Introducing

ICE AIR® VRF

Commercial Air Conditioning

What is Ice Air VRF?

Ice Air VRF is an advanced Variable Refrigerant Flow system that directs the precise amount of refrigerant required to meet system cooling and heating requirements. Advanced DC inverter controls, variable speed compressors and motors ensure that you are getting the highest efficiency comfort conditioning throughout your project. From equipment technology and design, through the manufacturing and quality processes, Ice Air provides the highest quality, efficiency and support for its World Class Comfort™ VRF systems.

Outdoor Units

Ice Air VRF Outdoor Units come in four different series, including large air-cooled, water-cooled and multi-split air-cooled units. All units are ETL certified where noted.

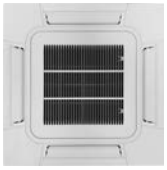
- G Series – Commercial Size Air Cooled Units from 6 tons – 70 tons
- S Series – Commercial Size Air Cooled Units from 2 tons – 90 tons
- W Series – Water Cooled Units from 6 tons – 24 tons
- H Series – Air Cooled Units from 2 tons – 10 tons

You'll find the right outdoor unit to satisfy all your VRF application requirements.

Indoor Units

Ice Air VRF Indoor Units are offered in a variety of different configurations to meet every application. These advanced units have a wide range of capacities to meet all your design requirements. They deliver precise climate control using exceptional sensor technology to maintain precise room-to-room temperatures.

4-Way Cassette



Mini 4-Way Cassette

Wall Mounted

Ceiling Ducted High Static Pressure

Ceiling Ducted DC Low Height

Vertical Hi Rise

Controllers and Options

What makes the Ice Air VRF systems so simple to operate are the advanced family of controls that integrate these outdoor and indoor components.

Our controllers are streamlined in appearance, easy and convenient to use, wired or wireless. Our receiver kits and BACnet Gateways round out the extensive line, allowing Ice Air VRF system integration with BMS systems and other third-party technologies.

Wired Controllers

Receiver Kits

Wireless Controller

Central Controller

We Call It COMFORT[3]

Why Choose Ice Air VRF?

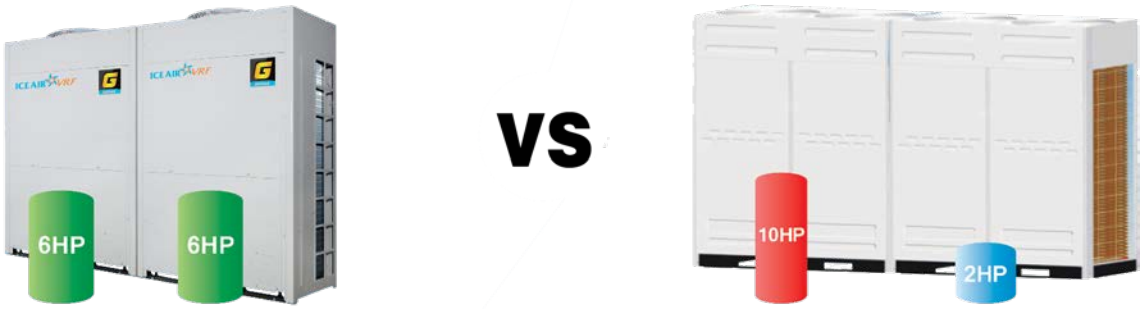
- Comprehensive Product Line
- Advanced Technology and Outstanding Operational Performance
- Local Project and Equipment Support
- Local Operational Support
- Modular Design for Greater Flexibility
- Compact Outdoor and Indoor Units - High Space Efficiency
- Easy Transportation and Installation
- Intelligent and Flexible Control Systems
- World Class Quality Management

Contents

Meet Ice Air's Technology

Smart Capacity Allocation

For maximum efficiency, the Ice Air VRF Outdoor Units are designed to operate between 40% - 75% capacity; automatically balancing the load between the outdoor units.



Ice Air G Series:

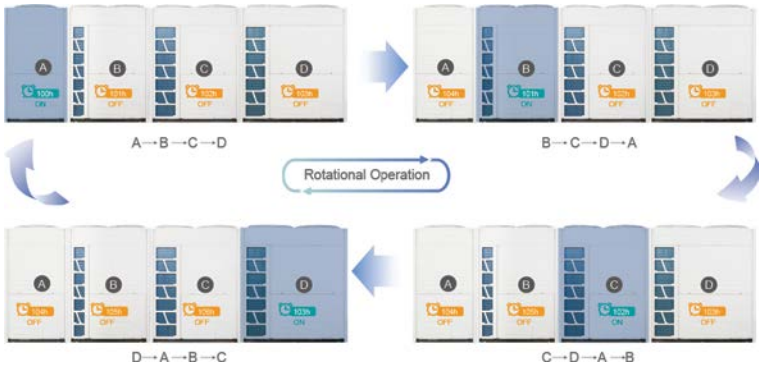
The efficiency will be the highest and power consumption will be lowest when each module unit is working at 40%-75% partial load.

Traditional product:

In normal operation, the module combination is operated at full load + ultra-low load, which influences the service life of units and consumes more power.

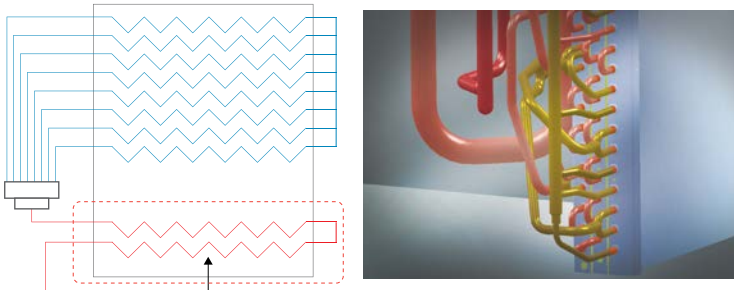
Rotational Operation

Outdoor Unit run time is automatically managed to rotate usage between units. Each unit is monitored and adjusted by the system controllers to ensure reduced and balanced equipment operation and loading. This guarantees both efficient operation and unit longevity.



Intelligent Defrosting Mode

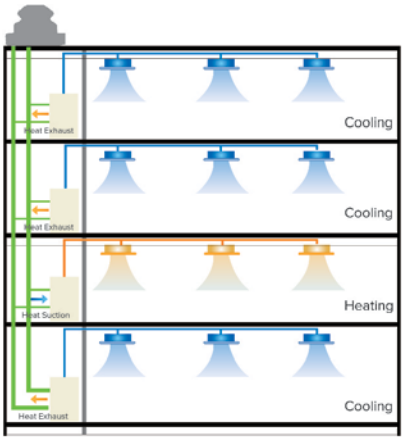
The intelligent defrosting mode is a high-tech, energy saving innovation that uses three sensors to accurately target the specific areas on the unit that require defrosting. The amount of defrost time is reduced by one-third in comparison to single-sensor defrosting technologies.



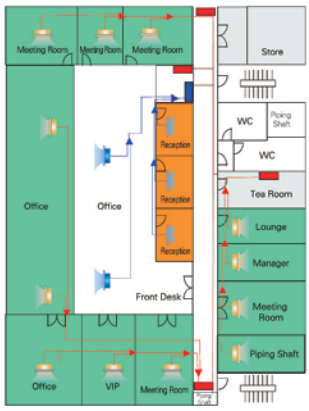
New anti-frosting design at the bottom

Heat Recovery (S Series)

Simultaneous Cooling and Heating provides the greatest control flexibility to all end users in high rise, multi-family and commercial applications. This feature is highly advantageous during the transition between seasons. Ice Air VRF systems divide space into interior and exterior sections to easily satisfy the requirement for simultaneous cooling and heating in the same building, realizing heat recovery and maximum energy-saving.



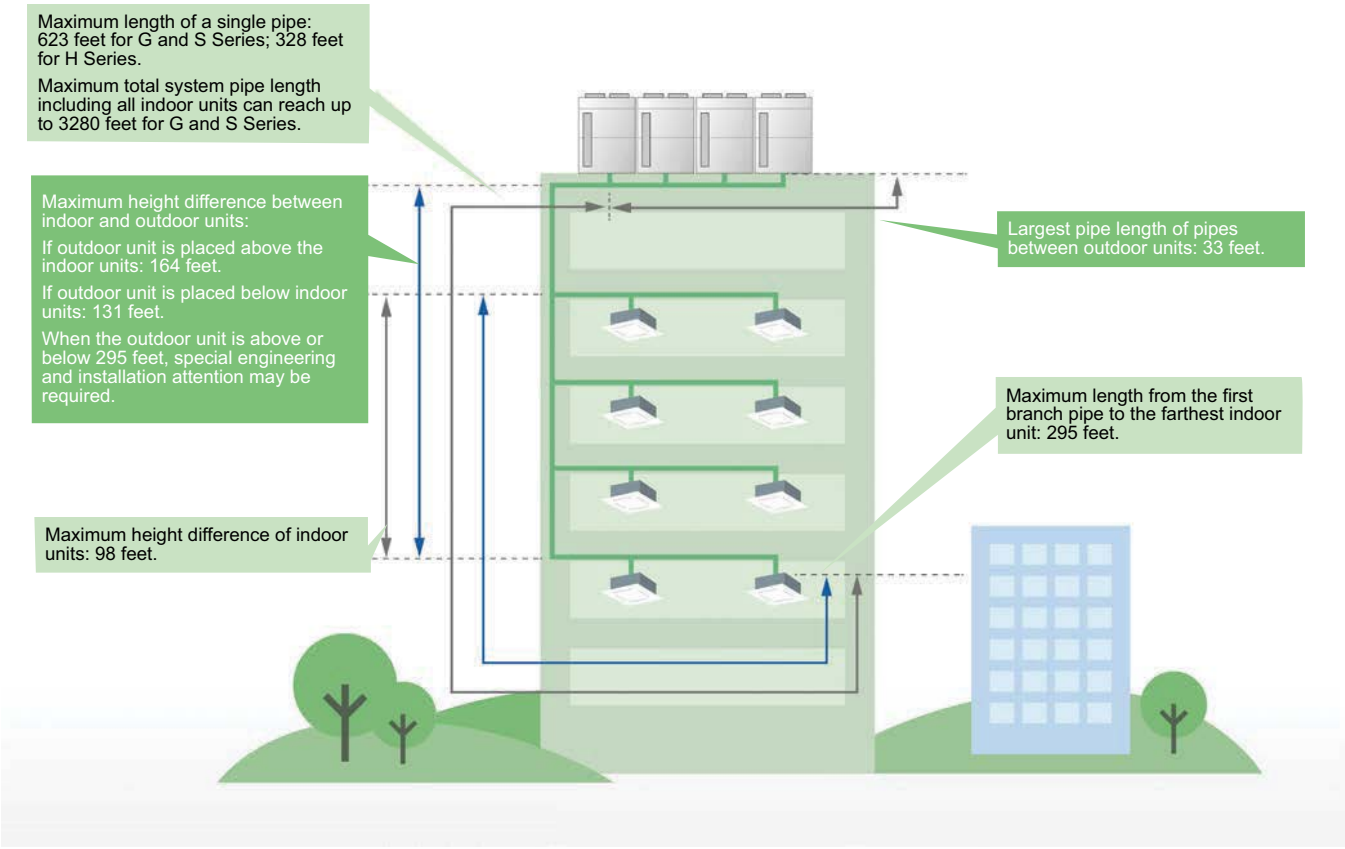
Heat Recovery Among Different Floors



Heat Recovery on the Same Floor

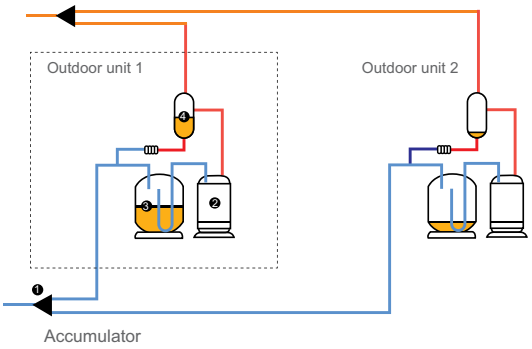
Refrigerant Pipe Design

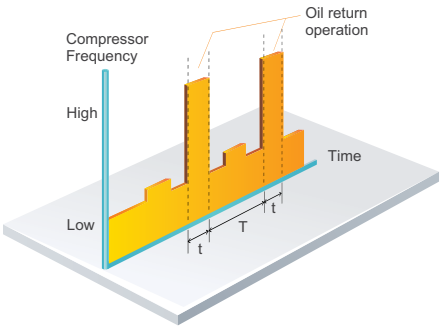
The height difference between the indoor unit and outdoor unit is up to 295 feet, enabling flexible installation.



Porous Oil Return Technology

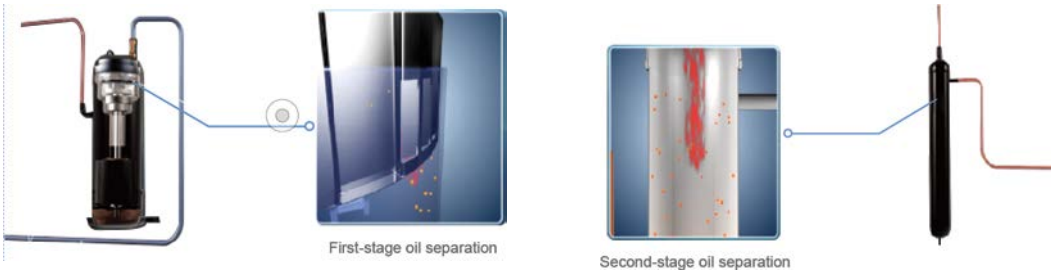
Ice Air VRF ODUs incorporate an advanced oil control system to ensure proper oil balance between compressors within each ODU/module and the proper oil balance between all modules. An oil accumulator uses porous oil return technology with a built-in fine strainer. The oil control system implements a 60-second oil-return operation based on compressor frequency and operation time. This oil control operation can be implemented in either cooling or heating mode, ensuring seamless operation during the oil control cycle.





Two Stage Oil Separation

Oil separation is accomplished in two stages. Commencing with a unique high efficiency oil separation mechanism inside the compressor high pressure chamber, the mechanism ejects a small amount of oil from the compressor. During the second stage, this small amount of oil is separated by a large-capacity centrifugal oil separator with 99% efficiency.



Oil Balance

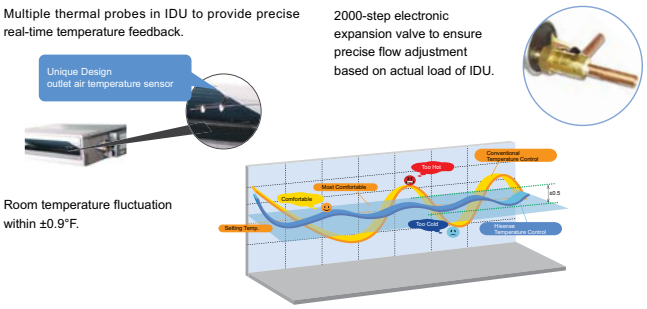
Oil balance is perfectly achieved using oil balance piping by adjusting the amount of discharged and return oil in the compressor, accumulator and oil separator. This avoids fluctuations of the system pressure and temperature, ensuring a balanced and stable refrigeration system and longer equipment life.

Continual Operation During IDU Service

Indoor units can be maintained independently of other indoor units within the system. When an indoor unit is being serviced or maintained, the rest of the indoor units on the circuit will continue to operate.

Precise Temperature Control

Multiple thermal probes at each indoor unit provide precise real-time temperature feedback. The room temperature fluctuation will stay within ±0.9°F using an advanced 2,000-step electronic expansion valve that ensures precise refrigerant flow adjustment based on the actual load of the indoor unit.

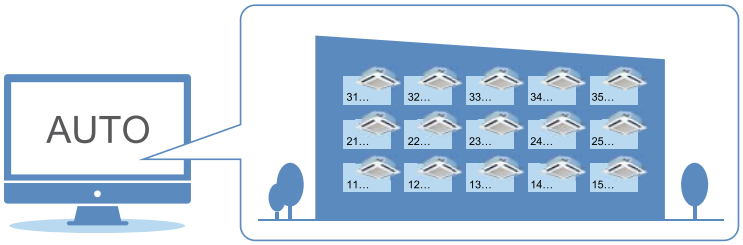


Condensate Water Leakage Protection

The integral float switch will sense any back up in the indoor unit's condensate drain system. If the sensor detects a risk of leaking, it will automatically turn the unit off until the water has been properly drained. This safety measure protects both the unit and surrounding areas from water leaks and damage.

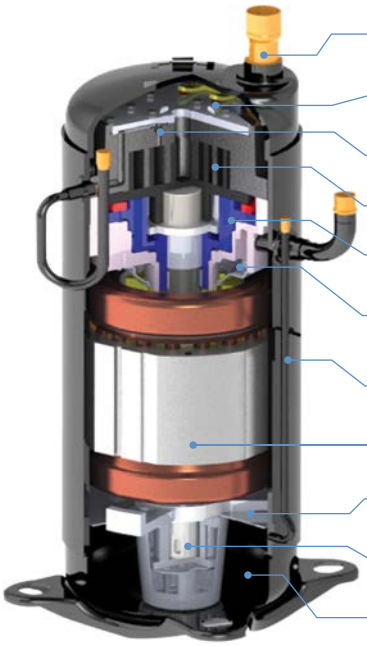
Automatic Addressing

Ice Air VRF systems can assign Indoor Unit addresses automatically, making it convenient for large systems with numerous indoor units.



