Reach New Heights with

Variable Refrigerant Flow

Heat Recovery and Heat Pump Systems

TOSHIBA

Carrier

Spring 2018 Edition

Index

Taking VRF further, together.

TOSHIBA
Carrier

Toshiba Carrier VRF brings together two of the early innovators of variable refrigerant flow. In 1999, Carrier and Toshiba formed a strategic alliance to provide industry-leading VRF solutions. These breakthroughs continue today, giving engineers wider and smarter options in designing and redesigning indoor comfort systems.

1935: Started manufacturing Toshiba air conditioner

1961: Launched world's first split air conditioner

1980: Launched world's first Inverter air conditioner

1993: Launched world's first DC twin rotary compressor

1999: Formed Toshiba Carrier joint venture

2001: Launched Japan's first light commercial air conditioner with R410A

2003: Launched Super Module Multi System with R410A

2006: Launched Super Flex Modular chiller in Japanese market with R410A

2010: Launched RAV Ductless Systems in North America

2012: Launched VRF i-Series in North America

2016: Launched next-generation VRF e-Series in North America

Providing personalized comfort and control to every room, every application.

The Toshiba Carrier family of VRF products offers a wide range of systems to meet an expansive array of applications from residential to large commercial buildings.

Smart Comfort. Superior Performance

Simple to design, install, operate and maintain, Toshiba Carrier VRF can be managed centrally or monitored remotely. It's perfect for any commercial or large residential complex with a range of heating and cooling needs. An outdoor VRF system can operate up to 64 independent indoor units, providing superior zoning. The refrigerant flow varies from location to location, delivering only the necessary capacity to each zone.

Features and Benefits

- Simultaneous heating and cooling allow you to heat and cool different rooms at the same time (applicable to heat recovery only), which minimizes energy loss and improves climate control
- Timely alerts aid in maintaining the system and keeping it running at its most efficient
- Smaller condensing footprint requires less valuable building space, provides installation flexibility and requires less installation time
- Easily adaptable to changing building needs
- Longer pipe lengths and increased piping flexibility
- i-Vu® interface integrates with other Carrier® systems and enhanced BMS controls
- Off means off because it utilizes an intelligent refrigerant control system to ensure all valves close and spaces are never overheated
- System turndown to approximately 1% of system capacity depending on outdoor size
- Get the expertise of the Carrier support team behind you

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Toshiba Carrier VRF Systems

Toshiba Carrier VRF systems can be optimized to precisely match building capacity requirements utilizing a 3-pipe heat recovery system or a 2-pipe heat pump system.

Heat recovery provides simultaneous heating and cooling to multiple units on the same outdoor system, providing the highest level of control and indoor comfort. The heat recovery system can use single or multi-port flow selector boxes for indoor units, providing flexibility and longer pipe runs.

A heat pump can connect up to 64 indoor units to a single system, making it perfect for large open spaces or multiple zones with similar load profiles.

Single-phase VRF is ideal to meet the power requirements for any type of property available in heat pump and heat recovery, making it perfect for large residential and light commercial applications.

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

INDUSTRY FIRST

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

Single-phase Heat Pump
3–5 Tons
208/230V

100% heating capacity at 5° F
for 3 and 4-ton systems

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

SHRM SUPER HEAT RECOVERY MULTI

SMMS SUPER MODULAR MULTI SYSTEM

Superior Zoning and Efficiency

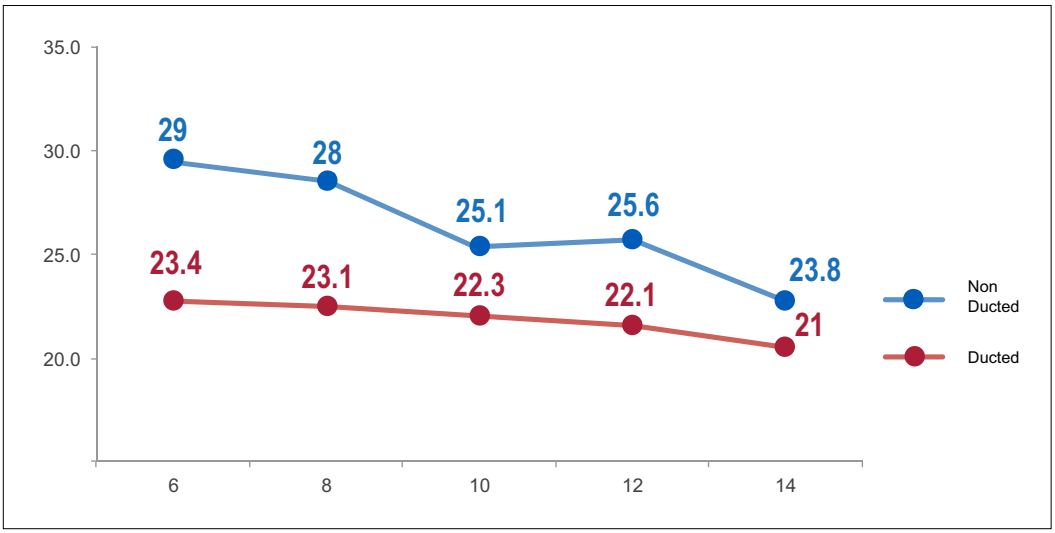
With a VRF system, refrigerant flow can vary from location to location, delivering only the necessary capacity to each zone. Using energy only in the spaces that need it allows for simultaneous heating and cooling as well as superior zoning and efficiency, providing the ultimate in customized comfort.

Enhanced Efficiency Through Innovation

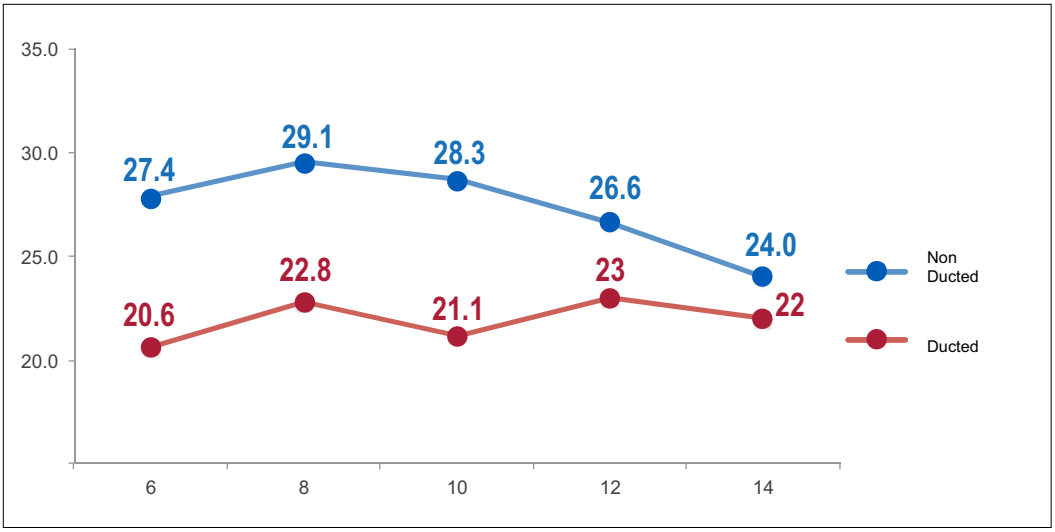
Breakthrough enhancements to the core e-Series design deliver industry-leading efficiencies and excellent IEER performance. These benefits are achieved through four key design components:

- Compressors with expanded operating envelopes
- Slimmer, more efficient heat exchangers
- Aerodynamic fan blades increase airflow and minimize noise
- Intelligent VRF Refrigerant Management

Heat Pump



Heat Recovery



IEER (Integrated Energy Efficiency Ratio) is an energy-measuring rating for part-load systems, like VRF. A formula is applied to measure these systems as they operate at four different capacities.

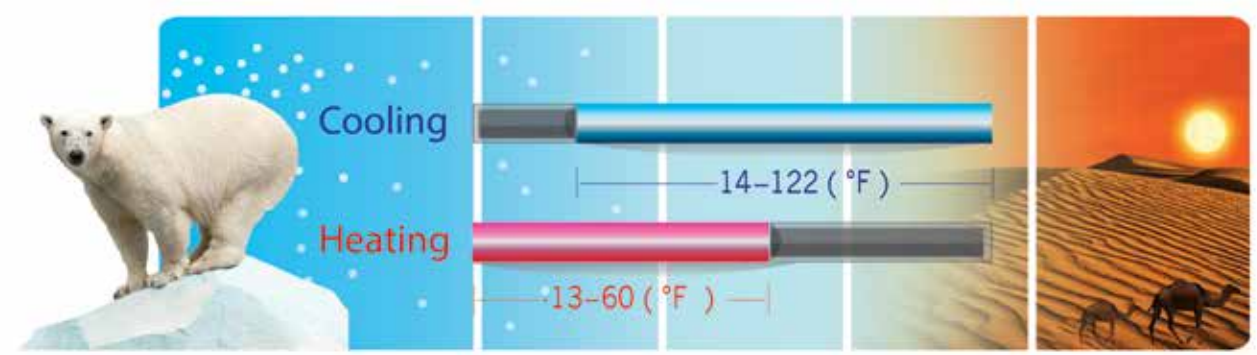
Excellent Cooling and Heating Performance

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 to achieve indoor comfort solutions for any space, anytime of the year.

