



Kyowakiden Industry Co., Ltd.

Introduction of Company & Engineering Products



Kyowakiden Industry Group runs business to make people's lives "more comfortable" , "more safe" as an environment creating company.

Company Name : Kyowakiden Industry Co., Ltd  
Representative : Hideyuki Sakai  
Address : Nagasaki, Japan  
Establishment : 1948  
Employees : Approx. 580

[ Business Field ]  
for Water treatment & Electric power industry

System design  
Machinery  
Electrical construction  
Power/Maintenance  
IT/R&D





**Kyowa Environmental Co., Ltd.**  
(Shenzhen, China)





◇Main: Water treatment plant

Propose systems, Design/assemble/install machineries

◇Others:

Design, manufacture and construct energy-saving & automatic machineries for factory use



Sludge collector



Chemical feeder



Membrane filtration system



Sea water desalination system



Automatic screening



Water recycling unit

◇Main: Water treatment plants

Propose integrated plan of system design, monitoring, control system and electrical technologies etc.

Others needed for facility operation such as design and manufacturing of panels, and electrical construction

◇Others: Electrical construction,

Installation of instruments and communications for roads or various structures



Power receiving



Control system



Traffic information system



Bridge lighting



Panels

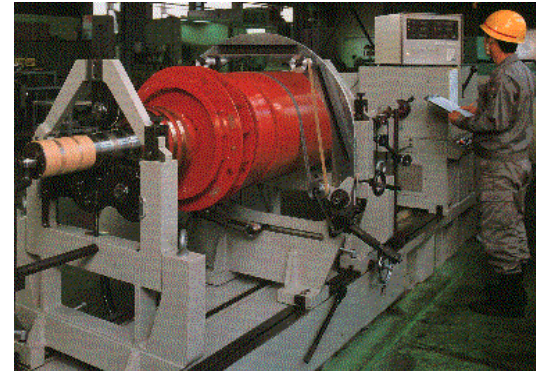


Control/monitoring system

- ◇ Regular check and repair of rotating, electrical and controlling equipment of internal combustion engine, hydraulic & thermal power plants etc.
- ◇ Operation and maintenance of water treatment plants etc.



