

# A Closer Look

Carolina  
HEAT PIPE

## Cone Heath Medical Center Mebane, North Carolina

Medical | Solutions  
in Action

Solutions for Energy Recovery  
& Dehumidification

**The Project:** A 24,000 CFM Replacement Dedicated Outdoor Air System (DOAS) designed by Affiliated Engineers Inc. Chapel Hill, NC. The design incorporates dehumidifying heat pipe technology using Carolina Heat Pipe's energy efficient TRAHP™.

### The Solution:

Carolina Heat Pipe designed and installed their ST Mach 1- TRAHP™ system, into the custom air handler designed and built by AC Corporation. The Heat Pipe components were shipped to AC Corporation in Greensboro, NC.

CHP supervised the physical installation of the heat pipe coils and inter-connecting piping, then performed the refrigerant charging, onsite at AC Corporation. **The 4-Row Thermosyphon Run Around Heat Pipe system with full modulating control is capable of providing up to 10 degrees F reheat at part load conditions.**



### Performance Results:

The TRAHP™ Heat Pipe system provides 223 MBH load reduction to the chiller plant and the equivalent "free" energy reheat by passively diverting sensible energy from the entering air "around" the cooling coil and releasing it in the cold air coming off the cooling coil. The TRAHP™ Heat Pipe enhances the dehumidification performance of the air handler while providing load reductions at both the chiller and boiler plants for approximately 6,730 hours per year. By improving overall energy efficiency of the air handler, the Carolina Heat Pipe ST Mach 1 -TRAHP™ system pays for itself relatively quickly.



The heat pipe requires minimal maintenance of periodic coil cleaning for the life of the air handler.

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