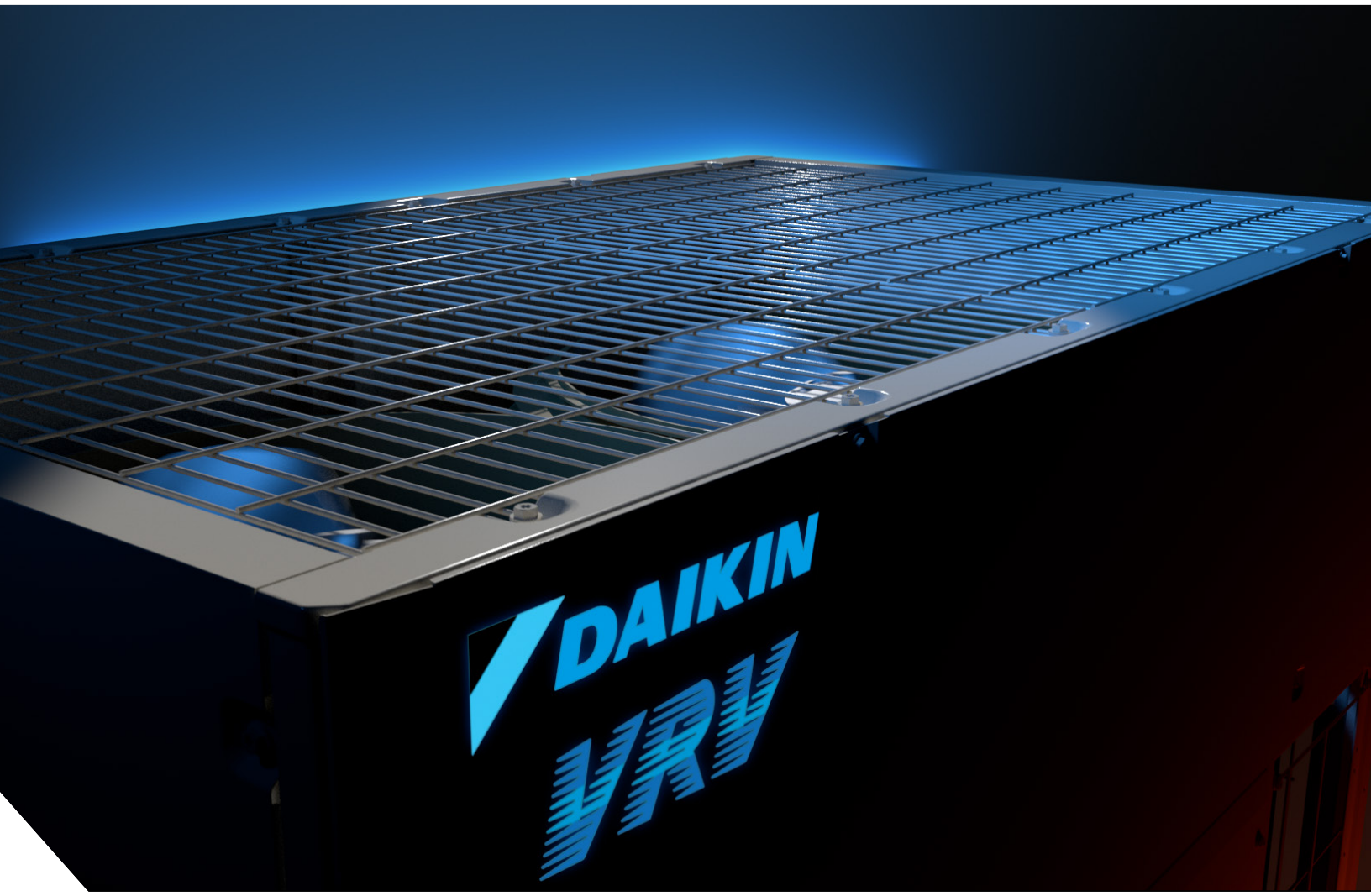
DAIKIN



VRV EMERGON

HEAT RECOVERY

208-230/460V

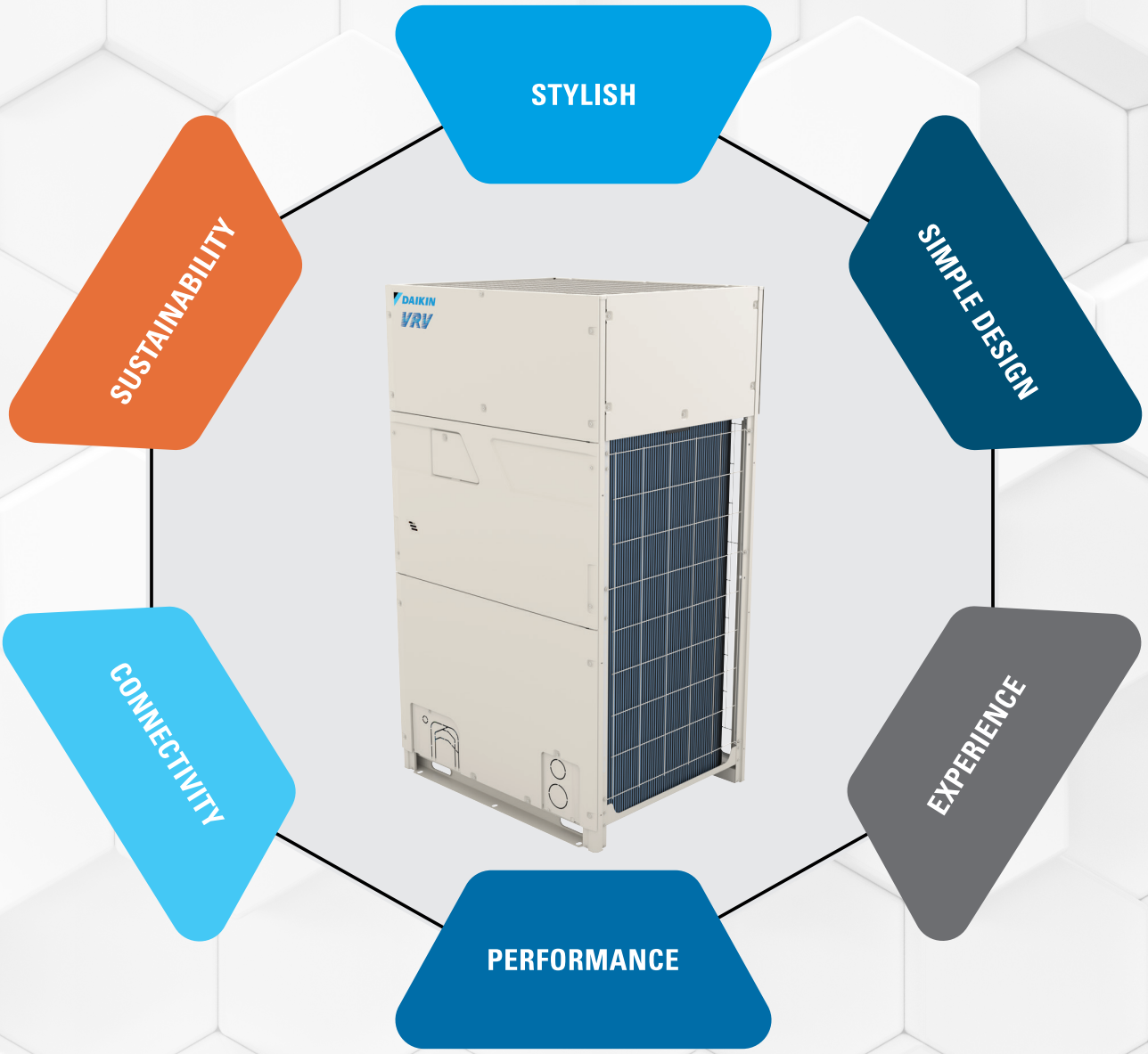
Variable
Refrigerant
Temperature

"SIMPLICITY IS THE ULTIMATE SOPHISTICATION"

— LEONARDO DA VINCI

SIMPLE. SUSTAINABLE. CONNECTED.

THE NEXT GENERATION OF *VRV* IS HERE



SIMPLE. SUSTAINABLE. CONNECTED.

From the makers of *VRV*

Daikin *VRV EMERION* is available in single and dual-module lineups. The introduction of new 16-20 T single modules allows a system capacity of up to 40 Tons with just two modules. This helps reduce the overall space required for mechanical equipment and optimizes total project costs.

Features and benefits

- New Simple and Stylish design with expanded line up with single-module units from 6 – 20 T and dual-modules up to 40 T.
- Space-saving 16 – 20 T single module units provide up to 34% footprint and up to 500 lbs./unit weight reduction compared to previous series[2].
- High energy efficiency with IEERs up to 30.0 delivers up to 30% efficiency increase compared to previous *VRV* systems[2].
- Year-round comfort and energy savings with Daikin's Variable Refrigerant Temperature technology (VRT), compared to standard VRF and previous *VRV* systems.
- Increased piping lengths of up to 361 ft. vertical separation between ODU and IDU provide additional application flexibility compared to previous *VRV* systems[1].
- Heating down to -13°F as standard and high heating capacities at 17°F make it an ideal choice for all-electric heat pump solutions.
- Continuous heating during defrost capability with single module (16 T – 20 T) and all dual module systems[1].
- Hot gas defrost circuit allows for installation without base pan heater.
- Sealed e-box design with an ingress protection rating of IP55 provides for high dust and moisture protection.
- Dual-fuel ready with connectivity to Daikin communicating gas furnace or all-electric heat pump heating for optimized operational costs based on utility rates.
- Design flexibility to enlarge system from single to a dual-module without changes to installed main pipe sizes for phased installation or tenant fit-out buildings.
- Meets several local code compliance certifications such as OSHPD Seismic, Miami Dade Wind, and Chicago pressure relief codes.
- Reduced wiring costs with up to 34% reduction in MCA values compared to previous series.
- Engineered for ease of installation and service with three-segment panel design.
- Enhanced installation and serviceability with increased space for easy field piping connections to service valves[1].
- Simplified diagnosis with built-in data recorder which stores up to 45 minutes of operational data.
- Integrates with new Daikin *HERO* ecosystem, an IoT-based remote monitoring and diagnostics platform.
- Currently available for heat recovery applications in 208/230V or 460V.

