TOSHIBA

Leading Innovation

Excellence in Air-Conditioning

Taking comfort to a whole new dimension

Heating and Cooling Solutions

*Preliminary Data

BUSINESS SOLUTIONS

Index

TOSHIBA
Leading Innovation

Heating & Cooling Solutions

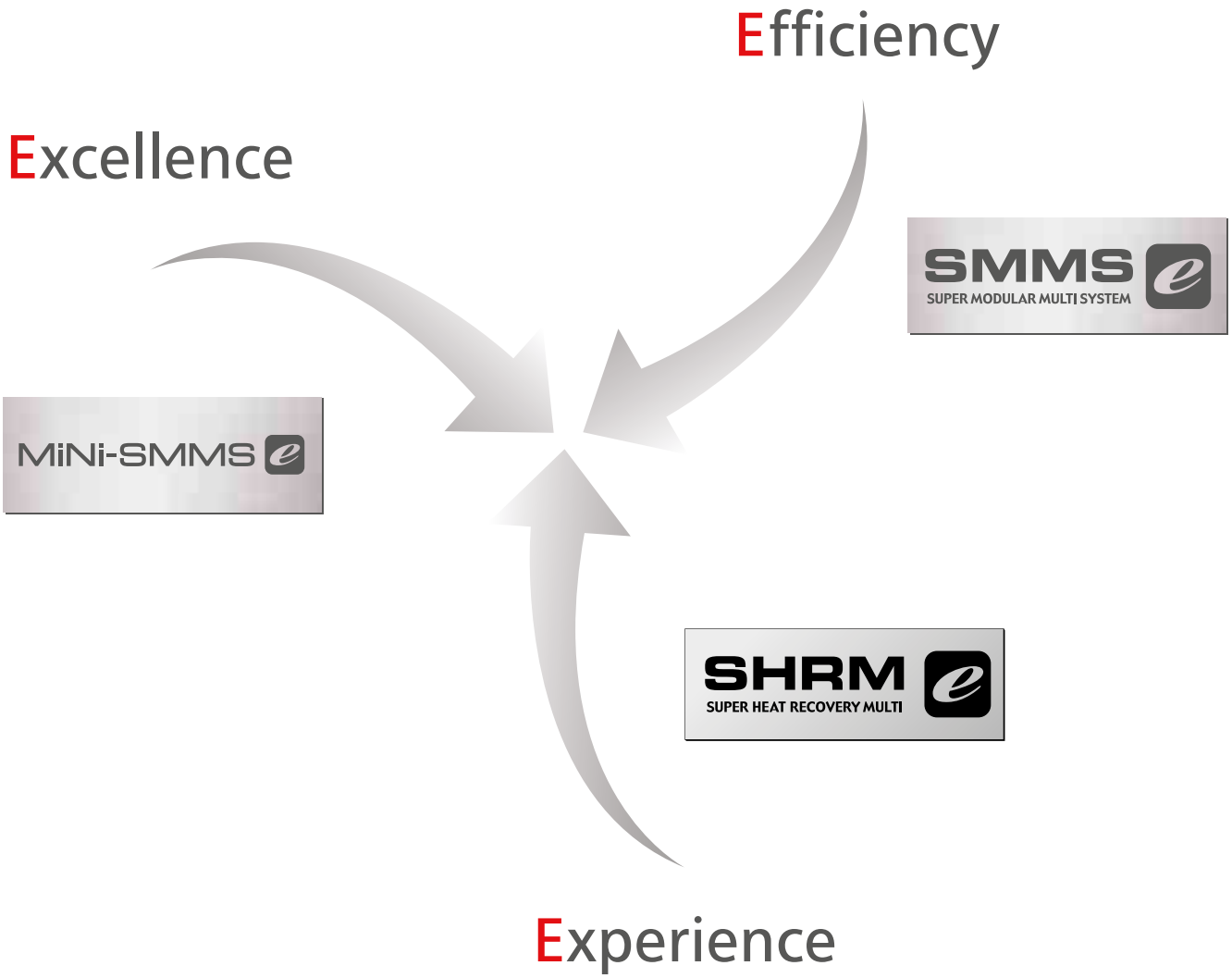
Toshiba solutions

Toshiba offers a solution for all applications: residential, light commercial and larger commercial buildings. Residential indoor units are designed to blend perfectly with all interiors and incorporate advanced filtration systems to deliver optimum indoor air quality. For small commercial premises, products are designed to deliver top performance combined with energy efficiency.

For larger applications, VRF systems combine flexibility, energy efficiency and respect for the environment, with a wide choice of stylish indoor units.

Superior comfort

Toshiba's commitment to society drives a company-wide focus on attention to the details through every stage of the development process, from design to user field tests. Installations using our products and systems therefore feature a higher standard of indoor air quality, sound levels, energy savings, and environmental awareness.



Eurovent Certificate Performance

Toshiba air conditioning participates in the ECP program for Variable Refrigeration Flow (VRF).

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

Check ongoing availability of certificate on www.eurovent.certification.com

Efficiency

LOW OPERATION COST

In 2004, Toshiba launched into the market an ALL inverter VRF systems that would revolutionize the industry and set a new benchmark in system efficiencies. Now in 2015, the all new SMMSe system has taken this philosophy and again pushed the barriers of what is achievable. Thanks to Toshiba's unique compressor technology, re-designed heat exchanger and Toshiba's "intelligent flow" technology for perfect refrigerant management, energy costs are sent plummeting, while comfort remains as outstanding as ever!

ALL INVERTER INFINITE VARIABLE CONTROL
TWIN ROTARY COMPRESSOR
INTELLIGENT FLOW TECHNOLOGY
ADVANCED HEAT EXCHANGER DESIGN
WAVE TOOL

Excellence

COMFORT

The innovative evolution of the many technical components and controls, ensure an optimal balance of temperature, humidity and air freshness, whilst simultaneously realizing maximum energy efficiency, minimum operating costs and reduced CO_2 emissions.

OPTIMISED HEATING & COOLING
EXTENDED OPERATION RANGE
SUPER SILENT PERFORMANCE
SIMPLIFIED & EASY TO USE CONTROLS

Experience

RELIABILITY

Quality and reliability is at the heart of everything we do. Toshiba engineers are dedicated to finding the best product solutions for you, the end-user, investor and designer. All major components are engineered and manufactured by Toshiba, ensuring maximum performance, reliability and efficiency.

DUAL VANE TECHNOLOGY
COMPRESSOR BACK-UP
DEDICATED OIL MANAGEMENT
CDU MODULATION CONTROL
IN-HOUSE ENGINEERING

TOSHIBA
Leading Innovation

The future is now

Air Conditioning for large buildings

At Toshiba we believe that
"Evolution is Leading the path to a better future".


SMMS
SUPER MODULAR MULTI SYSTEM

Greater efficiency performance

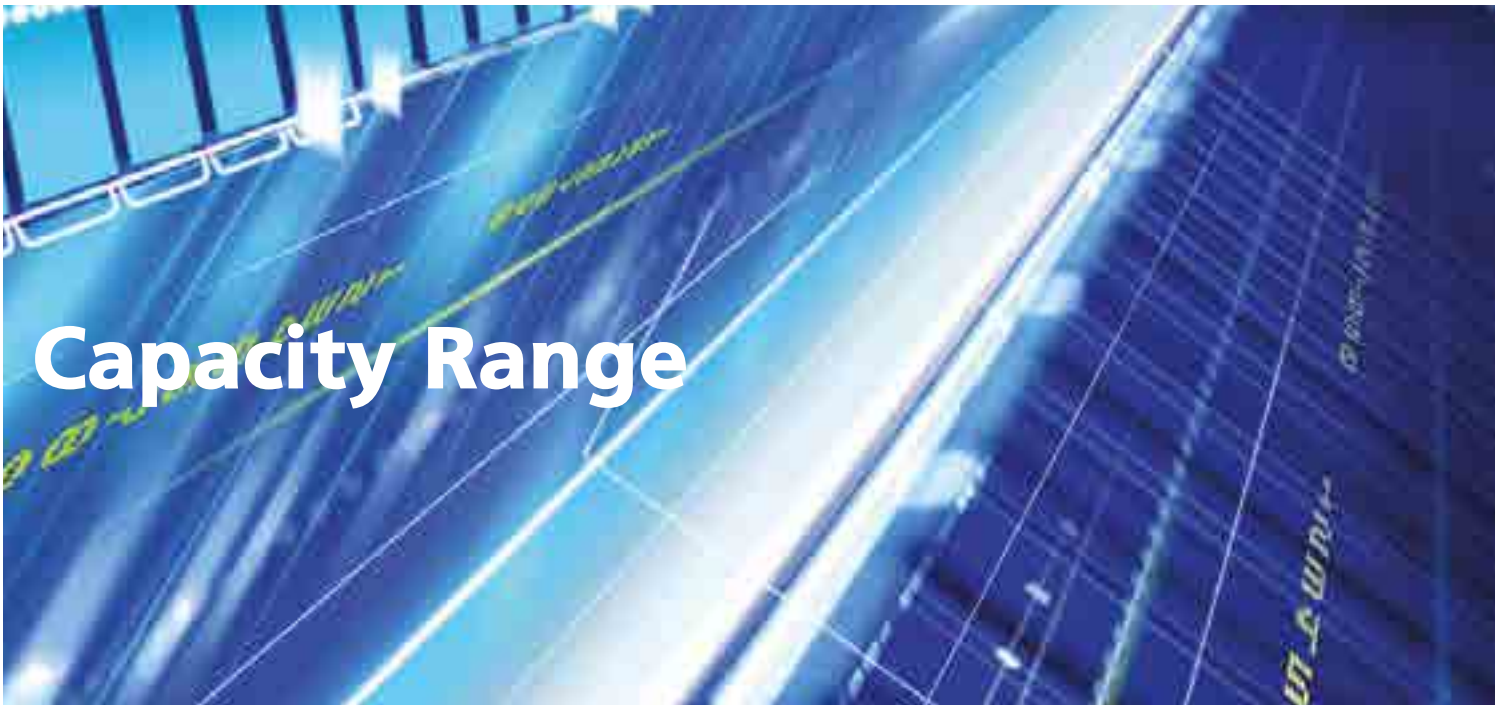
Adopting the highly efficient new DC twin-rotary compressors with various technologies realized over 7.00 ESEER for all of capacity range.

ESEER

Over 7.0 ESEER for all capacity range

Utilizing the new highly efficient core technologies has resulted in greater energy efficiency and performance.

The overall capacity range and the highest COP and EER of 6.44 and 6.40, the SMMSe has truly excels as the industry's top class in energy saving.



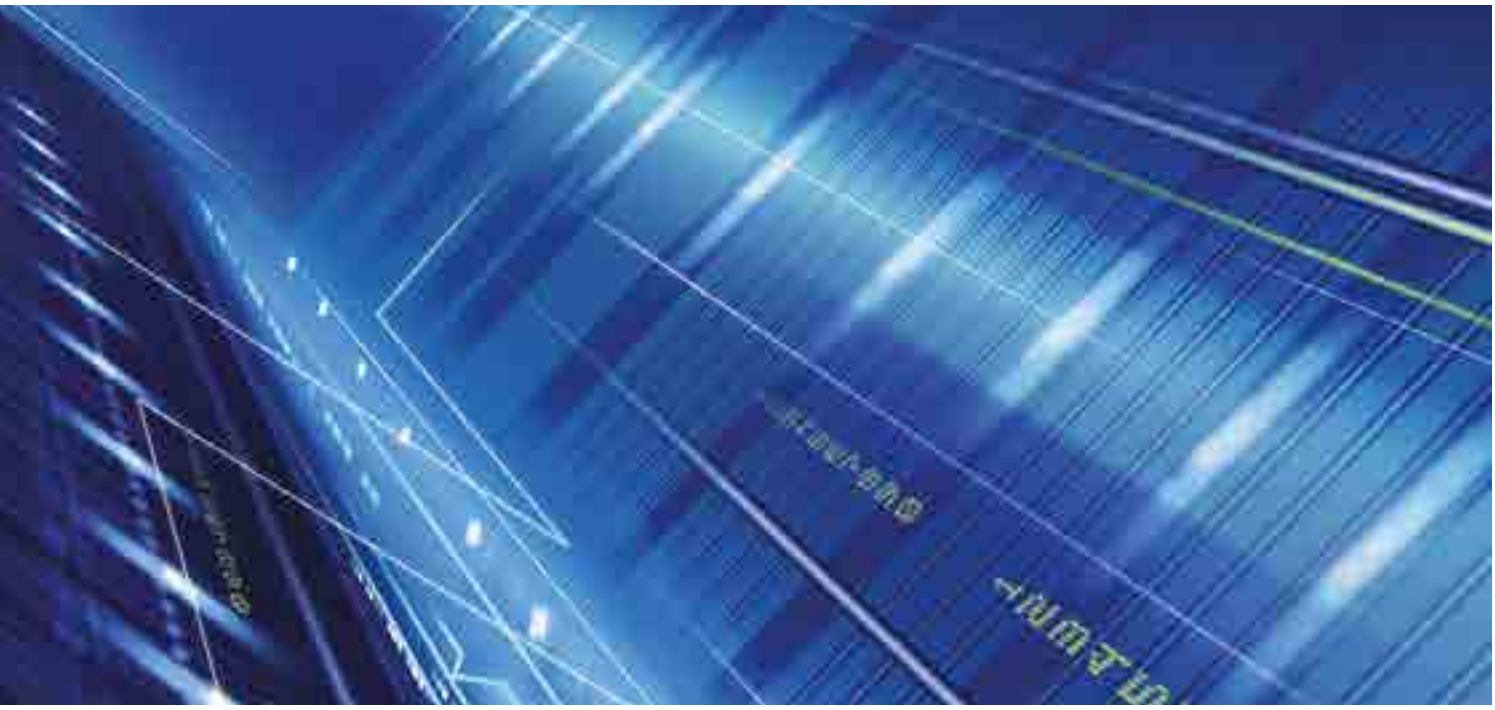
Capacity Range

Single unit capacity expanded

SMMSe comes with 3 new larger capacity units, producing up to 22HP on a single module platform.

Industry-leading installation flexibility

Outdoor units improve performance to achieve greater space efficiency that defies their compact module size to deliver greater freedom in layout design. This minimizes weight-related restrictions and allows for quicker installation.



System capacity expanded

With the SMMSe, it is now possible to connect up to 60HP in one system, with up to 64 connectable indoor units.

Installation flexibility

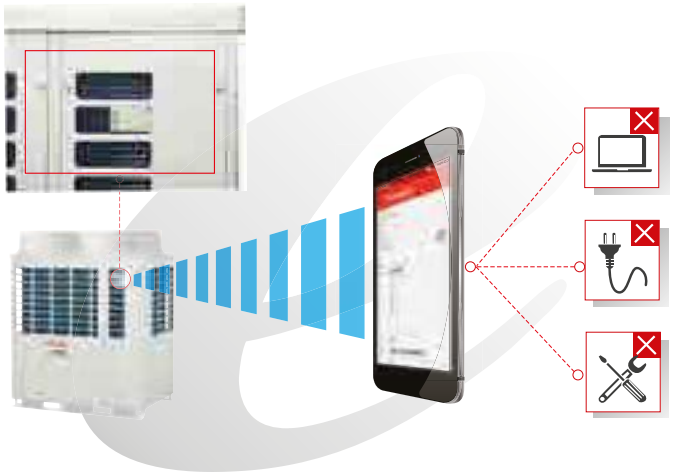
While expanding the maximum combination from 48 to 60HP in one system. This helps save more time and expense on additional unit system required in the previous model. The new compact unit design also increases more flexibility on installation with less foot print.

SMMSe is capable of covering up to 22HP with a single module. Reducing pipe work and overall installation time.

SMMS Wave Tool

SMMS wave tool

With SMMS Wave Tool, you can read and write data from outdoor unit directly on your smart phone without the needs of connecting PC or opening cabinet.



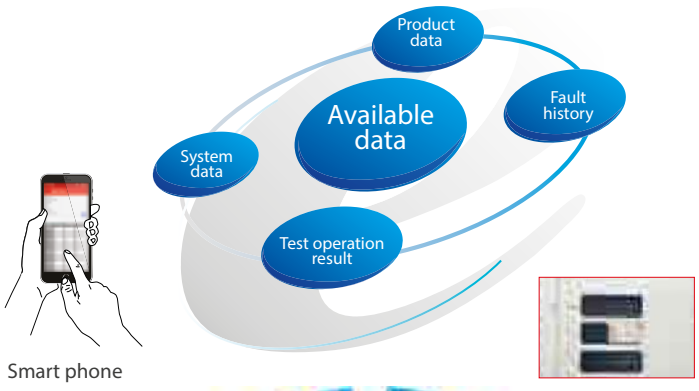
By the new smart phone application, the testing and commissioning can be done without opening the cabinet.

Available data

Whether the product data, system data, fault history or testing and commissioning, all can be obtained easily even in case of under service maintenance or power failure. The data can be easily sent to the distant office via email. Possible to receive system data by e-mail without moving from your office and the operation conditions can be checked in the office.

In case of below situation

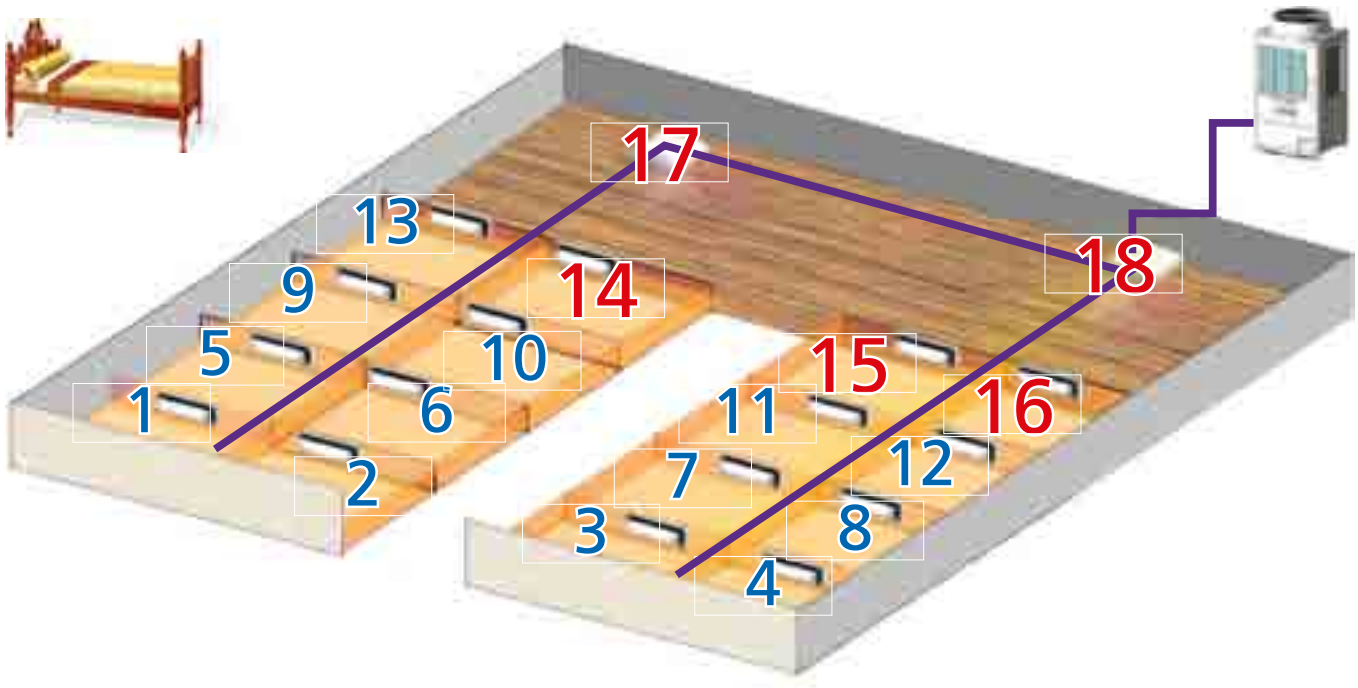
- Installation
- Service maintenance
- Power failure



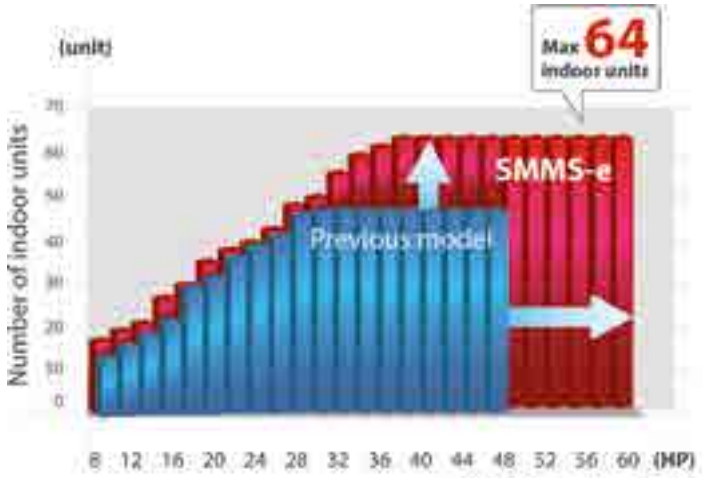
Wider Capacity

Increased Indoor Connection

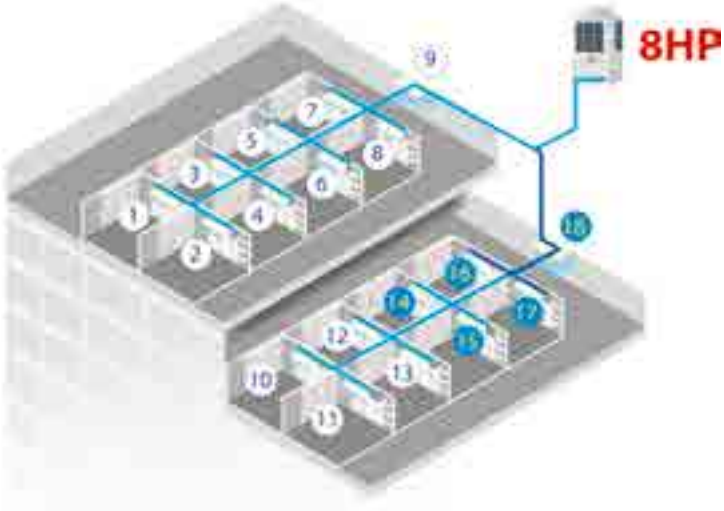
In the case of the 8Hp model, SMMS-I had a maximum of 13 connectable indoors units this has now been increased to 18 units with SMMSe.



Expansion of connectable number of indoor unit



SMMSe capacity



DC Twin-Rotary Compressor

Wide range compressor

More powerful and efficient with the cutting-edge technology of compressor – DC Twin-Rotary operates in wider range of rotation speed.

DLC coated vane

Increased hardness of the DLC coated vane reduces friction and increases both reliability and performance.

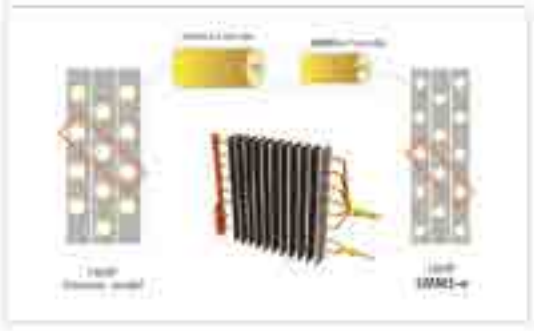
2-stage vane

With 2-stage vane innovatively designed to reduce friction while increasing hardness and enhancing performance at its best.

Heat Exchanger

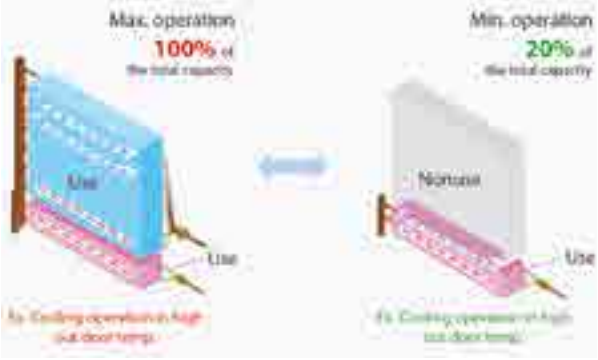
Heat Exchanger

New heat exchanger of SMMSe increases from 2 to 3 rows, providing even more surface area of the total pipe up to 13%.



Variable heat exchanger

New system controls allows the outdoor unit to select the most efficient heat exchanger size, which matches the capacity load in order to provide higher energy savings.



4-way heat exchanger can realize balanced airflow

Heat exchangers are located on all four sides of the outdoor unit, ensuring air flow is equal in all directions.

SMMSe

Piping Design Flexibility

Total piping length

Applied with Toshiba's unique and greatly improved technology, SMMSe can reach up to 1,000 meters maximum piping length.

Farthest pipe from 1st branch

Even more convenient with the piping distance from the first branch to the furthest indoor unit at 90 meters, increasing the flexibility of the installation within the hotel or office building.

Farthest equivalent length

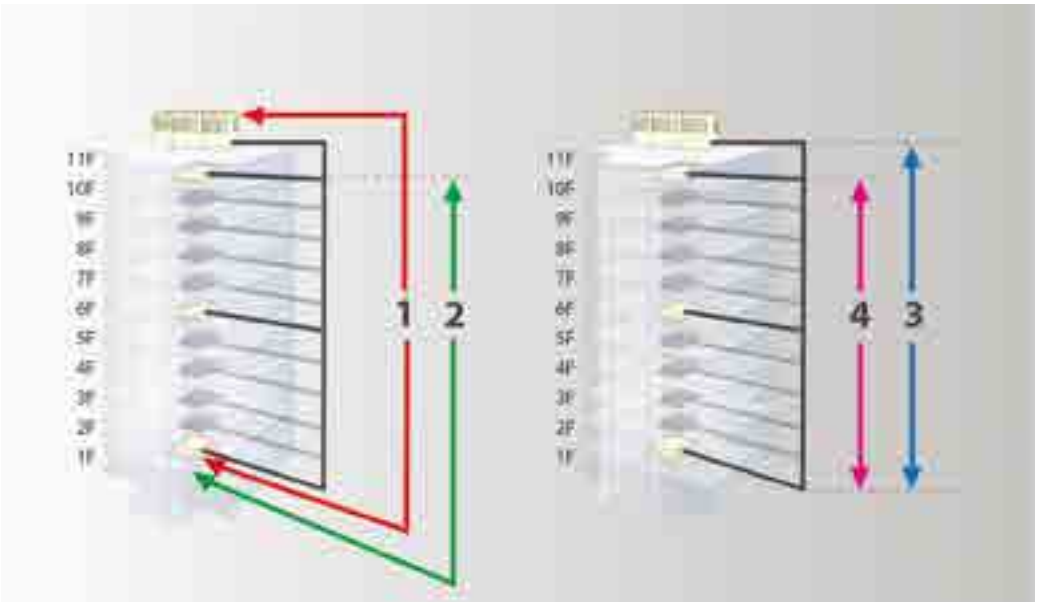
The maximum equivalent distance between outdoor unit and farthest indoor unit tops at 235 meters, which tops the industry class.

Height between indoor units

Another industry's top class is a maximum vertical distance between indoor units which teaches up to 40 meters, equal to an entire 11-storied building. SMMSe's enhances piping capabillities result in more benefits for the system design, installation flexibility, as well as the less installation cost.

Piping capabilities summary

Piping capability can provide more benefits for the system design, the installation flexibility and the installation cost.



Total length	1,000m*
1. Farthest equivalent length	235m
2. Farthest pipe from 1st branch	90m**
3. Height between outdoor unit - indoor unit (outdoor unit above/below)	90m***/40m
4. Height between indoor unit - indoor unit	40m

* : 34HP combination or more

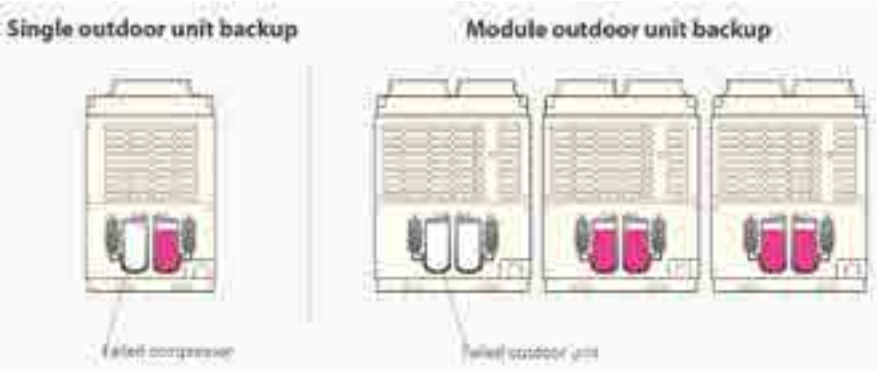
** : 65m if the height piping length between outdoor unit and indoor unit is more than 3m

*** : Be sure to refer to the Engineering Data Book for details of these conditions and requirements.

Reliability

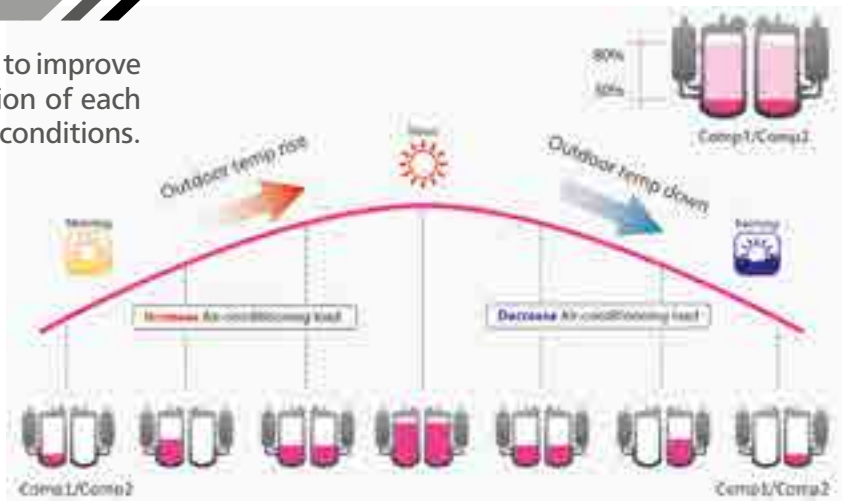
Backup operation

In case of a compressor failure, SMMSe can keep working with the backup operation under All Inverter Control to compensate a failed compressor or header unit. This backup operation is available in both a single system or as a module.



Reliability rotational control

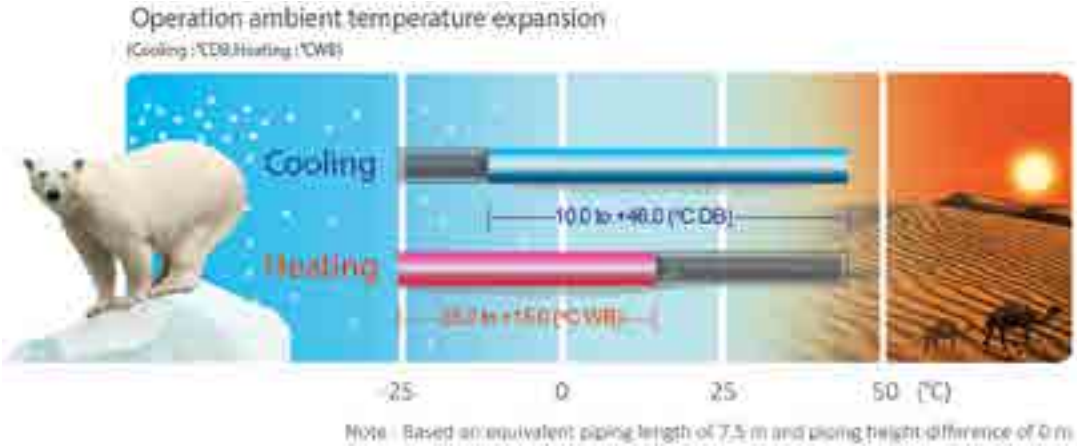
The rotational control in SMMSe is designed to improve system reliability by controlling the operation of each compressor to work equally under variable conditions.



Operating Temperature Range

Outdoor temperature range

Utilizing the newly designed compressor, SMMSe can operate under the wider range of outdoor ambience with the expansion of cooling and heating temperature from -25°C to 46°C.



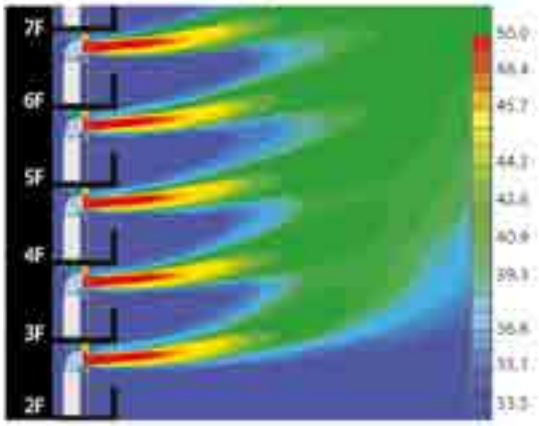
Note : Based on equivalent piping length of 7.5 m and piping height difference of 0 m

The external static pressure

The SMMSe units are suitable for challenging installations with high external static perfofmance.

(* 8HP, 10HP)

Air flow simulation diagram

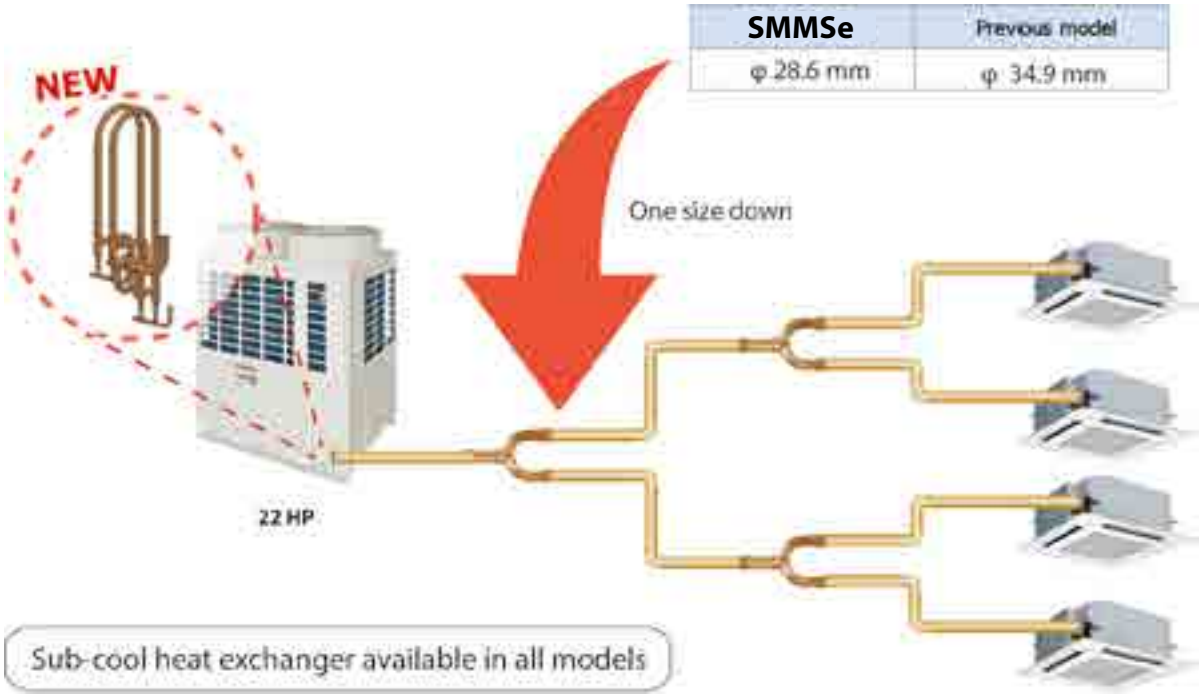


Note : This result is analytical simulation, that does not guarantee actual temperatures.

Slimmer Pipe Size

Piping saving costs

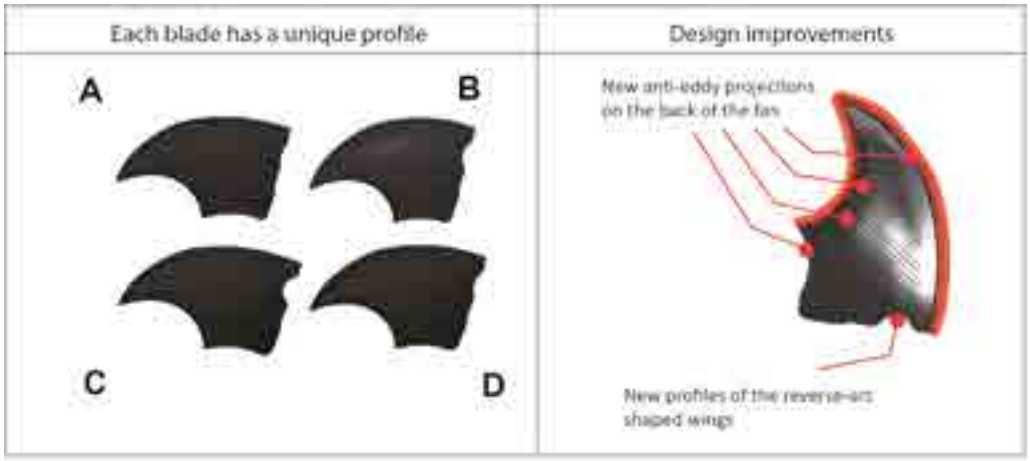
With the sub-cool heat exchanger less refrigerant is needed therefore now it is possible to use smaller pipes and save in installation costs.



Propeller Fan

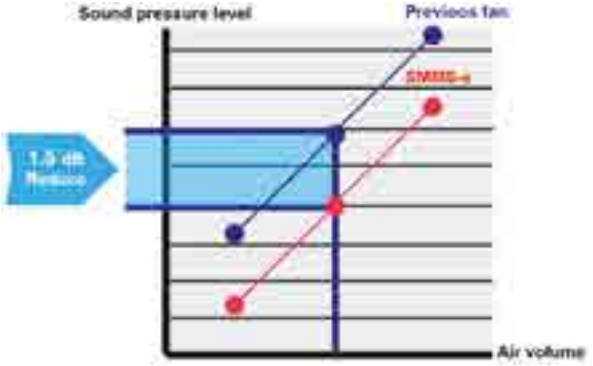
New advanced blade shapes for a better air flow management

Every single blade is designed with a unique profile, a solution that guarantees a smoother air flow without turbulences. The new propeller deliver the same amount of air with less sound pressure level.



More quiet in comparison with the previous fan

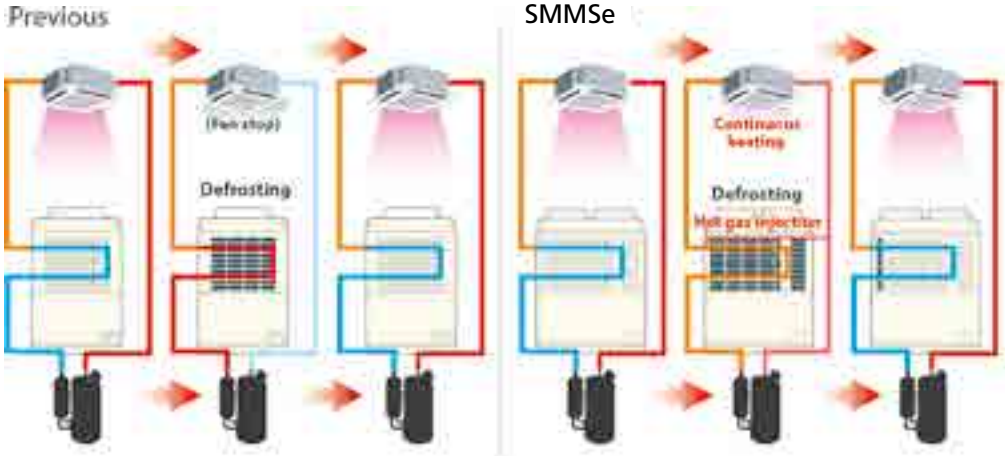
In the same working condition the new design of the propeller ensure a reduction of 1.5 dB compared to the previous models.



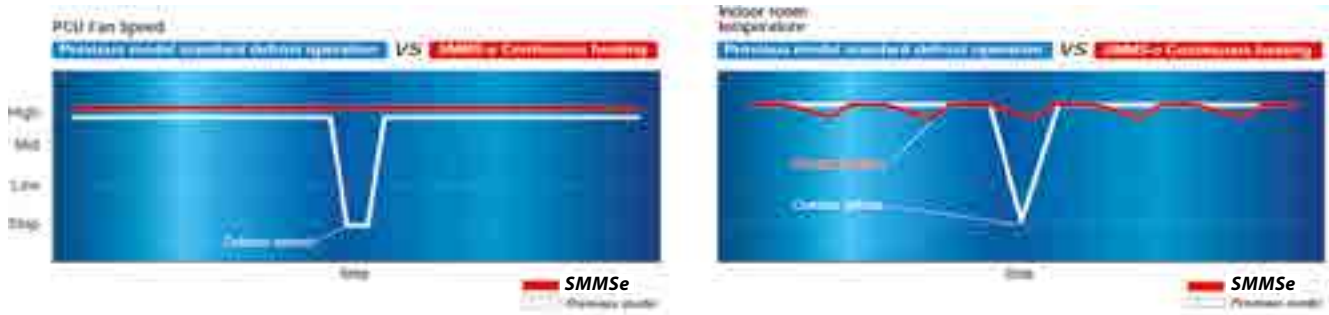
Continuous Heating

New design and control logic

Enable continuous heating during defrost operation.



Hot gas bypass into the outdoor unit heat exchanger enables the indoor units to operate in heating mode for longer periods of time when compared to the previous model.
Hot gas injection can be used also to identify the amount of frosting on the outdoor coil, so that outdoor defrosts occur only when absolutely required.



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Outdoor units

Standard model



Capacity	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP
Model Name (MMY-)	MAP0806HT8P-E	MAP1006HT8P-E	MAP1206HT8P-E	MAP1406HT8P-E	MAP1606HT8P-E	MAP1806HT8P-E	MAP2006HT8P-E	MAP2206HT8P-E
Cooling capacity (kW)	22.4	28.0	33.5	40.0	45.0	50.4	56.0	61.5
Heating capacity (kW)	25.0	31.5	37.5	45.0	50.0	56.0	63.0	64.0




Capacity	24HP	26HP	28HP	30HP	32HP	34HP	36HP	38HP
Model Name (MMY-)	AP2416HT8P-E	AP2616HT8P-E	AP2816HT8P-E	AP3016HT8P-E	AP3216HT8P-E	AP3416HT8P-E	AP3616HT8P-E	AP3816HT8P-E
Units in combination (MMY-)	MAP1206HT8P-E	MAP1406HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E	MAP1806HT8P-E	MAP2006HT8P-E	MAP2206HT8P-E
	MAP1206HT8P-E	MAP1206HT8P-E	MAP1206HT8P-E	MAP1406HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E
Cooling capacity (kW)	67.0	73.5	78.5	85.0	90.0	95.4	101.0	106.5
Heating capacity (kW)	75.0	82.5	87.5	95.0	100.0	106.0	113.0	114.0


Capacity	40HP	42HP	44HP	46HP	48HP
Model Name (MMY-)	AP4016HT8P-E	AP4216HT8P-E	AP4416HT8P-E	AP4616HT8P-E	AP4816HT8P-E
Units in combination (MMY-)	MAP2006HT8P-E	MAP2206HT8P-E	MAP2206HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E
	MAP2006HT8P-E	MAP2006HT8P-E	MAP2206HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E
				MAP1406HT8P-E	MAP1606HT8P-E
Cooling capacity (kW)	112.0	117.5	123.0	130.0	135.0
Heating capacity (kW)	126.0	127.0	128.0	145.0	150.0


Capacity	50HP	52HP	54HP	56HP	58HP	60HP
Model Name (MMY-)	AP5016HT8P-E	AP5216HT8P-E	AP5416HT8P-E	AP5616HT8P-E	AP5816HT8P-E	AP6016HT8P-E
Units in combination (MMY-)	MAP1806HT8P-E	MAP2006HT8P-E	MAP2206HT8P-E	MAP2006HT8P-E	MAP2206HT8P-E	MAP2206HT8P-E
	MAP1606HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E	MAP2006HT8P-E	MAP2006HT8P-E	MAP2206HT8P-E
	MAP1606HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E	MAP1606HT8P-E
Cooling capacity (kW)	140.4	146.0	151.5	157.0	162.5	168.0
Heating capacity (kW)	156.0	163.0	164.0	176.0	177.0	178.0

* Power: 3-phase 50 Hz 400V (380 - 415V) / 3-phase 60 Hz 380V.
* The source voltage must not fluctuate more than ±10%.
* Rated conditions:
Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB.
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB.

