

# Membrane Upgrade for LW and SQ Watermakers

Technical Application Publication



## The Problem:

As the popularity of Racor VMT Little Wonder RO systems increased, the population of Little Wonder units around the world began operating in a wider and wider range of temperatures and ocean salinities. The original design was constructed around a narrow range of operating parameters. While this worked for many applications, it limited operations and customer satisfaction. The Little Wonder was a great product but needed to be enhanced to operate in the new environments where it was being used.



Village Marine LW-145, 200



Village Marine SQ-145, 200

## Contact Information: The Solution:

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Racor VMT put together a highly talented membrane engineering and production team to solve this new challenge. We started with the basic parameters of the new system – designed a testing program and went to work. After five weeks and a thorough testing, we arrived at the solution. We engineered a newly configured membrane that could accept a wide range of temperatures and salinity

conditions. A novel “Dog Bone” design was used so our legacy Little Wonder systems could benefit from the new membranes as well as being suitable for our current units. In addition we enhanced the membrane design for optimum performance. All this hard work has paid off and has been demonstrated by improved customer satisfaction globally.



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- Maximum operating pressure: 1000 psi
- Maximum operating temperature: 113°F (45°C)
- Maximum feed turbidity: 1 NTU
- Free chlorine tolerance: 0 PPM
- Maximum feed silt density index: SDI 5
- pH range: continuous operation: 4-11
- short-term for cleaning: (30 minute duration) 2.5-11



Membrane P/N	33-3000	33-3001	33-3002
Description	element, LW, 2519 single element	element, LW, 2519 double element	element, LW, 2538 single element
Used on	LW-145 SQ-145	LW-160/200 SQ-160/200	LWM-160 LWM-200
Configuration	1 short vessel with 1 element	2 short vessels with 2 elements	1 long vessel with 1 element
Required feed flow (minimum)	15 GPH(0.25 GPM)	15 GPH(0.25 GPM)	15 GPH(0.25 GPM)
Expected permeate flow (normalized)	134-202 GPD	134-202 GPD	134-202 GPD
% Rejection Minimum	99%	99%	99%

To maintain peak performance always use genuine Parker-Racor/Village Marine Tec. replacement parts. We reserve the right to change our specifications or standards without notice.