[1] Refer to engineering and installation manuals for application rules.

[2] Model specific; check product specification for details.

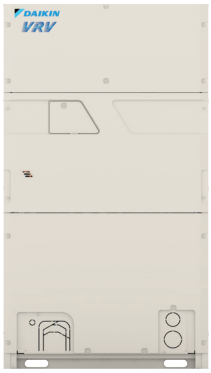
* Complete commercial warranty details available from your local distributor or manufacturer's representative or at www.daikincomfort.com or www.daikinac.com.

Stylish with a Purpose

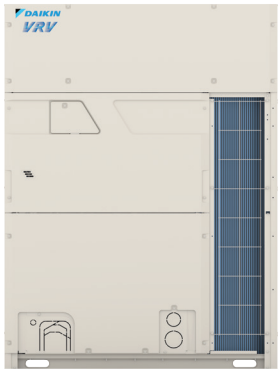
Enhanced lineup

Daikin *VRV EMERION* is available in single and dual-module lineups. The introduction of new 16-20 T single modules allows a system capacity of up to 40 Tons with just two modules. This helps reduce the overall space required for mechanical equipment and optimizes total project costs.

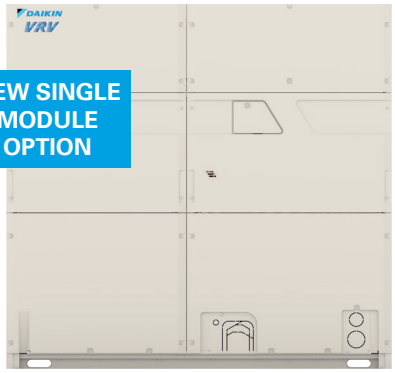
SINGLE MODULES



6 T - 36" Chassis



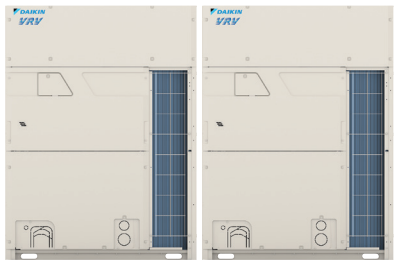
8 – 14 T - 48" Chassis



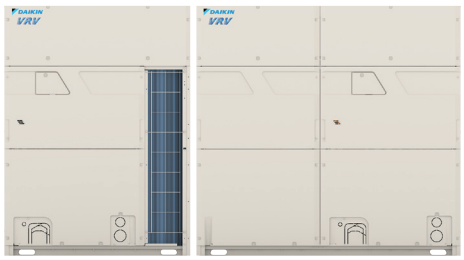
NEW SINGLE MODULE OPTION

16 – 20 T - 68" Chassis

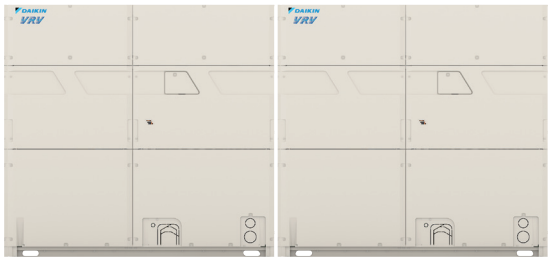
DUAL MODULES



22 – 28 T



30 T



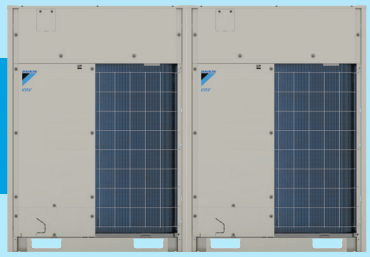
32 – 40 T

SIMPLE DESIGN

Simple, Yet Sophisticated

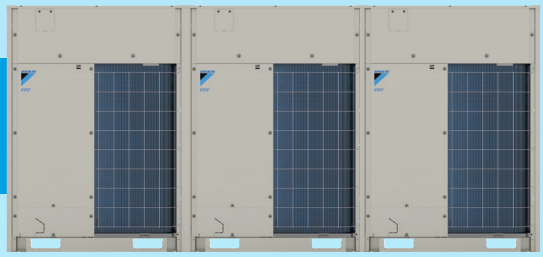
Elevate projects with design simplicity

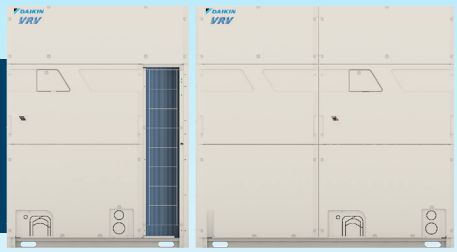
VRV EMERION's new larger capacity single module units offer opportunities to reduce the space required for mechanical equipment and the number of electrical and piping connections. By leveraging Daikin's increased piping lengths, the new design allows up to 361 ft. (110 m) of vertical separation (equivalent up to approximately 30 floors). In addition, *VRV EMERION's* new expanded 361 ft. vertical separation opens opportunities to now address buildings up to 720 ft. (equivalent up to approximately 60 floors) when units are placed both on the roof and base of the building.



PREVIOUS SERIES	NEW MODEL *VRV EMERION*
W: 2 x 48-7/8	**W: 68-7/8**
D: 30-3/16	**D: 30-1/8**
WEIGHT: 1454 LBS.	**WEIGHT: 957 LBS.**

Footprint: 30% less
Weight: 34% less





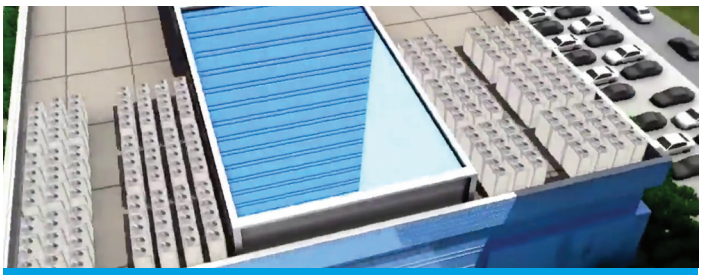
PREVIOUS SERIES	NEW MODEL *VRV EMERION*
W: 3 x 48-7/8	**W: 48-13/16 + 68-7/8**
D: 30-3/16	**D: 30-1/8**
WEIGHT: 2181 LBS.	**WEIGHT: 1745 LBS.**

Footprint: 20% less
Weight: 20% less

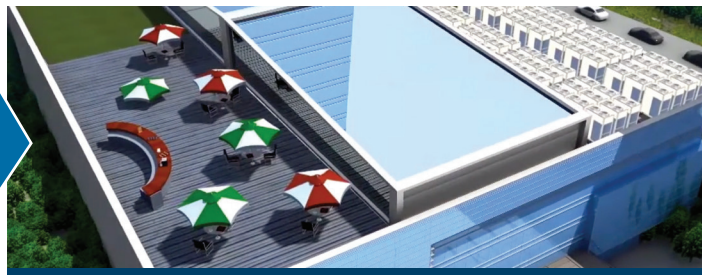
Up to 34% and 30% reduction in system footprint and weight respectively to installed systems of similar capacity as compared to the previous series.*

* Model specific; check product specification for details.

Return valuable leaseable space to building owners and living space to tenants

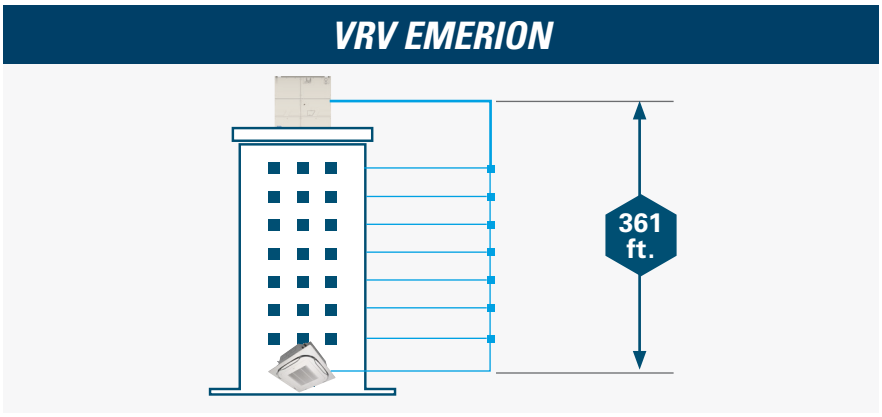


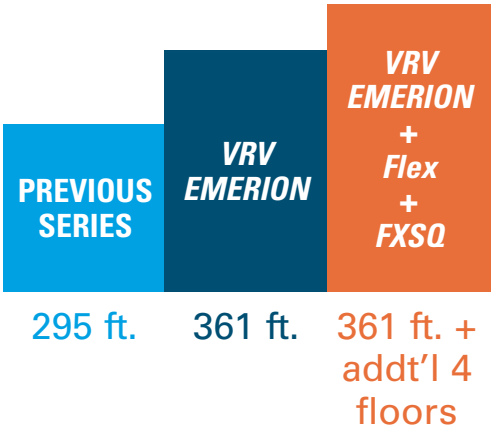
PREVIOUS SERIES



VRV EMERION

Longer vertical piping lengths



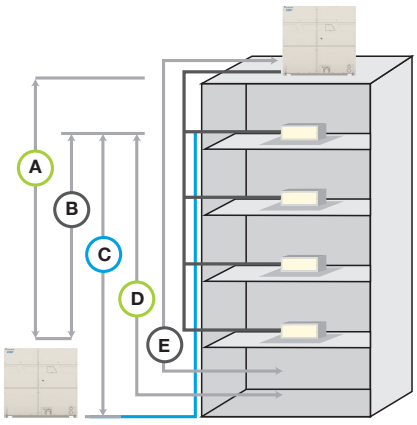


PIPING LIMITATIONS Liquid Line Max (ft.)		*VRV EMERION* Heat Recovery
A	Vertical Drop	164 (361)[1]
B	Vertical Rise	130 (361)[1]
C	Between IDU	100 (49)[3]
D	From 1st Joint	130 (295)[2]
E	Linear Length	540
	Total Network	3280

[1] Field setting changes and upsizing are required above 164 ft. (vertical drop) and 130 ft. (vertical rise). Refer to Installation Manual for details.

