Reach New Heights with

Variable Refrigerant Flow

Heat Recovery and Heat Pump Systems

TOSHIBA

Carrier

Fall 2016 Edition

Index

TOSHIBA CARRIER VRF OFFERS UNMATCHED FLEXIBILITY, EFFICIENCY & QUALITY.

Toshiba and Carrier:

Toshiba has been providing innovative product solutions to serve the VRF industry since 1985. They were the first to introduce an inverter-driven VRF system in 1987. In 1999, Carrier and Toshiba formed a strategic alliance to provide industry leading VRF solutions.

TOSHIBA
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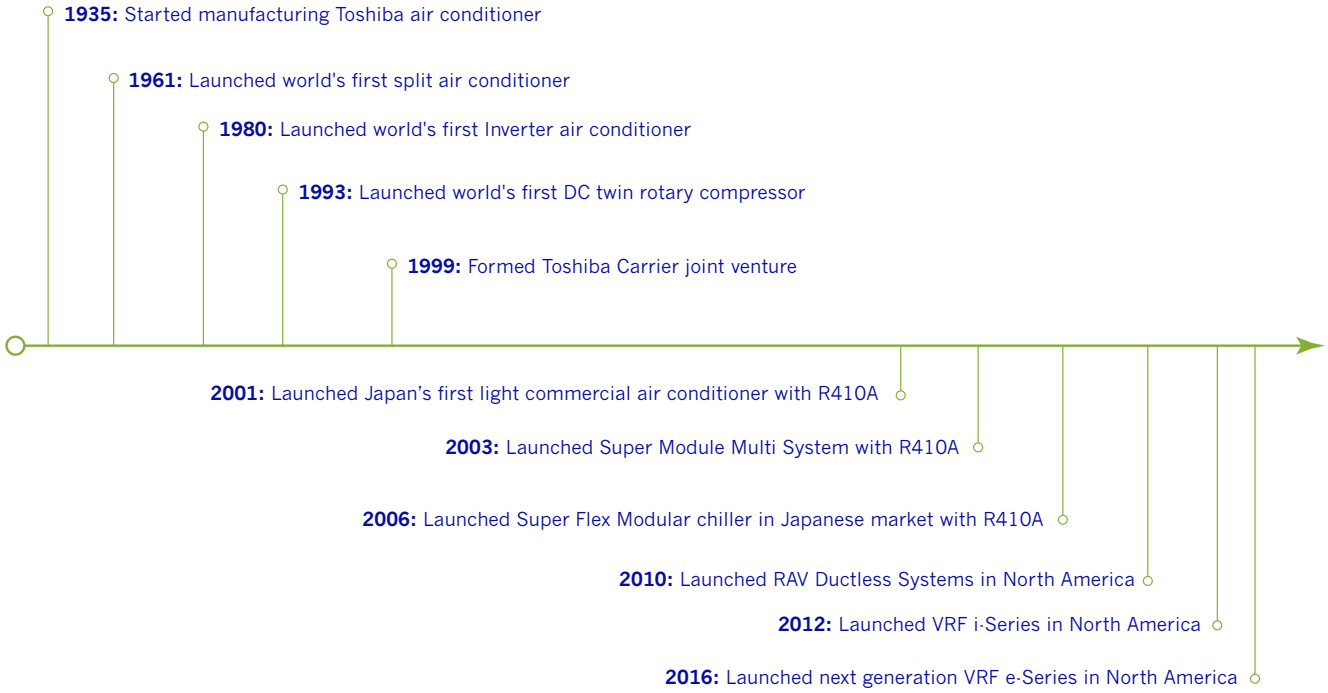

4-Way Cassette

Compact 4-Way Cassette

Underceiling

High Wall

Outside Air

Floor Console - Recessed

Floor Console - Exposed

High Static Duct

Concealed Duct

Slim Duct

Outdoor Unit

Vertical AHU

Toshiba Carrier VRF Advantages

Toshiba Carrier VRF is easy to design, install, operate and maintain. The entire system can be managed from a central location or monitored remotely – perfect for a sprawling campus or a building with a range of heating and cooling needs. Timely alerts aid in maintaining the system and keeping it running smoothly.

A single outdoor VRF system can operate up to 64 independent indoor units, depending on the system. This provides superior zoning because the refrigerant flow varies from location to location, delivering only the necessary capacity to each and every zone. VRF systems are available up to 38 tons in heat recovery and heat pump.

Features and Benefits:

- Simultaneous heating and cooling allow you to heat and cool different rooms at the same time which minimizes energy loss and improves climate control.
- The first manufacturer to offer a Single-phase VRF heat recovery system, which seamlessly integrates with the three-phase VRF systems.
- Compact equipment means a smaller footprint. No dedicated maintenance rooms or service shafts required.
- Layout can be easily reconfigured as building needs change.
- Longer pipe lengths and increased piping flexibility.
- Offers i-Vu interface package for integration with other Carrier systems and enhanced BMS controls.
- Unmatched Carrier support. Get the full experience and expertise of the Carrier support team behind you.

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Carrier

SHRM e
SUPER HEAT RECOVERY MULTI

SMMS e
SUPER MODULAR MULTI SYSTEM

Heat Pump
6 – 38 Tons
208/230 and 460V

Heat Recovery
6 – 38 Tons
208/230 and 460V

INDUSTRY FIRST

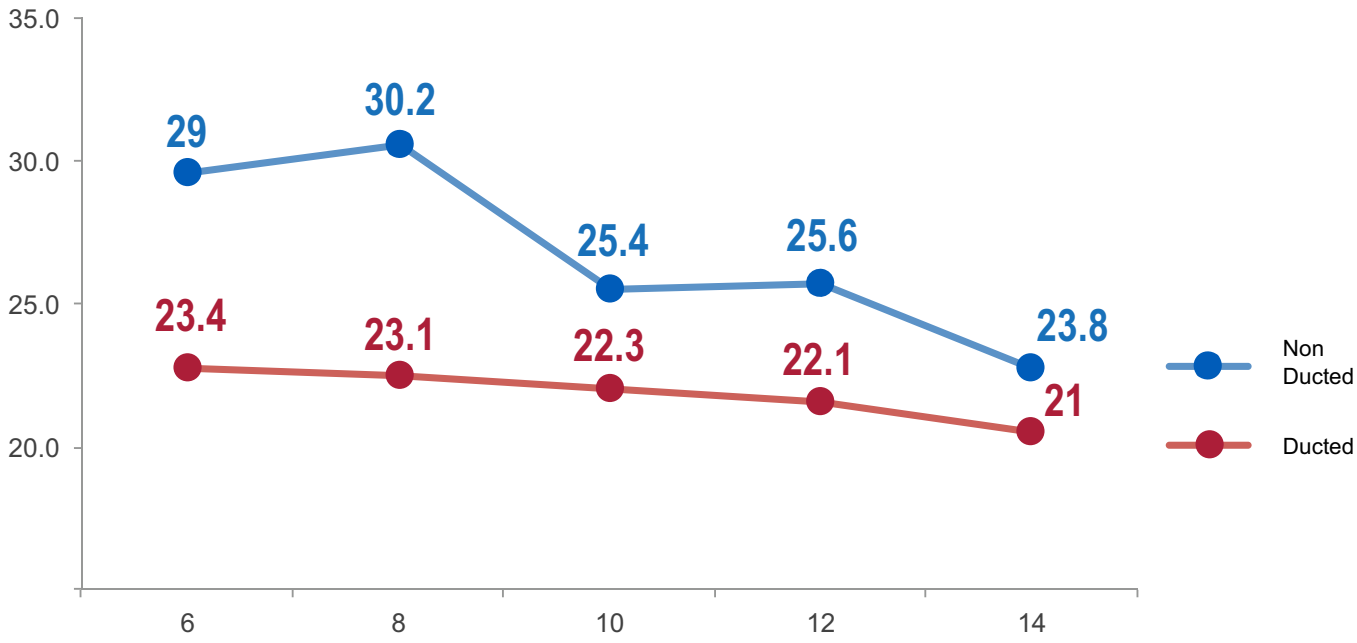
Single phase Heat Recovery
6 – 12 Tons
208/230V, 1-phase

Excellent Efficiency

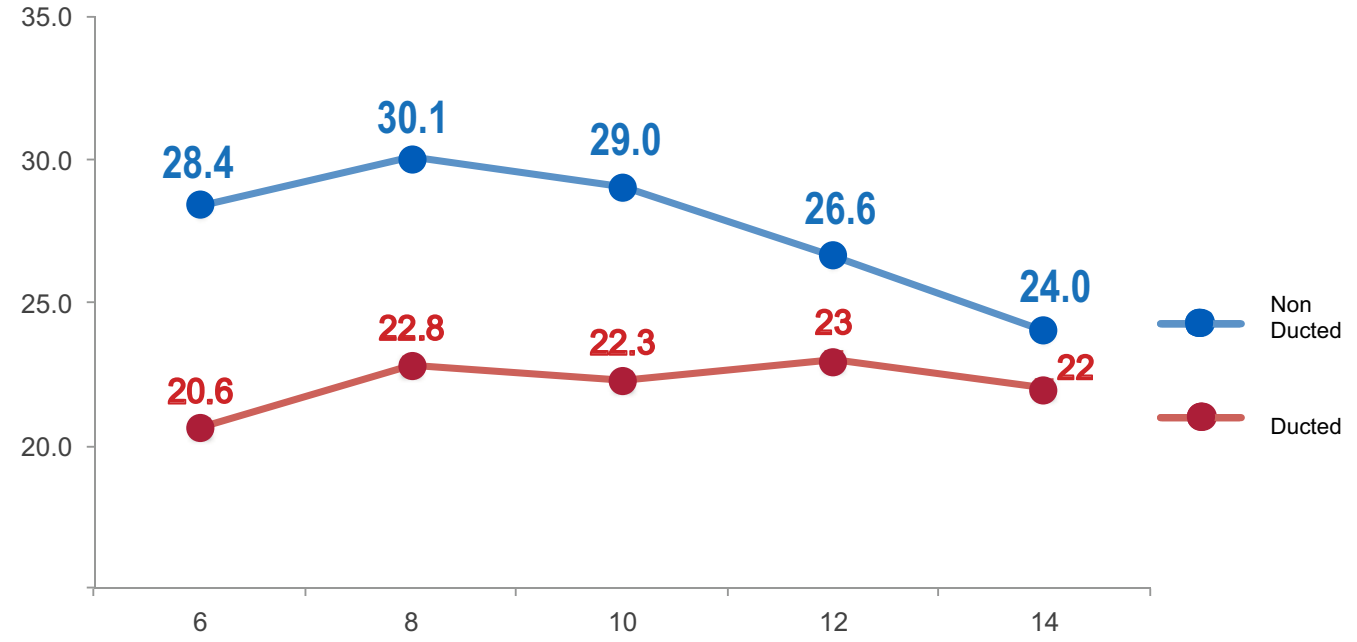
Energy Efficiency: IEER Performance

Toshiba Carrier enhancements to the e-Series have delivered industry leading efficiencies.

Heat Pump



Heat Recovery



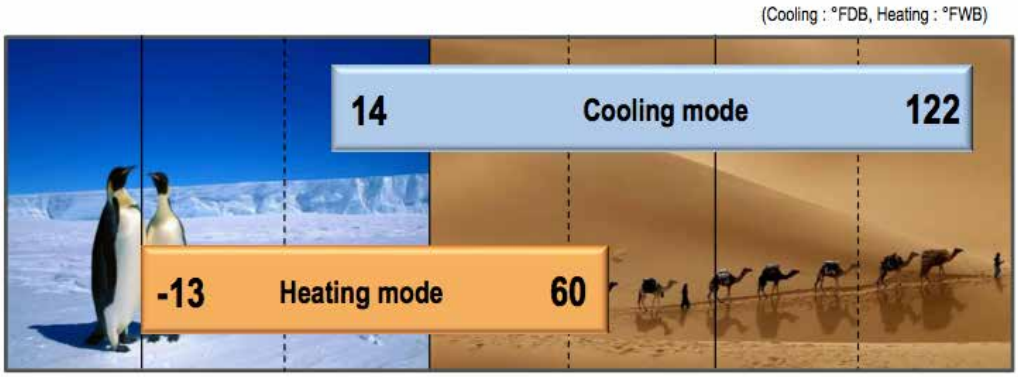
This great energy efficiency achievement is the most important and evident result of the four new core technologies innovations.

Heating Performance Under Any Condition

The Toshiba Carrier VRF system delivers heating down to -13° F with up to 70% of the rated heating capacity. That's one more way we offer our customers indoor comfort solutions for any space, anytime of the year.

Operating Temperature Range

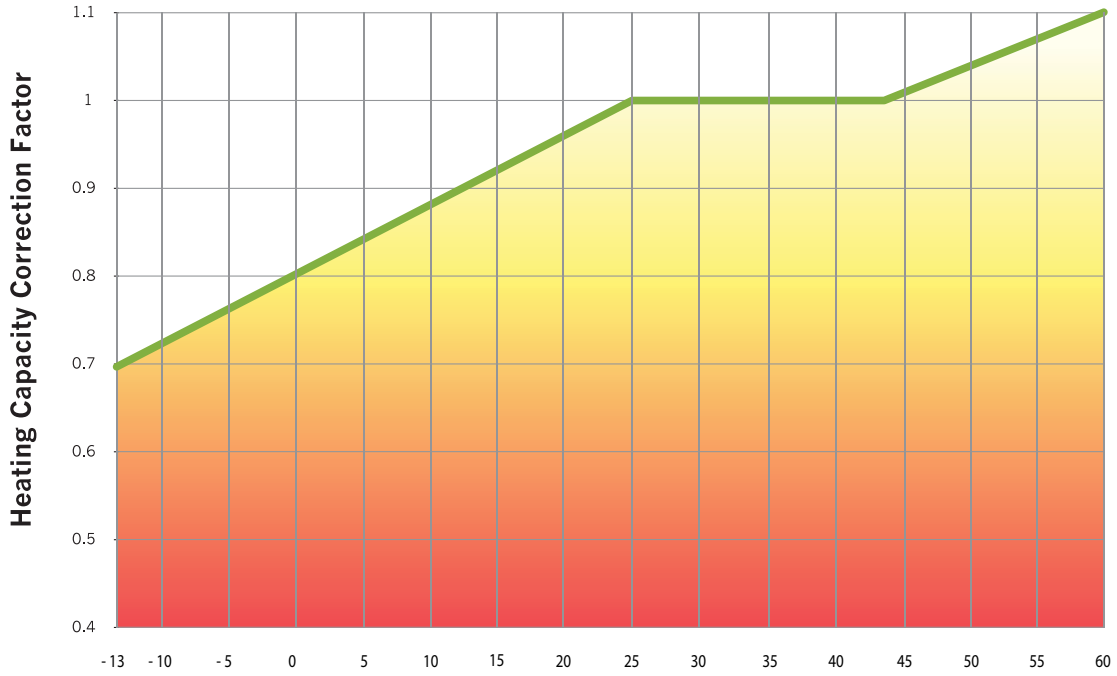
Increased operating temperature range



The Toshiba Carrier VRF system operates up to 122° F in cooling mode and down to -13° F in heating mode.

There is no hard shut off while operating below -13° F in heating or above 122° F in cooling mode.

Outdoor Ambient Heating Capacity Correction *(High Heat Setting)*



Piping Flexibility

Installation Flexibility:

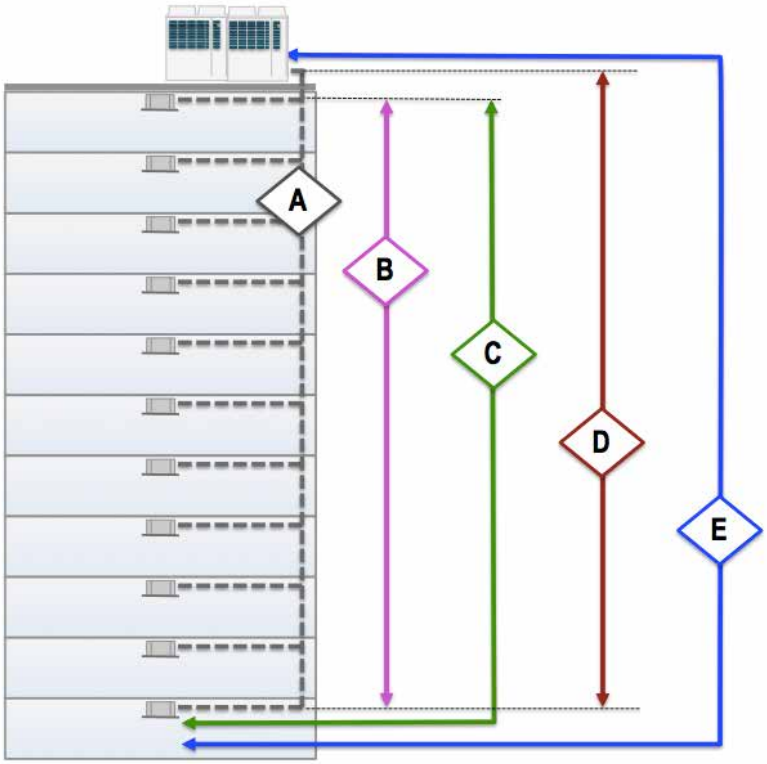
A maximum of 131 ft. between indoor units

Piping capabilities summary:

Flexibility in piping design is a major factor for the evaluation of a VRF solution.