Repair of rotating equipment



Balance test of rotors



Maintenance



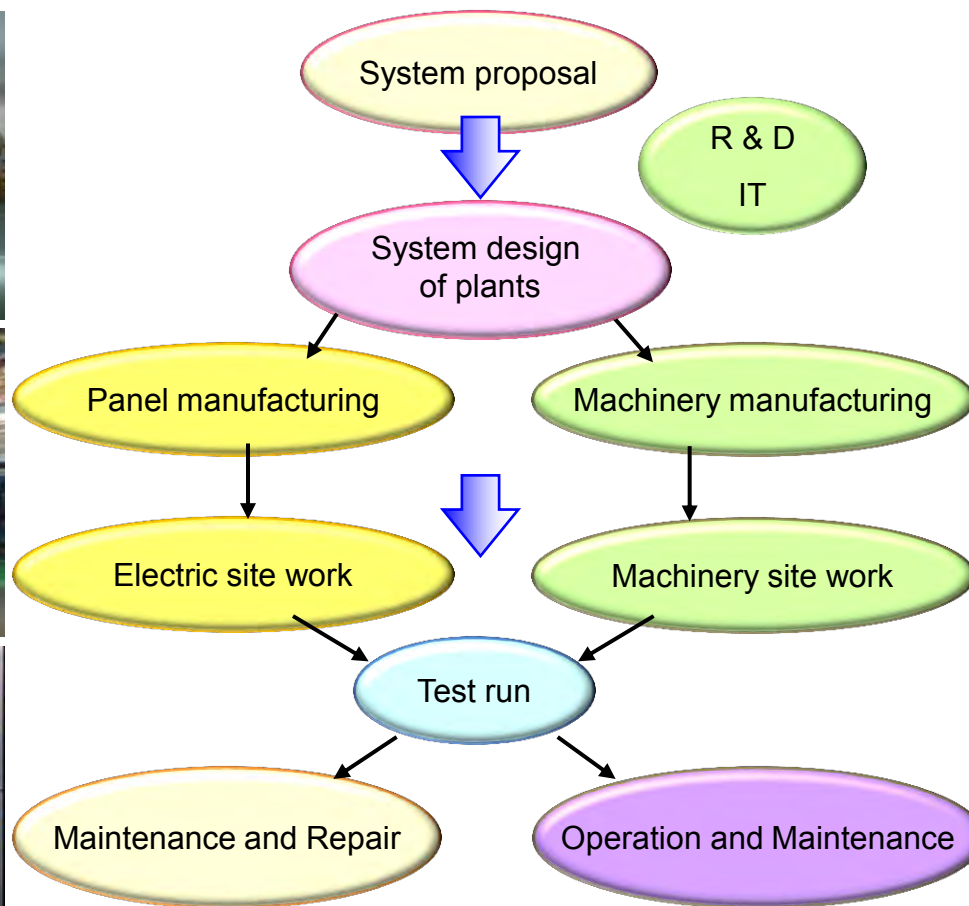
O&M



[Our advantages]

Provide consistent service from proposal, design of electric/mechanical equipment, manufacturing, construction to maintenance

Meet customers' diverse needs promptly by our one-stop solution system



We provide with "One-Stop Solution"

## - Sea water Desalination Plant -



Largest in Japan

Location Fukuoka Pref.

Site area 46,000 m<sup>2</sup>

Product water volume 50,000m<sup>3</sup>/day

Equipment

UF membrane filtration units

High pressure RO units

Low pressure RO units

High/Low pressure RO pump

Safety filter

Energy recovery system/Pumps

Water tanks/Chemical injection equipment

We have developed new technologies  
to save beautiful nature

Permeation intake system is applied with effective  
utilization of natural resources.

Reverse osmosis is applied for sea water desalination.

Domestic water for 250,000 residents is produced.



# Sea water Desalination Plant

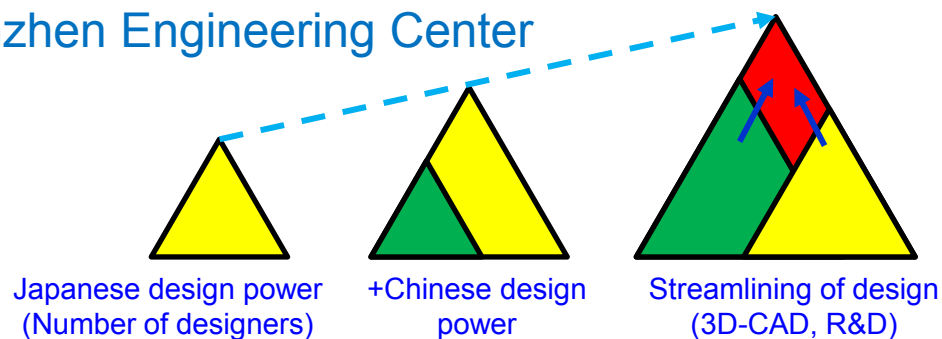






2003:

Kyowa Environmental Consulting(Hong Kong) Ltd.  
Shenzhen Engineering Center



2007: Technical Interns from Vietnam



Technical training of welding, coating,  
assemble/electric wiring

Up to now, accepted approx. 20 interns





2007 :

Kyowa Environmental Consulting (Shenzhen) Ltd.

