



Two south-side views of the 50-story Thanksgiving Tower - Completed in 1982, the commercial office building is currently the 8th tallest building in downtown Dallas, TX.

CASE STUDY

Office Building

Facility at a glance

Name

Thanksgiving Tower

Location

Dallas, TX, USA

Building size

1,410,000 sq ft

Issue

Install custom air handlers with minimal impact on tenants and business operation

Solution

96 Daikin Vision™ custom indoor air handlers

Custom air handlers provide minimal tenant disruption and quick-turnaround solutions for Dallas office building

Issues

Since 1982, Thanksgiving Tower has been a well-known office building in the Dallas skyline. In 2013, the 50-story tower was scheduled for a major \$16 million mechanical renovation to include new HVAC, plumbing, electrical, and life-safety systems. Late 2013, the replacement process began to the building's original chillers, cooling towers, air handling units (AHUs) and building automation system (BAS), among other equipment.

The building operates on a chilled water system with thermal storage. "Thanksgiving Tower is one of the first buildings in the country to feature a variable air volume (VAV) system," says Jim Barrilleaux, senior mechanical engineer with TDIndustries of Dallas, which provided mechanical contracting. Barrilleaux is very familiar with the building's HVAC system after having worked on the HVAC design when the building was constructed in the early 1980s, and again in the current renovation.

Custom air handlers by Daikin Applied were an easy choice given the new units would replace the original, former McQuay air handlers. "As the property manager, our considerations were keeping tenant disruptions to a minimal and fast turnaround," says Rick Matvey, operations manager with Lincoln Property Company (LPC).

Solution

The 96 AHUs were designed to suit the building's existing space requirements. "We used the versatility of Daikin Applied's manufacturing process to adjust the height and width of the units to accommodate our dimensions," Barrilleaux says. "This allowed us to perform the installations efficiently and minimize the changes to the

existing duct locations." The modular construction of the air handlers allowed for TDI's field crew to more easily connect transition pieces to the existing duct locations.

"The project team was very appreciative of Daikin's willingness and ability to ship the fan assemblies separate from the rest of the AHUs," says Grant Yaney, Daikin Applied representative with HTS Engineering in Dallas. The delivery accommodation ensured the AHUs would fit on the elevators and that the delicate but heavy fan assemblies wouldn't be damaged when tilted to fit elevators and hallways.

After a successful test run with the first AHU installed in January 2014, installations were staged over a several-month period from April through December 2014. Two units were installed per floor, each in a mechanical room at opposite ends of the floor. "We had anywhere from eight to 16 units delivered at a time which were stored on the



Daikin Applied Vision air handlers provided Variable Dimensioning™ and modular solutions to meet the building's existing space and duct requirements.



building's empty floors. We averaged two installations during the week and another four on weekends to minimize tenant disruptions," says Chuck Stroud, superintendent with TDIndustries, noting that the patented splice collar design of the air handlers saved time and installation costs versus those that require gaskets between each section.

In addition, about 20 percent of the AHUs required significant disassembly at the job site to accommodate other equipment in certain mechanical rooms. Stroud adds: "We were able to completely take apart these units and reassemble them without regard to their original unit, so we appreciate the manufacturing tolerances."

Coordination among crews went smoothly. "All of the parties involved did a really great job of working together," says Andrea Miille, project manager with TDIndustries. TDIndustries' technicians were able to efficiently program the VFDs, also supplied by Daikin. "Utilizing the removable control panel on the VFDs allowed the settings to be programmed one time and easily replicated," Miille adds.

Outcome

"The job went close to perfect. Installations were made with all tenants in the building. We had zero complaints from the tenants," says Matvey at LPC property management, noting the quiet fan motors are a boon to many tenants. "Following the replacement of the air handlers on

their floor, one tenant was convinced the air conditioning wasn't on because the fan motors on the new air handlers are so quiet. Also, the building owners appreciate the reduced maintenance that the air handlers' direct-drive plenum fans offer."

All major mechanical renovations to Thanksgiving Tower are expected to be completed in 2015. In addition, other building improvements such as a new lobby and elevators are underway and planned for completion in 2016.



Photo © Woods Capital

Thanksgiving Tower's current lobby and elevator areas are scheduled for remodeling and improvements in 2016.