

WATER, OFF GRID, FOREVER

ENDLESS CLEAN WATER FROM 2 SOLAR PANELS

A countertop distiller boils your worst water into steam, leaves the salt, lead, metals, nitrates, germs, and forever chemicals behind in the pot, then cools the steam back into pure water. A two dollar carbon pouch catches the one thing that sneaks through. Two solar panels run the whole thing, one clean gallon at a time.

WHAT YOU BUY

Countertop stainless distiller, 750 watts	about 66 dollars
Two 400 watt solar panels	about 495 dollars
Portable power station, see sizing	varies
TDS dissolved solids meter	about 14 dollars
Activated carbon distiller sachets	about 15 dollars

On grid you can skip the panels and station and run the still off a wall outlet for well under a dollar a gallon. The solar path is for when the tap stops.

POWER STATION SIZING

- Output: at least 1000 watts continuous, or it cannot run a 750 watt still.
- Battery: about 3.5 thousand watt hours to finish a full gallon on battery alone.
- Run it in daylight straight off the panels and a smaller, cheaper station is plenty, since the battery only covers passing clouds.
- Check the solar input rating, not just the outlet rating, so it can take both panels.



The steam gate: only water leaves as vapor, everything heavy stays in the pot.



Two 400 watt panels and a power station run the still with no grid.

BUILD AND RUN IT

- ☐ Buy the still, two 400 watt panels, and a power station. Every connection stays a normal plug.
- ☐ If your water is muddy, pour it through a cloth or coffee filter first so grit does not cake the element.
- ☐ Fill the pot in the evening from whatever source you have.
- ☐ In the morning, plug the still into the station and press the button when sun hits the panels.
- ☐ By early afternoon a full gallon of pure water sits in the jug.
- ☐ Leave the carbon sachet in place at the spout to catch volatile chemicals.
- ☐ Empty the gray crust and give the pot a vinegar rinse when it builds up.
- ☐ Test it: dip the TDS meter in your tap, then in the distilled water, and watch the number fall to single digits.

WHY IT WORKS

- ☒ Water boils at 212 F. Salt needs about 2,500 F and lead past 3,000 F, so they cannot ride the steam.
- ☒ Benzene and volatile chemicals boil at 176 F, below water, so they DO sneak through. That is what the carbon pouch is for.
- ☒ One gallon takes the 750 watt still about 4 to 5 hours, roughly 3.4 thousand watt hours of energy.
- ☒ Tap water often reads 150 to 400 on a TDS meter. Distilled reads single digits, near zero.
- ☒ Plan on one gallon of drinking water per person per day.



The receipt: the meter reads near zero, and the gray crust is everything you did not drink.

READ BEFORE YOU BUILD

- ☐ Never cut, splice, or rewire the machine or its cord. Improvised direct wiring is how house fires start.
- ☐ Everything stays store bought and plugs into normal outlets.
- ☐ Boiling alone concentrates lead and nitrates. Distilling leaves them in the pot, which is the point, so never drink the leftover pot water.
- ☐ Distilled water is safe to drink. It tastes flat because the gases are gone. Swirl the glass or add a pinch of mineral salt.
- ☐ A still is slow, about a gallon a day. This is drinking and cooking water, not showers and laundry.

KEEP GOING

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