

Description

Greywater system GWM Connect MB for treatment of low polluted wastewater (greywater) from showers, hand basins and bathtubs using multibore 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).

- reduction of overall mains water consumption up to 60% without loss of comfort in residential and commercial buildings, public buildings, hostels, hotels, sports facilities,...
- excellent reuse-water quality (clear, odourless, germ-free) to substitute mains water for toilet flush, green irrigation, cleaning purposes, washing machine, cooling processes,...
- eco-friendly bio-mechanical treatment process without using chemicals
- energy efficient technology using only 0,5 kWh/m³ treated greywater
- integrated mains water back-up system according to european standard EN 1717
- full automated controller with 4" high-resolution touchscreen
- webinterface DehoustCONNECT for real-time access on controller via smartphone, tablet and PC
- visualisation of fill levels, bio-mechanical purification process, operation status
- creation of relevant operating data (recycled greywater total/per day, efficiency rate, mains water saving, current treatment performance, status of multibore membrane filter, ...)
- voltage-free alarm output for building management system
- modular system concept to design according individual project specification
- compatible with rainwater harvesting systems
- additional accessories available



Function

Based on the latest multibore membrane technology the GWM Connect MB 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.

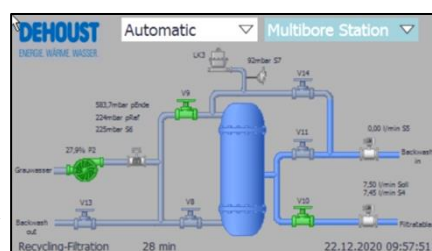
In the next step the system takes care that all organic pollutants (e.g. detergents) will be decomposed in the aerobic biological cleaning stage by especially developed bacteria culture.

After a following short sedimentation phase the heart of the GWM Connect MB, the multibore membrane filter starts to filter out the pre-treated greywater. With a physically pore width of only 20 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.

The filtration process is managed by a special developed program called SFC for greywater filtration to achieve maximum treatment performance and service lifetime. After the filtration process approx. 10% of the recycled greywater will be used for backwashing the multibore membrane filter. An automatic integration test (pressure holding test) checks the integrity of the membrane fibers for trouble free operation and a safe retention of particles and germs.

