



YANMAR EVO//CENTER ACWORTH, GEORGIA

PROJECT OVERVIEW

The YANMAR EVO//CENTER is a 52 acre property with a brand-new, state-of-the- art 49,000 square foot building that serves as a training and customer experience facility for YANMAR America. The mission of the facility is to Empower Sustainability, and as such, YANMAR decided to install eight 14-ton three pipe VRF outdoor units connected to 45 indoor units and one 10 kW CHP with blackout start along with Building Management and Remote Monitoring Systems for centralized, monitored building control.



REASON FOR CHOOSING YANMAR

Croft and Associates was brought in as the Design + Build engineer for the entire EVO//CENTER, and while YANMAR's equipment was a natural fit to serve as a showcase installation for future customers, a comparison between different types of HVAC units was completed. Based on the calculations, YANMAR's natural gas-powered VRF system cost only few cents more per square foot than gas-fired rooftop units, electric VRF systems and electric rooftop units, and was less than chiller systems. However, YANMAR's system required half the electric service size of high efficiency gas or electric rooftop units.

YANMAR's three pipe system was utilized in 80% of the building in order to provide control and the ability to simultaneously heat and cool individual rooms for maximum comfort.

In addition to the VRF system, a YANMAR 10 kW Combined Heat and Power unit with blackout start was installed in order to supply the entire building's domestic hot water, as well as provide continuous power to the server room even during power outages.

ABOUT YANMAR AMERICA ENERGY SYSTEMS

QUICK FACTS

Application: Office Building

Location: Acworth, Georgia

Commissioning Date: August 2017

Product Installed: NFZP168J x 8 CP10WN-SN x 1

Results:

- Reduced electrical infrastructure
- Zoned control with simultaneous heating and cooling capability
- Consistently reliable operation

YANMAR America Energy Systems is the North, Central and South American headquarters for the company's Variable Refrigerant Flow and Combined Heat and Power systems. Our team and products are focused on sustainability, reliability and efficiency.

www.yanmar-es.com

YANMAR ENERGY SYSTEMS 2018 E18YVECAS04





YANMAR EVO//CENTER 112 TONS / 10 kW

"YANMAR system selection and design is easy and intuitive for anyone familiar with VRF systems, and the controls are a snap to install and startup. The greenhouse gas emissions for these systems are a fraction of that used by traditional systems, and even beat out electric VRF systems in total carbon footprint. We always consider YANMAR systems for any green project or any owner interested in the lowest possible energy cost system they can install." - Miles Johnson, Mechanical Engineer, Croft



RESULTS

- Reduced electrical consumption and electrical load for heating and cooling the building by switching to a natural-gas driven YANMAR engine from an electric-based system.
- Average savings of more than \$4,800 per month during the first ten months of operation.
- By using natural gas as an energy source, the building produces lower amounts of harmful emissions than traditional heating and cooling equipment.

CONCLUSION

 In the first ten months of operation, the 112 tons of YANMAR VRF units provided an operating costs savings of almost \$50,000.

YANMAR VRF Operating Costs - November 2017 through August 2018



Operating costs data is a calculated estimate only based on Remote Monitoring data and local average utility costs or bills.

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