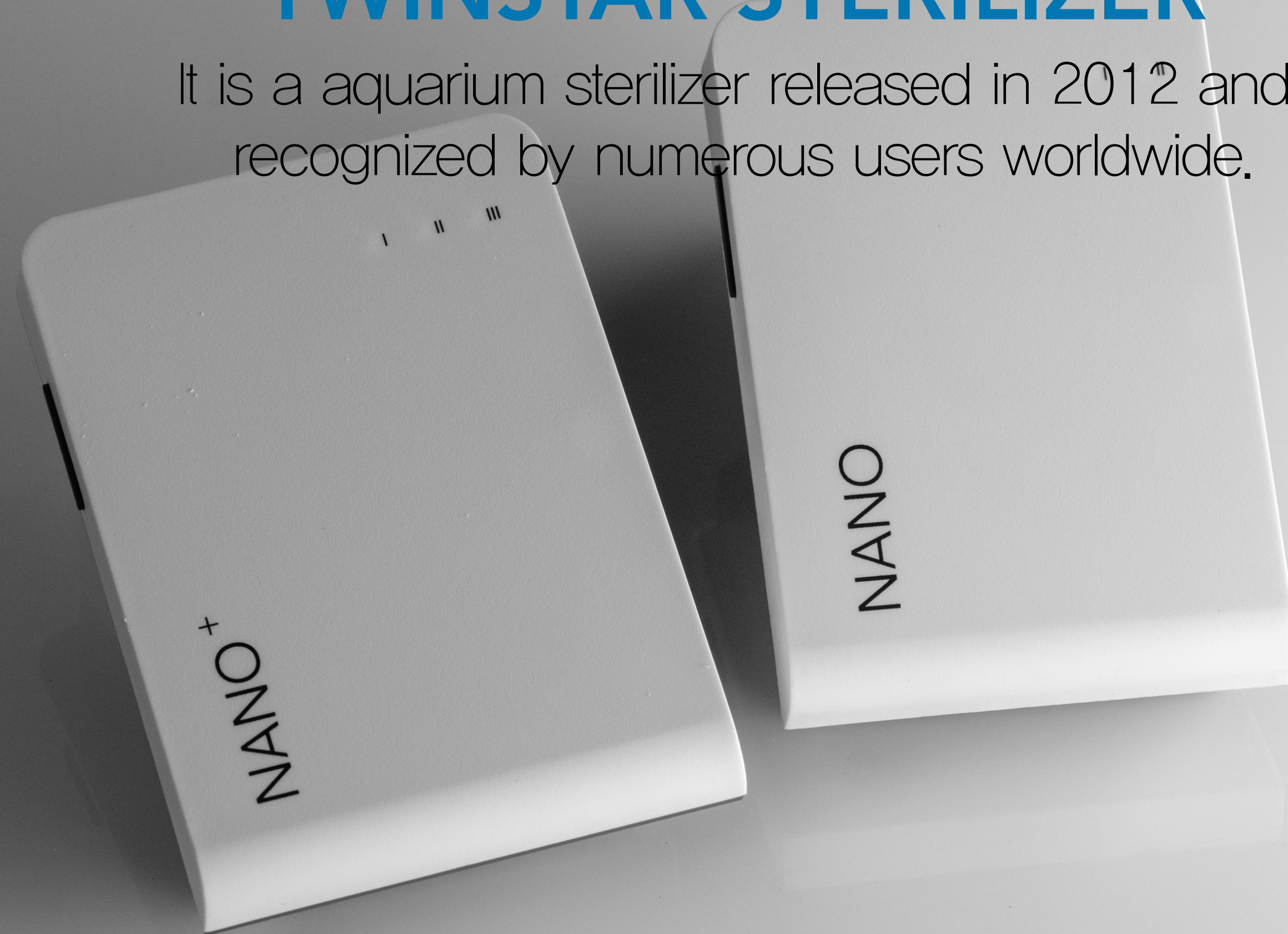


TWINSTAR STERILIZER

It is a aquarium sterilizer released in 2012 and recognized by numerous users worldwide.



TWINSTAR STERILIZER

The Twinstar sterilizer effectively inhibits green algae and kills pathogens using voltage differences between electrodes and free radicals, without releasing toxic substances. This makes it safe for aquatic plants, ornamental fish, and filtration bacteria.

Compared to UV sterilizers, it offers double the sterilization efficiency and three times the lifespan. There is no need for continuous 24-hour operation; it eradicates 99.9% of fungi and pathogens within three days.

