

TOSHIBA

Leading Innovation >>>



SMMS 
SUPER MODULAR MULTI SYSTEM



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Toshiba solutions

At Toshiba, we believe that "Evolution is leading the path to a better future". Through the decades, we have been constantly creating innovative and high-quality electrical appliances to increase our consumers' satisfaction. Now, with Toshiba "SMMS-e", the latest commercial air conditioning for various buildings,

The SMMS-e has been creatively developed and designed under the concept Excellence, Expansion, and Experience to ensure your utmost comfort and convenience like never before.

With the latest technology improved and developed to make SMMS-e the top commercial air conditioning for any solution that intelligently meets your needs, Toshiba will stop at nothing to create innovation to evolution of the future, where life is a step away from perfection.

TOSHIBA
Leading Innovation >>>

SMMS 
SUPER MODULAR MULTI SYSTEM





Air Conditioning for large buildings

EXCELLENCE

EXPANSION

EXPERIENCE

TOSHIBA

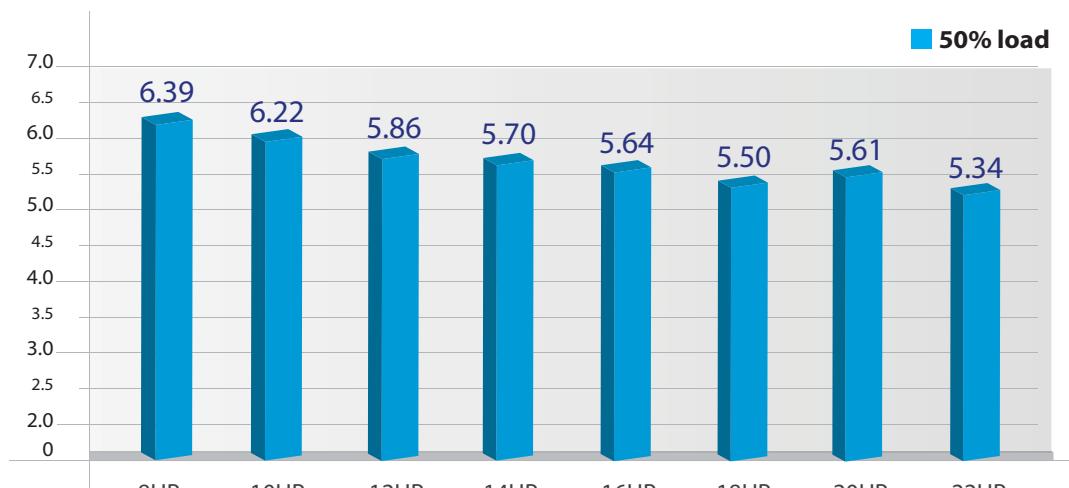
SMMS



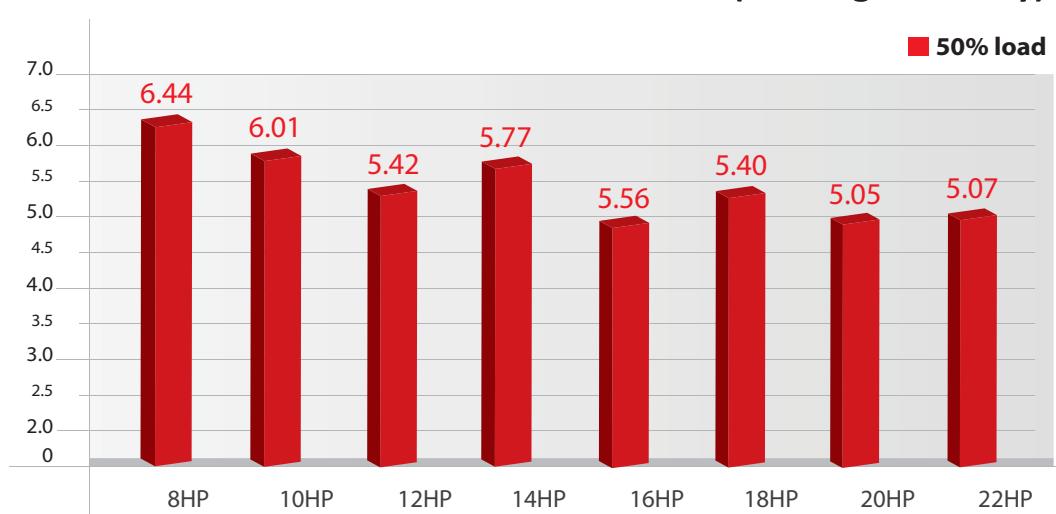
Greater efficiency performance

Adopting the highly efficient new DC twin-rotary compressors with various technologies.

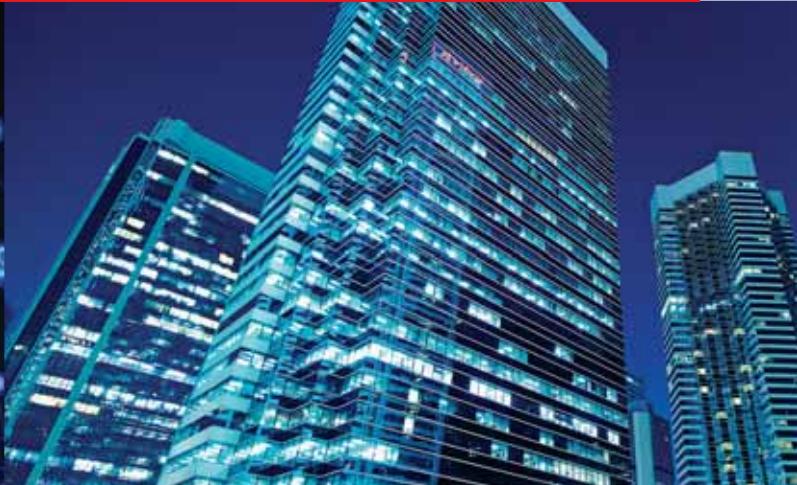
EER (Cooling Efficiency)



COP (Heating Efficiency)

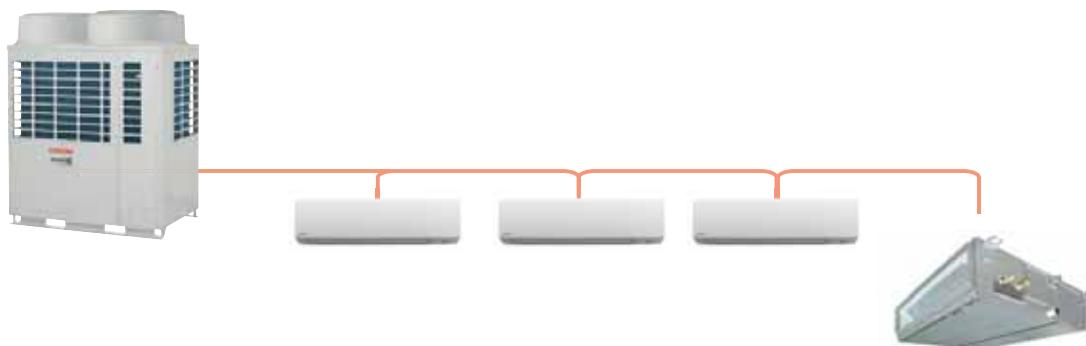


The overall capacity range and the highest EER and COP of 6.39 and 6.44, the SMMS-e has truly excelled in energy saving.



CONNECTING RATIO

Higher connecting ratio for residential application



Toshiba VRF systems provides flexibility of maximum connecting ratio up to 170%* in cooling only models.

* for applications requiring connecting ratio more than 135% please consult Toshiba engineering team.





CAPACITY RANGE

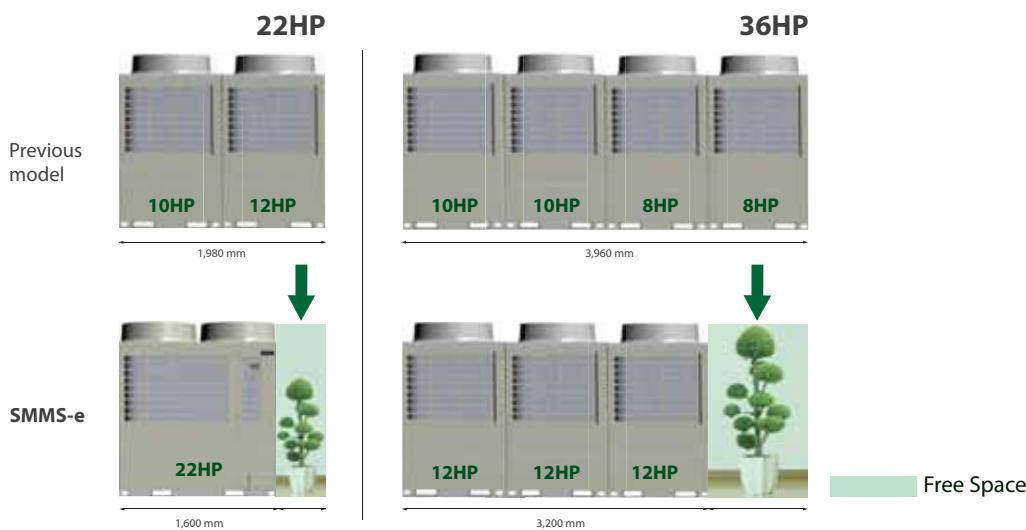
Single unit capacity expanded

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



Industry-leading installation flexibility

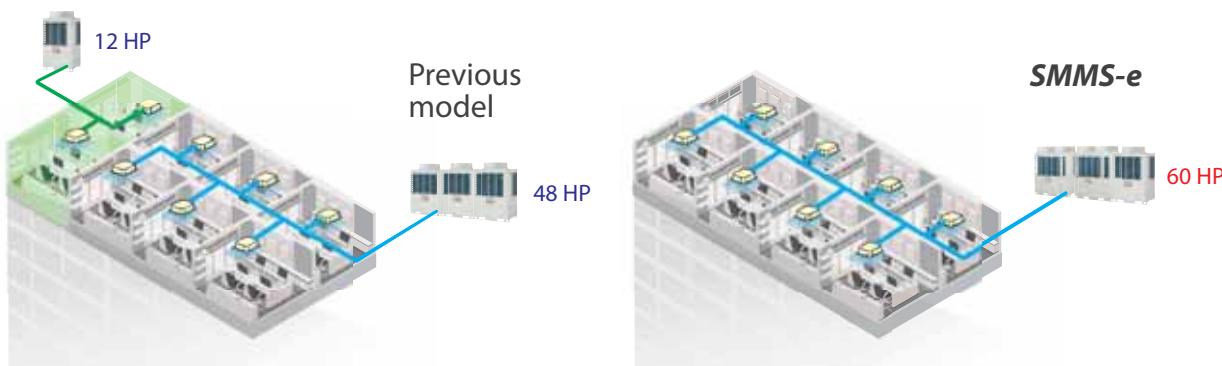
Outdoor units improve performance to achieve greater space efficiency that defies their compact module size to deliver greater freedom in layout design. This minimizes weight-related restrictions and allows for quicker installation.





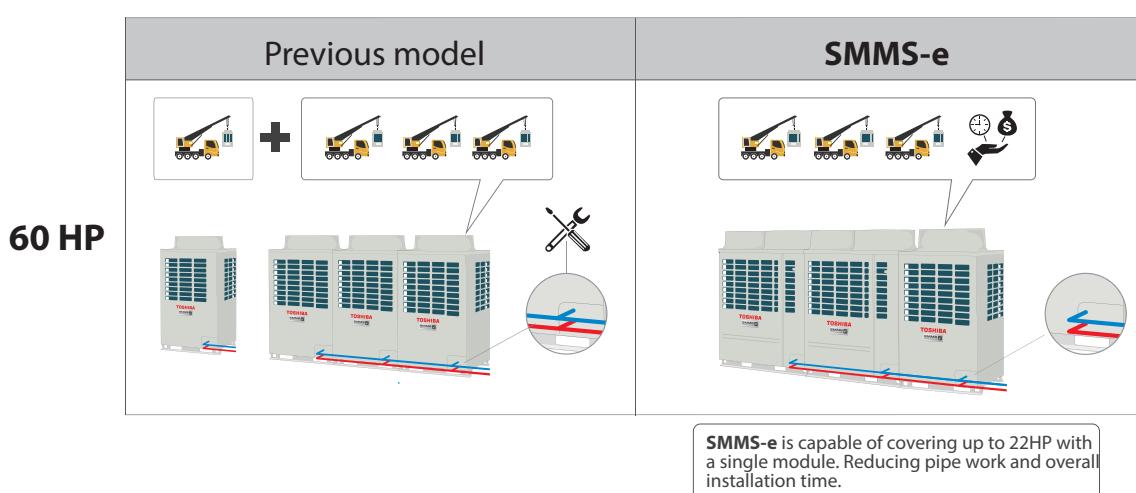
System capacity expanded

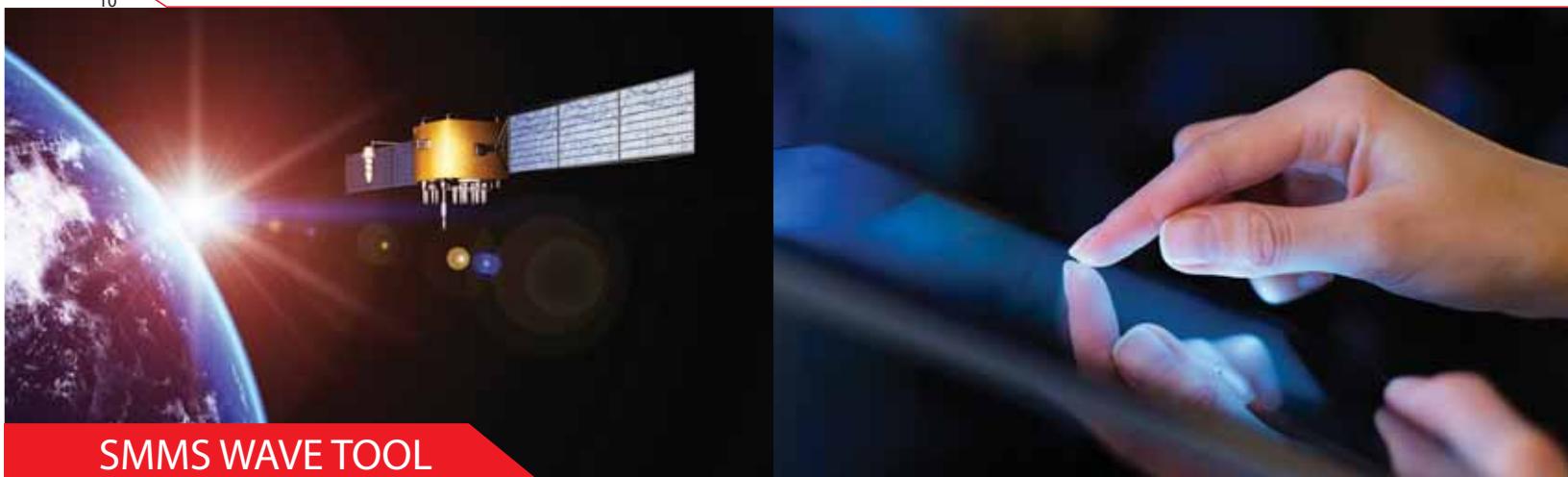
With the SMMS-e, it is now possible to connect up to 60HP in one system, with up to 64 connectable indoor units.



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.

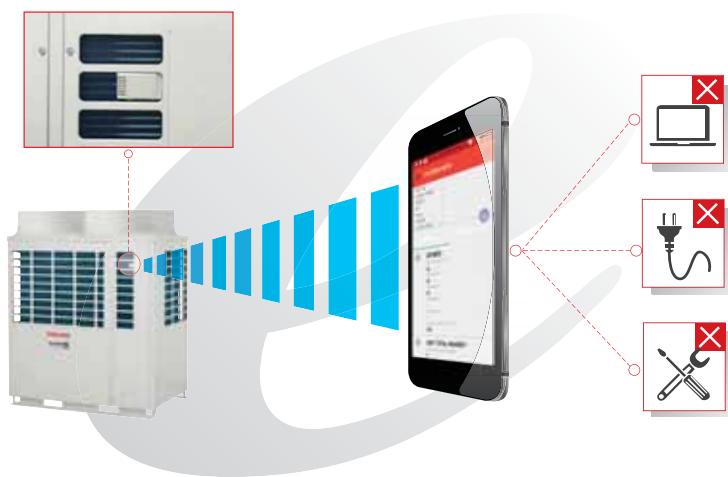




SMMS WAVE TOOL

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.



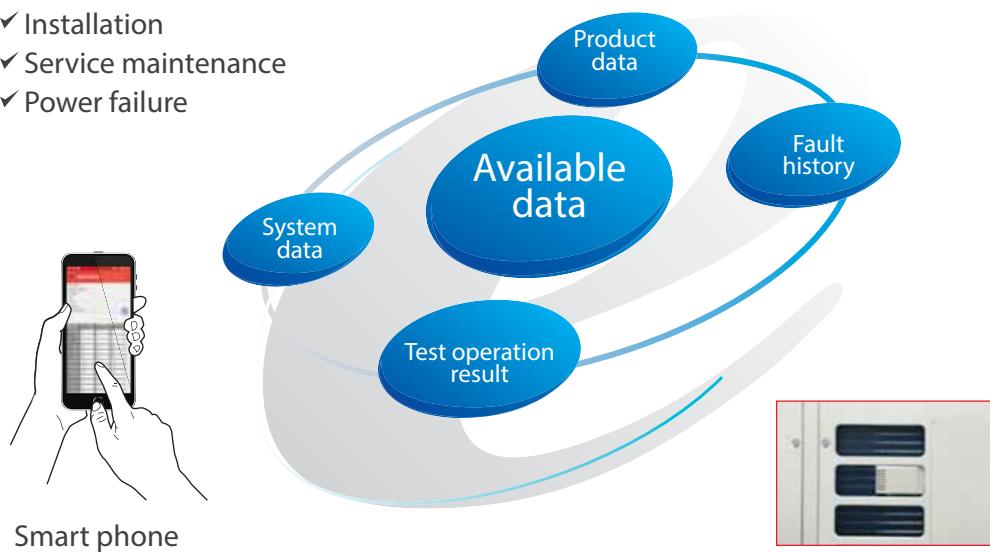
* Smartphone specification with NFC : Android TM OS 5.0

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

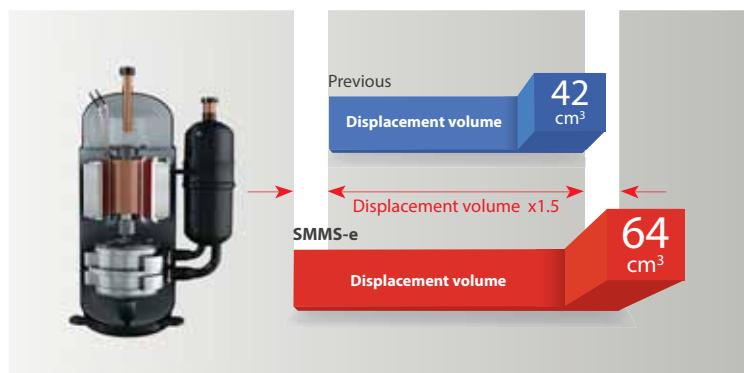




DC TWIN-ROTARY COMPRESSOR

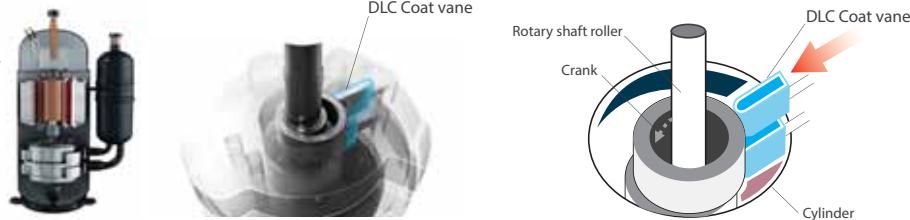
Wide range compressor

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



DLC coated vane

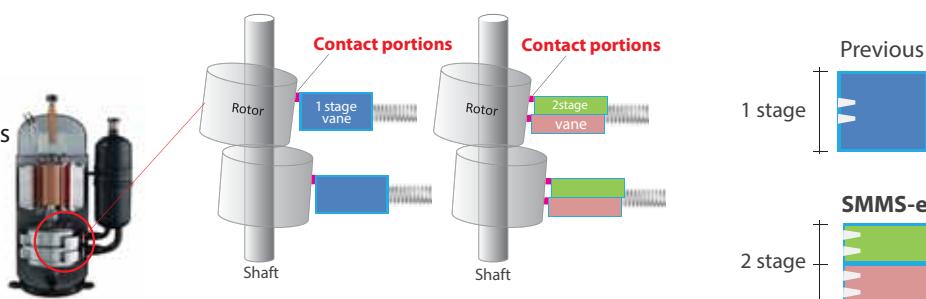
Increased hardness of the DLC coated vane reduces friction and increase both reliability and performance.



* DLC: Diamond Like Carbon

2-stage vane

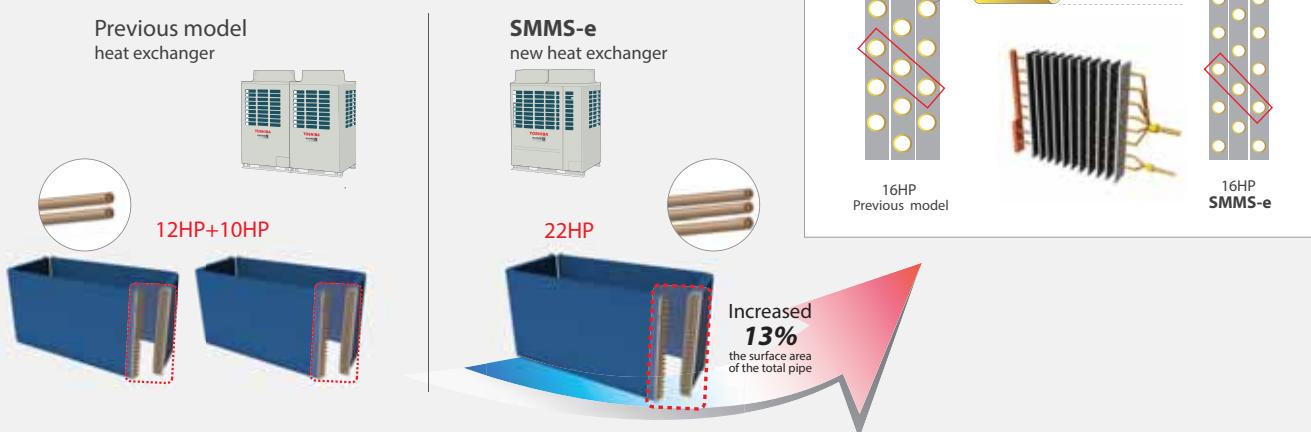
With 2-stage vane innovatively designed to reduce friction while increasing hardness and enhancing performance at its best.





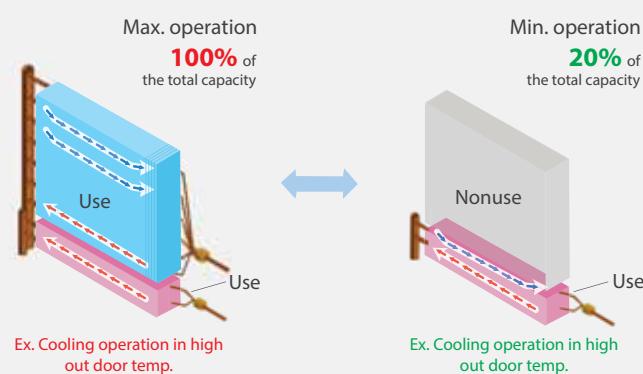
New heat exchanger

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



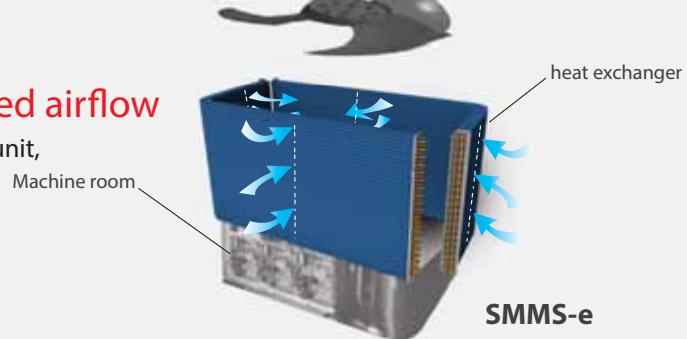
Variable heat exchanger

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.

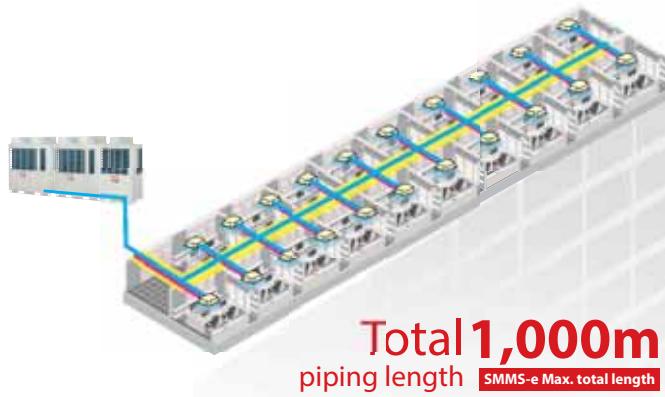




PIPING DESIGN FLEXIBILITY

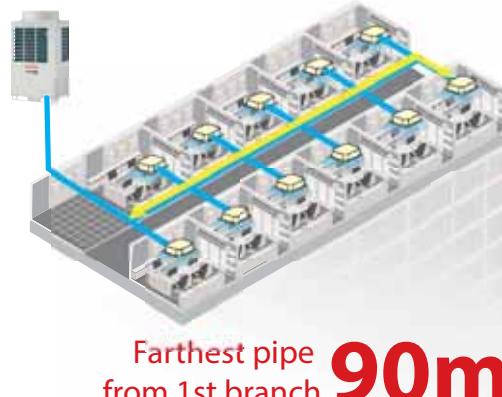
Total piping length

Applied with Toshiba's unique and greatly improved technology, SMMS-e 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.



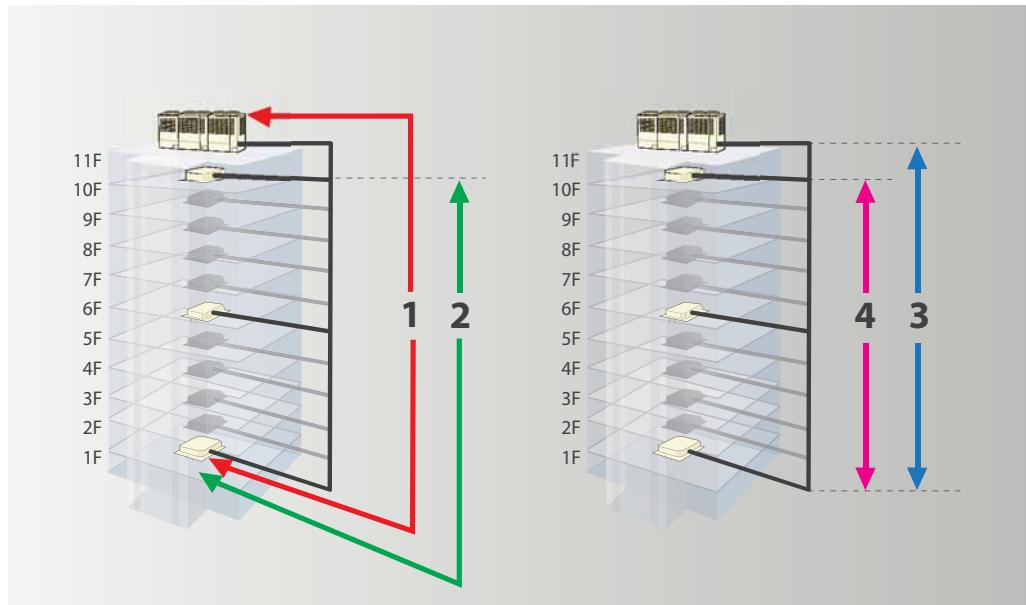
Height between indoor units

Another industry's top class is a maximum vertical distance between indoor units which reaches up to 40 meters, equal to an entire 11-storied building. SMMS-e's enhanced piping capabilities 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 1 st branch	90m*
3. Height between outdoor unit - indoor unit (outdoor unit above/below)	90m* 40m
4. Height between indoor unit - indoor unit	40m

*Be sure to refer to the engineering data book for details of these conditions and requirements and discuss your requirements with sales team.

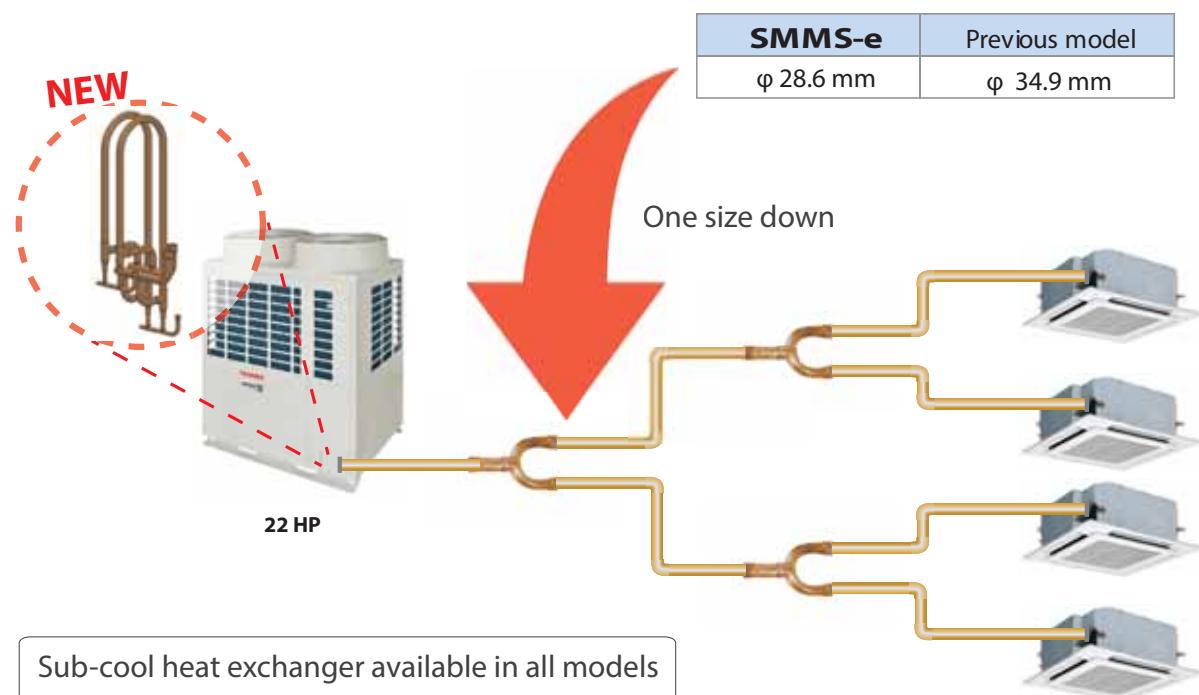


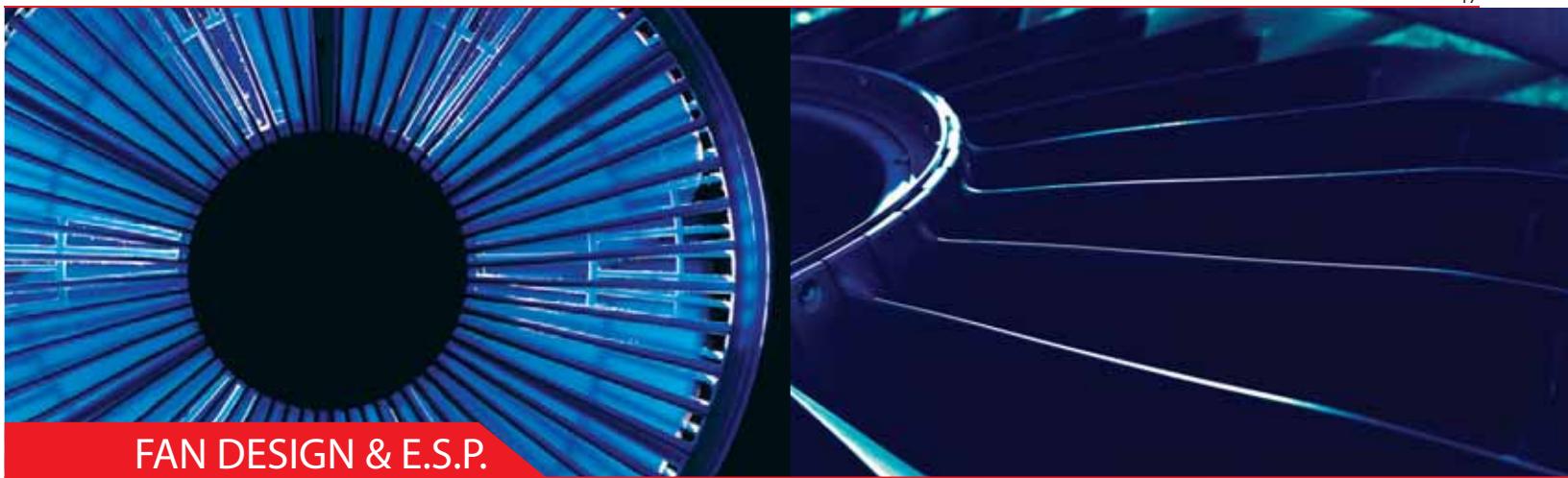


SLIMMER PIPE SIZE

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.