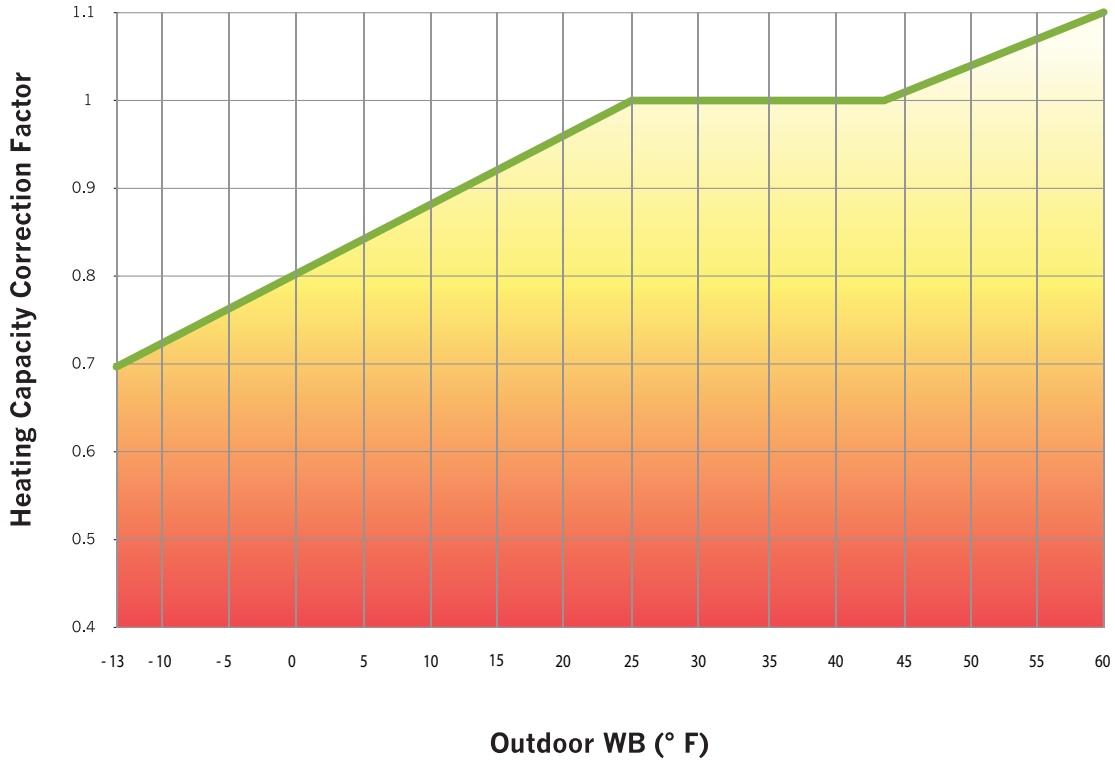
Increased Temperature Range

Improved cooling and heating modes by widening the 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 shutoff while operating below -13°F in heating mode or above 122°F in cooling mode.

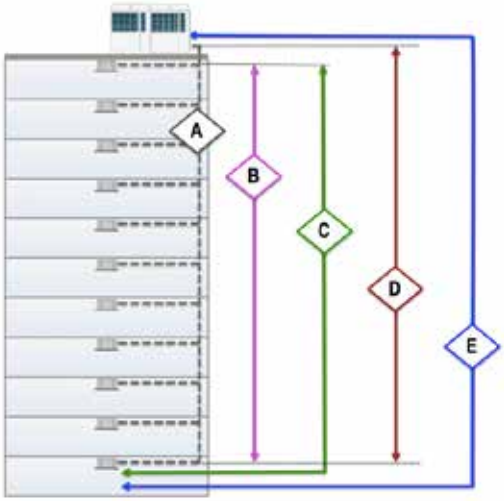
Outdoor Ambient Heating Capacity Correction



Piping Versatility Summary

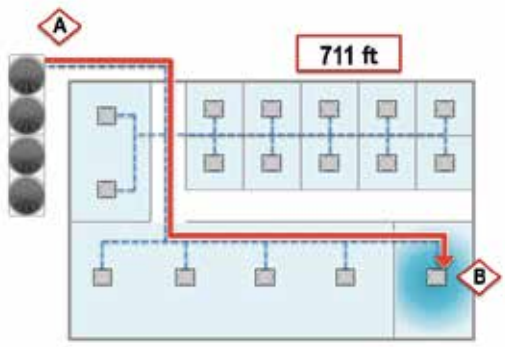
Installation flexibility with a maximum of 131 ft. between indoor units.
Flexibility in piping design is a major factor for the evaluation of a VRF solution.

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.

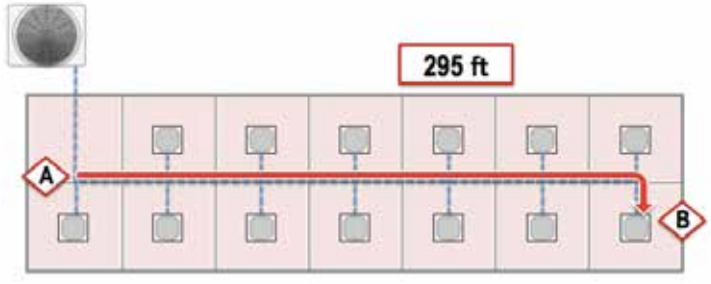
Longer Distance Between Outdoor and Indoor Units



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

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



Wide Capacity Ranges

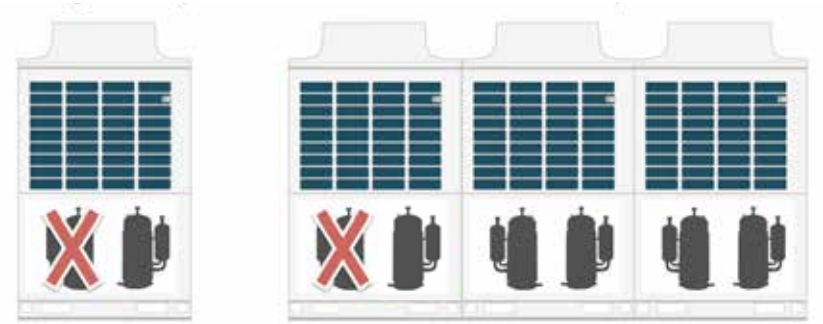
Single outdoor-unit capacity expanded up to 14 ton

Previous chassis		e-Series chassis
6 ton	8 – 10 ton	12 – 14 ton
		

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

Reliability

The Toshiba Carrier VRF e-Series features allow for customized settings to maximize both efficiency and comfort. In addition, these systems have 100% Inverter-driven compressors. Multiple Inverter-driven compressors mean greater backup capability in case of a faulty compressor. If that happens, the faulty compressor can be easily isolated while the system continues to operate, maintaining comfort.



Single ODU Backup

Module ODU Backup

Rotational Control

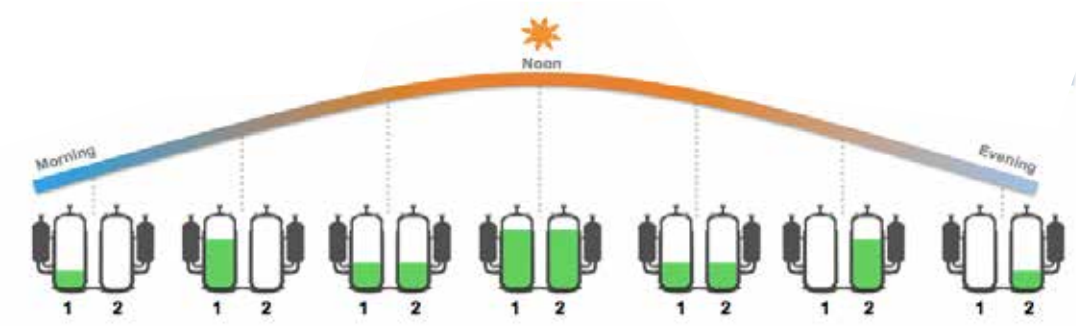
The e-Series controls the operation of each compressor, while maintaining the same overall compressor performance.

The distribution of load between compressors provides 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.

