



TRANE[®]

TVR[™] *Select*

Certified Comfort

IR Ingersoll Rand[®]



TVR™ Select systems...meeting all standards	3
Why TVR™ Select	4
Simultaneous Heating and Cooling	5
System Features	8
Outdoor Units	12
Indoor Units	18
Intelligent Management Control System	32
Service Software	39
Other Accessories	39



TVR™ Select systems...meeting all standards

A flexible and certified solution for each project

The new TVR Select system under the TRANE brand represents a technological leap.

The new TVR Select includes features like simultaneous heating and cooling using the heat recovery series and at the same time reducing energy consumption while maintaining optimal climate conditions within the building.

The new TVR Select achieves higher levels of energy efficiency in both cooling (EER) and heating (COP) complying with the ANSI/AHRI Standard 1230-2010 and with the AHRI Standard 210/240-2008 for Mini TVR Select units. This is accomplished through the use of an optimized fan design with a DC fan motor, an improved high performance heat exchanger, Brushless Reluctance DC inverter scroll compressors and intelligent defrost capability.

TVR Select can be applied as the main HVAC system in a building or as a supplemental system that coordinates with an existing HVAC installation to meet different application requirements.

The TVR Select is ideal for buildings that have different requirements for future tenants, for buildings requiring tenant by tenant installation, operation and billing. The compact size of the indoor units, the small footprint and modularity of outdoor units and the use of small refrigerant pipes to transport energy between outdoor and indoor units make this product the ideal solution for existing buildings.

Individual control

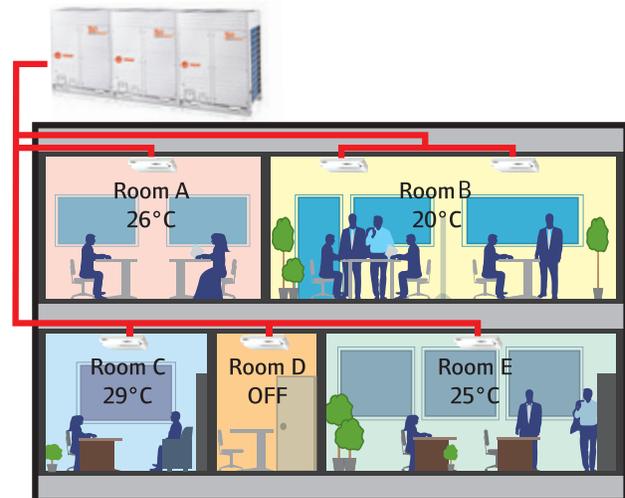
The use of individual LCD zone controllers, allows users to meet their individual comfort needs as the TVR Select system will control the refrigerant flow to each individual zone in order to meet the cooling or heating requirements.

TVR Select controls are factory integrated, and when combined with available remote temperature sensors, programmable controllers, centralized controller or integrated into a Building Management System (BMS) you will ensure the most efficient and reliable operation of an air conditioning system.

TVR Select is designed to maximize the comfort of the user by matching the cooling or heating load required in each zone with no overheating or under cooling, keeping the ambient temperature within 0.9 F from the established setpoint.

Indoor air quality

While cooling or heating, the TVR Select system also dehumidifies the indoor air and independently filters the air in each zone with no possibility of cross contamination between independent zones.



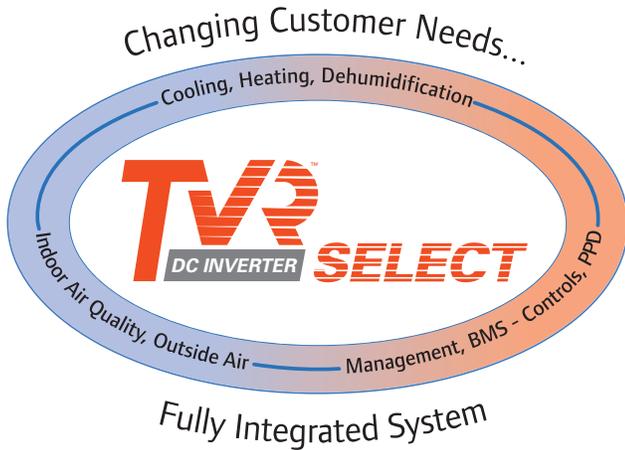
TVR Select's individual independent control per zone

All functions necessary for filtration, cooling and heating, ventilation and dehumidification are fully integrated within the TVR Select system.

The indoor air quality can be improved when pretreated outside air is introduced into the building either through direct connection to the indoor units (4-way cassette units) or through our 100% fresh air concealed units.

The TVR Select system can handle the integration with external fresh air through different solutions.

Why TVR™ Select ?



Energy Efficient System

The TVR Select system's automatic power consumption adjustment matches the cooling load perfectly to the changing needs of all the individual zones thus realizing energy savings. The capacity is controlled intelligently and distributed evenly over the different zones without wasting energy.

Energy Efficiency (EER) increases at partial load when fewer indoor units require cooling/heating thus reducing the total power consumption. A TVR Select system does not run at full speed all the time and during a typical daily operation a TVR Select system will work for a majority of its time in the unloading zone with higher energy efficiency. During partial load the inverter compressor runs at reduced speed matching the required building load.

Flexible Design

The TVR Select System can be customized to the highest degree. The ability to use heat pump or heat recovery modular outdoor units and connect them together in series, offers the greatest design flexibility possible.

A total of 13 different outdoor unit combinations are available that can be matched with a total of 59 different indoor units to meet any type of requirement. The largest 345 MBH modules allow the connection of up to 59 indoor units thus delivering comfort as far as 574 ft. away from the outdoor units.

The optional high static pressure outdoor fan motor allows floor to floor installation of the outdoor units when this could be the optimal solution for a particular application.

The TVR Select system allows customization towards the future where zones can be easily added, replaced or removed depending on the changing needs of the end user.

Energy Management

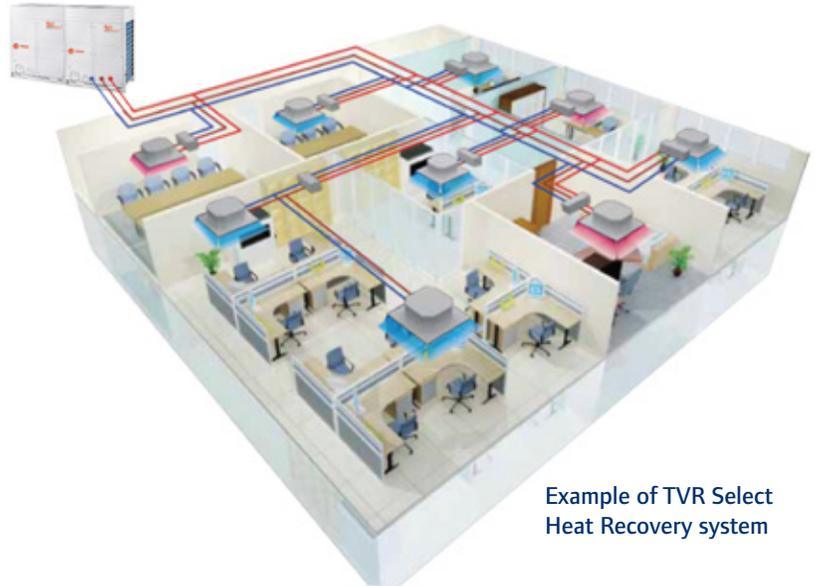
The optional centralized control system of the TVR Select system already has all the power management data or information points of each individual zone. Adding the power measurement software to the system allows the user to calculate the individual power consumption per zone, per floor or per building. The control software will require a digital ammeter per outdoor unit and the Web Gateway centralized controller.

Simultaneous Heating and Cooling

Heat Recovery

The TVR™ Select heat recovery systems provide for simultaneous cooling and heating while achieving a better energy efficiency.

During this operation the refrigerant being condensed by the indoor units in the heating mode is used to provide part of the cooling required by the indoor units that are in a cooling mode at the same time; under this condition energy consumption can be reduced significantly.

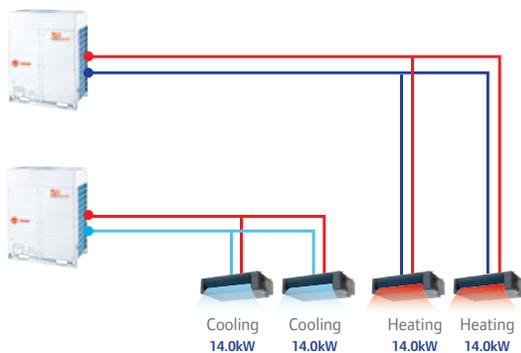


Example of TVR Select Heat Recovery system

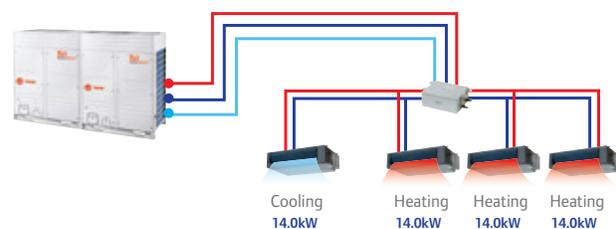
TVR Select MS Boxes

The MS (Mode Switch) boxes allow for simultaneous cooling and heating for up to 6 groups of 4 indoor units each, for a total of 24 units connected to only 1 MS box. This great design makes the TVR Select heat recovery system particularly flexible with several combination options available. This flexibility translates to: reduced first equipment, reduced installation costs and ease of installation. Less piping and fewer MS boxes are required to perform the same job as compared to an individual MS box arrangement, all of which provides for much easier installation in the field.

TVR Select Heat Pump system



TVR Select Heat Recovery system



DC Inverter Advantage

Energy Saving

The introduction of a high efficiency DC inverter scroll compressor driven by the most advanced control technology is designed to provide more precise operation and improved system efficiency.

The compressor speed is adapted to match the fluctuating cooling/heating load of the complete building while ensuring the appropriate individual variable supply of cooling/heating for each independent zone.

