DAIKIN

ENERGY-INTELLIGENT™ TECHNOLOGY
HEATING AND COOLING SYSTEMS

5.16

VRV IV S-series

LIGHT COMMERCIAL RESIDENTIAL

Variable Refrigerant Temperature

AIR COOLED ■ RENOVATION ■ NEW CONSTRUCTION

What is Daikin VRV IV S-series?

One flexible package

Daikin VRV IV S-series is a complement to the renowned Daikin VRV family of cooling and heating systems, and brings the technology into smaller applications including residential single family homes.

VRV is built upon 4 basic "Building Blocks" — Outdoor Unit, Indoor Unit, Piping, and Controls — providing the attributes of a central chilled water system but with the simplicity of a split system.

In its 1-phase powered VRV IV S-series format, this makes it very flexible and ideal for energy-efficient and comfortable cooling and heating of many types of buildings such as single family homes, multi-family housing, retail, restaurant, small office and much more.

Outdoor Unit

Indoor Unit

Piping

Controls

VRV IV S-series Features:

- **S**ingle-phase technology is perfect for light commercial and residential applications in 36,000, 48,000 and 60,000 Btu/h models.
- **S**pace-saving design to fit in tight areas and realize quick and easy installation.
- **S**avings in energy use due to higher SEER and HSPF ratings when compared to VRV III-S.
- **S**oft sound level operation ensures a comfortable fit in any room.
- **S**ingle-supplier reliability. The system — factory engineered and 80% complete upon delivery — is fully optimized by Daikin, plus has self-diagnostics and one of the best warranties in the industry*.
- **S**implified equipment selection with a flexible array of indoor unit options.

* Complete warranty details available from your local Daikin manufacturer's representative or distributor or online at www.daikincomfort.com.

Applications

- Condominiums and apartments
- Single family homes
- Retail/restaurants
- Small offices
- And more!

The Solution for Light Commercial Applications

COMMERCIAL

Light Commercial

The VRV IV S-series system is a highly efficient solution for small commercial buildings requiring heating and cooling of up to 10 zones. A mix of ducted and ductfree indoor units can be combined to provide individual comfort and ease of installation.

Whether you are working with space constraints or want to maximize the amount of commercial space available, the VRV IV S-series system gives you the flexibility you need. With its simple, versatile design and long piping lengths (up to 230 ft. actual piping length one way), the VRV IV S-series can accommodate practically any floor layout, enabling better use of space.

Its advanced zoning capabilities allow floor-by-floor installation so that each floor can be occupied quickly upon completion. And, because the outdoor units are lightweight, there's no need to reinforce floors, reducing both installation time and costs.

Daikin VRV's wide range of stylish and discreet indoor units provide configurations for every retail space, giving you the benefit of our highly efficient technology, whatever the design of your store. Wall mounted units matched to your interior meet both aesthetic and energy needs while also supporting the look and feel of your brand and preserving floor space. Slim ducted and concealed units blend almost unseen into your store, while floor standing units with small footprints preserve floor space, fitting unobtrusively into recesses or under windows.

Retail

Quiet condensing units help minimize external noise pollution. Small footprint units can easily be located on the rooftop without the use of heavy equipment or reinforcement to the building.

Restaurants

Round Flow Sensing Cassette

Ideal for open plan applications such as retail and restaurants where adaptive comfort control is preferred. Provides excellent comfort level, energy efficiency, and flexibility due to advanced control functions.

- True 360° Airflow and three room sensors enables optimized occupant comfort
- Energy efficient with DC fan motor and auto-logic that adjusts fan speed
- Optional self-cleaning filter panel to further increase efficiency and reduce maintenance
- Increased indoor air quality with high efficiency filter options and ventilation connection kit
- Very flexible with 18 different possible airflow patterns

Many other indoor unit styles are available, including ducted units, all designed to maximize comfort, minimize operating sound and simplify installation and servicing.

