Which Generator Should I Order?

Working out what you need

- **Wattage** – determine exactly how much power you'll require for the items you wish to run.
- **Domestic or professional** – some generators are designed specifically for hobbyists and leisure use, others are perfect for workshops and commercial use.
- **Equipment** – do you want to run sensitive equipment such as computers or televisions straight from your generator? You may need an inverter generator for sensitive electronics.
- **Petrol Generators** – usually come in 1 to 10 kVA models and are available as great value domestic use models as well as professional models design for high usage. Available in 110 and 230V sockets, you would also need a fly lead for use with a standard 3 pin plug.
- **Diesel generators** – tend to be larger and are more expensive than petrol generators. However, they offer better fuel economy and longer run times. Large capacity diesel generators (10kVA+) are available.

• Your total required wattage

Generators are rated to run at a certain wattage. The first thing you must consider is what wattage you need your generator to produce to power the equipment you wish to run. Regardless of whether you're going to be running camping equipment or a whole construction site, this is a vital step in the buying process – otherwise you might end up with a generator that isn't fit for purpose.

1. You can find the **individual wattages** of an item on the equipment itself, in the user manual, on a manufacturer's website, or by contacting the manufacturer by phone.
2. What items do you want to **run together**? For example, if you want to run a slow cooker and a fan at the same time, you need the combined wattage of the equipment. If you'll only ever run each item independently, then you just need to worry about the item with the highest wattage.
3. Do the items have a **starting wattage**? Any piece of equipment with an induction motor will have a starting wattage, and therefore a higher wattage requirement. This includes chop saws, air compressors, vacuum cleaners, pressure washers, and freezers - anything with a motor in it. Simply **multiply the items wattage by three** to find it's starting wattage.
4. Give yourself some **headroom**. Just because your car can go 120 miles an hour, it doesn't mean that it's suitable to drive at the maximum all the time. Your generator will be very much the same; a 4200W generator shouldn't be used to power 4200 watts worth of equipment. Give yourself **at least** 20% head room.
   So your final required wattage is:

   All the individual equipment wattages for the items you wish to run together (x 3 if the item has an induction motor), + 20% head room = minimum wattage generator you require

   For example, to run a 250W slow cooker with a 650W hand drill the maths is:
   650W (drill) x 3 (starting wattage) = 1950W

   1950W (drill total) + 250W (slow cooker) = 2200W

   2200W + 20% = ***2640W total required watts required***

Typical Power Ratings

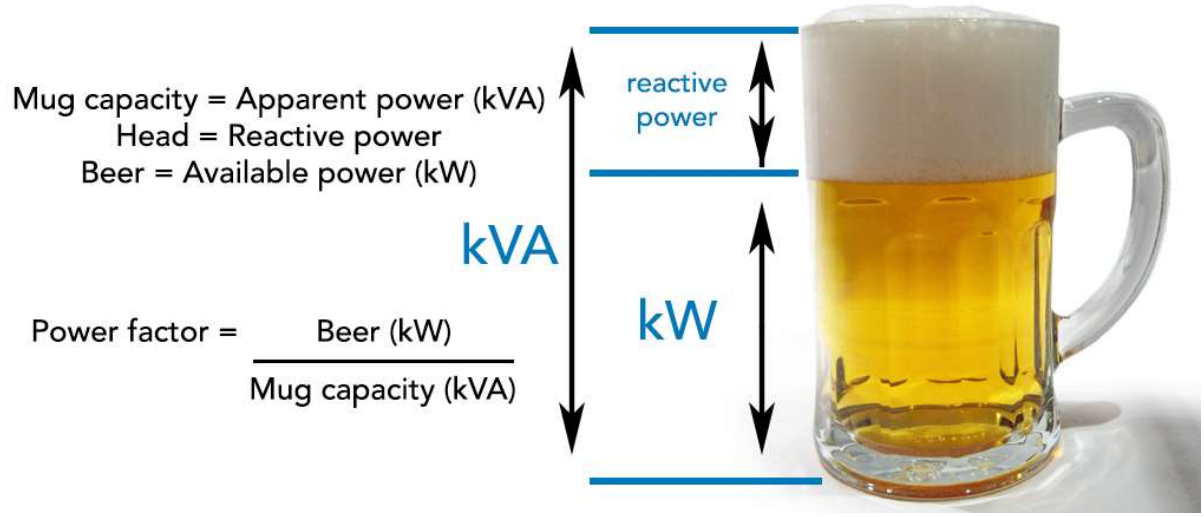
This is an approximate guide only. Wattages can vary massively, so it's always worth looking up your specific piece of equipment.

Electrical Equipment	Approximate Wattage	Electrical Equipment	Approximate Wattage
Air con 1hp	2500*	Iron	1000
Angle grinder 125mm	1100*	Iron (steam)	2200
Angle grinder 230mm	2200*	Jigsaw	600*
Belt sander	1100*	Kettle	2500 - 3000
Cement mixer (small)	1500*	Lawn mower	600 - 1200*
Central heating pump	800	Lawn raker	500
Chain saw	1600*	Light bulb-domestic	25 - 100
Concreate poker	2500*	Microwave 900W	1500
Cooker	12,000 (minimum)*	Orbital sander	500*
Computer and VDU	700	Planer	1000*
Coffee machine	1300	Power drill	500 - 900*
Dehumidifier	3000*	Power float	1500
Deep freeze	1500*	Photocopier	1600
Demolition breaker	2400*	Pressure washer	3000 - 6000*
Dish Washer	2000 - 3000*	Printer	400
Fan heater 2 bar	2000*	Radiator (oil filled)	1000 -2000
Fax Machine	600	Router	1600 - 9000*
Flood light TH	500	Saw (chain)	1500*
Flood light MH	1000	Saw (masonry)	4000*
Fluorescent tube	60	Saw (mitre)	1600*
Floor sander (200mm)	2000*	SAT TV receiver	25
Food mixer	500*	Strimmer	500*
Fridge	700 - 1000*	Television	200
Hair dryer	1500 -2300*	Toaster	1050 - 1500
Hair straightners	150	Treadmill (domestic)	2300*
Hammer drill	1000*	Tumble dryer	2500*
Hedge trimmer	600*	Vacuum Cleaner	1000 - 1300*
Hi-fi	300	Washing Machine	4000*
Hot air gun	3000	Water heater	3000
Electrical Equipment	**Running Watts**	**Starting Watts**	
0.25 HP motor	250	800	
0.50 HP motor	500	1600	
0.75 HP motor	750	2300	
1.00 HP motor	1000	3000	
1.50 HP motor	1500	4500	
2.00 HP motor	2000	6000	

*These items will normally have a **starting wattage** so remember to multiply the wattage by 3.

kVA, kW and Watts:

Now we know the total watts required to run our equipment, we need to match it up with a generator.



Generators are often listed in kVA (kilo-volt-amps) or kW (kilo-watts). These are both measurements of power, just in slightly different formats.

- To convert **Watts (W) to KiloWatts (kW)** divide by 1000 - Eg. 1000W = 1kW

- To convert **KiloWatts (kW) to Kilo-volt-amps (kVA)** divide by 0.8 – Eg. 1000W = 1kW = 1.25kVA

Kranzle Model	Running Watts
7/122	1600
10/122	2500
1152TS/TST	2800
2160TS/TST & Profi 160TST	3200
Q11/140TS/TST & Q599TST	3300
CA11/130 – C11/130	3400
715 & 635-1	3400