

**TOSHIBA**

Whatever

you  
need



TOSHIBA AIR CONDITIONING > CATALOGUE VRF 2019

 **Better Air Solutions**

LIGHT COMMERCIAL BUSINESS RESIDENTIAL LIGHT COMMERCIAL

- Every field has its own requirements and specifics directly related to its business and the space it occupies, be it residential, shops, offices or hotels.

Toshiba reinvigorates spaces, creates comfortable environments and encourages productivity.

**Whatever your field, Toshiba is here to increase your business' performance.**

Wh



BUSINESS RESIDENTIAL LIGHT COMMERCIAL BUSINESS RESIDENTIAL

# atever



# do

# TOSHIBA BUSINESS SOLUTIONS

## MiNi SMMS-e, SMMS-e, SHRM-e

### > CREATING BENEFITS AROUND COMFORT

Benefits  
for the  
consultant



#### Absolute customisation...

A wide range of products ensures that the customers' requirements are fully addressed

#### Absolute validation...

Toshiba's VRF are EUROVENT certified and adhere to all current European legislations

#### Absolute control...

Fully integrated controls network, allowing unlimited access to the system controls and its operation

#### Absolute flexibility...

A high degree of system flexibility, aided by a fully flexible piping specification and an extremely compact modular design

#### Simplified design...

TOSHIBA DESIGN AIRS software makes the selection of a system's components simple

Benefits  
for the  
user



#### Infinite comfort...

Achieved by fully controllable room temperature, a perfect alternative to traditional heating & cooling systems

#### Infinite efficiency...

Low operating costs thanks to reduced installation costs and very high levels of efficiency via optimal load adjustment

#### Infinite integration...

Cooling, heating and fresh air ventilation, all perfectly and conveniently attuned to one another within a single system – and so easy to use!

#### Infinite reliability...

Hassle-free operation based upon decades of experience and intensive testing program for all systems

#### Infinite transparency...

Clearly defined billing so you can quickly review energy costs and consumption

Benefits  
for the  
installer



#### So simple...

One supplier – one point of contact for a total solution: cooling, heating, hot water, ventilation & controls

#### So versatile...

Maximized installation flexibility

#### So convenient...

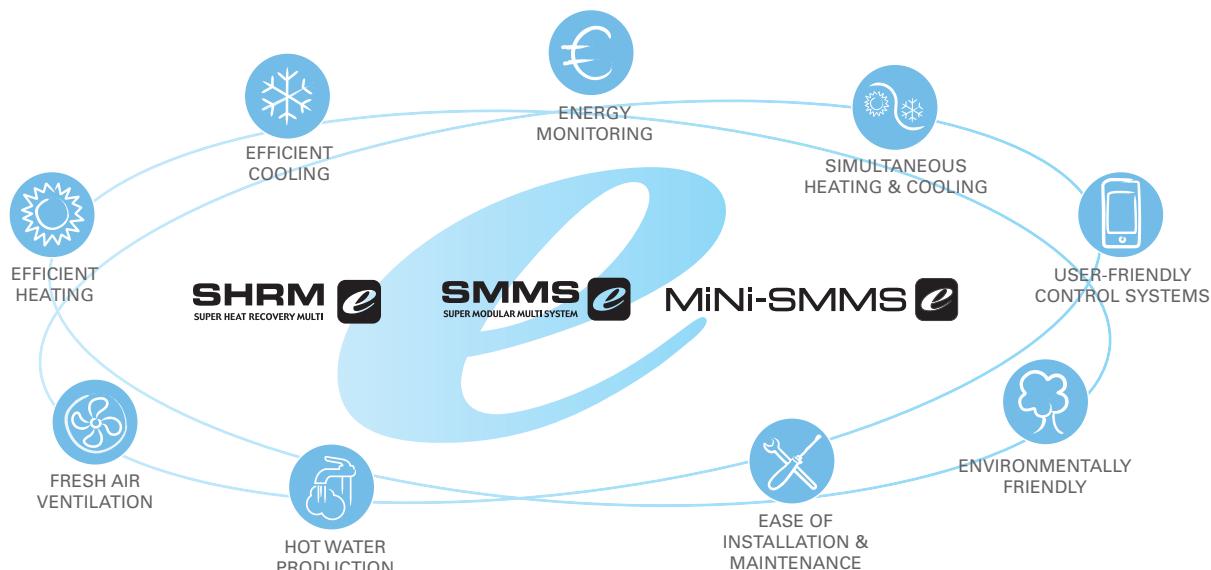
Easy access for all service and maintenance needs

#### So professional...

Intensive training and instruction offered by local Toshiba trained experts

#### So assessable...

Simplified and swift commissioning assisted by the Wave Tool App



# ECODESIGN EUROPEAN DIRECTIVE



## > ECODESIGN

In the European Union, the Ecodesign Directive encourages HVAC manufacturers to design products taking into consideration their environmental impact throughout entire lifecycle. It establishes a framework for the setting of mandatory energy efficiency requirements for all energy-related products (ERPs).

Lot 21: Heat pumps above 12 kW including residential, light commercial systems and VRF >>> DI, SDI, Big DI, MiNi SMMS-e, SMMS-e, SHRM-e.

For more information visit: [www.ecodesign.toshiba-airconditioning.eu](http://www.ecodesign.toshiba-airconditioning.eu)

## > DESIGNED FOR THE FUTURE

Toshiba Air Conditioning is committed to designing products and solutions with increasingly lower environmental impacts. This subsequently reducing indirect CO<sub>2</sub> emissions generated by electricity consumption. Toshiba Air Conditioning's long-standing commitment to sustainable development is ahead of

schedule for the European climate and energy package requirements for 2030.

All Toshiba Air Conditioning products sold today in Europe are fully compliant with the latest Ecodesign directives.

## > NEW ENERGY EFFICIENCY METRIC SEASONAL EFFICIENCY ( $\eta_{S,C}$ AND $\eta_{S,H}$ )

The Seasonal Coefficient of Performance, is a new European parameter to rate heat pumps in terms of energy efficiency. It is an update to the Coefficient of Performance, which previously recorded the power consumed to power produced ratio in heating and cooling modes for one operating point.

Unlike the EER/COP, the  $\eta_{S,C}$  /  $\eta_{S,H}$  take into account performances during cooler seasons because it considers temperature variations by including numerous realistic measurement points. When combined, this results in a more accurate energy classification.

### $\eta_{S,C}/\eta_{S,H}$ compared to EER/COP

TEMPERATURE (C°)	CAPACITY (KW)	AUX	HOURS
EER COP One temperature requirement $\eta_{S,C}$ $\eta_{S,H}$ Numerous rating temperatures (range of average temperatures)	EER COP Full load $\eta_{S,C}$ $\eta_{S,H}$ Partial load + Full load	AUX EER COP Auxiliary power modes are not considered $\eta_{S,C}$ $\eta_{S,H}$ Incl. consumption auxiliary modes: - Standby mode - Off mode - Thermostat off, etc.	EER COP N/A $\eta_{S,C}$ $\eta_{S,H}$ Number of hours at each air temperature (in hours)

### SEASONAL COEFFICIENT OF PERFORMANCE CALCULATION

This is the ratio between annual heating/cooling demand and annual energy input over an entire heating/cooling season.

$$\eta_{S,H} = \frac{\text{ANNUAL HEATING DEMAND}}{\text{ANNUAL ENERGY INPUT}}$$

$$\eta_{S,C} = \frac{\text{ANNUAL COOLING DEMAND}}{\text{ANNUAL ENERGY INPUT}}$$

$$\text{SEER : } 2.5 * \eta_{S,C} - \text{SCOP : } 2.5 * \eta_{S,H}$$

# RELIABLE, EFFICIENT AND FLEXIBLE OUTDOOR UNITS



## > HIGH EFFICIENCY AND LOW OPERATION COST

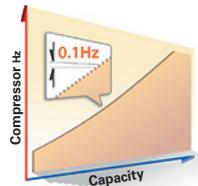
### Innovative compressor technology

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



### Infinite variable control

This feature has been continually evolved and developed, since its inception by Toshiba engineers back in 2004 with the original SMMS system. The control has the ability to adjust the compressor rotational speed in a near seamless 0.1 Hz steps. This control when matched with Toshiba's newest and latest Twin Rotary compressors, allows the system to respond precisely to the capacity needs of the end user, whilst minimizing energy losses.



### Maximum part load and full load efficiencies

Thanks to Toshiba's unique twin rotary compressor, re-designed heat exchanger and "intelligent flow" technology, the Toshiba's VRF achieve a SEER of 9.68 (MiNi SMMS-e), one of the highest seasonal efficiency in the market.

Maximum efficiency is obtained under 50% part load conditions, under which VRF systems operate predominantly.

The expert use and evolution of Toshiba's core technologies have allowed the Toshiba VRF system to achieve the highest part load COP and EER in the industry.



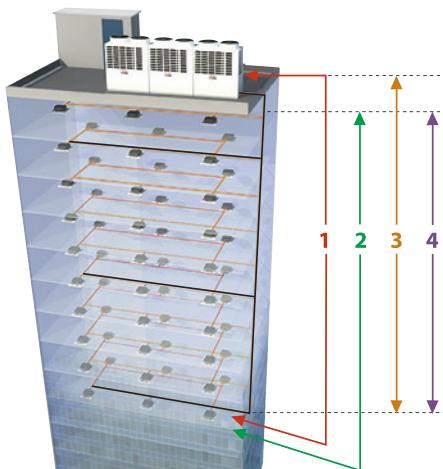
## > FLEXIBLE DESIGN AND QUICK INSTALLATION

### Piping design flexibility

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

### Simplified connection

For a clean installation, Y joints are used to connect outdoor units and indoor units thereby limiting the number of bends and brazes.



1 Total piping length:  
up to 1,000 m

2 Farthest equivalent length:  
up to 235 m

3 Equivalent length of farthest piping from 1<sup>st</sup> branching:  
up to 90 m

4 Height between outdoor unit and indoor unit:  
up to 90 m

# PROJECT REFERENCES

## > SHOP

### Project

#### BLUE TOMATO

Trendy snowboard-fashion-retailer, reconstruction

Innsbruck, Austria

### Constraints

- Corridor configuration
- Downtown store
- Shop style
- Rooftop CDU integration



### Installer

#### EDMUND SPARER

Klima & Kältetechnik GmbH

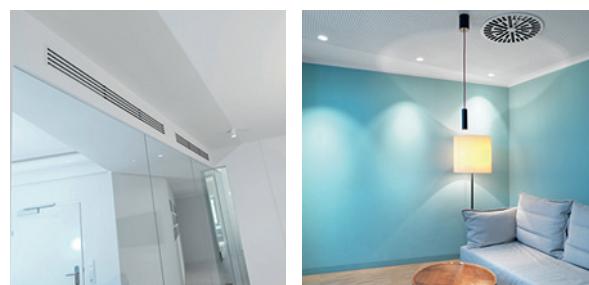
Ampass, Austria

### TOSHIBA SOLUTION

16HP SMMS-e x 1	1.3HP 4-Way Cassette x 3	4HP Ceiling unit x 4



Images rights: AIR-COND / Photographer Simon Fischbacher: www.simonfischbacher.at



## > OFFICE

### Project

#### IMGANG

Architect's office in the oldtown of Innsbruck, reconstruction

Innsbruck, Austria

### Constraints

- Invisible system
- Low sound level
- Premium comfort

### Installer

#### EDMUND SPARER

Klima & Kältetechnik GmbH

Ampass, Austria

### TOSHIBA SOLUTION

6HP MINI SMMS-e x 1	0.8 HP Slim Duct unit x 5

## > HOTEL

### Project

#### GENNADI GRAND RESORT HOTEL

Luxury five-star hotel guest-room air-conditioning

Rhodes Island, Greece

### Constraints

- Grade A high efficiency building
- Low-height architecture
- Sea-side location



### Installer

#### RODOS AIR

Rhodes Island, Greece

### TOSHIBA SOLUTION

SMMS-e	Slim Duct



# CHOOSE YOUR ADAPTED SYSTEM SOLUTION MAPPING BY APPLICATIONS

## > OUTDOOR UNITS

	Residential	Light commercial	Business
Reversible cooling or heating		  	 
Mini SMMS Sideblow 1fan & 2 fans	Mainly individual housing  Up to 250 m <sup>2</sup> per system Max. 10 IDUs per system	Up to 250 m <sup>2</sup> per system and max. 10 IDUs per system  1 phase electrical power supply only	
Mini SMMS-e 1Ph & 3Ph	Individual housing mainly  Up to 250 m <sup>2</sup> per system Max. 13 IDUs per system		
Stand alone SMMS-e & SMMS-e	Collective housing mainly   3-phase electrical power supply only	Up to 3,000 m <sup>2</sup> per system Max. 64 IDUs per system	
SHRM-e	Collective housing mainly   3-phase electrical power supply only	Up to 2,500 m <sup>2</sup> per system Max. 64 IDUs per system Hot water production capability	

## > INDOOR UNITS

			 		
Cassette		<input type="radio"/> (4-way standard or compact)	<input type="radio"/> (All types)	<input type="radio"/> (4-way standard or compact for lobby)	<input type="radio"/> (All types)
Duct	<input type="radio"/> (Standard duct)	<input type="radio"/> (Standard or high static pressure)	<input type="radio"/> (Slim or standard)	<input type="radio"/> (Slim for rooms & standard for lobby)	<input type="radio"/>
High-wall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> (For rooms - low sound version)	<input type="radio"/>
Ceiling		<input type="radio"/>			<input type="radio"/>
Console	<input type="radio"/> (Bi-flow version)		<input type="radio"/>	<input type="radio"/> (For lobby)	<input type="radio"/>

The data provided on this page is for informational purposes only and not for the purpose of providing legal or other professional advice.

## CHOOSE YOUR ADAPTED SYSTEM SOLUTION

## OUTDOOR UNIT MAPPING FOR EUROPE

	Side Blow VRF	MiNi SMMS-e 1PH	MiNi SMMS-e 3PH	SMMS-e	SHRM-e	
R410A	R410A	R410A	R410A	R410A	R410A	
MCY-MHP0_4HT-E	MCY-MHP0_4HS-E	MCY-MHP0_4HS8-E	MMY-SAP_6HT8P-E	MMY-MAP_6T8P-E	MMY-MAP_6T8P-E	MMY-MAP_6FT8P-E
	Heat pump		Heat pump	Heat pump	Cooling only	Heat pump
			Single module / Stand alone	Single module	Standard combinations High efficiency / High capacity combinations	Single module Space saving combinations High efficiency / High capacity combinations
4	●▼	●▼	●▼			
5	●▼	●▼	●▼			
6	●▼	●▼	●▼			
8			●▼	●▼	●▼	●▼
10			●▼	●▼	●▼	●▼
12			●▼	●▼	●▼	●▼
14			●▼	●▼	●▼	●▼
16			●▼	●▼	●▼	●▼
18			●▼	●▼	●▼	●▼
20			●▼	●●	●●	●▼
22			●▼	●●	●●	
24				●		●●
26				●		●●
28				●		●●
30				●		●●
32				●		●●
34				●		●●
36				●●		●●
38				●●		●●
40				●●		●●
42				●●		●●
44				●●		●●
46				●		●●
48				●		●●
50				●		●●
52				●		●●
54				●●		●●
56				●		●●
58				●		●●
60				●		●●
<b>Fresh air solution</b>	Fresh air duct			●	●	●
	Air to Air heat exchanger + DX coil	●	●	●	●	●
	Standard DX Kit	●	●	●	●	●
	0/10v DX kit			●	●	●
<b>Hot water</b>	Hot water module			●	●	
<b>Small capacity indoor units</b>	0.6HP indoor unit	●	●	●	●	●
<b>Accessories</b>	Leak detection	●	●	●	●	●
	Leak detection with pump down		●	●	●	●

● :cooling - ● :Heat pump - ▼ :Eurovent certified

► CDU

# MCY-MHT\_HP

## SIDEBLOW



CAPACITY

OPERATION



4HP &gt; 6HP

-20°C &gt; +46°C

Compact, efficient, adaptable, energy saver, the side blow VRF is the solution to cool and heat small/medium size buildings.

### Features

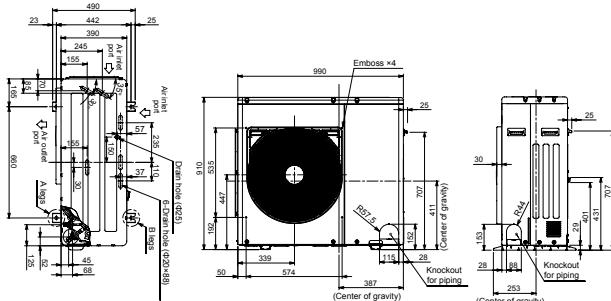
	HP	MCY-	MHP0406HT-E	MHP0506HT-E
Cooling capacity	kW		12.1	14.0
Heating capacity	kW		12.5	16.0
			9.7	12.4
Capacity range	HP		4	5
Power supply	V-ph-Hz		1phase 50Hz 220/230/240V 1 phase 60Hz 220V	1phase 50Hz 220/230/240V 1 phase 60Hz 220V
Efficiency	EER rated	W/W	3.73	3.55
	EER 50% load	W/W	6.1	5.4
Efficiency	SEER	η/std	8.08	7.88
	COP rated	W/W	4.4	4.2
	COP 50% load	W/W	5.3	5.7
	COP -7°C 100% load	W/W	3.9	3.6
	SCOP	η/std	3.83	3.88
Electrical characteristics	Running current	A	C	14.4/13.8/13.2
	Power input	kW	C	3.2
	Running current	A	H	13.4/12.8/12.3
	Power input	kW	H	2.8
Dimensions (h x w x d)	mm		910x990x390	910x990x390
Weight	kg		100.0	100.0
Compressor	Type		Hermetic twin rotary compressor	Hermetic twin rotary compressor
	Motor output	kW	3.75	3.75
Fan unit	Type		Propeller fan (Quantity 1)	Propeller fan (Quantity 1)
	Motor output	W	100	100
	Air volume	m³/h	4020	4260
External static pressure available	Pa			
R410A refrigerant charge	kg		3.3	3.3
	CO <sub>2</sub> Teq		6.9	6.9
Power supply wiring	MCA	A	26.5	28.0
	MCOP	A	32.0	32.0
Pipe connection	Gas line type - Diameter		Flare - 5/8"	Flare - 5/8"
	Liquid line type - Diameter		Flare - 3/8"	Flare - 3/8"
Connectivity	Max. number of connected indoor units		8	10
	Diversity ratio	Min/Max		80/130%
Sound pressure level	Cooling	dB(A)	C	54
	Heating	dB(A)	H	57
Sound power level	Cooling	dB(A)	C	73
	Heating	dB(A)	H	73
Operation temperature range	Cooling	CDB	C	-5/+46
	Heating	CWB	H	-20/+15

