What Size of Portable Electric Generator for Home Do I Need?

Choosing the right size of generator for home is crucial, especially when preparing for unexpected power outages or embracing off-grid living. The ideal generator ensures you have the power you need without overspending on excess capacity or falling short when it matters most.

Jackery, a trusted name in portable power, offers a variety of solutions tailored to different needs—whether you're looking to power essential home appliances or support your entire household during an emergency. In this guide, we'll help you determine the perfect generator size for your specific home use.

Understanding Power Needs

The first step towards purchasing an electric generator for home is calculating the power you require. This step is crucial as, without a number in mind, you might select a generator that’s either too small or too large for your needs.

Daily Household Power Requirements

Start by making a list of the essential devices that you need power for in all situations. These devices include your refrigerator, lights, and any medical devices you use. Double-check the list and add any devices you feel are necessary to keep on during a power outage. Next, check the wattage required to power each item on the list. You can find this information on the device or the packaging/ manual. Add the watts, and you will get a basic idea of your power requirement.

Let’s take an example to understand this better.

- Your fridge requires 800 watts
- Your internet devices use 100 watts
- Lights consume 200 watts

You need 1,100 watts of power to keep these devices on. Check the wattage of the devices you own and add them up. You will get a baseline that you can use to select a household backup generator.

Do note that you must consider any other devices you want to power in case of an extended outage. These devices might include your heating or cooling systems, TV, or microwave. Add these to your calculation so you always have adequate power backup.

Moreover, you must also understand that your power needs fluctuate depending on the number of devices you use and the time of the day. For instance, you might only use the heating system, fridge, and a couple of lights at night. In the evening, you might watch the TV with the lights on. Therefore, you must account for these variations in your usage and select a generator that can meet your peak demand.

Peak vs. Running Wattage

Understanding the difference between peak and running wattage is essential when determining your power requirements. It would help if you chose a portable electric generator for home use that can effectively cater to peak and running wattage. Peak wattage refers to the initial surge of power any appliance requires to turn on. Once the power is on, the energy necessary reduces, which is the running wattage. For example, your fridge might run efficiently on 800 watts but might require 1,000 watts or more to start.

This is why you must calculate the peak wattage of the essential devices you always want to keep. If you do not consider the peak wattage, your backup generator for home might overload and malfunction or even stop working altogether. Not to mention, this overload can damage the appliances as well.

Therefore, you must calculate the cumulative peak wattage as well. If you want to power up multiple devices simultaneously, your electric generator for home must have the capacity for that.

Example Calculation

Here is a detailed example to help you understand your wattage requirements when selecting a portable electric generator for home use. Let’s assume you require your generator to power the following devices:

- TV: 600 peak watts, 400 running watts
- Internet Devices: 150 peak watts, 100 running watts
- Lights: 250 peak watts, 200 running watts
- Refrigerator: 1,200 peak watts, 800 running watts

Adding up these numbers gives us a peak wattage of 2,200 watts and a running wattage of 1,500. In other words, you require an electric generator for a home with a capacity of at least 2,200 watts. The needed capacity will increase for each appliance or device you want to keep on during a power outage.

As you can see, understanding peak and running wattage can prove crucial for choosing the right electric generator for a home that meets your requirements.

Types of Portable Generators

You will come across various options when searching for a portable emergency generator for home. Here, we will provide a basic idea of the different types of portable generators available today.

Small Portable Generators (100W-500W)

For light-duty tasks like charging devices or powering small appliances, a small generator with a capacity between 100W and 500W is perfect for short-term power needs. These generators are ideal for camping trips or brief outages when you need just enough power to keep essential devices running.

Key Product: Jackery Solar Generator 500

- **Capacity**: 518Wh, perfect for charging phones, laptops, and running small lights or appliances.
- **Weight**: 13.3 lbs, highly portable and easy to carry during outdoor adventures.

