WATER MANAGEMENT

GreenLife™

www.greenlife-solutions.de
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WATER MANAGEMENT

ECOLOGICAL AND SUSTAINABLE

GreenLife - is specialized in developing, manufacturing and servicing innovative and high-quality water management systems for residential complexes, commercial buildings, sports facilities, hotels and offices. GreenLife works closely with architects and planning offices and supports rainwater harvesting as an ecologically and economically sensible alternative across Europe.

The smart systems for treatment of greywater can be used wherever drinking water is not necessary. These systems can be used for recycling greywater that is biologically cleaned and purified. The water from, e.g. showers, sinks and bathtubs can be used for flushing toilets, running washing machines, cleaning and watering gardens.

Smart plant engineering

- indoors and outdoors versions
- for combination with rainwater harvesting and greywater-recycling systems
- remote control
- monitoring

GREENLIFE GMBH

OUR PHILOSOPHY

Our company operates with the highest possible environmental awareness.

Roofs of our buildings collect rainwater, which is treated and stored in underground tanks made of plastic. In this way, we provide ourselves with self-sufficient, individual water supply. Our offices and production facilities are supplied entirely with treated rainwater, our toilets are flushed only with recycled greywater. Rainwater in our area are retained as much as possible.

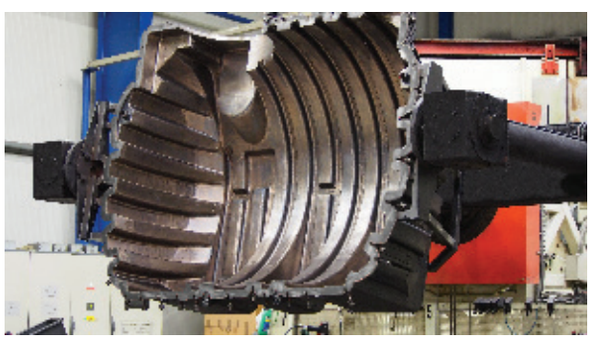
We try to run our production in the most climate-neutral way. Heat demand of buildings are covered with the surplus of heat generated in the production process or by heat collecting heat from the air. Our company is located in the drinking water protection zone.

What we do:

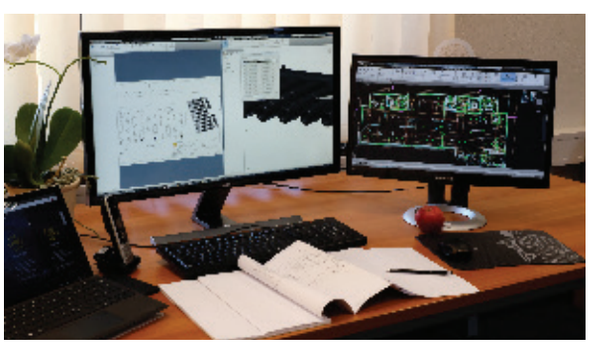
- for the production, we use as much recycled plastics (polyethylene) as possible
- moreover, a new material we use ecological polyethylene without the addition of plasticizers and other pollutants
- our machines work according to the latest standards and they are very energy efficient
- process residues of plastics are reprocessed in the production process (ground) and used again
- we use the heat generated in the production to heat the floor in our halls
- our process water is obtained from rainwater
- our toilets are flushed with recycled greywater and rainwater

GreenLife - Your specialist in processing of plastics, currently uses three different production technologies. Depending on the product requirements and the amount of produced parts, we use the following techniques:

- rotary sintering
- extrusion blow
- injection moulding

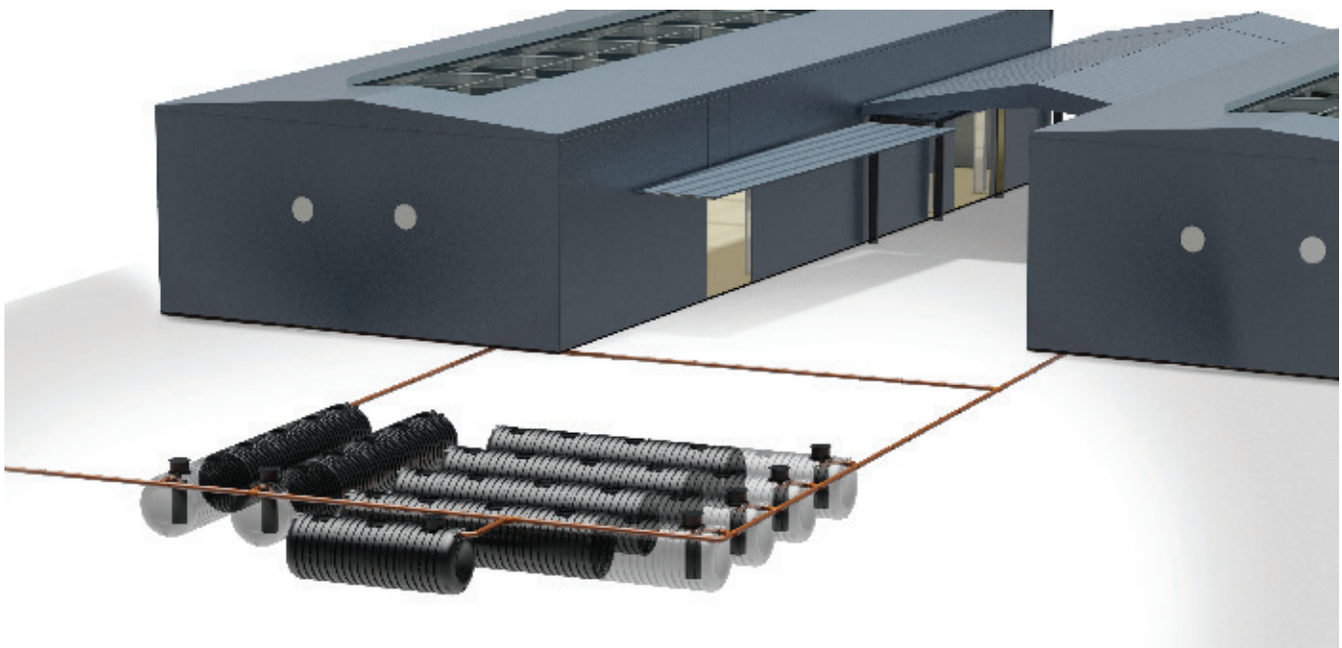


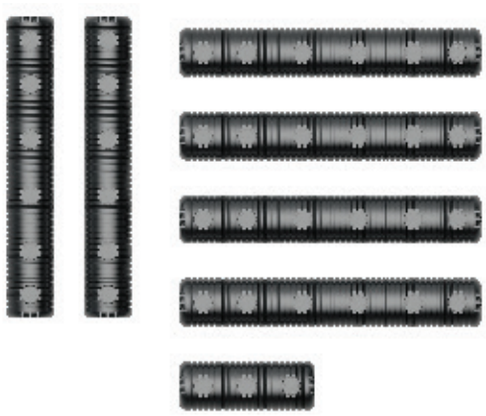
GreenLife - we continuously developed our skills, production and consultancy in the field of innovative and high-quality water management systems - we work in the following areas:



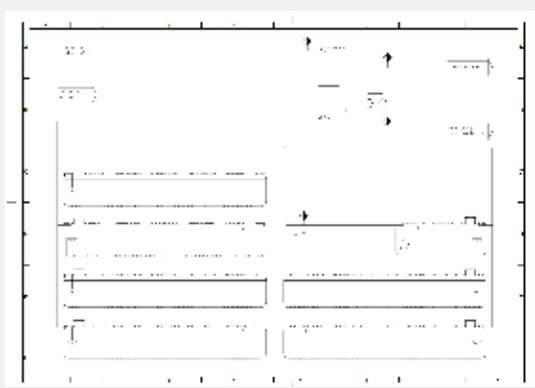
- product development
- engineering / construction
- design and project supervision

VOLUME TANKS GVT





- easy handling and installation
- highest stability
- optional accessories for car and truck trafficability
- versions of 11,7 up to 99,8 m^3
- installed equipment – like Biovitors, pumps



P&I SCHEME

VOLUME TANKS GVT

The volume tanks GVT are made of high-quality polyethylene and they are available in different variations and additional options:

- retention tanks
- fire-fighting water storage tanks
- separator systems
- waste water collection tanks
- for installations of waste water treatment systems
- for colling and process water

Tank	Tank capacity	Length in mm	Diameter in mm	Height in mm	Weight in kg	Item No.
GVT 11.7	11.700	3.500	2.200	2.650-2.895	550	G0003017
GVT 20.5	20.500	6.000	2.200	2.650-2.895	830	G0003018
GVT 29.4	29.400	8.500	2.200	2.650-2.895	1.110	G0003019
GVT 38.2	38.200	11.000	2.200	2.650-2.895	1.390	G0003020
GVT 47.0	47.000	13.500	2.200	2.650-2.895	1.670	G0003021
GVT 55.8	55.800	16.000	2.200	2.650-2.895	1.950	G0003669
GVT 64.6	64.600	18.500	2.200	2.650-2.895	2.230	G0003670
GVT 73.4	73.400	21.000	2.200	2.650-2.895	2.510	G0003671
GVT 82.2	82.200	23.500	2.200	2.650-2.895	2.790	G0003672
GVT 91.0	91.000	26.000	2.200	2.650-2.895	3.070	G0003673
GVT 99.8	99.800	28.500	2.200	2.650-2.895	3.350	G0003674

BIOVITOR

Legend:

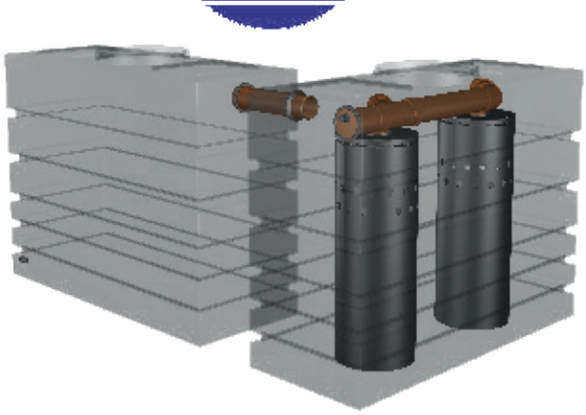
1. rainwater inlet
2. cover, screwed
3. Biovitor tank made of 100% environmental polyethylene
4. overflow to the tank
5. calmed inlet
6. mineralized remains settle on the bottom
7. foam for enlarging the growth space of microorganisms in order to obtain optimal purification conditions
8. bio-action space for the degrading of organic components

Biovitor purifies rainwater using patented method of biological treatment. The dimensional proportions of chambers and passages, which are perfectly sized and optimized for processes, ensure optimal biological processes with the highest efficiency.

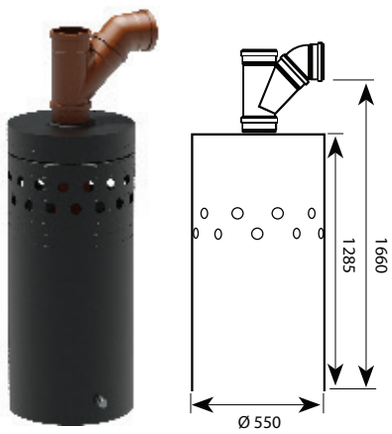
patented technology

Convincing arguments

- high water yield, as no rainwater is lost due to dirty filters
- requires only occasional servicing (every 10 years)
- easy to retrofit
- no expandable parts
- more than 20 years experience
- more than 5.000 Biovitors installed

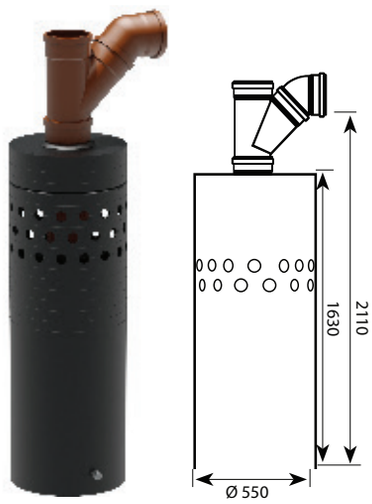


BIOVITOR



BIOVITOR DN 150

- Intended use: inside the tank
- Inflow: DN 150
- Max. connected surface (m^2): at max. 300 l(s/ha) 340
- Item No. G0002975