New Generation Enhanced Vapor Injection (EVI) Scroll Compressor (S Series)

Ice Air S Series adopts the latest generation of high efficiency scroll compressor with patented vapor injection technology. The compressor greatly enhances heating performance and achieves high energy-saving efficiency. Heating is guaranteed down to -13°F.



New Suction Structure
Increase efficiency at high speed and stability under large capacity.

Release Valve
Increase efficiency by reducing compression loss especially for medium and low capacity conditions.

Injection Valve
Heating performance improvement under partial load conditions by injection valve.

New Scroll Shape
High efficiency by asymmetric scroll shape.

Compliant Frame Mechanism
High performance technology reduces leakage loss and friction loss.

Featured Discharge System
High reliability due to minimum oil loss at any condition due to refrigerant flow out from center of compressor.

Oil Equalization Mechanism
Capacity can be enlarged by plural compressors and oil balance between plural compressors.

High Efficiency Motor
High efficiency by rare earth magnet and special designed motor.

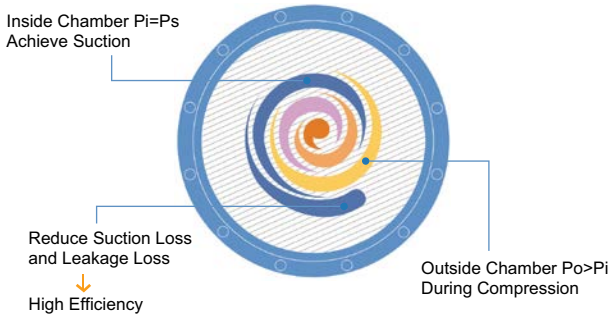
Oil Separation
High reliability by keeping oil in the compressor by this separation plate.

High Reliability Oil Supply System
Oil supply system uses pressure difference without any problem even at low speed or partial load condition.

PVE Oil
Using PVE oil ensures a high reliablity and long life.

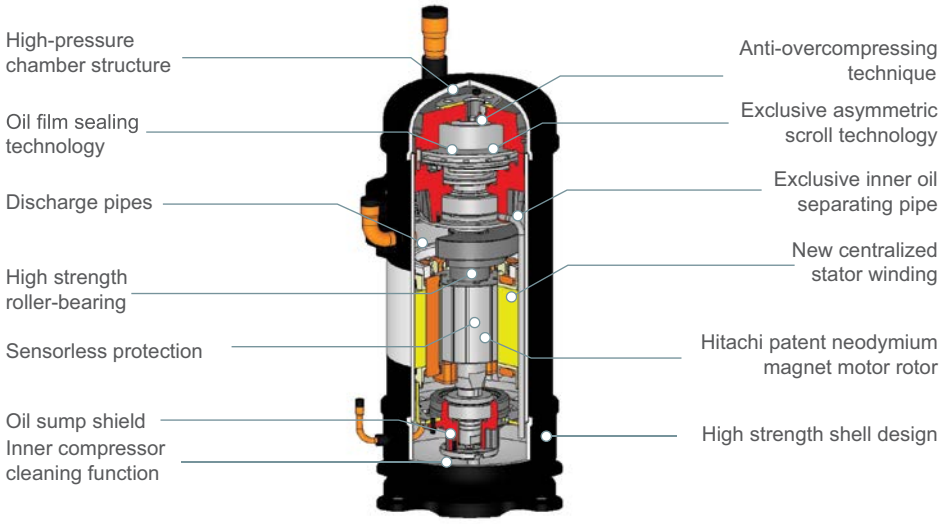
Exclusive Asymmetric Scroll

The asymmetric scroll structure effectively reduces refrigerant gas leakage during suction and compression, and enhances operation efficiency and reliability.



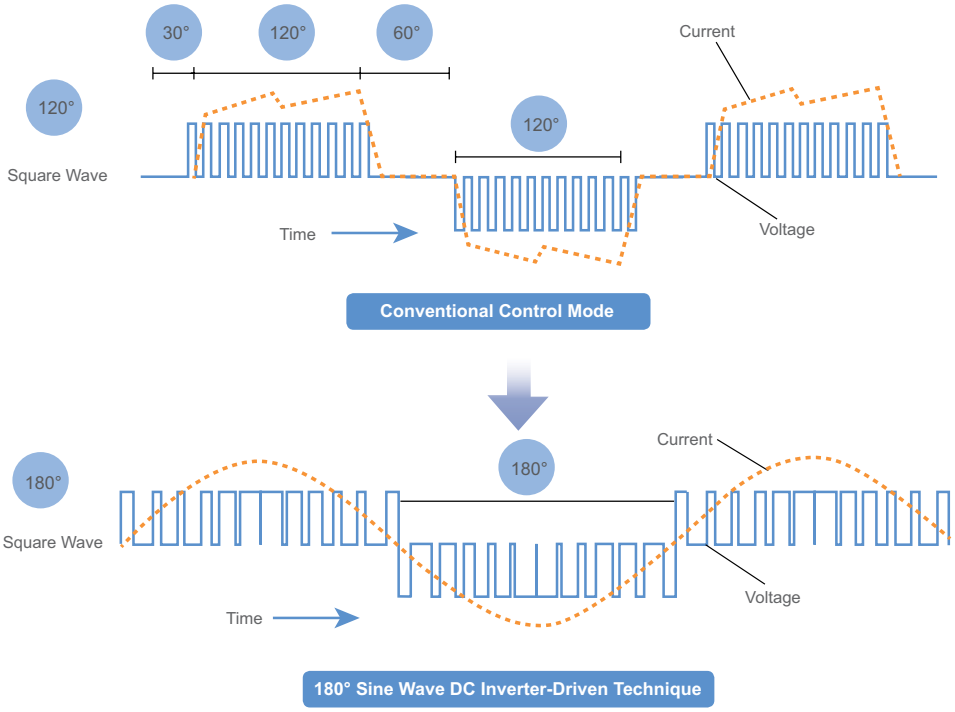
High-Pressure Chamber DC Inverter Driven Scroll Compressor (G, W, H Series)

The Ice Air VRF incorporates high-pressure chamber compressor technology, provides higher compression ratios, smoother oil supply and a lower noise level.



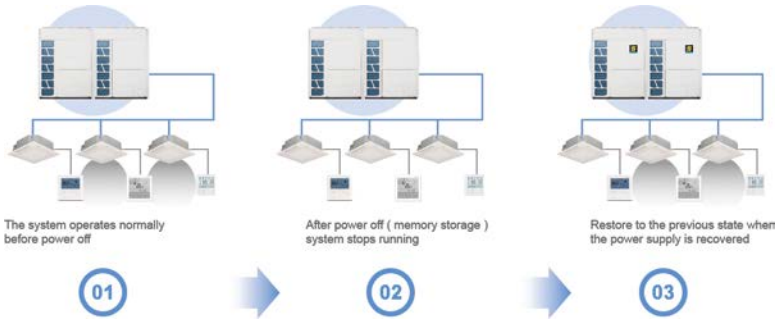
180° Sine Wave DC Inverter-Driven Technique

The 180° Sine Wave control enables the motor to operate smoothly, efficiency and with less noise.



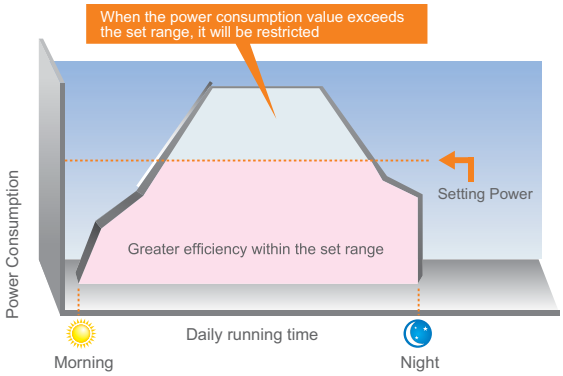
Automatic Restart

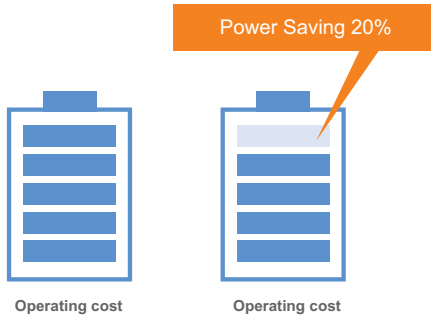
In the instance of a power failure, equipment operation data will be automatically recorded as the system shuts down. Once power is restored, the system automatically reboots to its previous settings.



Demand Control Technology

The intelligent mode adjusts the air conditioning operation automatically according to peak/valley requirements while smoothing out electrical demand. This balances occupant comfort and energy-saving requirements, while keeping electricity below peak demand levels.





Anti-Corrosion

Heavy gauge sheet metal, advanced steel coatings, with pre-treatment and high quality powder coating ensures that each Outdoor Unit has high corrosion resistance against weather and environmental degradation.

Fresh Air Introduction

The Ice Air VRF system introduces conditioned outdoor air to the indoor spaces using optional fresh air indoor units such as heat recovery ventilators (HRVs) and energy recovery ventilators (ERVs). These units provide a continuous supply of fresh air, creating a healthy environment.

Double Back-Up Function

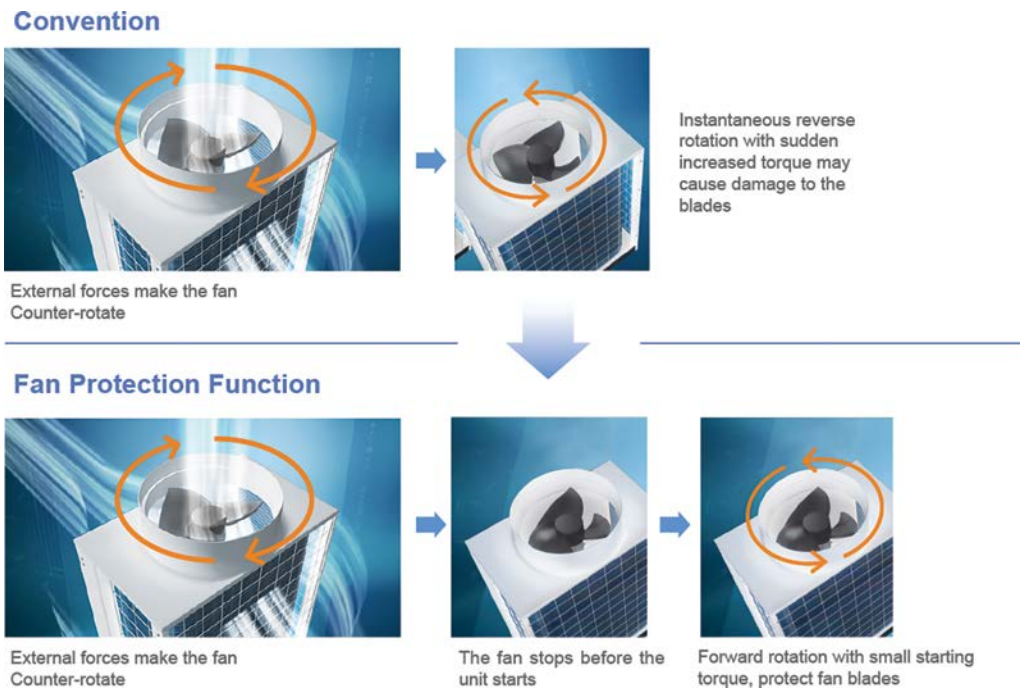
A back-up outdoor unit guarantees that if both compressors stop working within the primary outdoor unit, the VRF system will still be able to continue operating at maximum capacity and efficiency. This feature ensures reliability and stability of all Ice Air VRF systems.

Compressor Backup

Outdoor Unit Backup

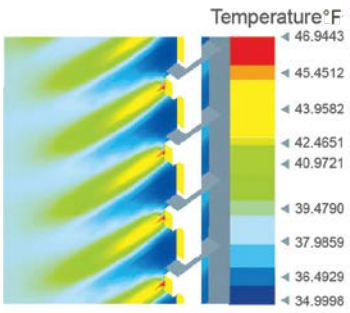
Fan Protection

Ice Air VRF Systems offer fan protection against the outside forces that may cause counter-rotation, causing malfunctions.

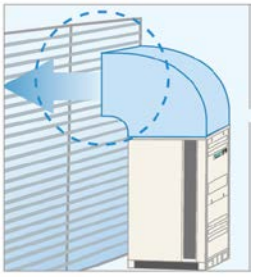


High-Rise Building Compatibility

Top discharge Outdoor Units can be ducted through a louvered opening, preventing return from short circuiting the outdoor unit. This feature allows for multiple Outdoor Units banks and longer exhaust air distances, ensuring good ventilation and heat transfer at the outdoor units.



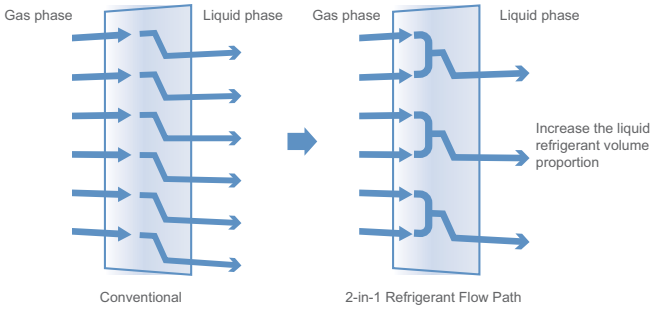
Airflow Schematic

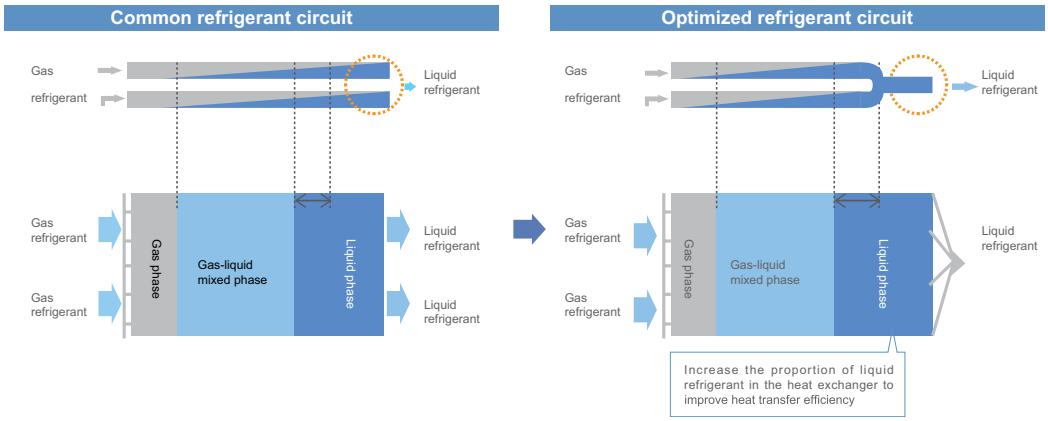


Exhaust duct installation

Optimized Heat Exchanger and Circuit

Advanced coil structure improves the heat-exchange efficiency.



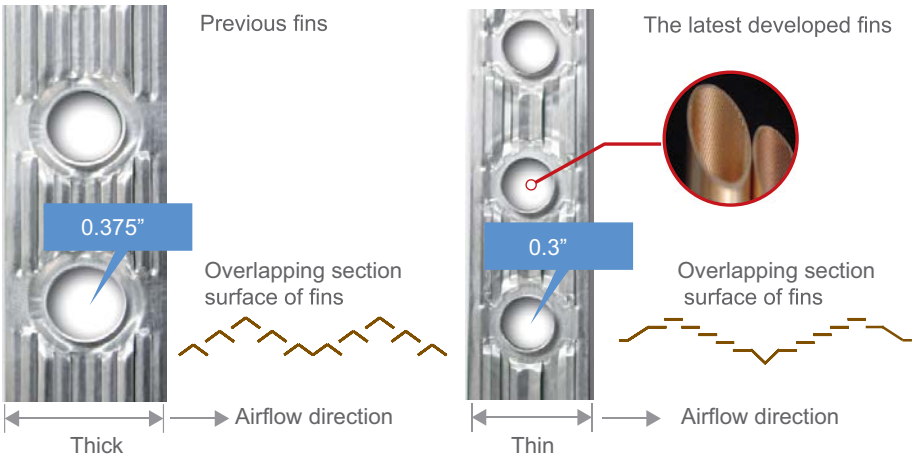


Modular Design

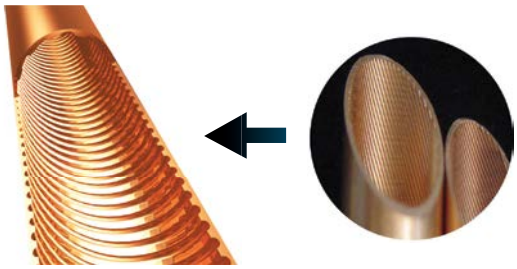
Ice Air Outdoor Units (G Series) are compact, with a modular design that allows the system to be knocked down into separate parts, making installation and transportation simpler and more efficient.

The volume is convenient for elevator transportation

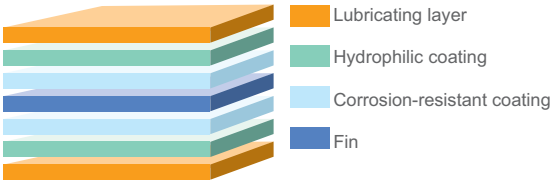
High Efficiency Inner Grooved Tube and Stepped Fins



0.3” inner grooved tube greatly enhance the heat exchange efficiency, and increase the heat exchange area.