- **Ports**: Features an AC output (500W, 1000W peak), 3 USB-A ports, and a carport—ensuring you can charge multiple devices simultaneously.
- **Charging Time**: Recharge via an AC adapter or car adapter, both taking about 7.5 hours, making it reliable for overnight charging.
- **Use Case**: Great for short-term outages or camping trips where you need power for phones, laptops, and small lights.

Medium Portable Generators (500W-1000W)

When you need to run multiple small appliances, like a TV, microwave, or fridge, a medium portable generator with 500W to 1000W capacity is the sweet spot. It provides enough power to help you stay connected and keep essential household items running during longer outages.

Key Product: Jackery Solar Generator 1000 v2

- **Capacity**: 1070Wh, ideal for powering medium-sized appliances like TVs, microwaves, and small fridges.
- **Weight**: 23.8 lbs—still portable enough to move around the house or for outdoor use.
- **Ports**: Includes 2 AC outlets (1500W rated, 3000W peak), USB-C, USB-A, and carports to handle multiple devices

simultaneously.
- **Cycle Life**: Lasts for 4000 cycles to 70%+ capacity, ensuring long-term reliability.
- **Use Case**: Ideal for longer power outages where you need to keep the TV, fridge, and essential devices powered. Perfect for off-grid living or outdoor adventures where multiple devices are used.

Large Portable Generators (1000W and above)

If you're facing extended power outages or living off-grid, large generators with 1000W+ capacity can handle your home's critical appliances. These generators are perfect for powering large systems like heating/cooling units, washing machines, or refrigerators.

Key Product: Jackery Solar Generator 2000 Pro

- **Capacity**: 2160Wh, making it capable of running heavy-duty appliances like fridges, washing machines, or your home's heating/cooling system.
- **Weight**: 43 lbs, a bit heavier but still portable considering its capacity.
- **Ports**: Dual AC outlets (2200W rated, 4400W peak), USB-C, USB-A, and carports for versatile connectivity.
- **Fast Charging**: Can be fully recharged via an AC adapter in just 2 hours, minimizing downtime during extended outages.
- **Use Case**: Best suited for powering large appliances in off-grid living or during prolonged outages. With solar compatibility, it's an eco-friendly choice for sustainable living.

How to Determine the Right Size for Your Needs

As explained earlier, determining your power requirements can enable you to pick the right generator. The generator size you choose depends on your peak and running wattage requirements. A small or medium generator is ideal if you need emergency backup power for only a handful of devices. However, if you live in a place with regular, extended outages, you must invest in a large generator. The generator will keep you covered and provide a reliable backup solution.

One more thing to consider is your future requirements. If you anticipate buying more devices or equipment for your home, you might need a generator with greater capacity. Consider the additional wattage so you don’t have to replace your generator.

Additional Factors to Consider

When selecting an electric generator for home, you must also consider some additional factors. These include:

- **Portability:** You need to consider the space available when purchasing a generator. You must find a portable generator with the requisite power capacity to meet your requirements. Small and medium generators are more accessible to store than large generators.
- **Solar Compatibility:** Jackery offers a range of generators with solar compatibility. You do not have to rely on traditional energy sources to power your home or live off-grid. If you want backup power while remaining environmentally conscious, invest in a generator with solar compatibility.
- **Charging Time and Battery Life:** You must consider the charging time the generator’s battery requires. You

don’t want to remain stranded without power because the battery takes too long to charge. You must also factor in the battery life when selecting a generator. For instance, the Jackery Solar Generator 2000 Pro has an extended battery capacity, enabling it to power your home for a long time.

- **Cost:** You must also consider the home generator cost so that you do not have to blow your budget. You will bear additional expenses, including home generator installation, so you should budget accordingly.

Conclusion

There, you have an overview of the factors you must consider when purchasing an electric generator for home. You must factor in the size of the generator and the other factors we covered in some detail. Follow this article as a guide, and you can choose a generator that meets your requirements and powers your home efficiently. Jackery offers a range of portable power station UK to cater to varying requirements. Whether you are opting for off-grid living or looking for a backup for a short outage, Jackery offers the right generator for your needs.