

# **MDS – 300 SERIES MEDICAL WATER REVERSE OSMOSIS PURIFICATION SYSTEM**



**MDS 300 Series Medical Water Reverse Osmosis Machine**



**Fiberglass Reinforced Plastic Vessel (FRP)**



**A Typical Medical Water Reverse Osmosis Set-up.**





**A Typical Medical Water Reverse Osmosis Set-up.**

### Key Components

- |                           |                                   |
|---------------------------|-----------------------------------|
| 1 HOUSING                 | 8 FEED INLET                      |
| 2 COMMON DISCHARGE PIPE   | 9 PERMEATE PUMP                   |
| 3 ARRAY                   | 10 PERMEATE OUTLET                |
| 4 REJECT VALVE            | 11 REJECT VALVE                   |
| 5 SKID MOUNTED PUMP       | 12 1st STAGE PERMEATE             |
| 6 SOLENOID / JUNCTION BOX | 13 2nd STAGE PERMEATE FLUSH VALVE |
| 7 FLUSH VALVE             |                                   |

Reverse Osmosis		
Components	Features	Benefits
Reverse Osmosis Housings	Standard ASME code designed, FRP construction.	Assures safety and ensures insurance compliance. Pressure ratings to suit your specific system requirements. High corrosion resistance.
	Option: Pressure rating ASME stamped.	Additional safety and insurance compliance.
	End port feed connection.	Industry standard design.
	Option: Side port feed connection.	Free access to the housing end caps for easier membrane replacement during servicing.
Pumps	Designed to handle even coldest temperatures, fouled condition water in the third year.	Full capability for three-year membrane warranty period.
	Centrifugal pumps.	Can be serviced by in-plant maintenance staff.
	Single-stage or Multi-stage pump.	Meets ANSI standard. Higher pressure capability.
	Option: Submersible pumps with automatic air bleed.	Extremely quiet operation. Air bleed protects pump from cavitation damage.
Flush Systems	Feedwater flush, uses normal service water for flushing.	Displaces antiscalant whenever the bank is removed from service and placed in standby.
	Option: Permeate flush.	Enhances flush effectiveness in difficult waters
	Outlet flush valve.	Allows flushing of membranes at low pressure.
	Dump valve.	Diverts out-of-spec water and/or depressurizes system to prevent membrane damage from backpressure.
	Sampling valves available on each housing.	Operators can track individual housing performance. Speeds troubleshooting – operator can pin point which housing has a problem.

Reverse Osmosis		
Components	Features	Benefits
Instrumentation	Flow-indicating transmitters for permeate and reject provide local readout and send signals to PLC.	Monitors appropriate product flow and recovery rate. Aids trouble shooting.
	Conductivity indicating transmitter in permeate provides local readout and sends signals to PLC.	Monitors system performance and aids trouble shooting.
	Pressure switches on suction and discharge of feed pump.	Low-pressure switch protects against pump cavitation and avoids pump damage. Disc harge switch protects against overpressurization and membrane or housing damage.

### MDS - 300 Series (1,000 to 1,500 Litter Per hour)

With the need for better bacteria control in medical water systems, we have taken our time to integrate a loop disinfection technology that is accepted in the medical and pharmaceutical industry and applied it to the **MDS - 300** Series design, the RO and the distribution system is the first in the industry.

The ability to disinfect the water loop will reduce bacteria related problems and allow for regular disinfection.

### **Standard features**

- 316 Stainless Steel Insulated Distribution Tank
- Allen Bradley Micrologics PLC
- Stainless Steel VFD Distribution Pump(s)
- Optional Ultraviolet Sterilizer
- Digital Conductivity and Temperature
- NEMA 4/12 Control Enclosures
- All Stainless Steel Housings
- 95% Water Recovery

### **Operating parameters**

Operating Pressure: 250 psig (1724 KPA)

Maximum Recovery: 75%

Nominal Rejection: 95-99%

Operating Temperature: 35-95°F (2-35°C)

Minimum Inlet Pressure: 30 psig (210 KPA)

Design Temperature: 77°F (25°C)

Power rating 2.2 KW, Single Phase

### **RO SYSTEM**

<b>RO Capacity</b>	<b>RO Power Rating</b>	<b>RO Type</b>	<b>System Design</b>	<b>Weight</b>	<b>Dimensions H x W x D (Inch)</b>
500 -1,500 (Litter/Hour)	2.2 KW, Single Phase, 230V	MDS 300 Series	Both Direct Feed and Indirect Feed System	150 Kg	60 x 40 x 30

### **WATER DEIONIZING (SOFTENING) SYSTEM**

<b>Softener Capacity</b>	<b>Transfer Pump</b>	<b>Material Design</b>	<b>Weight</b>	<b>Dimensions H x D (Inch)</b>
3,000 (Litter)	1.0 Hp, Single Phase, 230V	Fibre Reinforced Glass	100 Kg	16 x 65

### **WATER STORAGE TANK**

<b>Material Design</b>	<b>Capacity (L)</b>	<b>Dimensions H x D (m)</b>
Plastic	2,000 x 2	1.5 x 1.3