Number of employees : 55 (Japanese : 4)

※As of September, 2012



## Design

- Water treatment equipment : Assembly drawing, Manufacturing drawing
- Plant facility : Piping drawing, Skelton drawing, Support drawing
- Control panels : System design drawing, Construction drawing

## Water

- Reuse of potable water and waste water of plants or industrial districts
- Diagnosis/proposal, Construction management of above system
- Selling of products and consumables of water treatment

## Electricity

- Manufacturing and construction of control panels
- Diagnosis/proposal, Construction of new energy and saving energy
- Selling of electrical apparatus

## - Treatment & Recycling System of Wastewater -

### Shenzhen Techno-Center (China)

#### Capacity

- Wastewater treatment volume : 700m<sup>3</sup>/day
- Wastewater recycling volume : 510m<sup>3</sup>/day
- Well water purifying volume : 814m<sup>3</sup>/day

#### Effects

- Solve domestic water shortage of Techno-Center
- Improvement of domestic water quality
- Improvement of environment of Techno-Center
- Cost cut by recycling



## - Treatment & Recycling System of Wastewater -

### Food processing plant (China)

#### Capacity

- Wastewater treatment volume : 1600m<sup>3</sup>/day
- Wastewater recycling volume : 600m<sup>3</sup>/day
  
- Increase an existing 500 m<sup>3</sup>/day to 1,200 m<sup>3</sup>/day
- Establish a new equipment of 400m<sup>3</sup>/day
- Adopt Japanese technologies and products to main parts





95% of the raw water recoverable as treated water  
Stable treatment by automatic operation.

## Features

- ⊙ Standard recovery rate of UF membrane filtration : 95%
- ⊙ Ultra filtration removes bacteria and turbidity completely
- ⊙ Fully automatic operation & easy control
- ⊙ Compact skid-base configuration

## Objects

- Turbidity
- Bacteria

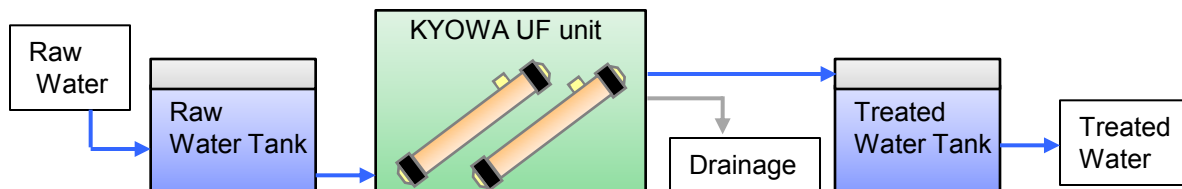
## Applications

- Recycling of industrial effluent
- Various pretreatment processes
- Filtration of effluent water
- Filtration of river water
- Reuse of sewage water
- Other applications

## Models & Capacity

KYOWA-UF	UF-40	UF-80	UF-160	UF-240	UF-320	UF-400
Capacity	40 m <sup>3</sup> /Day	80 m <sup>3</sup> /Day	160 m <sup>3</sup> /Day	240 m <sup>3</sup> /Day	320 m <sup>3</sup> /Day	400 m <sup>3</sup> /Day

## Standard System



## Objects

- Recommended optional systems
- Remote Monitoring and Control Systems
  - Auto Monitoring
    - Raw water turbidity
    - Treated water turbidity
  - Outdoor type



Removes(metal) ions from raw water at 85% of recovery rate.  
Stable treatment by automatic operation.

## Features

- ⊙ Standard recovery rate of low pressure RO membrane treatment : 85%
- ⊙ Removal of ions separated by low pressure reverse osmosis membrane
- ⊙ Fully automatic operation & easy control
- ⊙ Compact skid-base configuration