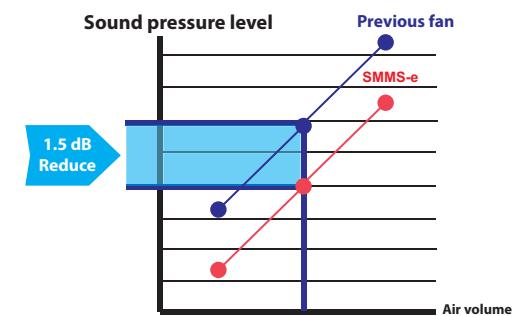


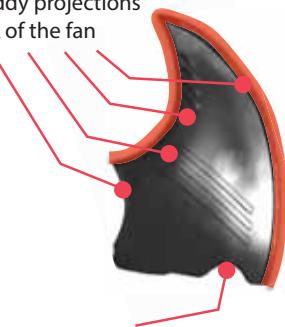


Every single blade is designed with a unique profile, a solution that guarantees a smoother air flow without turbulences.

The new propeller deliver the same amount of air with less sound pressure level.

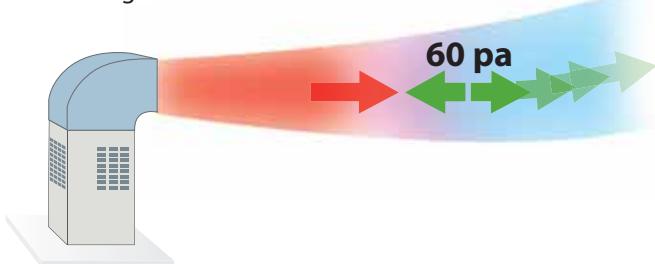
In the same working condition the new design of the propeller ensure a reduction of 1.5 dB compared to the previous models



Each blade has a unique profile	Design improvements
A  B	<p>New anti-eddy projections on the back of the fan</p>  <p>New profiles of the reverse-arc shaped wings</p>

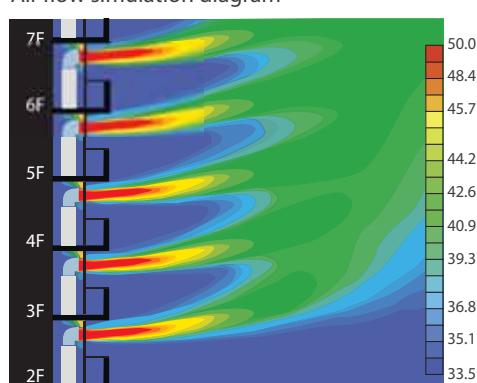
The external static pressure

New SMMSe has higher external static pressure up to 60Pa* which makes it more suitable for high rise buildings having cowl design or having requirement for cowl design.



*Be sure to refer to the engineering data book for details of these conditions and requirements and discuss your requirements with sales team

Air flow simulation diagram



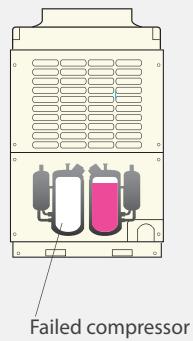
Note : This result is analytical simulation, that does not guarantee actual temperatures.

RELIABILITY

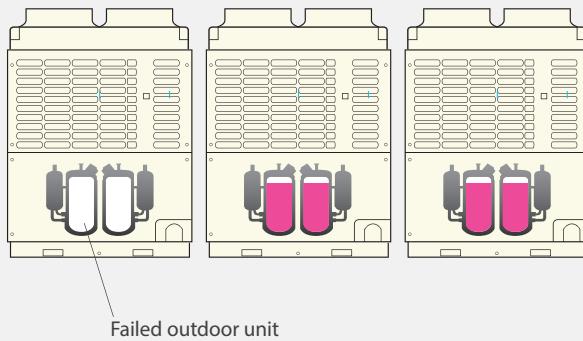
Backup operation

In case of a compressor failure, SMMS-e 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.

Single outdoor unit backup

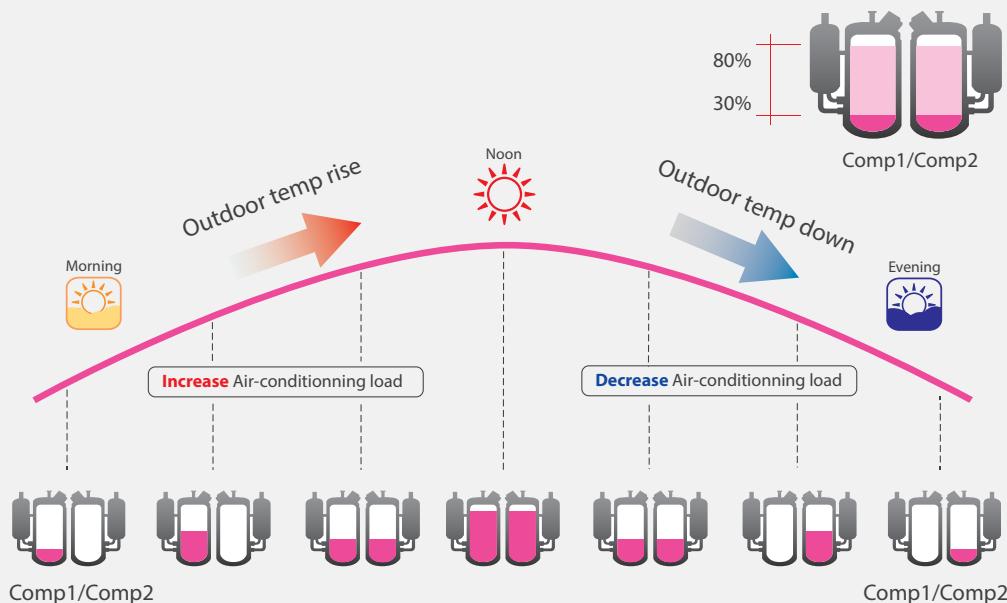


Module outdoor unit backup



Reliability rotational control

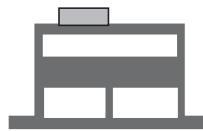
The rotational control in SMMS-e is designed to improve system reliability by controlling the operation of each compressor to work equally under variable conditions.





VRF AHU connectivity

Toshiba's design flexibility offers customised solutions to applications like large commercial buildings, shopping malls, Hotels, offices etc..



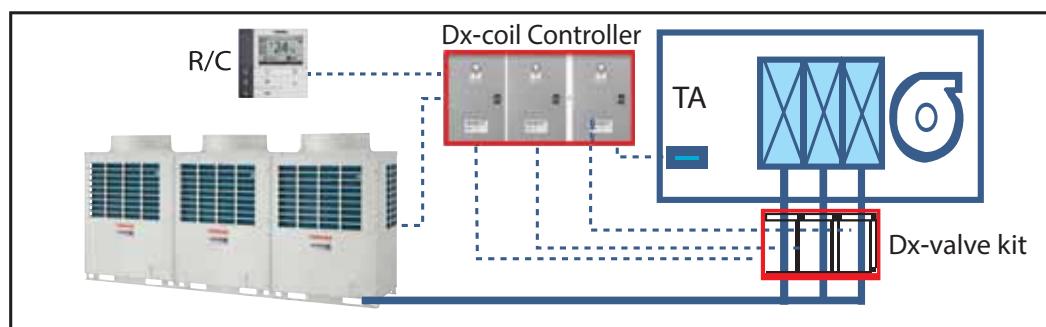
The DX coil interface integrates the DX Heat Exchanger of AHU's with the SMMSe outdoor unit

Maximum capacity of connectable AHU :

Single : 8 ~ 20 HP

System: Up to 60 HP

Connectable to various types of Dx-coil.



Kit type	Model	Power Supply (Ø, Hz, V)	Dimensions H x W x D (cm)	Weight (kg)	Remark
DX coil controller	TCB-IFDTA201E	1, 50, 220_240	42 x 33 x 9.5	3.5	TA control type
DX valve kit	RBM-A101VAE	1, 50, 220-240	40 x 25 x 8	3.0	8/10HP
	RBM-A201VAE	1, 50, 220-240	40 x 25 x 8	3.0	16/18/20HP



Outdoor units

Cooling only space saving model

										
Capacity		8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	
Model Name (MMY-)		50 Hz	MAP0806T8P	MAP1006T8P	MAP1206T8P	MAP14B6T8P	MAP1606T8P	MAP18B6T8P	MAP2006T8P	MAP2206T8P
Cooling capacity (kW)		22.4	28.0	33.5	40.0	45.0	50.4	56.0	61.5	

													
Capacity		24HP	26HP	28HP	30HP	32HP	34HP	36HP	38HP				
Model Name (MMY-)		50 Hz	AP2416T8P	AP2616T8P	AP2816T8P	AP3016T8P	AP3216T8P	AP3416T8P	AP3616T8P	AP3816T8P			
Units in combination (MMY-MAP)		MAP1206T8P	MAP1206T8P	MAP1406T8P	MAP1206T8P	MAP14B6T8P	MAP1606T8P	MAP14B6T8P	MAP1606T8P	MAP18B6T8P	MAP1606T8P	MAP2206T8P	MAP1606T8P
Cooling capacity (kW)		67.0	73.5	80.0	85.0	90.0	95.4	100.8	106.5				

												
Capacity		40HP	42HP	44HP	46HP	48HP						
Model Name (MMY-)		50 Hz	AP4016T8P	AP4216T8P	AP4416T8P	AP4616T8P	AP4816T8P					
Units in combination (MMY-MAP)		MAP2206T8P	MAP18B6T8P	MAP2206T8P	MAP2006T8P	MAP2206T8P	MAP1606T8P	MAP1606T8P	MAP14B6T8P	MAP1606T8P	MAP1606T8P	MAP1606T8P
Cooling capacity (kW)		111.9	117.5	123.0	130.0	135.0						

													
Capacity		50HP	52HP	54HP	56HP	58HP	60HP						
Model Name (MMY-)		50 Hz	AP5016T8P	AP5216T8P	AP5416T8P	AP5616T8P	AP5816T8P	AP6016T8P					
Units in combination (MMY-MAP)		MAP18B6T8P	MAP1606T8P	MAP1606T8P	MAP18B6T8P	MAP18B6T8P	MAP18B6T8P	MAP2206T8P	MAP18B6T8P	MAP18B6T8P	MAP18B6T8P	MAP2206T8P	MAP1606T8P
Cooling capacity (kW)		140.4	145.8	151.2	156.8	162.3	168.0						

* Power: 3-phase 50 Hz 400V (380 - 415V)

* 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

Cooling only high efficiency model

Capacity		8HP		10HP		12HP		14HP		16HP		18HP		20HP		22HP	
Model Name (MMY-)	50 Hz	MAP0806T8P		MAP1006T8P		MAP1206T8P		MAP1406T8P		MAP1606T8P		MAP1806T8P		MAP2026T8P		MAP2226T8P	
Units in combination (MMY-MAP)		—		—		—		—		—		—		MAP1006T8P	MAP1006T8P	MAP1206T8P	MAP1006T8P
Cooling capacity (kW)		22.4		28.0		33.5		40.0		45.0		50.4		56.0		61.5	

Capacity		24HP			26HP			28HP			30HP			32HP			34HP		36HP		38HP	
Model Name (MMY-)	50 Hz	AP2426T8P			AP2626T8P			AP2826T8P			AP3026T8P			AP3226T8P			AP3426T8P		AP3626T8P		AP3826T8P	
Units in combination (MMY-MAP)		MAP1206T8P	MAP1206T8P	MAP1406T8P	MAP1206T8P	MAP1406T8P	MAP1406T8P	MAP1606T8P	MAP1406T8P	MAP1606T8P	MAP1606T8P	MAP1606T8P	MAP1606T8P	MAP1806T8P	MAP1606T8P	MAP1606T8P	MAP1206T8P	MAP1206T8P	MAP1406T8P	MAP1206T8P	MAP1406T8P	MAP1206T8P
Cooling capacity (kW)		67.0			73.5			80.0			85.0			90.0			95.4		100.5		106.5	

Capacity		40HP			42HP			44HP			46HP			48HP			
Model Name (MMY-)	50 Hz	AP4026T8P			AP4226T8P			AP4426T8P			AP4626T8P			AP4826T8P			
Units in combination (MMY-MAP)		MAP1406T8P			MAP1406T8P			MAP1406T8P			MAP1606T8P			MAP1606T8P			
Cooling capacity (kW)		111.9			117.5			123.0			130.0			135.0			

Capacity		50HP			52HP			54HP			56HP			58HP			60HP	
Model Name (MMY-)	50 Hz	AP5026T8P			AP5226T8P			AP5426T8P			AP5626T8P			AP5826T8P			AP6026T8P	
Units in combination (MMY-MAP)		MAP1806T8P			MAP1606T8P			MAP2006T8P			MAP1606T8P			MAP2006T8P			MAP1606T8P	
Cooling capacity (kW)		140.4			145.8			151.2			156.8			162.3			168.0	

		Y-shape branching joint				Branch headers				Outdoor unit connection piping kit			
Appearance													
Model name		RBM-BY55E	RBM-BY105E	RBM-BY205E	RBM-BY305E	RBM-HY1043E	RBM-HY2043E	RBM-HY1083E	RBM-HY2083E	RBM-BT14E		RBM-BT24E	
Usage (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 units

Heat Pump standard model

									
Capacity	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	
Model Name (MMY-)	50 Hz	MAP0806HT8P	MAP1006HT8P	MAP1206HT8P	MAP1406HT8P	MAP1606HT8P	MAP1806HT8P	MAP2006HT8P	MAP2206HT8P
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-)	50 Hz	AP2416HT8P	AP2616HT8P	AP2816HT8P	AP3016HT8P	AP3216HT8P	AP3416HT8P	AP3616HT8P	AP3816HT8P
Units in combination (MMY-MAP)	1206HT8P 1206HT8P	1406HT8P 1206HT8P	1606HT8P 1206HT8P	1606HT8P 1406HT8P	1606HT8P 1606HT8P	1806HT8P 1606HT8P	2006HT8P 1606HT8P	2206HT8P 1606HT8P	
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-)	50 Hz	AP4016HT8P	AP4216HT8P	AP4416HT8P	AP4616HT8P	AP4816HT8P
Units in combination (MMY-MAP)	2006HT8P 2006HT8P	2206HT8P 2006HT8P	2206HT8P 2206HT8P	1606HT8P 1606HT8P 1406HT8P	1606HT8P 1606HT8P 1606HT8P	
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-)	50 Hz	AP5016HT8P	AP5216HT8P	AP5416HT8P	AP5616HT8P	AP5816HT8P	AP6016HT8P
Units in combination (MMY-MAP)	1806HT8P 1606HT8P 1606HT8P	2006HT8P 1606HT8P 1606HT8P	2206HT8P 1606HT8P 1606HT8P	2006HT8P 2006HT8P 1606HT8P	2206HT8P 2006HT8P 1606HT8P	2206HT8P 2206HT8P 1606HT8P	
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)

* 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

Heat pump high efficiency model

					
Capacity	20HP	22HP	36HP	38HP	40HP
Model Name (MMY-)	50 Hz	AP2026HT8P	AP2226HT8P	AP3626HT8P	AP3826HT8P
Units in combination (MMY-MAP)		1006HT8P 1006HT8P	1206HT8P 1006HT8P	1206HT8P 1206HT8P 1206HT8P	1406HT8P 1206HT8P 1206HT8P
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-)	50 Hz	AP4226HT8P	AP4426HT8P
Units in combination (MMY-MAP)		1406HT8P 1406HT8P 1406HT8P	1606HT8P 1406HT8P 1406HT8P
Cooling capacity (kW)	120.0	125.0	152.0
Heating capacity (kW)	135.0	140.0	171.0

	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 (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

Cooling only space saving model (Single unit)

Technical specifications						
Equivalent HP			8HP	10HP	12HP	14HP
Model name		50Hz (MMY-)	MAP0806T8P	MAP1006T8P	MAP1206T8P	MAP14B6T8P
Outdoor unit type		Inverter				
Power supply (*)		3phase 4wires 50Hz 400V (380-415V)				
Cooling capacity 100% (**) (kW)		22.4	28.0	33.5	40.0	45.0
External dimensions (Height / Width / Depth) (cm)		180 / 99 / 78	180 / 99 / 78	180 / 99 / 78	180 / 99 / 78	180 / 121 / 78
(m)		1.80 / 0.99 / 0.78	1.80 / 0.99 / 0.78	1.80 / 0.99 / 0.78	1.80 / 0.99 / 0.78	1.80 / 1.21 / 0.78
Total weight (kg)		240	240	240	240	298
Compressor	Motor output (kW)	2.1 x 2	3.1 x 2	3.9 x 2	5.4 x 2	5.8 x 2
Fan unit	Motor output (kW)	1.0	1.0	1.0	1.0	1.0
	Air volume (m³/s)	2.7	2.7	3.4	3.4	3.5
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 1.9	ø 2.2	ø 2.9	ø 2.9
		Liquid side (cm)	ø 1.3	ø 1.3	ø 1.6	ø 1.6
		Balance pipe (cm)	ø .95	ø .95	ø .95	ø .95
Sound pressure level (dB(A))		55	57	59	59	62

Single unit

Technical specifications						
Equivalent HP			18HP	20HP	22HP	
Model name		50Hz MMY-	MAP18B6T8P	MAP2006T8P	MAP2206T8P	
Outdoor unit type		Inverter				
Power supply (*)		3phase 4wires 50Hz 400V (380-415V)				
Cooling capacity 100% (**) (kW)		50.4	56.0	61.5		
External dimensions (Height / Width / Depth) (cm)		180/121/78	180/160/78	180/160/78		
(m)		1.8/1.2/0.8	1.8/1.6/0.8	1.8/1.6/0.8		
Total weight (kg)		298	369	369		
Compressor	Motor output (kW)	6.9 x 2	7.6 x 2	9.0 x 2		
Fan unit	Motor output (kW)	1.0	2.0	2.0		
	Air volume (m³/s)	3.5	5.0	5.1		
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 2.9	ø 2.9	ø 2.9	
		Liquid side (cm)	ø 1.6	ø 1.6	ø 1.9	
		Balance pipe (cm)	ø .95	ø .95	ø .95	
Sound pressure level (dB(A))		62	61	61		

*1 The source voltage must not fluctuate more than ±10%.

*2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

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

Combination

Technical specifications											
Equivalent HP			24HP		26HP		28HP				
Model name	50Hz	MMY-	AP2416T8P			AP2616T8P					
Outdoor unit type	Inverter										
Power supply (* ¹)	3phase 4wires 50Hz 400V (380-415V)										
Outdoor unit model	50Hz	MMY-	MAP1206T8P	MAP1206T8P	MAP14B6T8P	MAP1206T8P	MAP14B6T8P	MAP14B6T8P			
Cooling capacity 100% (* ²)	(kW)		67.0		73.5		80				
Total weight	(kg)		240	240	240	240	240	240			
Compressor	Motor output	(kW)	3.9 x 2	3.9 x 2	4.8 x 2	3.9 x 2	5.4 x 2	5.4 x 2			
Fan unit	Motor output	(kW)	1.0	1.0	1.0	1.0	1.0	1.0			
	Air volume	(m ³ /s)	3.4	3.4	3.4	3.4	3.4	3.4			
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 3.5			ø 3.5					
		Liquid side (cm)	ø 1.9			ø 1.9					
		Balance pipe (cm)	ø .95			ø .95					
Sound pressure level	(dB(A))		62		62		62				

Combination

Technical specifications											
Equivalent HP			30HP		32HP		34HP				
Model name	50Hz	MMY-	AP3016T8P			AP3216T8P					
Outdoor unit type	Inverter										
Power supply (* ¹)	3phase 4wires 50Hz 400V (380-415V)										
Outdoor unit model	50Hz	MMY-	MAP1606T8P	MAP14B6T8P	MAP1606T8P	MAP1606T8P	MAP18B6T8P	MAP1606T8P			
Cooling capacity 100% (* ²)	(kW)		85.0		90.0		95.4				
Total weight	(kg)		298	298	298	298	298	298			
Compressor	Motor output	(kW)	5.8 x 2	5.4 x 2	5.8 x 2	5.8 x 2	6.9 x 2	5.8 x 2			
Fan unit	Motor output	(kW)	1.0	1.0	1.0	1.0	1.0	1.0			
	Air volume	(m ³ /s)	3.5	3.4	3.5	3.5	3.5	3.5			
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 3.5			ø 3.5					
		Liquid side (cm)	ø 1.9			ø 1.9					
		Balance pipe (cm)	ø .95			ø .95					
Sound pressure level	(dB(A))		64		65		65				

*1 The source voltage must not fluctuate more than ±10%.

*2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

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

Combination

Technical specifications																
Equivalent HP			36HP		38HP		40HP									
Model name	50Hz	MMY-	AP3616T8P			AP3816T8P		AP4016T8P								
Outdoor unit type	Inverter															
Power supply (* ¹)	3phase 4wires 50Hz 400V (380-415V)															
Outdoor unit model	50Hz	MMY-	MAP18B6T8P	MAP18B6T8P	MAP2206T8P	MAP1606T8P	MAP2206T8P	MAP18B6T8P								
Cooling capacity 100% (* ²)	(kW)		100.8		106.5		111.9									
Total weight			298	298	369	298	369	298								
Compressor	Motor output	(kW)	6.9 x 2	6.9 x 2	9.0 x 2	5.8 x 2	9.0 x 2	6.9 x 2								
Fan unit	Motor output	(kW)	1.0	1.0	2.0	1.0	2.0	1.0								
	Air volume	(m ³ /s)	3.5	3.5	5.1	3.5	5.1	3.5								
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 4.1		ø 4.1		ø 4.1									
		Liquid side (cm)	ø 2.2		ø 2.2		ø 2.2									
		Balance pipe (cm)	ø .95		ø .95		ø .95									
Sound pressure level	(dB(A))		65		64.5		64.5									

Combination

Technical specifications															
Equivalent HP			42HP		44HP		46HP		48HP						
Model name	50Hz	MMY-	AP4216T8P		AP4416T8P		AP4616T8P		AP4816T8P						
Outdoor unit type	Inverter														
Power supply (* ¹)	3phase 4wires 50Hz 400V (380-415V)														
Outdoor unit model	50Hz	MMY-	MAP2206T8P	MAP2006T8P	MAP2206T8P	MAP2206T8P	MAP1606T8P	MAP14B6T8P	MAP1606T8P	MAP1606T8P					
Cooling capacity 100% (* ²)	(kW)		117.5		123.0		130.0		135.0						
Total weight	(kg)		369	369	369	369	298	298	298	298					
Compressor	Motor output	(kW)	9.0 x 2	7.6 x 2	9.0 x 2	9.0 x 2	5.8 x 2	5.8 x 2	5.4 x 2	5.8 x 2					
Fan unit	Motor output	(kW)	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0					
	Air volume	(m ³ /s)	5.1	5.0	5.1	5.1	3.5	3.5	3.4	3.5					
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 4.1		ø 4.1		ø 4.1		ø 4.1						
		Liquid side (cm)	ø 2.2		ø 2.2		ø 2.2		ø 2.2						
		Balance pipe (cm)	ø .95		ø .95		ø .95		ø .95						
Sound pressure level	(dB(A))		64		64		66		67						

*1 The source voltage must not fluctuate more than ±10%.

*2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

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

Combination

Technical specifications															
Equivalent HP			50HP			52HP			54HP						
Model name	50Hz	MMY-	AP5016T8P			AP5216T8P			AP5416T8P						
Outdoor unit type	Inverter														
Power supply (* ²)	3phase 4wires 50Hz 400V (380-415V)														
Outdoor unit model	50Hz	MMY-	MAP18B6T8P	MAP1606T8P	MAP1606T8P	MAP18B6T8P	MAP18B6T8P	MAP1606T8P	MAP18B6T8P	MAP18B6T8P					
Cooling capacity 100% (* ²)	(kW)		140.4			145.8			151.2						
Total weight	(kg)	298	298	298	298	298	298	298	298	298					
Compressor	Motor output	(kW)	6.9 x 2	5.8 x 2	5.8 x 2	6.9 x 2	6.9 x 2	5.8 x 2	6.9 x 2	6.9 x 2					
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 /s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5					
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 4.1			ø 4.1			ø 4.1						
		Liquid side (cm)	ø 2.2			ø 2.2			ø 2.2						
		Balance pipe (cm)	ø .95			ø .95			ø .95						
Sound pressure level	(dB(A))		67			67			67						

Combination

Technical specifications															
Equivalent HP			56HP			58HP			60HP						
Model name	50Hz	MMY-	AP5616T8P			AP5816T8P			AP6016T8P						
Outdoor unit type	Inverter														
Power supply (* ¹)	3phase 4wires 50Hz 400V (380-415V)														
Outdoor unit model	50Hz	MMY-	MAP2006T8P	MAP18B6T8P	MAP18B6T8P	MAP2206T8P	MAP18B6T8P	MAP18B6T8P	MAP2206T8P	MAP2206T8P					
Cooling capacity 100% (* ²)	(kW)		156.8			162.3			168.0						
Total weight	(kg)	369	298	298	369	298	298	369	369	298					
Compressor	Motor output	(kW)	7.6 x 2	6.9 x 2	6.9 x 2	9.0 x 2	6.9 x 2	6.9 x 2	9.0 x 2	9.0 x 2					
Fan unit	Motor output	(kW)	2.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0					
	Air volume	(m ³ /s)	5.0	3.5	3.5	5.1	3.5	3.5	5.1	3.5					
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 4.1			ø 4.1			ø 4.1						
		Liquid side (cm)	ø 2.2			ø 2.2			ø 2.2						
		Balance pipe (cm)	ø .95			ø .95			ø .95						
Sound pressure level	(dB(A))		66.5			66.5			66.5						

*1 The source voltage must not fluctuate more than ±10%.

*2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

The standard piping means that main pipe length is 5m, branching pipe length is 2.5m of branch piping connected with a 0 meter height.

Outdoor unit specifications

Cooling only high efficiency model (Single unit)

Technical specifications

Equivalent HP		8HP	10HP	12HP
Model name	50Hz (MMY-)	MAP0806T8P	MAP1006T8P	MAP1206T8P
Outdoor unit type		Inverter		
Power supply (*1)		3phase 4wires 50Hz 400V (380-415V)		
Cooling capacity 100% (*2)	(kW)	22.4	28.0	33.5
External dimensions (Height / Width / Depth)	(cm)	180 / 99 / 78	180 / 99 / 78	180 / 99 / 78
	(m)	1.80 / 0.99 / 0.78	1.80 / 0.99 / 0.78	1.80 / 0.99 / 0.78
Total weight	(kg)	240	240	240
Compressor	Motor output (kW)	2.1 x 2	3.1 x 2	3.9 x 2
Fan unit	Motor output (kW)	1.0	1.0	1.0
	Air volume (m³/s)	2.7	2.7	3.4
Refrigerant piping	Gas side (cm)	ø 1.9	ø 2.2	ø 2.8
	Liquid side (cm)	ø 1.3	ø 1.3	ø 1.3
	Balance pipe (cm)	ø .95	ø .95	ø .95
Sound pressure level	(dB(A))	55	57	59

Single unit

Technical specifications

Equivalent HP		14HP	16HP	18HP
Model name	50Hz (MMY-)	MAP1406T8P	MAP1606T8P	MAP1806T8P
Outdoor unit type		Inverter		
Power supply (*1)		3phase 4wires 50Hz 400V (380-415V)		
Cooling capacity 100% (*2)	(kW)	40.0	45.0	50.4
External dimensions (Height / Width / Depth)	(cm)	180 / 121 / 78	180 / 121 / 78	180 / 160 / 78
	(m)	1.80 / 1.21 / 0.78	1.80 / 1.21 / 0.78	1.80 / 1.60 / 0.78
Total weight	(kg)	298	298	369
Compressor	Motor output (kW)	4.8 x 2	5.8 x 2	6.5 x 2
Fan unit	Motor output (kW)	1.0	1.0	2.0
	Air volume (m³/s)	3.4	3.5	4.8
Refrigerant piping	Gas side (cm)	ø 2.9	ø 2.9	ø 2.9
	Liquid side (cm)	ø 1.6	ø 1.6	ø 1.6
	Balance pipe (cm)	ø .95	ø .95	ø .95
Sound pressure level	(dB(A))	60	62	60

*1 The source voltage must not fluctuate more than ±10%.

*2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

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

Combination

Technical specifications																				
Equivalent HP			20HP		22HP		24HP		26HP											
Model name	50Hz	MMY-	MAP2026T8P			MAP2226T8P			AP2426T8P											
Outdoor unit type	Inverter																			
Power supply (* ¹)	3phase 4wires 50Hz 400V (380-415V)																			
Outdoor unit model	50Hz	MMY-	MAP1006T8P	MAP1006T8P	MAP1206T8P	MAP1006T8P	MAP1206T8P	MAP1206T8P	MAP1406T8P	MAP1206T8P										
Cooling capacity 100% (* ²)	(kW)		56.0		61.5		67.0		73.5											
Total weight	(kg)		240	240	240	240	240	240	298	240										
Compressor	Motor output	(kW)	3.1 x 2	3.1 x 2	3.9 x 2	3.1 x 2	3.9 x 2	3.9 x 2	4.8 x 2	3.9 x 2										
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 /s)	2.7	2.7	2.7	2.7	3.4	3.4	3.4	3.4										
Refrigerant piping	Main pipe diameter		Gas side (cm)	ø 2.9		ø 2.9	ø 3.5		ø 3.5											
			Liquid side (cm)	ø 1.6		ø 1.9	ø 1.9		ø 1.9											
			Balance pipe (cm)	ø .95		ø .95	ø .95		ø .95											
Sound pressure level	(dB(A))			60		61.5		62		62.5										

Combination

Technical specifications																				
Equivalent HP			28HP		30HP		32HP		34HP											
Model name	50Hz	MMY-	AP2826T8P			AP3026T8P			AP3226T8P											
Outdoor unit type	Inverter																			
Power supply (* ¹)	3phase 4wires 50Hz 400V (380-415V)																			
Outdoor unit model	50Hz	MMY-	MAP1406T8P	MAP1406T8P	MAP1606T8P	MAP1406T8P	MAP1606T8P	MAP1606T8P	MAP1806T8P	MAP1606T8P										
Cooling capacity 100% (* ²)	(kW)		80		85.0		90.0		95.4											
Total weight	(kg)		298	298	298	298	298	298	369	298										
Compressor	Motor output	(kW)	4.8 x 2	4.8 x 2	5.8 x 2	4.8 x 2	5.8 x 2	5.8 x 2	6.5 x 2	5.8 x 2										
Fan unit	Motor output	(kW)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0										
	Air volume	(m ³ /s)	3.4	3.4	3.5	3.4	3.5	3.5	4.8	3.5										
Refrigerant piping	Main pipe diameter		Gas side (cm)	ø 3.5		ø 3.5	ø 3.5		ø 3.5											
			Liquid side (cm)	ø 1.9		ø 1.9	ø 1.9		ø 1.9											
			Balance pipe (cm)	ø .95		ø .95	ø .95		ø .95											
Sound pressure level	(dB(A))			63		64.5		65		64.5										

*1 The source voltage must not fluctuate more than ±10%.

*2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

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

Combination

Technical specifications																
Equivalent HP			36HP			38HP			40HP							
Model name		50Hz	MMY-	AP3626T8P			AP3826T8P			AP4026T8P						
Outdoor unit type		Inverter														
Power supply (* ¹)		3phase 4wires 50Hz 400V (380-415V)														
Outdoor unit model		50Hz	MMY-	MAP1206T8P	MAP1206T8P	MAP1206T8P	MAP1406T8P	MAP1206T8P	MAP1406T8P	MAP1406T8P						
Cooling capacity 100% (* ²)		(kW)		100.5			107.0			113.5						
Total weight		(kg)		240	240	240	298	240	240	298						
Compressor	Motor output	(kW)		3.9×2	3.9×2	3.9×2	4.8×2	3.9×2	3.9×2	4.8×2						
Fan unit	Motor output	(kW)		1.0	1.0	1.0	1.0	1.0	1.0	1.0						
	Air volume	(m ³ /s)		3.4	3.4	3.4	3.4	3.4	3.4	3.4						
Refrigerant piping	Main pipe diameter	Gas side (cm)		ø 4.1			ø 4.1			ø 4.1						
		Liquid side (cm)		ø 2.2			ø 2.2			ø 2.2						
		Balance pipe (cm)		ø .95			ø .95			ø .95						
Sound pressure level		(dB(A))		64			64.5			64.5						

Combination

Technical specifications																		
Equivalent HP			42HP			44HP			46HP			48HP						
Model name		50Hz	MMY-	AP4226T8P			AP4426T8P			AP4626T8P			AP4826T8P					
Outdoor unit type		Inverter																
Power supply (* ¹)		3phase 4wires 50Hz 400V (380-415V)																
Outdoor unit model	50Hz	MMY-	MAP1406T8P	MAP1406T8P	MAP1406T8P	MAP1606T8P	MAP1406T8P	MAP1406T8P	MAP1606T8P	MAP1406T8P	MAP1606T8P	MAP1606T8P						
Cooling capacity 100% (* ²)		(kW)		120.0			125.0			130.0			135.0					
Total weight		(kg)		298	298	298	298	298	298	298	298	298						
Compressor	Motor output	(kW)		4.8×2	4.8×2	4.8×2	5.8×2	4.8×2	4.8×2	5.8×2	5.8×2	5.8×2						
Fan unit	Motor output	(kW)		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0						
	Air volume	(m ³ /s)		3.4	3.4	3.4	3.5	3.4	3.5	3.5	3.5	3.5						
Refrigerant piping	Main pipe diameter	Gas side (cm)		ø 4.1			ø 4.1			ø 4.1								
		Liquid side (cm)		ø 2.2			ø 2.2			ø 2.2								
		Balance pipe (cm)		ø .95			ø .95			ø .95								
Sound pressure level		(dB(A))		65			65.5			66.5			67					

*1 The source voltage must not fluctuate more than ±10%.

