

SEMCO Exclu-Sieve® energy recovery system for John Hopkins School of Medicine



The John Hopkins School of Medicine needed an HVAC system for their new research facility. Their demands on the indoor air quality were clear: safety, comfort and energy efficiency were important factors. The SEMCO system proved a success in facing all concerns.

■ FACTS

Customer:

John Hopkins School of Medicine,
Baltimore, USA.

Need:

Energy efficient ventilation solution,
Excellent indoor air quality for
occupancy safety.

Solution:

SEMCO Exclu-Sieve® energy
recovery wheels.

Energy efficiency in focus for new research facility

Planners at Johns Hopkins School of Medicine needed an HVAC system for a newly designed research facility. The size of their project did not allow for potential mistakes and a test installation in a large lab was proposed and accepted.



The planners' criteria for the projects were the following:

- Maintain occupant safety. The presence of the full range of laboratory chemicals made 100% outdoor air ventilation very desirable for safety reasons. Ten air changes per hour, per lab, were the minimum expectations.
- For health and comfort benefits as well as for performing temperature, humidity, and contaminant sensitive research, consistent indoor conditions had to be maintained at all times.
- Little additional capacity was available from the central water plant.

The director of maintenance operations had experienced freeze-stat alarms for other labs. The valuable research that was to be conducted did not allow for downtime or fluctuating space conditions.

To meet the designers' expectations for a mechanically reliable system, the pilot system was installed and operated for two years. In addition, the Johns Hopkins Health and Safety Department performed tests for cross contamination between airstreams and found none. SEMCO's product reliability speaks for itself. Plans were made for the larger installation to take place.

In the Ross Research Institute, EXCLU-SIEVE® total energy recovery technology conditions 300,000 cfm of outdoor air. Typically, Baltimore gets a hot, humid summer and a very cold winter. Energy efficiency is a financial must when maintaining uniform indoor conditions for such a large space as the Institute, which is constantly bringing in large volumes of outdoor air. The SEMCO equipment works dramatic results; chiller load is half and boiler hp is one-fourth of what would have been required without total energy recovery.

At last report there have been no air quality complaints even though a chemical spill occurred which might have left an odor for days in a poorly ventilated building.

The chemical (mercaptoethanol) used to scent natural gas was released in the spill. It can be smelled in concentrations as small as 3 parts per trillion. The odor was eliminated from the building in about 20 minutes. The SEMCO system proved a success in facing safety and comfort concerns.

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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