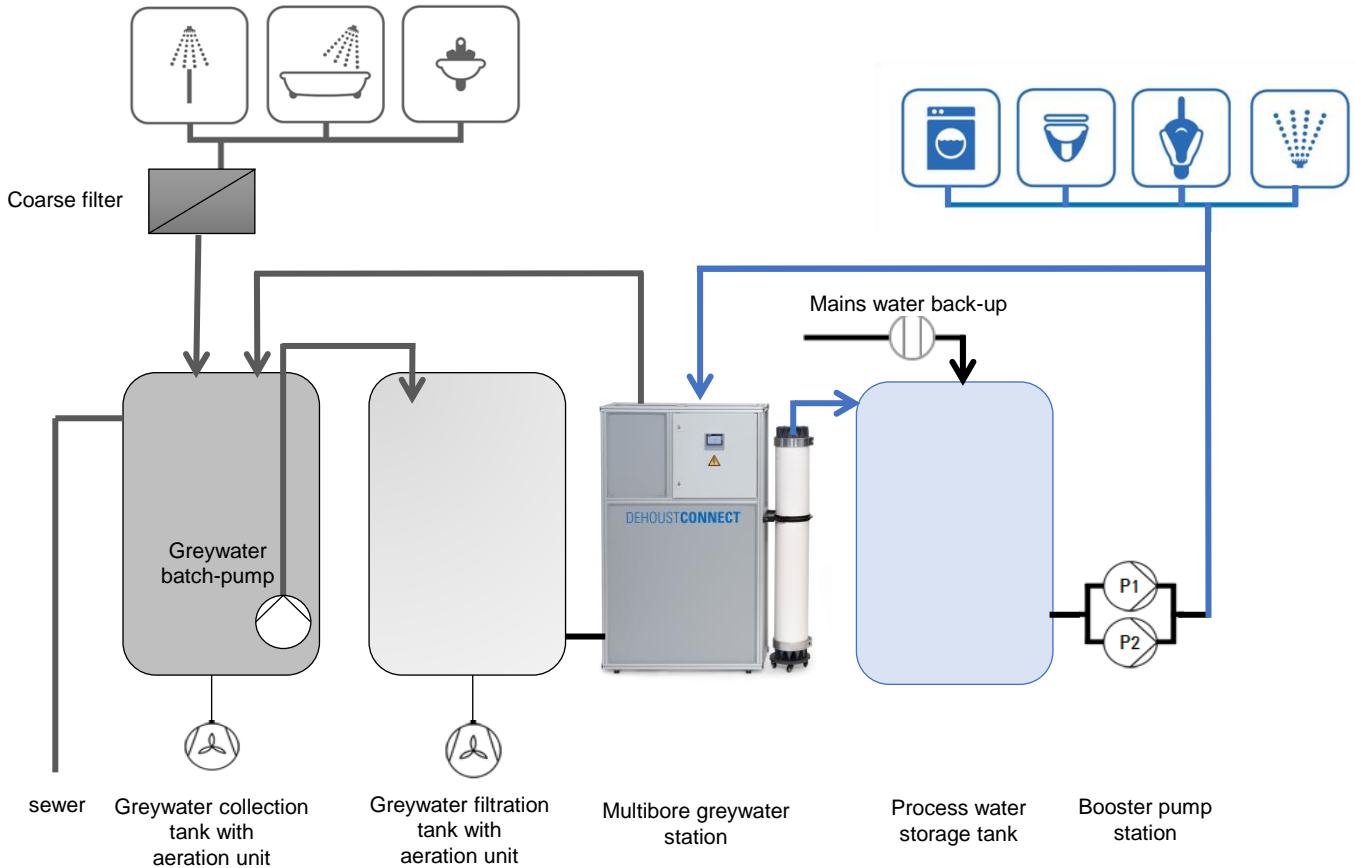
Thanks to the very high effluent quality the purified process water is suitable for a long storage (toilet flush box) and a variety of safe reuse applications.

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.



Treatment steps and main components

coarse filtration 0,3 mm → aerobic biological treatment → sedimentation → ultrafiltration 20 nm



Effluent qualities on treated greywater

Parameter	Raw greywater	Treated greywater
COD [mg/ltr]	150 – 400	< 20
BOD ₅ [mg/ltr]	85 – 200	< 3
Suspended solids [mg/ltr]	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



➤ Effluent qualities on treated greywater comply with European standard EN 16941-2 and British Standard 8525-1 as well as European standard bathing water 2006/7/EG for safe water reuse.

Design configuration

Multibore greywater station incl. greywater filtration tank and aeration unit

to manage and operate a greywater system GWM Connect MB; incl. main components like controller, webinterface, multibore membrane filter, filtrate pump, level sensors, flow sensors, motor valves,...



Model	38 W	60 W	80 W
Item	813361	813362	813363
treatment performance (L/d)*	5,500	9,000	12,000
electrical load	230 V / 50 Hz 0,8 kW	230 V / 50 Hz 0,8 kW	230 V / 50 Hz 0,8 kW
backwash volume needed @ 3 bar	min. 3,6 m³/h	min. 4,8 m³/h	min. 6 m³/h
dimension Multibore station (LxWxH mm)	1.600x500x1.950	1.600x500x1.950	1.600x500x1.950
weight Multibore station (kg)	80	95	100
dimension greywater filtration tank LxWxH mm)	1.560x720x1.640	2.070x720x1.690	1.870x995x1.650
weight greywater filtration tank (kg)	75	115	120
volume greywater filtration tank (L)	1,500	2,000	2,500
connection backwash in	DN 40 male thread		
connection backwash out	DN 25 male thread		
connection filtrate effluent	DN 25 male thread		
sound level Multibore greywater station	max. 48 dB (A)		