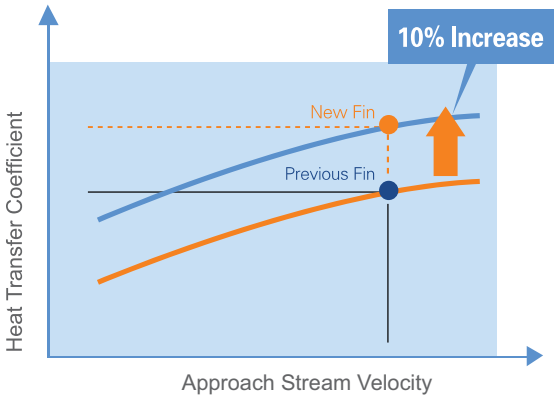


Hierarchical diagram of hydrophilic aluminum foil

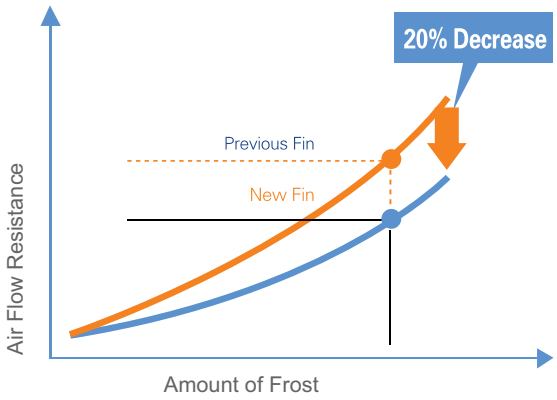


- Prevents frost buildup heating mode.
- Reduces the corrosion of heat exchange by corrosive gases.
- Enhanced water flow accelerates the speed of condensate water, improving unit performance.

Improvement of Heat Transfer



Reduction of Air Flow Resistance



G Series

G Series:

The Ice Air G Series is a full DC inverter-driven multi-split central air conditioning system focused on customers' requirements and comfort, and incorporating Ice Air's high quality and technology. It's characterized by:

- High-pressure chamber scroll compressor
- Integrated high-strength structure and convenient installation
- Adoption of larger double fans and low-pressure loss heat exchanger
- Single units range from 6 to 14 tons each; combinations can achieve 70 tons

G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-72BRANB	VFOAT-96BRATB	VFOAT-120BRATB
	Ton		6	8	10
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz		
Cooling Operation	Nominal Capacity	Btu/h	69,000	92,000	115,000
	Power Consumption	kW	5.05	6.97	9.27
	EER (Ducted/Non-ducted)	(Btu/h)/W	12.30/15.00	12.25/14.15	11.60/13.20
	IEER (Ducted/Non-ducted)	(Btu/h)/W	23.00/30.70	23.30/31.65	23.40/30.55
Heating Operation	Nominal Capacity	Btu/h	76,000	103,000	129,000
	Power Consumption	kW	5.76	8.01	10.14
	COP (Ducted/Non-ducted)	W/W	3.55/4.20	3.45/4.10	3.35/4.12
	Heating Capacity (17°F DB)	Btu/h	52,000	67,000	83,000
	Power Consumption	kW	6	8	10
	COP (Ducted/Non-ducted)	W/W	2.35/2.84	2.30/2.60	2.30/2.72
MCA (Minimum Circuit Ampacity)		A	45	55	61
MOP (Minimum Overcurrent Protection)		A	60	70	80
Air Flow Rate		CFM	6,179	6,885	6,885
Overall Dimension (L x W x H)		inch	37-13/32 x 29-17/32 x 68-3/32	47-5/8 x 29-17/32 x 68-3/32	47-5/8 x 29-17/32 x 68-3/32
Net Weight		lbs.	532	730	732
Compressor Quantity			1	2	2
Compressor Type			Inverter Scroll Hermetic Compressor		
Refrigerant Type			R410A		
Refrigerant Charge Amount		lbs.	21.83	27.56	27.56
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Condenser Fan Quantity			1	1	1
Cabinet Color			Ivory White		
Refrigerant Piping	Gas Line	inch	1	1	1-1/8
	Liquid Line	inch	1/2	1/2	1/2
Maximum Number of Connectable IDU			19	23	26
Maximum Actual Pipe Length		Ft.	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	66	68	68
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F

*Please contact our technical department at 1-877-ICEAIR (1-877-423-2471) for assistance.
The information contained in this document is subject to change without notice.

