

Chiller AND Heater IN ONE

Fluid temperature maintenance solution

Smart IoT Thermostat
for maintaining constant water temperature

Certifications and Patents

- A prize in a K-Global Smart Device Contest. [December 2016]
- Registration of a KOREA patent. [April 2019]
- Registration of a KOREA patent. [May 2019]
- Roll out Product. [May 2021]
- Innovative Product of Hi Seoul Award. [December 2021]
- Registration of a JAPAN patent. [June 2022]
- Minister's Award for the Korea Invention Patent Exhibition. [November 2022]
- ISO 9001 certification obtained. [February 2023]
- Registration of a USA patent. [February 2023]
- ISO 14001 certification obtained. [February 2023]
- Main-Biz certification obtained. [February 2023]
- Ministerial commendation on Korea Invention Day. [May 2023]
- Registration of a CHINA patent. [February 2023]
- Green technology product certification. [May 2024]
- Overseas brand rights registered in 35 countries (registered in 34 countries) [July 2025]
- Acquired Green Specialized Enterprise Certificate. [July 2025]
(As of March 2026, only 47 companies in South Korea, including our company, hold this certification.)

ElecQUA®

Thermostat

www.elecqua.co.kr



Revolution

In Maintaining Aquarium Water Temperature.



IoT constant temperature device.

It can be controlled with a precision of 0.1℃.

To control in 0.1℃ increments, it is managed by tracking in 0.01℃ increments.

Cooler and heater in one.

High power custom thermoelectric element.

Internet of Things. (IoT)

Easy installation & excellent scalability.

Hang it on the aquarium.

No additional parts required.

Such as a pump and hose, etc...

Direct heat exchange technology.

The heat pump is submerged underwater.

Non-corrosive exposed heat exchanger.

Can be used in saltwater and freshwater.

High durability and low noise BLDC motor.

3-level performance control function.

Water temperature sensor calibration function.

Sensor with 0.5% precision.

Maintenance costs are economical.

Power consumption is 70W.



seize [siːz] the temperature

120Liter

Up	7°C
Down	4°C



Smart IoT Thermostat
for maintaining constant water temperature

※ If you want to maintain a lower water temperature, please add more products.

the amount of water	Cooling(°C)	Heating(°C)	Cooling(°F)	Heating(°F)
40 l (10gal)	7	11	12	20
60 l (16gal)	6	9	10	17
80 l (20gal)	5	8	9	15
120 l (30gal)	4	7	7	12

*Maximum water temperature change compared to non-installation.

Awards and Achievements

Winner of the Gold Medal at the 2022 Korea Invention & Patent Exhibition

(Minister of Trade, Industry and Energy Award)



2023 Republic of Korea Invention Day Ceremony

(Minister of Trade, Industry and Energy Commendation)



Nationally Certified Green Certification

We have obtained the first eco-friendly technology product certification in Korea for the thermoelectric cooling field.

We have overcome the challenge of a COP of 0.4, which has been pointed out as a limitation of thermoelectric cooling for decades, and established a new standard for ultra-high efficiency.

By combining thermoelectric control technology and direct heat exchange technology, we have improved energy efficiency by more than 40% compared to conventional methods, achieving high-efficiency operating performance with cooling = COP:0.75 / heating = COP:1.42.



※ Eco-friendly Specialized Company: Including our company, there are only 47 companies in Korea holding this certification. (As of March 10, 2026)

Precision thermostatic technology selected in the research field

**Precision control architecture selected by internationally
accredited testing and certification bodies (KTR),
marine research institutes, universities,
and small-scale research facilities**

Beyond being a simple consumer good, it has been adopted
as standard equipment in the public and academic research markets
(B2G/B2B) and is currently in actual use.

Korea Testing Laboratory (KTR), Korea Institute of Ocean Science and
Technology (KIOST), National Institute of Fisheries Science (NIFS),
National Institute of Ecology Endangered Species Restoration Center (NIE),
and small-scale research facilities.

