



St. Mary-Corwin Medical Center serves as an alternative care facility for COVID-19 patients.

Daikin Rebel HVAC System Allows St. Mary-Corwin to Convert 120 Beds to Long-term COVID-19 Recovery Care in Record Time

CHALLENGE:

As concrete data about the COVID-19 virus continues to evolve, health care administration and staff are forced to plan for a variety of contingencies—and very quickly. The disease is both highly contagious and deadly.

Despite attempts through travel, business, and social restrictions to “flatten the curve,” officials in Colorado knew they would need additional capacity, exclusive to COVID-19 care. Accordingly, the state of Colorado, working with the Colorado Hospital Association and U.S. Army Corps of Engineers, developed a plan to repurpose several health care facilities. These care sites would be designed to provide post-COVID-19, non-critical, isolated care, in order to free up intensive care isolation units in other facilities. Once the facilities and target spaces were chosen, the challenge was to find an HVAC supplier that could deliver the best system solution quickly, and the right engineering and contracting/mechanical firms to get it installed and commissioned.

SOLUTION:

For the St. Mary-Corwin project, Cator Ruma recommended Daikin Applied as the equipment supplier, via LONG Building Technologies. Cator Ruma was the mechanical engineer. Mortenson served as the General contractor with Olson Plumbing and Heating and Colorado Sheet Metal as its mechanical sub-contractors.

The product solution recommended by Cator Ruma Engineering was comprised of eight Daikin Rebel DPS units with gas heat and DX cooling. These units were selected for their ability to run on factory controls and to handle 100 percent outside air as a means to serve neutral, make-up air to the fourth and fifth floors of the medical facility. The two floors are pulled negative by eighteen utility set exhaust fans. All the duct work was installed on the exterior of the building. The Rebel units also feature inverter compressors and electronically-commutated motors (ECMs) to maximize energy efficiency.



NAME:

St. Mary-Corwin Medical Center

LOCATION:

Pueblo, CO, USA



AREA SERVED:

Two Floors (92,000 Square Feet)



CHALLENGE:

Rapidly convert two floors of the six-story facility to dedicated COVID-19 recovery space



SOLUTION:

Eight Model DPS016 Daikin Rebel RTUs with gas heat and DX cooling

SOLUTION (CONTINUED):

While the Daikin Rebel units were an ideal solution for converting two floors of general recovery rooms into isolation rooms, the more critical challenge was delivery and installation speed. The virus growth models suggested that the Colorado health care system would be overburdened by early May—and LONG Building Solutions only learned about the St. Mary-Corwin project on April 11. Yet, when Daikin factory workers in Minnesota learned about the job and the dire need, they assured management they could get the system built and shipped in a matter of days.

The same dedication to expediting production was also evident on the job site for installation and commissioning. “It was really amazing the way everybody came together as a team on this project,” said Gary Venable, President of Colorado Sheet Metal.

“We started the design and planning process on Easter and a week later, we started construction. We were working seven, 12-hour days, for three weeks to make this thing come together. Everybody put extra effort into meeting the schedule, from team delivery drivers to cranes being set on weekends. The engineers were on site the entire duration of the project, tweaking ducts and designs to meet codes and facility requirements,” Venable noted.

The entire project, from manufacturing to commissioning, was completed by May 10—approximately 30 days from plan to completion. It is typical in the industry for the bid and spec process of similar jobs to take up to six weeks alone.

OUTCOME:

The Daikin Rebel units have performed flawlessly and have been effective in balancing negative and positive air pressure to isolate the fourth and fifth floors of a six-story facility. Should a second wave of COVID-19 occur in the fall, the integral gas heat system in the Rebel will ensure a continuous supply of neutral air.

The rapid project completion is a testament to the dedication of Daikin factory workers in providing quality solutions that meet the needs of the customer. Yet, it is also a testament to the cooperation and dedication of LONG Mechanical Services,

Mortenson, Olson Plumbing and Heating and Colorado Sheet Metal.

“As a subcontractor, we don’t always hear about the response to the job, noted Venable. “Yet, through channels, we heard that everyone was absolutely pleased with the system and amazed with the amount of work that got done in such a short a period of time. LONG and Daikin were a huge part of it...getting us the equipment so fast. Nobody else could have done that.”



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