



Tank[®] O₃

fresh water system

User Manual

Congratulations on purchasing the Tank-O3 *fresh water system*. From now on safe water in an always clean tank!

To install and use this extremely modern and environmentally friendly electrochemical equipment in the most favorable, effective and safe way for you, it is necessary that you adhere to the manual and instruction regulations below. We recommend that you have this equipment installed by an authorized dealer.

After initial installation, we recommend setting the Tank-O3 *fresh water system* to 200 mA, the maximum, for a few days in order to complete cleaning the tank as quickly as possible. Then rinse the tank thoroughly, change the water and set the system to the desired mA, normally about 50 mA.

- **Always provide venting!** A vent is normally present if your vehicle has an outside filler cap.
- The system is suitable for use in plastic and stainlesssteel tanks, but **NOT** in metal and aluminum tanks!
- Never use in combination with additives.
- **Maintenance:** This mainly concerns the timely descaling of the system. See description on page 2.



Why a Tank-O3 *fresh water system*

Many people do not realize that the water quality in the clean water tank, especially at higher temperatures, deteriorates quickly. This results in contamination of the water, contamination of the tank and in the worst case an increased safety risk regarding to, among other things, legionella contamination. The Tank-O3 *fresh water system* is the solution, it is safe, environmentally friendly, 100% natural, no unpleasant smell or taste, the system takes care of everything for you. Intake of clean and drinkable water is not a problem. But what about the development of biofilm, legionella, E.coli, algae, bacteria, viruses and germs in your tank? Especially in warmer areas, the development of micro-organisms can be a danger!

The Tank-O3 *fresh water system* prevents this danger. From now on you simply always have the certainty of a biofilm-free, always clean tank and clean and safe water on board your motorhome, boat, caravan, tiny house, etc. The use of chemical agents is not desirable from an environmental point of view. It also leaves unwanted taste and odor, furthermore, cleaning the tank is a laborious job, it is time consuming, and therefore it is often "forgotten", even if the water has been in the tank for several weeks or even months! Therefore: Take care of yourself with the Tank-O3 *fresh water system*.

Operation of Tank-O3 *fresh water system*

Tank-O3 *fresh water system* is the environmentally friendly system that makes all micro-organisms harmless in the water itself and, unique!, in the entire tank, from top to bottom, from left to right. Your tank is absolute **biofilm-free!** Tank-O3 *fresh water system* produces a small amount of ozone gas on the basis of electrolysis to disinfect the water tank. The ozone gas is created by converting present in the water oxygen (O₂) into ozone (O₃). The treated water is therefore also the "fuel".



Tank-O3 *fresh water system*
Demo column

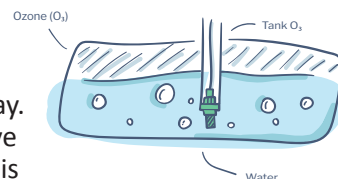
The amount of ozone gas produced by the Tank-O3 *fresh water system* is so minimal that it is not harmful to health and poses no danger to the environment. **The prerequisite is proper ventilation of the tank.** If this is not present, a separate ventilation to the outside must be installed! Tank-O3 *fresh water system* works on safe, minimal low voltage, in contrast to ozone generators or UV equipment which all work on the basis of high voltage! With the most common used tank capacity of 100 / 150 liters, the cell current is set to only approx. 50 mA. If the tank content is smaller, the cell current is set proportionally lower (approx. 30 mA), up to 250 liters proportionally higher. With a tank volume greater than 250 liters, we recommend installing 2 or more systems, spread over the tank to distribute the ozone gas well through the tank. The electrolysis unit is installed as centrally and deeply as possible in the water tank. Because ozone gas is active for max. 25 minutes, depending on the temperature and contamination of the tank and the water, diffusion of the ozone gas in the tank water is essential for optimal operation. A major additional advantage of the gas form is that the whole tank, so not only where the water is, but also in the empty part (above the water level, so also the top) is kept completely clean by the ozone gas. And no other system or remedy that is used to keep the tank and the water present clean does so. This is unique!

Unburdening by Tank-O3 *fresh water system*

We recommend the Tank-O3 *fresh water system* to run continuously, so 24 hours a day. Given the very low power consumption, this can't hurt. This allows you to simply leave the water in the tank all season long. Do not forget to regularly descale the electrolysis unit! If your vehicle is standing or stationary for a longer period of time, for example during the winter or between 2 journeys, it is preferable to switch off the Tank-O3 *fresh water system* (first descale) and switch it off, this can be done by pulling the plug from the power regulator.

In addition, you can empty now the always spotless water tank. If, after a while, you reset the water tank, start the procedure as described in the next paragraph. At the start of the season or after having not used your vehicle for a longer period of time, first rinse the tank thoroughly, without any additives, fill the tank as usual and switch on the Tank-O3 *fresh water system*.

