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# FRESHWATER ON BOARD, ECONOMICALLY

EVERY GOOD SEAMAN KNOWS HOW IMPORTANT IT IS TO HAVE ON BOARD A BOAT A GOOD RESERVE OF FRESHWATER

Installing a system that can satisfy this need by filtering and treating salt seawater is increasingly frequent even on smaller boats. This is because of several aspects that satisfy various different conditions concerning the immediate need to have water reserves.

## The ecological requirement

Think for example how much lighter any yacht could be during a cruise without having to carry considerable quantities of fresh water loaded in the tanks or with cases of bottles stowed in the holds. The advantage of avoiding this is a reduction of the displacement of the boat on a cruise, be it a motorboat or, above all, a sailing boat relying on the wind. Starting from this philosophy yards and designers to, when they plan a boat, keep this essential need well in mind when making the tanks that will hold water reserves for the boat being built of a suitable size.

## How the company was formed

An important company on the market in this specific sector is certainly Schenker Watermakers. In its 20 years of life, Schenker has invested in research and development to provide its customers with the best solutions in terms of efficiency and technology. The company has specialised in the production of energy recovery desalinators with an eco-sustainable solution that is particularly easy to operate and reliable. Company processes (the company has four patents) are governed by stringent regulations because for four years the company has been ISO 9000 certified. Schenker has also obtained ISO 9001:2015 certification from the international Bureau Veritas organisation.

## The “Energy Recovery System” patent

The main characteristic of Schenker desalinators is that they obtain fresh water with reduced energy consumption. The innovation in the system is in the patented “Energy Recovery System” device. Instead of the high-pressure pumps used to make traditional desalinators work, this system increases the pressure of a normal low-pressure pump (installed ahead of the device) and fully recovers the hydraulic return energy from the inverse osmosis membranes. This kind of low-pressure pump also has the advantage of making the desalinator work extremely quietly with absolutely no vibrations. The water, driven by the low-pressure pump, passes through the prefilters and is then led into the



The company has chosen the name “ZEN” for the new series of products characterised by simplicity, lightweight and minimalism



Riccardo Verde, CEO Schenker Watermakers

heart of the system consisting of carbon cylinders inside which concentric pistons of different cross sections compress the liquid to high pressure, making possible inverse osmosis and so producing fresh water. The freshwater produced is naturally stored in the boat's tanks and is then available for users on board.

The desalinator does not store the salt removed internally but pumps it out through a discharge flow.

### Freshwater on board with low electrical consumption

The "Energy Recovery System" gives a very high energy yield. It has been verified that electrical consumption compared with traditional desalinators is up to 80% lower. Considering that the average electrical consumption of a Schenker desalinator is only 4 W for each litre of freshwater produced, to produce for example 60 L per hour of freshwater you need only 240 W of electrical energy. The normal recharging by the engine is thus more than enough to replace the energy consumed, with no need for the help of a generator. The desalinator can thus be installed on board so that it is powered directly by the batteries even without a generator.

### ZEN, innovation in technology and design

The company has chosen the name "ZEN" for the new series of products characterised by simplicity, lightweight and minimalism. Technology and functionality combined with design. These

guidelines led to the new range of desalinators with their revolutionary concept. Despite the minimalist design, the devices essential and flexible to install. It is an innovation in the desalinators sector also for its refined design. It has a pleasing look for a device that is normally destined to be out of sight on board, hidden in technical cabinets or in the engine room. The small, extra thin size and the contained height are ideal for installation with few constraints on positioning, for example horizontally on the floor of the locker or vertically on the wall a technical cabinet, almost as if it were a picture. Light, very quiet running and so suitable for installation even on board the smallest boats.

### Remote control from the bridge

Using Schenker desalinators is extremely simple because it requires no adjustment since every model has automatic pressure calibration. So there is no need for direct manual access to the device. All functions can be controlled remotely by an easy to understand electronic panel that can be installed on the bridge or below decks.

Currently being developed is a new touch control for the medium/high range of desalinators. Using a panel installed in the console it is possible to have complete control of the device and implement if the hold functions such as setting the number of litres of fresh water to produce, automatic in periodical flashing and digital readout of all machine parameters.

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