The Solution for Residential Applications

RESIDENTIAL

Residential

VRV IV S-series is also an excellent solution when building a new house or renovating and is well suited for use in multi-family or condominium projects. The long piping length allows for multiple floors to be served from one condenser installed outside.

All indoor units come with fan speed control and are quiet — as low as 28 decibels, the equivalent of rustling leaves.

A feature of particular importance for residential applications is the 'night set' mode, which can be set on site to function over a 9 hour period during which operating sound is reduced progressively in three increments of 3dB(A).

Apartments/Condos

Single Family Housing

Typical residential indoor units options

- Ducted style indoor units

DC-Ducted Concealed Ceiling (Medium Static) Unit, for a powerful ducted option

DZK DAIKIN ZONING KIT

The optional DZK increases the flexibility of the Daikin VRV allowing several separate ducts to supply air to different individually controlled zones (used in combination with DC-Ducted Concealed Unit).

Slim Duct Built-In, Concealed Ceiling Unit, less than 8" height to easily install in soffit or false ceiling.

Vertical Air Handling Unit, typical in closet type installation.

Concealed Floor-Standing Unit can easily be installed along an exterior wall — or concealed in an architectural enclosure.

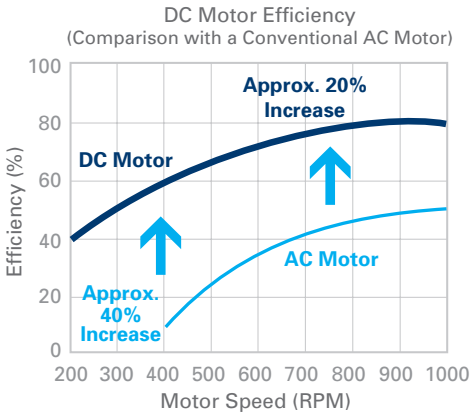
- Duct-free style indoor units

Wall-Mounted Unit allows for simple, cost-effective installation.

Floor-Standing Unit is popular where replacement of old radiators is desired.

VRV IV S-series Features

1 Variable Speed DC Fan. High efficiency and low sound levels.



Note: Data is based on studies conducted under controlled conditions at a Daikin laboratory.

2 Blue Fin Corrosion Coating. 1000 hours salt spray rated as standard. Hydrophilic coating to help with defrost.

3 7mm Coil. Improved heat exchanger efficiency and compact casing design***.

4 Inverter Board Cooled by Refrigerant Circuit.** Elimination of condenser fan pressure drop caused by heat sink used on previous generations.

5 New Swing Compressor. Improved efficiency. Lower sound levels. Increased reliability***.

6 Added safety and peace of mind with configurable auto changeover to auxiliary heat.

- Backed by a best in class 10-Year Parts Limited Warranty and 10-Year Replacement Compressor Limited Warranty*

* Complete warranty details available from your local Daikin manufacturer's representative or distributor or online at www.daikincomfort.com.

** Dependent on outdoor unit model

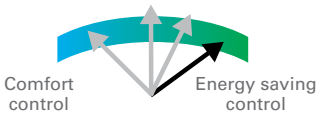
*** Compared to VRV III-S

VRT mode control selection to match user preferences

These charts reflect the operation trend of a VRV system when in normal operation and under VRT control. Actual energy savings through VRT vary based on the building location, load characteristics, occupancy and system usage conditions.

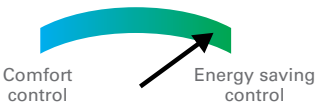
A view of the various VRT modes of operation:

Automatic mode (Default setting on VRV IV)



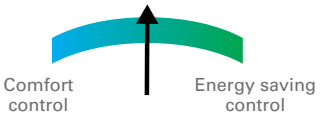
The perfect balance:
Energy saving control throughout most of the year.
Maximum comfort control on the hottest and coldest days of the year.