BIOVITOR DN 200

- Intended use: inside the tank
- Inflow: DN 200
- Max. connected surface (m^2): at max. 300 l(s/ha) 700
- Item No. G0002889

BIOVITOR DN 250

- Intended use: inside the tank
- Inflow: DN 250
- Max. connected surface (m^2): at max. 300 l(s/ha) 1200
- Item No. G0002976

BIOVITOR DN 300

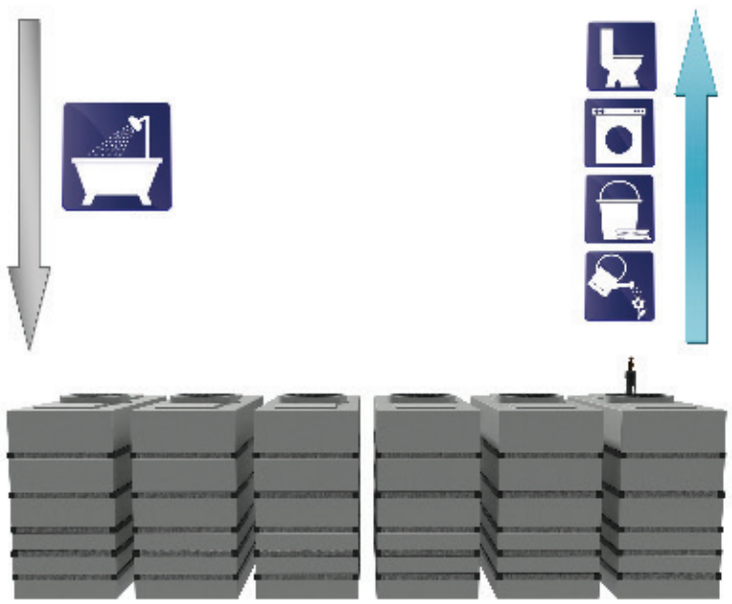
- Intended use: inside the tank
- Inflow: DN 300
- Max. connected surface (m^2): at max. 300 l(s/ha) 2200
- Item No. G0002977

GREYWATER-RECYCLING-SYSTEMS

HIGH LEVEL OF SAFETY DUE TO PATENTED PROCESS

Sustainable GreenLife water management

The use of rainwater and/or reuse of certain portion of wastewater e.g. greywater, significantly helps to reduce the constantly increasing costs of water and wastewater. Greywater is wastewater generated during daily care for human body - i.e. it comes from sinks, bathtubs and showers, and is therefore almost inexhaustible resource, while rainwater is also available. Greywater is not highly contaminated, it is free from faecal matter and solids, and includes only slight amount of bacteria. It is collected in a separate network of pipes and possibly separated along with the treated rainwater.



The operation principle of GreenLife greywater-recycling-systems

The technology of bio-membrane filters guarantees full separation of the biomass from the purified greywater. In this way, the user may obtain purified water free of solids and with removed all bacteria and viruses in almost 100%. The overall purification process consists of a biological treatment and ultrafiltration (membrane bio-reactor MBR). After that water is stored in the purified water tank or transferred to the rainwater tank.

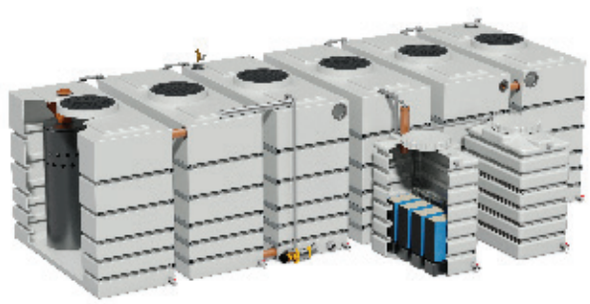
Operation sites for greywater-systems:

- hotels / pensions
- boarding houses, dormitories, youth hostels, camping sites
- sports facilities
- swimming pools and saunas
- single- and multi-family houses
- industry and crafts

Result:

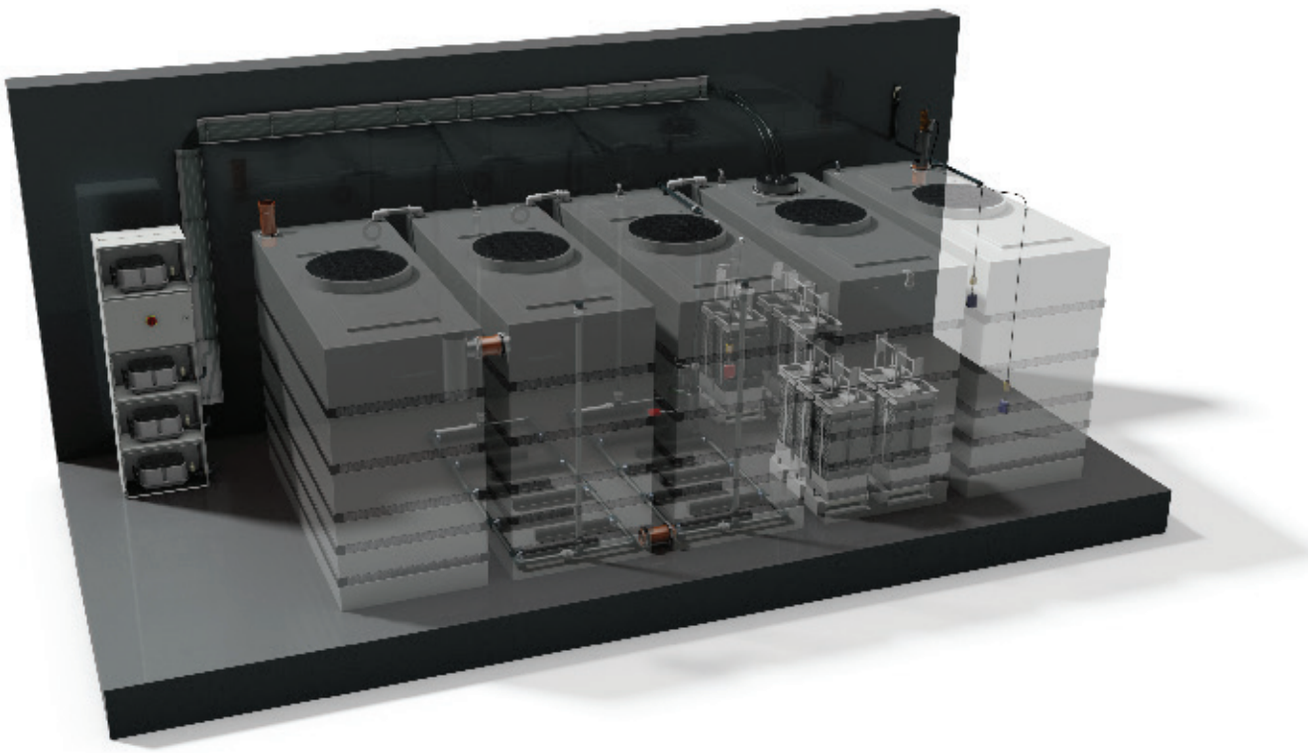
Generated water presents no hygiene risk and it is suitable in particular for:

