



PERFORMANCE DATA SHEET





The A200 Drinking Water System is tested and certified under NSF/ANSI Standard 58 for arsenic, barium, cadmium, hexavalent chromium, trivalent chromium, copper, cyst, fluoride, lead, radium 226/228, selenium, TDS and turbidity. In addition, the A200 Drinking Water System is tested and certified to NSF/ANSI Standard 42 for the reduction of aesthetic chlorine, taste and odor. The testing was done under standard laboratory conditions and actual performance may vary.

In addition, the materials and components used in the construction of this system have been tested by NSF International to assure that levels of extractable contaminants do not exceed EPA limits. The system has also been evaluated under Standard 58 that it is designed and constructed so that its intended purpose can be accomplished when installed and operated in accordance with the manufacturer's instructions.

IMPORTANT

- Installation of this product must comply with state and local plumbing laws.
- Provisions for an antisiphon air gap should be part of the installation to prevent a cross connection between the water system and the waste system.
- Do not use on 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.
- This system shall only be used for arsenic reduction on chlorinated water supplies containing detectable residual free chlorine at the system inlet.
- Do not use on water that contains more than 0.1 ppm iron, more than 10 gpg hardness, is beyond the pH range of 3 to 11 or contains more than 3000 ppm TDS. Systems with sediment prefilters should not be used on water that contains chlorine.
- If a noticeable change in product water production, taste or odor occurs, contact your authorized Kinetico dealer.
- 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 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 further information.

SPECIFICATIONS

Minimum/Maximum Operating Temperature: 2°C-38°C (35°F-100°F)
Ambient Temperature, Operating Conditions: 32°C (90°F)
Minimum/Maximum Operating Pressure: 275.8- 689.5 kPa (40-100 psi)
Daily Production Rate: 41.26 L/Day (10.9 GPD)
Efficiency Rating: 14.08%*

*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.

PERFORMANCE and MAINTENANCE

This reverse osmosis system contains replaceable components critical for the effective reduction of total dissolved solids (TDS). Test the product water annually to verify that the system is performing satisfactorily. See the charts below to select cartridges for your system. These cartridges are available through your local Kinetico dealer. You may opt to have the product water tested at this time to verify performance. For operation and maintenance information, consult the owner's manual. Installation instructions are available for review from your authorized Kinetico dealer.

A200 DRINKING WATER SYSTEM REPLACEMENT CARTRIDGES

Prefilter**		RO Membrane	Postfilter**
CHLORINATED WATER SUPPLY (City Water or Chlorinated Well)	NON-CHLORINATED WATER SUPPLY	ALL WATER SUPPLIES (City Water or Well)	ALL WATER SUPPLIES (City Water or Well)
High Capacity Carbon/Sediment Cartridge(Part No. 9461A)	Sediment Cartridge (Part No. 9309A)	RO Membrane Cartridge (Part No. 9428A)	Taste & Odor Cartridge (Part No. 9306B)

**Annual testing and replacement of cartridges is recommended.



A200 Drinking Water Systems are tested and certified by NSF International under NSF/ANSI Standard 58 for the reduction of pentavalent arsenic, barium, cadmium, copper, cysts (including oocysts of cryptosporidium and cysts of giardia and entamoeba), fluoride, hexavalent chromium, lead, radium 226/228, selenium, total dissolved solids, trivalent chromium, turbidity, and NSF/ANSI Standard 42 for the reduction of aesthetic chlorine, taste and odor as verified and substantiated by test data. This system shall only be used for arsenic reduction on chlorinated water supplies containing detectable residual free chlorine at the system inlet.



CONTAMINANT REDUCTION CAPABILITIES

IMPORTANT NOTICE! Read this performance data sheet and compare the capabilities of this unit with your actual water treatment needs. Please note that the contaminants listed below are not necessarily in your water. It is recommended that before purchasing a water treatment unit, you have your water supply tested to determine your actual water treatment needs. 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. The chart below contains the following information based on NSF test results:

- A list of substances that will be reduced by the A200 Drinking Water System
- The percent of reduction that can be expected
- Conditions under which the units were tested (pressure, pH and temperature)
- Influent and effluent levels of contaminated tested water
- The EPA's maximum contaminant level (MCL)

