5 Warranty conditions

Our products come with one-year warranty; defects caused by the manufacturing process within the
warranty period will be repaired free of charge. The following aspects are not covered by the guarantee. Defects in our products caused by:

General

- not following the guidelines given in this manual.
- incidents or deliberate destruction of the product.
- changes made to the products by the customer.
- natural disasters such as floods, hurricanes, etc.
- not able to submit purchase bill or warranty bill.
- placing the product in a non-suited environment (direct sunlight, rain, etc)

Heating element and control boxes

- water ingression in controlbox
- scale build-up on heating element
- damage to connector between heating element and controlbox by disconnecting it while powered
- by replacing the fuse by a fuse of a different value.

The cost for sending the product to the service point are for the customer. If the repair is under warranty, the costs for returning the goods are on our behalf. In all other cases, all shipping costs must be paid by the customer. TWT and its dealers are not responsible for damage caused by the use of our products.

6 Disclaimer

TWT has written this manual with advice to the best of intentions. However, TWT does not accept any liability with regard to this manual, nor for the application of our products in whatever form or nature whatsoever.

TWT reserves the right to change the information in this manual without prior notice. All photos in this manual are designed to serve as explanation element, the pictures may differ from the real product.

Manual

Aqua heater water heaters

Dear Customer

We are honoured that you have chosen for the products of Tol WaterTechniek (hereinafter referred to as TWT). Read this manual carefully so you will use the product correctly and so a correct functioning is guaranteed. If after reading this manual or while using our product you have any questions, please contact your dealer or TWT. We will be happy to help!

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1 EG declaration

EC declaration of conformity

Manufacturer
Company name: Tol Watertechniek
Address: Veldhuisweg 4
Postal code: 8372VH
Place: Baarlo
Country: Netherlands

Description and identification of the product concerned
Generic name: Water heater
Function: Heating of pond water
Model: AWH (Advanced Water Heater)
Type: 1kW, 2kW and 3 kW including controlbox
Serial number: See sticker on the machine
Commercial name: Aqua Heater

Compliance
The manufacturer declares that the above-mentioned machinery fulfils all relevant provisions of:

- Low Voltage Directive (2006/95/EC)

In conjunction with the following harmonized standards and where appropriate other technical standards and specifications:

- CEI 801-2
- CEI 801-3
- CEI 801-4
- EN 60335-2-35

Place: Baarlo
Identity: Bas van Tol
Function: Owner
Date: 5-2-2021

Signature:

2 Product explanation

The controlbox and heater are meant to only be used together. The heater has a build-in temperature switch which is activated when the heater becomes to hot.
This is a unique safety feature to ensure a safe and reliable functioning of the heater.

2.1 Safety measures

The heating element will become very hot during normal operation. The heating element only may be operated with the original control box. Using the heating element without the control box will result in unsafe operating conditions!

Be sure that the heating element is fully submerged when in operation!

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

DANGER – To avoid possible electric shock, special care should be taken since water is employed in the use of aquarium equipment. For each of the following situations, do not attempt to repair yourself; return the appliance to the dealer you purchased it from.

- Do not use the appliance directly in a pond
- This appliance is not suited for ponds in which people swim
- Do not operate any appliance if it has a damaged cord or plug, or if it is malfunctioning or if it is dropped or damaged in any manner.
- To avoid the possibility of the appliance, plug or receptacle getting wet, position the controlbox well above the waterline, protected from rain and direct sun.
- If the plug or the receptacles do get wet, DON'T unplug the cord. Disconnect the fuse to the circuit breaker that supplies power to the appliance. Then unplug and examine for the presence of water in the receptacle.
- Always unplug an appliance from the outlet when not in use, before putting on or taking off parts, and before cleaning. Never yank the cord to pull plug from the outlet. Grasp the plug and pull to disconnect.
- Do not use an appliance for other than intended use.
- Do not install or store the appliance where it will be exposed to the weather or to temperatures below freezing.
- Never disconnect the heating element from the controlbox while the controlbox is powered

3 Explanation of the control elements

The controlbox is equipped with a temperature controller and an illuminated switch. This illuminated switch is part of the over-temperature protection of the control box.