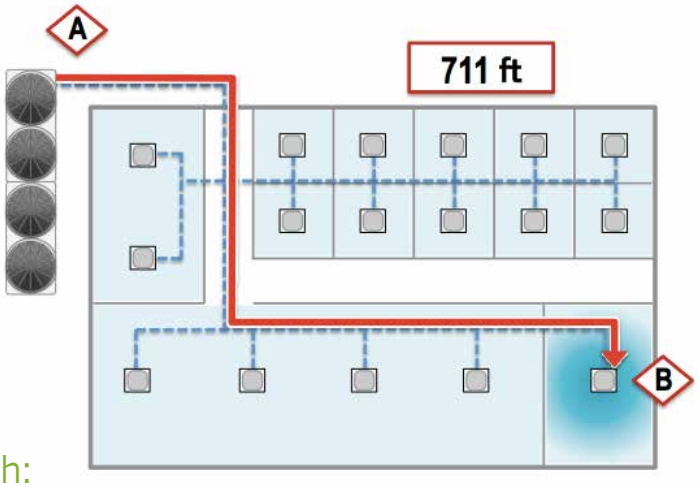
A	Total length	3280 ft.*
B	Height between IDU-IDU	131 ft.
C	Farthest pipe from first branch	295 ft.*
D	Height between ODU-IDU - outdoor unit above - outdoor unit below	 230 ft.* 131 ft.
E	Farthest equivalent length	711 ft.

**295 ft. if the height piping length between ODU and IDU is more than 9.8 ft.*

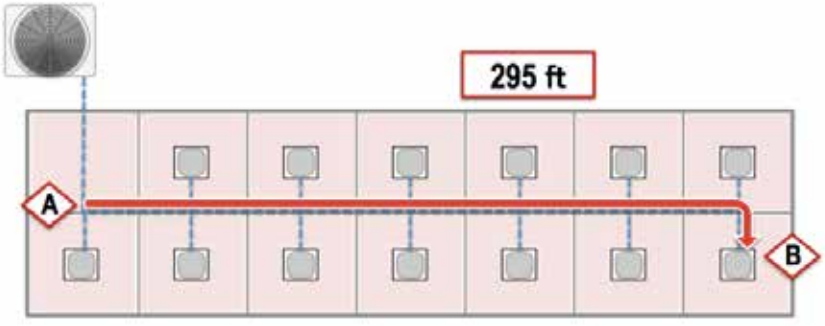


Toshiba Carrier VRF e-Series Allows for a Longer Distance Between Outdoor and Indoor Units:

The maximum equivalent length is the distance between the outdoor unit (A) and farthest indoor unit (B). The e-Series reaches 711 ft.



Farthest Pipe from the First Branch:



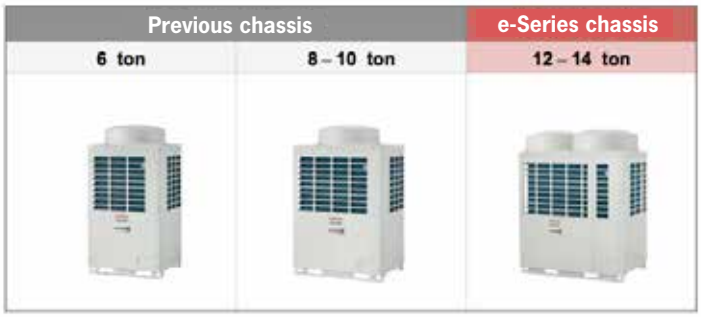
The piping distance between the first branch (A) and the furthest indoor unit (B) is 295 ft. (90m).

This feature provide different indoor layout design solutions for hotels and office floors.

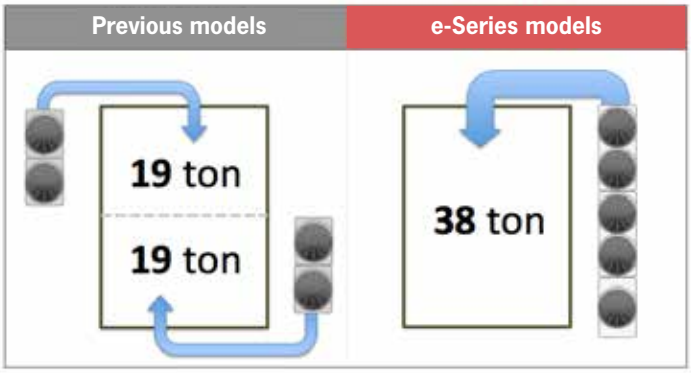
Expanded Module Range

Wide Capacity Ranges:

Single outdoor unit capacity expanded up to 14 ton



The new chassis of the e-Series reaches up to 14 tons on a single module.



The e-Series outdoor unit lineup makes it possible to have a system with a capacity of 38 tons, which can be connected to a max of 64 indoor units.

Reduced Footprint:

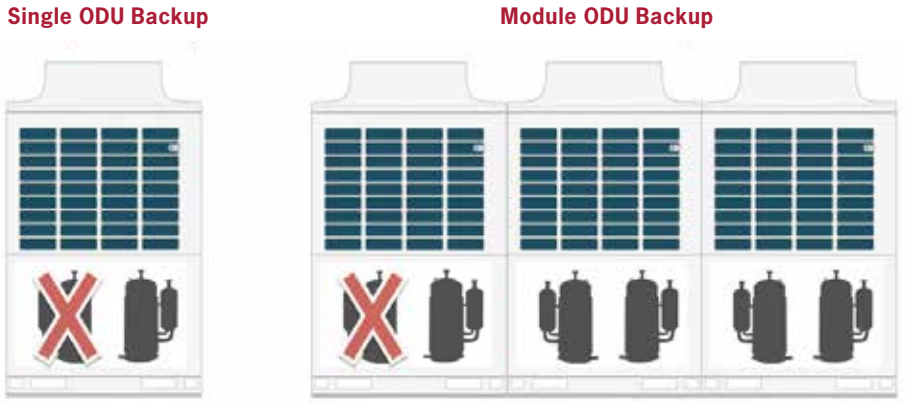
The reduced outdoor units footprint requires less space to install.

Footprint example for a 12 ton system

Robust Performance

Reliability:

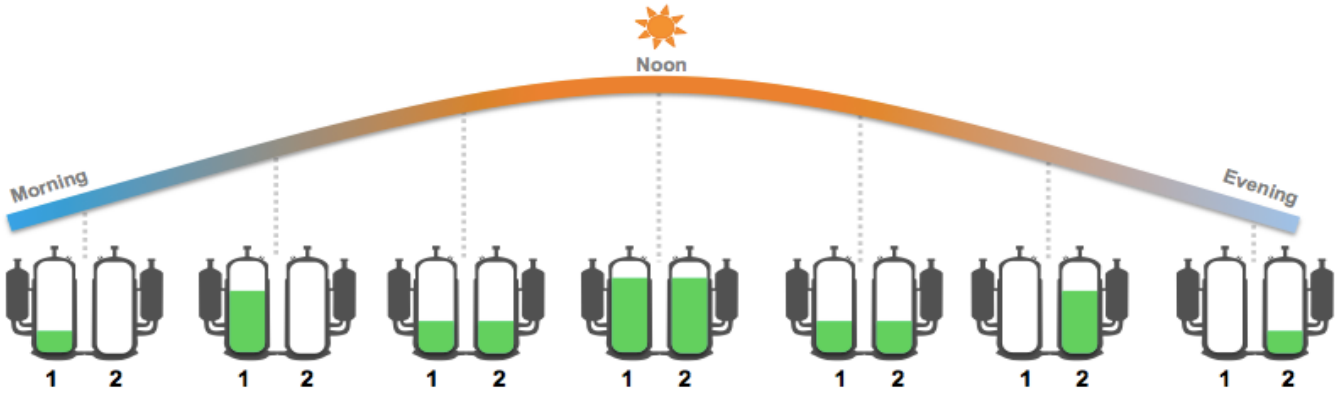
The Toshiba Carrier VRF e-Series features 100% inverter-driven compressors. A backup operation mode will manage the load of the compressors to ensure a continuous operation, in the unlikely event of compressor failure..



Dual rotary compressors deliver excellent efficiency at all speeds. The compressor's vane is coated with diamond-like carbon (DLC) that reduces friction and increases reliability

Rotational Control:

The e-Series controls the operation of each compressor, while maintaining the same overall compressor performance.



The distribution of load between the compressors bring several advantages:

• Increased Efficiency: The compressors operate more often in the most efficient way. Instead of having one compressor running at maximum speed, the load is distributed to keep the single compressor load within the 30-80% load range.

• Quiet Operation: Compressors working at partial load are quieter while maintaining the necessary total output.

• Increase Reliability: Working at 100% only in extreme conditions and for limited amount of time reduces the stress on the compressor.

SHRM e
SUPER HEAT RECOVERY MULTI

SMMS e
SUPER MODULAR MULTI SYSTEM

»» *experience*
»» *expansion*
»» *excellence*

Innovation is at the core of e-Series design with the four key components being:

Compressor
Expanded operating envelope for increased efficiency, reliability and performance

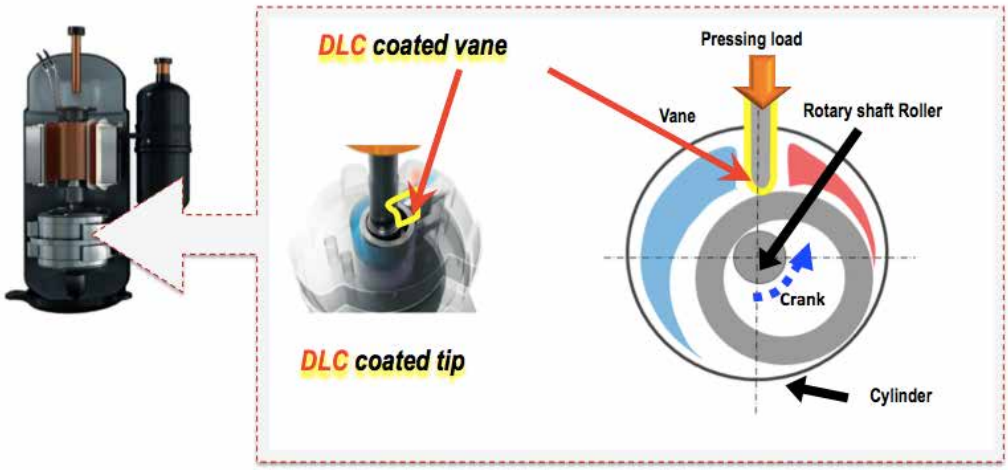
Heat Exchanger
Slim, efficient design

VRF Control
Intelligent refrigerant management

Fan
New blade shape for enhanced airflow and quieter operation

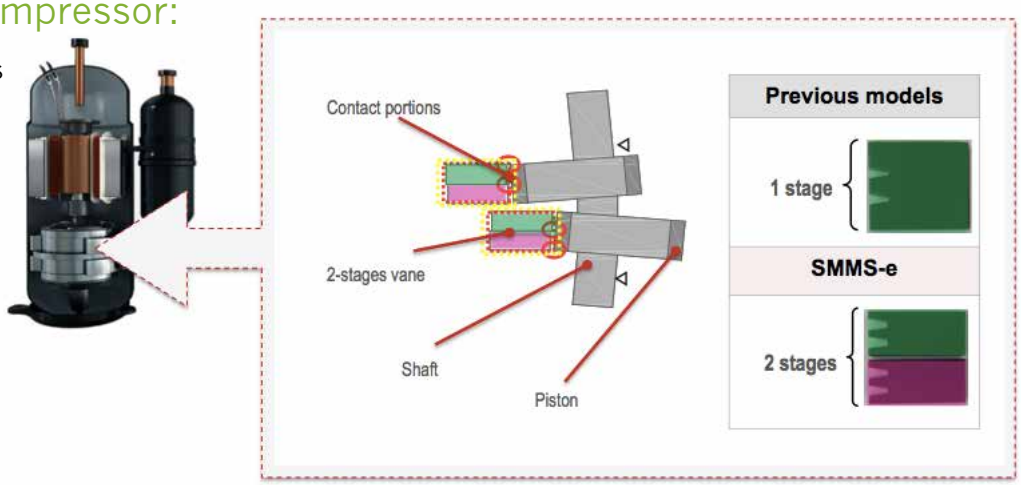
Compressor

Diamond Like Carbon (DLC) protection coating inside the compressor's vane increases efficiency and reliability.

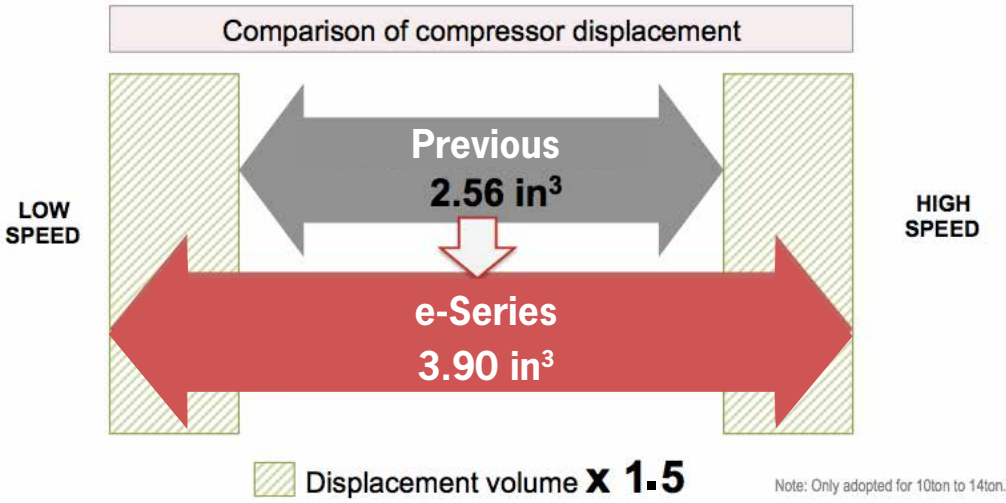


New 2 Stage Vane in the Compression Mechanism of the Rotary Compressor:

The increased hardness of the DLC coated dual vane reduces friction and results in a significant improvement in reliability and performance of the compressor..

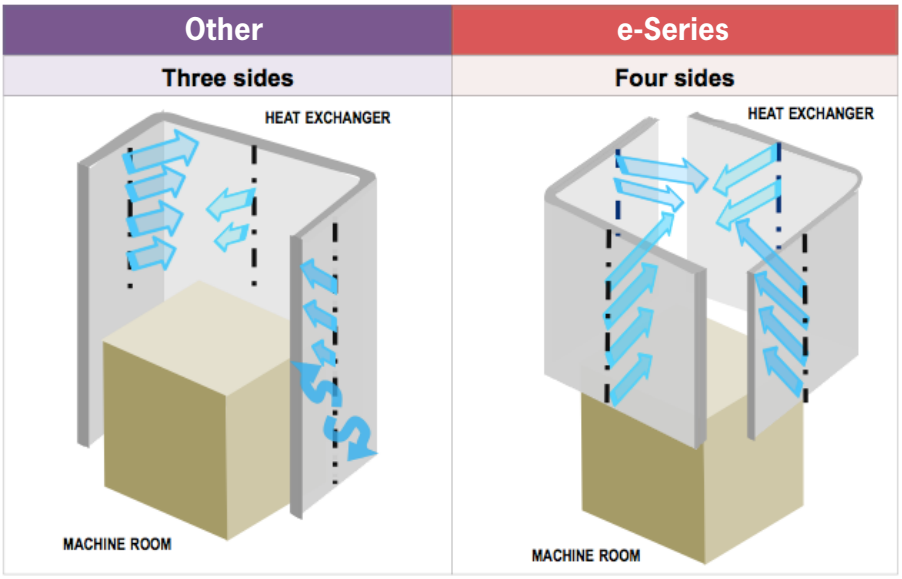


Turn Down Wide Range Compressor:



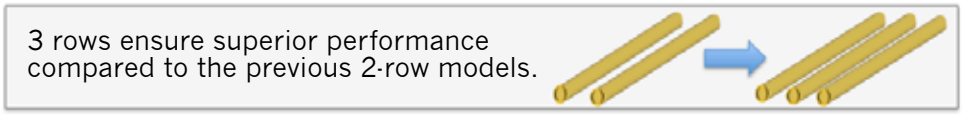
Improved displacement range allows for greater turn Down providing the ability for a 38 ton system to turn Down to 1% of its capacity.

Raising the Heat Exchanger to the Next Level

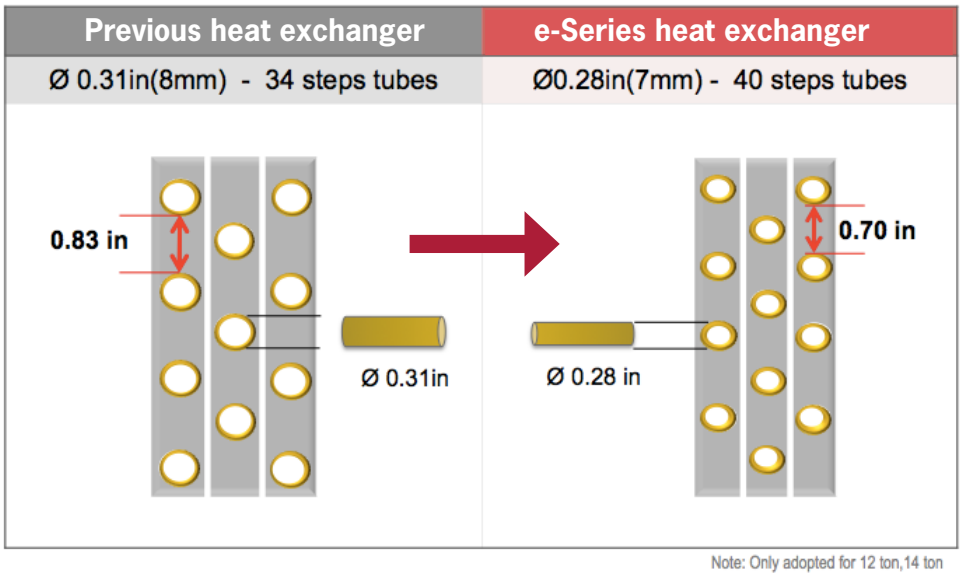


Heat exchangers are located on all four sides of the outdoor unit, with this structure the air flows smoothly and balanced across all the available surface. The elevated heat exchanger reduces coil failure due to snow and ice build up around the unit.