C = Cooling mode  
H = Heating mode

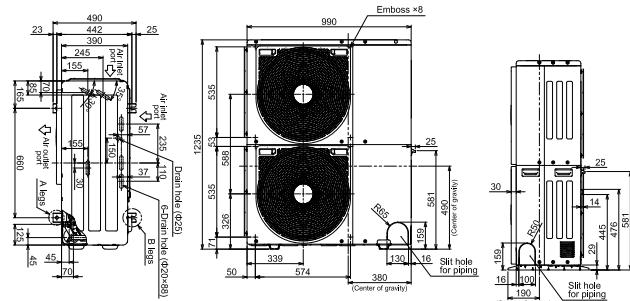
### Drawings

Unit: mm

MCY-MHP0406HT-E  
MCY-MHP0506HT-E



MCY-MHP0404HT-E  
MCY-MHP0504HT-E  
MCY-MHP0604HT-E



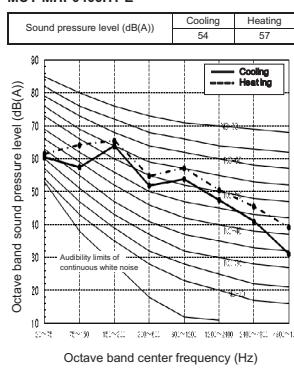
**Piping rules**

				Allowable value	
				With PMV kit	Without PMV kit
Piping length	Total extension of pipe (Liquid pipe, real length)	Length	75m	90m	L1 + L2 + L3 + a + b + c + d + e + f
	Farthest piping length		50m	60m	L1 + L3 + f
	Max equivalent length of main piping		40m	50m	
	Max equivalent length of farthest piping from 1st branching		25m	30m	L1
	Max. real length of indoor unit connecting piping		15m	20m	L3 + f
	Real length between PMV kit and indoor unit		10m	10m	a, b, c, d, e, f
Difference in height	Height between indoor and outdoor units	Upper outdoor unit	15m	15m	
	Height between indoor unit and PMV kit	Lower outdoor unit	15m	15m	
	Height between indoor unit and PMV kit	Upper outdoor unit	10m	10m	

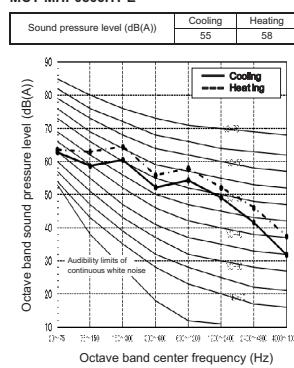
**Sound pressure levels**

Unit: dB(A)

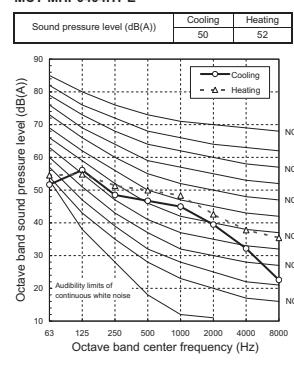
MCY-MHP0406HT-E



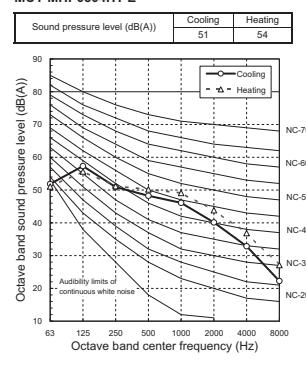
MCY-MHP0506HT-E



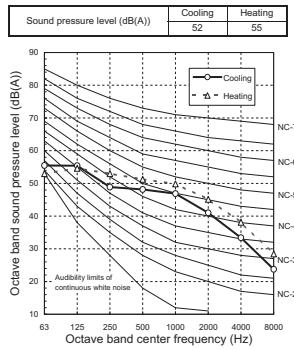
MCY-MHP0404HT-E



MCY-MHP0504HT-E



MCY-MHP0604HT-E

**Night mode sound pressure levels**

Sound reduction and capacity approximation (Reference)

	Type	Night operation sound reduction dB (A)	Capacity	
			Cooling	Heating
Single fan	0406	50	Approx. 95%	Approx. 80%
	0506	50	Approx. 85%	Approx. 75%
Dual fan	0404	47/50	Approx. 85%	Approx. 95%
	0504	47/50	Approx. 80%	Approx. 80%
	0604	50	Approx. 80%	Approx. 70%

**Accessories**

	Name	Model name	Capacity	Appearance	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55E	Under 6.4hp		
	4-branching header	RBM-HY1043E	Under 14.2hp		
	8-branching header	RBM-HY1083E	Under 14.2hp		
PM kits	PMV Kits	RBM-PMV0363E	For 0.6 to 1.3hp IDUs		
		RBM-PMV0903E	For 1.7 to 3hp IDUs		
Optional PCB of outdoor unit	Power peak-cut control board	TCB-PCDM4E			Limit capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact
	External master ON/OFF, night mode and priority selection control board	TCB-PCM04E			Dry contact
	Output control board	TCB-PCIN4E			Operation output: The operation indicator is on while any indoor unit in the system is operating. Error output: The error indicator is on when an error is occurred one of the indoor or outdoor units in the system. Dry contact

# MCYMHPS(8)

## MINI SMMS-e 1&3PH



CAPACITY OPERATION



4HP &gt; 6HP -20°C &gt; +46°C

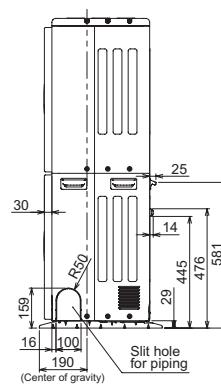
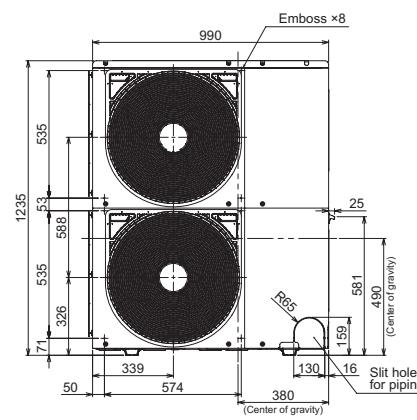
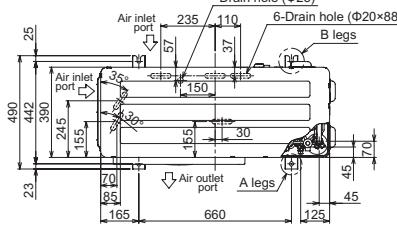
Incorporating all of Toshiba's VRF experience and knowledge into a system that measures no more than 1.2 m high, results in a perfect solution for all small to medium building heating and cooling requirements.

### Features

Outdoor unit	HP	MCY-MHP0404HS-E	MCY-MHP0504HS-E	MCY-MHP0604HS-E	MCY-MHP0404HS8-E	MCY-MHP0504HS8-E	MCY-MHP0604HS8-E
Capacity range	HP	4	5	6	4	5	6
Cooling capacity	kW	12.1	14.0	15.5	12.1	14.0	15.5
Heating capacity	kW	12.5	16.0	18.0	12.5	16.0	18.0
Power supply	V-ph-Hz	1phase 50Hz 220/230/240V	1phase 50Hz 220/230/240V	1phase 50Hz 220/230/240V	3phase 50Hz 380/400/415V	3phase 50Hz 380/400/415V	3phase 50Hz 380/400/415V
Efficiency	EER rated	W/W	4.28	4.00	3.61	4.29	4.03
	EER 50% load	W/W	6.932	6.863	6.783	6.932	6.481
	SEER	η/std	376.8%/9.42	369.2%/9.23	387.2%/9.68	378.8%/9.47	371.6%/9.29
Efficiency	COP rated	W/W	4.83	4.27	4.18	4.86	4.30
	COP 50% load	W/W	6.632	6.2	6.164	6.702	6.25
	COP -7°C 100% load	W/W	4.28	3.802	3.724	4.323	3.825
Electrical characteristics	SCOP	η/std	166.8%/4.17	169.6%/4.24	174.8%/4.37	167.6%/4.19	170%/4.25
	Running current	A	13.5/13.0/12.4	16.6/15.9/15.2	20.1/19.2/18.4	4.8 / 4.5 / 4.4	5.7 / 5.4 / 5.2
	Power input	kW	2.83	3.50	4.29	2.82	3.47
	Running current	A	12.5/12.0/11.5	17.8/17.0/16.3	20.2/19.3/18.5	4.4 / 4.2 / 4.0	6.1 / 5.8 / 5.6
	Power input	kW	2.59	3.75	4.31	2.57	3.72
Dimensions (h x w x d)		mm	1235x990x390			1235x990x390	
Weight		kg	127	127	127	125	125
Compressor	Type	Hermetic twin rotary compressor					
	Motor output	kW	3.75	3.75	3.75	3.75	3.75
Fan unit	Type	Propeller fan (Quantity 2)					
	Motor output	W	100+100	100+100	100+100	100 + 100	100 + 100
Air volume		m³/h	5660	5820	6050	5660	5820
External static pressure available		Pa	30	30	30	30	30
R410A refrigerant charge	kg	6.4	6.4	6.4	6.4	6.4	6.4
	CO <sub>2</sub> Teq	13.363	13.363	13.363	13.363	13.363	13.363
Power supply wiring	MCA	A	23.5	26.5	28.0	12.5	12.5
	MCOP	A	32.0	32.0	32.0	16.0	16.0
Pipe connection	Gas line type - Diameter	Flare - 5/8"	Flare - 5/8"	Flare - 3/4"	Flare - 5/8"	Flare - 5/8"	Flare - 3/4"
	Liquid line type - Diameter	Flare - 3/8"					
Connectivity	Max. number of connected indoor units	8	10	13	8	10	13
	Diversity ratio	Min/Max	50/130%				
Sound pressure level	Cooling	dB(A)	49	50	51	49	50
	Heating	dB(A)	52	53	54	52	53
Sound power level	Cooling	dB(A)	66	68	68	66	68
	Heating	dB(A)	69	70	71	67	69
Operation temperature range	Cooling	CDB	-5 to 46				
	Heating	CWB	-20 to 15				

### Drawings

#### All models



Unit: mm

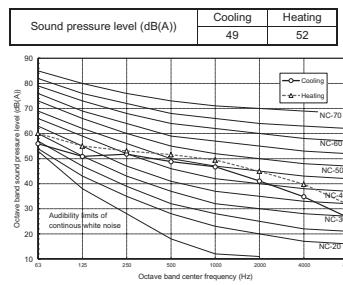
## MINI SMMS-e 1&amp;3PH

## Piping rules

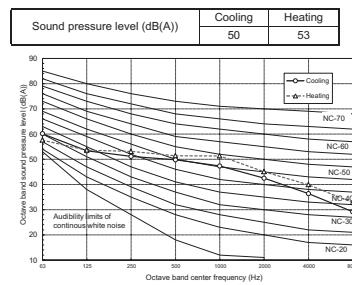
			Allowable value		Piping section
			With PMV kit	Without PMV kit	
Piping length	Total extension of pipe (Liquid pipe, real length)		150m	180m	L1 + L2 + L3 + a + b + c + d + e + f
	Farthest piping length	Equivalent length	65m	125m	L1 + L3 + f
	Max equivalent length of main piping		80m	120m	
	Max equivalent length of farthest piping from 1st branching		50m	65m	L1
	Max. real length of indoor unit connecting piping		15m	35m	L3 + f
	Real length between PMV kit and indoor unit		15m	15m	a, b, c, d, e, f
Difference in height	Height between indoor and outdoor units	Upper outdoor unit	30m	30m	
	Lower outdoor unit		20m	20m	
	Height between indoor unit and PMV kit	Upper outdoor unit	15m	15m	

## Sound pressure levels

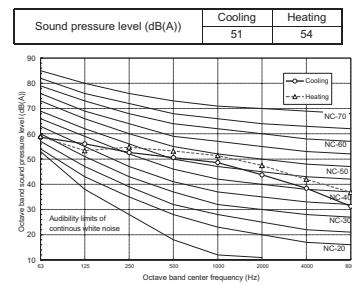
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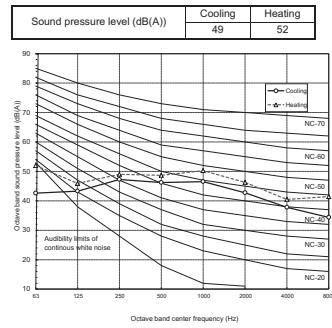
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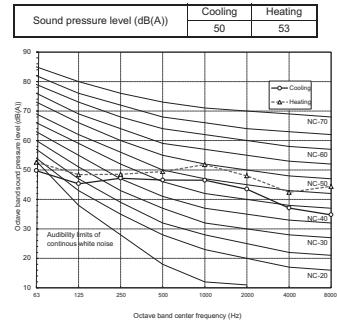
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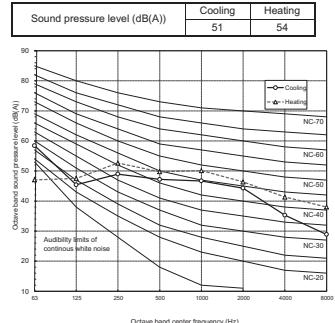
MCY-MHP0404HS8-E



MCY-MHP0504HS8-E



MCY-MHP0604HS8-E



## Night mode sound pressure levels

Sound reduction and capacity approximation (Reference)

Outdoor unit (base unit)	During low-noise mode dB(A)		Capacity*	
	Cooling	Heating	Cooling	Heating
Model 0404*	46	48	approx. 90 %	approx. 95 %
Model 0504*	46	48	approx. 80 %	approx. 80 %
Model 0604*	47	49	approx. 80 %	approx. 75 %

\*Relative to maximum capacity

## Accessories

	Name	Model name	Capacity	Appearance	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55E	Under 6.4hp		
	4-branching header	RBM-HY1043E	Under 14.2hp		
	8-branching header	RBM-HY1083E	Under 14.2hp		
PM kits	PMV Kits	RBM-PMV0363E	For 0.6 to 1.3hp IDUs		
		RBM-PMV0903E	For 17 to 3hp IDUs		
Optional PCB of outdoor unit	Power peak-cut control board	TCB-PCDM4E			Limit capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact
	External master ON/OFF, night mode and priority selection control board	TCB-PCM04E			Dry contact
	Output control board	TCB-PCIN4E			Operation output: The operation indicator is on while any indoor unit in the system is operating. Error output: The error indicator is on when an error occurred on even one of the indoor or outdoor units in the system. Dry contact

# MMYSAP\_6HT8P

## SMMS-e STAND ALONE



CAPACITY

OPERATION



8HP &gt; 12HP

-25°C &gt; 46°C

Keep all benefits of Toshiba SMMS-e with 50% less precharge refrigerant: new intelligent and innovative features that maximise end user comfort and system efficiencies.

### Features

	HP	MMY-	SAP0806HT8P-E	SAP1006HT8P-E	SAP1206HT8P-E
Cooling capacity <sup>1</sup>	kW		22.4	28.0	33.5
Heating capacity <sup>2</sup>	kW		25.0	31.5	37.5
Capacity range	HP		8	10	12
Power supply	V-ph-Hz		380/415-3-50	380/415-3-50	380/415-3-50
Efficiency	EER rated	W/W	4.04	3.54	3.25
	EER 50% load	W/W	6.4	6.06	5.68
	SEER	η/std	256.8%/6.42	250.8%/6.27	247.6%/6.19
Efficiency	COP rated	W/W	4.42	4.15	3.84
	COP 50% load	W/W	6.31	5.85	5.37
	COP -7°C 100% load	W/W	3.58	3.32	3.02
	SCOP	η/std	151.6%/3.79	152.4%/3.81	147.2%/3.68
Electrical characteristic	Running current	A	C	8.8	12.4
	Power input	kW	C	5.54	7.90
	Running current	A	H	9.0	11.9
	Power input	kW	H	5.65	7.59
Dimensions (h x w x d)	mm		1830 x 990 x 780	1830 x 990 x 780	1830 x 990 x 780
Weight	kg			227	
Compressor	Type			Hermetic Twin Rotary	
	Motor output	kW		2.1x2	3.1x2
Fan unit	Type			Propeller fan	
	Motor output	W		1	1
	Air volume	m³/h		9700	12200
External static pressure available	Pa		60	60	50
	kg		5.7	5.7	5.7
	CO <sub>2</sub> Teq		11.90	11.90	11.90
Power supply wiring	MCA	A		20.5	21.5
	MCOP	A		25.0	25.0
Pipe connection	Gas line type - Diameter		Brazed - 3/4"	Brazed - 7/8"	Brazed - 1-1/8"
	Liquid line type - Diameter		Flare - 1/2"	Flare - 1/2"	Flare - 1/2"
Connectivity	Max. number of connected indoor units		18	22	27
	Diversity ratio	Min/Max		50/135%	
Sound pressure level	Cooling	dB(A)	C	55	57
	Heating	dB(A)	H	56	58
Sound power level	Cooling	dB(A)	C	74	74
	Heating	dB(A)	H	74	74
Operation temperature range	Cooling	CDB	C	-10/46	80
	Heating	CWB	H	-25/15.5	82

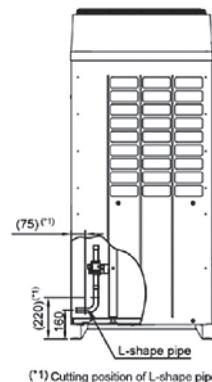
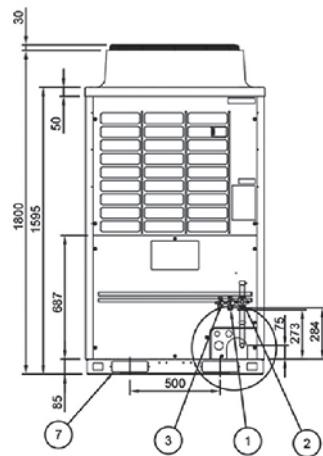
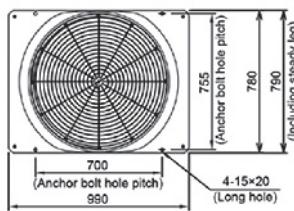
C = Cooling mode

H = Heating mode

Unit: mm

### Drawings

#### All models



(\*1) Cutting position of L-shape pipe

## SMMS-e STAND ALONE

## Piping rules

		Allowable value	Piping section
Piping length	Total extension of pipe (Liquid pipe, real length)	300m	LA + LB + La + Lb + Lc + L1 + L2 + L3 + L4 + L5 + L6 + L7 + a + b + c + d + e + f + g + h + i + j
	Farthest piping length	Equivalent length Real length	235m 190m
	Equivalent length of farthest piping from 1st branching	90m	L3 + L4 + L5 + L6 + j
	Max. equivalent length of main piping	Equivalent length Real length	120m 100m
	Max. real length of indoor unit connecting piping	30m	a, b, c, d, e, f, g, h, i, j
Difference in height	Max. equivalent length between branches	50m	L2, L3, L4, L5, L6, L7
	Height between indoor and outdoor units	Upper outdoor unit Lower outdoor unit	70m 40m
	Height between indoor units	40m	

(\*1) : (D) is outdoor unit farthest from the 1st branch and (I) is the indoor unit farthest from the 1st branch.

(\*2) : If the height difference (H1) between indoor and outdoor unit exceeds 3 m, set 50 m or less.

(\*4) : If the height difference (H2) between indoor units exceeds 3 m, set 50 m or less.

(\*5) : If the height difference (H2) between indoor units exceeds 3 m, set 30 m or less.

