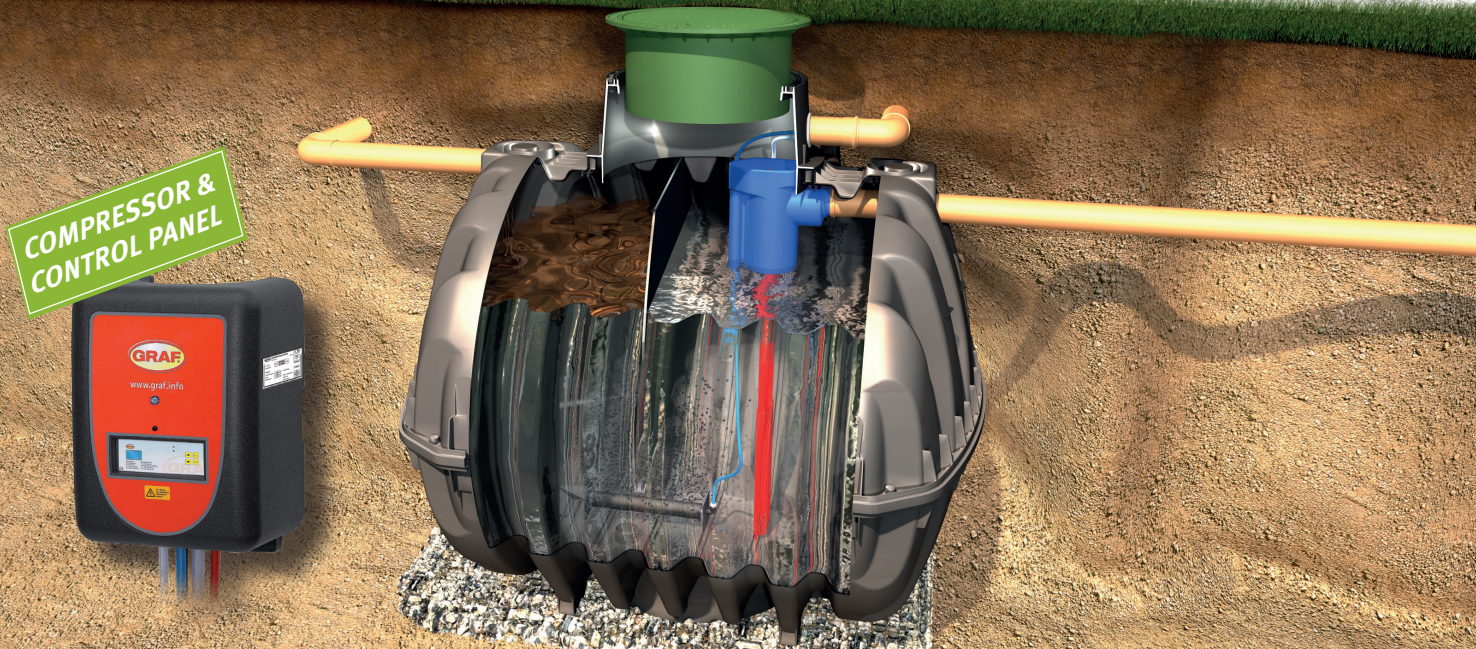


GRAF Advanced Wastewater Treatment System



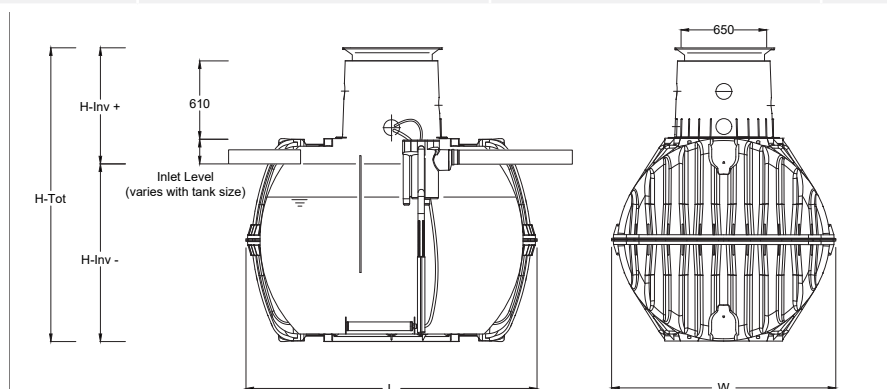
Advanced wastewater treatment system

- Telescopic manhole cover, offers variable invert levels
- Low power consumption
- Self anchoring tank
- No concrete backfill required
- No electrical components inside the tank
- High treatment performance
- Long sludge storage period
- Integrated sampling chamber inside the tank

Scope of supply

- ① GRAF advanced wastewater tank with diffusers, air lifter for clear water extraction and intergrated sampling chamber
- ② Telescopic manhole cover, suitable for either pedestrian or vehicle loading
- ③ 2 number 20m SBR hoses, 19mm used for aeration and 13mm for clear water extraction
- ④ GRAF advanced wastewater treatment control unit with compressor
- ⑤ Optional EPP external housing cabinet for control panel and compressor

Population Equivalent	5 PE	7 PE	9 PE
Tank	3750 litres	4800 litres	6500 litres
Max. Daily inflow	750 l/d	1050 l/d	1350 l/d
Weight with mini tank dome	146kg	181kg	220kg
Weight with maxi tank dome	150kg	185kg	220kg
L	2280mm	2280mm	2390mm
W	1755mm	1985mm	2190mm
H-Inv -	1,370mm	1,600mm	1,840mm
H-Inv +	950 to 1460mm		
H-Tot	2200 to 2790mm	2250 to 3020mm	2530 to 3300mm



How the system works

Untreated waste enters the tank via the inlet on the side of the tank. The wastewater falls directly into the biological zone where the treatment is taking place, this allows the micro-organisms to start the breakdown process without delay.

