



Trane Variable Refrigerant Flow Systems

Room-by-Room Customizable Comfort



It's Hard To Stop A Trane.®



HISTORIC BUILDINGS



STRIP MALLS



COMMERCIAL BUILDINGS



NEW CONSTRUCTION



MULTI-TENANT BUILDINGS



RETAIL SPACES

READY TO READ ON



Trane Variable Refrigerant Flow Systems

A completely customizable solution for efficient, room-by-room comfort, where and when you need it.

Trane has a tradition of quality lasting more than a century.



Trane Storefront
La Crosse, Wisconsin 1891
Courtesy of the La Crosse (Wisconsin)
Public Library Archives

Over one hundred years ago, Reuben and James Trane made the decision to stand out from the crowd and build a comfort system like no other, using uncompromising quality, innovation and reliability. Today, their legacy is found in everything Trane makes, from our premium materials to our industry-leading technology to our extensive product testing under the harshest conditions. When you buy a Trane, you're buying a commitment from us, to you.

A commitment to your total comfort, and your total peace of mind. Because that's what Reuben and James would have done.

More Heating and Cooling Options

The addition of Trane Variable Refrigerant Flow (VRF) systems to our full line of HVAC solutions affirms the Trane commitment to giving our customers the options they need to precisely meet their heating and cooling needs. Trane VRF systems can be the perfect solution for many structures, and may be the perfect heating and cooling solution for these situations:

- Historic buildings where installing duct work can be difficult or impossible
- Large commercial buildings like schools, medical offices and retail stores
- Multi-tenant buildings, retail spaces and strip malls where heating and cooling needs vary from room to room and space to space
- New construction where the efficiency of a ductless system and zone control is desired
- Applications where simultaneous heating and cooling from a single unit is required to provide maximum comfort and efficiency (Available on certain models only)

Trane Variable Refrigerant Flow Systems

Trane Variable Refrigerant Flow systems provide efficiency and economy with two components – an outdoor unit and one or more stylish, low profile, indoor units. Residential applications can accommodate up to nine indoor units, and commercial applications can accommodate up to 64 indoor units with a system capacity of up to 36 tons. All components are built with Trane's legendary reliability and innovative design.



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How Variable Refrigerant Flow Works

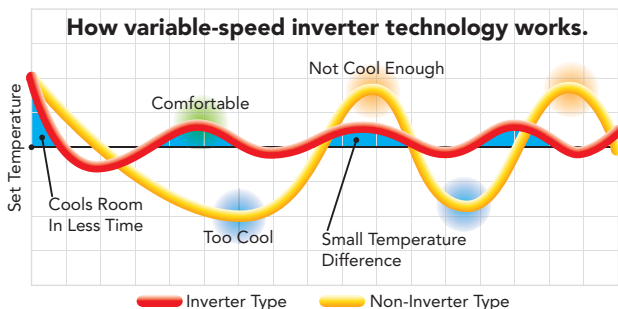
Unlike traditional heating and cooling systems—which move heated or cooled air throughout the interior of a home using duct work—Trane VRF systems use an innovative new process of moving heated or cooled refrigerant throughout the interior of a home using small-diameter pipes. The refrigerant then passes through coils in each room being served by the system, and fans or blowers move air past the coils transferring either warmed or cooled air into the room.

The benefits of a Trane VRF system are many, including more efficiency, more individual control and more installation options.

Trane VRF Systems use Variable-Speed Inverter Technology

Trane VRF systems use variable-speed inverter technology. This allows the compressor to continually modulate and adjust to the most efficient speed to meet your demands.

The variable-speed inverter technology used in Trane VRF systems is more efficient than a conventional single-speed compressor.



The Many Advantages of a Trane VRF System

The best efficiency in the industry

With an integrated efficiency rating of up to 31 IEER, a Trane VRF system could save on energy costs. The efficiency comes from both the innovative VRF design and from the superior technology.

Individual zone control

Trane VRF technology makes it possible to design a system in which the temperature in every room can be controlled independently.

Multiple control options

Trane VRF systems offer a variety of control options, depending on the system design.

Smaller footprint and no duct work

Compared to ducted-air HVAC systems, Trane VRF systems require much less installation space — a benefit that's especially important in existing structures.

