

Description

Greywater treatment system Watermanager GWM for the treatment of low polluted wastewater (greywater) from showers, hand basins and bathtubs with BMT membrane technology to high-quality process water that meets the hygienic / microbiological quality requirements of the European standard EN 16941-2 (systems for the use of treated greywater).

- treatment capacity max. 500 litres/day
- reduction of total drinking water consumption in residential buildings with 4-6 persons up to 60%
- proven and environmentally friendly treatment process using BioMembrane technology
- energy-efficient recycling process
- all system components can be transported by hand
- excellent process water quality (clear, odorless, germ-free)
as a substitute for drinking water for flushing the toilet,
green area irrigation, cleaning purposes, washing machines,
cooling processes, ...
- environmentally friendly biomechanical treatment process
without the use of chemicals
- integrated mains water separation station according to
European EN 1717 standard
- fully automatic GWM control unit for regulation and monitoring
of all operational processes
- compatible with rainwater harvesting systems



Standard scope of supply

Robust full-automated internal greywater treatment system, equipped with coarse filter Trident MAX, huge greywater storage tank with submerged BMT-membrane filter, process water storage tank incl. mains water back up system and full automated control unit.

Function

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

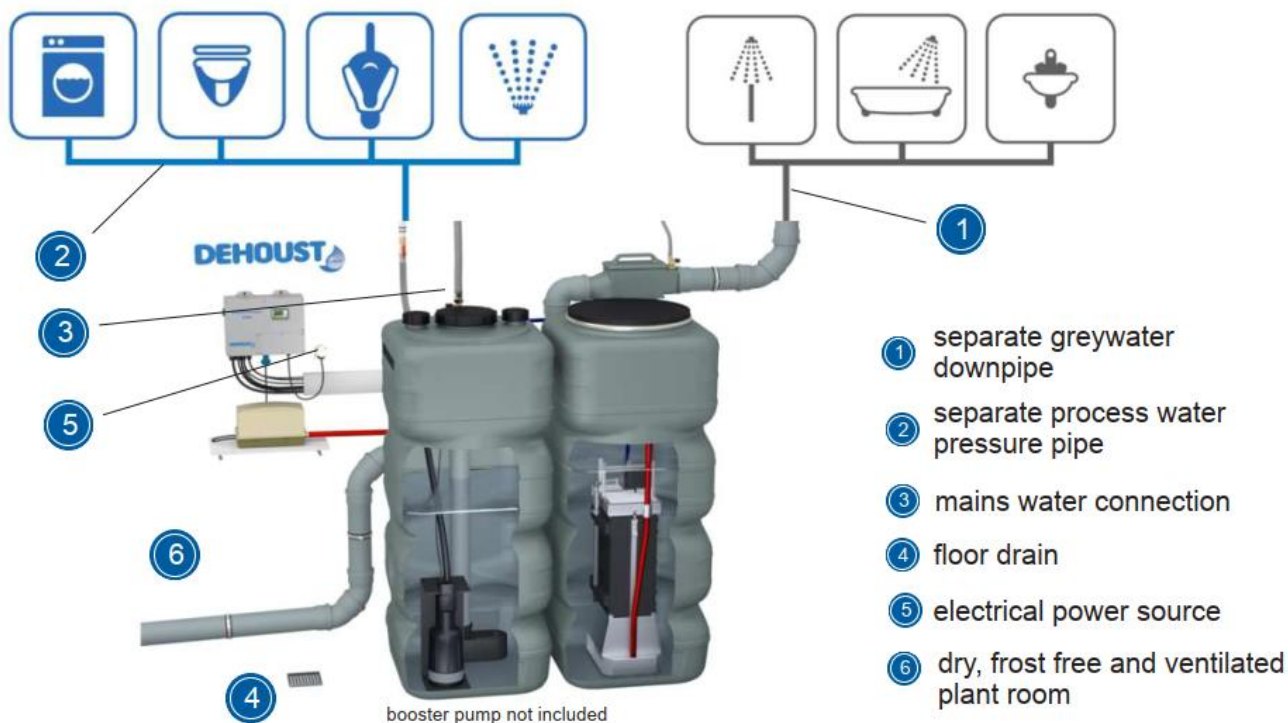
Initially the raw greywater is mechanically treated in the coarse filter TridentMAX to remove all undissolved water contents, such as textile fluff or hair. An automatic backwash unit keeps the filter plate clear and ready for a high filtration performance. In the next step the control unit takes care 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 Watermanager GWM, 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 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 a safe water supply all the time.