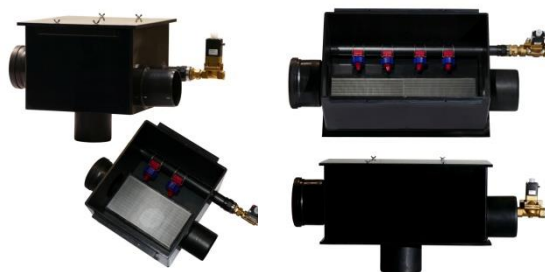
* Net recycling rate taking backwashing and settings into account; treatment performance depending on setup settings and greywater pollution

Design configuration

Coarse filter

Coarse filter Trident MAX I with ports DN 100 incl. cleaning nozzle and automatic backwashing ½" female thread controlled by Multibore greywater station
Item 812651

Coarse filter Trident MAX II with ports DN 150 incl. cleaning nozzle and automatic backwashing 1" female thread controlled by Multibore greywater station
Item 812657



Greywater collection tank 1,500 – 4,000 litres

Greywater collection tank with inlet DN 100/150 and overflow nozzle DN 100/150 controlled by Multibore greywater station

Item 962051 – 1,500 litres

Item 962053 – 2,000 litres

Item 962055 – 2,500 litres

Item 962057 – 3,000 litres

Item 962059 – 4,000 litres

➤ greywater extension tanks are also available to increase volume!



Aeration system

Aeration unit for further PE HD greywater collection tank power consumption 130 Watt controlled by Multibore station
Item 813440

Extension package aeration unit PE-HD greywater collection tank controlled by Multibore greywater station
Item 813442



Greywater batch pump

Greywater batch pump DOC 3
volume rate: max. 8.7 m³ / h
delivery height: max. 7 m
power consumption 310 Watt
controlled by Multibore greywater station
Item 813443

Greywater batch pump DOC 7
volume rate: max. 13,8 m³ / h
delivery height: max. 11 m
power consumption 780 Watt
controlled by Multibore greywater station
Item 813444



Design configuration

Process water storage tank incl. mains water back-up

Process water storage tank according to EN 1717 with overflow DN 100/150 and solenoid valve for mains water back-up controlled by Multibore greywater station

Item 962050 – 1,500 litres

Item 962052 – 2,000 litres

Item 962054 – 2,500 litres

Item 962056 – 3,000 litres

Item 962058 – 4,000 litres

➤ process water extension tanks are also available to increase volume!



GWM-Rainwater feed package

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

volume rate: max. 13,5 m³ / h

delivery height: max. 10,4 m

power consumption 510 Watt

controlled by Multibore greywater station

Item 812966



Auto-drainage-system for process water storage tank

Automatic drainage of storage tank after defined downtime according to the requirements of European standard EN 16941-2 and British Standard 8525:1-2011.

controlled by Multibore greywater station

Item 813456



Technical requirements on installation and plant room

➤ separate downpipe for greywater (excluding kitchen sinks, toilet, washing machine)

➤ separate process water pressure pipe to consumer (toilet box, irrigation, ...)