Compressed air is sent to the treatment plant via the control panel. This air is initially used for aeration through the diffuser. The aeration process is intermittent to achieve the best treatment performance. Aeration

+P Phosphate Removal Package - When would you need it?

Depending on where you live and what watercourse your system is discharging to, your local environment agency may require your wastewater treatment plant to be able to remove phosphates from the effluent.

This is required as too many phosphates can cause irreversible changes to an Eco-system by increasing production of algae, depleting fish stocks and deteriorating the water quality in general. Many UK watercourses have previously had high numbers of untreated septic tanks & treatment plants feed in to them, with no mitigation of the phosphates, and so are now at a critical point where no further untreated

is then stopped to allow for the waste to sink to the bottom of the tank.

Compressed air is then sent to the plant again to extract the cleaned water near the surface, via the red air-lift. This water passes through a sampling chamber before leaving the plant, where samples can be taken to confirm the quality of the effluent. The above process occurs twice per day, each lasting 12 hours.

domestic wastewater can be allowed to enter.

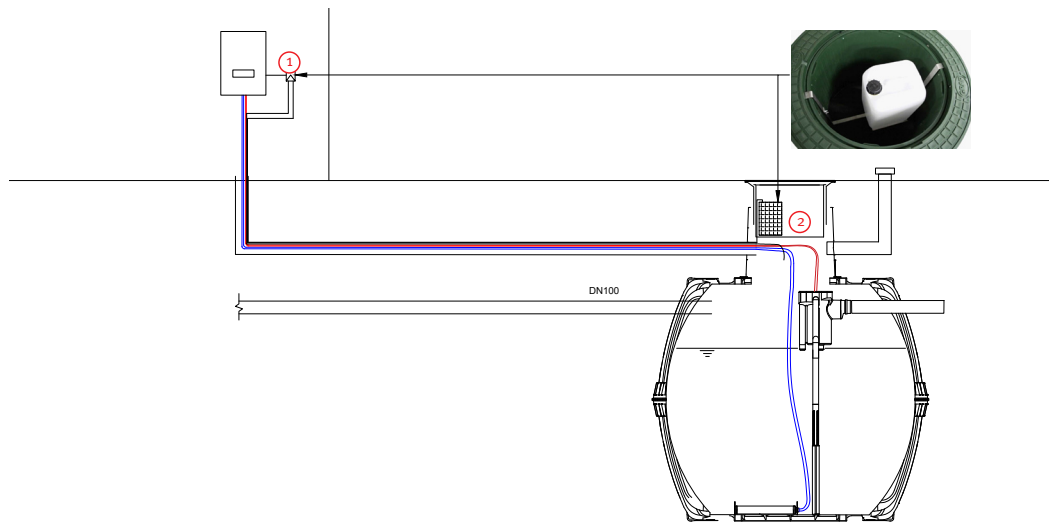
Our system works by adding a polyaluminium chloride solution in to the tank, which is carefully dosed to the correct amounts depending on your system size. This chemical essentially reacts with the phosphates and effectively lowers the levels. The Graf system has been tested independently, and can achieve a market leading phosphate level as low as 0.4 mg/l in the final effluent.

It is important the PAC solution is regularly checked and replaced as necessary to ensure these low levels are maintained

+P Phosphate Removal Package - How does it work?

Systems delivered with the phosphate removal package come with the necessary peristaltic pump in the cabinet. The pump has a suction hose and delivery hose which takes solution from a canister and doses this to the treatment plant. The runtime of the dosing pump is determined by the time set for the pump in the service menu of the treatment plant control panel. The amount of precipitant added is therefore dependent on the set time. The large Compact pump has a potentiometer for

setting delivery rate. In order to start up the precipitant device, the precipitant container must be placed in a frost-proof location. The intake and delivery hoses should also be laid in frost-free areas. The delivery hose is to be routed into the SBR reactor and placed inside the reactor with the outlet located above the reactor basin, ensuring that the precipitant flows directly into the wastewater to be treated and does not dampen any components.



- ① The control panel is preset to dose the required amount of solution, based on the system's requirements

The +P package provides precipitant dosing for the reduction of phosphates in the effluent, which would otherwise damage the environment.

This system is tested and certified according to EN

- ② The precipitant solution is housed in a container in the dome of the tank. The dosing pump draws the solution via a small hose before depositing it back into the SBR reactor. Maxi dome required if canister is located in turret on tank

12566-7 by the notified body PIA GmbH. The systems are additional stages of treatment for Graf wastewater treatment systems, which are fitted with a KL24plus or KLplus control unit.

For further information please call us on 01608 661500
or visit our website www.grafuk.co.uk

