



AUTOFILL

If you ordered your Garden with Autofill you must first install the nutrient solution level control valve in the reservoir.

Check nutrient solution levels on a regular basis. During germination and early seedling growth the level will drop very little. If necessary, add a small amount of water to return the level to the fill line. If growing seedlings for transplant Autofill won't be necessary. If growing a full crop in the Garden, however, one month after planting you may be adding water daily. Once crops are producing e.g. large tomato plants you may be adding significant quantities of water twice daily (depending on temperatures and sunlight intensity). Large plants transpire lots of water to keep cool especially on hot, sunny days, making automatic watering a must.

There are 6 parts to **AutoFill**:

1. No-leak hose bib, the closer to the Garden the better (customer provides)
2. Optional “**Y**” **splitter** that accommodates the timer while leaving a bib port available for other uses;
3. **Timer** that attaches to, and controls the water on and off at set times on one side of the **splitter**;
4. **Nutrient solution level control valve** already preinstalled in the Reservoir;
5. **Connecting assembly** that connects the above level control valve to a garden hose;
6. Garden hose (customer provides)

Keep the hose as small and short as possible to minimize the slug of hot (summer) or cold (spring and fall) residual water going into the Reservoir. The water temperature problem is obviously exacerbated by longer and fatter diameter hoses. In ideal situations hoses are buried or otherwise covered with reflective material to minimize extreme water temperature problems.

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Autofill components from building (left) to outdoor Garden (right): hose bib (not shown, customer responsibility); splitter (allows Autofill to share the hose bib); timer (takes over the on/off function from the hose bib); garden hose (not shown, customer responsibility); level control valve (installed inside the Reservoir)

The hose bib **MUST NOT** leak because it will be permanently open with water flow controlled by the Rain Bird timer. Wrapping Teflon tape over the bib threads may stop small leaks. As a last resort it's worth the small investment required to replace a leaky bib.

Install batteries into the timer and program it per instructions. With smaller plants and medium leaf canopies setting the timer to refill the reservoir once daily is adequate. With large leaf canopies e.g. several giant tomato plants growing on the Overhead Rack you'll need to re-up the reservoir twice daily. One suggestion is programming the timer to be on for 2 minutes at approximately noon and again at 4 or 5p. This becomes easy with practice. And you cannot overfill the reservoir because it is the flow control valve in the reservoir that shuts off the water even when the timer is on.

Begin installation by screwing the splitter onto your hose bib. Hands tighten it only. Next screw the timer onto one side of the splitter. With the timer now controlling the facet's on and off function open the bib handle about $\frac{1}{4}$ turn. Now under pressure the hose bib / splitter / timer connections **must not** leak because they'll now stay pressurized continuously 24/7. Note – leaks beyond the timer, for example a rare hose burst, are not problems because 1. The bib is only opened a quarter turn, and 2. The timer will be open for only several minutes daily, and 3. The hose is pressurized for only a few minutes each day.

Thread the female end of the connecting assembly to the level control valve stem under the Reservoir and the male end to the garden hose. The ends are not interchangeable as the pipe threads are different at each end. Screw the female end of the garden hose to the timer. Turn the timer to the continuous on position and adjust the level control valve until the water level is right

at the desired mark. Turn the timer back to the auto position. Twisting the entire valve mechanism makes major adjustments to water level. The level is factory preset to the approximately 8-gallon level. To fine tune the level use the adjustment screw. Make the adjustment with the tank filling with just water (press the *waternow* button on the timer to turn water on and off without disturbing the auto settings). Turn the adjustment screw clockwise to raise water level or counterclockwise to lower water level. Once adjusted remove much of the water and let it fill again. Repeat procedure until satisfied. When you twist adjustment screw 8 times, the water level moves only $\frac{1}{2}$ ". Do not be too concerned about an exact 8 gallons as plants are quite tolerant of nutrient concentrations.

With Autofill installed and adjusted (a few minutes of adjusting the level control valve) sit back and watch the Garden take care of itself. It's a beautiful thing! More Autofill information is available in the Operating Instructions.

Check the website frequently for Assembly and Operating Instruction updates and revisions as well as for fun project-based learning ideas!



The reservoir (the shelf is not shown in this illustration) showing the two Autofill components best installed during initial setup



Note the connection between level control valve and connector, which is in turn connected to the customer's garden hose. The white nut indicated by the blue arrow must be tight. No leaking from the Reservoir permitted or nutrients are lost.