(\*7) : Extension up till 90m is possible with conditions below

- Outdoor temperature cooling : 10 - 46 (dB)

- Heating : -5 - 15.5 (WB)

- Equivalent length of farthest piping from 1st branching Li < 50 m

- Real length of main piping L1 < 100 m

- Height difference between indoor units H2<3M

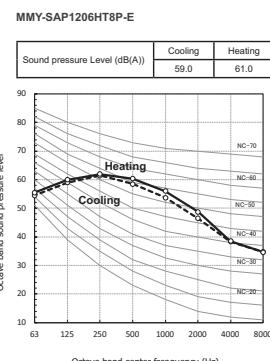
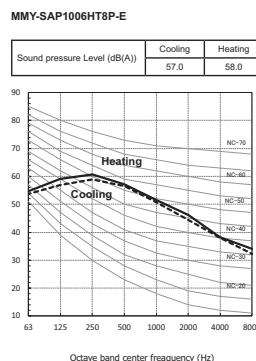
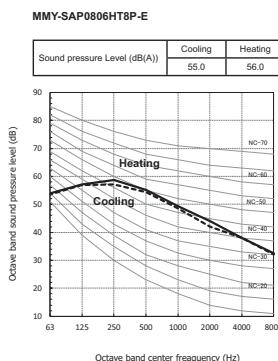
- Total capacity of combined indoor units: 90% - 105%

- Single CDU, and up to 20HP

- Minimum capacity of connectable indoor: unit 4HP or larger

## Sound pressure levels

Unit: dB(A)



## Night mode sound pressure levels

Sound reduction and capacity approximation (Reference)

	Night operation sound reduction dB (A)	Capacity	
		Cooling	Heating
0806 type	50	Approx. 85%	Approx. 80%
1006 type	50	Approx. 70%	Approx. 65%
1206 type	50	Approx. 60%	Approx. 55%

## Accessories

Name	Model name	Capacity	Appearance	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55E	Under 6.4hp	
		RBM-BY105E	From 6.4 to 14.2hp	
		RBM-BY205E	From 14.2 to 25.2hp	
		RBM-BY305E	25.2hp or more	
	4-branching header	RBM-HY1043E	Under 14.2hp	
		RBM-HY2043E	From 14.2 to 25.2hp	
Optional PCB of outdoor unit	Power peak-cut control board	RBM-HY1083E	Under 14.2hp	
		RBM-HY2083E	From 14.2 to 25.2hp	
		TCB-PCDM4E		
	External master ON/OFF control board	TCB-PCM04E		
		TCB-PCIN4E		
		TCB-PCIN4E		
	Output control board			<p>Limit capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact</p> <p>Dry contact</p> <p>Operation output : The operation indicator is on while any indoor unit in the system is operating. Error output : The error indicator is on when an error is occurred on even one of the indoor or outdoor units in the system. Dry contact</p>

# MCYMH-HP

## SMMS-e



CAPACITY

OPERATION



8HP &gt; 60HP



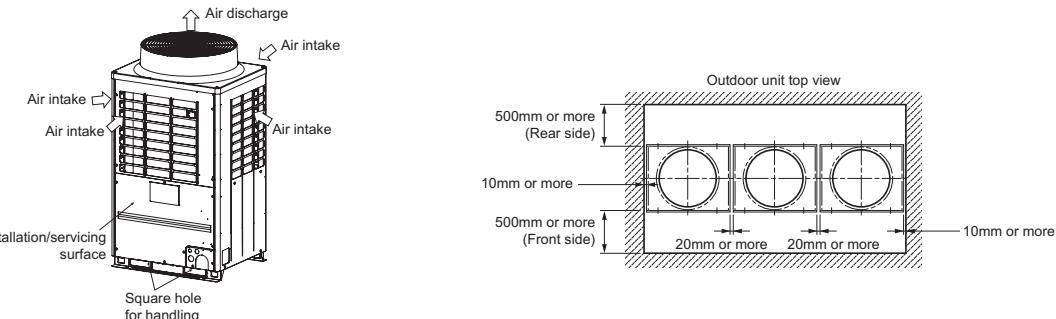
-25°C &gt; +46°C

Toshiba's latest generation all inverter VRF system has continued to evolve and includes many new intelligent and innovative features that maximise end user comfort and system efficiencies.

### Features

Outdoor unit	CO	MMY-	MAP0806T8P-E	MAP1006T8P-E	MAP1206T8P-E	MAP1406T8P-E	MAP1606T8P-E	MAP1806T8P-E	MAP2006T8P-E	MAP2206T8P-E
Outdoor unit	HP	MMY-	MAP0806HT8P-E	MAP1006HT8P-E	MAP1206HT8P-E	MAP1406HT8P-E	MAP1606HT8P-E	MAP1806HT8P-E	MAP2006HT8P-E	MAP2206HT8P-E
Capacity range	HP		8	10	12	14	16	18	20	22
Cooling capacity	kW		22.4	28.0	33.5	40.0	45.0	50.4	56.0	61.5
Heating capacity +7°C	kW		25.0	31.5	37.5	45.0	50.0	56.0	63.0	64.0
Heating capacity -7°C	kW		19.8	24.2	27.9	34.6	37.2	43.1	46.9	47.6
Power supply	V-ph-Hz		380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50
Efficiency	EER rated	W/W	4.04	3.64	3.35	3.25	3.15	3.45	3.24	2.65
	EER 50% load	W/W	6.4	6.22	5.839	5.7	5.639	5.5	5.37	5.339
	SEER	n/std	249.6%/6.24	246%/6.15	241.2%/6.03	227.6%/5.69	213.2%/5.33	240.4%/6.01	229.6%/5.74	202.8/5.07
Efficiency	COP rated	W/W	4.52	4.25	3.89	4.02	3.88	3.97	3.71	3.74
	COP 50% load	W/W	6.44	6.01	5.43	5.77	5.55	5.41	5.05	5.07
	COP -7°C 100% load	W/W	3.66	3.40	3.06	3.23	3.05	3.19	2.91	2.94
	SCOP	n/std	145.6%/3.64	141.6%/3.54	146.8%/3.67	142.8%/3.57	148%/3.7	143.6%/3.59	144%/3.6	139.6%/3.49
Electrical characteristics	Running current	A	C	8.8	12.1	15.5	19.5	22.4	22.9	26.8
	Power input	kW	C	5.54	7.69	10.00	12.30	14.30	14.60	17.30
	Running current	A	H	8.8	11.6	15.0	17.8	20.2	22.1	26.5
	Power input	kW	H	5.53	7.41	9.65	11.20	12.90	14.10	17.00
Dimensions (h x w x d)	mm		1830 x 990 x 780	1830 x 990 x 780	1830 x 990 x 780	1830 x 1210 x 780	1830 x 1210 x 780	1830 x 1600 x 780	1830 x 1600 x 780	1830 x 1600 x 780
Weight	kg	CO/HP		241/242			299/300			370/371
Compressor	Type						Hermetic Twin Rotary			
	Motor output	kW		2.1x2	3.1x2	3.9x2	4.8x2	5.8x2	6.5x2	7.6x2
Fan unit	Type						Propeller fan			
	Motor output	W		1	1	1	1	1	2	2
	Air volume	m³/h		9700		12200		12600	17300	17900
External static pressure available	Pa		60	60	50	50	40	50	40	40
R410A refrigerant charge	kg	HP/CO	11.5/10.5	11.5/10.5	11.5/10.5	11.5/11.5	11.5/11.5	11.5/11.5	11.5/11.5	11.5/11.5
	CO <sub>2</sub> Teq	HP/CO	24/21.9	24/21.9	24/21.9	24/24	24/24	24/24	24/24	24/24
Power supply wiring	MCA	A	20.5	21.5	36.1	31	35.8	40.6	44.9	49.3
	MCOP	A		25	32		40	50		63
Pipe connection	Gas line type - Diameter		Brazed - 3/4"	Brazed - 7/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"
	Liquid line type - Diameter		Flare - 1/2"	Flare - 1/2"	Flare - 1/2"	Flare - 5/8"	Flare - 5/8"	Flare - 5/8"	Flare - 5/8"	Flare - 3/4"
	Balance diameter		Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"
Connectivity	Max. number of connected indoor units		18	22	27	31	36	40	45	49
	Diversity ratio	Min/Max					50/135%			
Sound pressure level	Cooling	dB(A)	C	55	57	59	60	62	60	61
	Heating	dB(A)	H	56	58	61	62	64	61	62
Sound power level	Cooling	dB(A)	C	74	74	80	80	81	81	82
	Heating	dB(A)	H	74	74	82	82	83	83	84
Operation temperature range	Cooling	CDB	C				-10/46			
	Heating	CWB	H				-25/15.5			

### Installation space



#### Leave space necessary for running, installation and servicing.

- If there is an obstacle above the outdoor unit, leave a space of 2000 mm or more to the top end of the outdoor unit.
- If there is a wall around the outdoor unit, make sure that its height does not exceed 800 mm.

Also applicable for SMMS-e stand alone and SHRME

**Capacity table - Standard models**

Capacity		Combination	Model	EER/SEER	COP/SCOP	Max indoor connectivity
HP	Cooling/Heating in kW					
8	22.4/25	8	MMY-MAP0806HT8P-E	4.04/6.24	4.52/3.64	18
10	28/31.5	10	MMY-MAP1006HT8P-E	3.64/6.15	4.25/3.54	22
12	33.5/37.5	12	MMY-MAP1206HT8P-E	3.35/6.03	3.89/3.67	27
14	38.4/45	14	MMY-MAP1406HT8P-E	3.25/5.69	4.02/3.57	31
16	45/50	16	MMY-MAP1606HT8P-E	3.15/5.33	3.88/3.7	36
18	50.4/56	18	MMY-MAP1806HT8P-E	3.45/6.01	3.97/3.59	40
20	56/62	20	MMY-MAP2006HT8P-E	3.24/5.74	3.71/3.6	45
22	61.5/63	22	MMY-MAP2206HT8P-E	2.65/5.07	3.74/3.49	49
24	67/75	12 + 12	MMY-AP2416HT8P-E	3.35/6.03	3.88/3.67	52
26	73.5/82.5	14 + 12	MMY-AP2616HT8P-E	3.3/5.85	3.97/3.62	58
28	78.5/87.5	16 + 12	MMY-AP2816HT8P-E	3.23/5.65	3.89/3.69	63
30	85/95	16 + 14	MMY-AP3016HT8P-E	3.19/5.5	3.94/3.6	64
32	90/100	16 + 16	MMY-AP3216HT8P-E	3.15/5.33	3.88/3.7	64
34	95.4/106	18 + 16	MMY-AP3416HT8P-E	3.3/5.69	3.93/3.64	64
36	101/113	20 + 16	MMY-AP3616HT8P-E	3.2/5.56	3.78/3.64	64
38	106.5/114	22 + 16	MMY-AP3816HT8P-E	2.84/5.2	3.8/3.59	64
40	112/126	20 + 20	MMY-AP4016HT8P-E	3.24/5.74	3.71/3.6	64
42	117.5/127	22 + 20	MMY-AP4216HT8P-E	2.9/5.4	3.72/3.55	64
44	123/128	22 + 22	MMY-AP4416HT8P-E	2.65/5.07	3.74/3.49	64
46	130/145	16 + 16 + 14	MMY-AP4616HT8P-E	3.18/5.44	3.92/3.67	64
48	135/150	16 + 16 + 16	MMY-AP4816HT8P-E	3.15/5.33	3.88/3.7	64
50	140.4/156	18 + 16 + 16	MMY-AP5016HT8P-E	3.25/5.58	3.91/3.66	64
52	146/163	20 + 16 + 16	MMY-AP5216HT8P-E	3.18/5.49	3.81/3.66	64
54	151.5/164	22 + 16 + 16	MMY-AP5416HT8P-E	2.92/5.24	3.82/3.62	64
56	157/176	20 + 20 + 16	MMY-AP5616HT8P-E	3.21/5.62	3.75/3.62	64
58	162.5/177	22 + 20 + 16	MMY-AP5816HT8P-E	2.97/5.38	3.77/3.59	64
60	168/178	22 + 22 + 16	MMY-AP6016HT8P-E	2.77/5.16	3.78/3.55	64

**Capacity table - High efficiency & high capacity models**

Capacity		Combination	Model	EER/SEER	COP/SCOP	Max indoor connectivity
HP	Cooling/Heating in kW					
20 HP	56/63	10 + 10	MMY-AP2026HT8P-E	3.63/6.15	4.26/3.54	45
22 HP	61.5/69	12 + 10	MMY-AP2226HT8P-E	3.47/6.11	4.04/3.61	49
36 HP	100.5/112.5	12 + 12 + 12	MMY-AP3626HT8P-E	3.35/6.03	3.89/3.67	64
38 HP	107/120	14 + 12 + 12	MMY-AP3826HT8P-E	3.31/5.91	3.93/3.63	64
40 HP	113.5/127.5	14 + 14 + 12	MMY-AP4026HT8P-E	3.28/5.8	3.98/3.6	64
42 HP	120/135	14 + 14 + 14	MMY-AP4226HT8P-E	3.25/5.69	4.01/3.57	64
44 HP	125/140	16 + 14 + 14	MMY-AP4426HT8P-E	3.21/5.56	3.97/3.62	64
54 HP	152/171	20 + 20 + 14	MMY-AP5426HT8P-E	3.24/5.74	3.78/3.59	64

**Piping rules**

		Allowable value	Piping section
Piping length	Total extension of pipe (Liquid pipe, real length)	Below 34HP 34HP or more	300m 1000m LA + LB + La + Lb + Lc + L1 + L2 + L3 + L4 + L5 + L6 + L7 + a + b + c + d + e + f + g + h + i + j
	Farthest piping length	Equivalent length Real length	235m 190m LA + L1 + L3 + L4 + L5 + L6 + j
	Equivalent length of farthest piping from 1st branching		90m L3 + L4 + L5 + L6 + j
	Equivalent length of farthest piping between outdoor units		25m LA + Lc (LA + Lb)
	Max. equivalent length of main piping	Equivalent length	120m L1
		Real length	100m
			10m mLc (La, Lb)
	Max. equivalent length of outdoor unit connecting piping		30m a, b, c, d, e, f, g, h, i, j
	Max. real length of indoor unit connecting piping		50m L2, L3, L4, L5, L6, L7
	Max. equivalent length between branches		
Difference in height	Height between indoor and outdoor units	Upper outdoor unit Lower outdoor unit	70m 40m
	Height between indoor units		40m
	Height between outdoor units		5m

(\*1) : (D) is outdoor unit farthest from the 1st branch and (j) is the indoor unit farthest from the 1st branch.

(\*2) : If the height difference (H1) between indoor and outdoor unit exceeds 3 m, set 65 m or less.

(\*3) : If the max. combined outdoor unit capacity is 54HP or more, then max. equivalent length is 70 m or less (real length is 50 m or less).

(\*4) : If the height difference (H2) between indoor units exceeds 3 m, set 50 m or less.

(\*5) : If the height difference (H2) between indoor units exceeds 3 m, set 30 m or less.

(\*6) : Total charging refrigerant is 140 kg or less.

(\*7) : Extension up till 90 m is possible with conditions below

- Outdoor temperature tooling: 10 - 46 (DB)

Heating: -5 - 15.5 (WB)

- Equivalent length of farthest piping from 1st branching Li &lt; 50 m

- Real length of main piping L1 &lt; 100 m

- Height difference between indoor units H2 &lt; 3 m

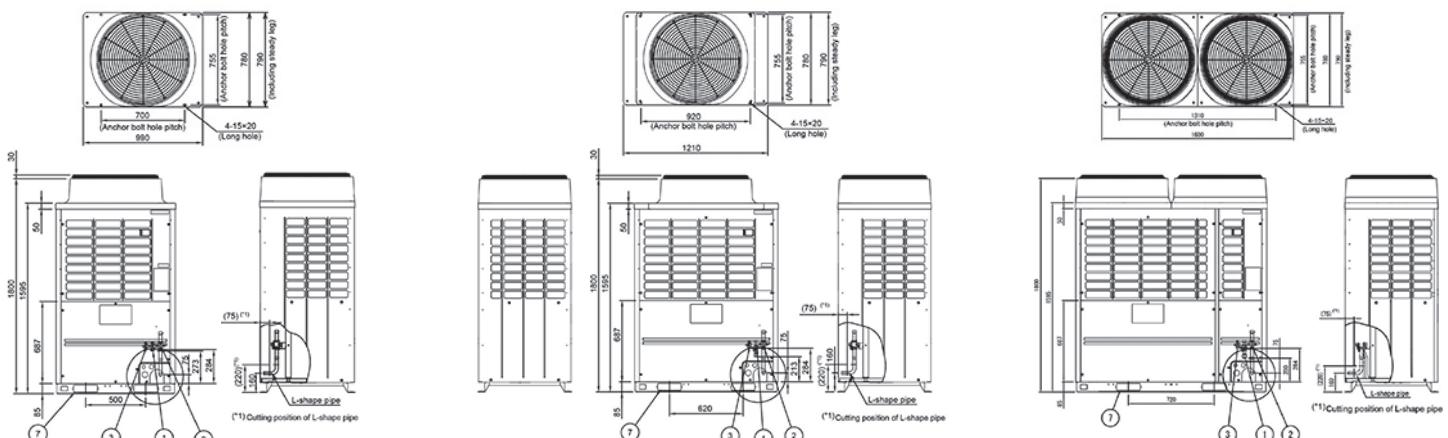
- Total capacity of combined indoor units: 90% - 105%

- Single CDU, and up to 20HP

- Minimum capacity of connectable indoor: unit 4HP or larger

**Drawings**

Unit: mm

MMY-MAP0806HT8P-E  
MMY-MAP1006HT8P-E  
MMY-MAP1206HT8P-EMMY-MAP1406HT8P-E  
MMY-MAP1606HT8P-EMMY-MAP1806HT8P-E  
MMY-MAP2006HT8P-E  
MMY-MAP2206HT8P-E**Sound pressure levels**

Unit: dB(A)

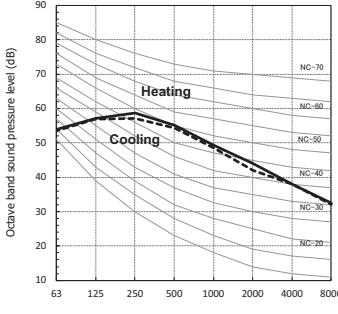
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MMY-PAP1006HT8P-E

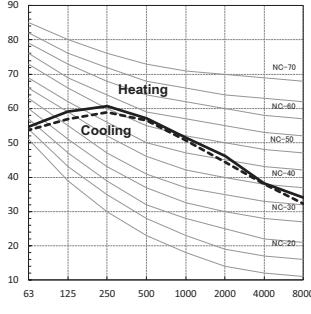
MMY-MAP1206HT8P-E

MMY-MAP1406HT8P-E

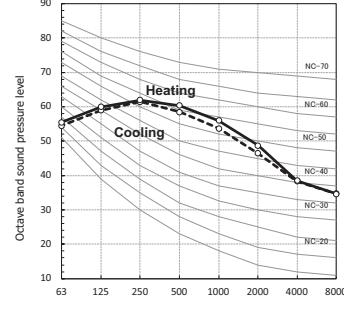
Sound pressure Level (dB(A))	Cooling	Heating
55.0	56.0	



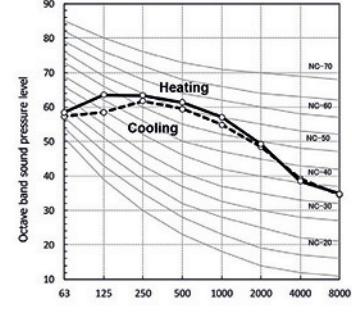
Sound pressure Level (dB(A))	Cooling	Heating
57.0	58.0	



