

# the tank system

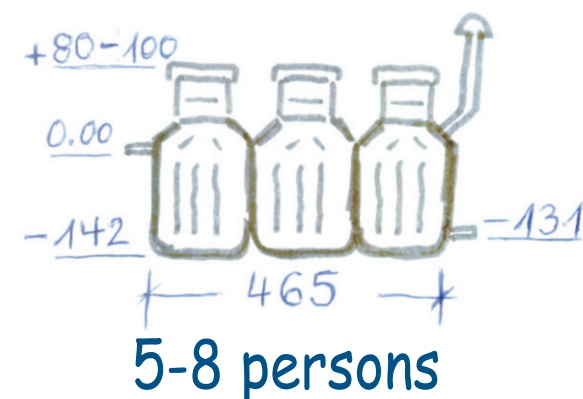
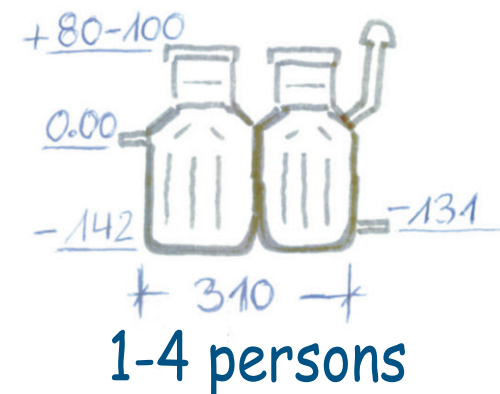
## longlife warranty

15 years on tanks  
(under proper use)



**clearfox**<sup>®</sup> nature is  
installed in **aquaplast**<sup>®</sup>  
polyethylen tanks which  
are well known for high  
quality on market:  
info: [www.aquaplast.de](http://www.aquaplast.de)

## modulesystem size



## some benefits



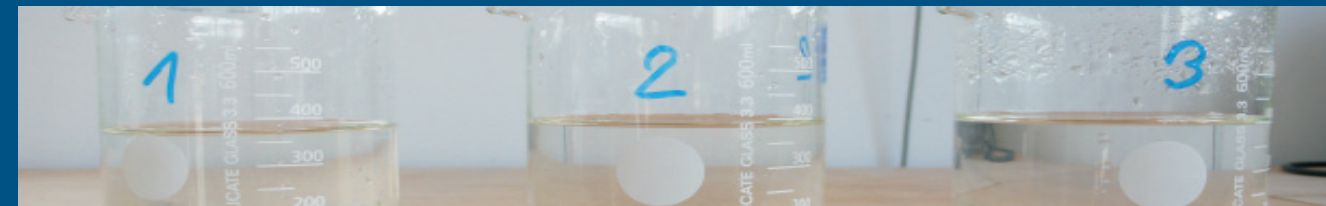
easy handling (max.125 kg)  
universal extensions  
long life time  
special reinforcements

## tests & certs

stability: vertical load : PIA2007-BT-010  
(PIT) horizontal load : PIA2010 PIT1003 ST-100  
water-resistance: PIA2007-WD001  
hydraulic efficiency: PIA2007-HW-002  
material: durability polyethylene acc. EN 12566-3 An.  
production: quality assurance system ISO 9001-9008

## PPU Umwelttechnik GmbH

PPU was founded in year 2007 especially for developing small waste water treatment plants. (SWWTP).  
Our staff has **experience for more than 15 years** in waste water treatment, more than **18.000 plants** have been built in this time in sizes from **2-5000 persons**.  
Our technical team provides resellers and our licencees with: training for maintentance, operation, installation ...- we are just partner for all questions about waste water treatment.  
As we are members in the leading German water associations we always keep up to date and offer the state of art.



Next to the mass business of SWWTP we offer standard-solutions for **industrial water treatment** (especially for foodindustry) from the first laboraty analysis, via piloting systems, designing .... the complete range in order to get an economic solution and a satisfied customer.  
In this way over "product" ClearFox nature you will get access to a big pot of experience and service. Join us !