High sensible mode



Year round energy saving control

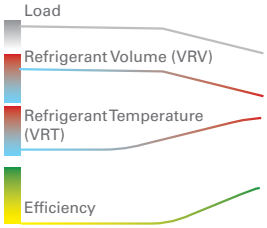
Basic mode (Traditional VRF system)



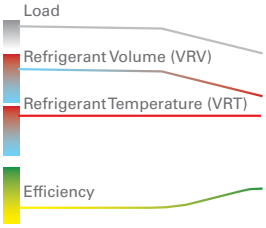
Quick reaction to peak load to maintain set point

Summary of operating characteristics of each VRT mode of operation:

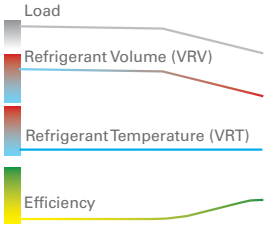
Automatic mode (Default setting on VRV IV)



High sensible mode

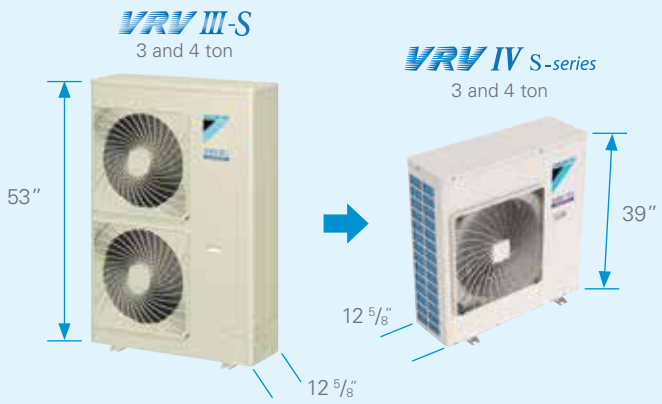


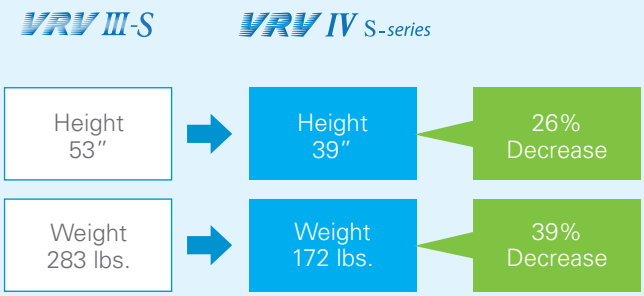
Basic mode (Traditional VRF system)



