WATER-SOURCE VRF FOR FLEXIBILITY AND EFFICIENCY

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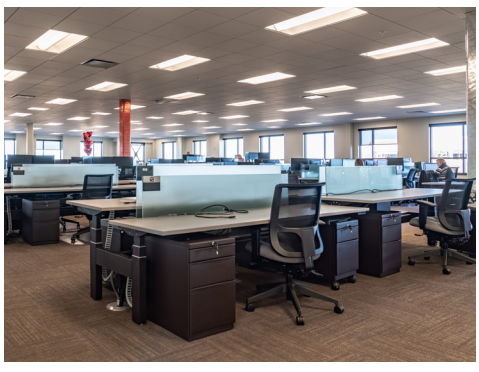
In 2015, Fairway Independent Mortgage, a national mortgage lender, was ready to upgrade its headquarters based in Madison, Wisconsin. With exponential growth projected, the company required a building that could grow with them while maximizing energy efficiency. After an initial analysis, the project engineer, Excel Engineering, opted to design the HVAC system in unison with the architectural spaces and elements, rather than force the HVAC system into an already planned space, a common issue when building commercial facilities. While a Variable Air Volume (VAV) system was originally specified, Excel had other ideas. To provide both design flexibility and efficiency, they selected Mitsubishi Electric's Water-Source Variable Refrigerant Flow (VRF) zoning systems, applied with geothermal technology.

WATER-SOURCE VRF SYSTEMS FOR...



DESIGN FLEXIBILITY

"If we used a rooftop VAV system, the shafts required to move the high volumes of air throughout the building were so large that they were restricting the owner's desired use of the space. That was one of the main drivers to switch to geothermal VRF. On the interior of the building, VRF was ideal because the ventilation shafts are minimal, the small horizontal duct work maximizes the available ceiling height and the VRF equipment is easily hidden above ceilings. On the exterior of the building, this VRF system requires no unsightly rooftop units and screening. I always tell new clients that if we can do a geothermal VRF system, we get all those design benefits, plus energy efficiency."

Jonathan Brinkley, AIA, PE
Senior Project Manager
Excel Engineering

ENERGY-EFFICIENCY

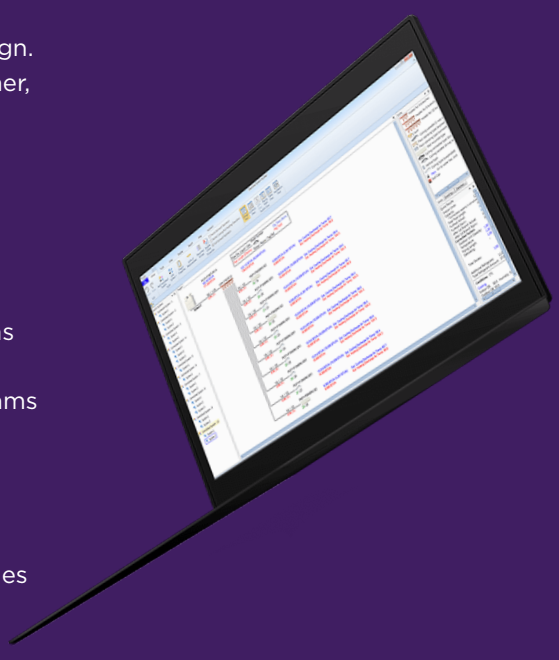
"At first glance, I think many traditional office buildings or even high-performing office buildings would have done VAV (whether rooftop or indoor) for this project. The big driver of switching to VRF is that they're getting either the same or better zoning than a VAV system and the added energy efficiency, especially with a heat-recovery system. I see a lot more projects going with water-source VRF because you are recovering energy across the entire building. Especially for high-end offices that are trying for high-performance markers like net zero, there's really nothing out there that can beat geothermal water-source VRF with solar panels from an efficiency standpoint."

Matt Blocker
Regional Commercial Sales and Product Manager
Mitsubishi Electric Trane HVAC US

To learn more about Water-Source VRF systems, visit www.MitsubishiPro.com. To read the full Case Study, click here.

DIAMOND SYSTEM BUILDER™ – GET MORE FROM YOUR DESIGN HOURS

For any commercial project, you receive a lot of input that impacts HVAC design. With contributions from stakeholders including the architect and building owner, designs change throughout development. The interactive layout and selection capabilities in Diamond System Builder streamlines HVAC design and can help reduce the number of hours you spend responding to project changes.



BENEFITS

- Check whether your system design meets requirements, such as line lengths and connection capacities
- Automatically generate AutoCAD schematics with wiring and piping diagrams to streamline the installation
- Output an equipment summary to simplify the quoting process
- Use schedule output functionality to organize projects
- Remote database syncing for real time product updates
- Integration of the startup checklist reporting process for extended warranties

TESTIMONIAL

"We used the Diamond System Builder™ software and worked with the product representative when sizing the VRF system. The program was very helpful in my design. It allowed me to easily make modifications when changes were made to the project. Overall, it helped me save a lot of time in my design work."

- Julie Gorham, Designer II, Excel Engineering | Project: Fairway Independent Mortgage Project

METUS ON-DEMAND WEBINAR

ES ENGINEERED SYSTEMS | **GETTING STARTED WITH VRF** | WATCH NOW

This presentation provides insights into requirements, advantages and opportunities associated with VRF systems and addresses common misconceptions.