*2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

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

Combination

Technical specifications															
Equivalent HP			50HP			52HP			54HP						
Model name	50Hz	MMY-	AP5026T8P			AP5226T8P			AP5426T8P						
Outdoor unit type	Inverter														
Power supply (* ²)	3phase 4wires 50Hz 400V (380-415V)														
Outdoor unit model	50Hz	MMY-	MAP1806T8P	MAP1606T8P	MAP1606T8P	MAP2006T8P	MAP1606T8P	MAP1606T8P	MAP2006T8P	MAP2006T8P					
Cooling capacity 100%(* ²)	(kW)		140.4			146.0			152.0						
Total weight	(kg)	369	298	298	369	298	298	369	369	369					
Compressor	Motor output	(kW)	6.5 x 2	5.8 x 2	5.8 x 2	7.6 x 2	5.8 x 2	5.8 x 2	7.6 x 2	7.6 x 2					
Fan unit	Motor output	(kW)	2.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0					
	Air volume	(m ³ /s)	4.8	3.5	3.5	5.0	3.5	3.5	5.0	3.4					
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 4.1			ø 4.1			ø 4.1						
		Liquid side (cm)	ø 2.2			ø 2.2			ø 2.2						
		Balance pipe (cm)	ø .95			ø .95			ø .95						
Sound pressure level	(dB(A))		66.5			66.5			65.5						

Combination

Technical specifications															
Equivalent HP			56HP			58HP			60HP						
Model name	50Hz	MMY-	AP5626T8P			AP5826T8P			AP6026T8P						
Outdoor unit type	Inverter														
Power supply (* ²)	3phase 4wires 50Hz 400V (380-415V)														
Outdoor unit model	50Hz	MMY-	MAP2006T8P	MAP2006T8P	MAP1606T8P	MAP2206T8P	MAP2006T8P	MAP1606T8P	MAP2206T8P	MAP1606T8P					
Cooling capacity 100%(* ²)	(kW)		157.0			162.5			168.0						
Total weight	(kg)	369	369	298	369	369	298	369	369	298					
Compressor	Motor output	(kW)	7.6 x 2	7.6 x 2	5.8 x 2	9.0 x 2	7.6 x 2	5.8 x 2	9.0 x 2	9.0 x 2					
Fan unit	Motor output	(kW)	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0					
	Air volume	(m ³ /s)	5.0	5.0	3.5	5.1	5.0	3.5	5.1	3.5					
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 4.1			ø 4.1			ø 4.1						
		Liquid side (cm)	ø 2.2			ø 2.2			ø 2.2						
		Balance pipe (cm)	ø .95			ø .95			ø .95						
Sound pressure level	(dB(A))		66.5			66.5			66.5						

*1 The source voltage must not fluctuate more than ±10%.

*2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

The standard piping means that main pipe length is 5m, branching pipe length is 2.5m of branch piping connected with a 0 meter height.

Outdoor unit specifications

Heat pump standard model (Single unit)

Technical specifications							
Equivalent HP		8HP	10HP	12HP	14HP	16HP	
Model name	Heat Pump	50Hz (MMY-)	MAP0806HT8P	MAP1006HT8P	MAP1206HT8P	MAP1406HT8P	MAP1606HT8P
Outdoor unit type		Inverter					
Power supply (*)		3phase 4wires 50Hz 400V (380-415V)					
Cooling capacity 100% ^(*)	(kW)	22.4	28.0	33.5	40.0	45.0	
Heating capacity 100% ^(*)	(kW)	25.0	31.5	37.5	45.0	50.0	
External dimensions (Height / Width / Depth)	(m)	1.8 / 0.99 / 0.78	1.8 / 0.99 / 0.78	1.8 / 0.99 / 0.78	1.8 / 1.2 / 0.78	1.8 / 1.2 / 0.78	
Total weight	Heat Pump (kg)	242	242	242	299	299	
Compressor	Motor output (kW)	2.1 x 2	3.1 x 2	3.9 x 2	4.8 x 2	5.8 x 2	
Fan unit	Motor output (kW)	1.0	1.0	1.0	1.0	1.0	
	Air volume (m³/s)	2.7	2.7	3.4	3.4	3.5	
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 1.9	ø 2.2	ø 2.9	ø 2.9	
		Liquid side (cm)	ø 1.3	ø 1.3	ø 1.6	ø 1.6	
		Balance pipe (cm)	ø .95	ø .95	ø .95	ø .95	
Sound pressure level (Cooling/Heating) (dB(A))		55 / 56	57 / 58	59 / 61	60 / 62	62 / 64	

Single unit

Technical specifications

Technical specifications							
Equivalent HP		18HP	20HP	22HP			
Model name	Heat Pump	50Hz MMY-	MAP1806HT8P	MAP2006HT8P	MAP2206HT8P		
Outdoor unit type		Inverter					
Power supply (*)		3phase 4wires 50Hz 400V (380-415V)					
Cooling capacity 100% ^(*)	(kW)	50.4	56.0	61.5			
Heating capacity 100% ^(*)	(kW)	56.0	63.0	64.0			
External dimensions (Height / Width / Depth)	m	1.8 / 1.6 / 0.78	1.8 / 1.6 / 0.78	1.8 / 1.6 / 0.78			
Total weight	Heat Pump (kg)	370	370	370			
Compressor	Motor output (kW)	6.5 x 2	7.6 x 2	9.0 x 2			
Fan unit	Motor output (kW)	2.0	2.0	2.0			
	Air volume (m³/s)	4.8	5.0	5.1			
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 2.9	ø 2.9	ø 2.9		
		Liquid side (cm)	ø 1.6	ø 1.6	ø 1.9		
		Balance pipe (cm)	ø .95	ø .95	ø .95		
Sound pressure level (Cooling/Heating) (dB(A))		60.0 / 61.0	61.0 / 62.0	61.0 / 62.0			

*1 The source voltage must not fluctuate more than ±10%.

*2 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
 Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

Combination

Technical specifications												
Equivalent HP				24HP		26HP		28HP				
Model name	Heat Pump	50Hz	MMY-	AP2416HT8P		AP2616HT8P		AP2816HT8P				
Outdoor unit type	Inverter											
Power supply ^(*)1)	3phase 4wires 50Hz 400V (380-415V)											
Outdoor unit model	Heat Pump	50Hz	MMY-	MAP1206HT8P	MAP1206HT8P	MAP1406HT8P	MAP1206HT8P	MAP1606HT8P	MAP1206HT8P			
Cooling capacity 100% ^(*)2)	(kW)	67.0		73.5		78.5						
Heating capacity 100% ^(*)2)	(kW)	75.0		82.5		87.5						
Total weight	Heat Pump	(kg)	242	242	299	242	299	242				
Compressor	Motor output	(kW)	3.9 x 2	3.9 x 2	4.8 x 2	3.9 x 2	5.8 x 2	4.8 x 2				
Fan unit	Motor output	(kW)	1.0	1.0	1.0	1.0	1.0	1.0				
	Air volume	(m ³ /s)	3.4	3.4	3.4	3.4	3.5	3.4				
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 3.5		ø 3.5		ø 3.5					
		Liquid side (cm)	ø 1.9		ø 1.9		ø 1.9					
		Balance pipe (cm)	ø .95		ø .95		ø .95					
Sound pressure level (Cooling/Heating)	(dB(A))	62.5 / 64.5		63.0 / 65.0		64.0 / 66.0						

Combination

Technical specifications												
Equivalent HP				30HP		32HP		34HP				
Model name	Heat Pump	50Hz	MMY-	AP3016HT8P		AP3216HT8P		AP3416HT8P				
Outdoor unit type	Inverter											
Power supply ^(*)1)	3phase 4wires 50Hz 400V (380-415V)											
Outdoor unit model	Heat Pump	50Hz	MMY-	MAP1606HT8P	MAP1406HT8P	MAP1606HT8P	MAP1606HT8P	MAP1806HT8P	MAP1606HT8P			
Cooling capacity 100% ^(*)2)	(kW)	85.0		90.0		95.4						
Heating capacity 100% ^(*)2)	(kW)	95.0		100.0		106.0						
Total weight	Heat Pump	(kg)	299	299	299	299	370	299				
Compressor	Motor output	(kW)	5.8 x 2	4.8 x 2	5.8 x 2	5.8 x 2	6.5 x 2	5.8 x 2				
Fan unit	Motor output	(kW)	1.0	1.0	1.0	1.0	2.0	1.0				
	Air volume	(m ³ /s)	3.4	3.4	3.4	3.4	4.8	3.5				
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 34.9		ø 34.9		ø 34.9					
		Liquid side (cm)	ø 19.1		ø 19.1		ø 19.1					
		Balance pipe (cm)	ø 9.5		ø 9.5		ø 9.5					
Sound pressure level (Cooling/Heating)	(dB(A))	64.5 / 66.5		65.5 / 67.5		64.5 / 66.0						

*1 The source voltage must not fluctuate more than ±10%.

*2 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
 Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

Combination

Technical specifications															
Equivalent HP				36HP		38HP		40HP							
Model name	Heat Pump	50Hz	MMY-	AP3616HT8P		AP3816HT8P		AP4016HT8P							
Outdoor unit type															
Inverter															
Power supply (*1)															
3phase 4wires 50Hz 400V (380-415V)															
Outdoor unit model	Heat Pump	50Hz	MMY-	MAP2006HT8P	MAP1606HT8P	MAP2206HT8P	MAP1606HT8P	MAP2006HT8P	MAP2006HT8P						
Cooling capacity 100% (*2)	(kW)			101.0		106.5			112.0						
Heating capacity 100% (*2)	(kW)			113.0		114.0			126.0						
Total weight	Heat Pump	(kg)		370	299	370	299	370	370						
Compressor	Motor output	(kW)		7.6 x 2	5.8 x 2	9.0 x 2	5.8 x 2	7.6 x 2	7.6 x 2						
Fan unit	Motor output	(kW)		2.0	1.0	2.0	1.0	2.0	2.0						
	Air volume	(m³/s)		5.0	3.5	5.1	3.5	5.0	5.0						
Refrigerant piping	Main pipe diameter			Gas side (cm) Liquid side (cm) Balance pipe (cm)	ø 4.1 ø 2.2 ø .95	ø 4.1 ø 2.2 ø .95		ø 4.1 ø 2.2 ø .95							
Sound pressure level (Cooling/Heating)	(dB(A))			65.0 / 66.5		65.0 / 66.5		64.5 / 65.5							

Combination

Technical specifications															
Equivalent HP				42HP		44HP		46HP		48HP					
Model name	Heat Pump	50Hz	MMY-	AP4216HT8P		AP4416HT8P		AP4616HT8P		AP4816HT8P					
Outdoor unit type															
Inverter															
Power supply (*1)															
3phase 4wires 50Hz 400V (380-415V)															
Outdoor unit model	Heat Pump	50Hz	MMY-	MAP2206HT8P	MAP2006HT8P	MAP2206HT8P	MAP2206HT8P	MAP1606HT8P	MAP1606HT8P	MAP1606HT8P	MAP1606HT8P				
Cooling capacity 100% (*2)	(kW)			117.5		123.0		130.0		135.0					
Heating capacity 100% (*2)	(kW)			127.0		128.0		145.0		150.0					
Total weight	Heat Pump	(kg)		370	370	370	370	299	299	299	299				
Compressor	Motor output	(kW)		9.0 x 2	7.6 x 2	9.0 x 2	9.0 x 2	5.8 x 2	5.8 x 2	5.8 x 2	5.8 x 2				
Fan unit	Motor output	(kW)		2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0				
	Air volume	(m³/s)		5.1	5.0	5.1	5.1	3.5	3.4	3.5	3.5				
Refrigerant piping	Main pipe diameter			Gas side (cm) Liquid side (cm) Balance pipe (cm)	ø 4.1 ø 2.2 ø .95	ø 4.1 ø 2.2 ø .95		ø 4.1 ø 2.2 ø .95		ø 4.1 ø 2.2 ø .95					
Sound pressure level (Cooling/Heating)	(dB(A))			64.5 / 65.5		64.5 / 65.5		66.5 / 68.5		67.0 / 69.0					

*1 The source voltage must not fluctuate more than ±10%.

*2 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
 Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

Combination

Technical specifications															
Equivalent HP				50HP		52HP		54HP							
Model name	Heat Pump	50Hz	MMY-	AP5016HT8P		AP5216HT8P		AP5416HT8P							
Outdoor unit type	Inverter														
Power supply (*) ²⁾	3phase 4wires 50Hz 400V (380-415V)														
Outdoor unit model	Heat Pump	50Hz	MMY-	MAP1806HT8P	MAP1606HT8P	MAP1606HT8P	MAP2006HT8P	MAP1606HT8P	MAP1606HT8P						
Cooling capacity 100% (*) ²⁾	(kW)	140.4		146.0		151.5									
Heating capacity 100% (*) ²⁾	(kW)	156.5		163.0		164.0									
Total weight	Heat Pump	(kg)	370	299	299	370	299	299	299						
Compressor	Motor output	(kW)	6.5 x 2	5.8 x 2	5.8 x 2	7.6 x 2	5.8 x 2	5.8 x 2	5.8 x 2						
Fan unit	Motor output	(kW)	2.0	1.0	1.0	2.0	1.0	1.0	1.0						
	Air volume	(m³/s)	4.8	3.5	3.5	5.0	3.5	3.5	3.5						
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 4.1		ø 4.1		ø 4.1								
		Liquid side (cm)	ø 2.2		ø 2.2		ø 2.2								
		Balance pipe (cm)	ø .95		ø .95		ø .95								
Sound pressure level (Cooling/Heating)		(dB(A))	66.5 / 68.0		66.5 / 68.5		66.5 / 68.5								

Combination

Technical specifications															
Equivalent HP				56HP		58HP		60HP							
Model name	Heat Pump	50Hz	MMY-	AP5616HT8P		AP5816HT8P		AP6016HT8P							
Outdoor unit type	Inverter														
Power supply (*) ²⁾	3phase 4wires 50Hz 400V (380-415V)														
Outdoor unit model	Heat Pump	50Hz	MMY-	MAP2006HT8P	MAP2006HT8P	MAP1606HT8P	MAP2206HT8P	MAP2006HT8P	MAP2206HT8P						
Cooling capacity 100% (*) ²⁾	(kW)	157.0		162.5		168.0									
Heating capacity 100% (*) ²⁾	(kW)	176.0		177.0		178.0									
Total weight	Heat Pump	(kg)	370	370	299	370	370	299	299						
Compressor	Motor output	(kW)	7.6 x 2	7.6 x 2	5.8 x 2	9.0 x 2	7.6 x 2	5.8 x 2	9.0 x 2						
Fan unit	Motor output	(kW)	2.0	2.0	1.0	2.0	2.0	1.0	2.0						
	Air volume	(m³/s)	5.0	5.0	3.5	5.1	5.0	3.5	3.5						
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 4.1		ø 4.1		ø 4.1								
		Liquid side (cm)	ø 2.2		ø 2.2		ø 2.2								
		Balance pipe (cm)	ø .95		ø .95		ø .95								
Sound pressure level (Cooling/Heating)		(dB(A))	66.5 / 68.0		66.5 / 68.0		66.5 / 68.0								

*1 The source voltage must not fluctuate more than ±10%.

*2 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 standard piping means that main pipe length is 5m, branching pipe length is 2.5m of branch piping connected with a 0 meter height.

Heat pump high efficiency model (Combination)

Technical specifications									
Equivalent HP				20HP	22HP	36HP			
Model name	Heat Pump	50Hz	MMY-	AP2026HT8P					
Outdoor unit type	Inverter				3phase 4 wires 50Hz 400V (380-415V)				
Outdoor unit model	Heat Pump	50Hz	MMY-	MAP1006HT8P	MAP1006HT8P	MAP1206HT8P	MAP1006HT8P		
Cooling capacity 100% ^{(*)2}	(kW)	56.0		61.5		100.5			
Heating capacity 100% ^{(*)2}	(kW)	63.0		69.0		112.5			
Total weight	Heat Pump	(kg)	242	242	242	242	242		
Compressor	Motor output	(kW)	3.1 x 2	3.1 x 2	3.9 x 2	3.1 x 2	3.9 x 2		
Fan unit	Motor output	(kW)	1.0	1.0	1.0	1.0	1.0		
	Air volume	(m³/s)	2.7	2.7	3.4	2.7	3.4		
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 2.9	ø 2.9		ø 4.1			
		Liquid side (cm)	ø 1.5	1.9		ø 2.2			
		Balance pipe (cm)	ø .95	ø .95		ø .95			
Sound pressure level (Cooling/Heating)	(dB(A))	60.5 / 61.5		61.5 / 63.0		64.0 / 66.0			

Combination

Technical specifications							
Equivalent HP				38HP	40HP	42HP	
Model name	Heat Pump	50Hz	MMY-	AP3826HT8P		AP4026HT8P	
Outdoor unit type	Inverter				3phase 4 wires 50Hz 400V (380-415V)		
Outdoor unit model	Heat Pump	50Hz	MMY-	MAP1406HT8P	MAP1206HT8P	MAP1206HT8P	MAP1406HT8P
Cooling capacity 100% ^{(*)2}	(kW)	107.0		113.5		120.0	
Heating capacity 100% ^{(*)2}	(kW)	120.0		127.5		135.0	
Total weight	Heat Pump	(kg)	299	242	242	299	299
Compressor	Motor output	(kW)	4.8 x 2	3.9 x 2	3.9 x 2	4.8 x 2	4.8 x 2
Fan unit	Motor output	(kW)	1.0	1.0	1.0	1.0	1.0
	Air volume	(m³/s)	3.4	3.4	3.4	3.4	3.4
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 4.1	ø 4.1		ø 4.1	
		Liquid side (cm)	ø 2.2	ø 2.2		ø 2.2	
		Balance pipe (cm)	ø .95	ø .95		ø .95	
Sound pressure level (Cooling/Heating)	(dB(A))	64.5 / 66.5		64.5 / 66.5		65.0 / 67.0	

Combination

Technical specifications							
Equivalent HP				44HP	54HP		
Model name	Heat Pump	50Hz	MMY-	AP4426HT8P		AP5426HT8P	
Outdoor unit type	Inverter				3phase 4 wires 50Hz 400V (380-415V)		
Outdoor unit model	Heat Pump	50Hz	MMY-	MAP1606HT8P	MAP1406HT8P	MAP1406HT8P	MAP2006HT8P
Cooling capacity 100% ^{(*)2}	(kW)	125.0		152.0			
Heating capacity 100% ^{(*)2}	(kW)	140.0		171.0			
Total weight	Heat Pump	(kg)	299	299	299	370	370
Compressor	Motor output	(kW)	5.8x2	4.8x2	4.8x2	7.6x2	7.6x2
Fan unit	Motor output	(kW)	1.0	1.0	1.0	2.0	2.0
	Air volume	(m³/s)	3.5	3.4	3.4	5.0	5.0
Refrigerant piping	Main pipe diameter	Gas side (cm)	ø 4.1	ø 4.1		ø 4.1	
		Liquid side (cm)	ø 2.2	ø 2.2		ø 2.2	
		Balance pipe (cm)	ø .95	ø .95		ø .95	
Sound pressure level (Cooling/Heating)	(dB(A))	66.0 / 68.0		65.5 / 67.0			

*1 The source voltage must not fluctuate more than ±10%.

*2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

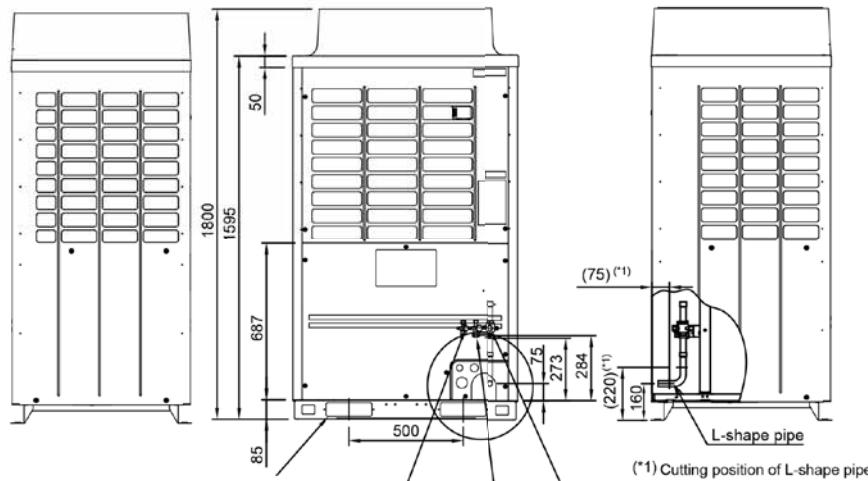
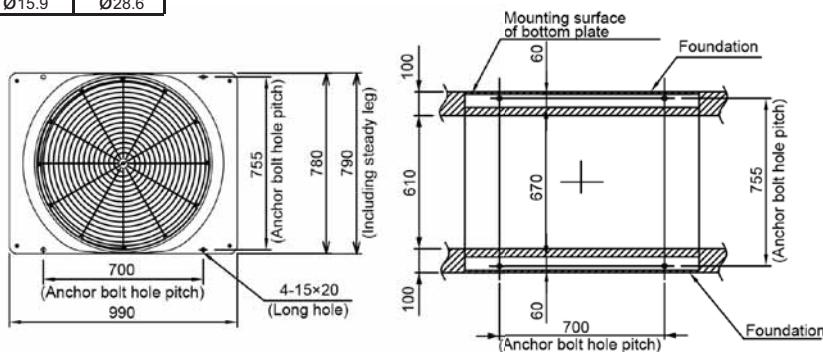
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

The standard piping means that main pipe length is 5m, branching pipe length is 2.5m of branch piping connected with a 0 meter height.

Outdoor units external drawings

**Model : MMY-MAP0806HT8P / MMY-MAP0806T8P
 MMY-MAP1006HT8P / MMY-MAP1006T8P
 MMY-MAP1206HT8P / MMY-MAP1206T8P
 MMY-MAP14B6T8P**

Model Name	Liquid Pipe	Gas Pipe
MAP0806 type	Ø12.7	Ø19.1
MAP1006 type	Ø12.7	Ø22.2
MAP1206 type	Ø12.7	Ø28.6
MAP14B6 type	Ø15.9	Ø28.6



Square hole (for freight handling) 2-60X200

Balance pipe connection port Ø9.5

(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.

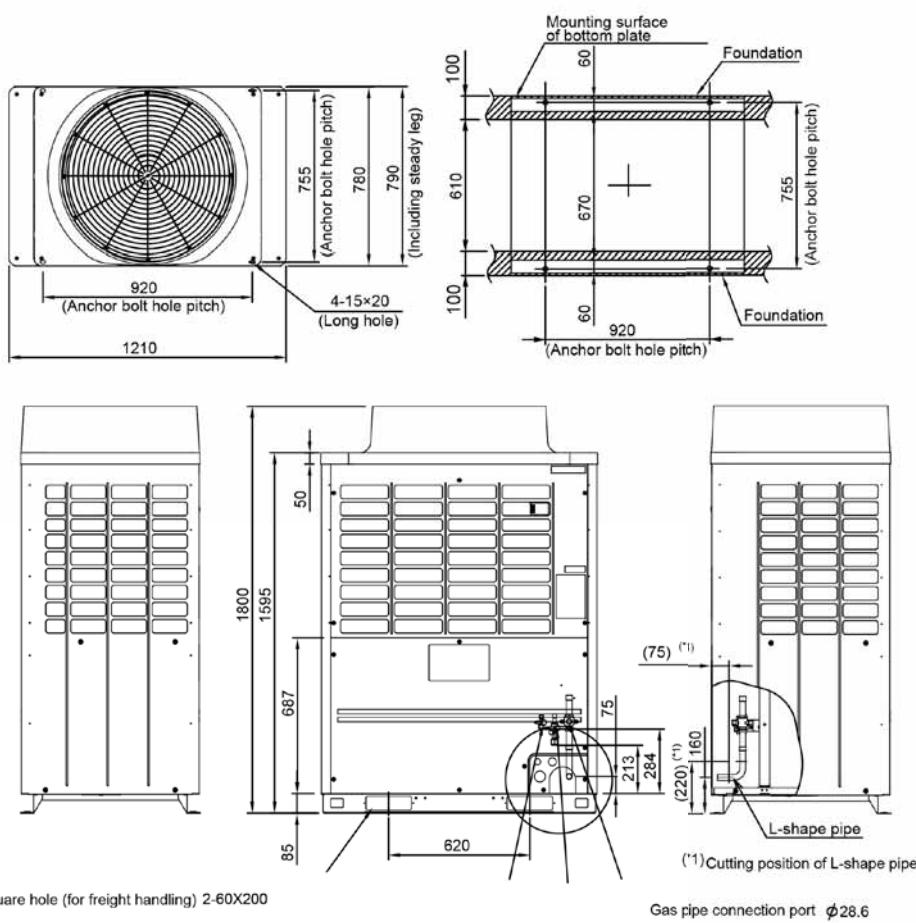
Gas pipe connection port ØA

Liquid pipe connection port Ø12.7

(Unit:mm)

**Model : MMY-MAP1406HT8P / MMY-MAP1406T8P
 MMY-MAP1606HT8P / MMY-MAP1606T8P
 MMY-MAP18B6T8P**

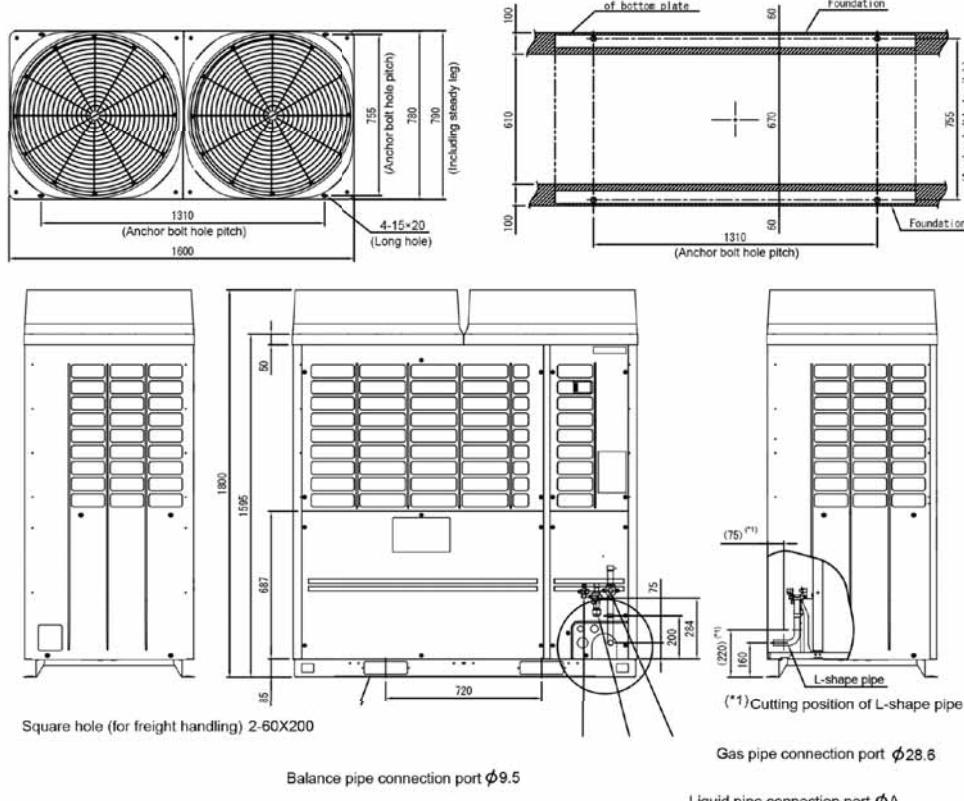
Model Name	Liquid Pipe	Gas Pipe
MAP1406 type	Ø15.9	Ø28.6
MAP1606 type	Ø15.9	Ø28.6
MAP18B6 type	Ø15.9	Ø28.6



- (Note)
- 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.
 - Limit the height of the obstacle surrounding the outdoor unit to 800mm or less from the bottom end of the outdoor unit.
 - 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.
 - Dimensional drawing of corrosion heavy protection model is the same as that of standard model.
- (Unit:mm)

**Model : MMY-MAP1806HT8P / MMY-MAP1806T8P
 MMY-MAP2006HT8P / MMY-MAP2006T8P
 MMY-MAP2206HT8P / MMY-MAP2206T8P**

Model Name	Liquid Pipe	Gas Pipe
MAP1806 type	Ø15.9	Ø28.6
MAP2006 type	Ø15.9	Ø28.6
MAP2206 type	Ø19.1	Ø28.6



(Note)

- 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.
- Limit the height of the obstacle surrounding the outdoor unit to 800mm or less from the bottom end of the outdoor unit.
- 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.
- Dimensional drawing of corrosion heavy protection model is the same as that of standard model.

(Unit:mm)



Indoor units for SMMSe



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#
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-AP0154YH1-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 6 series
007 type 2.2 kW (0.8HP)		MMD-AP0074SPH1-E		MMK-AP0076HP1-IN
009 type 2.8 kW (1HP)		MMD-AP0094SPH1-E		MMK-AP0096HP1-IN
012 type 3.6 kW (1.25HP)		MMD-AP0124SPH1-E		MMK-AP0126HP1-IN
015 type 4.5 kW (1.7HP)		MMD-AP0154SPH1-E	MMC-AP0157HP1-E	MMK-AP0156HP1-IN
018 type 5.6 kW (2HP)	MMD-AP0186HP1-E	MMD-AP0184SPH1-E	MMC-AP0187HP1-E	MMK-AP0186HP1-IN
024 type 7.1 kW (2.5HP)	MMD-AP0246HP1-E	MMD-AP0244SPH1-E	MMC-AP0247HP1-E	MMK-AP0246HP1-IN
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-AP0726HP1-E			
096 type 28.0 kW (10HP)	MMD-AP0966HP1-E			

Drain pump in-built

* Drain pump in-built upto 6HP



Cooling capacity (HP equivalent)	Console	Floor standing cabinet type	Floor standing concealed type	Floor standing type	Floor standing duct type	Floor standing direct 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)					MMF-AP0724DH-V	MMF-AP0724H-VA
096 type 28.0 kW (10HP)					MMF-AP0964DH-V	MMF-AP0964H-VA
144 type 45.0 kW (16HP)					MMF-AP1444DH-V	MMF-AP1444H-VA
192 type 56.0 kW (20HP)					MMF-AP1924DH-V	MMF-AP1924H-VA



Cooling capacity (HP equivalent)	Air-to-air heat exchanger with DX-coil type	Fresh air intake Indoor unit type	Air volume	Air-to-air heat exchanger*
007 type 2.2 kW (0.8HP)			150 m³/h	VN-M150HE
009 type 2.8 kW (1HP)	MMD-VN502HEXE		250 m³/h	VN-M250HE
012 type 3.6 kW (1.25HP)			300 m³/h	VN-M350HE
015 type 4.5 kW (1.7HP)	MMD-VN800HEXE		500 m³/h	VN-M500HE
018 type 5.6 kW (2HP)			650 m³/h	VN-M650HE
024 type 7.1 kW (2.5HP)	MMD-VN1002HEXE/2		800 m³/h	VN-M800HE
027 type 8.0 kW (3HP)			1000 m³/h	VN-M1000HE
030 type 9.0 kW (3.2HP)			1500 m³/h	VN-M1500HE
036 type 11.2 kW (4HP)			2000 m³/h	VN-M2000HE
048 type 14.0 kW (5HP)		MMD-AP0481HFE		
056 type 16.0kW (6HP)				
072 type 22.4kW (8HP)		MMD-AP0721HFE		
096 type 28.0 kW (10HP)		MMD-AP0961HFE		

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

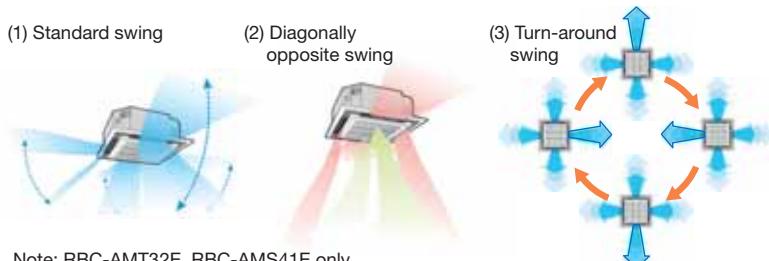


4-way Air Discharge Cassette Type

MMU-AP***4HP1-E

Individual louver control

The angles of each of the four louver can be set individually
=> Enables airflow to be adapted to user preferences.