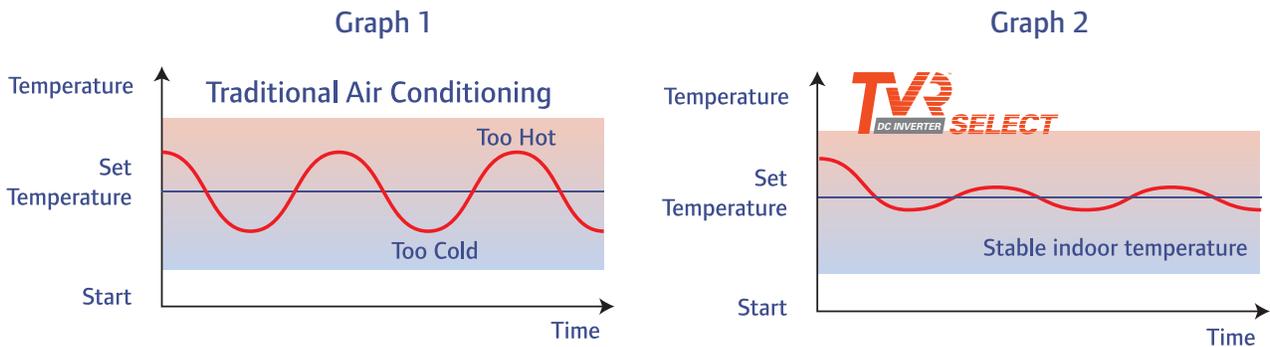
The control system uses PWM (Pulse Width Modulation) control that optimizes the efficiency once the setpoint temperature is reached, avoiding temperature fluctuation and thus reducing power consumption.

Accurate temperature control leading to Ideal comfort

Graph 1: Traditional air conditioners maintain the temperature by continually starting and stopping the compressor after reaching the temperature setpoints.

Traditional compressors require minimum time between starts and stops which leads to a wide fluctuation of indoor temperature.

Graph 2: With advanced digital variable refrigerant flow control technology, TVR™ Select system can accurately control the room temperature within a narrow temperature band thus avoiding wasting energy and creating the most comfortable environment. The setpoint will be stable at +/- 0.9° F.



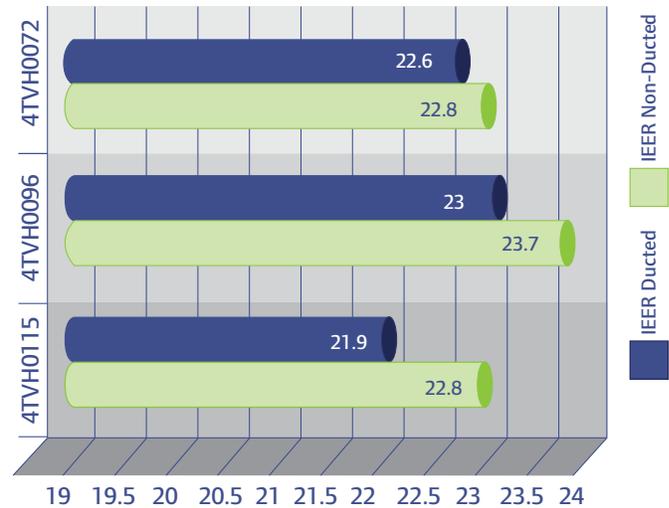
Progress is greener
with Ingersoll Rand

Longevity

DC Inverter scroll compressors do not start and stop all the time and thus will have a longer lifetime compared to standard compressors used in traditional systems.

The electronic control can adjust/optimize the compressor's operating conditions under extreme weather by changing the compressor speed during freezing winter or high summer outdoor temperatures. This greatly extends the lifetime operation of the compressor. The TVR Select system's auto diagnostic continually monitors the complete system and allows fast troubleshooting with the display of alarm codes on controllers or through the BMS interfaces.

TVR™ Select Energy Efficiency



DC Inverter scroll compressor technology advantages

- New structure-enhanced mid-frequency performance
- Especially designed scroll profile for R410A
- Advanced permanent magnet DC motor improves the low frequency band performance

The high efficiency R-410A high pressure dome scroll compressor has a revolutionary asynchronous motor design using integrated permanent Neodymium magnets creating a magnetic field with extra reluctance torque which greatly increases the efficiencies in low and medium speeds.

Due to the magnetic field, the motor will place itself in the perfect position that will allow the compressor a soft start with the lowest amperage draw.

Environment - R410A refrigerant

The TVR™ Select system operates with the highly efficient R410A refrigerant with zero ozone layer depleting potential. R410A provides increased heat transfer and system performance; as a result it reduces the required amount of refrigerant, the size of required piping, and hence of general installation costs.

System Features

The TVR™ Select product portfolio offers a complete range of outdoor units to meet the right needs of different applications. There are three different types of outdoor units that can be matched to our new TVR Select indoor units:

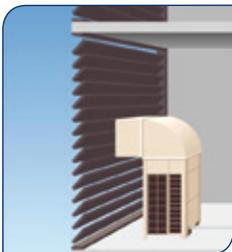
- Mini TVR Select: Nominal capacity range from 36 to 48 MBH*
- Modular TVR Select Heat Pump: Nominal capacity range from 72 to 345 MBH*
- Modular TVR Select Heat Recovery: Nominal capacity range from 72 to 345 MBH*

* see outdoor unit specs for more details



Self-Addressing of indoor units

- The outdoor unit will automatically distribute the addresses to indoor units without any manual settings (this function applies to vertical discharge heat pump units only).
- Wireless controller TCONTRM05B and new TCONTKJR29B can modify every indoor units address.
- Max. 59 indoor units can be connected to one system and identified automatically.



Outdoor unit static pressure

Optional adjustable high static outdoor fan motor is available for different applications. All units can be customized to reach 0.24" WG of external static pressure. The standard static pressure is 0-0.08" WG.



DC fan motor

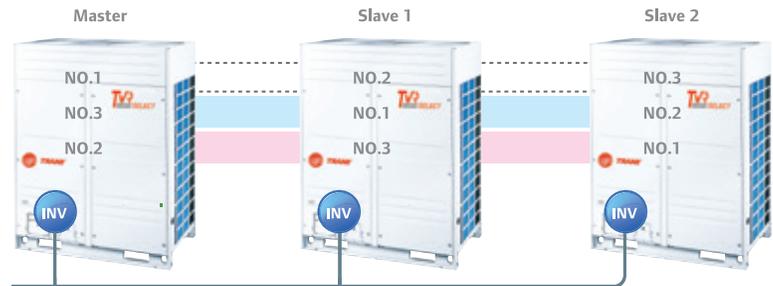
The DC fan motor offers substantial improvements in operating efficiency compared to conventional AC motors, especially during low speed rotation.

To achieve the minimum energy consumption and best performance, it controls the speed of DC fan according to the running load and system pressure.

This new DC fan motor also reduces noise level when working under certain part-load conditions

Auto-rotation of outdoor units

When more than one outdoor unit is installed within a modular system, the TVR™ Select system rotates the master unit automatically to ensure a longer life cycle of the complete system. This rotation takes place when the unit re-starts operation after it has reached a setpoint, after the oil return process, and after the defrost process (in heating operation).

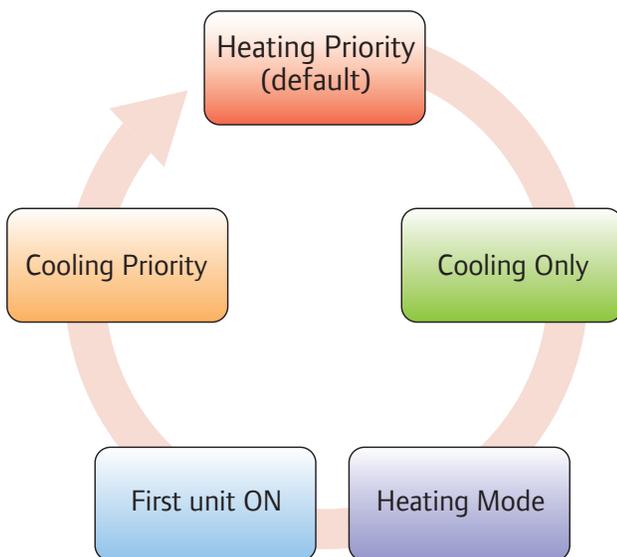


All inverter compressors

The TVR Select outdoor units utilize all inverter compressors which adds more flexibility and reliability to the system as compared to the combination of fixed and inverter compressor technology. The ability to perform at higher compressor speeds allows the system to reach longer piping distances (up to 574 ft.) and more comfort zones (up to 3280 ft. of total piping length).

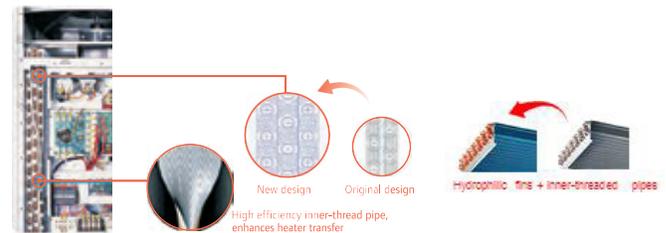
Priority Mode Selection

In order to reduce the potential for mode conflict and to satisfy priority needs, several types of mode selection are available.



High Performance Heat Exchanger

The new TVR Select units have a high performance heat exchanger that allows better air flow and longer time of operation between defrost cycles.



Fan blade with special profile

A blade with sharp edge and reduced curve increases the airflow rate and lowers vibration and airflow resistance.



Flexibility & Reliability of TVR™ Select System

Piping Length Flexibilities

The unique concept of a pre-engineered system that arrives on the jobsite with a predefined piping layout per system and the necessary piping kits allows for fast and correct installation of the system.

The actual piping length from the condensing unit to the indoor unit furthest away is 574 ft. (656 ft. equivalent) up to a total piping length of 3280 ft.

The height difference can be 230 ft. equivalent for outdoor units being installed on the roof and 360 ft. lift for outdoor units installed below or at ground level.

Modular Design

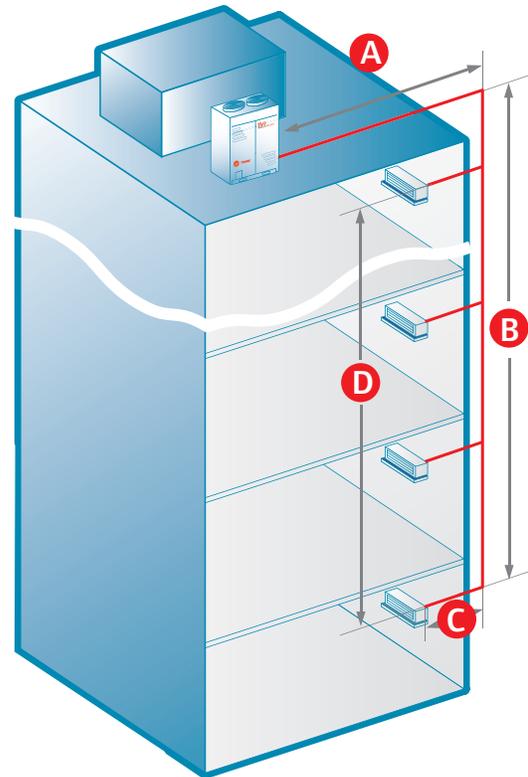
Through the compact modular design the TVR Select outdoor units can be installed in rows and manifolded in series together to maximum 345MBH, with 59 indoor units connected, providing a clean accessible installation. The 345MBH outdoor unit is however capable to control down to a 6.9MBH capacity with only one inverter compressor running.