Exceptionally quiet operation

Trane VRF systems operate at very low sound levels, which can improve the comfort and productivity of building occupants. The VRF design quietly moves piped refrigerant to each room, where specially designed low-noise fans circulate heated or cooled air at sound levels as low as 23 dBA.

Long piping length

Certain Trane VRF systems are capable of serving a total pipe run of up to 3,281 feet – one of the longest in the industry. This redefinition of what's possible with VRF technology comes from a combination of high-performance smart inverter compressors and electronic expansion valves with a 2,000-step gear-driven design. The result is especially beneficial for taller buildings.

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Trane Variable Refrigerant Flow Systems Consist of One Outdoor Unit, One Control and One or More Indoor Units

Indoor Units

Cassette Units

These units offer stylish panel designs with strong airflow and quiet operation. Lightweight for easier installation, each unit has an internal condensate pump with integral check valve and optional fresh air intake.

Cassette units are available in slim one-way (7.5 – 12 MBh), four-way (9 – 48 MBh) and mini four-way (9.5 – 20 MBh) configurations.



Mini Four-Way



Slim One-Way



Four-Way

Concealed Units

Available in three levels of static pressure capacity, these compact units are easy to install. Internal drain pumps with check valves are optional; larger models can be ducted to supply larger rooms. All models offer

easy-to-clean filters. Concealed units are available in slim duct, mid-static pressure duct and high-static pressure duct.



Slim Duct



Mid-Static Pressure Duct



High-Static Pressure Duct

High-Wall and Floor/Ceiling Units

For specialty applications, two designs are available. Both feature crisp, modern styling and include easy-to-clean filters and wireless remote controls. High-wall units are available in capacities from 7.5 – 24 MBh; floor/ceiling units have capacities from 18 – 24 MBh.

Vertical Air Handler

The vertical air handler unit is designed for traditional ducted installations. This air handler is available in 18-60MBh configurations.



Floor/Ceiling



High-Wall



Vertical Air Handler

Motion Detection Sensor

The optional Motion Detection Sensor automatically turns the Mini Four-Way indoor unit off when no motion is detected and the room temperature is within 3.6°F of the target. This can result in substantial energy savings.

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Outdoor Units

Trane VRF outdoor units are available in sizes ranging from 3 to 12 ton nominal capacity. The three-phase outdoor units may be combined to build a system up to a 36 ton nominal capacity. See the chart below for available tonnages and power specifications.



	Power	3	4	5	6	8	10	12	14-36
Heat Pump (4TVH)	208-230/60/1	●	●	●					
Heat Pump (4TVH)	208-230/60/3				●	●	●	●	●
	460/60/3				●	●	●	●	●
Heat Recovery (4TVR)	208-230/60/3				●	●	●	●	●
	460/60/3				●	●	●	●	●

Advantages of a Trane Variable Refrigerant Flow System

Unprecedented Control

Each room, or room grouping, is equipped with its own fan blower and thermostat. This allows for individually maintained temperature targets in each zone.

A wired or wireless remote control manages indoor units and can set target temperatures, mode of operation (heating or cooling) and fan speeds. Individual zone scheduling is also possible, providing even more control and potential energy savings.

Because Trane VRF systems can independently condition individual rooms to different temperature levels, both exceptional comfort and efficiency are now possible.

High Efficiency

With a SEER energy efficiency rating range up to 18.5 and an HSPF heating efficiency rating range up to 9.4, a Trane VRF system may create substantial energy savings.

More Installation Options

With smaller equipment and small-diameter refrigerant pipes, Trane VRF systems can fit in a wider variety of homes and commercial buildings.

Advanced Compressor Technology

The "smart inverter" compressors in Trane Variable Refrigerant Flow systems are the most technologically advanced compressors available in the industry today, delivering efficient performance and reliability.

Superior Technology and In-Depth Knowledge

The exceptional comfort, control and energy efficiency that come from Trane VRF systems are the result of in-depth knowledge and superior technology.

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Trane VRF Outdoor Units Support Multiple Indoor Units

Controls



Individual zone controls

These allow management of up to 16 indoor units via a wired or wireless remote control. Each controller can be used to set zone temperature, heating/cooling mode and fan speed. Simple scheduling is also possible for improved energy savings.