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

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

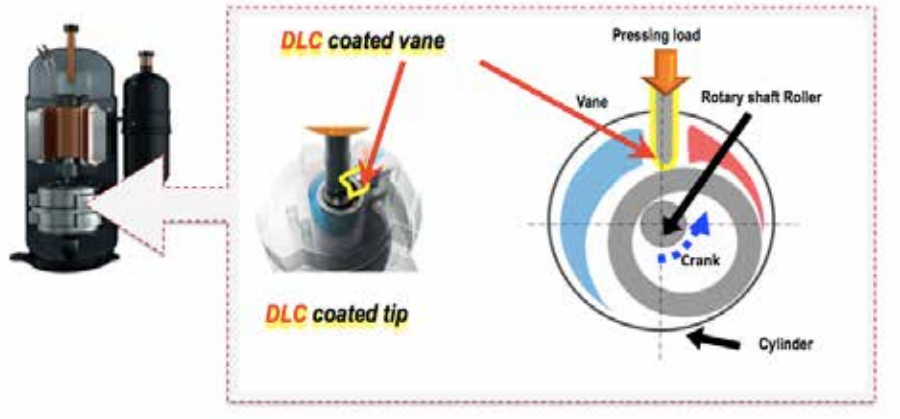


Off Means Off

Off means off because it utilizes an intelligent refrigerant control system to ensure all valves close and spaces are never overheated.

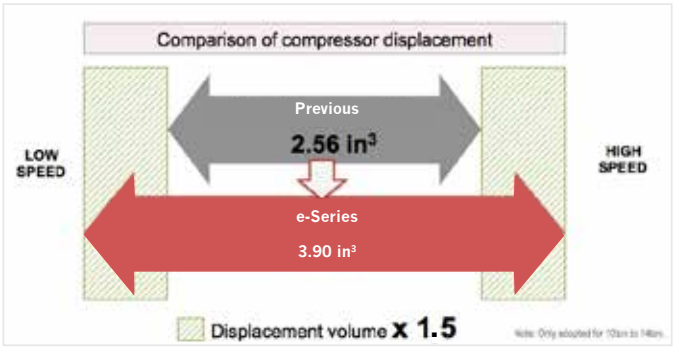
Compressor

Diamond-like carbon (DLC) protection coating inside the compressor's vane increases efficiency and reliability. The increased hardness of the DLC-coated dual vane reduces friction and results in significant improvement in reliability and performance of the compressor.



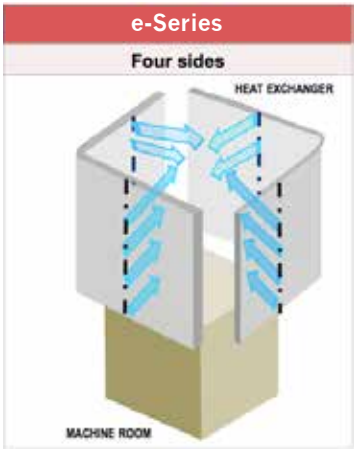
Turndown Wide Range Compressor

Improved displacement range allows for greater turndown, providing the ability for a 38-ton system to turn down to 1% of its capacity and keep precise control.



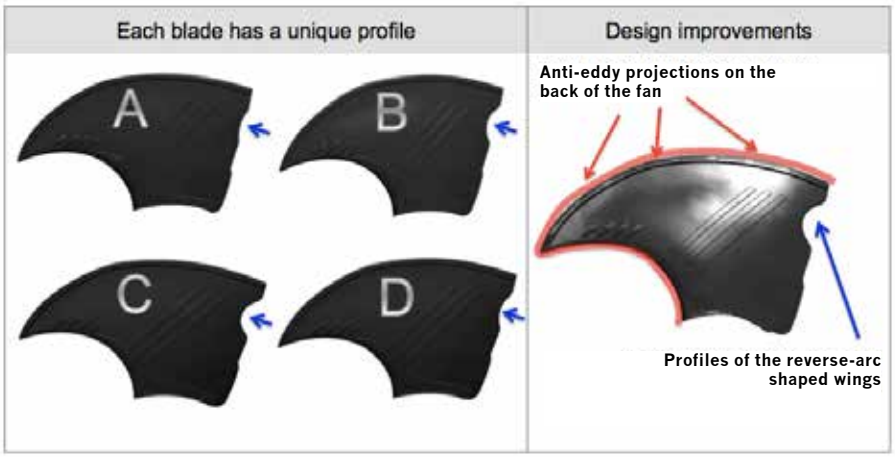
Raising the Heat Exchanger to the Next Level

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



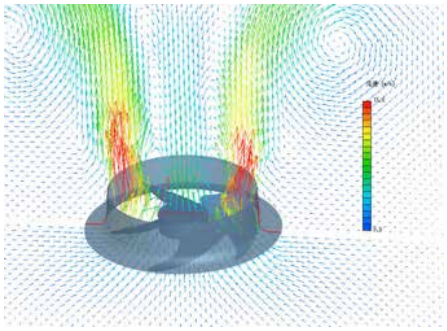
Quiet Operation: Air Discharge Propeller

Every fan blade is designed with a unique profile, a solution that guarantees smooth airflow without turbulence.

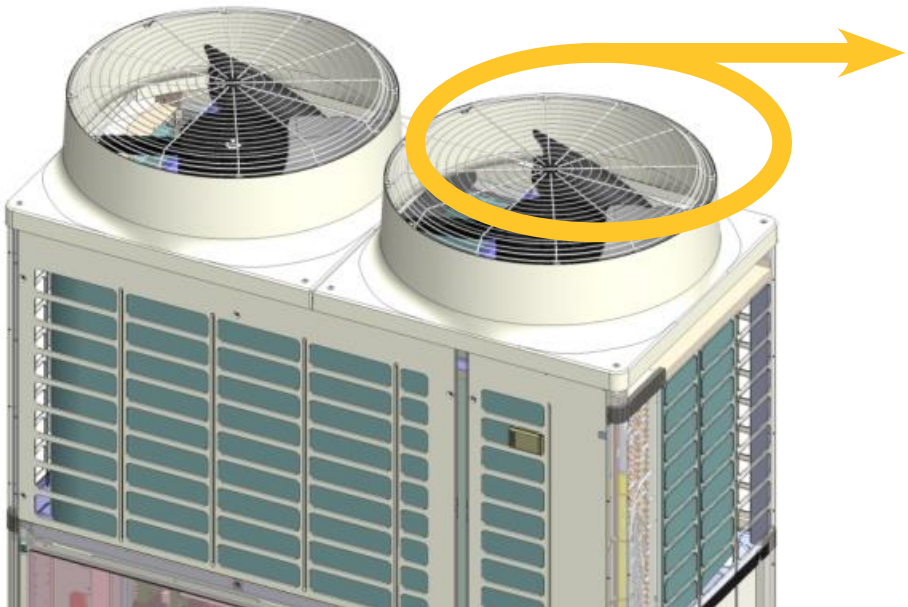


Its air discharge propeller fan is designed to minimize air resistance, making it powerful but still quiet.

e-Series Model



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



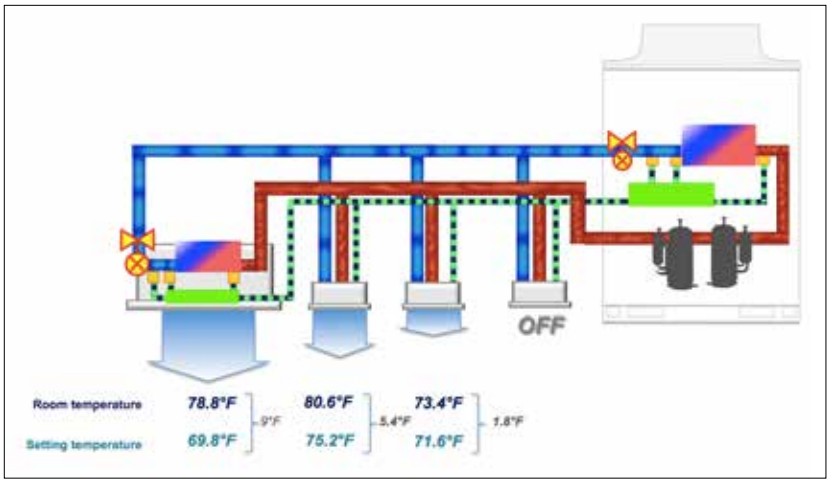
System Sensitivity

The intelligent 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 for each and every indoor unit, up to 64 indoor units, to provide and maintain the desired temperature.

38-ton e-Series
+
64 Indoor Units
↓
More than 300 Sensors

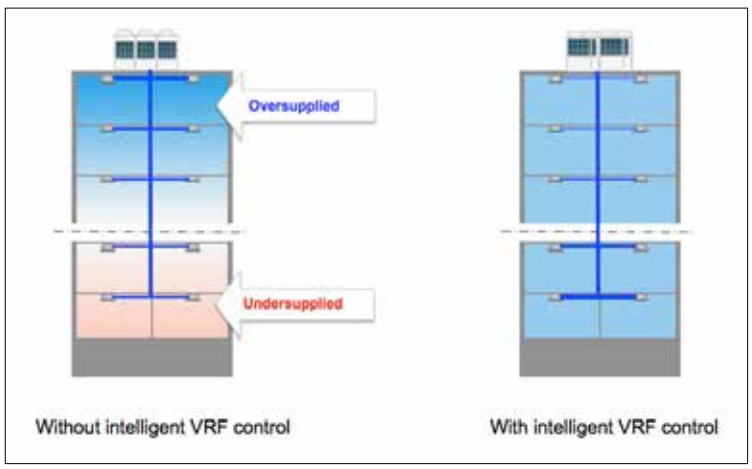
System Calculation

For every indoor unit, the system automatically detects the difference between the two temperature sensors and regulates the refrigerant flow to reach and maintain the desired level of comfort. The valves fully close when satisfied spaces aren't overheated or overcooled.