Assembly scheme and installation information



Effluent qualities on treated greywater

Parameter	raw greywater	treated greywater
COD [mg/l]	150 – 400	< 20
BOB ₅ [mg/l]	85 – 200	< 3
Suspended solids [mg/l]	30 – 70	0
pH	7,5 – 8,2	7 – 9
Total coliform bacteria [cfu/100 ml]	10 ³ – 10 ⁷	<100
Escherichia coli [cfu/100 ml]	10 ³ – 10 ⁷	<10



The water quality of the treated greywater corresponds to

- European standard EN 16941-2 (systems for the use of treated greywater),
- of usage class C2 from german DWA data sheet M277 (information on the design of systems for the treatment and use of gray water),
- the British Standard 8525-1
- and the European standard for bathing water 2006/7 / EG.

Technical data

designed for:	4-6 persons	electrical load:	230 V / 16 A / 50 Hz
treatment capacity:	max. 500 litres/day	electrical power GWM 500:	200 W
coarse filter:	0,3 mm	connection inlet/overflow:	DN 100
BMT-Membrane filter:	38 nm	mains water back-up:	½" female thread
free space above tank:	min. 500 mm	coarse filter backwash:	½" female thread
empty weight total plant:	110 kg	dimension largest component:	720 x 720 x 1.700 mm
storage volume greywater:	200 litre		
storage volume process water:	600 litre		