Note: RBC-AMT32E, RBC-AMS41E only

Easy installation

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



RBC-U31PGP(W)-E

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 50Hz 230V (220–240V) / (Separate power supply for indoor units required.)																
Appearance (Ceiling panel)		Model	RBC-U31PGP(W)-E													
External dimensions: Main unit (Ceiling panel)*	Height	(cm)	25.6 (3)*						31.9 (3)*							
		(m)	0.26 (0.03)*						0.32 (0.03)*							
	Width	(cm)	84 (95)*													
		(m)	0.84 (0.95)*													
	Depth	(cm)	84 (95)*													
		(m)	0.84 (0.95)*													
Total weight: Main unit (Ceiling panel)*		(kg)	20 (4)*						25 (4)*							
Fan unit	Standard air flow (High/Mid/Low)	(CFM) m³/s	470/430/400 0.22/0.20/0.19	546/488/465 0.26/0.23/0.22	618/541/471 0.29/0.26/0.22	758/541/471 0.36/0.26/0.22	777/654/500 0.37/0.30/0.24	1159/841/629 0.55/0.40/0.30	1253/841/665 0.59/0.40/0.31	1253/894/724 0.59/0.42/0.34						
		Motor output (W)	14			20		68	72							
Connecting pipe	Gas side	(cm)	ø 0.95	ø 1.27		ø 1.59										
	Liquid side	(cm)	ø 0.64				ø 0.95									
	Drain port (nominal dia.)	(cm)	2.5 (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						

* 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.

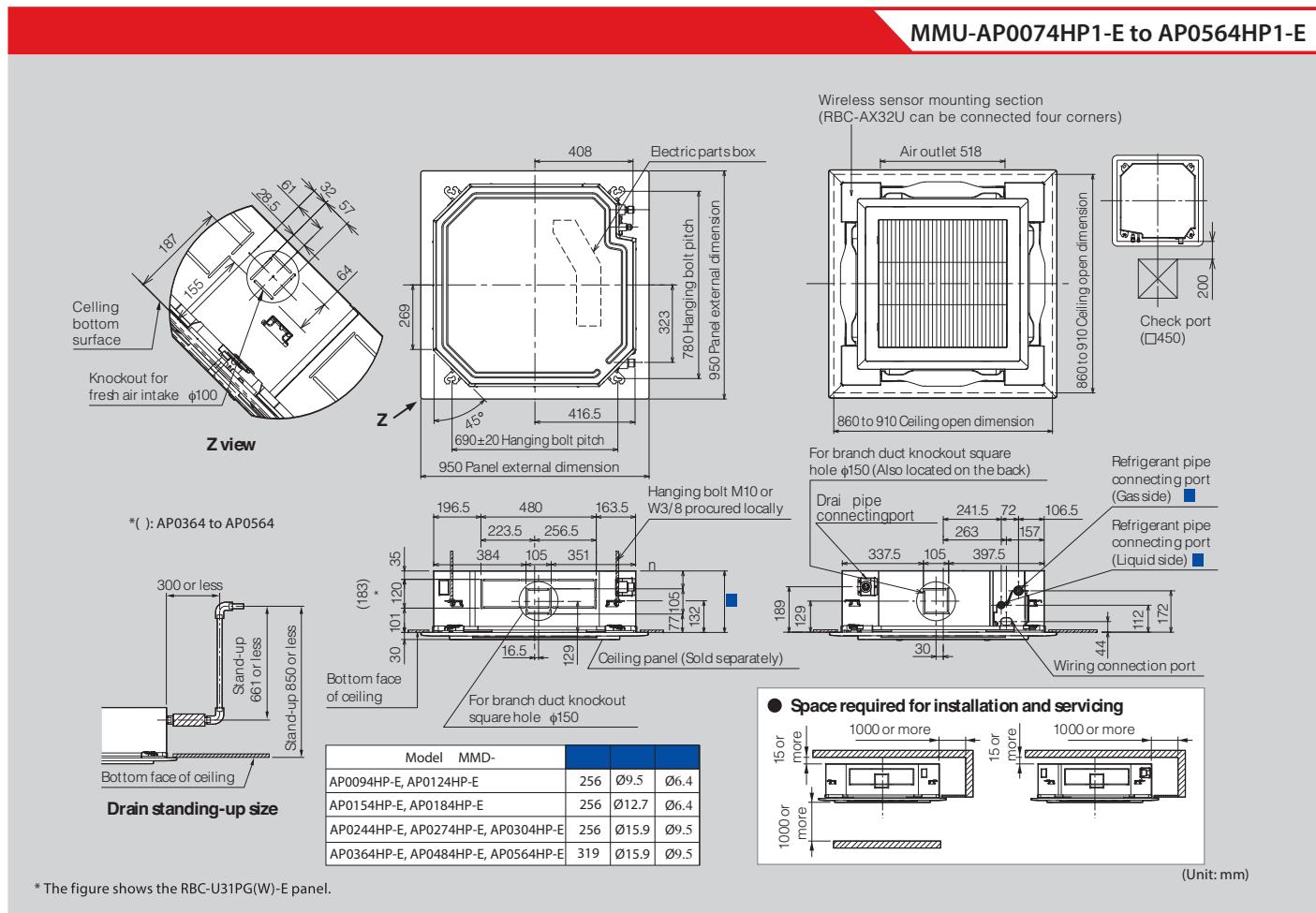
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.

Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

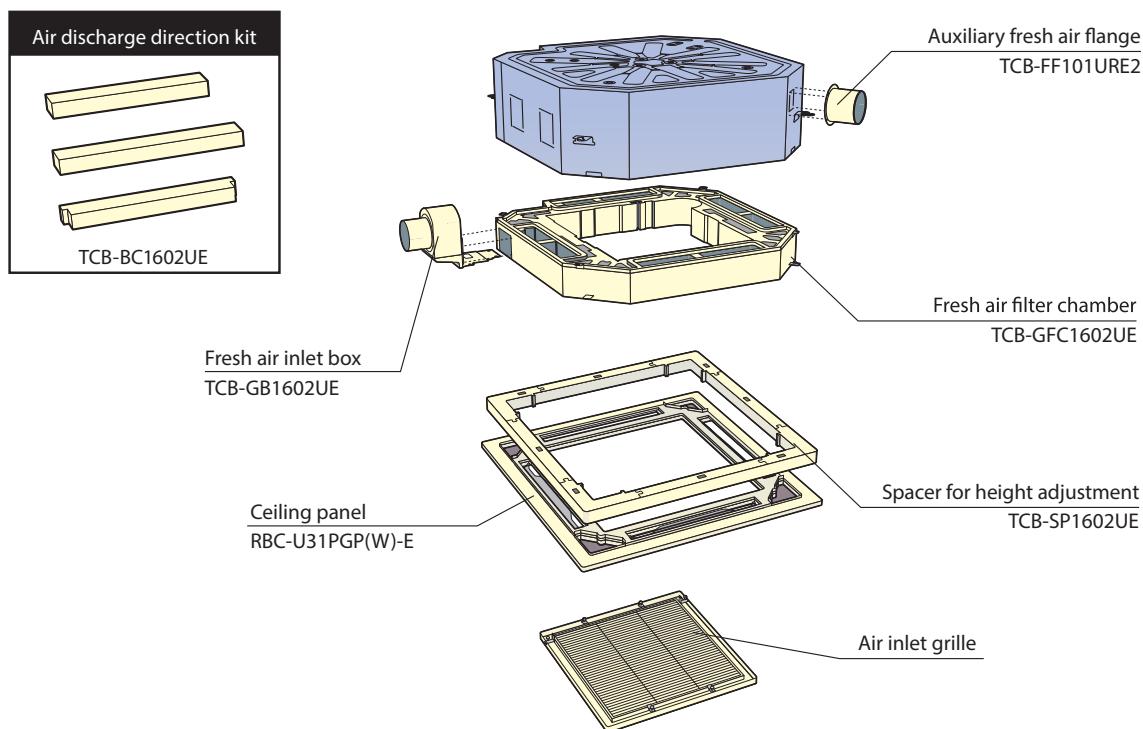
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

MMU-AP0074HP1-E to AP0564HP1-E



Options





Compact 4-way Cassette Type

MMU-AP***4MH1-E

Perfect for grid system ceiling

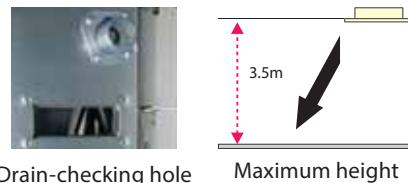
This compact unit (575 × 575 mm) fits perfectly into ceilings and matches standard architectural modules, without the need to cut ceiling tiles. The flaps fold tightly against the ceiling when operation stops so that the ceiling is affected only slightly even if air conditioning is installed.



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.



Maximum height

Technical specifications

Model name		MMU-	AP0074MH1-E	AP0094MH1-E	AP0124MH1-E	AP0154MH1-E	AP0184MH1-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) (Separate power supply for indoor units required.)					
Appearance (Ceiling panel)		Model	RBC-UM11PG(W)-E					
External dimensions: Main unit (Ceiling panel)*	Height	(cm)	26.8(2.7)*					
		(m)	0.27(0.03)*					
	Width	(cm)	57.5(70)*					
		(m)	0.58(0.7)*					
	Depth	(cm)	57.5(70)*					
		(m)	0.58(0.7)*					
Total weight: Main unit (Ceiling panel)*		(kg)	17 (3)*					
Fan unit	Standard air flow (High/Mid/Low) m³/s	325/272/222	335/275/222	349/296/236	388/325/275	448/378/307		
		0.15/0.13/0.11	0.16/0.13/0.11	0.16/0.14/0.11	0.18/0.15/0.13	0.21/0.18/0.14		
Connecting pipe	Motor output (W)	60						
	Gas side (cm)	ø 0.95				ø 1.27		
	Liquid side (cm)	ø 0.64						
Drain port (nominal dia) (cm)		2.5 (Polyvinyl chloride tube)						
Sound pressure level*2 (High/Mid/Low) (dB(A))		36/32/28	37/33/28	37/33/29	40/35/30	44/39/34		

* 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.

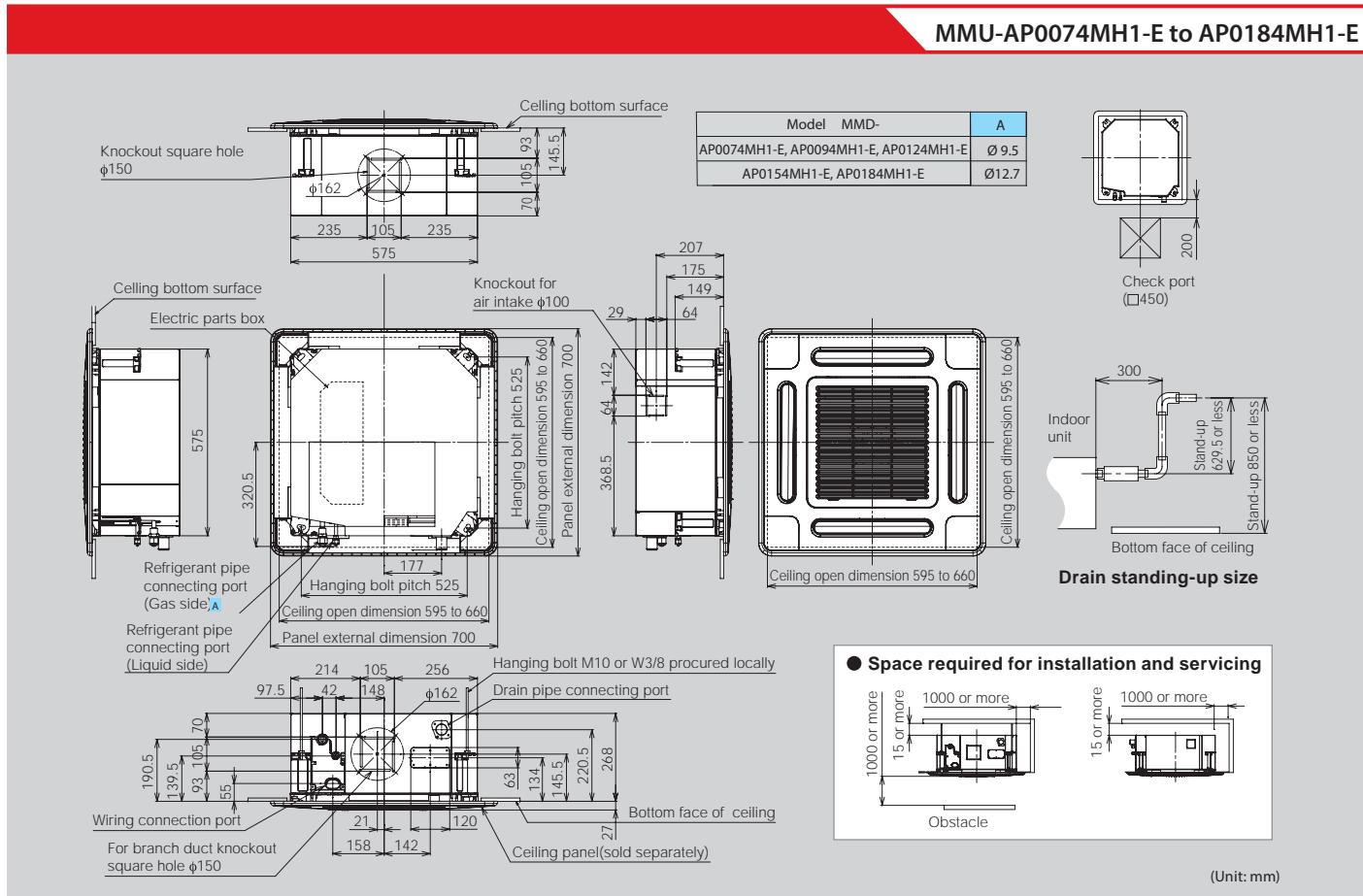
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.

Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

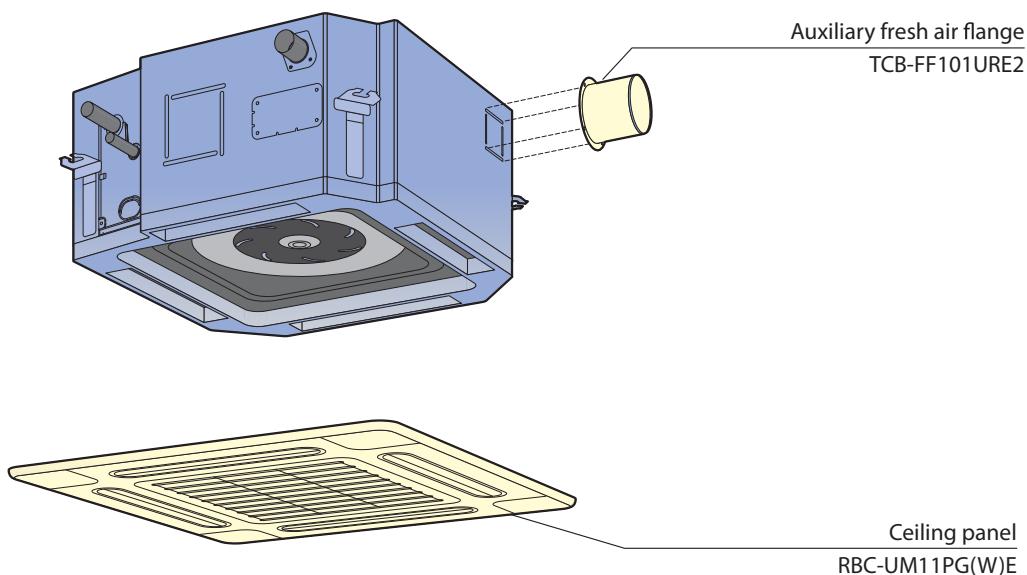
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

MMU-AP0074MH1-E to AP0184MH1-E



Options





Slim and compact unit

Unified the width of ceiling panel to 680mm.

Condensate drain pump included.

Available for ceilings up to 3.8m in height. (in case of 0.8HP to 3.2HP)

Easy installation and fine adjustment using the "Adjust-Cover" function.

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) (Separate power supply for indoor units required.)																
Appearance (Ceiling panel)		Model	RBC-UW283PG(W)-E				RBC-UW803PG(W)-E				RBC-UW1403(W)PG-E							
External dimensions:	Height	(cm)	29.5 (2)				34.5 (2)											
		(m)	0.3 (0.02)				0.35 (0.02)											
	Width	(cm)	81.5 (105)				118 (141.5)				160 (183.5)							
		(m)	0.82 (1.05)				1.18 (1.42)				1.6 (1.84)							
Main unit (Ceiling panel)*	Depth	(cm)	57 (68)															
		(m)	0.57 (0.68)															
Total weight: Main unit (Ceiling panel)*	(kg)	19 (10)				26 (14)				36 (14)								
Fan unit	Standard air flow (High/Mid/Low)	(CFM) m³/s	328/293/265 0.15/0.14/0.13	353/314/265 0.17/0.15/0.13	529/441/363 0.25/0.21/0.17	617/494/434 0.29/0.23/0.20	741/529/459 0.35/0.25/0.22	1023/843/696 0.48/0.40/0.33	1059/872/723 0.50/0.41/0.34	1200/928/776 0.57/0.15/0.37								
	Motor output	(W)	20				30	40				50						
Connecting pipe	Gas side	(cm)	ø 0.95				ø 1.27				ø 1.59							
	Liquid side	(cm)	ø 0.64								ø 0.95							
	Drain port (nominal dia.)	(cm)					2.5 (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								

* 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.

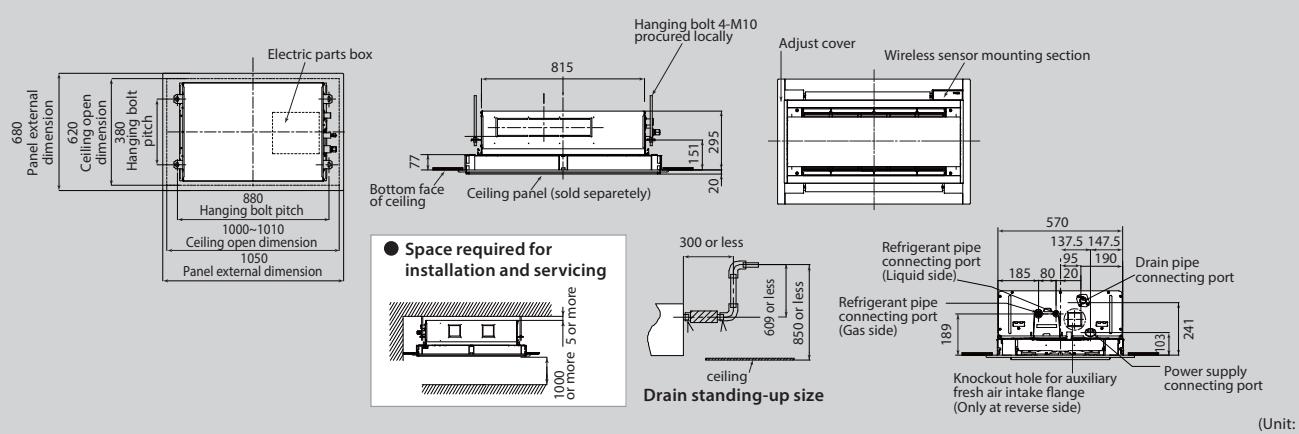
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.

Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

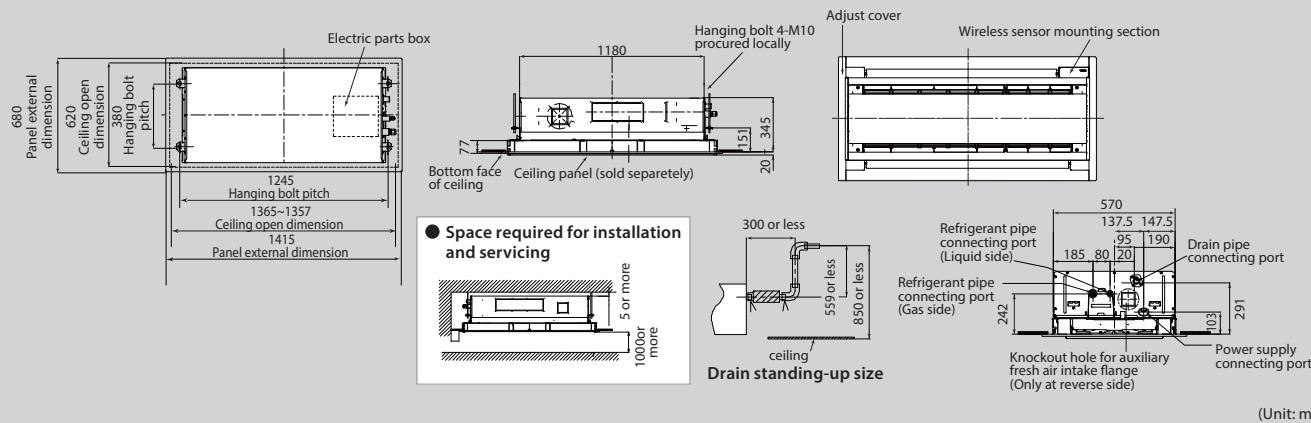
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

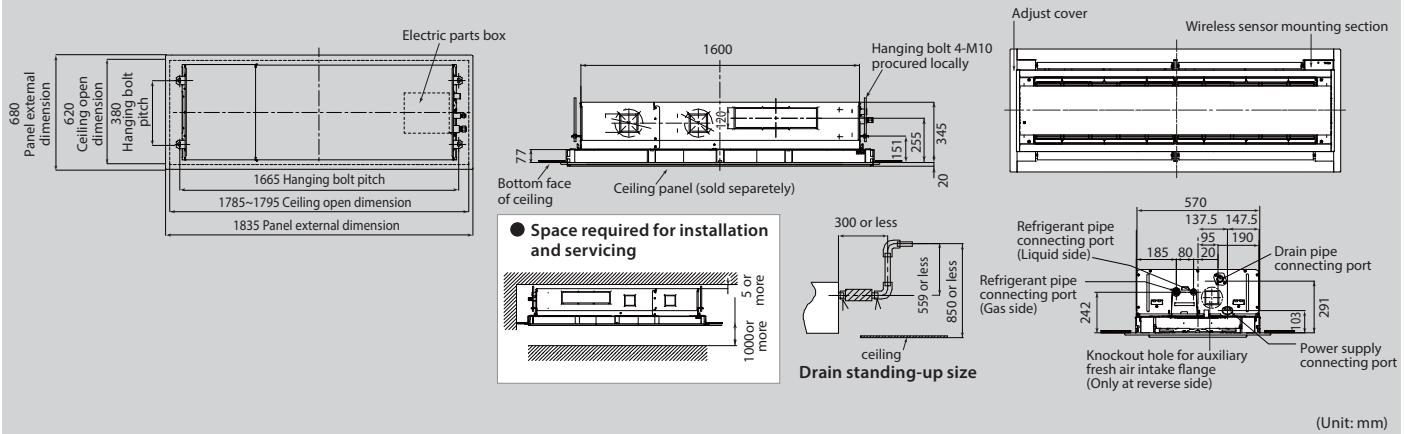
MMU-AP0072WH1 to AP0152WH1



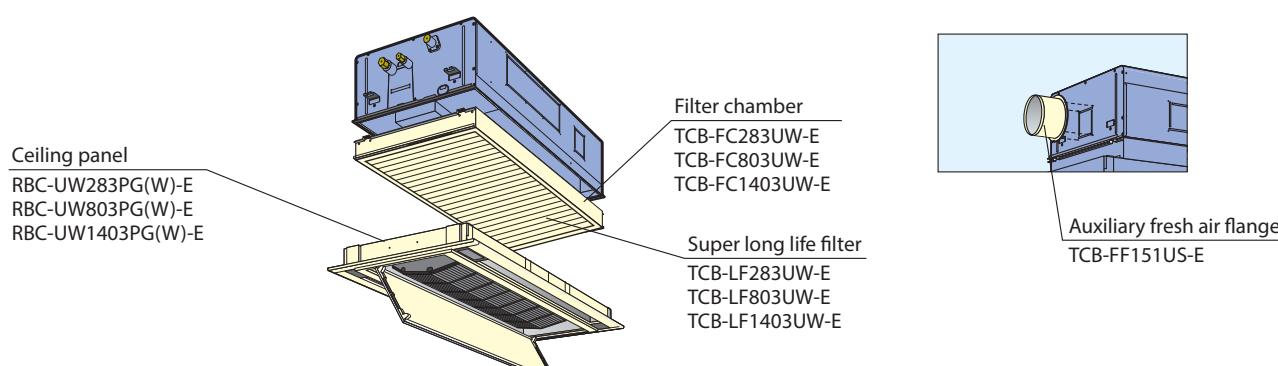
MMU-AP0182WH to AP0302WH



MMU-AP0362WH1 to AP0562WH1



Options





1-way Air Discharge Cassette Type

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

The perfect choice for hotels and reception areas

Silent sound design ensures the quiet required for the office.

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.

Fresh air intake is possible (MMU-AP*4SH1-E)**

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 50Hz 230V (220–240V) / (Separate power supply for indoor units required.)					
Appearance (Ceiling panel)		Model	RBC-UY136PG		RBC-US21PGE		
External dimensions: Main unit (Ceiling panel)*	Height	(cm)	23.5(1.8)*			20(2)*	
		(m)	0.24(0.018)*			0.2(0.02)*	
	Width	(cm)	85 (105)			100 (123)	
		(m)	0.85(1.05)			1.0(1.23)	
	Depth	(cm)	40(47)*			71(80)*	
		(m)	0.4(0.47)*			0.71(0.80)*	
Total weight: Main unit (Ceiling panel)*	(kg)	22 (3.5)*			21 (5.5)*		22 (5.5)*
Fan unit	Standard air flow (High/Mid/Low)	(CFM) m ³ /s	318/282/247		441/406/371	459/423/388	671/565/476
	Motor output	(W)	0.15/0.13/0.12		0.21/0.19/0.18	0.22/0.20/0.18	0.32/0.27/0.22
Connecting pipe	Gas side	(cm)	ø 0.95			ø 1.27	
	Liquid side	(cm)	ø 0.64				ø 0.95
	Drain port (nominal dia.)	(cm)	2.5 (Polyvinyl chloride tube)				
Sound pressure level* ² (High/Mid/Low)	(dB(A))	42/39/34			37/35/32	38/36/34	45/41/37

* 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.

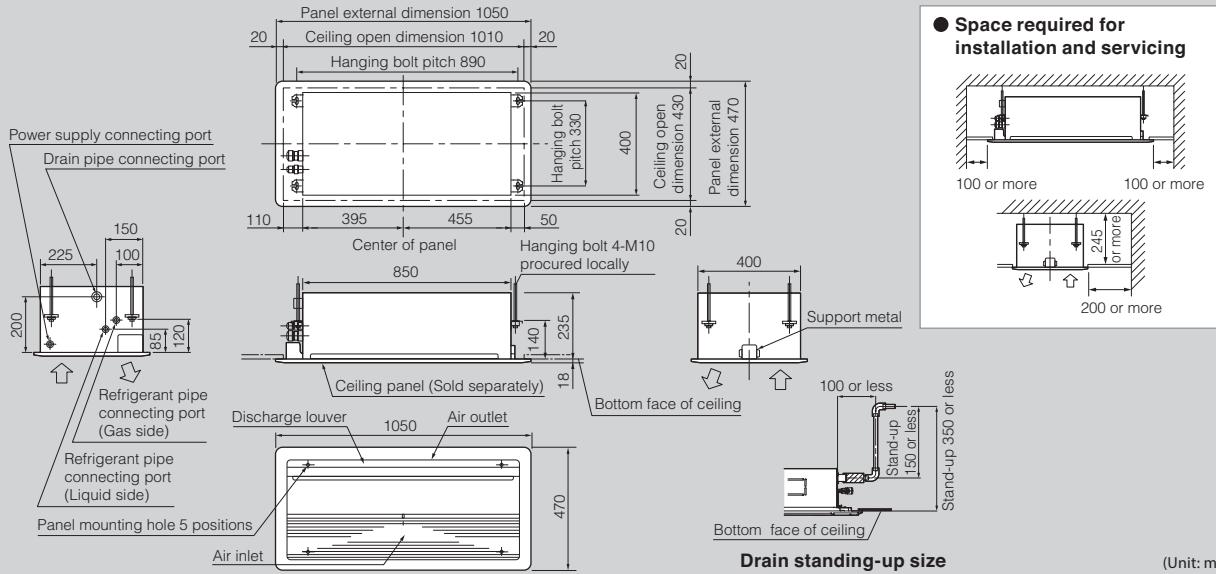
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.

Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

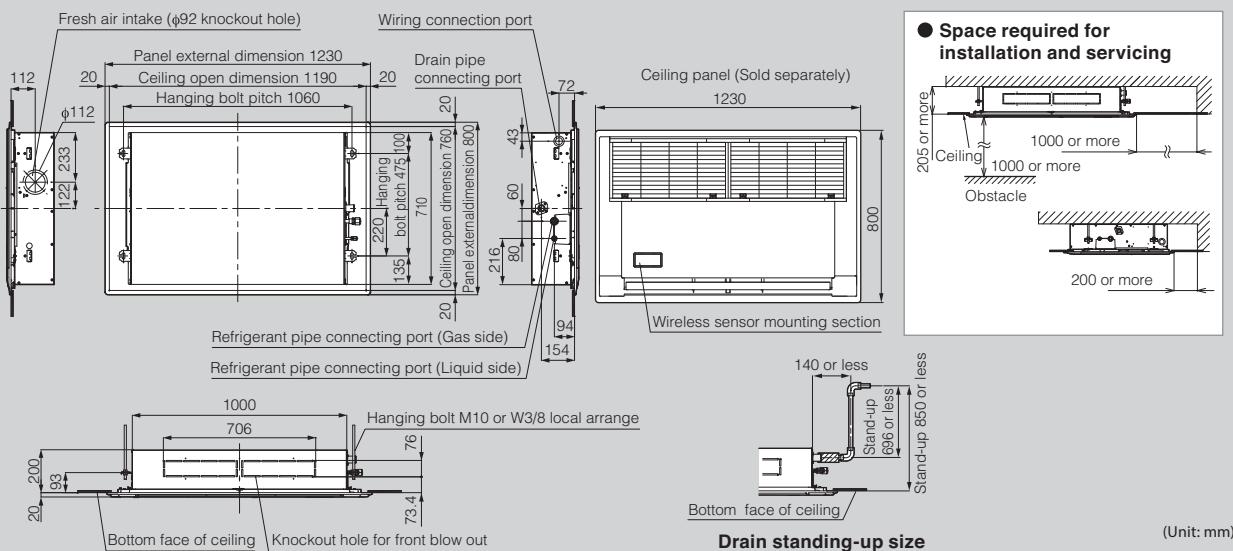
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

MMU-AP0074YH1-E to AP0124YH1-E

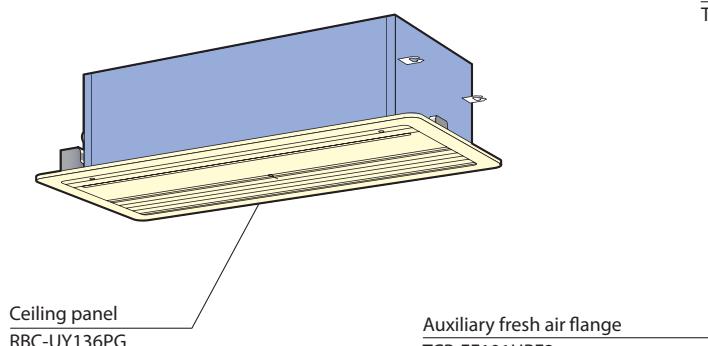


MMU-AP154SH1-E to AP0244SH1-E

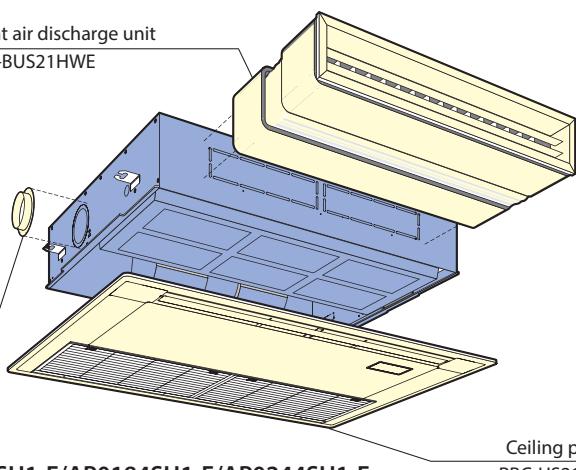


Options

AP0074YH1-E/AP0094YH1-E/AP0124YH1-E

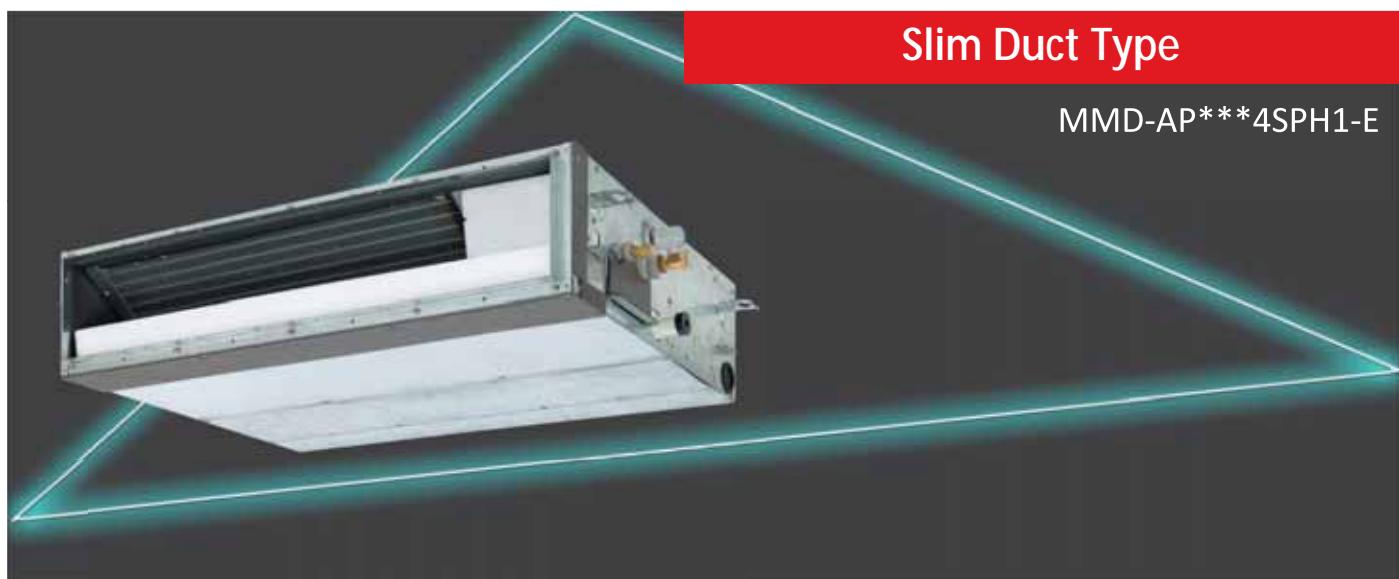


Front air discharge unit TCB-BUS21HWE



AP0154SH1-E/AP0184SH1-E/AP0244SH1-E

Ceiling panel
RBC-US21PGE



Slim Duct Type

MMD-AP***4SPH1-E

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.