VRV IV S-series Features

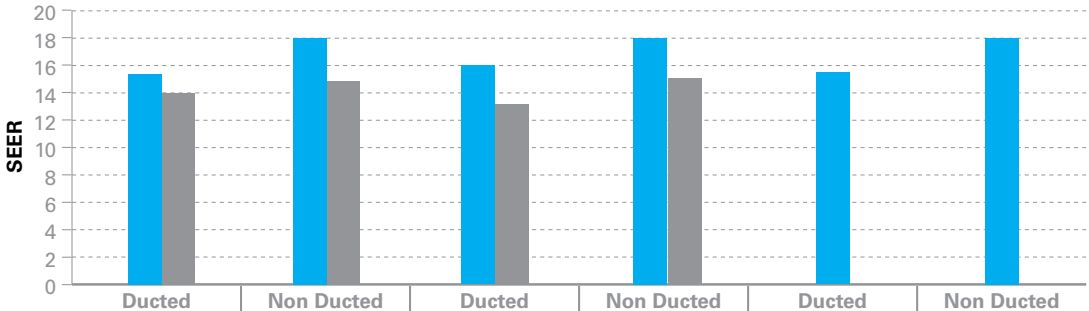
Compact and lightweight design





Comparison of VRV III S and VRV IV S SEER* levels

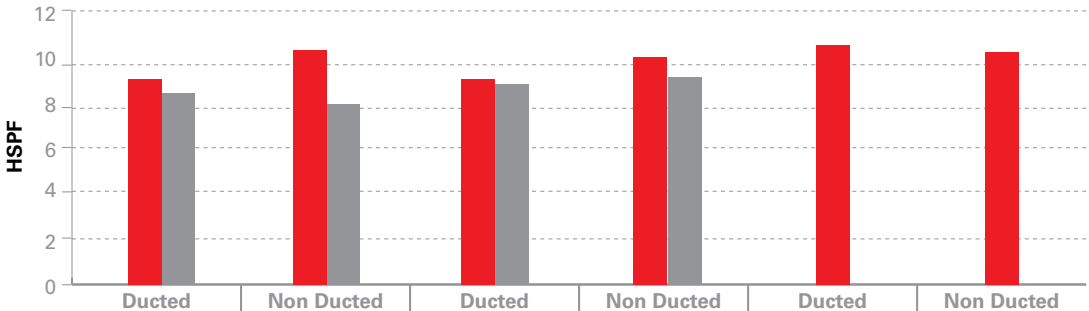
- **SEER levels up to 18**
  - **Improvement up to 21%**
  - **Average of 18% improvement**



	3T		4T		5T	
	Ducted	Non Ducted	Ducted	Non Ducted	Ducted	Non Ducted
VRV IV S	15.5	15.5	16.0	18.0	15.5	18.0
VRV III S	14.0	14.9	13.2	15.1	–	–

Comparison of VRV III S and VRV IV S HSPF* levels

- **HSPF levels up to 10.5**
  - **Improvement of up to 30%**
  - **Average of 15% improvement**

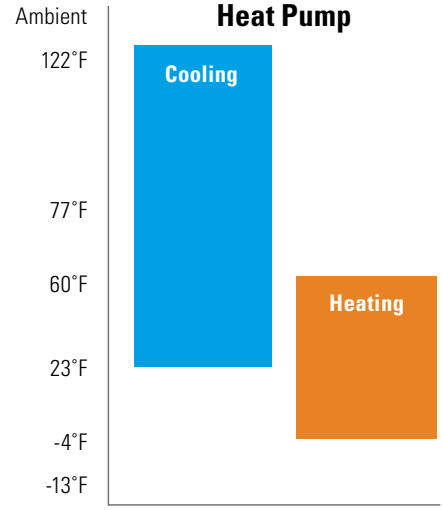


	3T		4T		5T	
	Ducted	Non Ducted	Ducted	Non Ducted	Ducted	Non Ducted
VRV IV S	9.0	10.3	9.0	10.0	10.5	10.2
VRV III S	8.4	7.9	8.8	9.1	–	–

* Refer to the AHRI directory at www.ahridirectory.org for further information.

VRV IV-S SERIES					
	Model Name		RXTQ36TAVJU	RXTQ48TAVJU	RXTQ60TAVJU
	ODU Style	Fan Type	Single Fan 	Single Fan 	Double Fan 
PERFORMANCE	Nominal Cooling Capacity	BTU/h	36,000	48,000	57,000
	Nominal Heating Capacity	BTU/h	40,000	52,500	57,000
	Operation Range Cooling	°F DB	23 to 122		
	Operation Range Heating	°F WB	-4 to 60		
	Power	V/p/Hz	208-230/1/60		
	Sound Pressure Level @ 3ft	dB(A)	58	58	57
REFRIGERANT PIPING	Refrigerant		R-410A		
	Refrigerant Quantity	lbs	6.4	7.5	7.9
	Liquid Pipe (Main Line)	in	3/8	3/8	3/8
	Suction Gas Pipe (Main Line)	in	5/8	5/8	3/4
	Vertical Pipe Length	ft	98		
	Maximum vertical pipe length between IDU	ft	33	49	49
	Actual Pipe Length (Equivalent Length)	ft	164	230	230
	Total Piping Length	ft	820	984	984
CONNECTION RATIO	Connectable Indoor Unit Ratio	%	50-130		
	Number of Indoor Units	Qty	6	8	10
UNIT	Outdoor Unit Size	(HxWxD)	39 x 37 x 12-5/8	39 x 37 x 12-5/8	52-15/16 x 35-7/16 x 12-5/8
	Weight	lbs.	172	176	225
FAN	Airflow	CFM	2682	2682	3741
	Fan Motor Output and Quantity	kW	0.20 x 1	0.20 x 1	0.070 X 2
ELECTRICAL	Maximum Over Current Protection (MOP)	A	25	35	35
	Minimum Circuit Amps (MCA)	A	17	29	29
	Rated Load Amps (RLA	A	15.3	19.0	23.2
COMPRESSOR	Compressor Type	Type	Daikin Swing	Daikin Swing	Daikin Swing
	Capacity Control	%	14-100	14-100	14-100