After installation, you can choose to set the maximum amount of 200 mA for a few days to have the tank completely clean and germinated as quickly as possible! Then change the water. Depending on the contamination of the tank and assuming the filling with clean drinking water, the whole will be completely spotless within 48 to 72 hours, from top to bottom, from left to right. You can't beat this with brushing in combination with any other means! And what is perhaps most important: **you protect yourself against possible legionella contamination!** When leaving with the vehicle, set the desired number of mA, normally approx. 50 mA. From now on you are completely "unburdened" regarding to your water tank and water! Congratulations!



Maintenance of the Tank-O3 *fresh water system*

In the beginning, our advice is to check the electrolysis unit once a week on limescale, preferably at a fixed time, so you learn how to deal with the Tank-O3 *fresh water system*. In areas with hard to very hard water, such as Southern Europe, it may even be necessary to check for limescale every **3 to 4 days!** Depending on the amount of lime in the water, sometimes once every 3 days to normally once every 2 to 3 weeks. If necessary, clean/descale with cleaning vinegar or citric acid. See below or see www.tank-o3.com "Cleaning tips".



Limescale removal: Unscrew the lid and remove the hose with the cell core electrolysis unit from the tank. Disconnect the power supply, hang the hose with the unit in a bottle filled with approx. 6 cm of cleaning vinegar or citric acid. (You can reuse this!) After about 30 minutes, the unit is completely clean and free of limescale. Cleaning vinegar heated to 60 to 70 °C makes it faster! Afterwards **blowing through the cell** won't hurt. Now turn the power back on.

TIP: Do you see bubbles when you hang the unit in a glass of water? Then everything is in order. Hang back the unit with cell into the tank, tighten the lid and reconnect power to the system.

The electrolysis may cause the water level meter to become disrupted. Then there are 2 solutions:

- By installing a DC Converter (l x w x h: 100x98x37 mm). Ask your dealer or see www.tank-o3.com "Frequently asked questions" 19 and 17.
- Or you interrupt the power supply to the Tank-O3 *fresh water system* for a short moment (pull the plug from the current regulator) so that the electrolysis current is temporarily lost and the water level meter functions normally.





The flow controller of Tank-O3 *fresh water system*

Explanation of the indications on the flow controller:

LED light	Meaning	What you can do
Green:	Power	System switched on
Green + Yellow:	Check system	Check system
Green + Red:	Short circuit	Short circuit, replace cell core

► Green is always on..... BUT IF THE YELLOW LED ALSO GOES ON:

- Check the connection from the current regulator to the electrolytic cell, is it installed correctly? Make sure the system is suspended **in water**. See Instruction video on www.tank-o3.com "How does it work"
- **You don't see any bubbles?** You may have checked the system for limescale (too) late. Disassemble the cell core of the electrolysis unit, you should now see a tip on the electrolysis unit, see top photo on the right. This may have broken down under the influence of hardened lime, see bottom photo. If the top is broken off or damaged, you must install a completely new electrolysis unit, see www.tank-o3.com "Frequently asked questions no. 17"
- A lot of **limescale** on the cell? Cleaning/descaling with cleaning vinegar or citric acid. See opposite or see www.tank-o3.com "Cleaning tips"
- The hose is **not pressed tight enough**, does this cause water in the hose? Or is the O-ring not mounted? Result: short circuit at the plug in the electrolytic cell. **Solution:** thoroughly dry both the plug and the inside of the electrolysis unit (by blowing). Push the plug back into the electrolysis unit, turn the plug up and down a few times so that the contact is properly restored. And naturally press the hose firmly and well, good luck!
- If a **clamp is not properly tightened**, there is not enough current to the electrolysis unit! **Solution:** See below.
- The **clamp is not pressed in properly** (after replacement!) Check whether the legs of the clamp are firmly be stuck. Press each of the two legs of the clamp on a hard surface until you hear a click. Now the clamp is tight!



► Green is always on..... BUT IF THE RED LED ALSO LIGHTS:

- Short circuit in the cell nucleus or cell nucleus used up? Replacing a cell core, see www.tank-o3.com "Replace the cell nucleus"

Replacement of the cell core

(Electrolysis unit: ozone production: max. 16 mg p/h, voltage: 12/24 volts, current: 0 – 200 mA, pressure: max. 16 bar)

In principle, the cell core only needs to be replaced after at least 6 months, that is why we refer you to our website, where it is explained in detail, with some pictures. See www.tank-o3.com "Replace the cell nucleus". The transparent piece of plastic has a function, so don't delete it.



Mounting the John Guest system

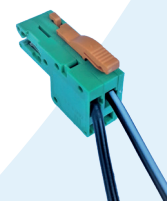
The John Guest mounting system consists of a plug-in system. You press the tube with a diameter of 12 mm firmly and deeply into the insertion part. Disassembly is almost as easy: Press with your fingers against the raised dark gray edge of the insertion part (see illustration). You can pull the hose out again in no time!



Connecting the power wires to the green plug

Remove approx. 1 cm of cable insulation at the end of both power cables and twist each end into one piece. Now press the supplied screwdriver very deeply into the bottom right hole (so under the orange clip), making it possible to insert the + (pos) cable into the top hole. The + (pos) cable is the wire with the white line in it! By pulling back the supplied screwdriver, the + (pos) cable is clamped. Repeat this operation to insert the completely black – (minus) cable on the left.

