



Wastewater Treatment Solutions



WASTEWATER TREATMENT SYSTEMS
SEPTIC TANKS CESSPOOLS INFILTRATION



Headquarters at Teningen near Freiburg



GRAF – solutions for global challenges

Pure, clean water is one of our most important resources. GRAF develops, manufactures and markets an extensive range of products for water management. GRAF provides solutions to global challenges, such as protecting watercourses or preventing flooding, with typical German quality.

Active in over 70 countries, with roots in Germany

GRAF products are exported to more than 70 countries around the world. Despite being highly active abroad, GRAF is also continually investing in its headquarters at Teningen. By constructing its raw materials competence centre in Herbolzheim, GRAF is expanding its German roots yet further.

Sustainably manufactured environmental products

GRAF environmental products are 100 % recyclable and are designed for as long a life as possible. This ensures that fewer resources are used and the environmental impact is minimised. Right from the stage of developing its products, GRAF attaches great importance to sustainable product design. Through years of intensive research, GRAF has managed to replace 70 % of the raw materials used in production with recycled products – without compromising product quality. This also improves the environmental performance of the GRAF product range. Sustainability is also hugely important during the manufacturing process. For example, the waste heat from production is used to heat the production and logistics building.

From pioneer to market leader

GRAF has over 50 years of experience in the development and manufacturing of high-quality plastic products. The company launched its first rainwater barrels in 1974 with the slogan „Rainwater is free“ and soon started marketing other rainwater harvesting products too. GRAF's innovative and user-friendly water management solutions have since made the company a leading system vendor in Europe.

Quality comes first

GRAF uses state-of-the-art production facilities. A high standard of quality in production is an essential starting point for unique products. End-to-end quality assurance and a high level of automation guarantee maximum reliability in production. Because of our high standard of quality, we offer a warranty of up to 15 years on GRAF products.



GRAF and KLARO – two strong wastewater technology brands

Just as the GRAF wastewater tank is a state-of-the-art product, for over 10 years the KLARO brand has been synonymous with reliable wastewater treatment technology. KLARO, the European market leader in SBR wastewater treatment systems with pneumatic lifting technology, has been a member of the GRAF group since 2014. Every GRAF wastewater product therefore benefits from the experience gained from over half a million satisfied wastewater customers and the quality of two established brands in decentralised wastewater treatment.



Manufacturing certified according to ISO 9001



Manufacturing certified according to ISO 50001

Plastic – clear advantages over concrete

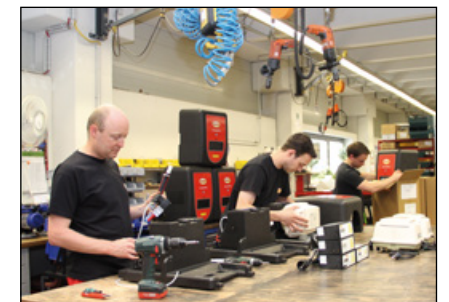
Concrete tanks are at risk of corrosion through constant contact with wastewater and may require expensive refurbishment. Plastic tanks, on the other hand, have smooth inner surfaces that will not corrode. Also, because of their low weight, plastic tanks can be installed without heavy equipment. This means that they can be easily transported and installed in locations that are difficult to access.

Fast responses, even when special solutions are needed

GRAF products are exported around the globe. Intelligent logistics and sufficient stock levels ensure first-class availability of standard solutions, as well as for customised wastewater solutions.



