

Getting Started

The Sylvan Source M-600 is a fully automatic wall-mounted unit that will produce up to 6 gallons of ultra-clean water per day, enough for the drinking and cooking needs for a family of five. Through the use of a built-in on-demand supply pump, the M-600 system can provide water to multiple delivery points within the home, including faucets, refrigerator water dispensers and refrigerator ice makers.



Prior to installing the M-600, we recommend that you review the following requirements and information with your plumber or contractor. Sylvan Source recommends using a licensed plumber or general contractor to install the M-600. A list of factory authorized installers is available from Sylvan Source.

System Requirements

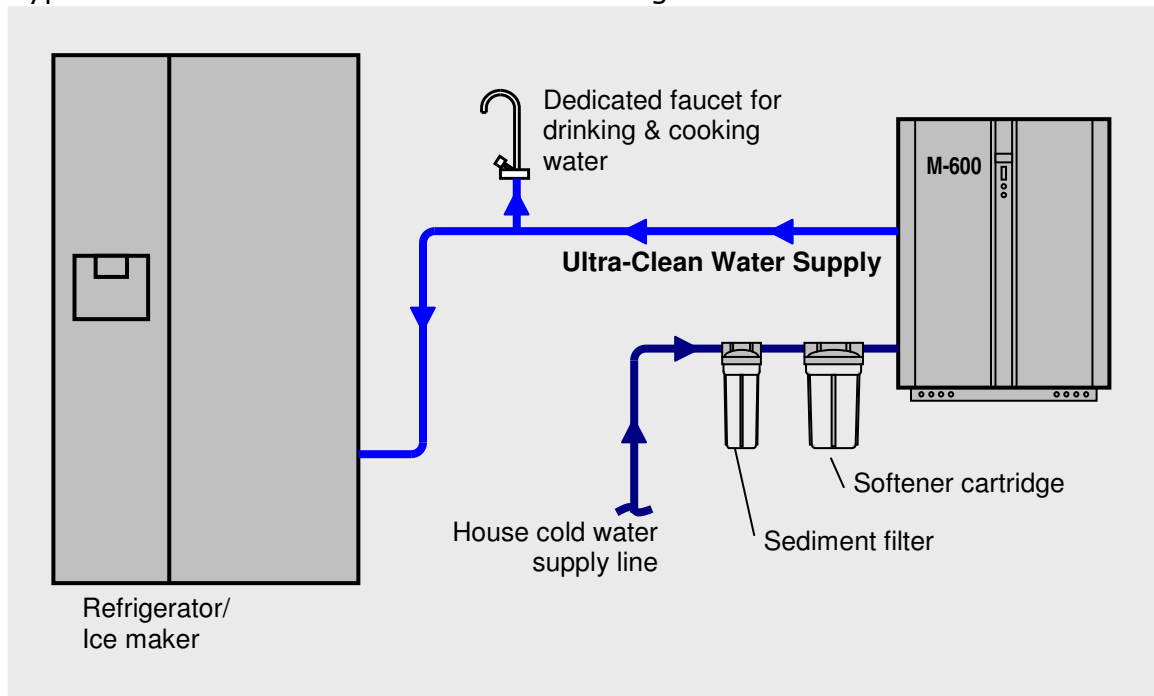
- The M-600 is designed for use with potable water only.
- The M-600 is designed only for indoor installation and operation. **Note: do not install where the temperature will be at or below freezing.**
- To protect the M-600 from build-up caused by scale-forming calcium and magnesium in the supply water, Sylvan Source requires that a water softener be used on the inlet water supply. A whole-house ion-exchange water softener, which will protect both the M-600 and all other water-using appliances, is recommended for hard water areas. If a whole-house softener is not installed in the home, dedicated ion-exchange softening components can be used. See Appendix A for details about the dedicated softening components.
- The pump in the M-600 can deliver water to a point 200 feet from the M-600 unit itself when both are at the same elevation. If the delivery point is above the M-600, for example to a second floor location, the distance will be somewhat reduced.