G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-144BRA1B	VFOAT-168BRA1B
	Ton		12	14
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz	
Cooling Operation	Nominal Capacity	Btu/h	144,000	160,000
	Power Consumption	kW	12.58	13.83
	EER (Ducted/Non-ducted)	(Btu/h)/W	10.80/12.10	10.90/12.25
	IEER (Ducted/Non-ducted)	(Btu/h)/W	21.30/27.20	22.30/27.15
Heating Operation	Nominal Capacity	Btu/h	154,000	170,000
	Power Consumption	kW	13.12	14.44
	COP (Ducted/Non-ducted)	W/W	3.25/3.64	3.22/3.68
	Heating Capacity (17°F DB)	Btu/h	96,000	105,000
	Power Consumption	kW	12	13
	COP (Ducted/Non-ducted)	W/W	2.30/2.45	2.20/2.50
MCA (Minimum Circuit Ampacity)		A	84	85
MOP (Minimum Overcurrent Protection)		A	110	110
Air Flow Rate		CFM	9,004	9,534
Overall Dimension (L x W x H)		inch	53-5/32 x 29-17/32 x 68-3/32	53-5/32 x 29-17/32 x 68-3/32
Net Weight		lbs.	869	871
Compressor Quantity			2	2
Compressor Type			Inverter Scroll Hermetic Compressor	
Refrigerant Type			R410A	
Refrigerant Charge Amount		lbs.	34.61	35.71
Refrigerant Flow Control			Micro-computer Control Expansion Valve	
Condenser Fan Quantity			2	2
Cabinet Color			Ivory White	
Refrigerant Piping	Gas Line	inch	1-1/8	1-1/8
	Liquid Line	inch	5/8	5/8
Maximum Number of Connectable IDU			33	36
Maximum Actual Pipe Length		Ft.	541	541
Maximum Equivalent Pipe Length		Ft.	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	69	69
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-192BRAZB	VFOAT-216BRAZB
	Combination		VFOAT-120BRATB VFOAT-72BRANB	VFOAT-144BRA1B VFOAT-72BRANB
	Ton		16	18
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz	
Cooling Operation	Nominal Capacity	Btu/h	184,000	208,000
	Power Consumption	kW	15	18.33
	EER (Ducted/Non-ducted)	(Btu/h)/W	11.90/12.10	11.35/11.35
	IEER (Ducted/Non-ducted)	(Btu/h)/W	24.10/27.50	22.80/25.20
Heating Operation	Nominal Capacity	Btu/h	206,000	230,000
	Power Consumption	kW	17	19.71
	COP (Ducted/Non-ducted)	W/W	3.28/3.75	3.25/3.60
	Heating Capacity (17°F DB)	Btu/h	136,000	150,000
	Power Consumption	kW	16	19
	COP (Ducted/Non-ducted)	W/W	2.32/2.53	2.27/2.40
MCA (Minimum Circuit Ampacity)		A	106	129
MOP (Minimum Overcurrent Protection)		A	125	175
Air Flow Rate		CFM	13,065	15,183
Overall Dimension (L x W x H)		inch	(37-13/32+47-5/8) x 29-17/32 x 68-3/32	(37-13/32+53-5/32) x 29-17/32 x 68-3/32
Net Weight		lbs.	1264	1400
Compressor Quantity			3	3
Compressor Type			Inverter Scroll Hermetic Compressor	
Refrigerant Type			R410A	
Refrigerant Charge Amount		lbs.	49.38	56.44
Refrigerant Flow Control			Micro-computer Control Expansion Valve	
Condenser Fan Quantity			2	3
Cabinet Color			Ivory White	
Refrigerant Piping	Gas Line	inch	1-1/4	1-1/4
	Liquid Line	inch	3/4	3/4
Maximum Number of Connectable IDU			47	53
Maximum Actual Pipe Length		Ft.	541	541
Maximum Equivalent Pipe Length		Ft.	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	73	73
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-240BRAZB	VFOAT-264BRAZB	VFOAT-288BRAZB
	Combination		VFOAT-144BRA1B VFOAT-96BRATB	VFOAT-144BRA1B VFOAT-120BRATB	VFOAT-144BRA1B VFOAT-144BRA1B
	Ton		20	22	24
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz		
Cooling Operation	Nominal Capacity	Btu/h	230,000	258,000	276,000
	Power Consumption	kW	20.23	22.83	25.21
	EER (Ducted/Non-ducted)	(Btu/h)/W	11.45/11.30	11.55/11.05	11.25/10.70
	IEER (Ducted/Non-ducted)	(Btu/h)/W	23.75/24.95	24.30/24.10	24.05/23.35
Heating Operation	Nominal Capacity	Btu/h	256,000	282,000	300,000
	Power Consumption	kW	21.75	23.61	25.94
	COP (Ducted/Non-ducted)	W/W	3.25/3.66	3.31/3.69	3.20/3.59
	Heating Capacity (17°F DB)	Btu/h	164,000	180,000	192,000
	Power Consumption	kW	20	23	25
	COP (Ducted/Non-ducted)	W/W	2.32/2.42	2.25/2.39	2.15/2.30
MCA (Minimum Circuit Ampacity)		A	139	145	168
MOP (Minimum Overcurrent Protection)		A	175	200	225
Air Flow Rate		CFM	15,890	15,890	18,008
Overall Dimension (L x W x H)		inch	(47-5/8+53-5/32) x 29-17/32 x 68-3/32	(47-5/8+53-5/32) x 29-17/32 x 68-3/32	(53-5/32+53-5/32) x 29-17/32 x 68-3/32
Net Weight		lbs.	1599	1601	1738
Compressor Quantity			4	4	4
Compressor Type			Inverter Scroll Hermetic Compressor		
Refrigerant Type			R410A		
Refrigerant Charge Amount		lbs.	62.17	62.17	69.22
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Condenser Fan Quantity			3	3	4
Cabinet Color			Ivory White		
Refrigerant Piping	Gas Line	inch	1-1/2	1-1/2	1-1/2
	Liquid Line	inch	3/4	3/4	3/4
Maximum Number of Connectable IDU			56	59	64
Maximum Actual Pipe Length		Ft.	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	73	73	74
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-312BRAZB	VFOAT-336BRAZB
	Combination		VFOAT-168BRA1B VFOAT-144BRA1B	VFOAT-168BRA1B VFOAT-168BRA1B
	Ton		26	28
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz	
Cooling Operation	Nominal Capacity	Btu/h	298,000	320,000
	Power Consumption	kW	27.85	30.77
	EER (Ducted/Non-ducted)	(Btu/h)/W	10.95/10.45	10.60/10.25
	IEER (Ducted/Non-ducted)	(Btu/h)/W	22.30/21.20	21.35/20.60
Heating Operation	Nominal Capacity	Btu/h	316,000	324,000
	Power Consumption	kW	27.4	28.09
	COP (Ducted/Non-ducted)	W/W	3.20/3.57	3.20/3.57
	Heating Capacity (17°F DB)	Btu/h	202,000	210,000
	Power Consumption	kW	28	29
	COP (Ducted/Non-ducted)	W/W	2.07/2.22	2.05/2.24
MCA (Minimum Circuit Ampacity)		A	169	170
MOP (Minimum Overcurrent Protection)		A	225	225
Air Flow Rate		CFM	18,538	19,067
Overall Dimension (L x W x H)		inch	(53-5/32+53-5/32) x 29-17/32 x 68-3/32	(53-5/32+53-5/32) x 29-17/32 x 68-3/32
Net Weight		lbs.	1740	1742
Compressor Quantity			4	4
Compressor Type			Inverter Scroll Hermetic Compressor	
Refrigerant Type			R410A	R410A
Refrigerant Charge Amount		lbs.	70.33	71.43
Refrigerant Flow Control			Micro-computer Control Expansion Valve	
Condenser Fan Quantity			4	4
Cabinet Color			Ivory White	
Refrigerant Piping	Gas Line	inch	1-1/2	1-1/2
	Liquid Line	inch	3/4	3/4
Maximum Number of Connectable IDU			64	64
Maximum Actual Pipe Length		Ft.	541	541
Maximum Equivalent Pipe Length		Ft.	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	74	74
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-360BRAZB	VFOAT-384BRAZB	VFOAT-408BRAZB
	Combination		VFOAT-144BRA1B VFOAT-144BRA1B VFOAT-72BRANB	VFOAT-144BRA1B VFOAT-144BRA1B VFOAT-96BRATB	VFOAT-144BRA1B VFOAT-144BRA1B VFOAT-120BRATB
	Ton		30	32	34
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz		
Cooling Operation	Nominal Capacity	Btu/h	346,000	370,000	390,000
	Power Consumption	kW	31.98	34.58	36.45
	EER (Ducted/Non-ducted)	(Btu/h)/W	11.00/10.65	10.90/10.50	11.25/10.15
	IEER (Ducted/Non-ducted)	(Btu/h)/W	21.65/21.15	22.00/21.55	22.90/22.20
Heating Operation	Nominal Capacity	Btu/h	372,000	400,000	435,000
	Power Consumption	kW	32.35	35.2	36.63
	COP (Ducted/Non-ducted)	W/W	3.20/3.55	3.20/3.47	3.36/3.59
	Heating Capacity (17°F DB)	Btu/h	244,000	260,000	278,000
	Power Consumption	kW	32	34	35
	COP (Ducted/Non-ducted)	W/W	2.22/2.33	2.20/2.33	2.34/2.31
MCA (Minimum Circuit Ampacity)		A	213	223	229
MOP (Minimum Overcurrent Protection)		A	250	300	300
Air Flow Rate		CFM	24,187	24,894	24,894
Overall Dimension (L x W x H)		inch	(53-5/32+53-5/32+37-13/32) x 29-17/32 x 68-3/32	(53-5/32+53-5/32+47-5/8) x 29-17/32 x 68-3/32	(53-5/32+53-5/32+47-5/8) x 29-17/32 x 68-3/32
Net Weight		lbs.	2269	2467	2470
Compressor Quantity			5	6	6
Compressor Type			Inverter Scroll Hermetic Compressor		
Refrigerant Type			R410A		
Refrigerant Charge Amount		lbs.	91.05	96.78	96.78
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Condenser Fan Quantity			5	5	5
Cabinet Color			Ivory White		
Refrigerant Piping	Gas Line	inch	1-5/8	1-5/8	1-5/8
	Liquid Line	inch	7/8	7/8	7/8
Maximum Number of Connectable IDU			64	64	64
Maximum Actual Pipe Length		Ft.	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	75	75	76
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-76BRANA	VFOAT-96BRANA	VFOAT-114BRANA	VFOAT-136BRATA
	Ton		6	8	10	11
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz			
Cooling Operation	Nominal Capacity	Btu/h	76,000	96,000	114,000	136,000
	Power Consumption	kW	5	6.95	8.66	10.61
	EER	(Btu/h)/W	15.2	13.81	13.16	12.82
Heating Operation	Nominal Capacity	Btu/h	85,000	107,000	114,000	154,000
	Power Consumption	kW	5	6.35	8.06	9.91
	COP	W/W	5	4.96	4.65	4.54
MCA (Minimum Circuit Ampacity)		A	30	37	45	55
MOP (Minimum Overcurrent Protection)		A	40	50	60	70
Air Flow Rate		CFM	5,473	6,003	6,179	6,885
Overall Dimension (L x W x H)		inch	37-13/32 x 29-17/32 x 68-3/32	37-13/32 x 29-17/32 x 68-3/32	37-13/32 x 29-17/32 x 68-3/32	47-5/8 x 29-17/32 x 68-3/32
Net Weight		lbs.	527	529	531	730
Compressor Quantity			1	1	1	2
Compressor Type			Inverter Scroll Hermetic Compressor			
Refrigerant Type			R410A			
Refrigerant Charge Amount		lbs.	18.74	21.83	21.83	27.56
Refrigerant Flow Control			Micro-computer Control Expansion Valve			
Condenser Fan Quantity			1	1	1	1
Cabinet Color			Ivory White			
Refrigerant Piping	Gas Line	inch	3/4	3/4	1	1
	Liquid Line	inch	3/8	3/8	1/2	1/2
Maximum Number of Connectable IDU			13	16	19	23
Maximum Actual Pipe Length		Ft.	541	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	64	65	66	68
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-154BRATA	VFOAT-170BRATA	VFOAT-190BRA1A	VFOAT-212BRA1A
	Ton		13	14	16	18
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz			
Cooling Operation	Nominal Capacity	Btu/h	154,000	171,000	191,000	210,000
	Power Consumption	kW	12.61	14.37	16.42	20.1
	EER	(Btu/h)/W	12.21	11.9	11.63	10.45
Heating Operation	Nominal Capacity	Btu/h	171,100	191,000	215,000	235,000
	Power Consumption	kW	12.29	13.97	16.41	19.11
	COP	W/W	4.07	4.01	3.84	3.61
MCA (Minimum Circuit Ampacity)		A	61	73	84	85
MOP (Minimum Overcurrent Protection)		A	80	100	100	100
Air Flow Rate		CFM	6,885	8,474	9,004	9,534
Overall Dimension (L x W x H)		inch	47-5/8 x 29-17/32 x 68-3/32	47-5/8 x 29-17/32 x 68-3/32	53-5/32 x 29-17/32 x 68-3/32	53-5/32 x 29-17/32 x 68-3/32
Net Weight		lbs.	732	734	869	871
Compressor Quantity			2	2	2	2
Compressor Type			Inverter Scroll Hermetic Compressor			
Refrigerant Type			R410A			
Refrigerant Charge Amount		lbs.	27.56	27.56	34.61	35.71
Refrigerant Flow Control			Micro-computer Control Expansion Valve			
Condenser Fan Quantity			1	1	2	2
Cabinet Color			Ivory White			
Refrigerant Piping	Gas Line	inch	1-1/8	1-1/8	1-1/8	1-1/8
	Liquid Line	inch	1/2	5/8	5/8	5/8
Maximum Number of Connectable IDU			26	26	33	36
Maximum Actual Pipe Length		Ft.	541	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	68	68	69	69
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-232BRAZA	VFOAT-250BRAZA	VFOAT-268BRAZA	VFOAT-287BRAZA
	Combination		VFOAT-136BRATA VFOAT-96BRANA	VFOAT-136BRATA VFOAT-114BRANA	VFOAT-154BRATA VFOAT-114BRANA	VFOAT-190BRA1A VFOAT-96BRANA
	Ton		19	21	22	24
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz			
Cooling Operation	Nominal Capacity	Btu/h	232,000	251,000	268,000	287,000
	Power Consumption	kW	17.56	19.27	21.26	23.37
	EER	(Btu/h)/W	13.21	13.03	12.61	12.28
Heating Operation	Nominal Capacity	Btu/h	261,000	281,000	299,000	322,000
	Power Consumption	kW	16.3	18	20.3	22.8
	COP	W/W	4.71	4.59	4.3	4.15
MCA (Minimum Circuit Ampacity)		A	92	100	106	121
MOP (Minimum Overcurrent Protection)		A	125	125	125	150
Air Flow Rate		CFM	12,888	13,065	13,065	15,007
Overall Dimension (L x W x H)		inch	(37-13/32+47-5/8) x 29-17/32 x 68-3/32	(37-13/32+47-5/8) x 29-17/32 x 68-3/32	(37-13/32+47-5/8) x 29-17/32 x 68-3/32	(37-13/32+53-5/32) x 29-17/32 x 68-3/32
Net Weight		lbs.	1,259	1,261	1,263	1,398
Compressor Quantity			3	3	3	3
Compressor Type			Inverter Scroll Hermetic Compressor			
Refrigerant Type			R410A			
Refrigerant Charge Amount		lbs.	49.38	49.38	49.38	56.44
Refrigerant Flow Control			Micro-computer Control Expansion Valve			
Condenser Fan Quantity			2	2	2	3
Cabinet Color			Ivory White			
Refrigerant Piping	Gas Line	inch	1-1/8	1-1/4	1-1/4	1-1/4
	Liquid Line	inch	5/8	3/4	3/4	3/4
Maximum Number of Connectable IDU			40	43	47	50
Maximum Actual Pipe Length		Ft.	541	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	69	70	73	73
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-306BRAZA	VFOAT-324BRAZA	VFOAT-340BRAZA	VFOAT-364BRAZA
	Combination		VFOAT-190BRA1A VFOAT-114BRANA	VFOAT-170BRATA VFOAT-154BRATA	VFOAT-170BRATA VFOAT-170BRATA	VFOAT-212BRA1A VFOAT-154BRATA
	Ton		25	27	28	30
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz			
Cooling Operation	Nominal Capacity	Btu/h	305,000	324,000	341,000	363,000
	Power Consumption	kW	25.08	26.97	28.74	32.7
	EER	(Btu/h)/W	12.16	12.01	11.86	11.1
Heating Operation	Nominal Capacity	Btu/h	343,000	362,000	382,000	406,000
	Power Consumption	kW	24.5	26.25	27.9	31.4
	COP	W/W	4.11	4.04	4.01	3.79
MCA (Minimum Circuit Ampacity)		A	129	134	146	146
MOP (Minimum Overcurrent Protection)		A	175	175	200	200
Air Flow Rate		CFM	15,183	15,360	16,949	16,419
Overall Dimension (L x W x H)		inch	(37-13/32+53-5/32) x 29-17/32 x 68-3/32	(47-5/8+47-5/8) x 29-17/32 x 68-3/32	(47-5/8+47-5/8) x 29-17/32 x 68-3/32	(47-5/8+53-5/32) x 29-17/32 x 68-3/32
Net Weight		lbs.	1,400	1,466	1,468	1,603
Compressor Quantity			3	4	4	4
Compressor Type			Inverter Scroll Hermetic Compressor			
Refrigerant Type			R410A			
Refrigerant Charge Amount		lbs.	56.44	55.12	55.12	63.27
Refrigerant Flow Control			Micro-computer Control Expansion Valve			
Condenser Fan Quantity			3	2	2	3
Cabinet Color			Ivory White			
Refrigerant Piping	Gas Line	inch	1-1/4	1-1/2	1-1/2	1-1/2
	Liquid Line	inch	3/4	3/4	3/4	3/4
Maximum Number of Connectable IDU			53	56	59	64
Maximum Actual Pipe Length		Ft.	541	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	73	73	73	73
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-382BRAZA	VFOAT-398BRAZA	VFOAT-420BRAZA
	Combination		VFOAT-190BRA1A VFOAT-190BRA1A	VFOAT-212BRA1A VFOAT-190BRA1A	VFOAT-212BRA1A VFOAT-212BRA1A
	Ton		32	33	35
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz		
Cooling Operation	Nominal Capacity	Btu/h	382,000	401,000	420,000
	Power Consumption	kW	32.84	36.52	40.2
	EER	(Btu/h)/W	11.63	10.98	10.45
Heating Operation	Nominal Capacity	Btu/h	430,000	450,000	471,000
	Power Consumption	kW	32.8	35.5	38.2
	COP	W/W	3.84	3.72	3.61
MCA (Minimum Circuit Ampacity)		A	168	169	170
MOP (Minimum Overcurrent Protection)		A	225	225	225
Air Flow Rate		CFM	18,008	18,538	19,067
Overall Dimension (L x W x H)		inch	(53-5/32+53-5/32) x 29-17/32 x 68-3/32	(53-5/32+53-5/32) x 29-17/32 x 68-3/32	(53-5/32+53-5/32) x 29-17/32 x 68-3/32
Net Weight		lbs.	1,737	1,739	1,742
Compressor Quantity			4	4	4
Compressor Type			Inverter Scroll Hermetic Compressor		
Refrigerant Type			R410A		
Refrigerant Charge Amount		lbs.	69.23	70.33	71.43
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Condenser Fan Quantity			4	4	4
Cabinet Color			Ivory White		
Refrigerant Piping	Gas Line	inch	1-1/2	1-1/2	1-1/2
	Liquid Line	inch	3/4	3/4	3/4
Maximum Number of Connectable IDU			64	64	64
Maximum Actual Pipe Length		Ft.	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	74	74	74
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-438BRAZA	VFOAT-454BRAZA	VFOAT-476BRAZA	VFOAT-494BRAZA	VFOAT-510BRAZA
	Combination		VFOAT-170BRATA VFOAT-154BRATA VFOAT-114BRANA	VFOAT-170BRATA VFOAT-170BRATA VFOAT-114BRANA	VFOAT-212BRA1A VFOAT-154BRATA VFOAT-114BRANA	VFOAT-212BRA1A VFOAT-170BRATA VFOAT-114BRANA	VFOAT-170BRATA VFOAT-170BRATA VFOAT-170BRATA
	Ton		37	38	40	41	43
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz				
Cooling Operation	Nominal Capacity	Btu/h	438,000	456,000	478,000	495,000	512,000
	Power Consumption	kW	35.63	37.39	41.36	43.12	43.1
	EER	(Btu/h)/W	12.29	12.2	11.56	11.48	11.88
Heating Operation	Nominal Capacity	Btu/h	490,000	510,000	534,000	554,000	573,000
	Power Consumption	kW	34.3	35.99	39.5	41.1	41.9
	COP	W/W	4.18	4.15	3.97	3.95	4.01
MCA (Minimum Circuit Ampacity)		A	179	191	191	203	219
MOP (Minimum Overcurrent Protection)		A	250	250	250	275	300
Air Flow Rate		CFM	19,067	23,128	22,598	24,187	25,423
Overall Dimension (L x W x H)		inch	(37-13/32+47-5/8+47-5/8) x 29-17/32 x 68-3/32	(37-13/32+47-5/8+47-5/8) x 29-17/32 x 68-3/32	(37-13/32+47-5/8+53-5/32) x 29-17/32 x 68-3/32	(37-13/32+47-5/8+53-5/32) x 29-17/32 x 68-3/32	(47-5/8+47-5/8+47-5/8) x 29-17/32 x 68-3/32
Net Weight		lbs.	1,997	2,000	2,134	2,136	2,202
Compressor Quantity			5	5	5	5	6
Compressor Type			Inverter Scroll Hermetic Compressor				
Refrigerant Type			R410A				
Refrigerant Charge Amount		lbs.	76.94	76.94	85.1	85.1	82.67
Refrigerant Flow Control			Micro-computer Control Expansion Valve				
Condenser Fan Quantity			3	3	4	4	3
Cabinet Color			Ivory White				
Refrigerant Piping	Gas Line	inch	1-5/8	1-5/8	1-5/8	1-5/8	1-5/8
	Liquid Line	inch	7/8	7/8	7/8	7/8	7/8
Maximum Number of Connectable IDU			64	64	64	64	64
Maximum Actual Pipe Length		Ft.	541	541	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	75	75	75	75	75
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-534BRAZA	VFOAT-551BRAZA	VFOAT-572BRAZA	VFOAT-590BRAZA	VFOAT-611BRAZA
	Combination		VFOAT-212BRA1A VFOAT-170BRATA VFOAT-154BRATA	VFOAT-212BRA1A VFOAT-170BRATA VFOAT-170BRATA	VFOAT-212BRA1A VFOAT-190BRA1A VFOAT-170BRATA	VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-170BRATA	VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-190BRA1A
	Ton		45	46	48	49	51
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz				
Cooling Operation	Nominal Capacity	Btu/h	534,000	551,000	572,000	590,000	611,000
	Power Consumption	kW	47.07	48.83	50.89	54.56	56.62
	EER	(Btu/h)/W	11.34	11.28	11.24	10.81	10.79
Heating Operation	Nominal Capacity	Btu/h	597,000	618,000	641,000	662,000	686,000
	Power Consumption	kW	45.4	47	49.5	52.2	54.6
	COP	W/W	3.86	3.85	3.8	3.72	3.68
MCA (Minimum Circuit Ampacity)		A	219	231	242	243	254
MOP (Minimum Overcurrent Protection)		A	300	300	325	325	350
Air Flow Rate		CFM	24,894	26,483	27,012	27,542	28,071
Overall Dimension (L x W x H)		inch	(47-5/8+47-5/8+53-5/32) x 29-17/32 x 68-3/32	(47-5/8+47-5/8+53-5/32) x 29-17/32 x 68-3/32	(47-5/8+53-5/32+53-5/32) x 29-17/32 x 68-3/32	(47-5/8+53-5/32+53-5/32) x 29-17/32 x 68-3/32	(53-5/32+53-5/32+53-5/32) x 29-17/32 x 68-3/32
Net Weight		lbs.	2,337	2,339	2,474	2,476	2,610
Compressor Quantity			6	6	6	6	6
Compressor Type			Inverter Scroll Hermetic Compressor				
Refrigerant Type			R410A				
Refrigerant Charge Amount		lbs.	90.83	90.83	97.89	98.99	106.04
Refrigerant Flow Control			Micro-computer Control Expansion Valve				
Condenser Fan Quantity			4	4	5	5	6
Cabinet Color			Ivory White				
Refrigerant Piping	Gas Line	inch	1-5/8	1-3/4	1-3/4	1-3/4	1-3/4
	Liquid Line	inch	7/8	7/8	7/8	7/8	7/8
Maximum Number of Connectable IDU			64	64	64	64	64
Maximum Actual Pipe Length		Ft.	541	541	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	76	76	76	76	76
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-630BRAZA	VFOAT-649BRAZA	VFOAT-666BRAZA	VFOAT-688BRAZA	VFOAT-705BRAZA
	Combination		VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-212BRA1A	VFOAT-212BRA1A VFOAT-170BRATA VFOAT-114BRANA VFOAT-114BRANA	VFOAT-212BRA1A VFOAT-170BRATA VFOAT-170BRATA VFOAT-114BRANA	VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-154BRATA VFOAT-114BRANA	VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-170BRATA VFOAT-114BRANA
	Ton		53	54	56	57	59
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz				
Cooling Operation	Nominal Capacity	Btu/h	630,000	648,000	665,000	688,000	705,000
	Power Consumption	kW	60.29	57.51	57.49	61.46	63.22
	EER	(Btu/h)/W	10.45	11.27	11.57	11.19	11.15
Heating Operation	Nominal Capacity	Btu/h	706,000	725,000	746,000	769,000	790,000
	Power Consumption	kW	57.3	53.4	55.1	55.1	60.2
	COP	W/W	3.61	3.98	3.97	3.85	3.84
MCA (Minimum Circuit Ampacity)		A	255	264	276	276	288
MOP (Minimum Overcurrent Protection)		A	350	350	350	350	400
Air Flow Rate		CFM	28,601	31,073	32,622	32,132	33,721
Overall Dimension (L x W x H)		inch	(53-5/32+53-5/32+53-5/32) x 29-17/32 x 68-3/32	(37-13/32+47-5/8+47-5/8+53-5/32) x 29-17/32 x 68-3/32	(37-13/32+47-5/8+47-5/8+53-5/32) x 29-17/32 x 68-3/32	(37-13/32+47-5/8+53-5/32+53-5/32) x 29-17/32 x 68-3/32	(37-13/32+47-5/8+53-5/32+53-5/32) x 29-17/32 x 68-3/32
Net Weight		lbs.	2,612	2,868	2,870	3,005	3,007
Compressor Quantity			6	7	7	7	7
Compressor Type			Inverter Scroll Hermetic Compressor				
Refrigerant Type			R410A				
Refrigerant Charge Amount		lbs.	107.14	112.66	112.66	126.55	131.4
Refrigerant Flow Control			Micro-computer Control Expansion Valve				
Condenser Fan Quantity			6	5	5	6	6
Cabinet Color			Ivory White				
Refrigerant Piping	Gas Line	inch	1-3/4	2	2	2	2
	Liquid Line	inch	7/8	1	1	1	1
Maximum Number of Connectable IDU			64	64	64	64	64
Maximum Actual Pipe Length		Ft.	541	541	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	76	77	77	77	77
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-722BRAZA	VFOAT-742BRAZA	VFOAT-761BRAZA	VFOAT-782BRAZA
	Combination		VFOAT-212BRA1A VFOAT-170BRATA VFOAT-170BRATA VFOAT-170BRATA	VFOAT-212BRA1A VFOAT-190BRA1A VFOAT-170BRATA VFOAT-170BRATA	VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-170BRATA VFOAT-170BRATA	VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-190BRA1A VFOAT-170BRATA
	Ton		60	62	63	65
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz			
Cooling Operation	Nominal Capacity	Btu/h	722,000	742,000	761,000	781,000
	Power Consumption	kW	63.2	65.26	68.93	70.99
	EER	(Btu/h)/W	11.42	11.37	11.04	11
Heating Operation	Nominal Capacity	Btu/h	809,000	833,000	853,000	877,000
	Power Consumption	kW	61	63.4	66.2	68.6
	COP	W/W	3.88	3.85	3.78	3.75
MCA (Minimum Circuit Ampacity)		A	304	315	316	327
MOP (Minimum Overcurrent Protection)		A	400	400	400	450
Air Flow Rate		CFM	34,957	35,487	36,016	36,546
Overall Dimension (L x W x H)		inch	(47-5/8+47-5/8+47-5/8+53-5/32) x 29-17/32 x 68-3/32	(47-5/8+47-5/8+53-5/32+53-5/32) x 29-17/32 x 68-3/32	(47-5/8+47-5/8+53-5/32+53-5/32) x 29-17/32 x 68-3/32	(47-5/8+53-5/32+53-5/32+53-5/32) x 29-17/32 x 68-3/32
Net Weight		lbs.	3,073	3,208	3,210	3,344
Compressor Quantity			8	8	8	8
Compressor Type			Inverter Scroll Hermetic Compressor			
Refrigerant Type			R410A			
Refrigerant Charge Amount		lbs.	132.5	132.5	126.55	133.6
Refrigerant Flow Control			Micro-computer Control Expansion Valve			
Condenser Fan Quantity			5	6	6	7
Cabinet Color			Ivory White			
Refrigerant Piping	Gas Line	inch	2	2	2	2
	Liquid Line	inch	1	1	1	1
Maximum Number of Connectable IDU			64	64	64	64
Maximum Actual Pipe Length		Ft.	541	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	77	77	77	77
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F	-4°F~62°F