The load demand for the all inverter compressor units, is better matched through a smooth linear operation that allows them to perform with maximum precision. The establishment of an operating frequency range between 60-140Hz, guarantees the highest efficiency attainable. The compact shape allows transport by elevator.

Back Up function

When a module fails, whether it is a slave unit or a master unit, the other modules can continue to work together as one system provided the gas/liquid valves of the broken down unit are closed.

As the load increases the different condensing modules will work as a master slave system optimizing the performance and energy efficiency.



Maximum Actual piping length (A+B+C)	574ft.
Maximum height between indoor units (D)	98ft.
Maximum height between indoor units and outdoor units (B)	230ft./ 360ft.*
Total Actual pipe length	3280ft.

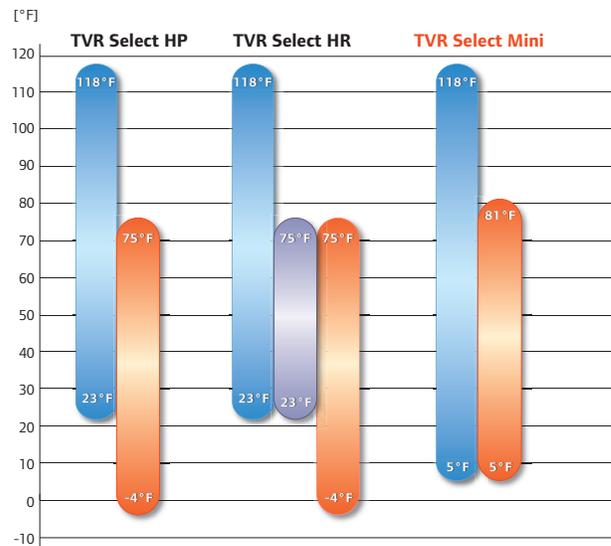
* when outdoor unit is below indoor units

Operation Range

- The HP systems can provide either cooling or heating, while the HR systems can provide cooling and heating simultaneously.
- The TVR™ Select mini condensing units have a standard low ambient operation kit. This means that the intelligent controls on the DC inverter compressor allow for a stable indoor temperature with continuous operation in heating down to -4°F for TVR Select and 5°F for TVR Select mini.

Indoor comfort level

- The integration of DC inverter technology used in the condensing unit results in an industry leading low noise level, i.e., 57 dB(A) at 3.3 ft. for a 72MBH outdoor unit.
- The noise level of the indoor units is low due to the especially designed fans and heat exchanger designs.
- The variety of ducted indoor units allow for flexible design to meet any sound requirements per zone.



* applicable for low air volume operation of 4TVB0007 units.

Outdoor Units

TVR™ Select Mini - Residential Comfort

A very compact condensing unit that allows the TVR Select indoor unit range to be connected to a single outdoor unit.

Features

- 2 power levels 36,000 Btu/h and 47,500 Btu/h
- High efficiency heat pump unit with R410A
- DC inverter fan motor
- AHRI / ETL certified

Compact

- Maximum economy of space, one 47,500 Btu/h outdoor unit controls up to maximum 7 indoor units
- Can be installed close to a wall

Low Noise

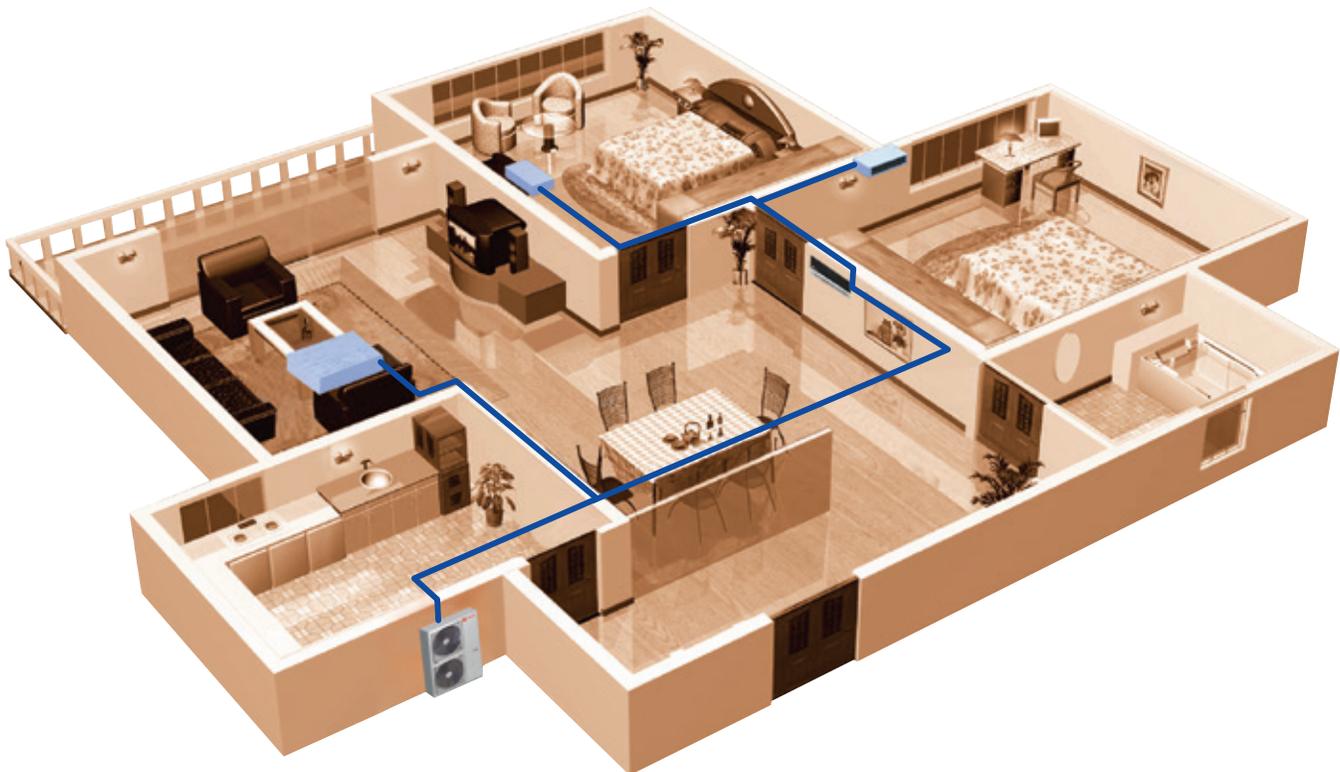
- Very low noise level on the outdoor unit, 56 dB(A) at 3.28 ft. from the unit
- Low starting current thanks to the DC inverter technology

Flexibility

- Easy to install, fits inside an elevator, no need for a crane
- Long piping length for spot cooling or heating, 230 ft. equivalent piping and 98 ft. height difference when OD unit is placed above



4TVH0036C1000AA
4TVH0048C1000AA





Mini TVR Select™ Outdoor Units

Model Numbers			4TVH0036C1000AA		4TVH0048C1000AA	
Power Supply		V/Ph/Hz	208-230/60/1		208-230/60/1	
Cooling	Capacity	Btu/h	36,000		47,500	
	Power Input	kW	3.5		5.2	
	Capacity Range(45% - 110%)	Mbh	16.2-39.6		21.4-52.3	
	Efficiency	-	Ducted	Unducted	Ducted	Unducted
	EER	-	9.7	9.4	8.3	8.8
	IEER	-	13.7	14.3	13.45	13.7
Heating	Capacity	Btu/h	40,000		52,500	
	Power Input	kW	3.7		5	
	Capacity Range(45% - 110%)	Mbh	18-44		23.7-57.8	
	Efficiency	-	Ducted	Unducted	Ducted	Unducted
	COP @ 47°F	-	2.84	2.94	2.7	2.8
	COP @ 17°F	-	2			
	HSPF	-	8.1	8.4	8.2	8.8
Cooling operation range		°F	5-118.4			
Heating operation range		°F	5-80.6			
Airflow Rate		CFM	3,500			
Sound Pressure		dBA	58			
Fin Type			Hydrophilic aluminum			
Dimensions (WxHxD)		inches	35-7/14 x 52-1/4 x 12-5/8			
Net Weight		lbs.	209			
Refrigerant		-	R410a			
Refrigerant Charge		lbs.	7.3		8.6	
Refrigerant Oil		fl. Oz	29.4			
Refrigerant Piping	Liquid Side	Ø inch	3/8			
	Gas Side	Ø inch	5/8			
	Max. Equivalent Pipe Length	ft.	230			
	Max. Height difference between IUs	ft.	26			
	Max. Height difference for OU above IU	ft.	98			
	Max. Height difference for OU below IU	ft.	66			
Max. Amount of IUs connected to OU		-	5		7	

* Rated per AHRI 210/240-2008 Standard conditions

* Nominal cooling capacities are based on the following conditions: indoor air temperature: 80.6°F DB, 66.2°F WB, outdoor temperature: 95°F DB, 75.2°F WB, DB, equivalent ref. piping: 24.6 ft. (horizontal)

* Nominal heating capacities are based on the following conditions: return air temperature: 68°F DB, 59°F WB, outdoor temperature: 44.6°F DB, 42.8°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Capacities are net, not including a deduction for cooling (an addition for heating) for indoor fan motor heat

* The operating sound has been measured in a semi anechoic chamber and 4.26 ft above the floor.

With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

Note: Specifications subject to change without notice.