With 3 rows the heat exchanger has more surface area, which improves overall performance and efficient operation.



Heat Exchanger



Note: Only adopted for 12 ton,14 ton

The slim heat exchanger design features reduced pipe tube diameter allowing for slimmer heat exchangers with more pipes which greatly improves the efficiency in part load.

Intelligent Refrigerant Control:

Optimal Refrigerant Flow:

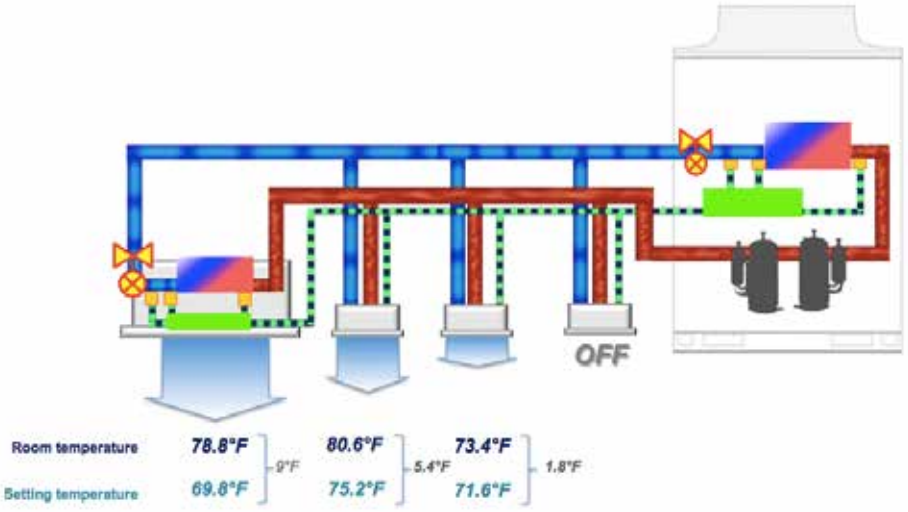
38 ton e-Series
+
64 Indoor Units

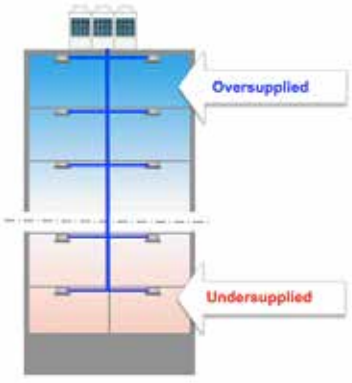
More than 300 Sensors

The intelligent VRF refrigerant control feature provides control of refrigerant volume by receiving signals from more than 300 sensors. The outdoor unit can optimize the precise flow of refrigerant necessary to each and every indoor unit, up to 64 indoor units, to provide and maintain the desired temperature.

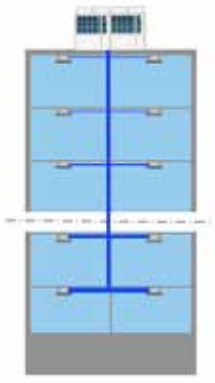
Precise Refrigerant Flow:

For every indoor unit the system automatically detects the difference between the two temperatures sensors and regulate the refrigerant flow to reach and maintain the desired level of comfort and because the valves fully close when satisfied spaces aren't over heated or over cooled.





Without intelligent VRF control



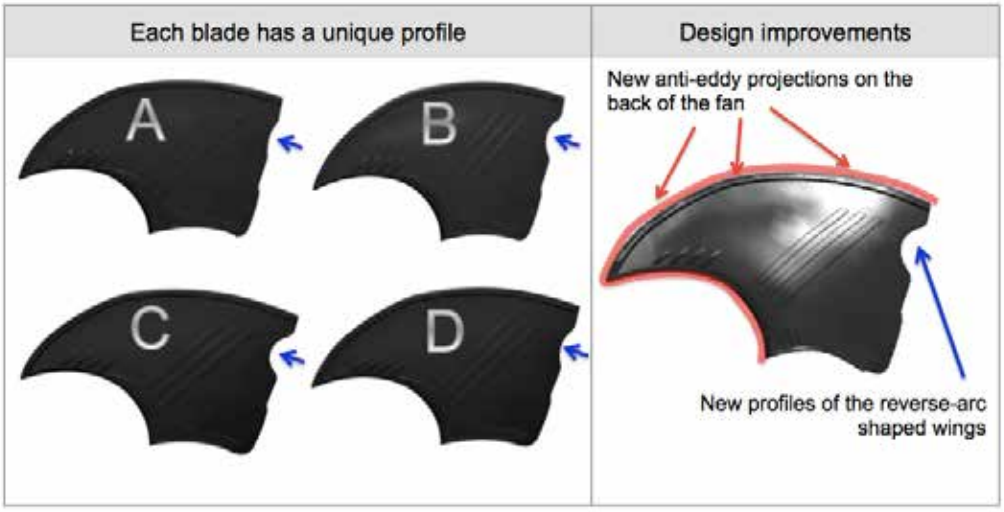
With intelligent VRF control

In an installation without the intelligent VRF refrigerant control higher rooms are oversupplied while the lower rooms maybe starved for refrigerant.

Toshiba Carrier VRF systems utilizes intelligence at the outdoor unit to adjust the position of each indoor unit PMV, balancing the refrigerant flow to each indoor unit. This ensures that no indoor unit is starved for refrigerant.

Quiet Operation: Air Discharge Propeller

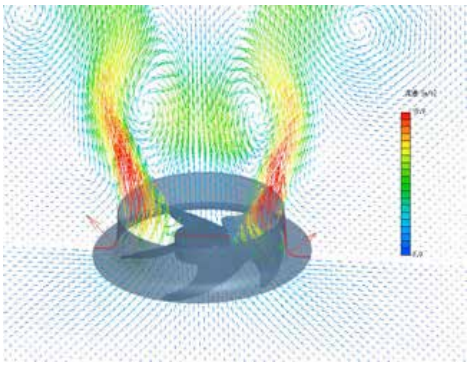
New advanced blade shapes for a better air flow management



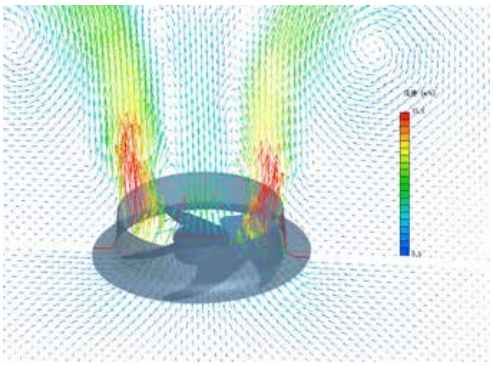
Every single blade is designed with a unique profile, a solution that guarantees a smoother air flow without turbulence.

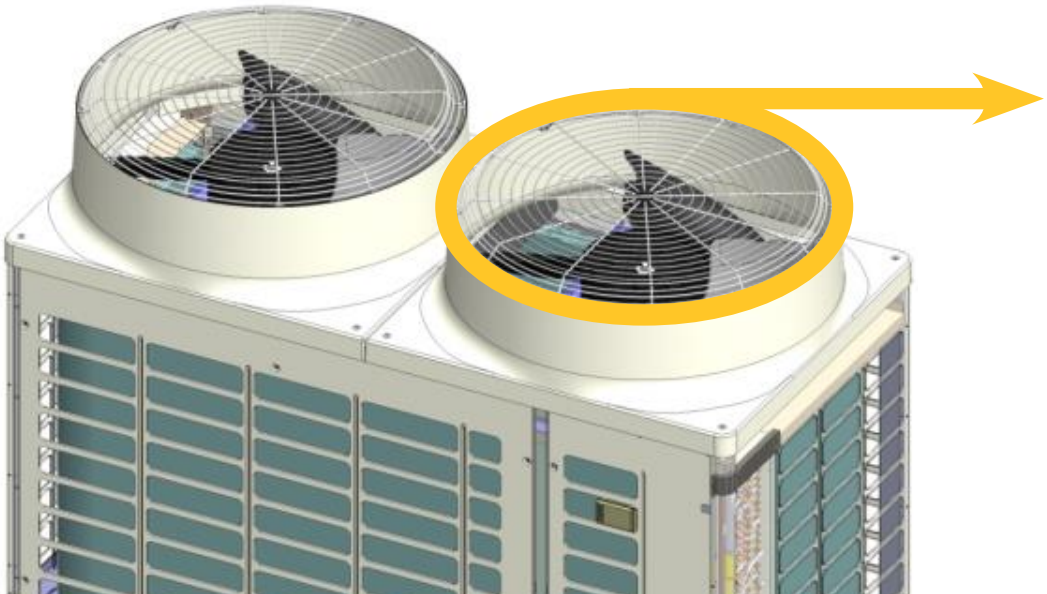
The new propeller design delivers the same amount of air at lower sound levels.

Previous Model



e-Series Model





The DC inverter-driven fan allows for energy efficient precise control of airflow to enhance overall system capacity control

VRF Outdoor Unit Overview

	Tonnage	Heat Recovery Single-phase		Heat Recovery* Three-phase			Heat Pump Three-phase		
		1 Module	2 Module	1 Module	2 Module	3 Module	1 Module	2 Module	3 Module
Standard	6	6		6			6		
	8			8			8		
	10			10			10		
	12		6 + 6	12			12		
	14			14			14		
	16				8 + 8			8 + 8	
	18				10 + 8			10 + 8	
	20				12 + 8			12 + 8	
	22				12 + 10			12 + 10	
	24				12 + 12			12 + 12	
	26				14 + 12			14 + 12	
	28					10 + 10 + 8		14 + 14	
	30					10 + 10 + 10			10 + 10 + 10
	32					12 + 10 + 10			12 + 10 + 10
	34					12 + 12 + 10			12 + 12 + 10
	36					12 + 12 + 12			14 + 12 + 10
	38					14 + 12 + 12			14 + 14 + 10
Space Saving	16				10 + 6			10 + 6	
	20				10 + 10			10 + 10	
	24				14 + 10			14 + 10	
	28				14 + 14				
	34								14 + 10 + 10

For use with Flow Selector "FS" box and multi port FS box on pg. 49

Single-phase Heat Recovery Outdoor Units (MMYF) – 208/230V-1-60

Appearance		
Nominal Tons	6	12
Model name (MMY-)	MAP0726FT2P-UL	AP1446FT2P-UL

INDUSTRY FIRST

Standard model (Combination)

Technical Specifications

Outdoor unit set model name			MMY-		MAP0726FT2P-UL	AP1446FT2P-UL
Outdoor unit model name			MMY-MAP			0726FT2P-UL
						0726FT2P-UL
Nominal tons				Ton	6	12
Cooling capacity (*1) (with non-ducted indoor units/ducted)			Nominal	kBtu/h	72	144
			Rated	kBtu/h	69	138
Heating capacity (*1) (with non-ducted indoor units/ducted)			Nominal	kBtu/h	81	162
			Rated	kBtu/h	77	154
With Non-Ducted Indoor Units	Power supply (*2)				208/230V, 1-phase 60Hz	
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	4.29	9.65
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	28.4	26.4
	Heating	Power consumption		kW	5.31	11.69
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	36.6	31.3
With Ducted Indoor Units	Power supply (*2)				208/230V, 1-phase 60Hz	
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	4.89	9.81
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	20.6	22.6
	Heating	Power consumption		kW	6.10	11.56
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	27.8	28.0
External dimensions		Height		in	72.9	72.9
		Width		in	39.0	39.0 x 2
		Depth		in	30.7	30.7
Total weight	Unit			lb	600	600 + 600
Compressor	Type				Hermetic Twin Rotary Compressor	
Fan unit	Air volume			cfm	6,700	6,700 x 2
	Maximum external static pressure			in WG	0.24	0.24
Refrigerant (*3) (Charged refrigerant amount)				lb	24.3	24.3 x 2
Electrical specifications	Unit	MCA (*4)		A	47.5	47.5 + 47.5
		Recommended fuse size		A	50	50 + 50
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (Brazing)		in	7/8	1-1/8
		Liquid side (main pipe) (Flare)		in	1/2	5/8
		Discharge (main pipe) (Flare)		in	3/4	7/8
		Balance pipe (Flare)		in	3/8	3/8
Operation temperature range		Cooling		° F DB	14 to 122	
		Heating		° F WB	-13 to 60	
Maximum number of connected indoor units					12	25
Maximum capacity of combined indoor units (*5)					50 to 150%	
Sound pressure level Cooling/Heating				dB(A)	57/60	60/63

(*1) Rated conditions
Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

144 type – 228 type	Equivalent piping length: 25 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.

Heat Recovery Outdoor Units (MMYF) – 208/230V-3-60

Appearance					
Nominal Tons	6	8	10	12	14
Model name (MMY-)	MAP0726FT9P-UL	MAP0966FT9P-UL	MAP1206FT9P-UL	MAP1446FT9P-UL	MAP1686FT9P-UL

Standard model (Single unit)

Technical Specifications

Outdoor unit model name			MMY-		MAP0726FT9P-UL	MAP0966FT9P-UL	MAP1206FT9P-UL	MAP1446FT9P-UL	MAP1686FT9P-UL
Nominal tons				Ton	6	8	10	12	14
Cooling capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	72	96	120	144	168
			Rated	kBtu/h	69	92	114	138	160
Heating capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	81	108	135	162	189
			Rated	kBtu/h	77	103	129	154	180
With Non-Ducted Indoor Units	Power supply (*2)				208/230V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	4.29	6.05	8.51	10.78	14.29
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	28.4	30.1	29.0	26.6	24.0
	Heating	Power consumption		kW	5.31	6.72	9.29	11.75	15.03
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	36.6	38.1	37.2	33.6	30.2
With Ducted Indoor Units	Power supply (*2)				208/230V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	4.89	7.02	8.77	10.7	13.68
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	20.06	22.8	21.1	23.0	22
	Heating	Power consumption		kW	6.10	7.42	10.19	11.72	15.07
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	27.8	27.6	27.3	31.6	28.30
External dimensions		Height		in	72.9	72.9	72.9	72.9	72.9
		Width		in	39.0	47.6	47.6	63.0	63.0
		Depth		in	30.7	30.7	30.7	30.7	30.7
Total weight	Unit			lb	600	721	721	882	882
Compressor	Type				Hermetic Twin Rotary Compressor				
Fan unit	Air volume			cfm	6,700	7,480	7,700	10,850	10,850
	Maximum external static pressure			in WG	0.24	0.16	0.16	0.16	0.16
Refrigerant (*3) (Charged refrigerant amount)				lb	24.3	24.3	24.3	24.3	24.3
Electrical specifications	Unit	MCA (*4)		A	23.3	34.2	45.4	52.1	66.2
		Recommended fuse size		A	30	40	50	60	70
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (Brazing)		in	7/8	7/8	1-1/8	1-1/8	1-1/8
		Liquid side (main pipe) (Flare)		in	1/2	1/2	1/2	5/8	3/4
		Discharge (main pipe) (Flare)		in	3/4	3/4	3/4	7/8	7/8
		Balance pipe (Flare)		in	3/8	3/8	3/8	3/8	3/8
Operation temperature range		Cooling		° F DB	14 to 122				
		Heating		° F WB	– 13 to 60				
Maximum number of connected indoor units					12	16	21	25	30
Maximum capacity of combined indoor units (*5)					50 to 150%				
Sound pressure level Cooling/Heating				dB(A)	57/60	62/62	63/64	66.5/66.5	65.5/67.0

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

072 type – 120 type	Equivalent piping length: 25 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.

Appearance						
Nominal Tons	16	18	20	22	24	26
Model name (MMY-)	AP1926FT9P-UL	AP2166FT9P-UL	AP2406FT9P-UL	AP2646FT9P-UL	AP2886FT9P-UL	AP3126FT9P-UL

Standard model (Combination) Technical Specifications

	AP1926FT9P-UL	AP2166FT9P-UL	AP2406FT9P-UL	AP2646FT9P-UL	AP2886FT9P-UL	AP3126FT9P-UL
MMY-MAP	0966FT9P-UL	1206FT9P-UL	1446FT9P-UL	1446FT9P-UL	1446FT9P-UL	1686FT9P-UL
	0966FT9P-UL	0966FT9P-UL	0966FT9P-UL	1206FT9P-UL	1446FT9P-UL	1446FT9P-UL
	16	18	20	22	24	26
	192	216	240	264	288	312
	184	206	230	252	276	298
	216	243	270	297	324	351
	206	232	256	282	308	334
	208/230V, 3-phase 60Hz					
	14.26	16.89	18.85	21.91	23.59	27.34
	26.9	24.9	24.0	23.8	23.50	22.7
	15.93	18.63	20.28	23.75	25.50	28.96
	29.5	29.0	29.0	27.7	28.1	26.7
	208/230V, 3-phase 60Hz					
	13.94	16.35	18.25	21.00	22.81	27.34
	24.0	23.5	23.0	22.5	22.0	21.5
	15.02	16.79	19.74	22.52	24.66	28.29
	29.1	28.9	28.7	27.7	26.60	25.3
	72.9	72.9	72.9	72.9	72.9	72.9
	47.6 x 2	47.6 x 2	63.0 + 47.6	63.0 + 47.6	63.0 x 2	63.0 x 2
	30.7	30.7	30.7	30.7	30.7	30.7
	721 x 2	721 x 2	882 + 721	882 + 721	882 x 2	882 x 2
	Hermetic Twin Rotary Compressor					
	7,480 x 2	7,700 + 7,480	10,850 + 7,480	10,850 + 7,700	10,850 x 2	10,850 x 2
	0.16	0.16	0.16	0.16	0.16	0.16
	24.3 x 2	24.3 x 2	24.3 x 2	24.3 x 2	24.3 x 2	24.3 x 2
	34.2 + 34.2	45.4 + 34.2	52.1 + 34.2	52.1 + 45.4	52.1 + 52.1	66.2 + 52.1
	40 + 40	50 + 40	60 + 40	60 + 50	60 + 60	70 + 60
	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8
	3/4	3/4	3/4	7/8	7/8	7/8
	7/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8
	3/8	3/8	3/8	3/8	3/8	3/8
	14 to 122					
	-13 to 60					
	34	38	42	46	50	55
	50 to 150%					
	65/65	65.5/66.5	68/68	68.5/68.5	69.5/69.5	69.5/70

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

144 type – 240 type	Equivalent piping length: 50 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.