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G Series Outdoor Units

Ice Air VRF G Series	Model		VFOAT-800BRAZA	VFOAT-821BRAZA	VFOAT-840BRAZA
	Combination		VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-170BRATA	VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-190BRA1A	VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-212BRA1A VFOAT-212BRA1A
	Ton		67	68	70
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz		
Cooling Operation	Nominal Capacity	Btu/h	800,000	821,000	839,000
	Power Consumption	kW	74.66	76.72	80.39
	EER	(Btu/h)/W	10.72	10.7	10.44
Heating Operation	Nominal Capacity	Btu/h	897,000	921,000	942,000
	Power Consumption	kW	71.3	73.7	76.5
	COP	W/W	3.69	3.66	3.61
MCA (Minimum Circuit Ampacity)		A	328	339	340
MOP (Minimum Overcurrent Protection)		A	450	450	450
Air Flow Rate		CFM	37,076	37,605	38,135
Overall Dimension (L x W x H)		inch	(47-5/8+53-5/32+53-5/32+53-5/32) x 29-17/32 x 68-3/32	(53-5/32+53-5/32+53-5/32+53-5/32) x 29-17/32 x 68-3/32	(53-5/32+53-5/32+53-5/32+53-5/32) x 29-17/32 x 68-3/32
Net Weight		lbs.	3,347	3,483	3,483
Compressor Quantity			8	8	8
Compressor Type			Inverter Scroll Hermetic Compressor		
Refrigerant Type			R410A		
Refrigerant Charge Amount		lbs.	135.8	141.76	142.86
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Condenser Fan Quantity			7	8	8
Cabinet Color			Ivory White		
Refrigerant Piping	Gas Line	inch	2	2	2
	Liquid Line	inch	1	1	1
Maximum Number of Connectable IDU			64	64	64
Maximum Actual Pipe Length		Ft.	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level		dB(A)	77	77	77
Operation Range	Cooling	°F DB	23°F~118°F	23°F~118°F	23°F~118°F
	Heating	°F WB	-4°F~62°F	-4°F~62°F	-4°F~62°F

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W Series

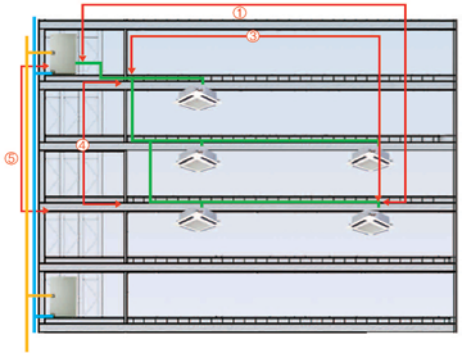
W Series:

The Ice Air W Series is a powerful, water-source solution utilizing an inverter-driven, multi-split air conditioning system. It incorporates all the benefits of a water-source heat pump system using advanced, heat-exchange technology. The Ice Air W Series is especially suited for a wider running range of cooling and heating applications.

- Direct Heat Exchange means less energy loss
- Inverter-driven Adjustment means more efficient partial load performance.
- High temperature resistance, even in summer
- During heating operation, operating stability prevents frosting and defrosting from occuring
- Multiple indoor unit types allow for system customization

Extended Refrigerant Pipe Design

With Ice Air's W Series water-cooled condensing units, there is no limitation on the vertical length of the system water piping, meeting the needs of high rise buildings. With a maximum refrigerant tubing length of 245 ft. between the condenser and indoor units, you have greater interior design flexibility and higher unit and system efficiencies.



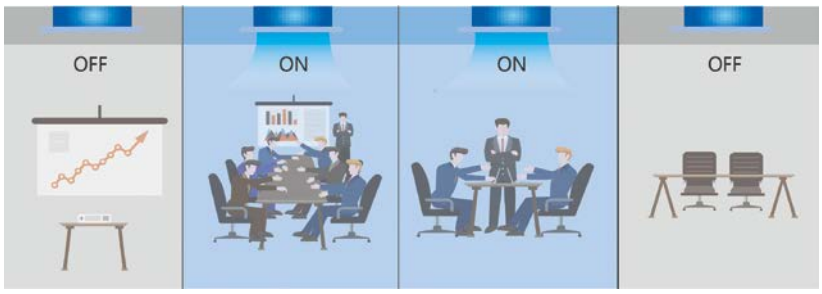
Description	3HP	4/5/6HP	8/10/16/18/20/24/26/28/30HP
Max. Equivalent Piping Length	98	245	394
Total Piping Length	148	394	984
Max. Distance Between 1st Branch and Indoor Unit	49	98	131
Max. Height Difference Between Indoor Units	16	49	49
Max. Height Difference Between IDU and (ODU is lower than IDU)	49 (49)	98 (98)	164 (131)

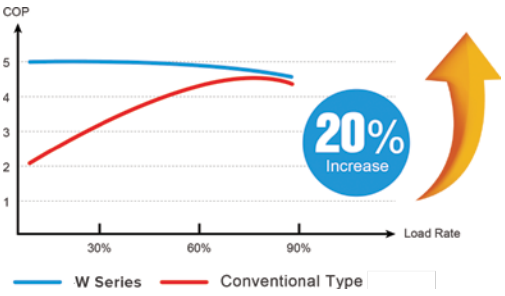
*In case of high-rise building, the water pressure limitation that plate heat exchanger can bear must be taken into consideration.

Partial Load Efficiency

Our advanced water cooled VRF responds to specific load requirements, greatly increasing overall system energy efficiency.

This is a distinct advantage over chiller systems, which have limited load capacity adjustment, and require extensive supplemental systems (such as circulating water pumps and water treatment systems) that consume additional energy and lower system efficiency.





W Series Outdoor Units

Ice Air VRF W Series	Model		VFOWC-72BRAC	VFOWC-96BRAC
	Ton		6	8
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz	
Cooling Operation	Nominal Capacity	Btu/h	69,000	96,000
	EER(Ducted/Non-ducted)	(Btu/h)/W	14.40/17.00	12.30/13.40
	IEER(Ducted/Non-ducted)	(Btu/h)/W	24.30/28.30	25.20/27.30
Heating Operation	Nominal Capacity	Btu/h	77,000	103,000
	COP(Ducted/Non-ducted)	W/W	4.94/5.70	5.13/4.70
MCA (Minimum Circuit Ampacity)		A	38	46
MOP (Minimum Overcurrent Protection)		A	60	60
Water Side	Water Temp. Range	°F	50 °F ~113 °F	50 °F ~113 °F
	Water Flow Rate	GPM	19.81	27.74
	Water Pressure Drop	in. W.G.	71	99
Overall Dimension (L x W x H)		inch	30-23/32 x 21-21/32 x 39-3/8	30-23/32 x 21-21/32 x 39-3/8
Net Weight		lbs	353	353
Compressor Quantity			1	1
Compressor Type			Inverter Scroll Hermetic Compressor	
Refrigerant Type			R410A	
Refrigerant Charge Amount		lbs.	5	5
Refrigerant Flow Control			Micro-computer Control Expansion Valve	
Cabinet Color			Ivory White	
Refrigerant Piping	Gas Line	inch	3/4	3/4
	Liquid Line	inch	1/2	1/2
Maximum Number of Connectable IDU			13	16
Maximum Actual Pipe Length		Ft.	393	393
Maximum Equivalent Pipe Length		Ft.	459	459
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level	Cooling/Heating	dB(A)	50/51	51/52

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W Series Outdoor Units

Ice Air VRF W Series	Model		VFOWC-144BRAC	VFOWC-168BRAC	VFOWC-192BRAC
	Combination		VFOWC-72BRAC VFOWC-72BRAC	VFOWC-72BRAC VFOWC-96BRAC	VFOWC-96BRAC VFOWC-96BRAC
	Ton		12	14	16
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz		
Cooling Operation	Nominal Capacity	Btu/h	144,000	164,000	192,000
	EER(Ducted/Non-ducted)	(Btu/h)/W	13.00/14.95	11.80/12.80	11.10/11.20
	IEER(Ducted/Non-ducted)	(Btu/h)/W	23.80/25.80	22.60/24.40	21.40/23.60
Heating Operation	Nominal Capacity	Btu/h	154,000	180,000	206,000
	COP(Ducted/Non-ducted)	W/W	5.02/5.34	4.81/5.07	4.47/5.00
MCA (Minimum Circuit Ampacity)		A	75	84	93
MOP (Minimum Overcurrent Protection)		A	125	150	150
Water Side	Water Temp. Range	°F	50 °F ~113 °F	50 °F ~113 °F	50 °F ~113 °F
	Water Flow Rate	GPM	39.62	47.55	55.48
	Water Pressure Drop	in. W.G.	71	85	99
Overall Dimension (L x W x H)		inch	(30-23/32+30-23/32) x 21-21/32 x 39-3/8	(30-23/32+30-23/32) x 21-21/32 x 39-3/8	(30-23/32+30-23/32) x 21-21/32 x 39-3/8
Net Weight		lbs	706	706	706
Compressor Quantity			2	2	2
Compressor Type			Inverter Scroll Hermetic Compressor		
Refrigerant Type			R410A		
Refrigerant Charge Amount		lbs.	10	10	10
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Cabinet Color			Ivory White		
Refrigerant Piping	Gas Line	inch	1-1/8	1-1/8	1-1/8
	Liquid Line	inch	5/8	5/8	5/8
Maximum Number of Connectable IDU			26	29	32
Maximum Actual Pipe Length		Ft.	393	393	393
Maximum Equivalent Pipe Length		Ft.	459	459	459
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level	Cooling/Heating	dB(A)	52/53	52/53	53/54

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W Series Outdoor Units

Ice Air VRF W Series	Model		VFOWC-216BRAC	VFOWC-240BRAC	VFOWC-264BRAC	VFOWC-288BRAC
	Combination		VFOWC-72BRAC VFOWC-72BRAC VFOWC-72BRAC	VFOWC-72BRAC VFOWC-72BRAC VFOWC-96BRAC	VFOWC-76BRAC VFOWC-96BRAC VFOWC-96BRAC	VFOWC-96BRAC VFOWC-96BRAC VFOWC-96BRAC
	Ton		18	20	22	24
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz			
Cooling Operation	Nominal Capacity	Btu/h	206,000	234,000	260,000	288,000
	EER(Ducted/Non-ducted)	(Btu/h)/W	12.30/12.50	11.40/11.40	11.60/11.40	10.10/10.10
	IEER(Ducted/Non-ducted)	(Btu/h)/W	22.60/22.50	21.40/21.40	21.60/21.40	19.60/19.40
Heating Operation	Nominal Capacity	Btu/h	230,000	256,000	282,000	308,000
	COP(Ducted/Non-ducted)	W/W	4.73/5.14	4.53/4.94	4.70/4.81	4.24/4.69
MCA (Minimum Circuit Ampacity)		A	113	121	130	139
MOP (Minimum Overcurrent Protection)		A	200	200	225	250
Water Side	Water Temp. Range	°F	50 °F ~113 °F	50 °F ~113 °F	50 °F ~113 °F	50 °F ~113 °F
	Water Flow Rate	GPM	59.44	67.36	75.29	83.21
	Water Pressure Drop	in. W.G.	71	80	89	99
Overall Dimension (L x W x H)		inch	(30-23/32+30-23/32+30-23/32) x 21-21/32 x 39-3/8	(30-23/32+30-23/32+30-23/32) x 21-21/32 x 39-3/8	(30-23/32+30-23/32+30-23/32) x 21-21/32 x 39-3/8	(30-23/32+30-23/32+30-23/32) x 21-21/32 x 39-3/8
Net Weight		lbs	1059	1059	1059	1059
Compressor Quantity			3	3	3	3
Compressor Type			Inverter Scroll Hermetic Compressor			
Refrigerant Type			R410A			
Refrigerant Charge Amount		lbs.	15	15	15	15
Refrigerant Flow Control			Micro-computer Control Expansion Valve			
Cabinet Color			Ivory White			
Refrigerant Piping	Gas Line	inch	1-1/8	1-1/4	1-1/4	1-1/4
	Liquid Line	inch	3/4	3/4	3/4	3/4
Maximum Number of Connectable IDU			36	36	36	36
Maximum Actual Pipe Length		Ft.	393	393	393	393
Maximum Equivalent Pipe Length		Ft.	459	459	459	459
Height Difference	Maximum Below Unit	Ft.	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)	164 (295 With Field Setting*)
	Maximum Above Unit	Ft.	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)	131 (295 With Field Setting*)
	Between IDUs	Ft.	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)	49 (98 With Field Setting*)
Noise level	Cooling/Heating	dB(A)	55/56	55/56	56/57	56/57

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H Series

H Series:

Ice Air's H Series multi-split units incorporate advanced DC inverter technology and provide superior installation flexibility.

Features include:

- 2 to 10 ton condensers
- Up to 11 indoor units per system
- Dual aerodynamic condenser fans mean energy savings and low outdoor sound levels
- Wide range of indoor unit types allow for easy, customized installations

H Series Outdoor Units

AHRI CERTIFIED

Ice Air VRF H Series	Model		VFO-28BQAH	VFO-36BQAH	VFO-48BQAH	VFO-60BQAH
	Nominal Ton		2	3	4	5
Model Power Supply	Phase Voltage Hz		AC 1-Phase 208/230V 60Hz			
Cooling Operation	Nominal Capacity	Btu/h	27,000	36,000	48,000	57,500
	Power Consumption	kW	1.93	2.86/2.54	4.71/3.81	6.25/5.75
	EER (Ducted/Non-ducted)	(Btu/h)/W	13.99	12.60/14.20	10.20/12.60	9.20/10.0
	SEER (Ducted/Non-ducted)	(Btu/h)/W	NA	17.00/20.00	17.00/19.00	16.50/18.60
Heating Operation	Nominal Capacity	Btu/h	32,000	42,000	54,000	61,000
	Power Consumption	kW	2.37	3.07/2.73	4.65/3.85	5.77/5.26
	COP (Ducted/Non-ducted)	W/W	4.01	4.00/4.50	3.40/4.10	3.10/3.40
	Heating Capacity (17°F DB)	Btu/h	NA	26,000	32,000	35,000
	Power Consumption	kW	NA	2.62/2.38	3.92/3.48	4.68/4.48
	COP (Ducted/Non-ducted)	W/W	NA	2.90/3.20	2.40/2.70	2.20/2.30
	HSPF (Ducted/Non-ducted)	(Btuh)/W	NA	10.50/11.00	9.50/10.50	10.00/10.50
MCA (Minimum Circuit Ampacity)		A	19.5	31.4	32.8	33.2
MOP (Minimum Overcurrent Protection)		A	25	40	45	45
Air Flow Rate		CFM	1,642	3,176	3,176	3,529
Overall Dimension (L x W x H)		inch	40-11/32 X 18-1/8 X 36-5/8	37-13/32 x 14-9/16 x 54-11/32	37-13/32 x 14-9/16 x 54-11/32	37-13/32 x 14-9/16 x 54-11/32
Net Weight		lbs.	144	229	229	231
Compressor Quantity			1	1	1	1
Compressor Type			Inverter Scroll Hermetic Compressor			
Refrigerant Type			R410A			
Refrigerant Charge Amount		lbs.	5.5	8.4	8.4	9.0
Refrigerant Flow Control			Micro-computer Control Expansion Valve			
Condenser Fan Quantity			1	2	2	2
Cabinet Color			Ivory White			
Refrigerant Piping	Gas Line	inch	5/8	5/8	5/8	5/8
	Liquid Line	inch	3/8	3/8	3/8	3/8
Maximum Number of Connectable IDU			5	9	11	11
Maximum Actual Pipe Length		Ft.	82	246	246	246
Height Difference	Maximum Below Unit	Ft.	66	98	98	98
	Maximum Above Unit	Ft.	66	98	98	98
	Between IDUs	Ft.	11	33	33	33
Noise level	Cooling/Heating	dB(A)	50/52	50/52	50/52	50/52
Operation Range	Cooling	°F DB	23°F~114.8°F	23°F~114.8°F	23°F~114.8°F	23°F~114.8°F
	Heating	°F WB	-5°F~60°F	-4°F~60°F	-4°F~60°F	-4°F~60°F

Note: For Anti-Corrosion units add #F to model number.
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H Series Outdoor Units

Ice Air VRF H Series	Model		VFO-76BRAH	VFO-96BRAH	VFO-114BRAH
	Ton		6	8	10
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz		
Cooling Operation	Nominal Capacity	Btu/h	77,000	96,000	114,000
	Power Consumption	kW	6.3	8.3	10.7
	EER	(Btu/h)/W	12.22	11.57	10.65
Heating Operation	Nominal Capacity	Btu/h	85,000	108,000	128,000
	Power Consumption	kW	5.9	7.8	9.9
	COP	W/W	4.24	4.04	3.79
MCA (Minimum Circuit Ampacity)		A	22	29	37
MOP (Minimum Overcurrent Protection)		A	30	40	50
Air Flow Rate		CFM	4,273	5,297	5,756
Overall Dimension (L x W x H)		inch	43-5/16 x 15-11/32 x 64-31/32	43-5/16 x 15-11/32 x 64-31/32	43-5/16 x 15-11/32 x 64-31/32
Net Weight		lbs	371	371	377
Compressor Quantity			1	1	1
Compressor Type			Inverter Scroll Hermetic Compressor		
Refrigerant Type			R410A		
Refrigerant Charge Amount		lbs.	11	12.1	14.3
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Condenser Fan Quantity			2	2	2
Cabinet Color			Ivory White		
Refrigerant Piping	Gas Line	inch	5/8	7/8	7/8
	Liquid Line	inch	3/8	1/2	1/2
Maximum Number of Connectable IDU			10	10	10
Maximum Actual Pipe Length		Ft.	328	328	328
Height Difference	Maximum Below Unit	Ft.	164	164	164
	Maximum Above Unit	Ft.	131	131	131
	Between IDUs	Ft.	49	49	49
Noise level	Cooling/Heating	dB(A)	53/55	56/58	56/58
Operation Range	Cooling	°F DB	23°F~114.8°F	23°F~114.8°F	23°F~114.8°F
	Heating	°F WB	-4°F~60°F	-4°F~60°F	-4°F~60°F

Note: For Anti-Corrosion units add #F to model number.
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S Series

S Series:

The Ice Air S Series is our most advanced VRF system, utilizing the latest generation of enhanced vapor injection (EVI) compressors, as well as full DC inverter energy saving technology. The S Series employs advanced heating technology, allowing heating operation to -15°F.

