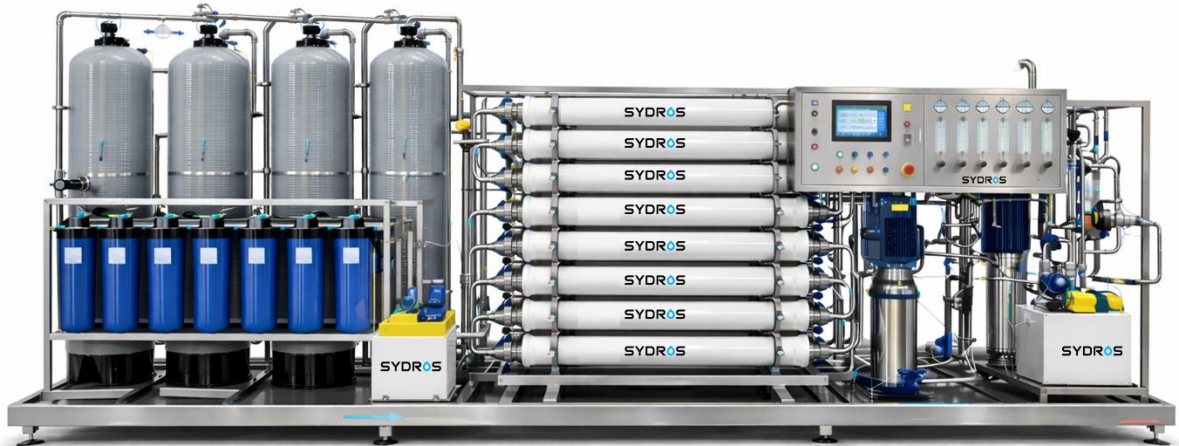


SYDROS RO 7500



TECHNICAL DATA SHEET

Industrial Reverse Osmosis System – 7500 LPH (7.5 m³/h)

1. System Overview

Parameter	Specification
System Type	Brackish Water Reverse Osmosis (BWRO)
Nominal Capacity	7500 L/h (±15%)
Membrane Configuration	2-stage 7:4 array (11 × 8040 membranes)
Pressure Vessel Rating	600 psi FRP
Design	Reinforced industrial stainless steel skid
Operation Mode	Continuous 24/7 duty

2. Performance Data

Parameter	Value
Permeate Flow Rate	7500 L/h
Daily Production	Up to 180 m ³ /day

Recovery Rate	70–75%
Salt Rejection	98–99%
Feed TDS (max.)	5,000 ppm (BWRO class)
Permeate Conductivity	< 10–25 $\mu\text{S}/\text{cm}$
Design Conditions	25°C / 1,000 ppm TDS

3. Membrane Section

Parameter	Specification
Membrane Type	Thin Film Composite (TFC)
Membrane Size	8040
Quantity	11 membranes
Operating Pressure	20–30 bar
Max Operating Pressure	30 bar
Auto Flush	Standard
CIP System	Fully integrated
Interstage Monitoring	Standard

4. Pre-Treatment (Full Industrial Setup Required)

Parameter	Specification
Multimedia Filter	Required
Activated Carbon	Required
Cartridge Filtration	5 μm + 1 μm polishing
Antiscalant Dosing	Required

Softener	Recommended above 4 °dH
Required SDI	< 3 (target < 2)
Turbidity	< 1 NTU

5. Pump System

Parameter	Specification
Pump Type	Industrial high-pressure multistage stainless steel
Motor Power	30 – 45 kW
Operating Pressure	20–30 bar
Frequency Drive	Standard
Protection	Low pressure / high pressure / overload / dry-run

6. Instrumentation & Control

Parameter	Specification
Control System	Industrial PLC + HMI
Conductivity Monitoring	Feed + permeate
Flowmeters	Permeate + concentrate
Pressure Monitoring	Feed / stage 1 / stage 2 / concentrate / ΔP
Alarm System	Conductivity, pressure, flow deviation
Data Logging	Standard
Remote Monitoring	SCADA-ready

Industrial automation integration becomes standard at this scale.

7. Hydraulic Connections

Parameter	Specification
Feed Connection	3" – 4"
Permeate Outlet	2½"
Concentrate Outlet	2½"
Piping Material	Stainless Steel recommended
Flow Regulation	Automated concentrate valve

8. Electrical Data

Parameter	Specification
Voltage	400 V / 50 Hz (3-phase)
Power Consumption	35 – 60 kW (system total)
Control Cabinet	Industrial stainless steel IP54
Main Protection	Industrial breaker + motor protection

9. Mechanical Data

Parameter	Specification
Frame Material	Stainless Steel 304 (optional 316L)
Dimensions (L × W × H)	approx. 4500 × 1500 × 2300 mm
Weight	approx. 3500 – 5000 kg
Installation	Heavy-duty floor-mounted 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	< 4 °dH without softener
SDI	< 3 (target < 2)



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