➤ mains water connection to process water storage tank for mains water back-up

➤ floor drain according to EN 1717 in case of emergency overflowing

➤ electrical power source according to specification

➤ dry, frost-free and ventilated plant room for Multibore greywater station and greywater filtration tank



Design and configuration examples

A) Multibore greywater station MB 38W (item 813361)

B) Coarse filter Trident MAX I (item 812651)

C) Greywater collection tank 3,000 litres (item 962057)

D) Extension package aeration unit (item 813442)

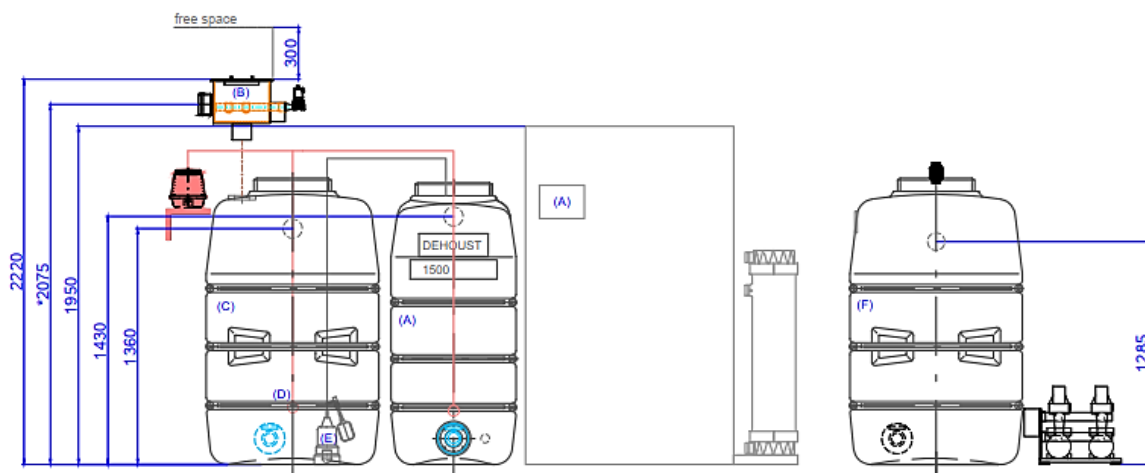
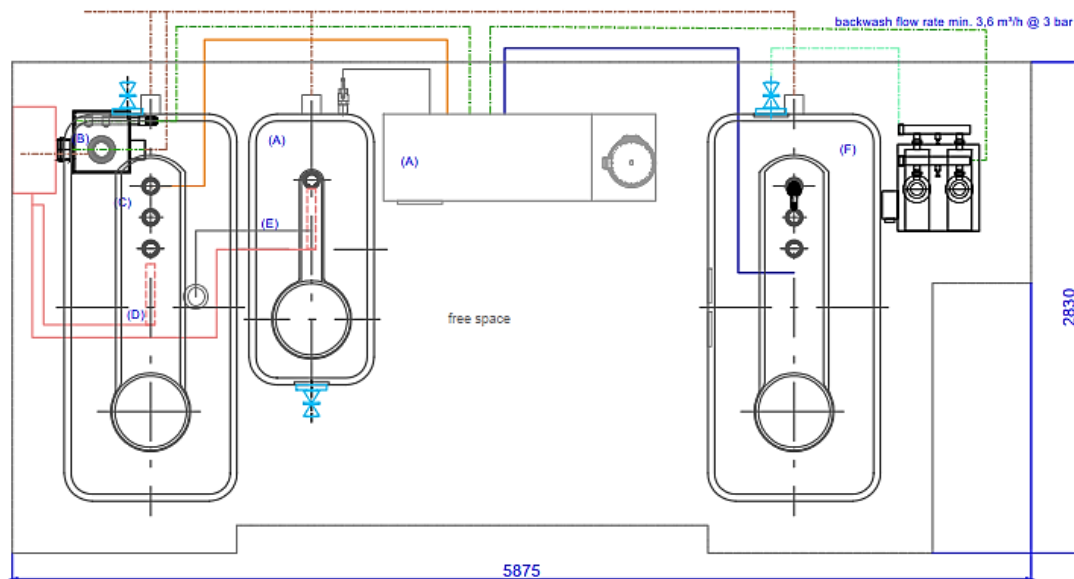
E) Greywater batch pump DOC 3 (item 813443)

F) Process water storage tank 3,000 litres (item 962056)