[2] Upsizing is required for extension up to 295 ft. Refer to Installation Manual for details.

[3] Rules may apply above 49 ft.; refer to Installation Manual for details.



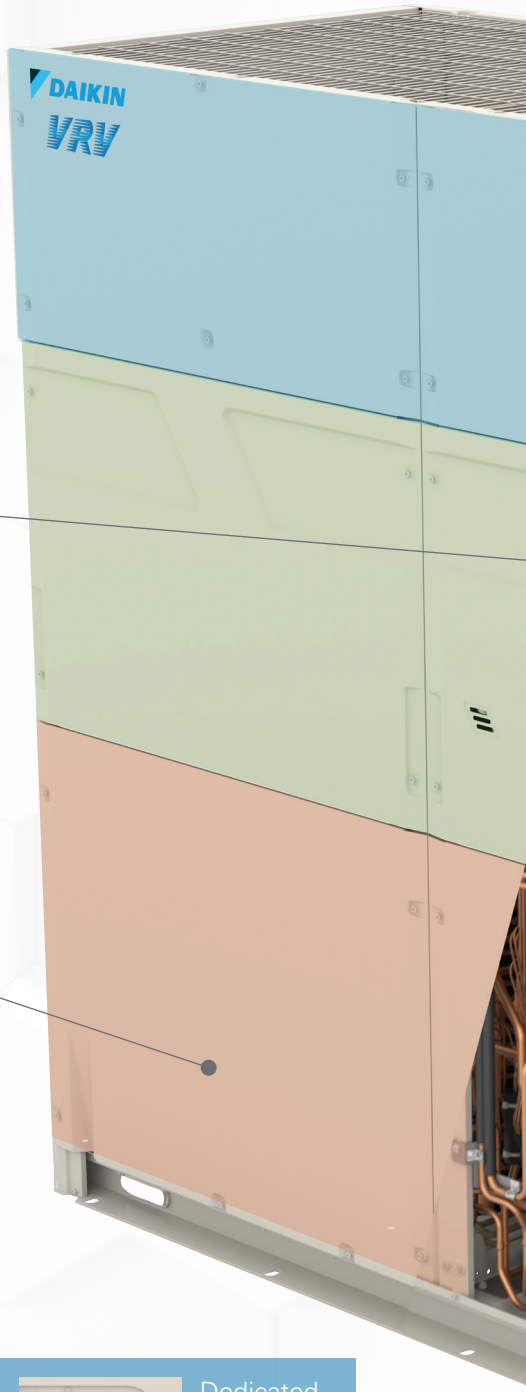
Design and Installation Flexibility

Engineered to create a truly unique experience for contractors, *VRV EMERION* offers a new and improved design to provide ease of service and maintenance making way for simplicity in installation.

SERVICE WINDOW:

» For easy access to the multi-functional digital display for easy commissioning and troubleshooting.

» Coating applied on printed circuit board for protection against dust and water.



REMOVABLE SECTION 3: MECHANICAL

» Remove the bottom panel independently from the above two sections to directly access essential mechanical components, such as compressors, for ease of servicing.

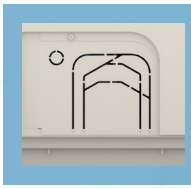
» Dedicated wiring and refrigerant knock-outs designed for quick access and ease of installation.

NEW P-TYPE COMPRESSOR

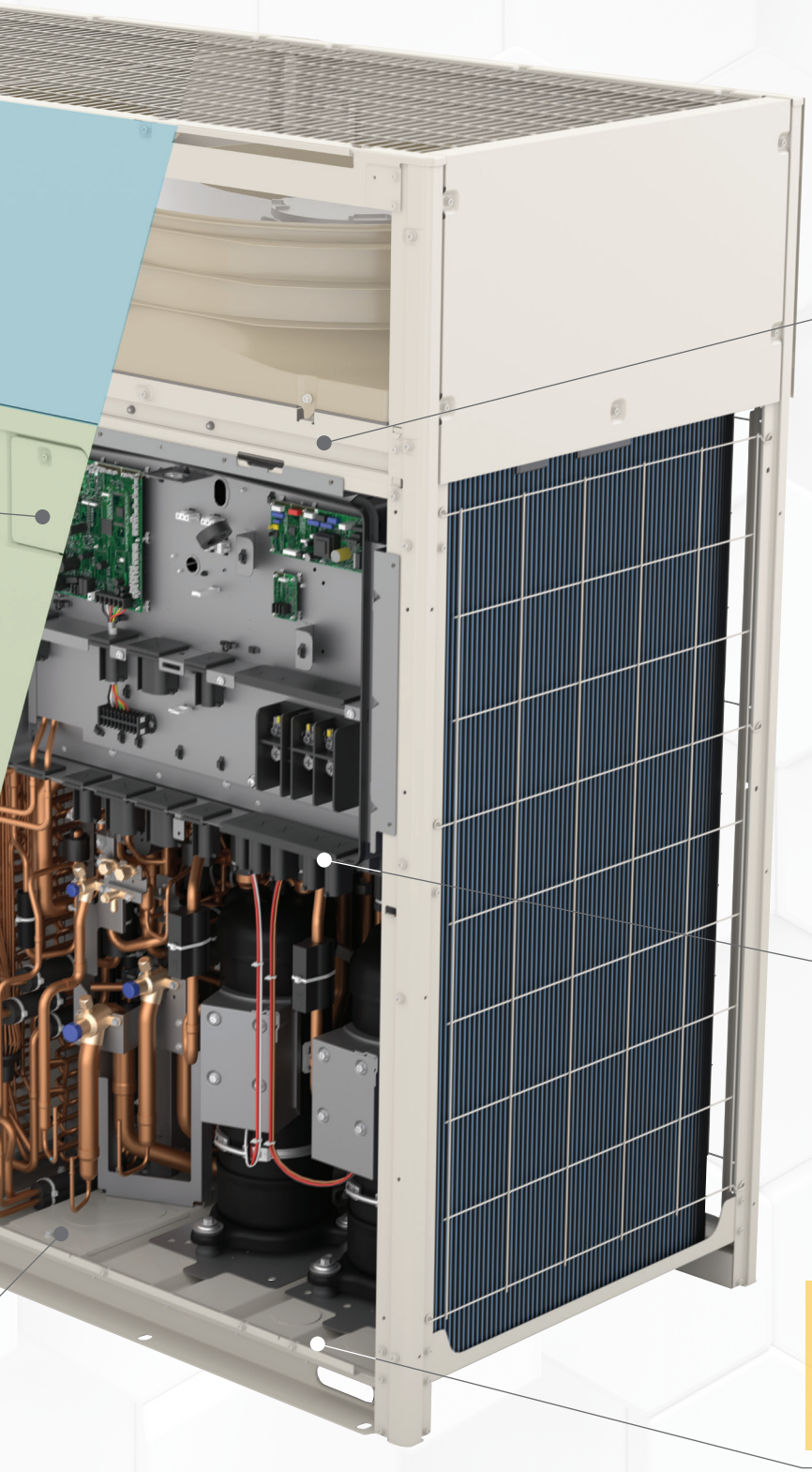
» Compressor technology with spiral design and injection valves for precise refrigerant control.

» Strong and efficient motors for optimized compressor performance and part load efficiencies.

» Back pressure control mechanism optimizes the internal compressor pressure with the intermediate pressure adjusting port according to operating conditions. This stabilizes the orbiting scroll, reducing leaks and scroll friction during operation (compared to compressors without back pressure control).



Dedicated refrigerant connection knock-outs.



REMOVABLE SECTION 1: AIRFLOW

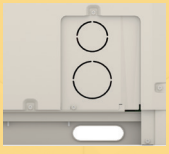
» Quick removal of top panel for outdoor fan servicing.

REMOVABLE SECTION 2: ELECTRICAL

» Offers contractors quick access to electrical components.

» Sealed e-box design with an ingress protection rating of IP55 provides for high dust and moisture protection.

» Built-in data recorder to store up to 45 minutes of operational data.



Dedicated wiring knock-outs available for quick access.

Design and Installation Flexibility *(Cont'd)*

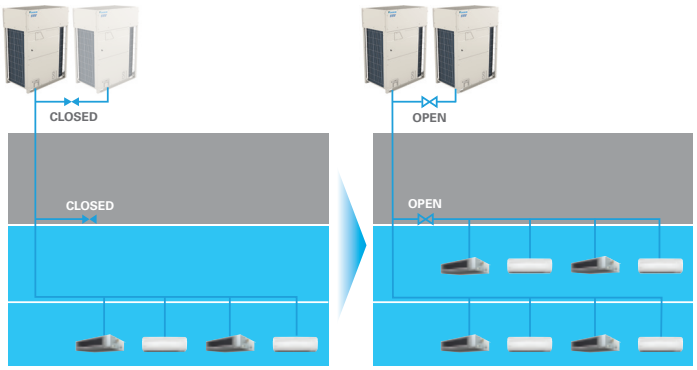
Phased installation

VRV EMERION delivers enhanced design flexibility thanks to its ability to expand with the building's phased construction.

» Expand the system without changes to main pipe sizes that are already installed.

» Help reduce initial capital and design complexity compared to systems that do not offer phased installation.

» Optimize piping design, branch selector boxes, and indoor units per phase of installation.



Installation Space

›› During installation, install the units using the most appropriate of the patterns shown in the figure for the location in question, taking into consideration human traffic and wind.

