

# AquaRO

The Multipure AquaRO combines Multipure's advanced solid carbon block filter and Arsenic filter with reverse-osmosis filter technology, resulting in our most complete water filtration system available. Because of its size and complexity, the AquaRO can only connect below the sink; the install kit is included.

## 5 Stages of Filtration

**Stage 1:** The Sediment Pre-Filter screens out particles down to 5 microns, improving the appearance of your water. Recommended filter change (Model No. CBC110): approximately every 6 months.

**Stage 2 & Stage 3:** Carbon Block Pre-Filters -- next, water passes through two 5 micron Carbon Block Pre-Filters that ensure that chlorine and other materials that cause your water to taste and smell bad are reduced. Recommended filter change (Model No. CBC112): approximately every 6 months.

**Stage 4:** The RO Membrane is a high-production, 50 gpd, thin film composite semipermeable membrane that separates unwanted inorganic impurities, such as nitrates, fluoride, etc. from your water. This hyperfiltration membrane reduces salts, certain heavy metals, and other impurities, giving you great tasting water. Recommended membrane change (Model No. CB-ROM): approximately every 2 years.

**Stage 5:** The Carbon Block Post-Filter, the final stage of the water treatment process, provides the most efficient contaminant removal possible. Multi-Pure's densely compacted carbon block filter mechanically intercepts particles as small as 0.5 micron (sub micron) as well as electrokinetically adsorbs particles by attracting the negative ions of certain contaminants. In addition, the carbon block filter has a large surface area for chemical/physical adsorption to take place, reducing many different organic chemicals, pesticides, herbicides and certain heavy metals. Recommended filter change (Model No. CB6): approximately once a year.



## AquaRO (ROPLUS2) Operation and Maintenance Specifications

Depending on water chemistry, water temperature, and water pressure, the AquaRO System production and performance will vary. Refer to Owner's Manual for further maintenance requirements and warranty information.

General Use Conditions	Parameter	Comments
Maximum Operating Temperature	100°F / 40.5°C	
Minimum Operating Temperature	40°F / 0°C	
Maximum Working Pressure	100 psi / 7.0 kg/cm <sup>2</sup>	The operating pressure in your home should be tested over a 24 hour period to attain the maximum pressure. If it is over 100 psi then a pressure regulator will be required.
Minimum Working Pressure	40 psi / 2.8 kg/cm <sup>2</sup>	
pH parameters	3 pH to 11 pH	
Iron	0.2 ppm maximum	
TDS (total dissolved solids)	< 1800 ppm	
Turbidity	< 5 NTU	
Hardness	< 10 grains per gallon / 171 mg/L of hardness as CaCO <sub>3</sub>	System will operate with hardness over 10 grains, but the membrane life may be shortened.
<b>Specifications</b>		
Average influent TDS	765 mg/L	
Average effluent TDS	23 mg/L	
Daily Production Rate (DPR)	17.32 gpd	Gallons produced per day
Efficiency Rating	8.91%	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.
Recovery Rating	16.34%	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.
Capacity of Tank	1.8 - 2.5 gallons	Depending on the incoming water pressure.
Approximate Flow Rate @ 60 psi	0.50 gpm	

## Facts About Arsenic

Arsenic (abbreviated As) is a naturally occurring contaminant found in many ground waters. 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](http://www.epa.gov/safewater/arsenic.html).

There are two forms of arsenic: pentavalent arsenic (also called As(V), 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) systems are very effective at reducing pentavalent arsenic. However, RO systems do not remove trivalent arsenic from water very well. 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 chloramine) 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 Multipure AquaRO (ROPLUS2) is designed to reduce only pentavalent arsenic. It will not convert trivalent arsenic to pentavalent arsenic.

This treatment system was tested in a laboratory to reduce pentavalent arsenic. Under lab conditions, as defined in NSF/ANSI Standard 58, 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 to check if the system is working properly. The RO component of the MultiPure AquaRO (ROPLUS2) system must be replaced as indicated in the Owner's Manual to ensure the system will continue to reduce arsenic and other contaminants. The component identification and locations where you can purchase the component are listed in the installation/operation manual.

Filter life will vary in proportion to the amount of water used and the level of impurities in the water being processed. Claims of capacity are not applicable to contaminants reduced by mechanical filtration because of broad variations in the quality and quantity of physical matter in your drinking water. Your Multipure filter will clog, protecting you from these contaminants, and your flow rate diminishes. For contaminants reduced by adsorption, filter life/capacity is 750 gallons. It is recommended that the filter be replaced when the first of the following occurs: (a) annually, (b) the unit's rated capacity is reached, (c) the flow rate diminishes, (d) the filter becomes saturated with bad tastes and odors.



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