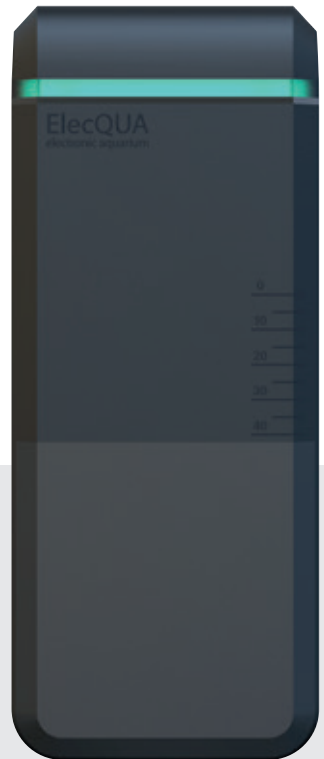
Yonsei University, Incheon National University, Chungnam
Marine Science High School, Incheon Daegun High School and etc.



A view of the Aquatic Ecotoxicity Testing Laboratory at the Korea Testing & Research Institute (KTR).

During operation, it
consumes 70W of power.

Reduce electricity bills with efficient
heat exchange technology.



In standby mode, it consumes 0.3W of power.

$$70w \times 24h \times 30d = 50.4kW$$

*Assuming it works non-stop for a month.

The direct energy exchange system
developed based on patented technology is
efficient by minimizing the movement path of heat energy.

Chiller and heater switch automatically.

Super constant temperature technology
that can be controlled with an accuracy of 0.1°C .

Direct heat exchanger

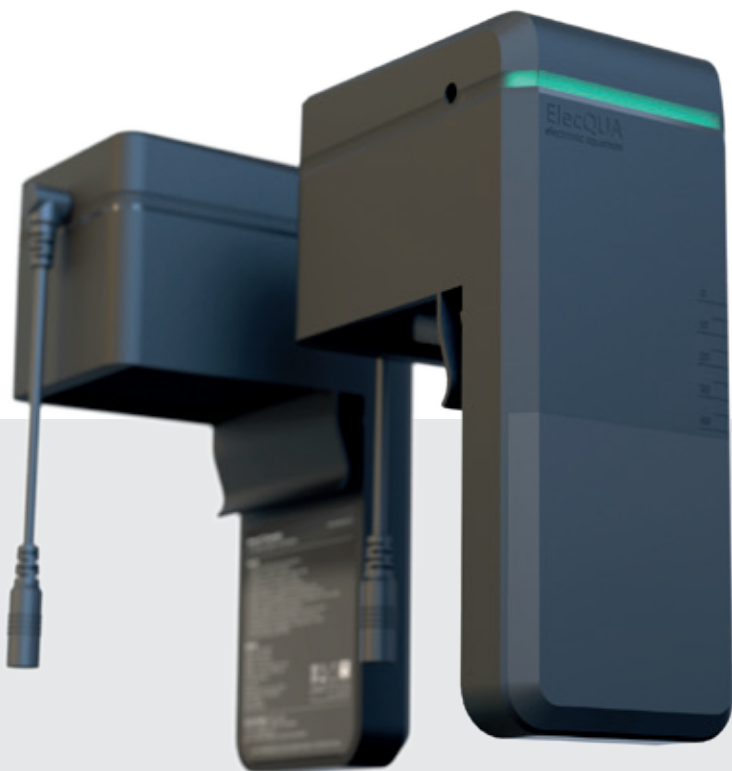
The ceramic heat exchanger
was manufactured
using CNC machining.



It delivers powerful energy directly with minimal heat loss.

Installation method is very simple.

Installation is completed by hanging it
on the fish tank glass.



It can be used without auxiliary materials
such as return pump and hose.

Feel comfortable with the Internet of Things.

If you register with a wireless router,
you can check the water temperature and
change settings from outside.