›› If the number of units installed is more than that shown in the pattern in the figure, install the units so that there is no air short circuiting.

›› Consider the space needed for the refrigerant piping when installing the units, as determined by local codes.

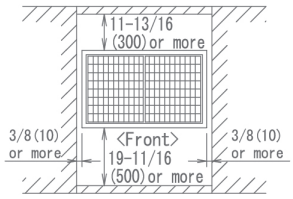
›› If the space requirements in the figure do not apply, contact your contractor or Daikin directly.

›› The installation space requirement shown in the figure is a reference for cooling. Refer to Installation and Engineering Manuals for further details and layouts.

REYQ-AATJA
REYQ-AAYDA

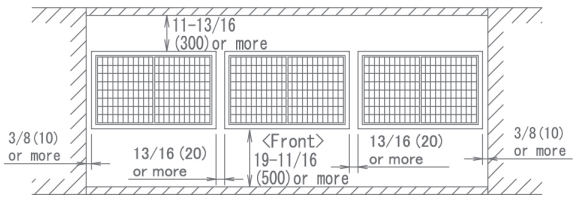
For single unit installation

《Pattern 1》



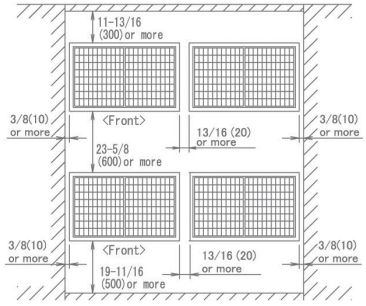
For installation in rows

《Pattern 1》

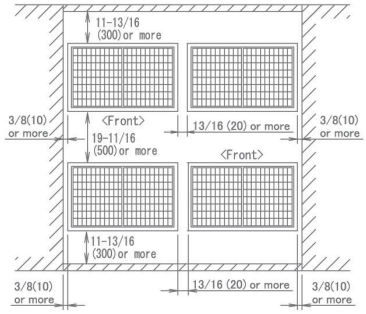


For centralized group layout

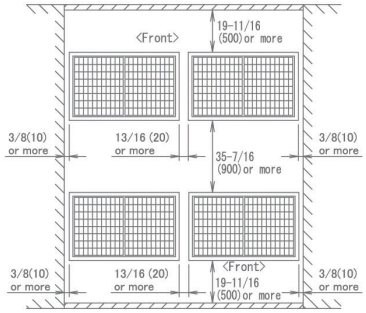
《Pattern 1》



《Pattern 1》



《Pattern 1》



Hail Guard Kits

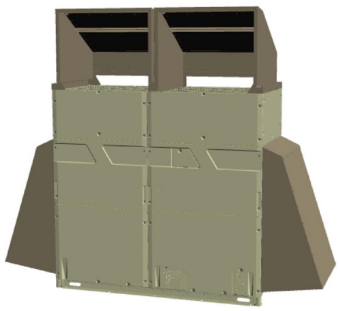
The optional hail guard kit for *VRV EMERION* enables optimal airflow for efficient heat transfer while providing condenser coil protection from hail damage in severe climates. Each hail guard kit, that is field installed, consists of 4 panels (Right, Left, Front and Back).

HAIL GUARD KITS - NUMBER OF KITS REQURIED FOR EACH OUTDOOR SYSTEM						
MODEL TYPE			# OF MODULES	VRV6HGM-K1	VRV6HGL-K1	VRV6HGXL-K1
VRV EMERION Heat Recovery	208-230V / 460V	REYQ72AA	Single	1		
		REYQ96-168AA	Single		1	
		REYQ192-216AA	Single			1
		REYQ264-336AA	Dual		2	
		REYQ360AA	Dual		1	1
		REYQ384-480AA	Dual			2

Snow/Wind Hood Kits

The optional Snow/Wind Hood Kits mount to *VRV EMERION* series units over the heat exchanger coil to protect from snow build-up and wind in cold climates. The Hoods install easily to condensing units using existing screw taps with no modification required. Different kits can be ordered for different job requirements per table below.

SNOW/WIND HOOD KITS - NUMBER OF KITS REQURIED FOR EACH OUTDOOR SYSTEM									
MODEL TYPE			# OF MODULES	VRV6-SHM-FR	VRV6-SHL-FR	VRV6-SHXL-FR	VRV6-SHM-T	VRV6-SHL-T	VRV6-SHXL-T	VRV6-SH-RL
VRV EMERION Heat Recovery	208-230V / 460V	REYQ72AA	Single	1			1			1
		REYQ96-168AA	Single		1			1		1
		REYQ192-240AA	Single			1			1	1
		REYQ264-336AA	Dual		2			2		1
		REYQ360AA	Dual		1	1		1	1	1
		REYQ384-480AA	Dual			2			2	1



Pressure Relief Valve Kit for Chicago Municipal Code

VRV EMERION is designed to comply with the Chicago Municipal Code's pressure relief valve requirement. Customers can order the optional pressure relief valve kit and easily install it without any brazing or refrigerant removal on a jobsite.

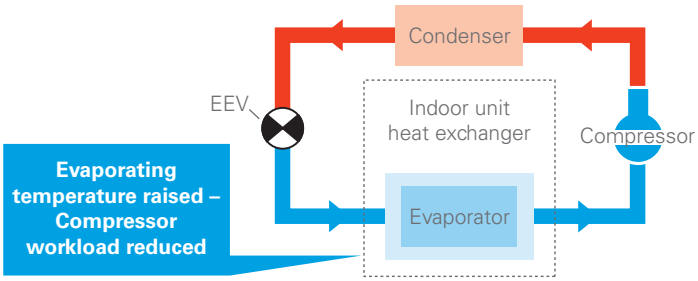
Kit Number
DPRK06

Performance driven by *Air Intelligence*

Adaptive and learning VRT

The new *VRV EMERION* system features a newly enhanced learning VRT technology. The new learning VRT technology, in addition to helping with annual energy efficiency and maintaining comfort, provides features that enable time-based learning to adjust cooling and heating capacities to provide a stable capacity to the indoor units. The feature must be activated through field setting changes.

Refrigerant cycle during cooling



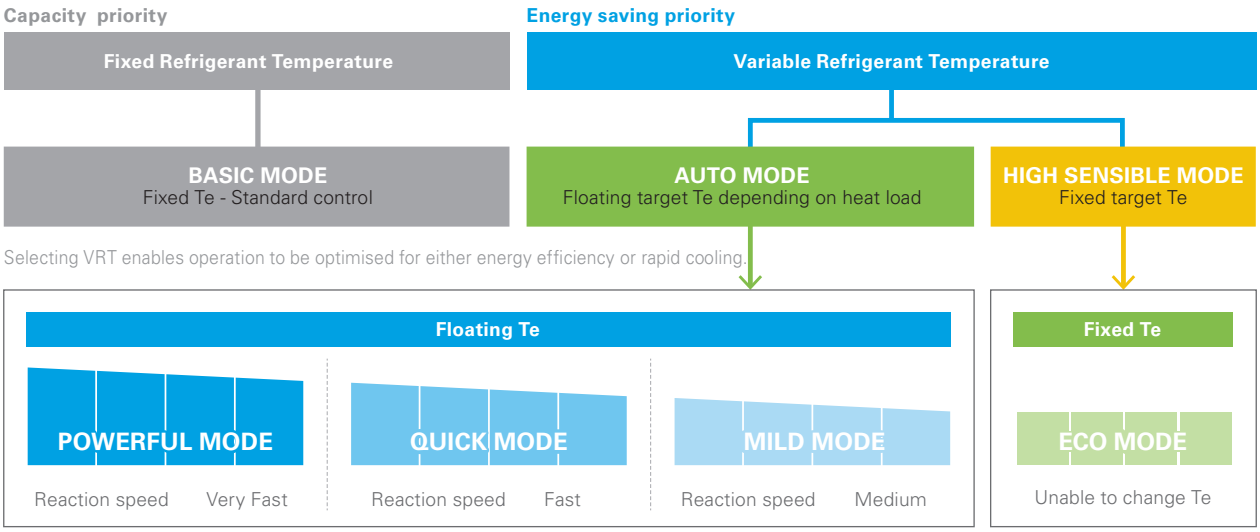
How is energy reduced?

A standard variable refrigerant flow system and previous Daikin *VRV* systems utilize a capacity based control logic where the system will adjust to meet the capacity requirements of the space. With VRT, Daikin has optimized focus not only on capacity but also on efficiency and comfort.

According to changes in the room's heat load and the ambient air temperature, the evaporating temperature (in cooling) and condensing temperature (in heating) are automatically adjusted to minimize the difference with the condensing temperature and the evaporation temperature, respectively.

This makes the compressors work less and also enables the system to always maintain the ideal compressor speed so that the Daikin *VRV* system can deliver the optimum efficiency.

Fine control to match user preference available through mode selection



» Can boost capacity above 100% if needed.
The refrigerant temperature can go lower in cooling than the set minimum.
» Gives priority to very fast reaction speed.
The refrigerant temperature goes down fast to keep the room setpoint stable.

» Gives priority to fast reaction speed.
The refrigerant temperature goes down fast to keep the room setpoint stable.

» Gives priority to efficiency.
The refrigerant temperature goes down gradually giving priority to the efficiency of the system instead of the reaction speed.

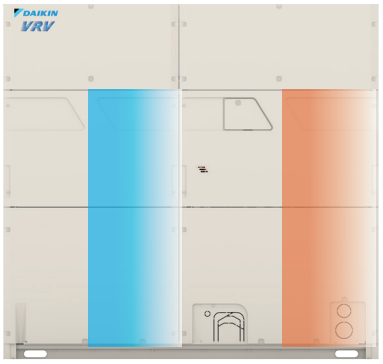
Continuous heating during defrost*

» Each outdoor unit heat exchanger goes into defrost mode at different times so continuous heating is maintained — avoiding discomfort indoors.