Needed for Installation: Items not included with M-600

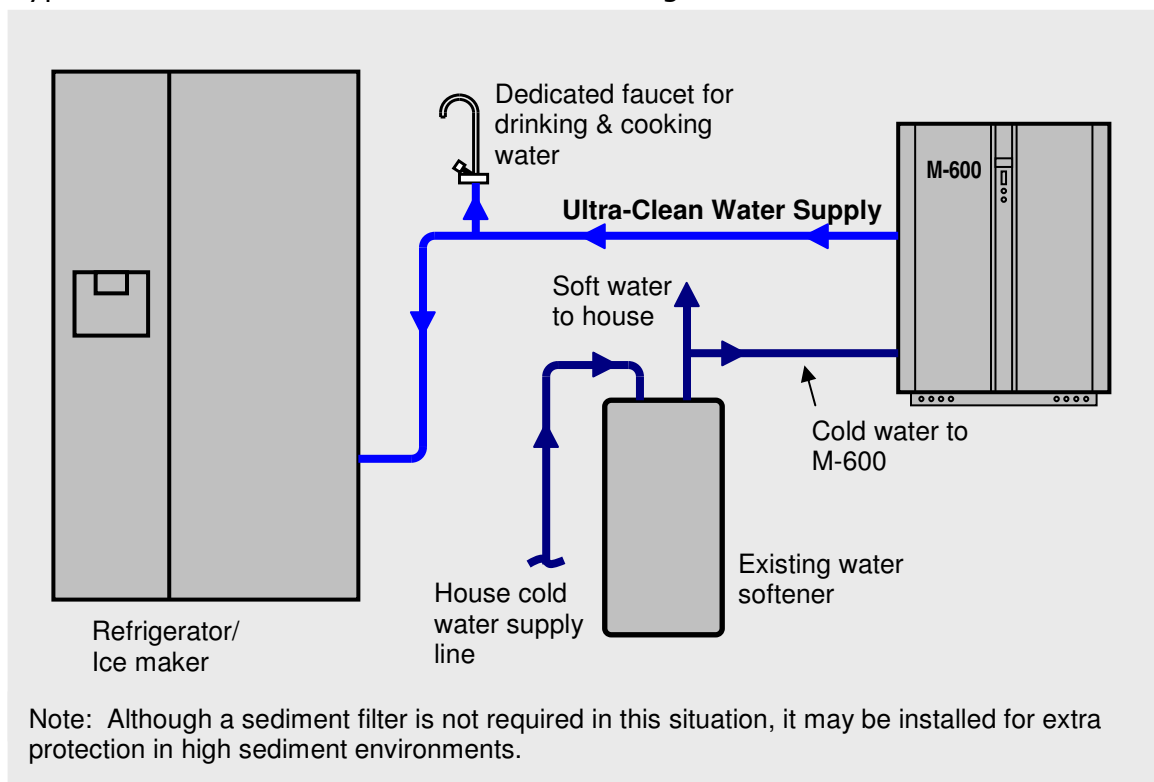
- ✓ Cold water source (see note about water hardness above).
- ✓ Dedicated electrical circuit: 115 volt, 11 amp minimum
- ✓ Access to household drain system
- ✓ Clear wall space for mounting unit: 50" wide x 68" high x 16" deep (including clearances)
- ✓ Well ventilated installation area.
- ✓ Pre-plumbing hardware
 - Separate faucets for each water delivery location.
 - Washer box with angle stops at point of installation to make connection to the M-600
 - Piping to the washer box from house water supply.
 - PEX piping from the washer box to the faucets at each water delivery location.
- ✓ Installation hardware: Available in kit form (PN 1003010) from Sylvan Source distributors
 - Lag Bolts: 1/4" x 2" – 4 each
 - Tubing: 1/4" OD and 3/8" OD polyethylene – 5 feet of each size
 - Adapters: hose bib-to-1/4" OD tube and hose bib-to-3/8" OD tube – 1 of each size
 - Sterilization tablets – 3 each (or three tablespoons of unscented household liquid bleach)
 - Collet Release Tool: for John Guest type quick-connect fittings
- ✓ Pre-treatment kit (PN 1003018): for locations without a whole house ion-exchange water softener. See **Appendix A** for complete parts list and availability information.

