

ASSEMBLY & OPERATING INSTRUCTIONS for

GAHOtech clean VK 5000

109877

Status: April 2005

Installation site

The operating instructions in full before commissioning! The manufacturer accepts no liability incorrect operation or failure to observe this documentation for faults caused by.

Keep for later use! These operating instructions are part of the appliance.

General information

- **Before installing and using the device**
Please observe the corresponding installation and operating instructions in this operating manual
- **Please:**
The manufacturer is exempt from any liability for improper use and improper operation.
- **Intended use:** GAHOtech clean VK 5000FB is used exclusively to remove undesirable minerals which are deposited as scale and stains on the wash ware.
Use of the device for other applications only after prior consultation and authorization by the manufacturer!
- No changes may be to the system without consulting us our and obtaining consent. Otherwise we will not accept any liability for damage.
- The temperature in the operating room of the system must be at **least 5 °C**.
- Observe the general regulations and directives applicable at the installation site of the system, as well as the applicable accident prevention regulations.
- It is important for all queries and spare parts orders to state the correct appliance designation.
This is the only way to ensure quick and correct processing.
- Observe the general regulations and directives applicable at the installation site of the system, as well as the applicable accident prevention regulations.

Transport and packaging

- Our systems are carefully packed and checked before dispatch. However, damage during transport cannot be ruled out. Therefore, incoming inspections are absolutely essential.
- Check the completeness of the delivery using the delivery note.
- If the packaging is damaged: Carry out a visual inspection of the goods immediately. Make a note of this on the shipping documents from the shipping company. Please add that you the right to conceal retain any damage that only becomes apparent during commissioning. Contact the haulage company immediately. Otherwise the transport insurance cannot be invoked. Keep the packaging for possible inspection by the carrier or the insurance company.
- If possible, use the original packaging for the return shipment. If this is no longer available, pack the goods in shockproof packaging.

Benefits of water treatment

Rinse faster and save costs

Scale in appliances, stains on crockery or cutlery and streaks on glasses are usually the result of unsuitable water quality. Salts leave their mark or lead to limescale formation.

In addition to more time, there are higher costs for:

- Repairs of appliances.
- Maintenance of the machines.
- Operating times and detergent, rinse aid, .multiple rinsing
- Personnel deployment (repolishing).
- additional wear and tear on glasses, crockery and cutlery.

GAHOTech VK 5000FB clean eliminates the need for multiple rinsing, polishing and descaling; at the same time, smaller quantities of detergent and rinse aid are required.

System protection ensures a long appliance life and fewer faults or repairs.

Limescale deposits	Calcium and magnesium salts are primarily deposited in heated water in machines or on surfaces. Limescale forms and impairs the function of appliances or fittings, leaving behind unwanted deposits. GAHOTech clean prevents limescale formation.
Increase consumption stop	Increased detergent or energy consumption or the use of chemicals and all the negative effects on the environment are the result. It is therefore advisable to treat the water in the household, especially where large quantities of water are used for cleaning.
System protection	GAHOTech clean rinse water prevents machine breakdowns, guarantees longer maintenance intervals and saves on labour costs, material, repairs and detergent. It is therefore pure machine protection.

System description

GAHOTech clean VK 5000FB is intended for the supply of dishwashers with softened water 0°dH (demineralisation).

This is fed through demineralisation granulate (mixed bed resin) and treated. The granulate is processed by the manufacturer. As an option, a conductivity meter can pure water quality directly the regenerated measure

Please note for the conductivity meter (option):

The device is screwed directly onto the outlet of the cartridge that the flat gasket is seated correctly. The conductivity meter is wrapped around and placed straight onto the connection thread in the pipe. Now screw the housing tightly the thread with Teflon tape firm.

Caution! Do not force. If the appliance cannot be easily screwed in it. Make sure that the thread does not tilt. If the conductivity meter cannot be screwed in completely, check the length of the electrodes against the depth in your connection. There must be enough space for the measuring rods. Otherwise you will not be able to use this device.

After installation, please the power supply unit to the socket on the housing. The contact pins are different so that the plug can only be plugged in in one position. Do not use force! The plug can be securely fastened with a screw.

Now insert the plug into the socket (230 V, 50 Hz - 60 Hz). The conductivity can now be read off.

Note: The exact values are only reached approx. 5 minutes after start-up!

The conductivity value is visible on the easy-to-read LCD display. If the conductivity value is exceeded, of 80 $\mu\text{S}/\text{cm}$ the built-in LED lights up. After exceeding the measuring range (maximum display value), the LCD display flashes.

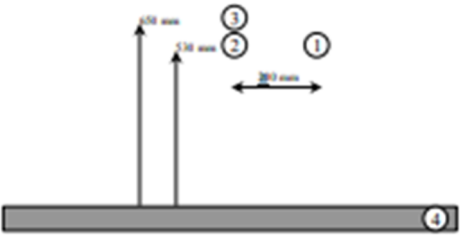
This measuring device operates under electrical voltage! It must be used with the appropriate care

Further information can be obtained via the advice hotline

Accessories/options:

- Connection set
- Partial water demineralisation system
- Conductivity meter (optional)

Assembly preparation

	Provided by the client ① Cold drinking water supply line (labelled "IN") in 3/4" a with stopcock at a height of 500 mm and a flow pressure of 3 to 6 bar with a water consumption of 1500 litres per hour. ② Outlet pipe for pure water (labelled "OUT") to the consumer in 3/4" a with stopcock at a height of 500 mm (pipe in pure water-resistant material such as PP, PE, V₂A) ③ Double socket 230 V / 50 Hz, 16 A at a height of 600 mm ④ Floor drain must be present in the room
---	---

Assembly

The installation of the connection cables and the socket for the optional conductivity meter may only be carried out by only be carried out by suitably qualified personnel (in-house technician or specialized installer).

