

MOUNTING AND MAINTENANCE
GUIDE FOR MIXED BED
822-1030 COMPLETE UNIT

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1. MIXED-BED

1.1 Description of Plant

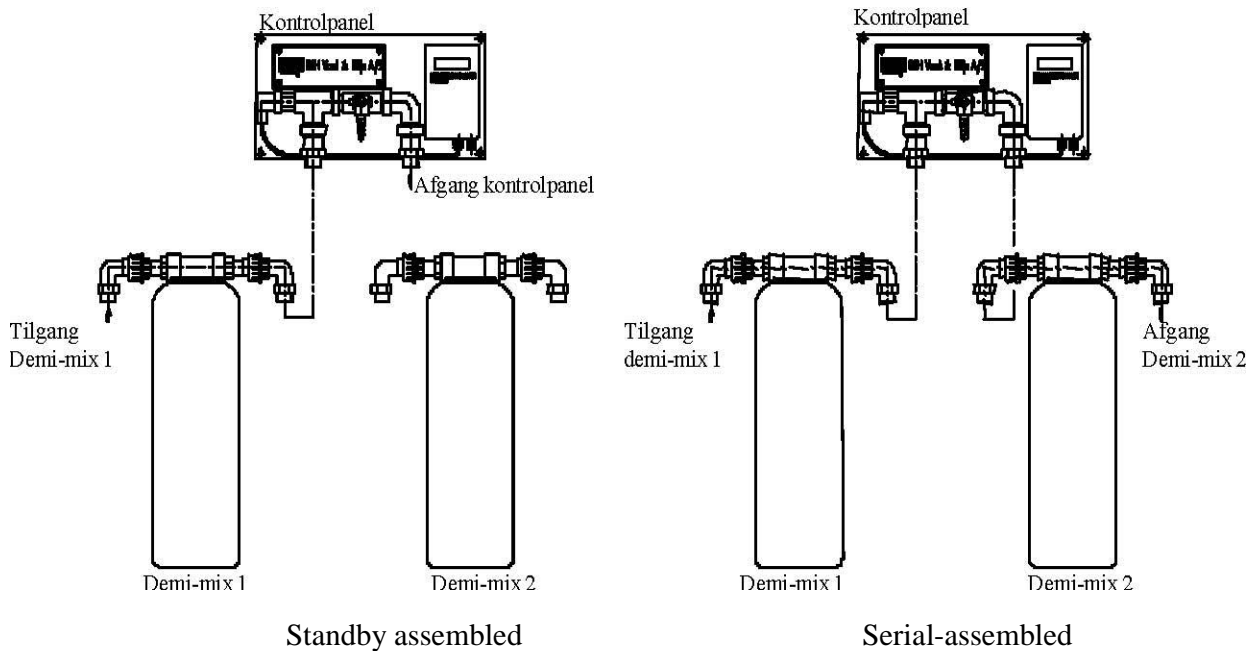
The plant consists of 2 fibre-glass reinforced polyethylene tanks with mixed-bed filter resin (cation and anion resin) and one control panel with digital conductivity meter with adjustable alarm and optional 4-20 mA socket (See chapter dealing with conductivity meter).

1.2 Connection

The plant must be assembled in compliance with current regulations, either by an authorised plumber or by an HOH service technician. The floor drain must be in immediate vicinity of the plant.

Note: The filter resin starts the ion exchange as soon as it gets in contact with water and the filter resin cannot withstand any kind of vibration after contact with water, and consequently cannot endure being transported after being in contact with water.

The plant can either be installed with both tanks in series or with one single tank in operation and the other as spare. See below diagram. The control panel shall be connected to 230 V/50Hz.



1.2.1 Serial Mounting

When mounting in series you must make sure that the conductivity can still be kept at a low level during continuous operation when the capacity of the first tank has been exhausted. The instant the capacity of the first tank is exhausted, an alarm is triggered on the conductivity meter. After that a filter replacement must be ordered from HOH Service promptly. The used tank 1 will be exchanged and inserted as new tank 2, whereas the used tank 2 will be inserted as new tank 1.