Installation Schematics

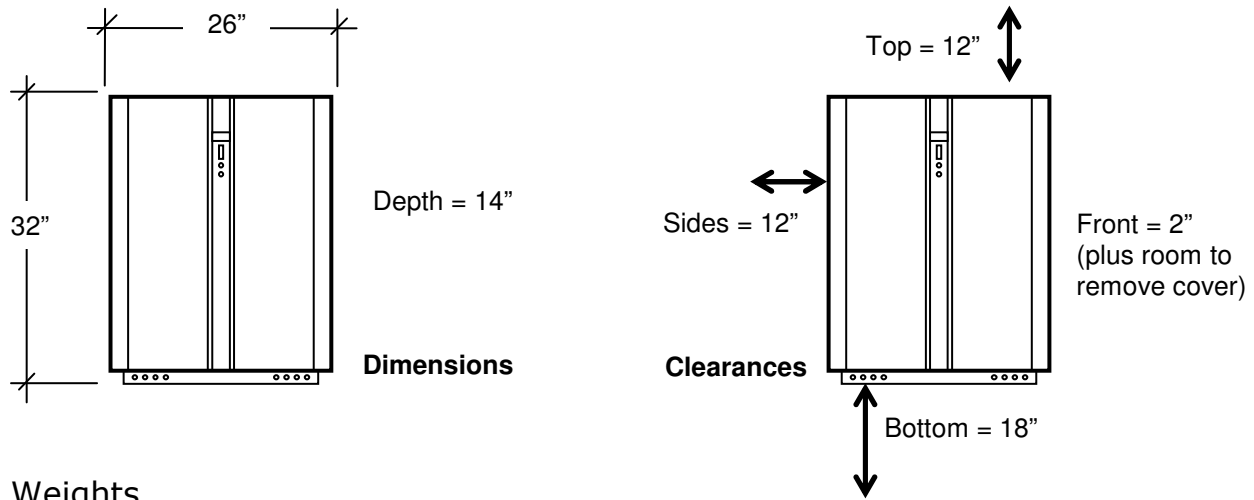
Typical Installation when there is no existing water softener:



Typical Installation where there is an existing water softener:



Dimensions & Clearances

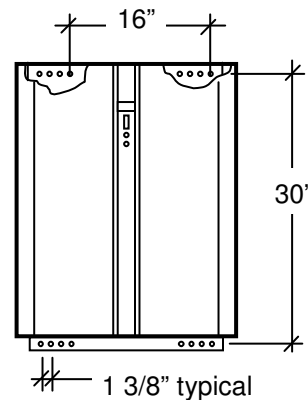


Weights

- 105 lbs. - shipping weight.
- 135 lbs. – M-600 with full tank of water.

Mounting Requirements

- Mounting of the M-600 is done using four ¼" x 2" lag screws into wall studs, or using an equivalent method that will securely support the unit's weight.
- A series of mounting holes on 16" centers are provided at the top and bottom of the unit. Normally two bolts at the top and two bolts at the bottom are sufficient to secure the unit.



