

A NASHVILLE HOSPITAL

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– Matt Fruetel, VP Business Development, Mechanical Resource Group

Overview:

The highly-contagious nature and detrimental effects of COVID-19 have challenged government and health care administration to quickly ramp up isolated, intensive care capacity. Large hospitals have addressed the capacity crisis by converting wings or floors, allocated to general care, to COVID-19 care. A Nashville-based hospital elected to adopt the “hospital within a hospital” COVID-care model. The space can be quickly activated or deactivated, according to need. The decision to act came at a critical time as the city’s overall and ICU bed capacities were decreasing.

With infection rates initially expected to reach 80 percent within months, rapid deployment was critical. Accordingly, Tennessee’s Unified Command Group, the Tennessee Department of Health, and the Nashville hospital’s officials developed a plan that could be implemented quickly. The challenge would be to find an HVAC supplier that could rapidly deliver and install the best system solution, and the right engineering and contracting/mechanical firms to get it installed and commissioned.

**LOCATION:**

A Nashville Hospital
Nashville, TN, USA

**AREA SERVED:**

26,300 Square Feet
67 Individual Bed Spaces

**CHALLENGE:**

Convert hospital wings to dedicated COVID-19 patient care within three weeks

**SOLUTION:**

Daikin Vision® Indoor Air Handlers

VISION® AIR HANDLERS EFFECTIVELY ISOLATE HOSPITAL WINGS BY REMOVING AND TREATING AIR, EFFICIENTLY AND QUIETLY



Solution:

The integrated system solution was provided by Daikin's partner, Mechanical Resource Group, and consisted of five Daikin Vision Indoor Air Handlers. The systems serve wings on the eighth floor of the hospital, yielding 27 COVID-19 care beds, respectively. Mechanical Resource Group representative, Matt Fruetel, worked closely with engineering firm, I.C. Thomasson, Mechanical Contractor, Bernhard MCC and general contractor, Turner Construction to develop the solution and to determine the installation logistics.

The heart of the system consists of Vision Air Handlers. They are typically used to condition and circulate large volumes of air throughout a space via ductwork. They work in conjunction with chillers or condensing units in a direct expansion (DX) system. The Vision product line is founded on a modular construction platform, featuring two-inch incremental dimensioning, thereby offering the engineers the flexibility they needed to fit the solution into the dedicated hospital space. The Vision product line also lent itself to quick shipping. It could be broken down into manageable dimensions, shipped in pieces, and assembled on site quickly. Also important to the customer, patented construction provides high thermal efficiencies and low leak rates—and the equipment is incredibly quiet. The latter enhances patient comfort which correlates directly to recovery time and rate.

While the Vision Air Handlers were the perfect solution for retrofitting the hospital wing for isolated, COVID-19 care, it was the fast delivery, installation and testing of the system that made the project unique. Accelerated production has to be approved by the supply chain and plant leadership—approvals which were secured without delay. Similar credit for the quick solution, however, goes to the engineers, contractors and other personnel on the ground who worked weekends and long days to complete the job. Normal lead and installation time for a similar project would typically be weeks. In this case, the order was placed on May 5 and the system fully installed by May 14—only 10 calendar days.

Outcome:

The Nashville-based hospital is extremely happy with the performance of the new system, especially with COVID-19 rates continuing to evolve. The additional capacity removes some of the stress from the greater Nashville health system and helps ensure patient welfare. "Everything has worked out exceedingly well...and the system is working perfectly," said Matt Fruetel, VP Business Development at Mechanical Resource Group. "Daikin Applied really pulled out the stops in terms of producing and delivering the product. Yet, much of the credit is due to a cohesive ground team of engineers and contractors who often worked 24/7, including weekends, to get the job done."