Sound pressure Level (dB(A))	Cooling	Heating
59.0	61.0	

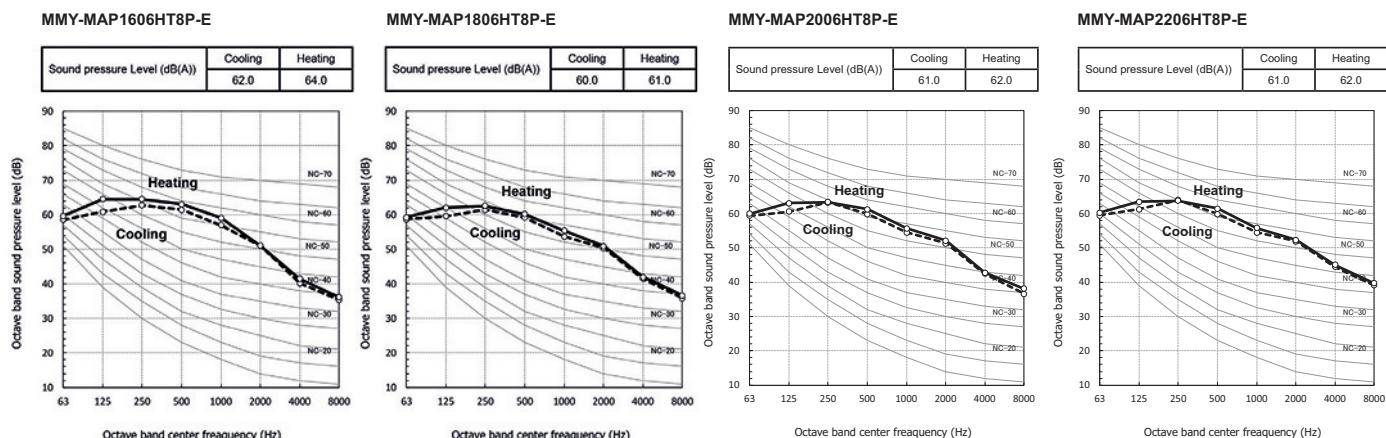


Sound pressure Level (dB(A))	Cooling	Heating
60.0	62.0	



## Sound pressure levels

Unit: dB(A)



## Night mode sound pressure levels

Sound reduction and capacity approximation (Reference)

Type	Night operation sound reduction dB (A)	Capacity	
		Cooling	Heating
0806	50	Approx. 85%	Approx. 80%
1006	50	Approx. 70%	Approx. 65%
1206	50	Approx. 60%	Approx. 55%
1406	53	Approx. 80%	Approx. 80%
1606	53	Approx. 70%	Approx. 70%
1806	54	Approx. 65%	Approx. 65%
2006	54	Approx. 60%	Approx. 60%
2206	54	Approx. 55%	Approx. 55%

## Accessories

	Name	Model name	Capacity	Appearance	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55E	Under 6.4hp		
		RBM-BY105E	From 6.4 to 14.2hp		
		RBM-BY205E	From 14.2 to 25.2hp		
		RBM-BY305E	25.2hp or more		
	4-branching header	RBM-HY1043E	Under 14.2hp		
		RBM-HY2043E	From 14.2 to 25.2hp		
	8-branching header	RBM-HY1083E	Under 14.2hp		
		RBM-HY2083E	From 14.2 to 25.2hp		
Optional PCB of outdoor unit	Branching joint for connection of outdoor units	RBM-BT14E	Under 26hp		
		RBM-BT24E	26hp or more		
	Power peak-cut control board	TCB-PCDM4E			Limit capacity of the VRV outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact
Optional PCB of outdoor unit	External master ON/OFF control board	TCB-PCM04E			Dry contact
	Output control board	TCB-PCIN4E			Operation output: The operation indicator is on while any indoor unit in the system is operating. Error output: The error indicator is on when an error is occurred on even one of the indoor or outdoor units in the system. Dry contact

# MMYMAP\_6FT8P

## SHRM-e



CAPACITY OPERATION



8HP &gt; 54HP -25°C &gt; +46°C

The SHRM-e, full Inverter heat recovery 3-pipe VRF, is the ultimate simultaneous heating & cooling solution for business applications.

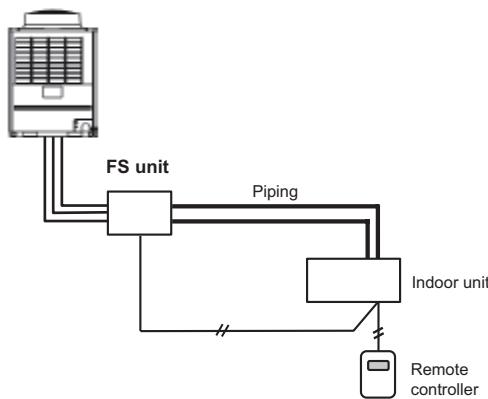
### Features

Outdoor unit	MMY-	MAP0806FT8P-E	MAP1006FT8P-E	MAP1206FT8P-E	MAP1406FT8P-E	MAP1606FT8P-E	MAP1806FT8P-E	MAP2006FT8P-E
Cooling capacity <sup>1</sup>	Rated kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0
Heating capacity <sup>2</sup>	Rated kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0
Max		25.0	31.5	37.5	45.0	50.0	56.5	58.0
Capacity range	HP	8	10	12	14	16	18	20
Power supply	V-ph-Hz	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50
EER rated	W/W	3.76	3.51	3.43	3.14	3.23	3.15	3.01
EER 50% load	W/W	7.32	7.035	6.162	5.666	6.233	6.79	5.091
SEER	η/std	247.6%/6.19	245.2%/6.13	240.8%/6.02	226.8%/5.67	231.2%/5.78	237.6%/5.94	227.2%/5.68
COP rated	W/W	4.14	3.97	3.85	3.80	3.68	3.67	3.52
COP 50% load	W/W	5.92	5.60	5.38	5.48	5.28	5.02	4.79
COP -7°C 100% load	W/W	3.35	3.20	3.03	3.05	2.91	2.96	2.77
SCOP	η/std	145.6%/3.64	141.6%/3.54	148.4%/3.71	142.8%/3.57	140.4%/3.51	143.6%/3.59	144.4%/3.60
Running current	A	C	9.4	12.5	15.5	19.9	21.8	25.1
Electrical characteristic	kW							
Power input	kW	C	5.95	7.96	9.75	12.70	13.90	16.00
Running current	A	H	8.6	11.1	13.8	16.5	19.1	21.5
Power input	kW	H	5.40	7.05	8.70	10.50	12.20	13.70
Dimensions (h x w x d)	mm	1830 x 990 x 780	1830 x 990 x 780	1830 x 1210 x 780	1830 x 1210 x 780	1830 x 1600 x 780	1830 x 1600 x 780	1830 x 1600 x 780
Weight	kg		263		316		377	
Compressor	Type				Hermetic Twin Rotary			
Motor output	kW	2.3x2	3.1x2	3.9x2	4.8x2	5.8x2	6.5x2	7.6x2
Fan unit	Type				Propeller fan			
Motor output	W	1	1	1	1	2	2	2
Air volume	m³/h		9700		12200		17300	17900
External static pressure available	Pa	60	60	50	40	40	40	40
R410A refrigerant charge	kg/CO <sub>2</sub> Teq	11/23	11/23	11/23	11/23	11/23	11/23	11/23
MCA	A	21.5	26.1	31	35.8	40.6	44.9	49.3
MCOP	A	25.0	32.0	40.0	50.0	50.0	50.0	63.0
Pipe connection	Suction line type - Diameter	Brazed - 7/8"	Brazed - 7/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"
	Discharge line type - Diameter	Brazed - 3/4"	Brazed - 3/4"	Brazed - 3/4"	Brazed - 7/8"	Brazed - 7/8"	Brazed - 7/8"	Brazed - 7/8"
	Liquid line type - Diameter	Flare - 1/2"	Flare - 1/2"	Flare - 5/8"	Flare - 3/4"	Flare - 3/4"	Flare - 3/4"	Flare - 3/4"
	Balance diameter	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"	Flare - 3/8"
Connectivity	Max. number of connected indoor units	18	22	27	31	36	40	41
Diversity ratio	Min/Max				50/135%			
Sound pressure level	Cooling dB(A)	C	59	59	60	62	61	61
	Heating dB(A)	H	61	61	62	64	62	62
Sound power level	Cooling dB(A)	C	80	80	80	81	83	83
	Heating dB(A)	H	82	82	82	83	84	84
Operation temperature range	Cooling CDB	C			-10/46			
	Heating CWB	H			-25/15.5			

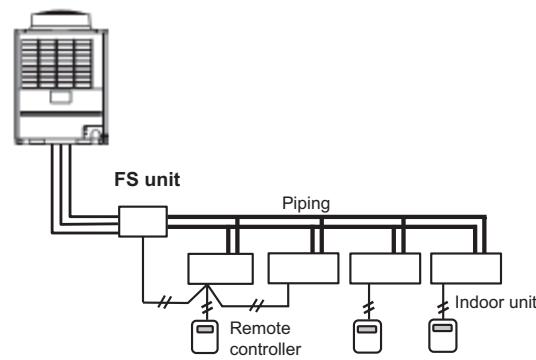
C = Cooling mode  
H = Heating mode

### Installation flexibility

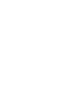
&lt; In case of connecting one indoor unit&gt;



&lt;In case of connecting one group operation of indoor units and two indoor units&gt;



## Capacity table - Standard models

Capacity	Combination	Model	Cooling capacity	Heating capacity	EER	SEER	COP	SCOP	Max indoor connectivity	
8 HP	8	MMY-MAP0806FT8P-E	22.4	25	3.76	6.19	4.14	3.64	18	
10 HP	10	MMY-MAP1006FT8P-E	28	31.5	3.51	6.13	3.97	3.54	22	
12 HP	12	MMY-MAP1206FT8P-E	33.5	37.5	3.43	6.02	3.85	3.71	27	
14 HP	14	MMY-MAP1406FT8P-E	40	45	3.14	5.67	3.8	3.57	31	
16 HP	16	MMY-MAP1606FT8P-E	45	50	3.26	5.78	3.68	3.51	36	
18 HP	18	MMY-MAP1806FT8P-E	50.4	56.5	3.15	5.94	3.67	3.59	40	
20 HP	20	MMY-MAP2006FT8P-E	56	58	3.01	5.68	6.52	3.6	41	
22 HP	12 + 10	MMY-AP2216FT8P-E	61.5	69	3.47	6.07	3.9	3.64	49	
24 HP	14 + 10	MMY-AP2416FT8P-E	68	76.5	3.29	5.88	3.8	3.56	51	
26 HP	14 + 12	MMY-AP2616FT8P-E	73.5	82.5	3.27	5.84	3.83	3.64	58	
28 HP	14 + 14	MMY-AP2816FT8P-E	80	90	3.15	5.67	3.81	3.57	63	
30 HP	16 + 14	MMY-AP3016FT8P-E	85	95	3.2	5.72	3.74	3.54	64	
32 HP	18 + 14	MMY-AP3216FT8P-E	90.4	101.5	3.15	5.82	3.1	3.59	64	
34 HP	18 + 16	MMY-AP3416FT8P-E	95.4	106.5	3.19	5.86	3.68	3.55	64	
36 HP	18 + 18	MMY-AP3616FT8P-E	100.8	113	3.15	5.94	3.68	3.59	64	
38 HP	20 + 18	MMY-AP3816FT8P-E	106.4	114.5	3.08	5.81	3.59	3.6	64	
40 HP	20 + 20	MMY-AP4016FT8P-E	112	116	3.01	5.68	3.52	3.6	64	
42 HP	14 + 14 + 14	MMY-AP4216FT8P-E	120	135	3.15	5.67	3.81	3.57	64	
44 HP	16 + 14 + 14	MMY-AP4416FT8P-E	125	140	3.18	5.71	3.77	3.55	64	
46 HP	18 + 14 + 14	MMY-AP4616FT8P-E	130.4	146.5	3.15	5.78	3.76	3.58	64	
48 HP	18 + 16 + 14	MMY-AP4816FT8P-E	135.4	151.5	3.25	5.83	3.7	3.57	64	
50 HP	18 + 18 + 14	MMY-AP5016FT8P-E	140.8	158	3.21	5.88	3.7	3.59	64	
52 HP	18 + 18 + 16	MMY-AP5216FT8P-E	145.8	163	3.18	5.89	3.68	3.57	64	
54 HP	18 + 18 + 18	MMY-AP5416FT8P-E	152.1	169.5	3.15	5.94	3.68	3.59	64	



## Piping rules

		Allowable value	Piping section
Piping length	Total extension of pipe (Liquid pipe, real length)	Below 34HP 34HP or more	300m 1000m (*9)
	Farthest piping length (*1) (*3)	Equivalent length Real length	200m (*2) 180m
	Equivalent length of farthest piping from 1st branching (*1)	Height difference between IDU >3 m	50m
		Height difference between IDU 3 m	65m
	Equivalent length of farthest piping between outdoor units (*1)		15m
	Max equivalent/real length of main piping (*12)	Height difference between IDU <3 m	100/85m
		Height difference between IDU >3 m	120/100m
	Max. equivalent length of outdoor unit connecting piping		10m
	Max. real length of indoor unit connecting piping		30m
	Max. equivalent length between branches		50m
Difference in height	Maximum real length of terminal branching section to indoor units	Single port type	15m
		Multi port type	50m (*10) (*11)
	Height between indoor and outdoor units (*7)	Upper outdoor unit Lower outdoor unit	70m (*8) (*13) 30m (*6)
	Height between indoor units (*7)	Upper outdoor unit	40m
		Lower outdoor unit (*4)	15m
	Height between outdoor units (*5)		5m
	Maximum equivalent length indoor units in group control by one single port flow selector unit		30m
	Maximum real length between flow selector unit and indoor unit (*2)	Single port type	15m
		Multi port type	50m
	Height difference between indoor units in group control by one flow selector unit		0.5m
In case of 4 series flow selector connection to indoor units			L6 + L7 + L8 + o
			L7 + m 15m or L7 + L8 + n 15m
			s + t, s + u 50m

(\*1) : Farthest outdoor unit from the first branch: (C), farthest indoor unit: (o)

(\*2) : When connecting the multiple indoor units to the single port type flow selector unit, wire the indoor unit to the remote controller to the single port type flow selection unit.

(\*3) : Allowable values for length equivalent to farthest pipe are shown below and they vary according to performance rank of outdoor unit. 22.4 to 56.0: 180 m, 61.5 to 112: 195 m, 120: 200 m.

(\*4) : When system capacity is greater than 28 HP height difference between indoor units is limited to 3 m. If the piping exceeds 3 m with a capacity greater than 28 HP there may be a case of capacity shortage in cooling.

(\*5) : Ensure that the header unit is installed below all connected follower outdoor unit(s).

Possible product failure may occur if header unit is installed above any follower unit(s).

(\*6) : 40 m is possible for a system that uses only the flow selector unit (multi port type), whose all the indoor units are 3HP or higher, and working ambient temperature is 0°C or higher.

(\*7) : As for 44HP to 54HP, contact our agent.

(\*8) : If the height difference (H2) between indoor units exceed 3 m, set 50 m or less.

(\*9) : Total charging refrigerant is 140 kg or less.

(\*10) : The total piping length in one FS unit in case of branching to 4: 120 m (p + q + r + s + t + u). In case of branching to 6: 180 m.

(\*11) : Length of whole pipe should be shorter than 50 m in one branch.

(\*12) : As for 42HP to 54HP contact our agent.

(\*13) : Extension up till 90 m is possible with conditions below

- Outdoor temperature cooling operation: 10 - 46 (DB)

Heating operation: 7 - 25 (DB)

Simultaneous operation: 7 - 25 (DB)

- Equivalent length of farthest piping from 1st branching Li &lt; 50 m

- Real length of main piping L1 &lt; 100 m

- Height difference between indoor units H2 &lt; 3 m

- Height difference between FS units &lt; 0.5 m

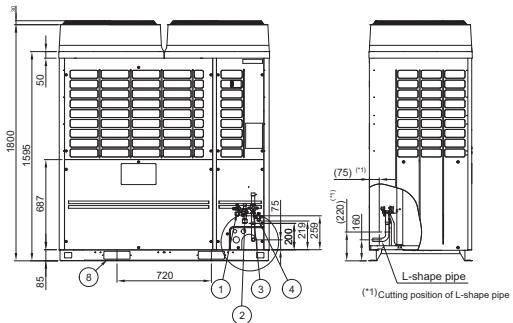
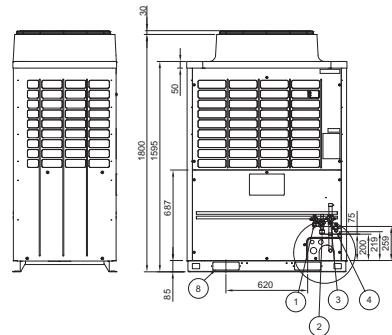
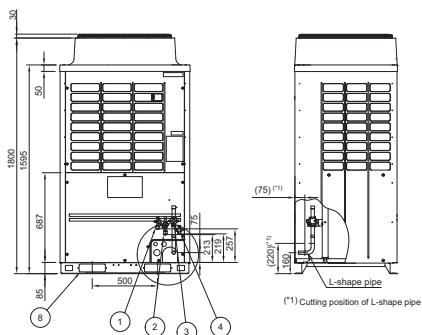
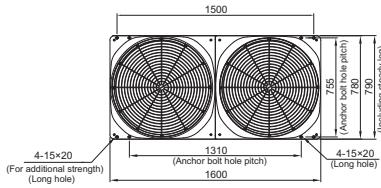
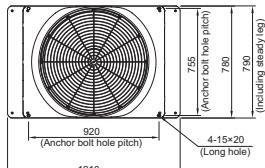
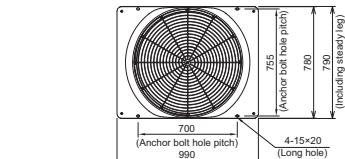
- Total capacity of connectable indoor units: 90% - 100%

- Single CDU, and up to 18HP

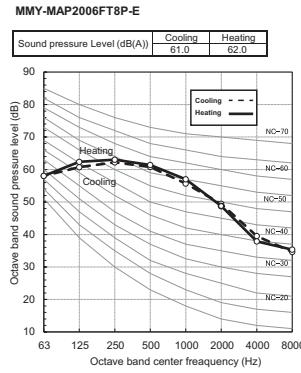
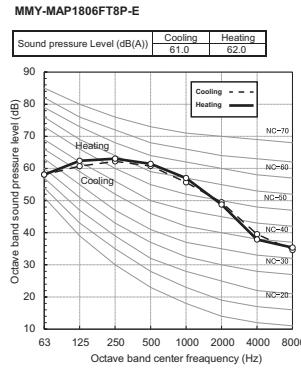
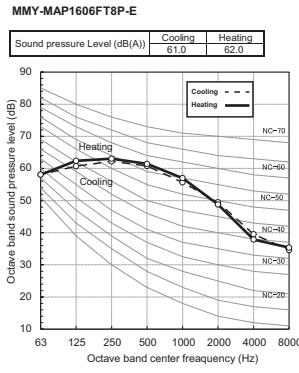
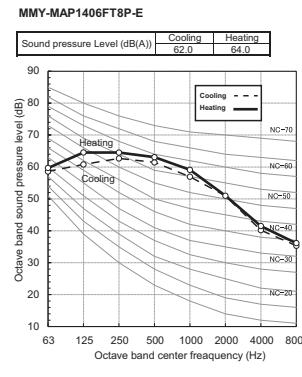
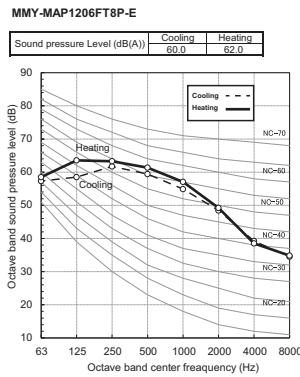
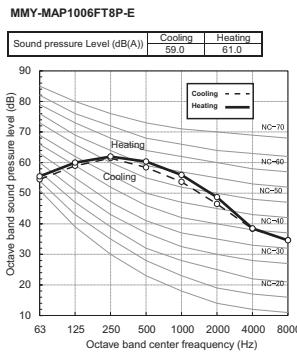
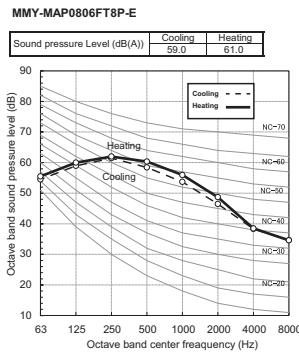
- Minimum capacity of connectable indoor unit 4HP or larger.