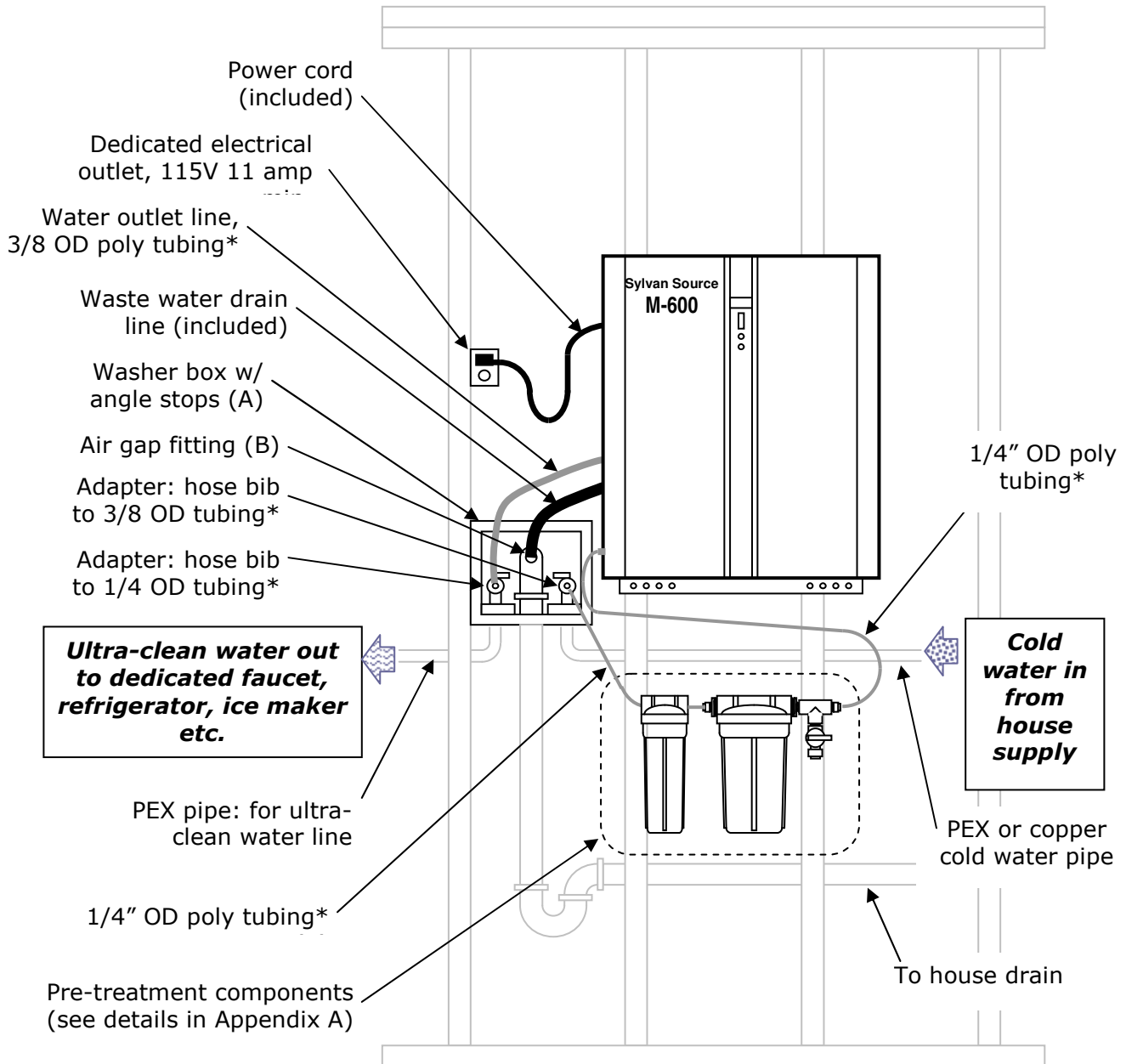
Electrical Requirements

- Dedicated grounded outlet
 - 115VAC
 - 11 amp minimum

Plumbing Requirements

- See the Installation Diagram on the next page for a typical plumbing installation.
- A note about ultra-clean water: The M-600 reduces the mineral and other ionic content of your water to very low levels. The plumbing materials used on the output side of the M-600 should, therefore, be selected for this type of water.
 - Linear low density polyethylene (LLDPE), high density polyethylene (HDPE), cross-linked polyethylene (PEX), and brass are the preferred materials for use with the M-600.
 - Valves, faucets and other components used with the M-600 should be NSF 61 approved.
 - Avoid copper, galvanized steel, PVC or other non-recommended materials for all plumbing from the M-600 to faucets, refrigerators, or other water delivery outlets.
- The drain for the unit is gravity fed, so the drain outlet must be located below the M-600.

Typical Installation Diagram



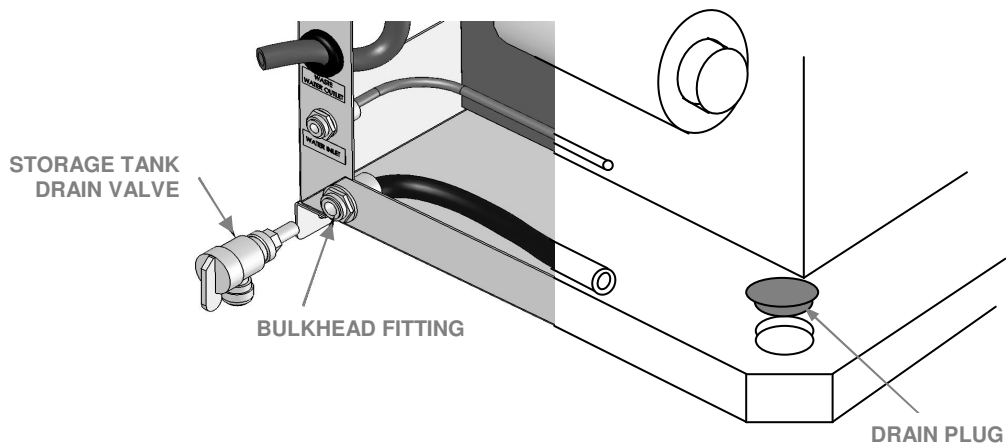
Pre-Plumbing Component List – to be installed at the time of initial construction

