

Decentralised greywater treatment system¹⁾ with eco-friendly recycling-technique to reduce the total fresh water consumption up to 40 - 60 % in private houses with max. 15 inhabitants.

Brief description

- proven and eco-friendly recycling-technique with *BioMembraneTechnology (BMT)*
- no use of chemicals - only bio-mechanical treatment
- energy-saving recycling process
- clear, odourless and germ-free process water quality exceeding the strict requirements of EU bathing water directive 2006/7/EC and DIN 19650 class 2
- process water suitable for toilet flushing, house cleaning purposes, garden irrigation and washing machine
- integrated mains water back up system according to DIN EN 1717 (AA)
- full-automated GEP-control unit
- optional: compatible to integrate rainwater
- optional: compatible to central building control system
- optional: remote control via SMS and Email and online-monitoring



Standard scope of delivery

Robust full-automated internal greywater treatment system, equipped with coarse filter *TridentMAX I*, huge greywater storage tank with submerged *BMT*-membrane filter, process water storage tank incl. mains water back up system, GEP-control unit and powerful submerged booster pump.

Accessories



GSM-remote control

Item 812534

transmission of all status and error messages via SMS and Email

GSM-monitoring package incl. remote control

Item 812525

transmission of all status and error messages via SMS and Email and evaluation of all performance data at GEP-Webportal



