

How An Evaporative Air Cooler Or Swamp Cooler Works

A portable evaporative air cooler, or swamp cooler, is a great alternative for inexpensive cooling. These are both less expensive to purchase and less expensive to run than a portable air conditioner. Also, the mechanism is much less complex than an air conditioner, so it will require less maintenance and upkeep.

An evaporative air cooler operates on the principle of an endothermic reaction. An endothermic reaction is a process that absorbs energy in the form of heat. The evaporative air cooler passes air through a wet media (wick). As the air passes through the water in the wick evaporates and the reaction causes heat in the air to be absorbed.

This may not be so simple to understand, but the process is one that we experience every time we sweat. On a hot day sweat evaporates off of your skin causing the same endothermic reaction as an evaporative air cooler does. Another example is getting out of a swimming pool on a breezy and hot day. Even though the temperature may be over one hundred degrees, the water rapidly evaporating off of your body may make you feel chilled or cold. A traditional air conditioner uses a liquid like Freon to absorb the heat. It then dumps the heat outside of the area being cooled through venting. An evaporative air cooler instead cools the air by using the endothermic reaction described.

Evaporative air coolers are better suited for dry climates. More water can be evaporated in dry air than in humid air, making these much more effective when humidity is low. Also, unlike when using a traditional air conditioner, the area being cooled should not be sealed up. The area should be ventilated so the humid air produced by the cooler can be carried away and replaced by drier air.

Since the unit consumes water, a sufficient water tank size should be considered. The rate at which an evaporative air cooler consumes water is around half a liter an hour depending on the humidity level, so a six to ten liter tank is recommended. An evaporative air cooler should have an air flow of at least 500 cubic meters per hour. Brands, such as the [SPT evaporative air cooler](#) cooler may offer other features such as an ionizer or ice packs. These additional features add some cost, but prices for a portable evaporative air cooler is always lower than an equivalent portable air conditioner. Plus, they are cheaper to run and maintain.

About the Author

Jack Webster writes informative articles for www.betterhealthinnovations.com More information about [Sunpentown evaporative air cooler](#)

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