TVR™ Select Modular Heat Pump Outdoor Units

Condensing units - 60 Hz

- Choice of 2 ~ power supplies:
 - 60Hz 460V
 - 60 Hz 220V
- 3 different modules can work individually or in a master-slave configuration up to 3 outdoor units
- Any outdoor unit module in a group can be the designated master or slave
- All TVR Select outdoor units have the same height and depth allowing for row installation
- Improved Linear Capacity Control with all inverter compressors

- Continuous cooling up to 23°F and heating up to -4°F
- No mechanical rooms needed, fits in elevator
- AHRI / ETL certified

Comfort

- Auto restart function no need for re-programming
- Low noise design
- Back up function

Service

- Easy maintenance with the self diagnostic function and test switch
- Flexible start up procedure and automated piping /wiring checks
- Self-addressing of indoor units
- Optional service software



4TVH0072-115



Table of Outdoor Unit Connections

Nominal Tons	6	8	10	12	14	16	18	20	22	24	26	28	30
MBH	72	96	115	144	168	192	211	230	264	283	307	326	345
72	X			XX	X				X	X			
96		X			X	XX	X		XX	X	XX	X	
115			X				X	XX		X	X	XX	XXX
Max No. Indoor	13	16	20	26	29	33	36	39	46	50	53	56	59

TVR™ Select Modular Heat Pump Outdoor Units

Model Numbers		<6>	4TVH0072C6000AA	4TVH0096C6000AA	4TVH0115C6000AA			
		<4>	4TVH0072C4000AA	4TVH0096C4000AA	4TVH0115C4000AA			
Power Supply		V/Ph/Hz	208-230/60/3					
		V/Ph/Hz	460/60/3					
Cooling	Capacity	Btu/h	69,000		92,000		114,000	
	Power Input	kW	5.27		7.48		10	
	Capacity Range(50% - 130%)	Mbh	34.5-89.7		47.5-119.6		57-148.2	
	Efficiency	-	Ducted	Unducted	Ducted	Unducted	Ducted	Unducted
	EER	-	12.8	14.1	12.4	13.2	11.4	12.2
	IEER	-	22.6	22.8	23	23.7	21.9	22.8
Heating	Capacity	Btu/h	77,000		103,000		120,000	
	Power Input	kW	5.64		8.27		10.2	
	Capacity Range(50% - 130%)	Mbh	38.5-100.1		51.5-154.5		60-156	
	Efficiency	-	Ducted	Unducted	Ducted	Unducted	Ducted	Unducted
	COP @ 47°F	-	3.85	4.29	3.63	3.82	3.45	3.66
	COP @ 17°F	-	2.41	2.8	2.3	2.52	2.3	2.38
Cooling operation range		°F	23~118.4					
Heating operation range		°F	-4~75.2					
Airflow Rate		CFM	7,130					
Sound Pressure		dBA	63.5		63.5		64.5	
Fin Type			Hydrophilic aluminium					
Dimensions (WxHxD)		inches	49-1/4x63-1/8x30-1/8					
Net Weight		lbs.	635					
Refrigerant		-	R410a					
Refrigerant Charge		lbs.	28.7					
Refrigerant Oil		fl. Oz	169.1					
Refrigerant Piping	Liquid Side	Ø inch	3/8		1/2		1/2	
	Gas Side	Ø inch	7/8		7/8		1-1/8	
	Max. Equivalent Pipe Length	ft.	656					
	Max. Height difference between IUs	ft.	98					
	Max. Height difference for OU above IU	ft.	230					
	Max. Height difference for OU below IU	ft.	360					
Max. Amount of IUs connected to OU		-	13		16		20	

<4> = 460 V, 3 ph, 60Hz

<6> = 220 V, 3 Ph, 60 Hz

* Rated per AHRI-1230 Standard conditions

* Nominal cooling capacities are based on the following conditions: indoor air temperature: 80.6°F DB, 66.2°F WB, outdoor temperature: 95°F DB, 75.2°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Nominal heating capacities are based on the following conditions: return air temperature: 68°F DB, 59°F WB, outdoor temperature: 44.6°F DB, 42.8°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Capacities are net, not including a deduction for cooling (an addition for heating) for indoor fan motor heat

* The operating sound has been measured in a semi anechoic chamber and 4.26 ft. above the floor.

With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

Note: Specifications subject to change without notice.

Optional Accessories

- TVR™ Select Outdoor unit centralized controller TCONTCCM02A
- Digital ammeter



30 Tons unit

TVR™ Select Modular Heat Recovery Outdoor Units

Condensing units - 60 Hz

- Choice of 2 ~ power supplies:
60Hz 460V
60 Hz 220V
- 3 different modules can work individually or in a master-slave configuration up to 3 outdoor units
- Any outdoor unit module in a group can be the designated master or slave
- All TVR Select Heat Recovery outdoor units have the same height and depth allowing for row installation
- Improved Linear Capacity Control with all inverter compressors
- No mechanical rooms needed, fits in elevator
- AHRI / ETL certified

Comfort

- Auto restart function no need for re-programming
- Low noise design
- Back up function

Service

- Easy maintenance with the self diagnostic function and test switch
- Flexible start up procedure and automated piping / wiring checks
- Self-addressing of indoor units
- Optional service software



4TVR0072-115

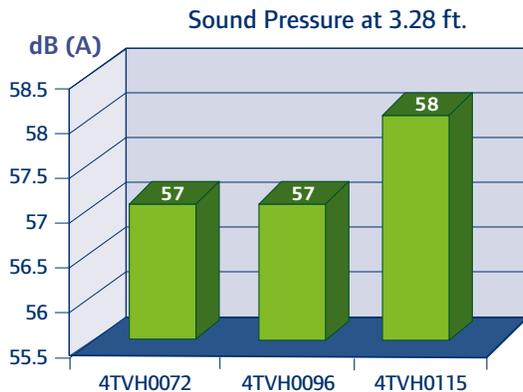


Table of Outdoor Unit Connections

Nominal Tons	6	8	10	12	14	16	18	20	22	24	26	28	30
MBH	72	96	115	144	168	192	211	230	264	283	307	326	345
72	X			XX	X				X	X			
96		X			X	XX	X		XX	X	XX	X	
115			X				X	XX		X	X	XX	XXX
Max No. Indoor	13	16	20	26	29	33	36	39	46	50	53	56	59

TVR™ Select Modular Heat Recovery Outdoor Units

Model Numbers		<6>	4TVR0072C6000AA	4TVR0096C6000AA	4TVR0115C6000AA			
		<4>	4TVR0072C4000AA	4TVR0096C4000AA	4TVR0115C4000AA			
Power Supply		V/Ph/Hz	208-230/60/3					
		V/Ph/Hz	460/60/3					
Cooling	Capacity	Btu/h	69,000		92,000		114,000	
	Power Input	kW	5.1		7.2		10	
	Capacity Range(50% - 130%)	Mbh	34.5-89.7		47.5-119.6		57-148.2	
	Efficiency	-	Ducted	Unducted	Ducted	Unducted	Ducted	Unducted
	EER	-	12.8	14.1	12.4	13.2	11.4	12.2
	IEER	-	22.6	22.8	23	23.7	21.9	22.8
Heating	Capacity	Btu/h	77,000		103,000		120,000	
	Power Input	kW	5.64		8.27		10.2	
	Capacity Range(50% - 130%)	Mbh	38.5-100.1		51.5-154.5		60-156	
	Efficiency	-	Ducted	Unducted	Ducted	Unducted	Ducted	Unducted
	COP @ 47°F	-	3.85	4.29	3.63	3.82	3.45	3.66
	COP @ 17°F	-	2.41	2.8	2.3	2.52	2.3	2.38
SCHE			27.2	28	26.9	27.6	26.3	28
Cooling operation range		°F	23~118.4					
Heating operation range		°F	-4~75.2					
Simultaneous Cooling and Heating			23~75.2					
Airflow Rate		CFM	6,890					
Sound Pressure		dBA	57		57		58	
Fin Type			Hydrophilic aluminium					
Dimensions (WxHxD)		inches	49-1/4x63-1/8x30-1/8					
Net Weight		lbs.	635					
Refrigerant		-	R410a					
Refrigerant Charge		lbs.	28.7					
Refrigerant Oil		fl. Oz	169.1					
Refrigerant Piping	Liquid Side	Ø inch	3/8		1/2		1/2	
	Gas Side	Ø inch	7/8		7/8		1-1/8	
	Max. Equivalent Pipe Length	ft.	656					
	Max. Height difference between IUs	ft.	98					
	Max. Height difference for OU above IU	ft.	230					
Max. Amount of IUs connected to OU		-	13		16		20	

<4> = 460 V, 3 ph, 60Hz

<6> = 220 V, 3 Ph, 60 Hz

* Rated per AHRI-1230 Standard conditions

* Nominal cooling capacities are based on the following conditions: indoor air temperature: 80.6°F DB, 66.2°F WB, outdoor temperature: 95°F DB, 75.2°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Nominal heating capacities are based on the following conditions: return air temperature: 68°F DB, 59°F WB, outdoor temperature: 44.6°F DB, 42.8°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Capacities are net, not including a deduction for cooling (an addition for heating) for indoor fan motor heat

* The operating sound has been measured in a semi anechoic chamber and 4.26 ft. above the floor.

With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

Note: Specifications subject to change without notice.

Optional Accessories

- TVR™ Select Outdoor unit centralized controller TCONTCCM02A
- Digital ammeter



30 Tons unit

Indoor Units

4-way Cassette - 4TVC

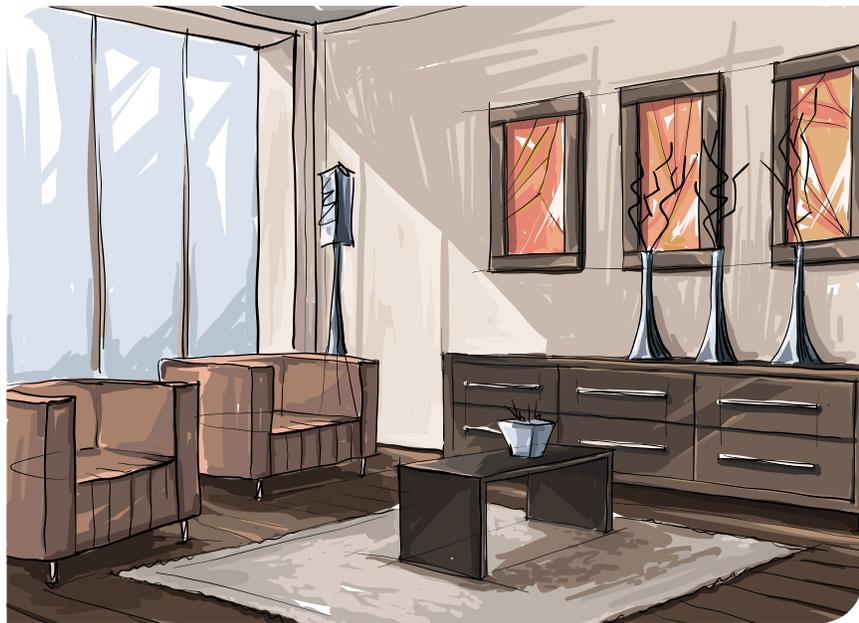
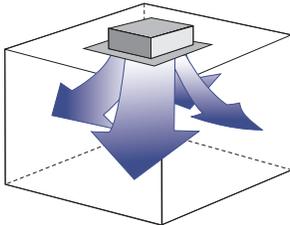
- Integrated drain pump with 750 mm lift.
- EXV kit is factory mounted on the unit.
- Efficient air distribution
- Fresh Air connection possible
- Digital tube displaying on the display board. LED can display the error code so it's easier to check malfunction
- Ultra thin machine body for an easy installation and maintenance. (9-27 MBH → 9 inches , 30-48 MBH → 11.8 inches)
- Reserved knock out spaces for ducting up to 50% of the air flow, hence supplying air to 2 adjacent rooms
- The adoption of the most advanced 3-dimensional screw fan:
 - Reduces the air resistance
 - Smooths the air flow and noise level
 - Provides uniform air speed distribution over the heat exchanger
- Different optional color panels to integrate into a design: White (standard), Gray, Blue and Black
- Optional wireless controller or wired controller



