



**MOBILE SYSTEMS
FOR
DRINKING WATER PRODUCTION**

BRACKISH WATER SOURCES



Brackish Water Sources

Brackish water is water that has a salinity higher than fresh water, but not as high as the sea water. Salinity must be treated to make the water drinkable and safe for human consumption. Depending on the characteristics of the brackish water, the compact and mobile units employ various purification technologies.

The combinations of them consequently, such as those of rapid sedimentation, filtration, microfiltration, reverse osmosis for brackish water and disinfection.

The following systems produce drinking water from brackish water



IT-BW-SY (System)



DESCRIPTION

This system offers a modular solution for the production of drinking water from brackish 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-BW-SY (System)**:

IT-FW-F (Filter) + IT-BW-CL (Chlorine)

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-BW-CL (Chlorine) - reverse osmosis unit:

The **IT-BW-CL (Chlorine)** is capable of treating brackish water that has been rendered limpid in the preceding filtration unit.

Filtered water enters the **IT-BW-CL (Chlorine)** 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 brackish water. Following this the water undergoes remineralization and disinfection. The unit is complete with its own Clean-In-Place (CIP) system.



TECHNICAL DATA	IT-BW-SY(System)
Raw(feed)water	Brackish water (TDS <6000 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	7 kW 380 V 50 Hz
Dimensions (without trailer)	2x (1140 x 2850 x1400h mm)
Total weight (including trailer)	2300 kg + 1400 kg

SPARE PARTS & ACCESSORIES	IT-BW-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-BW-SA (Stand Alone)



DESCRIPTION

The **IT-BW-SA (Stand Alone)** water treatment unit is designed to produce drinking water from limpid brackish water with TDS up to 2000 ppm (it will not treat sea water) and is ideal for treating water in remote areas with limited water resources.

The **IT-BW-SA (Stand Alone)** mounted on a trailer that is suitable for use with a range of vehicle types. This plus the on-board power generator make it ideal for emergency intervention such as may be required after a natural disaster or in a temporary camp. Alternatively, the units can be used to provide drinking water in workers camp, temporary or mobile exploration camps, villages or missions.



HOW IT WORKS

The **IT-BW-SA (Stand Alone)** is easy to use and is designed to reduce as far as possible the need for additional chemical products without compromising performance.

The heart of the plant is a reverse osmosis (RO) system complete with pressure pumps and RO membranes specifically designed for brackish water. Following this the water undergoes disinfection.

The **IT-BW-SA (Stand Alone)** is controlled automatically through a dedicated electrical control panel and, upon request, Italtechnics can also automate the pretreatment sections.





MAIN FEATURES

Water treatment through reverse osmosis (RO):

Corrosion resistant structure in stainless steel; Automatic membrane flushing and cleaning; Filtration and microfiltration pretreatments to protect the membranes and maximize the life of the system.

Rapid installation:

Delivered "ready to start" and highly mobile making it ideal for emergency interventions; The configuration optimizes space for both on site movement and for containerized transport.

Trailer:

Optional but included as standard; Innovative rapid twist-lock attachments available; NATO specification tow bar and hitches available; Built-in storage compartments for accessories.

Generator on board:

The unit is autonomous with its own power source; Mounted on sliding frame for maximum ventilation; Diesel or petrol generators available.



TECHNICAL DATA	IT-BW-SA (Stand Alone)
Raw (feed) water	Brackish water (TDS max 2000 ppm)
Drinking water flow rate (depending on raw water quality)	0.5 ~ 1.5 m ³ / hr MAX
Ambient working temperature	5 °C ~ 50 °C
Required power	3.0 kW - 380 V 50 Hz
Dimensions	1140 x 2850 x 1400h mm
Approx. total weight (including generator)	800 kg

SPARE PARTS & ACCESSORIES	IT-BW-SA (Stand Alone)
Spare parts and consumables kits (1, 2 or 3+ year's supply)	√
Chemicals, cleaning and conservation products (kits)	√
Trailer	√
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-BW-CL (Chlorine)



DESCRIPTION

The **IT-BW-CL (Chlorine)** water treatment unit is designed to produce drinking water from brackish water with TDS up to 6000 ppm (it will not treat sea water) and is ideal for treating water in remote areas with limited water resources.