Installing the TWINSTAR Sterilizer inhibits the growth of algae on the surfaces of aquatic plants, ensuring they receive ample light for efficient photosynthesis. This optimal light exposure can accelerate the growth rate of the plants by up to 50%.





Verified through comparative testing.

In addition to inhibiting algae, comparison test photos also demonstrate the differences in growth rates of aquatic plants with the TWINSTAR Sterilizer installed. See the visible impact of our technology on plant health and vitality.



Powerful sterilization effect, clean environment.

It sterilizes 99.9% of pathogens in the aquarium without adversely affecting the beneficial bacteria, creating a clean habitat for tropical fish..



After installation, simply press the button once for 24-hour automatic operation.

The TWINSTAR Sterilizer utilizes extensive test results to monitor water quality in real-time through electrical signals inputted into the reactor. This data is sent to an IC circuit, which uses an algorithm to determine the optimal sterilization intensity. As a result, a substance with strong oxidizing power is generated, effectively sterilizing bacteria, viruses, and fungi in the water.



TWINSTAR EFFECT

GREEN ALGAE

7

TYPE

The national fisheries Research Institute certified TWINSTAR's sterilizein effect for thread, algae, spot algae, brown algae and so on.

PATHOGENS

12

TYPE

E.Coi, E.Tarda, S.Aureus, Edwards, etc.

MAXIMUM

45 %

Plants growth
promotion effect

We confirmed that when TWINSTAR is set, rotala indica, glossos tigma's growth speed are maximum 50% faster than normal condition.

LINE UP. CAPACITY.

NANO

CAPACITY : 30 – 120 Liters
THE REACTOR MODEL : M5

NANO PLUS

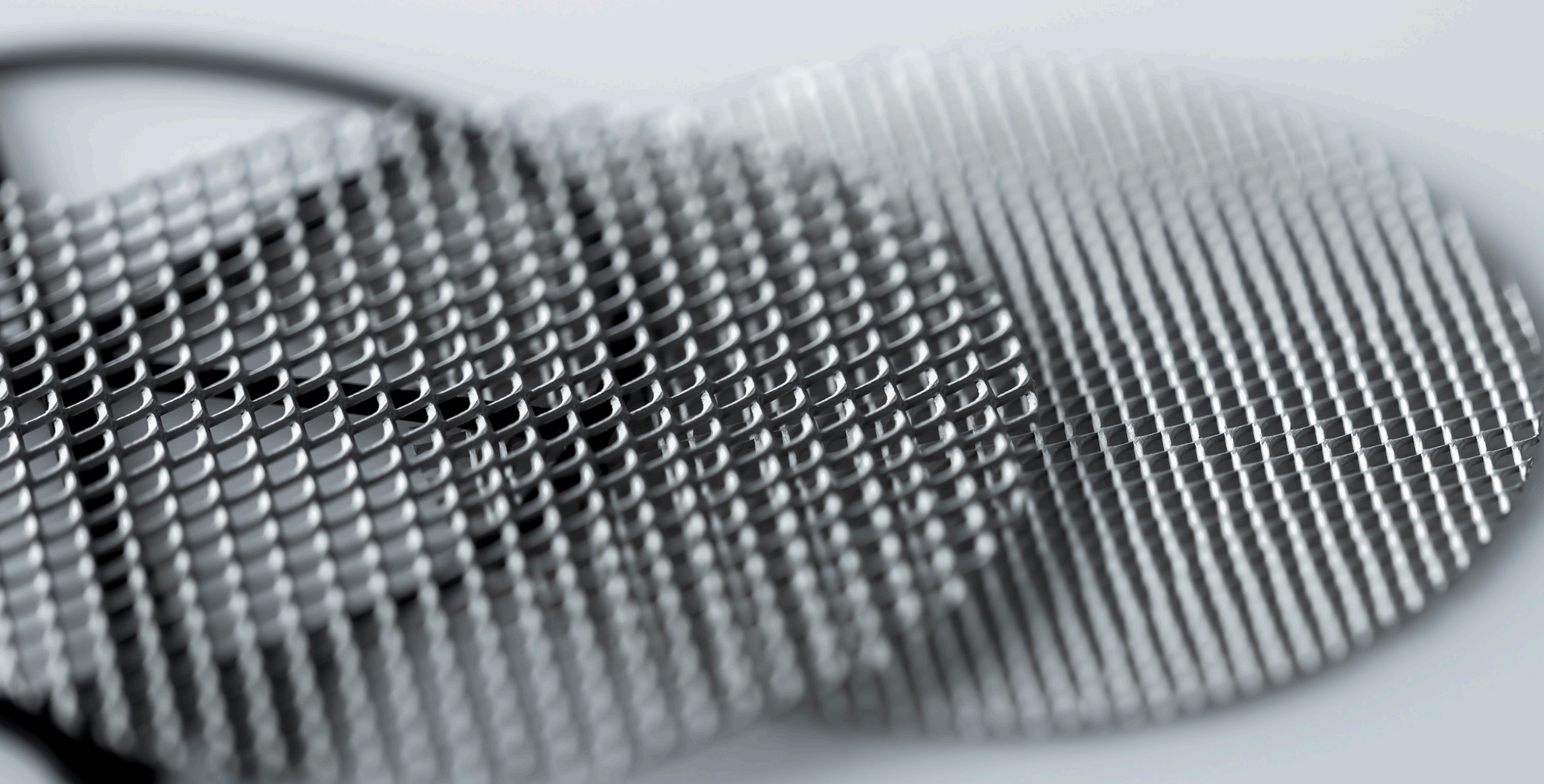
CAPACITY : 50 – 250 Liters
THE REACTOR MODEL : M9



