

How do Evaporative Coolers Work?

Evaporative air coolers use evaporation to cool the air. In an evaporative cooler a water pump circulates water from the tank (reservoir) on to the cooling pads, which in turn becomes very wet. A fan draws air from the outside of the unit through the damped cooling pads, as it passes through the pad the air is cooled by evaporation.

The temperature of dry air can be dropped significantly through the phase transition of liquid water to water vapor (evaporation), which can cool air using much less energy than refrigeration systems.

Evaporation: the phase transition of liquid water to water vapor

Operating Principle