The **IT-BW-CL (Chlorine)** is trailer mounted and therefore ideal for emergency intervention such as may be required after a natural disaster or in a camp for displaced people. Alternatively, the units can be used to provide drinking water in workers camp, temporary or mobile exploration camps, villages or missions.

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



HOW IT WORKS

The **IT-BW-CL (Chlorine)** is easy to use and is designed to reduce as far as possible the need for additional chemical products without compromising performance.

Water in the unit passes through a microfilter before arriving at the heart of the plant: a reverse osmosis (RO) system complete with pressure pumps and RO membranes specifically designed brackish water. Following this the water undergoes remineralization and disinfection. The unit is complete with its own Clean-In-Place (CIP) system.

Disinfection occurs with the help of 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.

The **IT-BW-CL (Chlorine)** is controlled automatically through a dedicated electrical control panel.



MAIN FEATURES

□ Features

Automatic membrane cleaning system, Clean-In-Place (CIP) included as standard;

Pretreatment including microfiltration in order to protect the RO membranes and maximize the life of the system;

Chlorine generator on board;

Remineralization.

□ Rapid installation

Delivered “ready to start” and highly mobile making it ideal for emergency interventions;

The configuration optimizes space for both on site movement and for containerized transport.





TECHNICAL DATA	IT-BW-CL (Chlorine)
Raw (feed) water	Brackish water (TDS <6000 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	7 kW 380 V 50 Hz
Dimensions (without trailer)	2x (1140 x 2850 x1400h mm)
Total weight (including trailer)	2300 kg + 1400 kg

SPARE PARTS & ACCESSORIES	IT-BW-CL (Chlorine)
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	√
Floation 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-BW-BOX



DESCRIPTION

The **IT-BW-BOX** water treatment unit is designed to produce drinking water from brackish water sources such as wells, rivers and lakes including in remote areas with limited water resources.

The **IT-BW-BOX** is built inside a standard size container which has been modified and recertified for sea and road transport. The **IT-BW-BOX** is easy to transport and position on site where the container can remain as the system's permanent housing.

These systems are ideal for use in temporary or permanent settlements including workers camps, temporary or mobile exploration camps, villages or missions.



HOW IT WORKS

The **IT-BW-BOX** includes pretreatment through sand and cartridge filters. The **IT-BW-BOX** is robust and reliable and at the heart of the plant is a reverse osmosis (RO) system complete with pressure pumps and RO membranes specifically designed for brackish water.

The **IT-BW-BOX** is controlled automatically through a dedicated electrical control panel.





MAIN FEATURES

❑ Water treatment through reverse osmosis (RO):

Corrosion resistant structure in stainless steel;

Automatic backwashing system;

Filtration pretreatments to protect the membranes and maximize the life of the system.

❑ Plug and play:

Delivered ready for rapid installation onsite;

The system configuration optimizes space which facilitates transport, on site movement and positioning and the final installation.

❑ Modularity:

The system can be made autonomous by adding a power generator and fuel store in another container;

Drinking water storage possible in additional container;

Drinking water distribution including network piping and fountains (street taps) can be easily added to the project.

❑ Construction and materials:

All materials are corrosion resistant;

All pumps are in stainless steel;

Protected from the elements in containerized housing;

Systems are factory tested before dispatch to site.




TECHNICAL DATA	IT-BW-BOX
Raw (feed) water	Brackish water
Drinking water flow rate (depending on salinity)	2.5 ~ 15 m ³ /hr MAX (different models)
Ambient working temperature	5°C ~ 50°C
Installed power	4.5 ~ 12 kW 380 V 50 Hz
Dimensions	6100 x 2400 x 2500 h mm (minimum dimensions, different models available)

SPARE PARTS & ACCESSORIES	IT-BW-BOX
Spare parts and consumables kits (1, 2 or 3+ year's supply)	√
Chemicals, cleaning and conservation products (kits)	√
Raw and treated water storage tanks (various types)	√
Photovoltaic system	√
Power generator and fuel storage (in separate container)	√
Drinking water distribution system	√
Training on-site or in Italtechnics facilities	√
User and O&M manuals	√



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