



RIVAMED TP - S
- XL

RIVAMED

Save Water, Save Life



**Central Double-Stage
Reverse Osmosis**

RIVAMED TP-S/XL

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Utilizing a dual-stage configuration, RIVAMED TP ensures optimal permeate quality even when dealing with lower-grade feed water.

RIVAMED TP is engineered to meet various international standards and regulations for dialysis.

With its dual independent stages, RIVAMED TP prioritizes operational safety. Should one stage become inactive, the other seamlessly assumes full responsibility, ensuring continuous treatment. Moreover, through parallel operation, the system can bolster permeate capacity as required.

For the thermal disinfection of ring mains, media, supply systems, and dialysis machines, RIVAMED TP effortlessly integrates with our Heat Disinfection and Ultrafiltration Systems.

The user-friendly interface not only streamlines the configuration and monitoring of the RIVAMED TP but also facilitates straightforward connectivity and software updates.



economical

protective

convenient

functional

cost-effective



Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices
MDR class: Ib, accessory to a medical device



- Enhanced chemical and microbiological purity achieved through twin-pass operation
- Implementation of **water & electricity saving technology** via permeate recirculation, concentrate recovery and controlling the permeate capacity based on the need of hemodialysis machines
- Utilization of a **multicolor touchscreen interface**
- Streamlined design for space efficiency
- Semi-automated chemical disinfection and fully automatic heat disinfection programs
- Integration of high-rejection polyamide membranes
- Incorporation of a permeate pressure-sustaining valve for precise system pressure control
- Continuous monitoring of conductivity, pressure, temperature, permeate and concentrate flow of each module
- Programmable multiple independent shut on/off functionality
- Settable interval flush timer programs
- Built-in self-test feature upon power-up
- Emergency mode activation in the event of electronic failures
- Supervision and control via PLC/microprocessor control panel

Compliance with ISO Standards

RIVAMED TP-S/XL dialysis water system simplifies adherence to ISO standards for dialysis water quality.

- ISO 23500-1 Part 1: addresses guidance for the preparation and quality management of fluids for hemodialysis and related therapies
- ISO 23500-2 Part 2: covers water treatment equipment for hemodialysis applications and related therapies
- ISO 23500-3 Part 3: specifies minimum requirements for water for hemodialysis and related therapies

Optional

- Leakage detector
 - Ultrafiltration (bacteria & endotoxin filter)
 - Remote control
 - Heat disinfection
- Firmware upgrade capability for ongoing improvements
 - Automatic system restart following a power interruption
 - Implementation of security parameters including permeate overpressure, permeate conductivity, permeate overtemperature, dry run protection, pump protection, and operation history logging
 - AISI 316 stainless steel buffer tank equipped with level switches for operational ease and pump protection
 - Electronic module bypass feature for pump or membrane failures
 - AISI 316 stainless steel tubing and frame
 - Designed to be dead leg-free, ensuring maximum hygiene levels
 - Password protected user levels
 - Visual LED indicator with acoustical signal
 - Brake adjusting wheel for ease of transportation
 - Permeate tank control option
 - Permeate and return sampling valves

Technical Data 1/2








	PARAMETER	RIVAMED TP-S	RIVAMED TP-GL
Performance	Dimensions (L x W x H) (max.)	150 x 80 x 180 cm	240 x 120 x 160 cm
Data	Weight	Max. 500 kg	Max. 900 kg
	Dialysis water production capacity	250-1,650 l/h	1,000-5,000 l/h
	Feet of use (dialysis machines)	34 pcs	304 pcs
	Dialysis water pressure	2-8 bar	
	Concentrate pressure	< 10 bar	
	Retention rate (classified salts)	> 99% NaCl (>98% avg.)	
	Bacteria (CFU) and endotoxins (EU)	> 99%	
	System recovery yield	Up to 85% water conversion factor	
	Noise level	< 70 dB (A) (from 3 meters distance)	
	Water	Soft water feed (1.4404)	Flow ripple DN 25
Connections	Dialysis water feed and return (2x) feed up to three different keys) (1.4404)	Direct PE-Ra connector 20 x 2.8	Direct PE-Ra connector 25 x 2.8
	Drain water (1.4404)	Flow ripple DN 15	Flow ripple DN 25
	Electrical	Mains plug	CEE 32 A
Safety	Supply voltage	280-400 V AC 50/60 Hz 220-230 V AC 50/60 Hz	380-400 V AC 50/60 Hz
	Energy consumption	Max. 5.5 kW	Max. 11.5 kW
	Degree of water protection	Splash-proof (IPX4)	
	Applied parts classification	Type B	
	Type of protection against electric shock	Protection class I	
	Isolation currents	According to IEC/EN/ISO 60601-1	
	Operation mode	Continuous operation	