## Objects

- Ions
- Salts
- Scales
- Hardness
- Dissolved organic matters

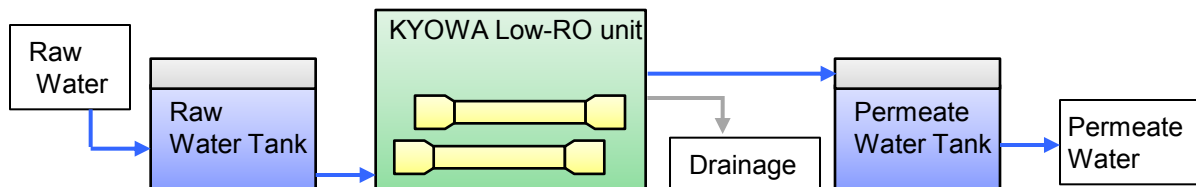
## Applications

- Treatment & recycling of cooling tower drainage
- Recycling & treatment of scrubber drainage
- Purification of well water
- Reuse of wastewater
- Water purification
- Other applications

## Models & Capacity

KYOWA-LR	LR-50	LR-100	LR-200	LR-300	LR-400	LR-500
Capacity	50 m <sup>3</sup> /Day	100 m <sup>3</sup> /Day	200 m <sup>3</sup> /Day	300 m <sup>3</sup> /Day	400 m <sup>3</sup> /Day	500 m <sup>3</sup> /Day

