

Greywater reuse

Use water a second time –
save precious drinking water



DEHOUST

www.dehoust.com · www.gep.info

Fit for our future

Our proposal – ideal storage- and pressure tanks for sustainable energy- and water management



We deliver components for a secure energy supply and sustainable economic activities – satisfy yourself.

DEHOUST 



Zertifiziert nach
DIN EN ISO 9001:2008

The smart way to environmental protection

Save water – but in the right way!

Our drinking water is not an endless resource and a gentle exposure with this comestible is the only way to save water supply for our next generations.

Replace drinking water with process water generated by rainwater harvesting- and greywater-reuse-systems!

With DEHOUST you will save precious water. Your moneybag will be pleased. And the environment, too.

Rainwater can be easily collected in a cistern. After this the GEP-Rainmanager provides a secure and efficient maintenance of your loads inside the house and in the garden.

Waste water from showers, bath tubes and hand washbasins can be purified to hygienic process water by the GEP-Watermanager and after the treatment process it can be reused for every application like rainwater.

Of course you can use both possibilities together: Every GEP-Watermanager implies a reliable Rainmanager to embed rainwater and drinking water with demand-oriented feeding to ensure water supply in case of process water shortage.

With this technique it's possible to save more than 50% of the ordinary daily drinking water consumption of 126 litres (in Germany) – in this way ecology and economy are in line with each other.



Typical applications for process water:



▶ Washing machine

+



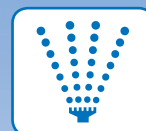
▶ Toilette flushing

+



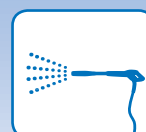
▶ Urinal

+



▶ Garden irrigation

+



▶ High-pressure cleaner

Greywater reuse



Greywater reuse economize your costs!

Greywater from showers, bath tubes and hand washbasins can be treated by the GEP-greywater-reuse-systems to provide high-quality process water for a second purpose.

The payback period is very short, due to the fact that the costs of drinking water and waste water are reduced at the same time!

Greywater is independent on weather conditions and is available daily.

The amount of greywater can be 50% of the total domestic waste water amount and contains waste water from showers, bath tubes and washbasins.

Small effort – big benefit

- ▶ Save drinking water independently from rain
- ▶ Short payback period
- ▶ High storage stability of the process water
- ▶ GEP-control panel with multifunctions
- ▶ Prepared for combination with rainwater

Best water quality due to the modern BioMembranTechnology

All GEP-Watermanagers with purely bio-mechanical treatment technology are using the currently latest and most secure method of waste water treatment, the BioMembranTechnology (BMT).

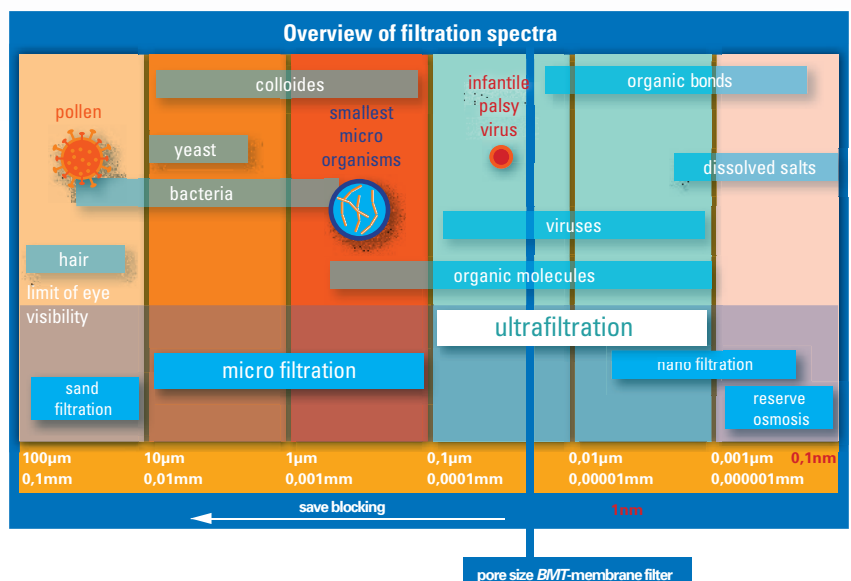
Every membrane pore of the plunged membrane filter is more than 2.500-times finer than a human hair and presents an insuperable physical barrier for all particles, bacteria and adsorbed viruses.

