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## Case Study – University Hospitals Ashtabula Health Center

EDUCATION / HEALTHCARE / LODGING / GOVERNMENT / OFFICE BUILDING / RETAIL / SPECIAL



### Carrier Delivers Precise Comfort for Healthcare Center in Transformed Mall Retail Space

#### OBJECTIVES:

University Hospitals (UH), the Cleveland-based healthcare system serving northeastern Ohio, sought to establish a healthcare center in the city of Ashtabula. UH reached an agreement with the Ashtabula Towne Square Mall to renovate a 25,000 ft<sup>2</sup> space vacated by a former anchor store. In order to transform a retail space that had comfort cooling provided by a legacy chiller and cooling towers into a modern healthcare facility with precise comfort cooling control, UH and Towne Square Mall selected Blue Streak Engineering to create an efficient design.

#### SOLUTION:

Blue Streak specified a heating, ventilating and air conditioning (HVAC) system comprised of three 20-ton Carrier 48A WeatherMaker<sup>®</sup> rooftop units, a packaged model that provides high-efficiency gas heat and electric cooling. Additionally, 39 Carrier 35E Axis<sup>™</sup> variable air volume (VAV) boxes with reheat capability provide precise year-round comfort to individual office areas. Finally, the Carrier i-Vu<sup>®</sup> building automation system (BAS) integrates the rooftop units and provides system visibility and control to maintenance staff through Wi-Fi<sup>®</sup>-enabled devices such as smartphones and tablets. Blue Streak worked with Refrigeration Sales Corporation (RSC) to select Carrier components that would be highly efficient and reliable.

**Carrier i-Vu<sup>®</sup> Controls Provide Comprehensive HVAC System Visibility and Control**



*The Carrier i-Vu building automation system at UH Ashtabula Health Center gives Towne Square Mall managers real time access to the HVAC system both locally through touch-screen panels, and remotely through Wi-Fi-enabled devices such as smartphones and tablets.*



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*"We're currently adding the i-Vu controls interface... in the rest of the mall so we can view and adjust that equipment as needed."*

Ken Kister, Managing Member,  
SureFire Group

## SYNOPSIS:

Ashtabula County, Ohio, has a population of approximately 100,000 people, with the city of Ashtabula situated some 60 miles from Cleveland. University Hospitals (UH), the Cleveland-based healthcare system serving northeastern Ohio, sought to establish a healthcare outreach center in Ashtabula to provide UH's trademark top-quality healthcare to area residents without the hour drive to the main campus. UH reached an agreement with Ashtabula Towne Square Mall to renovate a 25,000 ft<sup>2</sup> space vacated by a former anchor store, and transform it into healthcare offices. It houses primary care as well as specialized medical offices, support facilities such as laboratory services and diagnostic imaging, and a state-of-the-art urgent care facility. In addition, UH Ashtabula Health Center offers workplace injury prevention and treatment services.

The heating, ventilating and air conditioning (HVAC) needs of retail and healthcare spaces are quite different. In order to transform an open-plan retail space that had comfort cooling provided by a legacy chiller and cooling towers into a modern healthcare facility with precise comfort cooling control, UH and the management at Towne Square Mall selected Blue Streak Engineering to create an efficient design. Due to positive past experience with Carrier equipment, the mall management requested a Carrier-based system. Blue Streak worked with Refrigeration Sales Corporation (RSC) to select components that would be highly efficient and reliable. RSC's Peter Eno said, "Repurposing existing mall space by adapting it to healthcare is certainly appealing, from both easy patient access and square footage cost versus new construction perspectives. This project may, indeed, signal a trend moving forward."

Blue Streak specified an HVAC system comprised of three 20-ton Carrier 48A WeatherMaker<sup>®</sup> rooftop units. Additionally, 39 Carrier 35E Axis<sup>™</sup> variable air volume (VAV) with reheat capability to provide precise year-round comfort to individual office areas. To give Towne Square immediate HVAC system access, a Carrier i-Vu<sup>®</sup> building automation system (BAS) integrates the rooftop units and Axis VAV boxes, and provides system visibility and control to maintenance staff through Wi-Fi<sup>®</sup>-enabled devices such as smartphones and tablets.

The Carrier 48A WeatherMaker rooftop unit is a packaged model that provides gas heat and electric cooling, with high part-load efficiency resulting in lower cost of cooling. Designed for reliability and ease of maintenance, the WeatherMaker rooftop unit uses non-ozone depleting R-410A Puron<sup>®</sup> refrigerant and is available in 20 to 60 tons.

The Carrier i-Vu building automation system is an open-standards-based, BACnet<sup>®</sup> Testing Laboratories-certified controls network that integrates any brand of HVAC equipment, plus other building systems such as lighting and security as needed. The i-Vu BAS at UH Ashtabula Health Center connects Towne Square Mall managers to the HVAC system both locally through touch-screen panels, and remotely through any Wi-Fi-enabled device. The i-Vu system enables them to view alerts, check system status, and respond effectively to changing conditions. The i-Vu BAS also allows for automation of the HVAC system according to selected parameters, to maximize energy efficiency while providing continuous comfort to occupants.

The success of UH Ashtabula Health Center has prompted discussion of future expansion within adjacent mall space. The i-Vu BAS can be expanded easily to integrate the HVAC equipment in the proposed new areas as well. In addition, the BAS can integrate existing components, making it ideal for controls retrofits.

Ken Kister, Managing Member of SureFire Group, the mall owners, said, "We're currently adding the i-Vu controls interface to the HVAC units in the rest of the mall so we can view and adjust that equipment as needed."

## Project Summary

**Location:** Ashtabula, OH

**Project Type:** New construction within existing facility

**Building Size:** 25,000 ft<sup>2</sup>

**Built:** 1992

**Facility Usage:** Healthcare

**Objectives:** Comfort cooling; efficiency;

precise controls to maintain healthcare-specific conditions

**Equipment:** Three Carrier 48A WeatherMaker<sup>®</sup> rooftop units; 39 Carrier 35E Axis<sup>™</sup> variable air volume (VAV) boxes

**Controls:** Carrier i-Vu<sup>®</sup> building automation system (BAS)

**Total Cooling Tons:** 60

**Major Decision Drivers:** Efficiency, comfort for patients and staff. Contractor's previous positive experience with Carrier equipment.

**Unique Features:** Former retail space renovated into a healthcare outreach facility; i-Vu system scalable to accommodate future expansion of University Hospitals' offices within the mall.

**Installation Date:** 2017

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