

# The one2clean system

The only wastewater underground tank of it's kind!

- ✓ Only one tank with just one chamber required
- ✓ Less energy consumption and less wear
- ✓ No mechanical elements in the wastewater
- ✓ No pumps in the wastewater
- ✓ No electrical components in the wastewater
- ✓ Incredibly low volume of sewage sludge



## one2clean set-up kit

- Conventional wastewater treatment systems require up to three pumping processes. one2clean only requires one pumping process, which 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 system control

- The one2clean has a compact controller
- The microprocessor control system ensures simple operation and maintenance

## Wastewater tank

- Telescopic cover
- State-of-the-art manufacturing for maximum stability
- Suitable for vehicle loading in conjunction with telescopic vehicle dome shaft
- 100% watertight and corrosion-resistant
- Can be installed in groundwater up to the middle of the tank

## Technical data

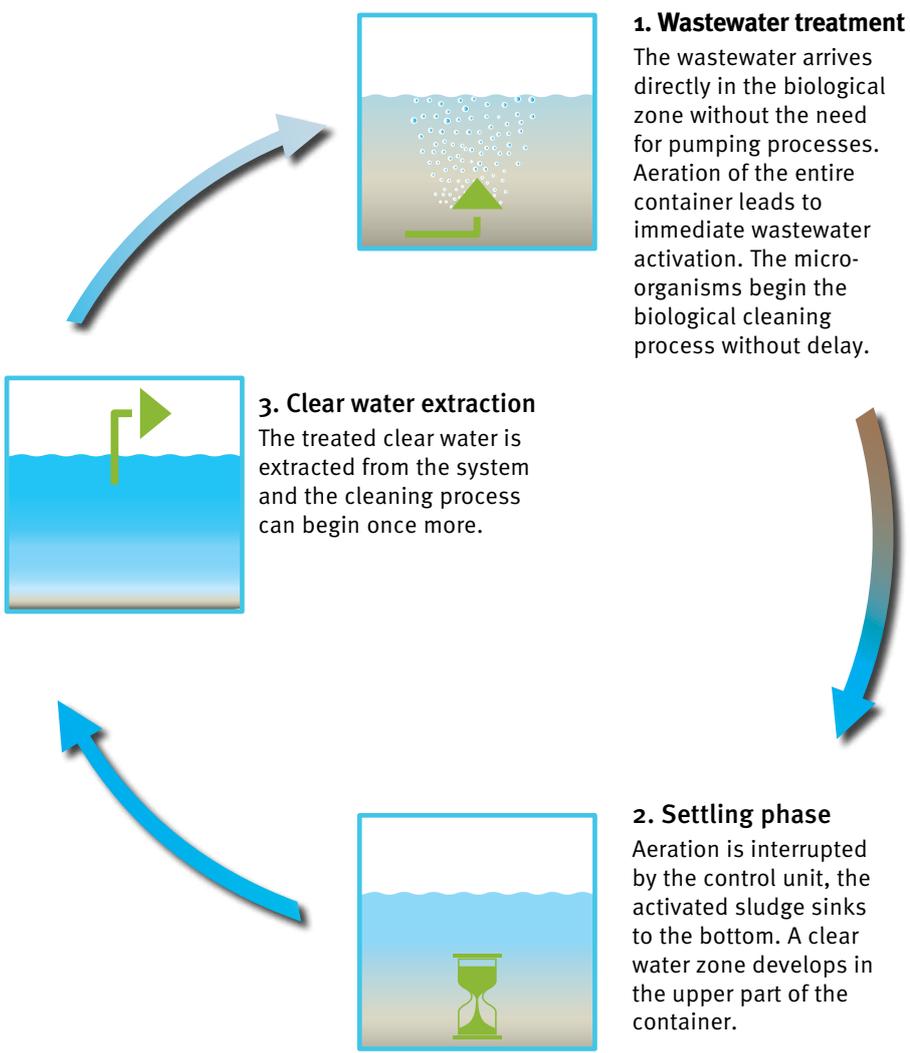
System	one2clean
System conformity	EN 12566-3
Purifying technology	fully biological SBR lifting technology
One-tank systems available up to	9 inhabitants   1,350 l/d
Two-tank systems available up to	18 inhabitants   2,700 l/d
Maintenance interval	1 – 2 per year
Warranty for underground tank	10 years
Warranty for purifying technology	1 or 3 years
Cleaning performance	7, 14, 0.5