The S Series is characterized by:

- Patented EVI scroll compressors
- Low ambient heating operation and rapid heating start-up
- Patented 360° refrigerant cooling technology
- Variable speed fan controls
- Single units range from 2 to 6 tons each; combinations up to 90 tons

S Series Outdoor Units

Ice Air VRF S Series	Model		VFOAT-72DRAHE	VFOAT-96DRAHE	VFOAT-120DRAHE
	Nominal Ton		6	8	10
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz	AC 3-Phase 208/230V 60Hz	AC 3-Phase 208/230V 60Hz
Cooling Operation	Nominal Capacity	Btu/h	69,000	92,000	115,000
	Power Consumption	kW	5.05	6.97	9.27
	EER (Ducted/Non-ducted)	(Btu/h)/W	12.30/15.00	12.25/14.15	11.60/13.20
	IEER (Ducted/Non-ducted)	(Btu/h)/W	21.30/26.56	23.4/30.76	23.20/33.30
Heating Operation	Nominal Capacity	Btu/h	75,000	100,000	126,000
	Power Consumption	kW	5.67	7.76	9.89
	COP (Ducted/Non-ducted)	W/W	3.55/4.20	3.45/4.10	3.35/4.12
MCA (Minimum Circuit Ampacity)		A	30	36	42
MOP (Minimum Overcurrent Protection)		A	42	50.4	58.8
Air Flow Rate		CFM	6,458	6,458	7,058
Overall Dimensions (LxWxH)		in.	37-13/32×29-17/32×68-1/8	37-13/32×29-17/32×68-1/8	47-5/8×29-17/32×68-1/8
Net Weight		lbs.	532	532	732
Compressor Quantity			1	1	2
Compressor Type			Enhanced Vapor Injection Scroll Compressor		
Refrigerant Type			R410A	R410A	R410A
Refrigerant Charge Amount		lbs.	21.83	27.56	27.56
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Condenser Fan Quantity			1	1	2
Cabinet Color			Ivory White	Ivory White	Ivory White
Refrigerant Piping	Liquid Pipe	in.	Φ3/8	Φ3/8	Φ1/2
	Low Pressure Gas Pipe	in.	Φ3/4	Φ7/8	Φ1
	High/Low Pressure Gas Pipe	in.	Φ5/8	Φ3/4	Φ7/8
Maximum Number of Connectable IDU			19	23	26
Maximum Actual Pipe Length		Ft.	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623
Height Difference	Maximum Below Unit	Ft.	164	164	164
	Maximum Above Unit	Ft.	131	131	131
	Between IDUs	Ft.	98	98	98
Noise level		dB(A)	64/66	66/68	66/68
Operation Range	Cooling	°F DB	23~125°F	23~125°F	23~125°F
	Heating	°F WB	-13~61.7°F	-13~61.7°F	-13~61.7°F

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S Series Outdoor Units

Ice Air VRF S Series	Model		VFOAT-144DRAHE	VFOAT-168DRAHE	VFOAT-192DRAHE
	Nominal Ton		12	14	16
Model Power Supply	Phase Voltage Hz		AC 3-Phase 208/230V 60Hz	AC 3-Phase 208/230V 60Hz	AC 3-Phase 208/230V 60Hz
Cooling Operation	Nominal Capacity	Btu/h	138,000	160,000	184,000
	Power Consumption	kW	12.05	13.82	15.73
	EER (Ducted/Non-ducted)	(Btu/h)/W	10.80/12.10	10.90/12.25	11/12.4
	IEER (Ducted/Non-ducted)	(Btu/h)/W	22.00/24.88	21.5/23.1	23.0/23.5
Heating Operation	Nominal Capacity	Btu/h	150,000	170,000	200,000
	Power Consumption	kW	12.76	14.44	16.28
	COP (Ducted/Non-ducted)	W/W	3.25/3.64	3.22/3.68	3.3/3.9
MCA (Minimum Circuit Ampacity)		A	50	64	69
MOP (Minimum Overcurrent Protection)		A	70	89.6	96.6
Air Flow Rate		CFM	9,423	9,423	12,353
Overall Dimensions (LxWxH)		in.	53-5/32×29-17/32×68-1/8	53-5/32×29-17/32×68-1/8	63×29-17/32×68-1/8
Net Weight		lbs.	869	871	1264
Compressor Quantity			2	2	3
Compressor Type			Enhanced Vapor Injection Scroll Compressor		
Refrigerant Type			R410A	R410A	R410A
Refrigerant Charge Amount		lbs.	34.61	35.71	49.38
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Condenser Fan Quantity			2	2	2
Cabinet Color			Ivory White	Ivory White	Ivory White
Refrigerant Piping	Liquid Pipe	in.	Φ3/8	Φ3/8	Φ3/8
	Low Pressure Gas Pipe	in.	Φ1-1/8	Φ1-1/8	Φ1-1/8
	High/Low Pressure Gas Pipe	in.	Φ5/8	Φ5/8	Φ5/8
Maximum Number of Connectable IDU			33	36	47
Maximum Actual Pipe Length		Ft.	541	541	541
Maximum Equivalent Pipe Length		Ft.	623	623	623
Height Difference	Maximum Below Unit	Ft.	164	164	164
	Maximum Above Unit	Ft.	131	131	131
	Between IDUs	Ft.	98	98	98
Noise level		dB(A)	69/72	69/72	69/70
Operation Range	Cooling	°F DB	23~125°F	23~125°F	23~125°F
	Heating	°F WB	-13~61.7°F	-13~61.7°F	-13~61.7°F

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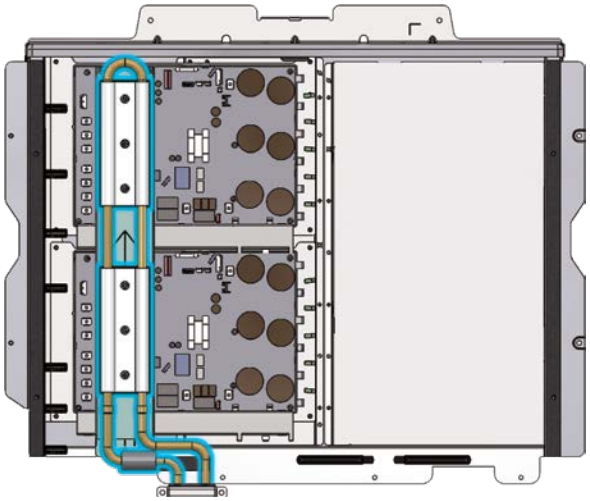
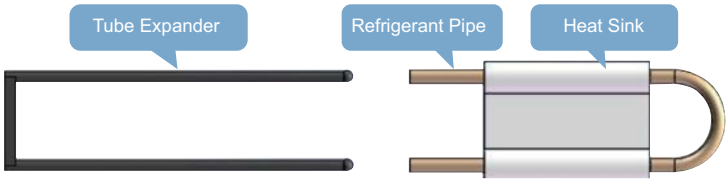
Patented 360°
Fitted Refrigerant Cooling Technology, More Reliable Cooling System

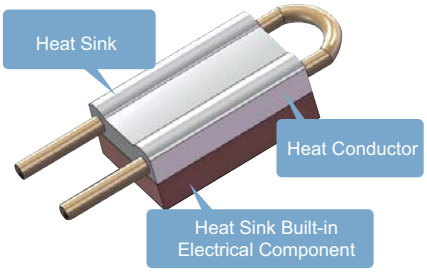
With patented 360° refrigerant cooling technology, the S Series removes heat from the main PCB, inverter module and outdoor unit's electrical compartment, improving the electrical reliability of the unit under high ambient conditions. This ensures the stability and safety of the outdoor unit and also prevents poor heat dissipation during fan cycle rotation or stop mode.

The refrigerant heat sink is manufactured from aluminum alloys with high thermal conductivity and incorporates a cooling refrigerant tubing loop.



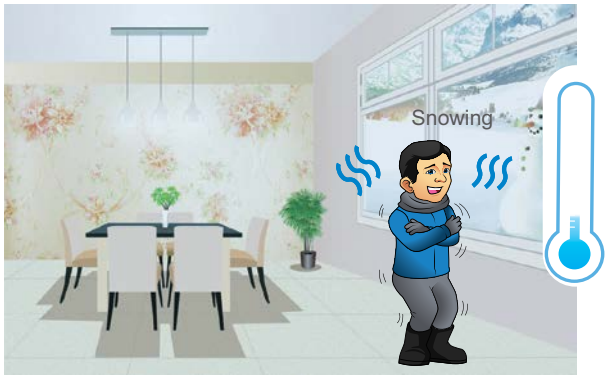
A metal heat conductor is added between the refrigerant pipe and the heat sink to increase heat transfer efficiency, greatly improving overall performance.



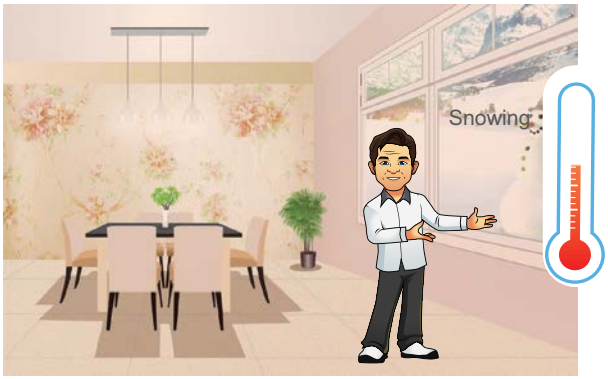


Powerful Heating Performance Under Low Temperature

The system uses vapor injection, two-stage compressor technology and intelligent defrost technology to achieve high heating efficiency, ensuring strong heating performance to -15°F.



Too Cold



Comfortable

Rapid Heating Under Low Temperature

When the S Series is running at a low outdoor ambient of 5°F, the outlet air temperature of the indoor unit can reach 104°F or higher* in a short time. The high efficiency outdoor unit has fast start up, offering a warm and comfortable environment in winter.

This test result is based on a 2 ton outdoor unit and 2 indoor units

Test conditions:

Outdoor suction temperature: 5°F (dry bulb).

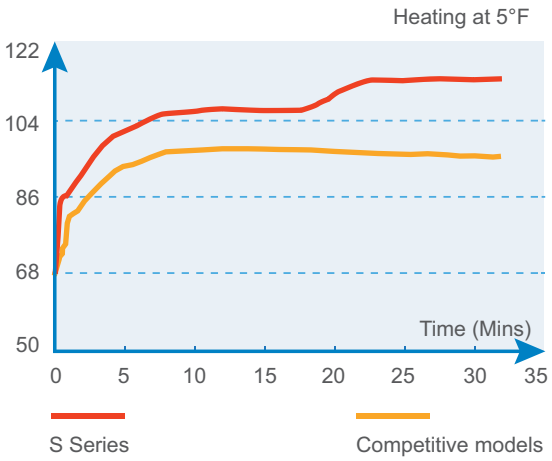
Relative humidity: 75%.

Indoor unit suction temperature: 68°F (dry bulb), high air volume.

Length of indoor and outdoor pipes: 19.7 feet.

Measurement sites: laboratory of constant temperature.

*Note: The actual heat time depends on the heat load, models and building structure.



Indoor Units

Mix and Match Various Models

Multiple types of indoor units can be mixed and matched to Ice Air's wide range of outdoor units.

Flexible Duct Options

Various duct types can be chosen to accommodate specific construction and interior layout requirements.

Precise Room Temperature Control

Ice Air's high precision temperature sensors, located at the indoor unit supply and return, are paired with a micro computer controlled 2,000 pulse high precision EEV (electronic expansion valve) maintaining room temperature within ±0.9°F of the setpoint, satisfying indoor comfort requirements.

Top Level Noise Design

Advanced casing and component designs ensure whisper quiet operation.

Hi Rise

An Ice Air Exclusive!

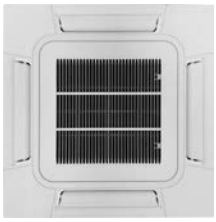
This exclusive Ice Air design is for high-rise applications – apartments, hotels, condominiums and office buildings. Ice Air VRF Vertical Hi-Rise units are easy to install without sacrificing floor space, room comfort or design appearance.

- Compact units take up minimal space
- Units can be installed in a variety of ways, including with a room divider or wall to efficiently serve multiple rooms
- Can be concealed in the corner of a room or inside a closet
- Product casing allows for air distribution through 5 distinct locations (4 sides and top) as well as flexible refrigeration pipe connections

Vertical Hi Rise	Model		VFIHR-09BQA	VFIHR-12BQA	VFIHR-18BQA	VFIHR-24BQA	VFIHR-30BQA	VFIHR-36BQA
	Tons		0.75	1	1.5	2	2.5	3
Model Power Supply			AC 1-Phase 208/230V 60Hz					
Cooling Operation	Nominal Capacity	Btu/h	9,000	12,500	18,000	23,000	27,000	36,000
	Power Consumption	kW	0.06	0.12	0.15	0.26	0.3	0.36
Heating Operation	Nominal Capacity	Btu/h	10,200	14,200	20,500	26,200	30,800	41,000
	Power Consumption	kW	0.06	0.12	0.15	0.26	0.3	0.36
MCA (Minimum Circuit Ampacity)		A	1	1.3	1.6	1.8	2.5	2.8
MOP (Minimum Overcurrent Protection)		A	15	15	15	15	15	15
Air Flow Rate (Hi/Med/Low)		CFM	300/225/150	400/300/200	550/430/300	800/600/400	1000/750/500	1050/800/550
Noise Level (Hi/Med/Low)		dB(A)	40/36/32	43/40/37	48/44/41	52/48/44	52/48/44	53/49/45
Overall Dimension	Height	inch	88	88	88	88	88	88
	Width	inch	17	17	20	20	24	24
	Depth	inch	17	17	20	20	24	24
Net Weight		lbs.	150	150	180	180	260	260
Refrigerant Type			R410A					
Refrigerant Flow Control			Micro-computer Control Expansion Valve					
Piping Connections			Flare-nut Connection(with Flare Nuts)					
Refrigerant Piping	Gas Line	inch	1/2					
	Liquid Line	inch	1/4					
Condensate Drain		inch	3/4 ID/1 OD					
External Pressure		in. W.G.	0.2(0.3)	0.2(0.3)	0.2(0.3)	0.2(0.3)	0.5(0.4)	0.5(0.4)

The information contained in this document is subject to change without notice.

Mini 4-Way Cassette



At 8-15/32 inches high, this Ice Air Mini 4-Way Cassette is THE smallest available for superior space savings (required ceiling height is only 10-inches).

- User friendly air supply mode has independent air louver controls
- 4 air speed adjustments
- Optional motion sensor available
- Drain pump is standard

Mini 4-Way Cassette	Model		VFIMC-05BQAAA	VFIMC-07BQAAA	VFIMC-09BQAAA	VFIMC-12BQAAA
	Ton		0.4	0.6	0.8	1
Model Power Supply			AC 1-Phase 208/230V 60Hz			
Cooling Operation	Nominal Capacity	Btu/h	5,100	7,500	9,600	12,300
	Power Consumption	kW	0.014	0.014	0.014	0.016
Heating Operation	Nominal Capacity	Btu/h	6,800	8,500	11,300	14,300
	Power Consumption	kW	0.014	0.014	0.014	0.016
MCA (Minimum Circuit Ampacity)		A	0.9	0.9	0.9	0.9
MOP (Minimum Overcurrent Protection)		A	15	15	15	15
Air Flow Rate (Hi/Med/Low)		CFM	253/230/218	253/230/218	277/253/230	288/253/230
Noise Level (Hi/Med/Low)		dB(A)	30/29/28	30/29/28	32/30/28	34/32/29
Overall Dimension	Height	inch	8-15/32	8-15/32	8-15/32	8-15/32
	Width	inch	22-7/16	22-7/16	22-7/16	22-7/16
	Depth	inch	22-7/16	22-7/16	22-7/16	22-7/16
Net Weight		lbs.	32	32	33	33
Refrigerant Type			R410A			
Refrigerant Flow Control			Micro-computer Control Expansion Valve			
Cabinet Color			Neutral White			
Piping Connections			Flare-nut Connection(with Flare Nuts)			
Refrigerant Piping	Gas Line	inch	1/2			
	Liquid Line	inch	1/4			
Condensate Drain		inch	1 (Inner Diameter)			
Panel Model			IAE-D-NK			

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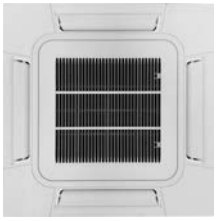

Mini 4-Way Cassette	Model		VFIMC-15BQAAA	VFIMC-17BQAAA	VFIMC-19BQAAA
	Ton		1.25	1.4	1.6
Model Power Supply			AC 1-Phase 208/230V 60Hz		
Cooling Operation	Nominal Capacity	Btu/h	15,400	17,100	19,100
	Power Consumption	kW	0.022	0.03	0.04
Heating Operation	Nominal Capacity	Btu/h	17,100	19,100	21,500
	Power Consumption	kW	0.022	0.03	0.04
MCA (Minimum Circuit Ampacity)		A	0.9	0.9	0.9
MOP (Minimum Overcurrent Protection)		A	15	15	15
Air Flow Rate (Hi/Med/Low)		CFM	330/308/250	388/335/308	441/383/330
Noise Level (Hi/Med/Low)		dB(A)	38/36/31	42/39/36	45/42/38
Overall Dimension	Height	inch	8-15/32	8-15/32	8-15/32
	Width	inch	22-7/16	22-7/16	22-7/16
	Depth	inch	22-7/16	22-7/16	22-7/16
Net Weight		lbs.	35	35	35
Refrigerant Type			R410A		
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Cabinet Color			Neutral White		
Piping Connections			Flare-nut Connection(with Flare Nuts)		
Refrigerant Piping	Gas Line	inch	1/2		
	Liquid Line	inch	1/4		
Condensate Drain		inch	1 (Inner Diameter)		
Panel Model			IAE-D-NK		

The information contained in this document is subject to change without notice.

