

Developed in Smallest Seawater Desalination



About MYZ Series

The realization of a small and lightweight desalination unit depends on the development of a container enclosing a reverse osmosis membrane (RO) that can withstand high pressure.

Due to the difficulty of dealing with the high pressure, domestic major companies could not succeed in the miniaturization.

Dedicated with a long time effort, a breakthrough came in developing MYZ series.

E-40 among MYZ series is the smallest model in the world weighing just 50kg easily loading onto small trucks, small boats, etc.

This small unit but the giant technology will be a savior to world water issues.

Purified water volume

40ℓ/h (seawater)
80ℓ/h (freshwater)



MYZ E-40 installed on board

MYZ E-60 & sand filter

MYZ E-60 for concrete mixture water



MYZ E-60 for washing water

Performance

The desalination unit is the smallest in the world that can remove more than 99% of chloride ion (salt) by applying 800PSI (5.5 Mpa) to the RO and turning into clean drinking water not only for the desalination of seawater but also for the filtration of muddy water contaminated by heavy metals, etc.

Characteristics

Compact

Only 50kgs for E-40, it is the world's smallest class installing easily onto small trucks or small boats without choosing the storage space.

Low price

The production cost per liter is only five cents. It is overwhelmingly low price to be about 1/2 price compared to other makes.

High performance

The water quality satisfies all standard values of the Water Law stipulated by the Ministry of Health, Labour and Welfare in Japan. The drinking water with salinity 0.0% can be produced.

Emergency use

Don't worry about drinking water in case of an emergency. The drinking water can be secured from seawater, river water, pool, household water, etc.

Selling well

Sales are not only in Japan but also have good records in Papua New Guinea, Philippines, Vietnam, Indonesia, Thailand, Sri Lank, South Africa, Peru, Chile, etc.

Application

Small, and the low-cost unit opens up new possibilities.

Drinking water
on board



Living water
on board



Mobile sales
of water



Agricultural
water



Well water
purification



Stockpile for
disaster



Salt making
from seawater



Concrete
mixture water

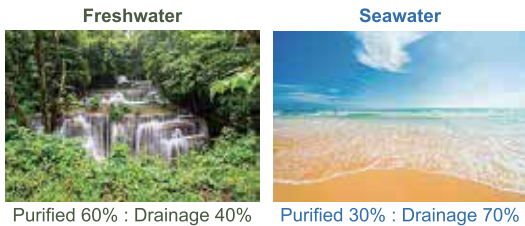




Production

This desalination unit removes 99.2~99.8% of chloride ion (salt) by the reverse osmosis membrane.

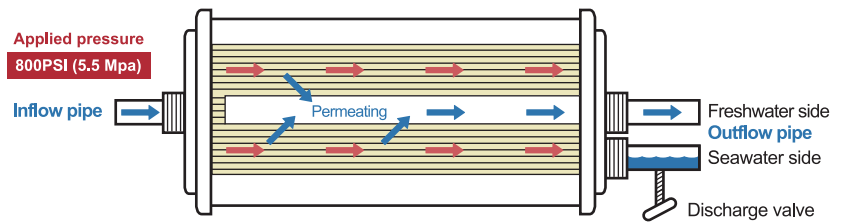
The amount of purified water varies depending on the salt concentration, water temperature, and water quality. The standard water purification ratio would be 30% for purified water and 70% for drainage when using seawater. When using freshwater, 60% for purified water and 40% for drainage would be produced.



Mechanism

The pressure resistant container has an inflow pipe that allows seawater to flow into the container at high pressure and an outflow pipe that allows fresh water to flow out of the container. With the connection by these inflow and outflow pipes, the seawater flows out of the outflow pipe when the discharge valve is opened. By closing the valve and applying the pressure to seawater, the seawater loses a place to go and starts to permeate into the freshwater side located between the seawater and the reverse osmosis membrane.

This is a basic mechanism of how the purified water is permeated from seawater.



Case Study

Until now, freshwater was put into storage tanks, when fishermen went fishing for 2~3 weeks of operation. Maintaining water stability is the biggest challenge for fishing vessels operating offshore.

During that period, the freshwater is used for shower, meal, washing, etc., but not used abundantly. The crews had to endure the water usage.

By introducing the seawater desalination unit, such restrictions are eliminated.

In one fishing boat, one of the tanks was converted to a fuel tank, allowing long-distance voyages to distant places. The longer the days of operation, the greater the chance of catching fish..

In another fishing boat, salt water made with freshwater maintained the freshness of the caught tuna resulting in increasing the fish price.

Ship Name: Chisakimaru No.5



Each part is set apart to fit under a narrow floor. Chisakimaru converted one of the tanks into a fuel tank.

Ship Name: Kikumaru No.2



The fish price for US\$5 has risen to US\$7 per kg for the freshness retention effect of salt water made with freshwater.

Specifications

There are many models, depending on the required production capacity. The smallest one is the E-40 (capable of producing 40litres of safe and good tasting freshwater per hour), and the largest one is available at 250litres or more.



MYZ E-40

Dimension	W65 × D45 × H40 cm
Weight	50kg
Purified water	Seawater : 35~40ℓ/h
	Freshwater: 70~80ℓ/h
Purified ratio	Seawater
	Purified 30% : Drainage 70%
	Freshwater
	Purified 60% : Drainage 40%
Power supply	100~120V/200~250V



MYZ E-60

Dimension	W70 × D50 × H40 cm
Weight	58kg
Purified water	Seawater : 50~60ℓ/h
	Freshwater: 100~120ℓ/h
Purified ratio	Seawater
	Purified 30% : Drainage 70%
	Freshwater
	Purified 60% : Drainage 40%
Power supply	100~120V/200~250V



MYZ E-120

Dimension	W93 × D50 × H45 cm
Weight	78kg
Purified water	Seawater : 100~120ℓ/h
	Freshwater: 200~240ℓ/h
Purified ratio	Seawater
	Purified 30% : Drainage 70%
	Freshwater
	Purified 60% : Drainage 40%
Power supply	3P 200V



MYZ E-250

Dimension	W120 × D55 × H67 cm
Weight	108kg
Purified water	Seawater : 230~250ℓ/h
	Freshwater: 460~500ℓ/h
Purified ratio	Seawater
	Purified 30% : Drainage 70%
	Freshwater
	Purified 60% : Drainage 40%
Power supply	3P 200V