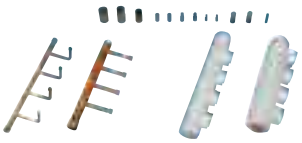
High efficiency / Heating capacity priority model




Capacity	20HP	22HP	36HP	38HP	40HP
Model Name (MMY-)	AP2026HT8P-E	AP2226HT8P-E	AP3626HT8P-E	AP3826HT8P-E	AP4026HT8P-E
Units in combination (MMY-)	MAP1006HT8P-E	MAP1206HT8P-E	MAP1206HT8P-E	MAP1406HT8P-E	MAP1406HT8P-E
	MAP1006HT8P-E	MAP1006HT8P-E	MAP1206HT8P-E	MAP1206HT8P-E	MAP1406HT8P-E
			MAP1206HT8P-E	MAP1206HT8P-E	MAP1206HT8P-E
Cooling capacity (kW)	56.0	61.5	100.5	107.0	113.5
Heating capacity (kW)	63.0	69.0	112.5	120.0	127.5


Capacity	42HP	44HP	54HP
Model Name (MMY-)	AP4226HT8P-E	AP4426HT8P-E	AP5426HT8P-E
Units in combination (MMY-)	MAP1406HT8P-E	MAP1606HT8P-E	MAP2006HT8P-E
	MAP1406HT8P-E	MAP1406HT8P-E	MAP2006HT8P-E
	MAP1406HT8P-E	MAP1406HT8P-E	MAP1406HT8P-E
Cooling capacity (kW)	120.0	125.0	152.0
Heating capacity (kW)	135.0	140.0	171.0

Branching joints

	Y-shape branching joint				Branch headers				Outdoor unit connection piping kit	
Appearance					 (4-branch headers)					
Model name	RBM-BY55E	RBM-BY105E	RBM-BY205E	RBM-BY305E	RBM-HY1043E	RBM-HY2043E	RBM-HY1083E	RBM-HY2083E	RBM-BT14E	RBM-BT24E
Usage (HP) (Classification according to Indoor unit capacity code	Total below 6.4	Total 6.4 or more and below 14.2	Total 14.2 or more and below 25.2	Total 25.2 or more	Max. 4 branches		Max. 8 branches		Total below 26.0	Total 26.0 or more
					Total below 14.2	Total 14.2 or more and below 25.2	Total below 14.2	Total 14.2 or more and below 25.2		

Standard Model

Technical specifications

Equivalent HP				8	10	12	14
Model name		Heat pump	MMY-	MAP0806HT8P-E	MAP1006HT8P-E	MAP1206HT8P-E	MAP1406HT8P-E
Outdoor unit type				Inverter unit			
Cooling capacity (*1)			(kW)	22.4	28.0	33.5	40.0
Heating capacity (*1)			(kW)	25.0	31.5	37.5	45.0
Power supply				3 phase ~ 50Hz 400V(380-415V)			
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	5.54	7.69	10.0	12.3
		EER		4.04	3.64	3.35	3.24
		ESEER	(kW/kW)	7.55	7.45	7.70	7.42
	Heating	Power consumption	(kW)	5.53	7.41	9.65	11.2
		COP		4.52	4.25	3.89	4.02
Dimensions		(Height / Width / Depth)	(mm)	1830x990x780	1830x990x780	1830x990x780	1830x1210x780
Weight		Heat pump	(kg)	242	242	242	300
Compressor	Type			Hermetic twin rotary compressor			
	Qty			2	2	2	2
	Motor output		(kW)	2.1x2	3.1x2	3.9x2	4.8x2
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	9700	9700	12200	12200
Refrigerant piping	Main pipe diameter	Gas side	(mm)	19.1	22.2	28.6	28.6
		Liquid side	(mm)	12.7	12.7	12.7	15.9
		Balance pipe	(mm)	9.5	9.5	9.5	9.5
Sound pressure level		(Cooling/Heating)	(dB(A))	55.0/56.0	57.0/58.0	59.0/61.0	60.0/62.0
Sound power level		(Cooling/Heating)	(dB(A))	74.0/74.0	74.0/74.0	80.0/82.0	80.0/82.0
Operating temperature range (*2)		(Cooling/Heating)		from -10°C to +46°C / from -25°C to +15.5°C			

Standard Model

Technical specifications

Equivalent HP				16	18	20	22
Model name		Heat pump	MMY-	MAP1606HT8P-E	MAP1806HT8P-E	MAP2006HT8P-E	MAP2206HT8P-E
Outdoor unit type				Inverter unit			
Cooling capacity (*1)			(kW)	45.0	50.4	56.0	61.5
Heating capacity (*1)			(kW)	50.0	56.0	63.0	64.0
Power supply				3 phase~ 50Hz 400V(380-415V)			
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	14.3	14.6	17.3	23.2
		EER		3.12	3.50	3.27	2.65
		ESEER	(kW/kW)	7.58	7.25	7.17	7.10
	Heating	Power consumption	(kW)	12.9	14.1	17.0	17.1
		COP		3.88	3.96	3.71	3.80
Dimensions		(Height / Width/ Depth)	(mm)	1830x1210x780	1830x1600x780	1830x1600x780	1830x1600x780
Weight		Heat pump	(kg)	300	371	371	371
Compressor	Type			Hermetic twin rotary compressor			
	Qty			2	2	2	2
	Motor output		(kW)	5.8x2	6.5x2	7.6x2	9.0x2
Fan unit	Motor output		(kW)	1.0	2.0	2.0	2.0
	Air volume		(m^3/h)	12600	17300	17900	18500
Refrigerant piping	Main pipe diameter	Gas side	(mm)	28.6	28.6	28.6	28.6
		Liquid side	(mm)	15.9	15.9	15.9	19.1
		Balance pipe	(mm)	9.5	9.5	9.5	9.5
Sound pressure level		(Cooling/Heating)	(dB(A))	62.0/64.0	60.0/61.0	61.0/62.0	61.0/62.0
Sound power level		(Cooling/Heating)	(dB(A))	81.0/83.0	81.0/83.0	82.0/84.0	83.0/84.0
Operating temperature range (*2)		(Cooling/Heating)		from -10°C to +46°C / from -25°C to +15.5°C			

(*1) Rated conditions:
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB.
Heating : Indoor 20°C DB, Outdoor 7°C DB / 6°C WB.
Based on equivalent piping length of 7.5m and piping height difference of 0m.
(*2) Low ambient cooling (-5 °C or less) is limited to application.
Low ambient heating (-20°C or less) for extended periods of time is not allowed.

Combinations

Technical specifications

Equivalent HP				24	26	28	30
Model name		Heat pump	MMY-	AP2416HT8P-E	AP2616HT8P-E	AP2816HT8P-E	AP3016HT8P-E
Outdoor unit type				Inverter unit			
Outdoor unit	Combination	Heat pump	MMY-MAP	1206HT8P-E	1406HT8P-E	1606HT8P-E	1606HT8P-E
				1206HT8P-E	1206HT8P-E	1206HT8P-E	1406HT8P-E
Cooling capacity (*1)			(kW)	67.0	73.5	78.5	85.0
Heating capacity (*1)			(kW)	75.0	82.5	87.5	95.0
Power supply				3 phase ~ 50Hz 400V(380-415V)			
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	20.0	22.3	24.3	26.6
		EER		3.35	3.30	3.23	3.20
		ESEER	(kW/kW)	7.71	7.55	7.64	7.51
	Heating	Power consumption	(kW)	19.7	20.85	22.55	24.1
		COP		3.89	3.96	3.88	3.94
Weight		Heat pump	(kg)	242+242	300+242	300+242	300+300
Compressor	Qty			2+2	2+2	2+2	2+2
	Motor output		(kW)	3.9x2 + 3.9x2	4.8x2 + 3.9x2	5.8x2 + 3.9x2	5.8x2 + 4.8x2
Fan unit	Motor output		(kW)	1.0 + 1.0	1.0 + 1.0	1.0 + 1.0	1.0 + 1.0
	Air volume		(m^3/h)	12200+12200	12200+12200	12600+12200	12600+12200
Refrigerant piping	Main pipe diameter	Gas side	(mm)	34.9	34.9	34.9	34.9
		Liquid side	(mm)	19.1	19.1	19.1	19.1
		Balance pipe	(mm)	9.5	9.5	9.5	9.5
Sound pressure level	(Cooling/Heating)		(dB(A))	62.0/64.0	62.5/64.5	64.0/66.0	64.5/66.5
Sound power level	(Cooling/Heating)		(dB(A))	83.0/85.0	83.0/85.0	83.5/85.5	83.5/85.5

Combinations

Technical specifications

Equivalent HP				32	34	36	38
Model name		Heat pump	MMY-	AP3216HT8P-E	AP3416HT8P-E	AP3616HT8P-E	AP3816HT8P-E
Outdoor unit type				Inverter unit			
Outdoor unit	Combination	Heat pump	MMY-MAP	1606HT8P-E	1806HT8P-E	2006HT8P-E	2206HT8P-E
				1606HT8P-E	1606HT8P-E	1606HT8P-E	1606HT8P-E
Cooling capacity (*1)			(kW)	90.0	95.4	101.0	106.5
Heating capacity (*1)			(kW)	100.0	106.0	113.0	114.0
Power supply				3 phase ~ 50Hz 400V(380-415V)			
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	28.6	28.9	31.6	37.5
		EER		3.15	3.30	3.20	2.84
		ESEER	(kW/kW)	7.59	7.40	7.35	7.30
	Heating	Power consumption	(kW)	25.8	27.0	29.9	30.0
		COP		3.88	3.93	3.78	3.80
Weight		Heat pump	(kg)	300+300	371+300	371+300	371+300
Compressor	Qty			2+2	2+2	2+2	2+2
	Motor output		(kW)	5.8x2 + 5.8x2	6.5x2 + 5.8x2	7.6x2 + 5.8x2	9.0x2 + 5.8x2
Fan unit	Motor output		(kW)	1.0 + 1.0	2.0 + 1.0	2.0 + 1.0	2.0 + 1.0
	Air volume		(m^3/h)	12600+12600	17300+12600	17900+12600	18500+12600
Refrigerant piping	Main pipe diameter	Gas side	(mm)	34.9	34.9	41.3	41.3
		Liquid side	(mm)	19.1	19.1	22.2	22.2
		Balance pipe	(mm)	9.5	9.5	9.5	9.5
Sound pressure level	(Cooling/Heating)		(dB(A))	65.0/67.0	64.5/66.0	64.5/66.5	64.5/66.5
Sound power level	(Cooling/Heating)		(dB(A))	84.0/86.0	84.0/86.0	84.5/86.5	85.5/86.5

Combinations

Technical specifications

Equivalent HP				40	42	44
Model name		Heat pump	MMY-	AP4016HT8P-E	AP4216HT8P-E	AP4416HT8P-E
Outdoor unit type				Inverter unit		
Outdoor unit	Combination	Heat pump	MMY-MAP	2006HT8P-E	2206HT8P-E	2206HT8P-E
				2006HT8P-E	2006HT8P-E	2206HT8P-E
Cooling capacity (*1)			(kW)	112.0	117.5	123.0
Heating capacity (*1)			(kW)	126.0	127.0	128.0
Power supply				3 phase ~ 50Hz 400V(380-415V)		
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	34.6	40.5	46.4
		EER		3.24	2.90	2.65
		ESEER	(kW/kW)	7.17	7.13	7.11
	Heating	Power consumption	(kW)	34.0	34.1	34.2
		COP		3.71	3.72	3.74
Weight		Heat pump	(kg)	371+371	371+371	371+371
Compressor	Qty			2+2	2+2	2+2
	Motor output		(kW)	7.6x2 + 7.6x2	9.0x2 + 7.6x2	9.0x2 + 9.0x2
Fan unit	Motor output		(kW)	2.0 + 2.0	2.0 + 2.0	2.0 + 2.0
	Air volume		(m^3/h)	17900+17900	18500+17900	18500+18500
Refrigerant piping	Main pipe diameter	Gas side	(mm)	41.3	41.3	41.3
		Liquid side	(mm)	22.2	22.2	22.2
		Balance pipe	(mm)	9.5	9.5	9.5
Sound pressure level	(Cooling/Heating)		(dB(A))	64.0/65.0	64.0/65.0	64.0/65.0
Sound power level	(Cooling/Heating)		(dB(A))	85.0/87.0	85.5/87.0	86.0/87.0

(*1) Rated conditions:
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB.
Heating : Indoor 20°C DB, Outdoor 7°C DB / 6°C WB.
Based on equivalent piping length of 7.5m and piping height difference of 0m.

Combinations

Technical specifications

Equivalent HP				46	48	50
Model name		Heat pump	MMY-	AP4616HT8P-E	AP4816HT8P-E	AP5016HT8P-E
Outdoor unit type				Inverter unit		
Outdoor unit	Combination	Heat pump	MMY-MAP	1606HT8P-E	1606HT8P-E	1806HT8P-E
				1606HT8P-E	1606HT8P-E	1606HT8P-E
				1406HT8P-E	1606HT8P-E	1606HT8P-E
Cooling capacity (*1)			(kW)	130.0	135.0	140.4
Heating capacity (*1)			(kW)	145.0	150.0	156.0
Power supply				3 phase ~ 50Hz 400V(380-415V)		
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	40.9	42.9	43.2
		EER	(kW/kW)	3.18	3.15	3.25
		ESEER	(kW/kW)	7.53	7.59	7.46
	Heating	Power consumption	(kW)	37.0	38.7	39.9
		COP	(kW/kW)	3.92	3.88	3.91
Weight		Heat pump	(kg)	300+300+300	300+300+300	371+300+300
Compressor	Qty			2+2+2	2+2+2	2+2+2
	Motor output		(kW)	5.8x2 + 5.8x2 + 4.8x2	5.8x2 + 5.8x2 + 5.8x2	6.5x2 + 5.8x2 + 5.8x2
Fan unit	Motor output		(W)	1.0 + 1.0 + 1.0	1.0 + 1.0 + 1.0	2.0 + 1.0 + 1.0
	Air volume		(m^3/h)	12600+12600+12200	12600+12600+12600	17300+12600+12600
Refrigerant piping	Main pipe diameter	Gas side	(mm)	41.3	41.3	41.3
		Liquid side	(mm)	22.2	22.2	22.2
		Balance pipe	(mm)	9.5	9.5	9.5
Sound pressure level	(Cooling/Heating)		(dB(A))	66.5/68.5	67.0/69.0	66.5/68.0
Sound power level	(Cooling/Heating)		(dB(A))	85.5/87.5	86.0/88.0	86.0/88.0

Combinations

Technical specifications

Equivalent HP				52	54	56
Model name		Heat pump	MMY-	AP5216HT8P-E	AP5416HT8P-E	AP5616HT8P-E
Outdoor unit type				Inverter unit		
Outdoor unit	Combination	Heat pump	MMY-MAP	2006HT8P-E	2206HT8P-E	2006HT8P-E
				1606HT8P-E	1606HT8P-E	2006HT8P-E
				1606HT8P-E	1606HT8P-E	1606HT8P-E
Cooling capacity (*1)			(kW)	146.0	151.5	157.0
Heating capacity (*1)			(kW)	163.0	164.0	176.0
Power supply				3 phase ~ 50Hz 400V(380-415V)		
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	45.9	51.8	48.9
		EER	(kW/kW)	3.18	2.92	3.21
		ESEER	(kW/kW)	7.42	7.38	7.28
	Heating	Power consumption	(kW)	42.8	42.9	46.9
		COP	(kW/kW)	3.81	3.82	3.75
Weight		Heat pump	(kg)	371+300+300	371+300+300	371+371+300
Compressor	Qty			2+2+2	2+2+2	2+2+2
	Motor output		(kW)	7.6x2 + 5.8x2 + 5.8x2	9.0x2 + 5.8x2 + 5.8x2	7.6x2 + 7.6x2 + 5.8x2
Fan unit	Motor output		(W)	2.0 + 1.0 + 1.0	2.0 + 1.0 + 1.0	2.0 + 2.0 + 1.0
	Air volume		(m^3/h)	17900+12600+12600	18500+12600+12600	17900+17900+12600
Refrigerant piping	Main pipe diameter	Gas side	(mm)	41.3	41.3	41.3
		Liquid side	(mm)	22.2	22.2	22.2
		Balance pipe	(mm)	9.5	9.5	9.5
Sound pressure level	(Cooling/Heating)		(dB(A))	66.5/68.5	66.5/68.5	66.5/67.5
Sound power level	(Cooling/Heating)		(dB(A))	86.5/88.5	86.5/88.5	86.5/88.5

Combinations

Technical specifications

Equivalent HP				58	60
Model name		Heat pump	MMY-	AP5816HT8P-E	AP6016HT8P-E
Outdoor unit type				Inverter unit	
Outdoor unit	Combination	Heat pump	MMY-MAP	2206HT8P-E	2206HT8P-E
				2006HT8P-E	2206HT8P-E
				1606HT8P-E	1606HT8P-E
Cooling capacity (*1)			(kW)	162.5	168.0
Heating capacity (*1)			(kW)	177.0	178.0
Power supply				3 phase ~ 50Hz 400V(380-415V)	
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	54.8	60.7
		EER	(kW/kW)	2.97	2.77
		ESEER	(kW/kW)	7.25	7.23
	Heating	Power consumption	(kW)	47.0	47.1
		COP	(kW/kW)	3.77	3.78
Weight		Heat pump	(kg)	371+371+300	371+371+300
Compressor	Qty			2+2+2	2+2+2
	Motor output		(kW)	9.0x2 + 7.6x2 + 5.8x2	9.0x2 + 9.0x2 + 5.8x2
Fan unit	Motor output		(W)	2.0 + 2.0 + 1.0	2.0 + 2.0 + 1.0
	Air volume		(m^3/h)	18500+17900+12600	18500+18500+12600
Refrigerant piping	Main pipe diameter	Gas side	(mm)	41.3	41.3
		Liquid side	(mm)	22.2	22.2
		Balance pipe	(mm)	9.5	9.5
Sound pressure level	(Cooling/Heating)		(dB(A))	66.5/67.5	66.5/67.5
Sound power level	(Cooling/Heating)		(dB(A))	87.0/88.5	87.5/88.5

(*1) Rated conditions:
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB.
Heating : Indoor 20°C DB, Outdoor 7°C DB / 6°C WB.
Based on equivalent piping length of 7.5m and piping height difference of 0m.

High efficiency / Heating capacity priority model

Technical specifications

Equivalent HP				20	22
Model name		Heat pump	MMY-	AP2026HT8P-E	AP2226HT8P-E
Outdoor unit type				Inverter unit	
Outdoor unit	Combination	Heat pump	MMY-MAP	1006HT8P-E	1206HT8P-E
				1006HT8P-E	1006HT8P-E
Cooling capacity (*1)			(kW)	56.0	61.5
Heating capacity (*1)			(kW)	63.0	69.0
Power supply				3 phase 50Hz 400V(380-415V)	
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	15.38	17.69
		EER	(kW/kW)	3.64	3.48
		ESEER	(kW/kW)	7.45	7.56
	Heating	Power consumption	(kW)	14.7	17.06
		COP	(kW/kW)	4.25	4.04
Weight		Heat pump	(kg)	242+242	242+242
Compressor	Qty			2+2	2+2
	Motor output		(kW)	3.1x2 + 3.1x2	3.9x2 + 3.1x2
Fan unit	Motor output		(W)	1.0 + 1.0	1.0 + 1.0
	Air volume		(m^3/h)	9700+9700	12200+9700
Refrigerant piping	Main pipe diameter	Gas side	(mm)	28.6	28.6
		Liquid side	(mm)	15.9	19.1
		Balance pipe	(mm)	9.5	9.5
Sound pressure level	(Cooling/Heating)		(dB(A))	60.0/61.0	61.5/63.0
Sound power level	(Cooling/Heating)		(dB(A))	77.0/77.0	81.0/83.0

High efficiency / Heating capacity priority model

Technical specifications

Equivalent HP				36	38	40
Model name		Heat pump	MMY-	AP3626HT8P-E	AP3826HT8P-E	AP4026HT8P-E
Outdoor unit type					Inverter unit	
Outdoor unit	Combination	Heat pump	MMY-MAP	1206HT8P-E	1406HT8P-E	1406HT8P-E
				1206HT8P-E	1206HT8P-E	1406HT8P-E
				1206HT8P-E	1206HT8P-E	1206HT8P-E
Cooling capacity (*1)			(kW)	100.5	107.0	113.5
Heating capacity (*1)			(kW)	112.5	120.0	127.5
Power supply					3 phase 50Hz 400V(380-415V)	
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	30.0	32.3	34.6
		EER	(kW/kW)	3.35	3.31	3.28
		ESEER	(kW/kW)	7.71	7.6	7.51
	Heating	Power consumption	(kW)	29.0	30.5	32.1
		COP	(kW/kW)	3.89	3.93	3.98
Weight		Heat pump	(kg)	242+242+242	300+242+242	300+300+242
Compressor	Qty			2+2+2	2+2+2	2+2+2
	Motor output		(kW)	3.9x2 + 3.9x2 + 3.9x2	4.8x2 + 3.9x2 + 3.9x2	4.8x2 + 4.8x2 + 3.9x2
Fan unit	Motor output		(W)	1.0 + 1.0 + 1.0	1.0 + 1.0 + 1.0	1.0 + 1.0 + 1.0
	Air volume		(m^3/h)	12200+12200+12200	12200+12200+12200	12200+12200+12200
Refrigerant piping	Main pipe diameter	Gas side	(mm)	41.3	41.3	41.3
		Liquid side	(mm)	22.2	22.2	22.2
		Balance pipe	(mm)	9.5	9.5	9.5
Sound pressure level	(Cooling/Heating)		(dB(A))	64.0/66.0	64.5/66.5	64.5/66.5
Sound power level	(Cooling/Heating)		(dB(A))	85.0/87.0	85.0/87.0	85.0/87.0

High efficiency / Heating capacity priority model

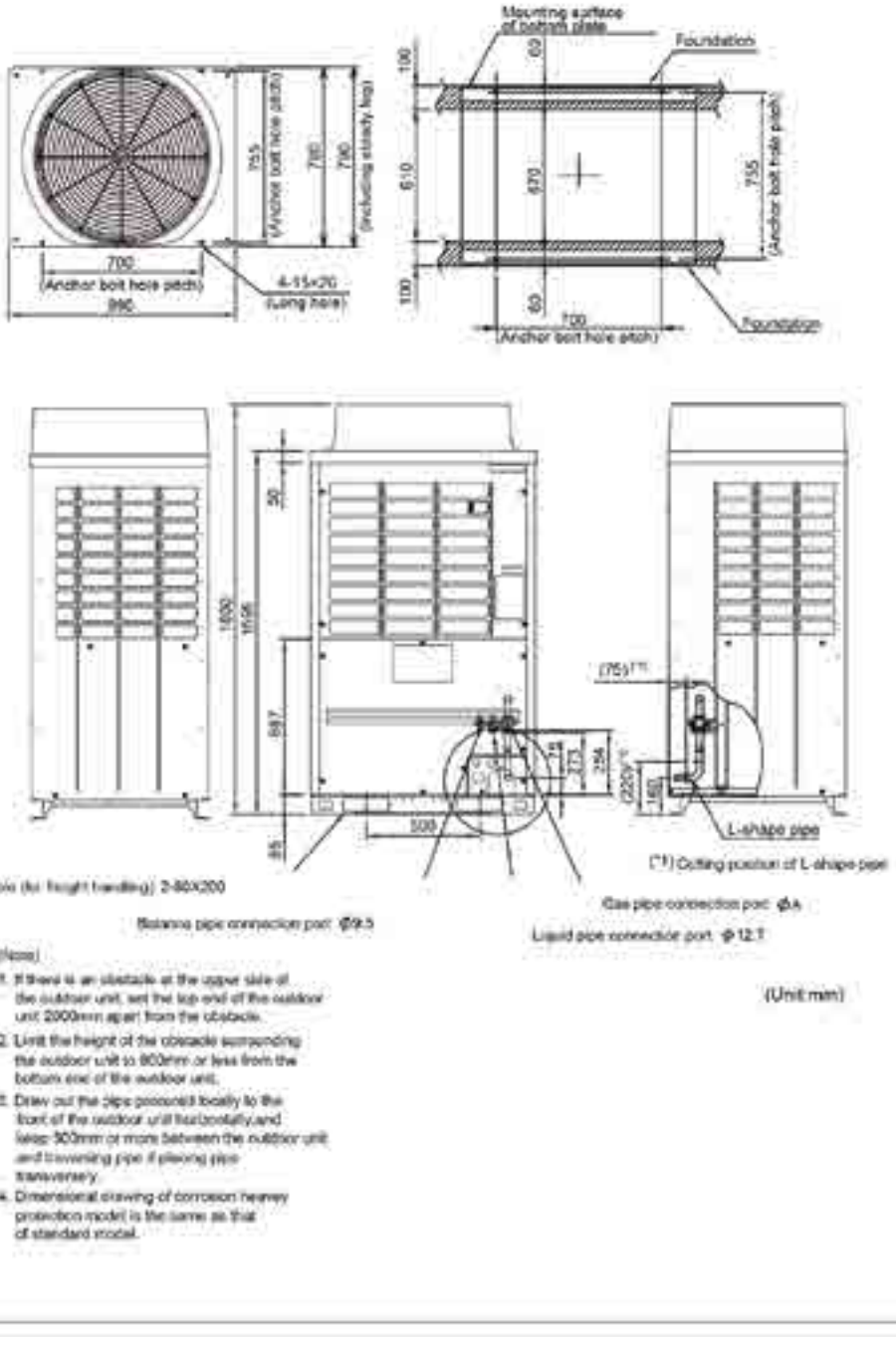
Technical specifications

Equivalent HP				42	44	54
Model name		Heat pump	MMY-	AP4226HT8P-E	AP4426HT8P-E	AP5426HT8P-E
Outdoor unit type					Inverter unit	
Outdoor unit	Combination	Heat pump	MMY-MAP	1406HT8P-E	1606HT8P-E	2006HT8P-E
				1406HT8P-E	1406HT8P-E	2006HT8P-E
				1406HT8P-E	1406HT8P-E	1406HT8P-E
Cooling capacity (*1)			(kW)	120.0	125.0	152.0
Heating capacity (*1)			(kW)	135.0	140.0	171.0
Power supply					3phase 50Hz 400V(380-415V)	
Electrical characteristics (*1)	Cooling	Power consumption	(kW)	36.9	38.9	46.9
		EER	(kW/kW)	3.25	3.21	3.24
		ESEER	(kW/kW)	7.42	7.48	7.23
	Heating	Power consumption	(kW)	33.6	35.3	45.2
		COP	(kW/kW)	4.02	3.97	3.78
Weight		Heat pump	(kg)	300+300+300	300+300+300	371+371+300
Compressor	Qty			2+2+2	2+2+2	2+2+2
	Motor output		(kW)	4.8x2 + 4.8x2 + 4.8x2	5.8x2 + 4.8x2 + 4.8x2	7.6x2 + 7.6x2 + 4.8x2
Fan unit	Motor output		(W)	1.0 + 1.0 + 1.0	1.0 + 1.0 + 1.0	2.0 + 2.0 + 1.0
	Air volume		(m^3/h)	12200+12200+12200	12600+12200+12200	17900+17900+12200
Refrigerant piping	Main pipe diameter	Gas side	(mm)	41.3	41.3	41.3
		Liquid side	(mm)	22.2	22.2	22.2
		Balance pipe	(mm)	9.5	9.5	9.5
Sound pressure level	(Cooling/Heating)		(dB(A))	65.0/67.0	65.5/67.5	65.5/67.0
Sound power level	(Cooling/Heating)		(dB(A))	85.0/87.0	85.5/87.5	86.5/88.5

(*1) Rated conditions:
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB.
Heating : Indoor 20°C DB, Outdoor 7°C DB / 6°C WB.
Based on equivalent piping length of 7.5m and piping height difference of 0m.

Model : MMY-MAP0806HT8P-E
MMY-MAP1006HT8P-E
MMY-MAP1206HT8P-E

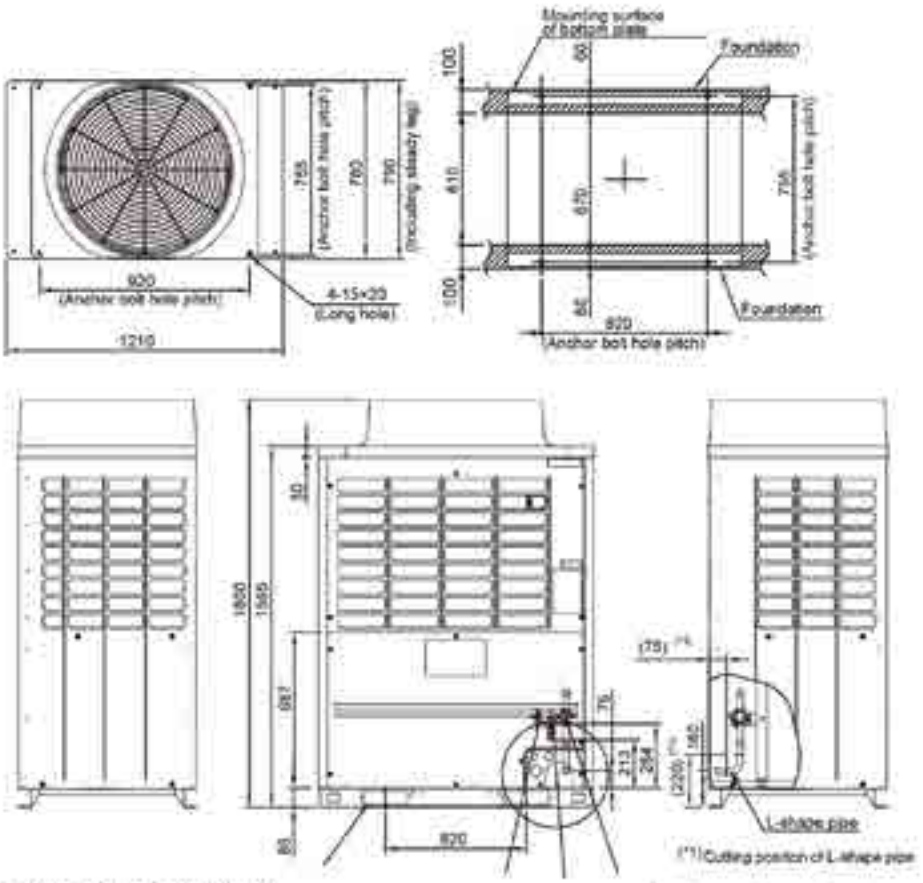
Model name	ØA
MAP0806 type	Ø15.9
MAP1006 type	Ø22.2
MAP1206 type	Ø22.2



(Note)

1. If there is an obstacle at the upper side of the outdoor unit, set the top end of the outdoor unit 2000mm apart from the obstacle.
2. Limit the height of the obstacle surrounding the outdoor unit to 800mm or less from the bottom end of the outdoor unit.
3. Draw out the pipe procured locally to the front of the outdoor unit horizontally and keep 300mm or more between the outdoor unit and bending pipe if piping pipe transversely.
4. Dimensional drawing of corrosion heavy protection model is the same as that of standard model.

Model: MMY-MAP1406HT8P-E
MMY-MAP1606HT8P-E



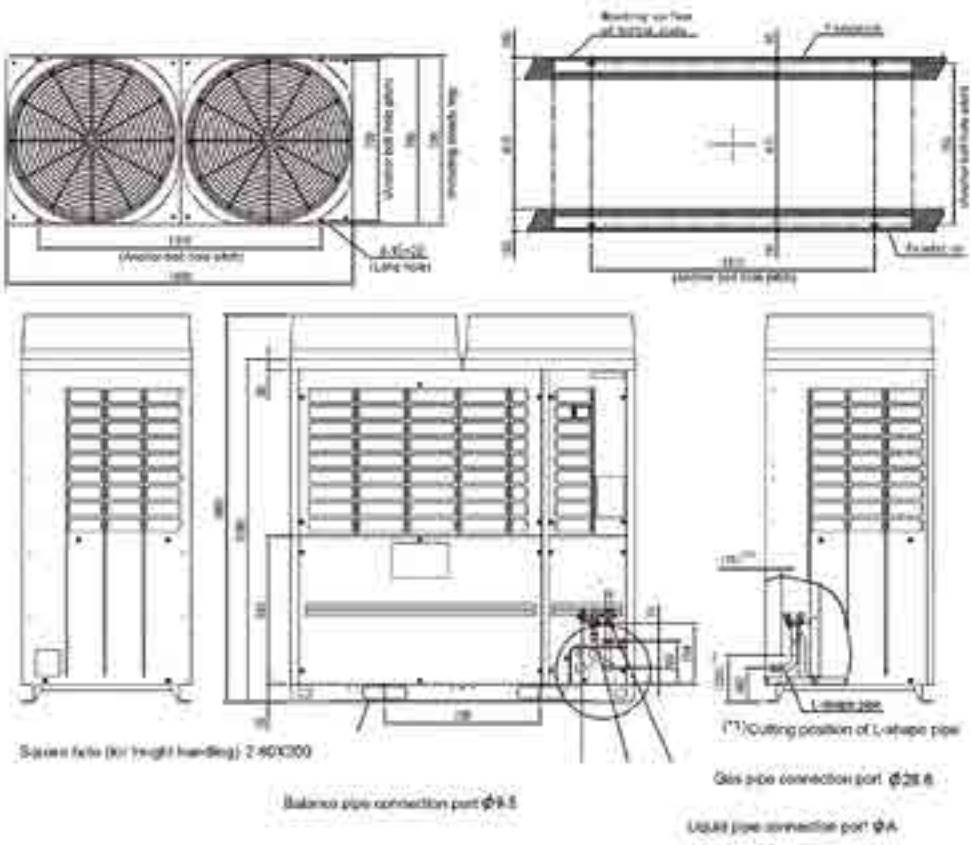
(Note)

1. If there is an obstacle at the upper side of the outdoor unit, set the top end of the outdoor unit 2000mm apart from the obstacle.
2. Limit the height of the obstacle surrounding the outdoor unit to 600mm or less from the bottom end of the outdoor unit.
3. Draw out the pipe provided locally to the front of the outdoor unit horizontally and keep 500mm or more between the outdoor unit and it traversing pipe if piping pipe transversely.
4. Dimensional drawing of corrosion hazard protection model is the same as that of standard model.

(Unit: mm)

Model : MMY-MAP1806HT8P-E
MMY-MAP2006HT8P-E
MMY-MAP2206HT8P-E

Model Name	ØA
MAP1806 type	Ø15.9
MAP2006 type	Ø15.9
MAP2206 type	Ø19.1



(Unit:mm)

(Note)
1. If there is an obstacle at the upper side of the outdoor unit, set the top end of the outdoor unit 2300mm apart from the obstacle.
2. Limit the height of the obstacle surrounding the outdoor unit to 850mm or less from the bottom end of the outdoor unit.
3. Draw out the pipe procured locally to the front of the outdoor unit horizontally and keep 500mm or more between the outdoor unit and traversing pipe if drawing pipe transversely.
4. Dimensional drawing of corrosion heavy protection model is the same as that of standard model.

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SHRMe

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SHRM e
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The SHRMe allows freely selectable heating and cooling from each indoor unit on a single refrigerant piping system.

Innovative compressor technology

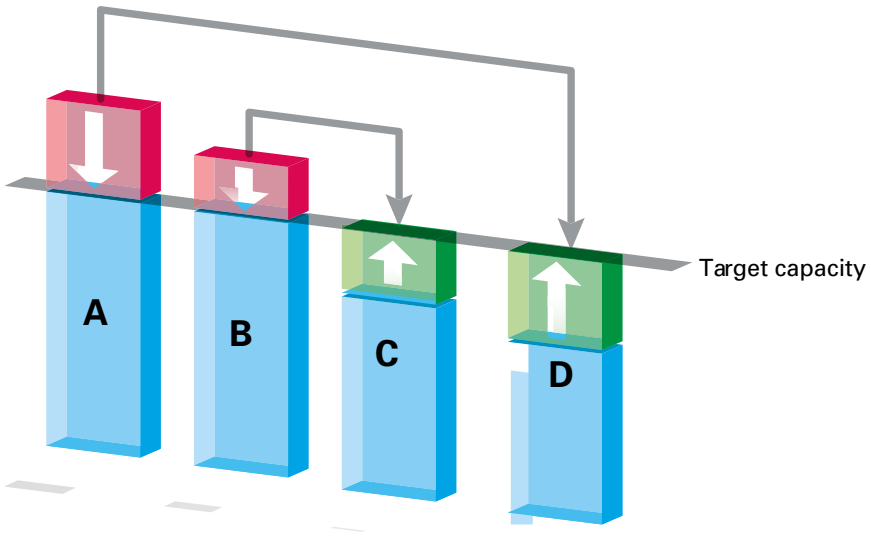
Toshiba's infinitely variable inverter driven control can continually adjust the operating speed of the compressors in real time. This ensures that the capacity output precisely matches end user demand. The advantages of this control are further optimised by incorporating Toshiba's twin rotary compressors. These which enable the SHRMe system to achieve maximum performance and class- leading ESEER values.

Wide range compressor

Using new cutting-edge technology, Toshiba's new twin rotary DC driven compressor can operate in a much wider range of rotational speed, giving increase performance, whilst maximising energy efficiencies.

Intelligent flow technology

The unique IFT control continually adjusts the operation of both indoor and outdoor units, based on the feedback from multiple sensors.
While the refrigerant flow to each indoor unit is precisely controlled by the outdoor unit, ensuring even capacity distribution throughout the system, the evaporative and condensing temperature is automatically adjusted to maintain optimum indoor room temperature, regardless of the unit's load or its physical distance from the outdoor unit.



Excess capacity in units A & B can be re-distributed to units C & D, ensuring perfect operation throughout the entire system.
Toshiba "IFT" technology ensures that any surplus capacity can be re-distributed in order to achieve optimum performance and efficiency throughout the entire system.

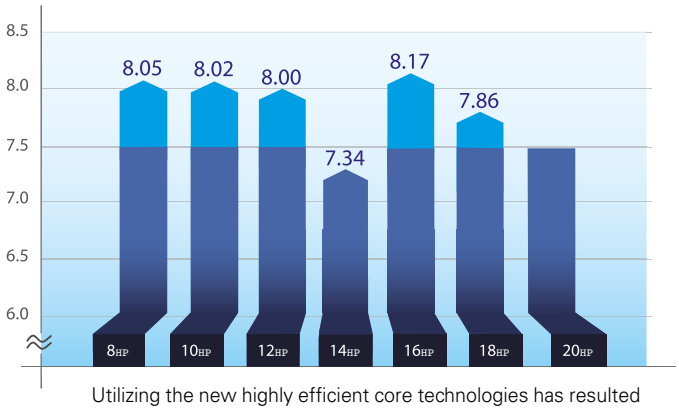
Maximum part load & full load efficiencies

Thanks to Toshiba's unique twin rotary compressor, re-designed heat exchanger and "intelligent flow" technology, the new SHRMe achieves a ESEER of 8.17, the highest seasonal efficiency in the market.
Maximum efficiency is obtained under 50% part load conditions, under which VRF systems operate predominantly.
The expert use and evolution of Toshiba's core technologies have allowed the new SHRMe system to achieve the highest part load COP and EER in the industry.

INDUSTRY Top Class

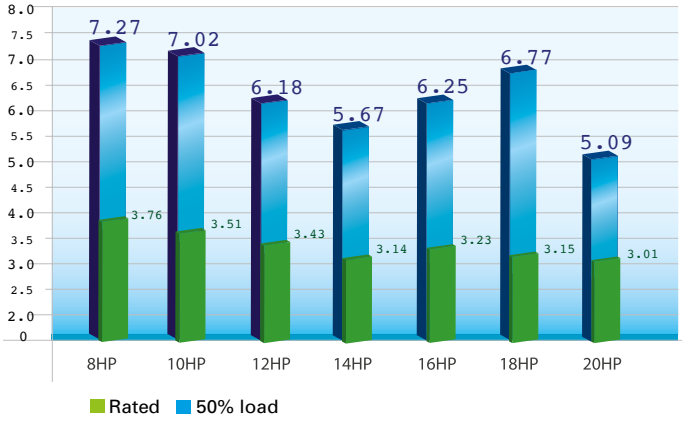
ESEER

Over 7.0 ESEER for all capacity range

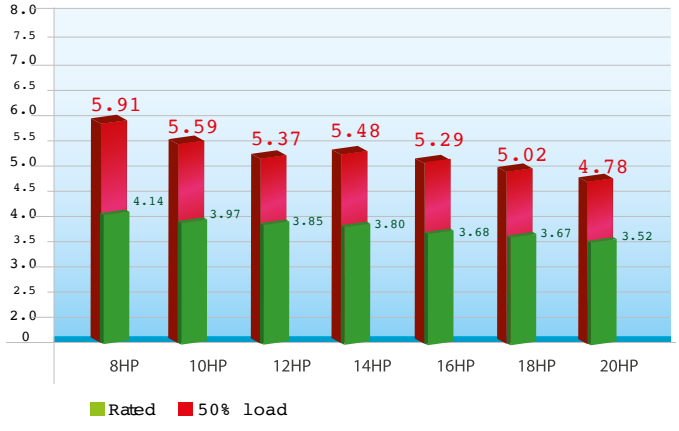


Utilizing the new highly efficient core technologies has resulted in greater energy efficiency and performance

EER



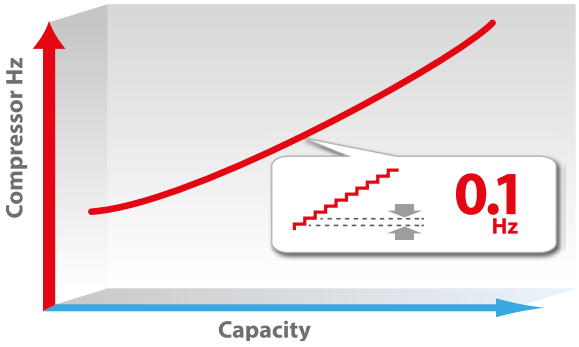
COP



Intelligent systems work collaboratively to provide optimum operational efficiency.

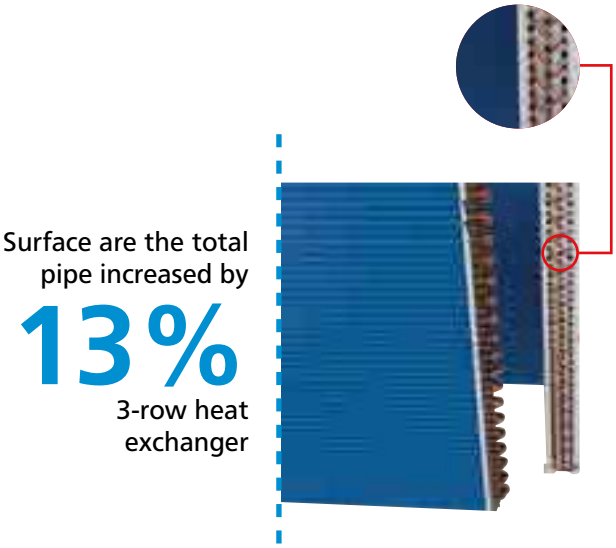
Infinite Variable Control

This feature has been continually evolved and developed, since its inception by TOSHIBA engineers back in 2004 with the original SMMS system. The control has the ability to adjust the compressor rotational speed in a near seamless 0,1 Hz steps. This control when matched with TOSHIBA's newest and latest Twin Rotary compressors, allows the system to respond precisely to the capacity needs of the end user, whilst minimizing energy losses.



Advanced heat exchanger

Toshiba's new 3-row heat exchanger design, with reduced pipe size from 8 mm to 7 mm and increased total number of passes, improves both system performance and efficiency.
While the 3-row heat exchanger design allows the CDU to automatically select the most suitable heat exchanger size, precisely matching the indoor capacity load, its 4-sided design ensures maximum possible flow rate across the entire coil, maximising system efficiency.

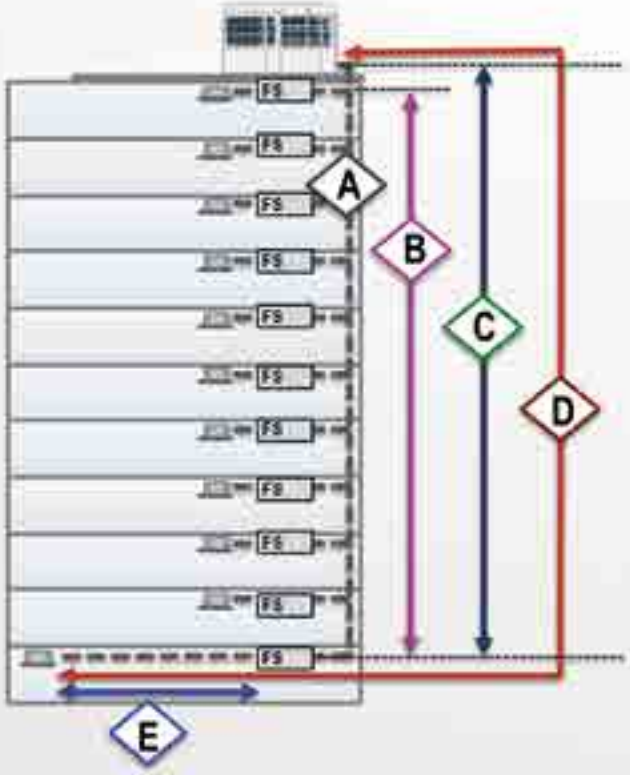


Flexible design and quick installation

Piping Design Flexibility

Toshiba's piping technology makes them one of the industries leaders in system flexibility and ease of installation and with the new SHRMe system, the level of flexibility has increased further, giving more options to the contractor and installer alike.

Piping length & height difference extension by New CDU and FS unit



		SHRMe	Previous model
A	Total length	1000m*	500m
B	Height between FCU-FCU - outdoor unit above - outdoor unit below	 40m 15m	 40m 3m
C	Height between CDU-FCU - outdoor unit above - outdoor unit below	 90m*1 40m*2	 50m 30m
D	Farthest equivalent length	200m	200m
E	Maximum actual length between FS unit and FCU	50m*	15m

A* : Above 3HP composition
C*1 : It is 70m for normal time, and has some specific conditions for 90m
50m if piping length between FCU's is more than 3m
C*2 : It is 30m for normal time, and has some specific conditions for 40m
E* : It is allow only if you use the Multi port FS unit

Multi-flow selector for faster installation

The use of multi-flow selector units increases the design flexibility of the system, offering the same overall capacity with a reduced number of connections. For example a 4-branch multi-flow selector box requires only 14 brazing points, whereas the equivalent combination of single selector box would require up to 50 brazing points. This allows much faster and simpler installation, while layout design is more flexible, thanks to simplified branch and branch connections. Reducing the length of the branches also allows increased capacity. This configuration is available with either group or individual remote control.

