

RO SERIES

CENTRAL REVERSE OSMOSIS SYSTEM

RIVAMED RO Series is designed to guarantee optimal product water quality using municipal water and to provide a suitable solution for hemodialysis centers.

RO Series is engineered in compliance with various international standards and regulations applicable to hemodialysis applications.

For the thermal disinfection of distribution loops and hemodialysis machines, the RIVAMED RO Series integrates seamlessly with our Heat Disinfection and Ultrafiltration Systems.

Its user-friendly interface simplifies configuration and monitoring processes while also enabling easy connectivity and software updates.

Compliance with ISO Standards

ISO 23500-1

Addresses guidance for the preparation and quality management of fluids for hemodialysis and related therapies

ISO 23500-2

Covers water treatment equipment for hemodialysis applications and related therapies

ISO 23500-3

Specifies minimum requirements for water for hemodialysis and related therapies

SYSTEM FEATURES AND ADVANTAGES

- ✓ Operation history recording with safety parameters including overpressure, conductivity, overtemperature, dry running, and motor protection
- ✓ Level-controlled AISI 316 stainless steel buffer tank for operational ease and motor protection
- ✓ Dead-leg-free design providing maximum hygiene
- ✓ Automatic system restart after power failure
- ✓ AISI 316 stainless steel piping and chassis
- ✓ Password-protected user authorization levels
- ✓ Visual LED indicator with audible alarm
- ✓ Braked wheels for ease of transportation
- ✓ Product water tank control option
- ✓ Product water and return line sampling valves



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- Enhanced chemical and microbiological purity
- Implementation of water and energy saving technology through product water recirculation and pump control based on the water demand of hemodialysis machines
- Compact design optimized for space efficiency
- Semi-automatic chemical disinfection
- Polyamide membranes with high rejection rates
- Use of a product water pressure stabilizing valve for precise system pressure control
- Continuous monitoring of conductivity, pressure, temperature, product and concentrate flow
- Programmable multiple independent on/off timer functions
- Adjustable interval flushing timer programs
- Built-in self-test function activated when power is supplied
- Monitoring and control via a PLC/microprocessor-controlled control panel with a multicolor touchscreen interface
- Software update capability for continuous improvements

OPTIONAL CONFIGURATIONS



**Ultrafiltration
(Bacteria and
Endotoxin Filter)**



**Distribution Loop
Heat Disinfection**



Leak Detector



**Remote Monitoring
and Control**



RIVAMED RO Series can be configured with two units operating together in a redundant or series configuration; this enables multi-stage and double-pass operation, thereby enhancing treatment safety, system continuity, and operational reliability.

TECHNICAL DATA

PARAMETER	RO-S	RO-XL
1. PERFORMANCE DATA		
Dimensions (W x D x H)	140 x 55 x 135 cm	155 x 85 x 190 cm*
Weight	190 kg	350 kg
Permeate Capacity	250 – 1750 lt/h	1000 – 5000 lt/h
Point of Use (Dialysis Machine)	Up to 36	Up to 104
Dialysis Water Pressure	2 – 6 bar	
Concentrate Pressure	< 20 bar	
Salt Rejection Rate	> 99% NaCl	
Bacteria and Endotoxin Removal	> 99%	
System Recovery	Up to 75%	
Noise Level	< 70 dB (A)	
2. WATER CONNECTIONS		
Soft Water Inlet	DN 25	
Product Water	20 mm PEX-A connection	25 mm PEX-A connection
Waste Water	DN 15 hose nozzle	DN 20 hose nozzle
3. ELECTRICAL SAFETY		
Power Plug	CEE 16 A	
Supply Voltage	380-400 V AC	
Energy Consumption	Max 3 kW	Max 5.5 kW
Degree of Water Protection	IP44	
Working Mode	Continuous operation	
Runaway Currents	Comply with ANSI/AAMI IEC 60601-1 standard	
Application Part Classification	I	
Type of Protection	Type B	

*In RO-XL Series, when capacity is increased to >3000 lt/h, the dimensions reach a maximum of 212 x 85 x 190 cm.

TECHNICAL DATA

PARAMETER	RO-S	RO-XL
4.FEED WATER		
Quality	Softened Tap Water / Well Water*	
Hardness	< 1.78 ppm CaCO ₃ (0.018 mmol/l)	
SDI	< 3	
Conductivity	< 2000 µS/cm	
TDS	< 1200 mg/l	
Iron	< 0.1 mg/l	
Free Chlorine	< 0.1 mg/l	
Temperature Range	5 – 35 °C	
pH Value	6.5 – 8.5	

5.AMBIENT CONDITIONS

Shipping / Storage Temperature	+1 to +45 °C
Operating Environment	+5 to +35 °C
Humidity	Max. 90% relative humidity, non-condensing environment
Installation Altitude	< 2000 m above sea level

6.FIELD REQUIREMENTS

Water Supply	2 – 6 bar dynamic pressure**
Wastewater	50 mm piping, gravity drainage for 3 m ³ /h

7.PRE-TREATMENT

Suggested Units	90 µm washable filter, multimedia filter, tandem water softener, activated carbon filter, microfiltration
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* When two RIVAMED RO units are connected in series.

** Pressure reducing valve or a pressure boosting pump may be required.