3-dimensional screw fan



Four-way Airflow



*Optional Controllers

Wireless Controllers



TCONTRM05B
Heat Pump

Wireless Controllers



TCONTRM02B
Heat Recovery

Wireless Controllers



TCONTRM01WA
Heat Pump

*Optional Controllers

Wired Controller



TCONTKJR90A
Heat Pump

Wired Controller



TCONTKJR12B
Heat Pump

Wired Controller



TCONTKJR120B
Heat Recovery

Wired Controller



TCONTKJR29B
Heat Pump



4-Way Cassette - 60 Hz

Model Numbers		4TVC0009C10	4TVC0012C10	4TVC0015C10	4TVC0018C10	4TVC0024C10	
Power Supply		V/Ph/Hz	208-230/1/60				
Capacity	Cooling	Btu/h	9,000	12,000	15,000	19,000	24,000
	Heating	Btu/h	10,000	13,500	17,000	21,000	27,000
Power Input		W	100				
Rated Current		A	0.5				
Air Flow (SH/H/M/L)		CFM	680/499/451/377		710/509/444/387		781/681/562/441
Sound Pressure (H/M/L)		dB(A)	42/38/35				45/42/39
Unit	Dimensions (W/H/D)	inches	35-19/32x9-1/16x33-5/64				
	Net Weight	lbs.	51		55		
Front Panel	Dimensions (W/H/D)	inches	37-13/32x2-9/64x37-13/32				
	Model Number		RAYPANELWHT001				
	Net Weight	lbs.	11				
Refrigerant Piping	Liquid Side	Ø inch	1/4		3/8		
	Gas Side	Ø inch	1/2		5/8		
Drainage Water Pipe (OD)		Ø inch	1-17/64				

Model Numbers		4TVC0027C10	4TVC0030C10	4TVC0034C10	4TVC0038C10	4TVC0048C10	
Power Supply		V/Ph/Hz	208-230/1/60				
Capacity	Cooling	Btu/h	27,000	30,000	34,000	38,000	48,000
	Heating	Btu/h	30,700	34,000	37,000	42,000	54,000
Power Input		W	115	180		220	
Rated Current		A	0.55	0.85		1	
Air Flow (H/M/L)		CFM	799/727/573/429	1057/936/765/642		1107/988/799/656	
Sound Pressure (H/M/L)		dB(A)	45/42/39	48/45/43		50/47/44	
Unit	Dimensions (W/H/D)	inches	37-13/32x2-9/64x37-13/32	35-19/32x11-13/16x33-5/64			
	Net Weight	lbs.	57.3	65			
Front Panel	Dimensions (W/H/D)	inches	37-13/32x2-9/64x37-13/32				
	Model Number		RAYPANELWHT001				
	Net Weight	lbs.	11				
Refrigerant Piping	Liquid Side	Ø inch	1/4		3/8		
	Gas Side	Ø inch	1/2		5/8		
Drainage Water Pipe (OD)		Ø inch	1-17/64				

* Rated per AHRI-1230 Standard conditions

* Nominal cooling capacities are based on the following conditions: indoor air temperature: 80°F DB, 67°F WB, outdoor temperature: 95°F DB, 75°F WB, equivalent ref. piping: 24.6 (horizontal)

* Nominal heating capacities are based on the following conditions: return air temperature: 70°F DB, 60°F WB, outdoor temperature: 47°F DB, 43°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Capacities are net, not including a deduction for cooling (an addition for heating) for indoor fan motor heat

* The operating sound has been measured in a semi anechoic chamber. The microphone was located 4.6 ft. below the unit.

With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

Note: Specifications subject to change without notice.

Compact 4-way Cassette - 4TVB

Comfort

- 360° efficient air distribution
- Three level fan speed that meets different air supply requirements
- Optimum air flow thanks to the 3-Dimensional Screw fan
 - Reduced air resistance
 - Smooths the air flow and noise level
 - Provides uniform air speed distribution over the entire coil
- Built in Auto Restart
- Fresh Air connection possible

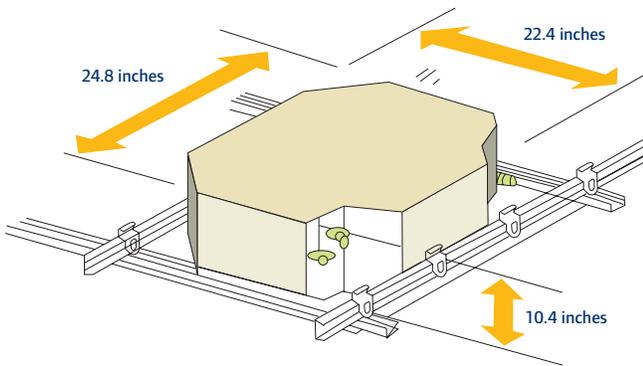
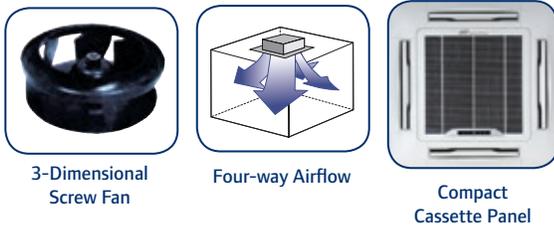
Quick installation

- Ultra thin body of 10.4 inches for installation in tight ceilings
- Light weight units are easy to mount
- Integrated drain pump that lifts up to 500mm



Flexibility

- 1 panel size 25.5 inches x 25.5 inches that fits in standard ceiling grids for all 4 different sizes



*** Optional Controllers**

Wireless Controllers	Wireless Controllers	Wireless Controllers
TCONTRM05B Heat Pump	TCONTRM02B Heat Recovery	TCONTRM01WA Heat Pump

*** Optional Controllers**

Wired Controller	Wired Controller	Wired Controller	Wired Controller
TCONTKJR90A Heat Pump	TCONTKJR12B Heat Pump	TCONTKJR120B Heat Recovery	TCONTKJR29B Heat Pump



Compact 4-Way Cassette – 60 Hz

Model Numbers			4TVB0007C10	4TVB0009C10	4TVB0012C10	4TVB0015C10
Power Supply		V/Ph/Hz	208-230/1/60			
Capacity	Cooling	Btu/h	7,000	9,000	12,000	15,000
	Heating	Btu/h	8,000	10,000	13,500	17,000
Power Input		W	50			
Rated Current		A	0.25			
Air Flow (SH/H/M/L)		CFM	313/234/172/127	317/240/182/136	372/292/211/155	
Sound Pressure		dB(A)	35.8/33.4/23.4			41.5/35.6/28.8
Unit	Dimensions (W/H/D)	inches	22-7/16x10-15/64x22-7/16			
	Net Weight	lbs.	37		40	
Front Panel	Dimensions (W/H/D)	inches	25-15/32x1-31/32x25-15/32			
	Model Number		RAYCMPCTPNL002			
	Net Weight	lbs.	6.6			
Refrigerant Piping	Liquid Side	Ø inch	1/4			
	Gas Side	Ø inch	1/2			
Drainage Water Pipe (OD)		Ø inch	63/64			

* Rated per AHRI-1230 Standard conditions

* Nominal cooling capacities are based on the following conditions: indoor air temperature: 80°F DB, 67°F WB, outdoor temperature: 95°F DB, 75°F WB, equivalent ref. piping: 24.6 (horizontal)

* Nominal heating capacities are based on the following conditions: return air temperature: 70°F DB, 60°FWB, outdoor temperature: 47°F DB, 43°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Capacities are net, not including a deduction for cooling (an addition for heating) for indoor fan motor heat

* The operating sound has been measured in a semi anechoic chamber. The microphone was located 4.6 ft. below the unit.

With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

Note: Specifications subject to change without notice.

Medium ESP Ducted Indoor - 4TVD

Comfort

- Three level fan speed that meets different air supply requirements
- Low noise level thanks to the fan blade design
- Built in Auto Restart
- Standard long life filter



Quick installation

- Ultra thin body of 8.3 inches height for installation in small ceiling pocket
- Light weight units are easy to mount

Flexibility

- Different installations patterns possible with bottom return or ducted return



* Optional Controllers

Wireless
Controllers



TCONTRM05B
Heat Pump

Wireless
Controllers



TCONTRM02B
Heat Recovery

Wireless
Controllers



TCONTRM01WA
Heat Pump

* Optional Controllers

Wired Controller



TCONTKJR90A
Heat Pump

Wired Controller



TCONTKJR12B
Heat Pump

Wired Controller



TCONTKJR120B
Heat Recovery

Wired Controller



TCONTKJR29B
Heat Pump



Mid Pressure Duct – 60 Hz

Model Numbers		4TVD0007C10	4TVD0009C10	4TVD0012C10	4TVD0015C10	4TVD0018C10	
Power Supply	V/Ph/Hz	208-230/1/60					
Capacity	Cooling	Btu/h	7,000	9,000	12,000	15,000	19,000
	Heating	Btu/h	8,000	10,000	13,500	17,000	21,000
Power Input	W	75			115		
Rated Current	A	0.4			0.55		
Air Flow (SH/H/M/L)	CFM	340/310/240/190			-/500/390/340		
Indoor External Static Pressure (H)	in. wg.	0.04-0.12					
Sound Pressure (H/M/L)	dB(A)	35/32/29		36/33/30	37/34/30		
Dimensions (W/H/D)	inches	31-7/64x8-17/64x25			39-49/64x8-1/4x25		
Net weight	lbs.	47		48	59		
Refrigerant Piping	Liquid Side	Ø inch	1/4			3/8	
	Gas Side	Ø inch	1/2			5/8	
Drainage Water Pipe (OD)	Ø inch	1-1/4					

Model Numbers		4TVD0024C10	4TVD0027C10	4TVD0030C10	4TVD0038C10	4TVD0048C10	
Power Supply	V/Ph/Hz	208-230/1/60					
Capacity	Cooling	Btu/h	24,000	27,000	30,000	38,000	48,000
	Heating	Btu/h	27,000	30,000	34,000	42,000	54,000
Power Input	W	190	250		420	360	
Rated Current	A	0.9		1.15	1.95	1.65	
Air Flow (SH/H/M/L)	CFM	-/620/530/480	1388/1345/1165/1013	-/790/690/610	-/1060/920/820	-/1120/970/830	
Indoor External Static Pressure (H)	in. wg.	0.04-0.12	0.04-0.20		0.04-0.32	0.04-0.4	
Sound Pressure (H/M/L)	dB(A)	40/37/32	45.4/39.8/37	43/40/34	46/42/40		
Dimensions (W/H/D)	inches	39-49/64x10-5/8x25	46-29/64x10-5/8x30-33/64	48-27/64x10-5/8x30-33/64		50-25/32x11-13/16x34-1/16	
Net weight	lbs.	66	84	88		108	
Refrigerant Piping	Liquid Side	Ø inch	3/8				
	Gas Side	Ø inch	5/8				
Drainage Water Pipe (OD)	Ø inch	1-1/4	63/64		1-1/4		

* Rated per AHRI-1230 Standard conditions

* Nominal cooling capacities are based on the following conditions: indoor air temperature: 80°F DB, 67°F WB, outdoor temperature: 95°F DB, 75°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Nominal heating capacities are based on the following conditions: return air temperature: 70°F DB, 60°F WB, outdoor temperature: 47°F DB, 43°F DB, equivalent ref. piping: 24.6 ft. (horizontal)

* Capacities are net, not including a deduction for cooling (an addition for heating) for indoor fan motor heat

* The operating sound has been measured in a semi anechoic chamber. The microphone was located 3.28 ft. below the unit.