Refrigerant Operation

With Toshiba Carrier VRF systems, off means off. Many systems allow refrigerant to flow continuously through indoor units, even when the space is satisfied. Toshiba Carrier VRF systems use intelligent refrigerant control to ensure the Pulse Motor Valve (PMV) at the indoor unit shuts completely. This feature helps provide a balanced refrigerant flow to each indoor unit and ensure indoor units aren't starved for refrigerant.



VRF Outdoor Unit Overview




	Tonnage	Heat Pump Single-phase	Heat Recovery Single-phase		Heat Recovery* 3-phase			Heat Pump 3-phase		
		1 Module	1 Module	2 Module	1 Module	2 Module	3 Module	1 Module	2 Module	3 Module
Standard	3	3								
	4	4								
	5	5								
	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 multiport 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 (*6)		kW	4.43	9.65
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	27.4	26.4
	Heating	Power consumption (*6)		kW	5.98	11.69
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	30.6	31.3
With Ducted Indoor Units	Power supply (*2)				208/230V, 1-phase 60Hz	
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption (*6)		kW	4.88	9.81
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	20.6	22.6
	Heating	Power consumption (*6)		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	5,900	5,900 x 2
	Maximum external static pressure			in WG	0.24	0.24
Refrigerant R410A (*3) (Charged refrigerant amount)				lb	24.3	24.3 x 2
Electrical specifications	Unit	MCA (*4)		A	47	47 + 47
		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.
(*6) Only for outdoor unit

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 (*6)	kW	4.43	6.95	9.16	10.76	14.29
		IEER (Integrated Energy Efficiency Ratio)	Btu/W	27.4	29.1	28.3	26.6	24.0
	Heating	Power consumption (*6)	kW	5.98	7.66	10.21	11.76	15.05
		SCHE (Simultaneous Cooling & Heating Efficiency)	Btu/W	30.6	31.3	34.9	33.6	30.2
With Ducted Indoor Units	Power supply (*2)			208/230V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption (*6)	kW	4.88	7.01	8.74	10.69	13.65
		IEER (Integrated Energy Efficiency Ratio)	Btu/W	20.06	22.8	21.1	23.0	22
	Heating	Power consumption (*6)	kW	6.10	7.41	10.18	11.73	15.09
		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	5,900	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 R410A (*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.
(*6) Only for outdoor unit

SHRM
SUPER HEAT RECOVERY MULTI

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					
	14.31	16.89	18.79	21.95	23.54	27.43
	26.9	24.9	24.0	23.8	23.50	22.7
	15.91	18.63	20.30	23.76	25.50	28.89
	29.5	29.0	29.0	27.7	28.1	26.7
	208/230V, 3-phase 60Hz					
	13.99	16.37	18.24	21.02	22.88	27.23
	24.0	23.5	23.0	22.5	22.0	21.5
	15.01	16.80	19.75	22.52	24.67	28.33
	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.
(*6) Only for outdoor unit

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 (*6)		kW	28.29	33.40	35.67	38.44	40.14	44.58
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	24.6	24.0	23.4	22.5	22.0	20.0
	Heating	Power consumption (*6)		kW	30.23	33.48	36.34	38.73	40.99	43.6
		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 (*6)		kW	28.76	33.02	35.39	38.15	40.77	44.34
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	22.5	22.0	21.5	21.0	20.5	20.0
	Heating	Power consumption (*6)		kW	20.35	32.09	35.38	37.48	40.39	43.36
		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 R410A (*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.
(*6) Only for outdoor unit

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			
	14.92	20.37	25.37	29.97
	26.0	23.5	23.0	22.5
	16.36	20.9	26.28	31.66
	29.5	29.0	28.1	26.0
	208/230V, 3-phase 60Hz			
	14.24	19.82	25.68	30.85
	23.5	22.5	21.5	21.0
	15.45	20.35	25.43	31.82
	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 + 5,900	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.
(*6) Only for outdoor unit

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 (*6)		kW	4.43	6.95	9.16	10.76	14.26
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	27.4	29.1	28.3	26.6	24.0
	Heating	Power consumption (*6)		kW	5.98	7.66	10.21	11.76	15.05
		SCHE (Simultaneous Cooling & Heating Efficiency)		Btu/W	30.6	31.3	34.9	33.6	30.2
With Ducted Indoor Units	Power supply (*2)				460V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption (*6)		kW	4.88	7.01	8.74	10.69	13.65
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	20.6	22.8	21.1	23.0	22.0
	Heating	Power consumption (*6)		kW	6.10	7.41	10.18	11.73	15.09
		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	5,900	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 R410A (*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.
(*6) Only for outdoor unit

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					
	14.31	16.89	18.79	21.96	23.54	27.43
	26.9	24.9	24.0	23.8	23.5	22.7
	15.91	18.63	20.30	23.76	25.50	28.98
	29.5	29.0	29.0	27.7	28.1	26.7
	460V, 3-phase 60Hz					
	13.99	16.37	18.24	21.02	22.88	27.23
	24.0	23.5	23.0	22.5	22.0	21.5
	15.01	16.80	19.75	22.52	24.67	28.33
	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) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.
(*6) Only for outdoor unit

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 (*6)		kW	28.29	33.40	35.67	38.44	40.14	44.58
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	24.6	24.0	23.4	22.5	22.0	20.0
	Heating	Power consumption (*6)		kW	30.23	33.48	36.34	38.73	40.99	43.6
		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 (*6)		kW	28.76	33.02	35.39	38.15	40.77	44.34
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	22.5	22.0	21.5	21.0	20.5	20.0
	Heating	Power consumption (*6)		kW	30.35	32.09	35.38	37.48	40.39	43.36
		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 R410A (*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.
(*6) Only for outdoor unit

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			
14.92	20.37	25.37	29.97
26.0	23.5	23.0	22.5
16.36	20.9	26.28	31.66
29.5	29.0	28.1	26.0
460V, 3-phase 60Hz			
14.24	19.82	25.68	30.85
23.5	22.5	21.5	21.0
15.45	20.35	25.43	31.82
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 + 5,900	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.
(*6) Only for outdoor unit

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 (*6)		kW	4.49	7.12	8.65	10.85	14.26
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	29.0	28.0	25.1	25.6	23.8
	Heating	Power consumption (*6)		kW	5.17	6.53	9.22	10.68	13.82
		COP (Coefficient of Performance)		W/W	4.23	4.5	3.99	4.12	3.74
With Ducted Indoor Units	Power supply (*2)				208/230V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption (*6)		kW	4.69	6.28	8.81	11.09	13.39
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	23.4	23.1	22.3	22.1	21.0
	Heating	Power consumption (*6)		kW	5.47	6.83	9.04	10.47	13.36
		COP (Coefficient of Performance)		W/W	3.88	4.1	3.95	4.0	3.7
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 R410A (*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 (*5)					80 to 150%				
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)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.
(*6) Only for outdoor unit

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
	25.5	24.6	24.1	22.8	22.5	22.1	22.0
	14.5	17.01	19.47	22.09	24.4	27.94	30.7
	4.05	3.9	3.75	3.65	3.6	3.42	3.35
	208/230V, 3-phase 60Hz						
	13.4	15.39	17.46	19.57	22.88	25.94	29.04
	23.0	22.5	22.2	21.6	21.2	20.9	20.7
	13.64	15.91	17.67	19.83	22.33	25.31	28.82
	4.1	4.0	4.0	3.95	3.85	3.7	3.52
	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
	80 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)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.
(*6) Only for outdoor unit

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	Power supply (*2)			208/230V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption (*6)	kW	28.67	33.6	36.55	40.14	44.58
		IEER (Integrated Energy Efficiency Ratio)	Btu/W	22.4	21.8	21.4	21.3	20.9
	Heating	Power consumption (*6)	kW	31.33	34.58	36.86	40.22	43.6
		COP (Coefficient of Performance)	W/W	3.52	3.4	3.38	3.28	3.2
With Ducted Indoor Units	Power supply (*2)			208/230V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption (*6)	kW	27.32	31.47	33.58	38.35	42.06
		IEER (Integrated Energy Efficiency Ratio)	Btu/W	21.4	20.8	20.6	20.0	19.8
	Heating	Power consumption (*6)	kW	29.4	32.52	36.34	39.15	42.27
		COP (Coefficient of Performance)	W/W	3.7	3.58	3.4	3.35	3.28
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 R410A (*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 (*5)				80 to 150%				
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)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.
(*6) Only for outdoor unit