- flushing toilets
- watering gardens
- cleaning
- washing



GREYWATER-RECYCLING-SYSTEMS

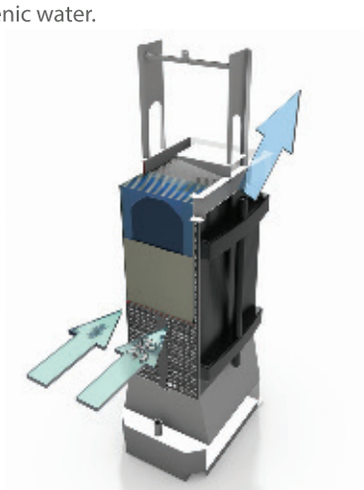
HIGH LEVEL OF SAFETY DUE TO PATENTED PROCESS

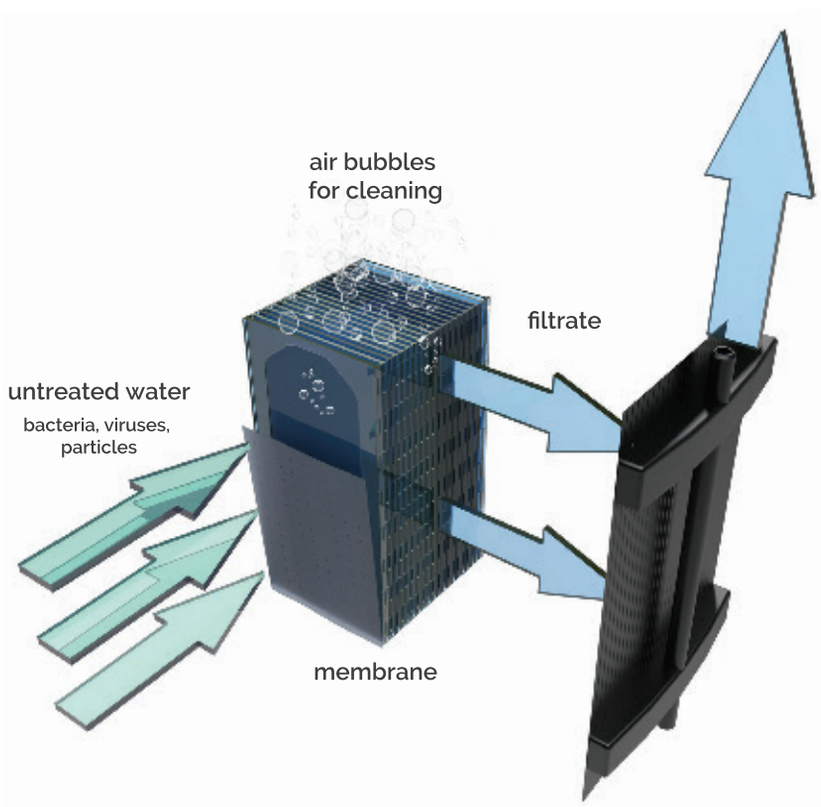


The heart of greywater-systems: Patented membrane filter

Maintenance costs are extremely low: Once a year you should inspect the operation of system components and if required simple backwashing the filter membrane. Membrane filter may treat greywater for many years, supplying clean hygienic water.

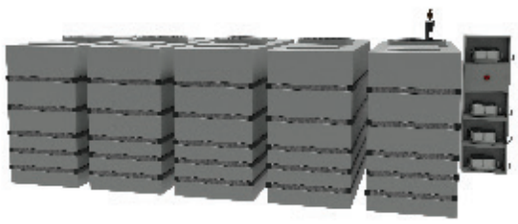
patented technology





GREYWATER-RECYCLING-SYSTEMS

HIGH LEVEL OF SAFETY DUE TO PATENTED PROCESS

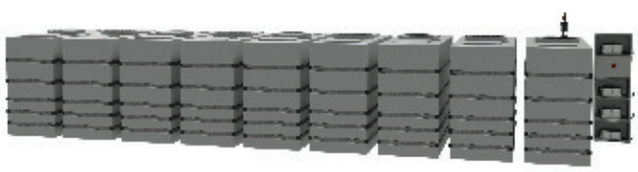


GWI 10.2-10.000

- daily capacity 10 m^3
- sedimentation 4.000 l
- biologic treat. 8.000 l
- filtration 4.000 l
- service water 4.000 l
- item no. G0003771

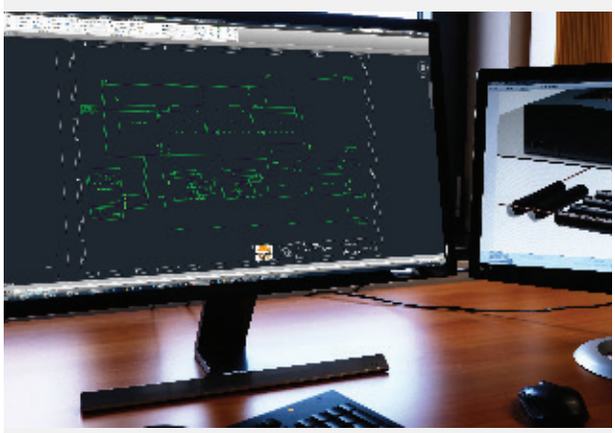
GWI 20.2-20.000

- daily capacity 20 m^3
- sedimentation 4.000 l
- biologic treat. 12.000 l
- filtration 8.000 l
- service water 8.000 l
- item no. G0003905



