

Proper sizing of the generator inevitably saves you money on fuel consumption and rental fees.

Over sizing Generators:

Generators can be intimidating. Knowing how to properly size the correct generator for your job can be tricky. When a generator is the right size for a job, it performs better. The optimum power to pull from a generator is 70 to 90% of the machine's rated capacity. This range provides efficiency and leaves some flexibility if your job should require more power. When less than 50% of the rated capacity is pulled from the generator, the generator has been over sized. This can lead to several problems. It can cause the machine to, what we call wet stack from the decrease in diesel engine performance. If the engine wet stacks, it is not able to produce the horsepower it was designed to provide. If the engine cannot produce the necessary horsepower, the generator will not be able to supply power up to the full rated capacity of the machine. This could result in the generator having to be removed from the job and replaced, which results in down time on your job.

Under sizing Generators:

It is also important not to undersize the generators. Generators are undersized when the power requirements of a job are greater than the rated capacity of the machine. When undersized the generator will shut down or trip the circuit breaker. If it pulls too much horsepower from the engine to the point where the engine speed slows, the voltage and frequency output may become unstable, which can damage the equipment you have connected to the generator.

Things to know when sizing and placing your generator:

- **What type of application and loads will the generator power?**
- **Will the generator be used to start a motor?** Knowing the horsepower of your motor and the motor-starting kilo-volt-amperes (KVA) is significant information.
- **What are the voltage and amperage requirements of your job?** Mobile generators are typically multiple- voltage machines. They can be set up to run 480 volts or 208 volts three phase or 240/120 volts single phase.
- **What is the layout of your job?** This helps us to properly place your generator and avoid excessive cable length. When power cables are too long or not the correct gauge, voltage is reduced at the end of the cable and from 5 to 10% over the length of the cable. The rule of thumb is to keep the cable length as short as possible and to use the correct gauge to meet the requirements of your job application. Just because the generator says its producing 480 volts doesn't mean that 480 volts made it all the way to the end of the cable. **In addition, excess cable can cause safety hazards, when routed through your job site.** Equipment and people can get caught on excessive cabling.
- **What is the run time on your job site for the generator?** You can save money by having us install a timer to start and stop the machine during and after you work schedule, again saving you money on fuel coast and rental fees.

In closing, many rental companies will rent you whatever size generator you may ask for without asking you these important questions. The result is over or under sizing the generator for your job, which could end up costing you more than it should for rental fees and fuel. Since Temp-Power specializes in Generators will make sure we provide you with an optimally sized Generator, because we understand your application and the loads each generator can handle.