



# Jersey Shore University Medical Center Upgrades Energy Recovery Ventilation System

CASE STUDY

## Underperforming Ventilation System

The Hackensack Meridian Jersey Shore University Medical Center is a non-profit, tertiary, research and academic hospital founded in 1904. It also serves as a designated level II trauma and stroke center to handle medevac patients in the region and is home to the K. Hovnanian Children's hospital - the first children's hospital in Monmouth and Ocean Counties. Jersey Shore University Medical Center is the regional provider of cardiac surgery, a program which has been ranked among the best in the Northeast. With over 1,000 physicians and dental staff in 60 specialty areas, interns and residents, and patients of all ages, it's important that the facility provides a clean, safe, and healthy environment for all its occupants.

The hospital has expanded over the years to support its continuous growth, but their aging



energy recovery ventilation system in the main medical building was underperforming and not providing optimum space conditions.

The original energy recovery equipment that was installed in 1977. Due to the inaccessibility of the existing energy recovery wheel and the inability to effectively clean the wheel, the desired amount of outdoor air was not being delivered to ensure proper ventilation.

Indoor air quality is crucial to a hospital environment, and the cost to heat and cool a facility operating 24/7 is substantial. When it was determined the underperforming ventilation system at the Jersey Shore University Medical Center would need to be replaced over time, the medical center reached out to Airxchange for a solution for their four failed 136" wheels.



Airxchange provided a fully segmented energy transfer media that can be easily removed and cleaned. The unique design allows the entire wheel and cassette frame to be carried into the mechanical room in manageable pieces for reassembly inside of an AHU cabinet.



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## Economically Restoring the Energy Saving Benefit to the Air Handling

Airxchange replaced the original energy recovery wheels with a fully serviceable Energy Recovery Wheel design over the course of three years. Unlike the previous monolithic wheels, the new energy transfer surfaces of the segmented wheels can be effectively cleaned outside of the cabinet to ensure high performance and a long-life expectancy.

With rising energy costs and climate concerns, energy recovery wheels are an ideal way to reduce HVAC costs while complying with code-mandated outside air requirements in a hospital setting. This reduction in load translates into significant ongoing cost savings.

With the system now operating as designed with fully serviceable wheels, the staff and patients at the Jersey Shore Medical Center can once again enjoy a healthy and comfortable indoor environment.

[“Need a quote from Chris” - Support Services Jersey Shore University Medical Center](#)

## Value of New Energy Recovery Wheels at Jersey Shore Medical Center

Location: Neptune Township, NJ  
Project Date: 2015-2020  
Project Scope: Replacement of four failed energy recovery wheels with Airxchange's segmented wheels

Total OA CFM: 134,000  
Peak Cooling Reduction: 280 Tons  
Peak Heating Reduction: 6,904 MBTU/hr  
\*Estimated Annual Operating Savings: \$125,000

*\*Based on the following assumptions: 84% Heating Efficiency @ \$0.80 therm & \$0.08 kWh / 0.8 kW/Ton Cooling Efficiency @ \$0.08 per kWh & \$8.00 per kW Demand Charge.*

## About Airxchange

Airxchange has 35 years of extensive experience in the energy recovery industry. Our mission is to design and manufacture high quality products that perform reliably and effectively for the life of the HVAC system, reduce energy consumption, and improve indoor air quality. The addition of high-tech materials and innovative designs to a technology based on fundamental scientific principles has earned us the trust of our valued OEM customers. We will continue to innovate and support our customers to meet evolving market demands for energy recovery ventilation technology. Visit [airxchange.com](http://airxchange.com) for more info.