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
25.1	23.6	22.2	21.0
14.87	19.74	25.12	37.77
3.95	3.7	3.5	3.3
208/230V, 3-phase 60Hz			
13.87	17.61	23.09	34.87
22.6	21.8	20.8	20.2
14.31	17.9	22.64	36.9
3.92	3.95	3.8	3.35
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
80 to 150%			
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)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.
(*6) Only for outdoor unit

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 (*6)		kW	4.49	7.12	8.65	10.85	14.26
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	29.0	28.0	25.1	25.6	23.8
	Heating	Power consumption (*6)		kW	5.17	6.53	9.22	10.68	13.82
		COP (Coefficient of Performance)		W/W	4.23	4.5	3.99	4.12	3.74
With Ducted Indoor Units	Power supply (*2)				460V, 3-phase 60Hz				
Electrical characteristics (Nominal) (*1)	Cooling	Power consumption (*6)		kW	4.69	6.28	8.81	11.09	13.39
		IEER (Integrated Energy Efficiency Ratio)		Btu/W	23.4	23.1	22.3	22.1	21.0
	Heating	Power consumption (*6)		kW	5.47	6.83	9.04	10.47	13.36
		COP (Coefficient of Performance)		W/W	3.88	4.1	3.95	4.0	3.7
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 R410A (*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 (*5)					50 to 150%				
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)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.
(*6) Only for outdoor unit

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
	25.5	24.6	24.1	22.8	22.5	22.1	22.0
	14.5	17.01	19.47	22.09	24.4	27.94	30.7
	4.05	3.9	3.75	3.65	3.6	3.42	3.35
	460V, 3-phase 60Hz						
	13.4	15.39	17.46	19.57	22.88	25.94	29.04
	23.0	22.5	22.2	21.6	21.2	20.9	20.7
	13.64	15.91	17.67	19.83	22.33	25.31	28.82
	4.1	4.0	4.0	3.95	3.85	3.7	3.52
	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 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)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.
(*6) Only for outdoor unit

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		MMY-		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 (*6)	kW	28.67	33.6	36.55	40.14	44.58
		IEER (Integrated Energy Efficiency Ratio)	Btu/W	22.4	21.8	21.4	21.3	20.9
	Heating	Power consumption (*6)	kW	31.33	34.58	36.86	40.22	43.6
		COP (Coefficient of Performance)	W/W	3.52	3.4	3.38	3.28	3.2
With Ducted Indoor Units Electrical characteristics (Nominal) (*1)	Power supply (*2)			460V, 3-phase 60Hz				
	Cooling	Power consumption (*6)	kW	27.32	31.47	33.58	38.35	42.06
		IEER (Integrated Energy Efficiency Ratio)	Btu/W	21.4	20.8	20.6	20.0	19.8
	Heating	Power consumption (*6)	kW	29.4	32.52	36.34	39.15	42.27
		COP (Coefficient of Performance)	W/W	3.7	3.58	3.4	3.35	3.28
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 R410A (*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 (*5)				50 to 150%				
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)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.
(*6) Only for outdoor unit

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
25.1	23.6	22.2	21.0
14.87	19.74	25.12	37.77
3.95	3.7	3.5	3.3
460V, 3-phase 60Hz			
13.87	17.61	23.09	34.87
22.6	21.8	20.8	20.2
14.31	17.9	22.64	36.9
3.92	3.95	3.8	3.35
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
80 to 150%			
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)
(*5) In case the diversity exceeds 135%, the type of indoor unit is limited and the maximum number of indoor unit is reduced.
(*6) Only for outdoor unit

Heat Pump Outdoor Units (MCY7) – 208/230V-1-60

Appearance			
Nominal Tons	3	4	5
Model name (MCY-)	MAP0367HS-UL	MAP0487HS-UL	MAP0607HS-UL

Standard model (Single unit)

Technical Specifications

Outdoor unit model name			MCY-		MAP0367HS-UL	MAP0487HS-UL	MAP0607HS-UL
Nominal tons				Ton	3	4	5
Cooling capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	36	48	60
Heating capacity (*1) (with non-ducted indoor units / ducted)			Nominal	kBtu/h	40	54	66
With Non-Ducted Indoor Units – Electrical characteristics (Nominal) (*1)	Power supply (*2)				208/230V, 1-phase 60Hz		
	Cooling	Power consumption		kW	2.29	3.71	5.26
		EER (Energy Efficiency Ratio)		Btu/W	15.7	12.95	11.4
	Heating	Power consumption		kW	2.79	3.95	5.16
		COP (Coefficient of Performance)		Btu/W	4.2	4.01	3.75
	SEER (Seasonal Energy Efficiency Ratio)				22.7	21	20.5
	HSPF (Heating Seasonal Performance Ratio)				11.5	11.5	11.5
With Ducted Indoor Units – Electrical characteristics (Nominal) (*1)	Power supply (*2)				208/230V, 1-phase 60Hz		
	Cooling	Power consumption		kW	2.76	4.87	5.76
		EER (Energy Efficiency Ratio)		Btu/W	13.05	9.85	10.42
	Heating	Power consumption		kW	3.45	5.27	5.34
		COP (Coefficient of Performance)		Btu/W	3.4	3	3.62
	SEER (Seasonal Energy Efficiency Ratio)				17.7	16.6	17.6
	HSPF (Heating Seasonal Performance Ratio)				10.5	9.5	11
External dimensions		Height		in	61	61	61
		Width		in	39.8	39.8	39.8
		Depth		in	14.6	14.6	14.6
Total weight	Unit			lb	311	311	311
Compressor	Type				Hermetic Twin Rotary Compressor		
	Motor output			kW	3.75	3.75	3.75
Fan unit	Air volume			cfm	4,520	4,690	4,850
Refrigerant R410A (*3) (Charged refrigerant amount)				lb	14.8	14.8	14.8
Electrical specifications	Unit	MCA (*4)		A	36.3	36.3	36.3
		Recommended fuse size		A	40	40	40
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (Brazing)		in	5/8	5/8	3/4
		Liquid side (main pipe) (Flare)		in	3/8	3/8	3/8
Operation temperature range		Cooling		°F DB	23 to 122		
		Heating		°F WB	-13 to 60		
Maximum number of connected indoor units					6	8	9
Maximum capacity of combined indoor units					80 to 135%	50 to 135%	
Sound pressure level Cooling/Heating				dB(A)	52/56	54/57	55/58

(*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.

(*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)

Non-Ducted Models

Cooling capacity kBtu/h (Ton)	Standard 4-Way Cassette	Compact 4-Way Cassette	High Wall	Underceiling	Floor Console (Recessed)	Floor Console (Exposed)
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 Ducted	Concealed Ducted	High Static Ducted	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)		✓	✓	✓	✓
60,000 (5)				✓	
72,000 (6)			✓		✓
96,000 (8)			✓		✓

MMU-AP*2H2UL

4-Way Cassette

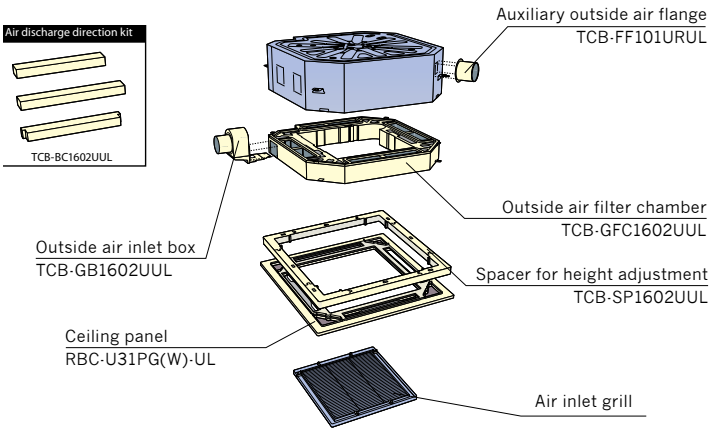
- Four louvers that can each be positioned at different angles
- Customized airflow control
- Built-in Condensate Lift

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 (Flare)	in	3/8	3/8"	3/8	1/2	1/2	5/8	5/8	5/8	5/8	5/8
	Liquid side (Flare)	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.
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.

Options



Required Parts

RBC-U31PG(W)-UL
Ceiling panel required

MMU-AP*1MH2UL**

Compact 4-Way Cassette

- Perfect for grid-system ceiling
- Matches standard architectural modules – less need to cut ceiling tiles
- Includes 4-Way Cassette features listed on previous page
- 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
- 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

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 (Flare)		in	3/8	3/8	3/8	1/2	1/2
	Liquid side (Flare)		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.
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.

Required Parts

RBC-UM11PG(W)UL
Ceiling panel required

MMK-AP*3H2UL**

High Wall

- Aesthetically pleasing and blends with any room's interior decor while efficiently heating and cooling the space
- 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(Flare)		in	3/8	3/8	3/8	1/2	1/2	5/8
	Liquid side (Flare)		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.
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.