➤ Treatment capacity: max. 5,500 litres/day

➤ Total weight (empty): 510 kg

➤ Electrical load: 230 V / 16 A / 50 Hz / 1,1 kW



Design and configuration examples

A) Multibore greywater station MB 60W (item 813362)

B) Coarse filter Trident MAX II (item 812657)

C) Greywater collection tank 4,000 litres (item 962059)

D) Extension package aeration unit (item 813442)

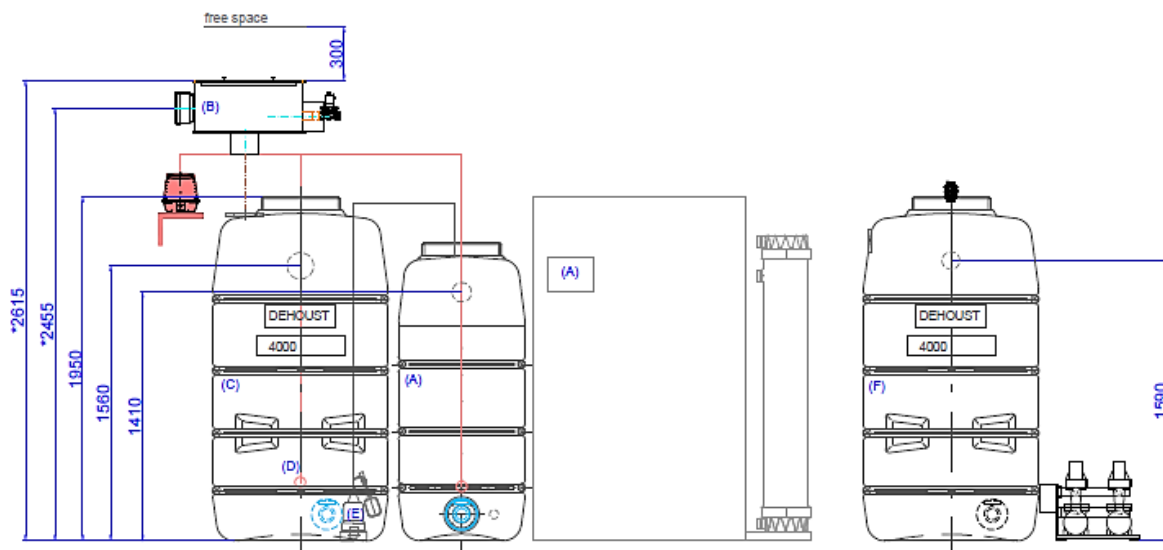
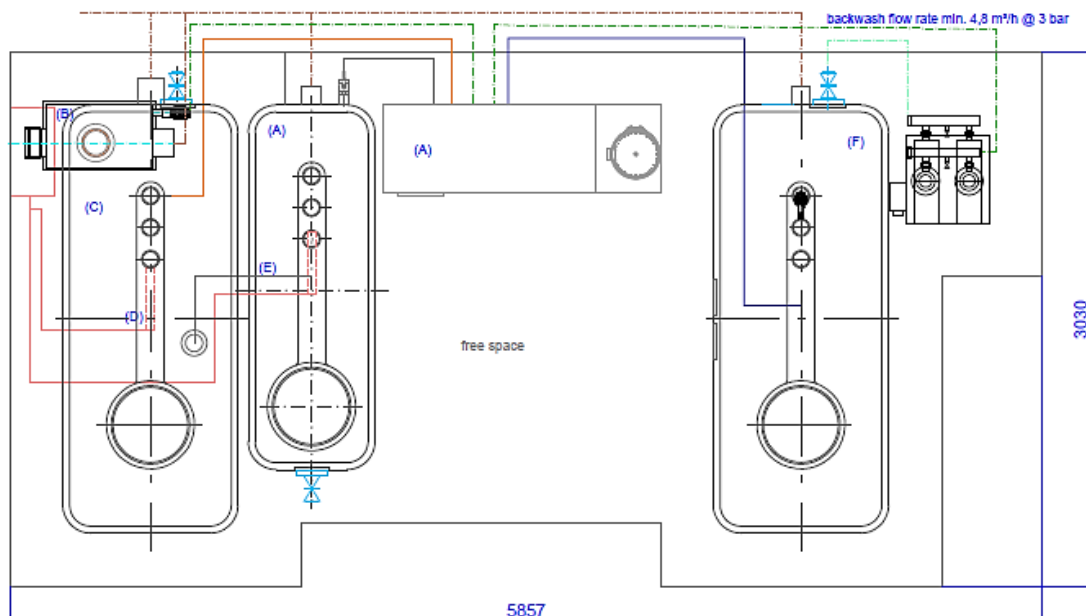
E) Greywater batch pump DOC 3 (item 813443)