## Standard System

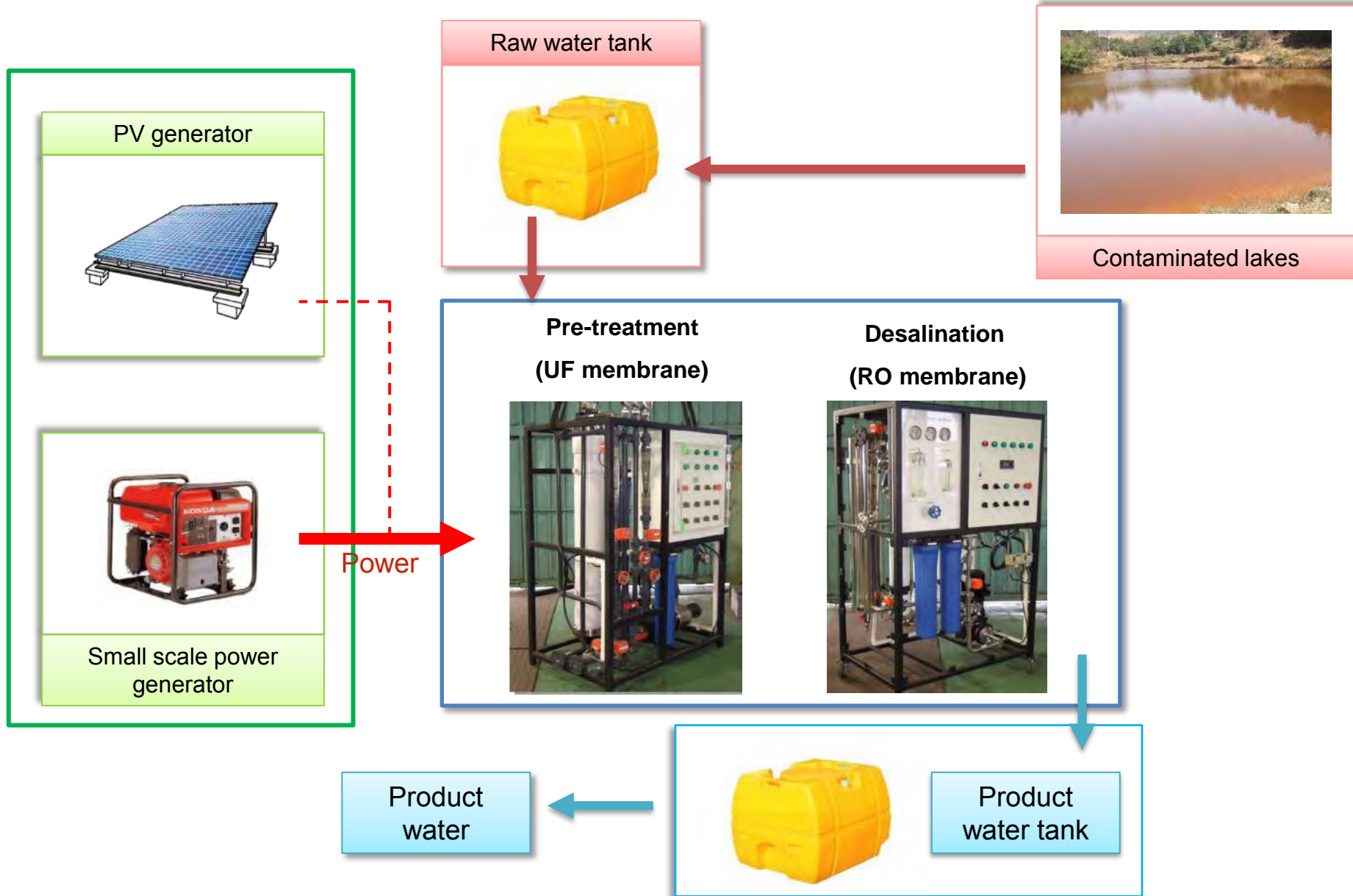


## Objects

- Recommended optional systems
- Remote Monitoring and Control Systems
  - Monitoring Ionic contents  
Conductivity meter
  - Anti-scalant injection system



# Small Scale Water Treatment System





## Low-pressure RO membrane



Capacity: 34m<sup>3</sup>/day  
Removal capacity of fluorine: 3.1mg/L → Under 0.08mg/L



Our water treatment equipment was adopted because fluorine was found to exceed the reference value from a well water for washing bottles.  
Transportation and installation became easy by storing the equipment in containers.  
Cost was also reduced.

## - Demo. Plant of Desalination -

### Well water Desalination for Drinking Water (Indonesia)

#### Capacity

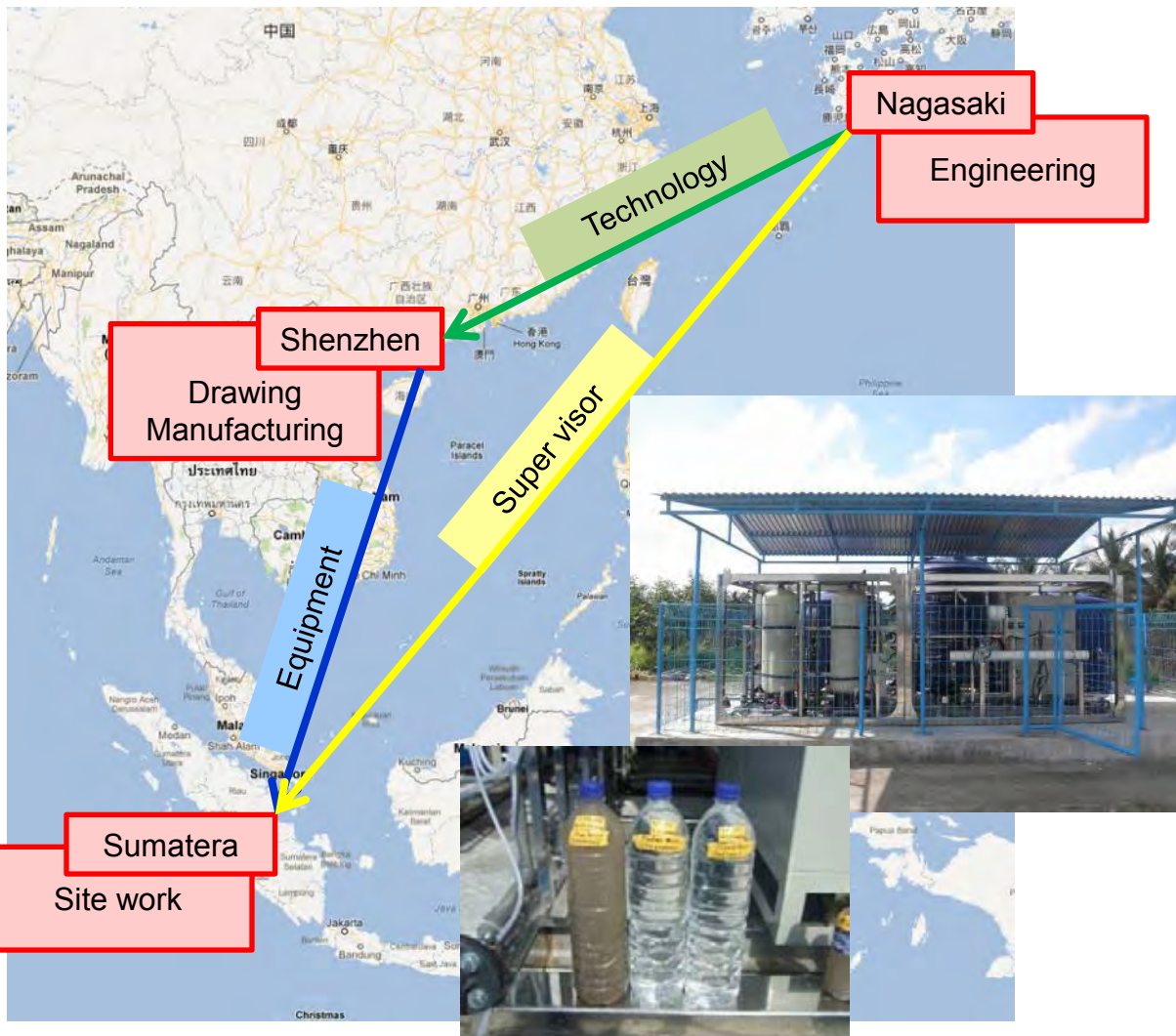
- Well water treatment volume : 6m<sup>3</sup>/day
- RO Membrane