Control	
Holiday mode	Manual
+D Removal of nitrogen	●
+C Carbon infeed	○
Logbook function	●
Operation	4 keys
External control cabinet for installing control unit outdoors	○
Daily energy usage	From 0.59 KWH

Parameter	%	mg/l
COD (chemical oxygen demand)	94.2%	43
BOD <sub>5</sub> (biochemical oxygen demand)	98.0%	7
SS (suspended solids)	96.3%	14
NH <sub>4</sub> -N	98.3%	0.5
N <sub>total</sub>	87.0%	7.9
P <sub>total</sub>	80.2%	1.6

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

- Standard equipment
- Available as options
- not available



### 1. Wastewater treatment

The wastewater arrives directly in the biological zone without the need for pumping processes. Aeration of the entire container leads to immediate wastewater 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.

### Incredibly low volume of sewage sludge

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

Conventional wastewater treatment systems



one2clean



### 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

### 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 volume of wastewater 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

one2clean achieves sustainable discharge values with an efficiency factor of up to 99%! This offers high investment security – even if legal requirements become stricter.

#### One-tank system

Inhabitants [max.]	Max. daily flow [l/d]	Max. organic load [kg BOD <sub>5</sub> /d]	Total volume [l]	Volume [l]	Length [mm]	Width [mm]	Height [mm]	Weight [kg]
5	750	0.3	3,750	3,750	2280	1755	1880	150
7	1,050	0.42	4,800	4,800	2280	1985	2110	185
9	1,350	0.54	6,500	6,500	2390	2190	2390	220
12	1,800	0.66	8,500	8,500	3500	2040	2515	380

#### Two-tank system

Inhabitants [max.]	Max. daily flow [l/d]	Max. organic load [kg BOD <sub>5</sub> /d]	Total volume [l]	Volume [l]	Length [mm]	Width [mm]	Height [mm]	Weight [kg]
10	1,500	0.6	7,500	2 x 3,750	5160	1755	1880	300
14	2,100	0.84	9,600	2 x 4,800	5160	1985	2110	370
18	2,700	1.08	13,000	2 x 6,500	5380	2190	2390	440



# Wastewater Treatment

## One2Clean system

### Benefits of the Graf system

- Extremely strong & robust injection moulded underground tank
- No concrete required, just gravel base and backfill
- Completely groundwater stable up to the centre line
- CE Certified system to EN 12566-3
- Market leading effluent quality of 7, 14, 0.5 guaranteed on a 95 percentile basis. SBR Technology
- Integrated sampling chamber at no extra cost
- No moving parts inside the tank, easy to install, easy to maintain.
- Plug in and play system, no wiring required
- 10 year warranty on the tank, 2 years on compressor and parts, German engineered
- Low energy consumption of just 46 kWh per person, per year
- Quiet operation



Graf UK Ltd  
Regen House  
Beaumont Road  
Banbury  
OX16 1RH

T: 01608 661500  
F: 01295 211333  
E: [info@grafuk.co.uk](mailto:info@grafuk.co.uk)  
[www.grafuk.co.uk](http://www.grafuk.co.uk)

Please contact:



Prüfinstitut für  
Abwassertechnik  
GmbH

## PERFORMANCE RESULTS

**Otto Graf GmbH**

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

**EN 12566-3**

Small wastewater treatment systems for up to 50 PT

**Small wastewater treatment system one2clean**

SBR plant in one two-zone polypropylene tank

Test report PIA2014-216B14.01.e

Nominal organic daily load*	0.27	kg/d	
Nominal hydraulic daily load	0.75	m <sup>3</sup> /d	
Material	polypropylene		
Treatment efficiency (nominal sequences)		Efficiency	Effluent
	COD	94.2 %	43 mg/l
	BOD <sub>5</sub>	98.0 %	7 mg/l
	SS	96.3 %	14 mg/l
	NH <sub>4</sub> -N**	98.3 %	0.5 mg/l
	N <sub>tot</sub> **	87.0 %	7.9 mg/l
	P <sub>tot</sub>	80.2 %	1.6 mg/l
Electrical consumption	0.63	kWh/d	

\*at a test influent of  $\geq 300$  mg/l BOD<sub>5</sub> (mean)