After the purifying process the water is absolutely clear, odourless and germ-free.

The process water quality exceeding the requirements of:

- ▶ EU bathing water guideline 2006/7/EG
- ▶ DIN 19650 class 2 for irrigation water in public areas
- ▶ British standard 8525-2

In the following the purified process water will be used a second time for e. g. toilet flushing, for cleaning purposes, the washing machine and for irrigation purposes without any loss of comfort and hygienic compunction.



Efficient greywater-reuse-system with little footprint



The GEP-Watermanager GWA 1.000 combines a high-performance output with a very small footprint. Large buffer tanks guarantee that enough greywater can be stored from the drains of bath tubs, showers and handwash basins. The high treatment capacity of the BMT-membrane filter provides a prompt purifying process for a safe reuse.

The process water storage tank collects the valuable water for several days. The process water can be used for the toilette flush, washing machine and garden irrigation.

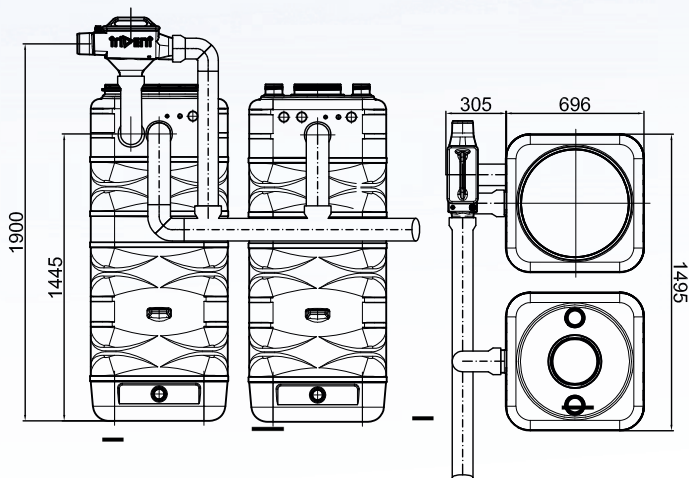
In combination with the rainwater feed package (item 811224) the GWA 1.000 is a complete valid Rainmanager as well.

GWA 1.000 – sustainable greywater treatment

The GWA 1.000 is designed for a treatment capacity of 1000 litres per day.

Generally the BMT-membrane filter doesn't work at its maximum capacity. This circumstance extends the filter standing time considerably.

To provide the consumers with process water your preferred booster pump station can be connected to the process water storage tank.



GEP-Watermanager GWA 1.000 exclusive booster pump station

Item	Description	Max. treatment capacity litre/day	Designed for (users)	Greywater storage L	Process water storage L
813195	GWA 1.000	1.000	15	200	600
811224	Rainwater feed package for the connection of a rainwater cistern. Composed of a feed pump with floating extraction, control box, 3 m pressure flex tube, sealing plug DN 100, 4 m stainless steel cable for suspension of the feed pump.				

Greywater reuse

Just in case:

Automatic mains water back up system on demand to ensure supply of water – of course certificated by DIN EN 1717 and KIWA. The dimension depends on the process water consumption.

The GEP-control panel

observes and regulates all sequence of operations and informs about disturbances also by GSM or internet.

The special greywater coarse filter

equipped with an automatic backwash unit for a trouble-free operation.

Inside the process water tank

the purified process water (filtrate) will be stored and it is available for its consumers.

It is possible to connect dry or submerged booster pumps to the tank.

The floor drain

and other safety installations are necessary for the plant room.



Think about a sustainable building concept and use the convincing greywater-reuse-systems by DEHOUST; our planning tool helps you (www.gep.info Webcode 6810).

The greywater storage tank

collects the raw greywater from baths, showers and handwash basins for the bio-mechanical treatment process.

Greywater-reuse-system: convincing technique thanks to space-saving modular plant design and energy optimized components.



The air compressors

ensure a permanent self-cleaning effect on the filter membrane surface and a sufficient oxygen supply for the biological greywater degradation.

The robust BMT-membrane filter

represents a true physical barrier which blocks continuously all germs and suspended matters.

Greywater reuse



Picture example:
BMT-unit for GWA 6.000

Modular design for an optimized greywater reuse

Customised installation engineering is a basic prerequisite for an efficient greywater reuse.