Technical Data 2/2

	PARAMETER	RIVAMED TP-5	RIVAMED TP-30
Feed Water	Quality	Softened mains water / Bore-well water	
	Hardness	< 1.76 ppm CaCO ₃ (3.038 mmol/l)	
	SDI	< 5	
	Conductivity	< 5,000 µS/cm	
	Total Dissolved Solids (TDS)	< 3,000 mg/l	
	Iron	< 0.1 mg/l	
	Manganese	< 0.05 mg/l	
	Silicate	< 25 mg/l	
	Free Chlorine	< 0.1 mg/l	
	Temperature range	5 – 35 °C	
	pH value	6.0 - 8.5	
Ambient Conditions	Shipping/storage	+1 to +45 °C	
	Operation	+1 to +35 °C	
	Air humidity	max. 90% relative humidity, noncondensing	
	Installation altitude	< 2,000 m above sea level	
On-Site Requirements	Water supply	1.5-6 bar dynamic pressure, pressure reducing valve or pressure booster pump may be required	
	Drain < 90 cm above floor level	DN 50 pipe, for 3 m ³ /h by gravity	
	Recommended pre-treatment units	90 micr washable filter, multimedia sand filter, duplex water softener, activated carbon filter, microfiltration	



<p>TP-S/ML</p> 	<p>RO-S/ML</p> 	<p>Baio S/ML</p> 	<p>RM 1000/2000</p> 	<p>RM 100</p> 	<p>RO Mini (HS)</p> 	<p>HS</p> 
<p>State-of-the-art cloud in-line water treatment system with optional integrated backwash collection</p> <p>120-5,000 l/h</p> <p>Suitable for manual and remote water treatment</p> <p>Remote control</p> <p>MP capable</p> <p>MS130 start/stop and piping and lid</p> <p>Serial parallel mode</p>	<p>State-of-the-art water treatment system with optional integrated backwash collection</p> <p>200-5,000 l/h</p> <p>Suitable for manual water treatment</p> <p>Remote control</p> <p>MS130 start/stop and piping and lid</p> <p>Serial/parallel installation</p>	<p>Cloud-to-cloud remote control system with optional ring backwash collection</p> <p>300-5,000 l/h</p> <p>Suitable for manual water treatment</p> <p>Optional remote control</p> <p>MS130 start/stop and piping and lid</p> <p>Serial/parallel installation</p>	<p>Pro performance water treatment system with optional ring backwash collection</p> <p>150-3,000 l/h</p> <p>Suitable for manual water treatment</p> <p>PCU and MS130 start/stop and piping and lid</p> <p>Serial/parallel installation</p>	<p>Standard water treatment system involving a reverse osmosis tank on back purification and inline softener probe</p> <p>< 60 l/h</p> <p>Suitable for most dialysis orders and COs</p> <p>RM, RU, PCU and MS130 start/stop and piping and lid</p>	<p>State-of-the-art portable water treatment system for ships (highly permeable) and for mobile emergency/crisis conditions in the entire world (system providing additional security for high volume flow)</p> <p>< 40 l/h</p> <p>Suitable for ICU and HomeCare</p> <p>Optional remote control</p> <p>Integrated real detection option</p>	<p>Optimised chlorine system for maximum chlorine absorption in dialysis</p> <p>1350 l/h hot water extraction for integrated gas recovery if available</p> <p>Suitable for all low and system for dialysis</p> <p>Optional remote control</p> <p>MS130 start/stop and piping and lid</p> <p>Ultrafiltration and D20 K heater TAP systems</p>

Remarks

Save Water Save Life



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