1.2.2 Standby Assembly

Installation with a single tank in operation and the other tank as spare is recommended where there is a need for a complete tank as spare and there is no continuous operation. In case of alarm for exhausted tank, the exhausted tank 1 will be exchanged, and stand-by tank 2 will be inserted as new tank 1. After that you must order a filter replacement from HOH Service soonest possible.

HOH Service tel. #: +45 43 970 101.

1.3 Operation

Prior to operation the filter shall be rinsed with 20-30 l of water. When the filter resin capacity has been exhausted, conductivity increases after the filter. The alarm set point shall be set on the conductivity meter (See special section).

Make arrangements with HOH Water Technology about the interval of the filter replacement, as this depends on the water consumption and the hardness of the water.

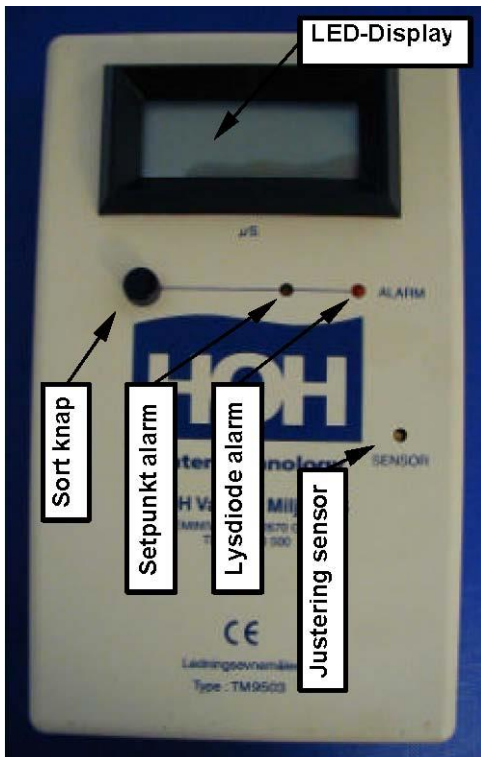
By operational flow conditions deviating from the recommendations, you obtain a poorer quality than the technical data stated in below diagram.

1.4 Technical Data

Technical data	822	1030
Recommended flow max. [l/min]	18	25
Recommended flow min. [l/min]	6	12.5
Quality [μ S/cm]	>0.4	>0.2
Regeneration capacity at 1 °dH [l.]*	12,000	22,000
Regeneration capacity at 20 °dH [l.]*	600	1,100
Maximum inlet pressure [bar]	6	6
Height [mm]	620	820
Diameter [mm]	220	265
Water connection	½" nipple	½" nipple
Electrical connection	230V/50Hz	230V/50Hz

*The capacity varies according to the water salt content and the content of CO₂.

2. CONDUCTIVITY METER



The purpose of the conductivity meter is to measure and indicate the conductivity and sound an alarm in case of exceeding of the set value or by power failure.

2.1 Design

Conductivity is read on the grey 3½ digit LED-display. Under the display on the left side there is a black button, adjusting screw for alarm and LED for alarm. To the right in the middle there is an adjusting screw for the sensor.

The conductivity meter is equipped with potential free alarm-relay output and adjustable alarm set point.

2.2 Commissioning

The conductivity meter shall be connected to 230V AC/50 Hz and can be set in three measuring ranges: full scale 19.99 μ S, 199.9 μ S or 1999 μ S. The measuring range can be set by moving the dip switch on the PCB. Access to the PCB is gained by loosening the four bolts at the back.