4-Way Cassette

The Ice Air 4-Way Cassette allows for flexible refrigerant pipe connections, providing cost effective installation.

- User friendly air supply mode has independent air louver controls
- 4 air speed adjustments
- Optional motion sensor available
- Drain pump is standard
- Breeze Mode provides a small draft of air through perforated corners providing a gentle breeze from the unit

4-Way Cassette	Model		VFI4C-09BQAKA	VFI4C-12BQAKA	VFI4C-15BQAKA	VFI4C-19BQAKA	VFI4C-22BQAKA	VFI4C-24BQAKA
	Ton		0.8	1	1.25	1.6	1.8	2
Model Power Supply			AC 1-Phase 208/230V 60Hz					
Cooling Operation	Nominal Capacity	Btu/h	9,600	12,300	15,400	19,100	21,500	24,200
	Power Consumption	kW	0.02	0.03	0.03	0.04	0.06	0.07
Heating Operation	Nominal Capacity	Btu/h	11,000	13,600	17,100	21,500	24,200	27,300
	Power Consumption	kW	0.02	0.03	0.03	0.04	0.06	0.07
MCA (Minimum Circuit Ampacity)		A	1.0	1.0	1.0	1.0	1.0	1.0
MOP (Minimum Overcurrent Protection)		A	15	15	15	15	15	15
Air Flow Rate (Hi/Med/Low)		CFM	424/381/353	452/417/381	526/480/448	562/547/480	646/600/533	675/636/576
Noise Level (Hi/Med/Low)		dB(A)	28/27/26	29/28/27	29/29/27	30/28/28	32/31/29	32/31/29
Overall Dimension	Height	inch	9-3/8	9-3/8	9-3/8	9-3/8	9-3/8	9-3/8
	Width	inch	33-1/16	33-1/16	33-1/16	33-1/16	33-1/16	33-1/16
	Depth	inch	33-1/16	33-1/16	33-1/16	33-1/16	33-1/16	33-1/16
Net Weight		lbs.	44	44	46	46	51	51
Refrigerant Type			R410A					
Refrigerant Flow Control			Micro-computer Control Expansion Valve					
Cabinet Color			Neutral White					
Piping Connections			Flare-nut Connection(with Flare Nuts)					
Refrigerant Piping	Gas Line	inch	1/2	1/2	1/2	1/2	1/2	5/8
	Liquid Line	inch	1/4	1/4	1/4	1/4	1/4	3/8
Condensate Drain		inch	1 (Inner Diameter)					
Panel Model			IA-G-NK					

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4-Way Cassette	Model		VFI4C-27BQAKA	VFI4C-30BQAKA	VFI4C-38BQAKA	VFI4C-48BQAKA	VFI4C-54BQAKA
	Ton		2.25	2.5	3.25	4	4.5
Model Power Supply			AC 1-Phase 208/230V 60Hz				
Cooling Operation	Nominal Capacity	Btu/h	27,300	30,700	38,200	47,800	54,600
	Power Consumption	kW	0.06	0.06	0.13	0.13	0.13
Heating Operation	Nominal Capacity	Btu/h	30,700	34,100	42,700	54,600	61,400
	Power Consumption	kW	0.06	0.06	0.13	0.13	0.13
MCA (Minimum Circuit Ampacity)		A	1.0	1.0	1.8	1.8	1.8
MOP (Minimum Overcurrent Protection)		A	15	15	15	15	15
Air Flow Rate (Hi/Med/Low)		CFM	717/660/593	731/692/625	968/876/791	1045/961/855	1084/1021/904
Noise Level (Hi/Med/Low)		dB(A)	35/33/31	35/33/31	38/36/34	40/38/36	41/40/38
Overall Dimension	Height	inch	11-11/32	11-11/32	11-11/32	11-11/32	11-11/32
	Width	inch	33-1/16	33-1/16	33-1/16	33-1/16	33-1/16
	Depth	inch	33-1/16	33-1/16	33-1/16	33-1/16	33-1/16
Net Weight		lbs.	57	57	57	57	57
Refrigerant Type			R410A				
Refrigerant Flow Control			Micro-computer Control Expansion Valve				
Cabinet Color			Neutral White				
Piping Connections			Flare-nut Connection(with Flare Nuts)				
Refrigerant Piping	Gas Line	inch	5/8	5/8	5/8	5/8	5/8
	Liquid Line	inch	3/8	3/8	3/8	3/8	3/8
Condensate Drain		inch	1 (Inner Diameter)				
Panel Model			IA-G-NK				

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Ceiling Ducted Low Height

At only 7-9/16 inches, this space saving Ice Air VRF Indoor Unit makes full use of its reduced height while providing superior air flow.

- Drain pump is standard
- Humidity sensor makes dehumidification automatic
- Air deflector design adjusts according to conditions
- Window contact energy saving links the unit with the position of the window (open/closed)

Ceiling Ducted (DC Low-height)	Model		VFILD-05BQADL	VFILD-07BQADL	VFILD-09BQADL	VFILD-12BQADL	VFILD-15BQADL	VFILD-17BQADL
	Ton		0.5	0.6	0.8	1	1.25	1.4
Model Power Supply			AC 1-Phase 208/230V 60Hz					
Cooling Operation	Nominal Capacity	Btu/h	6,100	7,500	9,600	12,300	15,300	17,100
	Power Consumption	kW	0.04	0.04	0.04	0.04	0.04	0.04
Heating Operation	Nominal Capacity	Btu/h	7,500	8,500	11,000	13,600	17,100	19,100
	Power Consumption	kW	0.04	0.04	0.04	0.04	0.04	0.04
MCA (Minimum Circuit Ampacity)		A	0.4	0.4	0.5	0.5	0.6	0.6
MOP (Minimum Overcurrent Protection)		A	15	15	15	15	15	15
Air Flow Rate (Hi/Med/Low)		CFM	215/201/187	215/201/187	258/237/208	258/237/208	332/286/240	332/286/240
Noise Level (Hi/Med/Low)		dB(A)	28/27/25	28/27/25	32/30/28	32/30/28	32/30/28	32/30/28
Overall Dimension	Height	inch	7-9/16	7-9/16	7-9/16	7-9/16	7-9/16	7-9/16
	Width	inch	27-9/16	27-9/16	27-9/16	27-9/16	35-27/32	35-27/32
	Depth	inch	17-19/32	17-19/32	17-19/32	17-19/32	17-19/32	17-19/32
Net Weight		lbs.	36	36	38	38	44	44
Refrigerant Type			R410A					
Refrigerant Flow Control			Micro-computer Control Expansion Valve					
Piping Connections			Flare-nut Connection(with Flare Nuts)					
Refrigerant Piping	Gas Line	inch	1/2	1/2	1/2	1/2	1/2	1/2
	Liquid Line	inch	1/4	1/4	1/4	1/4	1/4	1/4
Condensate Drain		inch	1 (Inner Diameter)					
External Pressure		in. W.G.	0.04(0-0.04-0.12)					

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Ceiling Ducted (DC Low-height)	Model		VFILD-19BQADL	VFILD-22BQADL	VFILD-24BQADL
	Ton		1.6	1.8	2
Model Power Supply			AC 1-Phase 208/230V 60Hz		
Cooling Operation	Nominal Capacity	Btu/h	19,100	21,500	24,200
	Power Consumption	kW	0.06	0.06	0.06
Heating Operation	Nominal Capacity	Btu/h	21,500	24,200	27,300
	Power Consumption	kW	0.06	0.06	0.06
MCA (Minimum Circuit Ampacity)		A	0.6	0.9	0.9
MOP (Minimum Overcurrent Protection)		A	15	15	15
Air Flow Rate (Hi/Med/Low)		CFM	396/353/311	505/434/371	505/434/371
Noise Level (Hi/Med/Low)		dB(A)	30/28/27	35/33/31	35/33/31
Overall Dimension	Height	inch	7-9/16	7-9/16	7-9/16
	Width	inch	46-15/32	46-15/32	46-15/32
	Depth	inch	17-19/32	17-19/32	17-19/32
Net Weight		lbs.	53	53	53
Refrigerant Type			R410A		
Refrigerant Flow Control			Micro-computer Control Expansion Valve		
Piping Connections			Flare-nut Connection(with Flare Nuts)		
Refrigerant Piping	Gas Line	inch	1/2	5/8	5/8
	Liquid Line	inch	1/4	3/8	3/8
Condensate Drain		inch	1 (Inner Diameter)		
External Pressure		in. W.G.	0.04(0-0.04-0.12)		

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Ceiling Ducted High Static Pressure

At 10-1/2 inches high, this space saver easily fits into limited height space requirements, while delivering superior ducted performance.

- Multiple duct options
- Excellent air flow at low sound levels
- Optional drain pumps
- Optional outdoor air is processed through a filtration system guaranteeing a continuous supply of clean indoor air

Ceiling Ducted (High Static Pressure)	Model		VFICD-07BQACH	VFICD-09BQACH	VFICD-12BQACH	VFICD-15BQACH	VFICD-19BQACH	VFICD-22BQACH
	Ton		0.6	0.8	1	1.25	1.6	1.8
Model Power Supply			AC 1-Phase 208/230V 60Hz					
Cooling Operation	Nominal Capacity	Btu/h	7,500	9,600	12,300	15,400	19,100	21,500
	Power Consumption	kW	0.1	0.1	0.13	0.13	0.14	0.19
Heating Operation	Nominal Capacity	Btu/h	8,500	11,000	13,600	17,100	21,500	24,200
	Power Consumption	kW	0.1	0.1	0.13	0.13	0.14	0.19
MCA (Minimum Circuit Ampacity)		A	0.8	0.8	1.3	1.3	1.55	1.55
MOP (Minimum Overcurrent Protection)		A	15	15	15	15	15	15
Air Flow Rate (Hi/Med/Low)		CFM	318/247/212	318/247/212	424/353/300	424/353/300	530/459/353	671/494/353
Noise Level (Hi/Med/Low)		dB(A)	34/30/26	34/30/26	38/35/31	38/35/31	37/35/30	39/35/30
Overall Dimension	Height	inch	10-5/8	10-5/8	10-5/8	10-5/8	10-5/8	10-5/8
	Width	inch	25-19/32+2-15/16	25-19/32+2-15/16	25-19/32+2-15/16	25-19/32+2-15/16	35-7/16+2-15/16	35-7/16+2-15/16
	Depth	inch	28-11/32	28-11/32	28-11/32	28-11/32	28-11/32	28-11/32
Net Weight		lbs.	53	53	55	55	68	71
Refrigerant Type			R410A					
Refrigerant Flow Control			Micro-computer Control Expansion Valve					
Piping Connections			Flare-nut Connection(with Flare Nuts)					
Refrigerant Piping	Gas Line	inch	1/2	1/2	1/2	1/2	5/8	5/8
	Liquid Line	inch	1/4	1/4	1/4	1/4	3/8	3/8
Condensate Drain		inch	1 (Inner Diameter)					
External Pressure		in. W.G.	0.2(0.3)	0.2(0.3)	0.2(0.3)	0.2(0.3)	0.2(0.3)	0.2(0.3)

Ceiling Ducted (High Static Pressure)	Model		VFICD-24BQACH	VFICD-27BQACH	VFICD-30BQACH	VFICD-38BQACH	VFICD-48BQACH	VFICD-54BQACH
	Ton		2	2.25	2.5	3.25	4	4.5
Model Power Supply			AC 1-Phase 208/230V 60Hz					
Cooling Operation	Nominal Capacity	Btu/h	24,200	27,300	30,700	38,200	47,800	54,600
	Power Consumption	kW	0.19	0.25	0.25	0.25	0.34	0.43
Heating Operation	Nominal Capacity	Btu/h	27,300	30,700	34,100	42,700	54,600	61,400
	Power Consumption	kW	0.19	0.25	0.25	0.25	0.34	0.43
MCA (Minimum Circuit Ampacity)		A	1.55	2.5	2.5	2.5	3.5	3.5
MOP (Minimum Overcurrent Protection)		A	15	15	15	15	15	15
Air Flow Rate (Hi/Med/Low)		CFM	671/494/353	989/847/689	989/847/689	989/847/689	1254/1024/847	1377/1095/847
Noise Level (Hi/Med/Low)		dB(A)	39/35/30	43/40/36	43/40/36	43/40/36	46/43/38	48/44/38
Overall Dimension	Height	inch	10-5/8	11-13/16	11-13/16	11-13/16	11-13/16	11-13/16
	Width	inch	35-7/16+2-15/16	43-5/16+2-15/16	43-5/16+2-15/16	55-1/8+2-15/16	55-1/8+2-15/16	55-1/8+2-15/16
	Depth	inch	28-11/32	31-1/2	31-1/2	31-1/2	31-1/2	31-1/2
Net Weight		lbs.	71	99	99	99	117	119
Refrigerant Type			R410A					
Refrigerant Flow Control			Micro-computer Control Expansion Valve					
Piping Connections			Flare-nut Connection(with Flare Nuts)					
Refrigerant Piping	Gas Line	inch	5/8	5/8	5/8	5/8	5/8	5/8
	Liquid Line	inch	3/8	3/8	3/8	3/8	3/8	3/8
Condensate Drain		inch	1 (Inner Diameter)					
External Pressure		in. W.G.	0.2(0.3)	0.5(0.4)	0.5(0.4)	0.5(0.4)	0.5(0.4)	0.5(0.4)

Wall Mounted

Offering elegant, advanced design with hidden LED display, Ice Air VRF Wall-Mount units combined a contemporary, simple look that harmonizes with state of the art technology.

- Compact, lightweight, easy installation
- Sleep mode offers comfortable night time temperature
- Quiet operation at super low sound levels (to 28 dB(A)

Wall Mounted	Model		VFIWM-07BQASTD	VFIWM-09BQASTD	VFIWM-12BQASTD	VFIWM-14BQASTD	VFIWM-17BQASTD	VFIWM-18BQASTD
	Ton		0.6	0.8	1	1.2	1.4	1.6
Model Power Supply			AC 1-Phase 208/230V 60Hz					
Cooling Operation	Nominal Capacity	Btu/h	7,500	9,600	12,300	13,700	17,100	19,100
	Power Consumption	W	50	50	50	60	65	62
Heating Operation	Nominal Capacity	Btu/h	8,500	11,300	13,600	15,400	19,100	21,500
	Power Consumption	W	50	50	60	60	65	62
MCA (Minimum Circuit Ampacity)		A	0.6	0.6	0.7	0.7	0.8	0.9
MOP (Minimum Overcurrent Protection)		A	15	15	15	15	15	15
Air Flow Rate (High/Medium/Low/Mute)		CFM	388/347/306/271	388/347/306/271	489/388/306/271	489/388/306/271	530/441/341/271	526/460/395/343
Noise Level (High/Medium/Low/Mute)		dB(A)	39/34/32/28	39/34/32/28	43/39/32/28	43/39/32/28	45/40/34/29	41/37/34/30
Overall Dimension	Height	inch	12-13/32	12-13/32	12-13/32	12-13/32	12-13/32	12-13/32
	Width	inch	36-15/32	36-15/32	36-15/32	36-15/32	36-15/32	43-3/16
	Depth	inch	9-7/16	9-7/16	9-7/16	9-7/16	9-7/16	9-7/16
Net Weight		lbs.	30	30	30	30	30	36
Refrigerant Type			R410A					
Refrigerant Flow Control			Micro-computer Control Expansion Valve					
Cabinet Color			White					
Piping Connections			Flare-nut Connection(with Flare Nuts)					
Refrigerant Piping	Gas Line	inch	1/2	1/2	1/2	1/2	1/2	5/8
	Liquid Line	inch	1/4	1/4	1/4	1/4	1/4	3/8
Condensate Drain		inch	5/8 (Inner Diameter)					
Panel Model			Flat Panel					

Wall Mounted	Model		VFIWM-22BQASTD	VFIWM-24BQASTD
	Ton		1.8	2
Model Power Supply			AC 1-Phase 208/230V 60Hz	
Cooling Operation	Nominal Capacity	Btu/h	21,500	24,200
	Power Consumption	W	72	82
Heating Operation	Nominal Capacity	Btu/h	24,200	27,300
	Power Consumption	W	72	82
MCA (Minimum Circuit Ampacity)		A	0.9	0.9
MOP (Minimum Overcurrent Protection)		A	15	15
Air Flow Rate (High/Medium/Low/Mute)		CFM	592/526/421/366	600/579/473/382
Noise Level (High/Medium/Low/Mute)		dB(A)	44/41/36/31	46/43/38/33
Overall Dimension	Height	inch	12-13/32	12-13/32
	Width	inch	43-3/16	43-3/16
	Depth	inch	9-7/16	9-7/16
Net Weight		lbs.	36	36
Refrigerant Type			R410A	
Refrigerant Flow Control			Micro-computer Control Expansion Valve	
Cabinet Color			White	
Piping Connections			Flare-nut Connection(with Flare Nuts)	
Refrigerant Piping	Gas Line	inch	5/8	5/8
	Liquid Line	inch	3/8	3/8
Condensate Drain		inch	5/8 (Inner Diameter)	
Panel Model			Flat Panel	

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Control Systems

Controllers and Options

IAXE-VA01 Wired Controller

Features

Large LCD display and touch buttons provide an optimal user experience.