Heat Recovery Outdoor Units (MMYF) – 208/230V-3-60

Appearance						
Nominal Tons	28	30	32	34	36	38
Model name (MMY-)	AP3366FT9P-UL	AP3606FT9P-UL	AP3846FT9P-UL	AP4086FT9P-UL	AP4326FT9P-UL	AP4566FT9P-UL

Standard model (Combination)

Technical Specifications

Outdoor unit set model name			MMY-		AP3366FT9P-UL	AP3606FT9P-UL	AP3846FT9P-UL	AP4086FT9P-UL	AP4326FT9P-UL	AP4566FT9P-UL
Outdoor unit model name			MMY-MAP		1206FT9P-UL 1206FT9P-UL 0966FT9P-UL	1206FT9P-UL 1206FT9P-UL 1206FT9P-UL	1446FT9P-UL 1206FT9P-UL 1206FT9P-UL	1446FT9P-UL 1446FT9P-UL 1206FT9P-UL	1446FT9P-UL 1446FT9P-UL 1446FT9P-UL	1686FT9P-UL 1446FT9P-UL 1446FT9P-UL
Nominal tons				Ton	28	30	32	34	36	38
Cooling capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	336	360	384	408	432	456
			Rated	kBtu/h	320	342	336	390	410	430
Heating capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	378	405	432	459	486	513
			Rated	kBtu/h	360	386	412	436	462	488
With Non-Ducted Indoor Units Electrical characteristics (Nominal) (*1)	Power supply (*2)				208/230V, 3-phase 60Hz					
	Cooling	Power consumption		kW	28.32	33.53	35.53	38.61	41.48	44.33
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	24.6	24.0	23.4	22.5	22.0	20.0
	Heating	Power consumption		kW	30.23	33.47	36.37	38.72	41.28	43.61
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	26.0	25.1	24.5	23.5	23.2	23.2
With Ducted Indoor Units Electrical characteristics (Nominal) (*1)	Power supply (*2)				208/230V, 3-phase 60Hz					
	Cooling	Power consumption		kW	28.83	32.88	35.53	38.24	42.27	45.26
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	22.5	22.0	21.5	21.0	20.5	20.0
	Heating	Power consumption		kW	30.32	32.05	35.24	37.39	40.24	43.07
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	22.9	22.6	22.0	21.5	21.0	21.0
External dimensions		Height		in	72.9	72.9	72.9	72.9	72.9	72.9
		Width		in	47.6 x 3	47.6 x 3	63.0 + 47.6 x 2	63.0 x 2 + 47.6	63.0 x 3	63.0 x 3
		Depth		in	30.7	30.7	30.7	30.7	30.7	30.7
Total weight	Unit			lb	721 x 3	721 x 3	882 + 721 x 2	882 x 2 + 721	882 x 3	882 x 3
Compressor	Type				Hermetic Twin Rotary Compressor					
Fan unit	Air volume			cfm	7,700 x 2 + 7,480	7,700 x 3	10,850 + 7,700 x 2	10,850 x 2 + 7,700	10,850 x 3	10,850 x 3
	Maximum external static pressure			in WG	0.16	0.16	0.16	0.16	0.16	0.16
Refrigerant (*3) (Charged refrigerant amount)				lb	24.3	24.3 x 3	24.3 x 3	24.3 x 3	24.3 x 3	24.3 x 3
Electrical specifications	Unit	MCA (*4)		A	45.4 + 45.4 + 34.2	45.4 + 45.4 + 45.4	52.1 + 45.4 + 45.4	52.1 + 52.1 + 45.4	52.1 + 52.1 + 52.1	66.2 + 52.1 + 52.1
		Recommended fuse size		A	50 + 50 + 40	50 + 50 + 50	60 + 50 + 50	60 + 60 + 50	60 + 60 + 60	70 + 60 + 60
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (Brazing)		in	1-3/8	1-5/8	1-5/8	1-5/8	1-5/8	1-5/8
		Liquid side (main pipe) (Flare)		in	7/8	7/8	7/8	7/8	7/8	7/8
		Discharge (main pipe) (Flare)		in	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8
		Balance pipe (Flare)		in	3/8	3/8	3/8	3/8	3/8	3/8
Operation temperature range		Cooling		° F DB	14 to 122					
		Heating		° F WB	– 13 to 60					
Maximum number of connected indoor units					60	63	64	64	64	64
Maximum capacity of combined indoor units (*5)					50 to 150%					
Sound pressure level Cooling/Heating				dB(A)	67.5/68.5	68/69	69.5/70	70.5/71	71.5/71.5	71.5/71.5

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

072 type – 120 type	Equivalent piping length: 25 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.

Heat Recovery Outdoor Units (MMYF) – 208/230V-3-60 Space Saving

Appearance				
Nominal Tons	16	20	24	28
Model name (MMY-)	AP192S6FT9P-UL	AP240S6FT9P-UL	AP288S6FT9P-UL	AP336S6FT9P-UL

Space Saving model (Combination)

	AP192S6FT9P-UL	AP240S6FT9P-UL	AP288S6FT9P-UL	AP336S6FT9P-UL
MMY-MAP	1206FT9P-UL	1206FT9P-UL	1686FT9P-UL	1686FT9P-UL
	0726FT9P-UL	1206FT9P-UL	1206FT9P-UL	1686FT9P-UL
	16	20	24	28
	192	240	288	336
	184	230	276	320
	216	270	324	378
	206	256	308	360
	208/230V, 3-phase 60Hz			
	14.96	20.35	25.32	29.91
	26.0	23.5	23.0	22.5
	16.36	20.9	26.32	31.68
	29.5	29.0	28.1	26.0
	208/230V, 3-phase 60Hz			
	14.26	19.83	25.79	30.77
	23.5	22.5	21.5	21.0
	15.44	20.33	25.43	31.78
	29.1	28.7	26.6	22.9
	72.9	72.9	72.9	72.9
	47.6 + 39.0	47.6 x 2	63.0 + 47.6	63.0 x 2
	30.7	30.7	30.7	30.7
	721 + 600	721 x 2	882 + 721	882 x 2
	Hermetic Twin Rotary Compressor			
	7,700 + 6,700	7,700 x 2	10,850 + 7,700	10,850 x 2
	0.16	0.16	0.16	0.16
	24.3 x 2	24.3 x 2	24.3 x 2	24.3 x 2
	45.4 + 23.3	45.4 + 45.4	66.2 + 45.4	66.2 + 66.2
	50 + 30	50 + 50	70 + 50	70 + 70
	1-1/8	1-3/8	1-3/8	1-3/8
	7/8	7/8	7/8	7/8
	7/8	1-1/8	1-1/8	1-1/8
	3/8	3/8	3/8	3/8
	14 to 122			
	– 13 to 60			
	34	42	50	60
	50 to 150%			
	64/65.5	66/67	68.5/67	69.5/70

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe — 144 type – 240 type — Equivalent piping length: 50 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.

Heat Recovery Outdoor Units (MMYF) – 460V-3-60

Appearance					
Nominal Tons	6	8	10	12	14
Model name (MMY-)	MAP0726FT6P-UL	MAP0966FT6P-UL	MAP1206FT6P-UL	MAP1446FT6P-UL	MAP1686FT6P-UL

Standard model (Single unit)

Technical Specifications

Outdoor unit model name			MMY-		MAP0726FT6P-UL	MAP0966FT6P-UL	MAP1206FT6P-UL	MAP1446FT6P-UL	MAP1686FT6P-UL
Nominal tons				Ton	6	8	10	12	14
Cooling capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	72	96	120	144	168
			Rated	kBtu/h	69	92	114	138	160
Heating capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	81	108	135	162	189
			Rated	kBtu/h	77	103	129	154	180
With Non-Ducted Indoor Units	Power supply (*2)				460V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	4.29	6.05	8.51	10.78	14.29
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	28.4	30.1	29.0	26.6	24.0
	Heating	Power consumption		kW	5.31	6.72	9.29	11.75	30.2
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	36.6	38.1	37.2	33.6	33.6
With Ducted Indoor Units	Power supply (*2)				460V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	4.89	7.02	8.77	10.7	13.68
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	20.6	22.8	21.1	23.0	22.0
	Heating	Power consumption		kW	6.10	7.42	10.19	11.72	15.07
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	27.8	27.6	27.3	31.6	28.3
External dimensions		Height		in	72.9	72.9	72.9	72.9	72.9
		Width		in	39.0	47.6	47.6	63.0	63.0
		Depth		in	30.7	30.7	30.7	30.7	30.7
Total weight	Unit			lb	615	736	736	875	875
Compressor	Type				Hermetic Twin Rotary Compressor				
Fan unit	Air volume			cfm	6,700	7,480	7,700	10,850	10,850
	Maximum external static pressure			in WG	0.2	0.2	0.2	0.16	0.16
Refrigerant (*3) (Charged refrigerant amount)				lb	24.3	24.3	24.3	24.3	24.3
Electrical specifications	Unit	MCA (*4)		A	11.8	17.0	22.0	23.4	29.7
		Recommended fuse size		A	15	20	25	30	35
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (Brazing)		in	7/8	7/8	1-1/8	1-1/8	1-1/8
		Liquid side (main pipe) (Flare)		in	1/2	1/2	1/2	5/8	3/4
		Discharge (main pipe) (Flare)		in	3/4	3/4	3/4	7/8	7/8
		Balance pipe (Flare)		in	3/8	3/8	3/8	3/8	3/8
Operation temperature range		Cooling		° F DB	14 to 122				
		Heating		° F WB	-13 to 60				
Maximum number of connected indoor units					12	16	21	25	30
Maximum capacity of combined indoor units (*5)					50 to 150%				
Sound pressure level Cooling/Heating				dB(A)	57/60	62/62	63/64	66.5/66.5	66.5/67.0

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

072 type – 114 type	Equivalent piping length: 25 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.

Appearance						
Nominal Tons	16	18	20	22	24	26
Model name (MMY-)	AP1926FT6P-UL	AP2166FT6P-UL	AP2406FT6P-UL	AP2646FT6P-UL	AP2886FT6P-UL	AP3126FT6P-UL

Standard model (Combination) Technical Specifications

	AP1926FT6P-UL	AP2166FT6P-UL	AP2406FT6P-UL	AP2646FT6P-UL	AP2886FT6P-UL	AP3126FT6P-UL
MMY-MAP	0966FT6P-UL	1206FT6P-UL	1446FT6P-UL	1446FT6P-UL	1446FT6P-UL	1686FT6P-UL
	0966FT6P-UL	0966FT6P-UL	0966FT6P-UL	1206FT6P-UL	1204FT6UL	1446FT6P-UL
	16	18	20	22	24	26
	192	216	240	264	288	312
	184	206	230	252	276	298
	216	243	270	297	324	351
	206	232	256	282	308	334
	460V, 3-phase 60Hz					
	14.26	16.89	18.85	21.91	23.59	27.34
	26.9	24.9	24.0	23.8	23.5	22.7
	15.93	18.63	20.28	23.75	25.50	28.96
	29.5	29.0	29.0	27.7	28.1	26.7
	460V, 3-phase 60Hz					
	13.94	16.35	18.25	21.0	22.81	27.34
	24.0	23.5	23.0	22.5	22.0	21.5
	15.02	16.79	19.74	22.52	24.66	28.29
	29.1	28.9	28.7	27.7	26.6	25.3
	72.9	72.9	72.9	72.9	72.9	72.9
	47.6 x 2	47.6 x 2	63.0 + 47.6	63.0 + 47.5	63.0 x 2	63.0 x 2
	30.7	30.7	30.7	30.7	30.7	30.7
	736 x 2	736 x 2	875 + 736	875 + 736	875 x 2	875 x 2
	Hermetic Twin Rotary Compressor					
	7,480 x 2	7,700 + 7,480	10,850 + 7,480	10,850 + 7,700	10,850 x 2	10,850 x 2
	0.16	0.16	0.16	0.16	0.16	0.16
	24.3 x 2	24.3 x 2	24.3 x 2	24.3 x 2	24.3 x 2	24.3 x 2
	17 + 17	22 + 17	23.4 + 17	23.4 + 22	23.4 + 23.4	29.7 + 23.4
	20 + 20	25 + 20	30 + 20	30 + 25	30 + 30	35 + 30
	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8
	3/4	3/4	3/4	7//8	7/8	7/8
	7/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8
	3/8	3/8	3/8	3/8	3/8	3/8
	14 to 122					
	-13 to 60					
	34	38	42	46	50	55
	50 to 150%					
	65/65	65.5/66.5	68/68	68.5/68.5	69.5/69.5	69.5/70.0

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

144 type – 240 type	Equivalent piping length: 50 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)
(*5) MOCP: Maximum Overcurrent Protection (Amps)

Heat Recovery Outdoor Units (MMYF) – 460V-3-60

Appearance						
Nominal Tons	28	30	32	34	36	38
Model name (MMY-)	AP3366FT6P-UL	AP3606FT6P-UL	AP3846FT6P-UL	AP4086FT6P-UL	AP4326FT6P-UL	AP4566FT6P-UL

Standard model (Combination)

Technical Specifications

Outdoor unit model name			MMY-		AP3366FT6P-UL	AP3606FT6P-UL	AP3846FT6P-UL	AP4086FT6P-UL	AP4326FT6P-UL	AP4566FT6P-UL
Outdoor unit model name			MMY-MAP		1206FT6P-UL	1206FT6P-UL	1446FT6P-UL	1446FT6P-UL	1446FT6P-UL	1686FT6P-UL
					1206FT6P-UL	1206FT6P-UL	1206FT6P-UL	1446FT6P-UL	1446FT6P-UL	1446FT6P-UL
					0966FT6P-UL	1206FT6P-UL	1206FT6P-UL	1206FT6P-UL	1446FT6P-UL	1446FT6P-UL
Nominal tons				Ton	28	30	32	34	36	38
Cooling capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	336	360	384	408	432	456
			Rated	kBtu/h	320	342	366	390	410	430
Heating capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	378	405	432	459	486	513
			Rated	kBtu/h	360	386	410	435	460	485
With Non-Ducted Indoor Units	Power supply (*2)				460V, 3-phase 60Hz					
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	28.32	33.53	35.53	38.61	41.84	44.33
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	24.6	24.0	23.4	22.5	22.0	20.0
	Heating	Power consumption		kW	30.23	33.47	36.19	38.63	41.1	43.34
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	26.0	25.1	24.5	23.5	23.2	23.2
With Ducted Indoor Units	Power supply (*2)				460V, 3-phase 60Hz					
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	28.83	32.88	35.53	38.24	42.27	45.26
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	22.5	22.0	21.5	21.0	20.5	20.0
	Heating	Power consumption		kW	30.32	32.05	35.24	37.39	40.24	43.07
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	22.9	22.6	22.0	21.5	21.0	21.0
External dimensions		Height		in	72.9	72.9	72.9	72.9	72.9	72.9
		Width		in	47.6 x 3	47.6 x 3	63.0 + 47.6 x 2	63.0 x 2 + 47.6	63.0 x 3	63.0 x 3
		Depth		in	30.7	30.7	30.7	30.7	30.7	30.7
Total weight	Unit			lb	736 x 3	736 x 3	875 + 736 x 2	875 x 2 + 736	875 x 3	875 x 3
Compressor	Type				Hermetic Twin Rotary Compressor					
Fan unit	Air volume			cfm	7,700 x 2 + 7,480	7,700 x 3	10,850 + 7,700 x 2	10,850 x 2 + 7,700	10,850 x 3	10,850 x 3
	Maximum external static pressure			in WG	0.16	0.16	0.16	0.16	0.16	0.16
Refrigerant (*3) (Charged refrigerant amount)				lb	24.3 x 3	24.3 x 3	24.3 x 3	24.3 x 3	24.3 x 2	24.3 x 3
Electrical specifications	Unit	MCA (*4)		A	22 + 22 + 17	22 + 22 + 22	23.4 + 22 + 22	23.4 + 23.4 + 22	23.4 + 23.4 + 23.4	29.7 + 23.4 + 23.4
		Recommended fuse size		A	25 + 25 + 20	25 + 25 + 20	30 + 25 + 25	30 + 30 + 25	30 + 30 + 30	35 + 30 + 30
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (Brazing)		in	1-3/8	1-5/8	1-5/8	1-5/8	1-5/8	1-5/8
		Liquid side (main pipe) (Flare)		in	7/8	7/8	7/8	7/8	7/8	7/8
		Discharge (main pipe) (Flare)		in	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8
		Balance pipe (Flare)		in	3/8	3/8	3/8	3/8	3/8	3/8
Operation temperature range		Cooling		° F DB	14 to 122			14 to 122		
		Heating		° F WB	-13 to 60			-13 to 60		
Maximum number of connected indoor units					60	63	64	64	64	64
Maximum capacity of combined indoor units (*5)					50 to 150%			50 to 150%		
Sound pressure level Cooling/Heating				dB(A)	67.5/68.5	68/69	69.5/70	70.5/71	71.5/71.5	71.5/71.5

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe — 072 type – 114 type — Equivalent piping length: 25 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.