Slim & quiet

Perfect comfort throughout the room.

Can be used with any style of air diffuser.

Quiet, powerful operation.

Technical specifications

Model name		MMD-	AP0074SPH1-E	AP0094SPH1-E	AP0124SPH1-E	AP0154SPH1-E	AP0184SPH1-E	AP0244SPH1-E	AP0274SPH1-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			
Electrical characteristics	Power supply		1-phase 50Hz 230V (220–240V) / (Separate power supply for indoor units required.)									
External dimensions	Height	(cm)	21									
		(m)	0.21									
	Width	(cm)	84.5						114			
		(m)	0.85						1.14			
	Depth	(cm)	64.5									
		(m)	0.65									
Total weight		(kg)	22			23			29			
Fan unit	Standard air flow (High/Mid/Low)	(CFM) m ³ /s	318/276/235	353/306/265	405/353/308	459/400/341	635/588/529					
	Motor output	(W)	0.15/0.13/0.11						0.30/0.28/0.25			
	External static pressure	(Pa)	6-16-31-46 (4 steps)			5-15-30-45 (4 steps)			4-14-29-44 (4 steps)			
Connecting pipe	Gas side	(cm)	ø 0.95				ø 1.27			ø 1.59		
	Liquid side	(cm)	ø 0.64						ø 0.95			
	Drain port (nominal dia.)	(cm)	2.5 (Polyvinyl chloride tube)									
Sound pressure level* ² (High/Med./Low)	Under air inlet	(dB(A))	36/33/30		38/35/32	39/36/33	40/38/36	49/47/44				
	Back air inlet	(dB(A))	28/26/24		29/27/25	32/30/28	33/31/29	38/36/33				

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.

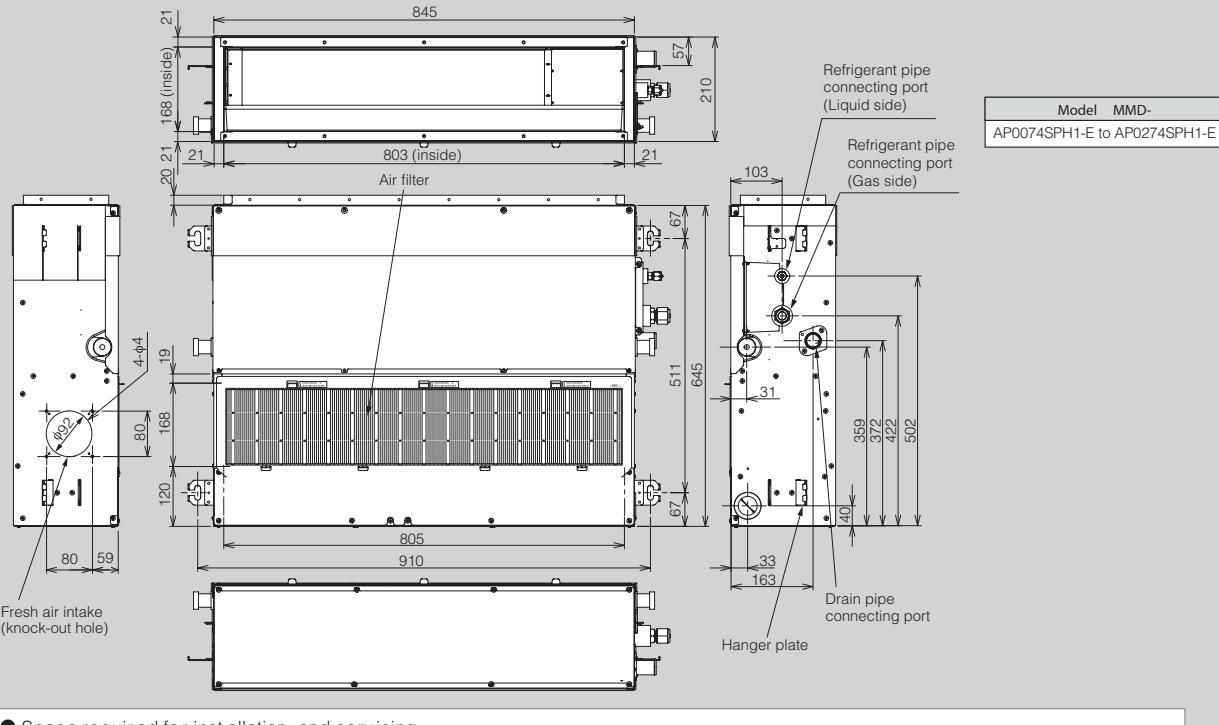
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.

Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

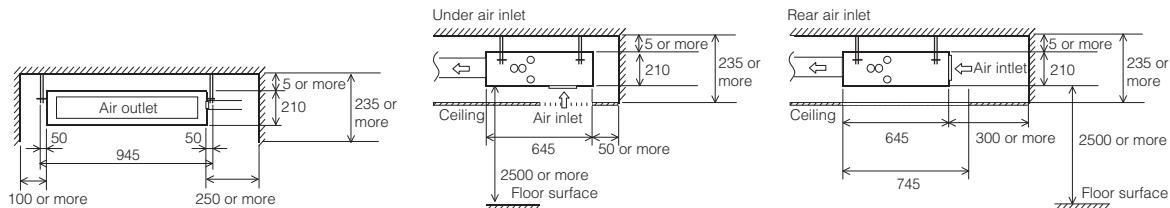
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

MMD-AP0074SPH1-E to AP0274SPH1-E

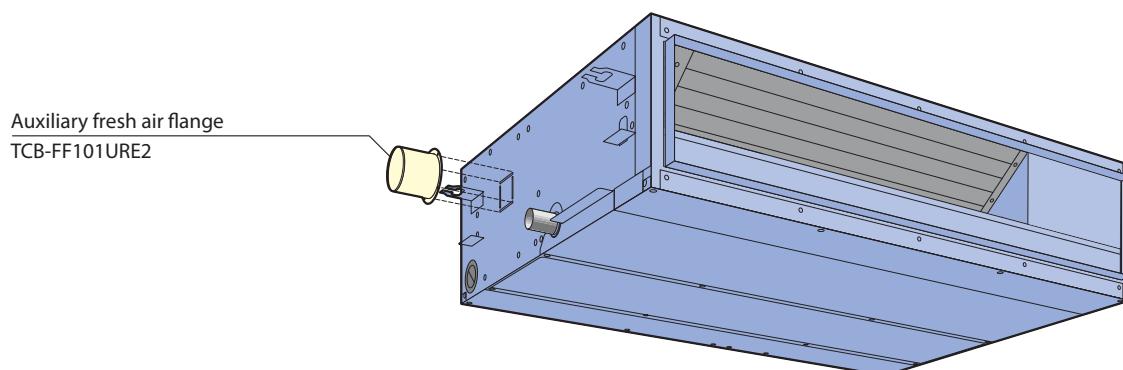


● Space required for installation and servicing



(Unit: mm)

Options





Concealed Duct High Static Pressure Type

Design flexibility

Satisfies all your design needs.
Compatible with external static pressures up to 250 Pa.

Can be equipped with the following options:

- high-efficiency filter (65, 90)
- drain pump kit

Construction characteristics

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

Technical specifications

Model name		MMD-	AP0186HP1-E	AP0246HP1-E	AP0276HP1-E	AP0366HP1-E	AP0486HP1-E	AP0566HP1-E	AP0726HP-E	AP0966HP-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													
External dimensions	Height	(cm)	29.8						44.8				
		(m)	0.3						0.45				
	Width	(cm)	100		140			140					
		(m)	1.0		1.4			1.40					
	Depth	(cm)	75						90				
		(m)	0.75						0.90				
Total weight		(kg)	34		43			97					
Fan unit	Standard air flow (High/Mid/Low)	(CFM) m³/s	470/388/323 0.22/0.18/0.15	706/571/471 0.33/0.27/0.22	1130/918/789 0.53/0.43/0.37	1236/1024/836 0.53/0.48/0.39	1413/1200/977 0.67/0.57/0.46	2236/1883/1471 1.06/0.89/0.69	2825/2472/2060 1.33/1.17/0.97				
	Motor output	(W)	250		350			250					
	External static pressure (factory setting)	(Pa)	100						150				
	External static pressure	(Pa)	50-75-125-150-175-200 (7steps)						(50-83-117-150-183-217-250)7 steps				
	Gas side	(cm)	ø 1.27	ø 1.59						ø 2.22			
Connecting pipe	Liquid side	(cm)	ø 0.64	ø 0.95						ø 1.27			
	Drain port (nominal dia.)	(cm)	2.5 (Polyvinyl chloride tube)						2.5				
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 / 40 / 36	46 / 42 / 38				

Note 1 : The cooling capacities and electrical characteristics are measured under the conditions specified 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.

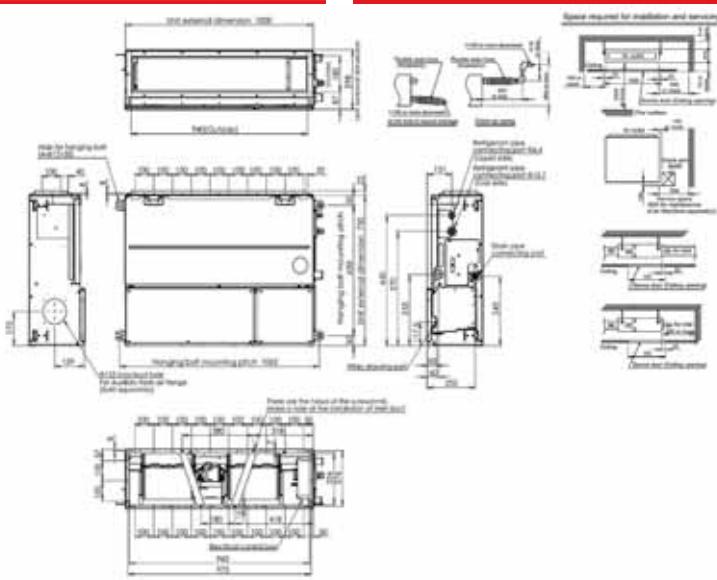
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.

Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

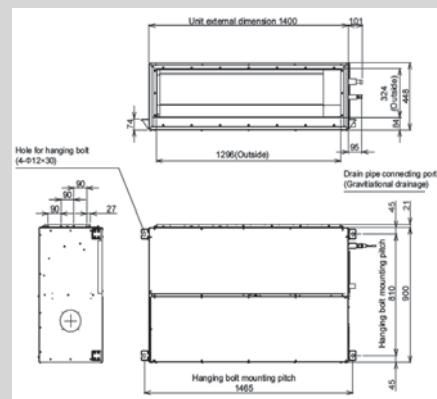
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

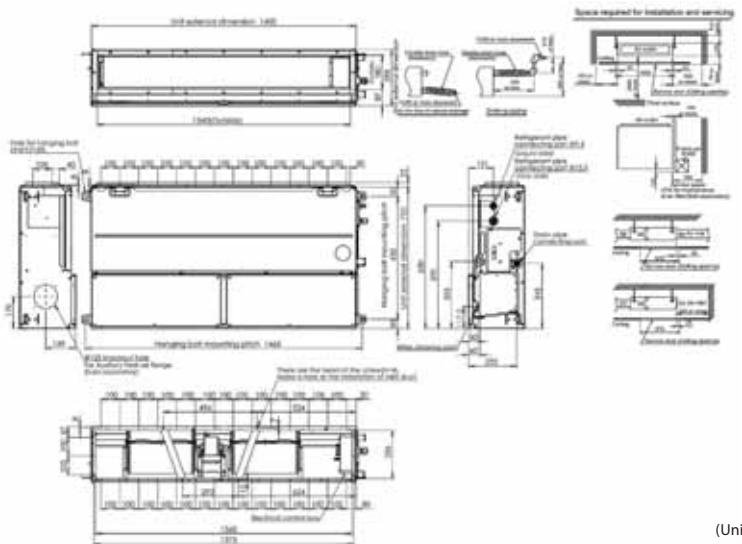
MMD-AP0186HP1-E to AP0276HP1-E



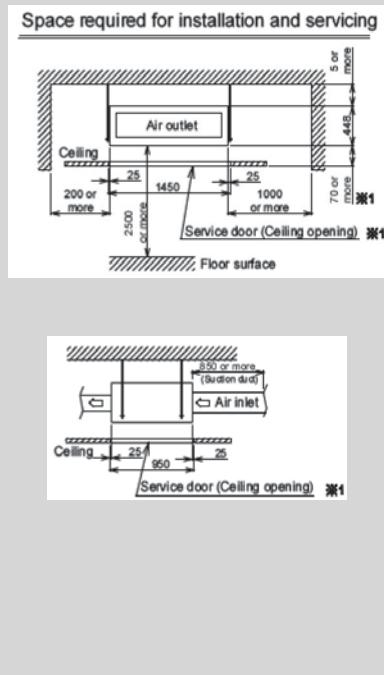
MMD-AP0726HP-E, AP0966HP-E



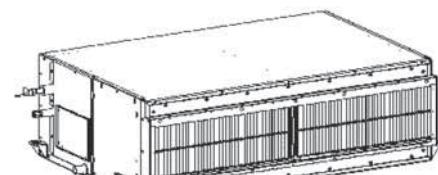
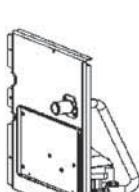
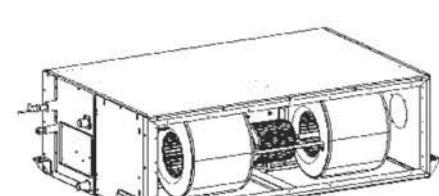
MMD-AP0366HP1-E to AP0566HP1-E

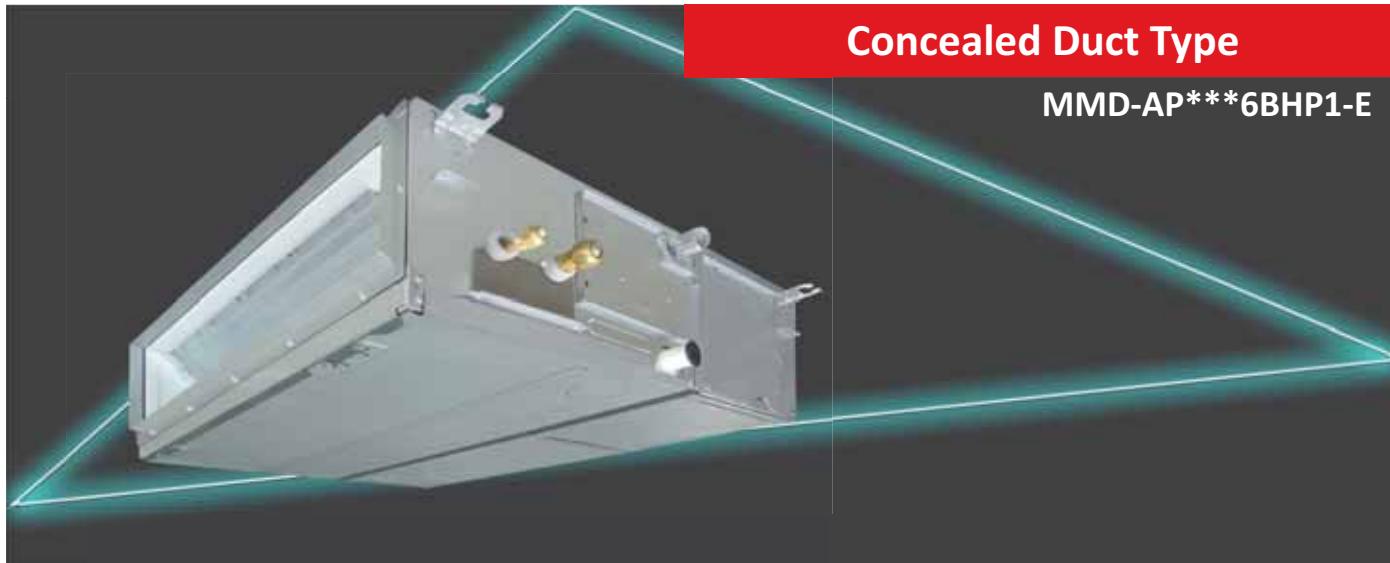


(Unit: mm)



Options

Model name	Shape	Attached shape on the duct unit
TCB-LK2801DP-E (Long Life Filter Kit)		
TCB-DP40DPE (Drain Pump Kit)		



Concealed Duct Type

MMD-AP*6BHP1-E**

High static pressure

External static pressure can be raised as high as 120 Pa, so that all areas of the room can be reached for even temperature distribution, no matter how complex the layout.

High-lift drain pump

Built-in high-lift drain pump up to 850 mm.

Technical specifications

Model name		MMD-	AP0076BHP1-E	AP0096BHP1-E	AP0126BHP1-E	AP0156BHP1-E	AP0186BHP1-E	AP0246BHP1-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																			
External dimension	Height	(cm)	27.5																
		(m)	0.28																
	Width	(cm)	70	70	100								140						
		(m)	0.7	0.7	1.0								1.4						
	Depth	(cm)	75																
		(m)	0.75																
Total weight	(kg)	23				30				40									
Fan unit	Standard air flow (CFM) (High/Mid/Low)	m ³ /s	318/265/211 0.15/0.13/0.10	335/282/229 0.16/0.13/0.11	470/388/318 0.22/0.18/0.15	706/582/512 0.33/0.27/0.24	742/653/547 0.35/0.31/0.26	1130/953/812 0.53/0.45/0.38	1236/1024/882 0.58/0.48/0.42										
	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 (cm)		ø 0.95			ø 1.27			ø 1.59										
	Liquid side (cm)		ø 0.64						ø 0.95										
	Drain port (nominal dia.) (cm)		2.5 (Polypropylene 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						

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.

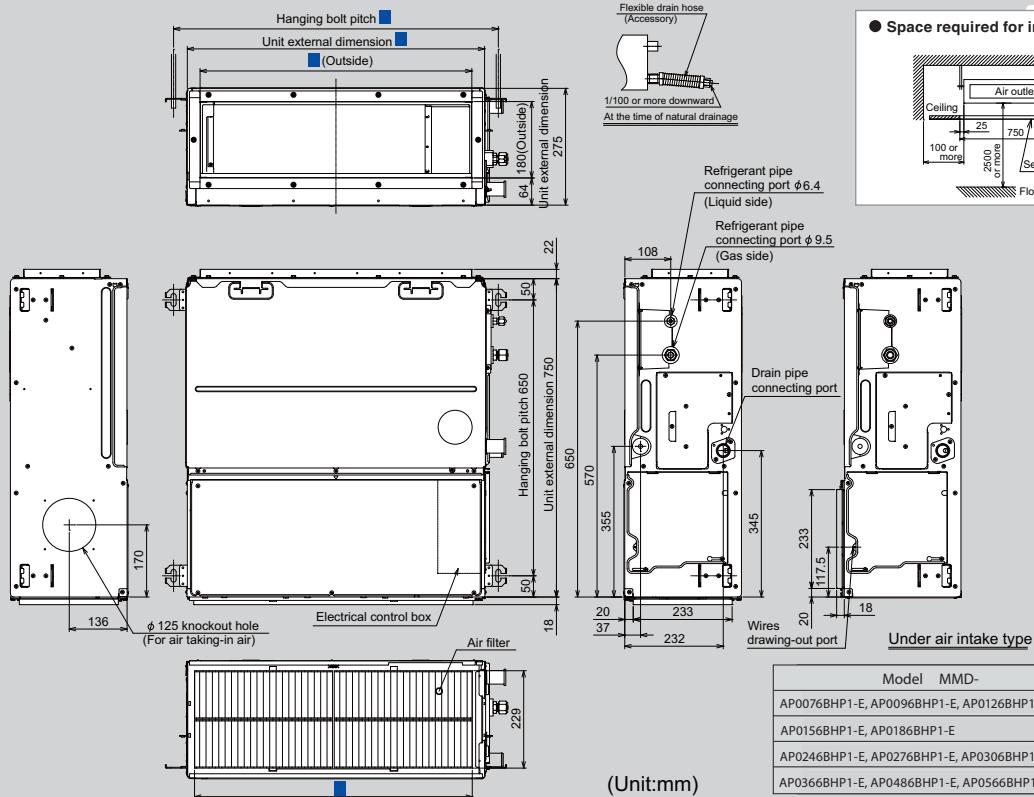
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.

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-AP0076BHP1-E to AP0566BHP1-E

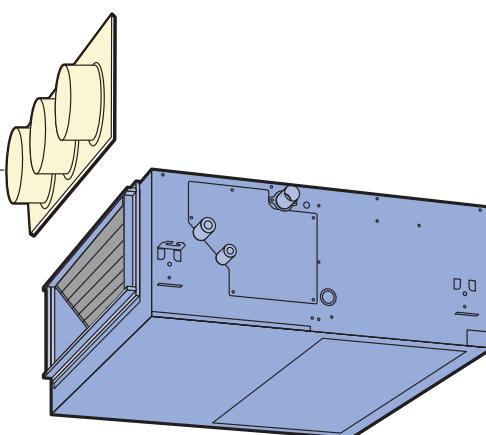


* Standard filter is provided, but deeper filtration filter needs to be purchased locally.

Options

Spigot shaped flange

TCB-SF56C6BPE
TCB-SF80C6BPE
TCB-SF160C6BPE





Ceiling Type

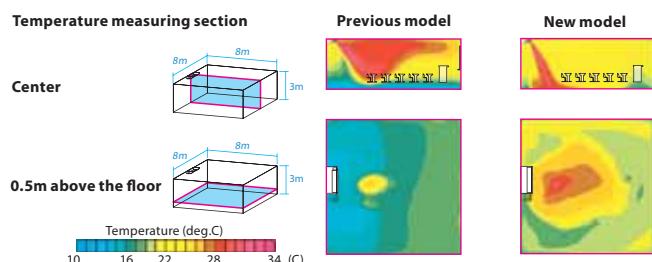
MMC-AP*7HP1-E**

Smooth curve for pliant Shape

All-new chassis and new rounded design. These new models have been developed in response to customers' needs for ceiling units that better match their room interiors.

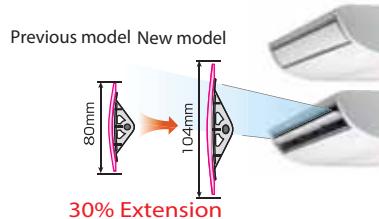
Smooth curve for pliant Shape

New fan has adopted the turbulence prevention rib to optimize the ventilating way. Air volume has increased and noise level also has decreased compared with previous model. Winds of new ceiling type of 4HP to 6HP can be reached up to 4.3 metre.



New Designed Wide Flap

The new air outlet has realized both High noise reduction and large air volume.



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.

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																
External dimensions	Power supply		1-phase 50Hz 230V (220–240V) / (Separate power supply for indoor units required.)													
	Height	(cm)	23.5													
		(m)	0.235													
	Width	(cm)	95	127		159										
		(m)	0.95	1.27		1.59										
	Depth	(cm)	69													
		(m)	0.69													
Total weight			(kg)	24	30	37										
Fan unit	Standard air flow (High/Mid/Low) m ³ /s	494/406/318 0.58/0.48/0.42	565/424/318 0.16/0.13/0.11	848/600/441 0.22/0.18/0.15	1095/795/600 0.33/0.27/0.24	1095/900/706 0.35/0.31/0.26	1200/971/742 0.53/0.45/0.38									
	Motor	(W)	94	94	139											
Connecting pipe	Gas side	(cm)	ø 1.27													
	Liquid side	(cm)	ø 0.64													
	Drain port (nominal dia.)	(cm)	2.0 (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							

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.

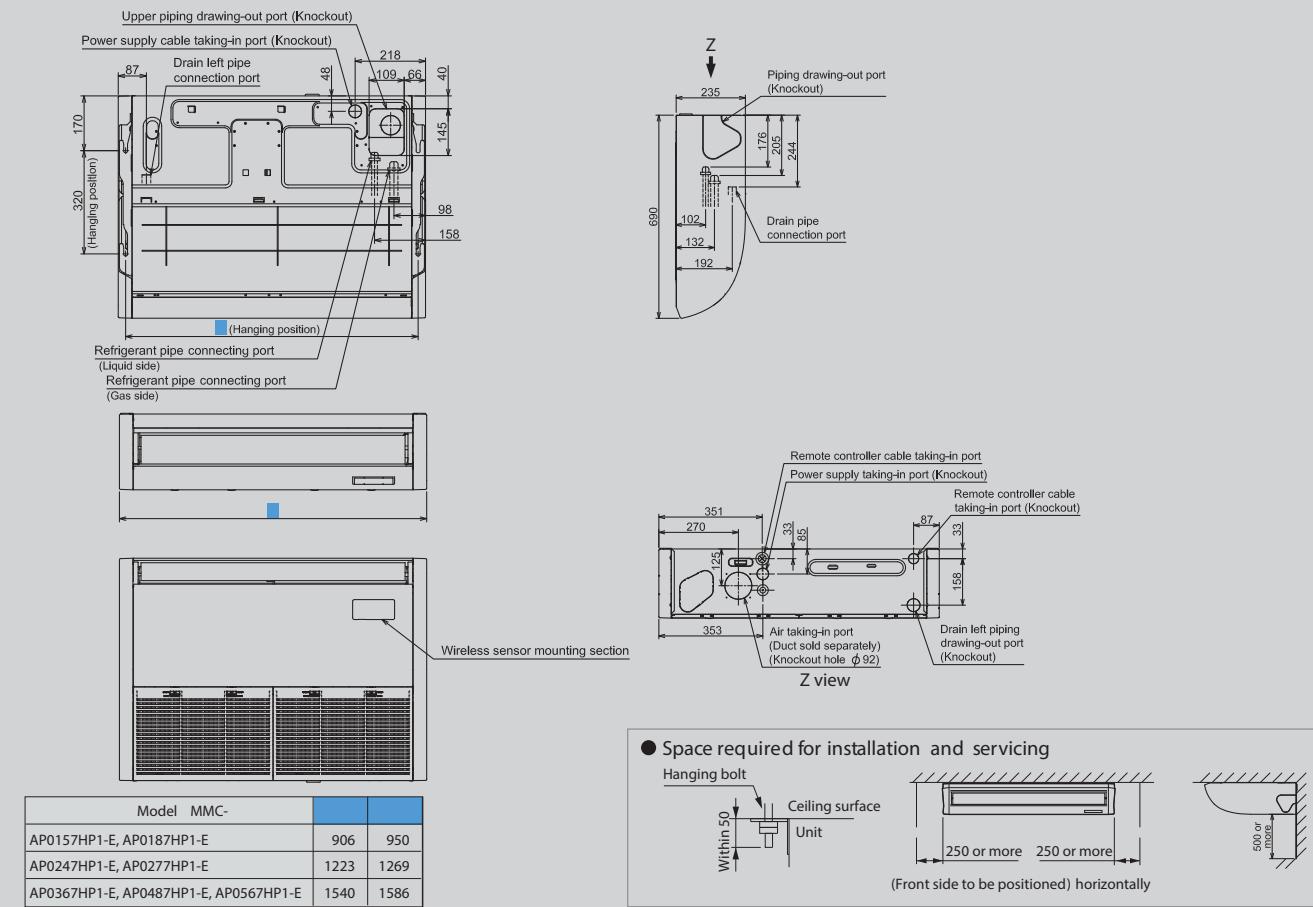
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.

Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

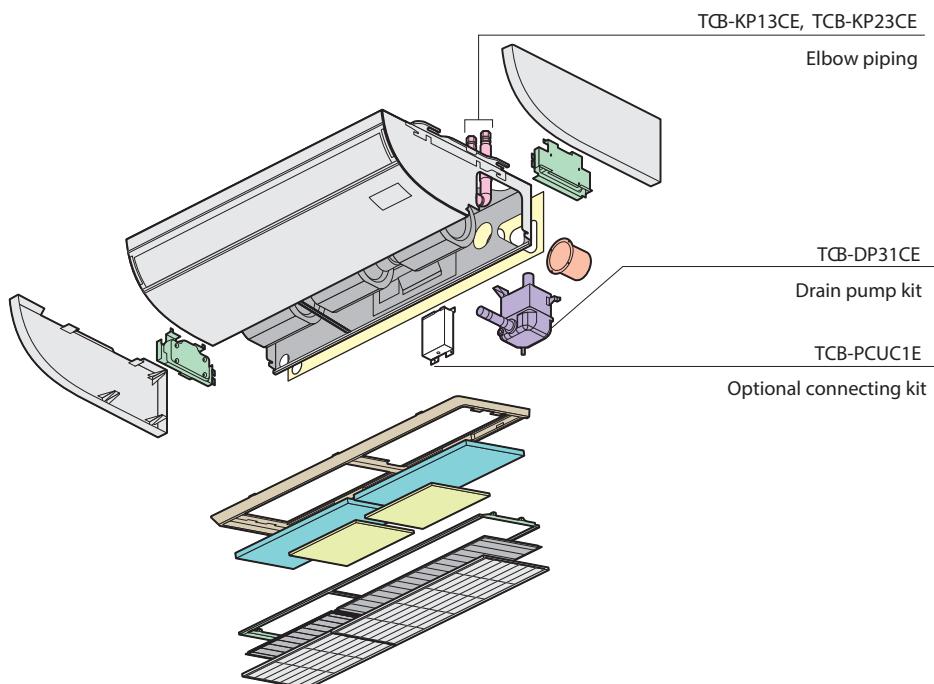
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

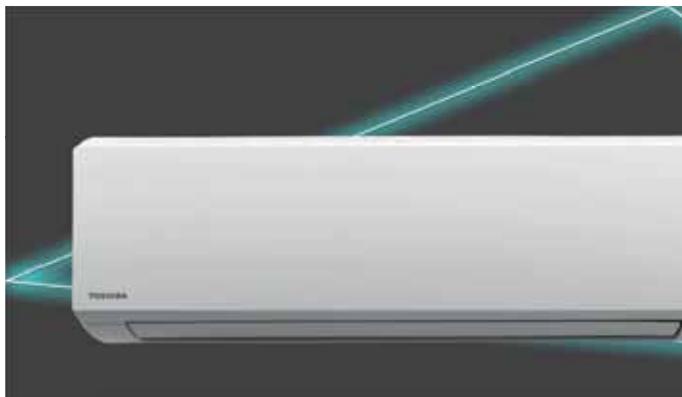
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

MMC-AP0157HP1-E to AP0567HP1-E



Options





High-wall Type

MMK-AP***6HP1-IN

Elegant and slim

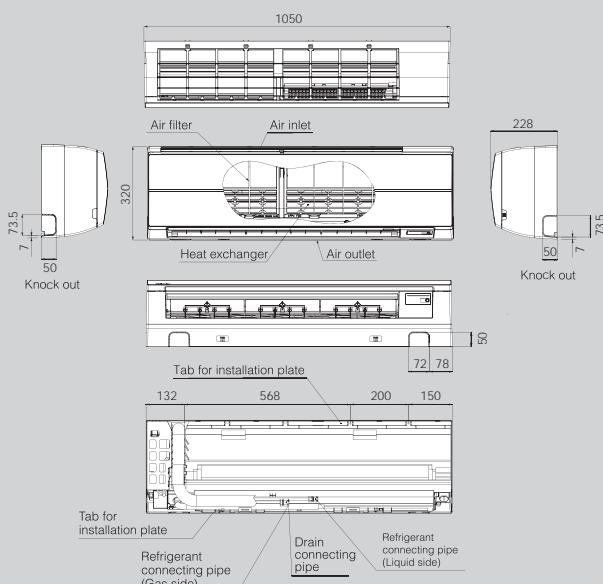
This classic high-wall is elegant and slim; it can easily blend in with any room interior.