Item	Description	Supplier
A	Washer Rough-in Box (e.g. Oatey Fire-rated Washing Machine Outlet Box with 1/4-turn ball valves, 1/2" PEX)	Oatey Product Number 38472
B	Air Gap Fitting for 3/8" ID x 5/8" OD drain tubing (e.g. Eco-Tech part number DLA-G)	Eco-Tech, local hardware store, or plumbing supply house.

* These components are generally included with the M-600 in the form of an installation kit. This kit is also available separately from Sylvan Source dealers and distributors (PN 1003010). The parts may also be purchased by the installer if that is more convenient.

M-600 Installation Summary

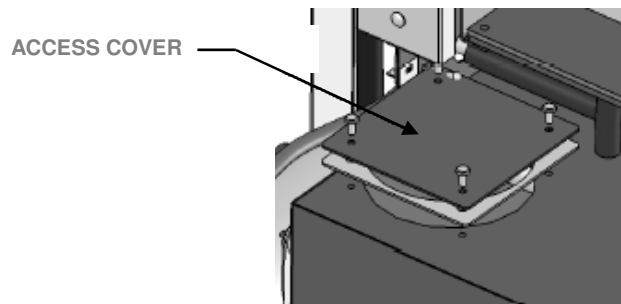
- Remove cover (two screws on each side of unit).
- Install top bolts into wall studs making sure that the bolts are level. If the studs are not in the convenient location, it is recommended that the wall be reinforced by using support boards (either 2 x 4's or ¾" plywood). The M-600 can then be attached to the 2 x 4's or plywood.
- Hang unit on top bolts and then install bottom bolts.
- Remove red clips and plugs from inlet and outlet bulkhead fittings.
- Install outlet tubing (3/8" OD polyethylene) between the M-600 bulkhead fitting and the washer box angle stop using the hose bib-to-3/8" OD tubing adapter (from the installation kit).
- Install inlet tubing (1/4" OD polyethylene) between the M-600 bulkhead fitting and either the water softener cartridge housing, or the hose bib-to-1/4" OD tubing adapter (from the installation kit), whichever is applicable.
- Remove tie wrap from drain line and feed drain line through grommet in frame.
- Install drain line to air gap. NOTE: BECAUSE THE WASTE DRAIN DEPENDS ON GRAVITY FLOW, THE M-600 NEEDS TO BE ABOVE THE WASHER BOX DRAIN AND THERE CAN BE NO LOOPS IN THE DRAIN LINE.
- Install Storage Tank Drain valve (supplied with M-600). Make sure that the valve is fully seated into the fitting. Install red clip to keep valve in place. Note: Valve is shown below in the OPEN position. Close the valve by turning the handle ¼ turn.



- Install black Drain Plug (supplied) in bottom of drain pan on unit.

Sterilization Process: *to be completed after installation (takes approximately 30 minutes).*

- With the unit unplugged and the cover removed, open the Storage Tank Access Cover located on the top of the Storage Tank.



- Fill the Storage Tank ½ full using 3 gallons of water.
- Add the three sterilization tablets (from the installation kit), or three tablespoons of plain household liquid bleach to the water.
- Add another 3 gallons of water to fill the tank to within about 2 inches from the top (do not fill higher than this or unit will not make water on startup).
- Replace the Storage Tank cover and rubber gasket and secure with the four screws.
- Turn the Fan Switch (located to the left and rear of the Storage Tank cover) to the “OFF” position.
- Replace the cover and turn the system on (be sure the water inlet is open). Allow the M-600 to run for a *minimum of 30 minutes but no longer than 45 minutes*. Note: the drain line will get hot during this process. This is normal.
- Turn the unit off. Unplug the power cord. Remove the cover and check for water leaks.
CAUTION: The tank, the distiller and the black drain line will all be very hot.
- Turn the Fan Switch to the “ON” position.
- Replace the cover. Plug in the power cord. Turn the unit on.
- Drain the Storage Tank by opening each faucet in the house that is connected to the M-600 until all the air is purged from the water lines. Continue to run the water from one or more faucets until the water stops running (i.e., the pump turns off).
- **IMPORTANT:** Using the Storage Tank Drain Valve, drain the remaining water from the Storage Tank. Close the Storage Tank Drain Valve when finished.
- **IMPORTANT:** Before using the water from the M-600, the unit should be left to run for 24 hours to make a full batch. The first batch should then be drained using each of the house faucets to clear the bleach solution from all lines. The second batch will be suitable for use.

