potterals	56	Salix repens L.			
Potterals	56	Salix repens L. var. densa			
Potterals	33	Acetaria rubellum "temperata"		2L	
Potterals	33	Sergastrodia officinalis		2L	
Potterals	36	Aemonea x hybridus "tongue plant"		3L	
Potterals	36	Verbena bonariensis "Lollipop"		3L	
Potterals	36	Echinacea purpurea "White Swan"		3L	
Potterals	79	Veronicastrum um virginicum "Alburt"		3L	
New Tree	1	Fagus sylvatica		Heavy Standard	
New Tree	2	Carpinus betulus		Heavy Standard	
New Tree	2	Acer campestre		Heavy Standard	
Guinea	155	Chamaecrista x acutifolia Karl Foerster		2L	
Guinea	155	Habenaria macra		2L	
Guinea	366	Baccharis spartea		2L	

A phosphorous budget is therefore required so that WC can undertake an appropriate assessment of the proposal's effects on the River Avon SAC. This Note follows the guidance and calculator provided on WC's nutrient neutrality webpages and the Government's "Tools and resources for calculating nutrient neutrality", updated 27 May 2025.

[B] Phosphorous Budget

The parameters used to calculate the additional nutrient loading from the proposed dwelling are set out in **Box 1**.

Box 1: Assumptions for x1 New Dwelling from Barns at Oyster Farm

- **New overnight accommodation:** 1 residential dwelling
- **Occupancy:** 2.4 people (accepted average occupancy)
- **Wastewater generation:** 120 litres per person per day
- **Wastewater treatment:** A Graf One2Clean package treatment plant. This system does not rely on ferric sulphate dosing and is certified to achieve 1.6 mg TP/litre without chemical additives.
- **Land use:** Residential urban land within the broadly drawn curtilage of Oysters Farmhouse (NB there is no convenient or more precise category for agricultural barns)
- **Site area:** 0.18 ha for the barns and yard
- **Land use change:** None – the land remains residential urban land before and after development

Using the latest Natural England Phosphorous Calculator for the River Avon, the treated foul water from the new dwelling is calculated to generate **0.17 kg of Total**

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Instructions

Nutrients_from_wastewater

Nutrients_from_current_land_use

Nutrients_from_future_land_use

SuDS

Final_nutrient_budgets

Water infrastructure information		
Description of required information	Data entry column - user inputs required	Additional data entry column - user inputs may
Date of first occupancy (dd/mm/yyyy):	01/01/2027	
Average occupancy rate (people/dwelling or people/unit):	2.40	
Water usage (litres/person/day):	120	
Development proposal (dwellings/units):	1	
Wastewater treatment works:	Package Treatment Plant user defined	
Current wastewater treatment works P permit (mg TPlitre):	Enter value in cell C10	1.6
Not applicable	Not applicable	
Not applicable	Not applicable	
Final calculation of nutrient load from wastewater		
Description of values generated		
Wastewater nutrient loading	Values generated	
Additional population (people):	2.40	
Wastewater by development (litres/day):	288.00	
Annual wastewater TP load (kg TPl/yr):	0.17	
Not applicable		
Not applicable	Not applicable	
Not applicable		
Not applicable	Not applicable	

Total nutrient budget calculations					
Description of values generated			Values generated		
Wastewater TP load (kg TP/year):			0.17		
Net land use TP change (kg TP/year):			0.00		
TP budget:			0.17		
TP budget + 20% buffer:			0.20		
Annual nutrient budget					
The total annual phosphorus load to mitigate is (kg TP/yr):			0.20		
Not applicable					
Not applicable			Not applicable		
Not applicable					
Not applicable			Not applicable		
<		>		Final_nutrient_budgets	
Instructions		Nutrients_from_wastewater		SuDS	
Nutrients_from_current_land_use		Nutrients_from_future_land_use			
Accessibility: Good to go					

Phosphorous (TP) per year.