## Drawings

Unit: mm

MMY-MAP0806FT8P-E  
MMY-MAP1006FT8P-EMMY-MAP1206FT8P-E  
MMY-MAP1406FT8P-EMMY-MAP1606FT8P-E  
MMY-MAP1806FT8P-E  
MMY-MAP2006FT8P-E

## Sound pressure levels



## Night mode sound pressure level

Sound reduction and approximation capacity (reference)

Type	Night operation sound reduction dB (A)	Capacity	
		Cooling	Heating
0806	50	Approx. 85%	Approx. 85%
1006	50	Approx. 70%	Approx. 70%
1206	53	Approx. 80%	Approx. 80%
1406	53	Approx. 70%	Approx. 70%
1606	54	Approx. 65%	Approx. 65%
1806	54	Approx. 60%	Approx. 60%
2006	54	Approx. 55%	Approx. 55%

## Accessories

	Name	Model name	Capacity	Appearance	Dimensions (mm)	Remarks
Branching joints and headers	Y-shape branching joint	RBM-BY55FE	Under 6.4hp			
		RBM-BY105FE	From 6.4 to 14.2hp			
		RBM-BY205FE	From 14.2 to 25.2hp			
		RBM-BY305FE	25.2hp or more			
	4-branching header	RBM-HY1043FE	Under 14.2hp			
		RBM-HY2043FE	From 14.2 to 25.2hp			
	8-brANCHING header	RBM-HY1083FE	Under 14.2hp			
		RBM-HY2083FE	From 14.2 to 25.2hp			
	Branching joint for connection of outdoor units	RBM-BT14E	Under 26hp			
		RBM-BT24E	26hp or more			
Flow selector	3 series single output FS Box (Powered by IDUs)	RBM-Y1123FE	Under 4hp		190x320x160	1 output - From 1 to 5 IDU per output
		RBM-Y1803FE	From 4 to 6.4hp			1 output - From 1 to 8 IDU per output
		RBM-Y2803FE	From 6.4 to 10hp			1 output - From 1 to 8 IDU per output
	4 series single output FS Box (Up to 50m piping length from FS box to IDU)	RBM-Y1124FE	Under 4hp		180x425x300	1 output - From 1 to 6 IDU per output
		RBM-Y1804FE	From 4 to 6.4hp			1 output - From 1 to 10 IDU per output
		RBM-Y2804FE	From 6.4 to 10hp			1 output - From 1 to 16 IDU per output
	Multiple output	RBM-Y1801F4PE	Up to 6hp per output		215x730x567	4 outputs - From 1 to 10 IDU per output
		RBM-Y1801F6PE	Up to 6hp per output		215x1050x567	6 outputs - From 1 to 10 IDU per output
	Connection accessory	RBC-CBK15FE				15m Bus cable for 3 serie FS box
Optional PCB of outdoor unit	Power peak-cut control board	TCB-PCDM4E				limit capacity of the VRV outdoor unit at 85%, 75%, 70% or 60% load or stop it. Dry contact
	External master ON/OFF control board	TCB-PCM04E				Dry contact
	Output control board	TCB-PCIN4E				Operation output: The operation indicator is on while any indoor unit in the system is operating. Error output: The error indicator is on when an error has occurred on even one of the indoor or outdoor units in the system. Dry contact

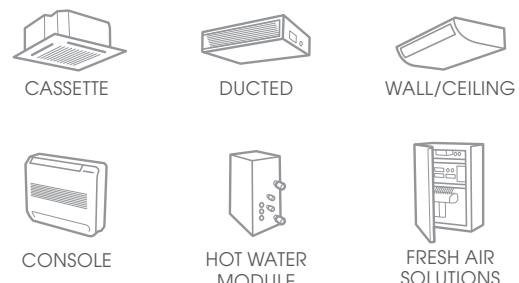
# WIDE CHOICE INDOOR UNITS



## › LARGE INDOOR UNIT LINE-UP

The wide choice of indoor unit models increases design flexibility and reduces costs to the building's owner by ensuring the most appropriate system is installed.

- **17 different types of indoor units**
- **Capacity from 0.6 hp to 10 hp**
- **For heating, cooling, fresh air and hot water production**



## › SUPERIOR AIR COMFORT

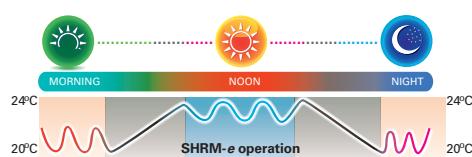
### Optimised heating operations

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



### Dual set point for more precision

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



### Cool comfort with soft cooling mode

The development of the soft cooling mode provides a new level for cool comfort. You will have the freedom to personalize the air flow intensity, angle and direction directly from the remote control and enjoy the indoor environment at the right temperature without being directly exposed to the cold draft.



### Low consumption for low operation cost

Premium comfort doesn't mean high power consumption. By using DC motor, large air discharge surface and magic coil system, Toshiba reduces drastically the indoor unit power consumption.

Example for the 4-Way Cassette size 7:



	PCB	FAN	DRAIN	TOTAL
Low fan speed	4 W	6 W	3 W	13 W
Medium fan speed	4 W	7 W	3 W	14 W
High fan speed	4 W	9 W	3 W	16 W

### No compromise on air quality



Every indoor units are equipped with air suction filters. A symbol on the remote warns the user when filters need to be cleaned.

## CHOOSE YOUR ADAPTED SYSTEM SOLUTION

FOR EUROPE

		INDOOR UNITS, HOT WATER & FRESH AIR SOLUTIONS														
		Basic specifications														
Model type	Class	005	007	009	012	015	018	024	027	030	036	048	056	072	096	
		Cooling/Heating capacity in kW	1.7 / 1.9	2.2 / 2.5	2.8 / 3.2	3.6 / 4	4.5 / 5	5.6 / 6.3	7.1 / 8	8.0 / 9	9.0 / 10	11.2 / 12.5	14.0 / 16	16.0 / 18	22.4 / 25	28.0 / 31.5
		Cooling/Heating capacity in HP	0.6	0.8	1	1.25	1.7	2	2.5	3	3.2	4	5	6	8	10
Compact 4-way discharge cassette	MMU-AP***6MH-E		●	●	●	●	●	●								
4-way discharge cassette	MMU-AP***4HP1-E				●	●	●	●	●	●	●	●	●	●		
2-way discharge cassette	MMU-AP***2WH1			●	●	●	●	●	●	●	●	●	●	●		
1-way discharge cassette	MMU-AP**4Y/4SH1-E			●	●	●	●	●	●	●						
Slim duct	MMD-AP***4SPH1-E		●	●	●	●	●	●								
Concealed duct	MMD-AP***6BHP1-E			●	●	●	●	●	●	●	●	●	●	●		
Concealed duct high static	MMD-AP***6HP1-E							●	●	●		●	●		●	
Ceiling suspended	MMC-AP***8HP-E						●	●	●	●		●	●			
Floor-standing concealed	MML-AP***4BH1-E			●	●	●	●	●	●							
Floor-standing cabinet	MML-AP***4H1-E		●	●	●	●	●	●	●							
Bi-flow console	MML-AP***4NH1-E		●	●	●	●	●	●								
Floor standing	MMF-AP***6H-E						●	●	●	●	●	●	●	●		
High wall (With & without PMV)	MMK-AP***7HP-E MMK-AP***7HP-E1	●	●	●	●	●	●	●	●							
Mid temperature Hot Water module	MMW-AP**1LQ-E								●				●			
High temperature Hot Water module	MMW-AP**1CHQ-E											●				
EMEA AHU DX Kit (std version)	MM-DXC010 + MM-DXV***						●	●	●	●	●	●	●	●		
EMEA AHU DX Kit (0/10v version)	RBC-DXC031 + MM-DXV***											●	●	●		
Fresh air intake indoor unit	MMD-AP***1HFE											●	●	●		

FOR EUROPE

		AIR TO AIR HEAT EXCHANGER													
		Basic specifications													
Model Type	Cooling/Heating capacity in k	0.6	0.8	1	1.25	1.7	2	2.5	3	3.2	4	5	6	8	10
	Air flow in m³/h	150 m³/h	250 m³/h	350 m³/h	500 m³/h	650 m³/h	800 m³/h						1000 m³/h	1500 m³/h	2000 m³/h
Air-to-air heat exchanger	VN-M**0HE		●	●	●	●	●	●				●	●	●	
A2A heat exchanger + DXcoil or + Dxcoil & Humidifier	MMD-VN***2HEXE MMD-VNK***2HEXE				●		●					●			

● :Heat pump

# MMU-AP\_MH

## COMPACT 4-WAY CASSETTE



The all new 7 series Compact 4-Way Cassette is especially designed for business office applications, where a compact and efficient solution is required.

CAPACITY	SOUND PRESSURE LEVEL
0.6 HP < 2 HP	29dB(A)

## OUTDOOR UNITS COMPATIBILITY



Side Blow &amp; MiNi SMMS-e



SMMS-e



SHRM-e

## LOCAL CONTROLS

RBC-AX32UM(W)-E  
TCB-AX32E2RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

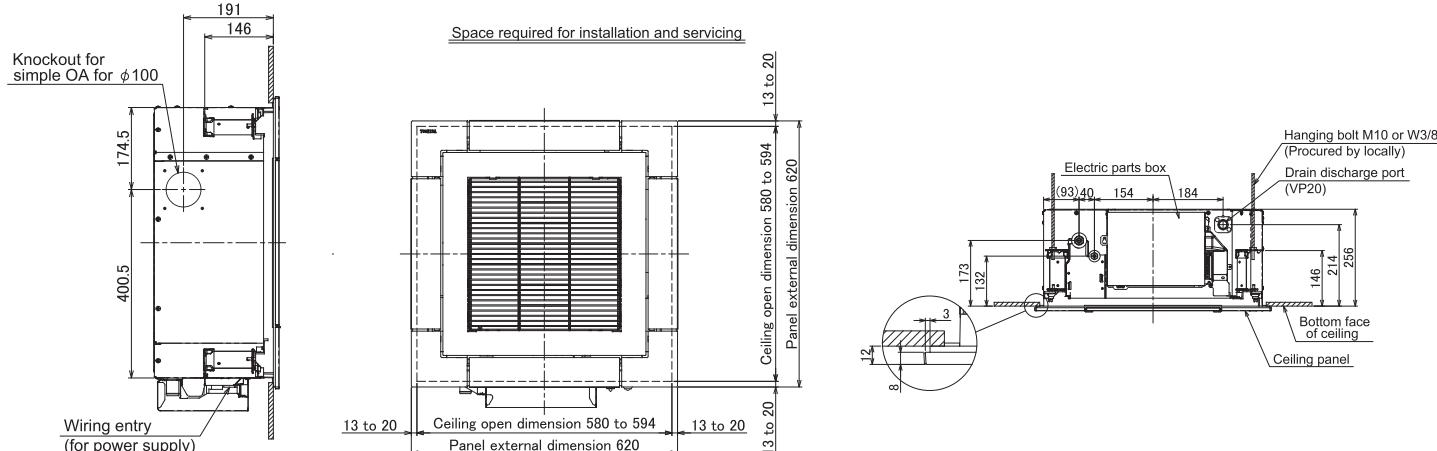
## Features

Model name	MMU-AP0057MH-E	MMU-AP0077MH-E	MMU-AP0097MH-E	MMU-AP0127MH-E	MMU-AP0157MH-E	MMU-AP0187MH-E
Capacity code	HP	0.6	0.8	1	1.3	1.7
Cooling Capacity	kW	1.7	2.2	2.8	3.6	4.5
Heating Capacity	kW	1.9	2.5	3.2	4.0	5.0
Electrical characteristics	Power supply		1 phase 50Hz 230V(220V-240V)	- Separate power supply for indoor units is required		
	Running current	A	0.16	0.23	0.25	0.28
	Power consumption (L/H)	kW	0.013/0.016	0.013/0.023	0.014/0.025	0.015/0.03
	Starting current	A	0.28	0.41	0.43	0.50
	Main unit		Zinc hot dipping steel plate (Heat-insulating material attached to only upper plate)			
Appearance	Ceiling panel	Model name		RBC-UM21PG(W)-E		
		Panel color		Gran White (Mansell 5PB9/1)		
Outer dimensions	Main unit	HxLxP mm		256x575x575		
	Ceiling panel	HxLxP mm		12x620x620		
Total weight	Main unit	kg		15		
	Ceiling panel	kg		2.5		
Heat exchanger			Finned tube			
Soundproof/Heat-insulating material			Non-flammable insulation			
Fan unit	Fan		Turbo fan			
	Standard air flow (M+ / M / L+ / L)	m³/h	430(415/400/385/365)	552(500/462/395/378)	570(520/468/395/378)	594(550/504/420/402)
	Motor	W			60	
Sound pressure level High (M+ / M / L+ / L)	dB	32 (31/30/29/29)	37 (34/33/30/29)	38 (35/33/30/29)	38 (36/34/31/30)	40(37/35/32/31)
Sound power level High (M+ / M / L+ / L)	dB	47 (46/45/44/44)	52 (49/48/45/44)	53(50/48/45/44)	53 (51/49/46/45)	55(52/50/47/46)
Air filter			Standard filter (Long life filter)			
Controller			Infrared or wired remote controller			
Connecting pipe	Gas side	inch	3/8"	3/8"	3/8"	1/2"
	Liquid side	inch	1/4"	1/4"	1/4"	1/4"
	Drain port (Nominal dia. mm)			VP20 (Polyvinyl chloride tube)		

## Drawings

Unit: mm

## All models

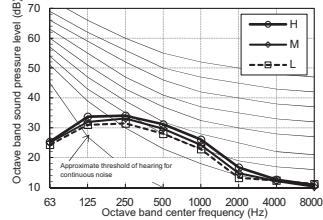


## COMPACT 4-WAY CASSETTE

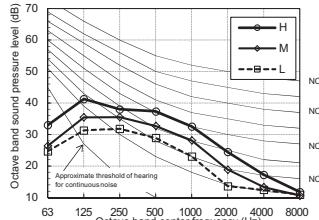
## Sound pressure levels

Unit: dB(A)

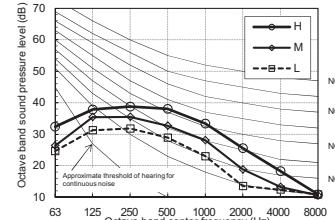
Fan tap	H	M	L
Sound pressure level (dB(A))	32	30	29



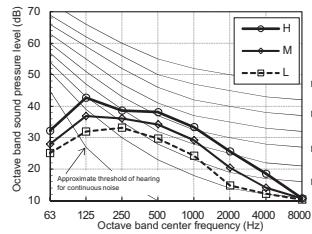
Fan tap	H	M	L
Sound pressure level (dB(A))	37	33	29



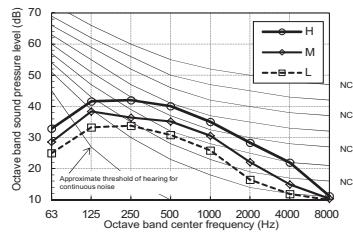
Fan tap	H	M	L
Sound pressure level (dB(A))	38	33	29



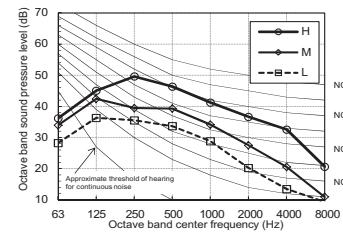
Fan tap	H	M	L
Sound pressure level (dB(A))	38	34	30



Fan tap	H	M	L
Sound pressure level (dB(A))	40	35	31



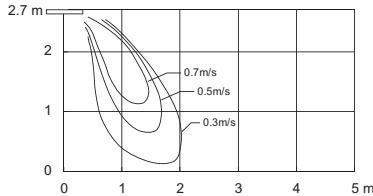
Fan tap	H	M	L
Sound pressure level (dB(A))	47	39	34



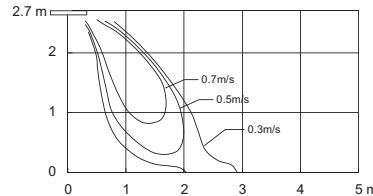
## Air diffusion

Unit: m/s

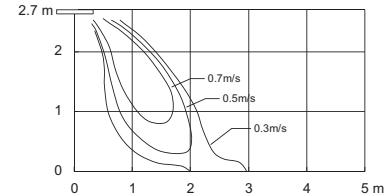
## MMU-AP0057MH-E



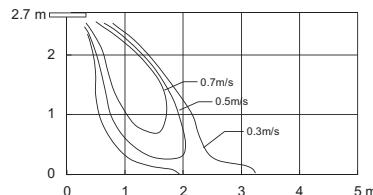
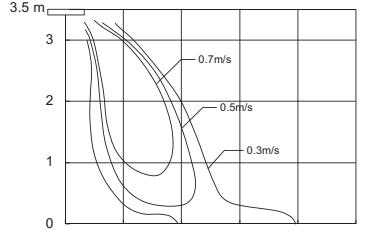
## MMU-AP0077MH-E



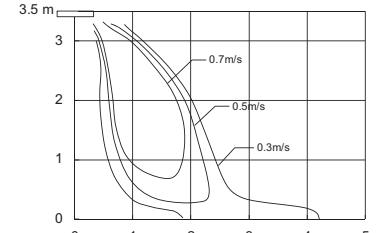
## MMU-AP0097MH-E



## MMU-AP0127MH-E

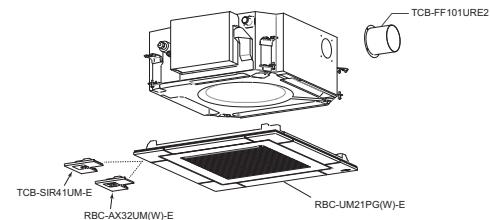
MMU-AP0157MH-E  
(High ceiling mode)

## MMU-AP0187MH-E



## Accessories

Parts name	Model name	Applied model	Notes
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)
Wireless Remote Control kit	RBC-AX32UM(W)-E		Wireless remote control kit and occupancy sensor cannot be used on the same indoor unit
Occupancy sensor	TCB-SIR41UM-E		



## Compact 4-way cassette connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (Cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	TCB-PCUC2E pcb needed	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed

# MMU-AP\_HP1

## 4-WAY CASSETTE



The 4-Way Cassette is designed to provide uniform air distribution and total user comfort making this unit the ideal solution for small commercial applications.