GWI 25.2-25.000

- daily capacity 25 m^3
- sedimentation 4.000 l
- biologic treat. 16.000 l
- filtration 8.000 l
- service water 8.000 l
- item no. G0003906



- layout including scale drawing
- P&I scheme
- CAD-based project management
- projecting the system into the plant room
- BMS connections
- layout of pumping equipment
- potable water back-up

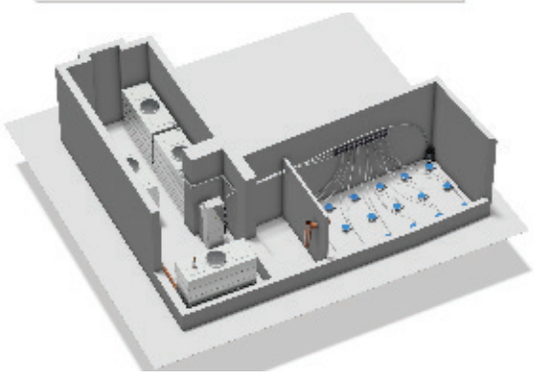
GREYWATER-RECYCLING-SYSTEMS

HIGH LEVEL OF SAFETY DUE TO PATENTED PROCESS

CONTROL UNITS

- high-quality control cabins
- BMS connection available
- remote control
- very efficient aeration pumps
- remote maintenance – guidance on mobile devices
- monitoring options

CUSTOMIZED SOLUTIONS



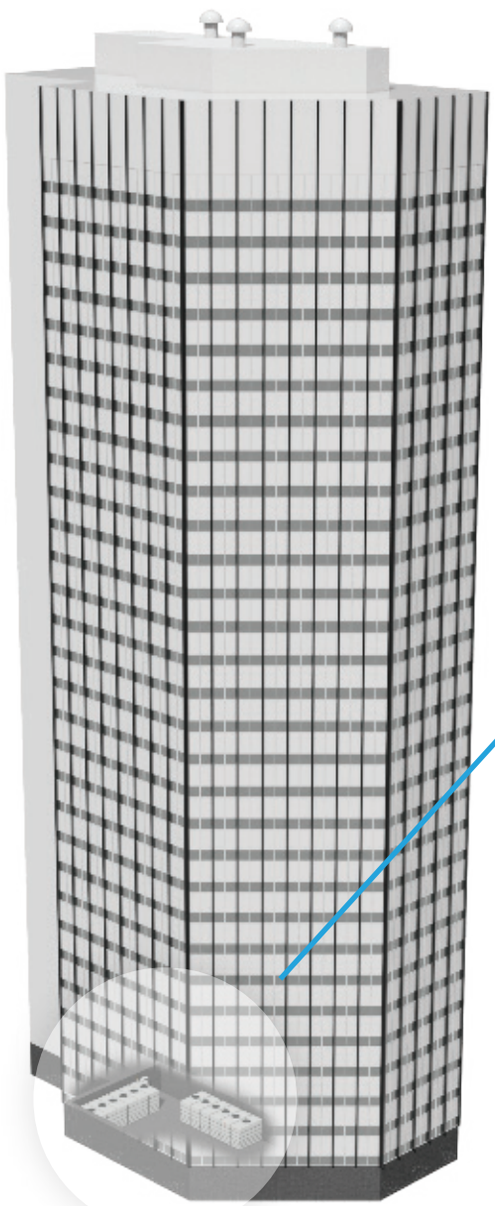
realisation 2017 in Zakopane (Poland)

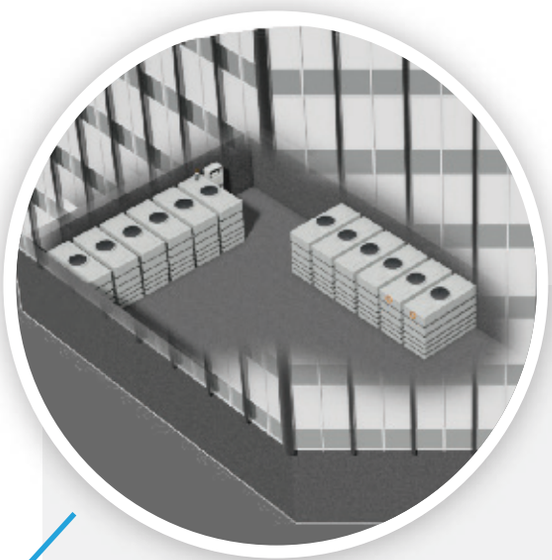
20 m³ per day greywater-recycling-system

- sedimentation and biological treatment placed in an existing concrete tank
- designing of the wall between both stages
- layout of the aeration equipment
- filtration and service water storage tanks are place in the close-by plant room

