



**MOBILE SYSTEMS
FOR
DRINKING WATER PRODUCTION**


SEA WATER SOURCES



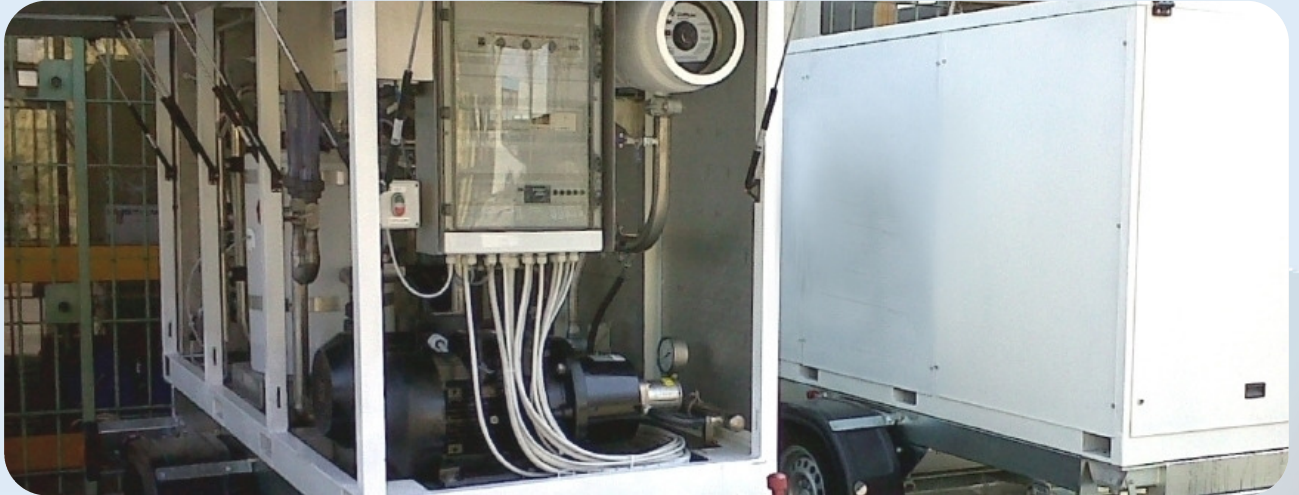
Sea Water Sources

Sea water is characterized by its high salinity which must be treated to make the water safe for human consumption. Depending on the characteristics of SEA WATER, the COMPACT & MOBILE drinking water units employ various purification technologies, and combinations of them, including those of rapid sedimentation, filtration, microfiltration, reverse osmosis, remineralization and disinfection.

The following systems produce potable water from seawater.



IT-SW-SY (System)



DESCRIPTION

This system offers a modular solution for the production of drinking water from sea water sources.

The mobility of the trailer mounted units also make them ideal for emergency interventions (external power source required).

The units are supplied "ready to start" and a wide range of accessories ideal for use in the field is available.



HOW IT WORKS

As described below the modules employ mixed media filtration and reverse osmosis technology in this case Italtechnics couples the following two products to create the **IT-SW-SY (System)**:

IT-FW-F (Filter) + IT-SW-SA (Stand Alone)

Each unit, or combination of units, includes a disinfection system employing an onsite chlorine generator which relies on common salt plus water to make the required chlorine. This means that non dangerous goods have to be shipped with the water treatment plants.





MAIN FEATURES

□ IT-FW-F FILTER - basic filtration unit:

When coupled to an RO unit the **IT-FW-F (Filter)** is used as a pretreatment module for saline water and/or water with high turbidity.

In the **IT-FW-F (Filter)** water undergoes rapid sedimentation then flows through sand and active carbon filters for complete removal of turbidity and organic compounds.

The water then passes into the RO unit making up the other half of the **IT-BW-SY (System)** to remove salts from brackish water.

□ IT-SW-SA (Stand Alone) - reverse osmosis unit:

The **IT-SW-SA (Stand Alone)** is capable of treating sea water that has been rendered limpid in the preceding filtration unit.

