

Variable Refrigerant Flow Systems (VRFs)



What is a VRF system?

A VRF system is a highly efficient heating and cooling technology designed for larger buildings. One benefit of a VRF is that they can simultaneously heat and cool different parts of a building. These systems can be very efficient because they can take waste heat captured in one part of the building (e.g., a computer server room, or the face of the building exposed to the sun) and deliver it to spaces requiring heat. This function is called heat recovery. A VRF system without heat recovery can only heat **or** cool building spaces.

How VRF systems work?

The flow of refrigerant varies to each indoor unit based on its heating or cooling needs, meaning each room can be set to a different temperature. VRF systems have multiple indoor units (like those below) with an outdoor condensing unit (like those above).

Examples of VRF indoor units:



Learn more at:
efficiencymaine.com/at-work/variable-refrigerant-flow/



VRFs or Heat Pumps?

VRF and Heat Pump systems offer lower operating costs, increased equipment reliability, and energy savings. Learn which heating system is best for your business and facilities.

VRF Systems	Mini-Split Heat Pumps
Simultaneous* heating and cooling available <small>*for VRF systems with heat recovery</small>	Simultaneous heating and cooling NOT available
Medium to large commercial projects (generally 1,800 to 21,600 sq. ft.)	Residential to light commercial projects (generally 300 to 3,000 sq. ft.)
Electrical service requirements: Single or three-phase service	Electrical service requirements: Single-phase
Example facilities include schools, assisted living facilities, office buildings, multifamily buildings with 5 or more units	Example facilities include small offices, hotel rooms, small restaurants, multifamily buildings with fewer than 5 units
8 or more indoor units on a single outdoor unit	Up to 6 indoor units on a large multisystem
<p>Incentives for VRF with heat recovery:</p> <p><u>New Construction:</u> <u>Retrofit:</u> \$7.00/sq. ft. with* heat recovery \$15.00/sq. ft. with* heat recovery <small>*up to \$5.00/sq. ft. available without heat recovery</small> <small>*up to \$13.00/sq. ft. without heat recovery</small></p>	<p>Incentives for Mini-Split Heat Pumps:</p> <p><u>New Construction:</u> <u>Retrofit:</u> 1 Zone - \$500 1 Zone - \$1,200 2 Zones - \$750 2 Zones - \$1,600 3+ Zones - 1,000 3+ Zones - \$2,000</p>

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