For parts and accessories see www.tank-o3.com "Frequently asked questions" number 17.



The unburdening system for
clean and safe water
in an always spotless tank!



Installation instructions

Package contents:

- Part A : 1 pc. PVC cover grommet 3/8 thread
- Part B : 2 pcs. John Guest insert 12 mm - 3/8 thread
- Part C : 1 pc. Hose, 33 cm long, Ø 12 mm. On order also with 2 or 3 pcs. hose 33 cm with connectors
- Part D : 1 pc. Digital current controller lxxh: 90x36x33 mm
- Part E : 1 pc. Electrolysis unit complete with cell nucleus
- Part F : 1 pc. Connection cable with fuse (1 Amp) to 12V or 24V point (black/white is + (pos)/black is - (minus))
- Part G : 1 pc. Connection cable with round plug to electrolysis unit (black/white is + (pos) / black is - (minus))
- Part H : 2 pcs. EPDM O-ring Ø 12 mm
- Part I : 2 pcs. Green connector plugs
- Part J : 7 cm Self-adhesive Velcro for placement of current regulator
- Part K : Small screwdriver

Assembly of the Tank-O3 fresh water system see www.tank-o3.com "How does it work" for Instruction video

Tank-O3 fresh water system is part of

CWR Systems B.V.
Albardastraat 61
5344 HB Oss (NL)

The composition of the Tank-O3 fresh water system

is for tanks up to 40 cm deep. Also available on order for tanks up to 75 or 105 cm deep. About 90% of motorhomes and caravans have a tank up to 40 cm deep. To protect the environment, we use small packaging, which is why we work with 33 cm long hoses and connectors.

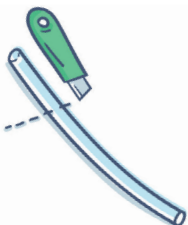
With the supplied piece of self-adhesive Velcro (J) you can attach the digital current controller (D). The small screwdriver (K) is useful when connecting the connecting wires to the green connectors and when replacing the cell nucleus.



- 1 Drill a hole of Ø 17 mm in the tank lid with a spiral or wood speed drill to make cleaning of the cell core as easy as possible. You can also choose to place an extra tank passage Ø 40 or Ø 60 mm in which the above assembly can then be carried out.



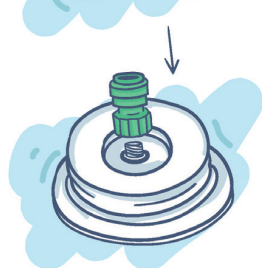
- 6 Then push the hose (C) firmly into the John Guest insert (B) on the underside of the cover.



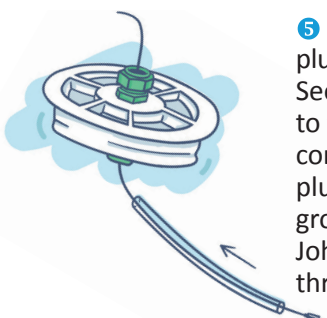
- 2 Cut the hose (C) to length, that means, shorten the hose to the maximum height inside the tank, so from the bottom of the lid, minus 6 cm.



- 3 Insert the PVC cover grommet (A) through the 17 mm hole in the cover.

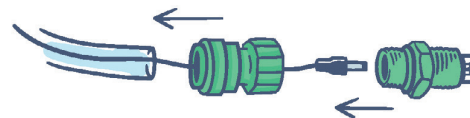


- 4 Bring 1 pc. O-ring (H) on inside cover around PVC cover grommet (A) and tighten John Guest insert (B) on the PVC cover grommet (A).



- 5 Now first fit the green connection plug (I) on the connection cable (G). See "Connecting the power wires to the green plug". Now feed the connection cable (G) with the round plug first through the PVC cover grommet (A), through the John Guest insert part (B) and through the custom-made hose (C).

- 7 Now feed the plug and connecting wire (G) through the lower John Guest insertion part (B) and put the black O-ring (H) around the electrolysis unit (E) on the side where the plug is to be inserted. Now insert the plug into the electrolysis unit (E). Finally, screw the electrolysis unit (E) firmly hand-tight into the lower John Guest insert (B) and press this assembly extra firmly onto the hose (C).



- 8 Now mount the green connection plug (I) on the connection cable (F) and mount the fuse on the black/white + (pos) wire close to the continuous power point. Connect the power lead from the 12/24V continuous power point to the Tank-O3 fresh water system digital current controller (D). Now the green LED lights up, the system is working! The **YELLOW LED** may also light up briefly at the first moment of connection, this can take a few minutes. When only the green LED is lit, the Tank-O3 fresh water system is fully and correctly operating. Check this after installation or after cleaning by hanging the electrolysis unit in a glass of water. If you see air bubbles, the system is working.

For information and questions: www.tank-o3.com

For parts and accessories see "FAQ" number 17.

For latest information see blogs on our website.

Other information: approx. 50 mA for tanks up to approx. 150 litres, minimum setting 30 mA for tanks of 30 / 40 litres, proportionally higher setting for tanks up to 250 litres.