Rainwater feed package for a connection of a rainwater cistern

Item 811224



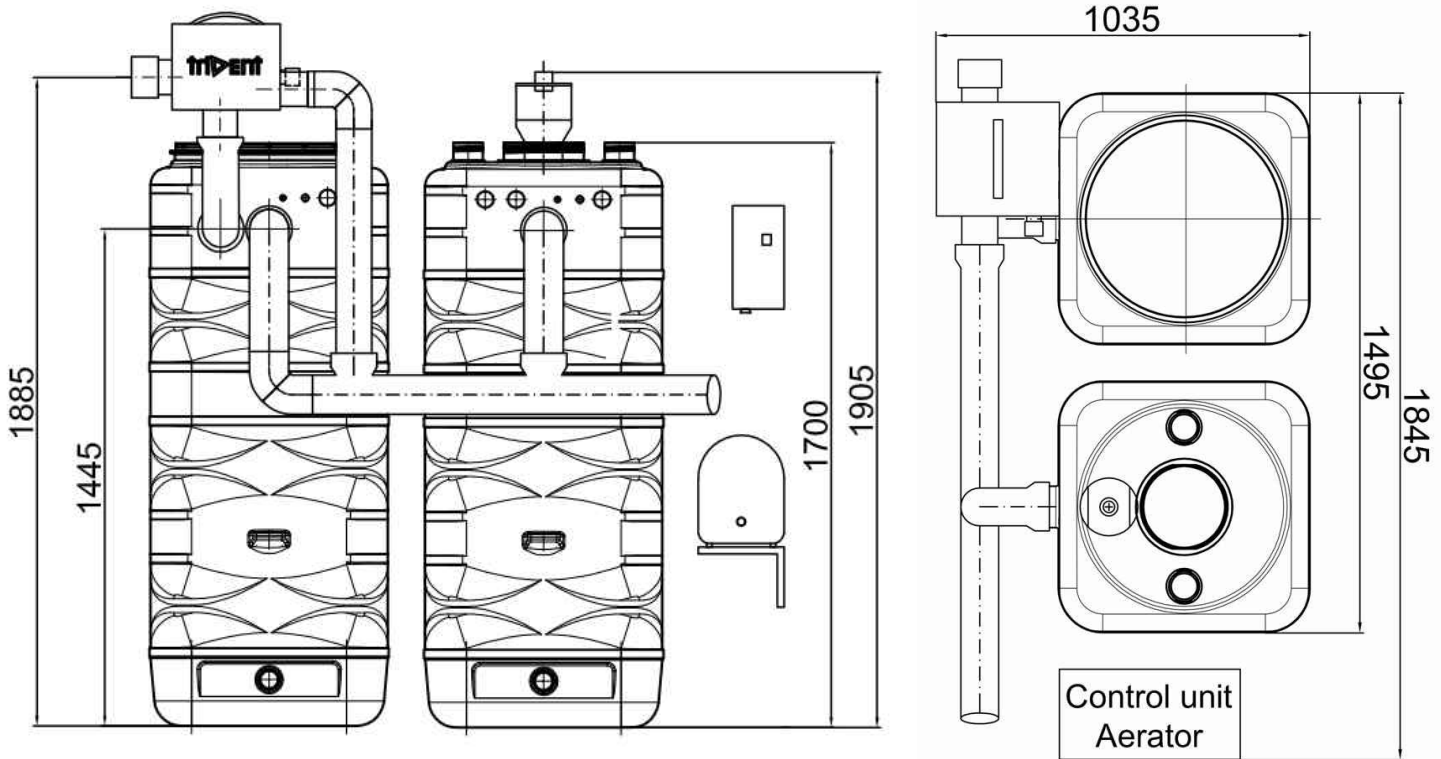
Potential free output box

Item 811277

to connect the GEP-control unit to a central building control system

¹⁾ Greywater from showers, bath tubes and handwash basins

Dimensions



Specifications/connections

Designed for	max. 15 inhabitants	Electrical load:	2x 220 V / 16 A / 50 Hz
Treatment capacity:	1.000 L/d	Electrical power GEP-Watermanager:	200 W
Energy consumption:	~ 2,5 kWh/m ³	Electrical power submerged booster pump:	1.100 W
Coarse filter:	3 mm	Connection Inflow/Overflow:	DN 100
BMT-membrane filter:	38 nm	Connection mains water back up system:	1/2" female
Ceiling height plant room:	min . 2.200 mm	Connection backwash coarse filter:	1/2" female
Empty weight total plant:	110 kg	Connection submerged booster pump:	1" male
Greywater storage volume:	200 Liter	Dimension largest component (LxWxH):	690 x 690 x 1.700 mm
Process water storage volume:	600 Liter		
Performance submerged booster pump			
Flowrate:	5,5 m ³ /h		
Delivery height:	48 m		

How the system works

Based on the *BioMembraneTechnology* the GEP-Watermanager GWA 1.000 treats greywater from the drains of showers, bath tubes and handwash basins and provides a high-quality process water for different reuse-applications.

Initially the raw greywater is mechanically treated in the coarse filter TridentMAX to remove all undissolved water contents, such as textile fluff or hair. An automatic backwash unit keeps the filter plate clear and ready for a high filtration performance.

In the next step the GEP-control unit takes care that specific purification bacteria decompose all the biodegradable ingredients in the greywater, such as soap or shampoo.

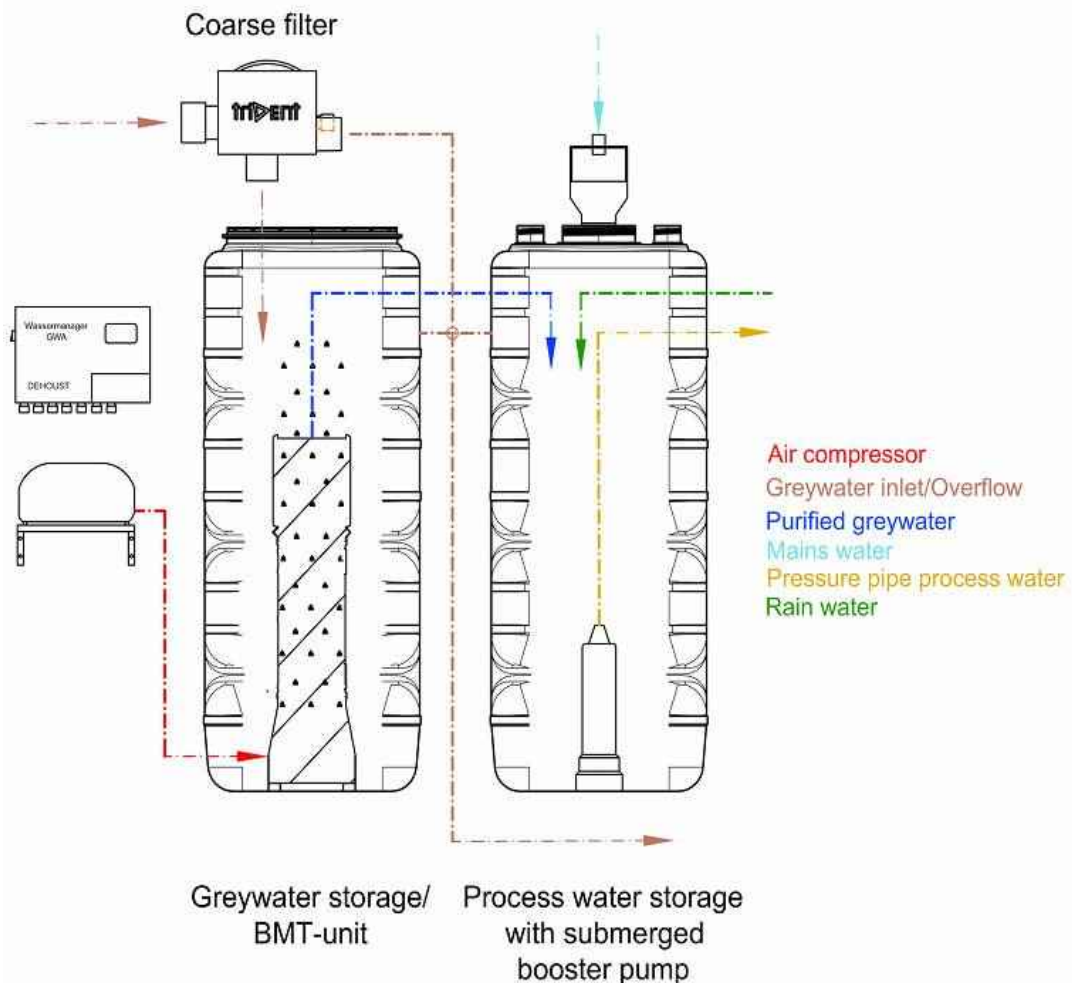
After the biological cleaning the heart of the GEP-Watermanager GWA 1.000, the immersed BMT-membrane filter starts to filter out the pre-treated greywater. With a physically pore width of 38 nm (2.500 times finer than a human hair!) all solid particles, germs and individual absorbed viruses are safely retained in the system all the time.