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

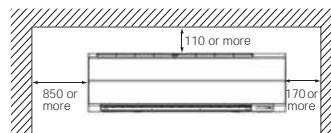


Remote controller

MMK-AP0076HP1-IN to AP0246HP1-IN



● Space required for installation and servicing



(Unit: mm)

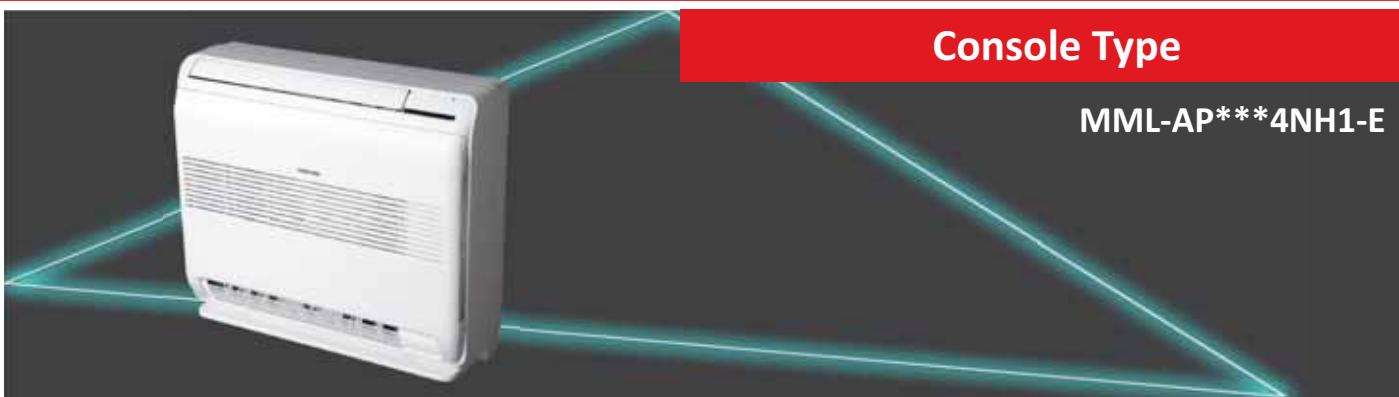
Technical specifications

Model name	MMK-	AP0076HP1-IN	AP0096HP1-IN	AP0126HP1-IN	AP0156HP1-IN	AP0186HP1-IN	AP0246HP1-IN
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 required.)						
External dimensions	Height (cm) (m)			32			
	Width (cm) (m)			0.32			
	Depth (cm) (m)			105			
				1.05			
Total weight	(kg)			22.9			
				0.23			
Fan unit	Standard air flow (High/Mid/Low) CFM m³/s	335/265/229 0.16/0.13/0.11	353/282/229 0.17/0.13/0.11	494/388/318 0.23/0.18/0.15	600/441/335 0.28/0.21/0.16		
	Motor output (W)			30			
Connecting pipe	Gas side (cm)		ø 0.95		ø 1.27		ø 1.59
	Liquid side (cm)			ø 0.64			ø 0.95
	Drain port (nominal dia.) (cm)			1.6 (polyvinyl chloride tube)			
Sound pressure level*2 (H/M/L)	(dB(A))	35/31/28	37/32/28	41/36/33	46/39/34		

* Figures in parentheses are for ceiling panels.

*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.
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

*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.



Console Type

MML-AP***4NH1-E

Features

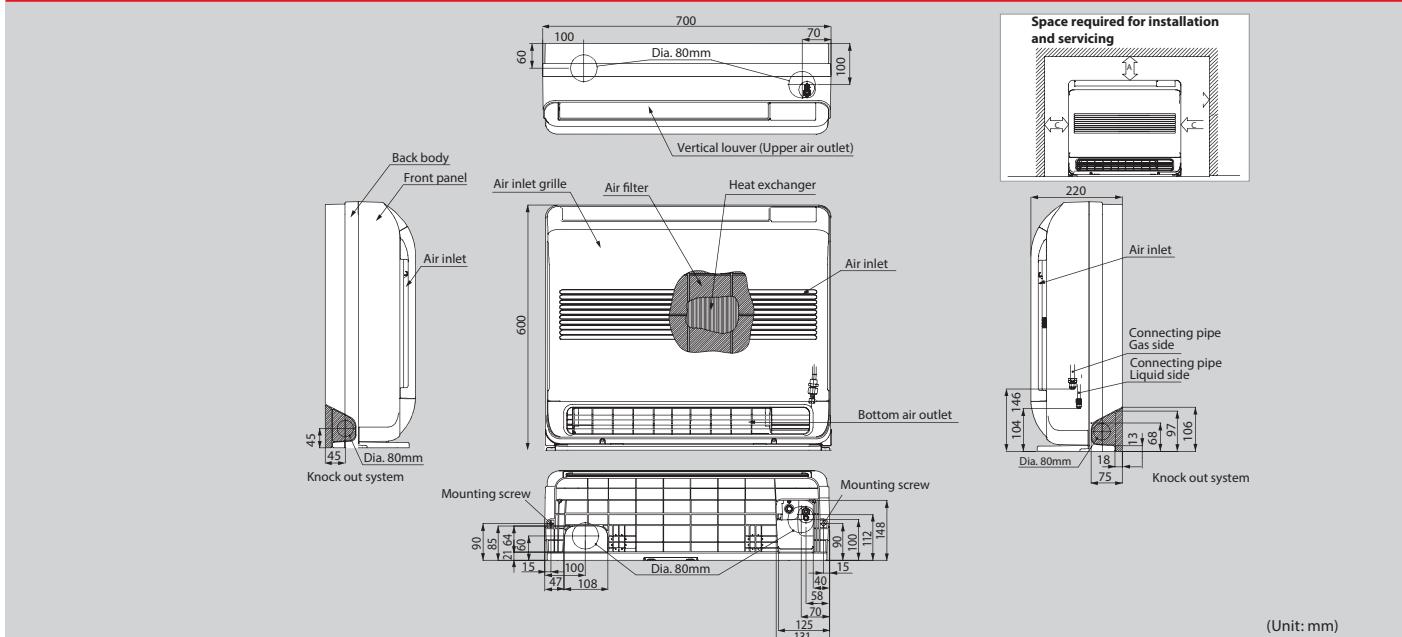
Elegant & simple design makes this unit a perfect fit for shops, office buildings, and luxury apartments. Bottom flow functionality ensures comfortable air bi-flow for an advantage in heating and floor warming.

Multi-function operation is convenient, making adjustments by the user possible using the wireless remote controller.



Remote controller

MML-AP0074NH1-E to AP0184NH1-E



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						
	Height		(cm)	1-phase 50Hz 230V (220~240V) (Separate power supply for indoor units required.)			
	(m)			60			
	Width		(cm)	0.6			
	(m)			70			
	Depth		(cm)	0.7			
	(m)			22			
Total weight		(kg)	0.22				17
Fan unit	Standard air flow (High/Mid/Low)	CFM m^3/s	300/215/166	325/240/191	367/275/226	427/310/250	
	Motor output	(W)	0.14/0.10/0.08	0.15/0.11/0.09	0.17/0.13/0.11	0.20/0.15/0.12	41
Connecting pipe	Gas side	(cm)	$\varnothing 0.95$		$\varnothing 1.27$		
	Liquid side	(cm)	$\varnothing 0.64$				
	Drain port (nominal dia.)	(cm)	1.6 (Polyvinyl chloride tube)				
Sound pressure level*2 (H/M/L)		(dB(A))	38/32/26	40/34/29	43/37/31	47/40/34	

* Figures in parentheses are for ceiling panels.

*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.

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

*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.



Floor Standing Cabinet Type

MML-AP***4H1-E

Slim & compact design

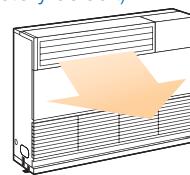
Under-window mounting does not block lighting.

Indoor unit size of 2.2 kW to 7.1 kW is the same.

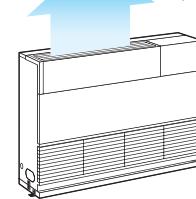
Slim & compact design

Distribution can be reversed to suit occupant preference.

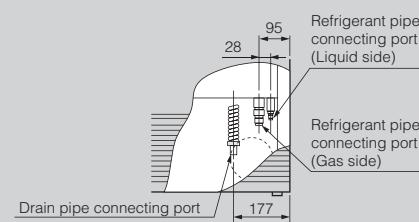
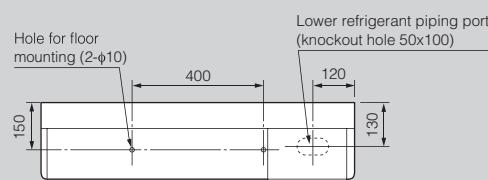
Air blown from front panel
(factory default)



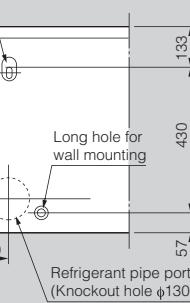
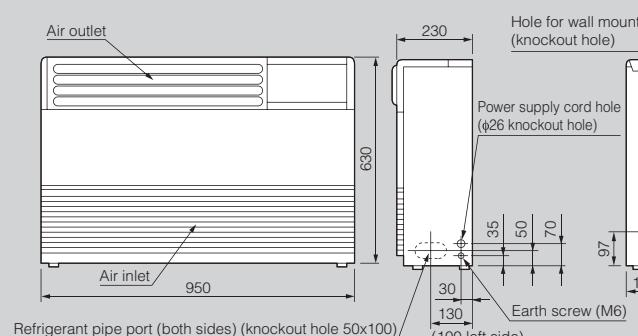
Air blown from top



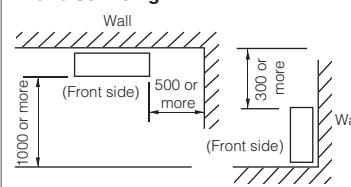
MML-AP0074H1-E to AP0244H1-E



Piping positional drawing



● Space required for installation and servicing



(Unit: mm)

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 phase 50Hz 230V (220-240V) (Separate power supply for indoor units required.)						
External dimensions	Height (cm)				63		
	(m)				0.63		
	Width (cm)				95		
	(m)				0.95		
Depth	(cm)				23		
	(m)				0.23		
Total weight	(kg)	37				40	
Fan unit	Standard air flow (High/Mid/Low) (CFM m³/s)	282/247/212 0.13/0.12/0.10	529/459/382 0.25/0.22/0.18			635/547/450 0.30/0.26/0.21	
	Motor output (W)	45				70	
Connecting pipe	Gas side (cm)	ø 0.95			ø 1.27		ø 1.59
	Liquid side (cm)		ø 0.64				ø 0.59
	Drain port (nominal dia.) (cm)		2.0 (Polyvinyl chloride tube)				
Sound pressure level*2 (High/Mid/Low)	(dB(A))	39/37/35	45/41/38			49/44/39	

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 levels 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

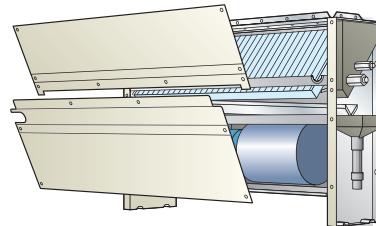
MML-AP***4BH1-E

Cool air makes for a pleasant indoor environment

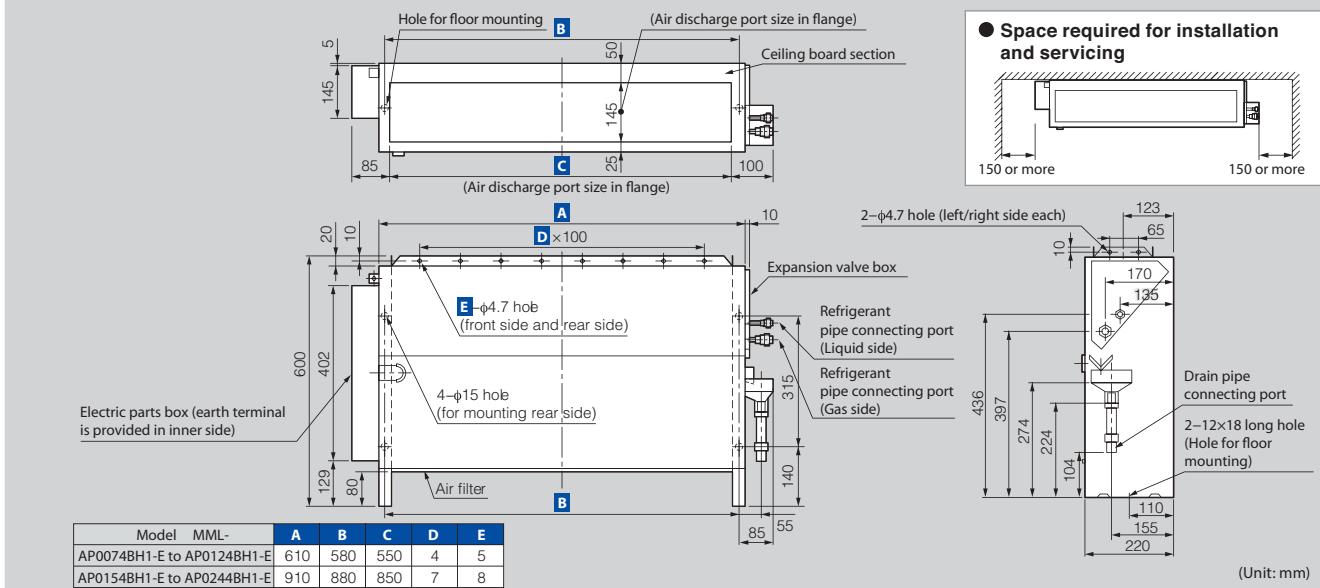
Install it under a window and air-condition any room effectively.

Easy maintenance

Simplified design of fan and drainage pipe eases maintenance.



MML-AP0074BH1-E to AP0244BH1-E



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								
External dimensions	Height		(cm)	phase 50Hz 230V (220-240V) (Separate power supply for indoor units required.)					
			(m)	60					
	Width		(cm)	0.6					
			(m)	74.5					
	Depth		(cm)	104.5					
			(m)	1.05					
Total weight		(kg)	22		0.22		29		
Fan unit	Standard air flow (High/Mid/Low)		(CFM) m ³ /s	270/235/176		435/353/288		559/465/376	
	Motor output		(W)	0.13/0.11/0.08		0.21/0.17/0.14		0.26/0.22/0.18	
Connecting pipe	Gas side		(cm)	ø 0.95		ø 1.27		ø 1.59	
	Liquid side		(cm)	ø 0.64		ø 0.95			
	Drain port (nominal dia.)		(cm)	2.0 (Polyvinyl chloride tube)					
Sound pressure level* ² (High/Mid/Low)		(dB(A))	36/34/3		2/37/33				

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

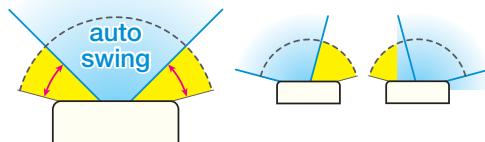
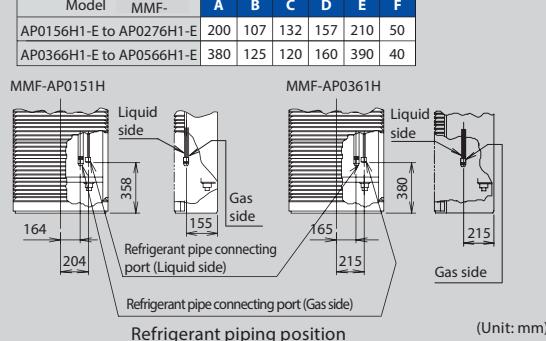
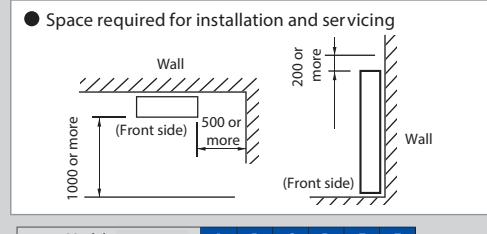
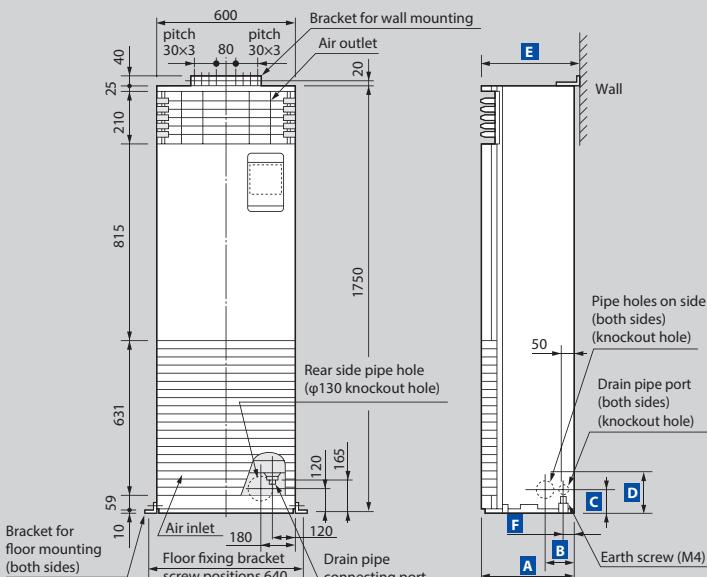


Floor Standing Type

MMF-AP*6H1-E**
Thin profile suits interior design
Slender, space-saving type (1.7–6.0HP)
Wide outlet

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

Set the vertical angle manually.


MMF-AP0156H1-E to AP0566H1-E


(Unit: mm)

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		phase 50Hz 230V (220-240V) (Separate power supply for indoor units required.)							
External dimensions	Height	(cm)				175			
		(m)				1.75			
	Width	(cm)				60			
		(m)				0.6			
Total weight	Depth	(cm)	21				39		
		(m)	0.21				0.39		
Total weight		(kg)	46	47		62			
Fan unit	Standard air flow (High/Mid/Low)	(CFM) m³/s	529/459/388	706/582/494	1130/953/812	1270/1018/918			
	Motor output	(W)	0.25/0.22/0.18	0.33/0.27/0.23	0.53/0.45/0.38	0.60/0.48/0.43			
Connecting pipe	Gas side	(cm)	ø 1.27		ø 1.27				
	Liquid side	(cm)	ø 0.64		ø 0.95				
	Drain port (nominal dia.)	(cm)		2.0 (one side of male screw)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	46/42/37	49/45/39	51/46/41	54/49/44			

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

Floor Standing Duct Type

MMF-AP*DH-V**



Higher static pressure

Available in a capacity range of

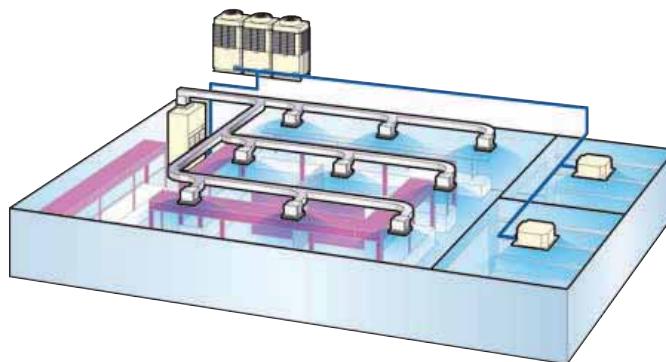
8 - 20 HP

Standard filter in-built

Even air-conditioning of large spaces using duct

A maximum external static pressure of about 650Pa* can be provided. Superior air flow distribution is realized by optimum arrangement of air outlet when the ducts are installed.

*When 16HP is modified (optional order) to change the fan rotation speed and increase the fan motor power.



Wired remote controller
(Option)
RBC-AMT32E

Technical specifications

Model name		MMF-	AP0724DH-V	AP0964DH-V	AP1444DH-V	AP1924DH-V
Cooling/Heating capacity* ¹		(kW)	22.4/25.0	28.0/31.5	45.0/50.0	56.0/63.0
Electrical characteristics	Power requirements					3 Phase 50Hz 400V
External dimensions	Height	(cm)	182		187	
		(m)	1.82		1.87	
	Width	(cm)	89		130	
		(m)	0.89		1.30	
	Depth	(cm)	54		76	
		(m)	0.54		0.76	
Total weight		(kg)	170	280	290	
Fan unit	Air flow (High/Mid/Low)	CFM	2543/2119/1695	2966/2472/1978	5085/4238/3390	5933/4944/3955
		m ³ /s	1.2 / 1.0 / 0.8	1.4 / 1.2 / 0.9	2.4 / 2.0 / 1.6	2.8 / 2.3 / 1.9
	Motor output	(W)	1500	2200	3700	
Connecting pipe	Gas side	(cm)	ø 2.22		ø 2.86	
	Liquid side	(cm)	ø 1.27		ø 1.59	
	Drain port (nominal dia.)	(cm)	2.5 (Both sides of male screw)			
Sound pressure level* ² (H/L)		(dB(A))	56/54	58/56	61/63	65/63

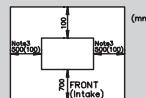
* Figures in parentheses are for ceiling panels.

*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.
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

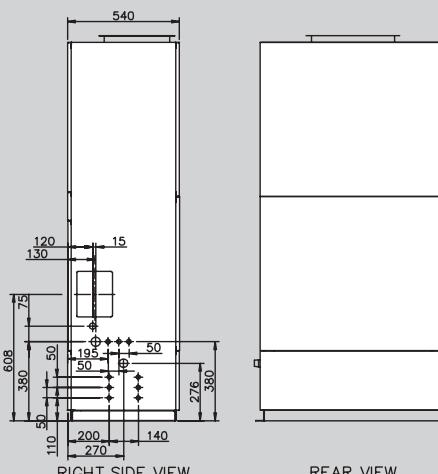
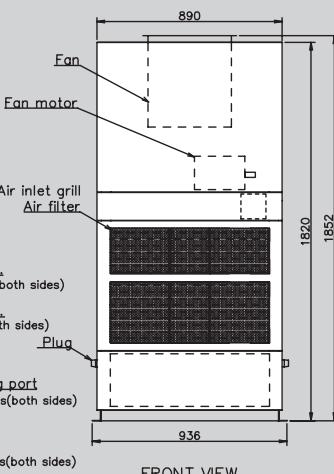
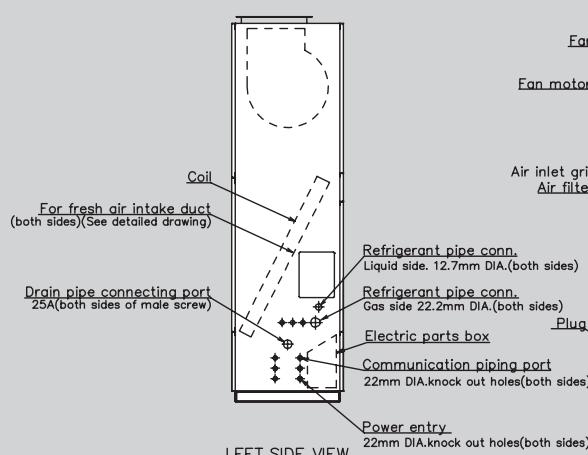
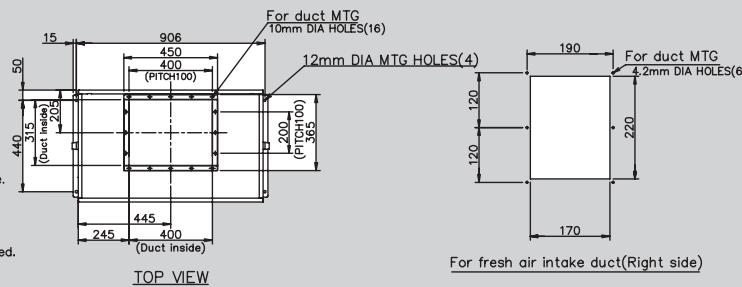
*2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

MMF-AP0723DH-V, MMF-AP0963DH-V

Note 1. Provide enough space for servicing around the unit as shown below.



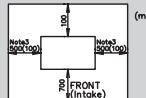
2. At the time of factory shipments, drain piping serves as right-hand side. If you want to change the drain pipe on the left side, please change to the opposite side of the plug at the site.
*PT25A socket is included in the unit.
3. Please Allow clearance of 500mm on the side of the pipe connection. Please Allow clearance of 100mm on the side of the pipe is not connected.



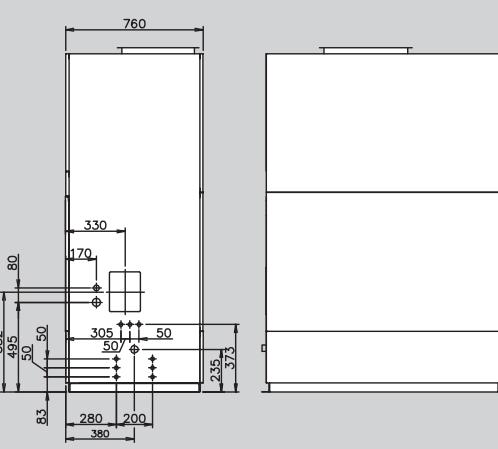
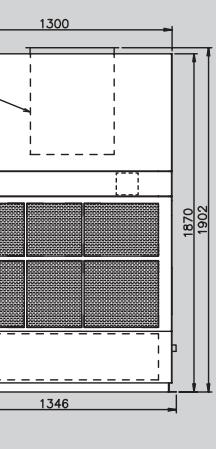
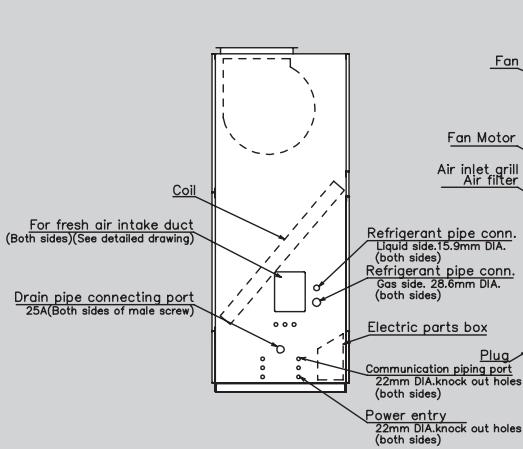
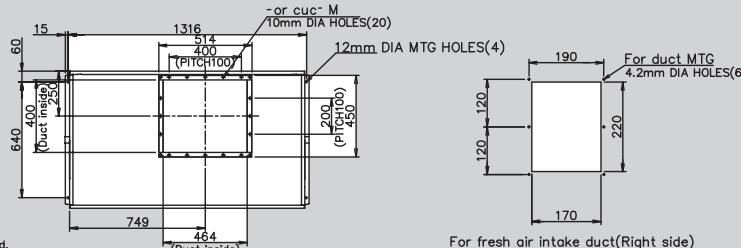
REAR VIEW

MMF-AP1443DH-V, MMF-AP1923DH-V

Note 1. Provide enough space for servicing around the unit as shown below.



2. At the time of factory shipments, drain piping serves as right-hand side. If you want to change the drain pipe on the left side, please change to the opposite side of the plug at the site.
*PT25A socket is included in the unit.
3. Please Allow clearance of 500mm on the side of the pipe connection. Please Allow clearance of 100mm on the side of the pipe is not connected.



REAR VIEW

Floor Standing Direct Type

MMF-AP*3H-VA**



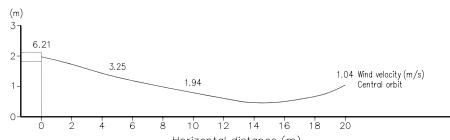
Wired remote controller
(Option)
RBC-AMT32E

High static pressure

Available in a capacity range
of 8 - 20 HP

Air flow distance up to about 30 m

The core air flow velocity of 0.3 m/s is up to 30 m from the unit. Air circulates far distances. Optimum for air conditioning large spaces.



Example: MMF-AP1923DH-V

Standard filter in-built

Can cover long horizontal distance
for air throw

Frame + panel unit structure

The frame-mounted panel structure allows easy removal of the panel.

The fan section is extractable for easy maintenance of the fan unit area.



Technical specifications

Model name		MMF-	AP0724H-VA	AP00964H-VA	AP1444H-VA	AP1924H-VA
Cooling/Heating capacity*1		(kW)	22.4/25.0	28.0/31.5	45.0/50.0	56.0/63.0
Electrical characteristics	Power requirements		3 Phase 50Hz 400V			
External dimensions	Height	(cm)	213		228	
		(m)	2.13		2.28	
	Width	(cm)	89		130	
		(m)	0.89		1.30	
	Depth	(cm)	54		76	
		(m)	0.54		0.76	
Total weight		(kg)	180		320	
Fan unit	Air flow (High/Mid/Low)	CFM	2543/2119/1695	2966/2472/1978	5085/4238/3390	5933/4944/3955
		m ³ /s	1.2 / 1.0 / 0.8	1.4 / 1.2 / 0.9	2.4 / 2.0 / 1.6	2.8 / 2.3 / 1.9
	Motor output	(W)	750	1500	2200	
Connecting pipe	Gas side	(cm)	ø 2.22			ø 2.86
	Liquid side	(cm)	ø 1.27			ø 1.59
	Drain port(nominal dia.)	(cm)	2.5 (Both sides of male screw)			
Sound pressure level*2 (H/L)		(dB(A))	62	64	66	

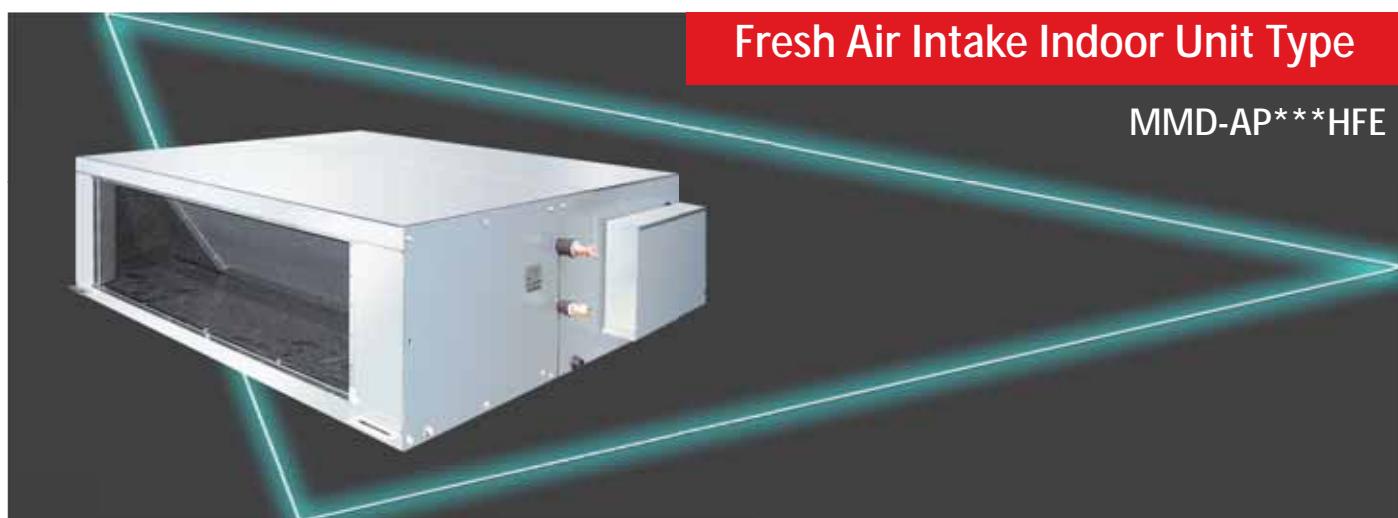
* Figures in parentheses are for ceiling panels.

*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.

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

*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.



Air controller for fresh-air intake

Outside static pressure maximum 230 Pa (in case of 50 Hz of 5HP).

Use of high-performance filter provides more comfortable room environment.

Introduces outdoor air at a temperature close to that of the indoor air.

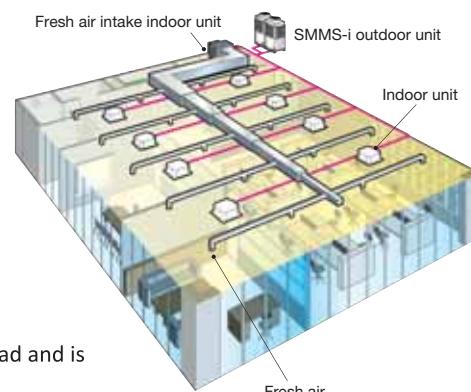
Primary processing of fresh outdoor air.

Fresh-air intake often influences the system, rendering normal control of the air conditioner difficult, or placing large loads on the system and its cooling performance.

Therefore it is frequently adopted to handle the fresh air to a certain condition before the fresh air will enter in the main air conditioner.

NOTE: The fresh air intake indoor unit is an air conditioner provided to handle the fresh air load and is not to control the room temperature.

For correspondence to the load of the indoor air controller, set an air conditioner separately.