Heat Recovery Outdoor Units (MMYF) – 460V-3-60 Space Saving

Appearance				
Nominal Tons	16	20	24	28
Model name (MMY-)	AP192S6FT6P-UL	AP240S6FT6P-UL	AP288S6FT6P-UL	AP336S6FT6P-UL

Space Saving model (Combination) — Technical Specifications

AP192S6FT6P-UL	AP240S6FT6P-UL	AP288S6FT6P-UL	AP336S6FT6P-UL
1206FT6P-UL	1206FT6P-UL	1686FT6P-UL	1686FT6P-UL
0726FT6P-UL	1206FT6P-UL	1206FT6P-UL	1686FT6P-UL
16	20	24	28
192	240	288	336
184	230	276	320
216	270	324	378
206	256	308	360
460V, 3-phase 60Hz			
14.96	20.35	25.32	29.91
26.0	23.5	23.0	22.5
16.36	20.9	26.32	31.68
29.5	29.0	28.1	26.0
460V, 3-phase 60Hz			
14.26	19.83	25.79	30.77
23.5	22.5	21.5	21.0
15.44	20.33	25.43	31.78
29.1	28.7	26.6	22.9
72.9	72.9	72.9	72.9
47.6 + 39.0	47.6 x 2	63.0 + 47.6	63.0 x 2
30.7	30.7	30.7	30.7
736 + 615	736 x 2	875 + 736	875 x 2
Hermetic Twin Rotary Compressor			
7,700 + 6,700	7,700 x 2	10,850 + 7,700	10,850 x 2
0.16	0.16	0.16	0.16
24.3 x 2	24.3 x 2	24.3 x 2	24.3 x 2
22 + 11.8	22 + 22	29.7 + 22	29.7 + 29.7
25 + 15	25 + 25	35 + 25	35 + 35
1-1/8	1-3/8	1-3/8	1-3/8
7/8	7/8	7/8	7/8
7/8	1-1/8	1-1/8	1-1/8
3/8	3/8	3/8	3/8
14 to 122			
-13 to 60			
34	42	50	60
50 to 150%			
64/65.5	66/67	68.5/67	69.5/70

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

144 type – 240 type	Equivalent piping length: 50 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.

Heat Pump Outdoor Units (MMYH) – 208/230V-3-60

Appearance					
Nominal Tons	6	8	10	12	14
Model name (MMY-)	MAP0726HT9P-UL	MAP0966HT9P-UL	MAP1206HT9P-UL	MAP1446HT9P-UL	MAP1686HT9P-UL

Standard model (Single unit)

Technical Specifications

Outdoor unit model name			MMY-		MAP0726HT9P-UL	MAP0966HT9P-UL	MAP1206HT9P-UL	MAP1446HT9P-UL	MAP1686HT9P-UL
Nominal tons				Ton	6	8	10	12	14
Cooling capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	72	96	120	144	168
			Rated	kBtu/h	69	92	114	138	160
Heating capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	81	108	135	162	189
			Rated	kBtu/h	77	103	129	154	180
With Non-Ducted Indoor Units	Power supply (*2)				208/230V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	4.43	5.73	8.51	10.85	14.26
		EER (Energy Efficiency Ratio)		Btu/W	15.6	16.1	13.4	12.7	11.2
	Heating	Power consumption		kW	5.08	6.01	9.19	10.68	13.82
		COP (Coefficient of Performance)		W/W	4.44	5.02	4.11	4.23	3.82
With Ducted Indoor Units	Power supply (*2)				208/230V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	4.69	6.28	8.81	11.09	13.39
		EER (Energy Efficiency Ratio)		Btu/W	14.7	14.6	12.9	12.4	11.9
	Heating	Power consumption		kW	5.47	6.83	9.04	10.47	13.36
		COP (Coefficient of Performance)		W/W	4.13	4.42	4.18	4.31	3.95
External dimensions		Height		in	72.9	72.9	72.9	72.9	72.9
		Width		in	39.0	47.6	47.6	63.0	63.0
		Depth		in	30.7	30.7	30.7	30.7	30.7
Total weight	Unit			lb	574	684	684	838	838
Compressor	Type				Hermetic Twin Rotary Compressor				
Fan unit	Air volume			cfm	6,700	7,480	7,480	9,760	10,080
	Maximum external static pressure			in WG	0.24	0.16	0.16	0.16	0.16
Refrigerant (*3) (Charged refrigerant amount)				lb	25.4	25.4	25.4	25.4	25.4
Electrical specifications	Unit	MCA (*4)		A	27.0	36.0	42.0	54.0	69.0
		Recommended fuse size		A	30	40	45	60	75
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (Brazing)		in	7/8	7/8	1-1/8	1-1/8	1-1/8
		Liquid side (main pipe) (Flare)		in	1/2	1/2	1/2	5/8	5/8
		Balance pipe (Flare)		in	3/8	3/8	3/8	3/8	3/8
Operation temperature range		Cooling		° F DB	14 to 122				
		Heating		° F WB	– 13 to 60				
Maximum number of connected indoor units					12	16	21	25	30
Maximum capacity of combined indoor units					50 to 135%				
Sound pressure level Cooling/Heating				dB(A)	56/58	61/61	61/62	63/64	64/65

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

072 type – 120 type	Equivalent piping length: 25 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)

Appearance							
Nominal Tons	16	18	20	22	24	26	28
Model name (MMY-)	AP1926HT9P-UL	AP2166HT9P-UL	AP2406HT9P-UL	AP2646HT9P-UL	AP2886HT9P-UL	AP3126HT9P-UL	AP3366HT9P-UL

Standard model (Combination)

Technical Specifications

	AP1926HT9P-UL	AP2166HT9P-UL	AP2406HT9P-UL	AP2646HT9P-UL	AP2886HT9P-UL	AP3126HT9P-UL	AP3366HT9P-UL
MMY-MAP	0966HT9P-UL	1206HT9P-UL	1446HT9P-UL	1446HT9P-UL	1446HT9P-UL	1686HT9P-UL	1686HT9P-UL
	0966HT9P-UL	0966HT9P-UL	0966HT9P-UL	1206HT9P-UL	1446HT9P-UL	1446HT9P-UL	1686HT9P-UL
	16	18	20	22	24	26	28
	192	216	240	264	288	312	336
	184	206	230	252	276	298	320
	216	243	270	297	324	351	378
	206	232	256	282	308	334	360
	208/230V, 3-phase 60Hz						
	13.97	16.75	18.63	21.56	24.19	27.97	30.27
	13.2	12.3	12.3	11.7	11.4	10.7	10.6
	14.5	17.01	19.47	22.09	24.4	27.94	30.7
	4.16	4.00	3.85	3.74	3.70	3.50	3.44
	208/230V, 3-phase 60Hz						
	13.4	15.39	17.46	19.57	22.88	25.94	29.04
	13.7	13.4	13.2	12.9	12.1	11.5	11.0
	13.64	15.91	17.67	19.83	22.33	25.31	28.82
	4.43	4.27	4.25	4.17	4.04	3.87	3.66
	72.9	72.9	72.9	72.9	72.9	72.9	72.9
	47.6 x 2	47.6 x 2	63.0 + 47.6	63.0 + 47.6	63.0 x 2	63.0 x 2	63.0 x 2
	30.7	30.7	30.7	30.7	30.7	30.7	30.7
	684 x 2	684 x 2	838 + 684	838 + 684	838 x 2	838 x 2	838 x 2
	Hermetic Twin Rotary Compressor						
	7,480 x 2	7,480 x 2	9,760 + 7,480	9,760 + 7,480	9,760 x 2	10,080 x 9,760	10,080 x 2
	0.16	0.16	0.16	0.16	0.16	0.16	0.16
	25.4 x 2	25.4 x 2	25.4 x 2	25.4 x 2	25.4 x 2	25.4 x 2	25.4 x 2
	36 + 36	42 + 36	54 + 36	54 + 42	54 + 54	69 + 54	69 + 69
	40 + 40	45 + 40	60 + 40	60 + 45	60 + 60	75 + 60	75 + 75
	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8	1-5/8
	5/8	3/4	3/4	3/4	3/4	3/4	7/8
	3/8	3/8	3/8	3/8	3/8	3/8	3/8
	14 to 122						
	-13 to 60						
	34	38	42	46	50	55	60
	50 to 150%						
	64/64	64/64.5	65.5/66	65.5/66.5	66/67	66.5/67.5	67/68

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

144 type – 240 type	Equivalent piping length: 50 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)

Heat Pump Outdoor Units (MMYH) – 208/230V-3-60

Appearance					
Nominal Tons	30	32	34	36	38
Model name (MMY-)	AP3606HT9P-UL	AP3846HT9P-UL	AP4086HT9P-UL	AP4326HT9P-UL	AP4566HT9P-UL

Standard model (Single unit)

Technical Specifications

Outdoor unit model name				AP3606HT9P-UL	AP3846HT9P-UL	AP4086HT9P-UL	AP4326HT9P-UL	AP4566HT9P-UL
Outdoor unit model name	MMY-MAP			1206HT9P-UL 1206HT9P-UL 1206HT9P-UL	1446HT9P-UL 1206HT9P-UL 1206HT9P-UL	1446HT9P-UL 1446HT9P-UL 1206HT9P-UL	1686HT9P-UL 1446HT9P-UL 1206HT9P-UL	1686HT9P-UL 1686HT9P-UL 1206HT9P-UL
Nominal tons			Ton	30	32	34	36	38
Cooling capacity (*1) (with non-ducted indoor units / ducted)		Nominal	kBtu/h	360	384	408	432	456
		Rated	kBtu/h	342	336	390	412	434
Heating capacity (*1) (with non-ducted indoor units / ducted)		Nominal	kBtu/h	405	432	459	486	513
		Rated	kBtu/h	386	412	436	462	488
With Non-Ducted Indoor Units Electrical characteristics (Nominal) (*1)	Power supply (*2)			208/230V, 3-phase 60Hz				
	Cooling	Power consumption	kW	28.67	33.6	36.55	40.14	44.58
		EER (Energy Efficiency Ratio)	Btu/W	11.9	10.9	10.7	10.3	9.7
	Heating	Power consumption	kW	31.33	34.58	36.86	40.22	43.6
		COP (Coefficient of Performance)	W/W	3.61	3.49	3.47	3.37	3.28
With Ducted Indoor Units Electrical characteristics (Nominal) (*1)	Power supply (*2)			208/230V, 3-phase 60Hz				
	Cooling	Power consumption	kW	27.32	31.47	33.58	38.35	42.06
		EER (Energy Efficiency Ratio)	Btu/W	12.5	11.6	11.6	10.7	10.3
	Heating	Power consumption	kW	29.4	32.52	36.34	39.15	42.27
		COP (Coefficient of Performance)	W/W	3.85	3.71	3.52	3.46	3.38
External dimensions		Height	in	72.9	72.9	72.9	72.9	72.9
		Width	in	47.6 x 3	63.0 + 47.6 x 2	63.0 x 2 + 47.6	63.0 x 2 + 47.6	63.0 x 2 + 47.6
		Depth	in	30.7	30.7	30.7	30.7	30.7
Total weight	Unit		lb	684 x 3	838 + 684 x 2	838 x 2 + 684	838 x 2 + 684	838 x 2 + 648
Compressor	Type			Hermetic Twin Rotary Compressor				
Fan unit	Air volume		cfm	7,480 x 3	9,760 + 7,480 x 2	9,760 x 2 + 7,480	10,080 + 9,760 + 7,480	10,080 x 2 + 7,480
	Maximum external static pressure		in WG	0.16	0.16	0.16	0.16	0.16
Refrigerant (*3) (Charged refrigerant amount)			lb	25.4 x 3	25.4 x 3	25.4 x 3	25.4 x 3	25.4 x 3
Electrical specifications	Unit	MCA (*4)	A	42 + 42 + 42	54 + 42 + 42	54 + 54 + 42	69 + 54 + 42	69 + 69 + 42
		Recommended fuse size	A	45 + 45 + 42	60 + 45 + 45	60 + 60 + 45	75 + 60 + 45	75 + 75 + 45
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (Brazing)	in	1-5/8	1-5/8	1-5/8	1-5/8	1-5/8
		Liquid side (main pipe) (Flare)	in	7/8	7/8	7/8	7/8	7/8
		Balance pipe (Flare)	in	3/8	3/8	3/8	3/8	3/8
Operation temperature range		Cooling	° F DB	14 to 122				
		Heating	° F WB	– 13 to 60				
Maximum number of connected indoor units				63	64	64	64	64
Maximum capacity of combined indoor units				50 to 135%				
Sound pressure level Cooling/Heating			dB(A)	66/67	66.5/67.5	67.5/68.5	68/69	68/69

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

072 type – 120 type	Equivalent piping length: 25 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)

Heat Pump Outdoor Units (MMYH) – 208/230V-3-60
Space Saving

Appearance				
Nominal Tons	16	20	24	34
Model name (MMY-)	AP192S6HT9P-UL	AP240S6HT9P-UL	AP288S6HT9P-UL	AP408S6HT9P-UL

Technical Specifications

Space Saving model (Combination)			
AP192S6HT9P-UL	AP240S6HT9P-UL	AP288S6HT9P-UL	AP408S6HT9P-UL
1206HT9P-UL	1206HT9P-UL	1686HT9P-UL	1686HT9P-UL
0726HT9P-UL	1206HT9P-UL	1206HT9P-UL	1206HT9P-UL
			1206HT9P-UL
16	20	24	34
192	240	288	408
184	230	376	390
216	270	324	459
206	256	308	436
208/230V, 3-phase 60Hz			
14.19	19.29	24.65	37.29
13.0	11.9	11.2	10.5
14.87	19.74	25.12	37.77
4.06	3.80	3.59	3.38
208/230V, 3-phase 60Hz			
13.87	17.61	23.09	34.87
13.3	13.1	12.0	11.2
14.31	17.9	22.64	36.9
4.22	4.19	3.99	3.46
72.9	72.9	72.9	72.9
47.6 + 39	47.6 x 2	63.0 + 47.6	63.0 + 47.6 x 2
30.7	30.7	30.7	30.7
684 + 574	684 x 2	838 + 684	838 + 684 x 2
Hermetic Twin Rotary Compressor			
7,480 + 6,700	7,480 x 2	10,080 + 7,480	10,080 + 7,480 x 2
0.16	0.16	0.16	0.16
25.4 x 2	25.4 x 2	25.4 x 2	25.4 x 3
42 + 27	42 + 42	69 + 42	69 + 42 + 42
45 + 30	45 + 45	75 + 45	75 + 45 + 45
1-1/8	1-3/8	1-3/8	1-5/8
5/8	3/4	3/4	7/8
3/8	3/8	3/8	3/8
14 to 122			
-13 to 60			
34	42	50	64
50 to 135%			
62.5/63.5	64/65	66/67	67/68

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

144 type – 240 type	Equivalent piping length: 50 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)

Heat Pump Outdoor Units (MMYH) – 460V-3-60

Appearance					
Nominal Tons	6	8	10	12	14
Model name (MMY-)	MAP0726HT6P-UL	MAP0966HT6P-UL	MAP1206HT6P-UL	MAP1446HT6P-UL	MAP1686HT6P-UL

Standard model (Single unit)

Technical Specifications

Outdoor unit model name			MMY-		MAP0726HT6P-UL	MAP0966HT6P-UL	MAP1206HT6P-UL	MAP1446HT6P-UL	MAP1686HT6P-UL
Nominal tons				Ton	6	8	10	12	14
Cooling capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	72	96	120	144	168
			Rated	kBtu/h	69	92	114	138	160
Heating capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	81	108	135	162	189
			Rated	kBtu/h	77	103	129	154	180
With Non-Ducted Indoor Units	Power supply (*2)				460V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	4.43	5.73	8.51	10.85	14.26
		EER (Energy Efficiency Ratio)		Btu/W	15.6	16.1	13.4	12.7	11.2
	Heating	Power consumption		kW	5.08	6.01	9.19	10.68	13.82
		COP (Coefficient of Performance)		W/W	4.44	5.02	4.11	4.23	3.82
With Ducted Indoor Units	Power supply (*2)				460V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption		kW	4.69	6.28	8.81	11.09	13.39
		EER (Energy Efficiency Ratio)		Btu/W	14.7	14.6	12.9	12.4	11.9
	Heating	Power consumption		kW	5.47	6.83	9.04	10.47	13.36
		COP (Coefficient of Performance)		W/W	4.13	4.42	4.18	4.31	3.95
External dimensions		Height		in	72.9	72.9	72.9	72.9	72.9
		Width		in	39.0	47.6	47.6	63.0	63.0
		Depth		in	30.7	30.7	30.7	30.7	30.7
Total weight	Unit			lb	574	684	684	838	838
Compressor	Type				Hermetic Twin Rotary Compressor				
Fan unit	Air volume			cfm	6,700	7,480	7,480	9,760	10,080
	Maximum external static pressure			in WG	0.24	0.16	0.16	0.16	0.16
Refrigerant (*3) (Charged refrigerant amount)				lb	25.4	25.4	25.4	25.4	25.4
Electrical specifications	Unit	MCA (*4)		A	12.9	20.0	23.0	25.0	31.0
		Recommended fuse size		A	15	25	25	30	35
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (Brazing)		in	7/8	7/8	1-1/8	1-1/8	1-1/8
		Liquid side (main pipe) (Flare)		in	1/2	1/2	1/2	5/8	5/8
		Balance pipe (Flare)		in	3/8	3/8	3/8	3/8	3/8
Operation temperature range		Cooling		° F DB	14 to 122				
		Heating		° F WB	– 13 to 60				
Maximum number of connected indoor units					12	16	21	25	30
Maximum capacity of combined indoor units					50 to 135%				
Sound pressure level Cooling/Heating				dB(A)	56/58	61/61	61/62	63/64	64/65

