

PARTNERS

UNICO Contractor

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UNICO Engineer

Dynamic Engineered
Systems, Inc
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The Unico System is designed to fit. It's ideal for heating or cooling buildings with:

- Electric Heat
- Hot Water Heat
- Chilled Water Loops
- Steam Heat
- Radiant Floor Heat
- Inadequate or No Ductwork
- Limited Space
- Inadequate Cooling on Upper Levels
- Baseboard Heat
- Radiator Heat



Overview

Tuberculosis was once the leading cause of death in America. Luckily, through advances in modern medicine, most cases can easily be treated through standard antibiotics. Unfortunately though, this isn't always the case and patients require more specialized care to get them healthy. For cases such as this, patients turn to medical facilities that treat chest disorders like Tuberculosis. Currently, a facility such as this is being built in West St. Louis City.

Facilities like these treat patients, while at the same time keep the airborne particulates at bay for those who are uninfected. In order to keep the bacteria at safe levels though, the rooms must be relieved of all the potentially contaminated air. This poses a problem because the facility needs to remain comfortable at the same time. This was the challenge faced by lead design engineer, Patrick O'Brien.

Strategy

Patrick owns Dynamic Engineered Systems in St. Louis and has successfully designed many interesting HVAC projects—some of which, including this one, involve The Unico System.

Patrick knew that he had a bit of an obstacle because of the fact that the exhaust fans were taking out all of the air, which meant they had to replace that same volume with conditioned air. Not only that, but the system had to be able to handle 100% outside air. Part of the problem with this is in the St. Louis climate, especially in the summer, the air is incredibly humid. But with The Unico System's superior

ability to eliminate humidity, Patrick knew that The Unico System would have no problems getting the job done.

To do all of the tasks needed for this job, Patrick designed the system using two 3-ton Unico UniChillers which supply a Unico System blower and two Unico System coils. The coils are used in a series in order to handle the large volume of outside air. They are also used to overcool the air to 55 degrees to help pull out the humidity. The air is then reheated to keep the temperature for the indoor space at comfortable levels for the patients. Johnson Controls installed the entire system using Patrick's designs.

Results

Because of The Unico System, Patrick was able to achieve all of the goals he set out to do which wouldn't have been possible otherwise. "Unico offers significant flexibility when meeting non standard requirements. I have used this product in applications that standard, off the shelf equipment could never be applied and it has performed beyond expectations. Unico is my first choice for comfort and dehumidification control."