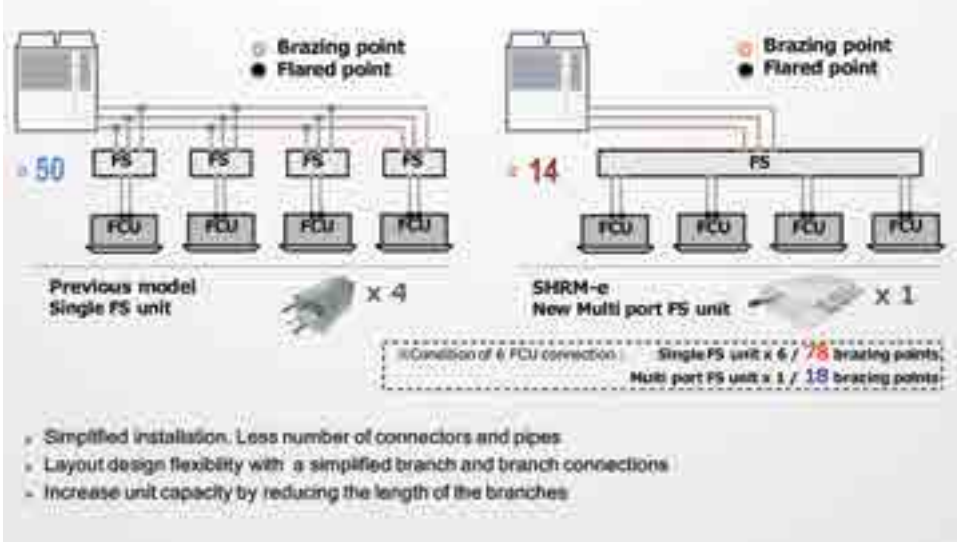
Range Overview

Branches	4	6
Model Name	RBM-Y1801F4PE	RBM-Y1801F6PE
Appearance		
Connectable FCU capacity	1.7kW (0.6HP) to 18.0kW (6.4HP)	1.7kW (0.6HP) to 18.0kW (6.4HP)
Connectable FCU number for each port	Max. 10*1,2	Max. 10*1,2
Dimension (Height/Width/Depth)	215 / 730 / 567	215 / 1.050 / 567
Weight(kg)	38	53

- Group remote control or individual remote control
- Same overall capacity and connectable units for both models
- Same piping connections as the single flow selector unit

*1: Only individual control operation is possible for Max. 10 FCU and only group operation is possible with 1 (or 2) remote controller
*2: Only group operation is possible with 1 (or 2) remote controller

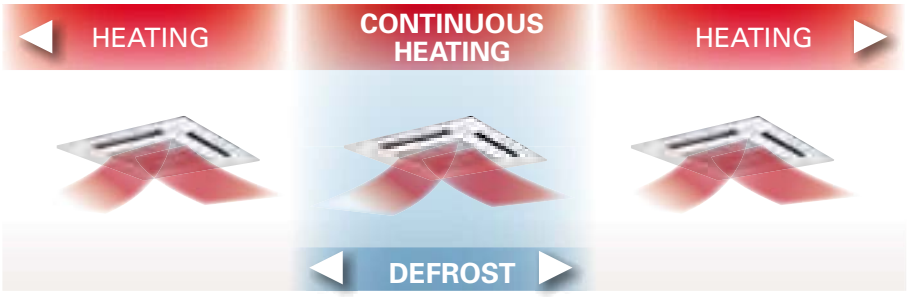
Reduced number of connections



Superior air comfort

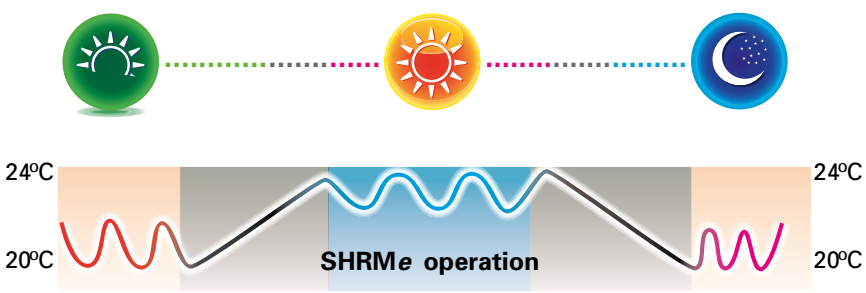
Optimised heating operations

The SHRMe allows continuous heating, even during external defrost operations, thanks to the new hot gas bypass control. Indoor units will now operate continually, with only a minimal reduction in capacity output.
This results in an uninterrupted flow of warm air, ensuring maximum comfort to the end user.



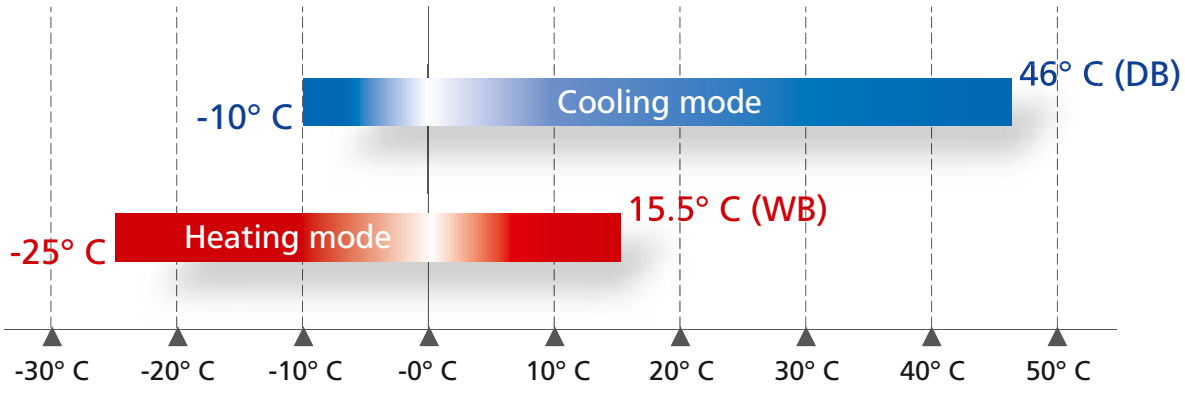
Dual set point for more precision

The Dual Set Point increases the system's energy efficiency and reduces overall running costs, with longer periods of time in thermal off mode. Heating and cooling temperatures at which the indoor unit will begin to operate can now be individually selected giving maximum flexibility to the user.



Operating temperature range

Extensive operating temperature range of up to 46 °C in cooling mode and down to -25 °C in heating mode thanks to new compressor design and system controls.



System Line-Up - 54 HP maximum capacity

												
Model (MMY-)	MAP0806FT8P-E		MAP1006FT8P-E		MAP1206FT8P-E		MAP1406FT8P-E		MAP1606FT8P-E		MAP1806FT8P-E	
HP	**8**		**10**		**12**		**14**		**16**		**18**	
Capacity kW (C/H)	22.4	25.0	28.0	31.5	33.5	37.5	40.0	45.0	45.0	50.0	50.4	56.5

												
Model (MMY-)	AP2006FT8P-E		AP2216FT8P-E		AP2416FT8P-E		AP2616FT8P-E		AP2816FT8P-E		AP3016FT8P-E	
HP	**20**		**22** = 12+10		**24** = 14+10		**26** = 14+12		**28** = 14+14		**30** = 16+14	
Capacity kW (C/H)	56.0	58.0	61.5	69.0	68.0	76.5	73.5	82.5	80.0	90.0	85.0	95.0

												
Model (MMY-)	AP3206FT8P-E		AP3416FT8P-E		AP3616FT8P-E		AP3816FT8P-E		AP4016FT8P-E		AP4216FT8P-E	
HP	**32** = 18+14		**34** = 18+16		**36** = 18+18		**38** = 20+18		**40** = 20+20		**42** = 14+14+14	
Capacity kW (C/H)	90.4	101.5	95.4	106.5	100.8	113.0	106.4	114.5	112.0	116.0	120.0	135.0

												
Model (MMY-)	AP4406FT8P-E		AP4616FT8P-E		AP4816FT8P-E		AP5016FT8P-E		AP5216FT8P-E		AP5416FT8P-E	
HP	**44** = 16+14+14		**46** = 18+14+14		**48** = 18+16+14		**50** = 18+18+14		**52** = 18+18+16		**54** = 18+18+18	
Capacity kW (C/H)	125.0	140.0	130.4	146.5	135.4	151.5	140.8	158.0	145.8	163.0	151.2	169.5

Rated conditions:
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB.
Heating : Indoor 20°C DB, Outdoor 7°C DB / 6°C WB.
Based on equivalent piping length of 7.5m and piping height difference of 0m.

Flow selectors (Single)

	RBM-Y1123FE	RBM-Y1803FE	RBM-Y2803FE
Appearance			
Connectable indoor unit capacity (HP)	Below 4.0	4.0 to below 6.4	6.4 to 10.0 or less
Connectable indoor units*	5	8	8

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

*Connecion cable kit : RBC-CBK15FE

Flow selectors (Multi)

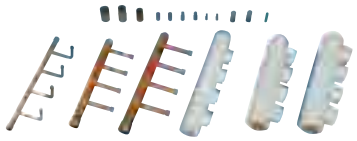
Branches	4	6
Model Name	RBM-Y1801F4PE	RBM-Y1801F6PE
Appearance		
Connectable FCU capacity	1.7kW (0.6HP) to 18.0kW (6.4HP)	1.7kW (0.6HP) to 18.0kW (6.4HP)
Connectable FCU number for each port	Max. 10*1,2	Max. 10*1,2
Dimension (Height/Width/Depth)	215 / 730 / 567	215 / 1.050 / 567
Weight(kg)	38	53

- Group remote control or individual remote control
- Same overall capacity and connectable units for both models
- Same piping connections as the single flow selector unit

*1: Only individual control operation is possible for Max. 10 FCU and only group operation is possible with 1 (or 2) remote controller

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

Branching joints

	Y-shape branching joint				Branch headers				Outdoor unit connection piping kit	
Appearance					 (4-branch headers)					
Model name	RBM-BY55FE	RBM-BY105FE	RBM-BY205FE	RBM-BY305FE	RBM-HY1043FE	RBM-HY2043FE	RBM-HY1083FE	RBM-HY2083FE	RBM-BT14FE	RBM-BT24FE
Usage (HP) (Classification according to indoor unit capacity code)	Total below 6.4	Total 6.4 or more and below 14.2	Total 14.2 or more and below 25.2	Total 25.2 or more	Max. 4 branches		Max. 8 branches		Total below 26.0	Total 26.0 or more
					Total below 14.2	Total 14.2 or more and below 25.2	Total below 14.2	Total 14.2 or more and below 25.2		

Outdoor unit specifications

Single Units

Technical specifications

Equivalent HP				8	10	12	14
Model name			(MMY-)	MAP0806FT8P-E	MAP1006FT8P-E	MAP1206FT8P-E	MAP1406FT8P-E
Outdoor unit type				Inverter			
Cooling capacity (*1)			(kW)	22.4	28.0	33.5	40.0
Heating capacity (*1)			(kW)	25.0	31.5	37.5	45.0
Power Supply (*2)				3-phase 4 wires 50Hz 400 V (380-415V)			
Electrical characteristics (*1)	Cooling	Power Consumption	(kW)	5.95	7.96	9.75	12.70
		EER		3.76	3.51	3.43	3.14
		ESEER	(kW)	8.05	8.02	8.00	7.34
	Heating	Power Consumption	(kW)	5.40	7.05	8.70	10.50
		COP		4.14	3.97	3.85	3.80
Dimensions		(Height/Width/Depth)	(mm)	1,830 / 990 / 780	1,830 / 990 / 780	1,830 / 1,210 / 780	1,830 / 1,210 / 780
Weight		Heat Pump	(kg)	263	263	316	316
Compressor	Type			Hermetic Twin Rotary			
	Quantity			2	2	2	2
	Motor output		(kW)	2.3x2	3.1x2	3.9x2	4.8x2
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0
	Air volume		(m3/h)	9700	9700	12200	12200
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	22.2	22.2	28.6	28.6
		Discharge gas side	(mm)	19.1	19.1	19.1	22.2
		Liquid side	(mm)	12.7	12.7	12.7	15.9
		Balance side	(mm)	9.5	9.5	9.5	9.5
Sound pressure level (Cooling/Heating)			(dB(A))	59.0/61.0	59.0/61.0	60.0/62.0	62.0/64.0
Operating temperature rate(*2)		Cooling	CDB	- 10.0 to 46.0	- 10.0 to 46.0	- 10.0 to 46.0	- 10.0 to 46.0
		Heating	CDW	- 25.0 to 15.5	- 25.0 to 15.5	- 25.0 to 15.5	- 25.0 to 15.5

Single Units

Technical specifications

Equivalent HP				16	18	20
Model name			(MMY-)	MAP1606FT8P-E	MAP1806FT8P-E	MAP2006FT8P-E
Outdoor unit type				Inverter		
Cooling capacity (*1)			(kW)	45.0	50.4	56.0
Heating capacity (*1)			(kW)	50.0	56.5	58.0
Power Supply (*2)				3-phase 4 wires 50Hz 400 V (380-415V)		
Electrical characteristics (*1)	Cooling	Power Consumption	(kW)	13.9	16.0	18.6
		EER		3.23	3.15	3.01
		ESEER	(kW)	8.17	7.86	7.12
	Heating	Power Consumption	(kW)	12.20	13.70	15.90
		COP		3.68	3.67	3.52
Dimensions		(Height/Width/Depth)	(mm)	1,830 / 1,600 / 780	1,830 / 1,600 / 780	1,830 / 1,600 / 780
Weight		Heat Pump	(kg)	377	377	377
Compressor	Type			Hermetic Twin Rotary		
	Quantity			2	2	2
	Motor output		(kW)	5.8x2	6.5x2	7.6x2
Fan unit	Motor output		(kW)	2.0	2.0	2.0
	Air volume		(m3/h)	17300	17300	17900
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	28.6	28.6	28.6
		Discharge gas side	(mm)	22.2	22.2	22.2
		Liquid side	(mm)	19.1	19.1	19.1
		Balance side	(mm)	9.5	9.5	9.5
Sound pressure level (Cooling/Heating)			(dB(A))	61.0/62.0	61.0/62.0	61.0/62.0
Operating temperature rate(*2)		Cooling	CDB	- 10.0 to 46.0	- 10.0 to 46.0	- 10.0 to 46.0
		Heating	CDW	- 25.0 to 15.5	- 25.0 to 15.5	- 25.0 to 15.5

Outdoor unit specifications

Combinations

Technical specifications

Equivalent HP				22	24	26	28
Model name			(MMY-)	AP2216FT8P-E	AP2416FT8P-E	AP2616FT8P-E	AP2816FT8P-E
Combination			(MMY-)	MAP1206FT8P-E	MAP1406FT8P-E	MAP1406FT8P-E	MAP1406FT8P-E
			(MMY-)	MAP1006FT8P-E	MAP1006FT8P-E	MAP1206FT8P-E	MAP1406FT8P-E
Outdoor unit type				Inverter			
Cooling capacity (*1)			(kW)	61.5	68.0	73.5	80.0
Heating capacity (*1)				69.0	76.5	82.5	90.0
Power Supply (*2)			(kW)	3-phase 4 wires 50Hz 400 V (380-415V)			
Electrical characteristics (*1)	Cooling	Power Input	(kW)	17.71	20.66	22.45	25.40
		EER		3.47	3.29	3.27	3.15
	Heating	Power Input		15.75	17.55	19.20	21.00
		COP	(kW)	3.90	3.87	3.83	3.81
Total weight		Heat Pump	(kW)	316+263	316+263	316+316	316+316
Compressor	Qty		(m3/h)	2+2	2+2	2+2	2+2
	Motor output		(mm)	3.9x2 + 3.1x2	4.8x2 + 3.1x2	4.8x2 + 3.9x2	4.8x2 + 4.8x2
Fan unit	Motor output		(mm)	1.0 + 1.0	1.0 + 1.0	1.0 + 1.0	1.0 + 1.0
	Air volume		(mm)	12,200 + 9,700	12,200 + 9,700	12,200 + 12,200	12,200 + 12,200
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	34.9	34.9	34.9	34.9
		Discharge gas side	(dB(A))	28.6	28.6	28.6	28.6
		Liquid side	(mm)	19.1	19.1	22.2	22.2
		Balance side	(mm)	9.5	9.5	9.5	9.5
Sound pressure level (Cooling/Heating)			(mm)	63.0/65.0	64.0/66.0	64.5/66.5	65.5/67.5

Combinations

Technical specifications

Equivalent HP				30	32	34
Model name			(MMY-)	AP3016FT8P-E	AP3216FT8P-E	AP3416FT8P-E
Combination			(MMY-)	MAP1406FT8P-E	MAP1806FT8P-E	MAP1806FT8P-E
			(MMY-)	MAP1406FT8P-E	MAP1406FT8P-E	MAP1406FT8P-E
Outdoor unit type				Inverter		
Cooling capacity (*1)			(kW)	85.0	90.4	95.4
Heating capacity (*1)				95.0	101.5	106.5
Power Supply (*2)			(kW)	3-phase 4 wires 50Hz 400 V (380-415V)		
Electrical characteristics (*1)	Cooling	Power Input	(kW)	26.60	28.70	29.90
		EER		3.20	3.15	3.19
	Heating	Power Input		22.70	24.40	25.90
		COP	(kW)	3.74	3.70	3.68
Total weight		Heat Pump	(kW)	377 + 316	377 + 316	377 + 377
Compressor	Qty		(m3/h)	2+2	2+2	2+2
	Motor output		(mm)	5.8x2 + 4.8x2	6.5x2 + 4.8x2	6.5x2 + 5.8x2
Fan unit	Motor output		(mm)	2.0 + 1.0	2.0 + 1.0	2.0 + 2.0
	Air volume		(mm)	17,300 + 12,200	17,300 + 12,200	17,300 + 17,300
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	34.9	34.9	34.9
		Discharge gas side	(dB(A))	28.6	28.6	28.6
		Liquid side	(mm)	22.2	22.2	22.2
		Balance side	(mm)	9.5	9.5	9.5
Sound pressure level (Cooling/Heating)			(mm)	65.0/66.5	65.0/66.5	64.5/65.5

Combinations

Technical specifications

Equivalent HP				36	38	40
Model name			(MMY-)	AP3616FT8P-E	AP3816FT8P-E	AP4016FT8P-E
Combination			(MMY-)	MAP1806FT8P-E	MAP2006FT8P-E	MAP2006FT8P-E
			(MMY-)	MAP1806FT8P-E	MAP1806FT8P-E	MAP2006FT8P-E
Outdoor unit type				Inverter		
Cooling capacity (*1)			(kW)	100.8	106.4	112.0
Heating capacity (*1)				113.0	114.5	116.0
Power Supply (*2)			(kW)	3-phase 4 wires 50Hz 400 V (380-415V)		
Electrical characteristics (*1)	Cooling	Power Input	(kW)	32.00	34.60	37.20
		EER		3.15	3.08	3.01
	Heating	Power Input		27.40	29.60	31.80
		COP	(kW)	3.68	3.59	3.52
Total weight		Heat Pump	(kW)	377 + 377	377 + 377	377 + 377
Compressor	Qty		(m3/h)	2+2	2+2	2+2
	Motor output		(mm)	6.5x2 + 6.5x2	7.6x2 + 6.5x2	7.6x2 + 7.6x2
Fan unit	Motor output		(mm)	2.0 + 2.0	2.0 + 2.0	2.0 + 2.0
	Air volume		(mm)	17,300 + 17,300	17,900 + 17,300	17,900 + 17,900
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	41.3	41.3	41.3
		Discharge gas side	(dB(A))	34.9	34.9	34.9
		Liquid side	(mm)	22.2	22.2	22.2
		Balance side	(mm)	9.5	9.5	9.5
Sound pressure level (Cooling/Heating)			(mm)	64.5/65.5	64.5/65.5	64.5/65.5

Outdoor unit specifications

Combinations

Technical specifications

Equivalent HP				42	44	46	48
Model name			(MMY-)	AP4216FT8P-E	AP4416FT8P-E	AP4616FT8P-E	AP4816FT8P-E
Combination			(MMY-)	MAP1406FT8P-E	MAP1606FT8P-E	MAP1806FT8P-E	MAP1806FT8P-E
			(MMY-)	MAP1406FT8P-E	MAP1406FT8P-E	MAP1406FT8P-E	MAP1606FT8P-E
			(MMY-)	MAP1406FT8P-E	MAP1406FT8P-E	MAP1406FT8P-E	MAP1406FT8P-E
Outdoor unit type				Inverter			
Cooling capacity (*1)			(kW)	120.0	125.0	130.4	135.4
Heating capacity (*1)				135.0	140.0	146.5	151.5
Power Supply (*2)			(kW)	3-phase 4 wires 50Hz 400 V (380-415V)			
Electrical characteristics (*1)	Cooling	Power Input	(kW)	38.1	39.3	41.4	41.7
		EER		3.15	3.18	3.15	3.25
	Heating	Power Input		31.5	33.2	34.7	36.6
		COP	(kW)	3.81	3.77	3.76	3.70
Total weight		Heat Pump	(kW)	316 + 316 + 316	377 + 316 + 316	377 + 316 + 316	377 + 377 + 316
Compressor	Qty		(m3/h)	2+2+2	2+2+2	2+2+2	2+2+2
	Motor output		(mm)	4.8x2 + 4.8x2 + 4.8x2	5.8x2 + 4.8x2 + 4.8x2	6.5x2 + 4.8x2 + 4.8x2	6.5x2 + 5.8x2 + 4.8x2
Fan unit	Motor output		(mm)	1.0 + 1.0 + 1.0	2.0 + 1.0 + 1.0	2.0 + 1.0 + 1.0	2.0 + 2.0 + 1.0
	Air volume		(mm)	12,200 + 12,200 + 12,200	17,300 + 12,200 + 12,200	17,300 + 12,200 + 12,200	17,300 + 17,300 + 12,200
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	41.3	41.3	41.3	41.3
		Discharge gas side	(dB(A))	34.9	34.9	34.9	34.9
		Liquid side	(mm)	22.2	22.2	22.2	22.2
		Balance side	(mm)	9.5	9.5	9.5	9.5
Sound pressure level (Cooling/Heating)			(mm)	67.0/69.0	66.5/68.5	66.5/68.5	66.5/68.0

Combinations

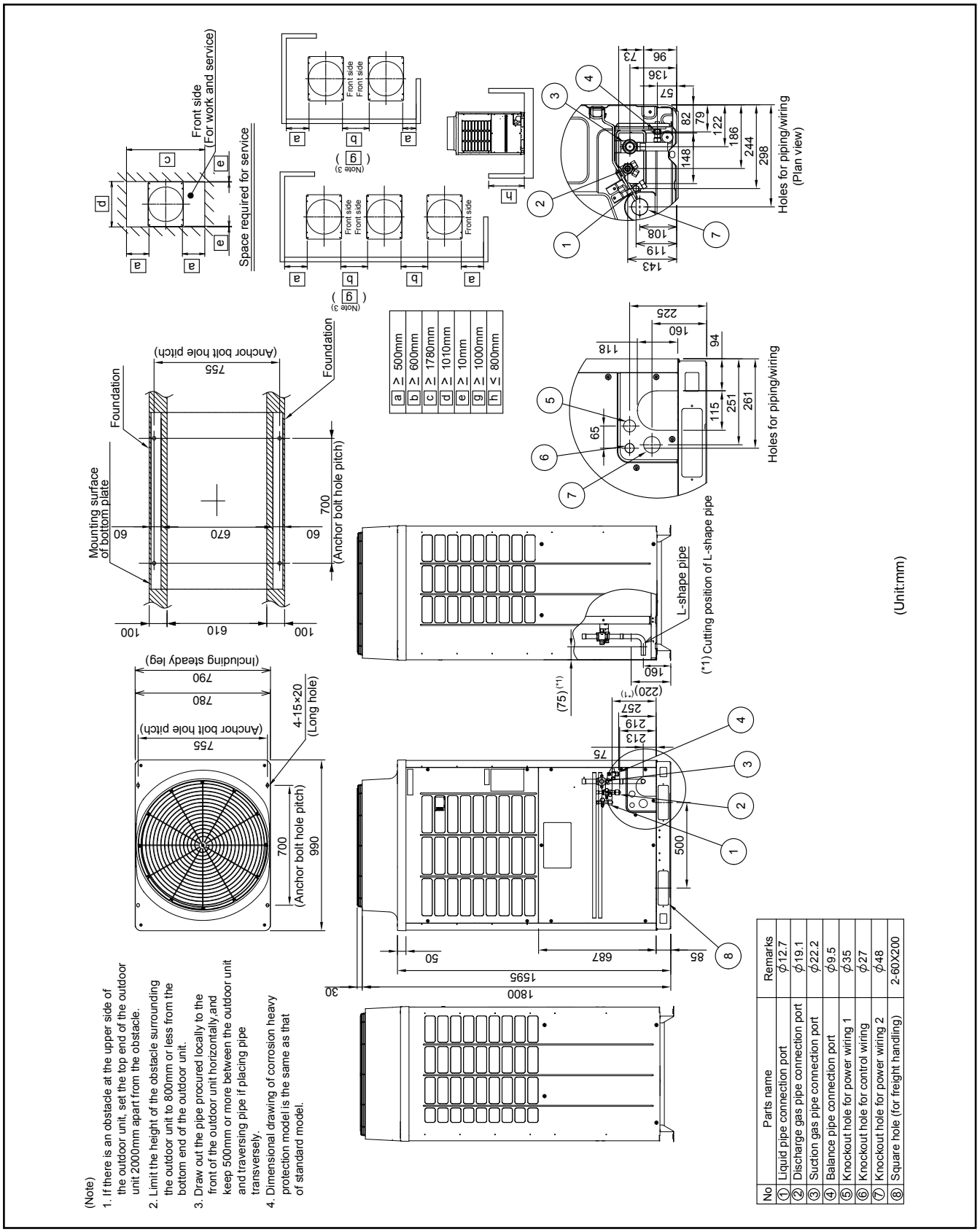
Technical specifications

Equivalent HP				50	52	54
Model name			(MMY-)	AP5016FT8P-E	AP5216FT8P-E	AP5416FT8P-E
Combination			(MMY-)	MAP1806FT8P-E	MAP1806FT8P-E	MAP1806FT8P-E
			(MMY-)	MAP1806FT8P-E	MAP1806FT8P-E	MAP1806FT8P-E
			(MMY-)	MAP1406FT8P-E	MAP1606FT8P-E	MAP1806FT8P-E
Outdoor unit type				Inverter		
Cooling capacity (*1)			(kW)	140.8	145.8	151.2
Heating capacity (*1)				158.0	163.0	169.5
Power Supply (*2)			(kW)	3-phase 4 wires 50Hz 400 V (380-415V)		
Electrical characteristics (*1)	Cooling	Power Input	(kW)	44.7	45.9	48.0
		EER		3.15	3.18	3.15
	Heating	Power Input		38.1	39.6	41.1
		COP	(kW)	3.70	3.68	3.68
Total weight		Heat Pump	(kW)	377 + 377 + 316	377 + 377 + 377	377 + 377 + 377
Compressor	Qty		(m3/h)	2+2+2	2+2+2	2+2+2
	Motor output		(mm)	6.5x2 + 6.5x2 + 4.8x2	6.5x2 + 6.5x2 + 5.8x2	6.5x2 + 6.5x2 + 6.5x2
Fan unit	Motor output		(mm)	2.0 + 2.0 + 1.0	2.0 + 2.0 + 2.0	2.0 + 2.0 + 2.0
	Air volume		(mm)	17,300 + 17,300 + 12,200	17,300 + 17,300 + 17,300	17,300 + 17,300 + 17,300
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	41.3	41.3	41.3
		Discharge gas side	(dB(A))	34.9	34.9	34.9
		Liquid side	(mm)	22.2	22.2	22.2
		Balance side	(mm)	9.5	9.5	9.5
Sound pressure level (Cooling/Heating)			(mm)	66.5/68.0	66.0/67.0	66.0/67.0

*1 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 metre height.
*2 The source voltage must not fluctuate more than ±10%.

Single unit

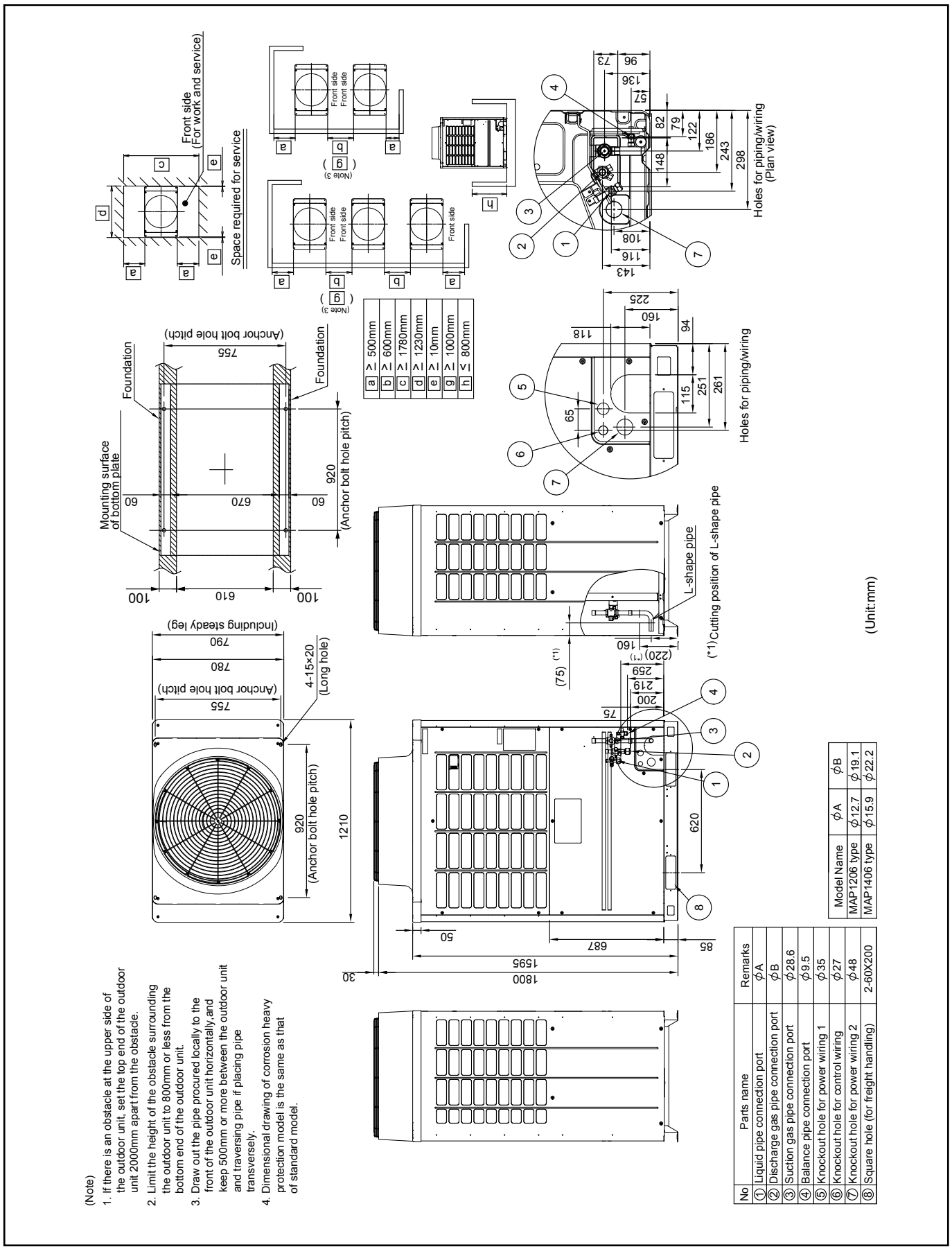
Model : MMY-MAP0806FT8P-E , MAP1006FT8P-E



No	Parts name	Remarks
①	Liquid pipe connection port	ϕ12.7
②	Discharge gas pipe connection port	ϕ19.1
③	Suction gas pipe connection port	ϕ22.2
④	Balance pipe connection port	ϕ9.5
⑤	Knockout hole for power wiring 1	ϕ35
⑥	Knockout hole for control wiring	ϕ27
⑦	Knockout hole for power wiring 2	ϕ48
⑧	Square hole (for freight handling)	2-60X200

Single unit

Model : MMY-MAP1206FT8P-E, MAP1406FT8P-E



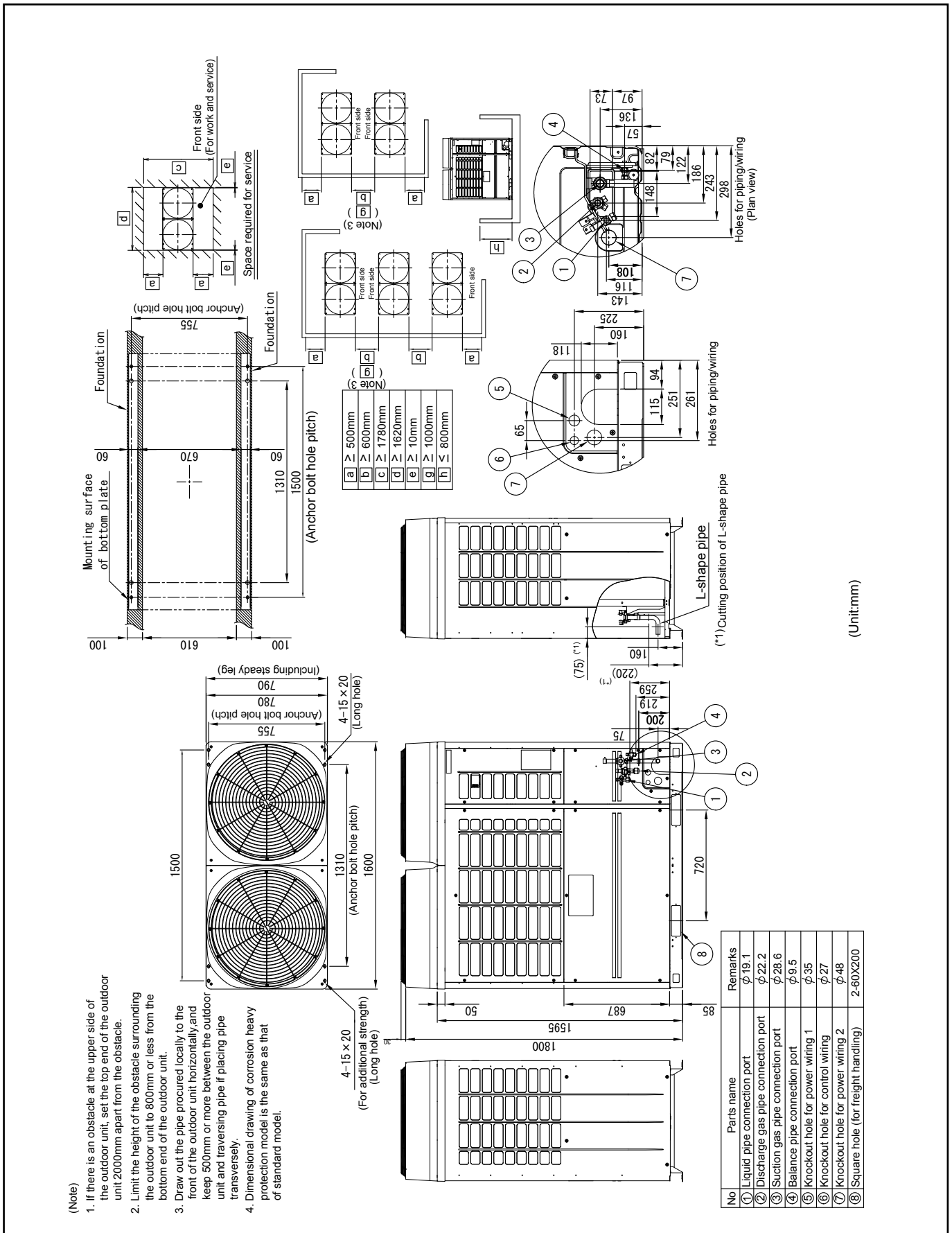
(Note)
1. If there is an obstacle at the upper side of the outdoor unit, set the top end of the outdoor unit 2000mm apart from the obstacle.
2. Limit the height of the obstacle surrounding the outdoor unit to 800mm or less from the bottom end of the outdoor unit.
3. Draw out the pipe procured locally to the front of the outdoor unit horizontally and keep 500mm or more between the outdoor unit and traversing pipe if placing pipe transversely.
4. Dimensional drawing of corrosion heavy protection model is the same as that of standard model.

No	Parts name	Remarks
①	Liquid pipe connection port	ϕA
②	Discharge gas pipe connection port	ϕB
③	Suction gas pipe connection port	ϕ28.6
④	Balance pipe connection port	ϕ9.5
⑤	Knockout hole for power wiring 1	ϕ35
⑥	Knockout hole for control wiring	ϕ27
⑦	Knockout hole for power wiring 2	ϕ48
⑧	Square hole (for freight handling)	2-60X200

Model Name	ϕA	ϕB
MAP1206 type	ϕ12.7	ϕ19.1
MAP1406 type	ϕ15.9	ϕ22.2

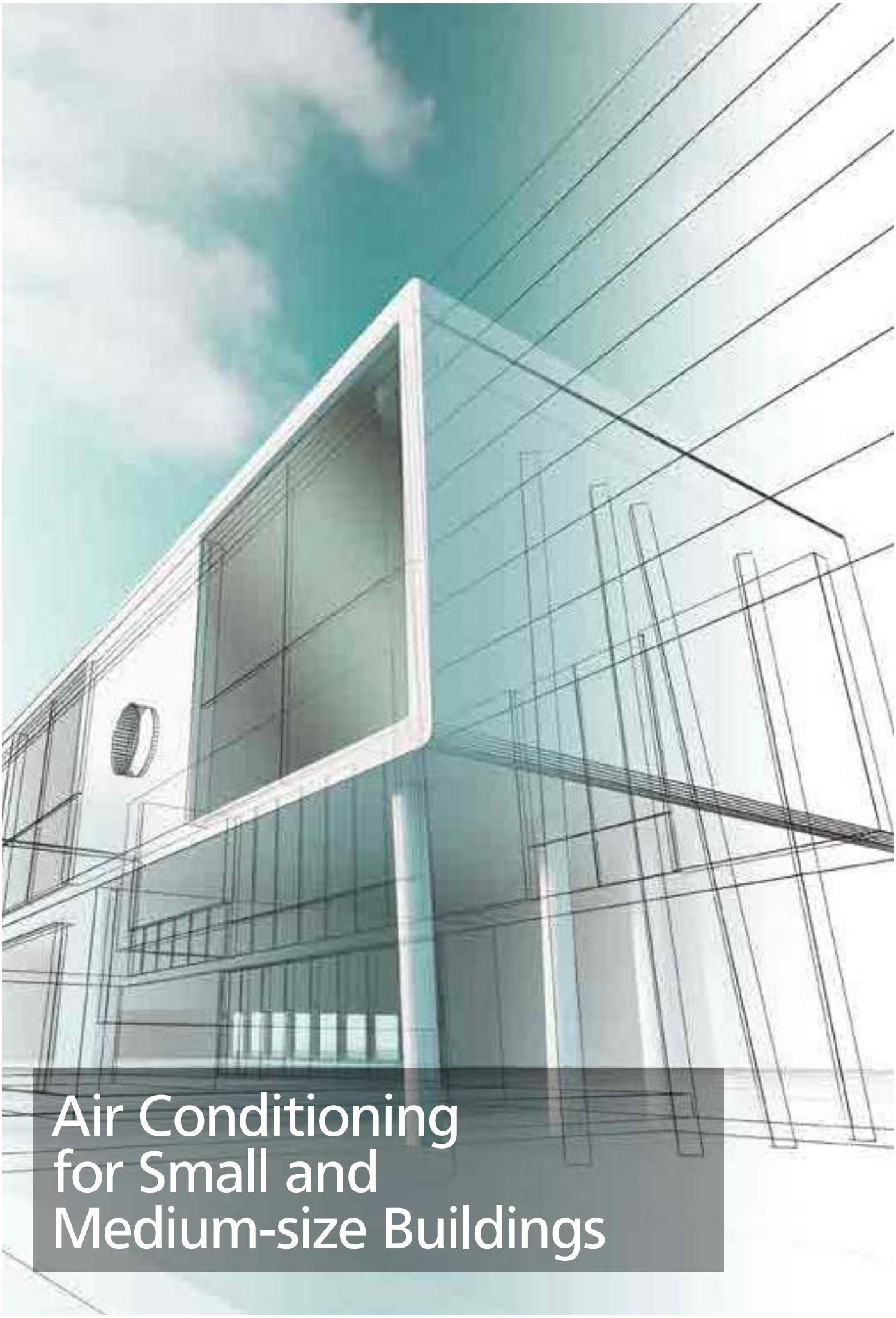
Single unit

Model : MMY-MAP1608FT8P-E, MAP1806FT8P-E, MAP2006FT8P-E



a	≥ 500mm
b	≥ 600mm
c	≥ 1780mm
d	≥ 1620mm
e	≥ 10mm
g	≥ 1000mm
h	≤ 800mm

No	Parts name	Remarks
①	Liquid pipe connection port	φ19.1
②	Discharge gas pipe connection port	φ22.2
③	Suction gas pipe connection port	φ28.6
④	Balance pipe connection port	φ9.5
⑤	Knockout hole for power wiring 1	φ35
⑥	Knockout hole for control wiring	φ27
⑦	Knockout hole for power wiring 2	φ48
⑧	Square hole (for freight handling)	2-60X200



Air Conditioning for Small and Medium-size Buildings

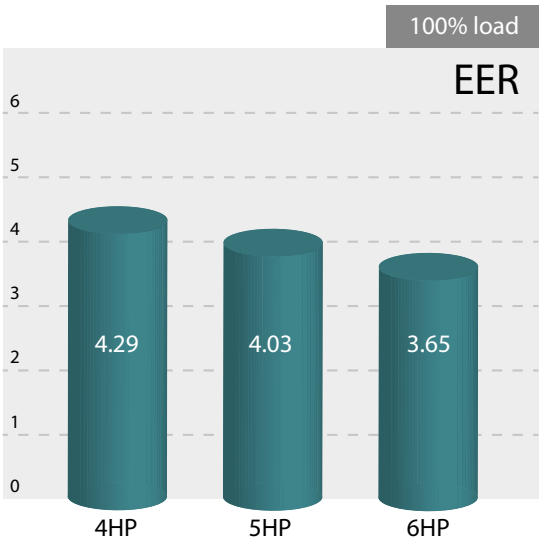

MiNi-SMMS

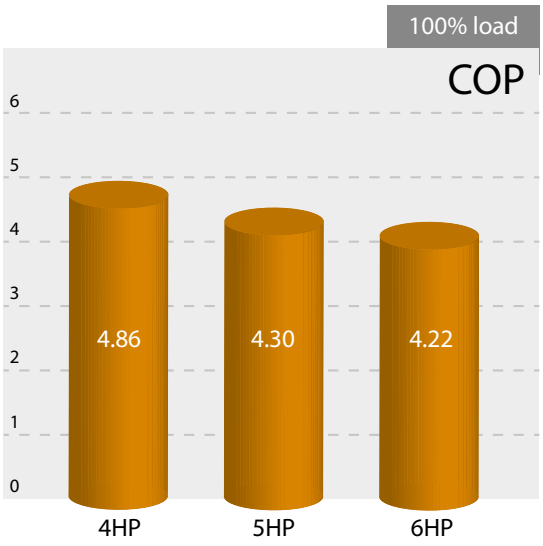
Industry-leading energy savings

Energy-efficient performance for greater eco-consciousness

Adopting the highly efficient DC twin-rotary compressors and variable refrigerant pressure controlled inverters realized greater energy efficient performance.

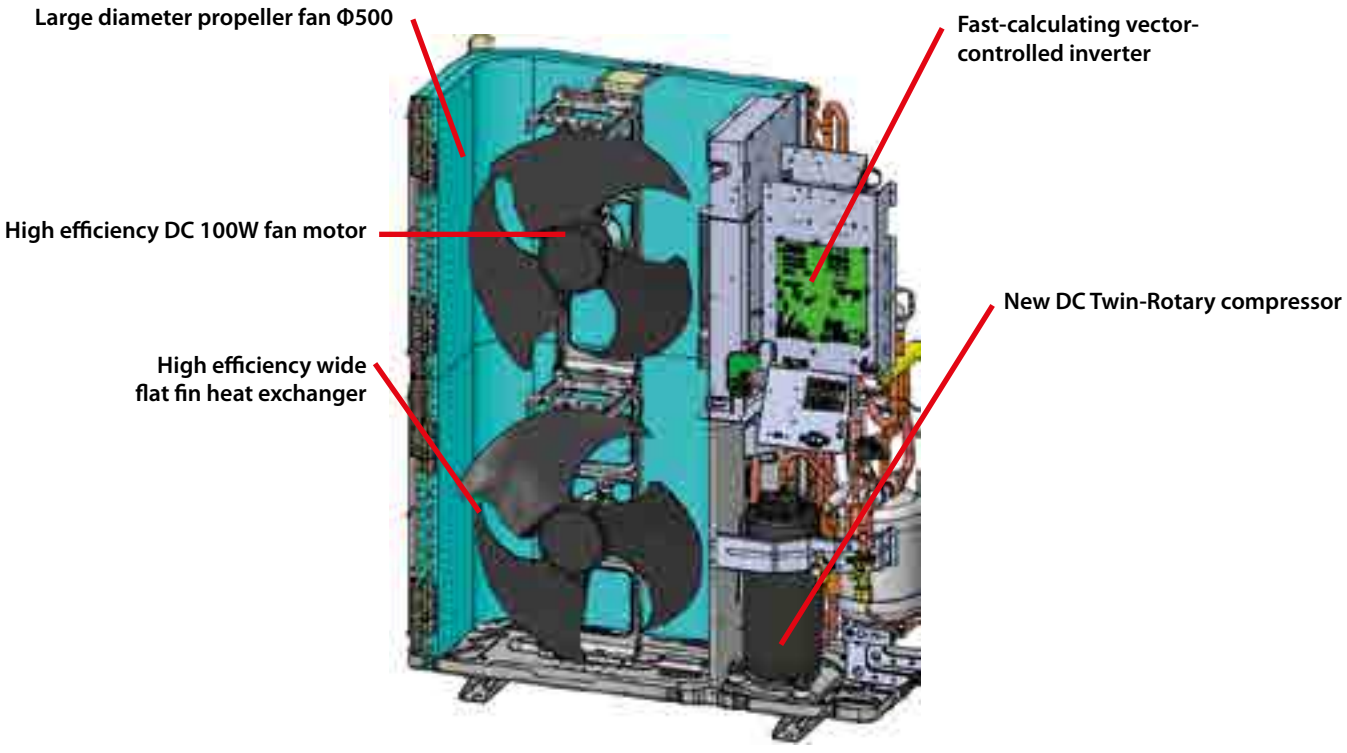
Mini-SMMSe





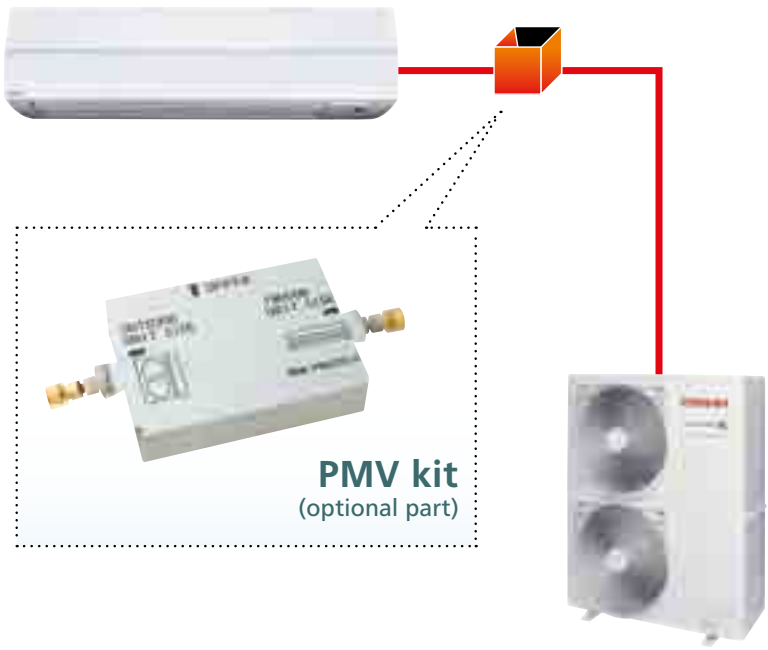
Mini-SMMSe technology

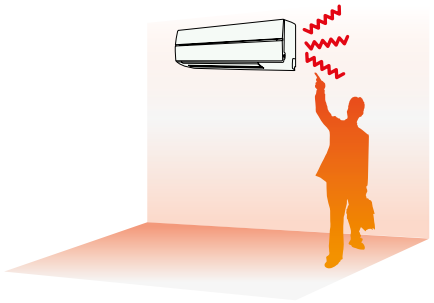
Remarkable Toshiba technologies all for saving energy



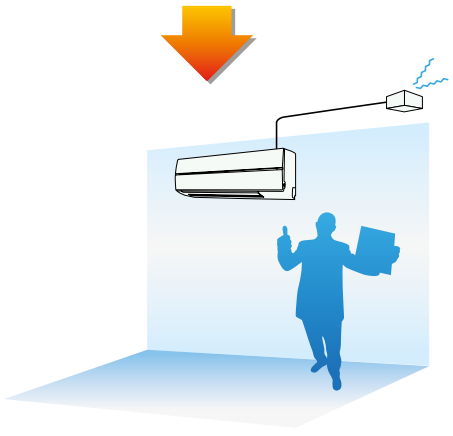
PMV kit for quieter operation

An optional PMV kit allows quieter placement by efficiently reducing the sound made by the refrigerant in the piping.