THE TWINSTAR REACTOR

The TWINSTAR Reactor is made with a titanium base and coated with white gold. Only the material coated with white gold can produce the active substances that kill pathogens and ensure sterilization performance.

This is the true originality of the TWINSTAR sterilizer.





Design of
THE REACTOR M9



Design of
THE REACTOR M5

TWINSTAR USER Q&A

Q: What are the differences in the new TWINSTAR Sterilizer?

A: The previous model was divided into the Nano series, which inhibits algae, and the Yotta, which kills fish pathogens. The new model has been released with an integrated algorithm that allows it to both kill pathogens and inhibit algae simultaneously.

Q: What is the sterilization principle of TWINSTAR?

A: The TWINSTAR sterilizer induces a sterilization effect by electrolyzing water through electrodes. Typically, two electrodes (anode and cathode) coated with white gold are immersed in water, and a voltage is applied to these electrodes to electrolyze the water.

Active Oxygen Generation: During the electrolysis process, water (H_2O) generates not only oxygen (O_2) and hydrogen (H_2) but also various reactive oxygen species (ROS). These reactive oxygen species possess strong oxidizing power, effectively sterilizing bacteria, viruses, fungi, and other microorganisms in the water.

Sterilization Action: The generated active oxygen and oxygen gas destroy the cell walls of microorganisms in the water or oxidize substances within the cells, thereby exhibiting sterilization effects.

Q: What are the precautions for Using the Sterilizer?

A: The reactor has polarity, so if there is dust in the aquarium or if the water is not clean, it can adhere to the electrode surface and shorten the reactor's lifespan. If you have newly set up a planted aquarium, it is recommended to use the sterilizer 3-4 days after the soil dust has settled.

Q: What are the features of the TWINSTAR Sterilizer?

A: The sterilizer stores extensive sterilization test data in the IC chip. Additionally, it checks the water condition in real-time through the reactor. Based on the real-time data, it determines the optimal sterilization intensity and operation cycle to effectively eliminate bacteria and fungi.

No Use of Chemicals: Electrolytic sterilizers do not use chemicals, leaving no residues in the water, making them environmentally friendly.

Real-Time Sterilization: As water passes through the device, it is sterilized in real-time, providing immediate sterilization effects.

Q: What is the lifespan of the RACTOR?

A: If used in a clean aquarium environment without dust, The RACTORr can be used for 6 to 12 months. The RACTOR is made of titanium and plated with platinum, making it highly polar like a magnet. Therefore, it is important to maintain a clean aquarium environment.

Q: What is the best method for installing a sterilizer in a newly set up planted aquarium?

A: In the initial setup, there is a lot of dust, so it is recommended to install the sterilizer on the seventh day after setting up the planted aquarium. The best installation location for the reactor is 10 cm below the outlet. maintain a clean aquarium environment.

Q: What is the method for installing a sterilizer in an aquarium where algae have already developed?

A: First, completely remove the algae. If a large amount of algae has developed, perform a 50-60% water change 2-3 times before installation. After all the work is completed, install the sterilizer and turn off the lights for two days, operating only the sterilizer.

TWINSTAR USER Q&A

Q: Does it affect pH and hardness changes?

A: The TWINSTAR sterilizer does not affect pH and hardness at all.