Expansion of cooling up to 122° F
Effective heating operation to -4° FWB

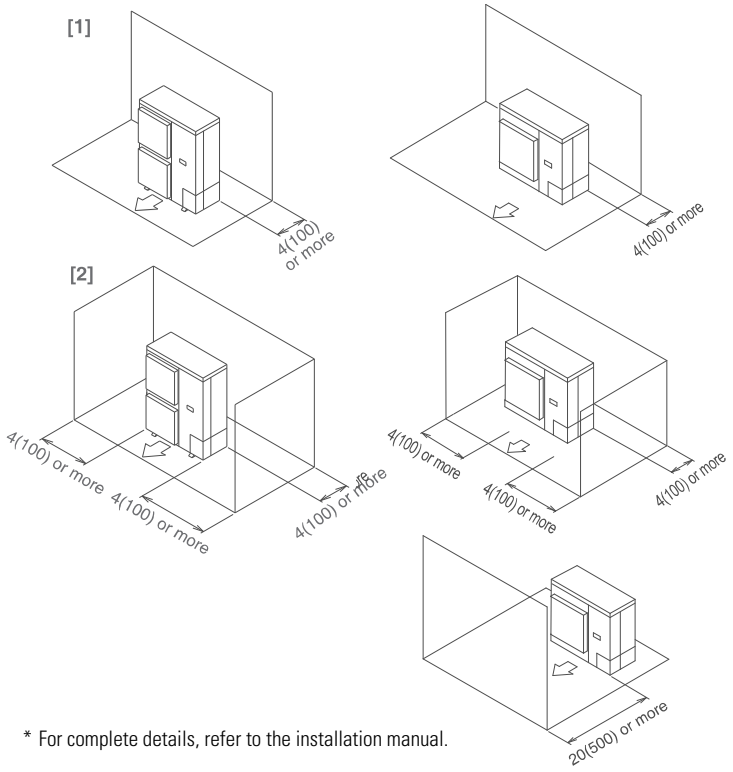


Certified Performance Data

Outdoor Unit	Indoor Units Combination	Nominal Cooling Capacity (Btu/h)	EER	SEER	Nominal Heating Capacity (Btu/h)	COP	Low Heating Capacity (Btu/h)	COP	HSPF
			95 °F			47 °F		17 °F	
RXTQ36TAVJU	Non-Ducted Indoor Units	36,000	12.0	18.0	40,000	4.10	23,600	3.0	10.3
	Ducted Indoor Units	36,000	9.7	15.5	40,000	3.30	22,000	2.5	9.0
	Mixed Ducted and Non-Ducted Indoor Units	36,000	10.85	16.75	40,000	3.70	22,800	2.8	9.7
RXTQ48TAVJU	Non-Ducted Indoor Units	48,000	10.3	18.0	52,000	4.00	32,200	3.0	10.0
	Ducted Indoor Units	48,000	9.4	16.0	52,000	3.35	32,000	2.7	9.0
	Mixed Ducted and Non-Ducted Indoor Units	48,000	9.9	17.0	52,000	3.68	32,100	2.9	9.5
RXTQ60TAVJU	Non-Ducted Indoor Units	57,000	9.8	18.0	57,000	4.30	37,000	3.2	10.5
	Ducted Indoor Units	57,000	9.2	15.5	57,000	3.70	34,000	2.7	10.5
	Mixed Ducted and Non-Ducted Indoor Units	57,000	9.5	16.5	57,000	4.00	35,500	3.0	10.5