CAPACITY	SOUND PRESSURE LEVEL
1 HP < 6 HP	27dB(A)

## OUTDOOR UNITS COMPATIBILITY



Side Blow &amp; Mini SMMS-e



SMMS-e



SHRM-e

## LOCAL CONTROLS

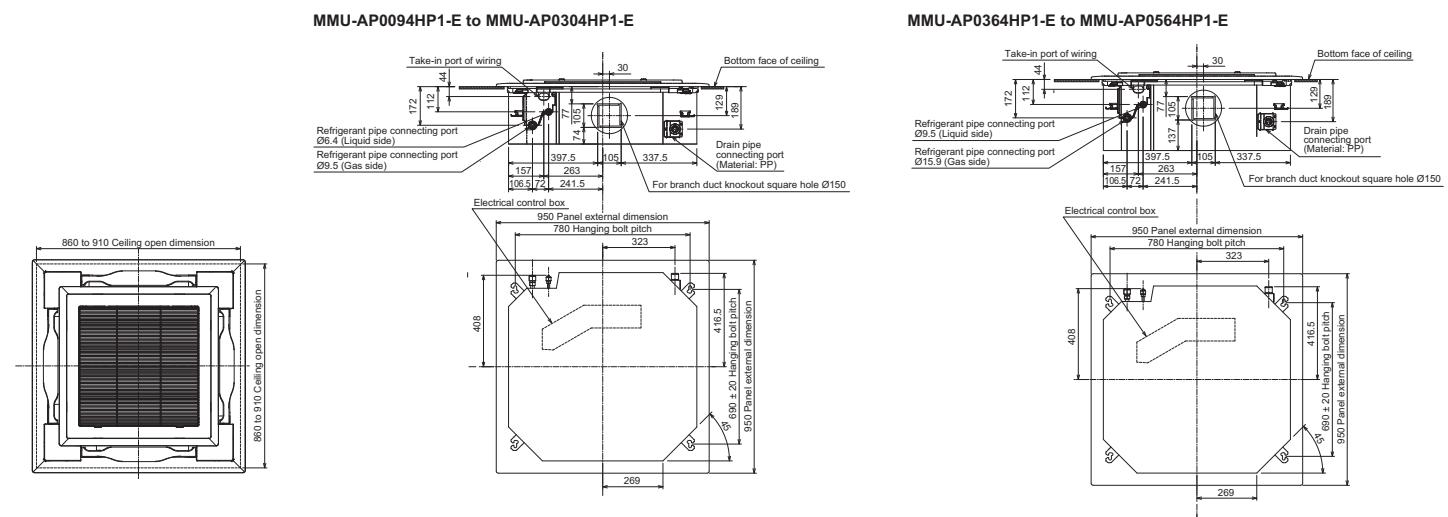
RBC-AX32U(W)-E  
TCB-AX32E2RBC-AMS55-E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

## Features

Model name	MMU-	AP0094HP1-E	AP0124HP1-E	AP0154HP1-E	AP0184HP1-E	AP0244HP1-E	AP0274HP1-E	AP0304HP1-E	AP0364HP1-E	AP0484HP1-E	AP0564HP1-E
Capacity code	HP	1	1.3	1.7	2	2.5	3	3.2	4	5	6
Cooling	kW	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0
Heating	kW	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	16.0	18.0
Electrical characteristics	Power supply				1 phase 50Hz 230V(220V-240V) - Separate power supply for indoor units is required						
	Running current	50HZ	0.23	0.26	0.27	0.29	0.38	0.38	0.43	0.73	0.88
	Power consumption	H/M/L W	21 / 18.5 / 17.5	21 / 18.5 / 17.5	23 / 20 / 18.7	26 / 23 / 19	36 / 23 / 19	36 / 23 / 19	43 / 30 / 21	88 / 45 / 24	112 / 45 / 27
	Starting current	A	0.30	0.30	0.33	0.36	0.42	0.42	0.59	0.87	1.23
Appearance	Main unit				Heat-insulating material attached - Zinc hot dipping steel plate						
	Model				RBC-U31PGP(W)-E /RBC-U31PGSP(W)-E						
	Ceiling panel	Panel color			White (Munsell: 2.5GY9.0/0.5)						
Outer dimensions	Main unit	HxLxP mm	256x840x840	256x840x840	256x840x840	256x840x840	256x840x840	256x840x840	319x840x840	319x840x840	319x840x840
	Ceiling panel	HxLxP mm	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950	30x950x950
Total weight	Main unit	kg	20	20	20	20	20	20	25	25	25
	Ceiling panel	kg	4	4	4	4	4	4	4	4	4
Heat exchanger					Finned tube						
Soundproof / Heat insulating material					Non- flammable insulation						
	Fan				Turbo fan						
Fan unit	Standard air flow	H/M/L m³/h	800/730/680	800/730/680	930/830/790	1050/920/800	1290/920/800	1290/920/800	1320/1100/850	1970/1430/1070	2130/1430/1130
	Motor output	W			14				20	68	72
Sound pressure level	H/M/L dB(A)	30/29/27	30/29/27	31/29/27	32/29/27	35/31/28	35/31/28	38/33/30	43/38/32	46/38/33	46/40/33
Sound power level	H dB(A)	45	45	46	47	50	50	53	58	61	61
Air filter					Long life filter						
Controller					Wired or infrared remote controller						
Connecting pipe	Gas pipe	inch	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"
	Liquid pipe	inch	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"
	Drain port (Outside dia.)	mm					25 (Polyvinyl chloride tube)				

## Drawings

Unit: mm

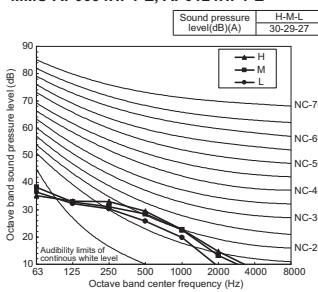


## 4-WAY CASSETTE

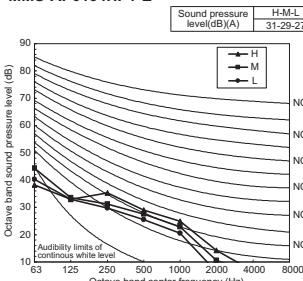
## Sound pressure levels

Unit: dB(A)

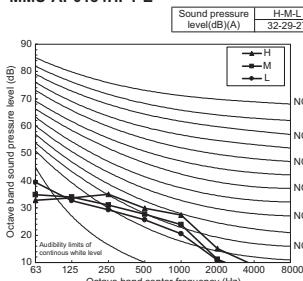
MMU-AP0094HP1-E, AP0124HP1-E



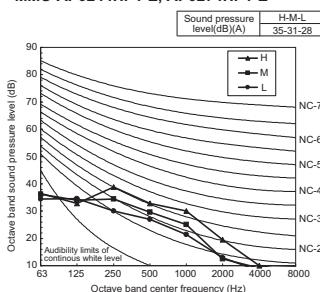
MMU-AP0154HP1-E



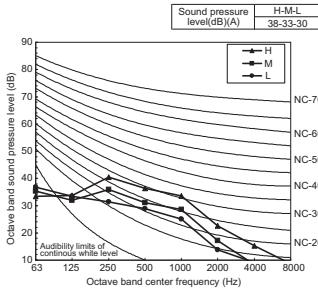
MMU-AP0184HP1-E



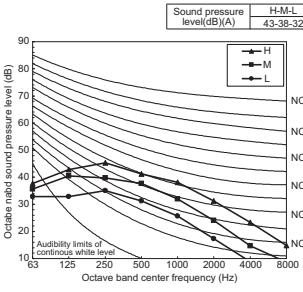
MMU-AP0244HP1-E, AP0274HP1-E



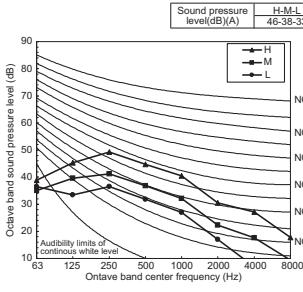
MMU-AP0304HP1-E



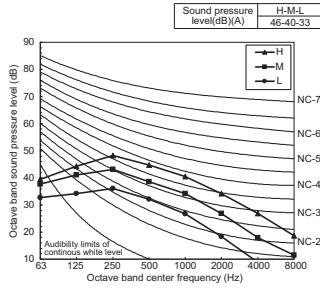
MMU-AP0364HP1-E



MMU-AP0484HP1-E



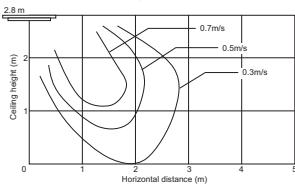
MMU-AP0564HP1-E



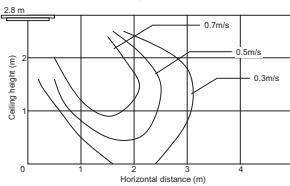
## Air diffusion

Unit: m/s

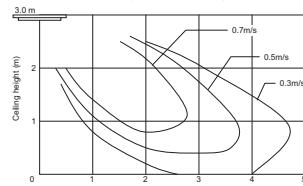
MMU-AP0094HP1-E, AP0124HP1-E



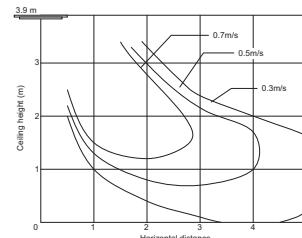
MMU-AP0154HP1-E, AP0184HP1-E



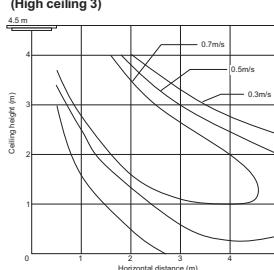
MMU-AP0244HP1-E, AP0274HP1-E, AP0304HP1-E



MMU-AP0364HP1-E



MMU-AP0364HP1-E, AP0484HP1-E, AP0564HP1-E (High ceiling 3)



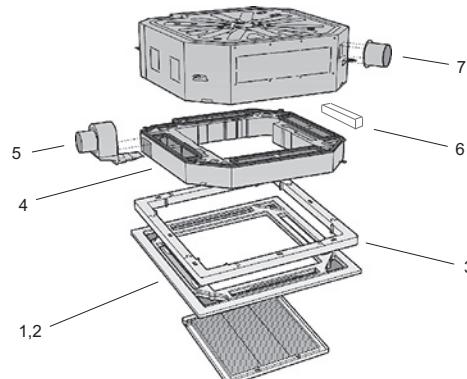
## Accessories

No	Type	Model name	Qty/unit	Note
1	Ceiling Panel (Wide-flow louver)	RBC-U31PGP(W)-E	1	White (Munsell: 2.5GY9.0/0.5)
2	Ceiling Panel (Straight louver)	RBC-U31PGS(W)-E*	1	White (Munsell: 2.5GY9.0/0.5)
3	Spacer for height adjustment	TCB-SP1602UE	1	50 mm
4	Fresh air chamber	TCB-GFC1602UE	1	Use with TCB-GB1602U
5	Fresh air intake box	TCB-GB1602UE	1	Connection-Dia. 100 mm fresh air intake ratio: Up to 20%
6	Air discharge direction kit	TCB-BC1602UE	1	6-direction patterns
7	Auxiliary fresh air flange	TCB-FF101URE2	1	Connection-Dia. 100 mm fresh air intake ratio: Up to 5%

\* European market only

## 4-way cassette connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*



# MMU-AP\_WH1

## 2-WAY CASSETTE



Slim, compact and lightweight, the 2-Way Cassette has been designed to fit easily and discretely into any room interior.

CAPACITY	SOUND PRESSURE LEVEL
0.8HP < 6HP	30dB(A)

## OUTDOOR UNITS COMPATIBILITY



## LOCAL CONTROLS

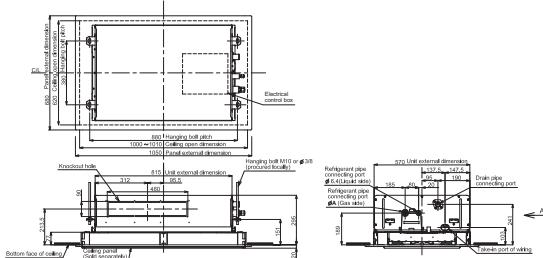


## Features

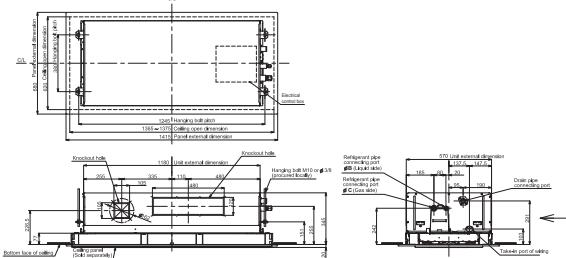
Model name	MMU-	AP0072WH1	AP0092WH1	AP0122WH1	AP0152WH1	AP0182WH1	AP0242WH1	AP0272WH1	AP0302WH1	AP0362WH1	AP0482WH1	AP0562WH1	
Capacity code	HP	0.8	1	1.3	1.7	2	2.5	3	3.2	4	5	6	
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0	
Heating capacity	kW	2.5	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	16.0	18.0	
Electrical characteristics		Power supply 1 phase 50Hz 220-240V / 1 phase 60Hz 220V (Separate power supply for indoor units is required.)											
Running current	50 Hz	A	0.23	0.23	0.23	0.24	0.32	0.39	0.39	0.46	0.48	0.57	0.75
Power consumption H/L	kW	0.029 / 0.026	0.029 / 0.026	0.029 / 0.026	0.03 / 0.026	0.044 / 0.037	0.054 / 0.045	0.054 / 0.045	0.064 / 0.062	0.073 / 0.60	0.088 / 0.07	0.117 / 0.089	
Starting current	A	0.35	0.35	0.35	0.36	0.48	0.59	0.59	0.69	0.72	0.86	1.13	
Appearance		Main unit Heat-insulating material attached Zinc hot dipping steel plate											
Ceiling panel	Model	RBC-UW283PG(W)-E	RBC-UW803PG(W)-E	RBC-UW1403PG(W)-E									
	Panel colour	Moon white_(Munsell 2.5GY9.0/0.5)											
Outer dimensions		Main unit HxLxP mm	295x815x570				345x1180x570			345x1600x570			
Ceiling panel	HxLxP mm		20x1050x680				20x1415x680			20x1835x680			
Total weight		Main unit kg	19	19	19	19	26	26	26	36	36	36	
	Ceiling panel kg	10	10	10	10	10	14	14	14	14	14	14	
Heat exchanger							Finned tube						
Soundproof / Heat-insulating material							Non-flammable insulation						
Fan unit		Fan		Turbo fan			Centrifugal fan						
Standard air flow (High/Mid/Low)	m³/h	558 / 498 / 450		600/534/450	900/750/618	1050 / 840 / 738	1260/900/780	1740/1434/1182	1800/1482/1230	2040/1578/1320			
Motor output	W		20		30	40	50		70				
Sound pressure level (High/Mid/Low)	dB(A)	34 / 32 / 30		35 / 33 / 30	38 / 35 / 33	40/37/34	42/39/36	43/40/37	46/42/39				
Sound power level (High)	dB(A)	49		50	53	55	57	58	61				
Air filter				Standard filter (Long life filter)									
Controller				Infrared or wired remote controller									
Connecting pipe		Gas pipe inch	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"	
	Liquid pipe inch	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	
	Drain port (Nominal dia.)	mm				25 (Polyvinyl chloride tube)							

## Drawings

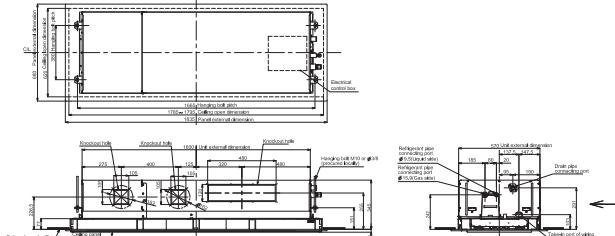
MMU-AP0072WH1 to MMU-AP0152WH1



MMU-AP0182WH1 to MMU-AP0302WH1



MMU-AP0362WH1 to MMU-AP0562WH1



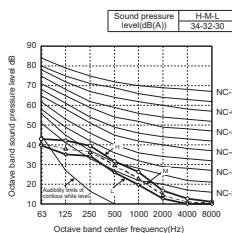
Unit: mm

## 2-WAY CASSETTE

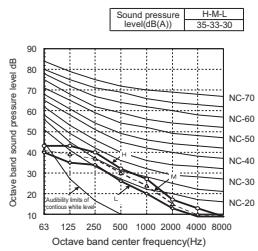
## Sound pressure levels

Unit: dB(A)

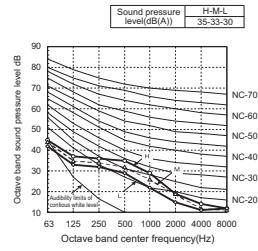
MMU-AP0072WH1, AP0092WH1, 0122WH1



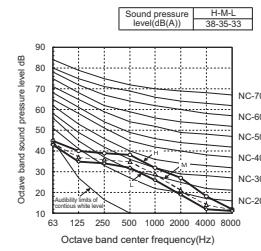
MMU-AP152WH1



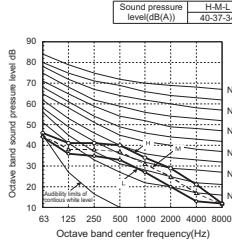
MMU-AP182WH1



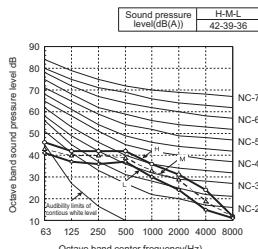
MMU-AP0242WH1, AP0272WH1



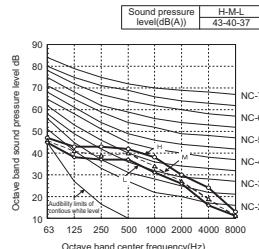
MMU-AP302WH1



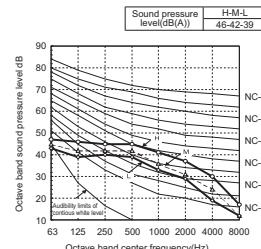
MMU-AP362WH1



MMU-AP482WH1



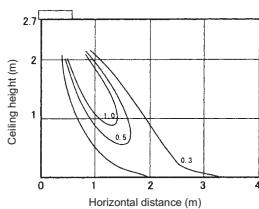
MMU-AP562WH1



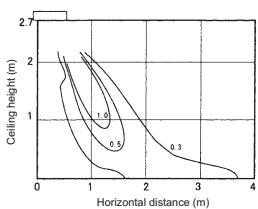
## Air diffusion

Unit: m/s

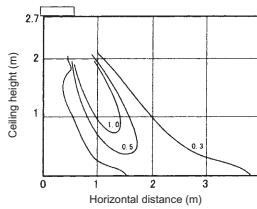
MMU-AP0072WH1, AP0092WH1, AP0122WH1, AP0152WH1



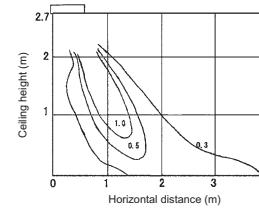
MMU-AP182WH1



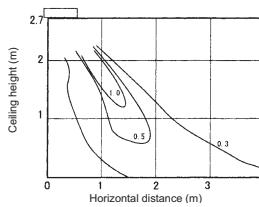
MMU-AP242WH1, AP0272WH1



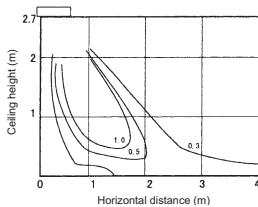
MMU-AP302WH1



MMU-AP0362WH1, AP0482WH1

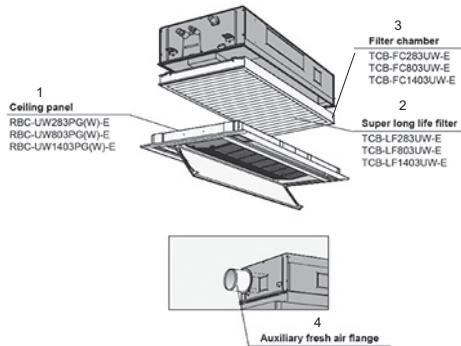


MMU-AP362WH1



## Accessories

No	Part name	Model name	Applied model	Notes	Remarks
1	Ceiling panel	RBC-UW283PG(W)-E	MMU-AP0072 to 0152WH1	Required accessory	
		RBC-UW803PG(W)-E	MMU-AP0182 to 0302WH1		
		RBC-UW1403PG(W)-E	MMU-AP0362 to 0562WH1		
2	Super long life filter	TBC-LF283UW-E	MMU-AP0072 to 0152WH1	Dust collecting effect: 50% (Weight method)	Use with TBC-FC283UW-E RBC-UW283PG(W)-E RBC-UW803PG(W)-E RBC-UW1403PG(W)-E
		TBC-LF803UW-E	MMU-AP0182 to 0302WH1		
		TBC-LF1403UW-E	MMU-AP0362 to 0562WH1		
3	Filter chamber	TBC-FC283UW-E	MMU-AP0072 to 0152WH1	For super long life filter	
		TBC-FC803UW-E	MMU-AP0182 to 0302WH1		
		TBC-FC1403UW-E	MMU-AP0362 to 0562WH1		
4	Auxiliary fresh air flange	TBC-FF151US-E	MMU-AP0072 to 0562WH1	For fresh air intake by using the knockout hole of indoor unit.	



