

Chilling Out at Marywood University's New School of Architecture



Inside the restored walls of a former gym, Marywood students will pursue under-graduate and graduate architectural degrees, including preparation for the LEED Accredited Professional exam. Lessons in sustainability, energy efficiency and indoor air quality literally surround these students as they prepare for a career in architecture. This includes the use of chilled beam technology and advanced energy recovery.

■ FACTS

Customer:

Marywood University's New School of Architecture in Scranton, USA

Need:

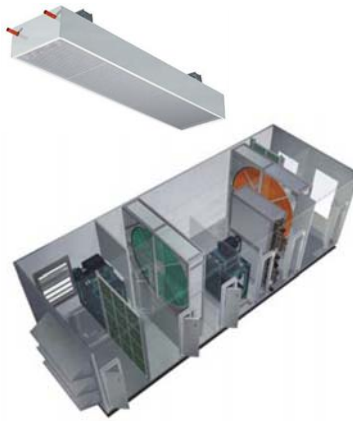
Energy Efficient Ventilation System

Solution:

QPSA passive Chilled Beams and Pinnacle® ventilation units.

“It seemed like a great energy saver and we are proactive in that”

Colleges and universities are changing the way they approach construction projects and Marywood University is no exception. This university unveiled its new Center for Architectural Studies in August 2009 amid enormous excitement and pride from faculty, students, and the architecture/engineering team. The Center is the academic facility for the University's new School of Architecture.



While chilled beams are common in Europe, they are still considered an emerging technology by many in the US. That, however, did not discourage the University from implementing the efficiency-focused design proposed by the engineering firm of Greenman-Pedersen, Inc.

The firm's design called for 42 chilled beams to provide 100% of the cooling for both design studio floors of the renovated building. It also included a SEMCO Pinnacle® Primary Ventilation System. The Pinnacle unit utilizes advanced heat wheel technology to dehumidify and precondition supply ventilation air - an important part of the puzzle since chilled beams handle sensible loads only, not latent (humidity) loads.

“I thought it was a great idea,” said Myron Marcinek, Assistant Director of Buildings and Grounds at Marywood. “It seemed like a great energy saver and we are very proactive in that.”

Chilled beams were a good choice for this project because of the limited floor-to-floor space and a cooling dominant load. Since a second level was added to the center of the former gymnasium,

there was limited space for ductwork. This led the engineer to choose a dedicated outdoor air delivery system to provide all the necessary ventilation and proper humidification / dehumidification.

They opted for a chilled beam system from SEMCO to satisfy the sensible load. Since large ductwork is not required for the beams, they are remarkably space efficient, requiring only ceiling space and minimal space for wiring, piping, and ventilation ducting. Passive chilled beams are also whisper quiet.

The dehumidification wheel in the Pinnacle system dehumidifies the supply air to a dew point far lower than any standard air conditioning equipment can provide. This satisfies the building latent load with much less airflow than what would be required by typical air conditioning equipment. Combining the most energy efficient ventilation system (Pinnacle) with the most energy efficient sensible load system (chilled beams) is a win-win combination for the school!

SEMCO

SEMCO is a unique indoor environment products manufacturer serving the key disciplines of air distribution, noise abatement, temperature, and humidity control in the commercial and industrial building markets. SEMCO was acquired by Fläkt Woods in 2007.

Fläkt Woods Group

Fläkt Woods is a global company providing solutions for ventilation and air treatment for buildings as well as fan solutions for Industry and Infrastructure applications.

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