COMBINED SYSTEM LAYOUTS

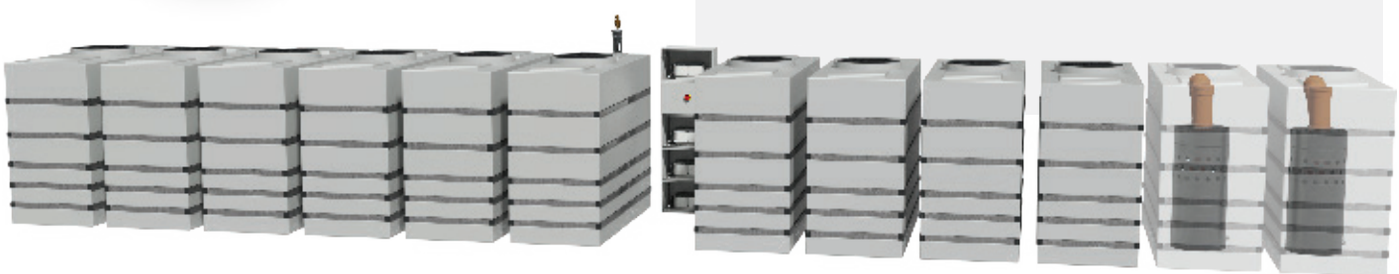
INDOORS INSTALLATIONS





Combination of different water sources

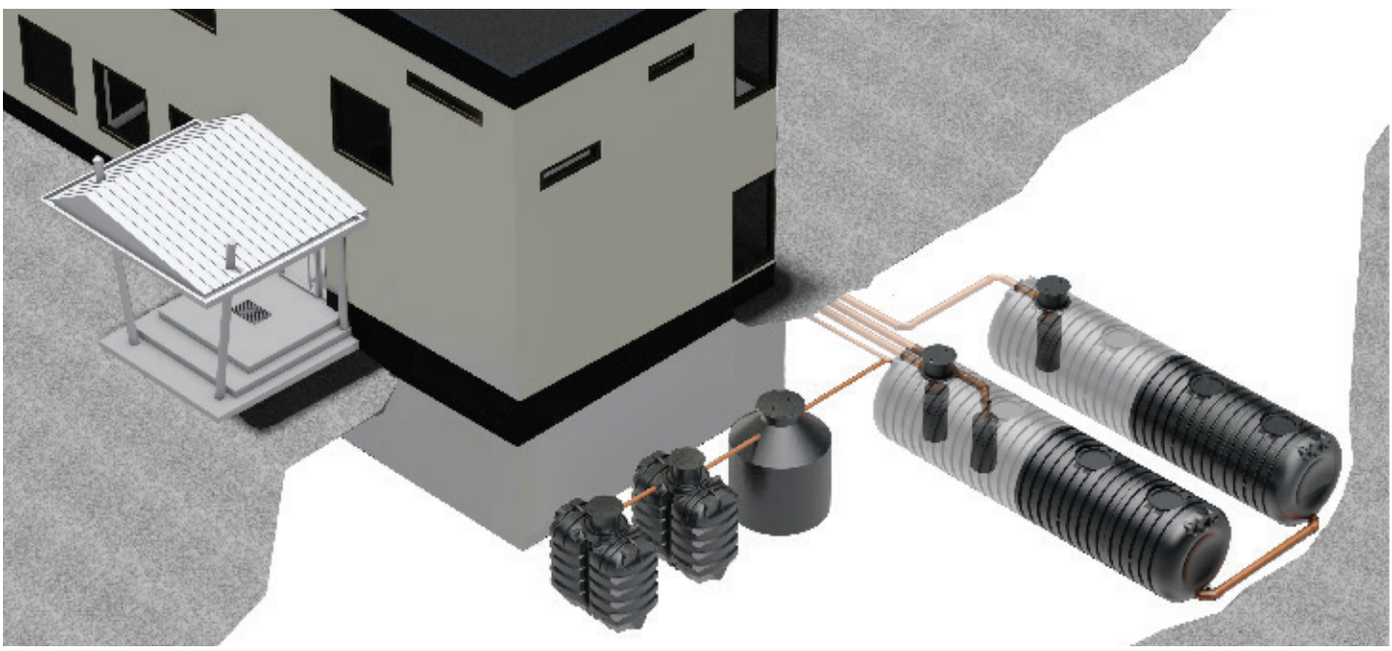
- balance of water sources and re-use of the collected / treated water
- combinations of rain-/ grey- and waste water systems
- options of installation – indoors / outdoors
- using a huge assortment of basement and under-ground tanks



greywater-recycling-system 10.000 l/d (GWI 10.2-10.000) - indoors
combined with
rainwater harvesting: 6 basement tanks 4.000 l / GKT 4.0 with in total 2 Biovitors DN 200

