



Cooling Load Calculator

Your guide to cooling your hot spots

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.

1 Describe the area you need to cool.

Type of site:

- Commercial / Office
- Industrial / Warehouse
- Retail
- Hospital / Laboratory
- Other _____

Construction in room:

- Drop Ceiling with lay-in tiles
- Plaster / dry wall ceiling
- Concrete slab
- Other _____

Room location:

- Interior room, no windows or outside walls
- Room with external walls and/or windows
- Other _____

Area to cool:

- Size: _____ sq. ft.
- Power available: _____ VAC
- Amps available: _____

2 Describe the kind of cooling you need.

I need to cool:

- People
- Computer/Telecom Equipment
- Process Equipment
- Other _____

The area I need to cool is:

- Staffed during normal working hours
- Staffed 24/7
- A remote, un-staffed location

My need for cooling is:

- Primary, I have no air conditioning
- Supplemental, the building doesn't provide enough
- Emergency, for back-up if my air conditioning fails
- After-hours, I'm fine until the building cuts back at night and on weekends
- Other _____

3 Need to cool equipment? Tell us more....

When you need to cool computer/telecom equipment or any other heat-generating equipment, we need to know... how much? A 10' x 15' room with 20 servers will require quite a bit more cooling than the same size room with only two servers.

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.

Computer / Telecom Equipment	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 ADAPT 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 15 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 ADAPT and your hot spots will be history.

ADAPT, Incorporated
Your spot cooling specialists
800-243-2665 * www.coolestspot.com