

SYDROS RO 500



TECHNICAL DATA SHEET

Industrial Reverse Osmosis System – 500 LPH

1. System Overview

Parameter	Specification
System Type	Brackish Water Reverse Osmosis (BWRO)
Nominal Capacity	500 L/h
Configuration	1 × 4040 (high-flux) or 2 × 4040 parallel (recommended industrial version)
Design	Stainless steel skid-mounted
Operation Mode	Continuous industrial duty

2. Performance Data

Parameter	Value
Permeate Flow Rate	500 L/h (±15%)
Daily Production	Up to 12 m ³ /day
Recovery Rate	55–70%
Salt Rejection	98–99%
Feed TDS (max.)	2,000 ppm
Permeate Conductivity	< 10–25 µS/cm
Design Conditions	25°C / 1,000 ppm TDS

3. Membrane Section

Parameter	Specification
Membrane Type	Thin Film Composite (TFC)
Membrane Size	4040
Configuration	2 × 4040 parallel (preferred for membrane longevity)
Pressure Vessel	FRP 300 psi
Operating Pressure	10–16 bar
Max Operating Pressure	18 bar
Flush System	Manual flush (standard)

4. Pre-Treatment

Parameter	Specification
Filter Housings	3 × 20" Big Blue (recommended)
Stage 1	5 µm sediment
Stage 2	Activated carbon
Stage 3	1 µm polishing filter
Required SDI	< 3
Free Chlorine	< 0.1 mg/L

5. Pump System

Parameter	Specification
Pump Type	Vertical multistage stainless steel
Motor Power	1.1 – 1.5 kW
Protection Class	IP55
Operating Pressure Range	10–16 bar
Protection	Low pressure, dry-run, overload

6. Instrumentation & Control

Parameter	Specification
Display	Digital conductivity monitor
Pressure Gauges	3 (feed / membrane inlet / concentrate)
Emergency Stop	Yes
Automatic Shutoff	High & low pressure
Optional	Dual conductivity (feed + permeate), auto flush, PLC

7. Hydraulic Connections

Parameter	Specification
Feed Connection	1"
Permeate Outlet	¾"
Concentrate Outlet	¾"
Piping Material	PVC-U industrial pressure rated
Flow Regulation	Precision concentrate valve

8. Electrical Data

Parameter	Specification
Voltage	400 V / 3-phase (recommended)
Optional	230 V (limited configuration)
Power Consumption	1.5 – 2.0 kW
Control Panel	Stainless steel IP54

9. Mechanical Data

Parameter	Specification
Frame Material	Stainless Steel 304
Dimensions (L × W × H)	approx. 1100 × 600 × 1400 mm
Weight	110 – 140 kg
Installation	Floor-mounted

10. Feed Water Requirements

Parameter	Limit
Temperature	5 – 35 °C
Iron (Fe)	< 0.1 mg/L
Manganese (Mn)	< 0.05 mg/L
Hardness	< 12 °dH recommended
Turbidity	< 1 NTU



Sydros Water GmbH
Kirlacherstr.6
76646 Bruchsal

Engineering at
Triwo Technologie Park Bruchsal
Werner/von Siemens/
Web: www.sydros.de
Mail: industrial@sydros.de
Number: +491590 6132 674
HRB: 745634