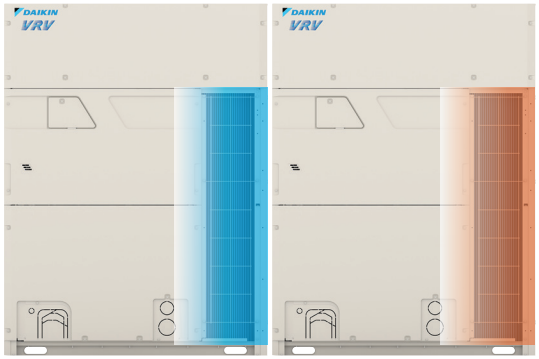
» Reduces cold drafts.

» No extra energy for reheating indoors, piping & zone (compared to variable refrigerant flow systems without continuous heating during defrost).

*Refer to engineering and installation manuals for application rules.



SINGLE MODULE (16 - 20 T)
CONTINUOUS HEATING DURING DEFROST

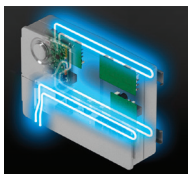


DUAL MODULE (22 - 40 T)
CONTINUOUS HEATING DURING DEFROST

Hot Gas Defrost Technology

The Hot Gas Defrost circuit at the bottom of the heat exchanger eliminates the need for a base pan heater. This unique technology helps improve defrost, condensate disposal, and reduce ice accumulation at the bottom of the coil. This allows for reliable and efficient system operation year-round.

Inverter Board Cooled by Refrigerant Circuit. Minimum influence on electronics from ambient temperature. Section of the coil in the unit is permanently set as condenser for cooling of the inverter board.



Specifications

TECHNICAL DATA FOR *VRV EMERION* - AATJA/AAYDA HEAT RECOVERY OUTDOOR UNITS

			6 Ton	8 Ton	10 Ton	12 Ton	14 Ton	16 Ton	18 Ton	20 Ton
Model	208-230V/3Ph/60Hz		REYQ72AATJB	REYQ96AATJB	REYQ120AATJB	REYQ144AATJB	REYQ168AATJB	REYQ192AATJB	REYQ216AATJB	REYQ240AATJB
	460V/3Ph/60Hz		REYQ72AAYDB	REYQ96AAYDB	REYQ120AAYDB	REYQ144AAYDB	REYQ168AAYDB	REYQ192AAYDB	REYQ216AAYDB	REYQ240AAYDB
	Combination									
Performance	Rated Cooling Capacity	BTU/h	69,000	92,000	114,000	138,000	160,000	184,000	206,000	228,000
	Rated Heating Capacity	BTU/h	77,000	103,000	129,000	154,000	180,000	206,000	232,000	256,000
	Operation Range Cooling	°F (°C) DB	-4* – 122 (-20* – 50)							
	Operation Range Heating	°F (°C) WB	-13 – 60 (-25 – 15.6)							
	Sound Pressure	dB(A)	58	61	61	65	65	67	68	69
	Airflow	CFM	6200	8965	8965	9675	9675	13650	14505	14505
	Fan ESP, Standard/Max	in. W.G.	0.12 / 0.32							
Compressor	Compressors, all inverter	Qty	1	2						
	Revolutions per minute	RPM	4212	4482 + 4482	5934 + 5934	5496 + 5496	6684 + 6684	5586 + 5586	6294 + 6294	7272 + 7272
	Capacity Control Range	%	7-100	4-100	3-100	3-100	2-100	4-100	3-100	3-100
Refrigerant Piping, Layout	Maximum Vertical Pipe Length Above Unit	ft.	164 (361 With Field Setting)*							
	Maximum Vertical Pipe Length Below Unit	ft.	130 (361 With Field Setting)*							
	Maximum Vertical Pipe Length Between IDU	ft.	100							
	Maximum Actual Pipe Length	ft.	541							
	Maximum Equivalent Pipe Length	ft.	620							
	Maximum Total Pipe Length	ft.	3,280							
Refrigerant Piping, Connections	Liquid Pipe, Main Line	in.	3/8	3/8	1/2	1/2	5/8	5/8	5/8	5/8
	Suction Gas Pipe, Main Line	in.	3/4	7/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-3/8
	Discharge Gas Pipe, Main Line	in.	5/8	3/4	3/4	7/8	7/8	1-1/8	1-1/8	1 1/8
Connection Ratio	Standard Connectable Indoor Unit Ratio	%	50 - 200[1]							
	Maximum Number of Indoor Units	Qty	12	16	20	25	29	33	37	41
Electrical	Maximum Overcurrent Protection, MOP (208-230V / 460V)	A	30 / 15	35 / 20	40 / 20	50 / 25	60 / 25	60 / 30	70 / 30	80 / 40
	Minimum Circuit Amps, MCA (208-230V / 460V)	A	27.3 / 12.4	34.1 / 16.4	36.5 / 16.6	47.8 / 21.3	54.9 / 24.9	59.8 / 28.3	67.2 / 29.9	73.7 / 33.4
	Compressor Rated Load Amps, (208-230V / 460V)	A	11.1 / 5.1	7.6 + 7.6 / 3.4 + 3.5	10.5 + 10.6 / 4.8 + 4.8	10.0 + 15.8 / 4.5 + 7.2	12.5 + 20.0 / 5.7 + 9.1	16.6 + 16.6 / 7.5 + 7.6	20.0 + 20.0 / 9.1 + 9.1	24.3 + 24.4 / 11.0 + 11.1
Unit	Factory Refrigerant Charge	lbs.	23.4	25.8						
	Weight (208-230V / 460V)	lbs.	509 / 525	710 / 725	712 / 728	785 / 800	787 / 802	957 / 972	957 / 972	957 / 972
	Dimensions (H x W x D)	in.	65-3/8 x 36-5/8 x 30-1/8	65-3/8 x 48-13/16 x 30-1/8				65-3/8 x 68-7/8 x 30-1/8		

[1] Varies based on indoor model selected *Refer to engineering and installation manuals for rules and conditions

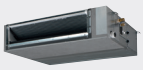
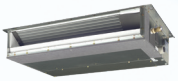
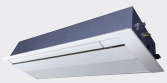
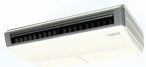
	22 Ton	24 Ton	26 Ton	28 Ton	30 Ton	32 Ton	34 Ton	36 Ton[2]	38 Ton	40 Ton
	REYQ264AATJB	REYQ288AATJB	REYQ312AATJB	REYQ336AATJB	REYQ360AATJB	REYQ384AATJB	REYQ408AATJB	REYQ432AATJB	REYQ456AATJB	REYQ480AATJB
	REYQ264AAYDB	REYQ288AAYDB	REYQ312AAYDB	REYQ336AAYDB	REYQ360AAYDB	REYQ384AAYDB	REYQ408AAYDB	REYQ432AAYDB	REYQ456AAYDB	REYQ480AAYDB
	1 x REYQ120AA 1 x REYQ144AA	2 x REYQ144AA	1 x REYQ144AA 1 x REYQ168AA	2 x REYQ168AA	1 x REYQ168AA 1 x REYQ192AA	2 x REYQ192AA	1 x REYQ192AA 1 x REYQ216AA	2 x REYQ216AA	1 x REYQ216AA 1 x REYQ240AA	2 x REYQ240AA
	252,000	274,000	296,000	320,000	342,000	364,000	388,000	410,000	434,000	456,000
	282,000	294,000	320,000	338,000	376,000	386,000	394,000	404,000	414,000	424,000
	-4* – 122 (-20* – 50)									
	-13 – 60 (-25 – 15.6)									
	67	69	69	69	70	71	71	72	72	73
	8965 + 9675	9675 + 9675	9675 + 9675	9675 + 9675	9675 + 13650	13650 + 13650	13650 + 14505	14505 + 14505	14505 + 14505	14505 + 14505
	0.12 / 0.32									
	2 + 2									
	(5934 + 5934) + (5496 + 5496)	(5496 + 5496) + (5496 + 5496)	(5496 + 5496) + (6684 + 6684)	(6684 + 6684) + (6684 + 6684)	(6684 + 6684) + (5586 + 5586)	(5586 + 5586) + (5586 + 5586)	(5586 + 5586) + (6294 + 6294)	(6294 + 6294) + (6294 + 6294)	(6294 + 6294) + (7272 + 7272)	(7272 + 7272) + (7272 + 7272)
	1-100	1-100	1-100	1-100	1-100	1-100	1-100	1-100	1-100	1-100
	164 (361 With Field Setting)*									
	130 (361 With Field Setting)*									
	100									
	541									
	620									
	3280									
	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
	1-3/8	1-3/8	1-3/8	1-3/8	1-5/8	1-5/8	1-5/8	1-5/8	1-5/8	1-5/8
	1-1/8	1-1/8	1-1/8	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8
	50 - 200[1]									
	45	49	54	58	62	64				
	40 + 50 / 20 + 25	50 + 50 / 25 + 25	50 + 60 / 25 + 25	60 + 60 / 25 + 25	60 + 60 / 25 + 30	60 + 60 / 30 + 30	60 + 70 / 30 + 30	70 + 80 / 30 + 30	70 + 80 / 30 + 40	80 + 80 / 40 + 40
	36.5 + 47.8 / 16.6+21.3	47.8 + 47.8 / 21.3 + 21.3	47.8 + 54.9 / 21.3 + 24.9	54.9 + 54.9 / 24.9 + 24.9	54.9 + 59.8 / 24.9 + 28.3	59.8 + 59.8 / 28.3 + 28.3	59.8 + 67.2 / 28.3 + 29.9	67.2 + 67.2 / 29.9 + 29.9	67.2 + 73.7 / 29.9 + 33.4	73.7 + 73.7 / 33.4 + 33.4
	(10.5 + 10.6) + (10.0 + 15.8) / (4.8 + 4.8) + (4.5 + 7.2)	(10.0 + 15.8) + (10.0 + 15.8) / (4.5 + 7.2) + (4.5 +7.2)	(10.0 + 15.8) + (12.5 + 20.0) / (4.5 + 7.2) + (5.7 + 9.1)	(12.5 + 20.0) + (12.5 + 20.0) / (5.7 + 9.1) + (5.7 + 9.1)	(12.5 + 20.0) + (16.6 + 16.6) / (5.7 + 9.1) + (7.5 + 7.6)	(16.6 + 16.6) + (16.6 + 16.6) / (7.5 + 7.6) + (7.5 + 7.6)	(16.6 + 16.6) + (20.0 + 20.0) / (7.5 + 7.6) + (9.1 + 9.1)	(20.0 + 20.0) + (20.0 + 20.0) / (9.1 + 9.1) + (9.1 + 9.1)	(20.0 + 20.0) + (24.3 + 24.3) / (9.1 + 9.1) + (11.0 + 11.1)	(24.3 + 24.3) + (24.3 + 24.4) / (11.0 + 11.1) + (11.0 + 11.1)
	25.8 + 25.8									
	712 + 785 / 728 + 800	785 + 785/ 800 + 800	785 + 787 / 800 + 802	787 + 787 / 802 + 802	787 + 957 / 802 + 972	957 + 957 / 972 + 972				
	(65-3/8 x 48-13/16 x 30-1/8) + (65-3/8 x 48-13/16 x 30-1/8)				(65-3/8 x 48-13/16 x 30-1/8) + (65-3/8 x 68-7/8 x 30-1/8)	(65-3/8 x 68-7/8 x 30-1/8) + (65-3/8 x 68-7/8 x 30-1/8)				

