

Home & Heart



Kathleen Jarschke-Schultze

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As the Renewable Energy Appliance Queen, I am often asked just which brand and model of appliance is best. This includes (but is not limited to) clothes washers and dryers, dishwashers, vacuum cleaners, microwaves, irons, and toasters. Frankly, I don't know which ones are best. I only know what I have chosen for our off-grid home, and why.

Eye on The Prize

To decide on the right appliance for your RE home, you will need to consider the components of your RE system. What size of inverter do you have? Is the waveform square wave, modified sine wave, or full sine wave? How many amp-hours does your system produce in an average day in each season? How much of that do you already use? How often will you use this appliance, and for how long?

Some appliances will not work properly on square wave or modified sine wave inverters. This is actually a fairly common occurrence with appliances that have triacs or thyristers in their circuitry. One way to determine whether an appliance will operate on square or modified sine wave power is to call the service department of the manufacturer and run through the layers of repair technicians until you find someone who knows what an inverter is. It can be frustrating, enlightening, or both.

When troubleshooting an appliance and talking to a repair technician, remember that all situations you describe are hypothetical. The sad truth is that many warranties are void if the appliance is used on an RE system. It may not state that on the warranty, and I'm sure you could engage in a long drawn out grievance with the company and maybe get some satisfaction. But I have found it best not to mention RE when exercising a warranty. Grill the techs mercilessly before you buy

any appliance. Don't let them tell you they don't have answers to your questions. They have the resources to find out.

Practically all appliances will run on a full sine wave inverter. Since we use a sine wave inverter, the Trace SW4024, I haven't had a problem with any appliance's electronic brain. The power coming from an inverter is often more stable than the power coming from the grid.

Research

For each and every appliance you buy, there are questions you have to answer first. If you have power or water restrictions, they must be identified. If the appliance will use water, what psi (pounds per square inch) does it require to function properly? For example, my dishwasher does not run enough water through our on-demand water heater to start the heater, so I have to temporarily turn on another faucet.


What do you expect and need the appliance to do for you? Is it worth the eventual cost? The monetary cost might include a bigger inverter, more batteries, and more panels. Maybe you will have to run your generator to power the appliance. This means fuel, maintenance, pollution, and noise.

Info Plaques

On every electricity-using appliance there is an info plaque that you will need to decipher. Bob-O trained me to find and read it before buying any appliance, large or small. The info plaque can be found on the edge of the open door or on the back or bottom of the appliance. It will tell you the model number, serial number, motor amps, heater amps (if any), and combined total amps. The volts and hertz (Hz) are also listed.

Sunbeam-Oster Company, Inc.

LISTED *Automatic Breadmaker*

 MODEL5811

8C71 5.25 A, 120 V, 60 Hz, AC Only

FOR HOUSEHOLD USE ONLY

Style # BM-100

Formula for Success

You need to multiply amps by volts (usually 120 V) to get watts (see *Back to Basics, HP29*). For example, if a motor draws 8.6 amps at 120 volts, the appliance will draw 1,032 watts (8.6 A x 120 V). You'll have to

determine whether your system will support an appliance for the frequency and duration of intended use.

There is usually an installation manual and owner's manual stuffed between the machine and countertop on under-counter models, or in a plastic bag inside the machine itself. Take some time and leaf through both. This is a good place to find the manufacturer's repair or information access data.

Gas clothes dryers and cookstoves sometimes have a glow bar instead of a pilot light. Some stay on all the time, producing a phantom load in your system. Others come on when you start the appliance. If your cookstove has a glow bar for the oven ignition, you may not be able to use a match to light the stove if your system is down. Sure, RE systems are very reliable, but there are always natural causes such as lightning, floods, etc., that could shut down your power system.

Sales Support

Most salespeople are of two minds when you pre-shop. They may be interested enough in the fact that you live on renewables to try to find the information you need. Or they may write you off as a probable no-sale and leave you to hunt down your own information.

In shopping for a dishwasher, I learned that U.S. manufacturers have many models of each kind of appliance. These change and are discontinued regularly. I explained to one saleswoman that I lived on RE and was researching a purchase. I would not be buying a dishwasher for at least two months. She said that the models on display might not be available then. Two of the models on the floor had notices that they had been discontinued, and the floor models were the last of that line. That makes me wonder about parts availability.

All Things Considered

Here are some things to consider when shopping for an appliance:

- Quietness: amount of insulation, proximity to the living area, and sound level when running.
- Water: amount used per cycle, and psi needed to run properly.
- Propane: parts needed to change to the type of gas available.
- Glow bars: is there one, how much power does it draw, and is it on continuously?
- Dimensions: will it fit where you want it?
- Power use: inverter or generator, how much for each cycle, and estimated average usage.

- Cost vs. convenience: the convenience must equal or better the whole cost.
- Installation instructions: are they easy to read, with lots of pictures and diagrams (my favorite kind)?
- Materials: do the materials and manufacture of the appliance appear to be of good quality?
- Warranty: how long, for what, where is the repair center, and what is the process for obtaining warranty repairs?

Make a checklist of the features you want, and write down any concerns you have about the appliance you are shopping for. Take it with you to shop, and fill in the blanks. Gather all the data you can on many different models. Take your time—don't hurry into a purchase. I find it comforting to be able to compare things on paper away from the store and salespeople. Listen to the salespeople, and then get a second opinion.

Your local RE professional is an excellent source of information. They hear from their customers about what works and what doesn't. If they live on RE, they have the benefit of personal experience. A caveat though: dealers can get locked on certain brands. It's like Ford guys and Chevy guys. If a certain brand has worked for them with no problems, they swear by it, not at it. This is not surprising, since they have to stand behind the products they sell.

ACE³

The American Council for an Energy-Efficient Economy (ACE³) has a really great Web site, with lots of information. It includes sections on top rated appliances, and information on their *Consumer Guide to Home Energy Savings*.

This excellent Web site and the appliance guide are great tools in your search for the best appliance for your RE home. Add to that the expertise of your local RE dealer, and your research from local appliance stores. Do your homework, and you'll be able to find quality appliances that will work in your RE home for a long time.

Access

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