Technical specifications

Model name		MMD-	AP0481HFE	AP0721HFE	AP0961HFE		
Cooling/Heating capacity (Note 1)		(kW)	14.0/8.9	22.4/13.9	28.0/17.4		
Electrical characteristics		Power supply (kW)	1-phase 50 Hz 230 V (220–240 V)/60 Hz 220 V				
Power consumption (kW)			0.28/0.34	0.45/0.55	.52/0.65		
External dimensions	Main unit	Height (cm)	49.2				
			0.49				
		Width (cm)	89.2	139.2			
			0.89	1.39			
		Depth (cm)	126.2				
			1.26				
Total weight (kg)			93	120			
Fan unit	Standard air flow (High/Mid/Low) (CFM) m³/s		635 0.30	988 0.47	1235 0.58		
	Motor output (kW)		0.160	0.160×2			
	External static pressure 50 Hz/60 Hz (Pa)		170-210-230 / 115-215-260	140-165-180 / 150-210-235	160-190-205 / 80-180-220		
	Air flow limit Lower limit/Upper limit (CFM)		445/699	692/1087	865/1359		
Connecting pipe	Gas side (cm)		ø 1.59	ø 2.22			
	Liquid side (cm)		ø 0.95	ø 1.27			
	Drain port (cm)		2.5				
Sound pressure level (Note 2) (High/Med./Low) (dB(A))			45/43/41	46/45/44			
Operation range	Cooling (Note 3) (°C)		5 – 43				
	Heating (Note 4) (°C)		-5 – 43				

* The setting temperature is 16 – 27°C (standard FCU...18 – 29°C).

* An optional humidifier is not available with fresh air intake indoor unit.

* Height difference between fresh air intake indoor units must be within 0.5 m. Height difference between fresh air intake indoor unit and standard FCU must be within 30 m.

NOTE 1 Rated conditions Cooling: Outdoor air temperature 33°C DB/28°C WB setting temperature 18°C Heating: Outdoor air temperature 0°C DB/-2.9°C WB setting temperature 25°C
Piping: Length 7.5 m / Height 0 m

NOTE 2 Normally, the values measured in the actual operating environment become large than the indicated values due to the effects of external sound.

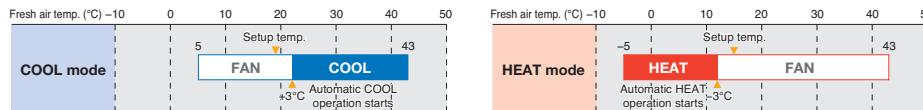
NOTE 3 * When supply air temperature is "setting temperature + 3°C" or less, fresh air intake indoor unit operates as FAN mode.

* When supply air temperature is 19°C or less, Fresh Air Intake Indoor unit operates as FAN mode.

NOTE 4 * When supply air temperature is "setting temperature -3°C" or over, fresh air intake indoor unit operates as FAN mode.

Use Conditions

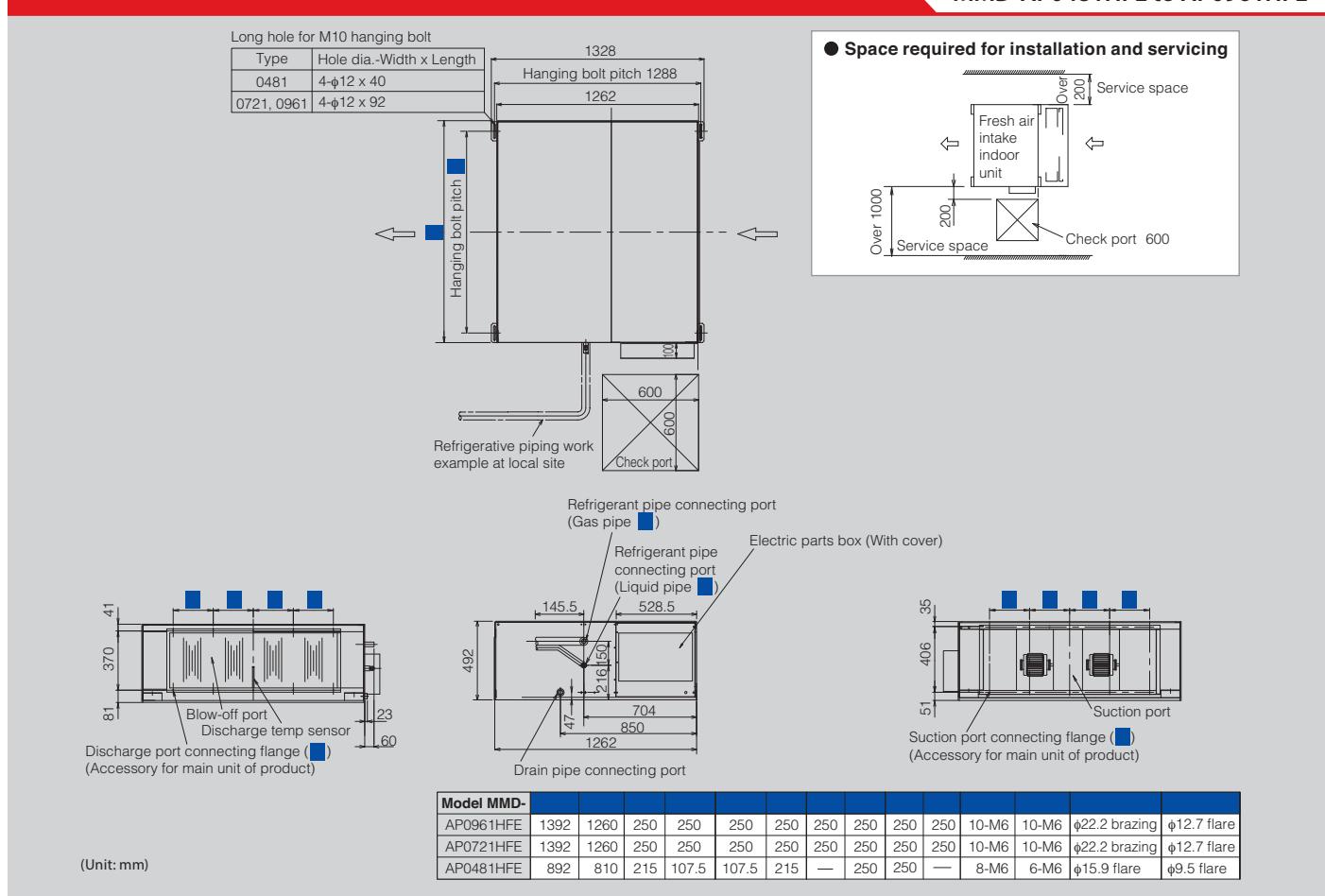
- In COOL mode, if temperature of the fresh air is below the setup temp. of +3°C, FAN status is automatically made. When temperature of the fresh air is below 19°C, FAN status is also made regardless of the setup temperature.
- In HEAT mode, if temperature of the fresh air is above the setup temp. -3°C, FAN status is automatically made. When temperature of the fresh air is above 15°C, FAN status is also made regardless of the setup temperature.



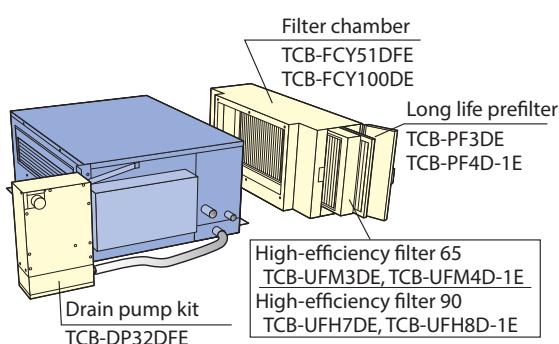
Operable mode and discharge temperature setup range

Operation mode	At shipment from factory	Setup range
COOL	18°C	16 to 27°C
HEAT	25°C	16 to 27°C

MMD-AP0481HFE to AP0961HFE



Options





Greater comfort and reduced load

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

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.



Remote controller
NRC-01HE

Technical specifications

Model name		MMD-	VN502HEXE	VN802HEXE	VN1002HEXE	VN1002HEXE2
Fresh air conditioning load	Cooling (*1)	(kW)	4.10 (1.30)	6.56 (2.06)	8.25 (2.32)	8.25 (2.32)
	Heating (*1)	(kW)	5.53 (2.33)	8.61 (3.61)	10.92(4.32)	10.92 (4.32)
Power supply			1-phase 50Hz 230V (220–240V) (Separate power supply for indoor units required.)	1-phase 50Hz 230V (220V-240V) (Separate power supply for indoor units required.)	(Separate power supply for indoor units is required.)	
Temperature exchange efficiency 50Hz / 60Hz	High	(%)	70.5/70.5	70.0/70.0	65.5	
	Mid	(%)	70.5/70.5	70.0/70.0	65.5	
	Low	(%)	71.5/72.0	72.5/73.0	67.5	68.0
Enthalpy exchange efficiency 50Hz / 60Hz	Cooling	High	(%)	56.5/56.5	56.0/56.0	52.0
		Mid	(%)	56.5/56.5	56.0/56.0	52.0
		Low	(%)	57.5/58.0	59.0/59.5	54.5
	Heating	High	(%)	68.5/68.5	70.0/70.0	66.0
		Mid	(%)	68.5/68.5	70.0/70.0	66.0
		Low	(%)	69.0/69.0	73.0/73.5	68.5
	Fan unit 50Hz / 60Hz	Standard air flow	High	m³/h	504/504	792/792
				m³/s	0.14/0.14	0.22/0.22
			Mid	m³/h	504/504	792/792
				m³/s	0.14/0.14	0.22/0.22
			Low	m³/h	432/396	648/612
				m³/s	0.12/0.11	0.18/0.17
	External static pressure	High	(Pa)	120/200	120/190	135
		Mid	(Pa)	105/170	100/155	120
		Low	(Pa)	115/150	105/130	105
Sound pressure 50Hz / 60Hz	High	(dB)	37.5/40.0	41.0/43.0	43.0	43.5
	Mid	(dB)	36.5/38.0	40.0/42.0	42.0	
	Low	(dB)	34.5/36.5	38.0/37.0	40.0	
External Dimensions	Height	(cm)			43	
		(m)			0.43	
	Width	(cm)	114		1189	
		(m)	1.14		1.19	
	Depth	(cm)	169		173.9	
		(m)	1.69		1.74	
Total weight		(kg)	84	100	101	103
Connecting piping	Gas side	(cm)	ø 0.95		ø 1.27	
	Liquid side	(cm)			ø 0.64	
Drain port (Nominal dia.)		(cm)		2.5(Polyvinyl chloride tube)		

(*1) Cooling and heating capacities are based on the following conditions:

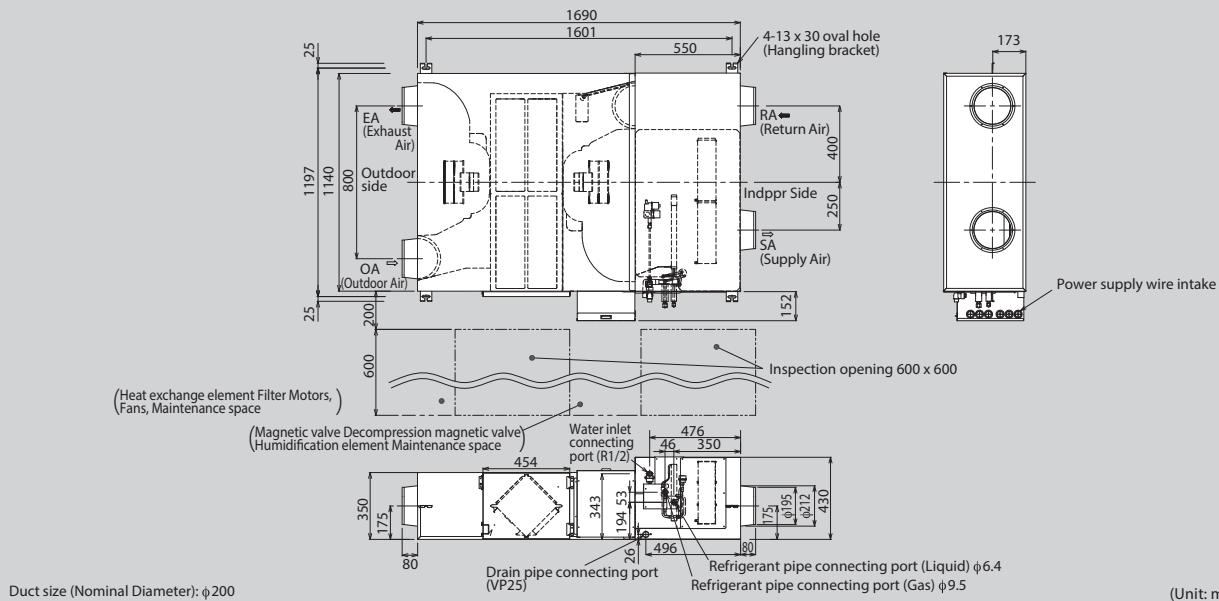
Cooling capacities are based on : indoor temperature :27 °CDB/19°CWB, Outdoor temperature : 35°CDB

Heating capacities are based on : indoor temperature :20 °CDB, Outdoor temperature : 7 °CDB/6°CWB

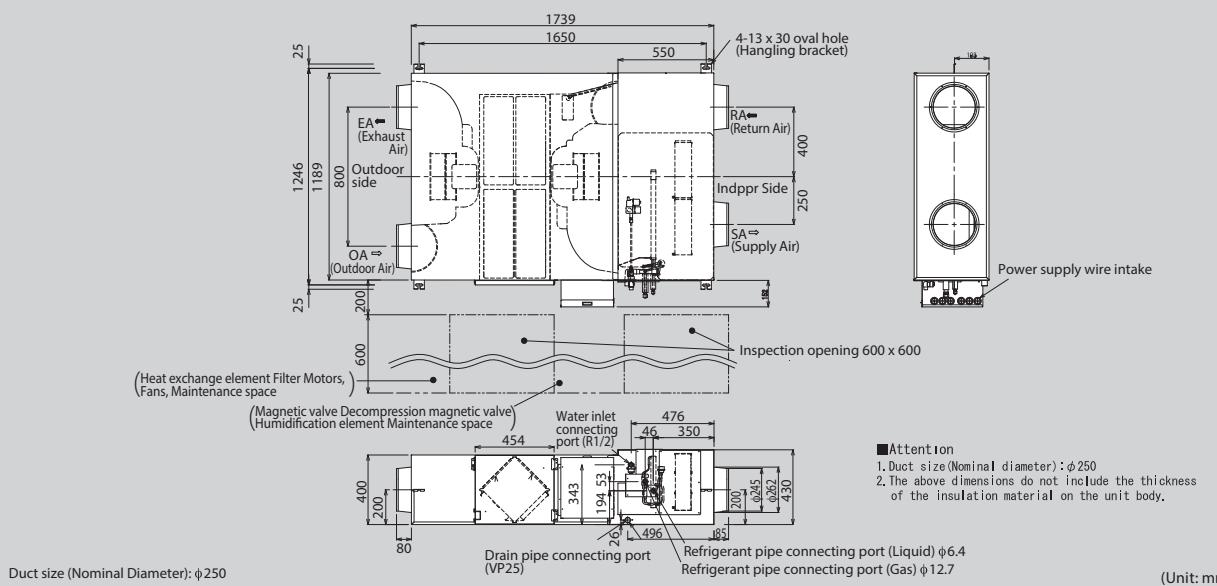
Fan is based on High and Middle

() : The figures in () indicate the heat reclaimed from the heat recovery ventilator.

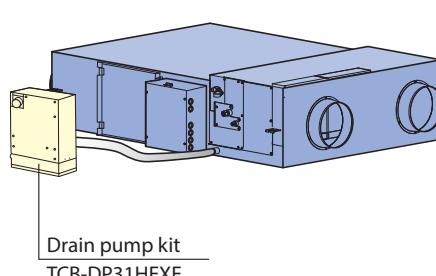
MMD-VN502HEXE



MMD-VN802HEXE to VN1002HEXE/2



Options





Air-to-Air Heat Exchanger (Stand alone unit)

VN-M*HE**

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.

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.

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



Remote controller
NRC-01HE

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.

Easy maintenance

The heat exchange element can be washed in water.

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)	68-78/76	123-138/131	165-182/209	214-238/260	262-290/307	360-383/446	532-569/622	751-786/928	1084-1154/1294	
	High	59-67/65	99-111/105	135-145/162	176-192/206	240-258/283	339-353/408	494-538/589	708-784/830	1032-1080/1220	
	Low	42-47/45	52-59/54	82-88/94	128-142/144	178-191/206	286-300/333	353-370/411	570-607/660	702-742/818	
Air volume (m ³ /s) / (m ³ /h)	(Extra high)	0.04/144	0.07/252	0.10/360	0.14/504	0.18/648	0.22/792	0.28/1008	0.42/1512	0.56/2016	
	High	0.04/144	0.07/252	0.10/360	0.14/504	0.18/648	0.22/792	0.28/1008	0.42/1512	0.56/2016	
	Low	0.03/108	0.04/144	0.06/216	0.11/396	0.14/504	0.19/684	0.21/756	0.33/1188	0.39/1404	
External static pressure (Pa)	(Extra high)	82-102/99	80-98/97	114-125/167	134-150/181	91-107/134	142-158/171	130-150/185	135-156/165	124-143/165	
	High	52-78/59	34-65/38	56-83/33	69-99/63	58-82/68	102-132/102	97-122/120	103-129/108	92-116/102	
	Low	47-64/46	28-40/22	65-94/39	62-92/44	61-96/52	76-112/58	84-127/55	112-142/109	110-143/87	
Sound pressure level (dB(A))	(Extra high)	26-28/27.5	29.5-30/31.5	34-35/35.5	32.5-34/33.5	34-36/35.5	37-38.5/38	39.5-40.5/41.5	38-39/39.5	41-42.5/42.5	
	High	24-25.5/24.5	25-27/25	30-32/29.5	29.5-31/29	33-34/34	35.5-37/35	38.5-40/39	36.5-37.5/36.5	39.5-41/40	
	Low	20-22/20	21-22/21	27-29/23.5	26-29/24.5	31-32.5/29.5	33.5-35/32.5	34-35.5/33.5	36-37.5/35.5	37-38/36.5	
Temperature exchange efficiency (%)	(Extra high)	81.5/81.5	78/78	74.5/74.5	76.5/76.5	75/75	76.5/76.5	73.5/73.5	76.5/76.5	73.5/73.5	
	High	81.5/81.5	78/78	74.5/74.5	76.5/76.5	75/75	76.5/76.5	73.5/73.5	76.5/76.5	73.5/73.5	
	Low	83/83	81.5/81.5	79.5/79.5	78/78	76.5/76.5	77.5/77.5	77/77	79/79	77.5/77.5	
Enthalpy exchange efficiency (%)	for heating	(Extra high)	74.5/74.5	70/70	65/65	72/72	69.5/69.5	71/71	68.5/68.5	71/71	68.5/68.5
		High	74.5/74.5	70/70	65/65	72/72	69.5/69.5	71/71	68.5/68.5	71/71	68.5/68.5
		Low	76/76	74/74	71.5/71.5	73.5/73.5		71.5/71.5		73.5/73.5	72/72
	for cooling	(Extra high)	69.5/69.5	65/65	60.5/60.5	64.5/64.5	61.5/61.5	64/64	60.5/60.5	64/64	60.5/60.5
		High	69.5/69.5	65/65	60.5/60.5	64.5/64.5	61.5/61.5	64/64	60.5/60.5	64/64	60.5/60.5
		Low	71/71	69/69	67/67	66.5/66.5	64/64	65.5/65.5	64.5/64.5	67/67	65.5/65.5
Dimensions (Length x Width x Height) (m)		0.9 x 0.9 x 0.29			1.14 x 1.14 x 0.35			1.19 x 1.19 x 0.4		1.19 x 1.19 x 0.81	
Dimensions (Length x Width x Height) (cm)		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 (cm)		10	15		20		25		inside: 25, outside: 28.3 x 73		
Operating range	Around unit	-10°C - 40°C 80% RH or less									
	Outdoor Air (OA)	-15°C (*) - 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.

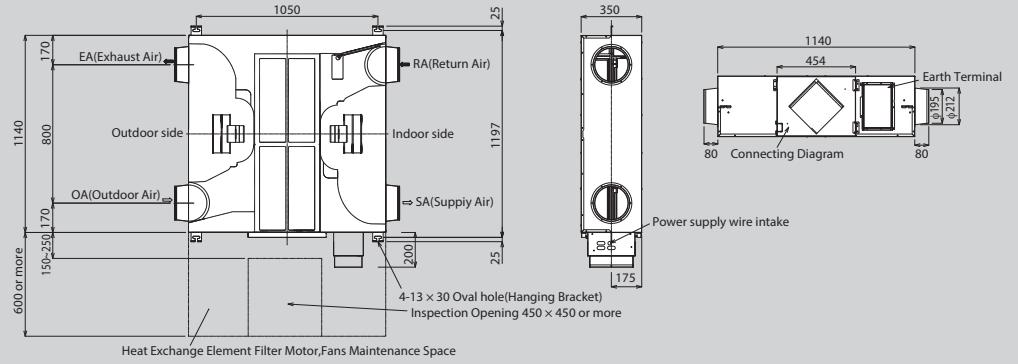
* Sound pressure level is measured 1.5m below the center of the unit.

* 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.

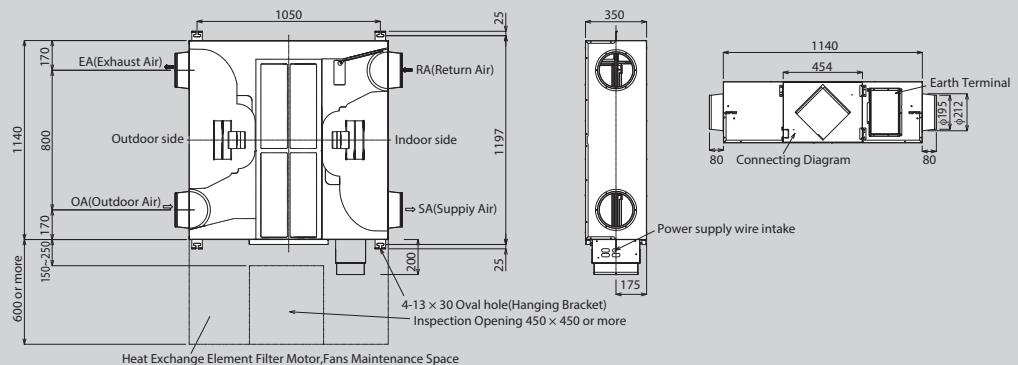
VN-M150HE to VN-M350HE



Duct size (Nominal Diameter): $\phi 200$

(Unit: mm)

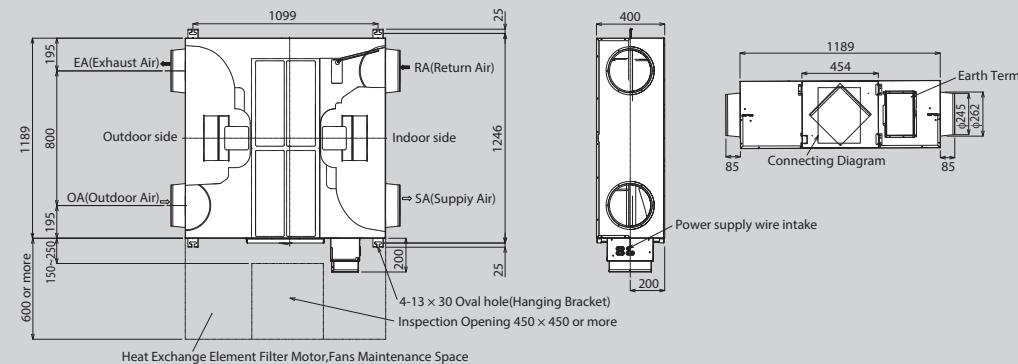
VN-M500HE, VN-M650HE



Duct size (Nominal Diameter): $\phi 200$

(Unit: mm)

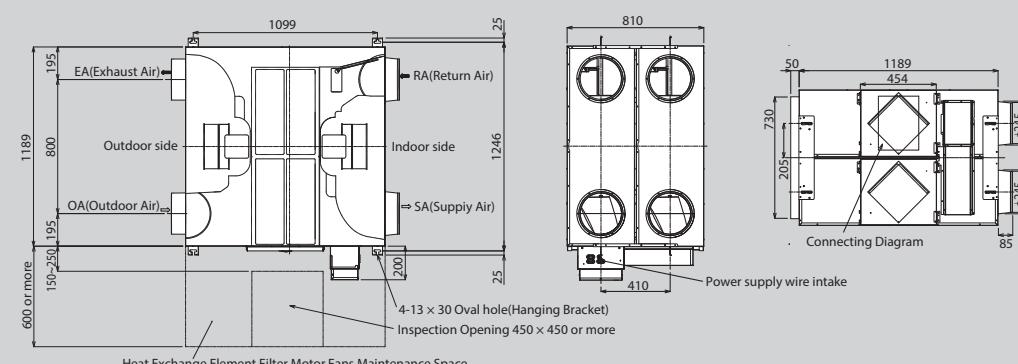
VN-M800HF, VN-M1000HF



Duct size (Nominal Diameter): $\phi 250$

(Unit: mm)

VN-M1500HF VN-M2000HF



(Unit: mm)

For SMMS-e
Indoor unit accessories

Indoor unit	Parts Name	Model Name	Applied Model	Notes	Remarks
4-way air discharge cassette type	Ceiling panel	RBC-U31PGP(W)-E	MMU-AP***4HP1-E	Required accessory	
	Fresh air inlet box	TCB-GB1602UE		For fresh air intake by using the knockout hole of fresh air filter chamber. (dia.=100 mm)	Use with TCB-GFC1602UE
	Fresh air filter chamber	TCB-GFC1602UE		For fresh air inlet box	
	Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	
	Spacer for height adjustment	TCB-SP1602UE		Height=50 mm	
	Air discharge direction kit	TCB-BC1602UE		Air direction charge by cutting off air discharge port (3 pcs.)	
Compact 4-way cassette (600 × 600) type	Ceiling panel	RBC - UM21PG(W)-E	MMU - AP***7MH-E	Required accessory	
	Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	
2-way air discharge cassette type	Ceiling panel	RBC-UW283PG(W)-E RBC-UW803PG(W)-E RBC-UW1403PG(W)-E	MMU-AP0072 to 0152WH1 MMU-AP0182 to 0302WH1 MMU-AP0362/0482/0562WH1	Required accessory	
	Super long life filter	TCB-LF283UW-E TCB-LF803UW-E TCB-LF1403UW-E	MMU-AP0072 to 0152WH1 MMU-AP0182 to 0302WH1 MMU-AP0362/0482/0562WH1	Dust collecting effect: 50% (Weight method)	Use with TCB-FC283UW-E Use with TCB-FC803UW-E Use with TCB-FC1403UW-E
	Filter chamber	TCB-FC283UW-E TCB-FC803UW-E TCB-FC1403UW-E	MMU-AP0072 to 0152WH1 MMU-AP0182 to 0302WH1 MMU-AP0182 to 0302WH1	For super long life filter	
	Auxiliary fresh air flange	TCB-FF151US-E	MMU-AP***2WH1	For fresh air intake by using the knockout hole of indoor unit. (dia.=150mm)	
	Ceiling panel	RBC-UV136PG RBC-US21PG	MMU-AP***4YH1-E	Required accessory	
	Front air discharge unit	TCB-BUS21HWE	MMU-AP***4SH1-E	Required accessory	
1-way air discharge cassette type	Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	
	Concealed duct type	Spigot shaped flange	MMU-AP0076 to 0186BHP1-E MMU-AP0246/0276/0306BHP1-E MMU-AP0366/0486/0566BHP1-E		
Concealed duct high static pressure type	High-efficiency filter 65	TCB-UFM1D-1E TCB-UFM2D-1E (2 pcs.) TCB-UFM1D-1E (2 pcs.)	MMD-AP0186HP1-E MMD-AP0246/0276/0366HP1-E MMD-AP0486/0566HP1-E	Dust collecting effect: 65% (NBS Colorimetric method)	Use with TCB-FCY21DE Use with TCB-FCY31DE
	High-efficiency filter 90	TCB-UH5D-1E TCB-UH6D-1E (2 pcs.) TCB-UH5D-1E (2 pcs.)	MMD-AP0186HP1-E MMD-AP0186HP1-E MMD-AP0486/0566HP1-E		Use with TCB-FCY51DE Use with TCB-FCY100DE
	Long life prefilter	TCB-LK801D-E TCB-LK1401D-E	MMD-AP0186/0246/0276HP1-E MMD-AP0366/0486/0566HP1-E	Dust collecting effect: 50% (Weight method)	Use with TCB-FCY21DE Use with TCB-FCY31DE
	Filter chamber	TCB-FCY21DE TCB-FCY31DE TCB-FCY51DE	MMD-AP0246/0276/0366HP1-E MMD-AP0486/0566HP1-E		For high-efficiency filter or long life prefilter
	Drain pump kit	TCB-DP31DE TCB-DP40DPE	MMD-AP0186 to 0566HP1-E MMD-AP0726HP-E/0966HP-E	Stand-up 330 or less (from bottom face of ceiling)	
Slim duct type	Auxiliary fresh air flange	TCB-FF151US-E	MMU-AP***4SPH1-E	For fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	
Ceiling type	Drain pump kit	TCB-DP31CE	MMC-AP0157/0187HP1-E	Stand-up 600 or less (from bottom face of ceiling)	Use with TCB-KP12CE2
	Elbow piping kit	TCB-KP13CE TCB-KP23CE	MMC-AP0247 to 0567HP1-E MMC-AP0157/0187HP1-E MMC-AP0247 to 0567HP1-E	Needed when drain pump kit is used	Use with TCB-KP22CE2
Air to Air Heat Exchanger with DX-coil	Drain pump kit	TCB-DP31HEXE	MMD-VN502 to 1002HEXE	Stand-up 330 mm or less (from bottom face of ceiling)	
Fresh air intake indoor unit type	High-efficiency filter 65	TCB-UFM3DE TCB-UFM4D-1E	MMD-AP0721/0961HFE MMD-AP0481HFE	Dust collecting effect: 65% (NBS Colorimetric method)	Use with TCB-PF3DE Use with TCB-PF4D-1E
	High-efficiency filter 90	TCB-UH7DE TCB-UH8D-1E	MMD-AP0721/0961HFE MMD-AP0481HFE	Dust collecting effect: 90% (NBS Colorimetric method)	Use with TCB-PF3DE Use with TCB-PF4D-1E
	Long life prefilter	TCB-PF3DE TCB-PF4D-1E	MMD-AP0721/0961HFE MMD-AP0481HFE	Dust collecting effect: 50% (Weight method)	Use with TCB-FCY100DE Use with TCB-FCY51DFE
	Filter chamber	TCB-FCY51DFE TCB-FCY100DE	MMD-AP0481HFE MMD-AP0721/0961HFE	For high-efficiency filter or long life prefilter	
	Drain pump kit	Drain pump kit	MMD-AP0481HFE/0721/0961HFE	Stand-up 330 or less (from bottom face of ceiling)	

Combination Pattern

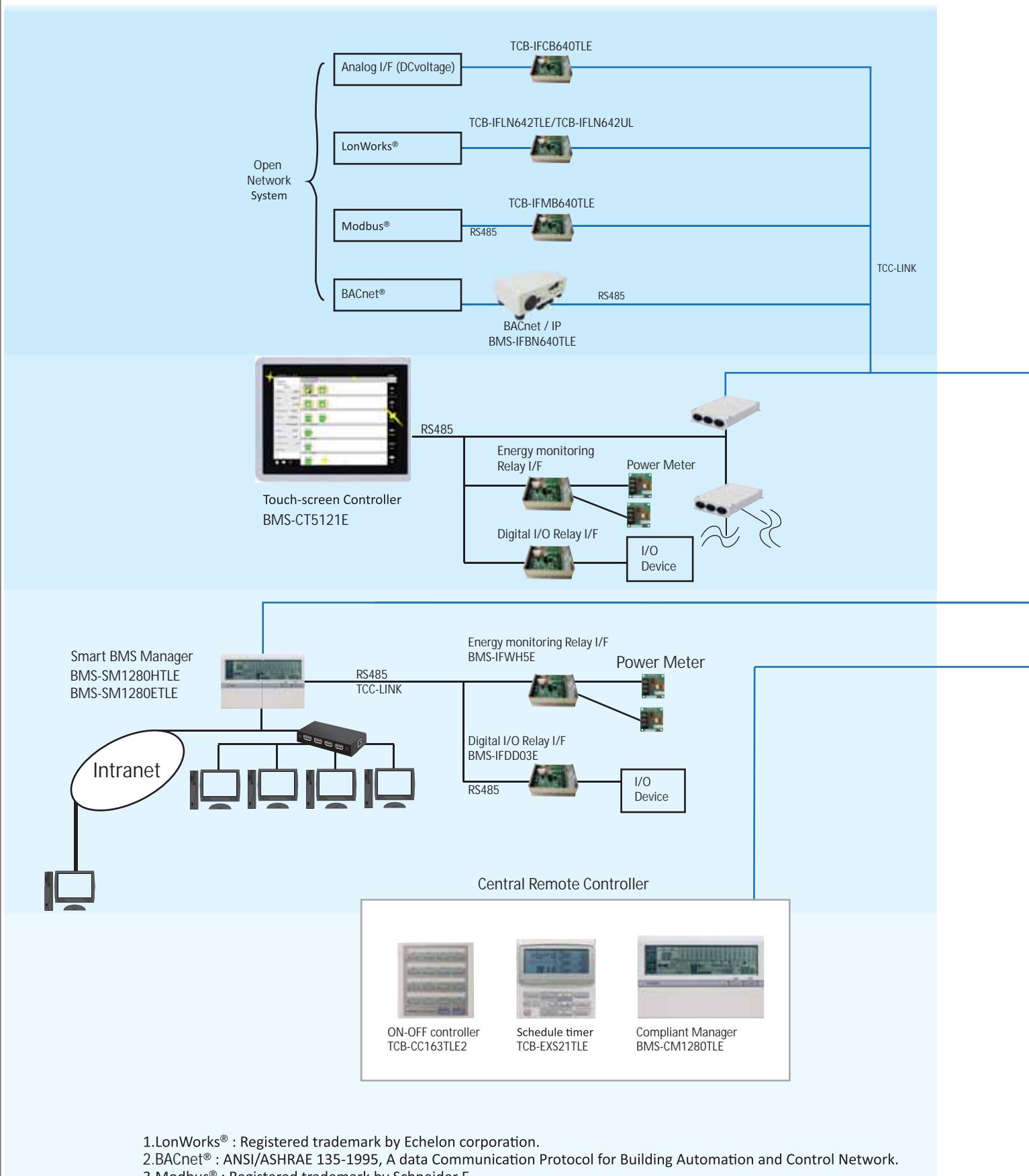
1) Accessory for 4-way air discharge cassette type:
combination pattern

