

Rental Cooling Guide For Tents & Shelters

Taking you a step closer to cool

Let's get down to business. You've got a hot spot and you need cooling. It's not everyday you need to purchase air conditioning. How do you figure out how much cooling you need? Where do you turn for help?

This cooling load calculator will be your guide to help you determine what kind of cooling you need and how much cooling you need. We outline the questions you need to answer before you make the call to get some extra cooling. Know what you need and you'll be a more knowledgeable prospect, certain to make a more informed buying decision.

Determining Your Cooling Load is a simple three step process.

1

Apply the basic rule of thumb for tent cooling — one ton of cooling, 12,000 BTU, for every 100 s.f. to 150 s.f. This method will give you a cooling range for the size tent you select.

For example: a 60' x 80' tent is 4800 s.f.

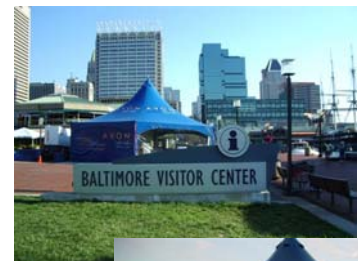
Divide the total s.f. by 150 and you will have the low end:

$$4800 / 150 = 32 \text{ tons.}$$

Divide the total s.f. by 100 and you will have the high end:

$$4800 / 100 = 48 \text{ tons.}$$

For a 60' x 80' tent you will need between 32 and 48 tons of cooling.



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The amount of cooling you select will depend on the event itself. You must consider all heat generating elements when selecting the amount of cooling necessary for a tent or shelter.

Such as:

time of day for event, number of people in the tent, surrounding area (grassy field or asphalt parking lot), activities in the tent (entertainment function or military command center).

			Cooling Solutions Alternatives			
Tent Size	Square Feet	Cooling Load	PAC36	PAC60	PAC96	PAC120
20' x 40'	800	5 - 8 Tons	2 to 3	1	1	N/A
40' x 40'	1600	10 - 16 Tons	3 to 5	2 to 3	2	1 to 2
40' x 60'	2400	16 - 24 Tons	N/A	3 to 5	2 to 3	2 to 3
40' x 80'	3200	21 - 32 Tons	N/A	4 to 5	3 to 4	2 to 4
60' x 80'	4800	32 - 48 Tons	N/A	6 to 10	4 to 5	3 to 5
60' x 100'	6000	40 - 60 Tons	N/A	8 to 12	5 to 8	4 to 6
60' x 120'	7200	48 - 72 Tons	N/A	9 to 14	6 to 9	5 to 7

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When you need to cool computer/telecom equipment or any other heat-generating equipment like lights, cooking equipment, we need to know... how much? The more equipment in the space, the more cooling you will need.

We need to get a quick laundry list of your equipment. Dig out and dust off your user manuals or just take a peek at the equipment name-plate, usually located on the back, near the line-cord. Complete as much information in the table as possible.

Equipment Description	QTY	Watts	Volts (V)	Amps (A)

Clues to BTUs

Rules of thumb for cooling system design

British Thermal Unit (BTU)

The British Thermal Unit (BTU) is a measure of the amount of heat required to raise the temperature of one lb. of water by one degree Fahrenheit. A ton of refrigeration (12,000 BTUs per ton) is the amount of heat required to melt a ton (2000 lbs.) of ice at 32 degrees Fahrenheit.

Comfort Cooling

For comfort cooling, estimate about one ton of cooling (12,000 BTU) for every 400 sf.

Commercial Cooling

A more densely populated, cross-ventilated area requires about one ton of cooling (12,000 BTU) for every 250 sf.

Cooling People

People generate roughly 600 BTUs per person. If you have four people working in a room, you have to account for 2400 BTUs.

Cooling Equipment

Check the BTU output on each piece of equipment. You may find this information in the user's manual. If BTUs aren't listed, check for the wattage or the volts (V) and amps (A) on the equipment name-plate.

Quick Cooling Formula

For each piece of equipment in the room:

Watts x 3.4 = BTU OR (Volts x Amps) x 3.4 = BTU

Add up all the BTU for the equipment and you'll have a good idea of how much cooling is required for the equipment load.

Let AirPac Rents keep you cool

Tell us about your cooling problems. (Reviewing this Cooling Load Calculator Guide is a good starting point!) We'll listen and put over 20 years of air conditioning experience to work for you. We specialize in portable cooling for computer and telecom equipment but we've cooled just about everything from concerts to computer rooms, nuclear reactors to networks.

Call AirPac Rents and your hot spots will be history.