

How to select and size back up power diesel generator?

Buying your first power generator might not be an easy task.

The most important thing to determine when choosing power backup for your home or business is how much electricity you will need in an emergency. There is only three basic requirement allowing correctly select generator size: **Continuous** (running) watts, **peak** (startup) power and **surge** capabilities.

Many guidelines have appeared recently over internet with selective information referring either to your device name plates or specification aiming where you can find and add up wattage in order to achieve your maximum wattage consumption. This method is false and definitely misleading for first time generator buyer which will end up overseeing generator for most home appliance or under capacities for all appliances, tools or machine using engine or compressors.

The best ways to find a running load is to measure it with simple 'amp meter' or power oscilloscope, but this may require an electrician to determine accurate running load.

Fridges, compressor and electric engines require a large amount of current to start up called Locked Rotor Amps (LRA). Current of motor will drop when motor will accelerate to 80% of their speed full speed.

The real motor power in most types is wave below a starting current which may exceed starting current of not correct sized up generator.

Hence calculating your rating of your power system for starting requirements it must be considered not only KW but most important current surge capabilities.

Most of new appliance on the market will have LRA on their name plate, but if LRA is not available, help form qualified electrician or Typical appliances Power flowchart from ourwebsite or other generator suppliers should be consider to help access and select generator.

How do you convert KVA to Amps for a three phases and single phase in Australia?

K=1000, so KVA simply means thousands of volts times amps
use 1.0 as your PF (power Factor) Power factor is only important if you convert kVA to kilowatts

Example: single phase diesel generator 240V:

Let say we have 6KVA generator, 240V single-phase.

$$6 \times 1000 = 6000 \text{ VA}$$

$$6000 / 240 = 25\text{A}$$

Example: 3 phase diesel generator 415V:

Let say have 10kVA generator with voltage 415V

$$10\text{kVA} \times 1000 / 415\text{v} \times 1.73 = 41.68\text{amp} \text{ -3 phase}$$

More info on our website: <http://www.powercare.com.au/faq.html>