F) Process water storage tank 4,000 litres (item 962058)

➤ Treatment capacity: max. 9,000 litres/day

➤ Total weight (empty): 710 kg

➤ Electrical load: 230 V / 16 A / 50 Hz / 1,1 kW



Design and configuration examples

A) Multibore greywater station MB 80W (item 813363)

B) Coarse filter Trident MAX II (item 812657)

C) Greywater collection tank 4,000 litres (item 962059)

D) Extension tank 4,000 litres (item 962039)

E) Aeration unit for PE HD storage tank (item 813440)

F) Extension package aeration unit (item 813442)

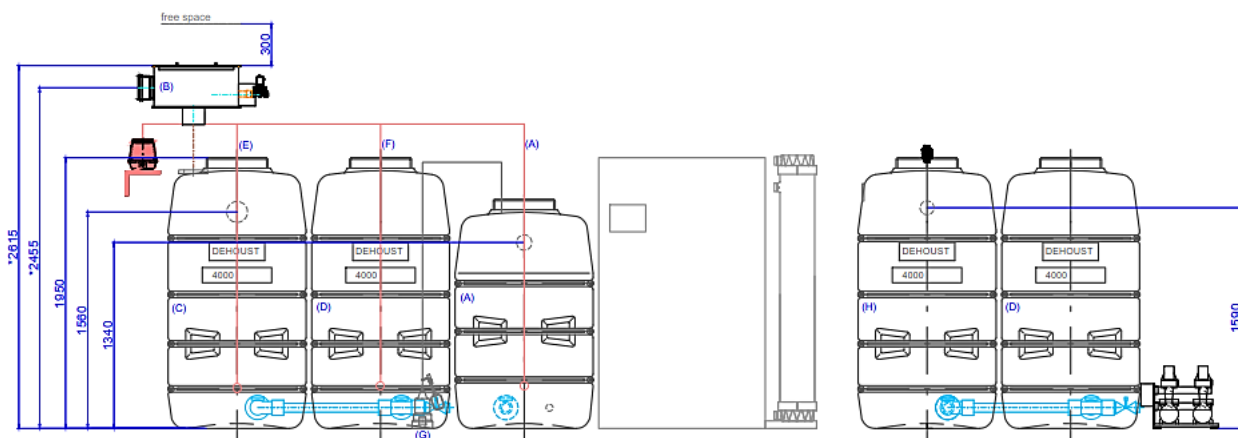
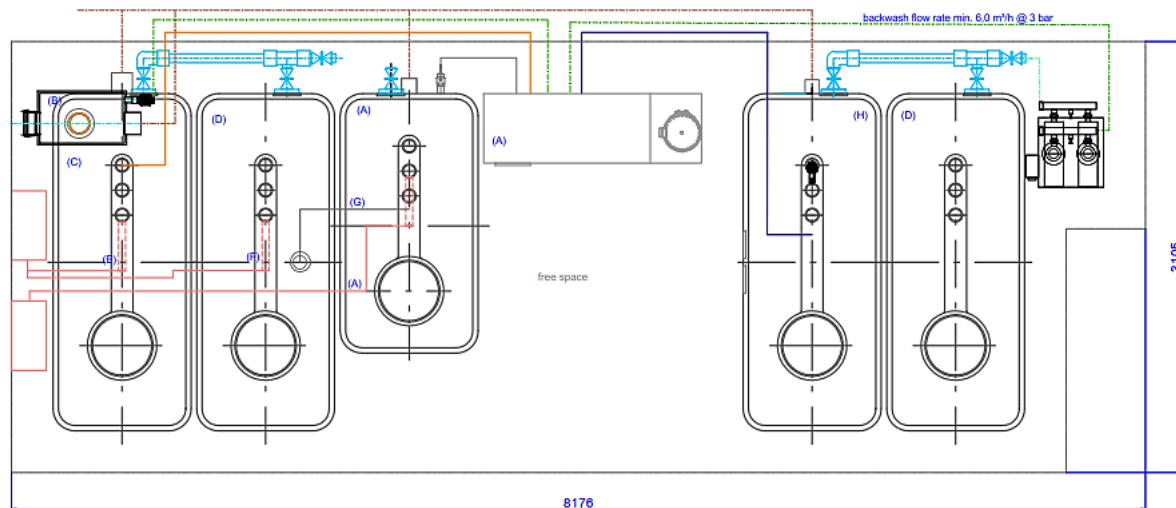
G) Greywater batch pump DOC 7 (item 813444)