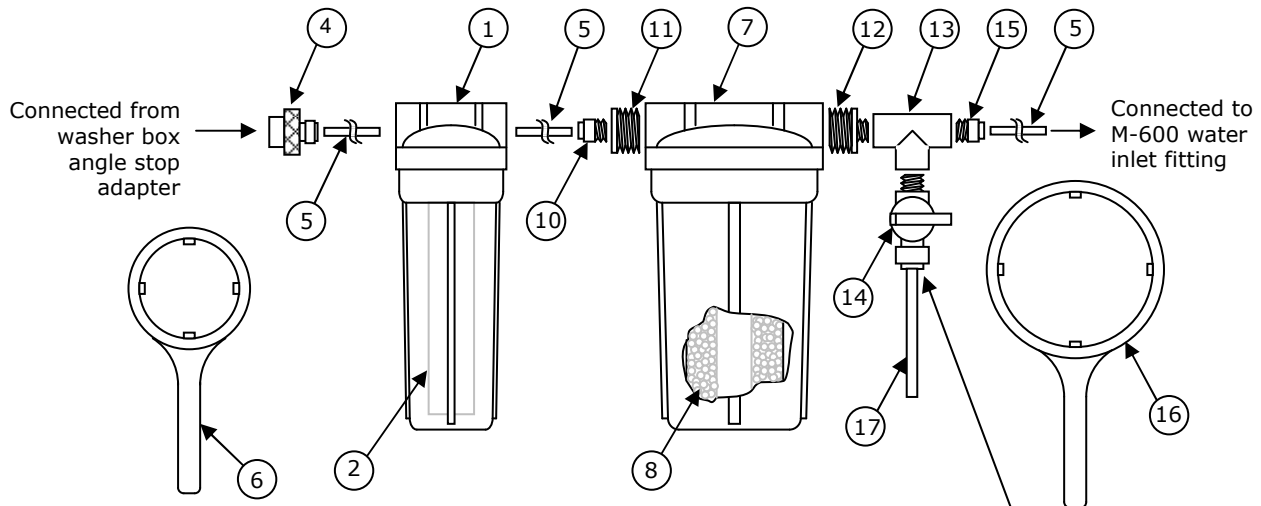
Final Installation Checklist

- Is the M-600 securely mounted to the wall?
- Is the M-600 well ventilated? Be careful not to cover the vents on the top or sides of the unit. Improper ventilation could affect product performance.
- Is the M-600 level? Improper leveling could affect product performance.
- Has the unit been properly sterilized?
- Has the storage tank access cover been replaced and secured with four screws?
- Is the fan switch in the “ON” position?
- Is the outside cover secured with four screws?
- Is the storage tank drain valve completely closed?
- Has the supply water from the household been turned on?
- Is the power cord plugged in and is the unit turned on?
- Are there any leaks around the water inlet or water outlet connections?
- Is the drain connection secure? Is the unit draining properly (a small amount of warm water will be continually draining from the unit when the unit is making water)?

Appendix A: Pre-Treatment Hardware

For installations where there is no whole-house ion-exchange water softener, the following pre-treatment hardware will protect the M-600 from the harmful effects of sediment and hard water minerals in the household water supply. The components shown below are available in kit form from Chester Paul Company (Part #SYS1003018). Chester Paul can be reached at (800) 227-2093. In order to maintain the Sylvan Source warranty, softening cartridges must be changed according to the schedule shown on the following page.

Note: There are two sizes of the softening cartridges available, a version 10" long and a version 20" long. The 20" long version will have approximately twice the lifetime of the 10" long version. Select the version that fits best with your available space and water hardness situation.



Note: Valve assembly #14 is used for pressure relief and for flushing the first two gallons from new softening cartridges.