- Unit on/off
- Temperature selection
- Multi-unit control
- Tenant control security lock with permission setting (wired remote)
- Fan speed control
- Simple scheduling

Centralized controls

Centralized controls allow power and heating/cooling mode management of up to 128 indoor units connected to a central on/off controller. A typical application for this type of control would be an elementary school, with the entire building's group of VRF units monitored and controlled from the principal's office.

- System control of up to 128 indoor units
- Remote control restriction
- Indoor unit error display
- On/off scheduling
- Cooling/heating mode control



System controls

For larger applications, these controls provide a higher level of management suitable for multiple VRF systems, as might be found in a multi-floor building. System controls provide more

advanced scheduling, operation and alarm history management. They can also be accessed remotely.

Optional BACnet® connectivity adds the benefit of VRF system integration with Trane Tracer™ controls for a total building management and control solution. An available Pulse Input Module can be connected to watt-hour meters to allow individual tenant billing.

- User-editable control logic
- History management
- Dynamic user security management
- Remote control and monitoring via Internet connection
- Easy system control and monitoring
- Varying levels of accessibility
- Power distribution management



Integrated building control software

For large, stand-alone VRF installations, building control software is available. It offers complete control and monitoring capability of all connected VRF systems and units.










- System control and monitoring
- Zone management
- History management
- Scheduling
- Power distribution management

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Available Indoor Units

Trane VRF Indoor Units

Nominal Capacity (MBh)		7.5	9	12	18	20	24	30	36	48	60	75.8	96
Non-Ducted Indoor Units													
	Slim One-Way	●	●	●									
	Mini Four-Way		●	●	●	●							
	Four-Way		●	●	●		●	●	●	●			
	High-Wall	●	●	●	●	●	●						
	Floor/Ceiling				●		●						
Ducted Indoor Units													
	Slim Duct	●		●	●		●	●	●	●			
	Mid-Static Pressure Duct				●		●	●	●	●			
	High-Static Pressure Duct								●	●		●	●
	Convertible Air Handler				●		●	●	●	●	●		

Efficiency Ratings

AHRI Efficiency Ratings* for Single Phase Outdoor Units

Model	Indoor Type	Capacity (Btu/h)	EER	SEER	HSPF
4TVH0036B100NB	Ducted Indoor Units	38000	11.20	16.00	8.60
4TVH0036B100NB	Non-Ducted Indoor Units	38000	11.20	14.80	8.80
4TVH0048B100NB	Ducted Indoor Units	48000	10.20	16.00	9.40
4TVH0048B100NB	Non-Ducted Indoor Units	48000	10.20	15.80	8.70
4TVH0053B100NB	Ducted Indoor Units	53000	9.45	15.50	8.60
4TVH0053B100NB	Non-Ducted Indoor Units	53000	10.30	18.50	8.80

*As listed on April, 2014. Check www.AHRI.org for latest ratings data.

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Independent Trane dealers value reliability as much as you do

Your independent Trane dealer knows their reputation is made at every sale, and with every installation. Therefore, they are as personally invested in your comfort as you are, and take great pride in creating your perfect indoor environment.

Independent Trane dealers are some of the most highly trained in the business, with advanced technical skills to optimize every installation and solve any issue.

They have an extensive understanding of the movement and conditioning of air, and the expertise to create a perfectly balanced, ultra-efficient system for every home.

Independent Trane dealers believe in doing the job right, every time.

For all coverage options, check with your local independent Trane dealer or go to www.Trane.com/residential/find-a-dealer to locate the independent Trane dealer closest to you.

Take comfort in our warranties

Your Trane VRF System is warranted by Trane for a period five years from the date the system is started provided these conditions are met:

- The system is designed using the software tool titled "Trane VRF Select".
- The system is installed by an independent Trane dealer who has successfully completed the Trane approved factory training class for this product.

- A verified commissioning report from the Trane PC tool "Technician Utilities Tool" is submitted to Trane by the independent Trane Dealer. This documentation packet contains a start-up report which includes key pieces of information regarding the system installation and commissioning process.

Take note of our affiliations

The quality of Trane products and service is certified by the following independent industry organizations.



Ingersoll Rand (NYSE:IR) advances the quality of life by creating comfortable, sustainable and efficient environments. Our people and our family of brands—including Club Car®, Ingersoll Rand®, Thermo King® and Trane®—work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; and increase industrial productivity and efficiency. We are a global business committed to a world of sustainable progress and enduring results.



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We are committed to using environmentally conscious print practices

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