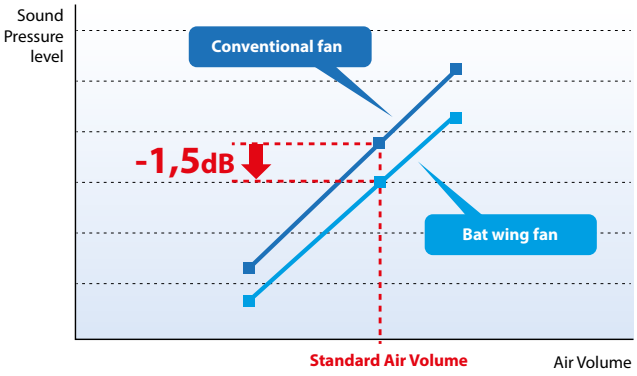
The PMV function is normally inside the indoor unit, and is the cause of most of the noise from the indoor unit.



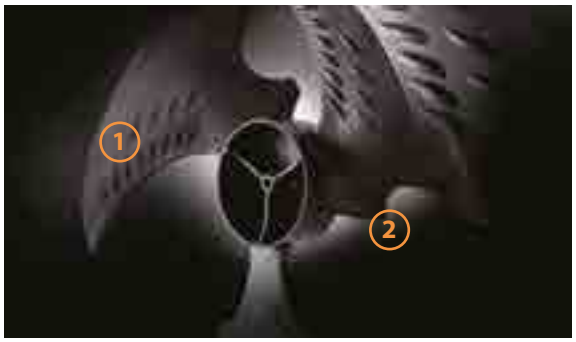
If the PMV function is removed from the indoor unit, noise can be significantly reduced.

Bat wing fan

Fan blade design plays a significant part reducing noise and vibration. Anti-eddy projections and reverse-arc shaped wings reduce air resistance resulting in low operating noise of the outdoor unit.

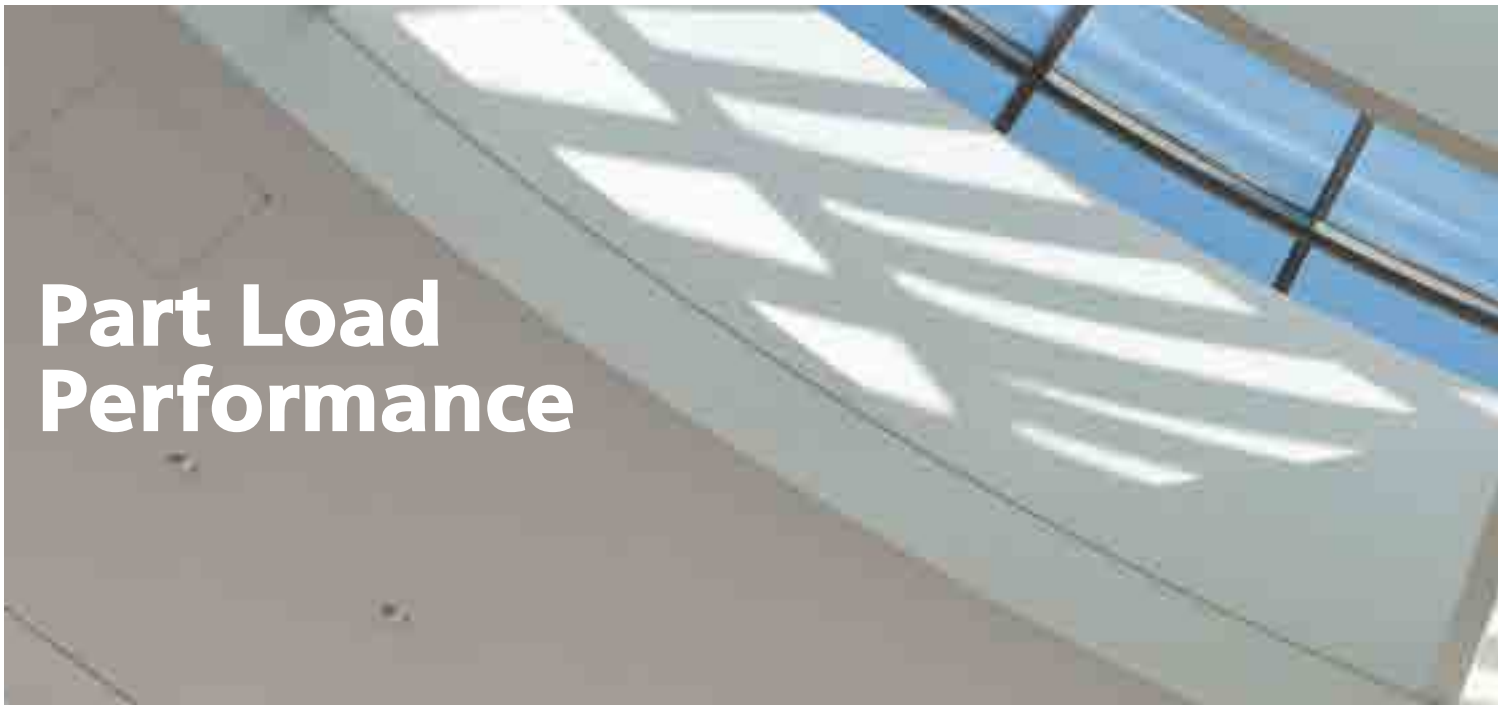


At same air volume, sound is reduced by 1,5 dB.



① **Anti-eddy projections**
Minimizes the generation of large eddies.

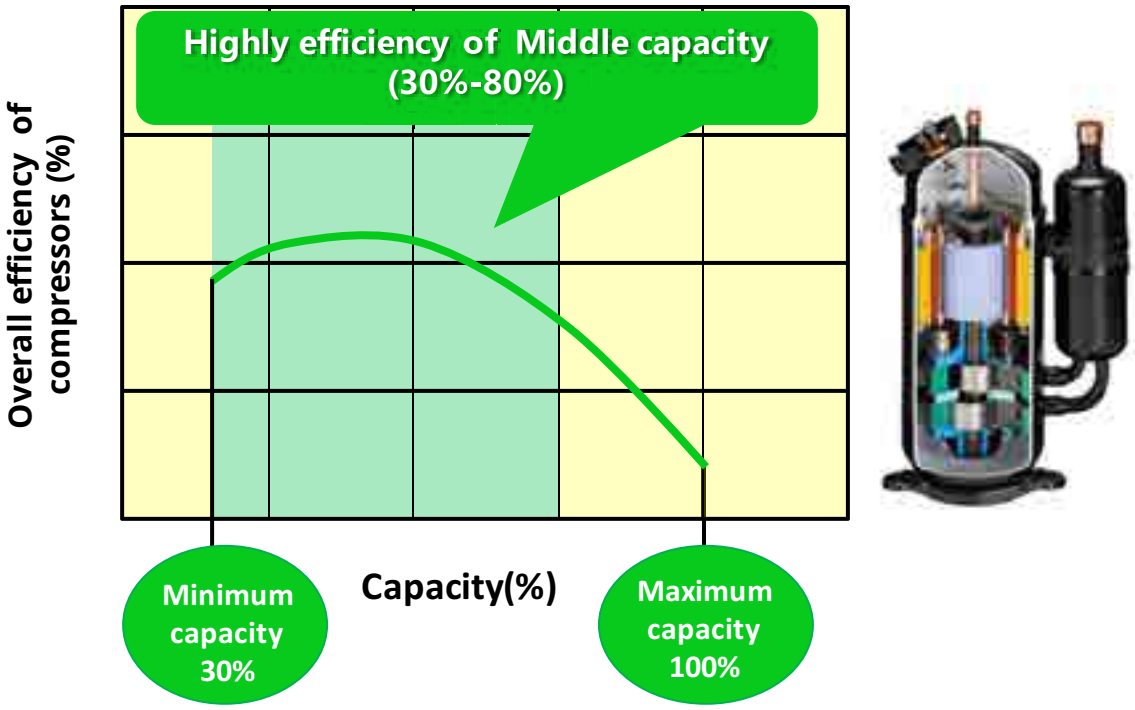
② **Reverse-arc-shaped wing**
Reduces rear turbulence due to less pressure loss.



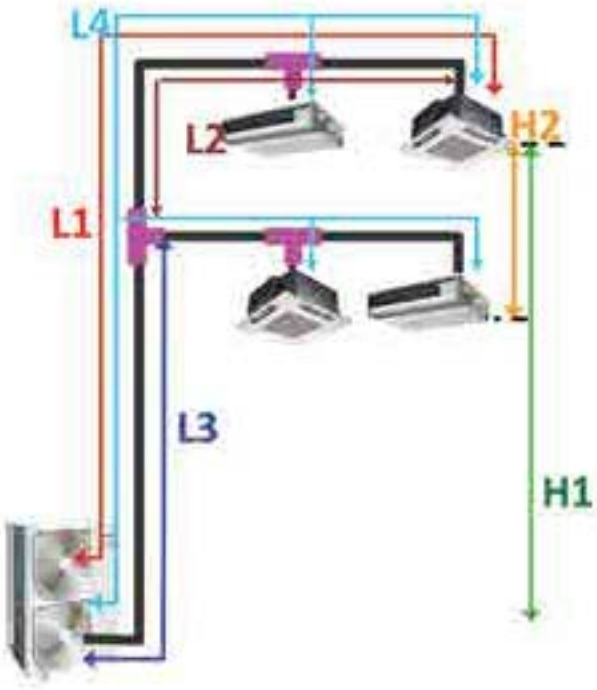
Part Load Performance

Part Load Performance

Greater operating performance is now possible when operating under a constant load.



Installation Flexibility



L1	Max. equivalent length from CDU to FCU	**125m**
L2	Max. length 1st branch to the furthest FCU	**35m**
L3	Max. equivalent main pipe length	**65m**
L4	Max. total pipe length	**180m**
H1	Max. height CDU to FCU (Upper/Lower outdoor unit)	**30/20m**
H2	Max. height FCU to FCU	**15m**

15 m as height indoor unit to indoor unit is better for the residential building.

Mini-SMMSe (1-phase)

Outdoor units

Capacity				4HP	5HP	6HP
Model name			MCY-	MHP0404HS-E	MHP0504HS-E	MHP0604HS-E
Outdoor unit type				Inverter		
Cooling capacity (*1)			kW	12.1	14.0	15.5
Heating capacity (*1)			kW	12.5	16.0	18.0
Max No of connected indoor units				8	10	13
Power supply				1-phase 50Hz 220/230/240 V		
Electrical characterisitcs	Cooling	Power consumption	kW	2.83	3.50	4.29
		EER		4.28	4.00	3.61
	Heating	Power consumption	kW	2.59	3.75	4.31
		COP		4.83	4.27	4.18
Dimensions		Height/Width/Depth	mm	1,235/990/390	1,235/990/390	1,235/990/390
Total weight			kg	127	127	127
Compressor				Hermetic twin rotary		
Fan unit air volume			m^3/h	5.660	5.820	6.050
Refrigerant charge			kg	6.4	6.4	6.4
Suction line type - diameter			mm	15.9	15.9	15.9
Liquid line type - diameter			mm	9.5	9.5	9.5
Piping		Total length	mm	180	180	180
		Farthest length	mm	112	100	100
		Height between IDU & ODU (Upper/Lower)	mm	30/20	30/20	30/20
		Height between IDUs	mm	15	15	15
Operating range db	Cooling			from -5°C to +46°C		
Operating range wb	Heating			from -20°C to +15°C		
Sound pressure level Night Operation	Cooling / Heating			46/48	46/48	47/49
Sound pressure level	Cooling / Heating		dB(A)	49/52	50/53	51/54

(*1) Rated conditions:
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB.
Heating : Indoor 20°C DB, Outdoor 7°C DB / 6°C WB.
Based on equivalent piping length of 7.5m and piping height difference of 0m.

PMV Kit

Model name	Indoor unit capacity
RMB-PMV0363E	0,8-1,25HP
RMB-PMV0903E	1,7-2-2,5HP

PMV Kit

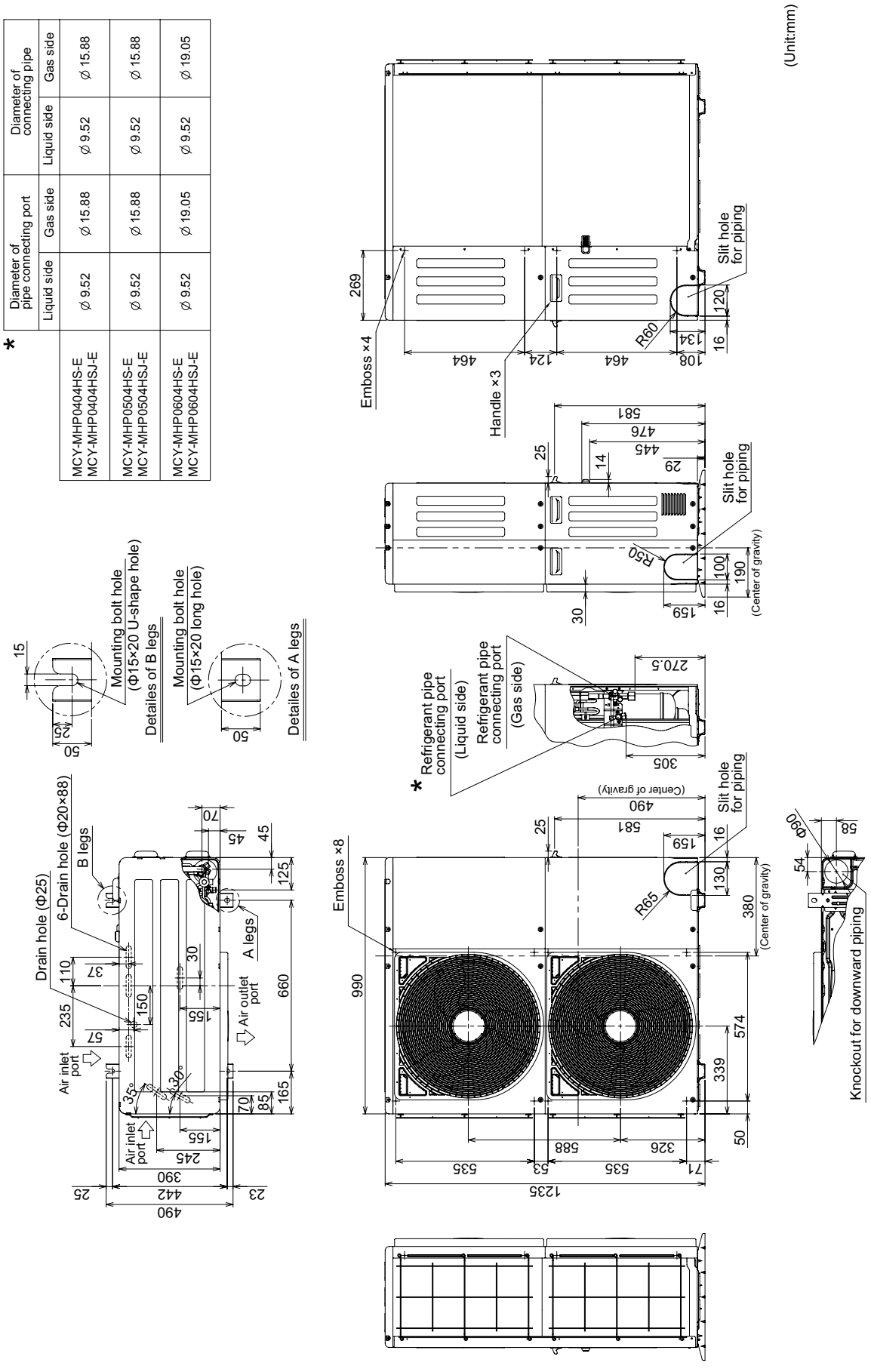
Model name	Function
TCB-PCM04E	Night operation (sound reduction) external master on/off operation mode selection control
TCB-PCDM4E	Power peak cut control
TCB-PCIN4E	Error / operation output

Dimensional drawing

MCY-MHP0404HS, MCY-MHP0504HS-E, MCY-MHP0604HS-E

(Unit:mm)

	Diameter of pipe connecting port		Diameter of connecting pipe	
	Liquid side	Gas side	Liquid side	Gas side
MCY-MHP0404HS-E MCY-MHP0404HSJ-E	∅ 9.52	∅ 15.88	∅ 9.52	∅ 15.88
MCY-MHP0504HS-E MCY-MHP0504HSJ-E	∅ 9.52	∅ 15.88	∅ 9.52	∅ 15.88
MCY-MHP0604HS-E MCY-MHP0604HSJ-E	∅ 9.52	∅ 19.05	∅ 9.52	∅ 19.05



Mini-SMMSe (3-phase)

Outdoor units						
Capacity				4HP	5HP	6HP
Model name			MCY-	MHP0404HS8-E	MHP0504HS8-E	MHP0604HS8-E
Outdoor unit type				Inverter		
Cooling capacity (*1)			kW	12.1	14.0	15.5
Heating capacity (*1)			kW	12.5	16.0	18.0
Max No of connected indoor units				8	10	13
Power supply				3-phase 50Hz 380/400/415V		
Electrical characterisitcs	Cooling	Power consumption	kW	2.82	3.47	4.25
		EER		4.29	4.03	3.65
	Heating	Power consumption	kW	2.57	3.72	4.27
		COP		4.86	4.30	4.22
Dimensions		Height/Width/Depth	mm	1235x990x390	1235x990x390	1235x990x390
Total weight			kg	125	125	125
Compressor type				Hermetic twin rotary		
Fan unit air volume			m^3/h	5660	5820	6050
Refrigerant charge			kg	6.4	6.4	6.4
Suction line type - diameter			mm	15.9	15.9	15.9
Liquid line type - diameter			mm	9.5	9.5	9.5
Piping		Total length	mm	180	180	180
		Farthest length	mm	112	100	100
		Height between IDU & ODU (Upper/Lower)	mm	30/20	30/20	30/20
		Height between IDUs	mm	15	15	15
Operating range db	Cooling			from -5°C to +46°C		
Operating rangewdb	Heating			from -20°C to +15°C		
Sound pressure level Night Operation	Cooling / Heating		dB(A)	46/48	46/48	47/49
Sound pressure level	Cooling / Heating			49/52	50/53	51/54

(*1) Rated conditions:
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB.
Heating : Indoor 20°C DB, Outdoor 7°C DB / 6°C WB.
Based on equivalent piping length of 7.5m and piping height difference of 0m.

PMV Kit

Model name	Indoor unit capacity
RMB-PMV0363E	0,8-1,25HP
RMB-PMV0903E	1,7-2-2,5HP

PMV Kit

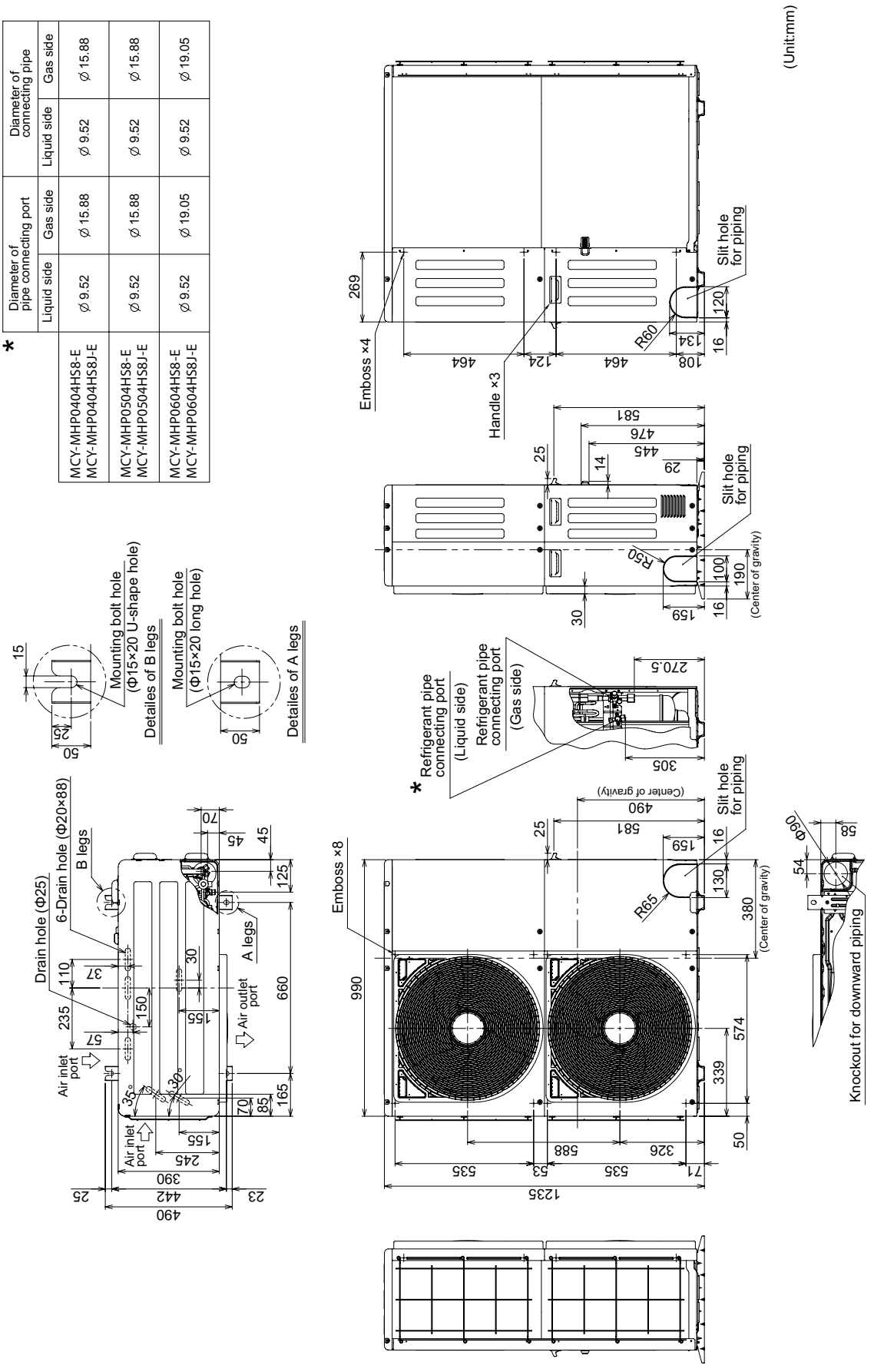
Model name	Function
TCB-PCM04E	Night operation (sound reduction) external master on/off operation mode selection control
TCB-PCDM4E	Power peak cut control
TCB-PCIN4E	Error / operation output

Outdoor unit

MCY-MHP0404HS8-E, MCY-MHP0504HS8-E, MCY-MHP0604HS8-E

(Unit:mm)

*		Diameter of pipe connecting port		Diameter of connecting pipe	
		Liquid side	Gas side	Liquid side	Gas side
	MCY-MHP0404HS8-E MCY-MHP0404HS8J-E	Ø 9.52	Ø 15.88	Ø 9.52	Ø 15.88
	MCY-MHP0504HS8-E MCY-MHP0504HS8J-E	Ø 9.52	Ø 15.88	Ø 9.52	Ø 15.88
	MCY-MHP0604HS8-E MCY-MHP0604HS8J-E	Ø 9.52	Ø 19.05	Ø 9.52	Ø 19.05



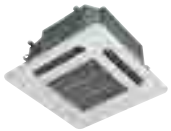
TOSHIBA
Leading Innovation

VRF Indoor Units

Toshiba VRF system has a wide range of indoor units which enable designers and tenants to make the right product choice in terms of aeshestetic and performance.

- Hi-wall
- Ceiling
- Cassette
- Ducted
- Floor standing
- Fresh air intake
- Heat wxchanger
- Hot water module

INDOOR UNITS


Cooling capacity (HP equivalent)	4-way air discharge cassette type	Compact 4-way cassette (600 × 600) type	2-way air discharge cassette type	1-way air discharge cassette type	Concealed duct type
005 type 1.7kW (0.6HP1)		MMU-AP0056MH1-E			
007 type 2.2 kW (0.8HP)		MMU-AP0074MH1-E	MMU-AP0072WH1	MMU-AP0074YH1-E	MMD-AP0076BHP1-E
009 type 2.8 kW (1HP)	MMU-AP0094HP1-E	MMU-AP0094MH1-E	MMU-AP0092WH1	MMU-AP0094YH1-E	MMD-AP0096BHP1-E
012 type 3.6 kW (1.25HP)	MMU-AP0124HP1-E	MMU-AP0124MH1-E	MMU-AP0122WH1	MMU-AP0124YH1-E	MMD-AP0126BHP1-E
015 type 4.5 kW (1.7HP)	MMU-AP0154HP1-E	MMU-AP0154MH1-E	MMU-AP0152WH1	MMU-AP0154SH1-E	MMD-AP0156BHP1-E
018 type 5.6 kW (2HP)	MMU-AP0184HP1-E	MMU-AP0184MH1-E	MMU-AP0182WH1	MMU-AP0184SH1-E	MMD-AP0186BHP1-E
024 type 7.1 kW (2.5HP)	MMU-AP0244HP1-E		MMU-AP0242WH1	MMU-AP0244SH1-E	MMD-AP0246BHP1-E
027 type 8.0 kW (3HP)	MMU-AP0274HP1-E		MMU-AP0272WH1		MMD-AP0276BHP1-E
030 type 9.0 kW (3.2HP)	MMU-AP0304HP1-E		MMU-AP0302WH1		MMD-AP0306BHP1-E
036 type 11.2 kW (4HP)	MMU-AP0364HP1-E		MMU-AP0362WH1		MMD-AP0366BHP1-E
048 type 14.0 kW (5HP)	MMU-AP0484HP1-E		MMU-AP0482WH1		MMD-AP0486BHP1-E
056 type 16.0 kW (6HP)	MMU-AP0564HP1-E		MMU-AP0562WH1		MMD-AP0566BHP1-E
072 type 22.4 kW (8HP)					
096 type 28.0 kW (10HP)					




Cooling capacity (HP equivalent)	Concealed duct high static pressure type	Slim duct type	Ceiling type	High wall type 4 series*1	High wall type 3 series
005 type 1.7 kW (0.6HP1)		MMD-AP0056SPH1-E		MMK-AP0054MHP1-E	
007 type 2.2 kW (0.8HP)		MMD-AP0074SPH1-E		MMK-AP0074MH1-E	MMK-AP0073H1
009 type 2.8 kW (1HP)		MMD-AP0094SPH1-E		MMK-AP0094MH1-E	MMK-AP0093H1
012 type 3.6 kW (1.25HP)		MMD-AP0124SPH1-E		MMK-AP0124MH1-E	MMK-AP0123H1
015 type 4.5 kW (1.7HP)		MMD-AP0154SPH1-E	MMC-AP0157HP1-E		MMK-AP0153H1
018 type 5.6 kW (2HP)	MMD-AP0186HP1-E	MMD-AP0184SPH1-E	MMC-AP0187HP1-E		MMK-AP0183H1
024 type 7.1 kW (2.5HP)	MMD-AP0246HP1-E	MMD-AP0244SPH1-E	MMC-AP0247HP1-E		MMK-AP0243H1
027 type 8.0 kW (3HP)	MMD-AP0276HP1-E	MMD-AP0274SPH1-E	MMC-AP0277HP1-E		
030 type 9.0 kW (3.2HP)					
036 type 11.2 kW (4HP)	MMD-AP0366HP1-E		MMC-AP0367HP1-E		
048 type 14.0 kW (5HP)	MMD-AP0486HP1-E		MMC-AP0487HP1-E		
056 type 16.0 kW (6HP)	MMD-AP0566HP1-E		MMC-AP0567HP1-E		
072 type 22.4 kW (8HP)	MMD-AP0724H1-E				
096 type 28.0 kW (10HP)	MMD-AP0964H1-E				

*1 : European market only.



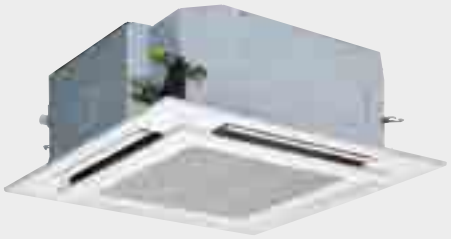

Cooling capacity (HP equivalent)	Console	Floor standing cabinet type	Floor standing concealed type	Floor standing type
007 type 2.2 kW (0.8HP)	MML-AP0074NH1-E	MML-AP0074H1-E	MML-AP0074BH1-E	
009 type 2.8 kW (1HP)	MML-AP0094NH1-E	MML-AP0094H1-E	MML-AP0094BH1-E	
012 type 3.6 kW (1.25HP)	MML-AP0124NH1-E	MML-AP0124H1-E	MML-AP0124BH1-E	
015 type 4.5 kW (1.7HP)	MML-AP0154NH1-E	MML-AP0154H1-E	MML-AP0154BH1-E	MMF-AP0156H1-E
018 type 5.6 kW (2HP)	MML-AP0184NH1-E	MML-AP0184H1-E	MML-AP0184BH1-E	MMF-AP0186H1-E
024 type 7.1 kW (2.5HP)		MML-AP0244H1-E	MML-AP0244BH1-E	MMF-AP0246H1-E
027 type 8.0 kW (3HP)				MMF-AP0276H1-E
030 type 9.0 kW (3.2HP)				
036 type 11.2 kW (4HP)				MMF-AP0366H1-E
048 type 14.0 kW (5HP)				MMF-AP0486H1-E
056 type 16.0 kW (6HP)				MMF-AP0566H1-E
072 type 22.4 kW (8HP)				
096 type 28.0 kW (10HP)				




Cooling capacity (HP equivalent)	Air to air heat exchanger with DX-coil type*2	Fresh air intake indoor unit type*3 /4	Hot water module*3/4
007 type 2,2kw (0,8HP)			
009 type 2,8kw (1HP)			
012 type 3,6kw (1,25HP)	MMD-VN(K)502HEX1E		
015 type 4,5kw (1,7HP)			
018 type 5,6kw (2HP)	MMD-VN(K)802HEX1E		
024 type 7,1kw (2,5HP)	MMD-VN(K)1002HEX1E		
027 type 8,0kw (3HP)			MMW-AP0271LQ-E
030 type 9,0kw (3,2HP)			
036 type 11,2kw (4HP)		MMD-AP0481HFE	
048 type 14,0 kw (5HP)		MMD-AP0721HFE	
056 type 16,0 kw (6HP)		MMD-AP0961HFE	MMW-AP0561LQ-E
072 type 22,4kw (8HP)			
096 type 28,0kw (10HP)			

Air volume	Air to air heat exchanger
150m^3/h	VN-M150H1E
250m^3/h	VN-M250H1E
350m^3/h	VN-M350H1E
500m^3/h	VN-M500H1E
650m^3/h	VN-M650H1E
800m^3/h	VN-M800H1E
1000m^3/h	VN-M1000H1E
1500m^3/h	VN-M1500H1E
2000m^3/h	VN-M2000H1E

*2: (K) indicates models equipped with humidifier.
*3: Does not connect to piping from outdoor unit. Control wires can be connected.
*4: Connect with SMMSe.



4-way Air Discharge Cassette Type

Individual louver control

The angles of each of the four louvers can be set individually
⇒ Enables airflow to be adapted to user preferences.

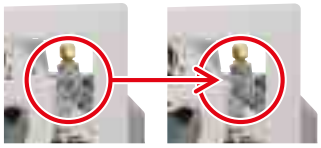
MMU-AP∗∗∗4HP1-E

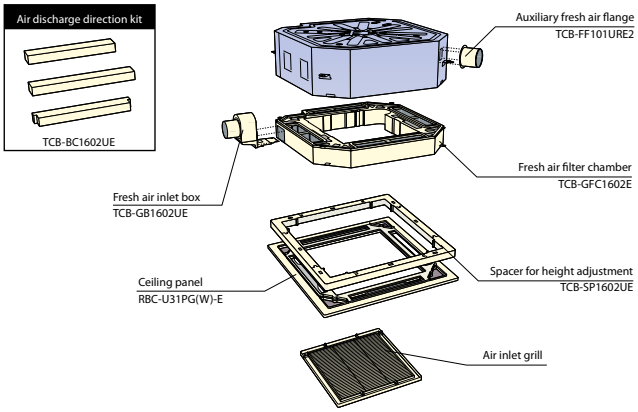
Note: RBC-AMT32E, RBC-AMS41E, RBC-AMS51E only

RBC-U31PG(W)-E

Easy installation

The panel is attached using the bolt already installed on the indoor unit.



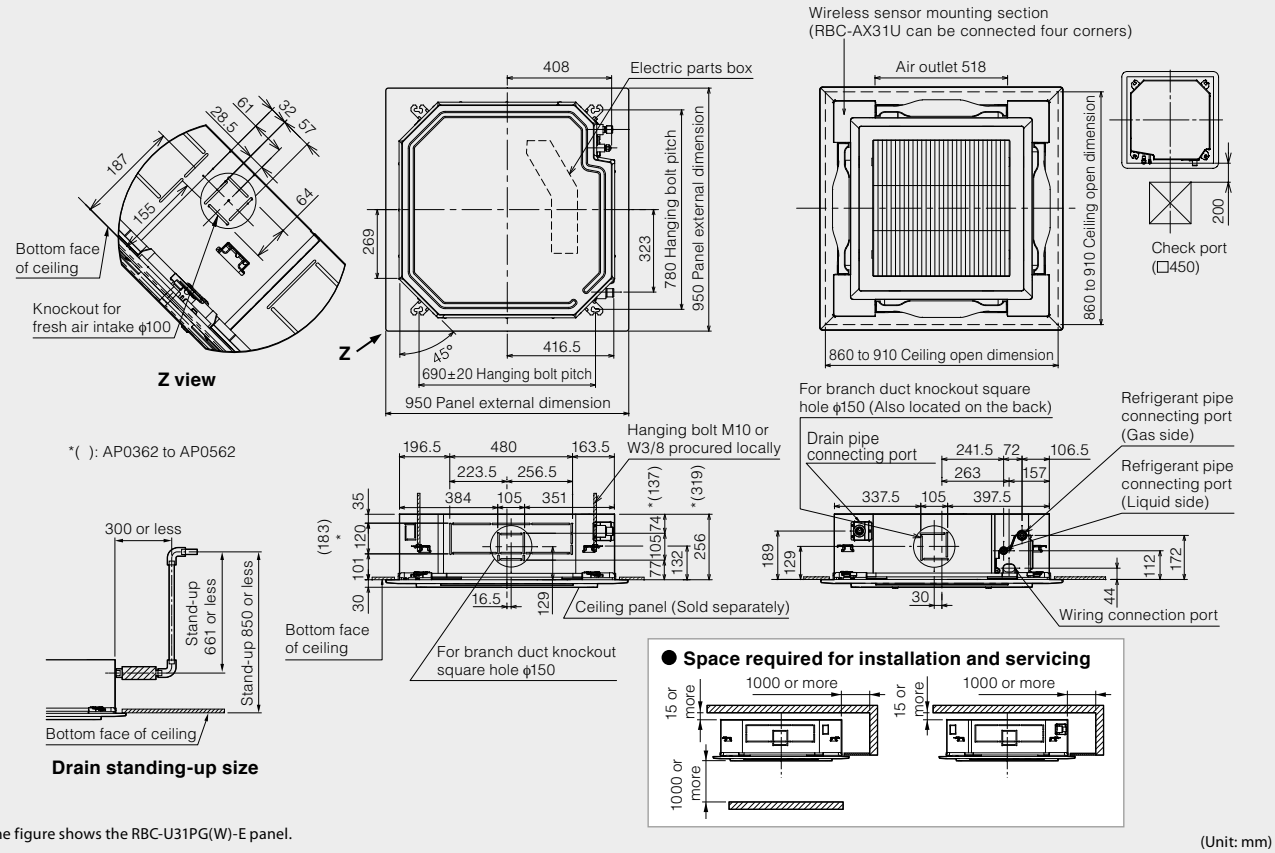


Technical specifications

Model name	MMU-	AP0094HP1-E	AP0124HP1-E	AP0154HP1-E	AP0184HP1-E	AP0244HP1-E	AP0274HP1-E	AP0304HP1-E	AP0364HP1-E	AP0484HP1-E	AP0564HP1-E
Cooling/Heating capacity*1	(kW)	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	11.2/12.5	14.0/16.0	16.0/18.0
Electrical characteristics	Power requirements	1-phase 50 Hz 230 V (220–240 V)/1-phase 60 Hz 220 V (Separate power supply for indoor units required.)									
	Power consumption 50 Hz/60 Hz (kW)	0.021/0.021		0.023/ 0.023	0.026/ 0.026	0.036/0.036		0.043/ 0.043	0.088/ 0.088	0.112/0.112	
Appearance (Ceiling panel)	Model	RBC-U31PGP(W)-E									
External dimensions: Main unit (Ceiling panel)*	Height (mm)	256 (30)*							319 (30)*		
	Width (mm)	840 (950)*									
	Depth (mm)	840 (950)*									
Total weight: Main unit (Ceiling panel)*	(kg)	20 (4)*							25 (4)*		
Fan unit	Standard air flow (High/Mid/Low) (m³/h)	800/730/680		930/ 830/790	1050/ 920/800	1290/920/800		1320/ 1100/850	1970/ 1430/1070	2130/ 1430/1130	2130/ 1520/1230
	Motor output (W)	14				20			68	72	
Connecting pipe	Gas side (mm)	ø9.5		ø12.7		ø15.9					
	Liquid side (mm)	ø6.4				ø9.5					
	Drain port (nominal dia.)	25 (Polyvinyl chloride tube)									
Sound pressure level*2 (High/Mid/Low)	(dB(A))	30/29/27		31/29/27	32/29/27	35/31/28		38/33/30	43/38/32	46/38/33	46/40/33
Sound power level (High/Mid/Low)	(dB(A))	45/44/42		46/44/42	47/44/42	50/46/43		53/48/45	58/53/47	61/53/48	61/55/48

* Figures in parentheses are for ceiling panels.
Note 1 : The capacities are measured under the conditions speci_ed by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the e_ects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C W.

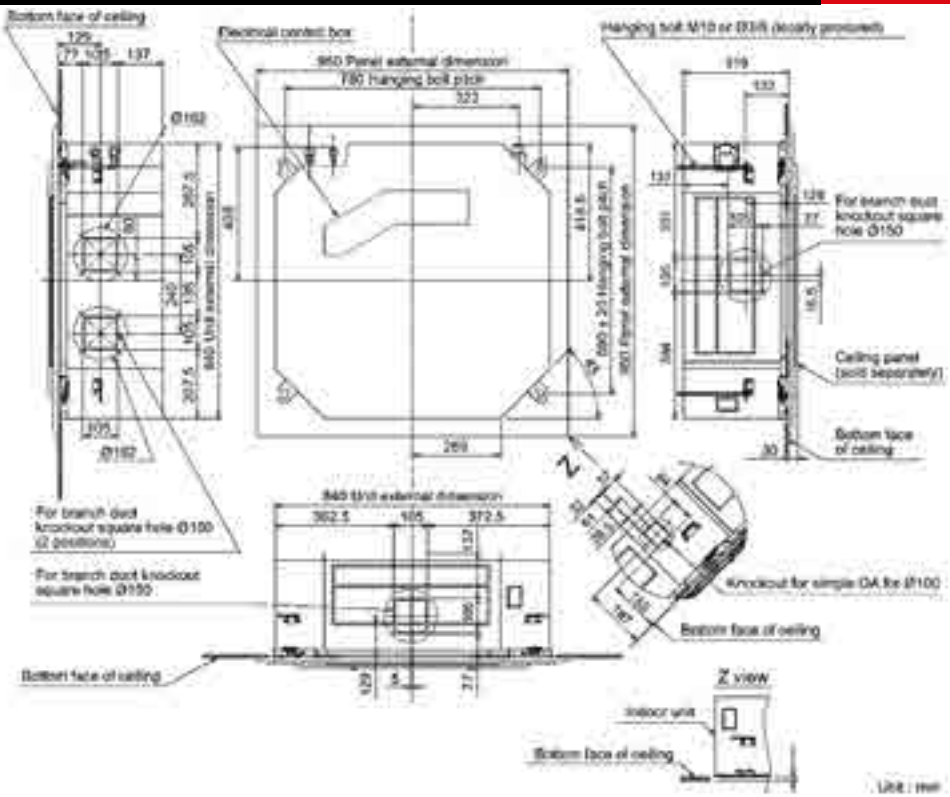
MMU-AP0094HP1-E to MMU-AP0304HP1-E



* The figure shows the RBC-U31PG(W)-E panel.

(Unit: mm)

MMU-AP0364HP1-E to MMU-AP0564HP1-E



Compact 4-way Cassette (600 x 600) Type

Perfect for grid system ceiling

This compact unit (575 x 575 mm) fits perfectly into ceilings and matches standard architectural modules, without the need to cut ceiling tiles.
The flaps fold tightly when operation stops, making its appearance smooth against the ceiling.

MMU-AP*4MH1-E**
MMU-AP*6MH1-E**

RBC-UM11PG(W)E

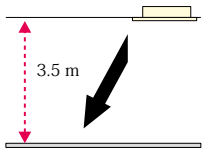
Designed for simple & easy installation and maintenance

The slim design is only 268 mm in height even when an electrical box is located inside the unit.

Easy installation is also possible using the panel adjust pocket. Use the “adjust pocket” function for fine adjustments after installation. Available for ceilings up to 3.5 m in height.

The drain-checking hole makes it possible to check the drain pan through the side case.

Drain-checking hole



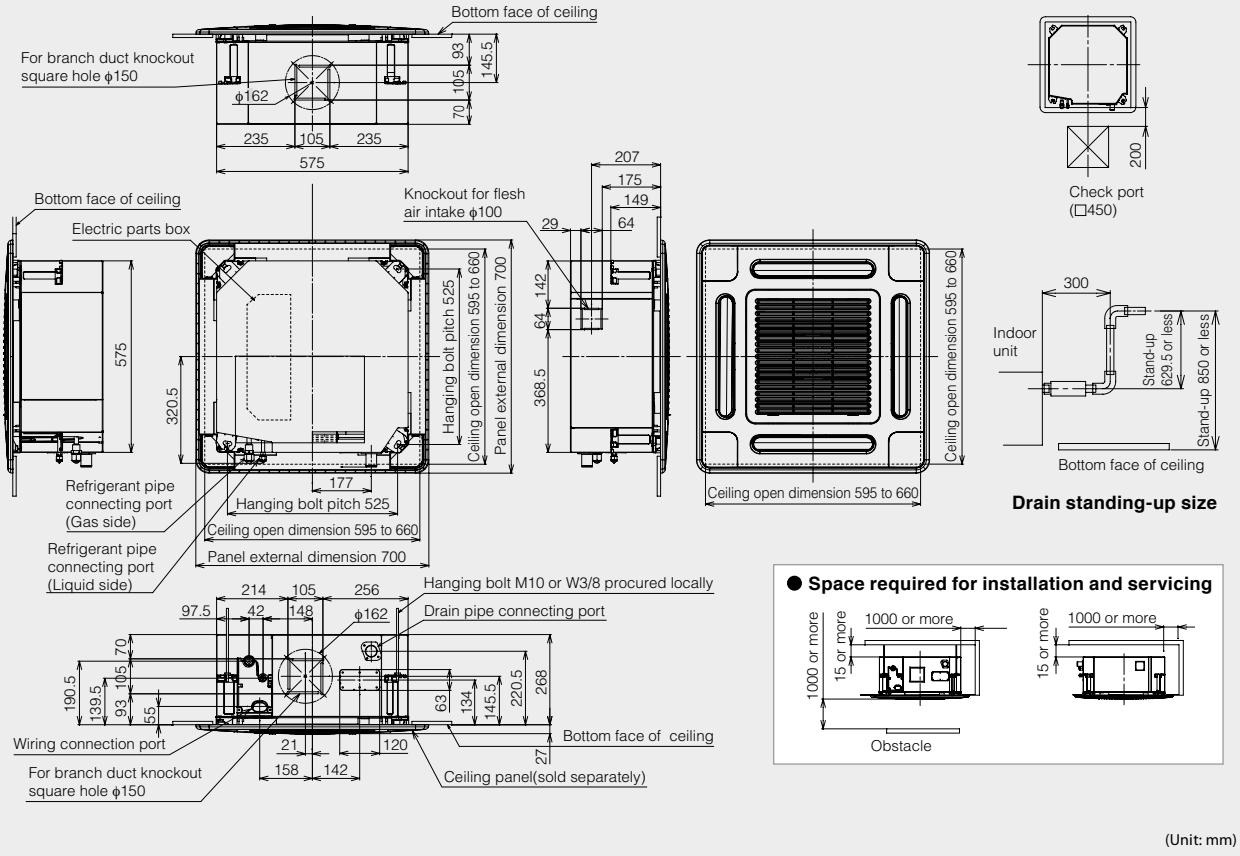
Maximum height

Technical specifications

Model name		MMU-	AP0056MH1-E	AP0074MH1-E	AP094MH1-E	AP0124MH1-E	AP0154MH1-E	AP0184MH1-E
Cooling/Heating capacity*1		(kW)	1.7/1.9	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3
Electrical characteristics	Power requirements		1-phase 50 Hz 230 V (220–240 V)/1-phase 60 Hz 220 V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	(kW)	0.033/0.033	0.034/0.034	0.036/0.036	0.038/0.038	0.041/0.041	0.052/0.052
Appearance (Ceiling panel)		Model	RBC-UM11PG(W)-E					
External dimensions: Main unit (Ceiling panel)*	Height	(mm)	268 (27)*					
	Width	(mm)	575 (700)*					
	Depth	(mm)	575(700)*					
Total weight: Main unit (Ceiling panel)*		(kg)	17 (3)*					
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	430/400/365	552/462/378	570/468/378	590/504/402	660/552/468	762/642/522
	Motor output	(W)	60					
Connecting pipe	Gas side	(mm)	ø9.5				ø12.7	
	Liquid side	(mm)	ø6.4					
	Drain port	(nominal dia.)	25 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	32/30/28	36/32/28	37/33/28	37/33/29	40/35/30	44/39/34
Sound power level (High/Mid/Low)		(dB(A))	50/47/43	51/47/43	52/48/43	52/48/43	55/50/45	59/54/49

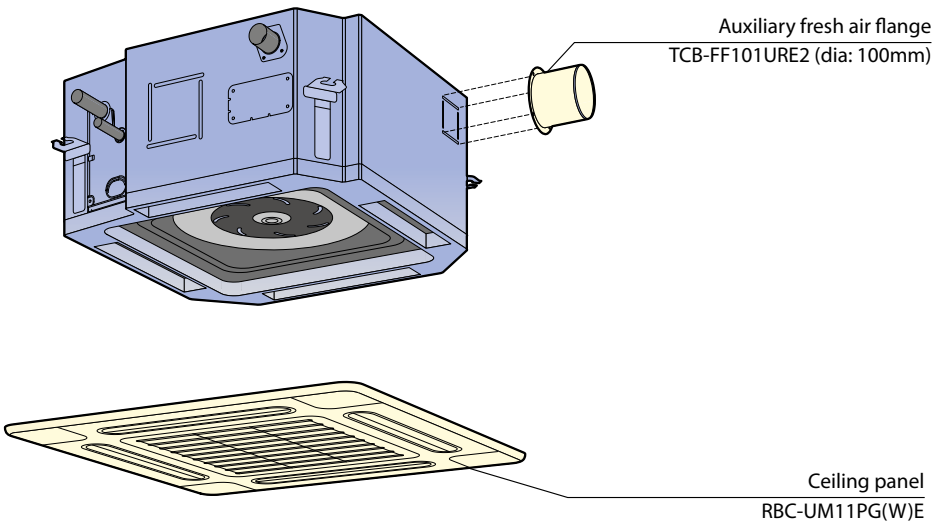
* Figures in parentheses are for ceiling panels.
Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

MMU-AP0054MH1-E to AP0184MH1-E



(Unit: mm)

Options



2-way Air Discharge Cassette Type

Slim and compact unit

All ceiling panels share the same 680 mm depth making installation easily.
Condensate drain pump included.
Available for ceilings up to 3.8 m in height. (in case of 0.8 to 3.2 HP models)
Easy installation and fine adjustment using the "Adjust-Cover" function.

