



an ECM company

Case Study: Fume Hood and Ventilation System Retrofit

Failing Fume Hoods Restored, Airflow Controlled, and Savings Achieved

Situation

The Phoenix exhaust system was getting old. Managers wondered if the 21 labs ever operated properly because the RTUs operated continuously at maximum capacity, and the work space was often too humid. Installing extra fans had not solved the supply/exhaust or humidity problems.

The facility also hosted 13 CAV bio-safety cabinets, along with numerous Snorkel Arms, CAV Fume Hoods, and uncontrolled scavenger hoods.


The client wanted to maximize payback by using existing, serviceable equipment when possible.

Solutions

The cost-effective solution combined new TEL equipment with many existing components. For example, venturi valves were equipped with new fast acting TEL actuators.

Fume hood controllers and actuators were installed on the fume hoods. They were equipped with TEL Auto Sash Closers to ensure energy savings. Other exhausts were also retrofitted to operate effectively in the new VAV environment.

TEL did a great job retrofitting the equipment without disrupting client operations. We demonstrated energy savings immediately because the AHU load was reduced so much. Good job!"
Darin Klein, Controls Engineer
Unesco

North Dakota Dept. of Health 

Industry: State Government

Location: Bismarck, ND

Project Cost: \$250,000

Annual Savings: \$50,000

Simple Payback: 5 years

Energy Savings: 165,962 kWh/yr
72,962 Therms/yr

Scope

Installation included:

- VAV Fume Hood Face-Velocity Controller and Alarm Kits
- Automatic Sash Closing Systems
- AFA 5000 Lab Space Controller to maintain Lab Temperature, Pressure, and Air Changes per Hour (ACPH)
- New Actuators
- Electronic Reheat Valve Actuators, Variable Power Supplies, and Timer Switches
- Existing Venturi Valves retrofitted to accept new electronic Actuators
- BACnet Connection Kit

TEL provides laboratory and kitchen solutions that deliver a safer workplace environment, increased energy efficiency, and improved operational performance.

TEL is a world leading manufacturer of laboratory airflow controls and monitors. In North American, TEL also provides engineered turn-key retrofits, retro-commissioning, and other products for new and existing laboratories. For more information, please visit www.tel-americas.com, or call us at 920.267.6111.