Connect. Control. Monitor.

Expand possibilities with connectivity

VRV EMERION offers connectivity to an ever-expanding offering of controls, ventilation, and indoor units.

.

	INDOOR UNIT TYPE		CAPACITY														
		MBH	5.8	7.5	09	12	15	18	24	30	36	42	48	54	60	72	96
		TONS	0.5	0.6	0.75	1	1.25	1.5	2	2.5	3	3.5	4	4.5	5		
DUCTED	FXMQ_TBVJU HSP DC Concealed Ducted Unit (High Static)			▲	▲	▲	▲	▲	▲	▲	▲		▲	▲			
DUCTED	FXSQ_TBVJU MSP Concealed Ducted Unit (Medium Static)		▲	▲	▲	▲	▲	▲	▲	▲	▲		▲	▲			
DUCTED	FXDQ_MVJU LSP Slim Concealed Ducted Unit (Low Static)			▲	▲	▲		▲	▲								
DUCTED	FXTQ_TBVJU Multi-Position Air Handling Unit (Upflow, Downflow, Horizontal Left and Horizontal Right)				▲	▲		▲	▲	▲	▲	▲	▲	▲	▲		
DUCTED	HSP High Capacity Concealed Ducted Unit															▲	▲
DUCTED	FXNQ_MVJU9 Concealed Floor- Standing Unit			▲	▲	▲		▲	▲								
DUCT-FREE	FXFQ_AAVJU *Round Flow* Sensing Cassette, Ceiling Mounted ROUND FLOW			▲	▲	▲	▲	▲	▲	▲	▲		▲	▲			
DUCT-FREE	FXUQ_PVJU 4-Way Blow Ceiling-Suspended Cassette							▲	▲	▲	▲						
DUCT-FREE	FXZQ_TBVJU *VISTA* 2x2 Ceiling Mounted Cassette		▲	▲	▲	▲	▲	▲									
DUCT-FREE	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 Condensate pump standard OSA Outside air connection possible

DZK (Daikin Zoning Kit)

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, allowing several separate ducts to supply air to different individually controlled zones. The DZK *BACnet*™ Interface module will work with any *BACnet*™/IP compatible Building Management System.

DZK Zoning Box for FXMQ_TB and FXSQ indoor units

DZK Wired, Wireless, and Wireless Lite thermostat options

Connect. Control. Monitor. *(Cont'd)*

Dual Fuel with Gas Furnace Connectivity

Expanding *VRV* into applications that were limited to gas-based heating, *VRV EMERION* is a 3-phase dual-fuel VRF system that integrates with communicating gas furnaces. *VRV EMERION* offers outstanding design flexibility when connected to Daikin communicating 80%, 96%, and 97% AFUE gas furnaces and CXTQ coils. The new *VRV EMERION* enables the use of *VRV* technology to provide utility cost-based heating solutions. With the flexibility to switch between electric heat pump heating and gas heating, operational costs can be optimized to building owner's choice for a heating source.

- Space-saving with ability to connect multiple gas furnaces to one outdoor unit with 14 selectable settings.
- Customizable changeover temperatures to switch from heat pump to gas heat.
- Ability to provide system-wide heating independent of outdoor ambient temperature.

CXTQ all aluminum coil features

- **Available in 2, 3, 4, and 5-Ton capacities.**
- **Factory installed electronic expansion valve** with PID control loop for precision capacity control.
- **Seamless integration** to full suite of Daikin controls using onboard control board.
- **Air cleaner and humidifier** integration capable[1].
- **UV and rust resistant,** 5VA rated thermoplastic drain pan with integrated secondary drain.
- **Foil-faced insulation covers** internal casing to reduce cabinet condensation.
- **Split seam front** for easy installation and service access.
- **Light weight** all aluminum evaporator coil.
- **Ships factory standard up flow** with easy field conversion to downflow[1].

[1] Rules apply, refer to installation manual for details.

80-97% AFUE communicating gas furnace

- **Durable heat exchanger** – Unique tubular stainless-steel construction formed using wrinkle-bend technology results in an extremely durable heat exchanger. Paired with a stainless-steel secondary heat exchanger, this combination provides for reliability, durability and efficiency.
- **Modulating gas valve** – Operates between 35%-100% capacity, providing precise efficiency and the ultimate in comfort.
- **Continuous air circulation** – Provides filtration and keeps air moving throughout your home to help maintain comfort.
- **Self-diagnostic control board** – continuously monitors the system for consistent, reliable operation.
- **Quiet, variable-speed induced draft blower** – provides precise control and enhanced energy-efficient performance as compared to single-speed blowers.

Applied AHU & FCU Connectivity

Connect non standard *VRV* terminal units and AHUs with Daikin *VRV EMERION* leveraging Daikin Air Handling Unit Integration Kit to extend benefits of inverter technology to custom terminal units and AHUs. A kit consists of One Control Box and One EEV box. Offered via EKEQMCBAV3-US.

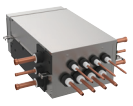
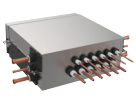
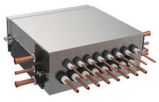
EKEQMCBAV3-US

For use with both Daikin *VRV* indoor units and custom air handling units.

- Seamless integration of non standard *VRV* air handling units with *VRV EMERION* HR systems.
- Enables control of the AHU as a *VRV* Indoor unit when integrated with a Daikin remote control.
- Connect other *VRV* indoor units along with the AHU to the condensing units.
- Provides remote ON/OFF option when integrated with optional KRP4A71 board.
- Designed for both indoor and outdoor installations.

Branch Selector Boxes

Providing flexibility and minimizing mechanical and electrical installation costs, Daikin's branch selector boxes that are used in Heat Recovery systems, are ideal for spaces that require individual heating and cooling control.

	SINGLE-PORT BRANCH SELECTOR			MULTI-PORT BRANCH SELECTOR					
									
MODELS	BSQ36TVJ	BSQ60TVJ	BSQ96TVJ	BS4Q54TVJ	BSF4Q54TVJ	BSF6Q54TVJ	BSF8Q54TVJ	BS10Q54TVJ	BS12Q54TVJ
PORTS	1			4		6	8	10	12

Connect. Control. Monitor. *(Cont'd)*

LOCALIZED CONTROLS

Daikin *One*+ Smart Thermostat

The Daikin *One*+ smart thermostat can control *VRV* systems with the expansion of apps and programmable technology. The Daikin *One*+ is a cloud-connected hub of sophistication, designed for controlling temperature, humidity, and air quality. Control your air remotely, all the time, with this intelligent HVAC thermostat from Daikin.

Navigation Remote Controller

The *Navigation* Remote Controller has been enhanced to meet the configuration requirements of Daikin's *VRV* indoor units. The *Navigation* Remote Controller provides all the great features and options the market requires. The configurable display and operation buttons will provide as much or as little control as the project requires.

NEW! Daikin *Madoka* Remote Controller

The *Madoka* Remote Controller is a redesigned controller that retains the advanced functions for indoor unit control. The *Madoka* features a sleek and stylish design with an intuitive interface including touch button control. It can be commissioned and managed with ease through a Bluetooth® configuration app or via the onboard menus.

NEW! Daikin DKN Plus Interface

The new Daikin DKN Plus Interface enables the energy-efficient control of Daikin air conditioners by a third-party thermostat or an automation system. With this interface, third-party devices or systems can control the *VRV, SkyAir,* Single Zone and Multi-Zone indoor units through the DKN NA App, Cloud API, Modbus®, BACnet™ MS/TP, or thermostat relay contacts.

NEW! Daikin DKN Cloud Wi-Fi Adaptor

The DKN Cloud Wi-Fi Adaptor enables the remote control of your Daikin indoor units through an iOS/Android App. With the app, the DKN Cloud Wi-Fi Adaptor provides remote control and monitoring of indoor units' ON/OFF, mode, set-point, fan speed, louver position, room temperature, and error alert status from an iOS/Android smartphone.

NEW! Daikin *Adaptive Touch Controller (ATC)*

The *ATC* is used to control *VRV, SkyAir,* Single and Multi-Zone systems (P1P2) with advanced and configurable control logic. The *ATC* comes in 4 different models with a built-in temperature sensor, humidity sensor, CO_2 sensor, and occupancy sensor. The *ATC* will also provide analog input, analog output, digital input, and digital output terminals to monitor auxiliary sensors and control auxiliary equipment. The built-in sensors can be combined with advanced logic to create actionable tasks based upon the sensor values. The *ATC* controller can be integrated with a compatible building management system (BMS) using BACnet™ MS/TP.