A200 DRINKING WATER SYSTEM

SUBSTANCE	Test Pressure (psi)	Flow Rate (gpm)	Temperature (°F)	pH	Average Influent Level (mg/L)	Average Effluent Level (mg/L)	Average Percent Reduction	Maximum Effluent Level (mg/L)	USEPA MCL (mg/L)	Influent Challenge Concentration (mg/L)	Maximum Permissible Product Water Concentrations Or Percent Reduction Requirement
Pentavalent Arsenic	50	1.0	75.2	7.25	0.30	< 0.001	99.7	0.004	0.05	0.30 ± 10%	0.010 mg/L
Barium	50	1.0	75.2	7.25	10.2	0.13	98.7	0.27	2.0	10.0 ± 10%	2.0
Cadmium	50	1.0	75.2	7.25	0.31	0.0001	99.7	0.0009	0.005	0.03 ± 10%	0.005
Aesthetic Chlorine	60	1.0	68	7.31	1.95	0.055	97.17	0.08	—	2.0 ± 10%	≥ 50%
Hexavalent Chromium	50	1.0	75.2	7.25	0.30	0.006	98.0	0.013	0.1	0.3 ± 10%	0.1
Trivalent Chromium	50	1.0	75.2	7.25	0.30	0.003	99.0	0.008	0.1	0.3 ± 10%	0.1
Copper	50	1.0	75.2	7.25	3.0	0.04	98.7	0.06	1.3	3.0 ± 10%	1.3
Fluoride	50	1.0	77	7.38	8.0	0.33	95.9	0.47	4.0	8.0 ± 10%	1.5
Lead	50	1.0	75.2	7.25	0.15	0.004	97.3	0.008	0.015	0.15 ± 10%	0.010
Radium 226/228	50	1.0	75.2	7.25	25pCi/L	5pCi/L	80	5 pCi/L	5 pCi/L	25pCi/L ± 10%	5 pCi/L
Selenium	50	1.0	75.2	7.25	0.10	< 0.001	99	< 0.001	0.05	0.10 ± 10%	0.05
TDS ^①	50	1.0	75.2	7.25	765	57.9	92.4	78	—	750 ± 40 mg/L	187
Cyst ^② (3-4 micron) ^③	50	1.0	75.2	7.25	130,000 #/mL	1#/mL	> 99.99	1#/mL	—	Min 50,000/mL	≥ 99.95%
Turbidity	50	1.0	75.2	7.25	81 NTU	0.15 NTU	99.8	0.28	—	11 ± 1 NTU	0.5 NTU

① TDS is commonly comprised of calcium, magnesium, sodium, iron, manganese, bicarbonate, chloride.

② Cyst reduction includes oocysts of cryptosporidium and cysts of giardia and entamoeba.

③ Cyst influent and effluent are measured in #/mL.



Arsenic Treatment System Facts

This system has been tested for the treatment of water containing pentavalent arsenic (also known as As(V), As(+5), and 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.

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. Your local health department or state environmental health agency can provide a list of certified labs. The cost is typically \$15 to \$30. You can find information about arsenic in water 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), 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. Labs require special sampling procedures 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 removing 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 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 A200 Drinking Water System is designed to remove 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 to check if the system is working properly.

You must periodically replace the RO component* of the A200 Drinking Water System to ensure the system will continue to remove pentavalent arsenic. The component identification and locations where you can purchase the component are listed in this Performance Data Sheet, the Owner's Manual and the installation instructions for your system.

In most drinking water sources, the inorganic form of arsenic tends to be more predominant than organic forms. Inorganic arsenic in drinking water can exert toxic effects after acute (short-term) or chronic (long-term) exposure. Although acute exposures to high doses of inorganic arsenic can cause adverse effects, such exposures do not occur from public water supplies in the U.S. at the current MCL of 50 µg/L. EPA's proposed drinking water regulation addresses the long-term, chronic effects of exposure to low concentrations of inorganic arsenic in drinking water. Chronic effects at low concentrations include:

- Cancer Effects: skin, bladder, lung and prostate cancer
- Non-cancer Effects: skin, pigmentation and keratosis, (callus-like skin growths seen earliest and most often), gastrointestinal, cardiovascular, hormonal (e.g. diabetes), hematological (e.g. anemia), pulmonary, neurological, immunological, reproductive/developmental functions

The contamination of a drinking water source by arsenic can result from either natural or human activities. Arsenic is an element that occurs naturally in rocks and soil, water, air, plants and animals. Volcanic activity, the erosion of rocks and minerals and forest fires are natural sources that can release arsenic into the environment. Although about 90 percent of the arsenic used by industry in the United States is used for wood preservative purposes, arsenic is also used in paints, drugs, dyes, soaps, metals and semi-conductors. Burning fossil fuels and wastes, paper production, glass manufacturing, cement manufacturing, mining and smelting can also release arsenic. While arsenic can no longer be used in making pesticides, weed killers and embalming fluids, the Agency is aware that prior to this ban these substances have contributed to drinking water contamination.