

In keeping with the growing innovation taking place in air cooling technology, manufacturers are going all out to build products that utilize less resources and provide more output, while maintaining environmental stability. In a recent development, tech giant Facebook has taken its data centers to a whole new level by adopting evaporative air cooling technology to power these facilities. This move is anticipated to make the data centers more energy and water efficient – giving a whole new meaning to the phrase ‘environmentally friendly’. These data centers powered by evaporative air coolers are anticipated to reduce the usage of water by over 20% in areas with a hot and humid climate; and close to 90% in areas with cooler climates.

The use of evaporative air cooling technology to power data centers facilitates the use of these units along with other systems such as air handlers, fan-coil walls, in-row coolers, chip cooling, and rear-door heat exchangers. The main advantage of using evaporative air coolers in data centers is that this will enable companies to build their data centers more efficiently in regions with a predominantly hot and humid climate. Besides protecting the premises and internal servers from aggressive environmental factors, evaporative air coolers will eliminate the necessity of deploying mechanical cooling in regions with diverse climate conditions. This technology will also enhance data center design flexibility by enabling the air coolers to take up less space and thereby ensure more cooling.

Manufacturers Utilizing Innovative Raw Materials to Build Evaporative Air Coolers

Innovation is taking the air cooling sector by storm and besides technology, manufacturers are also moving towards innovative raw materials for building evaporative air coolers. For instance, one of the newest types of evaporative air coolers recently introduced in the market is made of conical tubes of clay installed in a honeycomb design to add to the artistic effect. These clay tubes reduce the ambient temperature and are an energy efficient, low-tech, and aesthetic solution that incorporates evaporative cooling. The size and shape of these evaporative air coolers manufactured with terra-cotta conical tubes has been determined using advanced computational analytic models and latest techniques in calibration. This innovation can potentially redefine the air cooling technology landscape and augment a building’s energy efficiency levels.

Another innovation being witnessed in the air coolers market is the use of structures designed in cloud shapes that use evaporative air cooling to cool the temperature in areas where these are installed. These cloud evaporative air coolers are a low-energy alternate option to traditional air conditioners. Evaporation of water could possibly become the largest renewable energy source in the future, elevating the demand for evaporative air coolers across diverse applications and end use industries.

Adverse Climatic Conditions and Emergence of Cheap Alternatives to Threaten Evaporative Air Cooler Market Growth

Evaporative air coolers are the most efficient in areas with a hot and dry climate and are best suited for use during hot summers in tropical and sub-tropical regions. However, evaporative cooling technology may prove inefficient in regions with extreme humidity. Consumers in such regions prefer air conditioners over evaporative air coolers to benefit from enhanced cooling in constantly changing levels of humidity and temperature. This can act as a potential deterrent to revenue growth of the evaporative air cooler market in these regions.

Further, the [evaporative air coolers market](#) is swamped with several low-cost products that incorporate advanced technologies and provide a better energy output. These alternatives threaten to snatch the market share of evaporative air coolers in the international market. Also, evaporative air coolers are low on aesthetic appeal and may not conform to the preference standards of certain classes of consumers. This is another factor that can restrict adoption of evaporative air coolers in some of the developed regions of the world.