

What Size Generator Do I Need To Run A Refrigerator

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What Size Generator Do I Need To Run A Refrigerator - Running the most crucial equipment, including refrigerators and freezers, is crucial during crises and blackouts to keep food fresh and usable until the blackout is over. A powerful enough generator may power not just refrigerators and freezers but also other household equipment like lights, televisions, phones, and similar items, making it easier for people to survive the catastrophe. But what size generator would be sufficient?

On Linquips website, you can find a wealth of information about generators that will help you make an informed decision. In order to help you perform your duties more efficiently, we offer you access to the best generators available. On Linquips [Generator: Working Principles, Function & Diagram](#) page, we explain what Linquip has to offer based on its intended application.

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Refrigerator and Freezer Power Requirements

The amount of electricity needed to operate a refrigerator or freezer varies on its size and age; newer, energy-star compliant devices use less power than older ones. For instance, a contemporary refrigerator/freezer usually needs the following:

- **Big residential refrigerator:** 200 to 400 operating watts, 1000 to 1200 starting watts,
- **The typical household refrigerator:** 100 and 250 operating watts and 700 to 1000 starting watts.
- **Small home refrigerator:** 75 to 150 beginning watts and 400 to 600 operating watts
- **Small refrigerators for homes and RVs:** 40-50 operating watts, 80-120 starting watts.

On the other hand, older energy star non-compliant appliances need up to 700-1000 operating watts and 2000-3000 starting watts.

Note: If You own an older refrigerator (with or without a freezer), think about replacing it with a new, much more energy-efficient device even if You dont experience problems with the mains electricity, blackouts, or crises.

Check the documentation or label on your refrigerator, which is frequently located on the back of the appliance, to determine the precise power needs of the appliance (or on the doors, or similar places).



What size generator is appropriate to run a refrigerator (Reference: electrogardentools.com)

Running vs Starting Power

Electric motors included in appliances and gadgets like refrigerators, freezers, washing machines, drills, fans, and similar ones have substantially higher starting power requirements.

Such a power surge can be powerful enough to overload the generator, causing its safety system to disconnect the generator from the external load, effectively turning off the refrigerator and other loads, if present. For instance, if an average energy star-compliant home refrigerator and freezer requires 250 watts continuously, it requires at least 1000-1200 starting watts.

This may be prevented by utilizing a large enough power generator and connecting the external loads in a certain order, with refrigerators and other loads with electric motors connected first, followed by other loads like TV, lighting, multimedia, communication devices, and the like.

Make a list of the essential household appliances and other loads that must run during the blackouts before purchasing a suitable generator; for safety, always choose a slightly stronger generator.

The most suitable equipment for most households is tiny closed-frame silent power inverter generators with output powers between 2000 and 4000 Watts.

Various Types of Generators

There are several generator kinds that can run freezers and refrigerators as well as other home appliances; just be sure to turn on any electric-powered appliances first.

Power Generators

Power generators must be operated outdoors, away from the house, and down the wind, because they burn fossil fuels and release harmful fumes that contain Carbon Monoxide (CO). Before using any power generator, be sure to read its Owners Guide carefully, paying special attention to the features, concerns, and procedures pertaining to safety.

Gasoline (gas), LPG (Liquid Propane Gas), natural gas, diesel, or a mixture of two or more fuels can all be used as power-generating fuel.

When an emergency arises, when gas is typically the first fuel to run out, having a dual-fuel or tri-fuel power generator gives the operator additional choice in locating adequate fuel for the generator.

However, the user just has to fill the gas tank or attach a fresh propane bottle for the power generator to function once the fuel tank or propane bottle is empty.



A power generator (Reference: shopdelta.eu)

Solar Generators

Solar generators, sometimes referred to as Electricity Stations, transform the DC power stored in batteries into AC power to provide external loads.

Solar generators, unlike electricity generators, may be used safely indoors because they don't produce any fumes or gasses. Additionally, when running, solar generators are quite silent.

When the batteries need to be recharged, they may be done so with the help of a power generator, solar panels, or mains electricity.

Many modern solar generator models feature so-called pass-through charging, which enables the generator to recharge at the same time as powering external loads, such as solar panels.

Solar and conventional generators both have advantages and disadvantages, but having both may often greatly reduce the severity of crises when the electricity is off for an extended length of time.

In an emergency, big Uninterruptible Power Supply (UPS) units may also be used to power refrigerators and freezers; in this regard, they are comparable to solar generators/power stations, except that UPSs are larger machines that automatically switch from the mains power to the battery as needed.

The distinction between UPS devices and solar generators/power stations is also becoming hazier since certain solar generators/power stations may double as compact, portable UPS systems.