The modular conception admits individual solutions in combination with the characteristics of an industrial production. It is easy to combine several BMT-units to only one unique treatment unit with one central GEP-control panel. This modular concept is possible within a range of 1.000 litres per day up to 16.000 litres per day.

A combination with locally manufactured grey- and process water storage tanks – above ground or buried – is possible as well.

All GEP-greywater-reuse-systems are expandable with the GSM-remote control (item 812534) and a GSM-monitoring package (item 812525) as well as a rainwater feed package (item 811224).

GEP-Watermanager GWA

Item	Description	Max. treatment capacity litre/day	Designed for (users)	Greywater storage L	Process water storage L
813198	GWA 2.000/30*	2.000	30	400	400
813205	GWA 2.000/45	2.000	45	600	600
813315	GWA 2.000/75	2.000	75	1.200	1.200
813208	GWA 4.000/100*	4.000	100	1.600	1.600
813215	GWA 4.000/150	4.000	150	2.500	2.000
813225	GWA 6.000	6.000	225	4.000	2.500
813235	GWA 8.000	8.000	300	6.000	4.000
813236	GWA 10.000	10.000	375	9.000	6.000
813238	GWA 12.000	12.000	450	9.000	6.000
813245	GWA 14.000	14.000	525	12.000	8.000
813250	GWA 16.000	16.000	600	15.000	12.000
811224	Rainwater feed package for the connection of a rainwater cistern. Composed of a feed pump with floating extraction, control box, 3 m pressure flex tube, sealing plug DN 100, 4 m stainless steel cable for suspension of the feed pump.				

* Designed for a minimum ceiling height of 1,90 m; all other plant designs need a ceiling height of 2,20 m for installation.

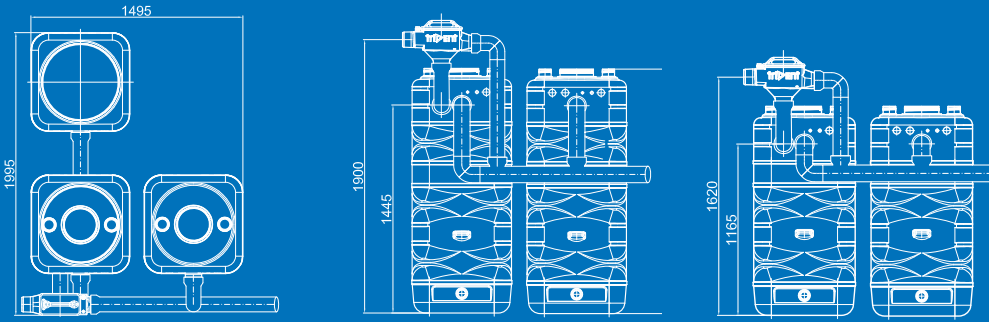
For further informations don't hesitate to contact our engineers. We are happy to configurate your best solution for a greywater-reuse-system even with an adequate booster pump station.