H) Process water storage tank 4,000 litres (item 962058)

➤ Treatment capacity: max. 12,000 litres/day

➤ Total weight (empty): 1.220 kg

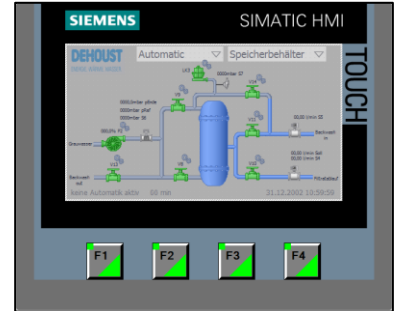
➤ Electrical load: 230 V / 16 A / 50 Hz / 1,71 kW



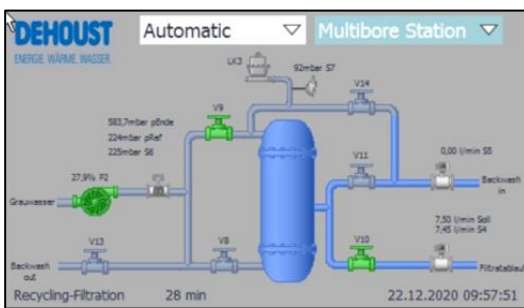
Remote control via DehoustCONNECT

The controller DehoustCONNECT allows you to have following functions available:

- realtime access to controller
- change settings to adjust performance
- live-monitoring on important data
- remote troubleshooting and inspection
- alarms and operation status
- updates via internet



The connection of DehoustCONNECT is simple and takes into account the highest security standards to the domestic LAN network. The web interface establishes an outgoing VPN connection via the TCP port 1194 to the DehoustCONNECT server. This port must be activated by the operator in the firewall for an outgoing TCP connection. All data communication is optimally protected against unauthorized access and only running via the DehoustCONNECT server.



DEHOUST Automatic Wasserbilanz

	letzter Zyklus	Gesamt	
Aufbereitetes Grauwasser brutto	0,145m³	26,866m³	Reset
Membranfilter Rückspülung	0,056m³	4,321m³	Reset
Aufbereitetes Grauwasser netto	0,090m³	22,545m³	Reset
Aufbereitungsleistung	63,382 Liter/Stunde	1521,158 Liter/Tag	

Recycling-Filtration 28 min 22.12.2020 09:58:16