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

072 type – 120 type	Equivalent piping length: 25 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)

Appearance							
Nominal Tons	16	18	20	22	24	26	28
Model name (MMY-)	AP1926HT6P-UL	AP2166HT6P-UL	AP2406HT6P-UL	AP2646HT6P-UL	AP2886HT6P-UL	AP3126HT6P-UL	AP3366HT6P-UL

Standard model (Combination)

Technical Specifications

	AP1926HT6P-UL	AP2166HT6P-UL	AP2406HT6P-UL	AP2646HT6P-UL	AP2886HT6P-UL	AP3126HT6P-UL	AP3366HT6P-UL
MMY-MAP	0966HT6P-UL	1206HT6P-UL	1446HT6P-UL	1446HT6P-UL	1446HT6P-UL	1686HT6P-UL	1686HT6P-UL
	0966HT6P-UL	0966HT6P-UL	0966HT6P-UL	1206HT6P-UL	1446HT6P-UL	1446HT6P-UL	1686HT6P-UL
	16	18	20	22	24	26	28
	192	216	240	264	288	312	336
	184	206	230	252	276	298	320
	216	243	270	297	324	351	378
	206	232	256	282	308	334	360
	460V, 3-phase 60Hz						
	13.97	16.75	18.63	21.56	24.19	27.97	30.27
	13.2	12.3	12.3	11.7	11.4	10.7	10.6
	14.5	17.01	19.47	22.09	24.4	27.94	30.7
	4.16	4.00	3.85	3.74	3.70	3.50	3.44
	460V, 3-phase 60Hz						
	13.4	15.39	17.46	19.57	22.88	25.94	29.04
	13.7	13.4	13.2	12.9	12.1	11.5	11.0
	13.64	15.91	17.67	19.83	22.33	25.31	28.82
	4.43	4.27	4.25	4.17	4.04	3.87	3.66
	72.9	72.9	72.9	72.9	72.9	72.9	72.9
	47.6 x 2	47.6 x 2	63.0 + 47.6	63.0 + 47.6	63.0 x 2	63.0 x 2	63.0 x 2
	30.7	30.7	30.7	30.7	30.7	30.7	30.7
	684 x 2	684 x 2	838 + 684	838 + 684	838 x 2	838 x 2	838 x 2
	Hermetic Twin Rotary Compressor						
	7,480 x 2	7,480 x 2	9,760 + 7,480	9,760 + 7,480	9,760 x 2	10,080 + 9,760	10,080 x 2
	0.16	0.16	0.16	0.16	0.16	0.16	0.16
	25.4 x 2	25.4 x 2	25.4 x 2	25.4 x 2	25.4 x 2	25.4 x 2	25.4 x 2
	20 + 20	23 + 20	25 + 20	25 + 23	25 + 25	31 + 25	31 + 31
	25 + 25	25 + 25	30 + 25	30 + 25	30 + 30	35 + 30	35 + 35
	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8	1-5/8
	5/8	3/4	3/4	3/4	3/4	3/4	7/8
	3/8	3/8	3/8	3/8	3/8	3/8	3/8
	14 to 122						
	-13 to 60						
	34	38	42	46	50	55	60
	50 to 135%						
	64/64	64/64.5	65.5/66	65.5/66.5	66/67	66.5/67.5	67/68

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

144 type – 240 type	Equivalent piping length: 50 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)

Heat Pump Outdoor Units (MMYH) – 460V-3-60

Appearance					
Nominal Tons	30	32	34	36	38
Model name (MMY-)	AP3606HT6P-UL	AP3846HT6P-UL	AP4086HT6P-UL	AP4326HT6P-UL	AP4566HT6P-UL

Standard model (Single unit)

Technical Specifications

Outdoor unit model name				AP3606HT6P-UL	AP3846HT6P-UL	AP4086HT6P-UL	AP4326HT6P-UL	AP4566HT6P-UL
Outdoor unit model name		MMY-MAP		1206HT6P-UL 1206HT6P-UL 1206HT6P-UL	1446HT6P-UL 1206HT6P-UL 1206HT6P-UL	1446HT6P-UL 1446HT6P-UL 1206HT6P-UL	1686HT6P-UL 1446HT6P-UL 1206HT6P-UL	1686HT6P-UL 1686HT6P-UL 1206HT6P-UL
Nominal tons			Ton	30	32	34	36	38
Cooling capacity (*1) (with non-ducted indoor units / ducted)		Nominal	kBtu/h	360	384	408	432	456
		Rated	kBtu/h	342	366	390	412	434
Heating capacity (*1) (with non-ducted indoor units / ducted)		Nominal	kBtu/h	405	432	459	486	513
		Rated	kBtu/h	386	412	436	462	488
With Non-Ducted Indoor Units Electrical characteristics (Nominal) (*1)	Power supply (*2)			460V, 3-phase 60Hz				
	Cooling	Power consumption	kW	28.67	33.6	36.55	40.14	44.58
		EER (Energy Efficiency Ratio)	Btu/W	11.9	10.9	10.7	10.3	9.7
	Heating	Power consumption	kW	31.33	34.58	36.86	40.22	43.6
		COP (Coefficient of Performance)	W/W	3.61	3.49	3.47	3.37	3.28
With Ducted Indoor Units Electrical characteristics (Nominal) (*1)	Power supply (*2)			460V, 3-phase 60Hz				
	Cooling	Power consumption	kW	27.32	31.47	33.58	38.35	42.06
		EER (Energy Efficiency Ratio)	Btu/W	12.5	11.6	11.6	10.7	10.3
	Heating	Power consumption	kW	29.4	32.52	36.34	39.15	42.27
		COP (Coefficient of Performance)	W/W	3.85	3.71	3.52	3.46	3.38
External dimensions		Height	in	72.9	72.9	72.9	72.9	72.9
		Width	in	47.6 x 3	63.0 + 47.6 x 2	63.0 x 2 + 47.6	63.0 x 2 + 47.6	63.0 x 2 + 47.6
		Depth	in	30.7	30.7	30.7	30.7	30.7
Total weight	Unit		lb	684 x 3	838 + 684 x 2	838 x 2 + 684	838 x 2 + 684	838 x 2 + 648
Compressor	Type			Hermetic Twin Rotary Compressor				
Fan unit	Air volume		cfm	7,480 x 3	9,760 + 7,480 x 2	9,760 x 2 + 7,480	10,080 + 9,760 + 7,480	10,080 x 2 + 7,480
	Maximum external static pressure		in WG	0.16	0.16	0.16	0.16	0.16
Refrigerant (*3) (Charged refrigerant amount)			lb	25.4 x 3	25.4 x 3	25.4 x 3	25.4 x 3	25.4 x 3
Electrical specifications	Unit	MCA (*4)	A	23 + 23 + 23	25 + 23 + 23	25 + 25 + 23	31 + 25 + 23	31 + 31 + 23
		Recommended fuse size	A	25 + 25 + 25	30 + 25 + 25	30 + 30 + 25	35 + 30 + 25	35 + 35 + 23
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (Brazing)	in	1-5/8	1-5/8	1-5/8	1-5/8	1-5/8
		Liquid side (main pipe) (Flare)	in	7/8	7/8	7/8	7/8	7/8
		Balance pipe (Flare)	in	3/8	3/8	3/8	3/8	3/8
Operation temperature range		Cooling	° F DB	14 to 122				
		Heating	° F WB	– 13 to 60				
Maximum number of connected indoor units				63	64	64	64	64
Maximum capacity of combined indoor units				50 to 135%				
Sound pressure level Cooling/Heating			dB(A)	66/67	66.5/67.5	67.5/68.5	68/69	68/69

(*1) Rated conditions
Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

072 type – 120 type	Equivalent piping length: 25 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)

Heat Pump Outdoor Units (MMYH) – 460V-3-60
Space Saving

Appearance				
Nominal Tons	16	20	24	34
Model name (MMY-)	AP192S6HT6P-UL	AP240S6HT6P-UL	AP288S6HT6P-UL	AP408S6HT6P-UL

Space Saving model (Combination)

Technical Specifications

AP192S6HT6P-UL	AP240S6HT6P-UL	AP288S6HT6P-UL	AP408S6HT6P-UL
1206HT6P-UL	1206HT6P-UL	1686HT6P-UL	1686HT6P-UL
0726HT6P-UL	1206HT6P-UL	1206HT6P-UL	1206HT6P-UL
			1206HT6P-UL
16	20	24	34
192	240	288	408
184	230	376	390
216	270	324	459
206	256	308	436
460V, 3-phase 60Hz			
14.19	19.29	24.65	37.29
13.0	11.9	11.2	10.5
14.87	19.74	25.12	37.77
4.06	3.80	3.59	3.38
460V, 3-phase 60Hz			
13.87	17.61	23.09	34.87
13.3	13.1	12.0	11.2
14.31	17.9	22.64	36.9
4.22	4.19	3.99	3.46
72.9	72.9	72.9	72.9
47.6 + 39	47.6 x 2	63.0 + 47.6	63.0 + 47.6 x 2
30.7	30.7	30.7	30.7
684 + 574	684 x 2	838 + 684	838 + 684 x 2
Hermetic Twin Rotary Compressor			
7,480 + 6,700	7,480 x 2	10,080 + 7,480	10,080 + 7,480 x 2
0.16	0.16	0.16	0.16
25.4 x 2	25.4 x 2	25.4 x 2	25.4 x 3
23 + 12.9	23 + 23	31 + 23	31 + 23 + 23
25 + 20	25 + 25	35 + 25	35 + 25 + 25
1-1/8	1-3/8	1-3/8	1-5/8
5/8	3/4	3/4	7/8
3/8	3/8	3/8	3/8
14 to 122			
-13 to 60			
34	42	50	64
50 to 135%			
62.5/63.5	64/65	66/67	67/68

(*1) Rated conditions — Cooling: Indoor 80° F Dry Bulb/67° F Wet Bulb, Outdoor 95° F Dry Bulb.
Heating: Indoor 70° F Dry Bulb, Outdoor 47° F Dry Bulb/43° F Wet Bulb.

The standard pipe

144 type – 240 type	Equivalent piping length: 50 ft, Height difference: 0 ft

(*2) The source voltage must not fluctuate more than ±10%
(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.
(*4) Select wire size based on the larger value of MCA
MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)






	Cooling capacity kBtu/h (Ton)	4-Way Cassette	Compact 4-Way Cassette	High Wall	Underceiling	Floor Console - Recessed	Floor Console - Exposed
Non-Ducted Models	7,500 (0.6)	✓	✓	✓		✓	✓
	9,500 (0.8)	✓	✓	✓		✓	✓
	12,000 (1)	✓	✓	✓		✓	✓
	15,000 (1.25)	✓	✓	✓		✓	✓
	18,000 (1.5)	✓	✓	✓	✓	✓	✓
	21,000 (1.75)	✓					
	24,000 (2)	✓		✓	✓	✓	✓
	30,000 (2.5)	✓					
	36,000 (3)	✓			✓		
	42,000 (3.5)	✓			✓		





Ducted Models

Cooling capacity kBtu/h (Ton)	Slim Duct	Concealed Duct	High Static Duct	Vertical AHU	Outside Air
7,500 (0.6)	✓	✓			
9,500 (0.8)	✓	✓			
12,000 (1)	✓	✓			
15,400 (1.25)	✓	✓			
18,000 (1.5)	✓	✓			
21,000 (1.75)		✓			
24,000 (2)		✓		✓	
30,000 (2.5)		✓	✓	✓	
36,000 (3)		✓	✓	✓	
42,000 (3.5)		✓		✓	
48,000 (4)		✓	✓	✓	✓
72,000 (6)			✓		✓
96,000 (8)			✓		✓

MMU-AP*2H2UL

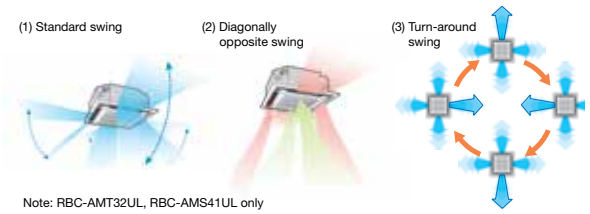
4-Way Cassette

RBC-U31PG(W)-UL
Ceiling panel required

Individual Louver Control

Each of the four louvers can be positioned at different angles. This allows customized airflow control based on user comfort preferences.

- Built-in Condensate Lift.



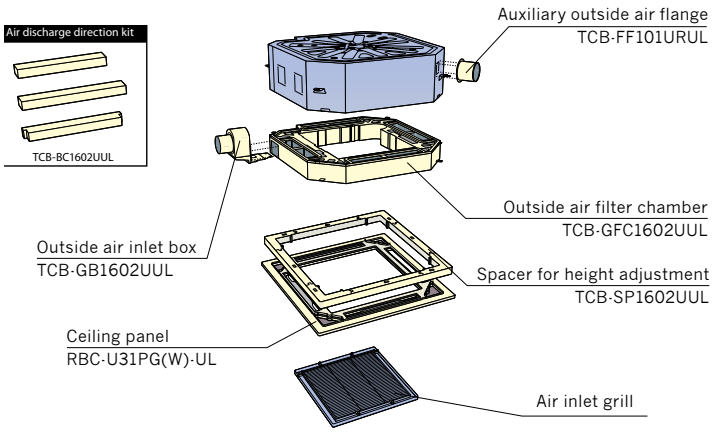
Note: RBC-AMT32UL, RBC-AMS41UL only

Technical Specifications

Model name		MMU-	AP0072H2UL	AP0092H2UL	AP0122H2UL	AP0152H2UL	AP0182H2UL	AP0212H2UL	AP0242H2UL	AP0302H2UL	AP0362H2UL	AP0422H2UL
Cooling capacity		kBtu/h	7.5	9.5	12	15.4	18	21	24	30	36	42
Heating capacity		kBtu/h	8.5	10.5	13.5	17	20	24	27	34	40	47.5
Electrical characteristics	Power supply		230V (208/230V) 1-phase 60Hz									
	Power consumption	kW	0.021	0.021	0.023	0.026	0.026	0.036	0.036	0.043	0.088	0.112
Appearance (Ceiling panel)*		Model	RBC-U31PG(W)-UL*									
External dimensions Main unit (Ceiling panel)*	Height	in	10.1 (1.2)*								12.6 (1.2)*	
	Width	in	33.1 (37.4)*									
	Depth	in	33.1 (37.4)*									
Total weight Main Unit (Ceiling panel)*		lb	42 (10)*		46 (10)*			48 (10)*			59 (10)*	
Fan unit	Standard airflow (High/Mid/Low)	cfm	470/430/400	470/430/400	550/490/460	550/480/440	550/480/440	670/540/490	670/540/490	730/630/510	1160/840/630	1250/840/670
	Motor output	W	60	60	60	60	60	60	60	60	150	150
Connecting pipe	Gas side	in	3/8	3/8"	3/8	1/2	1/2	5/8	5/8	5/8	5/8	5/8
	Liquid side	in	1/4	1/4	1/4	1/4	1/4	3/8	3/8	3/8	3/8	3/8
	Drain port (nominal dia.)	in	VP25 (Polyvinyl chloride tube: External Dia.1-1/4 Internal Dia.1)									
Sound pressure level (High/Mid/Low) (*1)		dB(A)	33/32/31	33/32/31	34/33/31	35/33/31	35/33/31	38/33/31	38/33/31	41/36.5/34	46/40.5/36.5	48.5/40.5/37.5

*Figures in parentheses are for ceiling panels.
(*1) The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Options



MMU-AP*1MH2UL**

Compact 4-Way Cassette

Perfect for Grid System Ceiling

This compact unit fits perfectly into ceilings and matches standard architectural modules to virtually eliminate the need to cut ceiling tiles.

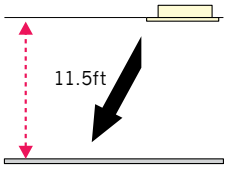
- Built-in Condensate Lift.