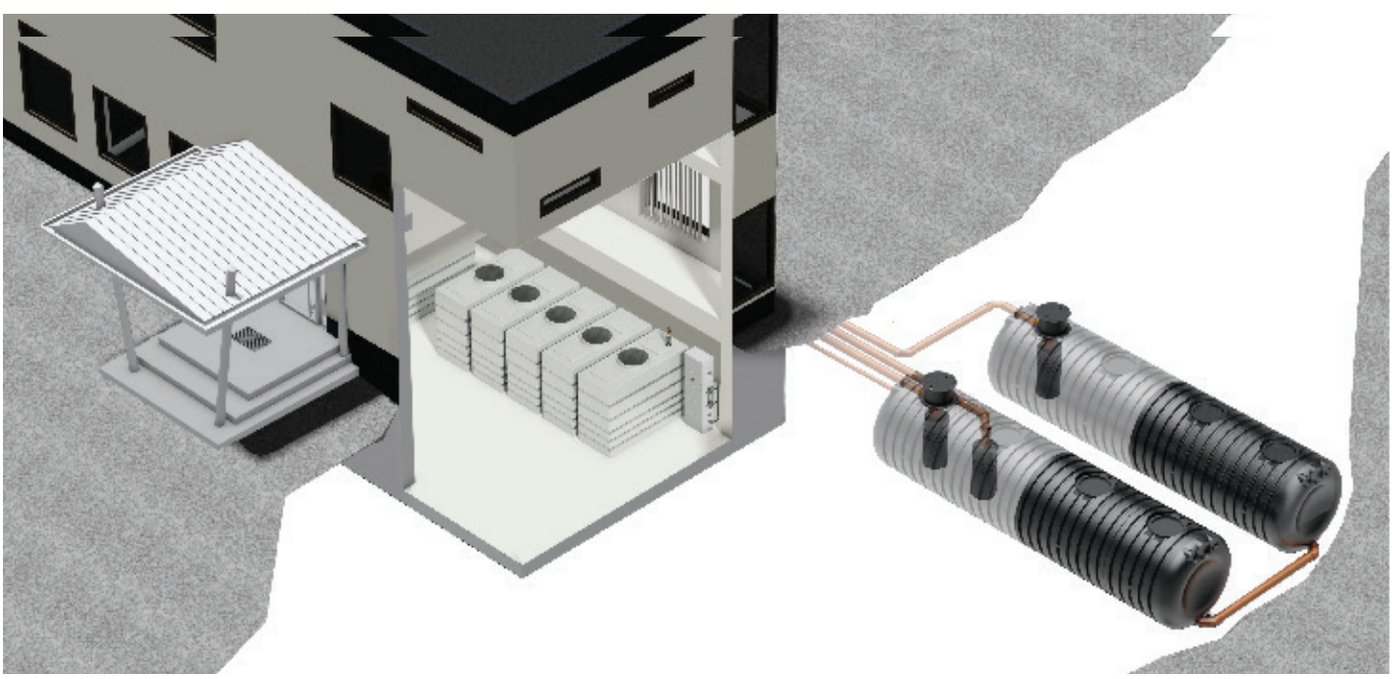
COMBINED SYSTEM LAYOUTS

OUTDOORS INSTALLATION



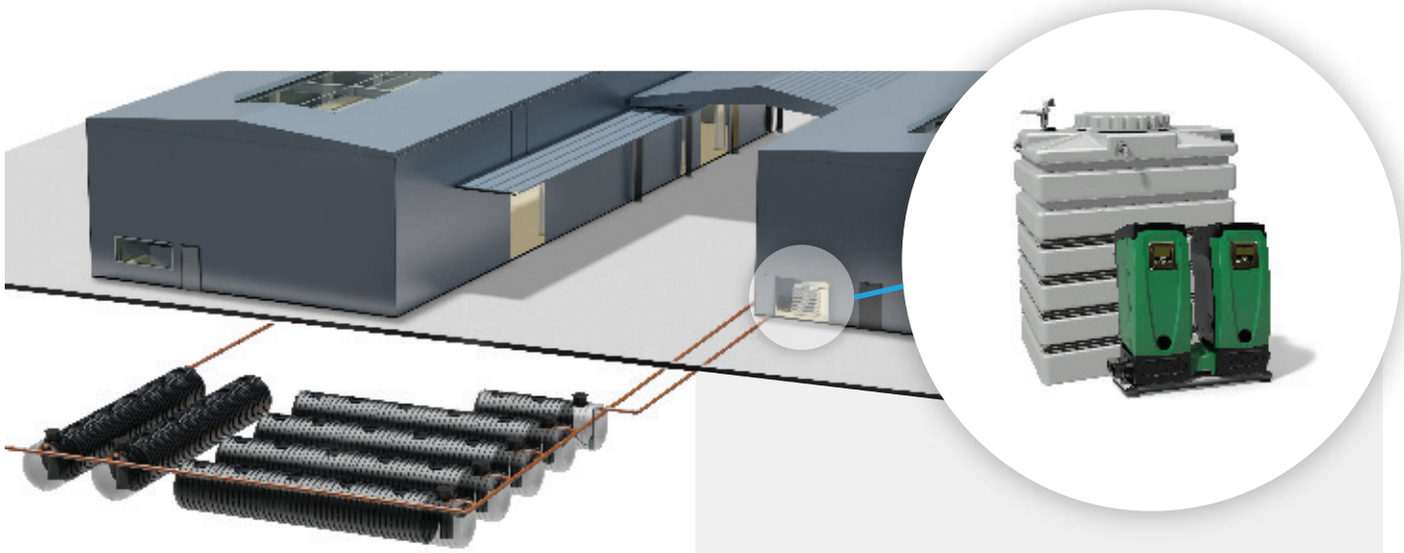
greywater-recycling-system 7.500 l/d (GWO 7.2-7.500) - outdoors
combined with
rainwater harvesting: 2 volume tanks 47.000 l / GVT 47.0 with in total 3 Biovitors DN 200

INDOORS / OUTDOORS INSTALLATION



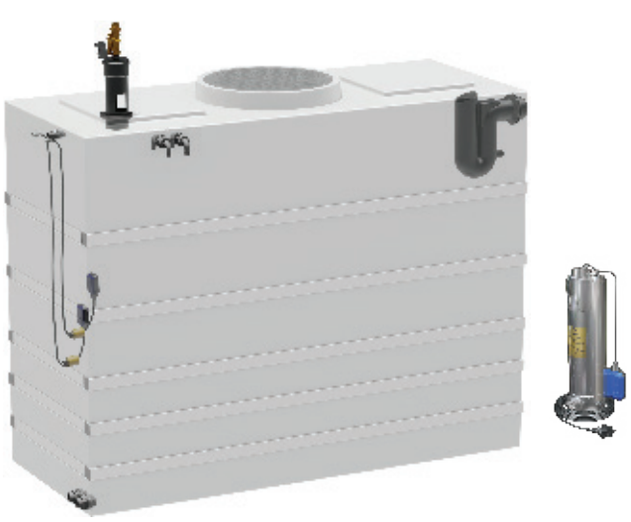
greywater-recycling-system 10.000 l/d (GWI 10.2-10.000) - indoors
combined with
rainwater harvesting: 2 volume tanks 47.000 l / GVT 47.0 with in total 3 Biovitors DN 200

HYBRID MANAGERS



Hybrid managers

Hybrid managers are used for different types of process water (e.g. rainwater and purified greywater or rainwater from various underground tanks) are transferred from different tanks to a central location for storage and then they are pumped with a pressure tank to the water supply system in buildings.
They may be also necessary when the suction section of the pressure/suction pumps has adverse geotechnical conditions, or is too long. High operational reliability is ensured by solid switches floating in the hybrid tank and integrated mains water back-up.

