

USER'S GUIDE AND INSTALLATION MANUAL



Manufactured With Pride In The USA

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How does the deionizer work?

Your system is simple and maintenance-free. When your monitor light signals that your water quality has dropped below the desired quality, you just exchange the resin pack and return it to AmeriWater for regeneration.

How does the regeneration work?

AmeriWater's regeneration center maintains the resin used in the deionizer. When your resin pack is exhausted, just exchange it with your "stand-by" resin pack, and ship the exhausted pack to AmeriWater with a regeneration coupon. We will regenerate the resin and return it within one day after receipt. It's as simple as that!

How long is the resin shelf life?

The resin has a shelf life of approximately one year. It is shipped to you in a plastic bag to prevent the exchangers from drying out. Inside the plastic bag, the resin is stored in a nylon pack that never has to be opened.

What is a deionizer?

To fully appreciate deionization and how it works, we must first look at the contaminants found in our water supply and what purification processes may be needed, in addition to deionization, to provide the level of water purity for your specific application.

Because pure water is the "supreme solvent", it actively gathers contaminants from everything it passes over or through. Dissolved ionized solids such as Sodium (Na⁺), Calcium (Ca⁺), and Chloride (Cl⁻) are stripped from rock and soil. Organic molecules are gathered from decaying debris and environmental pollutants. Particles include organic debris, dirt and rust from soil and piping; bacteria and microbials (including pyrogens) from normal growth in water; dissolved ionized gases such as Chlorine (Cl₂) and Carbon Dioxide (CO₂) from water treatment and organic decay; and colloids from rock and sand. All of these contaminants are present in varying concentrations in water. Each presents different problems to users depending upon their application.

lonic contaminants are dissolved within the chemical structure of water. Dissolved ionized solids and dissolved ionized gases are removed using ion exchange resin, which act like tiny magnets stripping ions from water, replacing them with H and OH ions which ultimately join to form water (H2O). Ion exchange resins are synthetic polymers with many ion exchange sites attached to the surface.

What is resistivity/conductivity?

The majority of impurities in potable water are in the form of disassociated ionized mineral salts, such as NaCl and CaCO₃. Because such ions carry an electrical charge, their presence is directly related to the ability of the water to conduct electricity (conductivity). Conversely, their relative absence is directly proportional to the water's inability to conduct electricity, or it's resistivity. Hence, resistivity, (and it's reciprocal, conductivity) are the best parameters by which to gauge the quality of purified water.

Resistivity is measured in ohms/cm and it's reciprocal, conductivity is measured in mhos/cm or siemens. It is important to realize that resistivity and conductivity are measures of only ionic impurities and are not affected by particulates, bacteria, or other organic contamination.

Preparation

- 1. Locate the unit on a firm flat mounting surface capable of supporting 35 lbs. It should be mounted high enough to allow placement of a bucket under the system in order to drain the system when resin packs require exchange.
- 2. You will need a 115-Volt AC power source for the quality monitor light.
- It is important to install isolation valves on the inlet and outlet side of each unit to allow the system to be isolated for resin pack exchange. The outlet side of the deionizer unit should connect to plastic or stainless steel piping or tubing only. The use of other materials may result in contamination of the purified water.
- 4. The deionizer is designed for a maximum pressure of 65 psi. A regulator is required if your pressure exceeds 65 psi.

WARNING: Do not exceed 65 psi feed pressure or damage to the system and personal injury may occur!

- 5. The maximum flow for each deionizer is 1 GPM. If the flow increases above this load value then additional deionizers should be installed to lower the flow on each system.
- 6. Pre- and post-filters as well as additional monitors are available as options.
- NOTE: One of the most important, but often-neglected factors contributing to the successful operation of the system, is the care with which the piping is installed. Correctly sized fittings and careful cleaning are very important. Metal Particles, solder flux, threading compounds, and other contaminating materials must be flushed thoroughly from the piping system prior to allowing water to enter the deionizer.
- 7. A floor drain or sufficient means of dispensing water must be provided to allow the system to be drained when the resin packs require exchange.

Procedure

These procedures should be followed to allow proper operation of the deionizer. All local plumbing and electrical codes should be followed.

- 1. Unpack the deionizer from its box and inspect for damage. Report damage to AmeriWater immediately.
- 2. Mount the deionizer on a sturdy flat surface capable of supporting 35 pounds. Allow a minimum of 4-6" from the bottom of the deionizer to the floor to allow for the removal of the deionizer housing for resin pack exchange. Additional space may be required if you intend to drain the system into a bucket.
- 3. Using the mounting holes on the mounting bracket as a template, locate holes on the surface.
- 4. Secure the mounting bracket to mounting surface. It may be necessary to use extra supports.
- 5. Connect inlet of the deionizer to a manual isolation valve sized to accommodate the flow rate of the system (maximum of 1 GPM).
- 6. Plug the power adapter into a dedicated 115-Volt AC receptacle.

<u>Start-Up</u>

Installing the resin pack

- 1. With the isolation valves turned off, loosen the tube fitting on the bottom of the deionizer housing. Remove the tubing from the fitting.
- Using the filter wrench, loosen and remove the lower deionizer body by turning it counterclockwise. Verify that the O-ring stays in the O-ring groove.
- 3. Install the resin pack into deionizer body.





Open the drain valve on the bottom of the housing.

Remove the resin pack from the box and plastic bag.

Stretch the resin pack over your arm to elongate the pack, and feed it into the housing.

