

MILLENNIUM REVERSE OSMOSIS DRINKING WATER SYSTEM

MODEL MRO-35

REDUCTION PERFORMANCE CLAIMS: This system has been tested according to NSF/ANSI 58 for reduction of the substances listed below. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified in NSF/ANSI 58. Testing was performed under standard laboratory conditions. Actual performance may vary.

	NSF/ANSI 58 Standard Requirements		Actual Test
	Influent Challenge Concentration (mg/l) ¹	Maximum Allowable Product Water Concentration (mg/l) ¹	Results Average % Reduction ²
Arsenic (Pentavalent) ³	0.30 ± 10%	0.010	98
Barium	10.0 ± 10%	2.0	99
Cadmium	0.03 ± 10%	0.005	95
Chromium (Hexavalent)	0.30 ± 10%	0.1	88
Chromium (Trivalent)	0.30 ± 10%	0.1	97
Copper	3.0 ± 10%	1.3	99
Fluoride	8.0 ± 10%	1.5	97
Lead	0.15 ± 10%	0.010	98
Nitrate + Nitrite (both as N) ⁴	30.0 ± 10%	10.0	80
Nitrate (as N) ⁴	27.0 ± 10%	10.0	80
Nitrite (as N) ⁴	3.0 ± 10%	1.0	78
Radium 226/228 ⁵	25 pCi/l ± 10%	5 pCi/l	80
Selenium	0.1 ± 10%	0.05	98
Total Dissolved Solids	750 ± 40 mg/l	187	94
Cysts	50,000#/ml minimum	99.95% reduction requirement	99.99

Test Parameters:

pH	7.5±0.5
Turbidity	≤ 1 NTU
Temperature	77°±2° F
Pressure	50 psig

1 Unless otherwise indicated.

2 Average based upon actual test data.

3 This system has been tested for the treatment of water containing pentavalent arsenic (also known as As(V), As(+5), or arsenate) at concentrations of 0.30 mg/L or less. This system reduces pentavalent arsenic, but may not remove other forms of arsenic. This system is to be used on water supplies containing a detectable free chlorine residual at the system inlet or on water supplies that have been demonstrated to contain only pentavalent arsenic. Treatment with chloramine (combined chlorine) is not sufficient to ensure complete conversion of trivalent arsenic to pentavalent arsenic. Please see the Arsenic Facts section of the Performance Data Sheet for more information.

4 This system is acceptable for treatment of influent concentrations of no more than 27 mg/L nitrate and 3 mg/L nitrite in combination measured as N and is certified for nitrate/nitrite reduction only for water supplies with a pressure of 280 kPa (40 psig) or greater.

5 The reduction of Radium was verified by using Barium as a surrogate under NSF/ANSI Standard 58.

(The cyst reduction claim includes oocysts of *Cryptosporidium* and cysts of *Giardia* and *Entamoeba*.)

APPLICATION GUIDELINES/SPECIFICATIONS AND FEATURES

Water Supply Parameters	Chemical	Limit	Caution:
Water Pressure: 40–100 psig (280–690 kPa)	Hardness:	<170 mg/l	Do not use with water that is microbiologically unsafe or of unknown quality, without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.
Water Temperature: 40°–100° F (4°–38° C)	Iron:	<0.1 mg/l	
pH Operating Range: 4–11	Manganese:	<0.05 mg/l	
Optimum rejection at pH: 7.0 - 7.5	Hydrogen Sulfide:	0	
Max. T.D.S. Level: 2000 ppm	Water supplies that exceed limits for Hardness, Iron, Manganese and Hydrogen Sulfide require pretreatment.		

DRINKING WATER SYSTEM ASSEMBLY COMPONENTS

Sediment/Carbon Prefilter:	5 Micron/Activated Carbon Block Filter, Part No. S7128
Membrane Type:	Thin Film Composite (T.F.C.), Part No. S1448RS
Carbon Post Filter:	Activated Carbon Filter, Part No. S7125
In-Line Carbon Post Filter:	In-Line Activated Carbon Filter, Part No. S7206W-JG

Refer to owner's manual for proper operation, installation instructions, warranty information, service interval recommendations, parts and service availability. See the test kit(s) for sampling instructions.

SYSTEM RATING

Average T.D.S. Reduction: 94%

System Production: 13 gallons per day (49 liters per day) **Recovery Rating:** 33% **Efficiency Rating:** 17%

Measured at 50 psig, 77°±2°F, 750±40 mg/L T.D.S., per section 6 of NSF/ANSI standard 58 product water to pressurized storage tank. Recovery rating means the percentage of the influent water to the membrane portion of the system that is available to the user as reverse osmosis treated water when the system is operated without a storage tank or when the storage tank is bypassed. Efficiency rating means the percentage of the influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage. Sodium Chloride was used as a surrogate for T.D.S. System rating determined by laboratory testing at NSF.

MEMBRANE RATING

Membrane Production: 41-53 gallons per day (155–201 liters per day) **Membrane T.D.S. Reduction:** 96% minimum

Note: Measured at industry standard condition of 65 psig, 77°F, 250 ppm T.D.S., and discharging to atmosphere. Actual system production and contaminant reduction will depend upon water temperature, pressure, pH and T.D.S. level, membrane variation and usage pattern.