Place the GAHOtech clean VK 5000FB in the installation room after preparing for installation.

1. Place the appliance in the installation room after completing the installation preparations.
2. Connect the water inlet and outlet. The connections on the system are labelled (inlet with 'INLET', outlet with 'OUTLET').
3. Check all screw connections on the system and tighten them hand-tight.



Sampling tap

4. Connect the outlet to the water supply (connection against the direction of flow. The connections on the system are labelled (inlet with 'INLET' or 'Eingang', outlet with 'OUTLET' or 'Ausgang'). Have a bucket and cloth ready.
5. Open the water supply slightly.
6. If water leaks at the inlet: close the water supply, connect the GAHOtech clean VK 5000FB correctly! The cartridge is now vented.
7. Wipe up any leaking water, otherwise there is a risk of slipping!
For the conductivity meter option: Fit the adapter with the meter on the cartridge at the drain.
Only then connect the drain hose to the consumer. Always follow the operating instructions for the conductivity meter!
8. Check all screw connections and tighten them hand-tight.
9. Connect the conductivity meter to the power supply.

Commissioning

Settings:

The measuring device is preset at the factory. Observe the specifications when ordering and the operating instructions for the measuring device!

1. Ask the local waterworks about the drinking water quality (conductivity in $\mu\text{S}/\text{cm}$).
2. Start the water supply. The raw water pressure must be at least 2 bar and a maximum of 6 bar for running water.
3. Enquire at the local waterworks about the drinking water quality (conductivity in $\mu\text{S}/\text{cm}$)
4. Convert the conductivity to the auxiliary capacity value:

Auxiliary capacitance value: $\frac{\text{spec. conductivity } \mu\text{S}/\text{cm}}{30}$

5. Determine the average daily requirement
6. Calculate the capacity and service life as follows:

Capacity: $\frac{50000 \text{ hardening litres}}{\text{Auxiliary capacity size}}$

Service life: $\frac{\text{Capacity}}{\text{Average daily requirement}}$

7. Open the bleed valve on the cartridge (do not unscrew completely, only open by about two turns until air

escapes).

8. Start the water supply. The raw water pressure must be at least 2 bar and a maximum of 6 bar upstream pressure.
9. Wait until a constant jet of water flows out of the cartridge.
10. When the water jet emerges: close the bleed valve! The cartridge is now vented.
11. Wipe up any leaking water immediately!
12. Fill in the system monitoring card daily (appendix).
13. Monitor conductivity meter, send cartridge for regeneration in good time before the conductivity limit is reached! Each user must determine for himself up to which conductivity value he can actually use the water!

The system is in operation.

Spare parts

Pos.	Designation
1	VK 5000FB compl.
2	Connection set ((connection hoses and water meter)
3	GRP container incl. sealing lid
4	Lance system+ screw connection
5	Sealing cap
6	GAHOtech mixed bed
7	LFM type 1 / 0-1000 µS/cm
8	LFM type 1 / 0-100 µS/cm
9	LFM type 1 / 0-10 µS/cm

Dismantling and disposal

After the appliance has been used, it is dismantled (final demolition or scrapping) in the reverse order of assembly.

Attention!

Clean appliance parts thoroughly with fresh water beforehand and empty !the containers and pipework completely

The applicable occupational safety instructions must be observed!

The various system components must be of disposed in accordance with the local waste and disposal guidelines

Metal parts:	Scrap iron
Cables and electrical material:	Commercial waste
Membranes and filter inserts:	Hazardous waste

Care and service instructions

- Regenerate the GAHOtech clean VK 5000FB at least once a year at the manufacturer, otherwise Risk of contamination!
- Check the conductivity value regularly so that the system is not overrun. Return to the manufacturer in good time.
- Fill in the enclosed system card regularly. This is the only way to take precautions in good time.

Troubleshooting

Malfunction	Cause	Remedy
Plant supplies hard water.	a) System exhausted (overrun)	a) Send the system for regeneration to the manufacturer
	b) Conductivity meter is not connected to the power supply	b) Check by plugging in and unplugging
	c) Conductivity meter is defective	c) Send the device to the manufacturer
	d) Leak in the distribution pipe.	d) Make sure that there is no crack in the distribution pipe is not clean. Check the "O" ring and pipe guide
	e) Initial lance has a hairline crack	e) Install new output lance
	f) Off - confused with input line	f) Make sure that there is no confusion
Low exchanger capacity	a) Change in drinking water quality	a) Check the drinking water quality and recalculate the capacity if necessary, regenerate the cartridge or replace it with a more efficient powerful unit
	b) Swapped cartridge	b) Send in immediately for regeneration
	c) Flow velocity too high	c) Reduce flow velocity
	d) Burst pipe / pipe repair on the drinking water network	d) Flush the line, regenerate the cartridge if necessary
	e) System defective	e) Send the system to the manufacturer
Water pressure loss	a) Iron deposits in the line to the system.	a) Clean the line to the system.
	b) Iron deposits in the container	b) Regenerate more frequently
	c) Valve inlet blocked by foreign bodies that have become detached from the pipework during previous work on the installation system.	c) Remove the piston and clean the valve.
Resin leakage through output line	a) Defective resin sieve / resin trump card	a) Inspection by the manufacturer
Leaking at the sealing cap or container	a) Resin grains on the sealing ring	a) After consulting the manufacturer, open the cover, sealing ring clean the and then close again
	b) Hairline crack due to transport damage or pressure shocks	b) Send to the manufacturer the system for repair

Further information can be obtained via the advice hotline

System accompanying card

Customer address:			

[illegible]