Teningen warehouse



Final assembly of switch cabinets



Final assembly of conversion kits

Small Biological Wastewater Treatment System

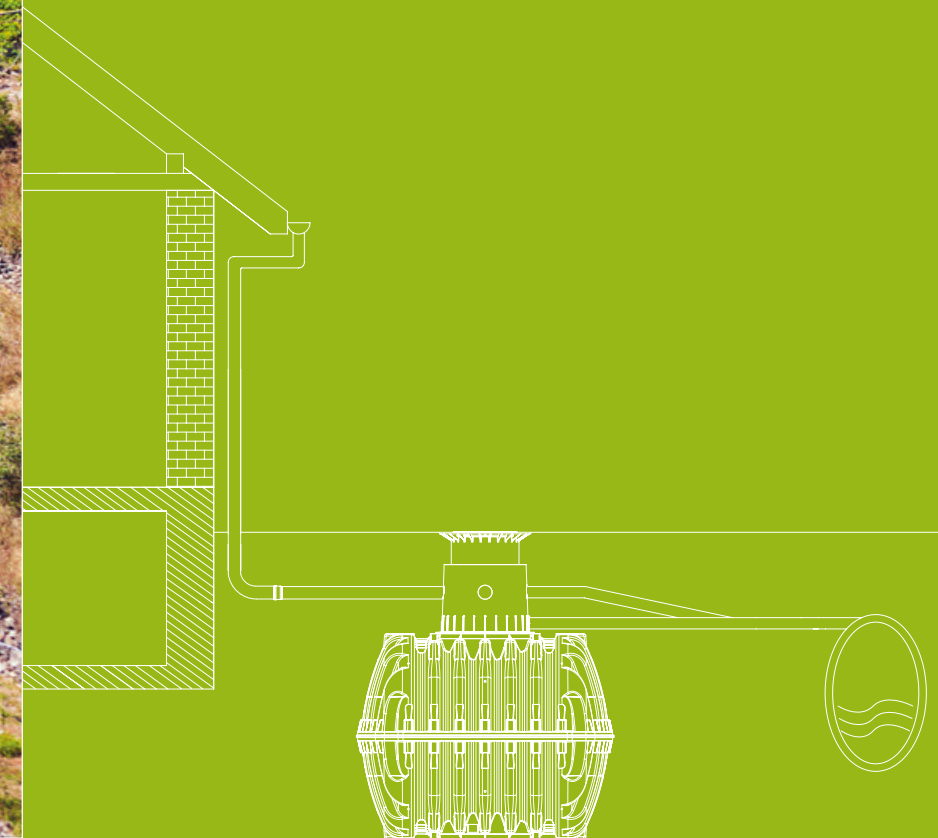
- › one2clean / one2clean plus
- › Klaro E Professional
- › Klaro E Professional for retrofitting
- › Accessories

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one2clean / one2clean plus – Facts

3 – 18 PE (450 – 2,700 l/day)



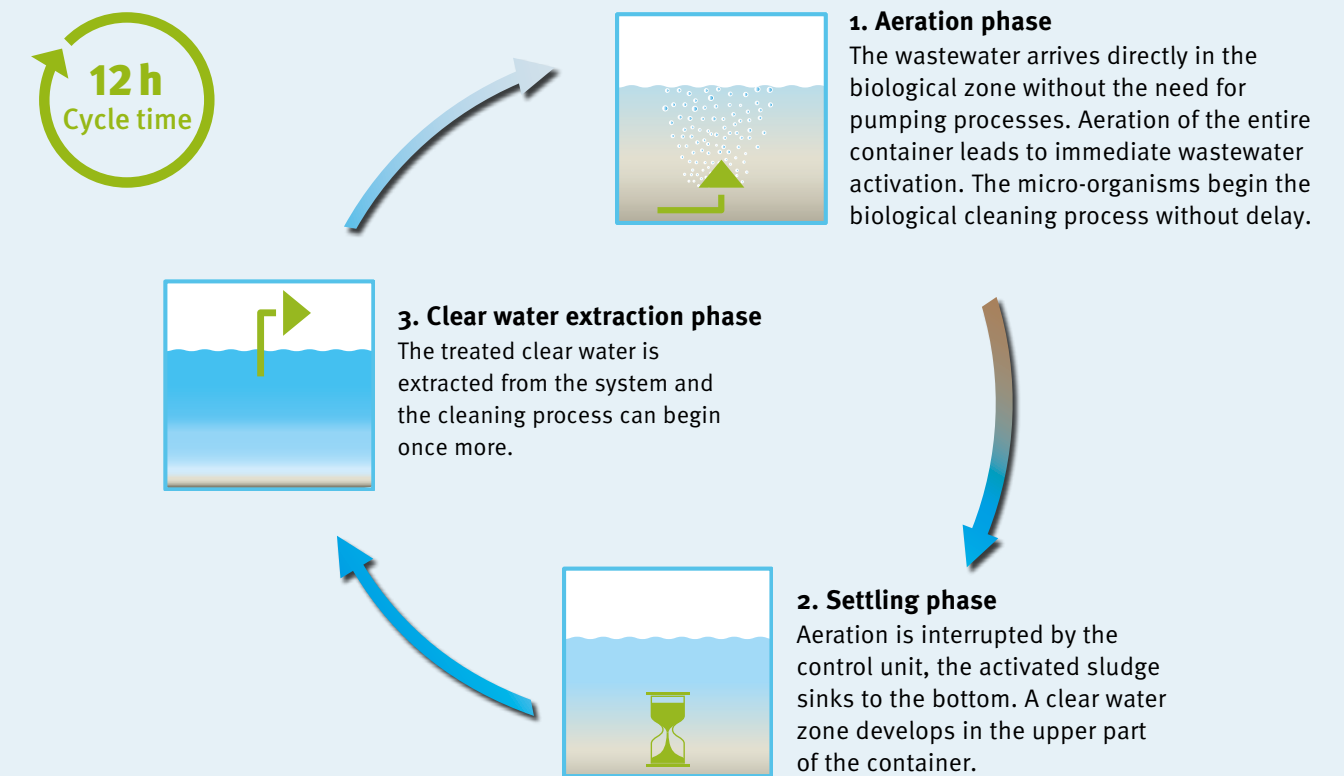
Why use the one2clean system?