Because the land use will not change, Stages 2 and 3 of the calculator (which assess changes in phosphorous leaching from the ground) do not affect the outcome. For completeness, these stages have been completed using the parameters above.

The final output of the calculator shows that the barn conversion will result in a **net increase of 0.2 kg TP per year** once occupied, including the 20% precautionary buffer which has been applied at the final stage of the calculation.

Mitigation

Wiltshire Council currently operates a scheme that provides phosphorous credits for planned development. These credits can be purchased to offset additional nutrient loading and demonstrate nutrient neutrality.

The barn conversion falls within WC's definition of planned development, as it involves the conversion and re-use of a rural building consistent with adopted policy. WC officers have confirmed that the scheme is available to this project.

To offset the calculated increase, **0.2 phosphorous credits** will be purchased from WC. These will be secured by planning condition.

Conclusion

Using the current Natural England guidance and calculator, the proposed conversion of the barn at Oysters Farm to a single residential dwelling will generate a net increase of **0.2 kg TP per year**. This will be fully mitigated through the purchase of **0.2 phosphorous credits** from Wiltshire Council.

With this mitigation secured, the development will not adversely affect the integrity of the River Avon SAC, either alone or in combination with other plans or projects. WC can therefore conclude a positive appropriate assessment under the Habitats Regulations.

end

Appendix 2

one2clean domestic wastewater solutions

3 – 18 PE (450 – 2,700 l/day)



One-tank system one2clean

Inhabitants [max.]	Max. daily flow [l/d]	Max. organic load [kg BOD ₅ /d]	Total volume [l]	Volume [l]	Length* [mm]	Width* [mm]	Height [mm]	Weight [kg]
1 – 3	450	0.18	2,700	2,700	2080	1565	1690	120
4 – 5	750	0.30	3,750	3,750	2280	1755	1880	150
6 – 7	1,050	0.42	4,800	4,800	2280	1985	2110	185
8 – 9	1,350	0.54	6,500	6,500	2390	2190	2390	220

Scope of supply: Carat S underground tank, tank dome, telescopic dome shaft 600, one2clean system pack (-> page 46 - the GRAF modular system).
Please order the air hoses separately (-> page 16).
*Total measurement

Two-tank system one2clean

Inhabitants [max.]	Max. daily flow [l/d]	Max. organic load [kg BOD ₅ /d]	Total volume [l]	Volume [l]	Length* [mm]	Width* [mm]	Height [mm]	Weight [kg]
2 – 7	1,050	0.42	5,400	2 x 2,700	4760	1565	1690	240
8 – 10	1,500	0.60	7,500	2 x 3,750	5160	1755	1880	300
11 – 14	2,100	0.84	9,600	2 x 4,800	5160	1985	2110	370
15 – 18	2,700	1.08	13,000	2 x 6,500	5380	2190	2390	440

Scope of supply: Carat S underground tanks, tank domes, telescopic dome shafts 600, one2clean system pack (-> page 45 - the GRAF modular system).
Please order the air hoses separately (-> page 16).
*Total measurement



Technical data

System	one2clean
System conformity	EN 12566-3
Purifying technology	fully biological SBR lifting technology
One-tank systems available up to	9 inhabitants 1,350 l/d
Two-tank systems available up to	18 inhabitants 2,700 l/d
Maintenance interval	1 – 2 per year
Warranty for underground tank	10 years
Warranty for purifying technology	2 years

Parameter	
COD (chemical oxygen demand)	94.2 %
BOD ₅ (biochemical oxygen demand)	98.0 %
SS (suspended solids)	96.3 %
NH ₄ -N	98.3 %
N _{total}	87.0 %

Results of practical testing undertaken by the Prüfinstitut für Abwassertechnik
(Testing Institute for Wastewater Technology), Aachen



Wastewater treatment system **one2clean**

innovative designed.



As much technology as necessary, as little technology as possible.