Accessories

GWM-Rainwater feed package

GWM-Rainwater-feed package to feed automatic rainwater into a greywater system

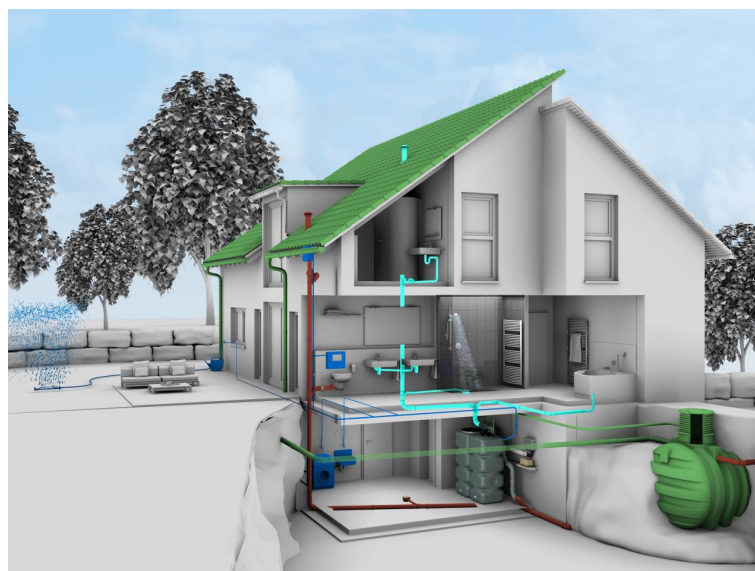
volume rate: max. 13,5 m³ / h

delivery height: max. 10,4 m

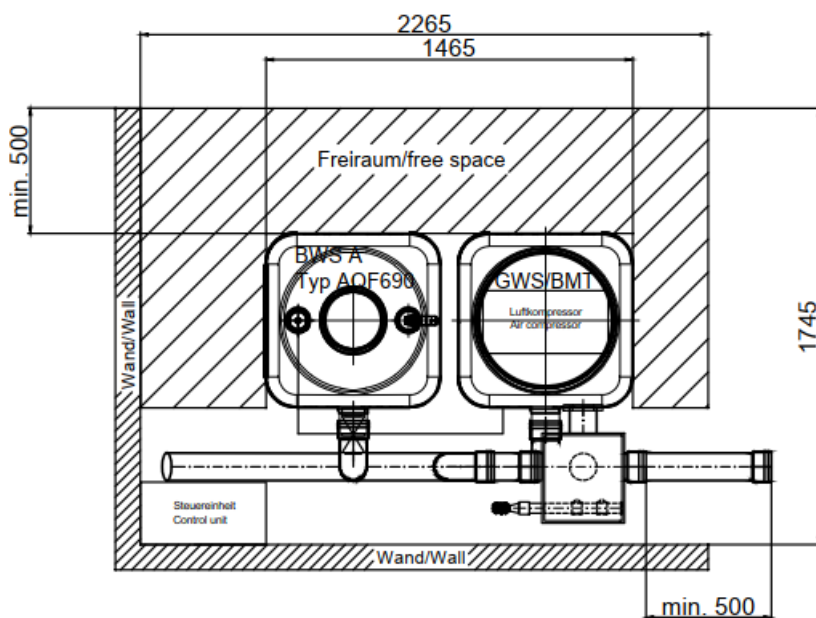
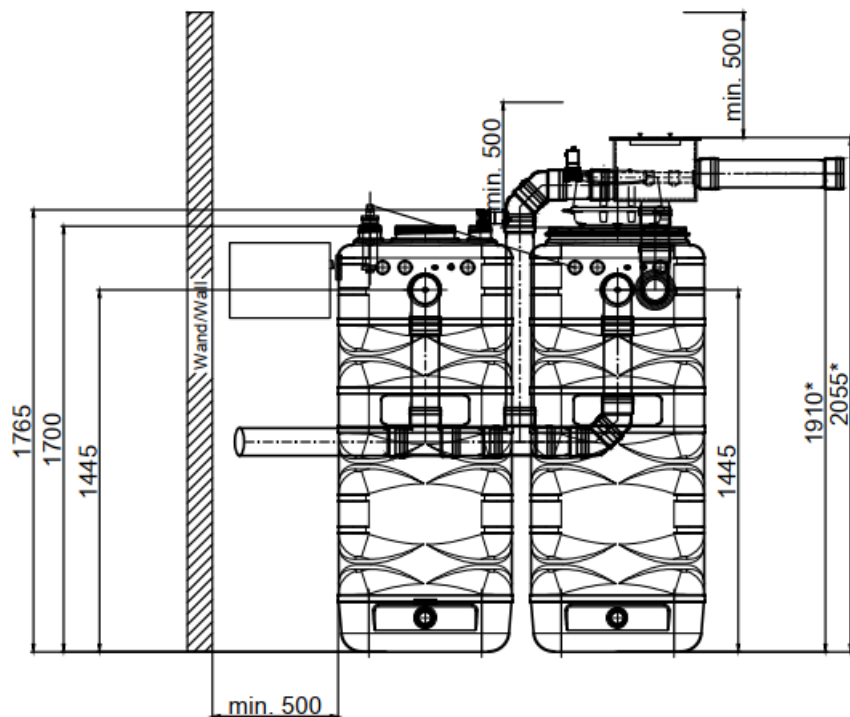
power consumption 510 Watt

controlled by GWM-controller

Item 812966



Dimension



Kenndaten

Ausgelegt für:	4-6 Personen	Spannungsversorgung:	230 V / 16 A / 50 Hz
Aufbereitungsleistung:	max. 500 Liter/Tag	Leistungsaufnahme GWM 500:	200 W
Energieeinsatz:	~ 1,5 kWh/m ³	Leistungsaufnahme Tauchdruckpumpe:	1.100 W
Grobfilter:	0,3 mm	Anschlüsse Zulauf/Überlauf:	DN 100
BMT-Membranfilter:	38 nm	Trinkwassernachspeisung:	1/2" IG
Freiraum oberhalb Behälter:	1.000 mm	Grobfilter Rückspülung:	1/2" IG
Leergewicht Gesamtanlage:	110 kg	Abmessungen größtes Bauteil:	720 x 720 x 1.700 mm
Puffervolumen Grauwasser:	200 Liter		
Puffervolumen Betriebswasser:	600 Liter		