MMC-AP*1H2UL**

Underceiling

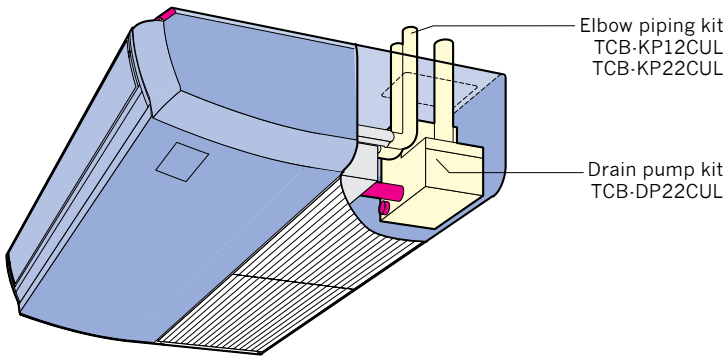
- Airflow angle is automatically set to the most suitable setting according to cooling or heating needs
- Automatic swing mode enables airflow to reach all areas of the room to create a comfortable ambiance
- Optional Condensate Drain Kit available

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 (Flare)		in	1/2	5/8	5/8	5/8
	Liquid side (Flare)		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.
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.

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 (Flare)		in	3/8	3/8	3/8	1/2	1/2	5/8
	Liquid side (Flare)		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.
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.

MML-AP*4BH2UL**

Floor Console – Recessed

- Installed inside a wall or custom-built cabinet to match interior space design
- Optional Condensate Drain Kit available

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 (Flare)		in	3/8	3/8	3/8	1/2	1/2	5/8
	Liquid side (Flare)		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.
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.

MMD-AP*4SPH2UL**

Slim Ducted (Low Profile)

- Quiet, powerful operation
- Only 8.3 inches in height allows 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
- Can be used with any style of air diffuser

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		0.048	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 (Flare)		in	3/8			1/2	
	Liquid side (Flare)		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.
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.

Options

Auxiliary Outside Air Flange: TCB-FF101URUL

MMD-AP*4BH2UL-1**

Concealed Ducted (Medium Static)

- External static pressure can be raised as high as 0.48 in. WG, so all areas of the room can be reached for even temperature distribution, no matter how complex the layout
- Kit that raises the drain piping up to 10.6 inches from the drain port

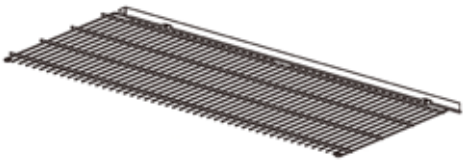
Technical Specifications

Model name		MMD-	AP0074BH2UL-1	AP0094BH2UL-1	AP0124BH2UL-1	AP0154BH2UL-1	AP0184BH2UL-1	AP0214BH2UL-1	AP0244BH2UL-1	AP0304BH2UL-1	AP0364BH2UL-1	AP0424BH2UL-1	AP0484BH2UL-1
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	0.044			0.091					0.106	0.142	
External dimensions	Height	in	12.6										
	Width	in	27.6			39.4		53.2					
	Depth	in	31.5										
Total weight		lbs	70			93		119					
Fan unit	Standard airflow (High/Mid/Low)	cfm	304/258/220			556/465/394		694/555/475			1000/890/765	1180/1050/925	
	Motor output	W	150										
	External static pressure (factory setting)	in WG	0.15-0.25										
	External static pressure	in WG	0.35-0.46										
Connecting pipe	Gas side (Flare)	in	3/8			1/2		5/8					
	Liquid side (Flare)	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)	33/30/27			37/35/31		37/35/34			41/39/37	42/40/38	

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

Options

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



Auxiliary Outside Air Flange: TCB-FF101URUL

MMD-AP*4H2UL**

High Static Ducted

- Compatible with external static pressures up to 1.175 in. WG
- Inspection inlet enables easy access and maintenance
- No filters provided with the unit
- 3-phase-switchable static pressure
- The flexible duct is accessible

Technical Specifications

Model name			MMD-	AP0304H2UL	AP0364H2UL	AP0484H2UL	AP0726HP-UL	AP0966HP-UL
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	0.54/0.54	0.79/0.79
External dimensions		Height	in	15			17.6	
		Width	in	33.5		47.2	55.1	
		Depth	in	26			35.4	
Total weight			lbs	128		154	218	
Fan unit	Standard airflow		cfm	926		1,235	2,236	2,825
	Motor output		W	260			250	
	External static pressure (*1) Factory setting (208V/230V)		in WG	0.641/0.814		0.296/0.519	0.603	
	External static pressure 208V (*2) (High tap/Mid tap/Low tap)		in WG	1.075/0.641/0.287		0.606/0.296/Non	0.2 to 1.0 (7 steps)	
	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		
Connecting pipe	Gas side (Brazing)		in	5/8			7/8	
	Liquid side (Flare)		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/ -	44/40/36	46/42/38
230V (*2) (High/Mid/Low)			dB(A)	51/47/43		49/46/43		

(*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.
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.

MMD-AP*VHG2UL

Vertical Air Handling Unit (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
- 1" filter rack

Technical Specifications

Model name		MMD-	AP0120VHG2UL	AP0180VHG2UL	AP0240VHG2UL	AP0300VHG2UL	AP0360VHG2UL	AP0420VHG2UL	AP0480VHG2UL	AP0600VHG2UL
Cooling capacity		kBtu/h	12	18	24	30	36	42	48	60
Heating capacity		kBtu/h	13.5	20	27	34	40	45	54	67
Electrical characteristics	Power supply		230 V (208/230V) 1 Phase 60Hz							
	Power consumption	kW	0.120	0.174		0.296	0.410	0.386	0.496	0.938
Appearence		Model	Grey							
External dimensions Main unit	Height	in	46.9			51.9		55.9		57.9
	Width	in	17.7			20.2		22.2		24.2
	Depth	in	22.3			25.3		27.3		31.3
Total weight		lbs	130	164		170		200		253
Fan unit Connecting pipe	Standard air flow (High/Mid/Low)	cfm	480/440/340	670/640/600	760/660/600	1,000/990/950	1,200/1,150/1,050	1,400/1,340/1260	1,600/1,510/1,420	2,000/1,830/1,640
	Motor output	HP	1/3			1/2		3/4		1
	External static pressure (Standard)	in WG	0.3			0.5				
	External static pressure (Max)	in WG	0.5			0.8				
Connecting pipe	Gas side (Brazing)	in	3/8	1/2	5/8					
	Liquid side (Brazing)	in	1/4		3/8					
	Drain port (nominal dia.)	in	3/4 FPT							
Sound pressure level (High/Mid/Low) (*1)		dB(A)	41/38/37	41/39/38	41/39/38	43/42/40	45/44/42	46/45/43	48/47/45	52/51/47

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

Optional										
Electrical heater (208V/240V)	TCB-HT101VDGUL (0.8kW/1.0kW)		✓	✓	✓	✓	✓	✓	✓	✓
	TCB-HT301VDGUL (2.3kW/3.0kW)		✓	✓	✓	✓	✓	✓	✓	✓
	TCB-HT501VDGUL (3.8kW/5.0kW)		✓	✓	✓	✓	✓	✓	✓	✓
	TCB-HT601VDGUL (4.5kW/6.0kW)			✓	✓	✓	✓	✓	✓	✓
	TCB-HT801VDGUL (6.0kW/8.0kW)				✓	✓	✓	✓	✓	✓
	TCB-HT951VDGUL 7.1kW/9.5kW)					✓	✓	✓	✓	✓
Plenum with 2" MERV 8 filter	TCB-PL2S241VDGUL		✓	✓	✓					
	TCB-PL2S361VDGUL					✓	✓			
	TCB-PL2S481VDGUL							✓	✓	
	TCB-PL2S601VDGUL									✓
Filterbox with 2" MERV 8 filter	TCB-FB2F241VDGUL		✓	✓	✓					
	TCB-FB2F361VDGUL					✓	✓			
	TCB-FB2F481VDGUL							✓	✓	
	TCB-FB2F601VDGUL									✓

Outside Air

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

MMD-AP*1HF2UL**

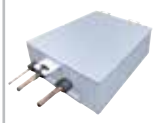
Technical Specifications

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(Brazing)	in	5/8	7/8	
	Liquid side (Flare)	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 external operating environment are generally higher than the indicated values due to the contribution from ambient noise. 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.
(*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.

