

Portable All-in-One Water Purification System

AQUA CUBE

アクア・キューブ

Model: AQ07C-EGS1

AQUA CUBE is the “Portable All-in-One Water Purification System “ by a high-tech MF membrane to ensure clean water - the most essential element for human life. In areas affected by large-scale disasters, AQUA CUBE can turn the pools, wells, rivers, and other sources of water to purified water.

And people can use the water not only as drinking water, but also as daily life water, such as cooking, bathing, laundry, cleaning and other else, until the lifeline are restored.

Aqua Cube is a system designed to serve as all-in-one equipment to protect lifestyles and health until relief reaches persons affected by a disaster.

We are confident that it can support the lives and health of people in disaster-affected areas by using water.



INADA

MURAKAMI

System overview

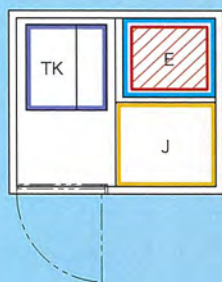
Container specifications

- Steel PL2. 3 - 6 mold steel
- Phosphating + Undercoat + Urethane resin coating
- Dimensions: L 2,100 × W 1,700 × H 2,400
- Gross weight: 1,400 kg
- Machine room 3.5 m² (including engine room 0.5 m² (fireproof))
- Power distribution board
- Interior lamp × 1
- Exterior lamp × 1
- Steel door × 2
- Wire-reinforced glass window × 2
- Filter louver × 3
- External waterproof power outlet × 2

Water purification unit specifications

- Kuraray hollow fiber membrane GS1 0.02 μm SUS cartridge-type × 1
- Kuraray activated carbon filter
- Sterilizing chlorine dosing equipment
- Bacteria removal air filter
- Automatic control panel
- Modular solenoid valve and air valve for backwash
- Air compressor
- Air source apparatus
- Gasoline engine generator
- Raw water pump and hose with coupler
- SUS primary filter
- SUS tank for Raw water and purified water (total 500 L), with LS
- Water taps

Configuration of water purification unit AQ07C-EGS1




Dimensions: L 2,100 × W 1,700 × H 2,400

TK: Raw water and purified water tank

E: Engine generator

J: Water purification unit

 The red line in the figure indicates the fireproof compartment.



Another type of water purification system

AQ04C-GS1



[Features]

The AQ04C-GS1 has the same purification capacity as the AQ07C-EGS1, however the water purification unit and tank unit are separate, making it more compact and improving portability. It can also be installed in a small indoor space.

- Dimensions: L 1,300 × W 1,100 × H 1,910
- Gross weight: 550 kg

[Options]

- Raw water and purified water tank (total 300 L), with LS
- Gasoline engine generator



*The tank unit is an option.



Comparison with the AQ07 model (Left: AQ04 model, right: AQ07 model)

AQUA CUBE can be arranged as you want. Please feel free to contact us.



Features of AQUA CUBE

1 A reliable and adequate supply of water by using a high-performance and high-tech membrane.

The membrane permeability is smaller than 0.02μm which can filter out E. coli, cryptosporidium and other bacteria. Purification capacity is more than 2,000L/hr which can provide drinking water for more than 600 people per hour. The extra water can be used as water for cooking, laundry, showers, or other lifestyle purposes.



Inside of Aqua Cube
(water purification machine room)

2 Simple operation

All you need to do is start the engine and turn on 2 switches after you connected the submersible pump and hose. The system ejects sludge automatically, providing a continuous supply of clean water.



Raw water (Left)
Purified water (Right)

3 Power supply is selectable according to the circumstances of use.

AQUA CUBE can be operated by using internal generator when the commercial power supply are difficult to be found at disaster area.