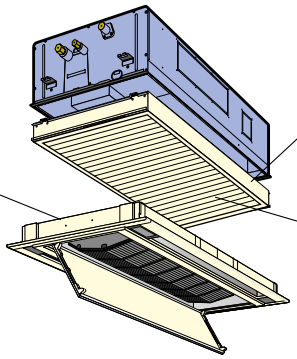
MMU-AP*2WH1**

Technical specifications

Model name		MMU-	AP0072WH1	AP0092WH1	AP0122WH1	AP0152WH1	AP0182WH1	AP0242WH1	AP0272WH1	AP0302WH1	AP0362WH1	AP0482WH1	AP0562WH1
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	11.2/12.5	14.0/16.0	16.0/18.0
Electrical characteristics	Power requirements		1-phase 50Hz 230V (220-240V)/1-phase 60Hz 220V (Separate power supply for indoor units required)										
	Power consumption 50 Hz/60 Hz	(kW)	0.029/0.029			0.030/0.030	0.044/0.044	0.054/0.054		0.064/0.064	0.076/0.076	0.088/0.088	0.117/0.117
Appearance (Ceiling panel)		Model	RBC-UW283PG(W)-E				RBC-UW803PG(W)-E				RBC-UW1403PG(W)-E		
External dimensions: Main unit (Ceiling panel)*	Height	(mm)	295 (20)*				345 (20)*						
	Width	(mm)	815 (1050)*				1180 (1415)*				1600 (1835)*		
	Depth	(mm)	570 (680)*										
Total weight: Main unit (Ceiling panel)*		(kg)	19 (10)*				26 (14)*				36 (14)*		
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	558/498/450			600/534/450	900/750/618	1050/840/738		1260/900/780	1740/1434/1182	1800/1482/1230	2040/1578/1320
	Motor output	(W)	20				30	40		50	70		
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9					
	Liquid side	(mm)	ø6.4					ø9.5					
	Drain port	(nominal dia.)	25 (Polyvinyl chloride tube)										
Sound pressure level*2 (High/Mid/Low)		(dB(A))	34/32/30			35/33/30		38/35/33		40/37/34	42/39/36	43/40/37	46/42/39
Sound power level (High/Mid/Low)		(dB(A))	49/47/45			50/48/45		53/50/48		55/52/49	57/54/51	58/55/52	61/57/54

* Figures in parentheses are for ceiling panels.
Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

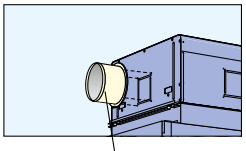
Options



Ceiling panel
RBC-UW283PG(W)-E
RBC-UW803PG(W)-E
RBC-UW1403PG(W)-E

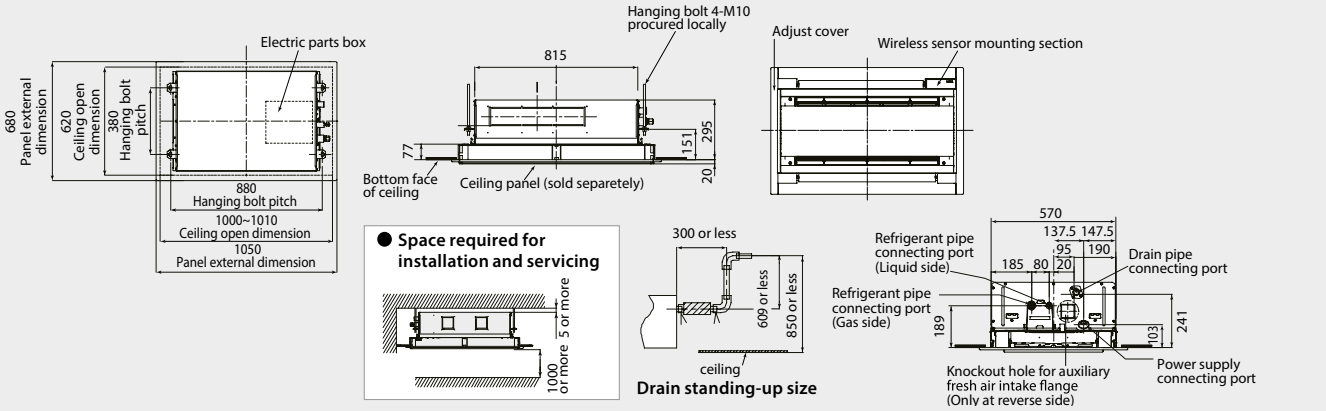
Filter chamber
TCB-FC283UW-E
TCB-FC803UW-E
TCB-FC1403UW-E

Super long life filter
TCB-LF283UW-E
TCB-LF803UW-E
TCB-LF1403UW-E



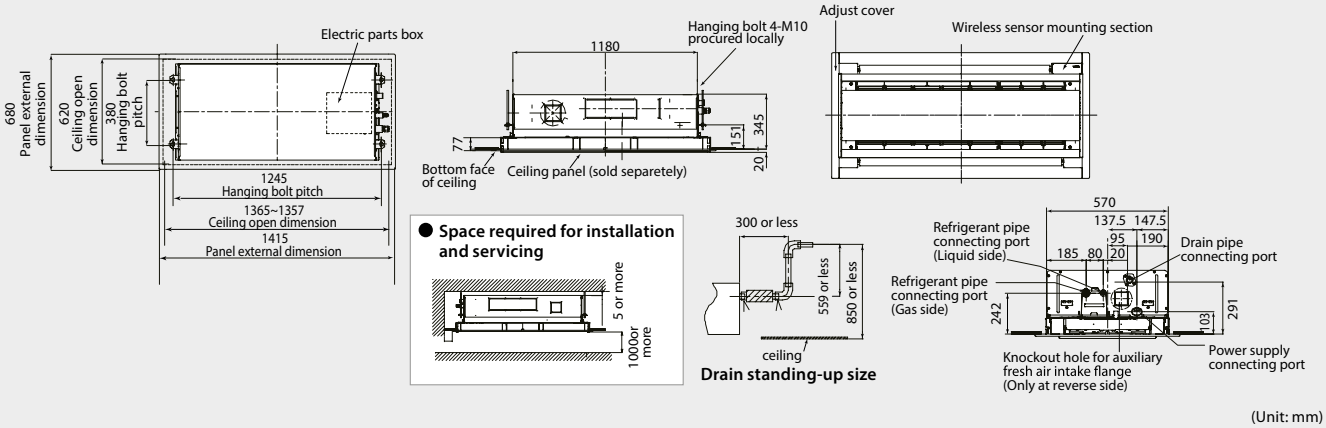
Auxiliary fresh air flange
TCB-FF151US-E

MMU-AP0072WH1 to AP0152WH1



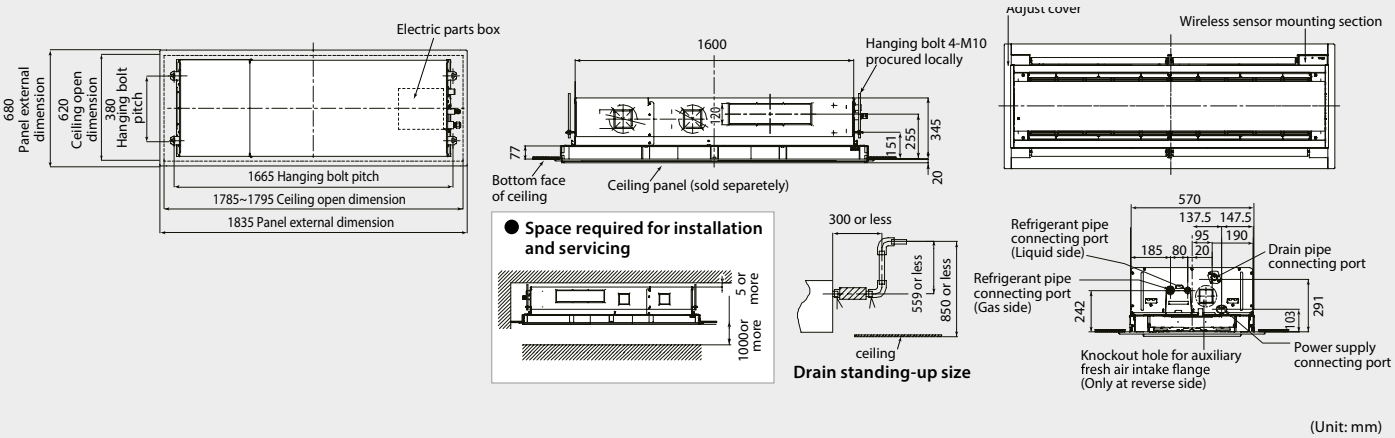
(Unit: mm)

MMU-AP0182WH1 to AP0302WH1



(Unit: mm)

MMU-AP0362WH1 to AP0562WH1



(Unit: mm)

* The photo shows the MMU-AP***2SH Series.

1-way Air Discharge Cassette Type

The perfect choice for hotels and reception areas

Designed for quiet operation, it is suited to office environments.
Ideal for smaller rooms where one-way air distribution is required.
Able to blow air straight out.
Condensate drain pump included.
Long-life filters fitted as standard.

MMU-AP*4YH1-E**
MMU-AP*4SH1-E**

Fresh air intake is possible

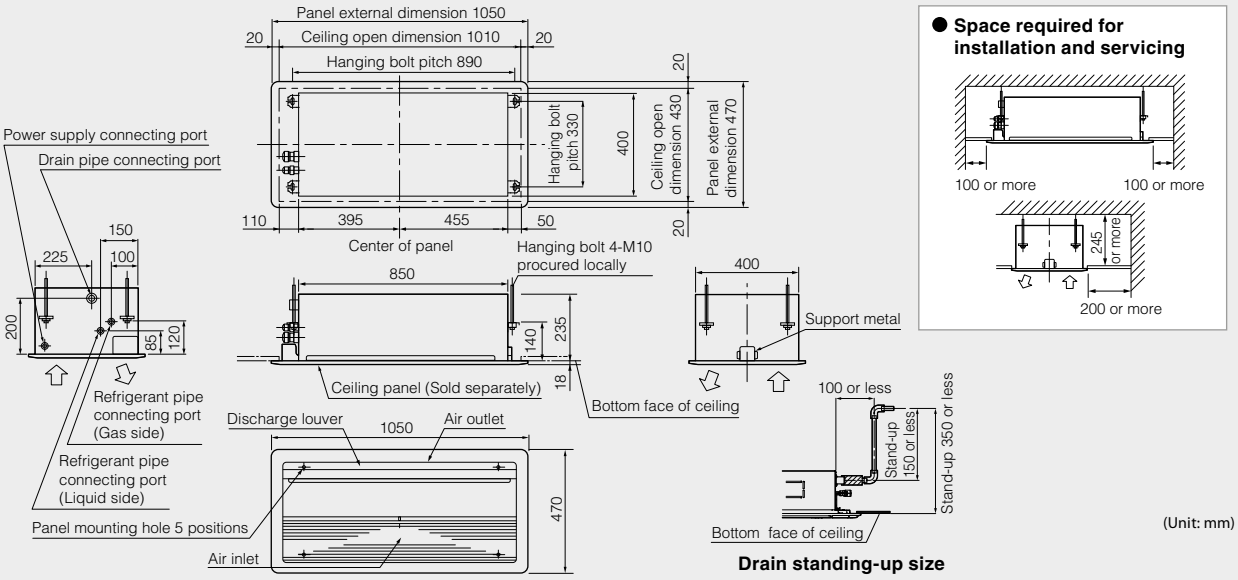
Preparations/connection possible with a circle duct flange.

Technical specifications

Model name		MMU-	AP0074YH1-E	AP0094YH1-E	AP0124YH1-E	AP0154SH1-E	AP0184SH1-E	AP0244SH1-E
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power requirements		1-phase 50 Hz 230 V (220–240 V)/1-phase 60 Hz 220 V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	(kW)	0.053/0.056			0.042/0.041	0.046/0.045	0.075/0.073
Appearance (Ceiling panel)		Model	RBC-UY136PG			RBC-US21PGE		
External dimensions: Main unit (Ceiling panel)*	Height	(mm)	235 (18)*			200 (20)*		
	Width	(mm)	850 (1050)*			1000 (1230)*		
	Depth	(mm)	400 (470)*			710 (800)*		
Total weight: Main unit (Ceiling panel)*		(kg)	22 (3.5)*			21 (5.5)*		22 (5.5)*
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	540/480/420			750/690/630	780/720/660	1140/960/810
	Motor output	(W)	22			30		
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9
	Liquid side	(mm)	ø6.4					ø9.5
	Drain port	(nominal dia.)	25 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	42/39/34			37/35/32	38/36/34	45/41/37
Sound power level (High/Mid/Low)		(dB(A))	57/54/49			57/54/51		58/56/52

* Figures in parentheses are for ceiling panels.
Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

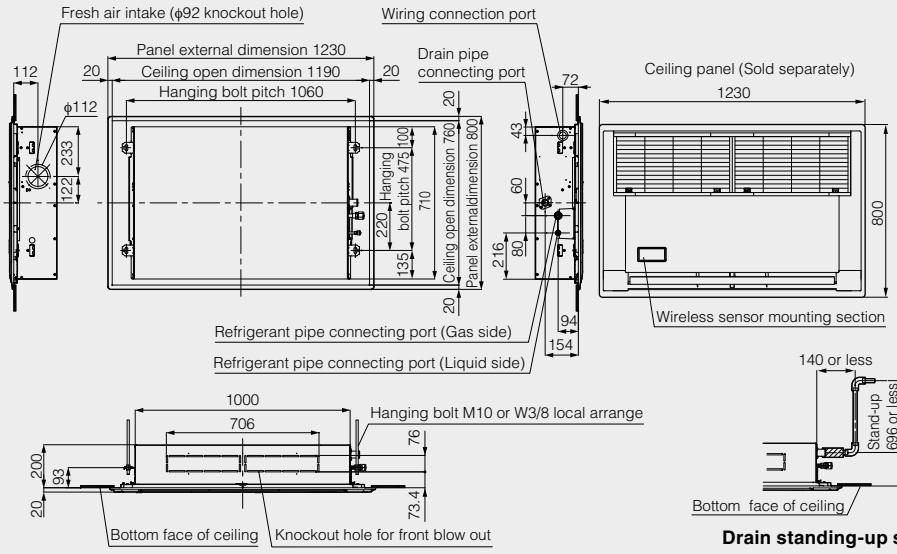
MMU-AP0074YH1-E to AP0124YH1-E



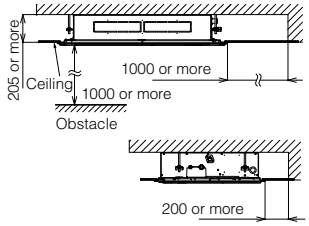
● **Space required for installation and servicing**

(Unit: mm)

MMU-AP0154SH1-E to AP0244SH1-E



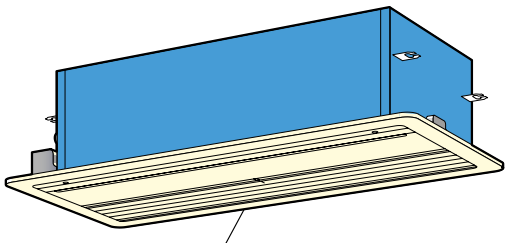
● **Space required for installation and servicing**



(Unit: mm)

Options

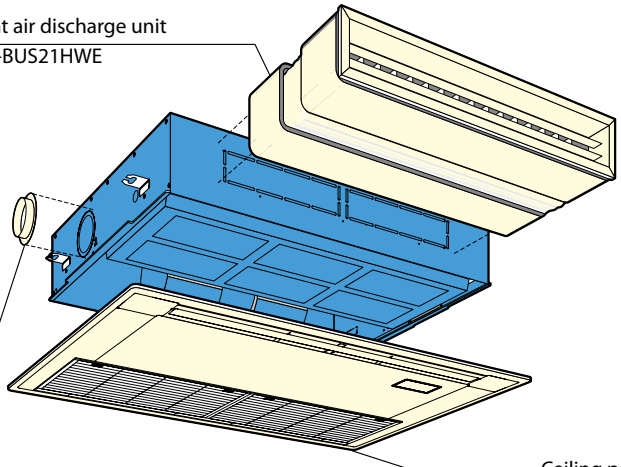
AP0074YH1-E/AP0094YH1-E/AP0124YH1-E



Ceiling panel
RBC-UY136PG

Front air discharge unit
TCB-BUS21HWE

Auxiliary fresh air flange
TCB-FF101URE2



AP0154SH1-E/AP0184SH1-E/AP0244SH1-E

Ceiling panel
RBC-US21PGE

Concealed Duct Type

Medium static pressure

External static pressure can be raised as high as 110 Pa, so that all areas of the room can be reached for even temperature distribution, no matter how complex the layout.

MMD-A*6BHP1-E**

High-lift drain pump

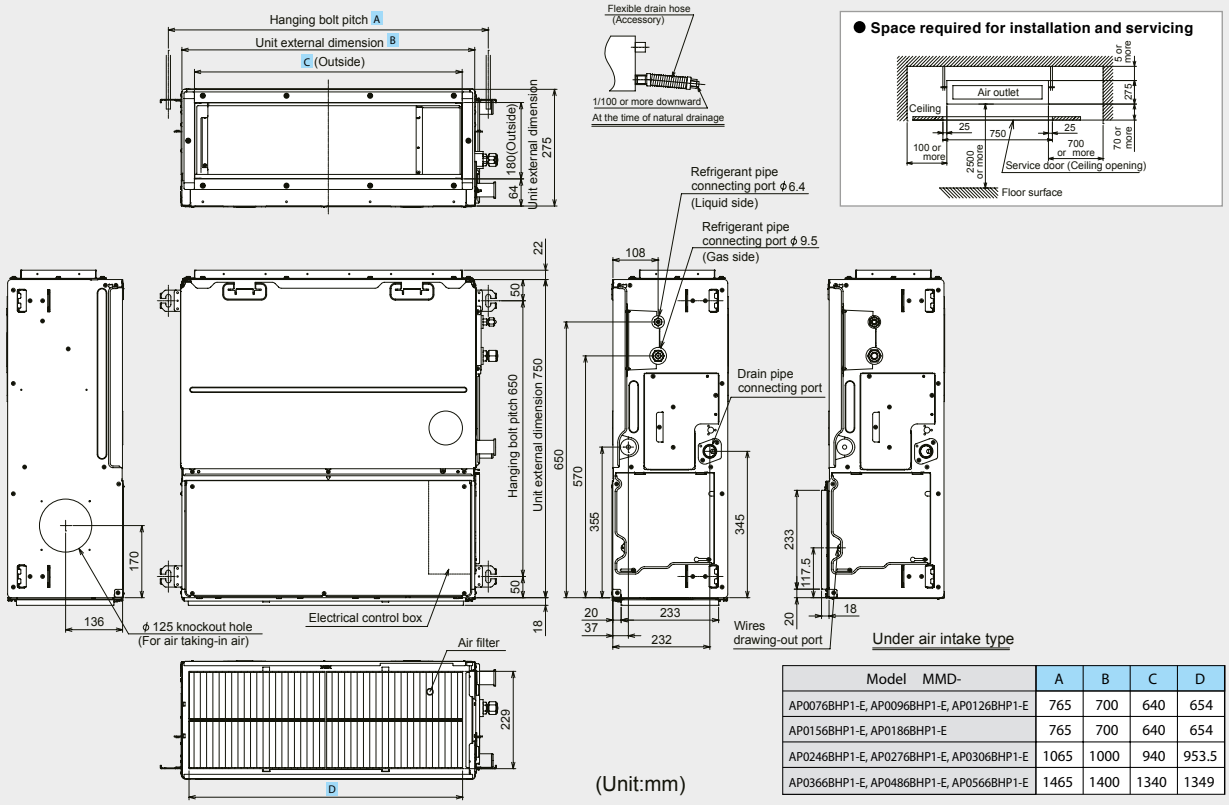
The drain piping can be raised up to 27 cm from the drain port.

Technical specifications

Model name	MMD-	AP0076BHP1-E	AP0096BHP1-E	AP0126BHP1-E	AP0156BHP1-E	AP0186BHP1-E	AP026BHP1-E	AP0276BHP1-E	AP0306BHP1-E	AP0366BHP1-E	AP0486BHP1-E	AP0566BHP1-E
Cooling/Heating capacity*1	(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	11.2/12.5	14.0/16.0	16.0/18.0
Electrical characteristics	Power requirements	1-phase 50 Hz 230 V (220–240 V)/1-phase 60 Hz 220 V (Separate power supply for indoor units required.)										
	Power consumption 50 Hz/60 Hz (kW)	0.038/0.038	0.043/0.043		0.062/ 0.062		0.077/0.077		0.094/ 0.094	0.172/ 0.172	0.198/0.198	
External dimension	Height (mm)	275										
	Width (mm)	700			700		1000			1400		
	Depth (mm)	750										
Total weight	(kg)	23					30			40		
Fan unit	Standard air flow (High/Mid/Low) (m³/h)	540/ 450/360	570/ 480/390		798/ 660/540		1200/990/870		1260/ 1100/930	1920/ 1620/1380	2100/1740/1500	
	Motor output (W)	150								250		
	External static pressure (factory setting) (Pa)	30					40			50		
	External static pressure (Pa)	30-40-50-65-80-100-120 (7 steps)										
Connecting pipe	Gas side (mm)	ø9.5			ø12.7		ø15.9					
	Liquid side (mm)	ø6.4					ø9.5					
	Drain port (nominal dia.)	25 (Polyvinyl chloride tube)										
Sound pressure level*2 (High/Mid/Low)	(dB(A))	29/26/23	30/26/23		33/29/25		36/31/27			40/36/33		
Sound power level (High/Mid/Low)	(dB(A))	44/41/38	45/41/38		48/44/40		51/46/42			55/51/48		

Note 1 : The capacities are measured under the conditions speci_ed by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the e_ects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

MMU-AP0076BHP1-E to AP0566BHP1-E



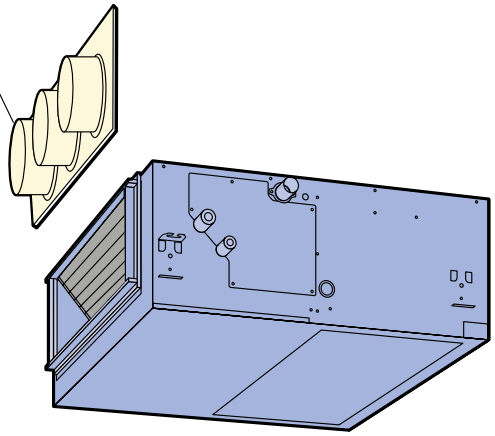
Model MMD-	A	B	C	D
AP0076BHP1-E, AP0096BHP1-E, AP0126BHP1-E	765	700	640	654
AP0156BHP1-E, AP0186BHP1-E	765	700	640	654
AP0246BHP1-E, AP0276BHP1-E, AP0306BHP1-E	1065	1000	940	953.5
AP0366BHP1-E, AP0486BHP1-E, AP0566BHP1-E	1465	1400	1340	1349

(Unit:mm)

Options

Spigot shaped flange

MMD-AP0076/96/126/156/186 BHP1-E: TCB-SF56C6BE
MMD-AP0246/0276/0306 BHP1-E: TCB-SF80C6BE
MMD-AP0366/0486/0566 BHP1-E: TCB-SF160C6BE



Concealed Duct High Static Pressure Type

Design flexibility

- Compatible with external static pressures up to 250 Pa.
- Internal Drain pump: lift up to 850mm (except 22,4 kw & 20,0 kw)

Construction characteristics

Three-phase-switchable static pressure.

The flexible duct is accessible.

Easy service and installation.

Inspection hole enables easy access and maintenance.

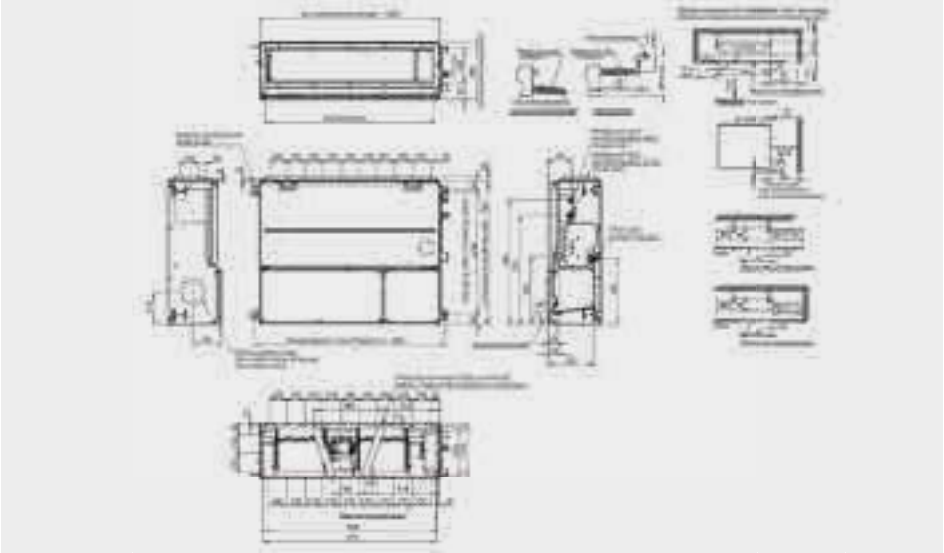
MMD-AP*6HP1-E**
MMD-AP*4H1-E**

Technical specifications

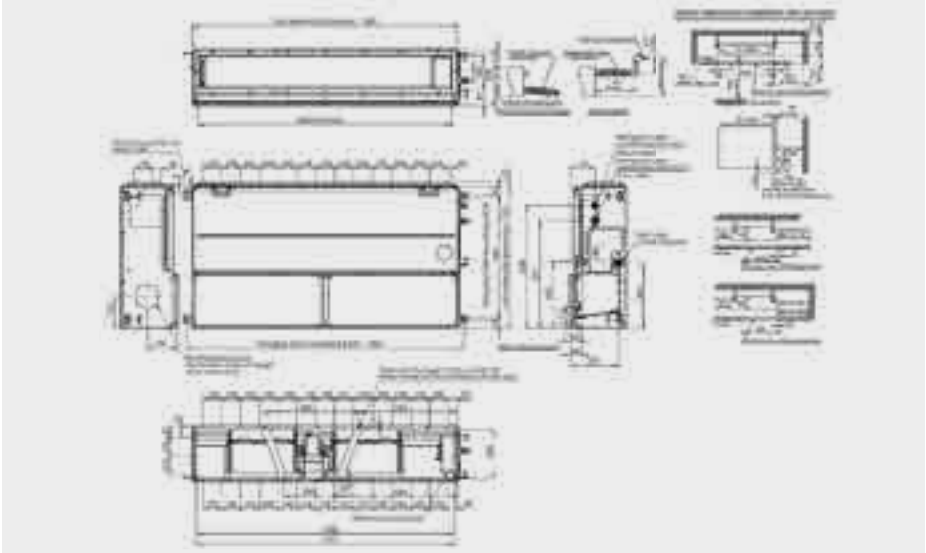
Model name		MMD-	AP0186HP1-E	AP0246HP1-E	AP0276HP1-E	AP0366HP1-E	AP0486HP1-E	AP0566HP1-E	AP0726H1-E	AP0966H1-E
Cooling / Heating capacity *(1)		(kW)	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0	16.0/18.0	22.4/25.0	28.0/31.5
Electrical characteristics	Power requirements		1-phase 50 Hz 230 V (220-240 V) / 1-phase 60 Hz 220 V (Separate power supply for indoor units required)							
	Power consumption	(kW)	0.085	0.115		0.198	0.230	0.290	0.540	0.790
Dimensions	Height	(mm)	298						448	
	Width	(mm)	1000			1400			1400	
	Depth	(mm)	750						900	
Weight		(kg)	34			43			97	
Fan unit	Standard air flow (Med / Low)	(m3/h)	800 (660/550)	1.200 (970/800)		1.920 (1560/1340)	2.100 (1740/1420)	2.400 (2040/1660)	3.800	4.800
	Motor output	(W)	250			350			370X3	
	External static pressure (factory setting)	(Pa)	100						137	
	External static pressure	(Pa)	50-75-125-150-175-200 (7 steps)						50-83-117-<150>-183-217-250	
Connecting pipe	Gas side	(mm)	12.7	15.9					22.2	
	Liquid side	(mm)	6.4	9.5					12.7	
	Drain port	(nominal dia.)	25 (Polyvinyl chloride tube)							
Sound pressure level *(2) (High/Mid/Low)		(dB(A))	37/32/30	38/34/31		41/37/34	42/40/35	45/42/37	44	46
Sound power level (High/Mid/Low)		(dB(A))	60/54/50	60/55/51		62/57/53	65/62/54	68/64/56	69	70

Note 1 : The cooling capacities and electrical characteristics are measured under the conditions speci_ed by JIS B 8615 based on the reference piping.
The reference piping consists of 5m of main piping and 2.5 of branch piping connected with 0 meter height.
Note 2 : The sound level are measured in an anechoic chamber r in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the e_ects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

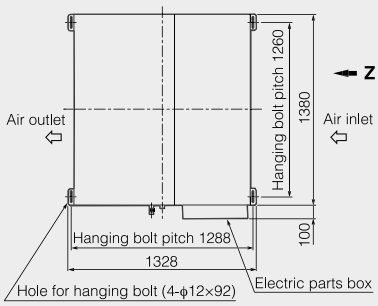
MMD-AP0186HP1-E to AP0276HP1-E

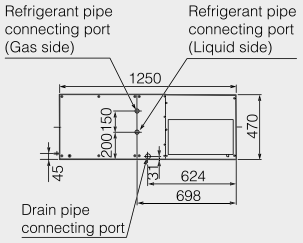


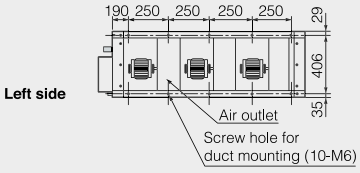
MMD-AP0366HP1-E to AP0566HP1-E

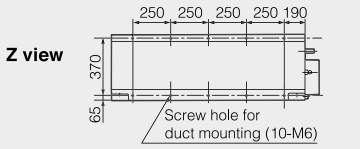


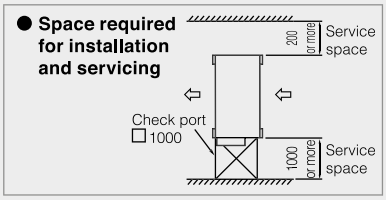
MMD-AP0724H1-E, AP0964H1-E







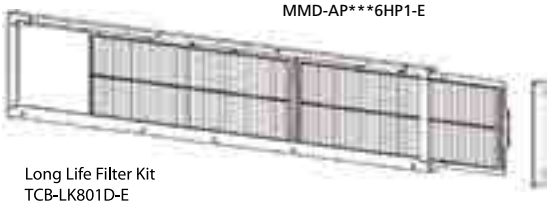




(Unit: mm)

Options

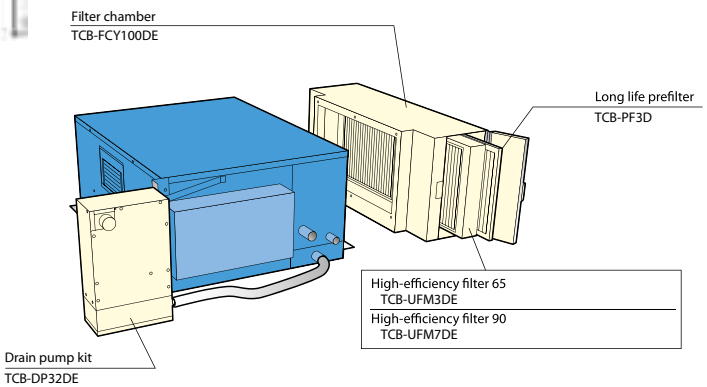
MMD-AP***6HP1-E



Long Life Filter Kit
TCB-LK801D-E
TCB-LK1401D-E

MMD-AP0366HP1-E to AP0566HP1-E

MMD-AP***4H1-E



Slim Duct Type

Functional design

Only 210 mm in height for greater application flexibility.
4-step static pressure setup.
Concealed installation within a ceiling void.
Auxiliary fresh air intake available.
High lift condensate pump (up to 850mm) from ceiling.

MMD-AP*4SPH1-E**
MMD-AP*6SPH1-E**

Slim & quiet

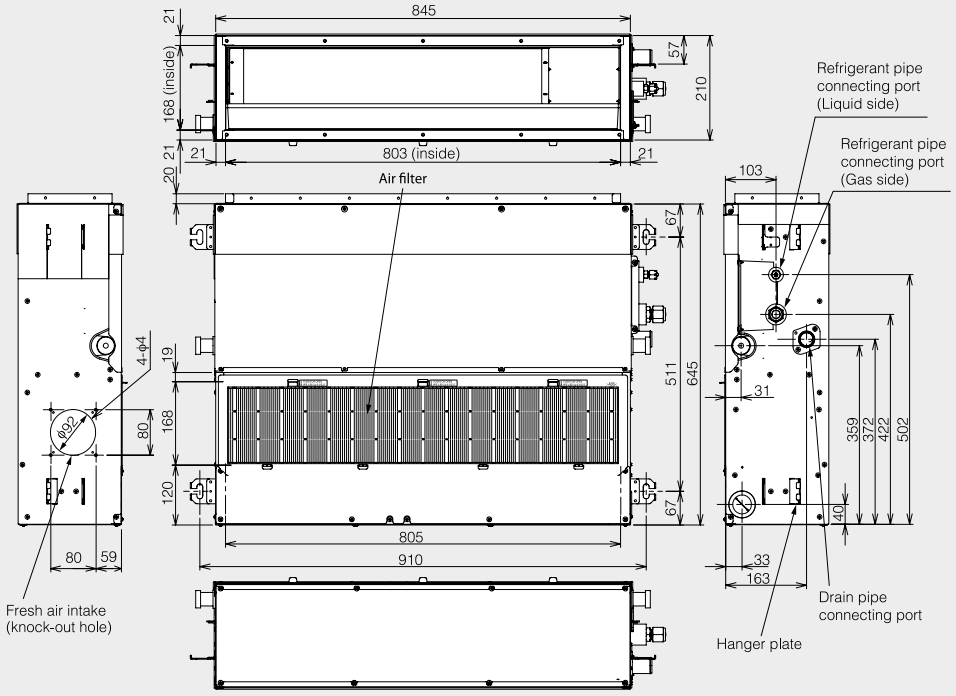
Perfect comfort throughout the room.
Can be used with any style of air diffuser.
Quiet yet powerful operation.

Technical specifications

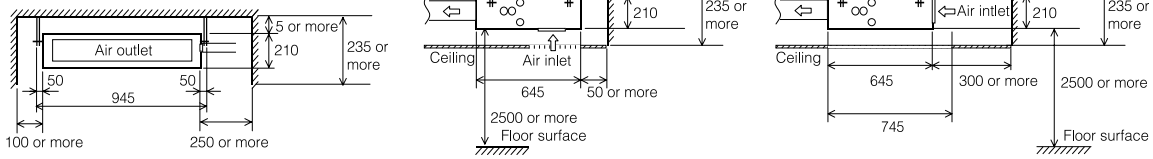
Model name		MMD-	AP0056SPH1-E	AP0074SPH1-E	AP0094SPH1-E	AP0124SPH1-E	AP0154SPH1-E	AP0184SPH1-E	AP0244SPH1-E	AP0274SPH1-E
Cooling/Heating capacity*1		(kW)	1.7/1.9	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0
Electrical characteristics	Power supply		1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)							
	Power consumption 50 Hz/60 Hz	(kW)	0.038/0.036	0.039/0.037		0.043/0.041	0.045/0.043	0.054/0.052	0.105/0.105	
External dimensions	Height	(mm)	210							
	Width	(mm)	845						1140	
	Depth	(mm)	645							
Total weight		(kg)	22				23		29	
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	435/400/370	540/470/400	600/520/450		690/600/520	780/680/580	1080/1000/900	
	Motor output	(W)	60						120	
	External static pressure (factory setting)	(Pa)	6-16-31-46 (4 steps)			5-15-30-45 (4 steps)		4-14-29-44 (4 steps)	2-12-22-42 (4 steps)	
Connecting pipe	Gas side	(mm)	ø9.5				ø12.7		ø15.9	
	Liquid side	(mm)	ø6.4						ø9.5	
	Drain port	(nominal dia.)	25 (Polyvinyl chloride tube)							
Sound pressure level*2 (High/Med./Low)	Under air inlet	(dB(A))	33/32/30	36/33/30		38/35/32	39/36/33	40/38/36	49/47/44	
	Back air inlet	(dB(A))	26/25/24	28/26/24		29/27/25	32/30/28	33/31/29	38/36/33	
Sound power level (High/Med./Low)	Under air inlet	(dB(A))	48/47/45	51/48/45		53/50/47	54/51/48	55/53/51	64/62/59	
	Back air inlet	(dB(A))	41/40/39	43/41/39		44/42/40	47/45/43	48/46/44	53/51/48	

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

MMD-AP0056SPH1-E, MMD-AP0074SPH1-E to AP0184SPH1-E

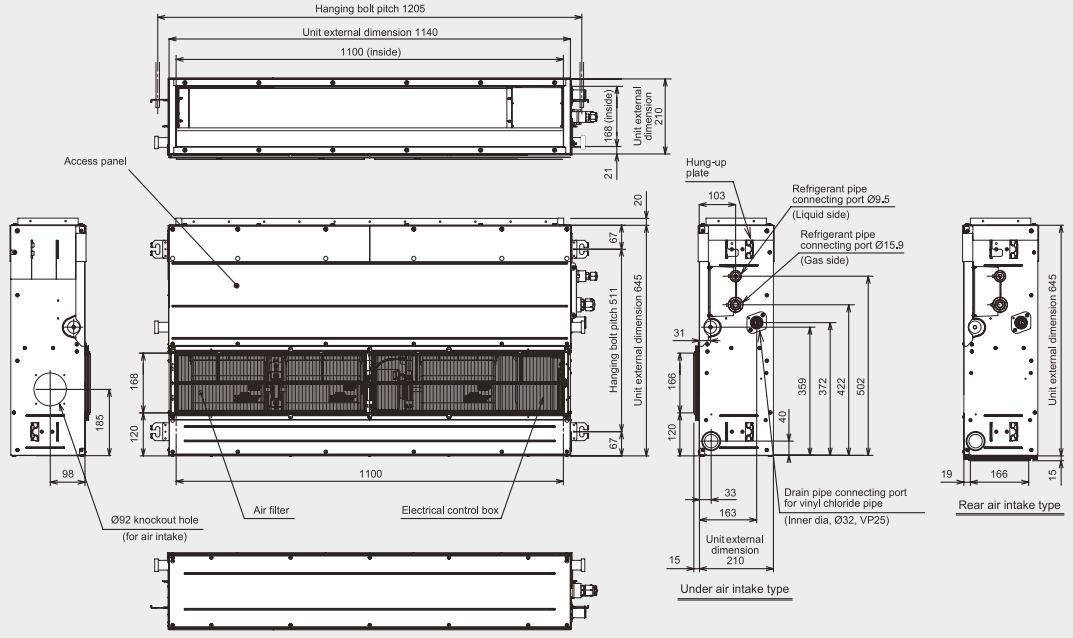


● **Space required for installation and servicing**



(Unit: mm)

MMD-AP0244SPH1-E, AP0274SPH1-E



(Unit: nm)

Ceiling Type

Comfortable ambience

Top-class quitness

- New design reduces noise level to half that of conventional units.

Flap control

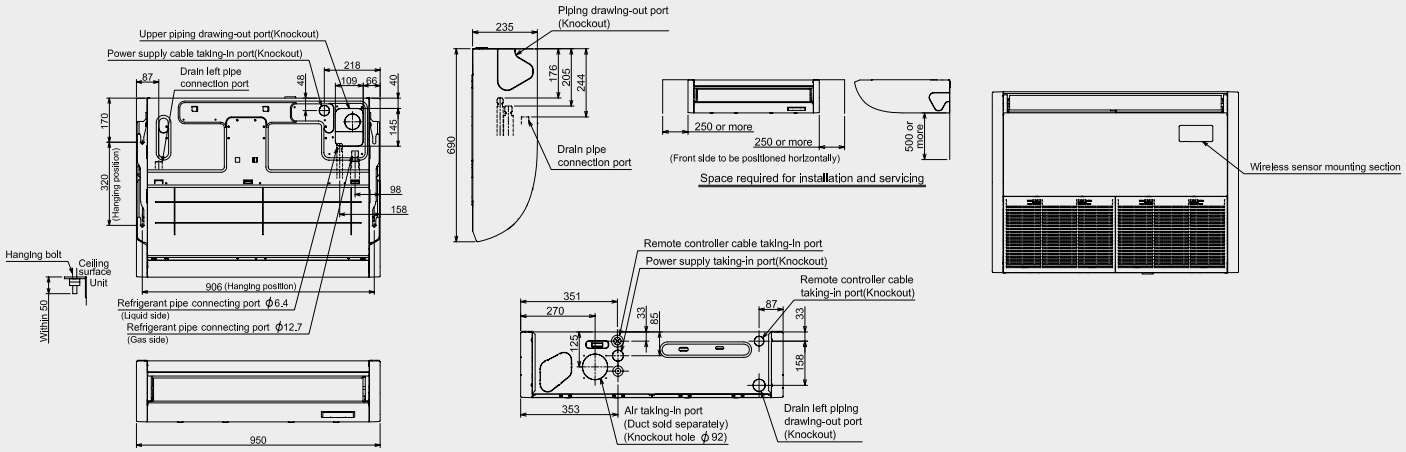
- The airflow angle is automatically set to the most suitable setting according to your cooling or heating needs, and an automatic swing mode enables airflow to reach all areas of the room to create a comfortable ambience.
- Air taking - in port (duct sold separately).

MMC-AP*7HP-E**

Installation efficiency

The unit can be suspended from the ceiling simply by adjusting two screws on the intake grill, avoiding complex procedures which can involve up to a dozen installation screws.