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

- **Excellent cleaning performance**
Even during load fluctuations and underload
- **Great value for money**
- **Double sludge storage volume**
- **Low sludge removal**

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 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 *

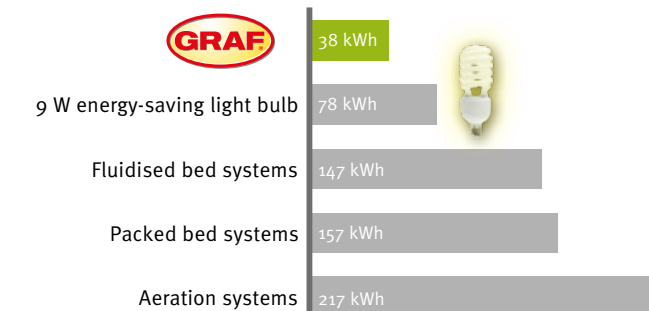
one2clean already meets the needs of tomorrow

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.

✓ Minimal power consumption



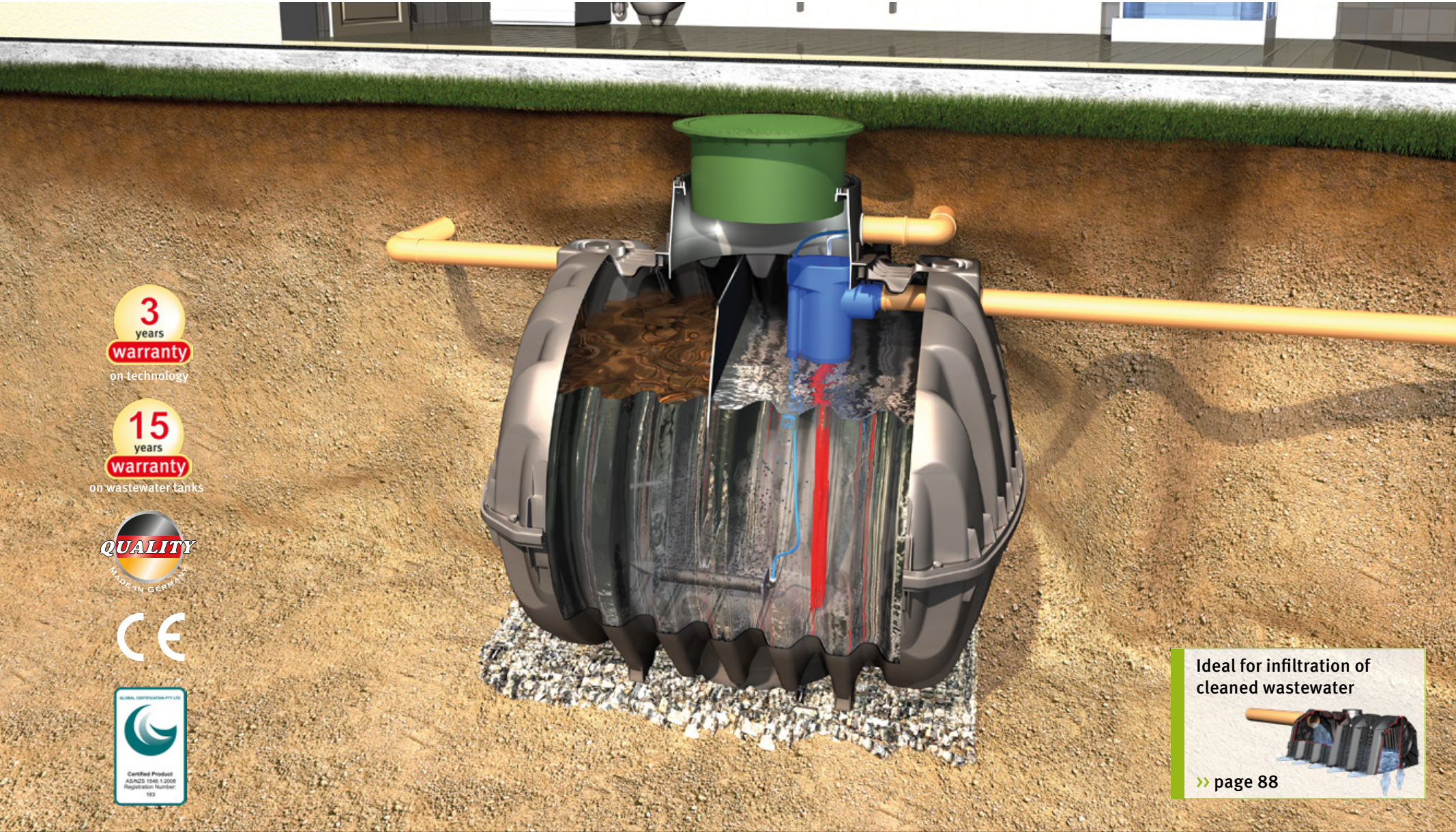
Only 38 kWh per person and per year!



