MEE INDUSTRIES INC.

Grand Valley University
Grand Rapids, Michigan

CASESTUDY

Grand Valley State University

- **Cook-DeVos Center For Health Sciences**
  Grand Rapids, MI

Engineer

- Tower Pinkster Titus Associates, Inc.

Mee Fog Humidifier Installation

- Mee Fog High Pressure Humidification System For Five Air Handlers

Benefits:

- Reduced Energy Consumption
- Lower Maintenance Costs
- Improved IAQ
- Tighter Control
- $87,000 Savings Per Year

Located in the heart of Grand Rapids, Grand Valley State University's Pew Campus provides students with access to community resources such as businesses, hospitals, and government agencies for internships and research serving as a powerful resource for its students to compete in a knowledge-driven economy.

TPTA was selected as the engineering designer for the new health professions facility. TPTA knew that operating costs and maintenance requirements were key issues with the university's engineering staff, and immediately started looking for ways to design an energy efficient facility that would serve the university's needs for years to come.

Because the facility houses research laboratories and student class rooms, controlling the building environment in an energy efficient way became important. The research labs require large amounts of make up air to off set the lab exhaust hoods, and high air quality for the general class room environmental units is also desired. To maintain the proper environment, temperature and humidity control was important, and doing so in a budget friendly way was even more important.

TPTA called upon Mee Fog to assist them in designing a humidification system that would provide the humidity

control they desired in an energy efficient manner. The building has four custom air handlers, with a total of 170,000 cfm operating on VAV economizer cycles, and one 100% OA make up unit rated at 26,000 cfm. The units are served by a single high pressure Mee Fog pump that provides 1000 psi water to the nozzle headers via staging solenoids. The system is controlled by the building control system and system status is available campus wide.

The humidity is introduced into each air handler in a special section between the pre-heat coil and the cooling coil. Any moisture that is not absorbed in this section is collected on a droplet filter and drained.

The installed capacity in all five air handlers is 2,116 #/hr. The electrical load for this system is 3.75 kW. Annual energy savings, as compared to gas fired steam generating humidifiers, is in excess of $87,000, with a further reduction of $5,000 in annual maintenance costs.

Tom VanDam, PE of TPTA says, "The system works as designed and controls the building humidity levels perfectly."

The annual energy savings represent a reduction of 2,500 tons of CO_2 going into the atmosphere. That's equivalent to over 4.7 million miles of automobile travel.

For Further Information, Contact: **MEE Industries, Inc.**
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