

**SYDROS RO 250**



**1. System Overview**

Parameter	Specification
<b>System Type</b>	Brackish Water Reverse Osmosis (BWRO)
<b>Nominal Capacity</b>	250 L/h
<b>Configuration</b>	Single membrane system
<b>Design</b>	Skid-mounted, stainless steel frame
<b>Operation</b>	Continuous industrial duty

**2. Performance Data**

Parameter	Value
<b>Permeate Flow Rate</b>	250 L/h (±15%)
<b>Daily Production</b>	Up to 6.0 m <sup>3</sup> /day
<b>Recovery Rate</b>	50–65%
<b>Salt Rejection</b>	98–99%
<b>Feed TDS (max.)</b>	2,000 ppm

<b>Permeate Conductivity</b>	< 10–30 $\mu$ S/cm (feed dependent)
<b>Design Conditions</b>	25°C / 1,000 ppm TDS

### 3. Membrane Section

Parameter	Specification
<b>Membrane Type</b>	Thin Film Composite (TFC)
<b>Membrane Size</b>	1 × 4040
<b>Pressure Vessel</b>	FRP, 300 psi rating
<b>Operating Pressure</b>	8–13 bar
<b>Max. Operating Pressure</b>	14 bar
<b>Flush System</b>	Manual flush valve (standard)

### 4. Pre-Treatment

Parameter	Specification
<b>Filter Housings</b>	2 × 20" Big Blue
<b>Stage 1</b>	5 $\mu$ m sediment filter
<b>Stage 2</b>	Activated carbon block
<b>Optional</b>	1 $\mu$ m polishing cartridge
<b>Required SDI</b>	< 3
<b>Free Chlorine</b>	< 0.1 mg/L

### 5. Pump System

Parameter	Specification
<b>Pump Type</b>	Vertical multistage stainless steel
<b>Motor Power</b>	0.75 kW
<b>Protection Class</b>	IP55
<b>Pressure Range</b>	8–13 bar

<b>Protection</b>	Low pressure & dry-run protection
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## 6. Instrumentation & Control

Parameter	Specification
<b>Display</b>	Digital conductivity monitor
<b>Pressure Gauges</b>	2 (feed / membrane pressure)
<b>Emergency Stop</b>	Yes
<b>Automatic Shut-off</b>	Low pressure / high pressure
<b>Optional</b>	Auto flush / Dual conductivity / PLC control

## 7. Hydraulic Connections

Parameter	Specification
<b>Feed Connection</b>	¾"
<b>Permeate Outlet</b>	½"
<b>Concentrate Outlet</b>	½"
<b>Piping Material</b>	Industrial PVC-U
<b>Flow Regulation</b>	Manual concentrate control valve

## 8. Electrical Data

Parameter	Specification
<b>Voltage</b>	230 V / 50 Hz (standard)
<b>Optional</b>	400 V / 3-phase
<b>Power Consumption</b>	0.9 – 1.2 kW
<b>Control Panel</b>	Stainless steel, IP54

## 9. Mechanical Data

Parameter	Specification
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<b>Frame Material</b>	Stainless Steel 304
<b>Dimensions (L × W × H)</b>	approx. 1000 × 550 × 1350 mm
<b>Weight</b>	approx. 80 – 100 kg
<b>Installation</b>	Floor-mounted, adjustable feet

## 10. Feed Water Requirements

Parameter	Limit
<b>Temperature</b>	5 – 35 °C
<b>Iron (Fe)</b>	< 0.1 mg/L
<b>Manganese (Mn)</b>	< 0.05 mg/L
<b>Hardness</b>	< 15 °dH recommended
<b>Turbidity</b>	< 1 NTU



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