Performance Data Sheet

Model: 3MRO501

Reverse Osmosis / Activated Carbon Drinking Water Filtration System

Use Replacement Filter(s):

3MROP411 (sediment filter), 3MROP412 (granulated carbon filter), 3MROM413 (membrane module) and 3MROP416 (carbon block post-filter)

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 Standard 42, 53, and 58.

System tested and certified by NSF International against NSF/ANSI Standard 42, 53, and 58 for the reduction of substances listed below.

Nominal production rate of membrane when running to atmosphere (i.e., with empty tank) at 77° F and 50 PSI is 36.78 gpd (139.23 lpd). Production varies based on pressure (fullness) of storage tank.

Contaminant Reduction Determined by NSF testing.

Contaminant Reduction	Average Influent	NSF Specified Challenge Concentration	Avg % Reduction	Average Product Water Concentration	Max Permissible Product Water Concentration	NSF Reduction Requirements	NSF Test Report
Standard 42							
Chlorine Taste and Odor	2.0 mg/L	2.0 mg/L ± 10%	97.5%	0.05 mg/L	N/A	≥ 50%	J-00075601
Nominal Particulate Class I, ≥0.5 to < 1.0 µm	11,000,000 pts/mL	At least 10,000 particles/mL	92.4%	836,667 pts/mL	N/A	≥85%	J-00128445
Standard 53							
Toxaphene	0.015 mg/L	0.015 mg/L ± 10%	93.5%	0.001 mg/L	0.003 mg/L	N/A	J-00160563
P-Dichlorobenzene	0.236 mg/L	0.225 mg/L ± 10%	99.8%	0.028 mg/L	0.075 mg/L	N/A	J-00144523
Standard 58							
Arsenic (pentavlent)	0.50 mg/L	0.30 mg/L ± 10%	99.4%	0.002 mg/L	0.010 mg/L	N/A	J-00120929
Barium	9.4 mg/L	10 mg/L ± 10%	98.8%	0.115 mg/L	2.00 mg/L	N/A	J-00120930
Cadmium	0.029 mg/L	0.03 mg/L ± 10%	98.0%	0.0005 mg/L	0.005 mg/L	N/A	J-00121468
Chromium (Hex.)	0.31 mg/L	0.3 mg/L ± 10% (added as hexavalent)	98.5%	0.005 mg/l	0.1 mg/L	N/A	J-00120929
Chromiun (Tri.)	0.30 mg/L	0.3 mg/L ± 10% (added as triavalent)	99.5%	0.002 mg/l	0.1 mg/L	N/A	J-00120930
Copper	2.7 mg/L	3.0 mg/L + 10%	98.9%	0.03 mg/L	1.3 mg/L	N/A	J-00121469
Cyst	100000 cysts/L	Minimum 50,000 cysts/L	99.98%	7 cyst/L	N/A	≥99.95%	J-00121472
Fluoride	8.8 mg/L	8.0 mg/L ± 10%	97.4%	0.23 mg/L	1.5 mg/L	N/A	J-00121467
Lead	0.16 mg/L	0.15 mg/L + 10%	98.7%	0.002 mg/L	0.010 mg/L	N/A	J-00121468
Radium 226/228	25 pCi/L	25 pCi/L ± 10%	80.0%	5 pCi/L	5 pCi/L	N/A	J-00120930
Selenium	0.09 mg/L	0.10 mg/L ± 10% (added as ½ selenite and ½ selenate)	97.9%	0.002 mg/L	0.05 mg/L	N/A	J-00121467
Total Dissolved Solids (TDS)	771	750 mg/L ± 40 mg/L (added as sodium chloride)	93.8%	48 mg/L	N/A	≥ 75%	J-00109636
Turbidity	11 NTU	11 ± 1 NTU	99.1%	<0.1 NTU	0.5 NTU	N/A	J-00121471
Nitrate/Nitrite	32 mg/L	30 mg/L ± 10% (added as 27 mg/L NO_3 and 3 mg/L NO_2)	81.5%	5.9 mg/L	10 mg/L (No more that 1.0 mg/L shall be in the form of NO_2 as N.)	N/A	J-00126076

Contaminant reduction testing is conducted every five years by certifying agency to maintain certification.

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Application Guidelines/Water Supply Parameters			
Membrane Type	TFCM	**Water Supply Parameters**	
Water Supply, chlorinated or non-chlorinated		**Component**	**Limit**
		Hardness	<350 mg/L
Water Pressure	40-100 psi (276 -689 kPA)	Iron	<0.1 mg/L
Water Temperature	40º F - 100º F (4.4º C – 37.8º C)	Manganese	<0.05 mg/L
pH Range	4.0 – 11.0	Hydrogen Sulfide	0
Maximum TDS level	2000	Turbidity	<1 NTU

System Production: Nominal production rate of membrane when running to atmosphere (i.e., with empty tank) at 77° F and 50 PSI is 36.78 gpd (139.23 lpd). Production varies based on pressure (fullness) of storage tank.
Post Filter Chlorine Taste and Odor capacity: 1,350 gallons (5,110 liters)
System Efficiency: 13.06% 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.

