

Standby generator systems wattage worksheet



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When selecting a standby generator system, you need to calculate both your running and your starting wattage requirements. Running wattage is the amount of electricity necessary to run your appliances continually. Starting wattage is the additional amount of electricity needed for the 2–3 seconds to start electric motors commonly found in household appliances (such as a furnace fan or a refrigerator). Because appliances rarely start up at the same time, you will need to factor in the appliance with the highest additional starting watts.

Follow these simple steps to estimate your particular wattage requirement:

Step 1 Select the items you wish to power at the same time. Using the table on the opposite side, fill in the running watts and additional starting watt requirements on the “Your Power Needs” worksheet.

Step 2 Add the running watts (the items you wish to power). Enter the total in the “Total running watts” boxes.

Step 3 Select the one individual item with the highest number of additional starting watts. Take this one number, add it to your total running watts, and enter the total in the “Total starting watts” box.

Example		
Tool or appliance	Running watts	Additional starting watts
1. Refrigerator/ freezer	800	1600
2. 1/2 hp furnace fan	800	1300
3. Deep freezer	500	500
4. Television	500	—
5. Lights (6 x 75 watts)	450	—
6.		
7.		
8.		
9.		
10.		

Total running watts =	3050	1600	①
	Highest additional starting watts		
		+	
	Total running watts		
		=	
	Total starting watts		

Your Power Needs		
Tool or appliance	Running watts	Additional starting watts
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Total running watts =		
	Highest additional starting watts	
		+
	Total running watts	
		=
	Total starting watts	

① Highest additional starting watts.

Note: With this example you need a generator that produces at least 3050 total running watts and 4650 total starting watts.



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Frequently asked questions

What if I can't determine the running or the starting watt requirement for a tool or appliance?

If the running watts are not on the tool or appliance, you may estimate using the following equation: Watts = volts x amperes. Only motor-driven items will have an additional starting requirement. The additional starting watts required may be estimated at 1–2x the running watts.

Why is only one additional starting watt item used to calculate your total starting watt requirement?

Unlike running watts, starting watts are only needed during the first few seconds of operation. In most cases, only one item will start or cycle at the same time; therefore, this is the most accurate estimate. The guide at right lists running and starting watts totals separately to help you determine which tool or appliance represents your total wattage requirement.

Wattage Reference Guide

Example		
Tool or appliance	Running watts	Additional starting watts
Home		
Light bulb (75 watt)	75	—
Deep freezer	500	500
Sump pump	800	1200
Refrigerator/freezer	800	1600
Water well pump (1/3 hp)	1000	2000
Heating and Cooling		
Space heater	1800	—
Table fan (14-inch)	200	400
Ceiling fan	800	1200
Furnace fan blower (1/2 hp)	800	1300
Window AC (10,000 BTU)	1200	1800
Window AC (12,000 BTU)	3250	3950
Central AC (10,000 BTU) ❶	1500	4500
Heat pump 4500	4700	—
Kitchen		
Microwave oven (1000 watt)	1000	—
Coffee maker	1500	—
Electric stove (single element)	1500	—
Dishwasher (hot dry)	1500	1500
Family Room		
DVD/CD player	100	—
VCR	100	—
Stereo receiver	450	—
Color television (27-inch)	500	—
Laundry Room		
Iron	1200	—
Washing machine	1150	2250
Clothes dryer	5400	1350

Example		
Tool or appliance	Running watts	Additional starting watts
Office Equipment		
Personal computer (with 17-inch monitor)	800	—
Fax machine	65	—
Laser printer	950	—
Inkjet printer	80	—
Copy machine	1600	—
Other		
Security system	180	—
AM/FM clock radio	100	—
Garage door opener (1/2 hp)	480	520
Hair dryer (1250-watt)	1250	—
Electric water heater (40-gallon)	4000	—
Do-it-Yourself Job Site		
Quartz halogen work light	1000	—
Airless sprayer (1/3 hp)	600	1200
Reciprocating saw	960	—
Electric drill (1/2 hp)	1000	1000
Circular saw (7-1/4-inch)	1500	1500
Miter saw (10-inch)	1800	1800
Planer/jointer (6-inch)	1800	1800
Table/radial arm saw (10-inch)	2000	2000
Air compressor (1-1/2 hp)	2500	2500

❶ Please consult an electrician for your particular central AC requirements.

Note: The above are estimates only. Check your tool or appliance for exact wattage requirements. The wattages listed in our reference guide are based on estimated wattage requirements. For exact wattages, check the data plate or owner's manual on the item you wish to power.

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