Installation Requirements*

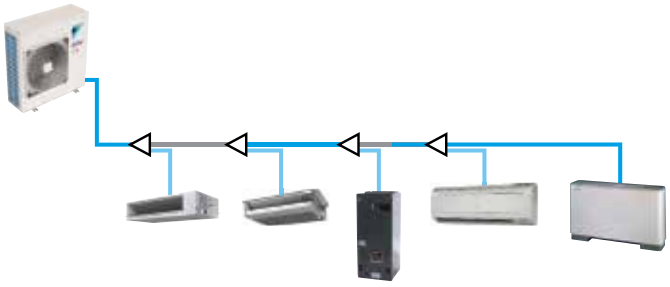
Installation Space



* For complete details, refer to the installation manual.

Piping Specifications	Length (Ft.)	
	3 Ton	4/5 Ton
Linear actual piping between condensing unit and furthest located fan coil unit	164	230
Linear piping between condensing unit and furthest located fan coil unit (equivalent)	213	295
Total "one-way" piping in the complete piping network	820	984
Vertical (height) separation between the condensing unit and the fan coil units (if outdoor unit is below)	98	98
Vertical (height) separation between fan coil units	33	49
Linear piping between first REFNET* and furthest located fan coil unit	130	130

* REFNET joints in the copper line set distribute an equal flow of refrigerant in every branch of piping network.

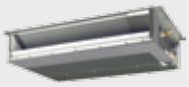


Accessories

VRV IV S-series Accessories	RXTQ36TAVJU	RXTQ48TAVJU	RXTQ60TAVJU
ABC I/P PCB Kit	-	BRP2A82	
Refnet Headers	KHRP26M22H9 (Max. 4 branch)		
	KHRP26M33H9 (Max. 8 branch)		
Refnet Joints	KHRP26A22T9		
Fixture for Preventing Overturning	KPT60B160		
Wind Baffle	KPW5E80	KPW5E80	KPW5E112 (2 required per unit)

VRV Indoor Units

Designed for absolute comfort and versatility, Daikin's wide selection of ducted and duct-free indoor units with a sleek and sophisticated design provides zoning flexibility and comfort control for almost any application.

	INDOOR UNIT TYPE		CAPACITY										
		MBH	7.5	09	12	15	18	24	30	36	42	48	54
		TONS	0.6	0.75	1	1.25	1.5	2	2.5	3	3.5	4	4.5
DUCTED	FXMQ-PBVJU DC-Ducted Concealed Ceiling (Medium Static)		▲	▲	▲	▲	▲	▲	▲	▲		▲	▲
DUCTED	FXDQ-MVJU Slim Duct Built-In Concealed Ceiling Unit		▲	▲	▲		▲	▲					
DUCTED	FXTQ-PAVJU Vertical Air Handling Unit (Horizontal RHS is Possible)				▲		▲	▲	▲	▲	▲	▲	▲
DUCTED	FXNQ-MVJU9 Concealed Floor- Standing Unit		▲	▲	▲		▲	▲					
DUCT-FREE	FXFQ-TVJU Round Flow Sensing Cassette, Ceiling Mounted		▲	▲	▲	▲	▲	▲	▲	▲		▲	
DUCT-FREE	NEW FXUQ-PVJU 4-Way Blow Ceiling-Suspended Cassette						▲	▲	▲	▲			
DUCT-FREE	FXZQ-MVJU9 2' X 2' 4-Way Ceiling-Mounted Cassette		▲	▲	▲	▲	▲						
DUCT-FREE	NEW FXEQ-PVJU Ceiling-Mounted Cassette (Single Flow)		▲	▲	▲	▲	▲	▲					
DUCT-FREE	FXHQ-MVJU Ceiling-Suspended Unit				▲			▲		▲			
DUCT-FREE	FXAQ-PVJU Wall-Mounted Unit		▲	▲	▲		▲	▲					
DUCT-FREE	FXLQ-MVJU9 Floor-Standing Unit		▲	▲	▲		▲	▲					

