



## CASE STUDY: BIO-CHEMICAL LAB

Facility: Hospital Research  
Location: Boston, MA

Project Type: New Energy Recovery Systems for Hospital Research Facility

Wheel Type: Enthalpy High Performance 80,000 CFM / Wheel  
Scope: Four (4) Model TF-1109 each handling 80,000 CFM

### Problem:

An 8-story hospital bio-chemical research laboratory, operating with aged air handling equipment in mechanical rooms on each of the eight floors of the hospital's facility require replacement. Current ventilation codes must be met.

### Solution:

The mechanical consulting engineer for the project worked with the hospital engineering group to put forth a sustainable energy saving solution. Consolidate exhaust air from all floors of the hospital to one dedicated energy recovery system on the hospital's roof handling all 320,000 CFM of air. The ventilation mandated system includes enthalpy recovery wheels for sustainable energy savings. Air Enterprises was the air handling unit manufacturer. Air Enterprises' superior reputation for customization and long life made it a logical choice for the project. Strobic Fan's superior performance and sustainable fan life was also selected. Thermotech Enterprises was selected as the energy recovery wheel manufacturer. Thermotech's sustainable energy recovery wheels with 25 year design life and zero wheel failures since 1985, was chosen as the heart of the solution.

### Results:

Air Enterprises supplied two painted all-aluminum air houses, each 48' W x 52' L x 25' H. Eight (8) Strobic Air exhaust fans are centered between the two housings and handle the 320,000 CFM of exhaust air. Each unit houses two (2) Model TF-1109 enthalpy recovery wheels manufactured by Thermotech Enterprises, Inc. with stainless steel housings and anti-bacterial, anti-mold coating on the all-aluminum rotor structure. Each wheel handles 80,000 CFM.

Start-Up results proved 0 panel leakage in the air handling unit housings and full functionality of all components.

Field carryover tests verified no measurable carryover, confirming Thermotech's independent testing at Intertek Laboratories.

Annual energy savings of more than \$767,000 is realized by the hospital as a result of the inclusion of the enthalpy recovery wheels.