Call +49 6224/970258

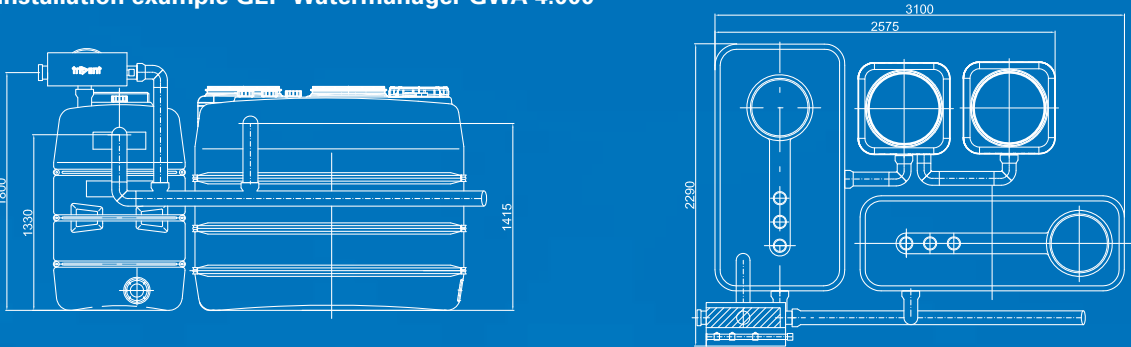


Example:
Double booster pump station for GWA 2.000

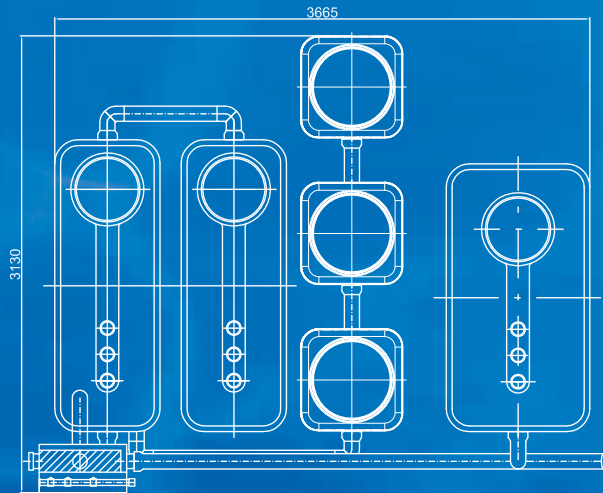
Installation example GEP-Watermanager GWA 2.000



Installation example GEP-Watermanager GWA 4.000



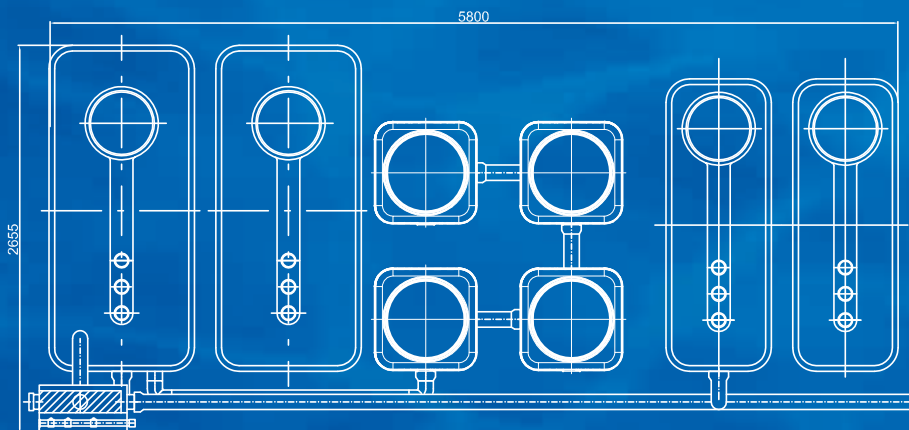
Installation example GEP-Watermanager GWA 6.000



The demonstrated plant designs are only examples.

Other tank arrangements are possible.

Installation example GEP-Watermanager GWA 8.000



Greywater reuse



GEP-greywater-reuse-systems for outdoor areas

Cellar rooms are often reserved for other issues or too valuable to install a greywater-reuse-system including storage tanks. For that case the investors and owners don't have to lose the reasonable idea of greywater reuse.

The greywater- and the process water storage tanks as well as the BMT-unit disappear into the underground. Especially pre-assembled slide rails allow a fast installation of the whole construction within only few hours.

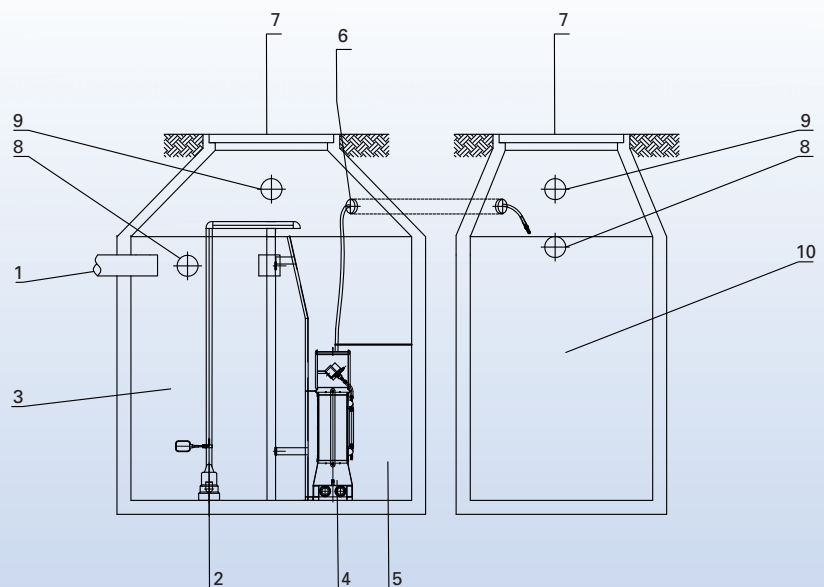


Weather-protected control box for GEP-control panel and its components.