3.1 Over-temperature reset

When the heating element becomes to hot, the controlbox activates and alarm which cuts the power to the heating element.
This is visible by a red illuminated switch. When this switch is pressed the over-temperature circuit is reset and the heater returns to normal operation.

At initial start of the heater this switch must be activated once to activate the heater.

3.2 Temperature controller

To achieve a stable temperature of the water, the controlbox is equipped with an industrial temperature controller. The desired setpoint and hysteresis can be set at this controller.

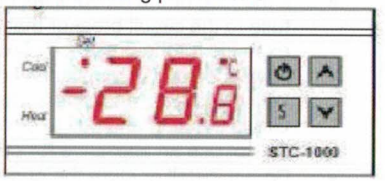
3.2.1 Explanation of the keys

Set key, used for confirm settings, entry of values and setting parameters

Power On/Off

Key to increase values

Key to decrease values



3.2.2 Operation of the controller

During normal operation the controller shows the current temperature. If you press the ∧ key the controller will show the set-temperature. If you press the ∨ key it will show the hysteresis (F2).
Press the On/Off key to return to the normal display.

If the On/Off key is pressed and hold for 3 seconds during normal operation, the controller will go Off. When the On/Off key is pressed and hold again for 3 seconds the controller will go On again.

3.2.3 Setting parameters

Press the S key for 3 seconds to activate the parameter menu. The use the ∧ and ∨ keys to step through the parameters F1 to F4 (see menu code table below).

Code	Function	Range	Standard
F1	Set temperature	-50 - 99 °C *	10 °C
F2	Hysteresis	0.3 - 10 °C	3 °C
F3	Not used		
F4	Temperature calibration value	-10 - 10 °C	0 °C
* The heater can be used up to a temperature of 30 °C			

Press the S key again to select the chosen parameter, it now will show the current setting of the parameter.
Press and hold the S key and the ∧ or ∨ simultaneously to adjust a parameter. Save the modified parameter by pressing and releasing instantly the On/Off key, the controller will go back to the main screen (current temperature).
If there is no key operation for 30 seconds the controller will automatically return to the main screen **without** saving the modified parameter data!

If an error occurs during saving parameter data the display will show "Er" for 3 seconds and then return to the main screen.

F3 is not used for this controller.

4 Installing the heating element

Install the heating element in a location were sufficient water flows around the heating element. The best place is at the inlet of a filter or in a pump sump for example. There needs to be sufficient free space around the heating element and the heating element must be placed in a place where there is a high water flow/velocity.
Never put the heater directly into a pond/pool/aquarium as this can result in injuries as a result of the hot heating element.

When delivered, there are two clamps mounted to the heater. Never remove these clamps to ensure there is sufficient space around the heating element.

Place the controlbox in a dry environment protected from rain and direct sun exposure. Only use the device with a wall socket with a working ground/earth connection.
Always place the controlbox well above the waterline so water cannot drip into the controlbox via the cable of the heating element.

4.1 Commissioning the heater

Before the heater is powered be sure that the controlbox and heating element are installed correctly. The heating element must be fully submerged!

4.2 Maintenance

The controlbox is maintenance free. Depending on the minerals in the water, minerals may build up on the heating element. Remove this scale build up periodically to ensure optimum heat transfer.

Caution, before you remove the scale build-up be sure to disconnect the control box from the mains and wait at least 30 minutes to let the heating element cool down

4.3 Problem solving

The control box is giving frequent alarms (reset switch illuminated)
- Check the heating element for scale build-up and remove if necessary
- The setting for the water temperature is set to high

The heating element doesn't seem to be energized
- Reset the over-temperature circuit by pressing the reset button
- Check if all cables are connected properly

The display of the controller doesn't show any value

- Press the On/Off button for at least 3 second to switch On the controller
- Check if the cables are all connected
- Check the fuses

4.4 Technical data

Voltage	240V
Power rating	1kw, 2kW or 3kW depending of connected heating element
Temperature range	4 - 30 °C
Wetted materials	Silicone and titanium
Uses	Fresh and seawater
Maximum submersion depth	2m