\*\*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



Deutsche  
Akkreditierungsstelle  
D-PL-17712-01-00

Prüfinstitut für Abwassertechnik GmbH  
*Elmar Lancé*  
Geprüft - tested - testé

Elmar Lancé

November 2014

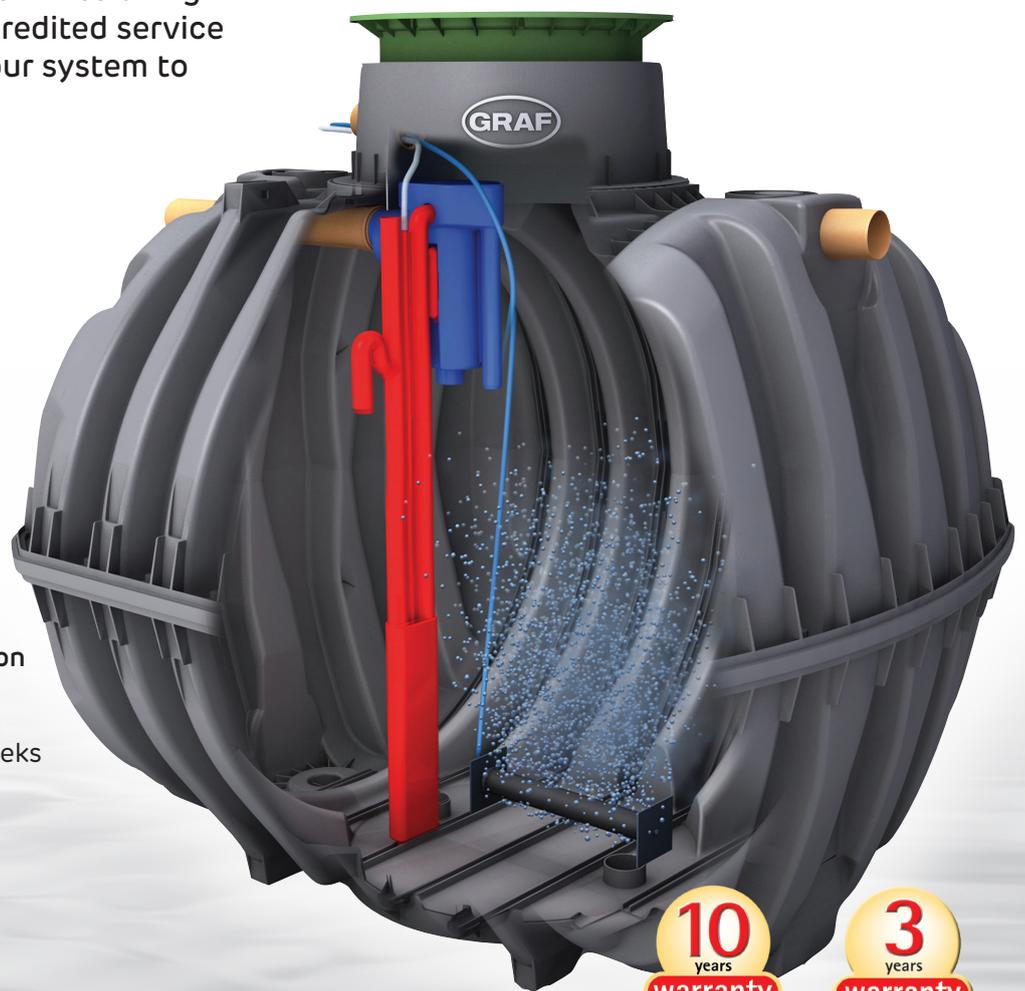
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with **FREE** professional commissioning  
of your wastewater treatment system

It's so important not only to have your wastewater treatment system professionally installed but also commissioned, giving you peace of mind that your investment will operate cost-effectively and correctly, both for yourself and the environment.

Graf UK will arrange **FREE** commissioning of your system by a Graf accredited service provider who will register your system to activate your warranty.



For more information go to  
<https://bit.ly/GRAFFreeCommission>

Book for your free commissioning early as we generally need 2-3 weeks to plan in a commissioning date.

## WASTEWATER TREATMENT WITH GERMAN ENGINEERING

For quality, efficiency and reliability, put your trust in a Graf UK system.



On technology if serviced & commissioned by a Graf UK accredited service provider

Graf UK Limited | Regen House | Beaumont Road | Banbury | OX16 1RH  
T: 01608 661500 | F: 01295 211333 | E: [info@grafuk.co.uk](mailto:info@grafuk.co.uk) | [www.grafuk.co.uk](http://www.grafuk.co.uk)



Wastewater Treatment