## 2-way cassette connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*



Toshiba's innovative slim-line 1-Way Cassette is simple to install and suitable for small areas, such as hotels, offices and reception rooms.

CAPACITY

SOUND PRESSURE LEVEL

**0.8 HP < 2.5 HP**

**34dB(A)**



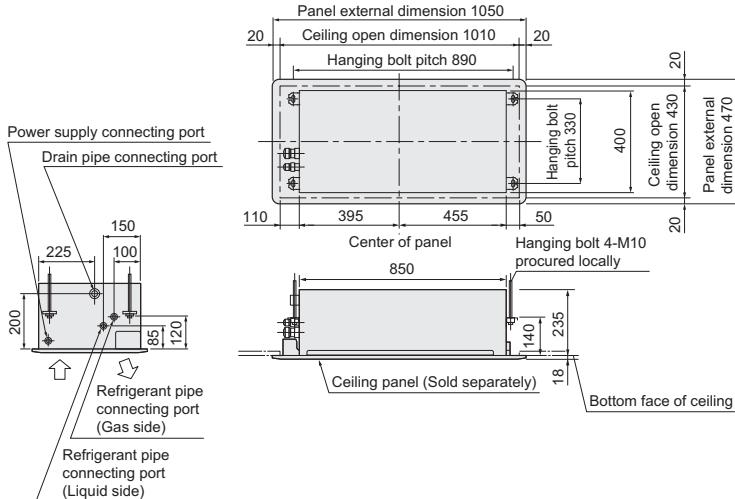
## Features

Model name	MMU-	AP0074YH1-E	AP0094YH1-E	AP0124YH1-E	AP0154SH1-E	AP0184SH1-E	AP0244SH1-E
Capacity code	HP	0.8	1	1.3	1.7	2	2.5
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1
Heating capacity	kW	2.5	3.2	4	5	6.3	8
Electrical characteristics	Power supply	1 phase 50Hz 220-240V / 1 phase 60Hz 220V (Separate power supply for indoor units is required.)					
	Running current	50 Hz 60 Hz	A	0.24 0.26	0.34 0.35	0.37 0.39	0.62 0.62
	Power consumption	H/L	kW	0.053 - 0.056 / 0.043 - 0.046	0.042 - 0.041 / 0.037 - 0.036	0.046 - 0.045 / 0.041 - 0.04	0.075 - 0.073 / 0.056 - 0.054
	Starting current		A	0.60 / 0.60	0.51 / 0.53	0.54 / 0.54	0.80 / 0.80
	Appearance	Main unit	Heat-insulating material attached Zinc hot dipping steel plate				
Ceiling panel	Model	RBC-UY135PG				RBC-US21PGE	
Panel colour	Moon white (Munsell 2.5GY9.0/0.5)						
Outer dimensions	Main unit	HxLxP	mm	235x850x400			200x1000x710
	Ceiling panel	HxLxP	mm	18x1050x470			20x1230x800
Total weight	Main unit		kg	22			21
	Ceiling panel		kg	3.5			5.5
Heat exchanger	Finned tube						
Sound proof / Heat-insulating material		Non-flammable insulation			Polyethylene foam + Expanded polyethylene		
Fan unit	Fan	Centrifugal fan					
	Standard air flow (High/Mid./Low)	m³/h	540 / 480 / 420			750 / 690 / 630	780 / 720 / 660
	Motor output	W	22			30	
Sound pressure level (High/Mid/Low)	dB(A)	42 / 39 / 34			37 / 35 / 32	38 / 36 / 34	45 / 41 / 37
Sound power level (High)	dB(A)	57			52	53	60
Air filter		Standard filter (Long life filter)					
Controller		Infrared or wired remote controller					
Connecting pipe	Gas pipe	inch	3/8"	3/8"	3/8"	1/2"	1/2"
	Liquid pipe	inch	1/4"	1/4"	1/4"	1/4"	1/4"
	Drain port (Nominal dia.)	mm		25 (Polyvinyl chloride tube)			

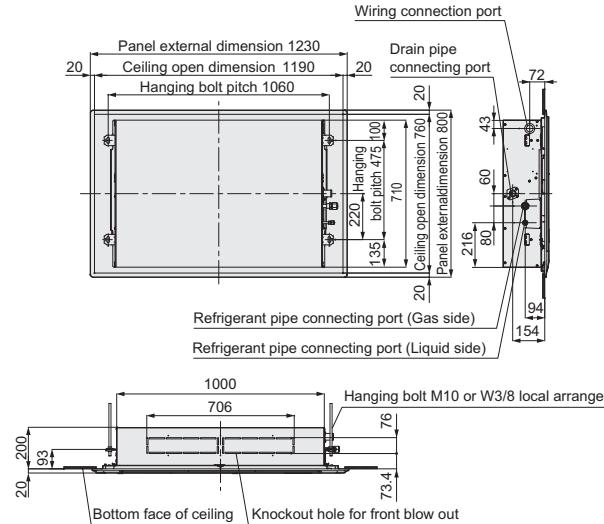
## Drawings

Unit: mm

**MMU-AP0074YH1-E to MMU-AP0124YH1-E**



MMU-AP0154SH1-E to MMU-AP0244SH1-E

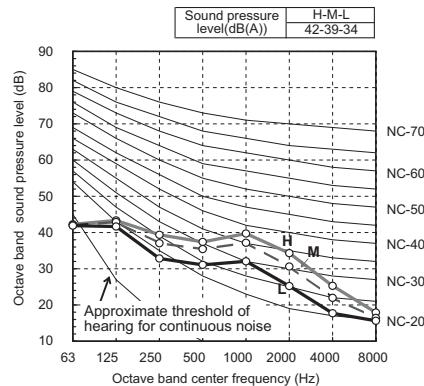


## 1-WAY CASSETTE

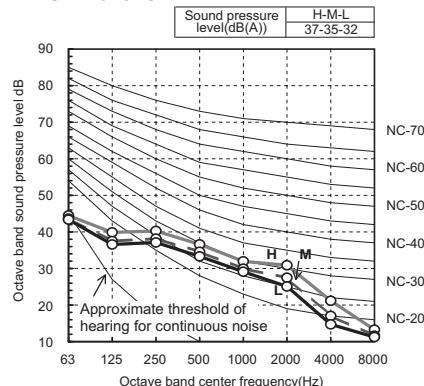
## Sound pressure levels

Unit: dB(A)

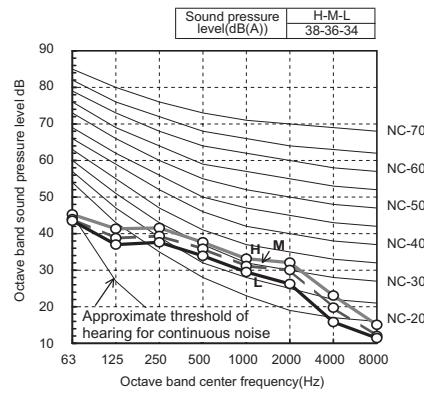
MMU-AP0074YH1-E to MMU-AP0124YH1-E



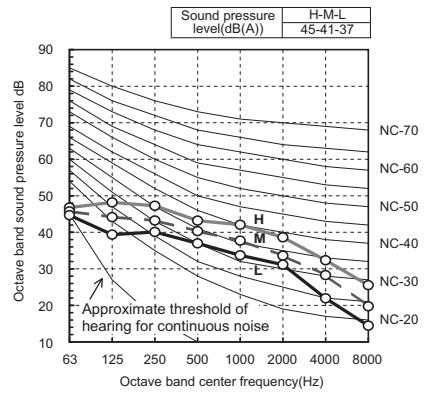
MMU-AP0154SH1-E



MMU-AP184SH1-E

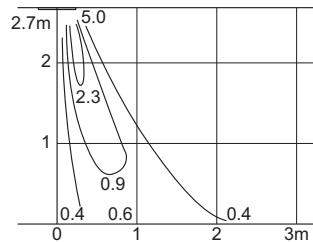


MMU-AP244SH1-E

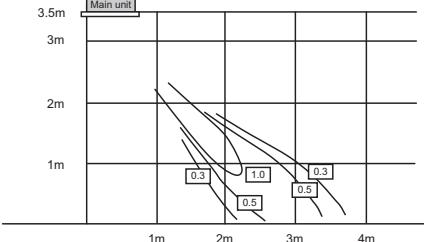


## Air diffusion

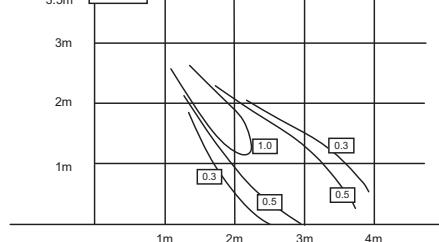
MMU-AP0074YH1-E to MMU-AP0124YH1-E



MMU-AP154SH1-E, AP0184SH1-E

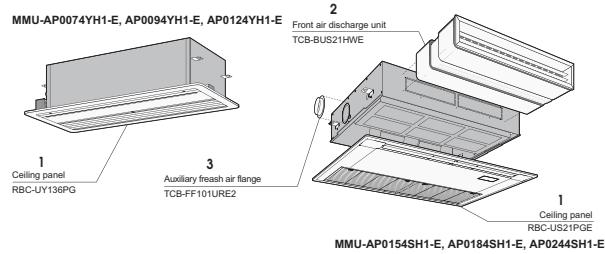


MMU-AP244SH1-E



## Accessories

No	Part name	Model name	Applied model	Note	Remarks
1	Ceiling panel	RBC-UY136PG	MMU-AP____YH1-E	Required accessory	
		RBC-US21PGE		Required accessory	
2	Front air discharge unit	TCB-BUS21HWE	MMU-AP____SH1-E		
				For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	
3	Auxiliary fresh air flange	TCB-FF101URE2			



## 1-way cassette connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*

# MMD-AP\_BHP1

## STANDARD DUCT



Whatever the shape of the room, this flexible model ensures a uniform temperature and air distribution for optimal end user comfort.

CAPACITY	SOUND PRESSURE LEVEL
0.8HP < 6HP	23dB(A)

### OUTDOOR UNITS COMPATIBILITY



### LOCAL CONTROLS



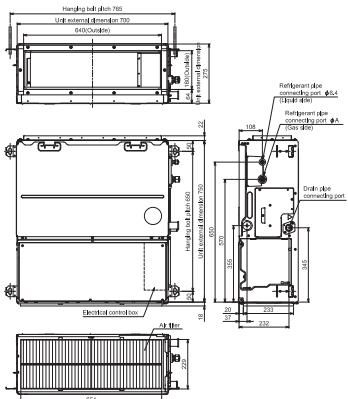
## Features

Model name	MMD-	AP0076BHP1	AP0096BHP1	AP0126BHP1	AP0156BHP1	AP0186BHP1	AP0246BHP1	AP0276BHP1	AP0306BHP1	AP0366BHP1	AP0486BHP1	AP0566BHP1	
Capacity code	HP	0.8	1	1.3	1.7	2	2.5	3	3.2	4	5	6	
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0	
Heating capacity	kW	2.5	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	16.0	18.0	
Electrical characteristics		Power supply 1 phase 50 Hz 220-240 V / 1 phase 60 Hz 220 V (Separate power supply for indoor units is required.)											
Electrical characteristics	Running current	50 Hz A	0.26	0.29	0.42	0.52	0.61	0.61	0.64	0.64	0.72	0.72	
	60 Hz A	0.27	0.31	0.44	0.55	0.55	0.64	0.64	0.72	0.72	0.75	0.75	
Fan unit	Power consumption	H/L kW	0.038 / 0.025	0.043 / 0.025	0.062 / 0.029	0.077 / 0.029	0.094 / 0.032	0.172 / 0.065	0.198 / 0.075	0.198 / 0.075	0.235 / 0.105	0.235 / 0.105	
	Starting current	A	0.45 / 0.47	0.50 / 0.54	0.73 / 0.76	0.90 / 0.95	1.06 / 1.11	1.85 / 1.94	2.13 / 2.23	2.13 / 2.23	2.45 / 1.25	2.45 / 1.25	
Appearance		Zinc hot dipping steel plate											
Dimensions	HxLxP mm	275x700x750											
Total weight	kg	23											
Heat exchanger	Finned tube												
Soundproof / Heat-insulating material		Polyethylene foam											
Fan unit	Fan	Centrifugal fan											
	Standard air flow (High / Mid. / Low) m³/h	540 / 450 / 360	570 / 480 / 390	798 / 660 / 540	1200 / 990 / 870	1260 / 1110 / 930	1920 / 1620 / 1380	2100 / 1740 / 1500	2100 / 1740 / 1500	2100 / 1740 / 1500	2100 / 1740 / 1500	2100 / 1740 / 1500	2100 / 1740 / 1500
Connecting pipe	Motor output W	150											
	External static pressure Pa	30 - 40 - 50 - 65 - 80 - 100 - 120 (7 steps)											
Connecting pipe	Factory setting Pa	30											
	Sound pressure level (High / Mid. / Low) dB(A)	29 / 26 / 23	30 / 26 / 23	33 / 29 / 25	36 / 31 / 27	36 / 31 / 27	36 / 31 / 27	36 / 31 / 27	40 / 36 / 33	40 / 36 / 33	40 / 36 / 33	40 / 36 / 33	40 / 36 / 33
Sound power level (High)	dB(A)	51	52	55	58	58	58	58	63	63	63	63	63
Air filter	Long life filter												
Controller	Remote controller												
Connecting pipe	Gas side inch	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
	Liquid side inch	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Connecting pipe	Drain port (Nominal dia.) mm	25 (Polyvinyl chloride tube)											

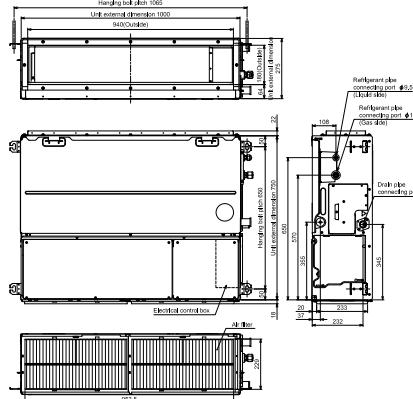
## Drawings

Unit: mm

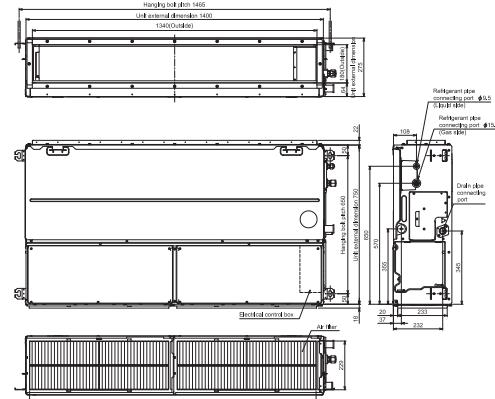
MMD-AP0076BHP1-E to MMD-AP0186BHP1-E



MMD-AP246BHP1-E to MMD-AP306BHP1-E



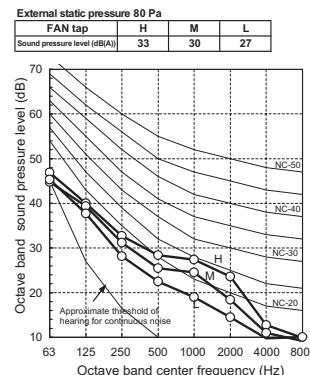
MMD-AP306BHP1-E to MMD-AP0566BHP1-E



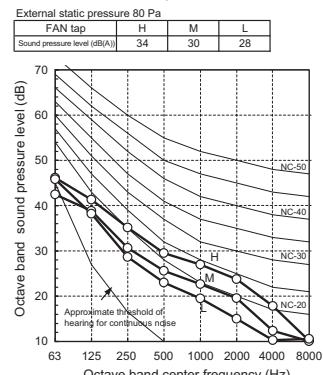
## STANDARD DUCT

## Sound pressure levels

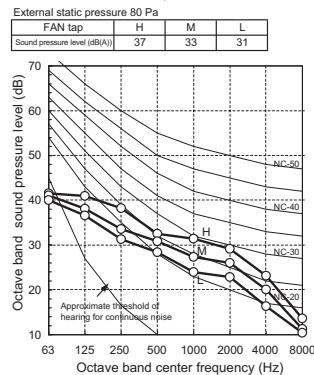
## MMD-AP0076BHP1-E



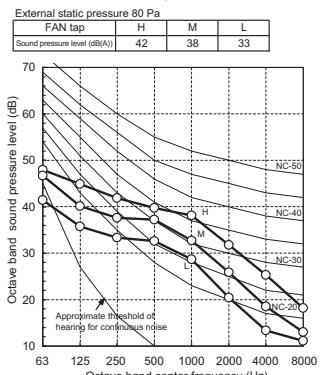
## MMD-AP0096BHP1-E, MMD-AP0126BHP1-E



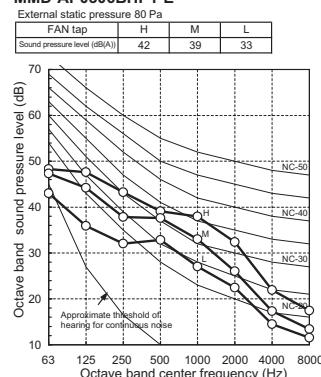
## MMD-AP0156BHP1-E, MMD-AP0186BHP1-E



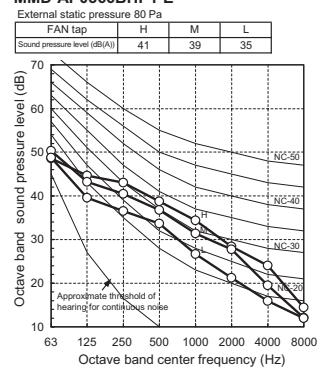
## MMD-AP0246BHP1-E, MMD-AP0276BHP1-E



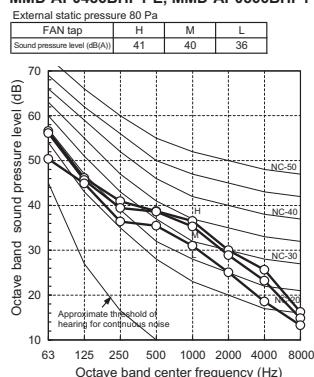
## MMD-AP0306BHP1-E



## MMD-AP0366BHP1-E



## MMD-AP0486BHP1-E, MMD-AP0566BHP1-E



## Accessories

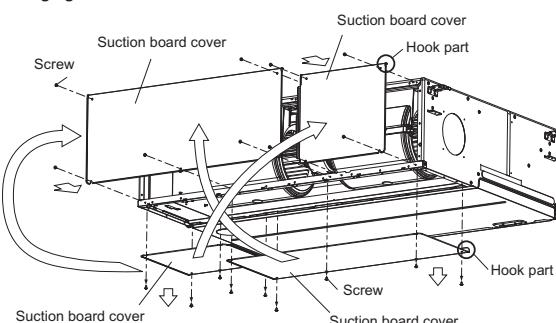
Type	Model name	Applied model	Appearance	Remarks
Spigot shaped flange	TCB-SF56C6BE	MMD-AP0076/0096/0126/0156/0186BHP1-E		263x694x175mm / Spigot diameter 200mm
	TCB-SF80C6BE	MMD-AP0246/0276/0306BHP1-E		263x994x175mm / Spigot diameter 200mm
	TCB-SF160C6BE	MMD-AP0366/0486/0566BHP1-E		263x1394x175mm / Spigot diameter 200mm

## Standard duct connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*

## Installation flexibility

## Changing from back air intake to under air intake



# MMD-AP\_SPH1

## SLIM DUCT



Whether installed in a ceiling void or in a false ceiling, Toshiba Slim Duct offers the ultimate technology, with exceptional energy savings, high performance and easy installation.