An optimised air flushing process with periodically increasing air bubbles ensures the filter plates are continually cleaned. This extremely efficient method of self-cleaning increases the life of the system considerably and reduces the maintenance cost to an absolute minimum.

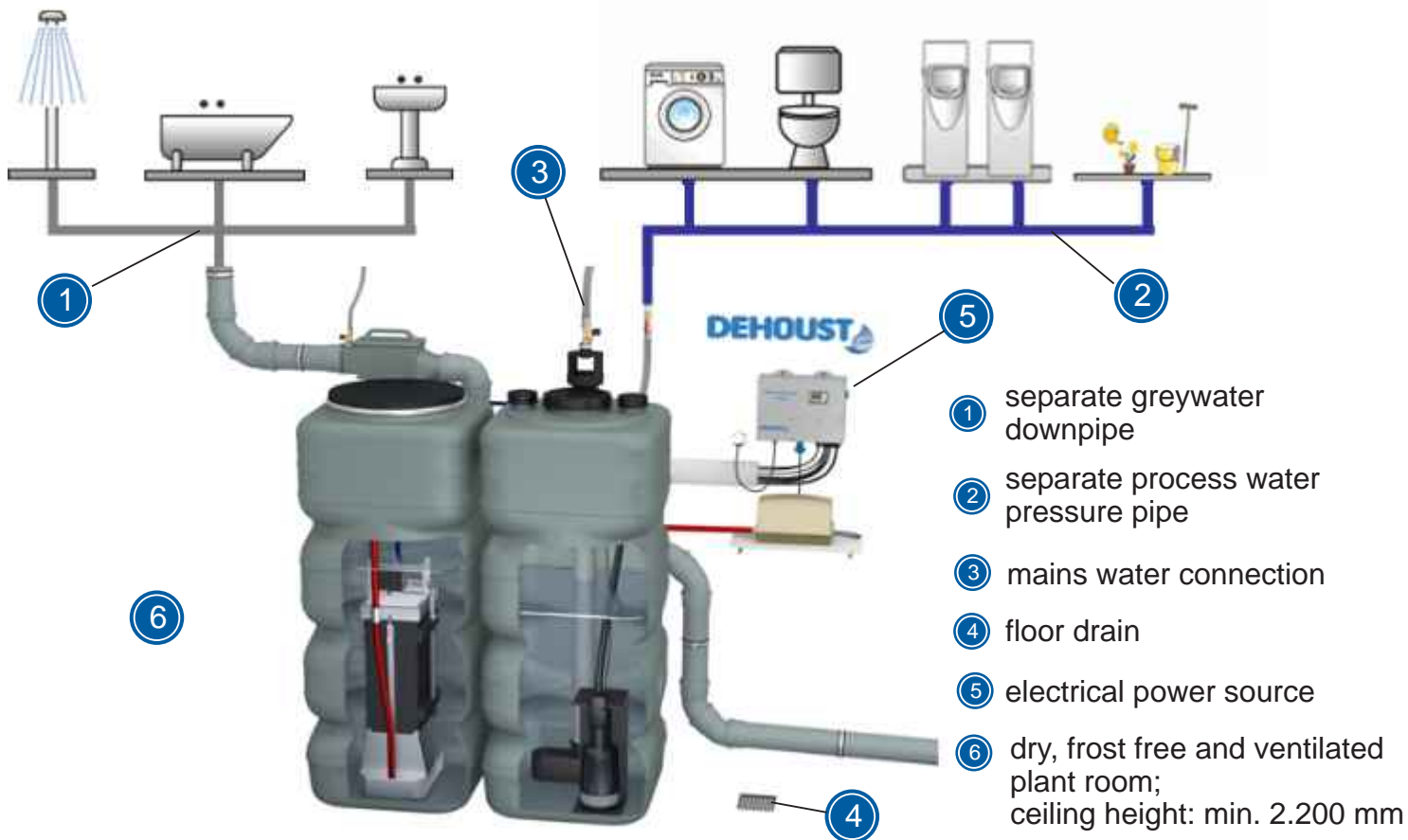
The result of the recycling process is a clear, odourless and germ-free process water!

Thanks to the very low remaining nutrient value (BOD5 < 5 mg/L) and rest-biomass the purified process water is suitable for a long storage (toilet flush box) and a variety of safe reuse applications. In case of a lack of process water the automatic mains water back up system will be activated and ensures an safe water supply all the time.

Flowchart



Assembly scheme and installation information



Remote control and Online-Monitoring

- immediate transmission of status and error messages via SMS & Email
- transmission of exact maintenance and inspection points of time



Accessory item 812534

- Login-account for GEP-Webportal
- Visualization of interesting performance data, such as total plant efficiency, current treatment performance, total saved mains water amount



Accessory item 812525