

Water Technologies

Vantage™ M83 Reverse Osmosis Units

The Clear Advantage
In Membrane Systems

Vantage™ M83 Series packaged single-pass 8-inch reverse osmosis units are designed for a variety of industrial applications requiring high quality equipment with a fast delivery and competitive price. These pre-engineered, pre-assembled and factory tested units minimize installation and start-up time. With simple utility connections and easy to set up controls, the unit is ready for quick on-line service.

The Vantage M83 comes in three models: the Economy (E), the Plus (P) and the Deluxe (D).

- Economy (M83E) – Controlled by Microprocessor
- Plus (M83P) – Controlled by Siemens PLC and user friendly touch screen Human Machine Interface (HMI)
- Deluxe (M83D) – M83P controls plus Variable Frequency Drive (VFD) for flow control and Clean In Place (CIP) function

The Deluxe unit features an “On-Board” integrated cleaning system (CIP) initiated through the HMI. The CIP system includes plumbing to the on-skid RO cartridge filter housing and VFD controlled pump along with the factory supplied valves, hoses, and a polyethylene CIP tank (off-skid).

VANTAGE M83 BENEFITS:

- Compact footprint saves valuable floor space
- Quick equipment delivery keeps project moving fast
- Clean in place connections maximize system serviceability
- Comprehensive factory testing performed at our ISO9001 certified facility

USFilter

A Siemens Business

STANDARD M83 FEATURES:

- Choice of *brackish water* or *low energy* TFC membranes (400 ft²) to ensure optimum water quality
- High pressure 316 stainless steel vertical multistage feed pump
- ASME Code FRP, RO pressure vessels
- Pressure relief protection
- PVC low pressure feed, product and reject piping, 316L stainless steel high pressure piping
- Urethane coated carbon steel frame rated for Seismic Zone 4 anchorage
- Dry contacts are provided for chemical feed, pretreatment equipment, storage tank levels, and pressure switches
- All alarm and shut down conditions are indicated on the control interface



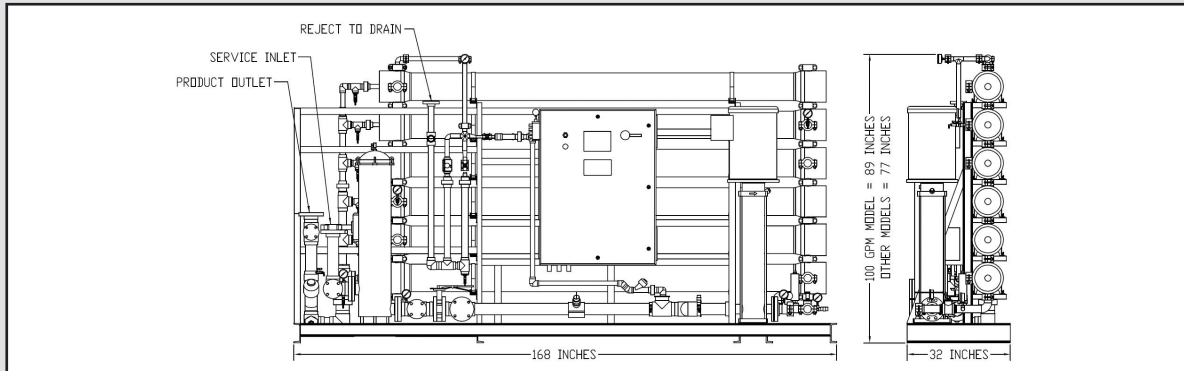
Specifications

Model No**	Flow Rate Specifications (GPM Nominal)				Vessel Staging	Membranes/ Vessel	Membrane Quantity	Customer Connection Specifications			Utility High Voltage Service	Requirements		Approx. Shipping Weight (lbs)
	Product*	Feed	Reject	Recycle				Feed	Product	Reject		High Voltage FLA	Pump HP	
M83-030	30	40	10	10	1:1	3	6	2"	1.5"	1.5"	480 VAC 3 ph	16	10	2,900
M83-045	45	60	15	5	1:1:1	3	9	2"	1.5"	1.5"	480 VAC 3 ph	29	20	3,175
M83-060	60	80	20	5	2:1:1	3	12	2"	2"	1.5"	480 VAC 3 ph	36	25	3,450
M83-075	75	100	25	3	2:2:1	3	15	3"	2"	1.5"	480 VAC 3 ph	36	25	3,725
M83-100	100	133	33	3	3:2:1	3	18	3"	3"	1.5"	480 VAC 3 ph	42	30	4,000

*Product flow rates are based on equipment design parameters listed below. Product flow rates may not be appropriate for other feed waters.

**The 8 designates 8" housing, the 3 designates 3 elements in length, and the -XXX designates the nominal design product flow rate at 65°F (18.3°C).

Dimensions



Model Features

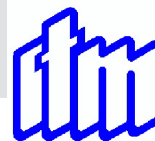
Description	M83E (Economy)	M83P (Plus)	M83D (Deluxe)
Controls	Microprocessor	Siemens PLC & HMI	Siemens PLC & HMI
Inputs/Outputs	Discrete 14 point (8 input/6 output)	Discrete 24 point (14 input/10 output)	Discrete 24 point (14 input/10 output)
I/O Expansion Capability	No	Yes	Yes
Communication Port	RS232	RS485	RS485
Remote Monitoring/Communications*	Optional Modem	Optional Modules	Optional Modules
Flow Monitoring	Rotometers (product/reject/recycle)	Paddlewheel (feed/reject) Rotometer (recycle)	Paddlewheel (feed/reject) Rotometer (recycle)
Conductivity	Integral to Controller	Thornton 200CR	Thornton 200CR
Auto-Flush (Standby)	Yes	Yes	Yes
Visual/Audible Alarm	Yes	Yes	Yes
Single Power Drop (480 VAC)	Yes	Yes	Yes
304LSS Pre-Filter Housing	Yes	Yes	Yes
Variable Frequency Drive (VFD) Pump	No	No	Yes
On-Board CIP (Tank off-skid)	No	No	Yes
Low Energy Membranes (Cold Water)	Optional	Optional	Optional
ORP/pH with alarms	Optional	Optional	Optional
Product Divert Kit	Optional	Optional	Optional

*Additional communication modules and remote monitoring capabilities available upon request.

Design Parameters:

Feed Water Source	Well or Softened
Maximum Turbidity	1 NTU
Maximum Free Chlorine and/or chloramine	<0.1 PPM
Feed Water Fouling Index	Silt Density Index (SDI) <3
Design Feed Water Temperature	65°F (18.3°C)*
Inlet Pressure Requirements	30-60 PSIG
Product Pressure Available	10 PSIG
System Recovery (Nominal)	75%
Membrane Salt Rejection	99% nominal Based on 500ppm NaCl, 65°F, pH 8, and recovery as required by projections.
Performance Basis	A specific computer projection must be run for each individual application.

*Lower temperature may require larger booster pump or use of low energy membranes.
If any of the feed water parameters are not within the limits given, contact USFilter Technical Support at 800-875-7873, ext. 5000.



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The information provided in this brochure contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

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