A solar generator (Reference: popularmechanics.com)

Asking These Questions Before Buying A Generator For A Refrigerator

You should respond to the following queries first to obtain a better sense of what size and kind of generator to use to power your refrigerator.

- Do you have an old or modern refrigerator? Modern refrigerators use less energy than older types. Additionally, when an electric item ages, its power usage may steadily increase.
- How much space does your refrigerator have overall? A smaller refrigerator will need less energy to function effectively. On the other hand, if your fridge is stocked with food and goods, it will use more energy.
- Is there a freezer inside? Compared to a refrigerator, a refrigerator with a freezer will need more energy to operate.
- Does it have a maker and dispenser for ice? Any additional features and functionalities that your refrigerator offers often cost more in terms of energy usage.
- Do your refrigerators smart control panel and many sensors come standard? If the response is affirmative, you must get an inverter generator since standard portable generators have substantial total harmonic distortion, which harms the microprocessors in your device.
- How many amps are required by your refrigerator? Each generator typically has a variety of outputs and may deliver either 15 or 20 amps.
- Will you be using additional appliances at the same time? Initially, individuals merely purchase generators to power their refrigerators in order to prevent food from spoiling. They are unaware that they would also need to power other appliances at the same time, which is a must. For this reason, we advise adding an extra 20-30% larger power supply to your calculations. However, if you are certain that you will just need to power a refrigerator, you may get a generator with a total starting wattage of +10% to be safe.

As you can see, selecting the ideal generator to power a fridge involves a lot of considerations.

Powering Your Refrigerator: Some Words Of Caution And Efficiency

Consider the following factors if you intend to run your refrigerator on a generator:

- Looking at the nameplate or consulting the instruction manual will allow you to determine the exact amount of watts the refrigerator requires to operate. If you simply have access to the voltage and amperage, you may calculate the watts by multiplying the voltage by the amperage (voltage x ampere = watts).
- To start, refrigerators frequently require an extra boost of power. Using this, the compressor motor is started. To obtain this amount, multiply the typical running wattage by 1.5.

- Your power supply should have few interruptions. Don't let the fridge stand around for too long while changing sources. Using a regular battery converter to operate the refrigerator off of a car battery while you replenish your generator is one method to get around this. Simply avoiding letting your gasoline completely run out is another piece of advice.
- Make sure there are enough electrical outlets in the unit to accommodate your refrigerator and any other equipment you may have plugged in.
- Check your use frequently throughout the day.
- Before switching the power supply, give the generator some time to start up.
- Make sure the generator is set up on a level surface.
- Maintain a distance of up to 10 feet between your generator and any nearby structures and canopies.
- Invest in an enclosure for your generator to keep it protected from danger, dry, and less unsightly.
- Keep in mind that inverter generators are both quieter and more energy-efficient while just operating a few items.
- Never fill up a running generator! Additionally, you must wait until it has cooled down before refueling it.

Additionally, read your generators instruction manual every time you use it and heed all safety advice included within.

Can A Generator Cause Harm To A Refrigerator?

The generator, refrigerator, and freezer might all sustain damage if a generator experiences overloading when connected to a refrigerator. There are several possible scenarios in which this may occur.

The combined power consumption of other appliances connected to the generator, as well as the refrigerator, may be too much for the generator to handle, which could cause damage to both appliances and the generator.

In other instances, a refrigerator could sustain harm from having a wattage that is too high for the generator.

In order to maintain the proper temperature when a refrigerator is operating, its compressor must often turn on and off. If the generator is unable to handle these occurrences, a problem may arise.

When selecting a generator for a fridge, factors other than only power output should be taken into account. Consider if the generator can harm the refrigerator, for instance, given the type of energy it produces.

No, although there are certain restrictions.

A normal diesel or gasoline generator should work just fine when powering a conventional refrigerator. However, you should think about utilizing an inverter generator if you're trying to power a smart fridge with programmable components.

When they provide AC power, they offer a sine wave that is smoother and cleaner, which is more suited for microcontrollers.

You run the risk of destroying the computer circuitry that manages things like timers and smart home integrations if you utilize the block wave that can be produced by a standard generator.

Conclusion

Choose a powerful enough electricity generator or a solar generator if you need a generator to run your refrigerator and freezer during blackouts.

And to avoid overloading the generators, always start appliances with electric motors (such as refrigerators, washing machines, fans, and air conditioners) before connecting and turning on the units. If the generators are overloaded, their safety systems disconnect external loads, effectively turning them off.

Please take note that power generators should only ever be used outside, a certain distance from homes. However, if in doubt, always read the documentation! Solar generators may be used indoors!

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