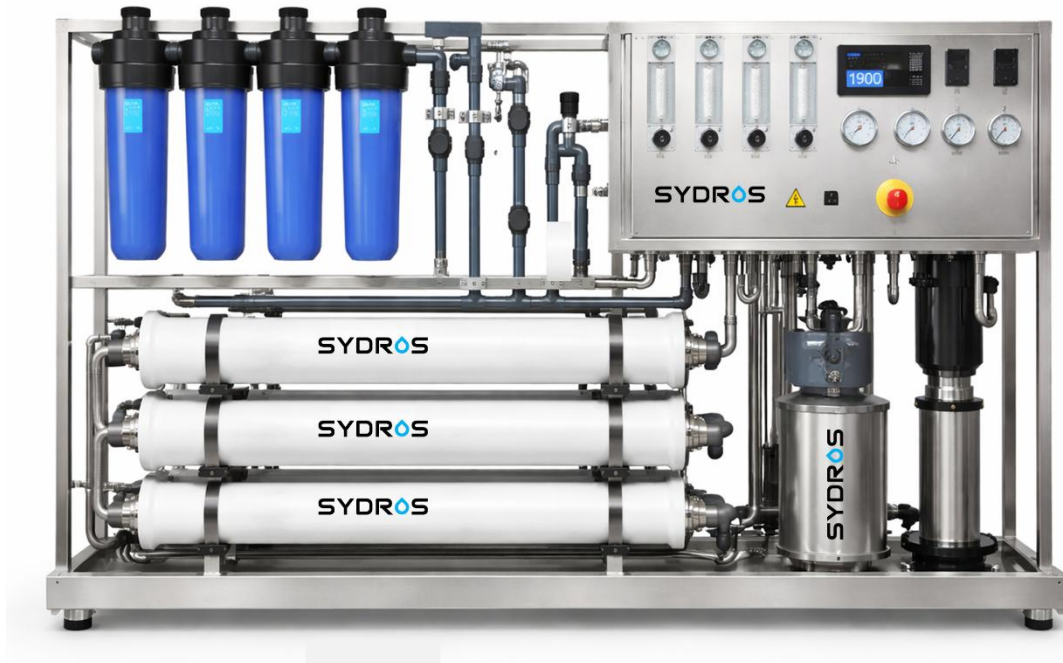


**SYDROS RO 2000**



**TECHNICAL DATA SHEET**

**Industrial Reverse Osmosis System – 2000 LPH (2.0 m<sup>3</sup>/h)**

**1. System Overview**

Parameter	Specification
<b>System Type</b>	Brackish Water Reverse Osmosis (BWRO)
<b>Nominal Capacity</b>	2000 L/h (±15%)
<b>Recommended Membrane</b>	<b>2 × 8040 in series-parallel or 4 × 8040</b>
<b>Configuration</b>	<b>parallel</b>
<b>Pressure Vessel Rating</b>	450–600 psi FRP
<b>Design</b>	Heavy-duty stainless steel skid
<b>Operation Mode</b>	Continuous industrial duty

## 2. Performance Data

Parameter	Value
<b>Permeate Flow Rate</b>	2000 L/h
<b>Daily Production</b>	Up to 48 m <sup>3</sup> /day
<b>Recovery Rate</b>	65–75%
<b>Salt Rejection</b>	98–99%
<b>Feed TDS (max.)</b>	3,000 ppm (BWRO class)
<b>Permeate Conductivity</b>	< 10–25 µS/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>	8040
<b>Configuration</b>	4 × 8040 parallel (recommended for longevity)
<b>Operating Pressure</b>	14–20 bar
<b>Max Operating Pressure</b>	21 bar
<b>CIP Ports</b>	Integrated (recommended at this size)
<b>Auto Flush</b>	Recommended standard

#### 4. Pre-Treatment (Industrial Grade Required)

Parameter	Specification
<b>Primary Filtration</b>	Multimedia filter (optional but recommended)
<b>Cartridge Stage</b>	5 µm + 1 µm polishing
<b>Activated Carbon</b>	Required for chlorine removal
<b>Required SDI</b>	< 3 (target < 2)
<b>Free Chlorine</b>	< 0.1 mg/L
<b>Hardness Control</b>	Softener or antiscalant dosing mandatory above 8 °dH

#### 5. Pump System

Parameter	Specification
<b>Pump Type</b>	High-pressure vertical multistage stainless steel
<b>Motor Power</b>	<b>4.0 – 5.5 kW</b>
<b>Operating Pressure</b>	14–20 bar
<b>Protection</b>	Low pressure, high pressure, overload, dry-run
<b>Frequency Drive</b>	Optional (recommended for energy control)

## 6. Instrumentation & Control

Parameter	Specification
<b>Control System</b>	Industrial PLC (recommended)
<b>Conductivity Monitoring</b>	Feed + permeate (standard recommended)
<b>Flowmeters</b>	Permeate + concentrate
<b>Pressure Monitoring</b>	Feed / membrane inlet / concentrate / ΔP
<b>Alarm System</b>	High pressure / low pressure / conductivity alarm
<b>Data Logging</b>	Optional remote monitoring

## 7. Hydraulic Connections

Parameter	Specification
<b>Feed Connection</b>	1½" – 2"
<b>Permeate Outlet</b>	1" – 1½"
<b>Concentrate Outlet</b>	1" – 1½"
<b>Piping Material</b>	Industrial PVC-U or SS
<b>Regulation</b>	Precision concentrate control valve + auto flush

## 8. Electrical Data

Parameter	Specification
<b>Voltage</b>	400 V / 50 Hz (3-phase)
<b>Power Consumption</b>	<b>5 – 7 kW (system total)</b>
<b>Control Cabinet</b>	Stainless steel IP54
<b>Main Protection</b>	Industrial breaker + motor protection

### 9. Mechanical Data

Parameter	Specification
<b>Frame Material</b>	Stainless Steel 304
<b>Dimensions (L × W × H)</b>	approx. <b>2000 × 900 × 1800 mm</b>
<b>Weight</b>	approx. <b>450 – 650 kg</b>
<b>Installation</b>	Floor-mounted industrial skid

### 10. Feed Water Requirements

Parameter	Recommended 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>	< 8 °dH without softener
<b>Turbidity</b>	< 1 NTU
<b>SDI</b>	< 3 (target < 2)



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