Over the past few years, wastewater treatment systems have experienced impressive technological developments. Today, they are high-tech products equipped with sophisticated

controls and various pumps, sensors and valves. Yet this is often to the detriment of the product's reliability. A reliable wastewater disposal system no longer needs to be complicated. With

one2clean, you will be able to take responsibility for the timely disposal of your waste water, while taking care of your budget and the environment.

one2clean dispenses with the unnecessary extras, making it a reliable solution:

- ✓ Only **one** tank with only **one** chamber required
- ✓ Less energy consumption and less wear
- ✓ No mechanical elements in the waste water
- ✓ No pumps in the waste water
- ✓ No electrical components in the waste water
- ✓ Incredibly little sewage sludge



on sewage reservoirs



on technology



one2clean is smart and simple!



one2clean is an advanced development of the proven SBR wastewater treatment technology, with considerable advantages in terms of operating costs and safety. By purchasing the

one2clean wastewater treatment system, you are choosing GRAF quality and benefit from the experience of more than 250,000 satisfied customers.

With one2clean, wastewater disposal is safe and affordable



one2clean is a clean solution

one2clean only needs 3 steps to produce clear water

The wastewater treatment is carried out in one chamber in just one tank. This eliminates unnecessary pumping processes and sludge return.

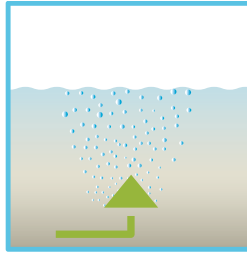
one2clean is odourless

The entire waste water is immediately activated with oxygen using the unique one2clean technology. The final process of the one2clean produces an odourless, clear treated water for extraction to soakaway or waterway” *

one2clean already meets the needs of tomorrow

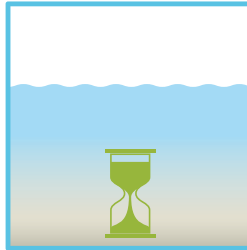
The one2clean wastewater treatment system can achieve sustainable discharge values with an efficiency factor of up to 99%! This offers high investment security – even if legal requirements become stricter.

* Manufacturers operating and installation instructions must be adhered to.



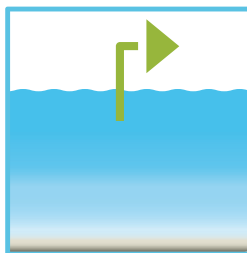
1. Wastewater treatment

The waste water arrives directly in the biological zone without the need for pumping processes. Aeration of the entire container leads to immediate waste water activation. The micro-organisms begin the biological cleaning process without delay.



2. Settling phase

Aeration is interrupted by the control unit, the activated sludge sinks to the bottom. A clear water zone develops in the upper part of the container.