* Manufacturer's operating and installation instructions must be adhered to.

one2clean / one2clean plus

One-tank and two-tank systems



Ideal for infiltration of cleaned wastewater



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Technical data

		
System	one2clean	one2clean plus
System conformity	EN 12566-3	EN 12566-3
Purifying technology	fully biological SBR lifting technology	fully biological SBR lifting technology
One-tank systems available up to	9 inhabitants 1,350 l/d	9 inhabitants 1,350 l/d
Two-tank systems available up to	18 inhabitants 2,700 l/d	18 inhabitants 2,700 l/d
Maintenance interval	1 – 2 per year	1 – 2 per year
Warranty for underground tank	15 years	15 years
Warranty for purifying technology	3 years	3 years

Parameter				
COD (chemical oxygen demand)	94.2 %	43 mg/l	94.7 %	36 mg/l
BOD ₅ (biochemical oxygen demand)	98.0 %	7 mg/l	98.1 %	6 mg/l
SS (suspended solids)	96.3 %	14 mg/l	95.7 %	14 mg/l
NH ₄ -N	98.3 %	0.5 mg/l	88.7 %	4.6 mg/l
N _{total}	87.0 %	7.9 mg/l	86.8 %	9.1 mg/l
P _{total}	–	–	95.1 %	1.6 mg/l
eColi	–	–	99.9 %	–

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

Accessories:

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One-tank system one2clean / one2clean plus

Q Webcode G5104 Q Webcode G5113

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	1556	1690	120
4 – 5	750	0.3	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 RS underground tank, tank dome, telescopic dome shaft, one2clean system pack for one-tank system (>> page 74 – the GRAF modular system). Please order the air hoses separately (>> page 29). *Total measurement

Two-tank system one2clean / one2clean plus

Q Webcode G5105 Q Webcode G5114

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	1556	1690	240
8 – 10	1,500	0.6	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 RS underground tanks, tank domes, telescopic dome shafts, one2clean system pack for two-tank system (>> page 74 – the GRAF modular system). Please order the air hoses separately (>> page 29). *Total measurement

