



Manufacturers' Representatives of
Engineered HVAC Systems and Equipment
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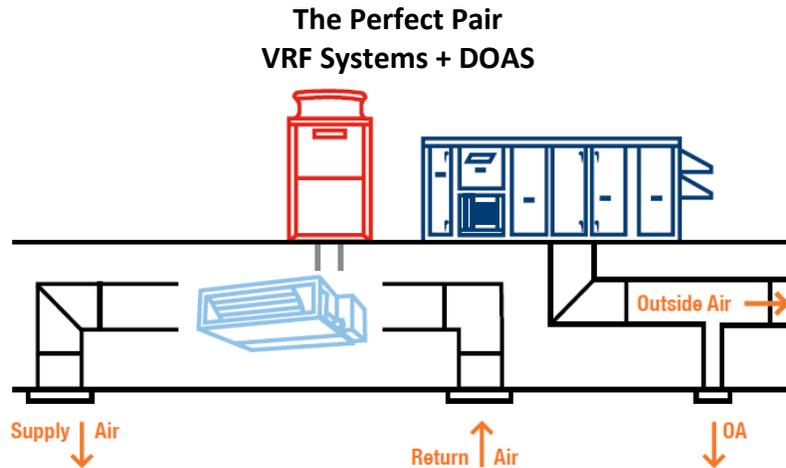


Figure 1: DOAS and VRF: Applying Systems for High-Performance Buildings, Mitsubishi Electric White Paper June 2018

VRF (variable refrigerant flow) systems were first introduced in 1982 but have only been utilized in the United States since the early 2000's. A VRF system varies and controls refrigerant flow through evaporator coils, providing temperature control to single or multiple zones. This type of system is commonly used in office buildings, schools, hotels, etc. and are perfect for existing buildings where there is not ceiling space for ductwork.

By their nature, VRF systems are not purposely designed for ventilation, so they are often paired with a DOAS (Dedicated Outdoor Air System) in a decoupled design. The VRF system will handle the sensible load (heating/cooling) while the DOAS unit will provide the proper ventilation rates required per ASHRAE 62.1 and handle the latent load (moisture removal).

When designing VRF Systems, Brucker offers the perfect pair through **GREE** and **Greenheck** products. GREE provides the outdoor unit, indoor unit, and controls while Greenheck provides the DOAS unit.

GREE offers a wide range of model GMV outdoor & indoor models, providing 100% heating efficiency at -4 deg. F and 80% heating efficiency at -22 deg. F. GREE controls tie the entire system together by monitoring all the equipment as standalone or through a BMS (Building Management System), alarm notifications, and occupancy scheduling.

Greenheck offers model RV (rooftop ventilator) or RVE (with energy recovery) which are pre-engineered to deliver 100% outside air up to 18,000 cfm and 3 in. wg. Cooling options include packaged direct expansion (DX), split DX, chilled water, or an air-source heat pump. Heating options include indirect gas, electric heat, hot water, or air-source heat pump.

For more information, please contact your sales representative or local sales office.

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