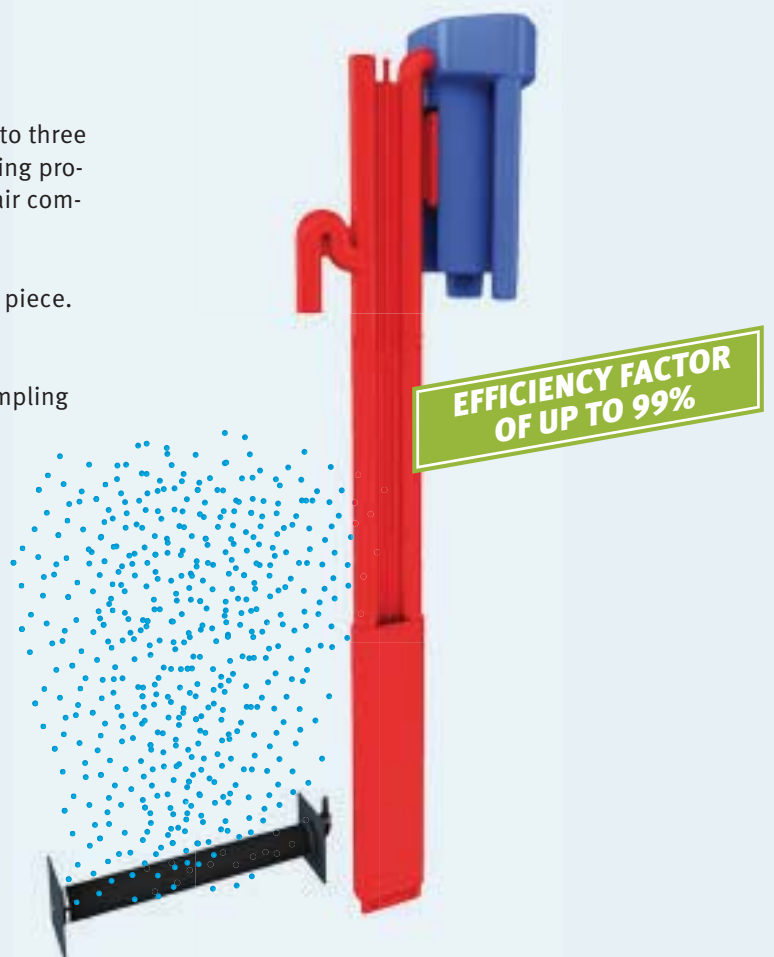


3. Clear water extraction

The treated clear water is extracted from the system and the cleaning process can begin once more.

one2clean setting-up kit

- ✓ Conventional wastewater treatment systems require up to three pumping processes. one2clean only requires one pumping process, this saves energy and extends the lifetime of the air compressor – the core part of the system.
- ✓ Rugged clear water lifter manufactured in one seamless piece. No connectors or screws necessary.
- ✓ Simple maintenance via an integrated, self-cleaning sampling container.



one2clean is excellent value for money



Incredibly little sewage sludge

Aeration of the entire wastewater tank

- Immediate wastewater activation
- Minimisation of the sludge
- Less sludge removal
- Cost savings

Minimum maintenance costs

- Simple construction
- High-quality components
- As much technology as necessary, as little technology as possible.
- Integrated sampling point

Minimum power consumption

- one2clean has only one pumping process, reducing energy consumption and running costs
- Economical motor valve
- Energy optimised membrane compressor

Conventional wastewater treatment systems



one2clean



Only 75 kWh per person and per year!

one2clean system control

- ✓ The one2clean has a compact designed controller.
- ✓ The microprocessor control system ensures simple operation and maintenance.
- ✓ Ultra quiet thanks to silent diaphragm compressor.
- ✓ Automatic power failure detection.

**MINIMAL
OPERATING COSTS**



one2clean offers maximum safety and reliability

Low space requirements

- Just 4 m² (5 Inhabitants)
- Less installation costs

Long warranty and lifetime

- 15-year warranty on sewage reservoirs, 3 years warranty on technology
- High-quality components
- Simple technology

Twice the buffer volume

- Dispensing with separating the reservoir into different chambers
- Therefore enough capacity for overload

Logistical advantages

The Carat S tank consists of two half shells which can be stacked on top of each other, allowing multiple tanks to be stacked on a single pallet for shipping.



The tanks unique stacking feature directly reduces transport costs and environmental impact from vehicle emissions, whilst allowing shipments to any destination in the world.



Logistical advantages

GRAF TV
www.graf-water.com

-80% FREIGHT COSTS

Carat S septic tank

- ✓ The Carat S septic tank is just as revolutionary as what goes on inside: Its injection compression moulding manufacturing process is a global first for tanks of this size. With its unique precision fit, all components and connecting cables can be mounted easily and accurately.
- ✓ Patented quick connection and EPDM sealing allows the Carat S tank to be assembled without screws
- ✓ Easy fitting telescopic and tilting tank cover allowing flush fitting to surrounding ground surface
- ✓ Rotating tank dome facilitates connection
- ✓ Only one cover required
- ✓ Suitable for vehicle loading ¹
- ✓ 100% waterproof and corrosion-resistant
- ✓ Can be mounted in groundwater



