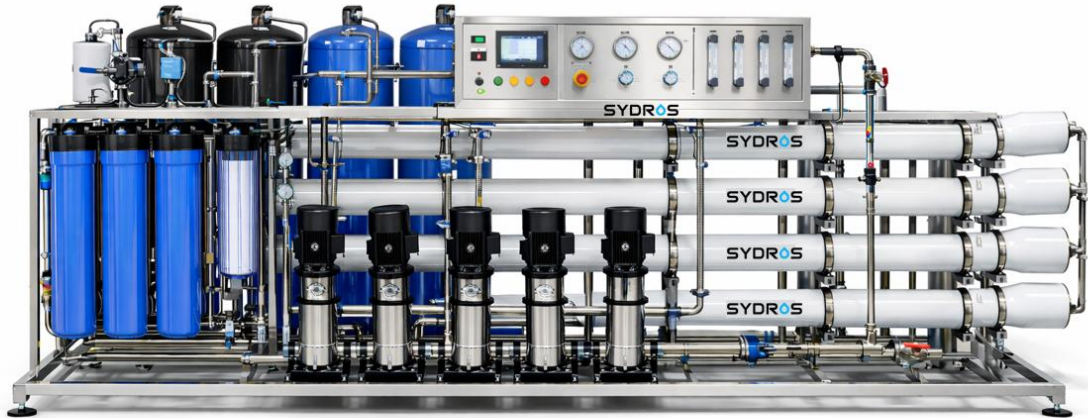


**SYDROS Desal - 3000**



**TECHNICAL DATA SHEET**

**3000 LPH Seawater Reverse Osmosis Plant (SWRO)**

**3.0 m<sup>3</sup>/h – Industrial Desalination System**

**1. System Overview**

Parameter	Specification
<b>System Type</b>	Seawater Reverse Osmosis (SWRO)
<b>Nominal Capacity</b>	3000 L/h
<b>Configuration</b>	Multi-membrane array (8–10 membranes, parallel configuration)
<b>Design</b>	Heavy-duty skid-mounted stainless steel frame
<b>Operation</b>	Continuous industrial duty (24/7)

## 2. Performance Data

Parameter	Value
Permeate Flow Rate	3000 L/h ( $\pm 15\%$ )
Daily Production	Up to 72.0 m <sup>3</sup> /day
Recovery Rate	35–45%
Salt Rejection	$\geq 99.2\%$
Feed TDS (max.)	35,000 ppm
Permeate TDS	< 500 ppm (feed dependent)
Design Conditions	25°C / 35,000 ppm TDS

## 3. Membrane Section

Parameter	Specification
Membrane Type	Thin Film Composite (TFC), seawater grade
Membrane Size	8–10 × 4040 SWRO membranes
Pressure Vessel	FRP, 600 psi rating
Operating Pressure	55–70 bar
Max. Operating Pressure	70 bar
Flush System	Manual flush (standard) / Auto flush optional

## 4. Pre-Treatment

Parameter	Specification
Stage 1	Multimedia / quartz sand filtration (industrial vessel)
Stage 2	Activated carbon filtration
Stage 3	5 $\mu$ m cartridge filtration (high-flow housing)

<b>Required SDI</b>	< 3
<b>Free Chlorine</b>	< 0.1 mg/L
<b>Antiscalant Dosing</b>	Chemical dosing skid with metering pump

## 5. Pump System

Parameter	Specification
<b>Raw Water Pump</b>	Stainless steel centrifugal, high-capacity
<b>High-Pressure Pump</b>	Seawater-rated multistage stainless steel
<b>Motor Power</b>	18 – 22 kW
<b>Pressure Range</b>	55–70 bar
<b>Protection</b>	Low-pressure / dry-run / overload protection

## 6. Instrumentation & Control

Parameter	Specification
<b>Display</b>	Digital conductivity monitor
<b>Pressure Gauges</b>	4–5 (feed / HP / membrane / concentrate / final)
<b>Flow Meters</b>	Feed / permeate / concentrate
<b>Emergency Stop</b>	Yes
<b>Automatic Shut-off</b>	Low pressure / high pressure
<b>Optional</b>	PLC control / Auto flush / SCADA-ready remote monitoring

## 7. Hydraulic Connections

Parameter	Specification
Feed Connection	2½"
Permeate Outlet	2"
Concentrate Outlet	2"
Piping Material	High-pressure SS316 / FRP; PVC-U (low pressure side)
Flow Regulation	Automated concentrate control valve optional

## 8. Electrical Data

Parameter	Specification
Voltage	380–415 V / 50 Hz / 3-Phase
Optional	60 Hz configuration
Power Consumption	22 – 30 kW
Control Panel	Industrial stainless enclosure, IP54

## 9. Mechanical Data

Parameter	Specification
Frame Material	Stainless Steel 304 (316 recommended for marine environments)
Dimensions (L × W × H)	approx. 3800 × 1500 × 2000 mm
Weight	approx. 2000 – 2500 kg

<b>Installation</b>	Floor-mounted, anchor-ready heavy-duty base
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**10. Feed Water Requirements**

Parameter	Limit
Temperature	5 – 35 °C
SDI	< 3
Iron (Fe)	< 0.05 mg/L
Manganese (Mn)	< 0.02 mg/L
Oil & Grease	< 1 mg/L



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