

Thermoelectric method of extracting water from humid air involves the following steps: entrapment of atmospheric air, cooling it to the water vapor condensation temperature, collecting the condensate, and exhausting the waste air. The atmospheric air is cooled to the point of water vapor saturation using Peltier modules on cooling surfaces. The dehumidified, cooled air is passed through the channels of a recuperative heat exchanger in a counterflow direction relative to the atmospheric air for recuperative heat exchange and is used to cool the hot junctions of the Peltier modules. The condensed water is drained into a collection tank.