Evapotranspirational Cooling: Measurable Temperature Drop Without Electricity

2.5°C drop at desk height. No plug. No duct. Just biology.

At a Glance

Water travels from plant roots through stems to leaves, evaporating through stomata. This phase change absorbs 2,260 kilojoules per kilogram of water, pulling heat directly from surrounding air. Single areca palm transpires one liter daily. No compressor. Physics working.

Summary

Evapotranspiration cools by converting water to vapor, absorbing enormous energy from air. Indoor plants create measurable temperature drops: 2.5°C cooler than ambient air. Cooling persists continuously because plants transpire 24 hours. Unlike HVAC cooling, no daily cycling, no energy spike, no filter maintenance. March through November India heat stress gets supplemental cooling cost-free while improving air quality. Easy Retrofit means add appropriate species. Science is established through corporate and hospitality field deployments. Thermopod™ uses this physics reliably. No electricity consumed for cooling function itself. Cost of operation approaches zero after initial deployment.