

12 TPD Seawater Reverse Osmosis System

SWRO-500LPH

500 L/h compact industrial seawater desalination system

Compact seawater reverse-osmosis system with pretreatment, high-pressure pumping, membrane desalination, conductivity monitoring, automatic controls and UV sterilization.



Capacity and Performance

Product-water capacity, recovery and electrical requirements.

Pure Water Flow Rate	500 L/h
Daily Capacity	12 m ³ /day
Recovery Rate	30-40%
Power Supply	440 V, 60 Hz, three phase
Rated Power	10 kW
Product Water TDS	< 600 ppm

Feedwater Requirements

Feedwater quality and operating limits from the supplied data sheet.

Feedwater TDS	< 38,000 ppm
Working Pressure	< 6 MPa
Operating Temperature	5-45 °C
Feedwater Residual Chlorine	< 0.1 ppm
Feedwater SDI	< 5
Feedwater Turbidity	< 1 NTU
Feedwater pH	Neutral

Construction and Dimensions

Materials, piping and overall equipment size.

Raw Water Pump	CHL4-40 raw-water pump, one set, SUS316L
High-Pressure Pump	1.5 m ³ /h high-pressure pump, one set, SUS316L
Frame Material	SUS304 frame
Pipeline Materials	High-pressure hose and low-pressure UPVC pipeline
Overall Dimensions	170 × 90 × 170 cm

Included Components

Main pumps, filters, membranes and auxiliary equipment.

Pretreatment Filters	Two 350 × 1400 FRP filter vessels for quartz sand and activated carbon
Cartridge Filters	Three 20-inch sediment-filter housings with three PP filter elements
RO Membrane Housings	Four 4040 FRP membrane housings
Seawater RO Membranes	Four VONTRON 4040 seawater RO membranes
Control System	One GYR control system
UV Sterilizer	Yes
Antiscalant Dosing System	Yes
Clean-in-Place System	Yes

Applications

Seawater desalination for industrial process water, hotels, villas, farms, islands, coastal facilities and remote communities.

500 LPH Seawater RO System Process Flow Diagram