Designed for Simple Installation and Easy Maintenance

- Slim design is only 10.6 inches in height even with an electrical box located inside the unit
- Installation is easy using the panel adjust pocket; use the “adjust pocket” function for fine adjustments after installation
- Available for ceilings up to 11.5 feet in height†
- Drain-checking hole makes it possible to check the drain pan through the side case

RBC-UM11PG(W)UL
Ceiling panel required

Drain-checking hole



Maximum height

Technical Specifications

Model name			MMU-	AP0071MH2UL	AP0091MH2UL	AP0121MH2UL	AP0151MH2UL	AP0181MH2UL
Cooling capacity			kBtu/h	7.5	9.5	12	15.4	18
Heating capacity			kBtu/h	8.5	10.5	13.5	17	20
Electrical characteristics	Power supply			230V (208/230V) 1-phase 60Hz				
	Power consumption		kW	0.034	0.036	0.038	0.041	0.052
Appearance (Ceiling panel)*			Model	RBC-UM11PG(W)-UL				
External dimensions Main unit (Ceiling panel)*		Height	in	10.6 (1.1)*				
		Width	in	22.6 (27.6)*				
		Depth	in	22.6 (27.6)*				
Total weight Main unit (Ceiling panel)*			lb	35 (7)*				
Fan unit	Standard airflow (High/Mid/Low)		cfm	320/270/220	330/280/220	330/300/240	390/330/280	450/380/310
	Motor output		W	60	60	60	60	60
Connecting pipe	Gas side		in	3/8	3/8	3/8	1/2	1/2
	Liquid side		in	1/4	1/4	1/4	1/4	1/4
	Drain port (nominal dia.)		in	VP25 (Polyvinyl chloride tube: External Dia.1-1/4 Internal Dia.1)				
Sound pressure level (High/Mid/Low) (*1)			dB(A)	38.5/35/31	40/35.5/31	40/36/32	42.5/37.5/33	46.5/41.5/36

*Figures in parentheses are for ceiling panels.
(*1) The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

MMK-AP*3H2UL**

High Wall

Elegant and Slim

- 70° directional auto-swing louver provides uniform air distribution and enhanced comfort control
- Optional Condensate Drain Kit available

Technical Specifications

Model name			MMK-	AP0073H2UL	AP0093H2UL	AP0123H2UL	AP0153H2UL	AP0183H2UL	AP0243H2UL
Cooling capacity			kBtu/h	7.5	9.5	12	15.4	18	24
Heating capacity			kBtu/h	8.5	10.5	13.5	17	20	27
Electrical characteristics	Power supply			230V (208/230V) 1-phase 60Hz					
	Power consumption		kW	0.018	0.021	0.021	0.043	0.043	0.05
External dimensions		Height	in	12.6					
		Width	in	41.3					
		Depth	in	9					
Total weight			lb	33					
Fan unit	Standard airflow (High/Mid/Low)		cfm	340/270/230	350/280/230	350/280/230	490/390/320	490/390/320	600/440/340
	Motor output		W	30	30	30	30	30	30
Connecting pipe	Gas side		in	3/8	3/8	3/8	1/2	1/2	5/8
	Liquid side		in	1/4	1/4	1/4	1/4	1/4	3/8
	Drain port (nominal dia.)		in	VP16 (Polyvinyl chloride tube: External Dia. 0.87 Internal Dia. 0.63)					
Sound pressure level (High/Mid/Low) (*1)			dB(A)	36/32.5/30	39/34/30	39/34/30	43/38/34.5	43/38/34.5	47.5/40.5/35

(*1) The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

MMC-AP*1H2UL

Underceiling

Comfortable Ambience

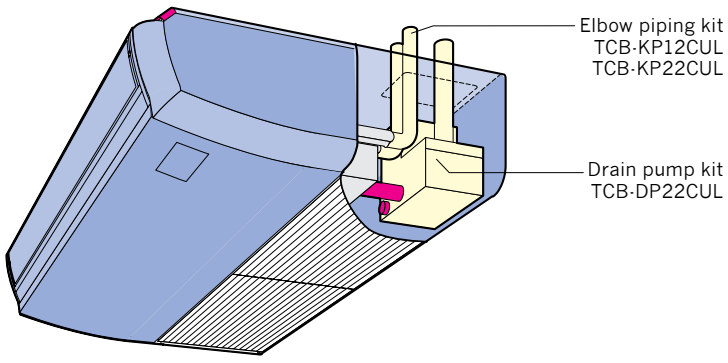
- Louver control: Airflow angle is automatically set to the most suitable setting according to cooling or heating needs; an automatic swing mode enables airflow to reach all areas of the room to create a comfortable ambience
- Optional Condensate Drain Kit available

Technical Specifications

Model name			MMC-	AP0181H2UL	AP0241H2UL	AP0361H2UL	AP0421H2UL
Cooling capacity			kBtu/h	18	24	36	42
Heating capacity			kBtu/h	20	27	40	47.5
Electrical characteristics	Power supply			230V (208/230V) 1-phase 60Hz			
	Power consumption		kW	0.038	0.05	0.091	0.11
External dimensions		Height	in	8.3			
		Width	in	35.8	46.5	62.8	
		Depth	in	26.8			
Total weight			lb	46	57	75	
Fan unit	Standard airflow (High/Mid/Low)		cfm	410/360/320	590/530/470	880/770/680	950/820/730
	Motor output		W	60	60	120	120
Connecting pipe	Gas side		in	1/2	5/8	5/8	5/8
	Liquid side		in	1/4	3/8	3/8	3/8
	Drain port (nominal dia.)		in	VP20 (Polyvinyl chloride tube: External Dia.1 Internal Dia. 0.79)			
Sound pressure level (High/Mid/Low) (*1)			dB(A)	38.5/35/32.5	40.5/38/35	44/41/37	46/42.5/39.5

(*1) The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Options



MML-AP*4H2UL

Floor Console - Exposed

Installed flush against a wall typically under a window or in a room with an exterior wall.

- Optional Condensate Drain Kit available

Technical Specifications

Model name			MML-	AP0074H2UL	AP0094H2UL	AP0124H2UL	AP0154H2UL	AP0184H2UL	AP0244H2UL
Cooling capacity			kBtu/h	7.5	9.5	12.0	15.4	18.0	24.0
Heating capacity			kBtu/h	8.5	10.5	13.5	17.0	20.0	27.0
Electrical characteristics	Power supply			230V (208/230V) 1-phase 60Hz					
	Power consumption (208V)			0.049	0.049	0.080	0.080	0.098	0.098
	Power consumption (230V)		kW	0.058	0.058	0.093	0.093	0.113	0.113
Appearance			Model	Silky Shade (Munsell 1Y8.5/05)					
External dimensions main unit		Height	in	24.8					
		Width	in	37.4					
		Depth	in	9.1					
Total weight			lb	81.6				88.2	
Fan unit	Standard airflow (High/Mid/Low)		cfm	280/250/210	280/250/210	530/460/380	530/460/380	640/550/460	640/550/460
	Motor output		W	19	19	45	45	70	70
Connecting pipe	Gas side		in	3/8	3/8	3/8	1/2	1/2	5/8
	Liquid side		in	1/4	1/4	1/4	1/4	1/4	3/8
	Drain port (nominal dia.)		in	0.8 (Polyvinyl chloride tube)					
Sound pressure level (High/Mid/Low) (*1)	208V		dB(A)	39/38/35	39/38/35	47/44/40	47/44/40	51/46/41	51/46/41
	230V		dB(A)	42/40/38	42/40/38	50/46/42	50/46/42	53/48/43	53/48/43

(*1) The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Floor Console - Recessed

Installed inside a wall or custom-built cabinet to match interior space design.

- Optional Condensate Drain Kit available

MML-AP*4BH2UL

Technical Specifications

Model name			MML-	AP0074BH2UL	AP0094BH2UL	AP0124BH2UL	AP0154BH2UL	AP0184BH2UL	AP0244BH2UL
Cooling capacity			kBtu/h	7.5	9.5	12.0	15.4	18.0	24.0
Heating capacity			kBtu/h	8.5	10.5	13.5	17.0	20.0	27.0
Electrical characteristics	Power supply			230V (208/230V) 1-phase 60Hz					
	Power consumption (208V)		kW	0.047	0.047	0.047	0.095	0.095	0.104
	Power consumption (230V)		kW	0.056	0.056	0.056	0.114	0.114	0.120
Appearance			Model	Zinc hot dipping steel plate					
External dimensions main unit		Height	in	23.6					
		Width	in	29.3			41.1		
		Depth	in	8.7					
Total weight			lb	50.7			68.3		
Fan unit	Standard airflow (High/Mid/Low)		cfm	270/240/180	270/240/180	270/240/180	440/350/290	440/350/290	560/470/380
	Motor output		W	19	19	19	70	70	70
Connecting pipe	Gas side		in	3/8	3/8	3/8	1/2	1/2	5/8
	Liquid side		in	1/4	1/4	1/4	1/4	1/4	3/8
	Drain port (nominal dia.)		in	0.8 (Polyvinyl chloride tube)					
Sound pressure level (High/Mid/Low) (*1)	208V		dB(A)	40/36/33	40/36/33	40/36/33	40/36/33	40/36/33	47/42/35
	230V		dB(A)	42/39/36	42/39/36	42/39/36	42/39/36	42/39/36	49/44/37

(*1) The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

MMD-AP*4SPH2UL

Slim Duct (Low Profile)

Functional Design

- Only 8.3 inches in height for greater application flexibilty
- Three-step static pressure setup
- Concealed installation within a ceiling void
- Outside air intake available
- Includes drain pump
- No filters provided with the unit

Slim and Quiet

- Perfect comfort throughout the room
- Can be used with any style of air diffuser
- Quiet, powerful operation

Technical Specifications

Model name			MMD-	AP0074SPH2UL	AP0094SPH2UL	AP0124SPH2UL	AP0154SPH2UL	AP0181BH2UL
Cooling capacity/Heating capacity			kBtu/h	7.5/8.5	9.5/10.5	12/13.5	15.4/17	18/20
Electrical characteristics	Power supply			230V (208/230V) 1 Phase 60Hz				
	Power consumption		KW	0.043	0.043	0.048	0.061	0.071
External dimensions		Height	in	8.3				
		Width	in	33.3				
		Depth	in	25.4				
Total weight			lbs	49			51	
Fan unit	Standard airflow (High/Mid/Low)		cfm	318/276/235		353/306/265	406/353/306	459/400/341
	Motor output		W	60				
	External static pressure Factory setting (*1)		in WG	0.08				
	External static pressure		in WG	-0.14 - 0.2				
Connecting pipe	Gas side		in	3/8			1/2	
	Liquid side		in	1/4				
	Drain port		in	VP25 (Polyvinyl chloride tube: External Dia. 1-1/4 Internal Dia. 1)				
Sound pressure level (*2) (High/Mid/Low)		Under air inlet	dB(A)	39/36/33		41/38/35	41/38.5/35	44.5/41/37.5
		Back air inlet	dB(A)	31/30/28		32.5/31.5/28.5	34.5/33.5/28.5	37/34/32

(*1) Non-attached filter.
(*2) The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Options

Auxiliary Outside Air Flange: TCB-FF101URUL

MMD-AP*4BH2UL**

Concealed Duct (Medium Static)

Medium Static Pressure

External static pressure can be raised as high as 150 in. WG, so that all areas of the room can be reached for even temperature distribution, no matter how complex the layout.

High-Lift Drain Pump

Kit that raises the drain piping up to 10.6 inches from the drain port.

Technical Specifications

Model name		MMD-	AP0074BH2UL	AP0094BH2UL	AP0124BH2UL	AP0154BH2UL	AP0184BH2UL	AP0214BH2UL	AP0244BH2UL	AP0304BH2UL	AP0364BH2UL	AP0424BH2UL	AP0484BH2UL
Cooling capacity/Heating capacity		kBTU/h	7.5/8.5	9.5/10.5	12/13.5	15.4/17	18/20	21/24	24/27	30/34	36/40	42/47.5	48/54
Electrical characteristics	Power supply		230V (208/230V) 1 Phase 60Hz										
	Power consumption	kW	0.041	0.041	0.049	0.091	0.091	0.091	0.091	0.091	0.106	0.142	0.142
External dimensions	Height	in	12.6										
	Width	in	21.7			39.4		53.2					
	Depth	in	31.5										
Total weight		lbs	64			93		119					
Fan unit	Standard airflow (High/Mid/Low)	cfm	312/282/165		371/335/ 224	635/556/382		788/694/424			1088/953/ 706	1324/1165/871	
	Motor output	W	150										
	External static pressure (factory setting)	in WG	0.26		0.24	0.25		0.21			0.25		
	External static pressure	in WG	0.48									0.44	
Connecting pipe	Gas side	in	3/8			1/2		5/8					
	Liquid side	in	1/4					3/8					
	Drain port	in	VP25 (Polyvinyl chloride tube: External Dia. 1-1/4 Internal Dia. 1)										
Sound pressure level (*1) (High/ Mid/ Low)		dB(A)	34/30.5/27.5	34/30.5/27.5	34.5/32/31	37.5/35.5/ 29	37.5/35.5/ 29	35/33/31	35/33/31	35/33/31	38/35.5/34.5	41/38.5/36	41/38.5/36

(*1) The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Options

Fan guard for bottom inlet: TCB-IG071BUL
TCB-IG151BUL
TCB-IG211BUL

MMD-AP*4H2UL**

High Static Duct

Design Flexibility

- Satisfies all your design needs
- Compatible with external static pressures up to 1.175 in. WG
- Inspection inlet enables easy access and maintenance
- No filters provided with the unit

Construction Characteristics

- Three-phase-switchable static pressure
- The flexible duct is accessible
- Easy service and installation
- Inspection hole enables easy access and maintenance

TECHNICAL SPECS

Technical Specifications

Model name			MMD-	AP0304H2UL	AP0364H2UL	AP0484H2UL	AP0724H2UL	AP0964H2UL
Cooling capacity/Heating capacity			kBtu/h	30/34	36/40	48/54	72/81	96/108
Electrical characteristics	Power supply			230V (208/230V) 1 Phase 60Hz				
	Power consumption 208V/230V		KW	0.38/0.41	0.38/0.41	0.35/0.41	1.37/1.44	1.20/1.63
External dimensions		Height	in	15			18.5	
		Width	in	33.5		47.2	54.3	
		Depth	in	26			49.2	
Total weight			lbs	128		154	353	
Fan unit	Standard airflow		cfm	926		1235	2120	2473
	Motor output		W	260			370 x 3	
	External static pressure (*1) Factory setting (208V/230V)		in WG	0.641/0.814		0.296/0.519	0.580/0.929	0.317/0.734
	External static pressure 208V (*2) (High tap/Mid tap/Low tap)		in WG	1.075/0.641/0.287		0.606/0.296/Non	0.896/0.580/0.346	0.739/0.317/0.062
	External static pressure 230V (*2) (High tap/Mid tap/Low tap)		in WG	1.175/0.814/0.506		0.801/0.519/0.114	1.212/0.929/0.629	1.099/0.734/0.459
Connecting pipe	Gas side		in	5/8			7/8	
	Liquid side		in	3/8			1/2	
	Drain port		in	VP25 (Polyvinyl chloride tube: Dia. 1-1/4 Internal Dia. 1)				
Sound pressure level (*3) 208V (*2) (High/Mid/Low)			dB(A)	49.5/45/41		47/44/ -	51/49/47	
230V (*2) (High/Mid/Low)			dB(A)	51/47/43		49/46/43	53/51/50	

(*1) Non-attached filter.
(*2) The tap is set by wire connection change of fan motor.
(*3) The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

40TCQ*

Vertical AHU

- Multi-position Installation Option
- Energy-efficient ECM operation ensures proper performance across a wide range of duct static pressure maximizing cooling and heating capacities
- All sizes of the units are multi-position ready for upflow or horizontal applications. Units can also be suspended from roof or ceiling joints
- Precise airflow delivery across a wide range of duct static pressure
- 1" filter rack

Technical Specifications

Model name		40TCQ	024	030	036	042	048
Cooling capacity		kBtu/h	24	30	36	42	48
Heating capacity		kBtu/h	27	34	40	47.5	54
Electrical characteristics	Power supply		230 V (208/230V) 1 Phase 60Hz				
	Power consumption	W	989				
External dimensions Main unit	Height	in	42.7		53.4		
	Width	in	17.6		21.1		
	Depth	in	22.06				
Total weight		lbs	135		150		
Fan unit	Standard air flow (High/Mid/Low)	cfm	630/505/350	785/630/390	945/755/470	1100/880/550	
	Motor output	W	373				
	External static pressure	in WG	0.5		0.8		
Connecting pipe	Gas side	in	3/4				
	Liquid side	in	3/8				
	Drain port (nominal dia.)	in	3/4				
Sound power level at 63 Octave band, 400 cfm		dB(A)	63				

Outside Air

- Controls discharge air temperature
- Energy efficient DC fan motor
- CFM ranges from 600 to 1,200 for a wide array for outside air applications

MMD-AP*1HF2UL

Technical Specifications

Model name		MMD-	AP0481HF2UL	AP0721HF2UL	AP0961HF2UL
Cooling capacity		kBtu/h	48	72	96
Heating capacity		kBtu/h	30	47	59
Electrical characteristics	Power supply		230V (208/230V), 1 Phase 60Hz		
	Power consumption	kW	0.31/0.34	0.56/0.58	0.64/0.66
External dimensions Main unit	Height	in	19.5		
	Width	in	34.4	55	
	Depth	in	49.8		
Total weight		lbs	212	349	
Fan unit	Standard air flow (High/Mid/Low)	cfm	636	989	1,237
	Motor output	W	160	160 x 2	
Connecting pipe	Gas side	in	5/8	7/8	
	Liquid side	in	3/8	1/2	
	Drain port (nominal dia.)	in	1-1/4 OD: 1.0 ID (Polyvinyl chloride tube)		
Sound pressure level (High/Mid/Low) (*1)	208V	dB(A)	44/43/36	47/46/40	47/45 (H/L)
	230V	dB(A)	46/45/42	48/47/46	50/49 (H/L)
Operatng range for SMMS-e	Cooling (*2)	° F	41 ~ 115		
	Heating (*3)	° F	23 ~ 109		

(*1) The actual values in an operating environment are generally higher than the indicated values due to the contribution from ambient noise
(*2) When supply air temperature is "setting temperature + 5.4° F" or less. Outside Air unit operates as FAN mode.
(*3) When supply air temperature is "setting temperature - 5.4° F" or over. Outside Air unit operates as FAN mode.