CENTRALIZED CONTROLLER

Daikin *intelligent Touch Manager (iTM)*

The *intelligent Touch Manager (iTM)* is an advanced multi-zone controller that controls and monitors the Daikin *VRV* system. The *iTM* can also provide a cost-effective mini Building Management System (BMS) solution to integrate and control third party devices through option a software and hardware. If a BMS exists, the *iTM* can be used as a BACnet™ gateway interface for BMS integration with the *iTM BACnet* Server Gateway option.

REMOTE MONITORING

Daikin *HERO*
Simple Edge

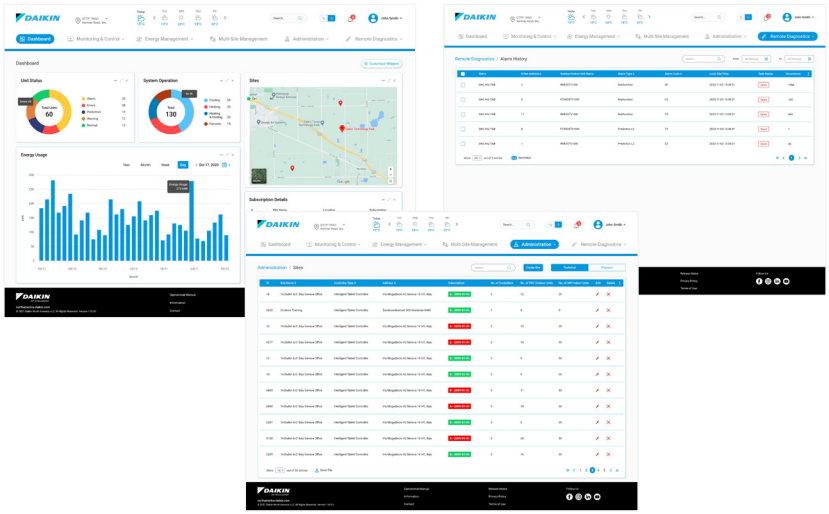
COMING FALL 2022! Daikin *HERO* Ecosystem

» Remote monitoring to help manage and diagnose system performance and provide predictive logic.

» Visualize system performance through the integrated dashboard (web-based access from phone, laptop, and tablet).

» Streamline service and maintenance for projects.

» Built-in Verizon® SIM card for cellular communication.

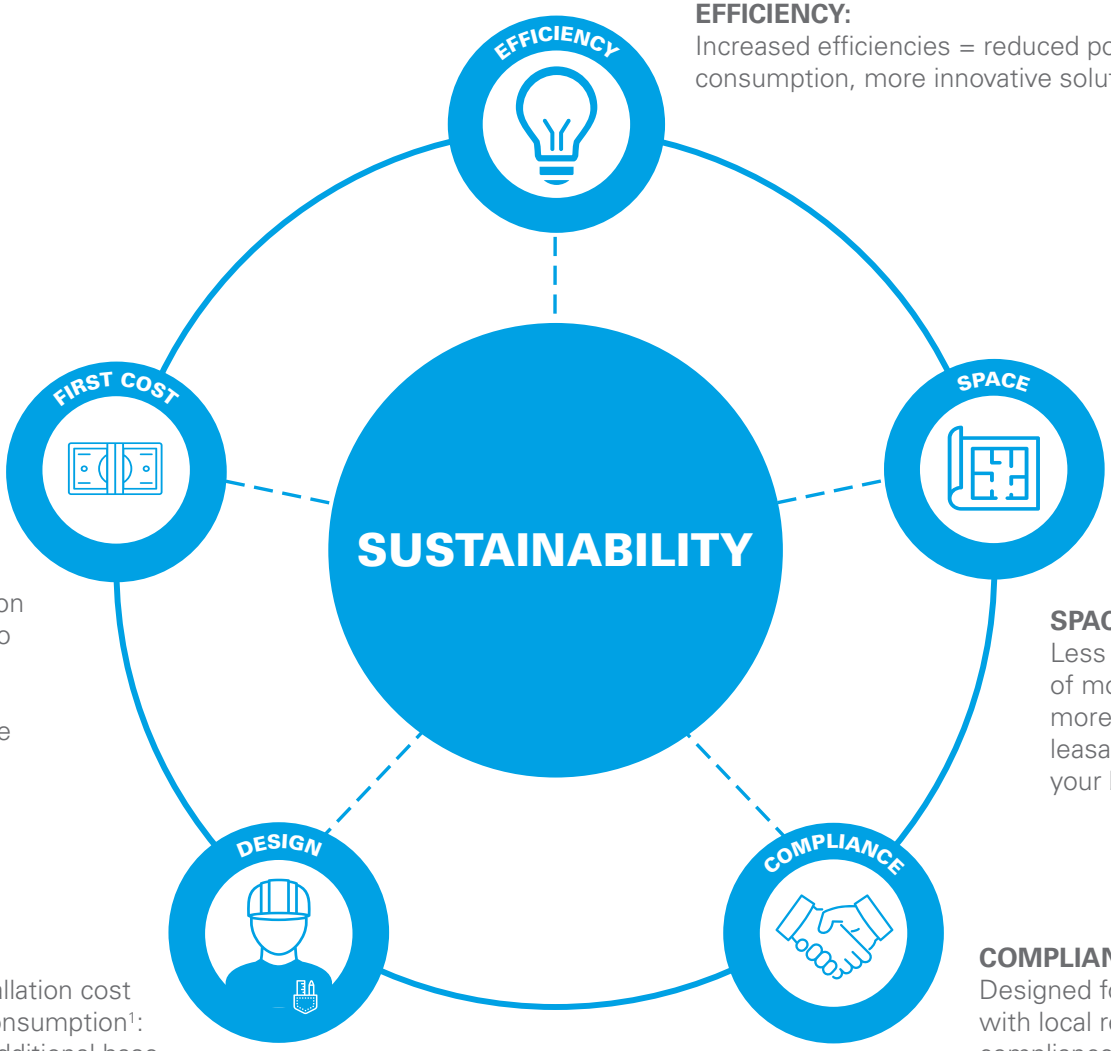


VISUALIZE SYSTEM OPERATION	REMOTE MONITORING	FAILURE PREDICTION	ENVIRONMENTAL PROTECTION
» Visualize system energy consumption » System errors	» Multi-site » Eliminate unnecessary truck rolls » Access system details 24/7	» Compressor » Sensors	» Refrigerant leakage predicting logic » Energy tuning optimizes ODU operation based upon ambient temperature

Developed with Sustainability at the Core

"LOGIC will get you from A to B. IMAGINATION will take you EVERYWHERE."

— ALBERT EINSTEIN



EFFICIENCY:
Increased efficiencies = reduced power consumption, more innovative solution[1].

FIRST COST:
Less installation cost[1] thanks to reduction of electrical and piping with the new design.

SPACE:
Less number of modules = more usable and leasable space for your building[1].

DESIGN:
Reduced installation cost and energy consumption[1]: No need for additional base pan heater kit thanks to Daikin's innovative hot gas bypass circuit technology.

COMPLIANCE:
Designed for alignment with local regulatory compliance needs, such as OSHPD Seismic, Miami Wade Wind, and City of Chicago Pressure relief codes.

[1] Compared to previous series
Refer to engineering and installation manuals for specific models and application rules

Delivering Sustainable Solutions to build a Sustainable society

We believe our mission is to provide comfortable air environments for people around the world while developing products that utilize inverters and lower global warming potential refrigerants (as compared to refrigerants currently in use). We measure our contribution to reducing greenhouse gas emissions based on the distribution of products utilizing inverters and lower global warming potential refrigerants (as compared to refrigerants currently in use). Daikin reduced greenhouse gas by 68 million tons of CO_2 globally, representing a reduction of greenhouse gas emissions of 76% from fiscal 2006 levels. *VRV EMERION* is engineered to provide an all-electric heat pump solution with heating down to -13°F (-25°C) as standard. In addition to high heating capabilities, additional benefits listed below make *VRV EMERION* an an ideal choice of commercial HVAC for owners, architects, engineers, and contractors aiming towards sustainable buildings.

- Inverter technology-driven high efficiencies.
- Increased piping and design flexibility[1].
- Simple and space-saving compact design.
- Three-panel design for easy installation, maintenance, and service.
- Reduced electrical requirements[1].
- Reliable IoT-based remote monitoring and predictive operation.