MMC-AP0157HP1-E, AP0187HP1-E



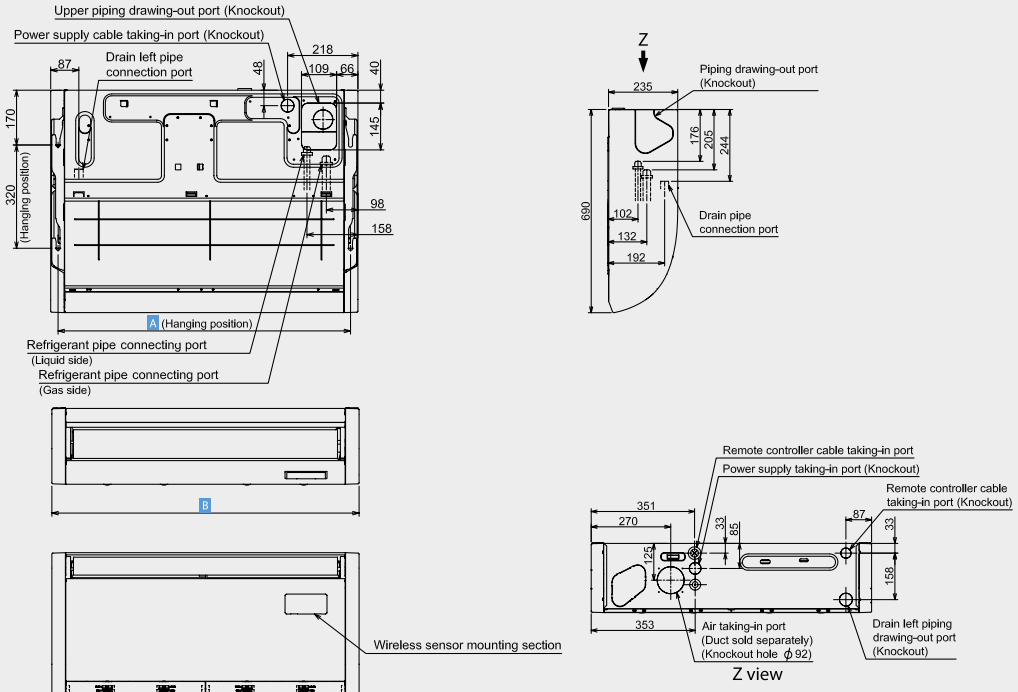
(Unit:mm)

Technical specifications

Model name		MMC-	AP0157HP1-E	AP0187HP1-E	AP0247HP1-E	AP0277HP1-E	AP0367HP1-E	AP0487HP1-E	AP0567HP1-E
Cooling/Heating capacity*1		(kW)	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0	16.0/18.0
Electrical characteristics	Power requirements		1-phase 50 Hz 230 V (220–240 V)/1-phase 60 Hz 220 V (Separate power supply for indoor units required.)						
	Power consumption 50 Hz/60 Hz	(kW)	0.033/0.033	0.034/0.034	0.067/0.067		0.083/0.083		0.111/0.111
External dimensions	Height	(mm)	235						
	Width	(mm)	950		1,270		1,586		
	Depth	(mm)	690						
Total weight		(kg)	23		29		35		
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	840/690/540	960/720/540	1440/1020/750		1860/1350/1020	1860/1530/1200	2040/1650/1260
	Motor output	(W)	94				139		
Connecting pipe	Gas side	(mm)	ø12.7		ø15.9				
	Liquid side	(mm)	ø6.4		ø9.5				
	Drain port (nominal dia.)		20 (Polyvinyl chloride tube)						
Sound pressure level*2 (High/Mid/Low)		(dB(A))	36/34/28	37/35/28	41/36/29		44/38/32	44/41/35	46/42/36
Sound power level (High/Mid/Low)		(dB(A))	51/49/43	52/50/43	56/51/44		59/53/47	59/56/50	61/57/51

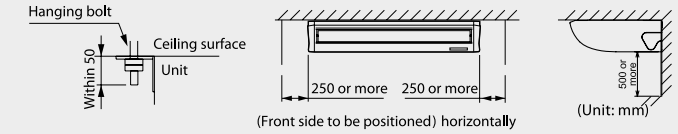
Note 1 : The capacities are measured under the conditions speci_ed by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the e_ects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

MMC-AP0157HP1-E to AP0567HP1-E

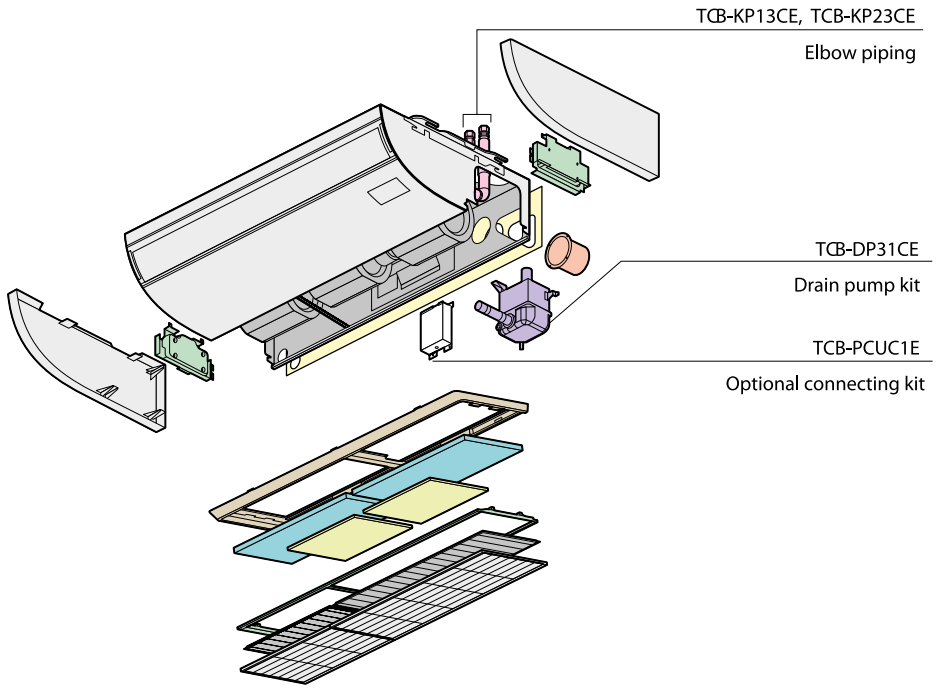


Model MMC-	A	B
AP0157HP1-E, AP0187HP1-E	906	950
AP0247HP1-E, AP0277HP1-E	1223	1269
AP0367HP1-E, AP0487HP1-E, AP0567HP1-E	1540	1586

● Space required for installation and servicing



Options



Remote controller

High-wall Type (4 series) European market only

Slim-line design

With its attractive, slim-line design, this unit is best suited for restaurants and other applications requiring understated elegance.

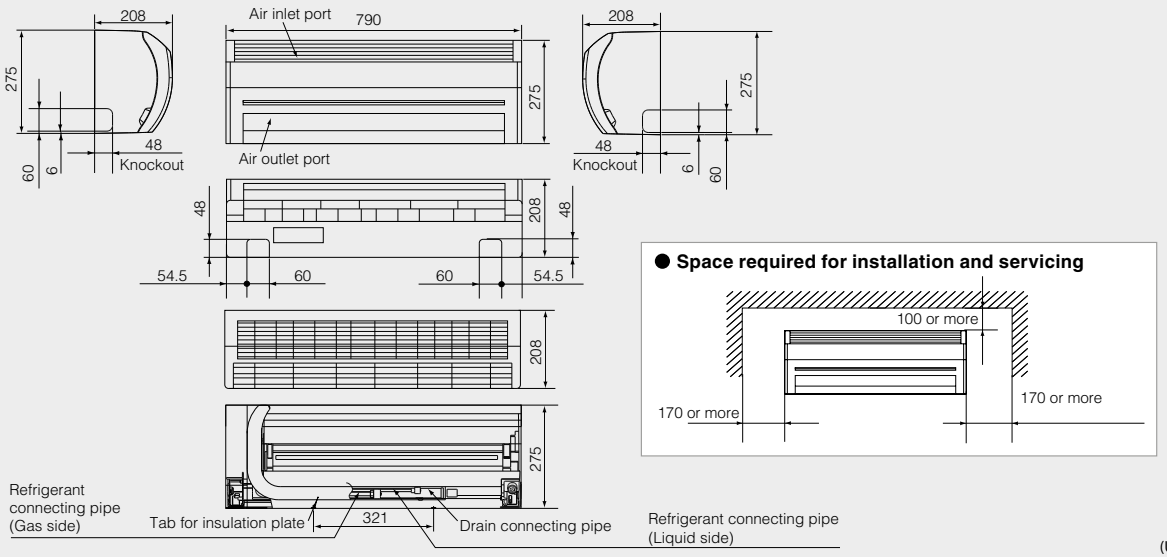
The filtration system further improves the indoor air quality benefits of this high-wall unit.

Auto-louver mode allows optimum air distribution throughout the room.

Wireless controller is included.

MMK-AP*4MH1-E**
MMK-AP*4MHP1-E**

MMK-AP0074MH1-E to AP0124MH1-E



(Unit: mm)

Technical specifications

Model name		MMK-	AP0054MHP1-E	AP0074MH1-E	AP0094MH1-E	AP0124MH1-E
Cooling/Heating capacity*1		(kW)	1.7/1.9	2.2/2.5	2.8/3.2	3.6/4.0
Electrical characteristics	Power requirements		1-phase 50 Hz 230 V (220–240 V) (Power exclusive for indoor is required.)			
	Power consumption 50 Hz	(kW)	0.017		0.018	0.019
External dimensions	Height	(mm)	275			
	Width	(mm)	790			
	Depth	(mm)	208			
Total weight		(kg)	11			
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	445/400/360	480/420/360	510/450/360	540/450/360
	Motor output	(W)	30			
Connecting pipe	Gas side	(mm)	ø9.5			
	Liquid side	(mm)	ø6.4			
	Drain port	(nominal dia.)	16 (polyvinyl chloride tube)			
Sound pressure level*2 (High/Mid/Low)		(dB(A))	33/31/29	35/32/29	36/33/29	37/33/29
Sound power level (High/Mid/Low)		(dB(A))	48/46/44	50/47/44	51/48/44	52/48/44

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

High-wall Type (3 series)

Elegant and slim

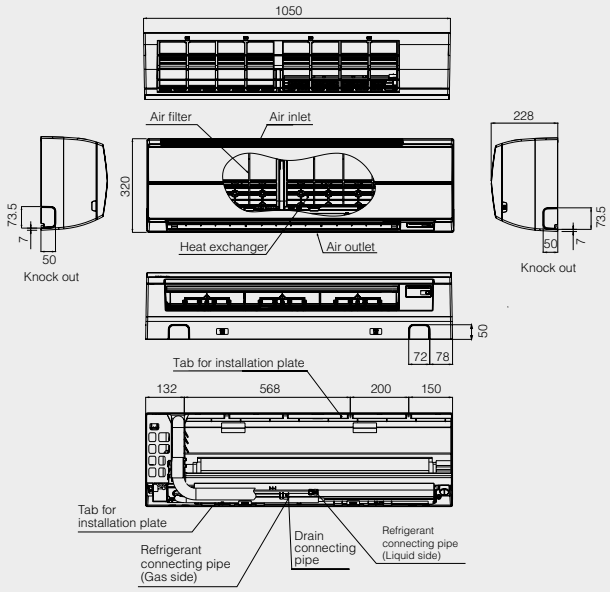
This classic high-wall unit is elegant and slim; it can easily blend in with any room interior.

Total comfort is granted, thanks also to the 70° directional auto-swing louver that provide uniform air distribution.

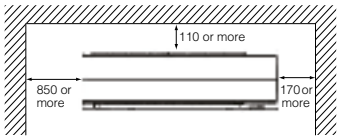
Remote controller

MMK-AP*3H1**

MMK-AP0073H1 to AP0243H1



● **Space required for installation and servicing**



Technical specifications

Model name		MMK-	AP0073H1	AP0093H1	AP0123H1	AP0153H1	AP0183H1	AP0243H1
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power requirements		1-phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)					
	Power consumption	(kW)	0.018	0.021		0.043		0.050
External dimensions	Height	(mm)	320					
	Width	(mm)	1050					
	Depth	(mm)	228					
Total weight		(kg)	15					
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	570/450/390	600/480/390		840/660/540		1020/750/570
	Motor output	(W)	30					
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9
	Liquid side	(mm)	ø6.4					ø9.5
	Drain port	(nominal dia.)	16 (polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	35/31/28	37/32/28		41/36/33		46/39/34
Sound power level (High/Mid/Low)		(dB(A))	50/46/43	52/47/43		56/51/48		61/54/49

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

Remote controller

Console

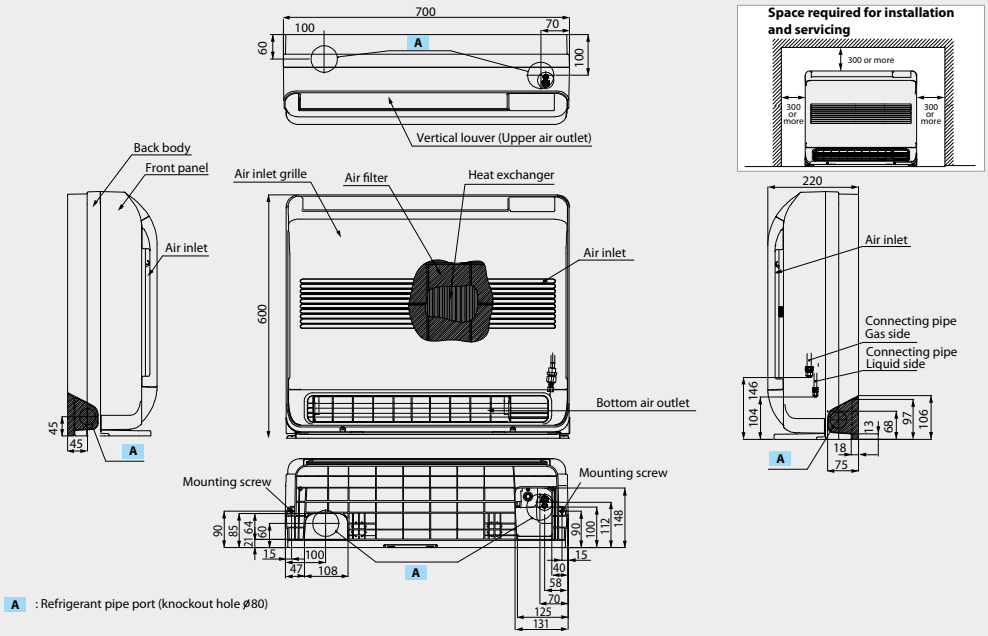
Elegant & simple design makes this unit a perfect fit for shops, office buildings, and luxury apartments.

Bottom flow functionality ensures comfortable air bi-flow for an advantage in heating and floor warming.

Multi-function operation is convenient, making adjustments by the user possible using the Wireless Remote Controller.

MML-AP*4NH1-E**

MML-AP0074NH1-E to AP0184NH1-E



(Unit: mm)

Technical specifications

Model name		MML-	AP0074NH1-E	AP0094NH1-E	AP0124NH1-E	AP0154NH1-E	AP0184NH1-E
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3
Electrical characteristics	Power requirements		1-phase 50Hz 230V (220-240V)/1-phase 60Hz 220V (Separate power supply for indoor unit is required)				
	Power consumption 50 Hz/60 Hz	(kW)	0.021		0.025	0.034	0.052
External dimensions	Height	(mm)	600				
	Width	(mm)	700				
	Depth	(mm)	220				
Total weight		(kg)	17				
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	510/366/282		552/408/324	624/468/384	726/528/426
	Motor output	(W)	41				
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7	
	Liquid side	(mm)	ø6.4				
	Drain port	(nominal dia.)	16(Polypropylene tube)				
Sound pressure level*2 (High/Mid/Low)		(dB(A))	38/32/26		40/34/29	43/37/31	47/40/34
Sound power level (High/Low)		(dB(A))	53/41		55/44	58/46	62/55

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

Floor Standing Cabinet Type

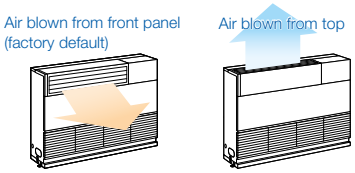
Slim & compact design

Under-window mounting does not block lighting.
Indoor unit size of 2.2 to 7.1 kW models is the same.

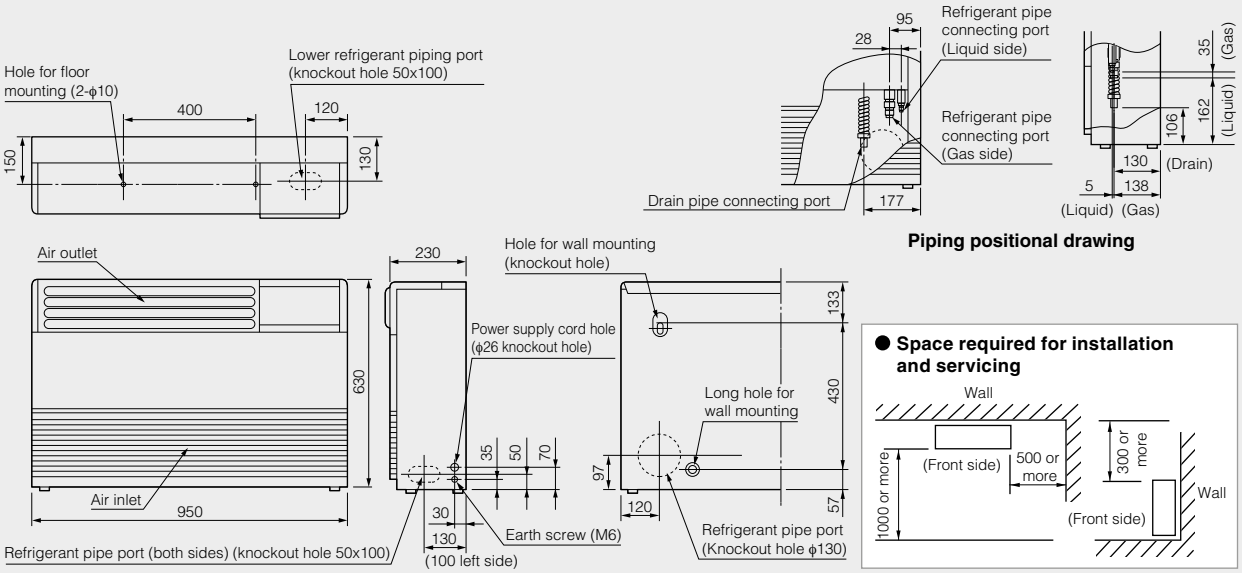
Air exits from front or top

Distribution can be reversed to suit occupant preference.

MML-AP*4H1-E**



MML-AP0074H1-E to AP0244H1-E



Technical specifications

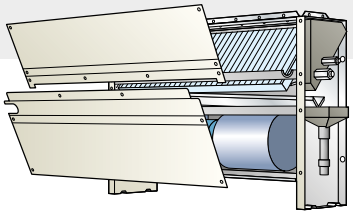
Model name		MML-	AP0074H1-E	AP0094H1-E	AP0124H1-E	AP0154H1-E	AP0184H1-E	AP0244H1-E
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power requirements		1-phase 50 Hz 230 V (220–240 V) (Separate power supply for indoor unit is required)/1-phase 60 Hz 220 V					
	Power consumption 50 Hz/60 Hz	(kW)	0.056/0.053		0.092/0.092		0.102/0.113	
External dimensions	Height	(mm)	630					
	Width	(mm)	950					
	Depth	(mm)	230					
Total weight		(kg)	37				40	
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	480/420/360		900/780/650		1080/930/780	
	Motor output	(W)	45				70	
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9
	Liquid side	(mm)	ø6.4					ø9.5
	Drain port	(nominal dia.)	20 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	39/37/35		45/41/38		49/44/39	
Sound pressure level (High/Mid/Low)		(dB(A))	54/52/50		60/56/53		64/59/54	

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

Floor Standing Concealed Type

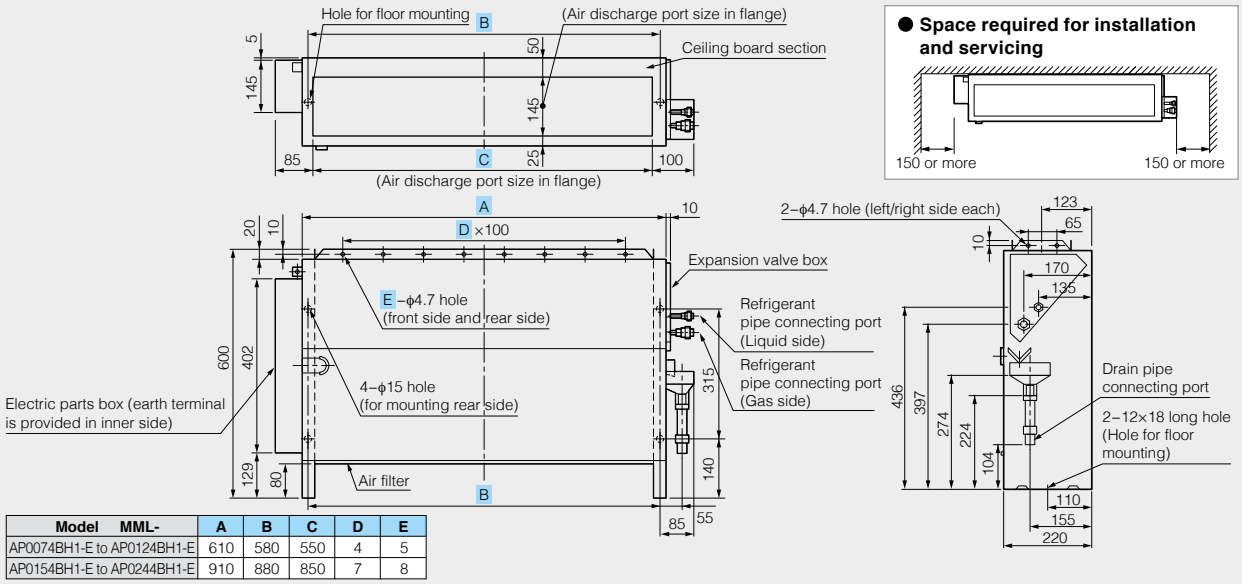
Cool air makes for a pleasant indoor environment
Install it under a window and air-condition any room effectively.

Easy maintenance
Simplified design of fan and drainage pipe eases maintenance.



MML-AP*4BH1-E**

MML-AP0074BH1-E to AP0244BH1-E



Model MML-	A	B	C	D	E
AP0074BH1-E to AP0124BH1-E	610	580	550	4	5
AP0154BH1-E to AP0244BH1-E	910	880	850	7	8

Technical specifications

Model name		MML-	AP0074BH1-E	AP0094BH1-E	AP0124BH1-E	AP0154BH1-E	AP0184BH1-E	AP0244BH1-E
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power requirements		1-phase 50 Hz 230 V (220–240 V)/1-phase 60 Hz 220 V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	(kW)	0.056/0.058			0.090/0.096		0.095/0.110
External dimensions	Height	(mm)	600					
	Width	(mm)	745			1045		
	Depth	(mm)	220					
Total weight		(kg)	21			29		
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	460/400/300			740/600/490		950/790/640
	Motor output	(W)	19			70		
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9
	Liquid side	(mm)	ø6.4					ø9.5
	Drain port	(nominal dia.)	20 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	36/34/32					42/37/33
Sound power level (High/Mid/Low)		(dB(A))	54/52/50					60/55/51

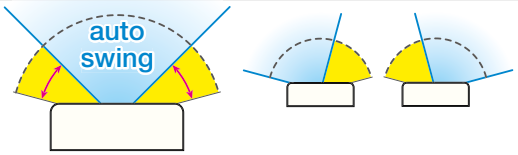
Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

Floor Standing Type

Thin profile suits interior design
Slender, space-saving type (1.7–8.0HP).

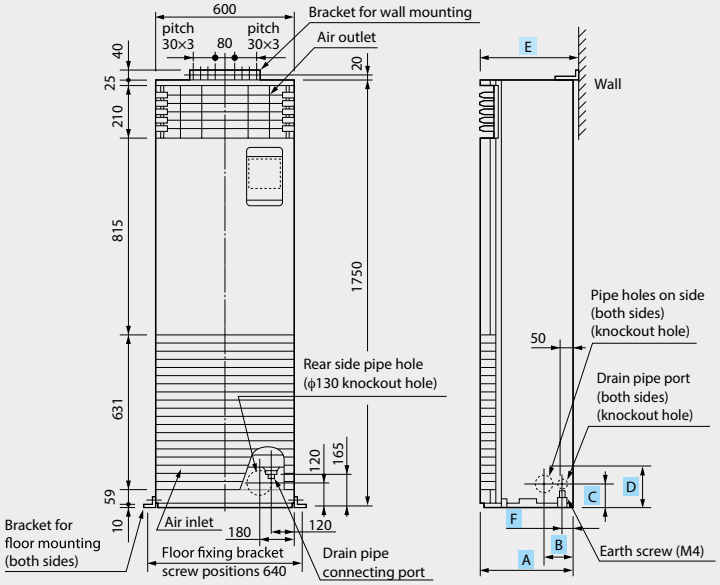
Wide outlet
Corner location is also possible, with right and left auto swing.

Set the vertical angle manually.

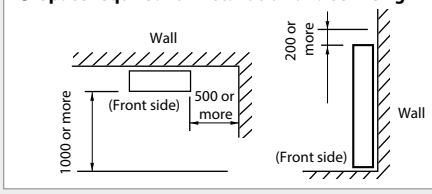


MMF-AP*6H1-E**

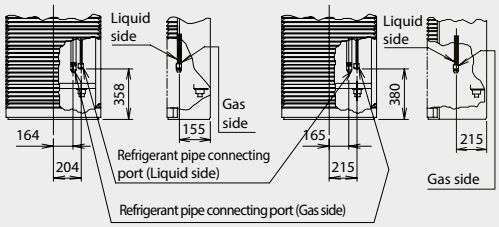
MMF-AP0156H1-E to AP0566H1-E



● Space required for installation and servicing



Model MMD-	A	B	C	D	E	F
AP0154H1-E to AP0274H1-E	200	107	132	157	210	50
AP0364H1-E to AP0564H1-E	380	125	120	160	390	40



Refrigerant piping position

Technical specifications

Model name		MMF-	AP0156H1-E	AP0186H1-E	AP0246H1-E	AP0276H1-E	AP0366H1-E	AP0486H1-E	AP0566H1-E
Cooling/Heating capacity*1		(kW)	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0	16.0/18.0
Electrical characteristics	Power requirements		1-phase 50 Hz 230 V (220–240 V) (Power exclusive for indoor is required.)/1-phase 60 Hz 220 V						
	Power consumption	(kW)	0.055		0.089		0.135	0.160	
External dimensions	Height	(mm)	1750						
	Width	(mm)	600						
	Depth	(mm)	210				390		
Total weight		(kg)	46		47		62		
Fan unit	Standard air flow (High/Mid/Low)	(m³/h)	900/780/660		1200/990/840		1920/1680/1380	2160/1730/1560	
	Motor output	(W)	62				109		
Connecting pipe	Gas side	(mm)	ø12.7						
	Liquid side	(mm)	ø6.4		ø9.5				
	Drain port	(nominal dia.)	20 (polyvinyl chloride tube)						
Sound pressure level*2 (High/Mid/Low)		(dB(A))	46/42/37		49/45/39		51/46/41	54/49/44	
Sound power level (High/Mid/Low)		(dB(A))	64/60/55		67/63/57		69/64/59	72/67/62	

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB.
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

Air to Air Heat Exchanger with DX-coil

Greater comfort and reduced load
Functionality built into cooling system reduces load on cooling beyond that of the heat exchenger itself. This improves air quality and ensures maximun comfort throughout room being cooled.

Free cooling at night
When the air outdoor is cooler at night, the system expels warm air from the room. This reduces the air conditioning load the next day for improved energy efficiency.

Remote controller
NRC-01HE

Flexible control
Supply and exhaust fan speed ratios can be changed for improved air volume control that best matches the needs of the environment and location.

MMD-VN(K)*HEX1E/HEX1E2**

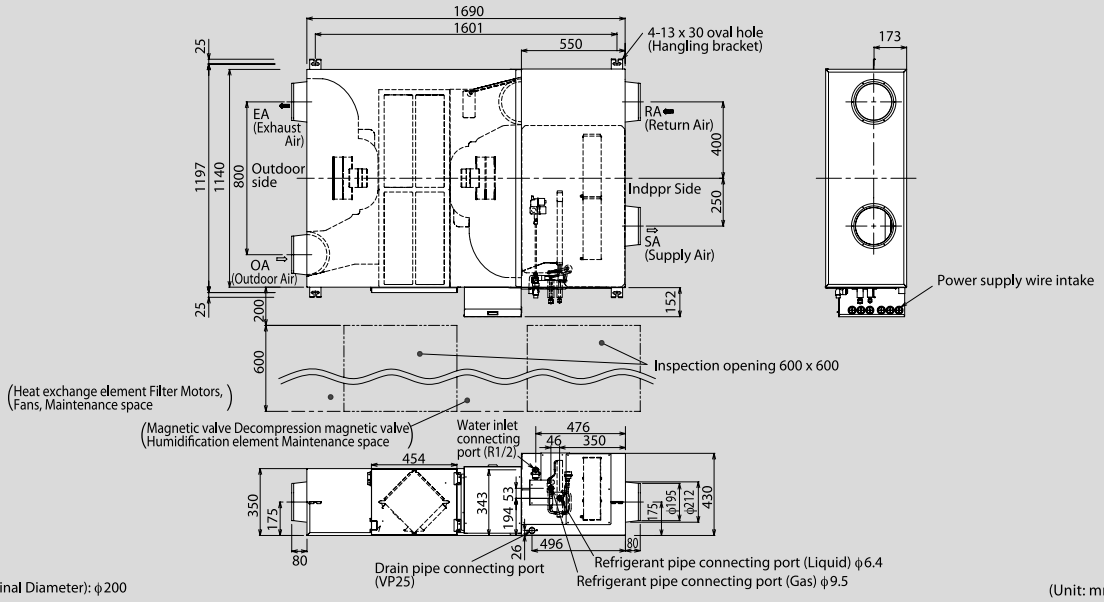
*Limitations
The total capacity of indoor units combined should be within 80 - 135% of the capacity of the outdoor unit.
The capacity of the air to air heat exchanger should be no more than 30% of the capacity of the outdoor unit.

Technical specifications

Model name				MMD-VK(K)502HEX1E	MMD-VK(K)802HEX1E	MMD-VK(K)1002HEX1E
Fresh air conditioning load	Cooling(*1)		kW	4,10 (1,30)	6,56 (2,06)	8,25 (2,32)
	Heating (*1)		kW	5,53 (2,33)	8,61 (3,61)	10,92 (4,32)
Power supply						
Temperature exchange efficiency power input (Heat exchange mode)		Extra high	%	70,5	70,0	65,5
		High	%	70,5	70,0	65,5
		Low	%	71,5	72,5	67,5
Enthalpy exchange efficiency	Colling	Extra high	%	56,5	56,0	52,0
		High	%	56,5	56,0	52,0
		Low	%	57,5	59,0	54,0
	Heating	Extra high	%	68,5	70,0	66,0
		High	%	68,5	70,0	66,0
		Low	%	69,0	73,0	68,5
Power input (heat exchange mode)		Extra high	kW	0,300	0,505	0,550
		High	kW	0,280	0,465	0,545
		Low	kW	0,235	0,335	0,485
Running current		Extra high	A	1,30	2,25	2,46
		High	A	1,21	2,07	2,43
		Low	A	1,01	1,46	2,16
Fan unit	Standard air flow	Extra high	m^3/h	500	800	950
		High	m^3/h	500	800	950
		Low	m^3/h	440	640	820
	External static pressure	Extra high	Pa	120	120	135
		High	Pa	105	100	120
		Low	Pa	115	100	105
	Air flow limit	Lower limit	m^3/h	330	480	640
		Upper limit	m^3/h	600	960	1140
Sound pressure		Extra high	dB	37,5	41,0	43,0
		High	dB	36,5	40,0	42,0
		Low	dB	34,5	38,0	40,0
Appearance				Zinc hot dipping steel plate		
Outer dimension		Height	mm	430	430	430
		Width	mm	1140	1189	1189
		Depth	mm	1690	1739	1739
Total weight			kg	84	100	101
Heat exchanger				Finned tube		
Heat – insulating material				Flexible urethane foam		
Air filter				Standard filter (Gravitational method 82%) & High efficiency filter (Colorimetric method 65%)		
Controller				Remote controller (separately sold parts)		
Connecting piping	Gas side		mm	Ø9,5	Ø12,7	Ø12,7
	Liquid side		mm	Ø 6,4	Ø6,4	Ø6,4
Drain port (nominal dia. mm)				25 (Polyvinyl chloride tube)		

*1 Cooling and heating capacities are based on the following conditions: Cooling capacities are based on: indoor temperature: 27°CDB/19°CWB, Outdoor temperature: 35°CDB
Heating capacities are based on: indoor temperature: 20°CDB, Outdoor temperature: 7 °CDB/6°CWB Fan is based on Extra High and High. The figures in () indicate the heat reclaimed from the heat recovery ventilator. When calculating the capacity mode as indoor units, please use as below : MMD-VN502HEXE : 1HP, MMD-VN802HEXE : 1,7HP, MMD-VN1002HEXE : 2,0HP.

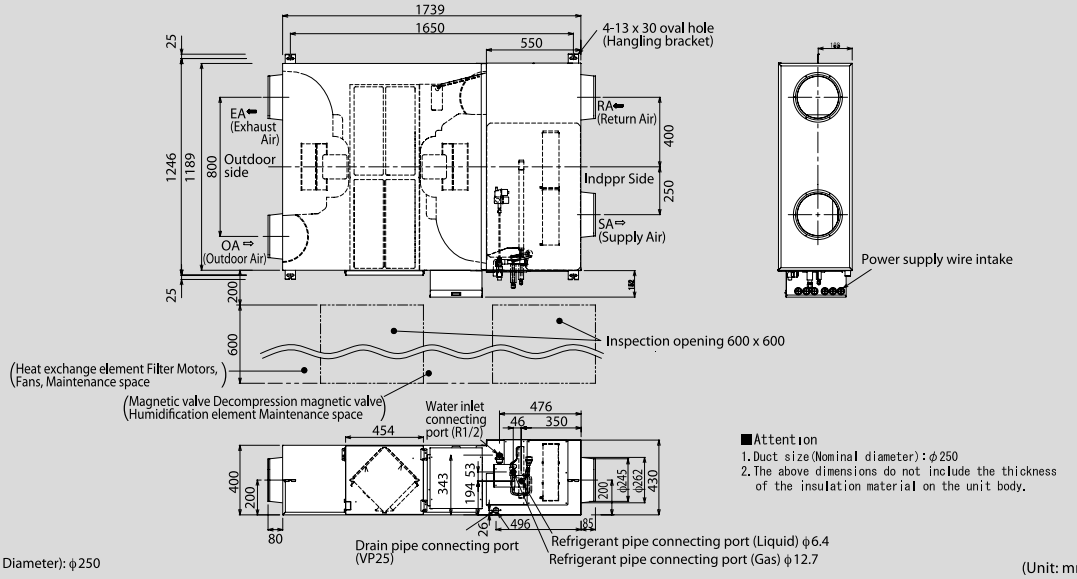
MMD-VN(K)502HEX1E



Duct size (Nominal Diameter): ϕ200

(Unit: mm)

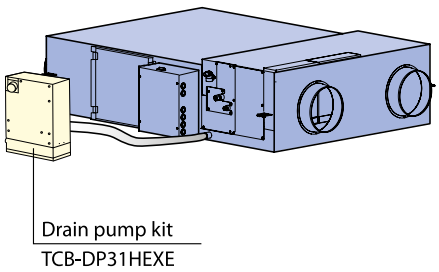
MMD-VN(K)802HEX1E to VN(K)1002HEX1E2



Duct size (Nominal Diameter): ϕ250

(Unit: mm)

Options



Fresh Air Intake

It's the ideal solution for schools, hospitals, offices and all the buildings that require fresh air ventilation (in limited quantity), without any further exclusive system, where the there is insufficient outdoor space to install a large air handling unit or whenever zoning of a building with different independent small tenant areas are clearly defined.

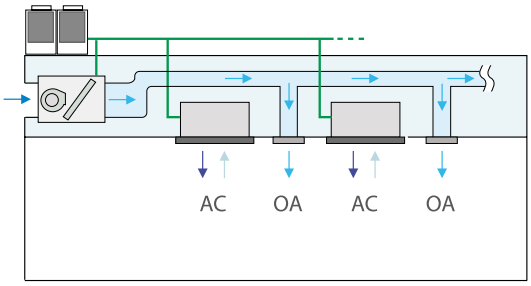
Pre-heat, pre-cool functions (discharge temperature setting range from 16°C to 27°C).

Standard and High-performance filters available as an option.

Compatible with DX coil.

External static pressure available up to 230 Pa.

MMD-AP*HFE**



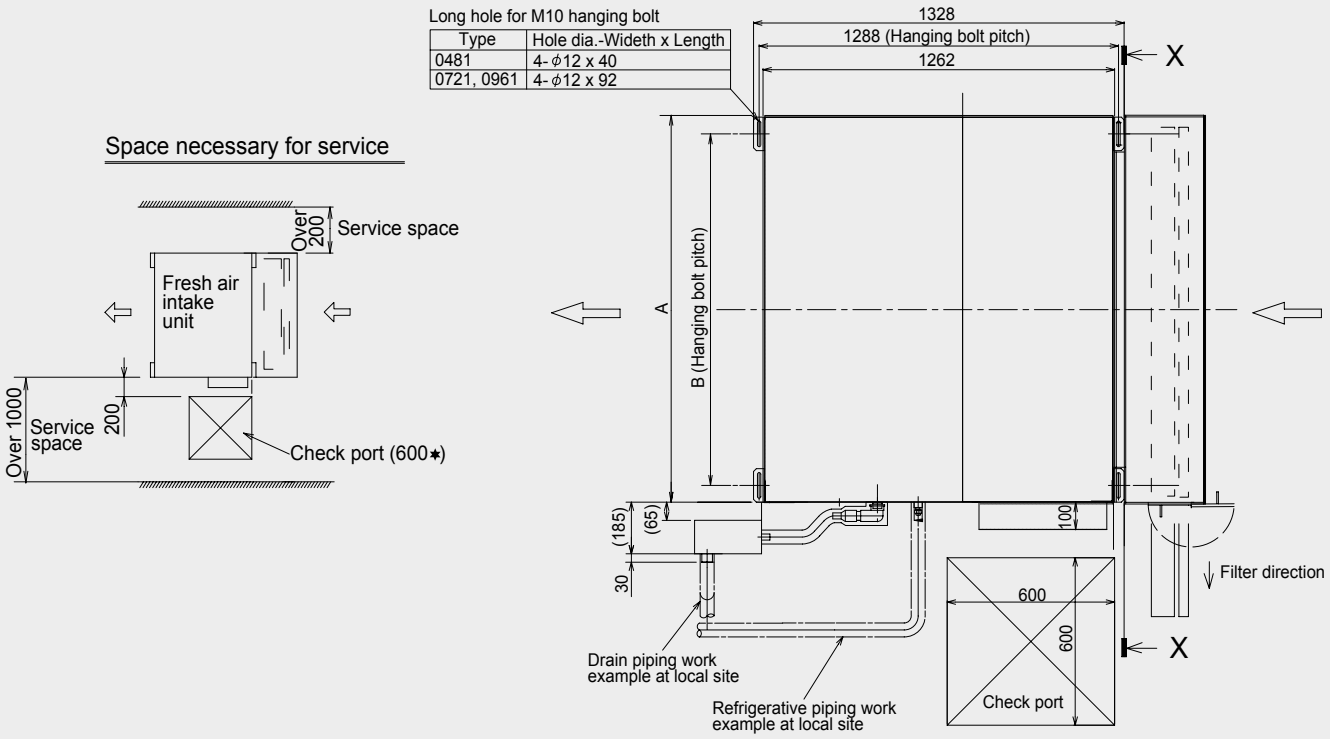
Working principle

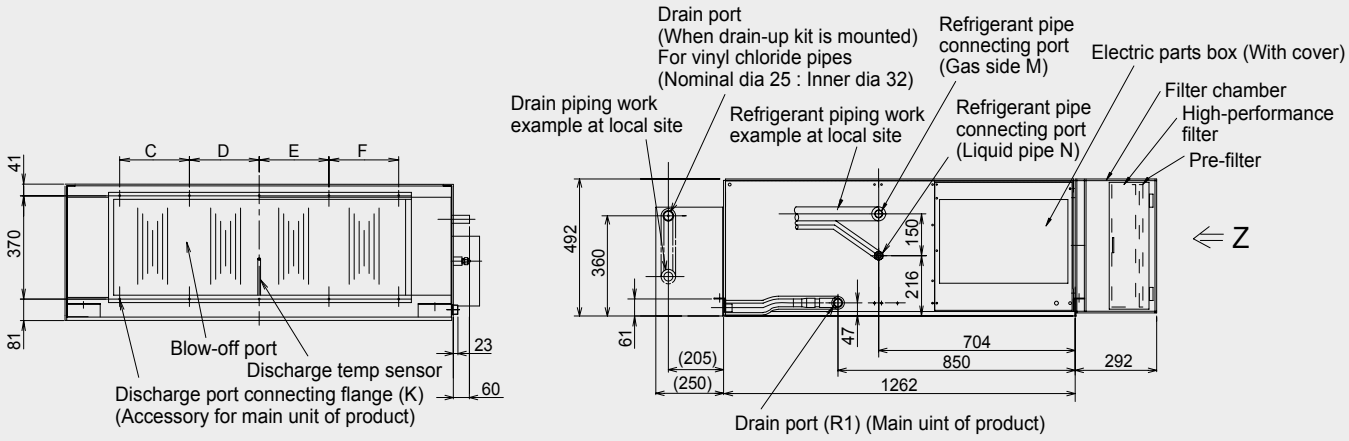
A fan takes the outside air, pass it through the filter, the coil and then enter in the ductwork to be distributed to different parts of the building.

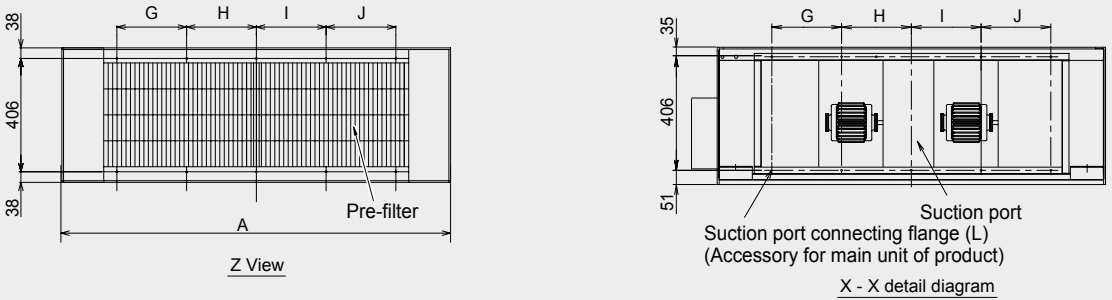
Technical specifications

Indoor unit	MMD-	AP0481HFE	AP0721HFE	AP0961HFE
Cooling capacity	kW	14,0	22,4	28,0
Heating capacity	kW	8,9	13,9	17,4
Power input	kW	0,28	0,45	0,52
Running current	A	1,43	2,52	2,73
Starting current	A	3,5	7,0	7.0
Air Flow (h)	m^3/h	1080	1680	2100
Sound pressure level (h/m/l)	dB(A)	45/43/41	46/45/44	46/45/44
Sound power level (h/m/l)	dB(A)	60/58/56	61/60/59	61/60/59
Dimensions (HxWxD)	mm	492x892x1262	492x1392x1262	492x1392x1262
Weight	kg	93	144	144
Connecting pipe, gas	in	5/8''	7/8"	7/8"
Connecting pipe, liquid	in	3/8''	1/2"	1/2"
Drain port diameter	mm	25	25	25
Operating range - Cooling	°C	5÷43	5÷43	5÷43
Operating range - Heating	°C	-5÷43	-5÷43	-5÷43
Power supply	V-ph-Hz	220/240-1-50		
Air Filter			Option or field supply	
External static pressure (l/m/h)	Pa	170-210-230	140-165-180	160-190-205
		(Factory setting)/210	(Factory setting)/165	(Factory setting)/190

MMD-AP***HFE







AP0961HFE	1392	1260	250	250	250	250	250	250	250	250	10-M6	10-M6	φ22.2 brazing	φ12.7 flare
AP0721HFE	1392	1260	250	250	250	250	250	250	250	250	10-M6	10-M6	φ22.2 brazing	φ12.7 flare
AP0481HFE	892	810	215	107.5	107.5	215	—	250	250	—	8-M6	6-M6	φ15.9 flare	φ9.5 flare
Model MMD-	A	B	C	D	E	F	G	H	I	J	K	L	M	N

MM-DXC

DX COIL

Connection Kit to Air Handling Unit

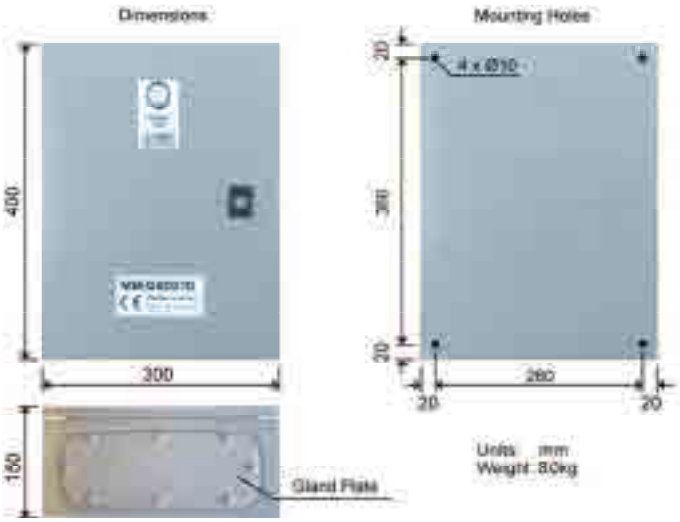
Currently, fresh air intake is normally achieved using be-spoked stand-alone air handling units. These third party AHU's pre-condition the ambient fresh air to roughly match that of the conditioned space.

The Direct Expansion Coil Interface (DX) enables the connection of a TOSHIBA Outdoor unit to a third party Air Handling Unit (AHU) for fresh air intake.

External ON/OFF input.

Air temperature control achieved using TA sensor positioned in return air stream (set with remote controller).

MM-DXC010	DX Coil Controller (Individual / Header)
MM-DXC012	DX Coil Controller (Follower)
MM-DXV080	DX Coil Valve Kit (5.6kW, 7.1kW, 8.0kW)
MM-DXV140	DX Coil Valve Kit (11.2kW, 14.0kW, 16.0kW)
MM-DXV280	DX Coil Valve Kit (22.4kW, 28.0kW)



Total Size (individual)	HP	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0
MM-DX010	-	1	1	1	1	1	1	1	1
MMDXC012	-	-	-	-	-	-	-	-	-
MM-DXV080	2	1							
	2.5		1						
	3			1					
MM-DXV140	4				1				
	5					1			
	6						1		
MM-DXV280	8							1	
	10								1
Nominal Cooling Capacity (KW)		5,5	7,1	8.0	11,2	14.0	16.0	22,4	28
Nominal Heating Capacity (KW)		6,3	8.00	9.00	12,5	16.0	18.0	25.0	31,5
Minimum Air Volume flow rate (m3/hr)		720	1060	1060	1280	1680	1850	2880	3360
Standard Air Volume flow rate (m3/hr)		900	1320	1320	1600	2100	2800	3600	4200
Maximum Air Volume Flow Rate (m3/hr)		1080	1580	1580	1820	2520	3740	4320	5040

Total Size (Group 12HP - 30HP)	HP	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0
MM-DXC010	-	1	1	1	1	1	1	1	1	1	1
MM-DXC012	-	1	1	1	1	1	2	2	2	2	2
MM-DXV080	2										
	2.5										
	3										
MM-DXV140	4										
	5										
	6	2	1				1				
MM-DXV280	8		1*	2	1		2*	3	2	1	
	10				1*	2			1*	2*	3
Nominal Cooling Capacity (KW)		32.0	38.4	44.8	50.4	56.0	60.8	67.2	72.8	78.4	84.0
Nominal Heating Capacity (KW)		36.0	43.0	50.00	56.5	63.0	68.0	75.0	81.5	88.0	94.5
Minimum Air Volume flow rate (m3/hr)		3700	4730	5760	6240	6720	7610	8640	9120	9600	10080
Standard Air Volume flow rate (m3/hr)		5600	5400	7200	7800	8400	10000	10800	11400	12000	12500
Maximum Air Volume Flow Rate (m3/hr)		7480	8060	8640	9360	10080	12380	12950	13680	14400	15120

Total Size (Group 32HP - 48HP)	HP	32	34	36	38	40	42	44	46	48
MM-DXC010	-	1	1	1	1	1	1	1	1	1
MM-DXC012	-	3	3	3	3	3	4	4	4	4
MM-DXV280	8	4	3	2	1		4	3	2	1
	10		1*	2*	3*	4*	1*	2*	3*	4*
Nominal Cooling Capacity (KW)		89.6	95.2	100.8	106.4	112	117.6	123.2	128.8	134.4
Nominal Heating Capacity (KW)		100.00	106.5	113.0	119.5	126.0	131.5	138.0	144.5	151.0
Minimum Air Volume flow rate (m3/hr)		11520	12000	12480	12960	13440	14880	15360	15840	16320
Standard Air Volume flow rate (m3/hr)		14400	15000	15600	16200	16800	18600	19200	19800	20400
Maximum Air Volume Flow Rate (m3/hr)		17280	18000	18720	19440	20160	22320	23040	23760	24480

*In GROUP combination the Header Controller (MM-DXC010) MUST BE CONNECTED TO THE LARGEST DX Valve Kit.