Flow Selector and Branching Joints

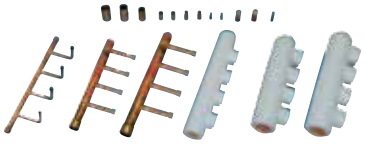
Heat Recovery Flow Selectors

	Single Port			Multiport	
	RBM-Y0383FUL	RBM-Y0613FUL	RBM-Y0963FUL	RBM-Y0613F4PUL	RBM-Y0613F6PUL
Appearance					
Connectable indoor unit capacity (kBTU/h)	Below 38	38 to below 61	61 to 96 or less	61 or less	61 or less
Connectable indoor units*	5	8	8	10	10

*Only group operation is possible with 1 (or 2) remote controller(s)

Connection cable kit: RBC-CBK15FE

Heat Recovery Branching Joints

	Y-shape Branching Joint				Branch Headers				Outdoor Unit Connection Piping Kit	
Appearance					 (4-Branch Headers)					
Model name	RBM-BY55FUL	RBM-BY105FUL	RBM-BY205FUL	RBM-BY305FUL	RBM-HY1043FUL	RBM-HY2043FUL	RBM-HY1083FUL	RBM-HY2083FUL	RBM-BT14FUL	RBM-BT24FUL
Usage branches					Max. 4 branches		Max. 8 branches			
Usage (kBTU/h) *Classification according to indoor unit capacity code	Total below 61	Total 61 or more and below 134.5	Total 134.5 or more and below 239	Total 239 or more	Total below 134.5	Total 134.5 or more	Total below 134.5	Total 134.5 or more	Total below 247	Total 247 or more

Heat Pump Branching Joints

	Y-shape Branching Joint for Using 2 Pipes				Branch Headers				Outdoor Unit Connection Piping Kit	
Appearance					 (4-Branch Headers)					
Model name	RBM-BY55UL	RBM-BY105UL	RBM-BY205UL	RBM-BY305UL	RBM-HY1043UL	RBM-HY2043UL	RBM-HY1083UL	RBM-HY2083UL	RBM-BT14UL	RBM-BT24UL
Usage (kBTU/h) *Classification according to indoor unit capacity code	Total below 61	Total 61 or more and below 134.5	Total 134.5 or more and below 239	Total 239 or more	Max. 4 branches		Max. 8 branches		Total 247	Total 247 or more
					Below 136	136 or more	Below 136	136 or more		

Remote Controls

Wired Remote Controller
RBC-AMS54E-UL

- Simple, easy to use
- Backlit
- Fan spped
- Clock setting
- Schedule timer
- Dual set-point
- 1° F temperature indication
- Set temperature range limiting
- Service check mode
- Compatible with Toshiba Carrier RAV and VRF System

Touch Screen Central Controller
BMS-CT5120UL

- Grouping based on floor, unit, area, tenant and level
- Operating Mode, Turning ON/OFF
- Enable or Disable local Remote Control
- Master Scheduler – Weekly, Five Special Days, Monthly
- Display alarm + provide history for alarms
- Web Browser Monitoring and Control (for Intranet PC)
- Up to two concurrent users can be connected
- Additional digital I/O device available
- Maximum of 512 indoor unit per Touch Screen Controller
- Selectable display language – English / French / Spanish

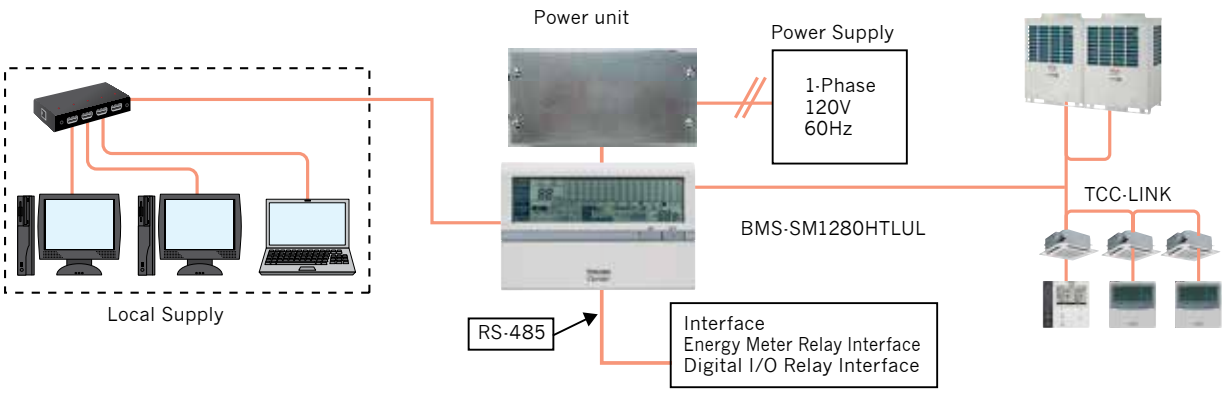
Smart Manager

Smart Manager with Web
BMS-SM1280HTLUL

- List View available – Displays all indoor units in one screen
- Set View available – Shows basic indoor unit settings on main screen
- Advanced operation and master schedule functions available
- Up to four concurrent users can be connected
- Up to 32 user accounts can be programmed with different levels of access (at least one must be administrator level)
- Energy monitoring and report creation functions available
- Advanced operation and master schedules can be set on a calendar
- Additional Digital I/O device available
- Thin profile controller and separate power supply unit enables easy installation

Central Remote Control
BMS-CM1281TLUL

- Individual control (ON/OFF, Operating mode, etc.)
- Manages up to 128 units (Max: 2 x 64 indoor units)
- Flexible grouping in zones
- External input/output control (Input: ON/OFF signal, Output: Error signal)

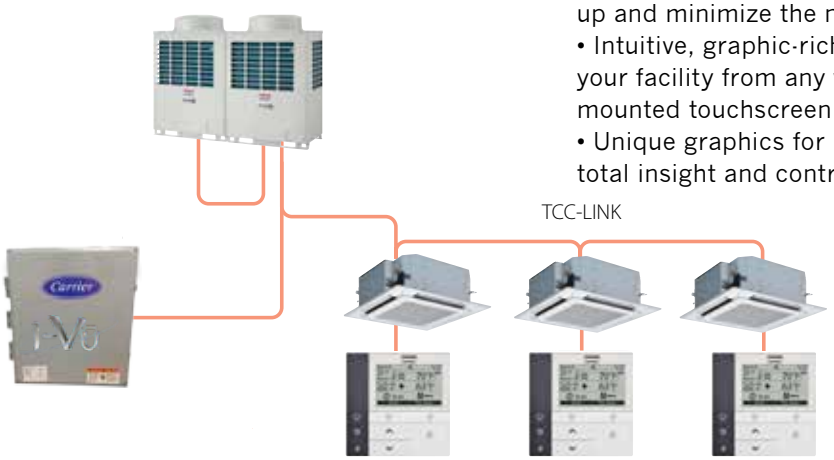


Toshiba Carrier i-Vu® Interface

OPN-MTCC

The i-Vu® Building Automation System (BAS) brings the big picture into sharp focus with a 360° view of your building's entire operation. With its ability to communicate with the Toshiba Carrier VRF System, other HVAC, and ancillary system components, the i-Vu Building Automation System gives you a real-time consolidated view of occupant comfort, energy usage, and all other operating conditions. As a result, you'll know precisely what's going on...and why.
Regardless of the control type or equipment manufacturer, the i-Vu Building Automation System is your connection for seamless, comprehensive and flexible control of all systems in your building.

- Easy to install and commission
- Pre-engineered, pre-loaded control programs simplify system set-up and minimize the need for field programming
- Intuitive, graphic-rich i-Vu user interface keeps you connected to your facility from any web-enabled device or locally through a wall-mounted touchscreen
- Unique graphics for individual system components give users total insight and control



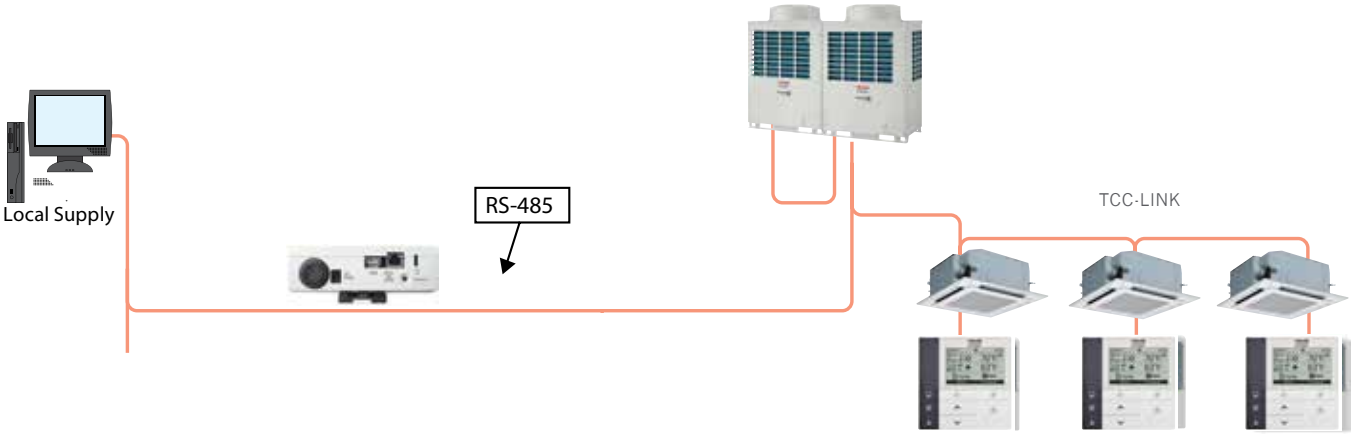
BACnet® System

Intelligent Server
BMS-IFBN640TLUL

The BACnet® system uses object signals to provide the following functions:

Controller
- ON/OFF
- Operation mode
- Temperature setting
- Fan speed
- Louver
- Permit/prohibit local remote controller

Monitoring
- ON/OFF
- Operation mode
- Temperature setting
- Fan speed
- Louver
- Room temperature
- Permit/prohibit local remote controller
- Error code
- Error status



BACnet®: Trademark registration of American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.

Integration done in field by customer.

LonWorks®

LN Interface
TCB-IFLN642TLUL

LonWorks® LN Interface

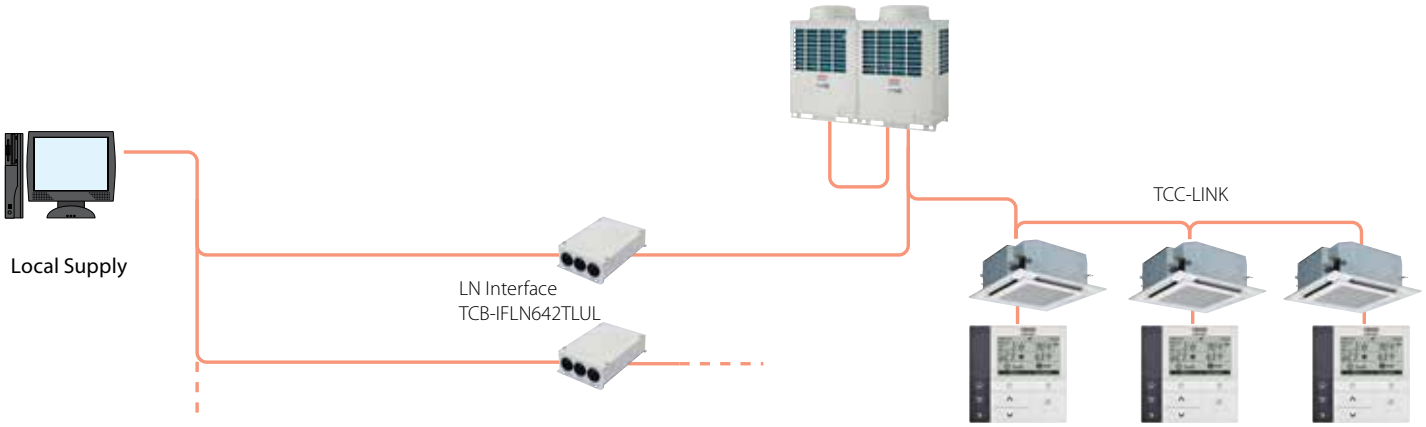
The LonWorks® interface manages the system as a Lon device to communicate with the custormer's Building Management System and to monitor operational status. A maximum of 64 units are controllable per interface.

SNVT Signal

Signals and provides the following functions:

Controller
- ON/OFF
- Operation mode
- Temperature setting
- Fan speed
- Louver
- Permit/prohibit local remote controller

Monitoring
- ON/OFF
- Operation mode
- Temperature setting
- Fan speed
- Louver
- Room temperature
- Permit/prohibit local remote controller
- Error code
- Error status



LonWorks®: Registered trademark of Echelon corporation.

Integration done in field by customer.

Additional Remote Controls

Simple Wired Remote Control
RBC-AS41UL
- Start/Stop
- Temperature setting
- Airflow changing
- Check code display

Remote Sensor
TCB-TC41LUL
Install this sensor when outside air has been introduced or when overcooling and overheating are to be minimized.

Wired Remote Controller
RBC-AMT32UL and RBC-AMS41UL
- **Local control of individual fan coil**
- **Clock display and schedule timer**

(RBC-AMS41UL only):
- Possible to program schedule timer (seven-day timer) function
- Possible to program eight functions for each day of the week

The following items can be set in program: operation time, operation start/stop, operation mode, temperature setting, restriction on button operation

Wireless Remote Control Kit

- Start/Stop
- Changing mode
- Temperature setting
- Airflow changing
- Timer function
- Control by two remote controllers is available
  – Two wireless remote controllers can operate one indoor unit
  – The indoor unit can then be operated separately from the two different locations
- Check code display

Integral Receiver
RBC-AX32U(W)-UL
(For 4-Way Cassette)

- Includes Wireless Remote Control Kit

Integral Receiver
RBC-AX33C-UL
(For Underceiling)

- Includes Wireless Remote Control Kit

Stand-Alone Receiver
TCB-AX32UL

- (For 4-Way Cassette, Compact 4-Way Cassette, Underceiling, Concealed Duct, Slim Duct, Vertical AHU)
- Includes Wireless Remote Control Kit

TCB-PCDM4UL

Size: 2.8 × 3.3 (in.)

Install the optional P.C. board in the inverter assembly of the outdoor header unit.

Power Peak-Cut Control

- Feature
  The upper limit capacity of the outdoor unit is restricted based on the outdoor power peak selected setting.
- Function
  Two control settings are selectable by setting SW07 on the interface P.C. board on the header outdoor unit.

TCB-PCMO4UL

Size: 2.2 × 2.4 (in.)

Install the optional P.C. board in the inverter assembly of the outdoor header unit.

External Master ON/OFF Control

- Feature
  The outdoor unit can control start or stop to receive the external signal.

Night Operation Control

(Sound reduction)

- Feature
  Sound level can be reduced by restricting the compressor and fan speeds.

Operation Mode Selection Control

- Feature
  This control can restrict the selectable operation mode.

Snowfall Fan Control

- Feature
  The outdoor fan will operate to prevent snow buildup.

TCB-PCIN4UL

Size: 2.9 × 3.1 (in.)

Install the optional P.C. board in the inverter assembly of the outdoor header unit.

Error/Operation Output Control

- Feature
  Enables external output of error and operation signals.

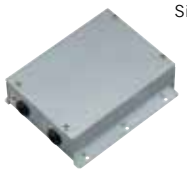
Compressor Operation Output

- Feature
  Enables external signal output for each compressor that is in operation within any given outdoor unit. This feature provides a practical method for calculating total operating times for each compressor.

Operating Rate Output

- Feature
  External output of system operating rates enables remote monitoring of operating conditions.

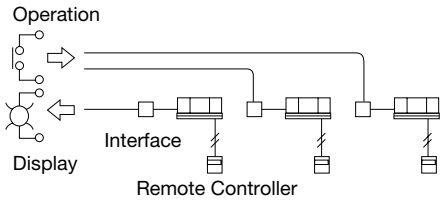
TCB-IFCB-4UL



Size: 7.9 × 6.7 × 2.6 (in.)

Remote Location ON/OFF Control Box

- Feature
  Start and stop of the air conditioner is possible by an external signal and indication of operation/alarm externally.



Monitoring

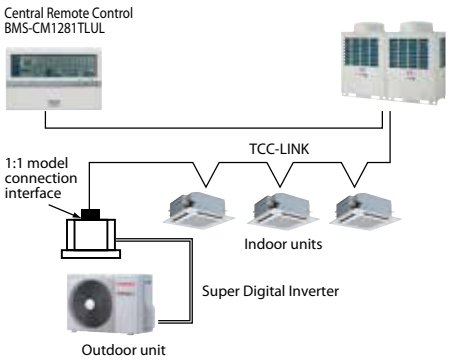
ON/OFF status (for indoor unit).
Alarm status (system and indoor unit stop).
ON/OFF command.
Air conditioner can be turned ON/OFF by the external signals.
The external ON/OFF signals will initiate the signals shown below.

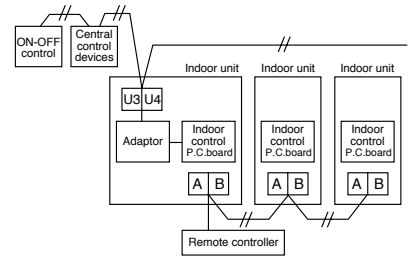
TCB-PCNT31TLUL

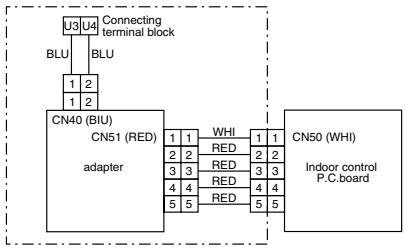
Size: 3.3 × 2.0 (in.)
Install optional PC. board in E-parts of the indoor unit.

Network Adapter

- Feature
  Link adapter for “1:1 model” to enable connection to VRF system network.
  1:1 model:
  – Super digital inverter
  – Used only for light commercial products







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