

Application Chart for Determining Electrical Load for Generator

Remember 1 kW = 1000 watts 2 kW = 2000 watts and so on

The formula for finding wattage is: Volts x Amps = Watts

Example: an appliance nameplate states 3 amps at 120 volts. 3 amps x 120 volts = 360 watts

Typical Electrical Appliance Wattage's

Application / Equipment	Running/Rated Watts	Starting/Surge Watts
Light Bulb (100w)	100	100
Radio AM/FM	50-200	50-200
Radio, CB	50	50
Fan	200	600
Television	300-400	300-400
Microwave Oven	700	1000
Air Conditioner (12,000 BTU)	3250	5000
Furnace Fan (1/3 hp blower motor)	600	1800
Vacuum cleaner	600	750
Sump pump (1/3 hp)	700	2100
Refrigerator/freezer	800	2400
Deep Freezer	500	1500
Circular saw	1000-2500	2300-4600

Circular saw 6"	800	1000
Floodlight	1000	1000
Drill 1/2" Electric	1000	1250
Toaster	1200	1200
Coffee maker	1200	1200
Skillet	1200	1200
Chain saw 14" Electric	1200	1500
Water well pump (1/2 hp)	1000	3000
Hot plate/range (per burner)	1500	1500
Table saw 10"	2000	6000
Water heater (storage type)	5000	5000
12V DC Battery Charger	120	120

Electric Motor Wattage Usage

Electric motors present a special problem. They require up to three times their rated wattage to start.

Example: an electric motor name plate states 5 amps at 120 volts, 5 amps x 120 volts = 600 watts.

Multiply this by 3. This will show the starting watts needed. 600 watts x 3 = 1800 watts to start.

Some motor name plates will show starting watts higher in some case 9 times higher, check the name plate.

Motor HP Rating	Approximate Running Watts	Universal Motors (small appliances)	Repulsion Induction Motors	Capacitor Motors	Split Phase Motor
		Approximate Starting Watts *			
1/8	275	400	600	850	1200
1/4	400	500	850	1050	1700
1/3	450	600	975	1350	1950

1/2	600	750	1300	1800	2600
3/4	850	1000	1900	2600	x
1	1000	1250	2300	3000	x
1-1/2	1600	1750	3200	4200	x
2	2000	2350	3900	5100	x
3	3000	x	5200	6800	x

* - Always use starting watts, not running watts, when figuring correct electrical load
x - Motors of higher horse power are not generally used

Master Distributors

Office Location: 1251 Mound Ave. N.W.

Grand Rapids, MI. 49504

Mailing Address: P.O. Box 141727

Grand Rapids, MI. 49514-1727

Sales: (616) 791-7325

Fax Toll Free: (800) 791-8595

In Business Since 1982



[Click here for fax / mail order form](#)



[Email Questions](#)

[Parts & Accessories available from MASTER PARTS DISTRIBUTORS](#)