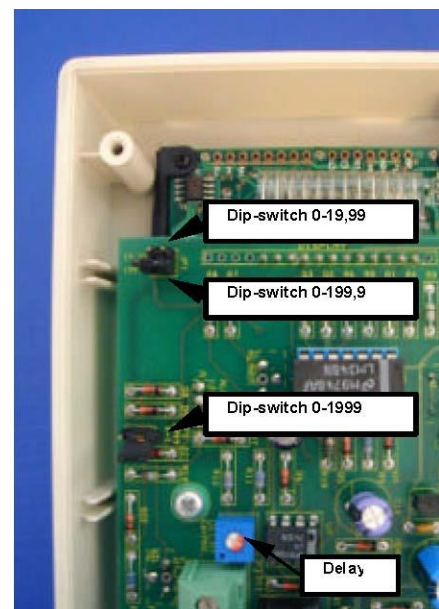
As optional equipment a converter can be built in with analogue 4-20 mA output signal.

2.3 Alarm

You have access to the change-over selectors of the alarm relay. The alarm function can consequently use either a normally open or normally closed contact function. The relay is active when the conductivity meter is on and there is no alarm. If the alarm unit is used for remote alarm, the alarm will trigger if the conductivity meter is switched off, or an alarm occurs. When an alarm occurs, the red LED labelled "ALARM" is switched on and the alarm relay is deactivated. The alarm is time-delayed and adjustable.

2.3.1 Set Point Alarm Level

The set point of the alarm is changed by turning the set point screw and simultaneously pressing down the black button. The level is adjusted upwards by turning right and downwards by turning left.



2.4 Sensor

The sensor is designed with a black PVC housing and measures Ø22/SP25x41mm. On top there are two cable lugs for connection of electricity. The bottom (wet side) is equipped with 19mm x ½" external pipe thread. The sensors are also placed here. The length of the sensors depend on the sensor cell constant (K-value).

Item No. 452536007 Cell constant by full scale 19.99 µS: K = 0.1 l=18 mm

item No. 452536006 Cell constant by full scale 199.9 µS: K = 1,0 l=0 mm

Sensor cell constant is clearly marked on the cable. The sensors are made of graphite.

Following data should not be exceeded:

- **Max. temperature 60°Celsius**
- **pH-value 4-9**
- **Max. pressure 12 bar**

2.4.1 Calibration

You may compensate for the sensor cell constant, $K \pm 35\%$. The cell constant is calibrated by adjusting the screw labeled "sensor" until the display shows the correct conductivity, cf. the calibration instrument or water with specific conductivity. It is recommended that the adjustment be made at approx. 25-50% of full scale. If no sensor is connected, the display shows the least important digit between 0-2.

2.5 Technical Data

Set point alarm

Alarm is triggered by the adjusted value $\pm 0.5\%$ of full scale.

Alarm hysteresis:

Approx. + 0%, -0.25% of full scale. The alarm point can be adjusted in the range 1% to 99% of full scale. The alarm can be delayed on "delay" by turning the screw on the PCB; see illustration.. Access to the PCB is gained by loosening the four bolts on the back.

Connections etc.

Supply voltage: 230 VAC/50Hz/± 10 % is connected between terminals marked "230 VAC".

The sensor shall be connected to the terminals marked "SENSOR".

measuring frequency/voltage: 50 Hz/6.3 VAC

Remote alarm shall be connected via potential free switches, ALARM, NC, NO and C.

C and NC are short-circuited when the box is on and there is no alarm.

C and NO are short-circuited when the box is off or there is an alarm. The maximum terminal voltage/power (resistive load) of the relay: 230 VAC/0.5 Amp.

Relay output is not equipped with fuse.

Mechanics:

Box: Material: High-impact polystyrene (UL94HB) Colour: Off-white, RAL 9002. Measures: H = 158 x W = 95 x D = 57 mm

The box will be assembled with 2 bolts, bolt head maximum $\varnothing = 7$ mm, minimum $\varnothing = 5$ mm; thread maximum: $\varnothing = 4$ mm.