

System & Installation Specifications

Type I Ultra-Low TOC Analytical Grade Systems



Models: 2121AL & 2122AL

- The system shall produce purified water that meets ASTM, CAP, CLSI, and USP 29 Specs for Type I reagent grade water, and contains <5-ppb of TOC.
- The system shall be certified by CSA for the US and Canada, and CE marked when exported to the European Union (EU) and other EU type Countries.
- The system shall have an output flow rate of 2-Liters/minute.
- Model 2121AL is designed to process water pretreated via distillation, deionization, or reverse osmosis, and containing <20 PPM of TDS (total dissolved solids). It has a total ion exchange capacity of 2,000 grains as CaCO₃.
- Model 2122AL is designed to process *ordinary tap water* containing <170 ppm of TDS. It has a total ion exchange capacity of 4,000 grains as CaCO₃.
- The system shall use new (not regenerated) semiconductor grade mixed-bed ion exchange resins.
- The system shall include a built-in dual wavelength (185 & 254 nanometer) ultraviolet (UV) oxidizer/sterilizer to reduce TOC to less than 5-ppb. The UV shall operate on 100-240 VAC, 50/60 Hz, power at less than 1 Amp.
- The system shall run on 12 VDC internal power supplied from an external switching power supply that runs on 100-240 VAC, 50/60 Hz, at less than 3 Amps.
- The system's built-in activated carbon prefilter capsule and purification module(s) shall have quick-disconnect snap-in fittings that allow them to be changed out or replaced in about one minute.
- The system shall include a virtually silent 12 VDC pump that continuously recirculates water within the system, in order to maintain the highest water quality at all times, and eliminate the need to manually turn the system on prior to use.
- The system shall be designed for bench, shelf or wall-mounting at NO EXTRA CHARGE.
- The system shall include a built-in pressure regulator and pressure gauge at NO EXTRA CHARGE.
- The system shall include a recirculating remote dispenser with a 0.2 micron absolute sterilizing final filter capsule.
- The system's final filter capsule shall be manufactured per GMP standards from USP Class VI materials with no glues or surfactants, and be autoclavable, bubble point testable, and non-pyrogenic .
- The system shall include a temperature compensated, digital conductivity/resistivity/temperature monitor with alarm set point, that meets USP 29 specifications.
- The system's overall cabinet dimensions shall be approximately 20" wide by 20" high by 12" deep.
- The system price shall include a 2 year warranty in the USA and Canada, and a 1 year warranty elsewhere.
- The system shall be manufactured in the U.S.A.



See other side for installation and start-up information.

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Installation and Start-up of AQUA SOLUTIONS' Systems

As shipped, **AQUA SOLUTIONS** Type I Water Purification Systems can be bench, shelf or wall-mounted at no extra charge. While bench mounting affords more flexibility, shelf or wall mounting can get the system up and out of the way, conserving bench space for other uses. Regardless of the initial mounting method, it can be changed at any time. Complete, detailed mounting instructions are included in the Operating Manual.

The system requires a source of incoming feed water at 35-50 psi from a user-supplied shutoff valve located within 15' of the LEFT SIDE of the system, plus two 100-240 VAC, 50/60 Hz electrical outlets within 5' of the right side of the system. Electrical consumption is less than 3 Amps total.

The system measures ~ 20" wide by 20" high by 12" deep. The operating weight of the system can approach 100 pounds. If shelf-mounting, make sure the shelf can support this weight. If wall-mounting, make sure the wall can support this weight. In the case of wallboard attached to metal studs, attach a piece of 3/4" thick plywood directly to the studs first, and attaching the system to the plywood. When wall-mounting, use four appropriate ("industrial strength") 1/4" lag bolts, 1/4" toggle bolts, or 1/4" masonry anchor bolts, depending on the wall type, to firmly attach the system cabinet to the wall.

Except for the user-supplied inlet valve, all items required for installation are included with the purchase of a system and it's purification kit. A brief summary of the installation instructions follows. More detailed installation instructions are included in the Operating Manual supplied with the system.

1. Use an existing, or install a new, 1/4", 3/8" or 1/2" NPT female shutoff valve (not supplied with system) on the water supply source within 15 feet of the left side of the system. If a 1/2" valve is used, reduce the outlet end from 1/2" female to either 3/8" or 1/4" female. Open the valve fully and run water out of the valve at full force until it runs clear. This is particularly important on new construction, where the water line could contain a lot of debris.
2. Install a 1/4" (T-MC-4-4) or 3/8" (T-MC-4-6) NPT male by 1/4" tube fitting (both are supplied with system) on valved water source, using Teflon[®] tape on threads.
3. 20 feet of 1/4" OD black polyethylene tubing, with a push-in elbow connector attached to one end, is supplied with the system. Push the elbow end into the 1/4" push-in type water inlet fitting marked "Water Inlet", located on bottom left side of system cabinet. Run the tubing to the fitting that was installed on the valved water source above. Cut the tubing to length with a razor blade, insert it into the fitting, and tighten the fitting's cap screw.
4. The system's remote dispenser assembly includes push-in elbow connector(s) attached to the dispenser's 1/4" OD blue tubing. Attach the push-in connector(s) to 1/4" push-in type outlet fitting(s) marked "Remote Dispenser", located on upper right side of system cabinet. Note that the 7 foot long remote dispenser tubing can be shortened by cutting it at a place where it is already separated and reinserting it into the elbow connector(s). Also note that if the remote dispenser tubing is not long enough, a longer piece can be purchased. The remote dispenser assembly includes two stainless steel rings, and a stainless steel hook with mounting screws. The top ring can be used to conveniently hang the dispenser on the stainless steel hook, when not in use. The lower ring can be used to lock the dispenser trigger in the "on" position to fill large containers, etc. Install the stainless steel hook in a convenient location on the right side of the system cabinet using the 2 screws provided with the hook.
5. Install the system's DI Module(s) and Final Filter Capsule per the directions in the Operating Manual. Note that they utilize quick-disconnect snap-in fittings.
6. Follow the detailed start-up instructions in the Operating Manual. Call us at (800) 458-2021 or 706-692-9200 with technical questions or comments.