With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

Note: Specifications subject to change without notice.

High ESP Ducted Indoor - 4TVA

Comfort

- Three level fan speed that meets different air supply requirements
- Built in Auto Restart
- Air filter to be fitted inside return duct system

Flexibility

- Broad range of models up to 95 MBH
- External Static Pressure up to 1.12 inches WG



* Optional Controllers

Wireless
Controllers



TCONTRM05B
Heat Pump

Wireless
Controllers



TCONTRM02B
Heat Recovery

Wireless
Controllers



TCONTRM01WA
Heat Pump

* Optional Controllers

Wired Controller



TCONTKJR90A
Heat Pump

Wired Controller



TCONTKJR12B
Heat Pump

Wired Controller



TCONTKJR120B
Heat Recovery

Wired Controller



TCONTKJR29B
Heat Pump



High Pressure Duct – 60Hz

Model Numbers		4TVA0024C10	4TVA0030C10	4TVA0038C10	4TVA0048C10	4TVA0055C10	4TVA0068C10	4TVA0095C10		
Power Supply	V/Ph/Hz	208-230/1/60								
Capacity	Cooling	Btu/h	24,000	30,000	38,000	48,000	54,000	72,000	96,000	
	Heating	Btu/h	27,000	34,000	42,000	54,000	60,000	84,000	11,000	
Power Input	W	435	430	430	555	555	1490	1490		
Rated Current	A	2	2.05	2.05	2.5	2.5	6.5	6.5		
Air Flow (H/M/L)	CFM	1012/902/788	1326/1195/948	1294/1164/924	1746/1586/1453	1746/1586/1453	2260/2116/1748	2260/2116/1748		
Indoor External Static Pressure (H)	in. wg.	0.1(0.1- 0.78)	0.15(0.15- 0.78)	0.20(0.20-0.78)			0.8(0.20-1.12)			
Sound Pressure (H/M/L)	dB(A)	48/46/44.5	52/49/47		53/50/48	54/52/50	59/55/52			
Unit	Dimensions (W/H/D)	inches	37-31/64×16-17/32×27-11/64			51-3/16×16-1/2×27-13/64		56-13/16×18-1/2×31-57/64		
	Net Weight	lbs.	102	110	110	153	153	218	218	
Refrigerant Piping	Liquid Side	Ø inch	3/8							
	Gas Side	Ø inch	5/8				3/4			
Drainage Water Pipe (OD)	Ø inch	1-17/64								

* Rated per AHRI-1230 Standard conditions

* Nominal cooling capacities are based on the following conditions: indoor air temperature: 80°F DB, 67°F WB, outdoor temperature: 95°F DB, 75°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Nominal heating capacities are based on the following conditions: return air temperature: 70°F DB, 60°F WB, outdoor temperature: 47°F DB, 43°F DB, equivalent ref. piping: 24.6 ft. (horizontal)

* Capacities are net, not including a deduction for cooling (an addition for heating) for indoor fan motor heat

* The operating sound has been measured in a semi anechoic chamber. The microphone was located 3.28 ft. below the unit.

With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

Note: Specifications subject to change without notice.

Convertible - 4 TVX

Comfort

- Efficient air distribution with two directional airflow and wide angle air flow
- Three level fan speed that meets different air supply requirements
- Low noise level
- Built in Auto Restart

Quick installation

- Installation under windows or ceilings
- Units are easy to mount
- Drain pipe connection left or right

Flexibility

- Modern and elegant appearance
- Can be installed vertically and horizontally



* Optional Controllers

Wireless
Controllers



TCONTRM05B
Heat Pump

Wireless
Controllers



TCONTRM02B
Heat Recovery

Wireless
Controllers



TCONTRM01WA
Heat Pump

* Optional Controllers

Wired Controller



TCONTKJR90A
Heat Pump

Wired Controller



TCONTKJR12B
Heat Pump

Wired Controller



TCONTKJR120B
Heat Recovery

Wired Controller



TCONTKJR29B
Heat Pump



Convertible – 60 Hz

Model Numbers		4TVX0012C10	4TVX0015C10	4TVX0018C10	4TVX0024C10	
Power Supply	V/Ph/Hz	208-230/1/60				
Capacity	Cooling	Btu/h	12,000	16,000	19,000	24,000
	Heating	Btu/h	13,500	18,000	21,000	27,000
Power Input	W	45	170	170	170	
Rated Current	A	0.25	0.8	0.8	0.8	
Air Flow (H/M/L)	CFM	353/283/235	441/383/324	441/383/324	441/383/324	
Sound Pressure (H/M/L)	dB(A)	40/38/36	43/41/38	43/41/38	43/41/38	
Unit	Dimensions (W/H/D)	38-31/32x25-63/64x7-63/64				
	Net Weight	59	62	62	62	
Refrigerant Piping	Liquid Side	Ø inch	1/4		3/8	
	Gas Side	Ø inch	1/2		5/8	
Drainage Water Pipe (OD)	Ø inch	5/8				

Model Numbers		4TVX0027C10	4TVX0030C10	4TVX0038C10	4TVX0048C10	4TVX0055C10	
Power Supply	V/Ph/Hz	208-230/1/60					
Capacity	Cooling	Btu/h	28,000	30,000	38,000	48,000	54,000
	Heating	Btu/h	30,700	34,000	42,000	54,000	60,000
Power Input	W	195	195	265	265	425	
Rated Current	A	0.9	0.9	1.15	1.15	1.95	
Air Flow (H/M/L)	CFM	706/530/412	706/530/412	1165/1095/1018	1165/1095/1018	1354/1236/1060	
Sound Pressure (H/M/L)	dB(A)	45/43/40	45/43/40	47/45/42	47/45/42	52/50/48	
Unit	Dimensions (W/H/D)	50-25/64x7-63/64x25-63/64		65-3/4x26-49/64x9-39/64		65-3/4x26-49/64x11-7/32	
	Net Weight	76	76	110	110	127	
Refrigerant Piping	Liquid Side	Ø inch	3/8				
	Gas Side	Ø inch	5/8				
Drainage Water Pipe (OD)	Ø inch	5/8				63/64	

- * Rated per AHRI-1230 Standard conditions
- * Nominal cooling capacities are based on the following conditions: indoor air temperature: 80°F DB, 67°F WB, outdoor temperature: 95°F DB, 75°F WB, equivalent ref. piping: 24.6 ft. (horizontal)
- * Nominal heating capacities are based on the following conditions: return air temperature: 70°F DB, 60°F WB, outdoor temperature: 47°F DB, 43°F WB, equivalent ref. piping: 24.6 ft. (horizontal)
- * Capacities are net, not including a deduction for cooling (an addition for heating) for indoor fan motor heat
- * The operating sound has been measured in a semi anechoic chamber. The microphone was located 3.28 ft. in front of the unit and 3.28ft. below the units (ceiling mounted). The microphone was located 3.28ft in front of the unit and 4.92 ft. above the floor (low wall).
- With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

Note: Specifications subject to change without notice.

Wall Mounted Indoor Unit - 4TVW

Comfort

- Double air guides for optimum air distribution
- Three level fan speed that meets different air supply requirements (7 -18 MBH)
- Built in Auto Restart
- Low noise 29dB(A) for 12 MBH model

Quick Installation

- LED display integrated, allows trouble shooting
- Multi position piping possibilities

Flexibility

- Slim design with an easy to clean mirror (7 to 18 MBH)



7 to 18 MBH



7 to 18 MBH



24-30 MBH



* Optional Controllers

Wireless
Controllers



TCONTRM05B
Heat Pump

Wireless
Controllers



TCONTRM02B
Heat Recovery

Wireless
Controllers



TCONTRM01WA
Heat Pump

* Optional Controllers

Wired Controller



TCONTKJR90A
Heat Pump

Wired Controller



TCONTKJR12B
Heat Pump

Wired Controller



TCONTKJR120B
Heat Recovery

Wired Controller



TCONTKJR29B
Heat Pump



High Walls – 60 Hz

Model Numbers		4TVW0007C10	4TVW0009C10	4TVW0012C10	4TVW0015C10	4TVW0018C10	4TVW0024C10	4TVW0030C10	
Power Supply		V/Ph/Hz	208-230/1/60						
Capacity	Cooling	Btu/h	7,500	9,500	12,000	15,000	19,000	24,000	30,000
	Heating	Btu/h	8,500	11,000	13,500	17,000	21,000	27,000	34,000
Power Input		W	35	35	35	55	55	100	100
Rated Current		A	0.2	0.2	0.2	0.25	0.25	0.5	0.5
Air Flow (H/M/L)		CFM	309/283/253	309/283/253	347/306/283	506/444/371	544/506/444	700/518/400	776/494/376
Sound Pressure (H/M/L)		dB(A)	35/32/29	35/32/29	35/32/29	40/38/34	40/38/34	45/42/41	49/43/38
Unit	Dimensions (W/H/D)	inches	36-1/32x11-27/64x9-1/16			42-13/64x12-13/32x9-1/16		49-7/32x12-51/64x9-41/64	
	Net Weight	lbs.	29	29	29	33	33	44	44
Refrigerant	Liquid Side	Ø inch	3/8						
Piping	Gas Side	Ø inch	5/8						
Drainage Water Pipe (OD)		Ø inch	21/32						

* Rated per AHRI-1230 Standard conditions

* Nominal cooling capacities are based on the following conditions: indoor air temperature: 80°F DB, 67°F WB, outdoor temperature: 95°F DB, 75°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Nominal heating capacities are based on the following conditions: return air temperature: 70°F DB, 60°F WB, outdoor temperature: 47°F DB, 43°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Capacities are net, not including a deduction for cooling (an addition for heating) for indoor fan motor heat

* The operating sound has been measured in a semi anechoic chamber. The microphone was located 3.28ft in front of the unit and 2.62ft below the unit.