4 Flexible use for disaster relief and other purposes

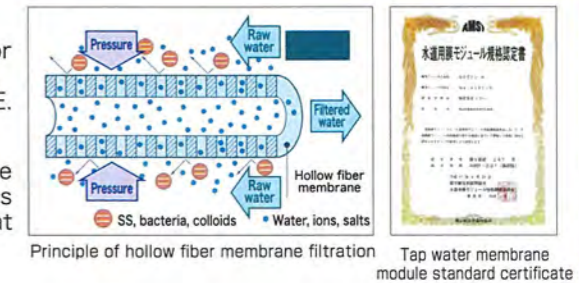
AQUA CUBE can be transported to anywhere which is needed such as disaster area by truck. It is equipped with all the necessary pumps, tanks, hoses, and other equipment. Clean water can be created quickly as long as you have Aqua Cube and a source of water.



Loaded on a truck

Purification System

- Kuraray high-precision hollow fiber membrane (GS module)
The membrane module is contained in a special cartridge for space and cost savings. With a nominal pore diameter of 0.02 μm, it reliably filters out E. coli, cryptosporidium, and other bacteria.
- By automating our original air backwash system, we have dramatically improved the effectiveness of removing substances adhering to the membrane, for filtering performance that delivers stable flow and water quality over long periods.

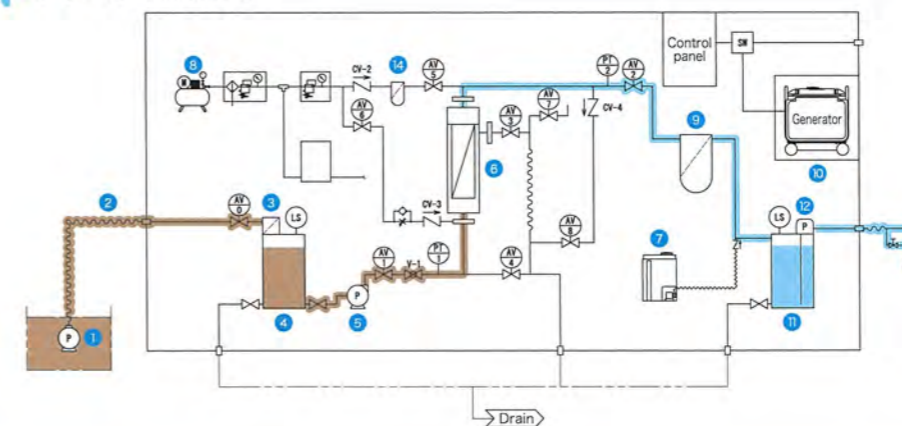


• Full-scale water purification system

- 1) Primary filter that removes foreign substances from the source water
- 2) Disinfecting chlorine injection device for safer water
★ Approximate amount of chlorine injection
Approx. 3.3 L (12% concentration) chlorine is required for 10 days of operation.
- 3) Direct treatment using a 0.02 μm high-precision hollow fiber membrane
2m³/h = 33 L/min Approximately 2 times the maximum discharge from a tap water faucet.
- 4) Large activated carbon filter for delicious water
- 5) Automatic backwash that removes membrane fouling and maintains a stable flow of water
- 6) Continuous running with automatic control and simple operation
★ When using this system to create drinking water from a river, groundwater, or other source, it is necessary to check the water quality in advance and confirm that harmful heavy metals and other components are within the water quality standard for tap water.



Flow chart



- 1 Submersible pump
- 2 Sunny Hose
- 3 Primary filter
- 4 Raw water tank (200 L)
- 5 Raw water transfer pump
- 6 Membrane filter (MF)
- 7 Sterilizing chlorine dosing equipment
- 8 Compressor
- 9 Activated carbon
- 10 Generator (2.8 kVA, single phase 100 V)
- 11 Purified water tank (300L)
- 12 Purified water transfer pump
- 13 Water taps
- 14 Bacteria removal air filter

Bring the safety to the world

Aqua Cube brings safe and clean water to all over the world.

AQUA CUBE is used to support the water supply in areas where are difficult to secure a source of safe drinking water, such as developing nations without water service, or areas affected by droughts, typhoons, and other disasters.



Examples of overseas development