Only the GEP-control panel as well as the compact air compressor have to be installed inside the house or inside a weather-protected control box.

All outdoor GEP-greywater-reuse-systems are also expandable with the GSM-remote control (item 812534) and a GSM-monitoring package (item 812525) as well as a rainwater feed package (item 811224).

Installation example



Plant components

- 1 Greywater inflow
- 2 Circulation pump
- 3 Greywater chamber
- 4 BMT-membrane filter
- 5 BMT-chamber
- 6 Filtrate effluent
- 7 Dome entrance min. 625 mm
- 8 Overflow to sewer
- 9 Service duct DN 100
- 10 Process water cistern



GSM-remote control and GEP-online monitoring

The GEP-control panel regulates and monitors all greywater treatment processes and is prepared to display different operation statuses.

If the GEP-control panel is extended with a GSM-remote control (item 812534) all status- and error messages will be transmitted to the responsible persons by SMS and E-Mail on the fastest way.

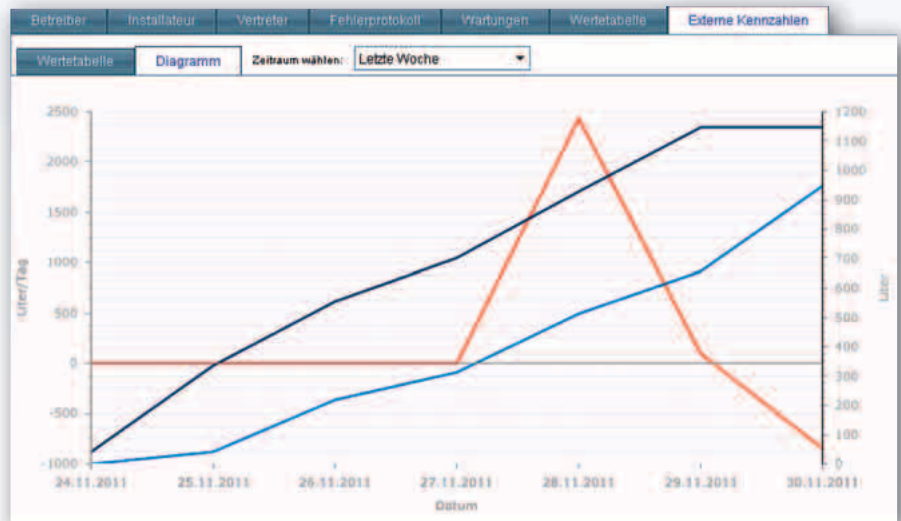
With GSM-remote control it is easy to analyse and resolve previously almost all disturbances to avoid unnecessary and expensive service trips. An enormous advantage for all greywater-reuse-systems for large facilities!

The GSM-monitoring package (item 812525), especially developed by DEHOUST, goes one step further.

In addition to the features of a classic GSM-remote control all interesting characteristics will be monitored by the GEP-control panel. After a login at the GEP-web portal the operator can see all relevant parameters of his greywater-reuse-system.

The parameters are graphical edited and presents the total plant efficiency, the current treatment performance, the total process water consumption and the total saved drinking water amount.

Each GEP-Watermanager GWA can be connected to the central building control system via a potential free output-box (item 811277).



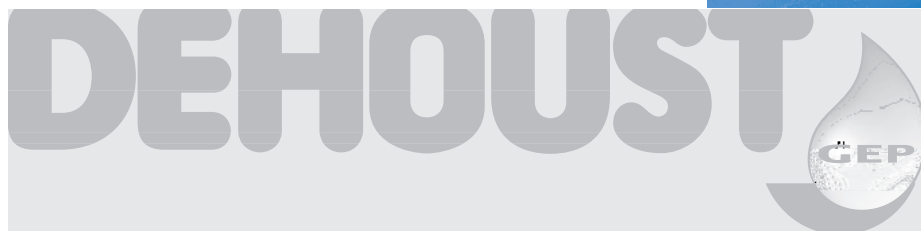
Accessories

Item	Description
811277	Potential free output-box
812534	GSM-module incl. GSM-remote control
812525	GSM-module incl. GSM-monitoring package for online monitoring

Our project engineers will be pleased to guide you by phone +49 6224/970258.



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