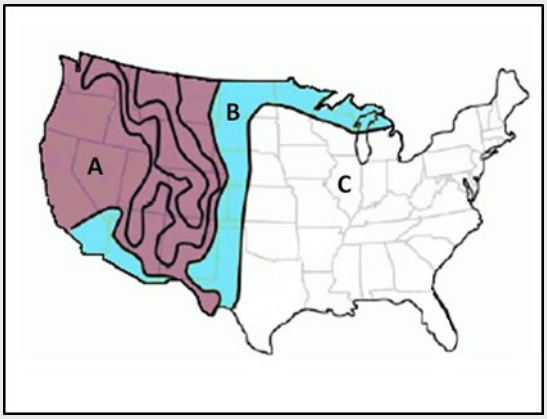
Evaporative Cooler Selection Guide

An evaporative cooler produces effective cooling by combining a natural process - water evaporation - with a simple, reliable air-moving system. Fresh outside air is pulled through moist pads where it is cooled by evaporation and circulated through a house or building by a large blower. As this happens, the temperature of the outside air can be lowered as much as 30 degrees. Evaporative coolers can work wonderfully well, provided the outside air they are drawing in is dry and desert-like. As the humidity increases, however, the ability for them to cool the air effectively decreases.

How to choose the right-sized evaporative cooler

For a swamp cooler to effectively cool, it must be the proper size for the job. A small portable unit, for example, will not adequately cool a large-sized room. While the output of air conditioners are rated in BTUs (British Thermal Units), evaporative coolers are rated by CFMs (the cubic feet per minute of air that the cooler can blow into your home). Whether it is for a single room or a whole house, there is a simple formula for determining the proper size of swamp cooler you need. Figure the cubic feet of space you want to cool, and then divide that number by two. The quotient will give you the CFM rating for the proper-sized swamp cooler.

Example- 1,500 square foot home, with 8 ft. high ceilings:
1,500 x 8 = 12,000
12,000 ÷ 2 = 6,000 CFM



Evaporative cooling for residential use is typically limited to lower humidity areas and works best when the dew point is less than 50°F. Coolers are up to 75% more economical than refrigerated air conditioning, making them an ideal source of cooling in western and southwestern regions of the U.S.

Using the map of the country here, you will see the areas most likely to benefit from the use of an evaporative cooler. The areas marked 'A' will benefit the most, 'B' will have a moderate effect, while those in 'C' will see little to no benefit from the use of a cooler.

The main drawback of evaporative coolers is that they depend on dry outside air to operate effectively. On hot, muggy days in the summer, however, evaporative coolers will blow hot, humid, soggy air into the house. If the humidity stays high for several days, the moist pads that make the evaporative cooler work can begin to smell, and the musty odor can be blown into the house. Evaporative cooling requires water to keep pads wet - a consideration in some areas, especially in drought years. Water consumption can run from three to 15 gallons a day, depending on the size of the cooler and whether or not the water is collected and pumped through the pads more than once. In some areas, discarded water from the unit can be an environmental concern. Evaporative coolers can be hooked up to existing forced air duct systems. Because the air delivered by an evaporative system will be warmer than the air supplied by an air conditioner, however, evaporative coolers need to produce more air flow. That means the duct system may have to be larger to handle the volume of air and to effectively cool the house.

Information sources include California Energy Commission, WW Grainger

If you are still having difficulty choosing an Evaporative Cooler, please contact us at askzoro@zoro.com or 855-289-9676

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