Part Description	Manufacturer	Part Number
1. Pentek® 3G Slim Line™ Housing, 10 inch, 3/8" Quick Connect, Clear/Blue	Pentek	158616
2. Sediment Filter, Melt Blown, 20 or 25 micron, 2½" x 10"	Clack	31250988
3. Pentek® Bracket, Slim Line®, with screws (item not shown)	Pentek	244047
4. 3/4" Hose to 1/4" Quick-Connect	Included in M-600 Installation Kit #1003010	
5. Tubing, 1/4" OD Linear Low Density Polyethylene	Included in M-600 Installation Kit #1003010	
6. Housing Spanner Wrench, Slim Line®	Pentek	SW-1A
7. Pentek® Big Blue® Housing, 10" (20")	Pentek	150469 (150467)
8. Softening cartridge, 10" (20")	ResinTech	AF-10-9015-BB (AF-20-9015-BB)
9. Pentek® Bracket, for Big Blue® Housing, with screws (item not shown)	Pentek	144928
10. Male Connector, 3/8" Quick Connect to 3/8" NPTF	G. A. Murdock	O0620616
11. 3/4" Male NPT to 3/8" Female NPT Hex Reducing Bushing, Nylon	McMaster Carr	48335K166
12. 3/4" Male NPT to 3/8" Male NPT Hex Reducing Nipple, Nylon	McMaster Carr	48335K322
13. T-fitting, Threaded, 3/8" PVC	McMaster Carr	4596K322
14. Shutoff Valve, 3/8" Quick Connect x 3/8" Male NPTF	John Guest	PPSV011223W
15. Male Connector, 1/4" Quick Connect to 3/8" NPTF	G. A. Murdock	O0420616
16. Housing Spanner Wrench, #10 Big Blue®	Pentek	SW-3
17. Tubing, 3/8" OD Linear Low Density Polyethylene	Included in M-600 Installation Kit #1003010	

Appendix A (cont.):

Note: Sylvan Source has tested the pre-treatment components specified here with the M-600 to achieve results that provide optimum performance and taste.

Note: Make sure to follow the manufacturer’s instructions and recommendations for changing cartridges and filters.

Pre-Treatment Cartridge Change Schedule

The cartridges used for the sediment filter and the water softener have finite lifetimes. They must be changed periodically to maintain the proper operation and the warranty of the M-600.

1. **Sediment Filter:** Change sediment filter each time you change the softening cartridge.
2. **Softening Cartridge:** Change per the schedule below according to the hardness of the input water. The hours refer to “run hours” as shown on the hour meter on the front of the M-600. The water hardness number refers to the maximum hardness that occurs during the year. This number can be obtained from your local water authority. If you have any questions about the water hardness in your area, contact Sylvan Source (800-640-0469) for more information. For water hardness above 15 grains, Sylvan Source recommends that a whole-house softener be used.

10” Cartridge Capacity: 1,900 grains		20” Cartridge Capacity: 4,300 grains	
Water Hardness	Cartridge Lifetime	Water Hardnes	Cartridge Lifetime
3 grains (50 ppm) or less	1,400 hrs	3 grains (50 ppm) or less	3,200 hrs
5 grains (90 ppm)	850 hrs	5 grains (90 ppm)	1,900 hrs
7 grains (120 ppm)	600 hrs	7 grains (120 ppm)	1,350 hrs
11 grains (190 ppm)	375 hrs	11 grains (190 ppm)	875 hrs
15 grains (260 ppm)	250 hrs	15 grains (260 ppm)	625 hrs

Pre-Treatment Kit, Replacement Cartridge Kit and Installation Kit Supplier Information

- 1) **PRE-TREATMENT KIT:** sediment filter and housing, softener cartridge and housing, etc.
 10” Pre-Treatment Kit: Part # SYS1003018
 20” Pre-Treatment Kit: Part # SYS1003028
 Chester Paul Company - (800) 227-2093
- 2) **REPLACEMENT CARTRIDGE KIT:** pack of 2 sediment filters and 2 softener cartridges
 10” Replacement Cartridge Kit: Part # SYS1003019
 20” Replacement Cartridge Kit: Part # SYS1003029
 Chester Paul Company - (800) 227-2093
- 3) **INSTALLATION KIT:** lag bolts, polyethylene tubing, quick-connect adapters, sterilization tabs, etc. Part # 1003010
 Available from your local Sylvan Source dealer or distributor. See the “Where to Buy” section on the Sylvan Source website, www.sylvansource.com, for a listing of Sylvan Source distributors.