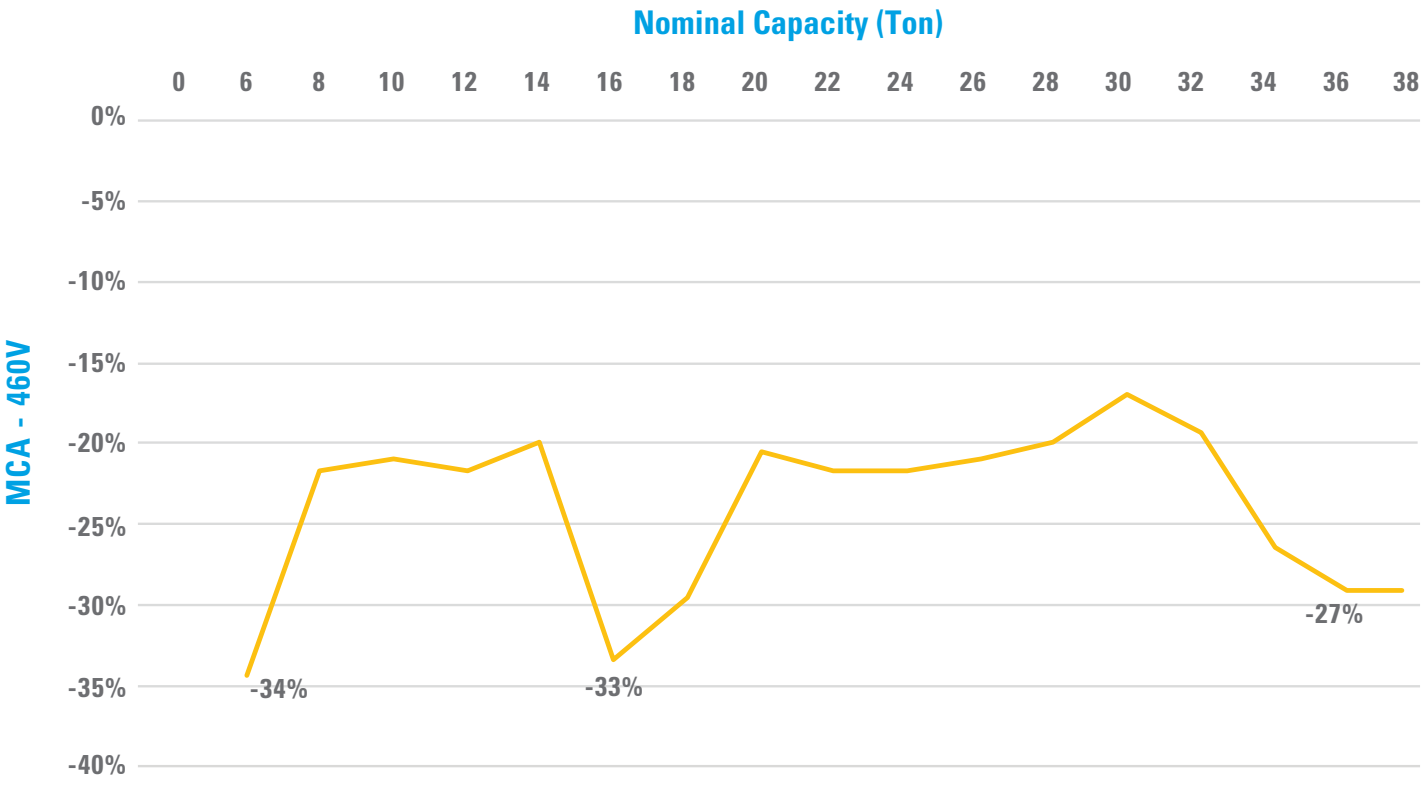
[1] Compared to previous series

Reliability and efficiency

Reduced Equipment and Installation Costs*

VRV EMERION returns valuable, leasable, livable space to building owners and tenants thanks to the compact modular design. Because overall costs are a critical piece of every project, we've designed the *VRV EMERION* from the ground up to help drive additional cost savings to your projects. For example, with a reduced number of installed modules, a reduction of electrical and piping connections (compared to previous generations of *VRV*) is possible.

Reduced Electrical*



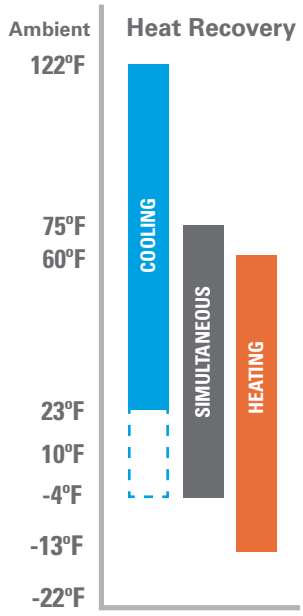
With up to 34%* reduction in MCA values, *VRV EMERION* offers an opportunity to reduce overall electrical installation costs.

*Compared to previous *VRV IV X* models.

Reliable operation year-round

VRV EMERION has a wide range of operating ability and performance data covering a broad spectrum of operation range for both cooling and heating. Systems are designed to operate from -13°F to 60°F in heating and from 23°F to 122°F in cooling. When combined with single port or multi port *Flex Branch selector* boxes, the systems can deliver cooling down to -4°F.

In addition to its wide range of operation, *VRV EMERION* is equipped with advanced features such as continuous heating during defrost and hot gas defrost circuit which offer reliable heating operation without a base pan heater or backup heat in most applications. This also helps reduce installation cost and energy consumption.



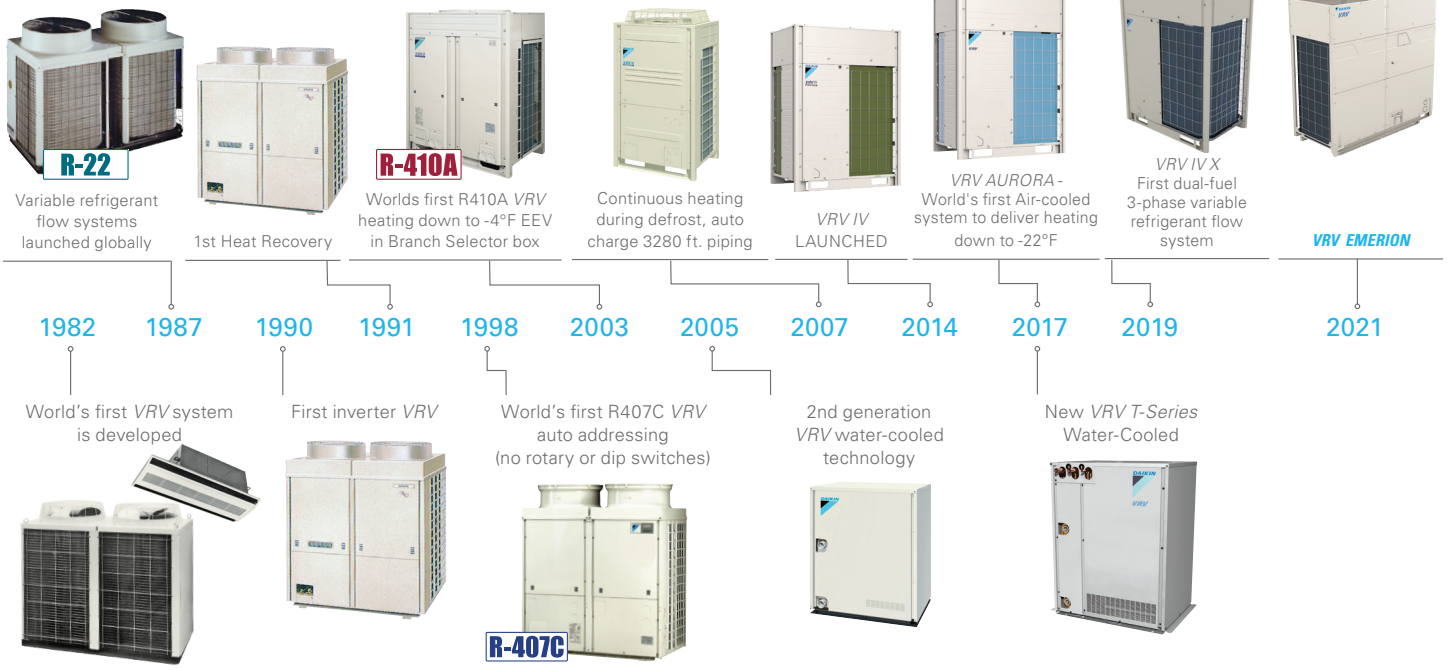
Setting the Standards

Over 30 years of *VRV* history

Daikin invented the first *VRV* system in 1982 and has continued to set standards in the industry and heighten market expectations. Many of the current market expectations are:

- Energy efficient inverter compressor .
- Modular system concept.
- Heat recovery function.
- Allow long piping lengths.
- Heating operation down to -13°F ambient air temperature as standard.
- Continuous heat during defrost.
- Auto charge at start up.

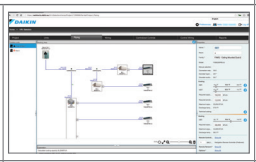
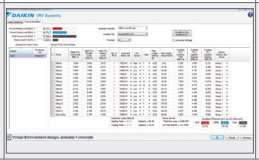
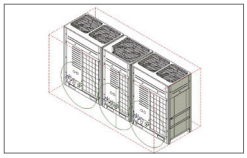
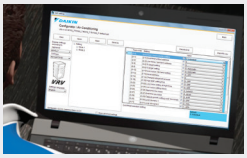
VRV was invented in 1982 as a result of the oil crisis around the world in the 70's. Energy efficiency laws were passed by the Japanese government. The Japanese government and Daikin worked closely together — they looked at a chiller system; pumps, and air handlers as well and how the pump circulates water and how it uses a lot of power. So, they came up with a concept to use refrigerant instead of water to circulate as a heat transfer medium. The first *VRV* heat recovery system was launched in 1991 implementing the landmark concept of a heat pump chiller that circulates refrigerant instead of water.



Tools for Success

The tools have been designed to be simple to use, easily accessible and to address the various considerations and steps in the evolution of a residential or commercial project, aimed at helping the architect, consulting engineer, contractor, installation technician, and service company to enhance workflows and general project execution.

Support and Tools Overview

CATEGORIES		TOOLS															
		WebXpress	Ventilation Xpress	Controls Configurator	Online Energy Calculator	IES-VE Daikin *VRV* plug-in	Performance curves for third-party energy simulation Programs	CAD drawings	Revit models	Reference Charge Calculator	Ventilation Rate Calculator	Daikin City (including Guide Specs, IOMS etc.)	Daikin eQuip application	Dr. Daikin	*VRV* Configurator	Service Checker	Online Spare Parts Bank
Selection		●	●	●													
Energy screening and simulation					●	●	●										
Design and verification								●	●	●	●						
Online and tablet reference (spec, data, submittal)												●					
Smartphone and mobile reference													●	●			
After sales and service															●	●	●

About Daikin:

Daikin Industries, Ltd. (DIL) is a global Fortune 1000 company and is recognized as one of the largest HVAC (Heating, Ventilation, Air Conditioning) manufacturers in the world. Founded in 1924, Daikin is celebrating 100 years of HVAC worldwide leadership. DIL is primarily engaged in developing indoor comfort 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.

To learn more, visit:
www.vrvemerion.com

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.

DAIKIN

Houston, Texas · USA · www.northamerica-daikin.com

CB-VRVEMERION_04-24