



**Educational** | Solutions  
in Action  
Solutions for Energy Recovery  
& Dehumidification

**East Carolina University Life  
Sciences and Biotechnology  
Building  
Greenville, North Carolina**

**The Project:**

Carolina Heat Pipe (CHP) partnered with Affiliated Engineers Inc. and Buffalo Air Handling Co. to meet the HVAC needs of a new four story, 141,500 sq ft facility with wet bench and computational laboratory space for researchers across a variety of academic disciplines.

**The Solution:**

CHP designed and installed a total of three customized 2-row ST Mach – 1 TRAHP™ systems within Buffalo Air Handling equipment. Two of the three Thermosyphon Run Around Heat Pipe systems were 50,000 CFM each. CHP's field team traveled to Buffalo's Amherst, Virginia facility for the full installation process. The TRAHP™ systems incorporate full modulating control. The systems installed in the 50,000 CFM air handlers required vertical stacking of 3 heat pipe circuits. The run around heat pipe systems provide energy efficient dehumidification by absorbing and transferring heat energy around the chilled water cooling coils, then dissipating this same heat energy into the cool saturated air leaving the cooling coils. This process provides free reheat.

**Performance Results:**

At design load conditions, the two 50,000 CFM TRAHP™ systems will each provide 61.0 tons load reduction on the chilled water plant while creating 732 MBH of free reheat. The projected return on investment is 3.2 years.



**Commercial • Educational • Governmental • Industrial • Medical**

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