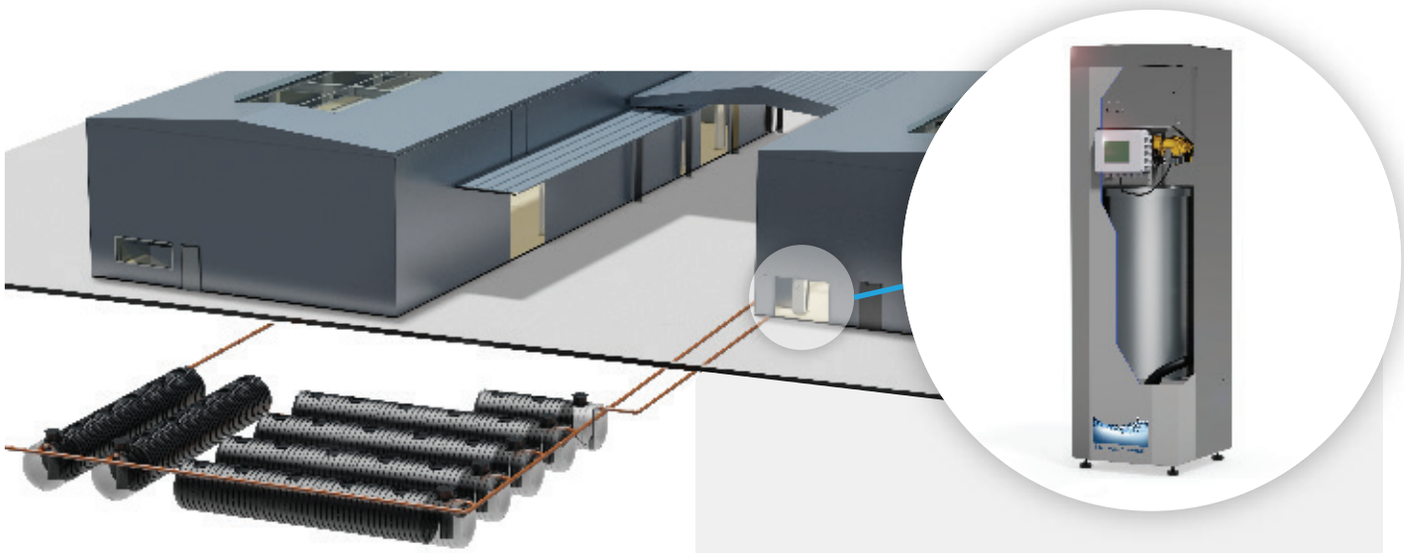


Included the delivery:

- hybrid tank
- with mains water back-up in accordance with DIN EN 1717 (controlled by the floating switch)
- GUP 46 with protection against dry running and floating suction as the auxiliary feed pump
- 1 ¼“ connection at the top of the hybrid tank for inflow from the auxiliary supply pump
- 1 ¼" connection at the bottom of the hybrid tank for the pressure tank
- 1 ¼" connection at the bottom of the hybrid tank for the draining ball valve
- siphon as an emergency overflow

	Item No.
GHM 0.14	G0002985
GHM 0.35	G0002986
GHM 0.50	G0002987
GHM 1.25	G0002988
GHM 4.0	G0003886

RAINWATER CENTRAL UNITS



Rainwater Central Units

The Rainwater Central - the all-in-one rainwater control unit ensures the safe, energy-saving operation of the system and takes reliable all monitoring tasks
The modular concept of the Rainwater Central with its freely programmable control unit a optimally tailored configuration of the respective system.

Optional features:

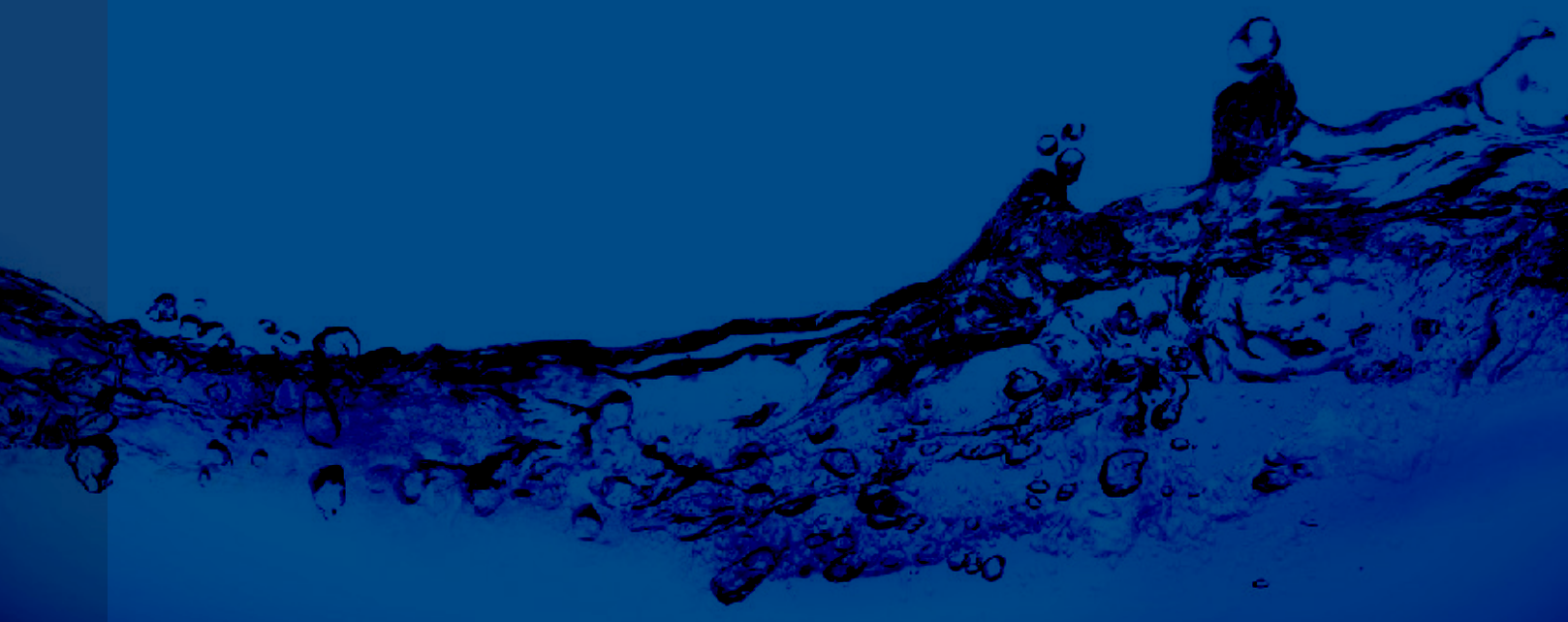
- building management system interface
- remote control and maintenance
- control and surveillance of peripheral systems such as irrigation and lifting pump systems
- measuring, data logging and displaying of flow rates and volumes
- surveillance of water quality

Special versions

We are looking forward to your specific project requirements!

Equipment features:

- KIM! control unit – the smart management
- digital display for all measured values and parameters
- available in 230 V and 400 V version
- modular design
- DIN and DVGW-conform mains water back-up
- PLUG-IN components – for quick and easy mounting
- fully automatic operation
- compact and pre-mounted



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PROFESSIONAL COMPETENCE AND OVER 20 YEARS
OF EXPERIENCE IN PLASTICS PROCESSING.
OWN PATENTED SOLUTIONS AND INTELLECTUAL PROPERTY RIGHTS.
DEVELOPMENT AND PRODUCTION OF WATER MANAGEMENT SYSTEMS.