## contact:

PPU Umwelttechnik GmbH  
Bernecker Strasse 73  
95448 Bayreuth / Germany  
TEL: +49 (0)921-150639-90 FAX-99  
eMail: [info@ppu-umwelttechnik.de](mailto:info@ppu-umwelttechnik.de)  
web (company): [www.ppu-umwelttechnik.de](http://www.ppu-umwelttechnik.de)  
web (product) : [www.clearfox.de](http://www.clearfox.de)  
web (tank): [www.aquaplast.de](http://www.aquaplast.de)



## reseller:



fully biological

# small sewage treatment plant without electricity

gem. EN 12566-3

### NOTE:

- no moving parts ✓
- no electricity ✓
- sludge treatment ✓
- less maintenance ✓



## options

In case of **not enough gravity** for electroless operation an energy module (Solarpower) with mini-pump -to lift the water- is available. Alternatively can be used a 220 V mini-pump.

For a **fast start up** the carrier elements can be enriched with enzymes.

For using the effluent as process water or reuse a **hygienic module** can be connected after the plant.

If you want **avoid sludge disposal** a textile screen (filter bag) is inserted in the prechamber in order to compost the filtrated solids.

You have a **need for anything?**  
Please ask us !

**ClearFox®**  
[nature]



The development of this system is exceptionally supported as an "eligible, innovative, new technology" by the  
**BAVARIAN MINISTRY OF AFFAIRS,  
INFRASTRUCTURE,  
TRAFFIC AND TECHNOLOGY**



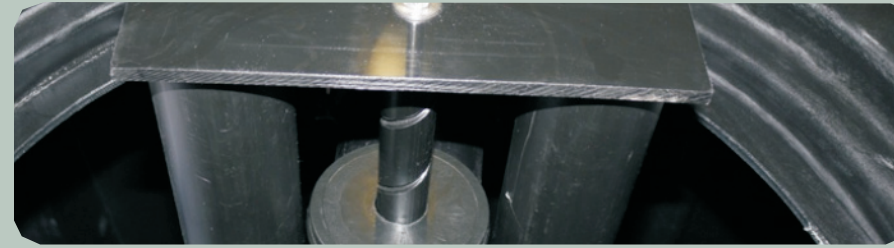
**ClearFox nature** is a prefabricated small sewage treatment plant, according to Euro standard 12566-3, which is manufactured in a range of size from 1-8 persons (p.e). The treated effluent water can be charged into a percolation area/underground soakaway, in watercourses or even returned back to reuse this water after a treatment. If there is enough gravity, the system can operate without any electricity. The cleaning process happens in three stages. The raw sewage water enters the primary treatment. The primary sludge settles and is reduced by digestion undisturbed in