With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

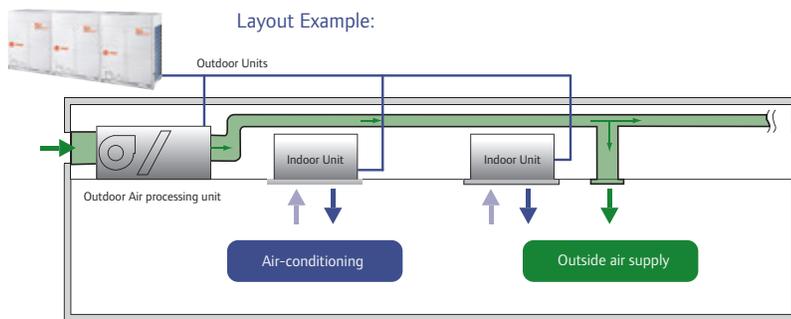
Note: Specifications subject to change without notice.

Indoor air quality depends on many design factors and local codes.

The local ventilation regulations or ASHRAE 62.1 will define what ventilation ratio is required per zone and per type of application.

The TVR SELECT system offers a high level of flexibility to adapt to any ventilation standard and several design strategies can be followed.

1. Direct intake of indoor unit of pre-treated fresh air
2. 100% fresh air duct units
3. Separate dedicated outside air system CDQ + rooftop.



100% Fresh Air - 4TVF

Flexibility

- External static pressure up to 1.124 inches WG

Comfort

- Both fresh air filtration and heating or cooling achieved with the same unit.
- Improved Indoor Air Quality.
- Efficient air distribution
- Standard filter

*Optional Controllers

Wireless Controllers



TCONTRM05B
Heat Pump

Wireless Controllers



TCONTRM02B
Heat Recovery

Wireless Controllers



TCONTRM01WA
Heat Pump

*Optional Controllers

Wired Controller



TCONTKJR90A
Heat Pump

Wired Controller



TCONTKJR12B
Heat Pump

Wired Controller



TCONTKJR120B
Heat Recovery

Wired Controller



TCONTKJR29B
Heat Pump



Fresh Air Units – 60 Hz

Model Numbers			4TVF0042C10	4TVF0048C10	4TVF0054C10	4TVF0072C10	4TVF0095C10
Power Supply		V/Ph/Hz	208-230/1/60				
Capacity	Cooling	Btu/h	36000	48000	54000	72000	96000
	Heating	Btu/h	36000	41000	61000	68000	75000
Power Input		W	630			970	
Rated Current		A	2.9			4.5	5.5
Air Flow (H/M/L)		CFM	1261/1101/948		1889/1589/1295	1886/1619/1354	1766/1589/1324
Indoor External Static Pressure (H)		in. wg.	0.20(0.20-0.78)			0.8(0.20-1.12)	
Sound Pressure (H/M/L)		dB(A)	54/52/50		54/53/51	55/54/52	
Unit	Dimensions (W/H/D)	inches	51-3/16x16-17/32x27-11/64			56-13/16x18-1/2x31-57/64	
	Net Weight	lbs.	153	153	245	245	251
Refrigerant Piping	Liquid Side	Ø inch	3/8				
	Gas Side	Ø inch	5/8				
Drainage Water Pipe (OD)		Ø inch	1-17/64				

* Rated per AHRI-1230 Standard conditions

* Nominal cooling capacities are based on the following conditions: outdoor temperature: 95°F DB, 75°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Nominal heating capacities are based on the following conditions: outdoor temperature: 32°F DB, 30°F WB, equivalent ref. piping: 24.6 ft. (horizontal)

* Capacities are net, not including a deduction for cooling (an addition for heating) for indoor fan motor heat

* The operating sound has been measured in a semi anechoic chamber. The microphone was located 4.6 ft. below the unit. With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

Note: Specifications subject to change without notice.

Intelligent Management Control System

The TVR™ Select system can be controlled on different user levels, from the individual user level with the zone controllers to a more centralized tenant by tenant control or a fully integrated building control PC system with a third party BMS control system

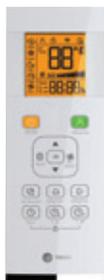
Wireless Controllers



TCONTRM05B

Wireless Controller TCONTRM05B (for HP systems)

- Functions: LCD display, Clock, ON/OFF, Temp. setting, Mode setting, Fan speed setting, Timer, Horizontal Swing, Vertical Swing, Air Direction
- Mode: Auto/Dry/Cool/Heat & Fan only
- Timer: 0 – 24 hrs timer setting
- Addressing function



TCONTRM01WA

Wireless controller TCONTRM01WA (for HP systems)

- New Stylish design
- Functions: LCD display, Clock, ON/OFF, Temp. setting, Mode setting, Fan speed setting, Timer, Horizontal Swing, Vertical Swing, Air Direction
- Mode: Auto/Dry/Cool/Heat & Fan only
- Timer: 0 - 24 hrs timer setting
- Addressing function
- Follow me: allows precise room temperature control using the Temperature sensor in the controller



TCONTRM02B

Wireless Controller TCONTRM02B (for HR systems)

- Auto-changeover mode for HR systems
- Functions: LCD display, Clock, ON/OFF, Temp. setting, Mode setting, Fan speed setting, Timer
- Addressing function

Wired Controllers



TCONTKJR90A

Wired Controller TCONTKJR90A (for HP systems)

- New Stylish Design
- Functions: LCD display, Clock, ON/OFF, Temp. setting, Mode setting, Fan speed setting, Timer
- Mode: Auto/Dry/Cool/Heat & Fan only
- Timer: 0 – 24 hrs timer setting



TCONTKJR12B

Wired Controller TCONTKJR12B (for HP systems)

- Functions: LCD display, ON/OFF, Temp. setting, Mode setting, Fan speed setting, Timer, Swing setting, Lock
- Mode: Auto/Dry/Cool/Heat & Fan only
- Timer: 0 – 24 hrs timer setting
- Follow me: allows precise room temperature control using the Temperature sensor in the controller



TCONTKJR29B

Wired controller TCONTKJR29B (for HP systems)

- New Stylish design
- Functions: LCD display, Clock, ON/OFF, Temp. setting, Mode setting, Fan speed setting, Timer, Swing setting, Air Direction
- Mode: Silent/Auto/Dry/Cool/Heat & Fan only
- Timer: 0 - 24 hrs timer setting
- Addressing function
- Controller locking function
- Remote controller receiver function: controls the indoor unit using a wireless controller
- Air filter cleaning reminder: when the running time reaches the pre-set value the air filter icon will light up
- Follow me: allows precise room temperature control using the Temperature sensor in the controller



TCONTKJR120A

Wired Controller TCONTKJR120A (for HR systems)

- Auto-changeover mode for HR systems
- Functions: LCD display, Clock, ON/OFF, Temp. setting, Mode setting, Fan speed setting, Timer

Note: Do not use HR controllers in HP systems in order to avoid mode conflict.

Centralized Controllers



TCONTCCM09A



TCONTCCM03HP



TCONTCCM02A

Indoor unit Centralized Controllers

- TCONTCCM09A (for HP systems)
- TCONTCCM03HP (for HP systems)
- TCONTCCM03HR (for HR systems)

Functions:

- Group control
 - TCONTCCM09 and 03 can control 64 indoor units
- Centralized ON/OFF
- Mode setting, Temp. setting, Fan setting, Mode lock function
- Weekly timer setting (only for TCONTCCM09)
- Blue lit background LCD
- Lock mode

Outdoor Unit Centralized Controller TCONTCCM02A

- Controls 32 outdoor units and a PC can control 16 OU centralized controllers
- This controller cannot be connected directly to Mini TVR™ Select units.
- Centralized ON/OFF, Mode query, Temp. query, Fan query, Mode lock function
- Blue lit background LCD
- Emergency stop contact or forced cooling start signal
- Maximum wiring length 3,281 feet

TVR™ Select Web Gateway and PC Network Control Software

TVR Select Web Gateway allows basic control of indoor and outdoor units through integrated software especially designed for the TVR Select. The communication is done through a LAN connection that can be accessed either locally or remotely (VPN). For advanced control functionality, the TVR Select PC Network Control Software increases the available functions including data trending, custom reports and power consumption capabilities among others.

TVR Select Web Gateway

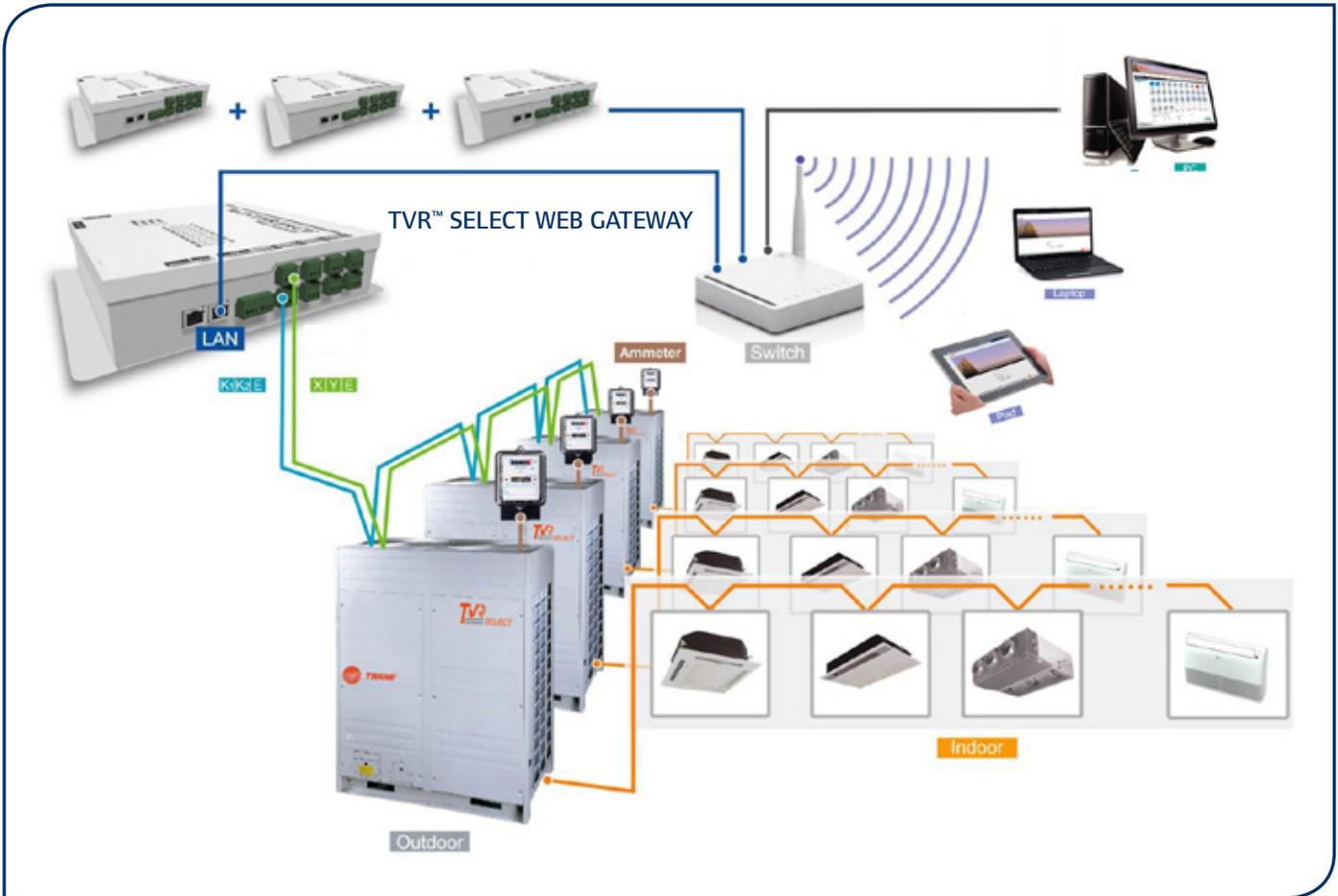
- Up to 3,937 ft. of wiring can be extended to 9843 ft. with a signal booster relay
- Manages up to 256 indoor units and 16 outdoor units
- Monitors the system online, records operational data, reports errors
- Compatible with Windows XP and Windows 7
- Remote online service access possible via internet
- TVR Select centralized controllers are not required
- TVR Select centralized controllers are not required
- Energy consumption report (requires additional digital ammeter TCONTDTS)
- TVR Select Web Gateway is required