- 6 fan speeds
- Supports low temperature/automatic dehumidification
- Indoor unit air deflectors can be individually set
- Adjustable temperature display and backlight brightness
- Supports the human sensor control function
- Supports HEALTH, SLEEP, MUTE, BREEZE, and Energy Saving settings

Main Functions

- Cooling/Heating/Dry/Fan/Auto
- Error Code Display
- Multiple fan Speeds
- Louver swing
- 3D Airflow Setting
- One Touch Test Run
- 2-hour Timer
- Air Filter Cleaning Reminder
- Backlight Control
- Controls up to 16 indoor units

IAXE-S01H Wired Controller

Features

- Compact design: 5 in x 2.8 in x 0.7 in
- Control up to 16 indoor units
- Icon Function Display

Main Functions

- Cooling/Heating/Dry/Fan/Auto
- 3 or 6 Speed Controls
- Touch Buttons
- Icon Function Display
- Fan Speed/Louver supply
- Temperature Setting
- Check
- Quiet mode
- Timer
- Air Filter Cleaning Reminder
- Dehumidification
- Test Run

Controllers and Options

IAE-W01 Wireless Controller

Features

- Latest wireless controller with ultra modern design
- Extended SLEEP and QUIET modes

Main Functions

- SLEEP Mode Setting
- Fan Speed/Louver Swing
- QUIET Mode Setting
- Temperature Setting
- Timer

Extended SLEEP and QUIET Modes

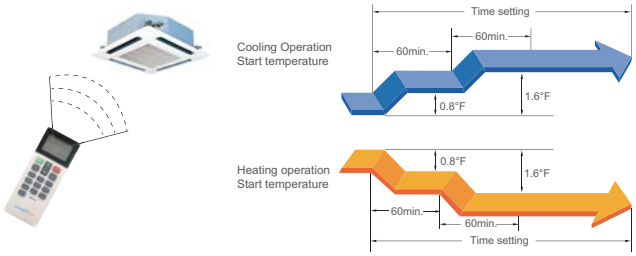
QUIET mode:

Allows user to minimize unit sound by selecting MUTE button. To exit QUIET mode select the MUTE button again.

SLEEP mode:

The SLEEP mode allows the unit to adjust the room temperature for an 8 hour period. In the SLEEP mode, the unit works in the QUIET mode for 8 hours. For the first 2 hours the temperature will increase by 2°F/h (1°C/h) if COOLING mode or decrease by 2°F/h (1°C/h) HEATING. During the remaining 6 hours, the unit adjusts to maintain nightlong comfort so the room is not too hot or too cold.

Wide Control Angle



Receiver Kit for Wireless Control – Optional

Model	Description
IARE-T03H	For 4-Way Cassette Unit
IARE-Z01H	For Mini 4-Way Cassette Unit
IARE-V02H	For other IDU

Controllers and Options

IAJM-S01H Central Controller

Features

- 7-inch touch screen
- Maximum 160 History Alarm records information
- Retains Operating history of each indoor unit
- Supports multiple languages
- Maximum of 64 remote control groups and 160 indoor units
- Service contact information can be found in the settings

Main Functions

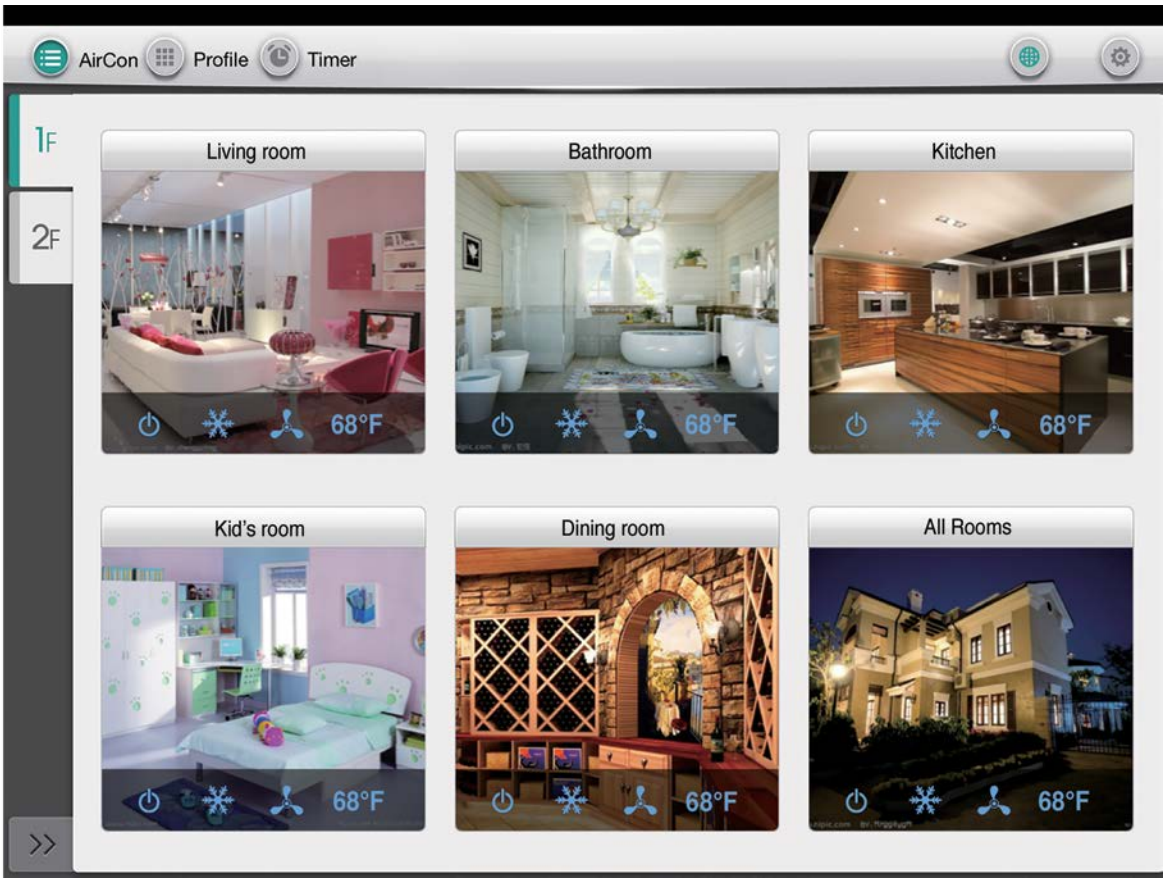
- Clock Setting
- Backlight
- Power Indicator
- Alarm History
- Can control up to 160 indoor units (64 groups)
- Time Display Mode Setting
- Holiday Setting
- Backlight Brightness Setting
- Service Hotline Setting
- Energy Saving Control Mode
- Settable Temperature Limits
- Backlight Auto-off Time Settings
- Weekly Schedule

Appearance

Easy Installation

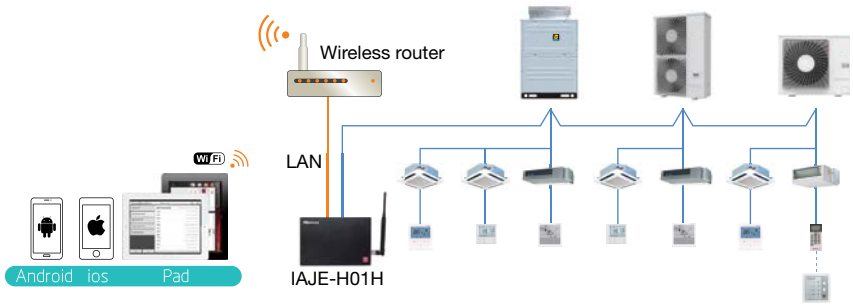
Controllers and Options

IAJE-H01H Hi-Mit



Main Functions

- ON/OFF control, operating mode, temperature set, airflow set
- Schedule presets
- Displays alarm codes
- Multiple modes OFF, Home and Energy Savings
- Can control up to 32 indoor units
- Dimensions: 8 in x 5 in x 1 in.

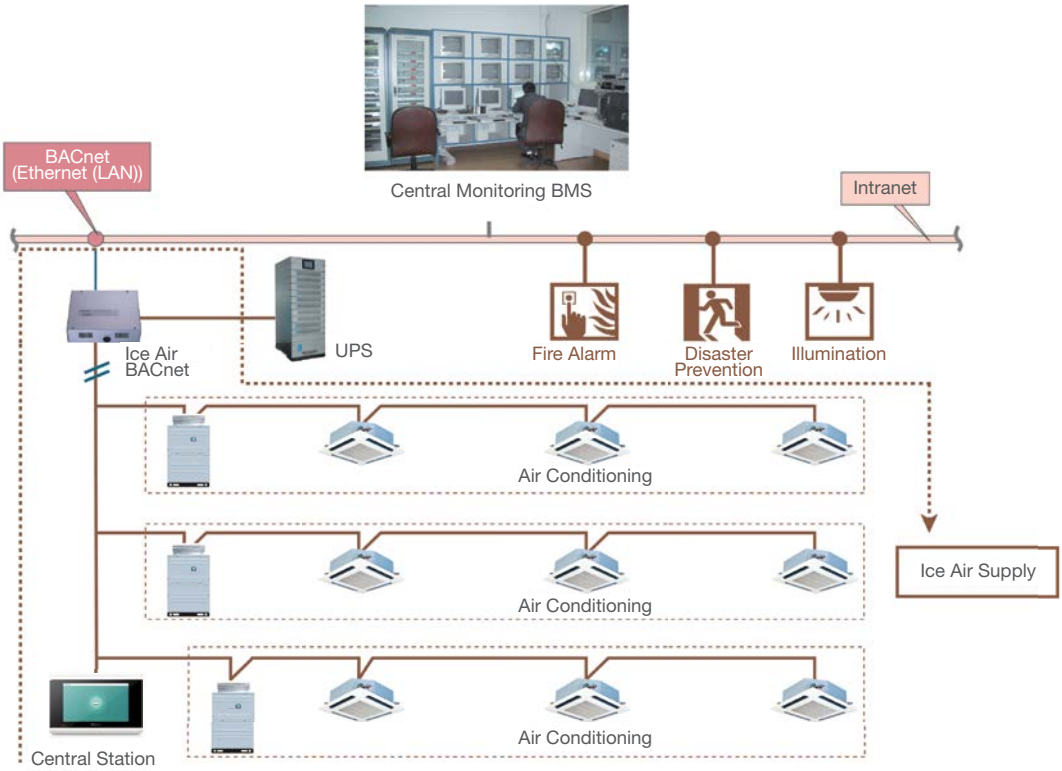


Controllers and Options

IA-AC-BAC-16/IA-AC-BAC-64 BACnet Gateway

Building Management System

- Compatible with multiple communication protocols: BACnet, MODBUS, etc…
- Connectable to BMS or Smart Home System via IA-A64BNp or IAPC-H2MC, can be connected to a maximum of 64 indoor units
- Real-time operation status updates
- Designated monitoring center can control all systems

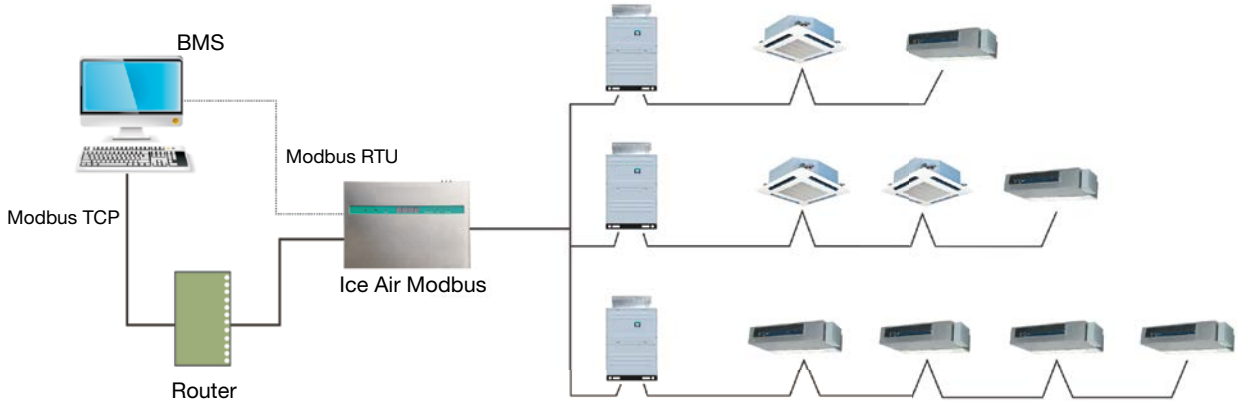


Main Functions

- Running-State Monitoring/ON-OFF Setting
- Airflow Setting and Monitoring
- Wireless Controller Permission/ Prohibition
- Operating Mode Setting
- Alarm Monitoring and Code Display
- Indoor Temperature Monitoring
- Temperature Setting and Monitoring
- Communication Failure Display
- Filter Cleaning Prompts

Controllers and Options

IAPC-H2MIC Gateway



Main Functions

- ON/OFF Setting
- Temperature Setting
- Operating Mode Setting
- Inlet Air Temperature Monitoring
- Airflow Setting and Monitoring
- All Units ON/OFF Control
- Airflow Setting and Monitoring
- Alarm Monitoring and Code Display

Converter Specifications

Item \ Converter		
BMS connection	BACnet	Modbus
Power supply	AC100~240V±10%(50/60Hz)	AC100~240V±10%(50/60Hz)
Connectable central controller	IAJM-S01H	IAJM-S01H
MAX. number of connectable indoor units	64	64

The information contained in this document is subject to change without notice.

Controllers and Options

Filters

Ceiling Ducted Type (High Static Pressure)

Model	Applicable models	
VFICD-07~14*	IA-PP1Q	
VFICD-17~24*	IA-PP2Q	
VFICD-27~38*	IA-PP3Q	
VFICD-48~54*	IA-PP4Q	

Drain Pumps – Optional

Model	Power supply	Consumption	MAX. Lift (in)	Applicable models	IAS-132/IAS-162	IAS-151
IAS-132	AC 220~240V(50/60Hz)	9±1.5 W	35.4	For Ceiling ducted type(0.8~2.5 ton)		
IAS-162	AC 220~240V(50/60Hz)	9±1.5 W	35.4	For Ceiling ducted type(3.0~6.0 ton)		
IAS-151	AC 220~240V(50/60Hz)	9±1.5 W	23.6	External type,for general purpose(0.8~10 ton)		

*Note: For High Static Pressure Ceiling Ducted Type only.

3D Air-flow Panel

Panel Model	Description
IAE-TZA75ODN3	07-14 Ceiling Ducted Low Height
IAE-TZA1020DN3	17-24 Ceiling Ducted Low Height

Other Products

FCU

Horizontal Concealed

Horizontal Ultra Thin

Hi Rise

Fan Coil Units

This simple and easy cooling and heating solution provides reliable performance, high efficiency, ease of operation, low cost, easy installation, quiet comfort and a variety of solution-based options.

Vertical Concealed

Vertical Exposed

SPAC/SPHP

Single Packaged Air Conditioner/Heat Pumps

As a unique air-to-air system, SPAC/SPHPs that provides versatility with ultra-quiet operation. The SPAC/SPHP is designed to cool and heat single or multiple spaces within multi-family, lodging, dormitory or light commercial buildings.

PTAC

Packaged Terminal Air Conditioners

PTACs are designed for ultra-high efficiency and comply with LEED® criteria in a durable, user-friendly package. Available for new construction, retrofit and ExactFit™ replacement applications.

WSHP
HWCAC

Console

Vertical Stack

Horizontal

Vertical Closet

Water Source Heat Pumps

WSHPs are combination heating and cooling units that provide efficient room-by-room comfort. Units function independently and are piped to a central water loop. These state-of-the-art units come with user friendly digital controls designed to optimize user comfort and ease of operation.

Hybrid Water-Cooled Air Conditioners

The HWCAC is an innovative system that combines high-efficiency cooling with a hot water coil that provides hydronic heat without using the unit's compressor. When coupled with a highly efficient condensing boiler, these units provide the most cost-effective and efficient method of space heating for multi-family buildings.

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