



CASE STUDY: CHEMICAL LAB

Facility:	Commercial Chemical Laboratory
Location:	Sturtevant, WI
Project Type:	Retrofit Wheels for Chemical Laboratory
Wheel Type:	Two (2) Model TR-723 Enthalpy High Performance, max.
Scope:	70,000 CFM / Wheel Replace 14-foot diameter Gouvernaire wheels

Problem:

The existing Gouvernaire wheels failed mechanically and structurally. The facility depends upon the energy recovery wheels to condition the building and research lab areas. The heat recovery wheels provide energy recovery for the chemical lab area taking the exhaust air from the labs and over 170 fume hoods, using that energy to precondition the outside air.

Solution:

Thermotech Enterprises was contracted to replace the wheels and upgrade all structural components. ERW-1A was retrofitted using 3Å molecular sieve desiccant coated media. ERW-1B was retrofitted using 4Å desiccant coated media.

Results:

The owner reports no noticeable carryover of exhaust air to supply. The Thermotech wheel retrofits continue to perform with no performance, carryover or mechanical degradation. The desiccants bonded to the media's aluminum substrate perform equally. Both molecular sieve desiccants have a very high affinity for water vapor. Thermotech currently offers and prefers 4Å molecular sieve media due to its superior latent energy transfer capacity and faster uptake rate. 3Å media is also available.