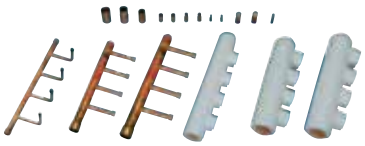
Flow Selector and Branching Joints

Heat Recovery Flow Selectors

	Single Port Applications where the indoor unit is less than 49 ft. from the flow selector.			Single Port Long Applications where the indoor unit is greater than 49 ft. from the flow selector.			Multi-port** Multiple ports which optimizes the piping length between port and indoor unit.	
	RBM-Y0383FUL	RBM-Y0613FUL	RBM-Y0963FUL	RBM-Y0384FUL	RBM-Y0614FUL	RBM-Y0964FUL	RBM-Y0611F4PUL	RBM-Y0611F6PUL
Appearance								
Connectable indoor unit capacity (kBTU/h)	Below 38	38 to below 61	61 to 96 or less	Below 38	38 to 61	61 to 96	61 or less	61 or less
Connectable indoor units for each port*	5	8	8	5	8	8	10	10

*Only group operation is possible with 1 (or 2) remote controller(s)
**Multi-port flow selector box requires separate power supply
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		

RBC-AMS54E-UL

Wired Remote Controller

- Backlit
- Fan speed
- 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

BMS-CT5120UL

Touchscreen Central Controller

- Grouping based on floor, unit, area, tenant and level
- Operating Mode, Turning ON/OFF
- Master Scheduler – Weekly, five special days, monthly
- Alarm display with history
- 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 units can be connected
- Ability to display language in English, Spanish or French

BMS-SM1280HTLUL

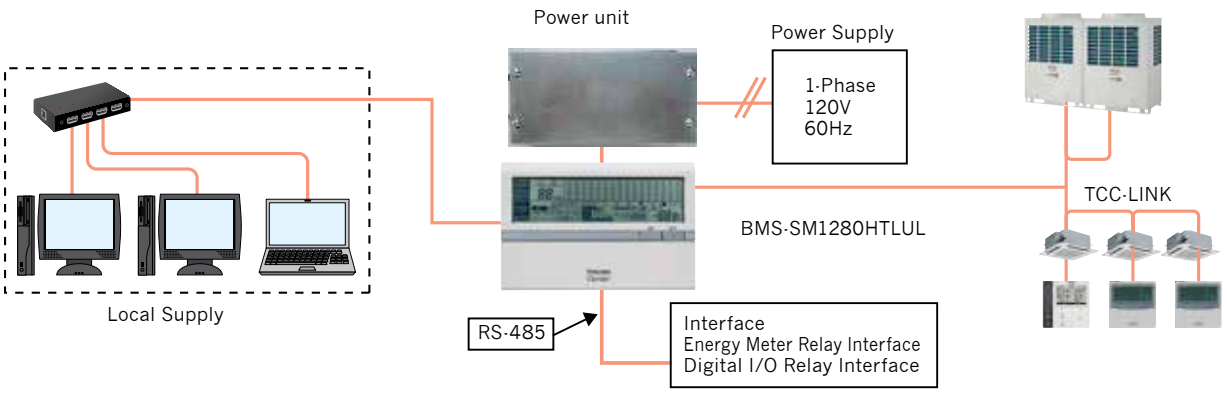
Smart Manager with Web

- List view function allows all indoor units to be displayed on one screen
- Set view functionality to show general indoor settings on main screen
- Advanced operation and master schedule functions with ability to be set on calendar
- 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
- Thin profile controller and separate power supply unit enables easy installation

BMS-CM1281TLUL

Central Remote Control

- 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)

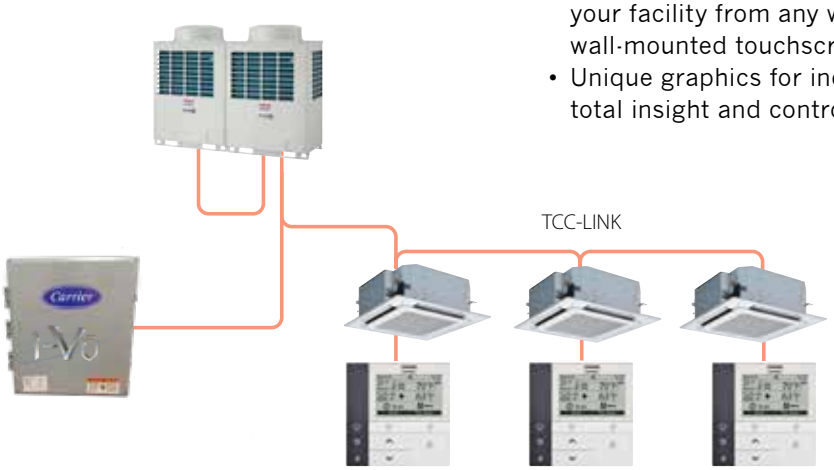


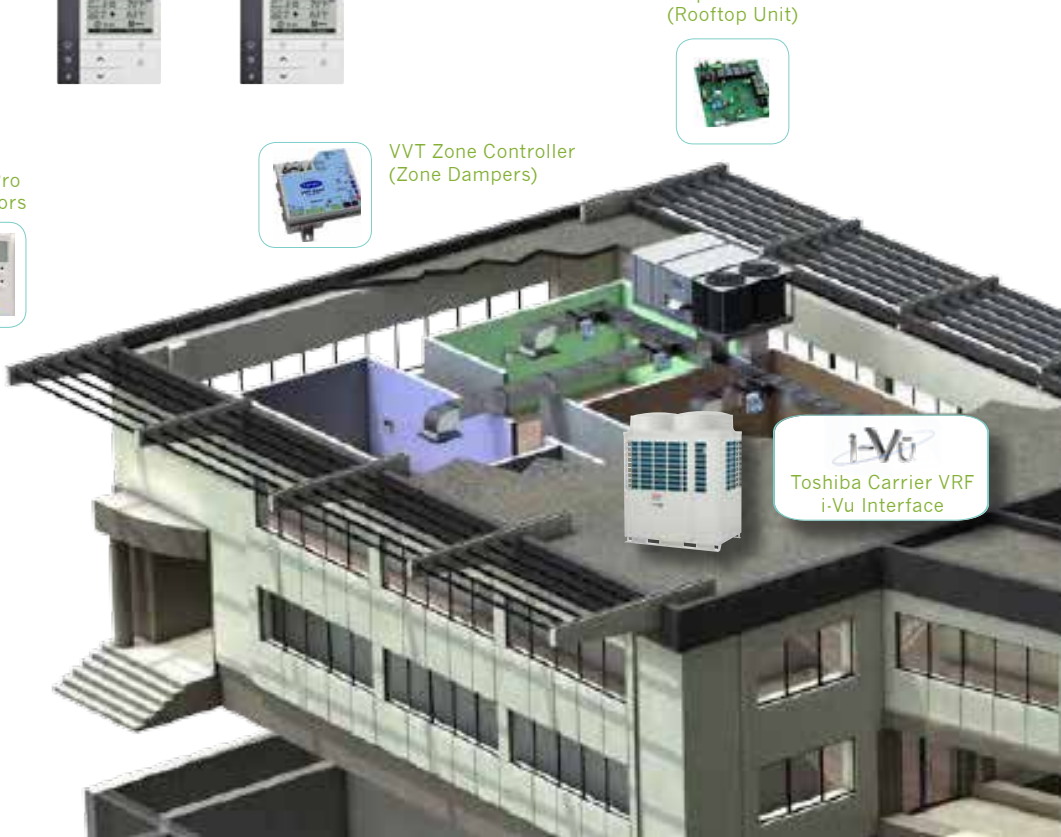
i·Vu® Interface

OPN-MTCC

The i·Vu® Building Automation System brings your system 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 other operating conditions.