- Real-time temperature check.
- Target temp and sensitivity Settings.
- Noise (performance) control.
- Real-time monitoring of device status.
- Specify Night shift.
- Provides local weather information.
- Temperature sensor calibration.





LED indicator shows operating status.

FAN ERR

Sensor ERR

Heating

Stable

Cooling



If an error is detected, the device will stop working.

Can be used in
freshwater and saltwater.

We have developed a corrosion-free heat exchanger that can be safely used even in saltwater.



Heat Exchanger
(Exposed type)

Unlike regular glass heaters, this product has no risk of breaking.



Diagram illustrating the components of the power supply unit:

- Controller:** The top component, featuring a fan and a cable connection.
- Main body:** The bottom component, which houses the internal components and has a cable connection.

Clean regularly using a soft brush.

Real-time monitoring function of device status.

It is safe by electronically controlling
the H-Bridge circuit consisting of 4 MOSFET.

- Water temperature sensor malfunction detection.
 - If a below 5°C or above 40°C is detected, it is considered a sensor error.
 - Equipped with a precision sensor with an error rate of 0.5%.
 - Water temperature sensor can be calibrated.
 - The temperature sensor can be easily replaced.
- BLDC motor malfunction detection.
- Quadruple waterproof structure main body.
- Heat exchanger anti-corrosion technology.
- Equipped with ceramic fuse.
- Low-heat DC adapter.



2 year
warranty

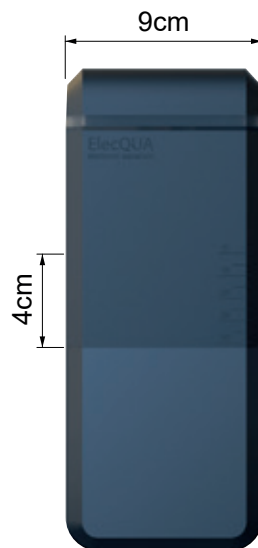
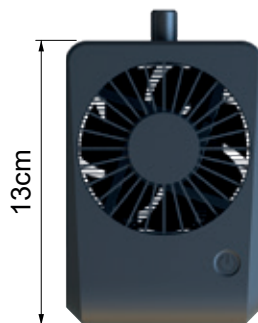
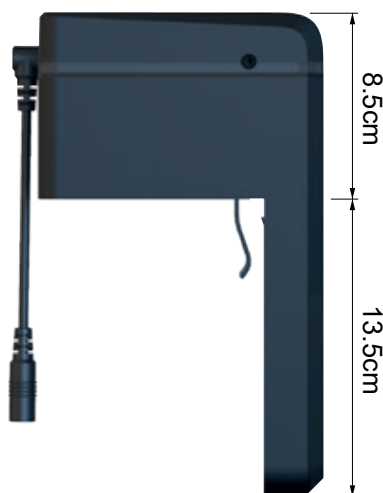
Excluding
customer negligence



IoT Constant Temperature Device

to maintain aquarium water temperature.

*Available when the glass thickness is less than 10mm.



Brand : ElecQUA
Model Number : seize-EQ103W
Support WiFi : 2.4GHz
Wireless Type : IEEE802.11b/g/n
Input : 100~240V~50/60Hz 2.5A
Output : DC 12.0V / 7.0A ; 84.0W
Power Consumption : 70W
Standby Power : 0.3W
Certification Number : R-R-EQA-seize-EQ103W
Heat Pump : Peltier
Material : PCABS & etc
Dimensions : 9 x 22 x 13cm (3.5 x 8.6 x 5.1 inch)
Weight : 830g (1.82 lb)
Volume : 127cm³
Manufacturer : ElecQUA Co., Ltd.
Country of manufacture : MADE IN KOREA





www.elecqua.co.kr/en

ElecQUA[®]
electronic aquarium

Smart IoT Thermostat
for maintaining constant water temperature

seize [si:z]
the temperature



Revolution

In Maintaining Aquarium Water Temperature.

Purchasing / Suppliers

What's APP.

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