It is essential that the manufacturer's recommended installation, maintenance and filter replacement requirements be carried out for the product to perform as advertised. See Installation Manual for Warranty information.

Note: While the testing was performed under standard laboratory conditions, actual performance may vary.

Important Quality Assurance Requirements: These Reverse Osmosis Drinking Water Appliances contain treatment components that are critical for effective reduction of Total Dissolved Solids as well as inorganic contaminants. We strongly recommend that the user test the water a minimum of every 6 months to verify that the appliance is performing satisfactorily.

Replacement Filters:

3MROP411 (sediment filter)
3MROP412 (granulated carbon filter),
3MROM413 (membrane module)
3MROP416 (carbon block post-filter)

For estimated costs of replacement elements please call 855-3M-WATER or visit our website at www.3MWater.com

⚠WARNING

To reduce the risk associated with ingestion of contaminants:

- **Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before and after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.**

EPA Establishment Number 70595-CT-001.

NOTICE

To reduce the risk associated with water leakage or flooding:

- Read and follow Use Instructions before installation and use of this system.
- Change the disposable filter cartridges at the recommended interval; the disposable 3MROP411 pre-filter cartridge, 3MROP412 granulated carbon filter and 3MROP416 carbon block post-filter cartridge MUST be replaced every 12 months or sooner.
- Change the disposable RO membrane module at the recommended interval; the disposable 3MROM413 RO membrane module MUST be replaced every 36 months or sooner.

Failure to replace the disposable filter cartridges and membrane module at recommended intervals may lead to reduced filter performance and failure of the filters and /or module, causing property damage from water leakage or flooding.

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Systems must be installed and operated in accordance with manufacturer's recommended procedures and guidelines. Failure to follow installation, operation, and maintenance instructions may result in leakage and will void warranty. See Installation Manual for Warranty information.

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 reduce other forms of arsenic. This system is to be used on water supplies containing a detectable free chlorine residual or on water supplies that have been demonstrated to contain only pentavalent arsenic. Treatment with chloramine (combined chlorine) is not sufficient for complete conversion of trivalent arsenic to pentavalent arsenic. Please see the Arsenic Facts Section of the Performance Data Sheet below for further information.

ARSENIC FACT SECTION

Arsenic (abbreviated As) is found naturally in some well water. Arsenic in water has no color, taste or odor. It must be measured by a lab test. Public water utilities must have their water tested for arsenic. You can get the results from your water utility. If you have your own well, you can have the water tested. The local health department or the state environmental health agency can provide a list of certified labs. The cost is typically $15 to $30. Information about arsenic in water can be found on the internet at the US Environmental Protection Agency website: www.epa.gov/safewater/arsenic.html

There are two forms of arsenic: pentavalent arsenic (also called As(V)m As+5), and arsenate) and trivalent arsenic (also called As(III), As(+3), and arsenite). In well water, arsenic may be pentavalent, trivalent, or a combination of both. Special sampling procedures are needed for a lab to determine what type and how much of each type of arsenic is in the water. Check with the labs in your area to see if they can provide this type of service.

Reverse osmosis (RO) water treatment systems do not remove trivalent arsenic from water very well. RO systems are very effective at reducing pentavalent arsenic. A free chlorine residual will rapidly convert trivalent arsenic to pentavalent arsenic. Other water treatment chemicals such as ozone and potassium permanganate will also change trivalent arsenic to pentavalent arsenic. A combined chlorine residual (also called chloramines) may not convert all the trivalent arsenic. If you get your water from a public water utility, contact the utility to find out if free chlorine or combined chlorine is used in the water system.

The 3MRO501 system is designed to reduce pentavalent arsenic. It will not convert trivalent arsenic to pentavalent arsenic. The system was tested in a lab. Under those conditions, the system reduced 0.30 mg/L (ppm) pentavalent arsenic to 0.010 mg/L (ppm) (the USEPA standard for drinking water) or less. The performance of the system may be different at your installation. Have the treated water tested for arsenic every 6 months to check if the system is working properly.

The pentavalent arsenic reduction component of this system membrane module must be replaced at the end of its useful life of 36 months. The replacement component 3MROM413 can be purchased from the original point of purchase or from 3M at www.3MWater.com / 855-3M-WATER (855-369-2837).

NITRATE/NITRITE FACT SECTION

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.

34-8715-3150-4

Parts and service available from:

3M Purification Inc.
400 Research Parkway
Meriden, CT 06450
www.3MWater.com
855-3M-WATER (855-369-2837)