Q: What are the bubbles generated when the sterilizer operates?

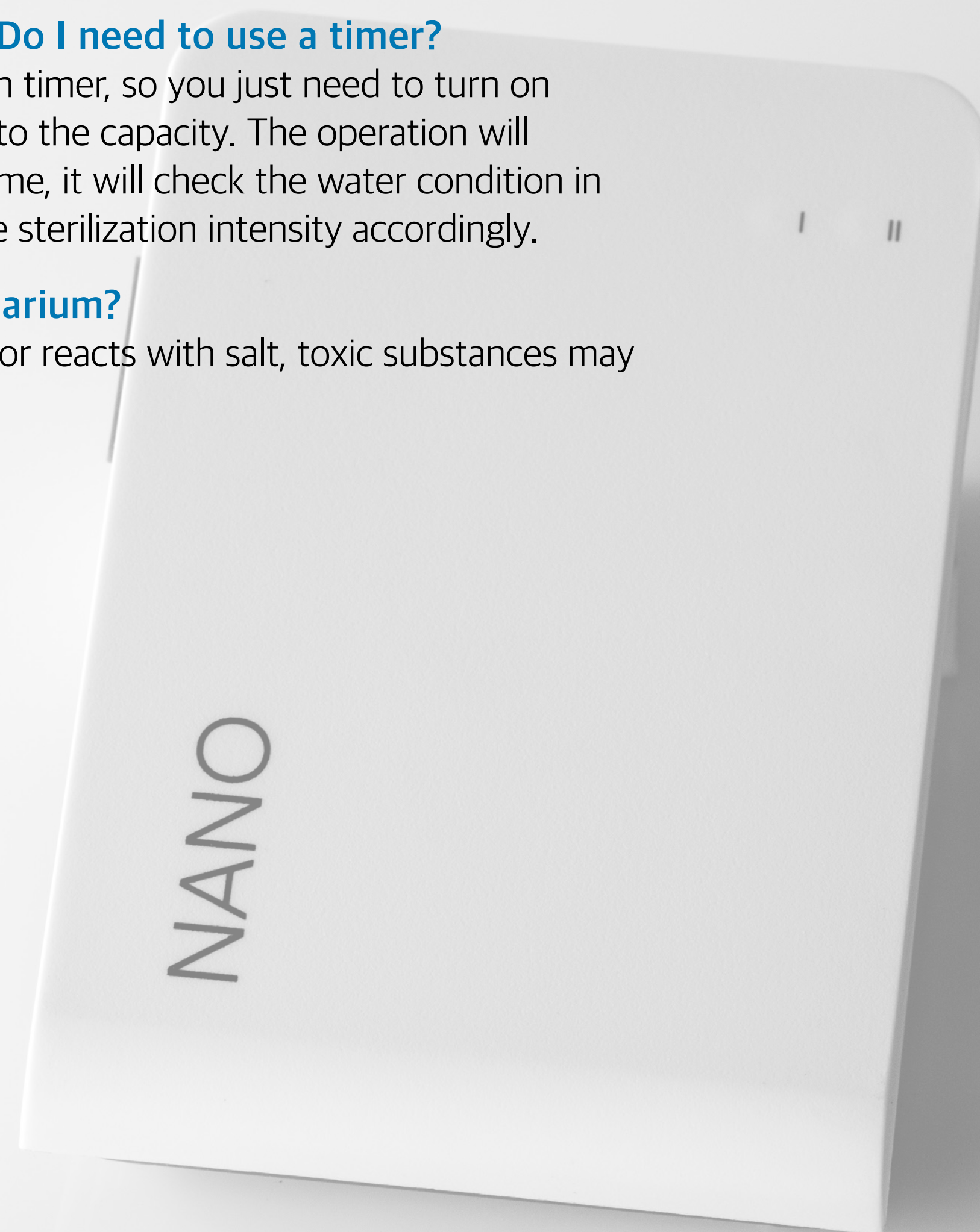
A: Oxygen.

Q: How do I operate the sterilizer? Do I need to use a timer?

A: The TWINSTAR sterilizer has a built-in timer, so you just need to turn on the power and set the mode according to the capacity. The operation will automatically turn On/Off. During this time, it will check the water condition in the aquarium in real-time and adjust the sterilization intensity accordingly.

Q: Can it be used in a saltwater aquarium?

A: It is not possible to use it. If the reactor reacts with salt, toxic substances may be generated, so it should not be used.



TWINSTAR

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