▲ Comfort cooling/heating (11 types 57 models) | Condensate pump standard | Outside air connection possible

DZK (Daikin Zoning Kit)

The optional DZK increases the flexibility of the Daikin VRV and SkyAir systems in both residential and commercial applications by adding a Zoning Box to an indoor unit fan coil (FXMQ-P or FBQ-P series, respectively) allowing several separate ducts to supply air to different individually controlled zones.

	DZK030E4	DZK030E5	DZK048E4	DZK048E6	DZK-MTS	DZK-ZTS
						
Number of Air Duct Outlets x Diameter (")	4 x Ø8	5 x Ø6	4 x Ø8	6 x Ø6	–	–

VRV Controls

VRV IV S-series

Optimized for VRV technology, Daikin controls provide highly scalable solutions for all applications and budgets. VRV controls offer solutions to meet your project controls needs from individual zone control with local controllers to centrally controlling the building with Centralized Controllers and/or interfacing with Building Management Systems (BMS) for comfort control in an easily managed and operated system.

PROJECT REQUIREMENTS	DAIKIN VRV CONTROLS						
	 Navigation Remote Controller	 Simplified Remote Controller	 intelligent Touch Controller	 intelligent Touch Manager	 BACnet Interface	 LonWorks Interface	 Modbus Interface
Individual zone control	●	●					
Independent cool and heat setpoints	●		●	●			
Individual zone control with weekly programmable scheduling	●		●	●			
Basic central point on/off control of all air handling units			●	●	●	●	●
Advanced multi-zone control of small to medium size projects			●	●	●	●	●
Advanced multi-zone control of large commercial projects			●	●	●	●	
Advanced multi-zone control with scheduling logic and calendar			●	●			
Automatic cooling/heating changeover for heat pump systems	●		●	●			
Single input batch shutdown of all connected air handlers			●	●	●	●	■
Web browser control and monitoring via Intranet and Internet			●	●	■	■	■
E-mail notification of system alarms and equipment malfunctions			●	●	■	■	■
Multiple tenant power billing for shared condenser applications			●	●			
Temperature set-point range restrictions	●		●	●	■	■	■
Graphical user interface with floor plan layout				●	■	■	■
Start/stop control of ancillary building systems*			●	●	■	■	■
Daikin VRV integration with BACnet® based automation systems					●		
Daikin VRV integration with LonWorks® based automation systems						●	
Daikin VRV integration with Modbus based automation systems							●

* Requires one or more DEC102A51-US2 Digital Input/Output units or WAGO DO module (for use with iTM only).

● Native application or feature for this device. ■ Dependent upon capabilities of the third party energy management system

RESIDENTIAL ■ COMMERCIAL ■ RENOVATION ■ NEW CONSTRUCTION

About Daikin:

Daikin Industries, Ltd. (DIL) is a global Fortune 1000 company which celebrated its 90th anniversary in May 2014. The company is recognized as one of the largest HVAC (Heating, Ventilating, Air Conditioning) manufacturers in the world. DIL is primarily engaged in developing indoor comfort products, systems and refrigeration products for residential, commercial and industrial applications. Its consistent success is derived, in part, from a focus on innovative, energy-efficient and premium quality indoor climate and comfort management solutions.

Before purchasing an appliance in this document, read important information about its estimated annual energy consumption, yearly operating cost, or energy efficiency rating that is available from your retailer.

WARNINGS:

- Always use a licensed installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a licensed contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.
- For any inquiries, contact your local Daikin sales office.