Cooling & Heating output figures are based on calculations and general test data.
All figures are to be taken as approximations.

The properties of the DX coils (by others) will have an effect on the performance of the outdoor units.
All capacity data shown in this brochure is based on the following conditions:

Cooling: indoor air temperature 27°C db / 19°C wb, outdoor air temperature 35°C db.
Heating: indoor air temperature 20°C db, outdoor air temperature 7°C db / 60°C wb.

HOT WATER MODULE

Create a single solution for our customers heating, cooling and domestic hot water requirements. Design and produce a low temperature hot water module, capable of producing up to 50°C outlet water temperature, whilst maximizing the performance and efficiency of the entire VRF system.

New Design, specifically engineered for VRF application.

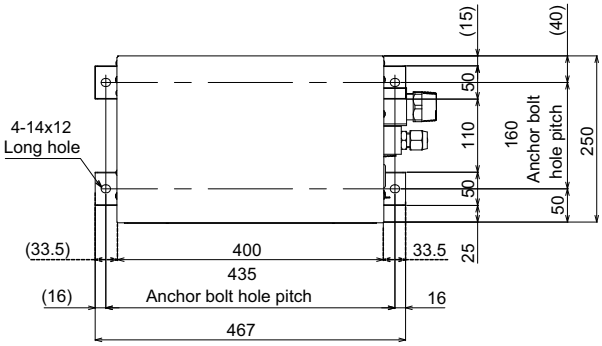
Operating Control designed specifically to maximize both performance and efficiency.

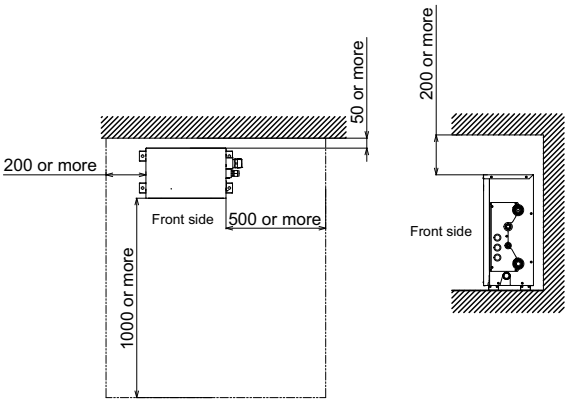
Technical specifications

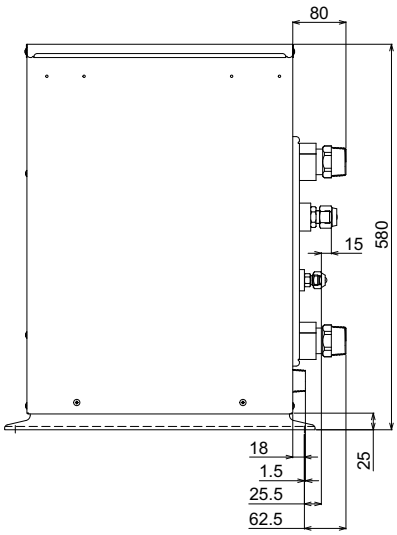
Model				MMW	AP0271LQ-E	AP0561LQ-E
Heating capacity *1				kW	8.0	16.0
Electrical characteristics	Power supply *2				1 phase 50 Hz 230 V (220 - 240 V)	
	Running current			A	0.08	0.08
	Power consumption			W	14	14
Appearance					Zinc hot dipping steel plate	
Dimension	Unit	Height		mm	580	
		Width (leg included)		mm	400 (467)	
		Depth		mm	250	
	Packed *3	Height		mm	357	
		Width		mm	638	
		Depth		mm	833	
Weight	Unit			kg	17.8	20.3
	Packed			kg	23	25
Design Pressure	Refrigerant side			MPa	3.73	
	Water side			MPa	1.0	
Heat exchanger					Plate type heat exchanger	
Heat-insulating material					Polyethylene foam + Polyurethane foam	
Water flow rate	Standard			L/min	22.9	45.8
	Min.			L/min	19.5	38.9
Water pressure loss (at standard water flow rate)				kPa	40.5	44.2
Controller					Remote controller	
Operation range	Ambient	indoor Allowable dew point		°CDB	5 - 32	
				°CWB	23 or less	
				RH(%)	30 - 85	
		Outdoor (at heating)		°CWB	-20 - 19	
	Water inlet side			°C	15 or more and 45* or less	
	Water outlet side			°C	25 - 50	
Water filter					Strainer with Mesh 30 to 40 (procured locally)	
Connecting pipe	Water pipe	Inlet			R1 - 1/4	
		Outlet			R1 - 1/4	
	Refrigerant pipe	Gas pipe		mm	φ15.9 flare connection	
		Liquid pipe		mm	φ9.5 flare connection	
	Drain pipe				R1	
Sound pressure level				dB(A)	25	27

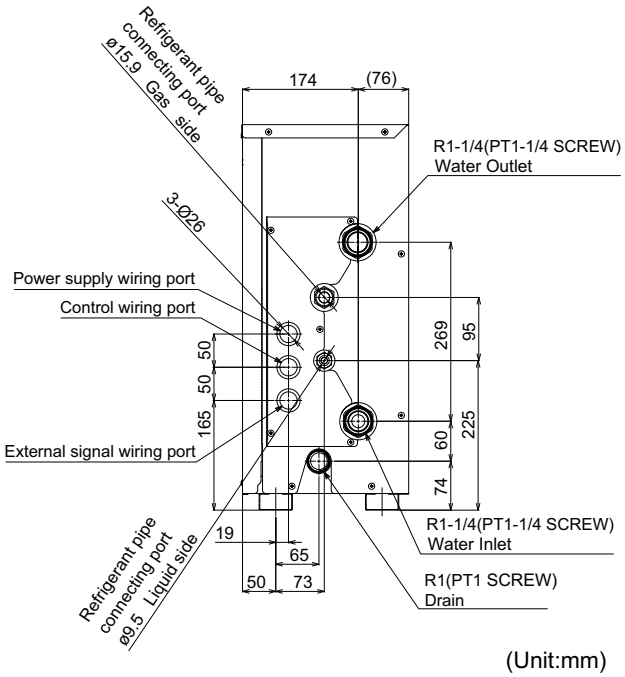
*Up to 50°C, with an external heater (locally supplied)

Capacity line up - 8kW & 16kW
All models come in single phase (220 – 230V ~ 50Hz)
Maximum 50% HWM to FCU diversity
(Max 2 HWM's per refrigerant system)
Maximum system diversity 90 - 105%
Max COP 4.52 (8Hp – 100% demand)
Outdoor operation range
Heating: -20C to TBC WB
Hot water: -20C to TBC WB









(Unit:mm)

*1: Rated conditions: entering condenser water temp. 30 ºC leaving condenser water temp. 35 ºC Outdoor air temp. 7 ºCDB / 6 ºCWB
The standard piping means that mean pipe length is 5 m, branching pipe length is 2.5 m of branch piping connected with a 0 meter height.
*2: The source voltage must not fluctuate more than ±10 %.
*3: The unit is packed in a sideways state.
*4: This specification is value as of May, 2014, please note that specification is subject to change without notice.

Remote controller
NRC-01HE

Air to Air Heat Exchanger

Greater comfort and reduced load
Easily integrated into air conditioning systems of 150m3/h to 2000m3/h air volume, the air-to-air heat exchangers use exhaust air to pre-condition the incoming air, thus reducing the cooling or heating load and the overall size of the required system.

Easy maintenance
The heat exchange element can be washed in water.

Free cooling at night
When the air outdoors is cooler at night, the system expels warm air from the room. This reduces the air conditioning load the next day for improved energy efficiency.

Flexible control
Supply and exhaust fan speed ratios can be changed for improved air volume control that best matches the needs of the environment and location.

*3 Does not connect to refrigerant piping from outdoor unit. Control wires can be connected.

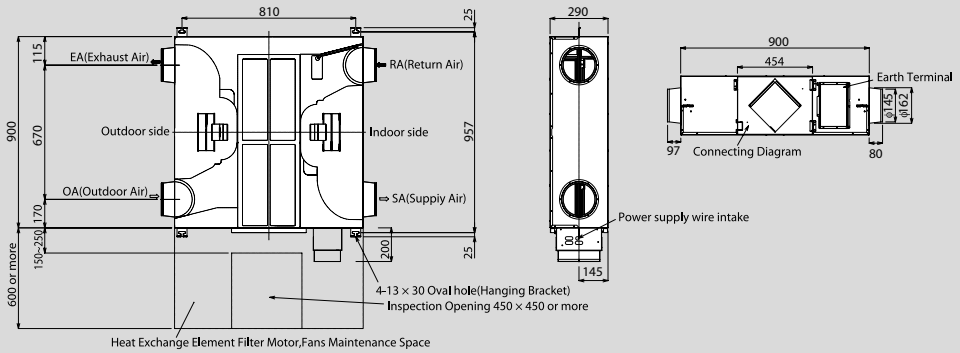
VNM*HE**

Technical specifications

Model name			VN-	M150HE	M250HE	M350HE	M500HE	M650HE	M800HE	M1000HE	M1500HE	M2000HE
Power supply (V)	Fan speed			1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)								
Power consumption 50Hz/60Hz (W)	(Extra high)			68-78	123-138	165-182	214-238	262-290	360-383	532-569	751-786	1084-1154
	High			59-67	99-111	135-145	176-192	240-258	339-353	494-538	708-784	1032-1080
	Low			42-47	52-59	82-88	128-142	178-191	286-300	353-370	570-607	702-742
Air volume (m^3/h)	(Extra high)			150	250	350	500	650	800	1000	1500	2000
	High			150	250	350	500	650	800	1000	1500	2000
	Low			110	155	210	390	520	700	755	1200	1400
External static pressure (Pa)	(Extra high)			82-102	80-98	114-125	134-150	91-107	142-158	130-150	135-156	124-143
	High			52-78	34-65	56-83	69-99	58-82	102-132	97-122	103-129	92-116
	Low			47-64	28-40	65-94	62-92	61-96	76-112	84-127	112-142	110-143
Sound pressure level (dB(A))	(Extra high)			26-28	29.5-30	34-35	32.5-34	34-36	37-38.5	39.5-40.5	38-39	41-42.5
	High			24-25.5	25-27	30-32	29.5-31	33-34	35.5-37	38.5	36.5-37.5	39.5-41
	Low			20-22	21-22	27-29	26-29	31-32.5	33.5-35	34-35.5	36-37.5	37-38
Temperature exchange efficiency (%)	(Extra high)			81.5	78	74.5	76.5	75	76.5	73.5	76.5	73.5
	High			81.5	78	74.5	76.5	75	76.5	73.5	76.5	73.5
	Low			83	81.5	79.5	78	76.5	77.5	77	79	77.5
Enthalpy exchange efficiency (%)	for heating	(Extra high)		74.5	70	65	72	69.5	71	68.5	71	68.5
		High		74.5	70	65	72	69.5	71	68.5	71	68.5
		Low		76	74	71.5	73.5	71.5			73.5	72
	for cooling	(Extra high)		69.5	65	60.5	64.5	61.5	64	60.5	64	60.5
		High		69.5	65	60.5	64.5	61.5	64	60.5	64	60.5
		Low		71	69	67	66.5	64	65.5	64.5	67	65.5
Dimensions (Length x Width x Height) (mm)				900 x 900 x 290			1140 x 1140 x 350		1189 x 1189 x 400		1189 x 1189 x 810	
Weight (kg)				36		38	53		70		143	
Duct diameter (mm)				100	150		200		250		inside: 250, outside: 283 x 730	
Filtration efficiency grade %				82								
Operating range	Around unit			-10°C – 40°C 80% RH or less								
	Outdoor Air (OA)			-15°C (*1) – 43°C RH								
	Return Air (RA)			5°C – 40°C 0% RH or less								

* Air volume can be changed over to high (extra high) mode or low mode.
* Sound pressure level is measured 1.5m below the center of the unit.
*Sound pressure level is the value which was measured at the acoustic room.
*The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.
* Sound pressure level is less than 70 dBA

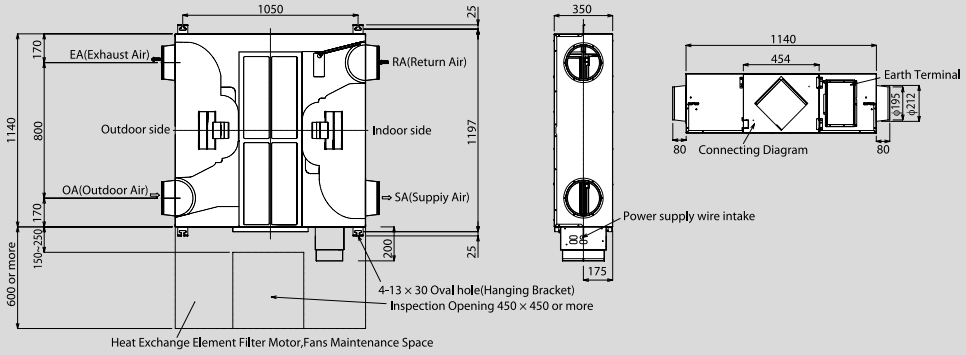
MMD-VNM150HE to VNM350HE



(Unit: mm)

Duct size (Nominal Diameter): ϕ150

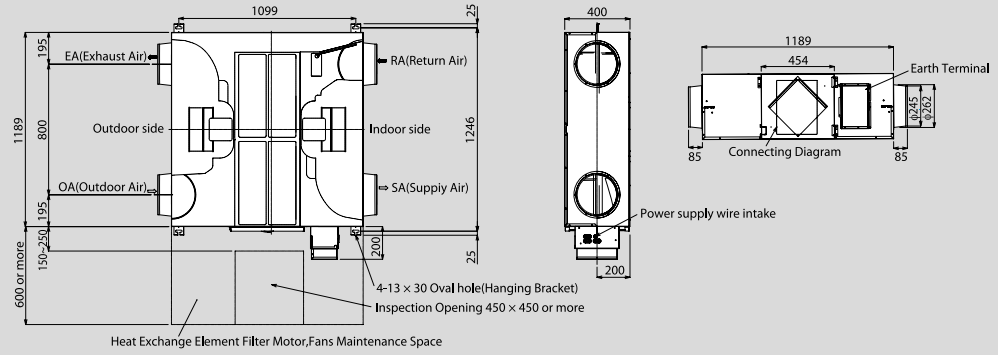
MMD-VNM500HE, VNM650HE



(Unit: mm)

Duct size (Nominal Diameter): ϕ200

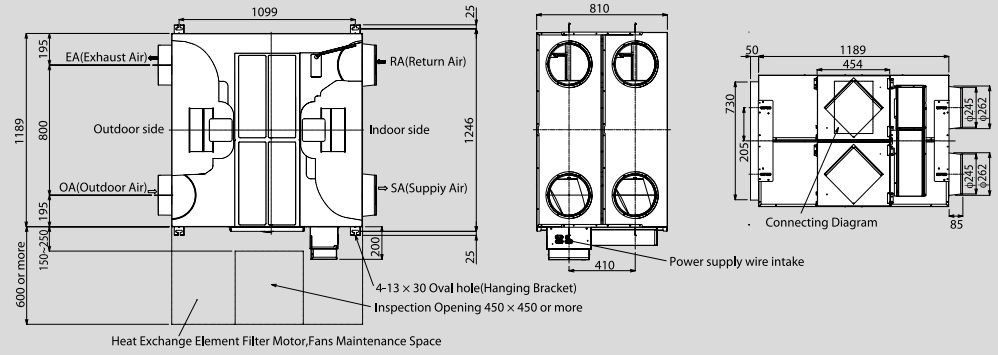
MMD-VNM800HE, VNM1000HE



(Unit: mm)

Duct size (Nominal Diameter): ϕ250

MMD-VNM1500HE, VNM2000HE



(Unit: mm)

Duct size (Nominal Diameter): ϕ250

TOSHIBA
Leading Innovation

The Control Range

REGULATE AND MONITOR THE SYSTEM OPERATIONS

CONTROLS

LOCAL CONTROLS - INDIVIDUAL SETTINGS

TOSHIBA offer a number of Local Control products that can be used to control a single Indoor Unit, or group of up to 8 Indoor Units, from a position adjacent to that Indoor Unit or group.

It is possible to install these these Local Controllers up to 500m* from the connected Indoor Unit which allows greater flexibility when designing the installation. This also provides the opportunity to install the Local Controller in an area removed from the connected Indoor Unit, for example, common use areas where the Indoor Unit operation should not be changed by local users but may need to be monitored by a site engineer from a Control Room.

There are two different types of Local Remote Controller currently available from Toshiba, these are:
The Wired Remote Controller which is the standard local control device suitable for most applications, and the Wireless Remote Controller which consists of a universal Handset that can be purchased with a choice of 4 different Wireless Receiver Units that are specifically designed to suit different Indoor Unit model types.

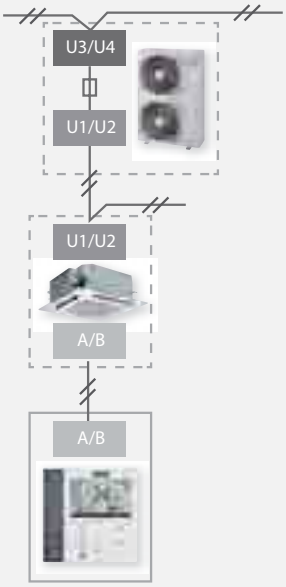
The local network

There are three different methods that can be used to connect the Local Control Device to the Indoor Unit, or group of Indoor Units:
1 to 1 connection - This method is for the connection of a single Wired Remote Controller, or Wirless Receiver Unit, to a single Indoor Unit.
Group connection - This method enables the connection of up to 8 Indoor Units to a single Wired Remote Controller, or Wireless Receiver Unit. In this configuration, up to 8 Indoor Units can be controlled simultaneously (all Indoor Units follow the same setting parameters) from a single Local Control Device.
Multiple controller connection - This method enables the connection of up to 2 Local Control Devices (Wireless Receiver Unit or Wired Controller) to a single Indoor Unit, or a group of up to 8 Indoor Units. In this configuration, Main/Sub settings must be configured for each of the connected Local Control Devices.

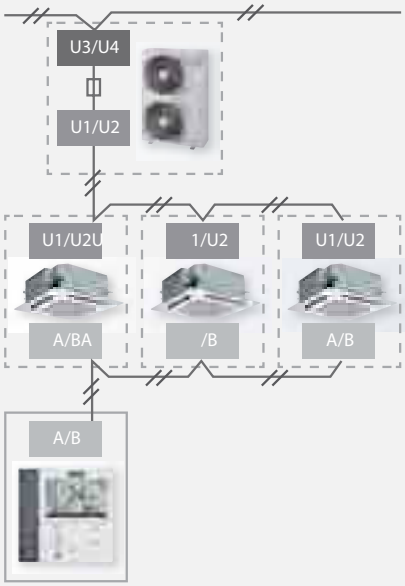
WIRELESS

WIRED

1 To 1 connection

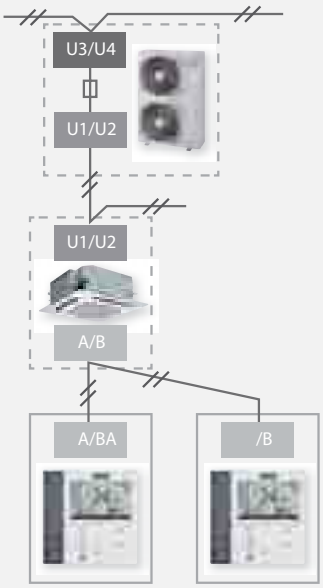


Group connection

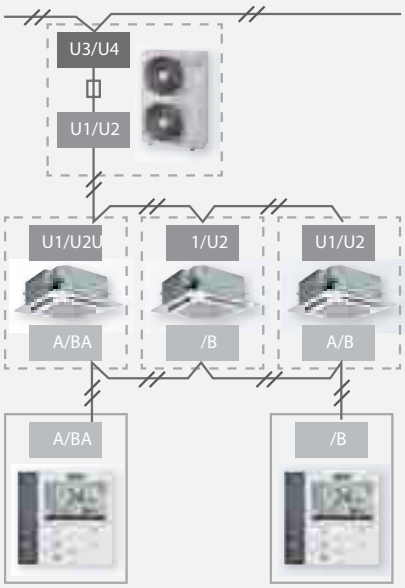


Multiple controller connection

Single Indoor Unit



Group of Indoor Units



WIRELESS REMOTE CONTROLLER

IR Remote Control

The wireless controller is available with a series of receiver unit designs. These receivers are specially designed to fit into different Indoor Unit models to provide a high standard of finish.

The wireless controller features an easy to use and compact button layout, standard control buttons immediately available and display screen to show all the main operating parameters.

Hi power mode

The high power operation mode automatically controls room temperature, airflow and operation mode so that the room is quickly cooled in summer and warmed in winter.

Quiet mode

The QUIET mode provides quiet operating status by automatically setting the fan speed to the lowest speed. It can be activated by a simple touch of the dedicated button and during operation an icon appear on the display.

Comfort sleep mode

This function is an OFF timer operation with automatic temperature and fan speed adjustment to gradually decrease the temperature during the night.
It is possible the selection of 1, 3, 5 or 9 hours for the OFF timer operation.

Wall or ceiling mountable receiver.
To be used with: all the indoor units, more specifically targeted to ducted units.

TCB-AX32E2 STAND ALONE RECEIVER

Mountable on the corner pocket of the cassette unit.
To be used with: new 4-Way cassette units.
W model is for white cassette panels.
WS model is for white/grey cassette panels.

RBC-AX32U(W)-E RBC-AX32U(WS)-E PANEL CORNER RECEIVER

Receiver mountable in the frame of the front panel.
To be used with: Ceiling units, 1-way cassette units.

RBC-AX32CE2 RBC-AX33CE2 FRONT PANEL RECEIVER

Receiver mountable in the frame of the front panel.
To be used with: new 2-way cassette units.

RBC-AX23UW(W)-E WIRELESS CONTROL KIT

WIRED CONTROLLER

RBC - AMS54E - EN

Lite-Vision plus Remote Controller

This is the new local remote controller with a built in 7-Day Timer- featuring a new multi-language LCD display with backlight, Energy Saving Options and a Return back function.

Possibility to set and display the room name to easily set-up and monitor the working parameters.
New Modern and desirable controller design with menu driven display.
Save mode by schedule timer to optimize energy consumption.
Room temperature display always available.
Two “Hot Keys” (F1, F2) for easy operation of air conditioner functions.
Easy to read layout including display of Indoor Unit Model Name and serial number.
New temperature display that can show the Indoor Unit settings in increments of 0.5°C.
Built-in backup power. Settings are kept in memories up to 48 hours in case of power failure.
Remote TA sensor available in controller.
Can be connected to a single Indoor Unit or a group of up to 8 Indoor Units.

The standard remote controller can control an individual indoor unit or a group of 8 indoor units. The remote control allows the operating parameters to be set for the indoor unit. It also allows faults to be displayed and unit configurations to be set up. The weekly timer can be fitted to this remote control.

RCB-AMT32E CLASSIC CONTROL

This is a simplified version of the standard wired remote controller and can be connected to a single Indoor Unit, or group of up to 8 Indoor Units.
The reduced function display and simplified button layout make this controller the ideal solution for hotel and office applications.

RBC-AS41E2 CLASSIC CONTROL

This controller is based on the standard wired controller but has the additional control provided by a built-in 7-day timer function making it an ideal solution for any light commercial or VRF application that requires schedule timer operations or
Night set-back control.
The 7-Day timer function can set multiple Indoor Unit parameters and can control:
Operation ON/OFF, Operation Mode, Set Temperature, Energy Saving Function*, Frost Protection Function*, button restrictions.
Restriction on button operation.

* Specific Unit Combinations only.

RBC-AMS41E REMOTE CONTROLLER WITH WEEKLY TIMER (7-DAY TIMER FUNCTION)

The Schedule Timer is an advanced control device that can be used to control Indoor Unit parameters based on a timed schedule, and has two possible modes of operation to choose from, these are:
Weekly Timer Mode.
The timer is connected to an Indoor Unit via a local or central remote controller.
Schedule Timer Mode.
The timer is connected directly to the TCC Link Central Control network and can set timer functions for up to 64 Indoor Units in up to 8 programmable control groups.

TCB-EXS21TLE SCHEDULE TIMER

CENTRAL CONTROL - GROUP SETTINGS

Toshiba offer a number of different central control solutions that can be used to control a large number of Indoor Units from a central location, such as a Reception Area, Engineering room or Office Space.
These Control devices are connected to the Air Conditioner side using Toshiba's dedicated Central Control Network, the TCC-Link , which can be used to directly connect SMMS, MiNi-SMMS, S-HRM, and SMMS-i equipment.
The TCC-Link also offers connection of Light Commercial split systems with the use of a specially designed low cost network adaptor (TCB-PCNT30TLE2)*.
* Excludes DI Flexi type Indoor Unit.

The Central Control network

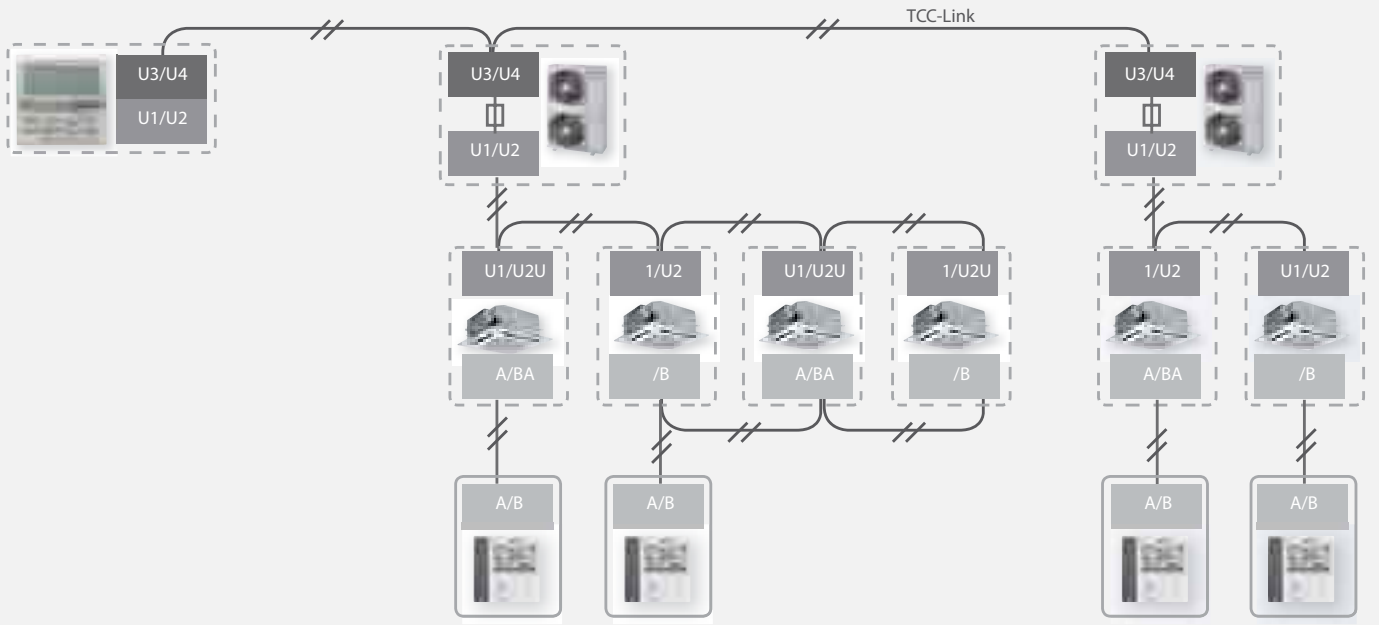
The TCC-Link Central Control Network is used for communications from the Outdoor Unit to Indoor Units in VRF systems, and for connection of TOSHIBA's Central Control devices to the Air Conditioner product.

U1/U2 connection
This is is used for Outdoor to Indoor Unit connection.

U3/U4 connection
This is used for Outdoor Unit to Outdoor Unit connection when multiple refrigerant circuits are connected to the same. TCC-Link Network.
NOTE: Increased Installation Flexibility is achieved as the TCC-Link allows Central Control Devices to be connected to either the Indoor Unit side (U1/U2) or the Outdoor Unit side (U3/U4).

ON-OFF CONTROL

ADVANCED CENTRAL CONTROL


TCC-Link
U3/U4
U1/U2
U3/U4
U1/U2
U3/U4
U1/U2
U1/U2U
A/BA
1/U2
/B
U1/U2U
A/BA
1/U2U
/B
1/U2
A/BA
U1/U2
/B
A/B
A/B
A/B
A/B

The TCB-CC163TLE2 is a 16-Way ON-OFF controller for use with VRF, DI and SDI equipment (excludes DI Flexi Type).
It is a simplified Central Control device that can be connected to up to 16 Indoor Units via the TCC-Link network to provide simple "1 touch" ON-OFF control and for all connected Indoor Units.

TCB-CC163TLE2 ON-OFF CONTROLLER

This Controller is an advanced Central Control device that can be connected to up to 128 Indoor Units (2 x 64 IDU TCC-Link Connections). The High-Spec model has the same hardware control function as the standard version, but also has the ability of control from a Local Area Network and, with the addition of an additional Interface, is capable of Energy Monitoring and report creation functions. This controller is ideal where advanced control, Energy Monitoring, advanced scheduling or access to individual air Conditioners is required from networked computer systems.

BMS-CM1280TLE CENTRAL REMOTE CONTROLLER

The Smart Manager has the same hardware Control Function as the Compliant Manager, but also has the ability of control from a Local Area Network and, with the use of an additional Interface, is capable of Energy Monitoring and Report Creation Functions.

BMS-S M1280HTLE STANDARD SMART MANAGER

BMS-SM1280ETLE

SMART MANAGER - WEB BROWSER CONTROL SOFTWARE

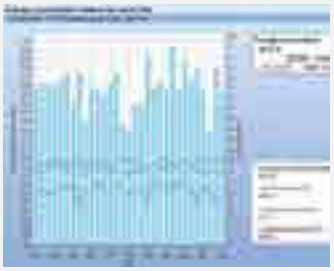
The Smart Manager has the same hardware Control Function as the BMS-CM1280TLE Controller, but also has the ability of control from a Local Area Network and, with the use of an additional Interface, is capable of Energy Monitoring and Report Creation Functions.

This controller is ideal where advanced control, Energy Monitoring, advanced scheduling or access to individual Air Conditioners is required from networked computer systems.

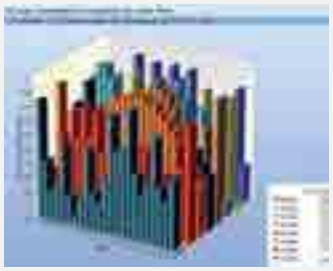
Same Hardware control features as the BMS-CM1280TLE Controller.
Can be connected to a single PC or LAN to allow advanced control functions from a Multi-Language Web Browser Display Screen.
Energy Monitoring and report creation functions available.
Advanced operation & master schedules can be set on a calendar.
Additional Digital I/O Device Available.
Thin profile controller and separate power supply unit enables easy installation.

Data analyzer

On a connected local supplied personal computer is possible to view data analysis and energy monitoring.
Advanced operations and settings can be managed with this tool: Set temperature restrictions, save operation modes, peak cut controls on condensing unit.
A set of graphs and detailed reports will help to easily monitor the performance of the system.

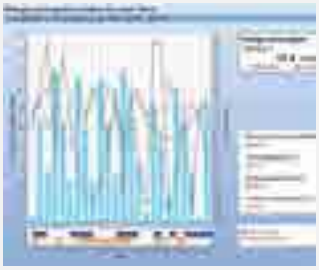


Energy consumption history (days)



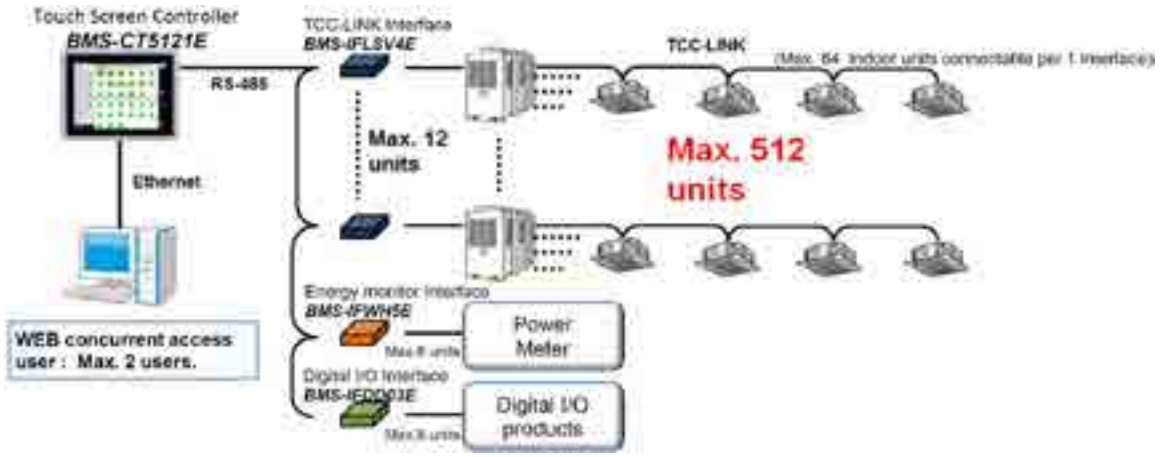
Energy consumption comparison

Alarm list

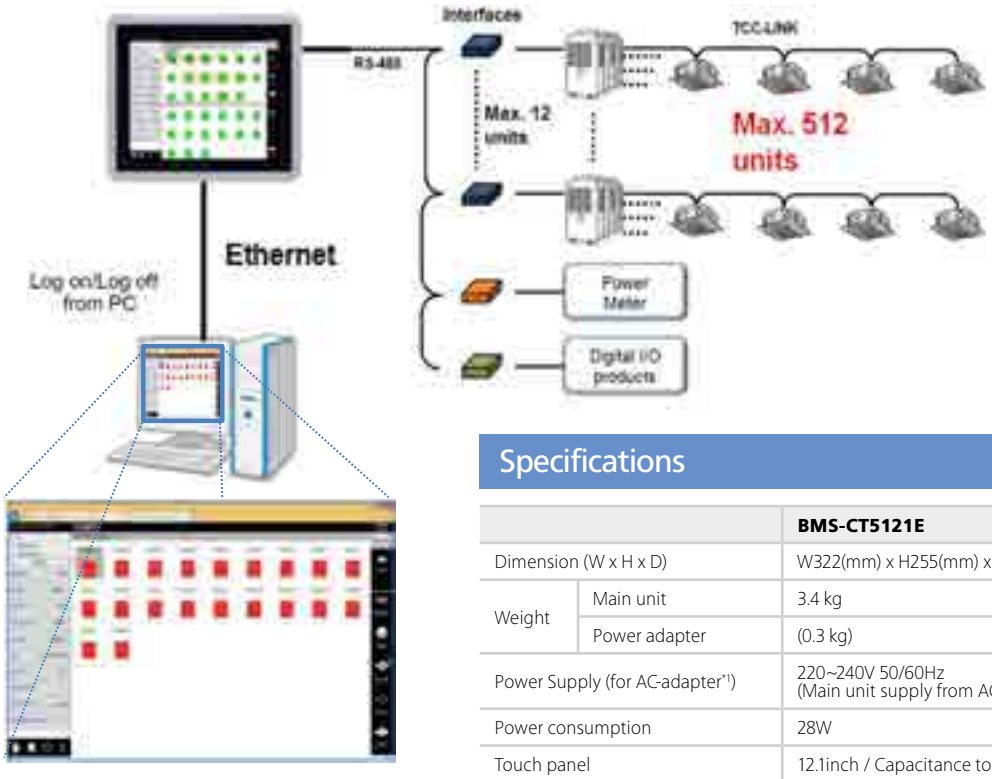


Energy consumption history (hours)

BMS-CT5121E [NEW MODEL]



The Touch Screen Controller can be connected to up 512 Indoor Units depending on model and offers Energy Monitoring and schedule program functions. This controller is ideally suited to any small or large installation where Energy Monitoring functions are required, or where a professional and highly presentable finish is required. It can control each of the individual indoor units and is capable of providing information from the indoor unit settings and malfunction check codes. The Touch Screen is connected to the air conditioner control network directly by relay interfaces.



Requirements

OS: Windows8.1(R) or Windows10(R)
Web browser: Internet Explorer 11(R)

Specifications

		BMS-CT5121E
Dimension (W x H x D)		W322(mm) x H255(mm) x D49(mm)
Weight	Main unit	3.4 kg
	Power adapter	(0.3 kg)
Power Supply (for AC-adapter*1)		220~240V 50/60Hz (Main unit supply from AC-adapter: 12V-DC)
Power consumption		28W
Touch panel		12.1inch / Capacitance touch panel method
Operating temp. range		0-40 degree C 10%-90% RH
Storage temp. range		-10 °C -60 °C
Display languages		14 languages English/ French/ German/ Italian/ Spanish/ Dutch/ Protugese/ Greel/ Turkish/ Russian/ Croatian/ Czech/ Chinese/ Polish

*1: The power supply cord must be provided locally

BMS-WB2561PWE

WEB BASED CONTROLLER

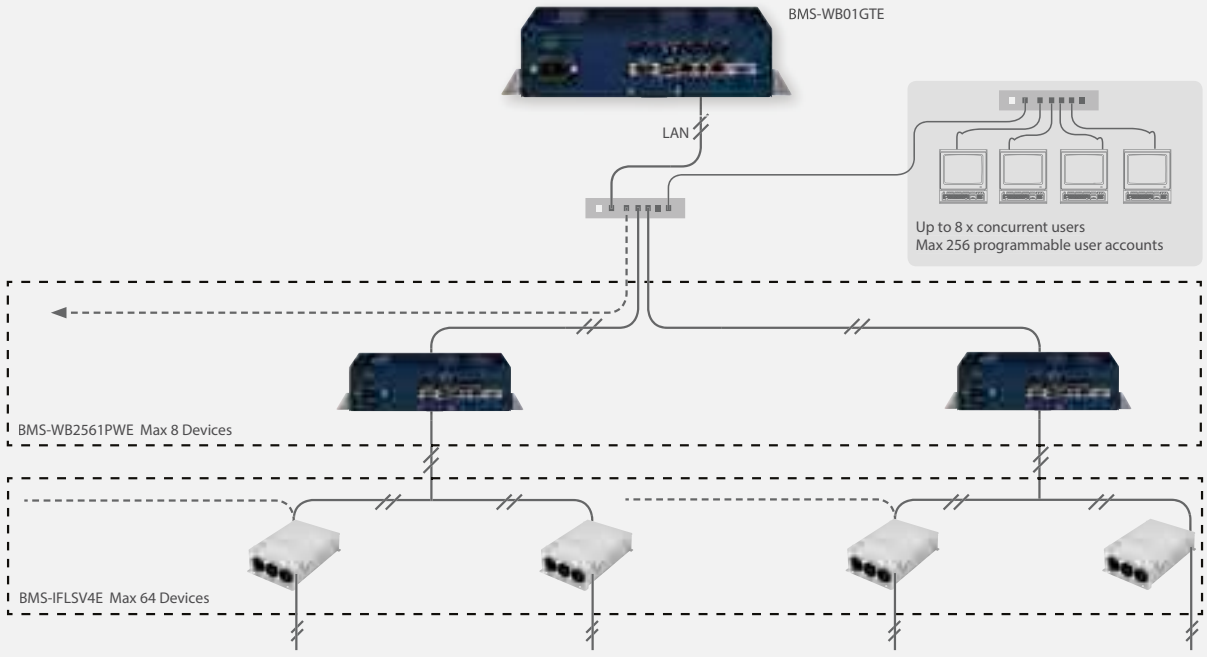
The Web Based Controller is an advanced Central Control device designed for use with large installations or where high-level control and/or Energy Monitoring Functions are required.

One Major benefit of the Web Based Controller over other Central Control systems is the ability to automatically retransmit system Alarms to up to 8 programmable Email Addresses. It is also possible to specify which Units will send alarms to each of the different Email Addresses.

Connection of up to 256 Indoor Units.

A single Web Based Controller can be connected to up to 256 Indoor Units on the TCC-Link Central Control Network via TCS-Net Relay Interfaces.

Connection of up to 2048 Indoor Units. With the use of an additional Web Based Controller Master - BMS-WB01GTE - device it is possible to connect up to 2,048 Indoor Units into this control system. This is carried out using the Master device as a hub for up to 8 multiple Web Based Controllers.



Toshiba offer a range of control Interfaces that can be used to Integrate the control of our Air Conditioner products in to local Building Management Systems.

Our Building Management controls currently offer easy integration with the following protocols:

Lonworks®.
Modbus.
BACnet®.
Open Ended system using Digital Analogue Inputs & Outputs.

Building Management Systems

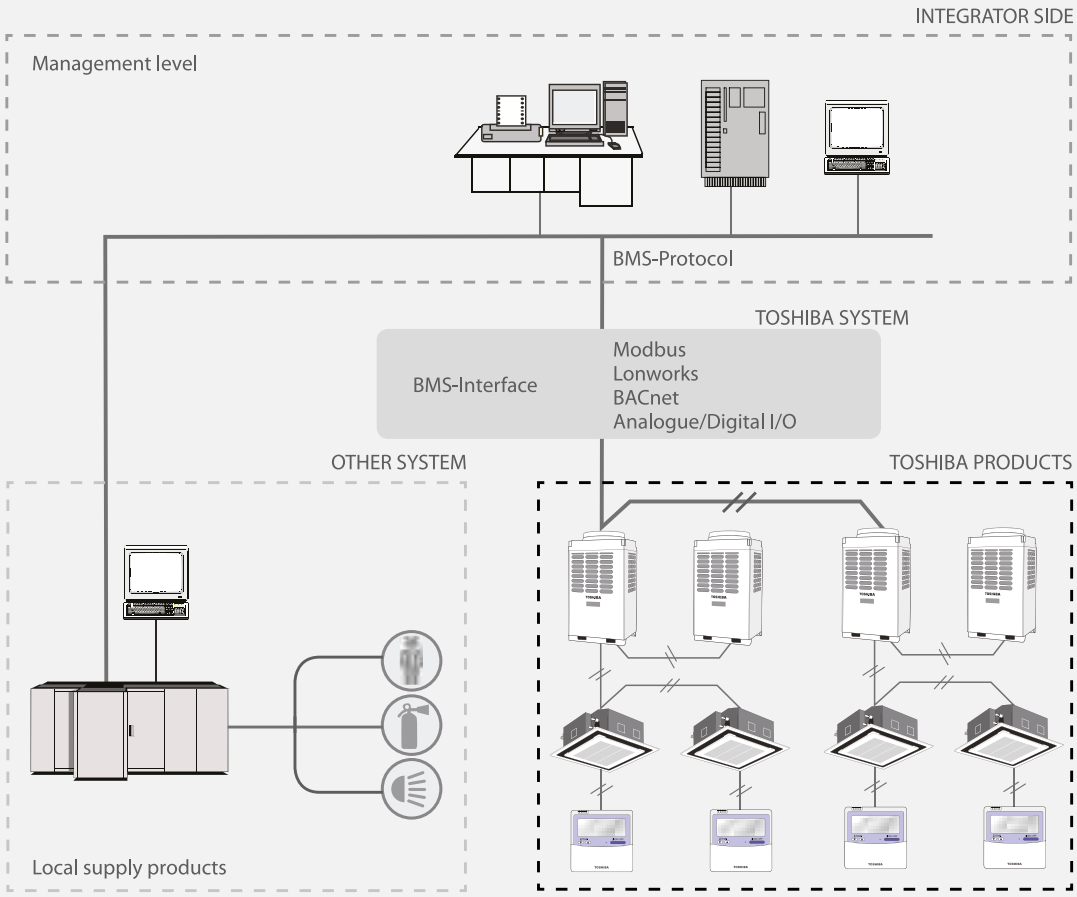
A Building Management System (BMS) is a computer based control system that is installed in buildings to control and monitor mechanical and electrical equipment, such as ventilation, lighting, power systems, fire systems and security for that building.
The core function of most BMS systems is to manage the environment within the building and can be used to control heating and cooling equipment and manage the systems that distribute treated air throughout the building.

BACnet® GATEWAY

LonWorks® INTERFACE

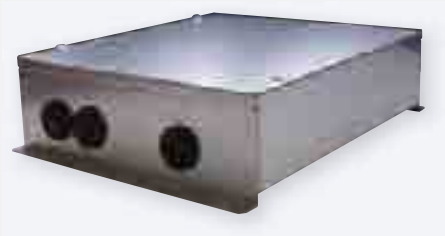
ANALOGUE INTERFACE

CENTRAL CONTROLS - BUILDING MANAGEMENT SYSTEMS



TCB-IFLN642TLE

LONWORKS INTERFACE

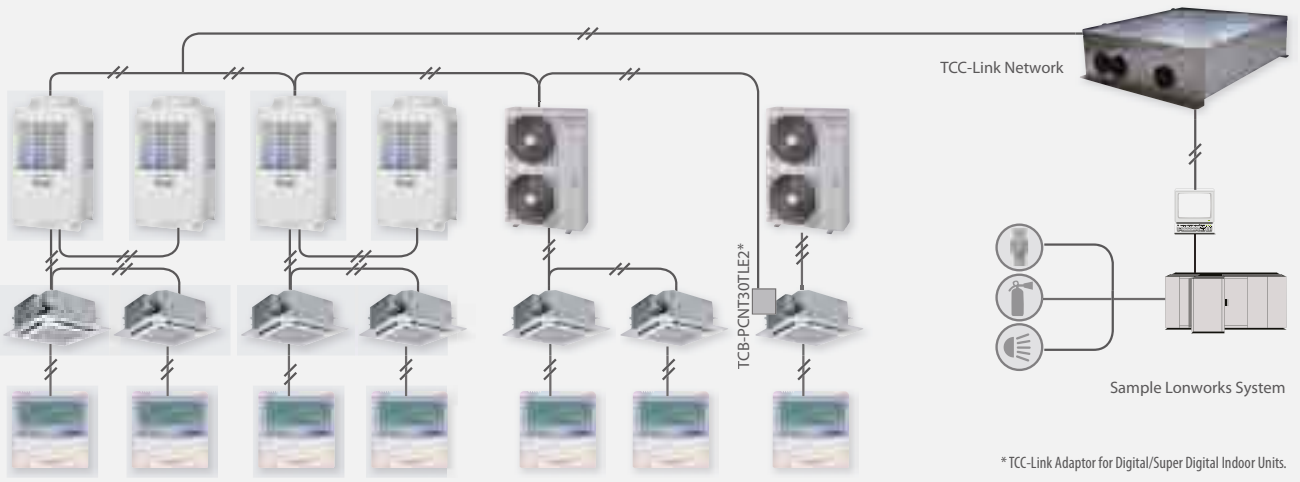


The Toshiba Lonworks interface 100% LonMark Compliant and is designed to connect the Toshiba Air Conditioning system to a Lonworks Building Management Control System.