- 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

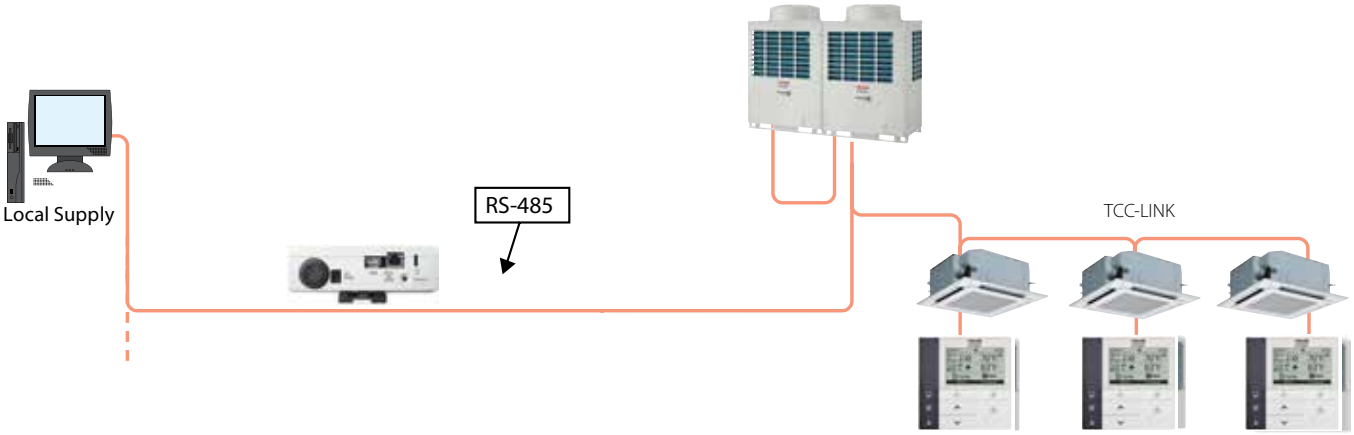
BMS-IFBN640TLUL

BN Interface

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®

TCB-IFLN642TLUL

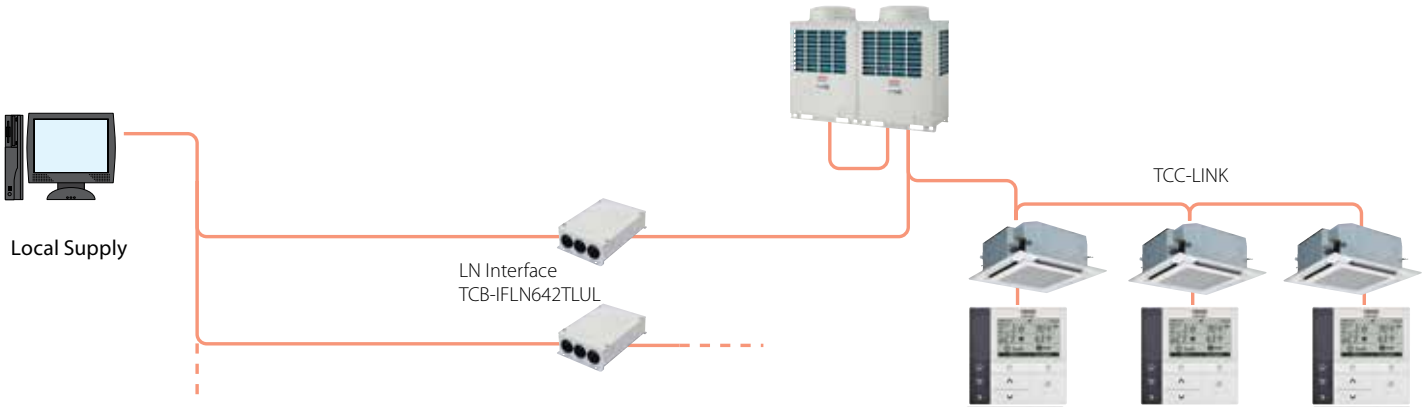
LonWorks LN Interface

The LonWorks® interface manages the system as a Lon device to communicate with the customer'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.

TCB-IF1GUL**
RBM-A*1GUL**

DX Interface

- DX interface enables integration of any third-party heat pump air handling unit (AHU) into the Toshiba Carrier VRF systems
- Two types of controls
  - Return Air (RA) control
  - Supply Air (0-10V) control
- For Return Air (RA) control
  - Single (normal) coil AHU up to 16 tons
  - Split face coil AHU up to 32 tons
- For Supply Air (0-10V) control
  - Single (normal) coil AHU up to 16 tons

TCB-IFVN1UL

ERV Control Interface

- Enable to connect third-party ERV with Toshiba Carrier Wired Controls
- Features
  - On/Off
  - 2-step airflow (high or low)
  - Scheduling setting
  - Ventilation air volume change by external input like CO2 sensor, motion sensor, etc.
  - Individual, group or central control option

RBC-AS41UL

Simple Wired Remote Control

- Start/Stop
- Temperature setting
- Airflow changing
- Check code display

Remote Sensor

Install this sensor when outside air has been introduced or when overcooling and overheating are to be minimized.

TCB-TC41LUL

TCB-1FTH1GUL

24V Thermostat Interface

- The 24V Interface allows third-party conventional thermostat to communicate and operate Toshiba Carrier VRF indoor fan coil units
- Two methods of control
  - Inverter control
  - 2-stage cooling/heating
- Features
  - Fan speed control: high, medium and low
  - Operational Mode: cooling, heating, fan and off

Wireless Remote Control

- 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

RBC-AX32U(W)-UL

Integral Receiver

(For 4-Way Cassette)

- Includes Wireless Remote Control Kit; image/features are outlined in this section

RBC-AX33C-UL

Integral Receiver

(For Underceiling)

- Includes Wireless Remote Control Kit; image/features are outlined in this section

TCB-AX32UL

Stand-Alone Receiver

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

Size: 2.8 × 3.3 (in.)

TCB-PCDM4UL

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 of the header outdoor unit

Size: 2.2 × 2.4 (in.)

TCB-PCMO4UL

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

Size: 2.9 × 3.1 (in.)

TCB-PCIN4UL

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

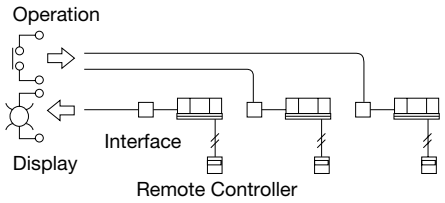
- Feature
  External output of system operating rates enables remote monitoring of operating conditions

Size: 7.9 × 6.7 × 2.6 (in.)

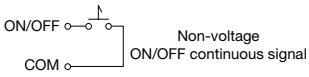
TCB-IFCB-4UL

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.

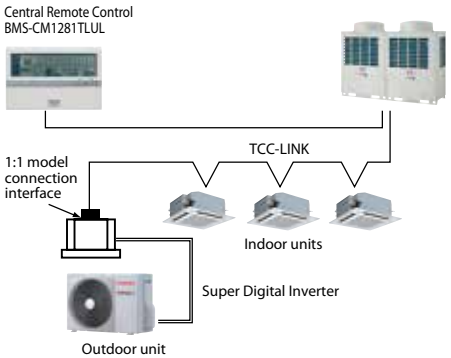


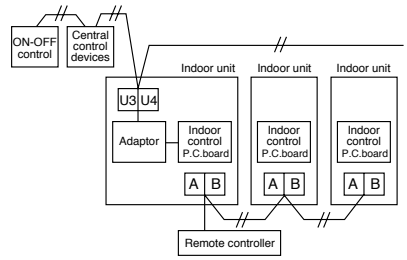
Size: 3.3 × 2.0 (in.)
Install optional P.C. board in E-parts of the indoor unit.

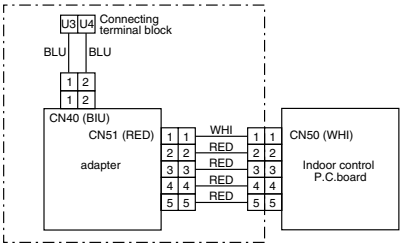
TCB-PCNT31TLUL

RAV 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







Toshiba Carrier VRoom Selection Software

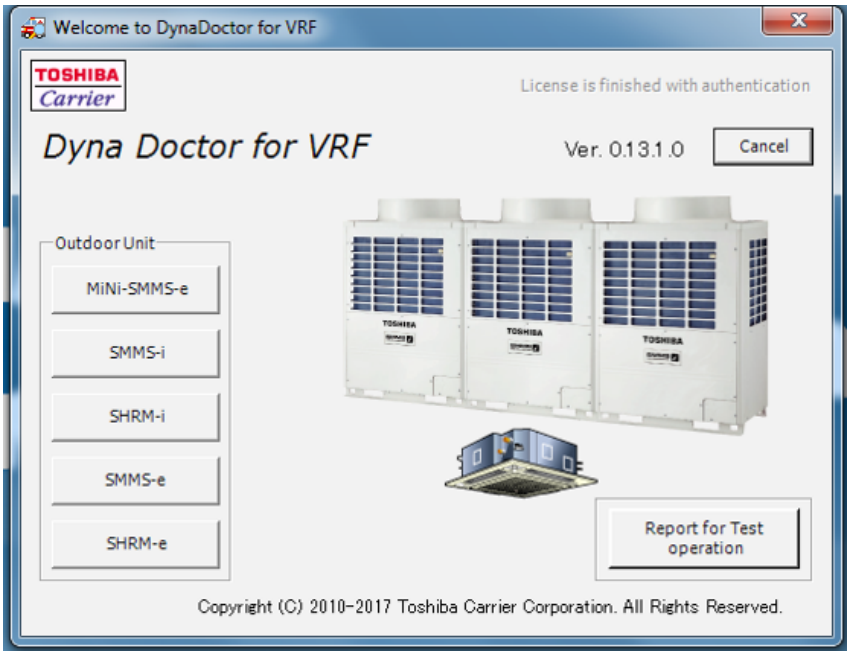
The Toshiba Carrier VRoom Selection Tool application has been designed to allow you to easily select VRF systems. It enables engineers to easily design, lay out and prepare VRF systems for quote.

- Features
  - Auto updates
  - Sleek drag-and-drop interface
  - Table edit features for quick editing of multiple units
  - Quick global edits for wired controllers

Dyna Doctor

TCB-DK01SS-E

Dyna Doctor is a service tool that provides a graphical view of Toshiba Carrier system operation. Dyna Doctor allows users to run reports and analyze system functionality. Dyna Doctor software can be downloaded for free from hvacpartners.com, but a special connector to communicate with the Toshiba Carrier VRF system is required to use this service tool.



TOSHIBA
Carrier

Notice: Toshiba Carrier is committed to continuously improving its products to ensure the highest quality and reliability standards, and to meet local regulations and market requirements. All features and specifications are subject to change without prior notice.

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