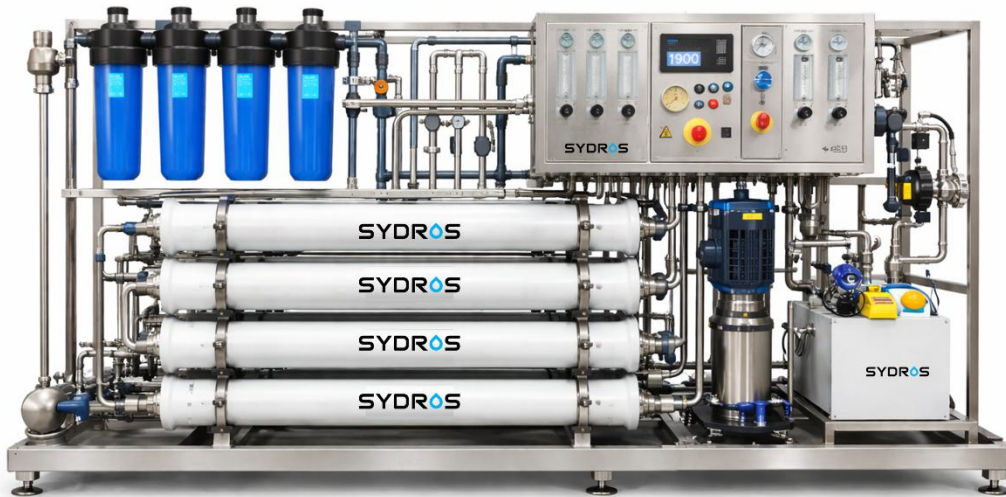


SYDROS RO 3000



TECHNICAL DATA SHEET

Industrial Reverse Osmosis System – 3000 LPH (3.0 m³/h)

1. System Overview

Parameter	Specification
System Type	Brackish Water Reverse Osmosis (BWRO)
Nominal Capacity	3000 L/h (±15%)
Membrane Configuration	4 × 8040 (parallel) or 2-stage 3:1 array
Pressure Vessel Rating	450–600 psi FRP
Design	Heavy-duty stainless steel skid
Operation Mode	Continuous industrial duty

2. Performance Data

Parameter	Value
Permeate Flow Rate	3000 L/h
Daily Production	Up to 72 m ³ /day
Recovery Rate	65–75%
Salt Rejection	98–99%
Feed TDS (max.)	3,500 ppm (BWRO class)
Permeate Conductivity	< 10–25 µS/cm (feed dependent)
Design Conditions	25°C / 1,000 ppm TDS

3. Membrane Section

Parameter	Specification
Membrane Type	Thin Film Composite (TFC)
Membrane Size	8040
Quantity	4–6 membranes depending on array
Operating Pressure	15–22 bar
Max Operating Pressure	25 bar
Auto Flush	Standard recommended
CIP Ports	Integrated (mandatory at this scale)

4. Pre-Treatment (Industrial Requirement)

Parameter	Specification
Multimedia Filter	Strongly recommended
Cartridge Filters	5 µm + 1 µm polishing
Activated Carbon	Required for chlorine removal
Antiscalant Dosing	Recommended
Required SDI	< 3 (target < 2)
Hardness Limit	< 6–8 °dH without softener

5. Pump System

Parameter	Specification
Pump Type	High-pressure vertical multistage stainless steel
Motor Power	7.5 – 9.2 kW
Operating Pressure	15–22 bar
Frequency Drive	Recommended
Protection	Low pressure / high pressure / overload / dry-run

6. Instrumentation & Control

Parameter	Specification
Control System	Industrial PLC
Conductivity Monitoring	Feed + permeate (standard)
Flowmeters	Permeate + concentrate
Pressure Monitoring	Feed / interstage / concentrate / ΔP
Alarm System	Conductivity / pressure / flow deviation
Data Logging	Standard recommended
Remote Monitoring	Optional

7. Hydraulic Connections

Parameter	Specification
Feed Connection	2"
Permeate Outlet	1½"
Concentrate Outlet	1½"
Piping Material	PVC-U PN16 or Stainless Steel
Flow Regulation	Precision concentrate valve + auto flush

8. Electrical Data

Parameter	Specification
Voltage	400 V / 50 Hz (3-phase)
Power Consumption	8 – 12 kW (system total)
Control Cabinet	Industrial stainless steel IP54

Main Protection	Industrial breaker + motor protection
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9. Mechanical Data

Parameter	Specification
Frame Material	Stainless Steel 304
Dimensions (L × W × H)	approx. 2400 × 1000 × 1900 mm
Weight	approx. 800 – 1100 kg
Installation	Floor-mounted industrial skid

10. Feed Water Requirements

Parameter	Recommended Limit
Temperature	5 – 35 °C
Iron (Fe)	< 0.1 mg/L
Manganese (Mn)	< 0.05 mg/L
Hardness	< 6 °dH without dosing
Turbidity	< 1 NTU
SDI	< 3 (target < 2)



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