

Reverse Osmosis (RO) Fresh Water Generator



Wärtsilä offers a complete freshwater package which covers the most recognized desalination technologies for fresh water production available today: RO systems and evaporators.

In choosing Wärtsilä as your fresh water production partner you secure both a cost-effective and fully automated solution.

Reverse osmosis is a water purification technology that uses a semi-permeable membrane to remove salts and impurities from the seawater in order to create fresh water. Wärtsilä offers RO systems capable of producing between 40 and 1500 m³ of fresh water, daily. The system features a modular and flexible design and is customised to meet operational and space requirements of any vessel. This allows for installation and optimization of the RO system on all vessel types.

The Wärtsilä RO system utilizes a semi-permeable membrane, which is a porous sheet barrier that blocks the flow of salts and other solutes. Seawater is forced through microscopic pores in the membrane under pressure, while larger dissolved solids and heavy molecular weight contaminants are flushed away as reject water.



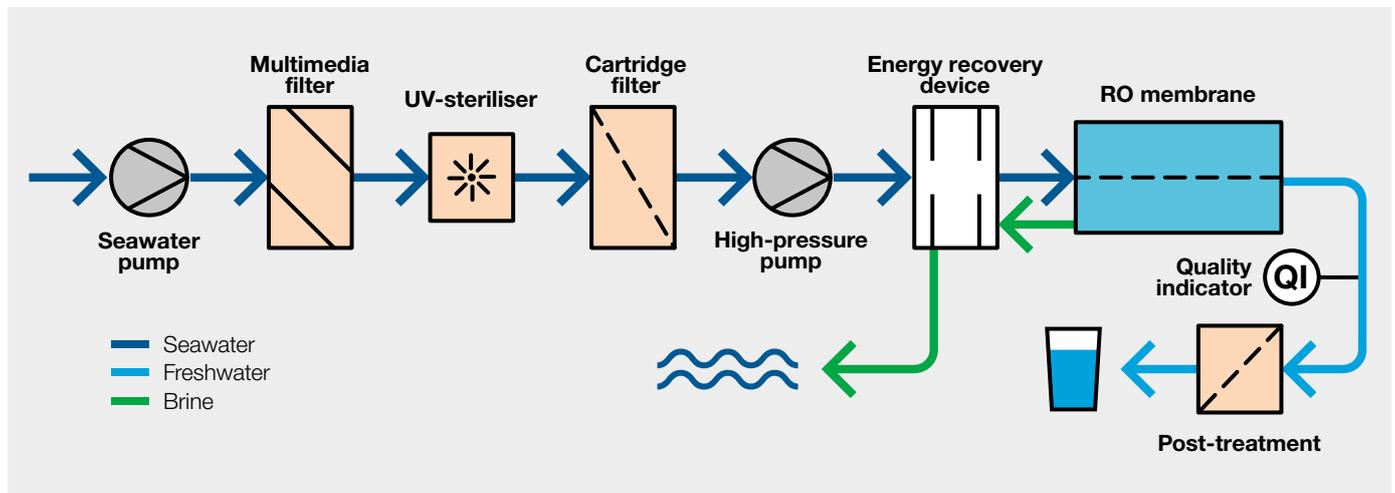
Key Benefits

- Low energy consumption
- Easy operation and maintenance
- Flexible material selection regarding components and piping
- Modular design for minimal footprint
- Maximum flexibility: critical components can be chosen individually (pre-filtration, membranes, high pressure pumps, energy recovery devices, automation)
- All proven suppliers from Western Europe and US
- Engineering and installation support
- Minimal chemical consumption

Features

- Capacity 40–1500 t/d
- Single and two pass design
- Consistent production of fresh water at seawater temperature range of 0-35 °C
- Fully automatic or semi-automatic operation
- Standard automation: Siemens S7-1500, Profinet (or other by request)
- Easy connection to ship automation and control system
- UV-steriliser after prefiltration reduces chemical consumption

Process Overview



Main Components

- Pre-treatment (multimedia filters/self-cleaning filters, cartridge filters, UV-sterilisation)
- High-pressure pump
- Energy recovery device (Isobaric recovery or Turbocharger)
- RO membranes
- Automatic flushing system/CIP

Options

- Post-treatment (remineralisation and/or pH-correction)
- Remote monitoring system
- Flow transmitters for seawater, permeate, and brine
- Super duplex
- Containerized construction

Spare Parts and Service

For service or spare inquiries please submit the following to wsc.aftersales@wartsila.com: vessel name, equipment type, serial number, and your company contact details.

Contacts

For further technical information or inquiries regarding this product please contact our sales department at wsc.sales@wartsila.com or by telephone at +494152805115.

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