15
years
warranty

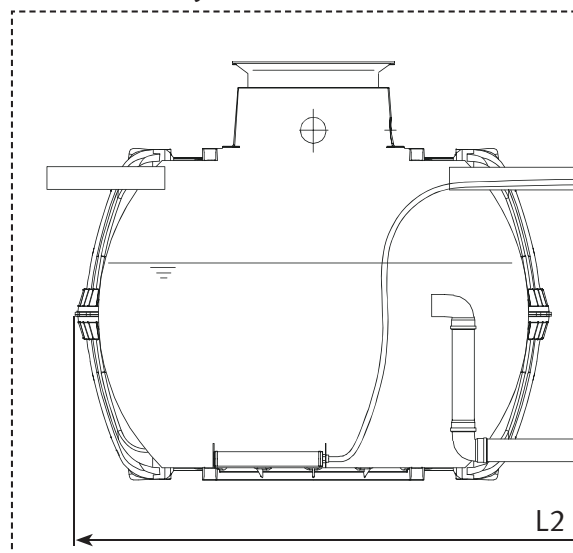
¹ When used with cast iron tank cover

one2clean – Limit values and flow parameters

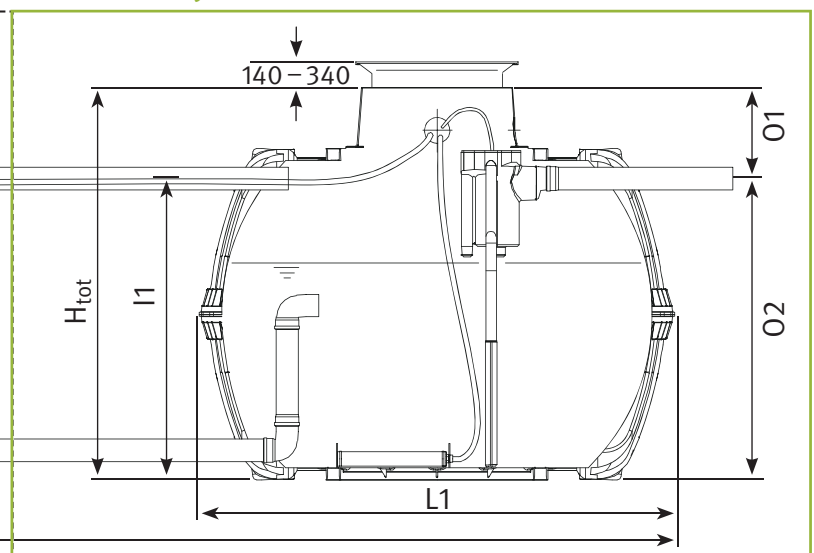
Wastewater parameter	Benchmark parameters Germany	cleaning performance one2clean*	Efficiency factor
COD (chemical oxygen demand)	90 mg/l	26 mg/l	96 %
BOD ₅ (biochemical oxygen demand)	20 mg/l	5 mg/l	99 %
NH ₄ -N (ammonium nitrogen)	10 mg/l	0,4 mg/l	99 %
N _{tot} (total nitrogen)	–	13 mg/l	79 %
FS (filterable substances)	–	6 mg/l	98 %

*Test report: PlA2013-181B14/fka

Two-reservoir system



One-reservoir system



One-reservoir system

Inhabitants	Volume	max. daily flow	Length L1	Height H _{tot}	Inlet I1	Outlet O1	Outlet O2
1–3	2.700 litres (700 US gallons)	450 litres (118 US gallons)	2080 mm (81.9")	1690 mm (66.5")	1490 mm (58.6")	470 mm (18.5")	1210 mm (47.6")
4–5	3.750 litres (1.000 US gallons)	750 litres (197 US gallons)	2280 mm (89.8")	1880 mm (74.0")	1680 mm (66.1")	470 mm (18.5")	1400 mm (55.1")
6–7	4.800 litres (1.250 US gallons)	1.050 litres (277 US gallons)	2280 mm (89.8")	2110 mm (83.0")	1910 mm (75.1")	470 mm (18.5")	1630 mm (64.1")
8–9	6.500 litres (1.700 US gallons)	1.350 litres (356 US gallons)	2390 mm (94.1")	2390 mm (94.1")	2190 mm (86.2")	470 mm (18.5")	1910 mm (75.1")