TVR Select PC Network Control Software

- Manages up to 1,024 indoor units and 64 outdoor units
- Monitors the system online, records operational data, reports errors
- Setpoint limit configuration, weekly timer, custom reports, as-built drawings integration
- Compatible with Windows XP and Windows 7
- Remote online service access possible via internet
- Needs to be connected to specific wiring terminals on outdoor unit
- TVR Select Web Gateway and TVR Select PC Network Control Software are required.

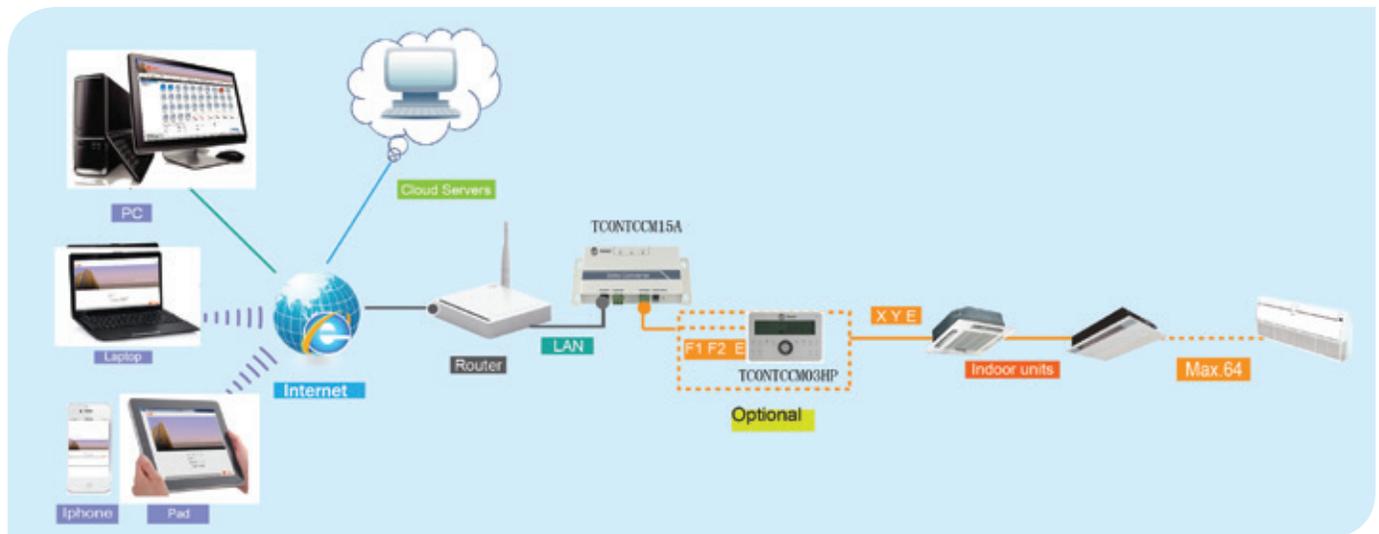
Digital Ammeter TCONTDTS

- One ammeter per Master Outdoor Unit or condensing system
- Needs to be connected to specific wiring terminals on outdoor unit
- TVR Select Web Gateway and TVR Select PC Network Control Software are required.



TVR™ Select Cloud Server Controller

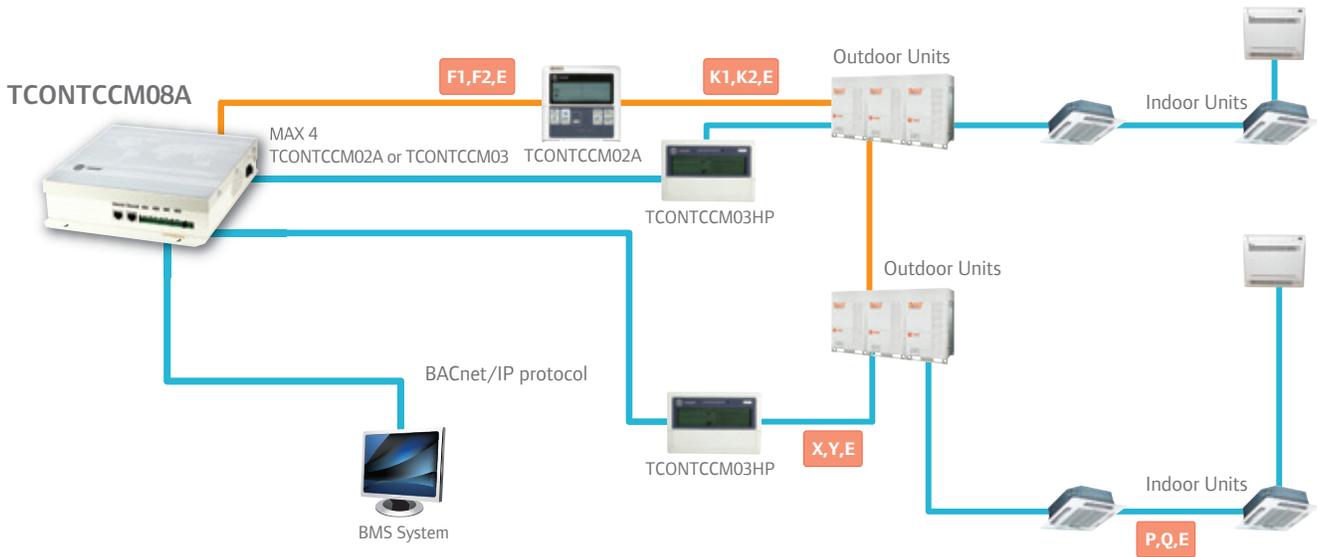
The new TVR Select Cloud Server Controller allows you to control the TVR Select system at your fingertips, literally! It has been designed to manage remotely the TVR Select System, allowing extensive control of the indoor units via Web, HTTP, TCP or IP access either through a LAN or WAN configuration. The cloud control software can be accessed using a computer, iPhone, iPad or any other intelligent terminal anywhere and at any time. Controlling an HVAC system has never been easier before!



- Up to 3,280 ft. of wiring from the controller to the TVR Select system
- Manages up to 64 indoor units
- Multiple Cloud Server Controllers can be accessed from the same internet access point
- Versatile remote control through multiple intelligent terminals as iPhone, iPad, Android, PC, etc.
- Monitors the system online, records operational data, reports errors
- Setpoint limits configuration, weekly timer, custom reports, locking and unlocking functions
- Compatible with Windows, Linux, UNIX, Mac, IOS
- TVR Select centralized controllers can be integrated (optional), but are not required for proper operation

Building Management Control

The TVR™ Select control network can combine several centralized controllers with a PC or external BMS systems such as Tracer SC through BACnet™ or MODBUS interfaces to meet customers' needs in different applications.



TCONTCCM08A

BACnet® Interface TCONTCCM08A

- This gateway connects through BACnet® to the TVR™ Select entire installation and other external components through an existing BMS
- Connects through Ethernet to BACnet®/IP
- 4 RS485 connections for connecting to 4 TVR Select centralized controllers

BACnet® is a registered trademark of ASHRAE.



TCONTMODBUS

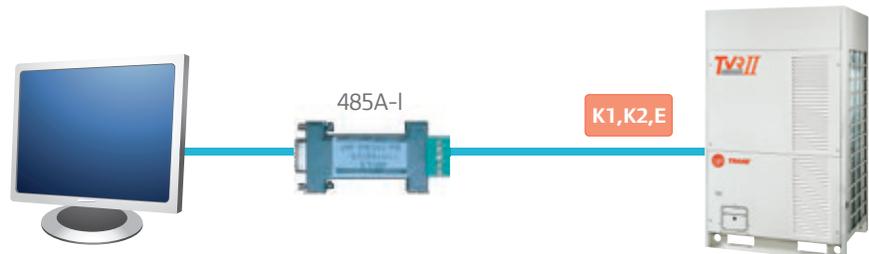
MODBUS Interface TCONTMODBUS

- Integrates TVR Select systems to BMS systems through MODBUS.
- Controls up to 1024 indoor units and 64 outdoor units
- Transfers the information via the RTU mode
- Wide voltage 12-48VDC

Service Software

As part of our TVR™ Select portfolio, we introduce a service tool that allows you to diagnose and troubleshoot the system.

- Model number: TCONTSERVS.
- Real time display of outdoor unit operating parameters
- Description of error codes.



Other Accessories



TCONTAHUKIT1

Trane also offers other accessories to maximize customers' comfort in different applications.

Air Handler Connection Kit

This kit allows you to integrate other indoor units to the TVR Select system. The kits includes the control boards, EXV, sensors, and wired controller.

Three models available:

- TCONTAHUKIT1 (14kW –one circuit)
- TCONTAHUKIT2 (28 kW – two circuits)
- TCONTAHUKIT3 (56 kW - two circuits)



TCONTNAM09A

Motion Sensor

- Turns off the system when it doesn't sense movement in the room.

Hotel Inserting Card

- Model number: TCONTNAM05A
- ON-OFF control
- Auto-restart function



TCONTNAM05A



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 \$12 billion global business committed to a world of sustainable progress and enduring results. For more information, visit www.ingersollrand.com.