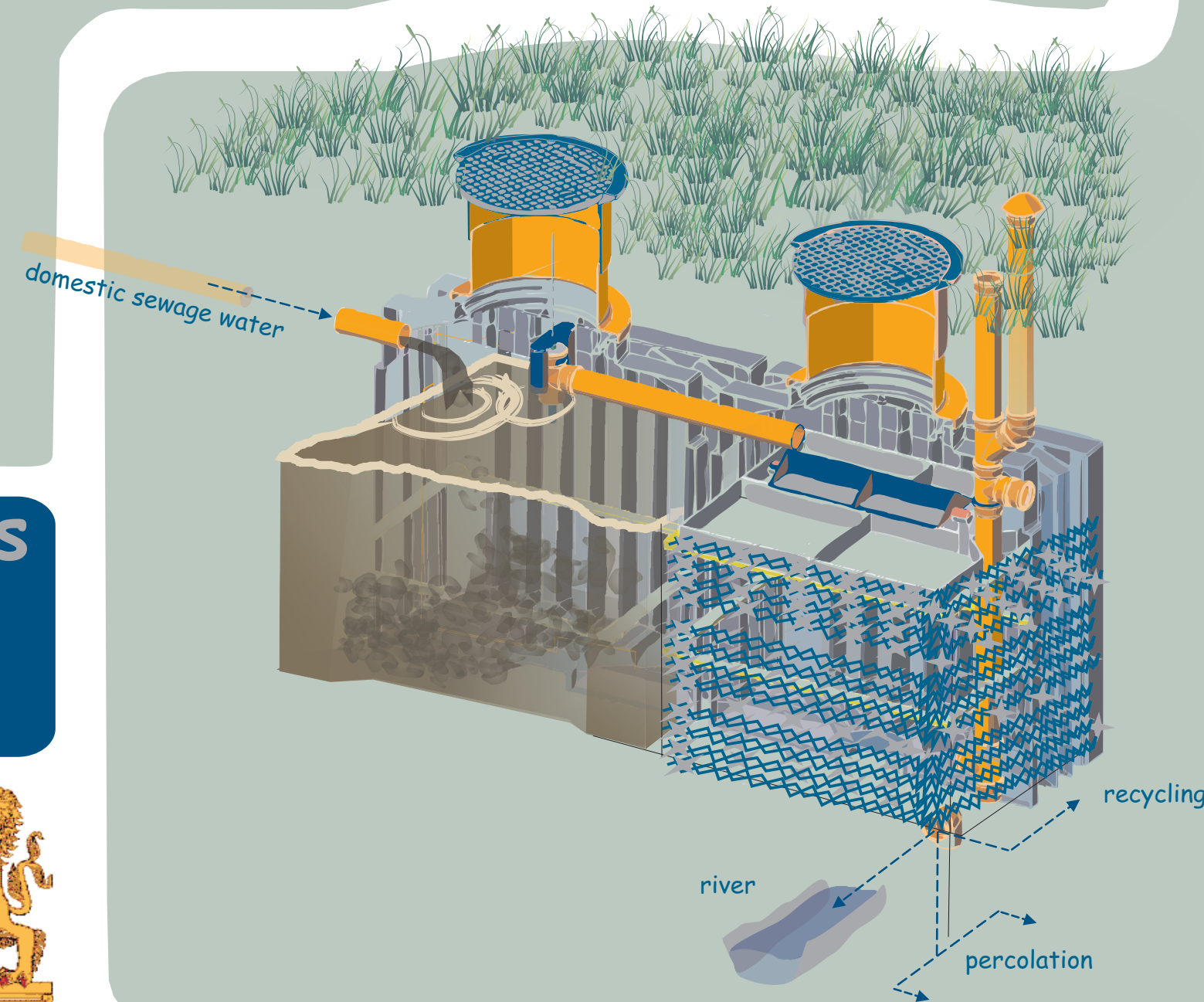
## new technology

The effluent from the pretreatment fills the tip, which drains the water (with a flush) onto the distribution base. The sewage spilled into the underlying system of filling elements and passes it from the top to the bottom. On the carrier elements settle bacteria, who clean the water. By means of the so-called cascaded plug flow the water is purified in one single pass completely. Parallel to this the increasing secondary sludge is reduced in volume and biological degraded. The rest volume is discharged with the effluent, the concentration is still below the legal requirements. This technology is the first time applied in a small sewage treatment plant. Due to this there is no additional clarifier necessary such as in a conventional biofilm system.

the absence of air volume. At the end of the pretreatment, the hydraulic flow is reduced, the hydraulic peaks are buffered and balanced out over the day. The mechanical treated effluent is then constantly passed over the day in the following bioreactor. The bioreactor consists of a system of aeration and carrier elements that are arranged in a defined order in layers one above the other. To distribute the water on the upper surface of the bioreactor there is an equipment, consisting of a tip and a distribution base.



The system of filling material, with his loading facility is in balance with the degradation, biomass distribution and rinsing. Therefore, the filling elements must not be cleaned or replaced as in biofilters, the usage is - by proper operation- for lifetime totally without any changes. The simple structure and the used biofilm technolog makes this system ideal for decentralized structures. Main features are a very stable operation (underload, overload no problem), and enormous cost savings in the long run, because of less disposal costs and no use of moving parts !



## cost saving & natural

- + no electricity
- + less maintenance
- + less sludge removal

## innovative & long living

- + effluent quality for future
- + sludge treatment
- + no replacement of materials

## just simple & safe

- + overload/underload no problem
- + plug & play
- + no moving parts



my way for  
water cleaning !