Two-reservoir system

Inhabitants	Volume	max. daily flow	Length L2	Height H _{tot}	Inlet I1	Outlet O1	Outlet O2
1–7	2 x 2.700 litres (2 x 700 US gallons)	1.050 litres (277 US gallons)	4660 mm (184")	1690 mm (66.5")	1490 mm (58.6")	470 mm (18.5")	1210 mm (47.6")
8–10	2 x 3.750 litres (2 x 1.000 US gallons)	1.500 litres (395 US gallons)	5060 mm (199")	1880 mm (74.0")	1680 mm (66.1")	470 mm (18.5")	1400 mm (55.1")
11–14	2 x 4.800 litres (2 x 1.250 US gallons)	2.100 litres (554 US gallons)	5060 mm (199")	2110 mm (83.0")	1910 mm (75.1")	470 mm (18.5")	1630 mm (64.1")
15–18	2 x 6.500 litres (2 x 1.700 US gallons)	2.700 litres (712 US gallons)	5280 mm (208")	2390 mm (94.1")	2190 mm (86.2")	470 mm (18.5")	1910 mm (75.1")



Rainwater harvesting solutions

For more information about our rainwater harvesting solutions, ask for our catalogue.



www.graf.info

RAINWATER HARVESTING



STORMWATER MANAGEMENT



WASTEWATER TREATMENT SOLUTIONS



MULTIPURPOSE CONTAINERS



Prices:

A price list with our export conditions is available on request.

Warranty clause:

The warranty mentioned in this brochure only refers to the tank in question and not to the accessories. Within the warranty period we grant free replacement of the material. Further benefits are excluded. Pre-condition for warranty benefits are proper handling, assembly and installation according to the mounting guidelines.

N.B. Protect tanks from frost when installed above-ground! In case of groundwater installation, please contact us for further information previous to the purchase!

For all indications of measurements in this brochure we reserve a tolerance of $\pm 3\%$. The useful volume of the tanks may be up to 10 % lower than the tank capacity, according to the connecting option.

Technical modifications and further development of the different products are subject to change. Errors excepted.

For all our offers and conclusions of contract are only valid our General Terms and Conditions of Business dated 01/10/2012 which we will send to you on request.

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PERFORMANCE RESULTS

Otto Graf GmbH

Carl-Zeiss-Str. 2 - 6, 79331 Teningen, Germany

EN 12566-3, Annex B

Small wastewater treatment systems for up to 50 PT

Small wastewater treatment system one2clean

Sequencing Batch Reactor (SBR) process

Test report PIA2015-208B15.e

Nominal organic daily load	0.24 kg BOD ₅ /d		
Nominal hydraulic daily load	0.75 m ³ /d		
Material	polypropylene		
Treatment efficiency (nominal sequences)	Efficiency	Effluent	
	COD	94.7 %	36 mg/l
	BOD ₅	98.1 %	6 mg/l
	N _{tot} *	86.8 %	9.1 mg/l
	NH ₄ -N	88.7 %	4.6 mg/l
	P _{tot}	95.1 %	0.4 mg/l
	SS	95.7 %	14 mg/l
Electrical consumption	0.64 kWh/d		

**determined for temperatures $\geq 12^{\circ}\text{C}$ in the bioreactor*

Performance 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.



Notified Body
No. 1739



Certified according to
ISO 9001:2008



Prüfinstitut für Abwassertechnik GmbH
geprüft - tested - testé

Elmar Lancé

November 2016