## - Demo. Plant of Desalination -

Desalination Unit  
6m<sup>3</sup>/day

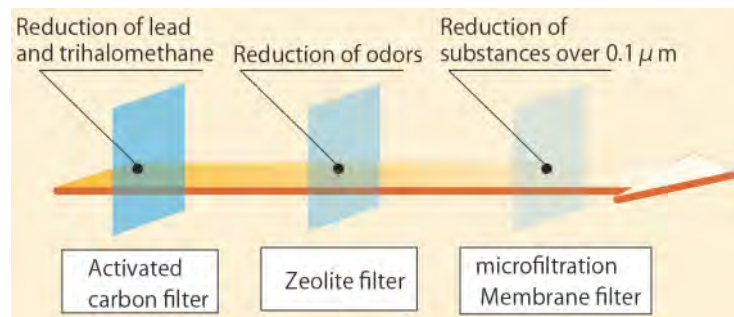




# RESCUE WATER BOX (KYUSUIBAKO)



Type		KAW-200(Brand name: KYUSUIBAKO)
Water sources		Swimming pool, remaining water in bathtub, water reservoir tanks, etc.
Filtration capability	Drinking water	200L/H(average) total filtration volume approx. 2000L
	Multi-purpose living water	500L/H(average) total filtration volume approx. 5000L
Pre-filter		Filtration accuracy: 5 $\mu$ m
AC filter		Activated carbon
Lead, trihalomethane filter		Zeolite + Fiber activated carbon
Sterile filter		MF membrane / Accuracy: 0.1 $\mu$ m
Pump		Manual pump Max. pressure 0.22MPa
External dimensions(mm)		W400 x H400 x D300
Weight(kg)		Approx. 13(dry)
Spare parts		Pre-filter(1pc.), Sterile unit(1pc.)
Accessories		Aluminum container, Chlorine sterile agent, etc.



To the people, to the community and to the future---



 We are the environment creating company.  
**Kyowakiden Industry Co., Ltd.**

