

Indirect Evaporative Cooling

Indirect evaporative coolers take advantage of evaporative cooling effects, but cool without raising indoor air humidity. Two airstreams are involved – the air supplied into the dwelling and a secondary stream that is exhausted outside. Water is evaporated into the secondary air and cools it. A heat exchanger is used between the airstreams to transfer the heat out of the supply air, but without adding any moisture. The cooled supply air is then sent into the dwelling, while the humidified secondary air is exhausted.

Traditional indirect evaporative cooling systems use a standard heat exchanger which has inefficiencies in transferring heat out of the supply air. Improved models use a more complex heat exchanger that involves multiple steps. An example is the Coolerado Cooler, which utilizes a patented Heat and Mass Exchanger (HMX) and cools the supply air in twenty stages. At each stage the humidified air is exhausted and enhances the cooling effect of the supply air.

Manufacturers