- 4. Attach the deionizer body back onto the cap and reconnect the tube fitting.
- 5. Remove the tubing from the deionizer outlet isolation valve and place it in a bucket or direct to a drain.
- 6. Open the inlet isolation valve slowly to start water flow to the deionizer.
- 7. Allow water to run through the deionizer until all air is purged from the system. After all of the air is removed reinstall the outlet tubing to the outlet isolation valve.
- 8. The quality monitor may glow red for a couple of minutes before changing to green.

Resin Pack Exchange

When the quality monitor light changes from green to red, the resin pack needs to be exchanged.

NOTE: If the deionizer has not been in use, run water through the system for several minutes. If the light changes to green, resin pack does not need to be exchanged. If the light remains red, complete the following steps for resin pack exchange.

- 1. Close the inlet and outlet isolation valves and place a catch basin under the deionizer.
- 2. Open the test port (drain) located on the bottom of the deionizer housing to relieve pressure and drain the system.
- 3. After the pressure is relieved, loosen the tube fitting on the bottom of the deionizer body and remove the tube.
- 4. Using the filter wrench, loosen and remove the housing by turning it counter clockwise.
- 5. Remove the exhausted resin pack and install a new resin pack.
- 6. Follow the start-up procedures to pressurize system before use.
 - a) Attach the deionizer body back onto the cap and reconnect the tube fitting, and remove the tubing from the deionizer outlet isolation valve and place it in a bucket or direct to a drain.
 - b) Open the inlet isolation valve slowly to start water flow to the deionizer. Allow water to run through the deionizer until all air is purged from the system. After all of the air is removed reinstall the outlet tubing to the outlet isolation valve.
 - c) The quality monitor may glow red for a couple of minutes before changing to green.
- 7. Place the exhausted resin pack into the packaging from the replacement pack. Fill out and attach a regeneration certificate on the outside of the package. Ship the exhausted package to the address on the certificate. A new pack will be shipped within 24 hours of receipt.
- 8. Order additional resin pack regeneration certificates from AmeriWater, Part Number 002100C.

Resin Pack Regeneration

Regeneration certificates are used to simplify the exchange of your exhausted resin packs. Simply follow these four steps:

- 1. Place an order for your future supply of regeneration certificates. Our minimum order is three (3) certificates.
- 2. Clearly print your name and address on the certificate and enclose it along with the exhausted resin pack that you are returning. For your convenience, these instructions are printed along the bottom of each certificate.
- 3. When your resin pack is received at the center, a new pack will be sent to you using the certificate you've enclosed with your shipment.
- 4. AmeriWater recommends that you return your exhausted resin immediately after you change packs. This will allow ample time for return shipment.

With this program, you are billed at the time you order the regeneration certificates. This eliminates the need for any extra paperwork and phone calls when your resin pack needs to be exchanged.

Servicing Your System

Disinfecting your deionizer

AmeriWater recommends that you disinfect your deionizer periodically to ensure continuous high-quality water is produced. To disinfect the system, follow these easy steps:

- 1. Remove the resin pack from the system.
- 2. Pour one tablespoon of household chlorine bleach into the filter sump.
- 3. Close the system completely.
- 4. Turn on the water to flush through the system until you can smell the chlorine.
- 5. Turn off the water and allow the system to stand for 15 minutes.
- 6. After 15 minutes, turn the water supply on to flush out your deionizer. Allow water to flow until you can no longer smell chlorine at the system outlet.
- 7. Drain the deionizer and verify that all standing water in the system is removed.

Apart from regular resin pack exchange and disinfection, your deionizer requires no maintenance.

In the event your deionizer system is damaged, contact AmeriWater to order replacement parts.

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Facts to Remember About Your Deionizer System

Your deionizer is your most economical and convenient choice for producing high purity water for almost any application. Here are some important things to keep in mind.

- 1. Your system does not "treat" the water, it purifies it by removing dissolved ionized solids and gases through an ion exchange process, by passing the water through ion exchange resins that draw the ions from the water and replaces them with hydrogen and hydroxyl ions which subsequently join to become water.
- 2. The ion exchange resins that perform the purifying function will exhaust and must eventually be regenerated. At that point, you simply unpack your "stand-by" resin pack, shut off the water flow, pull out the old pack and drop in the fresh one. You ship the exhausted resin pack with a regeneration certificate to AmeriWater and we will send you a fresh one.



▲ WARNING

This product can expose you to chemicals such as vinyl chloride (used in the production of PVC) or Nickel (used in the production of stainless steel), that are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Dear Valued Customer,

California Proposition 65 (Prop 65) is the Safe Water and Toxic Enforcement Act of 1986. The State of California began enforcing amendments to California Prop 65 at the end of August 2018. Prop 65 requires manufacturers to provide a clear and reasonable warning to residents of California about chemicals used in products that they purchase that are included on the Prop 65 Chemical List. The chemicals included on the list are chemicals that are known to the State of California to cause cancer, birth defects, or other reproductive harm. One such chemical is Vinyl Chloride, a compound used to produce Polyvinyl Chloride (PVC). The AmeriWater system you have purchased may contain PVC or stainless steel parts.

While warnings are only required in the State of California, AmeriWater has initiated the use of Prop 65 labeling for all products to ensure compliance with California regulations. Please note that the above warning does not necessarily mean that the product that you have purchased is unsafe. Products that have been cleared for market by FDA have been determined to be safe and effective by the United States Food and Drug Administration. The warning is simply a requirement by the State of California. If you wish to obtain additional information, please visit: p65warnings.ca.gov. You may also contact your AmeriWater representative if you have any questions.

Thank you for your understanding and we look forward to continuing to serve you.