Filtered water enters the **IT-SW-SA (Stand Alone)** passing through a microfilter before arriving at the heart of the plant: reverse osmosis (RO) system complete with pressure pumps and RO membranes specifically designed for sea water. Following this the water undergoes remineralization and disinfection. The unit is complete with its own Clean-In-Place (CIP) system.



TECHNICAL DATA	IT-SW-SY(System)
Raw(feed)water	Sea water (TDS < 38,000 ppm)
Drinking water flow rate (depending on raw water quality)	2.5 m ³ / hr MAX
Ambient working temperature	5 ° C ~ 50 ° C
Installed power	1.2 Kw + 23 Kw 380 V 50 Hz
Dimensions(without trailer)	2x(1140 x 2850 x1400h mm)
Approx. total weight (including trailer)	2300 kg + 1500 kg

SPARE PARTS & ACCESSORIES	IT-SW-SY(System)
Spare parts and consumables kits (1, 2 or 3+ year's supply)	√
Chemicals, cleaning and conservation products (kits)	√
Trailer (2) with innovative twist lock connections	√
Trailer (2) with NATO hitch and height-adjustable tow bar	√
Floatation device for raw water intake pump	√
Raw and treated water storage tanks (various types)	√
Photovoltaic system	√
Training on-site or in Italtechnics facilities	√
User and O&M manuals	√



IT-SW-SA (Stand Alone)



DESCRIPTION

The **IT-SW-SA (Stand Alone)** water treatment plant is designed to produce drinking water from limpid saline water (TDS 38,000 – 45,000 ppm) from boreholes, lakes, seas or oceans in areas with limited water resources.

The water treatment plant is mounted on a robust trailer which makes it ideal for emergency interventions as may be necessary following a natural or manmade disaster leaving people without safe drinking water.

The **IT-SW-SA (Stand Alone)** is also ideal as a temporary or permanent water supply for work camps, missions or villages.



HOW IT WORKS

The **IT-SW-SA (Stand Alone)** is easy to use and has been specifically designed to reduce, as far as possible, the use of chemical products without compromising performance.

The unit is equipped with a series of pre-treatment technologies including microfiltration and then at the heart of the water treatment plant there is a reverse osmosis (RO) system complete with high pressure pumps and RO membranes. The membranes are specifically selected to treat sea water and the unit includes an automatic cleaning in place (CIP) function.

The **IT-SW-SA (Stand Alone)** is managed automatically through a dedicated control panel on board.





MAIN FEATURES

Advantages:

Automatic Cleaning-In-Place (CIP) system on board;
Membrane protection through pretreatment with filtration and microfiltration;
Trailer mounted with twist-locks which also allow for the unit to be easily un-coupled and installed without trailer.

Rapid Installation:

Delivered to site "ready to use", factory tested, trailer mounted and ready for emergency intervention;
The dimensions of the unit have been optimized to save space on site, on the road and in the transport container during shipping.





TECHNICAL DATA	IT-SW-SA(Stand Alone)
Feed water	Sea water (TDS 38,000 – 45,000 ppm)
Drinking water flow rate (depending on raw water quality)	0.5 ~ 1.0 m ³ / hr MAX
Ambient working temperature	5 °C ~ 50 °C
Required power	7.5 Kw - 380 V 50 Hz
Dimensions	1140 x 2850 x1400h mm
Total weight (without water)	900 kg

SPARE PARTS & ACCESSORIES	IT-SW-SA(Stand Alone)
Kits of spare parts and consumables kits (1, 2 or 3+ years' supply)	√
Chemicals, cleaning and conservation products (kits)	√
Trailer	√
Height adjustable tow bar and/or universal hook to NATO specifications,	√
Floation device for submersible feed pump	√
Various types of drinking water tanks	√
Photovoltaic system	√
Training on-site or in Italtechnics facilities	√
User and O&M manuals	√



IT-SW-BOX

DESCRIPTION

- Compact unit built in standard size containers
- Sand filtration, microfiltration, reverse osmosis for sea water, remineralization and disinfection
- Cleaning in Place (CIP) system on board
- Energy recovery systems





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