	1	2	3	4	5	6
Ceiling panel	Fresh air inletbox + Fresh air filter chamber	Fresh air filter chamber	Auxiliary fresh air flange	Spacer for height adjustment	Air discharge direction kit	
1 Ceiling panel	OK	OK	OK	OK	OK	
2 Fresh air inlet box + Fresh air filter chamber	OK		OK	—	OK	
3 Fresh airfilter chamber	OK		OK	OK	OK	
4 Auxiliary fresh airflange	OK	OK	OK	OK	OK	
5 Spacer for height adjustment	OK	—	OK	OK		
6 Air discharge direction kit	OK	OK	OK	OK	OK	

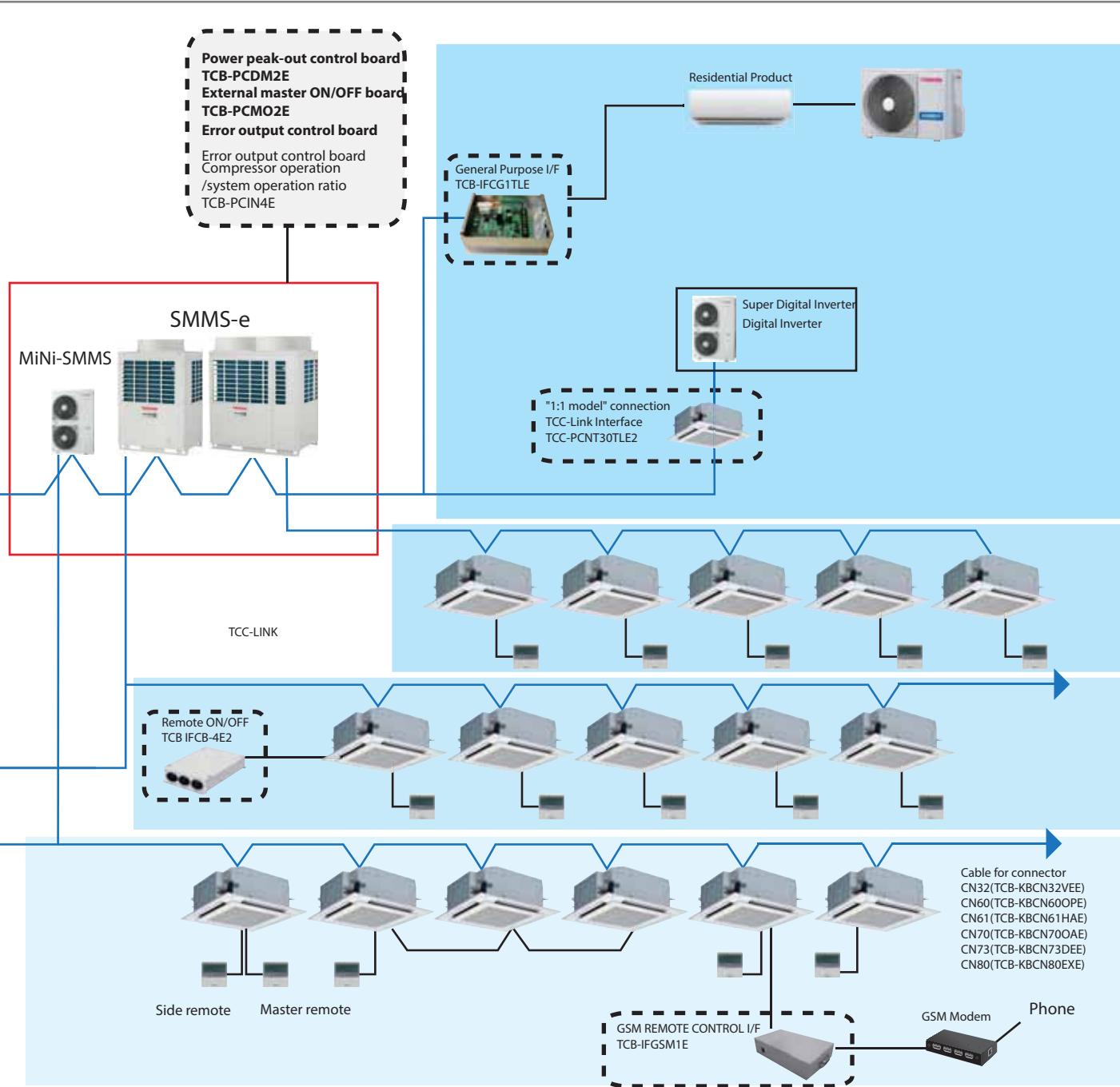


Remote controllers

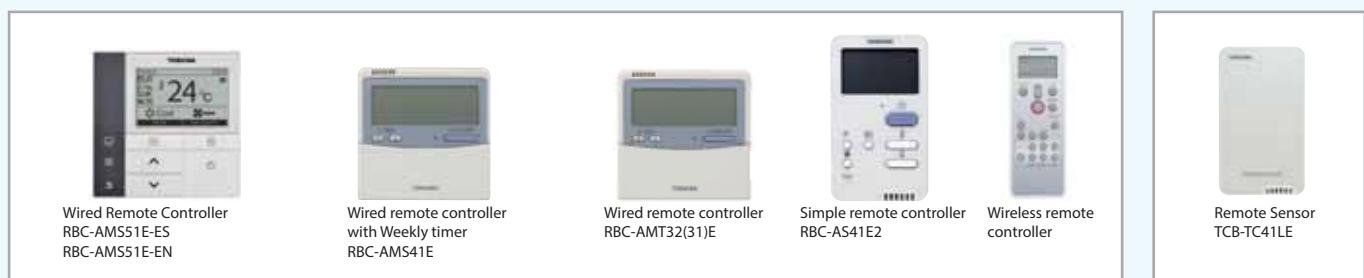
Air-conditioning Management System on site



- 1.LonWorks® : Registered trademark by Echelon corporation.
- 2.BACnet® : ANSI/ASHRAE 135-1995, A data Communication Protocol for Building Automation and Control Network.
- 3.Modbus® : Registered trademark by Schneider E.



Wire remote controller/Wireless remote controller





Remote controller with weekly timer (7-day timer function)

RBC-AMS41E

- Clock display
- Schedule timer:

Possible to program schedule timer (7-day timer) function
Possible to program 8 functions for each day of the week

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



Simple wired remote controller

RBC-AS41E

- Start/Stop
- Temperature setting
- Air flow changing
- Check code display



Remote sensor

TCB-TC21LE2

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



Wireless remote controller kit & sensor unit (receiver unit)

- Start/Stop •Changing mode •Temperature setting •Air flow changing
- Timer function
Either "ON" time or "OFF" time or "CYCLIC" can be set how many 30 min. later ON or OFF is operated.
- Control by 2 remote controllers is available.
Two wireless remote controllers can operate one indoor unit. The indoor unit can then be operated separately from the two different locations.
- Check code display

*The wireless remote control cannot be connected to concealed duct high static pressure type.



RBC-AX32U(W)-E

Integral receiver (For 4-way air discharge cassette) (MMU-AP***4HP-E)



RBC-AX33CE

Integral receiver
(For ceiling, 1-way air discharge cassette) (MMU-AP***4SH-E, MMC-AP***4H-E)



TCB-AX32E2

Stand alone receiver
(For 4-way air discharge cassette, compact 4-way cassette (600 x 600), 2-way air discharge cassette, ceiling, concealed duct standard, slim duct, floor standing cabinet, floor standing, 1-way discharge cassette (MMU-AP***4YH-E/SH-E))



RBC-AX23UW(W)-E

Integral receiver (For 2-way air discharge cassette) (MMU-AP***2WH)



Wireless remote controller kit & sensor unit (receiver unit)

- Start/Stop •Changing mode •Temperature setting •Air flow changing
- Timer function
Either "ON" time or "OFF" time or "CYCLIC" can be set how many 30 min. later ON or OFF is operated.
- Control by 2 remote controllers is available.
Two wireless remote controllers can operate one indoor unit. The indoor unit can then be operated separately from the two different locations.
- Check code display

*The wireless remote control cannot be connected to concealed duct high static pressure type.

Wired remote controller



Wired Remote Controller
RBC-AMS51E-ES
RBC-AMS51E-EN

Wired 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 parameter.
- New modern and desirable controller design with menu driven display.
- Save mode by schedule timer to optimise 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.
- Remote TA sensor available in controller.
- Can be connected to a single indoor unit or a group of up to 8 indoor units.



Wired Remote Controller
RBC-AMS54E-EN
RBC-AMS54E-ES

Wired 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 parameter.
- New modern and desirable controller design with menu driven display.
- Save mode by schedule timer to optimise 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.
- Remote TA sensor available in controller.
- 5 speed control for fans
- Soft cooling setting
- Compatibility with Occupancy sensor
- Schedule timer
- Refrigerant leakage display
- 8 different running patterns per day can be programmed with a schedule timer
- up to 3 pattern of different settings for different days can be set
- Can be connected to a single indoor unit or a group of up to 8 indoor units



Standard Remote controller
RBC-AMT32E

Standard wired remote controller can be connected to a single indoor unit or a group of up to 8 indoor units. Power save operation limits the greatest current value. The remote controller allows error to be displayed while the protective device works or a error occurs.

Wireless remote controller



Wireless remote controller kit & sensor unit (receiver unit)

- Start/Stop •Changing mode •Temperature setting
 - Airflow changing
 - Timer function
Either "ON" time or "OFF" time or "CYCLIC" can be set how many 30 min.
later ON or OFF is operated.
 - Control by 2 remote controllers is available.
Two wireless remote controllers can operate one indoor unit. The indoor unit can then be operated separately from the two different locations.
 - Check code display
- *The wireless remote control cannot be connected to concealed duct high static pressure type.



RBC-AX33CE
Integral receiver
(For ceiling) (MMC-AP***7HP-E)
(MMU-AP***4SH-E)



TCB-AX32E2
Stand alone receiver
(For 4-way air discharge cassette,
compact 4-way cassette
(600 x 600), 2-way air discharge cassette,
ceiling, concealed
duct standard, slim duct, floor standing
cabinet, floor
standing, 1-way discharge cassette
(MMU-AP ***4YH-E/SH-E)



RBC-AX32U(W)-E
Integral receiver (For 4-way air discharge cassette)
(MMU-AP***4HP-E)



RBC-AX23UW(W)-E
Integral receiver (For 2-way air discharge cassette)
(MMU-AP ***2WH)

Central remote controller**Compliant Manager****BMS-CM1280TLE**

- **Operation**
Individual operation of 128 indoor units available
Return Back Operation
Weekly Schedule Operation*
(ON/OFF)

* Schedule timer necessary

• **Monitoring**

- Zone setting (64 zones x 2)
Individual unit operation mode operation restriction
Alarm display
Control input
Status output

**ON-OFF controller****TCB-CC163TLE2**

- Individual control of up to 16 indoor units.
- Setting of simultaneous ON/OFF 3times per day combined with the weekly timer.

**Schedule timer****TCB-EXS21TLE**• **Schedule timer mode**

- 6 programmings per day
- Enabling 8 groups to be programmed
- A maximum of 64 indoor units can be controlled
- A maximum of 100 hours back-up power supply
- **Weekly timer mode**
- 7 types of weekly schedule and 3 programmings per day

Other**Remote sensor****TCB-TC41LE**

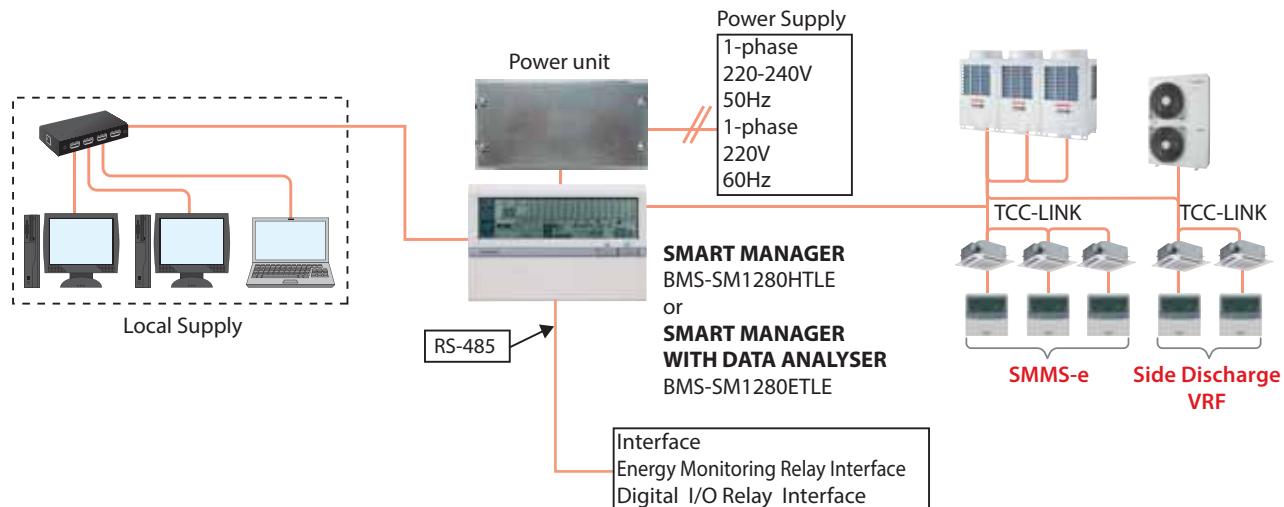
Install this sensor when outside air has been introduced or when overcooling and overheating are to be minimised.

**Wired remote controller for air to air heat exchanger****NRC-01HE**

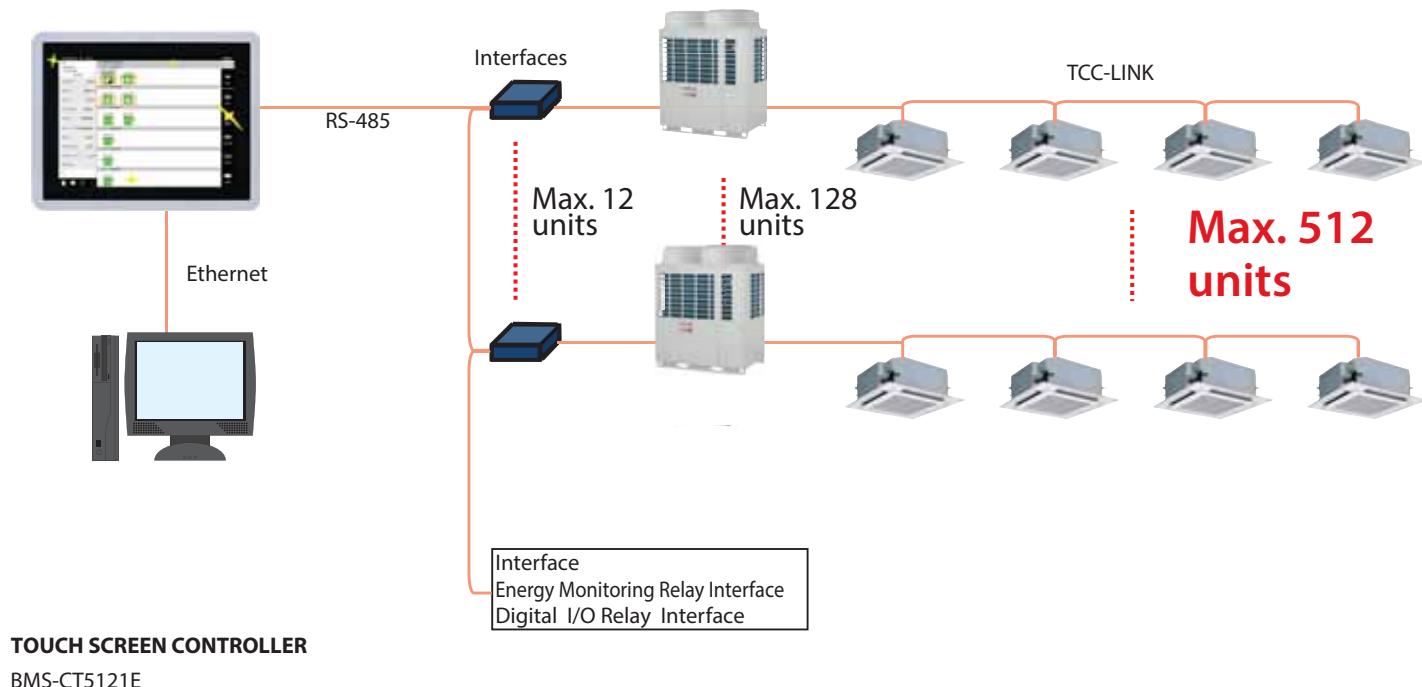
- Up to 8 units of the Air to Air Heat Exchanger can be operated using this remote controller.
- Control by 2 remote controllers is available.
Two remote controllers can operate a single Air to Air Heat Exchanger.
- Air conditioning units may be controlled in addition to controlling the Air to Air Heat Exchanger.
- Central control allows linked ON/OFF operation of air conditioner and Air to Air Heat Exchanger.
- Central control can be set to allow standalone operation of the Air to Air Heat Exchanger.
- Switchable ventilation modes (Automatic/Air to Air/Normal)
- Switchable ventilation air volume (Extra-high/High-Low)

Building management systems

SMART MANAGER / SMART MANAGER WITH DATA ANALYSER



Touch screen controller





SMART MANAGER
BMS-SM1280HTLE

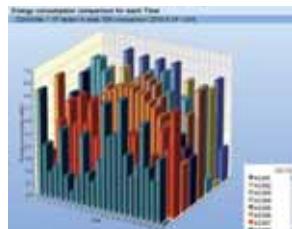
Web browser control software

- List View available - Displays all indoor units in one screen
- Set View available - Shows basic indoor unit settings on main screen
- Advanced operation and master schedule functions available
- Advanced operation & master schedules can be set on a calendar
- Up to 4 concurrent users can be connected
- Up to 32 user accounts can be programmed with different levels of access (at least 1 must be administrator level)
- Energy monitoring and billing functions available
- Additional digital I/O device available
- Thin profile controller and separate power supply unit enables easy installation.

SMART MANAGER WITH DATA ANALYSER
BMS-SM1280ETLE



Energy monitoring display



3D energy view



Daily energy view



TOUCH SCREEN CONTROLLER
BMS-CT5121E

• Touch screen controller

Using the touch screen controller provides a clear display and enables easy operation.
A maximum of 512 units / groups are controllable.

• Energy monitoring and billing application

Power meter interface, power meter locally supplied Energy Monitoring relay I/F (BMS-IFWH5E)

• Power meter

(Local Supply)
1 kWh/pulse or 10 kWh/pulse
(Pulse duration 50 to 1000 ms)
(Maximum 8 power meters per interface)



Relay Interface BMS-IFWH5E
For Energy Monitoring



Relay Interface BMS-IFLSV4E
For TCS-NET

FEATURES

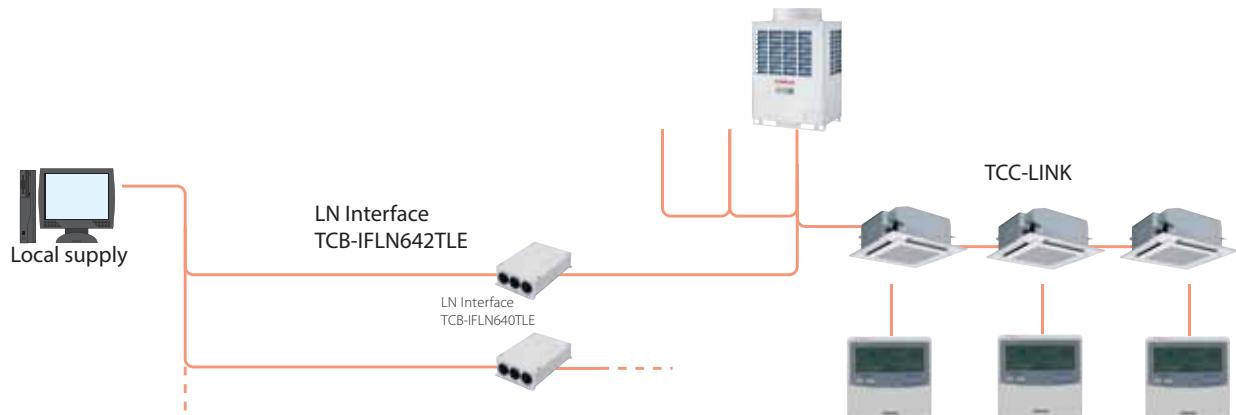
- Icon display
- Return back function
- Save & demand control for outdoor unit
- Ventilation unit control & monitoring
- Setting temp. range control
- Setting temp. shift

Open network systems

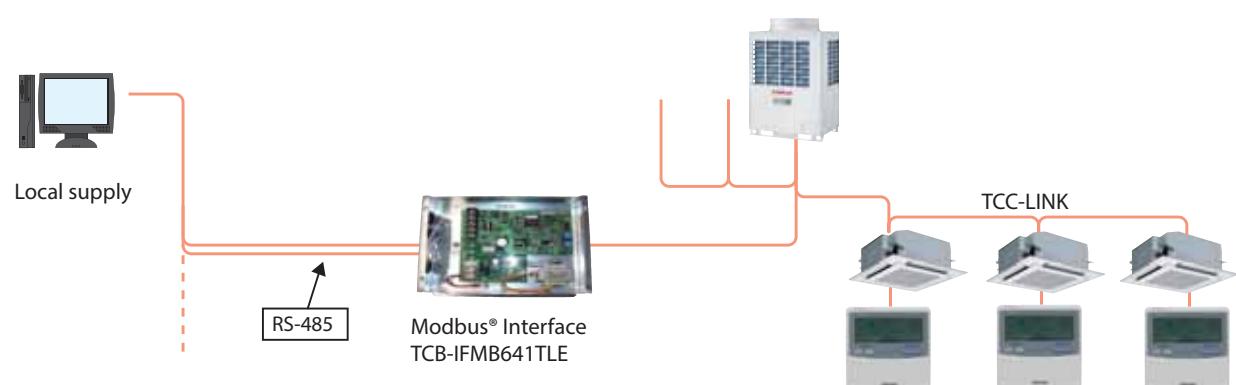
BACnet® system



LonWorks®



Modbus®





BN Interface

BMS-IFBN640TLE

• **BACnet®**

The BACnet® system operates in conjunction with the BACnet®. Server uses object signals to provide the following functions:

• **Control**

- ON/OFF
- Temperature setting
- Fan speed

• **Monitoring**

- ON/OFF
- Operation mode
- Temperature setting
- Room temperature
- Local remote controller : permit / prohibit



LN Interface

TCB-IFLN642TLE

• **LonWorks® LN Interface**

The LonWorks® interface manages the MiNi-SMMS air conditioning system as a Lon device to communicate with the customer's Building Management System and to monitor operational status.

A maximum of 64 units / groups are controllable per interface.

• **SNVT signal**

Signals and provides the following functions:

• **Control**

- ON/OFF
- Temperature setting
- Fan speed

• **Monitoring**

- ON/OFF
- Operation mode
- Temperature setting
- Room temperature
- Local remote controller : permit / prohibit



Modbus® Interface

TCB-IFMB641TLE

• **Modbus®**

The Modbus® interface manages the MiNi-SMMS air conditioning system as a Modbus® device to communicate with the customer's Building Management System.

Accessible to 64 units / groups per one TCB-IFMB641TLE, 15 TCB-IFMB641TLEs on one Modbus® Master (prepared by user).

Signals and provides the following functions:

• **Control**

- ON/OFF
- Temperature setting
- Fan speed

• **Monitoring**

- ON/OFF
- Operation mode
- Temperature setting
- Room temperature
- Local remote controller : permit / prohibit

1. LonWorks®: Registered trademark Echelon corporation.

2. BACnet®: ANSI/ASHRAE 135-1995, A data Communication Protocol for Building Automation and Control Networks.

3. Modbus® is a registered trademark of Schneider E.

Application controls

TCB-PCDM4E



Size: 71 × 85 (mm)

Power peak-cut control

- Feature

The upper limit capacity of the outdoor unit is restricted based on the outdoor power peak selected setting.

- Function

Two control settings are selectable by setting SW07 on the interface P.C. board on the outdoor unit.

TCB-PCM04E



Size: 55.5 × 60 (mm)

Snowfall fan control

- Feature

The upper limit capacity of the outdoor unit is restricted based on the outdoor power peak selected setting.

External master ON/OFF control

- Feature

The outdoor unit starts or stops the system.

Night operation (Sound reduction) control

- Feature

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

Operation mode selection control

- Feature

This control can restrict the selectable operation modes.

TCB-PCIN4E



Size: 73 × 79 (mm)

Error/Operation output control

- Feature

Enables external output of error and operation signals.

Compressor operation output

- Feature

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

Operating rate output

- Feature

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

TCB-IFCB-4E2

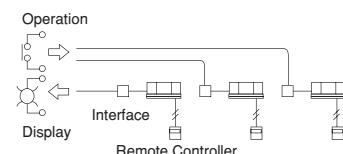


Size: 200 × 170 × 66 (mm)

Remote location ON/OFF control box

- Feature

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



Monitoring

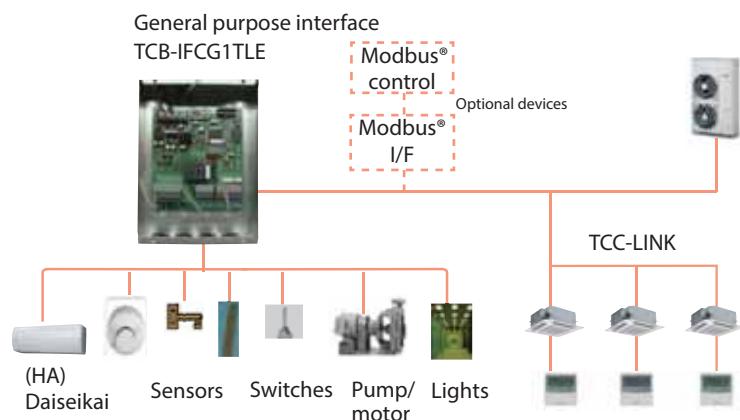
ON/OFF status (for indoor unit)
Alarm status (system & indoor unit stop)
ON/OFF command

Air conditioner can be turned ON/OFF by the external signals.

The external ON/OFF signals will initiate the signals shown below.

Safety precautions

General Purpose Interface



Concept

- Controls the operation status of each indoor unit.
- ON/OFF control of peripheral equipment via the relay point of Toshiba's BMS. (1pt only)

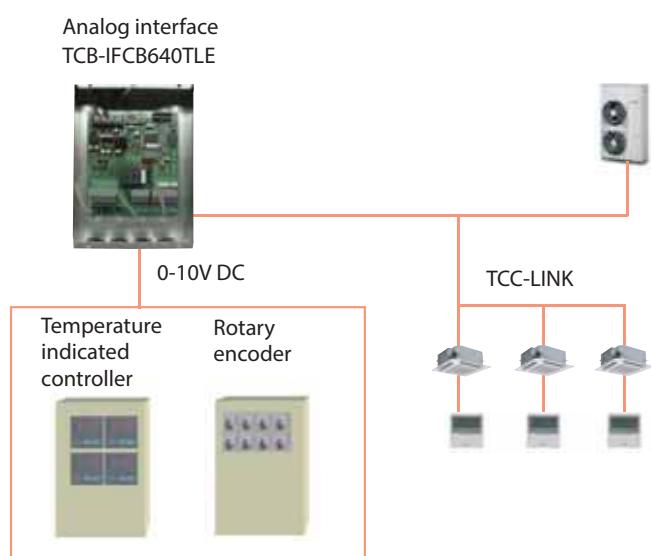
Standard function

Central remote controller and Building Management System devices can control ON/OFF function via digital I/O ports.

Optional function

Control using the following channels: 4-channel relay control, 6-channel digital input, 2-channel analog voltage input and output, and 2-channel temperature measurement functions via Modbus® I/F.

Analog Interface



Concept

- Provides access to 64 indoor units.
- Does not require special network knowledge.
- Can control each indoor unit on TCC-LINK, (on/off, temperature setting, airflow volume, louver position), and monitor status based on 0-10V DC voltage input.
- Enables relay control and status monitoring of general-purpose I/F TCB-IFCG1TLE.

Toshiba refrigeration and air-conditioning units are designed and manufactured on the assumption that the product is used with a specific refrigerant suitable for each unit.

We have recently seen some cases where the type of refrigerant used is different from the one originally installed in the product. Such actions may cause mechanical defects, malfunctions, failures and in some cases result in a serious safety issue. Therefore do not install any refrigerant other than the one specified by Toshiba Carrier Corporation for its respective products.

The type of the refrigerant used for each of our products is shown in the accompanying owners manual, or on the product label attached on the product itself.

Toshiba Carrier Corporation shall not assume any liability for failures, malfunctions or safety in its products if the refrigerant used is different from the one specified.



For operation:

- Before use, read through the operating instructions to ensure proper use.

Concerning the purpose for which the air conditioners are to be used

- The air conditioners presented in this catalogue are air conditioning/heating units to be used solely by general consumers.
 - Do not use these air conditioners for special applications such as for the storage of food items, animals, plants, precision machines or works of art. Doing so may degrade the quality of the items.
 - Do not use these air conditioners for air-conditioning applications in vehicles or ships. Doing so may cause water and/or power leakages.

Concerning the automatic defrosting unit

When the outdoor air temperature drops, frost may form on the heat exchanger of the outdoor unit. In such cases, the automatic defrosting unit will be activated, and it will take 5 to 8 minutes for the heating operation to be restored.

Concerning the air conditioner's operating conditions and their selection

(1) Avoid using the air conditioner in the following locations.

- Locations with acidic or alkaline atmospheres (locations at which highly acidic or alkaline air is directly drawn in, such as in hot springs areas from which sulfur gases are given off, or where chemicals, vinegar, exhaust air from burners, etc., are given off). The heat exchangers and other parts may become corroded.
- Locations with atmospheres filled with coolant or other machine oil or steam exhaust (such as at food preparation factories or machine plants). The heat exchangers may corrode; frost may form as a result of heat exchanger malfunction; air conditioner operating performance may be compromised or condensation may form as a result of clogged filters; plastic parts may incur damage; heat-insulation materials may become separated, etc.

(2) Before using an air conditioner in any of the following locations, consult with your dealer or a qualified contractor.

- Locations where vapors from edible oils are given off (such as in bakeries or kitchens and restaurants that use edible oils) ...The air conditioner's operating performance may be compromised or condensation may form as a result of clogged filters, and the plastic parts may incur damage. In line with the prevailing conditions, take countermeasures such as tailoring the installation conditions in accordance with the conditions, using air conditioners designed for kitchens or oil guard filters, etc.
- Locations with disinfectant-induced chlorine atmospheres (water tanks, etc.) The metal parts in the heat exchangers, motors, etc., may become corroded.
- Locations with high salinity (coastal areas, etc.) Corrosion may occur so use outdoor units specifically designed to withstand exposure to salt.

- Locations where power is supplied from independent power generators. The power line frequency and/or voltage may fluctuate, possibly causing the air conditioner to malfunction.
- Locations where high frequencies or electrical noise is generated (from high-frequency welders used for vinyl welding and processing, high-frequency therapeutic devices used for thermotherapy, etc.) The electronic components may be adversely affected, possibly causing the air conditioner to malfunction.
- Locations where electronic equipment is installed. Electrical noise may adversely affect the operation of the electronic equipment.

(3) Concerning use in locations with high ceilings

- In locations with high ceilings, use of circulators for improving the temperature distribution during heating is recommended.

(4) Concerning use in high-humidity environments

- When the ceiling-recessed type of indoor unit is installed in a location, such as those described below, and it is very hot and humid inside the ceiling, condensation may form on the external surfaces of the indoor unit and drip down. In such cases, add external heat-insulating materials.
 - Locations such as food preparation sites in which the areas above the ceilings are hot and humid
 - Locations in which outside air is drawn in and routed above the ceiling
 - Above ceilings with a slate roof or tiled roof overhead

(5) Even when an air conditioner is shut down, it will still consume a small amount of power to protect the unit. If the air conditioner will not be used for a prolonged period, turn OFF the main switch (ground fault circuit breaker). However, before the unit is to be used again, turn ON the main switch (ground fault circuit breaker) for at least 12 hours in order to prevent trouble.

Notes

Notes



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For more details, please contact our sales office:

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