This Interface connects directly to the Toshiba TCC-Link Central Control Network on the Air Conditioner side and can be wired on the Indoor or outdoor side depending on preference.

The Interface is then connected to the Lonworks Building Management Control system where it provides 28 Network variables for the sending of Control Commands and receiving unit information.

Multiple Toshiba Lonworks Interfaces can be connected to a single TCC-Link Network and addressed using simple switches provided on the device. This is to enable ease of installation, especially in buildings with separate areas where 1 Interface may be used for each area/floor.



Lonworks is a control system platform built on the LonTalk Communications Protocol created by the Echelon Corporation, and is used for the networking of equipment over media such as Twisted Pair, Power lines, fibre optics and Radio Frequency.

The Lonworks platform has been adopted as the basis for product and service offers in many different industries including the Building industry where it is widely used for control of Lighting and HVAC systems.

TCB-IFMB640TLE / TCB-IFMB641TLE

MODBUS INTERFACE

The Toshiba Modbus® interface is designed to connect the Toshiba Air Conditioning system to a Modbus Building Management System.

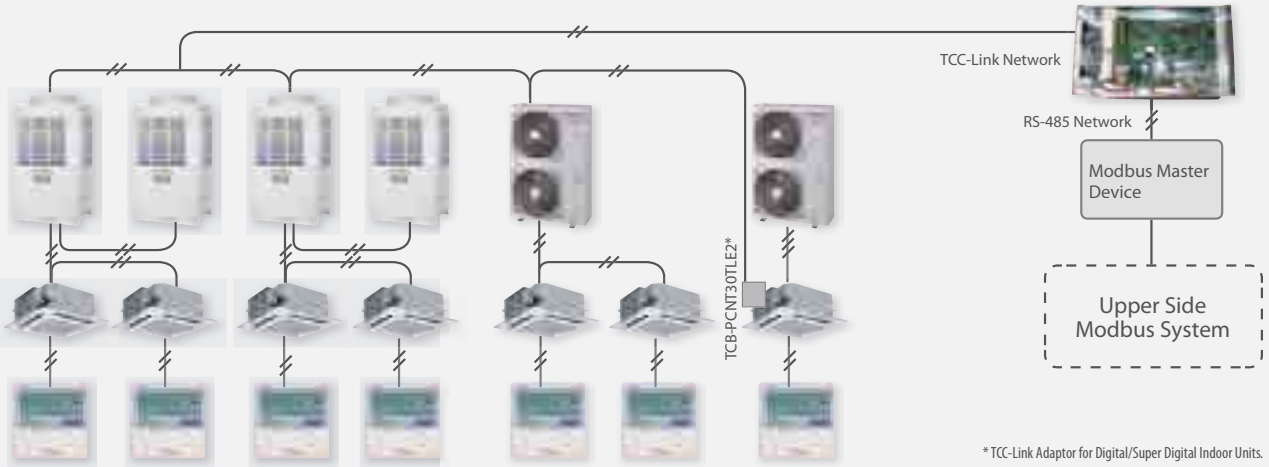
The Toshiba Interface connects directly to the Toshiba TCC-Link Central Control Network on the Air Conditioner and can be wired on the Indoor or outdoor side depending on preference.

The Interface then uses the Modbus RTU protocol based on the RS-485 type serial communications protocol to connect to a suitable Modbus Master device.

Finally, this Modbus Master device is connected to the BMS control system and allows control of all connected Toshiba Air Conditioner equipment from that BMS control system.

Multiple Toshiba Modbus Interfaces can be connected to a single TCC-Link Network and addressed using simple switches provided on the device.

This is to enable ease of installation, especially in buildings with separate areas where 1 Interface may be used for each area/floor.



* TCC-Link Adaptor for Digital/Super Digital Indoor Units.

Modbus is a serial Communications protocol that was first published in 1979 for use with programmable logic controllers, and has now become the most commonly available means of connecting industrial electronic devices to a computer control system.
There are many different versions of Modbus currently used in building management systems including Modbus RTU, Modbus ASCII and Modbus TCP.

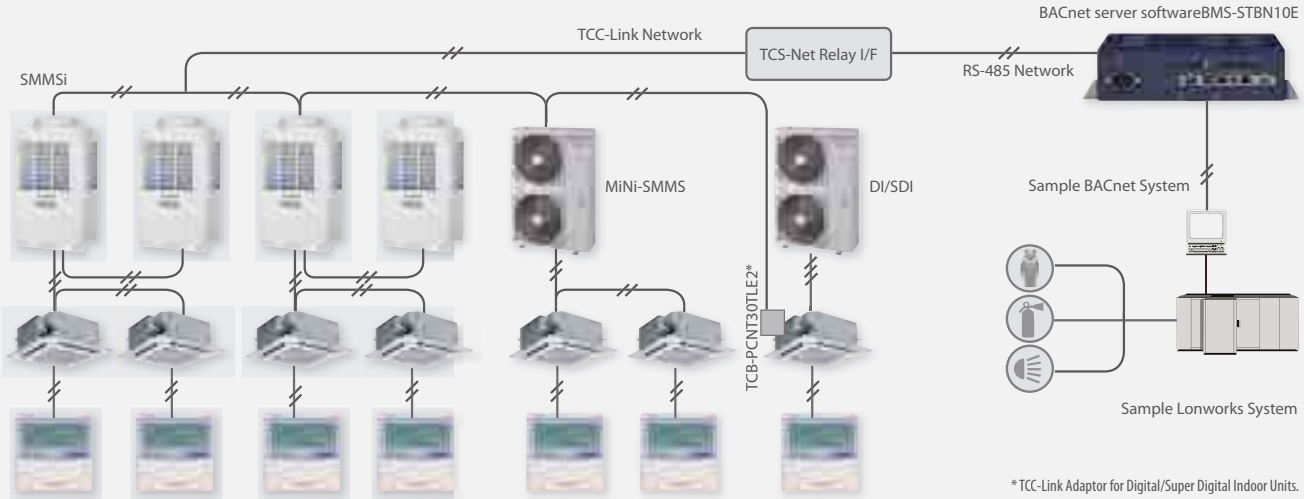
BMS-LSV9E

BACNET GATEWAY

A Building Management System (BMS) is a computer based control system that is installed in buildings to control and monitor mechanical and electrical equipment, such as Ventilation, lighting, power systems, fire systems and security for that building.

The core function of most BMS systems is to manage the environment within the building and can be used to control heating and cooling equipment and manage the systems that distribute the treated air throughout the building.

The Toshiba BACnet® control system consists the BMS-LSV9E Intelligent server and the BMS-STBN10E BACnet server software, and can be connected to the TCC-Link Central Control Network via a TCS-Net Relay Interface to enable control of up to 128 Indoor Units from a BACnet® building management system.



BACnet® was designed to allow communication of building automation and control systems for applications such as heating, ventilation air-conditioning control, lighting control, access control, and fire detection systems and their associated equipment. The BACnet® protocol provides mechanisms for computerized building automation devices to exchange information, regardless of the particular building service they perform.

Please note that Lonworks® and BACnet® are registered trademarks, however these symbols have been omitted in the text.

BMS-IFBN640TLE

BACnet Interface for LC and VRF

The BN interface refers to equipment used for controlling Building Management Systems (Procured locally) and air conditioners (TCC-LINK compatible models) through communications via a network to enable centralized control.

Features

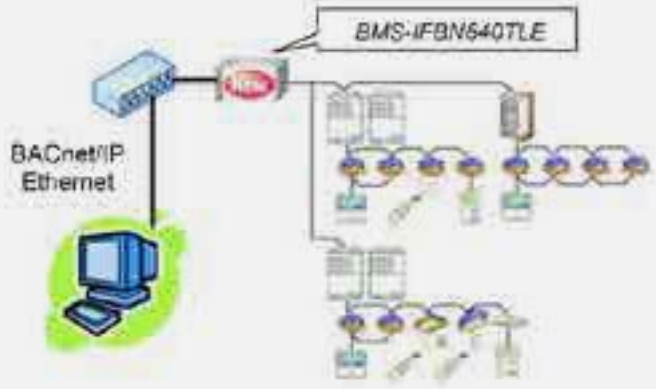
- Relay I/F (BMS-IFLSV4E) is not necessary
- Up to 64 indoor units connection
- DIN-rail installation (Attachment)
- BTL certification*

*It will be certified in November on BACnet international website.

Specifications

		BMS-IFBN640TLE
Dimension (W x H x D) *1		W140(mm) x H45(mm) x D90(mm)
Weight	Main unit	260 g
	Power adapter	(130 g)
Power Supply (for AC-adapter*2)		220~240V 50/60Hz (Main unit supply: 5V-DC)
Power consumption		3 W
Body Material		ABS (Flame retardant grade: 94-HB)
Temperature / Humidity		0~40 °C 10%~80% RH

*1: DIN-rail attatchment not included in unit dimensions
*2: The power supply cord must be supplied locally

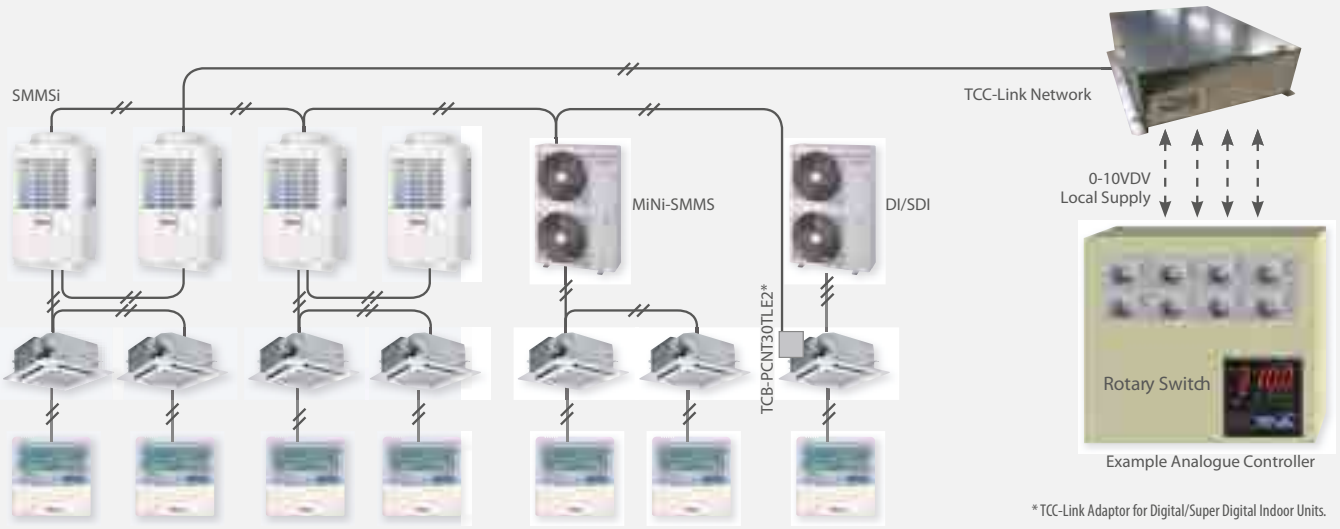


TCB-IFCB641TLE

ANALOGUE INTERFACE

That Analogue Relay Interface is a device that can be connected directly to the TCC-Link Central Control network to provide Analogue & Digital Inputs & Outputs for control over Toshiba Air Conditioner products from non-Toshiba Control systems.

This Interface is ideal for Integrating the Toshiba Air Conditioner product into basic or PLC BMS control systems, such as may be found in older controls systems.



* TCC-Link Adaptor for Digital/Super Digital Indoor Units.

The TCB-IFGSM1E Interface is a device that allows control of the Toshiba Air Conditioner Equipment from a remote location using standard GSM (Global system for Mobile communications) Mobile phone SMS text messages.

Device connects to CN61 on DI/SDI & VRF Indoor Units (excludes DI Flexi Type). Daiseikai Residential & DI Flexi units can be connected via HA connector on Indoor Unit.
Control Functions vary depending on HA/CN61 Connection used.

TCB-IFGSM1E GSM INTERFACE

The General Purpose Relay Interface is a device that can be connected directly to the TCC-Link Central Control Network and addressed on the TCC-Link Network in order to provide control of non-Toshiba equipment from a Toshiba control system, and control of the Toshiba Air Conditioner from digital & Analogue Inputs.

TCB-IFCG1TLE is given a Central Control address (similar to an Indoor Unit) and can then be controlled from a central control device.
Only On/Off Input/Output available from Central Controllers.
Full Control Available From Modbus Interface Only.
Can be used to allow On/Off control and monitoring of Residential Indoor Units from TCC-Link Central Control devices (selected models only).

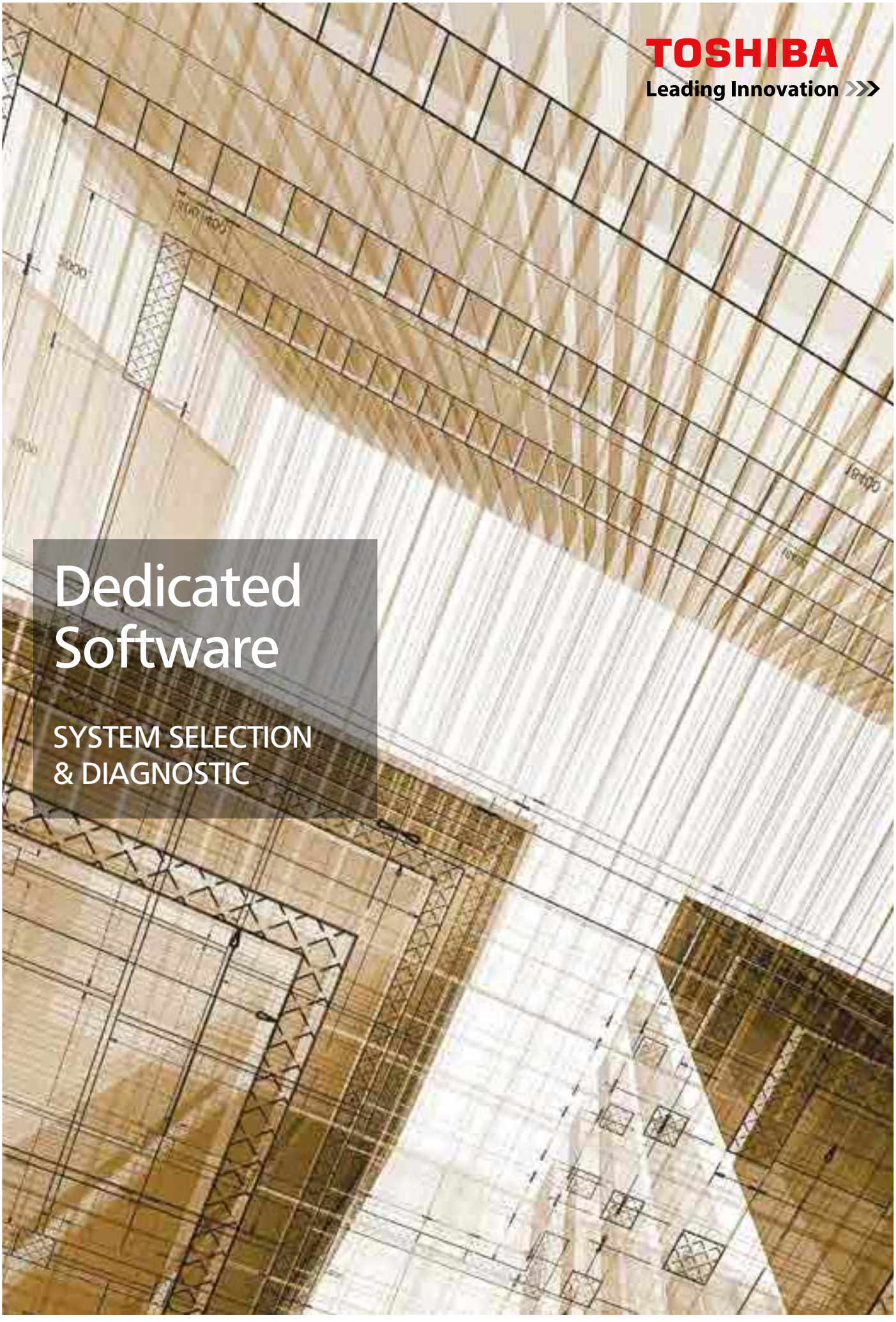
TCB-IFCG1TLE GENERAL PURPOSE RELAY INTERFACE

Controls

Model number	Reference	Description	Used with
RBC-AMT32E	Wired Remote Controller	Main wired remote controller	VRF, DI,SDI indoor units (except DI flexi and VRF Air-to-air heat exchagers with DX coil)
RBC-AS41E	Simplified Wired Remote Controller	As above but designed for hotel and domestic applications	VRF, DI,SDI indoor units (except DI flexi and VRF Air-to-air heat exchagers with DX coil)
NRC-01HE	Wired Remote Controller	Air-to-air heat exchanger remote controller, including with DX coil and humidifiers models	Air-to-air heat exchangers and Air-to-air heat exchangers with DX coil
HWS-AMS11E	Room temperature remote controller	Wired Estia Room temperature remote controller including schedule timer	Estia
TCB-EXS21TLE	Schedule timer	Operating in weekly timer mode or schedule timer mode	VRF, DI,SDI indoor units (except DI flexi and VRF Air-to-air heat exchagers with DX coil)
RBC-AMS41E	Remote controller with schedule timer	Indoor unit operation with schedule timer (7-days) allowing to program 8 functions/day + clock display	VRF, DI,SDI indoor units (except DI flexi and VRF Air-to-air heat exchagers with DX coil)
RBC-AMS51E-EN RBC-AMS51E-ES	Design remote Controller with schedule timer	Multi-Language LCD display, a built-in 7-Day timer, Energy Saving options and return back function. EN = English, Italian, Polish, Greek, Russian, Turkish. ES = English, Spanish, Portuguese, French, Dutch, German	VRF, DI,SDI indoor units (except DI flexi and VRF Air-to-air heat exchagers with DX coil)
RBC-AMS54E-EN RBC-AMS54E-ES	Design remote Controller with schedule timer	Multi-Language LCD display, a built-in 7-Day timer, Energy Saving options and return back function,Dual set points,and Soft cooling. EN = English, Italian, Polish, Greek, Russian, Turkish. ES = English, Spanish, Portuguese, French, Dutch, German	VRF, DI,SDI indoor units (except DI flexi and VRF Air-to-air heat exchagers with DX coil)
RBC-AX32CE2	Infra-red Remote Kit	Wireless remote controller	All ceiling units and one-way cassettes (SH series)
TCB-AX32E2	Infra-red Remote Kit	Wireless remote controller	All other units (including compact 4-way cassette, except for DI Flexi type)
RBC-AX23UW(W)-E	Wireless remote unit kit	Wireless remote unit kit for 2-way cassette	2-way-cassette MMU-AP***2WH
RBC-AX32UW(W)-E	Wireless remote unit kit	Wireless remote unit kit for 2-way cassette	2-way-cassette MMU-AP***2WH
RBC-AX32U(W)-E	Wireless remote unit kit	Wireless remote unit kit for 4-way cassette	RAV-SM***4UT-E with RBC-U31PG(W)-E & RBC-U31PGS(W)-E panels
RBC-AX32U(WS)-E	Wireless remote unit kit	Wireless remote unit kit for 4-way cassette	RAV-SM***4UT-E with RBC-U31PGS(WS)-E panels
RB-RXS30-E	Wireless Controller with a Weekly Timer Program	Wireless Controller with a Weekly Timer Program	RAS Single Split
RB-RXS31-E	Wireless Controller with a Weekly Timer Program	Wireless Controller with a Weekly Timer Program	RAS Multi Split (IMS)
WH-L17SE	Infra-red Remote Controller	Wireless remote unit kit for Flexi units	DI Flexi
WH-H2UE	Infra-red Remote Controller	Wireless remote unit kit for Flexi units	DI Flexi
TCB-TC21LE2	Remote temperature sensor	Remote temperature sensor for cassette & duct	DI, SDI, VRF
TCB-TC41LE	Remote temperature sensor	Remote temperature sensor for cassette & duct	DI, SDI, VRF
TCB-SC642TLE2	Central Remote Controller	Enables the control of up to 64 individual units	VRF, 1:1 model connection interface required for DI/SDI (Excluding high-wall type)
TCB-CC163TLE2	On / Off Controller	Enables On/Off control (Max. 16 units)	VRF, 1:1 model connection interface required for DI/SDI (Excluding high-wall type)
TCB-IFCB-4E2	Remote location On/Off Control Box	Enables remote location On/Off control	All indoor units (Excluding DI Flexi type)
TCB-IFCB5-PE	Window Switch & Remote on/off	Ensure the indoor unit not operate when outside window is open or for Door Entry systems	RAS, RAV & VRF (RAS units must have HA connection and is not compatible with GDV duct)
TCB-PX100-PE	Enclosure for the Window Switch / Remote On/Off	For use when the Window Switch / Remote On/Off Accessory cannot fit within the AC unit, eg. High Walls	For use with TCB-IFCB5-PE and TCB-PCNT30TLE2
BMS-CM1280TLE	Compliant Manager	Enables full control of up to 128 indoor units	network 1:1 model connection interface required for DI/SDI (Excluding high-wall type) DI Flexi type cannot be connected.
BMS-SM1280HTLE	Smart BMS Manager	Enables full control of up to 128 indoor units with Energy Monitoring and Advanced Control Options.	network 1:1 model connection interface required for DI/SDI (Excluding high-wall type) DI Flexi type cannot be connected.
BMS-SM1280ETLE	Smart BMS Manager with data analyzer	Enables full control of up to 128 indoor units with Energy Monitoring and Advanced Control Options.	network 1:1 model connection interface required for DI/SDI (Excluding high-wall type) DI Flexi type cannot be connected.

Controls

Model number	Reference	Description	Used with
BMS-CT5120E	Touch Screen Controller	Enables full control of up to 512 indoor units with electric billing, ML	network 1:1 model connection interface required for DI/ SDI (Excluding high-wall type) DI Flexi type cannot be connected.
BMS-TP0641ACE	Touch Screen Controller	Enables full control of up to 64 indoor units, ML	network 1:1 model connection interface required for DI/ SDI (Excluding high-wall type) DI Flexi type cannot be connected.
BMS-TP5121ACE	Touch Screen Controller	Enables full control of up to 512 indoor units, ML	network 1:1 model connection interface required for DI/ SDI (Excluding high-wall type) DI Flexi type cannot be connected.
BMS-TP0641PWE	Touch Screen Controller	Enables full control of up to 64 indoor units with electric billing, ML	network 1:1 model connection interface required for DI/ SDI (Excluding high-wall type) DI Flexi type cannot be connected.
BMS-TP5121PWE	Touch Screen Controller	Enables full control of up to 512 indoor units with electric billing, ML	network 1:1 model connection interface required for DI/ SDI (Excluding high-wall type) DI Flexi type cannot be connected.
BMS-IFLSV4E	TCS-Net Relay Interface	Relay for integration to TCS-Net	Bacnet gateway, Touch-screens & Web based controller
BMS-IFWH5E	Energy monitoring relay interface	Energy monitoring relay interface	Touch screen controller, Compliant manager, Web based controller, Smart Manager
BMS-IFDD03E	Digital I/O relay interface	Digital I/O relay interface	Touch screen controller, Compliant manager, Web based controller, Smart Manager
BMS-IFBN640TLE	BN Interface	BACnet Interface for LC & VRF	Enables integration with BACnet
BMS-LSV9E	Intelligent Server	Bacnet Gateway	Requires software BMS-STBN08E & Interface BMS-IFLSV3E
BMS-STBN10E	Software for BACnet	Those are based on ANSI/ASHRAE Standard 135-2008 and get BTL(BACnet Testing Laboratories) certification*.	Enables integration with BACnet
BMS-WB2561PWE	WEB Based Controller	Web Server/Gateway Server	
BMS-WB01GTE	WEB Based Controller	Master Server	
TCB-IFLN642TLE	LN interface	Allows control of 64 indoor units from a Lonworks based BMS	network 1:1 model connection interface required for DI/ SDI (Excluding high-wall type) DI Flexi type cannot be connected.
TCB-IFMB641TLE	Modbus interface box	Connect the system to a Modbus Building Management System.	network 1:1 model connection interface required for DI/ SDI (Excluding high-wall type) DI Flexi type cannot be connected.
TCB-IFCG1TLE	General purpose interface	enables control of A/C by the DI/DO and AI/AO	DI, SDI. Combination with TCB-IFCB640TLE
TCB-IFCB640TLE	Analog interface	Control & monitoring up to 64 IU on TCC-link	Combination with TCB-IFCG1TLE
TCB-IFGSM1E	GSM control interface	Allows ON/OFF control, operation status monitoring & alarm monitoring of A/C	DI, SDI (using CN61)
NRB-1HE	Remote ON/OFF adapter	Allows ON/OFF control	All Air-to-air heat exchangers
TCB-PCNT30TLE2	1:1 model connection interface	Integration with DI, SDI, AHU DX Kits	Allows DI/SDI indoor units& AHU DX kits to be connected toTCC link network (except for DI Flexi type)
TCB-PX30MUE	E-Box Extension Enclosure	For 1:1 Model connection I/F and Window Switch / Remote On/Off PCB	4-Way Cassettes / Compact 4-Way Cassettes only & TCB-PCNT30TLE2 & TCB-IFCB5-PE
TCB-PCOS1E2	Application control kit	Enables night operation control, demand control, operation monitoring	DI / SDI Compact 4way cassette with All DI 3 outdoor unit, SDI(RAV-SP404/454/564AT-E)
TCB-KBOS1E	Optional connector kit	Connector kit	SDI 4 outdoor units (Except for SDI (RAV-SP404/454/564AT-E))
TCB-PCM03E	Input Signal PC Board	Room thermostat, Emergency stop input signal	Estia
TCB-PCIN3E	Output Signal PC Board	Boiler operation, alarm, defrost and compressor operation output signal	Estia
TCB-PCDM4E	Application Control PC Board	Power Peak Cut Control	SMMS, SMMS-i, SHRM, SHRM-i and Mini-SMMS Outdoor Units
TCB-PCM04E	Application Control PC Board	External Master ON/OFF Control Board	SMMS, SMMS-i, SHRM, SHRM-i and Mini-SMMS Outdoor Units
TCB-PCIN4E	Application Control PC Board	Error/Individual compressor Operation Output Control Board	SMMS, SMMS-i, SHRM, SHRM-i and Mini-SMMS Outdoor Units
TCB-KBCN32VEE	Connectors	For CN32	VRF,DI, SDI, except Flexi DI
TCB-KBCN600PE	Connectors	For CN60	VRF,DI, SDI, except Flexi DI
TCB-KBCN61HAE	Connectors	For CN61	VRF,DI, SDI, except Flexi DI
TCB-KBCN700AE	Connectors	For CN70	VRF,DI, SDI, except Flexi DI
TCB-KBCN73DEE	Connectors	For CN73	VRF,DI, SDI, except Flexi DI
TCB-KBCN80EXE	Connectors	For CN80	VRF,DI, SDI, except Flexi DI
TCB-PSMT1E	Optional connector kit	Multi-Tenant Kit for VRF Systems	SMMS, SMMS-i, SMMSe, SHRM, SHRM-i , SHRMe and Mini-SMMS Indoor Units


TOSHIBA
Leading Innovation
Dedicated Software
SYSTEM SELECTION & DIAGNOSTIC

SOFTWARE

With Toshiba Everything is Easier

Toshiba's commitment to the development of technological and innovative products with improved performances is complemented by a responsibility to supply more sophisticated and functional tools for the design, installation and control of these systems.

Everything at the click of a button

Sophisticated system software has been developed for the Light commercial and VRF ranges and are a useful and irreplaceable support tool for engineers, architects, installers and, in general, for anyone who wants to apply innovative Toshiba solutions.
With Toshiba software, the user can create a complete systems, estimate in advance energy consumptions or perform diagnostic checks of the systems.

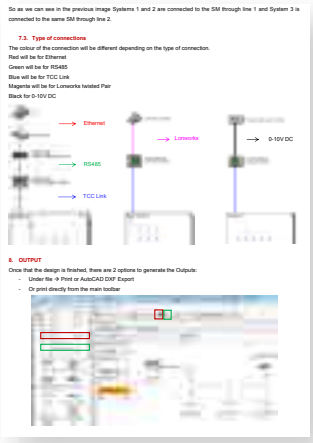
Diagnostic software

The correct operation of sophisticated systems such as VRF is important to the long-term reliability of the system. In order to assist with the correct commissioning of all VRF systems, Toshiba has developed a diagnostic software programme - a valuable tool for the commissioning and service engineer. The engineer can connect to the VRF system using a dedicated interface - enabling the download of all operating parameters and providing the engineer with detailed information for instant analysis or record.
Diagnostic software (Dyna-Doctor) is distributed exclusively by the Toshiba EMEA RLC Technical Department.

Selection software

With this software, the user can create a complete VRF system by simply clicking on the icons for the indoor units and the other connection components. It is also possible to define, in advance, relevant parameters such as outside and inside temperatures, fan speed, pipe system length and routing etc. The software automatically manages all the parameters entered, and the actual system capacity for the conditions required can be quickly calculated and simulated during the design stage. Using this software, the design of VRF systems is guaranteed for the project at the given conditions. The software constantly monitors possible design errors and warns the user, when it reaches the system limits.

AIRS selection software


So as we can see in the previous image Systems 1 and 2 are connected to the SM through line 1 and System 3 is connected to the same SM through line 2.

7.3. Type of connections

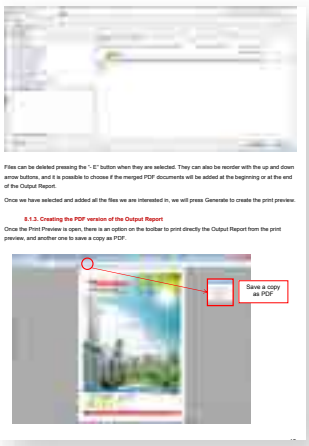
The colour of the connection will be different depending on the type of connection.
Red will be for Ethernet
Green will be for RS485
Blue will be for TCC Link
Magenta will be for Lonworks twisted Pair
Black for 0-10V DC

Ethernet
Lonworks
0-10V DC
RS485
TCC Link

8. OUTPUT

Once that the design is finished, there are 2 options to generate the Outputs:

- Under file -> Print or AutoCAD DXF Export
- Or print directly from the main toolbar

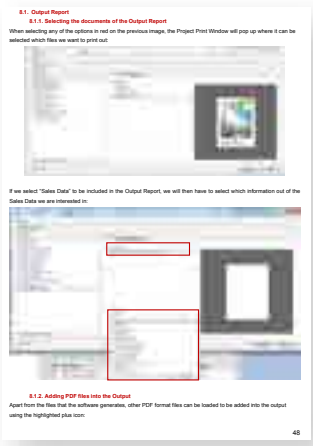

Files can be deleted pressing the " - E" button when they are selected. They can also be reorder with the up and down arrow buttons, and it is possible to choose if the merged PDF documents will be added at the beginning or at the end of the Output Report.

Once we have selected and added all the files we are interested in, we will press Generate to create the print preview.

8.1.3. Creating the PDF version of the Output Report

Once the Print Preview is open, there is an option on the toolbar to print directly the Output Report from the print preview, and another one to save a copy as PDF.

Save a copy as PDF


8.1. Output Report

8.1.1. Selecting the documents of the Output Report

When selecting any of the options in red on the previous image, the Project Print Window will pop up where it can be selected which files we want to print out:

If we select "Sales Data" to be included in the Output Report, we will then have to select which information out of the Sales Data we are interested in:

8.1.2. Adding PDF files into the Output

Apart from the files that the software generates, other PDF format files can be loaded to be added into the output using the highlighted plus icon:

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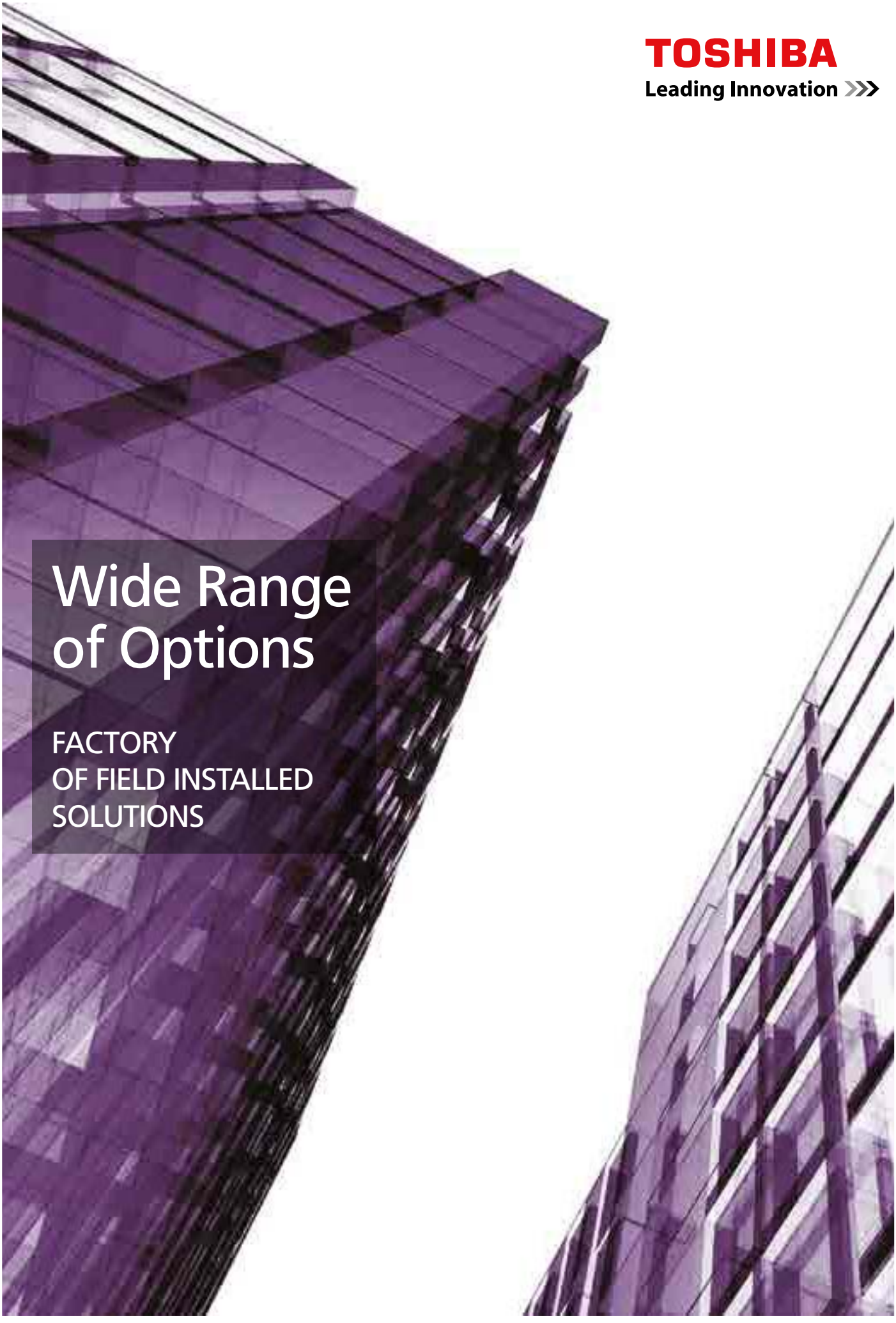

Wide Range of Options

FACTORY OF FIELD INSTALLED SOLUTIONS

ACCESSORIES

VRF Indoor Units Accessories

Indoor unit type	Parts name	Model name	Comply with VRF FCU	Notes	Remarks
4-way Air Discharge cassette type	Standard panel	RBC-U31PGP(W)-E	"MMU-AP***4H-E/ MMU-AP***4HP-E"	Required accessory	
	MTO straight, white color panel	RBC-U31PGSP(W)-E			
	MTO straight, grey panel	RBC-U31PGSP(WS)-E			
	Fresh air and filter chamber	TCB-GFC1602UE	"MMU-AP***4H/ MMU-AP***4HP"	For fresh air inlet box	
	Fresh air inlet box	TCB-GB1602UE		For fresh air intake by using the knockout hole of Fresh air and filter chamber. (dia.=100 mm)	Use with TCB-GFC1602UE
	Auxiliary fresh air flange	TCB-FF101URE2	MMU-AP***4H,4HP, 1MH, 4MH-E, 2SH, 4SH-E, 1SPH, 4SPH-E	For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100mm)	
	Spacer for height adjustment	TCB-SP1602UE		height 50 mm	
	Air discharge direction kit	TCB-BC1602UE	MMU-AP***2H,4H-E,4HP-E	Air direction change by cutting off air discharge port (3 pcs.)	
Compact 4-way cassette type	Decoration panel	RBC-UM11PG(W)E	MMU-AP***1MH, 4MH-E	Required accessory	
2-way cassette type	Decoration panel	RBC-UW283PG(W)-E	MMU-AP0072/0092/0122/0152WH	Required accessory	
		RBC-UW803PG(W)-E	MMU-AP0182/0242/0272/0302WH		
		RBC-UW1403PG(W)-E	MMU-AP0362/0484/0562WH		
	Auxiliary fresh air flange	TCB-FF151US-E	MMU-AP***2WH	For easy fresh air intake by using the knockout hole of indoor unit	
	Filter chamber	TCB-FC283UW-E	MMU-AP0072/0092/0122/0152WH		
		TCB-FC803UW-E	MMU-AP0182/0242/0272/0302WH		
		TCB-FC1403UW-E	MMU-AP0362/0484/0562WH		
	Super Long life filter	TCB-LF283UW-E	MMU-AP0072/0092/0122/0152WH	For use with filter chamber	Use with TCB-FC283UW-E
		TCB-LF803UW-E	MMU-AP0182/0242/0272/0302WH		Use with TCB-FC803UW-E
		TCB-LF1403UW-E	MMU-AP0362/0484/0562WH		Use with TCB-LF1403UW-E
1-way cassette type	Decoration panel	RBC-UY136PG	MMU-AP0071/0091/0121YH, 4YH-E	Required accessory	
		RBC-US21PGE	MMU-AP0152/0182/0242SH, 4SH-E		
	Front air discharge unit	TCB-BUS21WHE			
	Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100mm)	
Slim duct type	Auxiliary fresh air flange	TCB-FF101URE2	MMU-AP***2H, 1MH, 4MH-E, 2SH, 4SH-E, 1SPH, 4SPH-E	For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100mm)	
Concealed duct type	Spigot shaped flange	TCB-SF56C6BE	MMD-AP0076/0096/0126/0156/0186BHP-E		
		TCB-SF80C6BE	MMD-AP0246/0276/0306BHP-E		
		TCB-SF160C6BE	MMD-AP0366/0486/0566BHP-E		

VRF Indoor Units Accessories

Indoor unit type	Parts name	Model name	Comply with VRF FCU	Notes	Remarks
Concealed Duct high static pressure type and fresh air intake unit type	High efficiency filter 65	TCB-UFM1D-1E	MMD-AP0181H, 4H-E	Dust collecting effect: 65% (NBS Colorimetric method)	Use with TCB-FCY21DE
			MMD-AP0481H, 4H-E (2 pcs.)		Use with TCB-FCY51DE
		TCB-UFM2D-1E	MMD-AP0241/0271/0361H, 4H-E (2 pcs.)		Use with TCB-FCY31DE
		TCB-UFM3DE	MMD-AP0721/0961H, 4H-E & MMD-AP0721/0961HFE		Use with TCB-FCY100DE or TCB-PF3DE (HFE)
	High efficiency filter 90	TCB-UFH5D-1E	MMD-AP0181H, 4H-E	Dust collecting effect: 90% (NBS Colorimetric method)	Use with TCB-FCY21DE
			MMD-AP0481H, 4H-E (2 pcs.)		Use with TCB-FCY51DE
		TCB-UFH6D-1E	MMD-AP0241/0271/0361H, 4H-E (2 pcs.)		Use with TCB-FCY31DE
		TCB-UFH7DE	MMD-AP0721/0961H, 4H-E & MMD-AP0721/0961HFE		Use with TCB-FCY100DE or TCB-PF3DE (HFE)
	Long life pre-filter	TCB-PF1D-1E	MMD-AP0181H, 4H-E	Dust collecting effect: 50% (NBS Colorimetric method)	Use with TCB-FCY21DE
			MMD-AP0481H, 4H-E (2 pcs.)		Use with TCB-FCY51DE
		TCB-PF2D-1E	MMD-AP0241/0271/0361H, 4H-E (2 pcs.)		Use with TCB-FCY31DE
		TCB-PF3DE	MMD-AP0721/0961H, 4H-E & MMD-AP0721/0961HFE		Use with TCB-FCY100DE or TCB-PF3DE (HFE)
	Filter chamber	TCB-FCY21DE	MMD-AP0181H, 4H-E	For high efficiency filter or long life prefilter	
		TCB-FCY31DE	MMD-AP0481H, 4H-E (2 pcs.)		
		TCB-FCY51DE	MMD-AP0241/0271/0361H, 4H-E (2 pcs.)		
		TCB-FCY100DE	MMD-AP0721/0961H, 4H-E & MMD-AP0721/0961HFE		
	Drain pump kit	TCB-DP31DE	MMD-AP0181H to AP0481H, 4H-E	Lift up to 330 mm	
		TCB-DP32DE	MMD-AP0721/0961H, 4H-E		
Concealed Duct high static pressure type	Long life filter kit	TCB-LK801D-E	MMD-AP0186/0246/0276HP-E		
		TCB-LK1401D-E	MMD-AP0366/0466/0566HP-E		
	Spigot shaped flange	TCB-SF80C6BE	MMD-AP0186/0246/0276HP-E		
		TCB-SF160C6BE	MMD-AP0366/0466/0566HP-E		
	Auxiliary fresh air flange	TCB-FF151US-E	MMD-AP***6HP-E		
High Wall 3-4 series without PMV	PMV Kit 3-Series	RBM-PMV0363E		For FCU capacity 0.8-1.3HP	
		RBM-PMV0903E		For FCU capacity 1.7-2.5HP	
Fresh air intake type	High efficiency filter 65	TCB-UFM4D-1E	MMD-AP0481HFE	Dust collecting effect: 65% (NBS Colorimetric method)	Use with TCB-PF4D-1E
	High efficiency filter 90	TCB-UFH8D-1E	MMD-AP0481HFE	Dust collecting effect: 90% (NBS Colorimetric method)	
	Long life filter	TCB-PF4D-1E	MMD-AP0481HFE	Dust collecting effect: 50% (NBS Colorimetric method)	Use with TCB-FCY51DFE
	Filter chamber	TCB-FCY51DFE	MMD-AP0481HFE	For high efficiency filter or long life prefilter	
	Drain pump kit	TCB-DP32DFE	MMD-AP0481/0721/0961HFE	Lift up to 330 mm	
Air-to-air heat exchanger with DX coil	Drain pump kit	TCB-DP31HEXE	MMD-VN502/802/1002HEXE & MMD-VNK502/802/1002HEXE	Lift up to 330 mm	
Ceiling-suspended type	Drain pump kit	TCB-DP22CE2	MMC-AP0151/0181H, 4H-E	Lift up to 600 mm	Use TCB-KP12CE2
			MMC-AP0241-0481H, 4H-E		Use TCB-KP22CE2
	Elbow Piping Kit	TCB-KP12CE2	MMC-AP0151/0181H, 4H-E	Needed when drain pump kit is used	
		TCB-KP22CE2	MMC-AP0241-0481H, 4H-E		

VRF Indoor Units Accessories

Model Name	Specification	Total capacity codes	To be used with
RBM-BY55E	Branching joint	< 6.4 HP	SMMS-i and MiNi-SMMS and MiNi-SMMSe and SMMSe
RBM-BY105E	Branching joint	< 6.4 - 14.2 HP	SMMS-i, SMMSe
RBM-BY205E		< 14.2 - 25.2 HP	
RBM-BY305E		25.2 HP	
RBM-BY55FE	Branching joint	< 6.4HP	SHRM, SHRM-I,SHRMe
RBM-BY105FE		< 6.4 - 14.2 HP	
RBM-BY205FE		< 14.2 - 25.2 HP	
RBM-BY305FE		25.2 HP	
RBM-HY1043E	Headers branching four-way	< 14.2 HP	SMMS-i, SMMSe
RBM-HY2043E		< 14.2 - 25.2 HP	
RBM-HY1083E	Headers branching eight-way	< 14.2 HP	
RBM-HY2083E		< 14.2 - 25.2 HP	
RBM-HY1043FE	Headers branching four-way	< 14.2 HP	SHRM, SHRM-i,SHRMe
RBM-HY2043FE		< 14.2 - 25.2 HP	
RBM-HY1083FE	Headers branching eight-way	< 14.2 HP	
RBM-HY2083FE		< 14.2 - 25.2 HP	
RBM-Y1123FE	Flow switch selector	< 4.0 HP indoor units	SHRM, SHRM-i,SHRMe
RBM-Y1803FE		< 4.0 - 6.4 HP indoor units	
RBM-Y2803FE		< 6.4 - 10.0 HP indoor units	
RBM-Y1801F4PE	Multi-port flow switch selector	< 6.4 HP indoor units x 4 port	SHRMe
RBM-Y1801F6PE		< 6.4 HP indoor units x 6 port	
RBM-BT14E	Joints for connection of outdoor units	< 26 HP system capacity	SMMS-i, SMMSe
RBM-BT24E		>26 HP system capacity	
RBM-BT14FE		< 26 HP system capacity	SHRM, SHRM-i, SHRMe
RBM-BT24FE		>26 HP system capacity	

NOTES

NOTES

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