Improving Energy Efficiency, Controlled Environmental Agriculture

Industrial | Solutions in Action
Solutions for Energy Recovery & Dehumidification

The Solution: Carolina Heat Pipe's "St Mach 1 TRAHP™" (Thermosyphon Run Around Heat Pipe) System. The TRAHP™ is a matched pair of refrigerant charged heat pipe coils positioned around the cooling coil. The "precool" coil absorbs heat energy from the incoming / return air and transfers this energy to the "reheat" coil downstream of the cooling coil. This warms cold saturated air leaving the cooling coil to provide to dehumidified supply air.

The TRAHP™ circuit offers full modulating controllability and is 100% passive. There are no pumps required for the energy transfer.

Savings are twofold, a load reduction at the cooling coil and passive reheat of the supply air.

- **Improves Cooling & Dehumidification**
- **Cooling load Reduction**
- **Passive "Controllable" Reheat**
- **No Pumps or Compressors**
- **Simple Maintenance**
- **Increased Energy Efficiency**

"CHP's TRAHP™ system is an ideal solution for controlling the water load in grow rooms by allowing the HVAC system to process water (latent) rather than temperature (sensible). When the humidity is properly controlled, the yields are top quality and quantity—that's the genius of the heat pipe system. Plus, when you pair it with an energy recovery chiller you can eliminate all heating and reheating costs!" Mike Gillespie P.E., Gillie Consulting Services and former VP, Capital Projects.

Performance Results: At design conditions, a 4800 CFM Air handler with a 4-row controllable TRAHP™ system can provide 91 MBH of free reheat and 7.6 tons of cooling load reduction at the chiller plant. The Return on Investment is typically less than three years.

Commercial • Educational • Governmental • Industrial • Medical

carolinaheatpipe.com
sales@carolinaheatpipe.com

Carolina HEAT PIPE

404-966-2237 Georgia
843-795-9965 South Carolina