Additional modules

+K and +D modules included

+H Hygiene modules

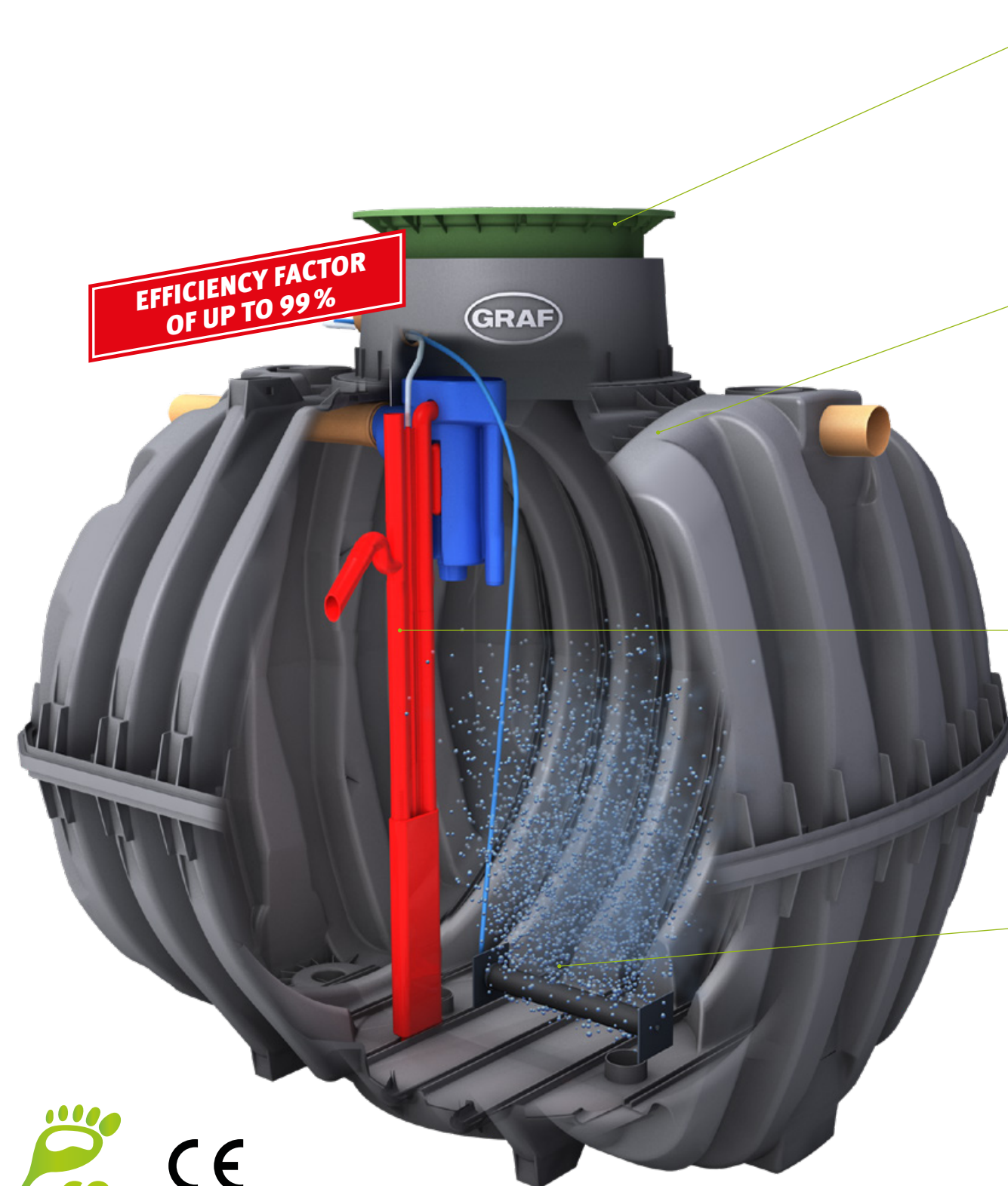
+R Remote transmission modules

+P Phosphate removal module

+O Pump-operated outlet module

+C Carbon infeced module

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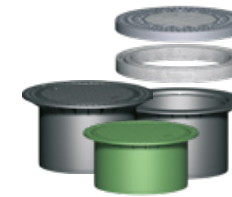


Components and Benefits

Covers

- Suitable for pedestrian or vehicle loading
- Adjustable in height
- Inclinal up to 5°

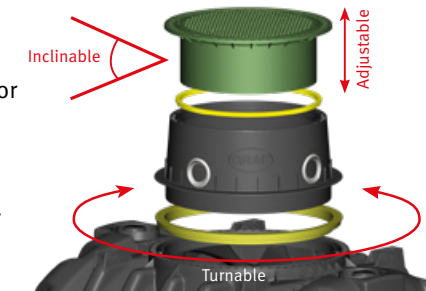
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- ✓ Enables flash ground installation
- ✓ Nice looking cover
- ✓ Allows small corrections of height on-site
- ✓ Reduction of installation cost

Wastewater tank

- State-of-the-art manufacturing for maximum stability
- 100% watertight and corrosion-resistant
- Can be mounted in groundwater
- Unique fit accuracy of the component



- ✓ Self-anchoring saves installation costs
- ✓ Up to 12 to loading, enables installation under car park (flexible choice of location)
- ✓ Tank made of 100% recycling material, environmentally friendly invest

Installation kit

- Only one clear water lifter
- Rugged clear water lifter manufactured in one seamless piece
- Simple maintenance via an integrated, self-cleaning sampling container
- No electrical part in the tank



- ✓ Fast installation
- ✓ Saves installation costs
- ✓ Keeps service costs to a minimum
- ✓ Easy access for service company

one2clean / one2clean plus control cabinets

- Simple handling thanks to micro-processor control
- Energy-saving
- Extremely quiet
- Battery-free power failure detection (for one2clean plus)
- Just one tank with one chamber needed



one2clean



one2clean plus

- ✓ Incredible cost saving due to very low power consumption
- ✓ System can be easily adjusted if required which will reduce costs for technician



- ✓ Incredibly little sewage sludge
 - Reduces running costs
 - Keeps environment clean
- ✓ Flexible selection of the control cabinet's position