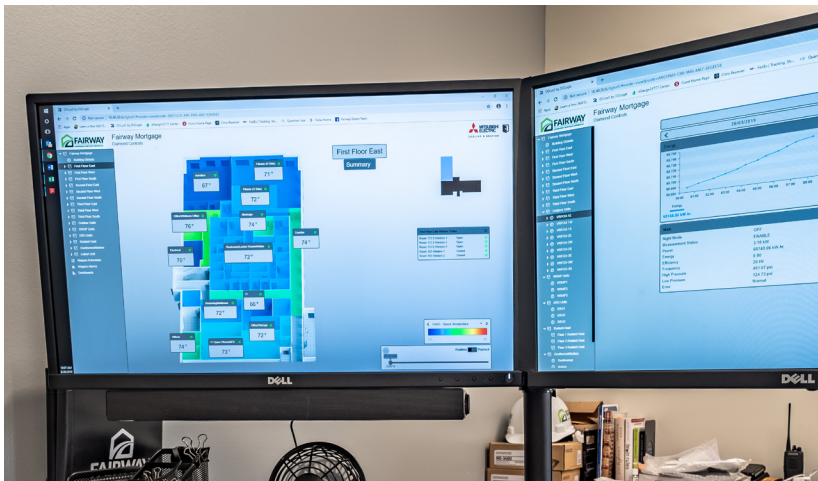


APPLYING VRF AND THIRD-PARTY HVAC SYSTEMS

As modern construction requirements, sustainability and the high cost of energy continue to drive the demand for [Variable Refrigerant Flow](#) (VRF) systems worldwide, building owners, facility managers and engineers will be responsible for buildings where VRF systems are applied with complementary and existing third-party HVAC equipment.

Whether a retrofit or new construction project, engineers will need to incorporate a variety of HVAC manufacturers into their designs. The good news: working with a VRF manufacturer during integration can simplify the design and operation of these complementary systems.



BENEFITS OF WORKING WITH A VRF MANUFACTURER

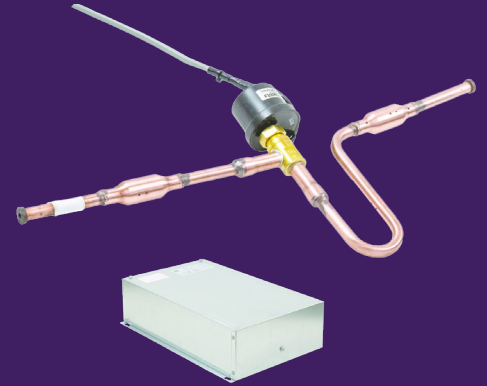
Depending on the application and client preference, the VRF manufacturer can be involved in every step of the integration process from design, programming, installation, training and start-up. The manufacturer's controls engineers can help with mapping and identifying the points shared between the VRF controls and building management systems (BMS) through open protocols such as BACnet®. To provide higher levels of insight, manufacturers can help configure VRF controls developed with open architecture to serve as a BMS for both VRF equipment and third-party systems. They can also provide [pre-engineered controls panels](#) to expand the number of available system points and reduce costs related to project coordination, labor, materials and installation.

EXPANDED OPTIONS

In addition to providing comprehensive integration services, VRF manufacturers offer equipment designed to facilitate better integrations. A facility may have special ventilation requirements that necessitate the use of a Trane air handler, for example, to support supply-air control as a complement to a [CITY MULTI® VRF system](#) and a [PremiSys® Dedicated Outdoor Air System \(DOAS\)](#). An easy and more efficient fix: use the Mitsubishi Electric [Linear Expansion Valve \(LEV\) Kit](#) to connect the air handler to the CITY MULTI condenser. To learn more, read our latest White Paper, [Applying VRF and Third-Party HVAC Systems](#).

YOUR SOLUTION FOR RETROFITS AND VENTILATION

Linear Expansion Valve (LEV) Kits are an ideal solution for retrofit and ventilation applications that involve third-party equipment. The kit enables a [CITY MULTI VRF system](#) to connect to the direct expansion coils of third-party air handlers as well as their communication protocol. With the addition of the LEV kit, the system can heat large loads efficiently, without the use of electric elements within the air handler, and can also cool and heat ventilation air. Visit www.mitsubishipro.com for more details.



FEATURES

- Can be used with a 0 - 10 VDC input for set point control from other devices
- Includes four thermistors and two duct-mounting brackets
- Equipped for three-speed fan control with signal relays
- CN24 connection available for auxiliary heat control
- Heating, cooling and defrost signals + humidifier control

WALNUT HILL COMMUNITY CHURCH



CHALLENGE

Selecting an efficient HVAC solution for a large church with large-scale, existing equipment

SOLUTION

Mitsubishi Electric
CITY MULTI VRF + LEV Kits

RESULT

A quiet and efficient HVAC system that provides significant savings and a comfortable atmosphere

PROJECT DETAILS

- Located in Bethel, Connecticut
- 40,400-square-foot church
- The church needed to find a cost-effective replacement for its dated, chiller/boiler system
- The facilities director needed a streamlined controls platform

“We decided to utilize Mitsubishi Electric’s LEV kits in a unique way. They were retrofitted and sized to fit the current air handlers. This allowed us to use the unitary products and existing electrical to get the variable efficiency of VRF.”

— Jim Messenger, Eastern Mechanical Services, Inc.