CAPACITY	SOUND PRESSURE LEVEL
0.6 HP < 3 HP	24dB(A)

OUTDOOR UNITS	LOCAL CONTROLS
 Side Blow & Mini SMMS-e	 TCB-AX32E2
 SHRM-e	 RBC-AMS55-E(EN) RBC-AMS41E RBC-AMT32E RBC-ASC11E

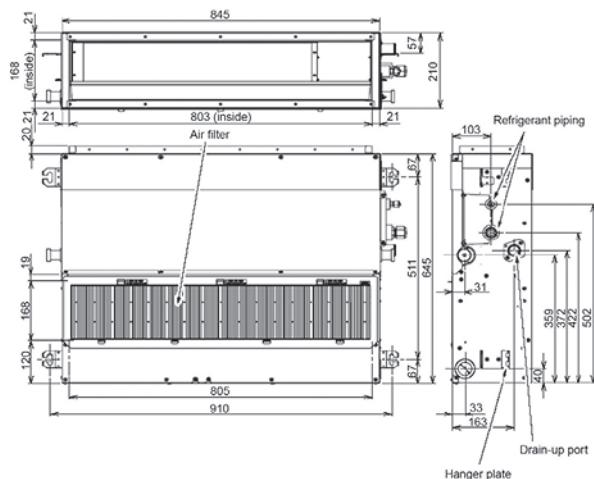
### Features

Model name	MMD-	AP0054SPH1-E	AP0074SPH1-E	AP0094SPH1-E	AP0124SPH1-E	AP0154SPH1-E	AP0184SPH1-E	AP0244SPH1-E	AP0274SPH1-E
Capacity code	HP	0.5	0.8	1	1.3	1.5	2	2.5	3
Cooling Capacity	kW	1.7	2.2	2.8	3.6	4.5	5.6	7.1	8
Heating capacity	kW	1.9	2.5	3.2	4	5	6.3	8	9
Electrical characteristics	Power supply				1 phase 50 Hz 220-240 V				
	Running current 50 Hz	A	0.29	0.29	0.29	0.31	0.32	0.39	0.75
	Power consumption H/L		0.039 / 0.030	0.039 / 0.032	0.039 / 0.32	0.043 / 0.035	0.045 / 0.036	0.054 - 0.043	0.105 / -
	Starting current	A	0.51	0.51	0.51	0.54	0.56	0.68	1.13
Appearance					Zinc hot dipping steel plate				
Outer dimensions	HxLxP mm				210x845x645			210x1140x645	
Total weight	kg	21	21	21	21	22	22	29	29
Heat exchanger					Finned tube				
Soundproof / Heat-insulating material					Polyethylene foam + Polyurethane foam				
Fan unit	Fan				Centrifugal fan				
	Standard air flow (High/Mid./Low)	m³/h	435/400/370	540/470/400	600/520/450	690/600/520	780/680/580	1080/1000/900	
	Motor output	W			60			120	
External static pressure		Pa	6 (Factory default) -16-31-46		5 (Factory default) -15-30-45		4 (Factory default) -14-29-44	2-12-22-42 (Factory default)	
	Air filter pressure loss	Pa		4		5	6	8	
Sound pressure level (High/Mid./Low)	Under air intake	dB(A)	35/33/30	36/33/30	38/35/32	39/36/33	40/38/36	49/47/44	
	Back air intake	dB(A)	27/26/24	28/26/24	29/27/25	32/30/28	33/31/29	38/36/33	
Sound power level (High)	dB(A)	48	51	53	54	55	56	64	
Air filter				Long life filter					
Controller				Infrared or wired remote controller					
Connecting pipe	Gas pipe	inch	3/8"	3/8"	3/8"	3/8"	1/2"	1/é"	5/8"
	Liquid pipe	inch	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"
	Drain pipe (Outside dia.)	mm			25 (Polyvinyl chloride tube: External dia.32 Internal dia.25)				3/8"

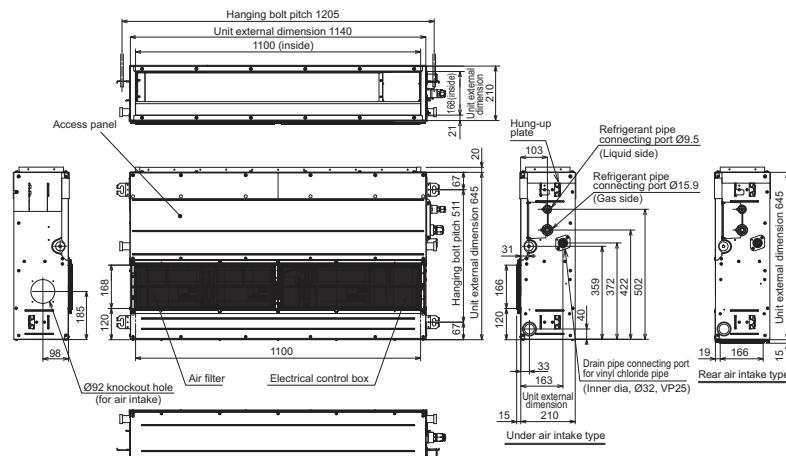
### Drawings

Unit: mm

MMD-AP0054SPH1-E to MMD-AP0184SPH1-E



MMD-AP0244SPH1-E &amp; AP0274SPH1-E



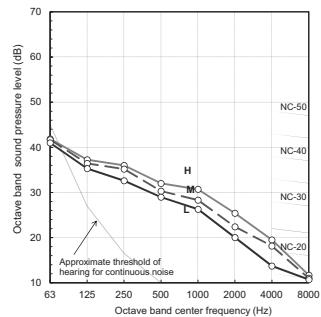
## SLIM DUCT

## Sound pressure levels

Unit: dB(A)

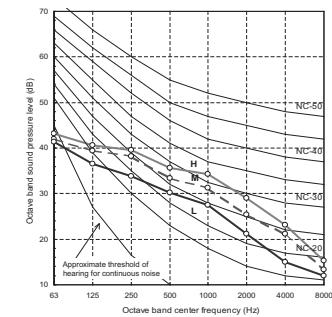
MMD-AP0056SPSH1-E

Fan tap	H	M	L
Sound pressure level (dB(A))	35	33	31



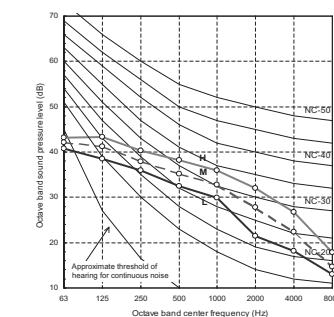
MMD-AP0074SPH1-E

Fan tap	H	M	L
Sound pressure level (dB(A))	37	34	31



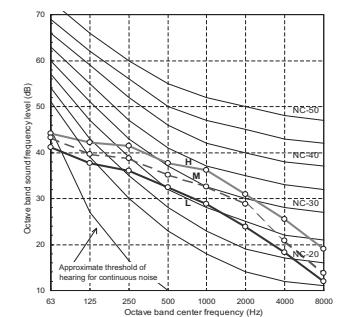
MMD-AP0124SPH1-E

Fan tap	H	M	L
Sound pressure level (dB(A))	39	36	33



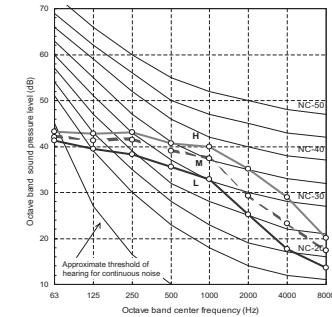
MMD-AP0154SPH1-E

Fan tap	H	M	L
Sound pressure level (dB(A))	40	37	34



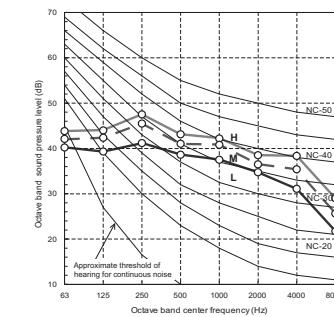
MMD-AP0184SPH1-E

Fan tap	H	M	L
Sound pressure level (dB(A))	42	40	37



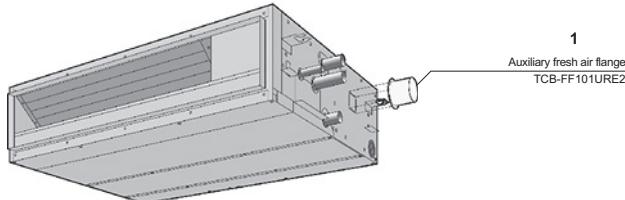
MMD-AP0244SPH1-E

Fan tap	H	M	L
Sound pressure level (dB(A))	47	45	42



## Accessories

No	Parts name	Model name	Applied model	Remarks
1	Auxiliary fresh air flange	TCB-FF101URE2	MMD-AP_4SPH1-E	For fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)

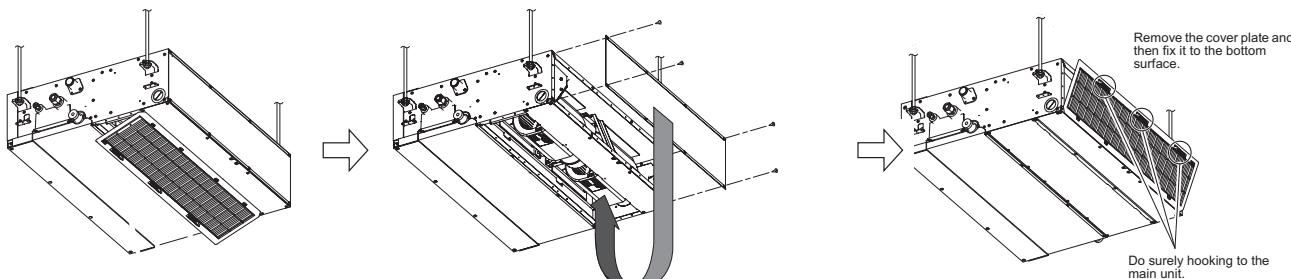


## Slim duct connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*

## Installation flexibility

Change from under air intake to back air intake





MMD-AP\_HP

**HIGH STATIC PRESSURE DUCT**

This is Toshiba's most powerful ducted unit delivering air flows up to 4,800 m<sup>3</sup>/h with an external static pressure up to 250 Pa.

CAPACITY	SOUND PRESSURE LEVEL
2 HP < 10 HP	37dB(A)

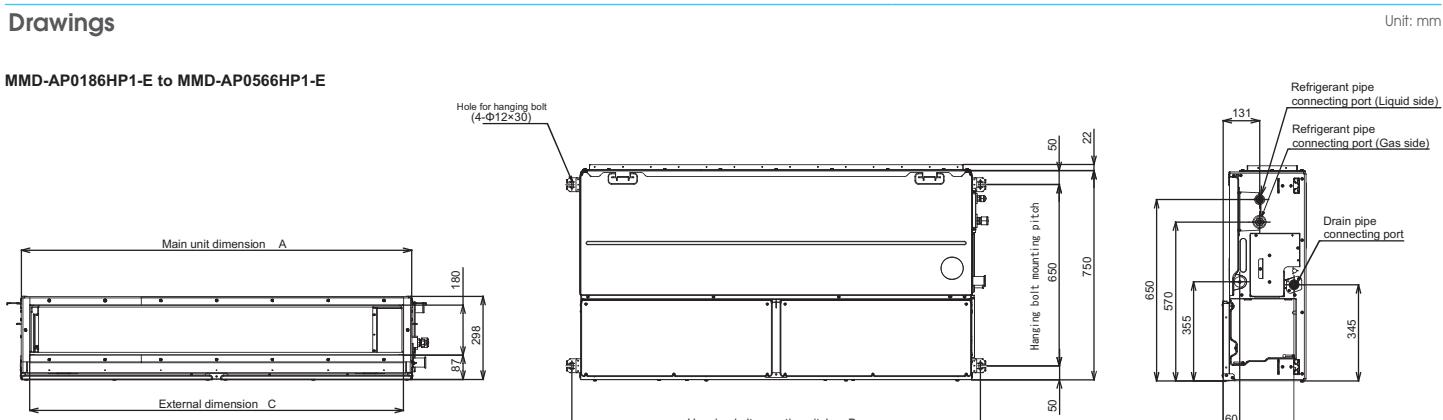
OUTDOOR UNITS COMPATIBILITY	LOCAL CONTROLS
 Side Blow & Mini SMMS-e	 TCB-AX32E2  RBC-AMS55E-ES(EN)  RBC-AMS41E  RBC-AMT32E  RBC-ASC11E

**Features**

Model name	MMD-	AP0186HP1-E	AP0246HP1-E	AP0276HP1-E	AP0366HP1-E	AP0486HP1-E	AP0566HP1-E	AP0726HP-E	AP0966HP-E
Capacity code		2	2.5	3	4	5	6	8	10
Cooling capacity	kW	5.6	7.1	8	11.2	14	16	22.4	28
Heating capacity	kW	6.3	8	9	12.5	16	18	25	31.5
Electrical characteristics									
Power supply									
Running current (50/60Hz)									
A									
0.52/0.54									
Power consumption									
kW									
0.085 / 0.033									
0.115 / 0.045									
Starting current (50/60Hz)									
A									
0.78/0.81									
Appearance									
Dimensions									
HxLxP									
mm									
298x1000x750									
Total weight									
kg									
34									
Heat exchanger									
Finned tube									
Soundproof / Heat-insulating material									
Fan									
Centrifugal fan									
Standard air flow (Med./Low)									
m <sup>3</sup> /h									
800 (660/550)									
1,200 (970/800)									
1,920 (1560/1340)									
2,100 (1740/1420)									
2,400 (2040/1660)									
3 800 (3 200/2 500)									
4 800 (4 200/3 500)									
Fan unit									
Motor output									
W									
250									
Factory setting									
Pa									
100									
External static pressure									
Pa									
50-75-125-150-175-200 (7 steps)									
50-83-117-150-183-217-250 (7 steps)									
Sound pressure level (High/Med./Low)									
dB(A)									
37 (32/30)									
38 (34/31)									
41 (37/34)									
42 (40/35)									
45 (42/37)									
Sound power level (High/Med./Low)									
dB(A)									
60 (54/50)									
60 (55/51)									
62 (57/53)									
65 (62/54)									
68 (64/56)									
Controller									
Infrared or wired remote controller									
Air filter									
Sold separately (TCB-LK801D-E)									
Sold separately (TCB-LK1401D-E)									
Drain pump									
Included									
Connecting pipe									
Gas side									
inch									
1/2"									
5/8"									
5/8"									
5/8"									
5/8"									
7/8"									
7/8"									
Liquid side									
inch									
1/4"									
3/8"									
3/8"									
3/8"									
3/8"									
Drain port									
mm									
25 (Polyvinyl chloride tube)									

**Drawings**

Unit: mm

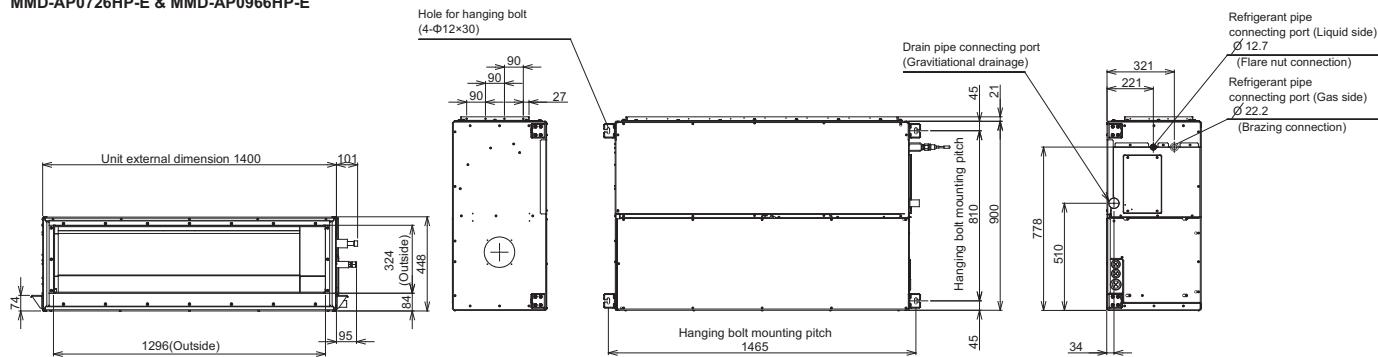


## **HIGH STATIC PRESSURE DUCT**

## Drawings

Unit: mm

MMD-AP0726HP-E & MMD-AP0966HP-E

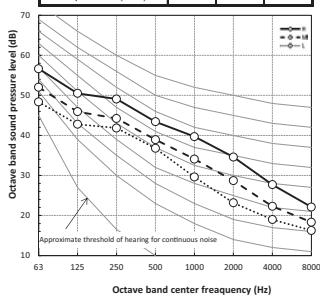


## Sound pressure levels

Unit: dB(A)

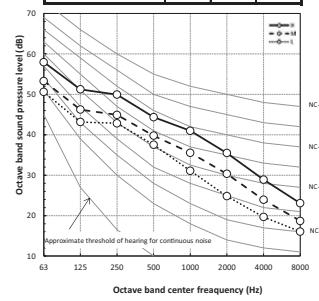
MMD-AP0186HP1-E

External static pressure 150Pa			
Fan tap	H	M	L
Sound pressure (dBA)	41.0	36.0	33.0



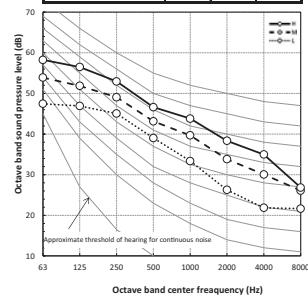
MMD-AP0246HP1-E, MMD-AP0276HP1-E

External static pressure 150Pa			
Fan tap	H	M	L
Sound pressure (dBA)	42.0	37.0	34.0



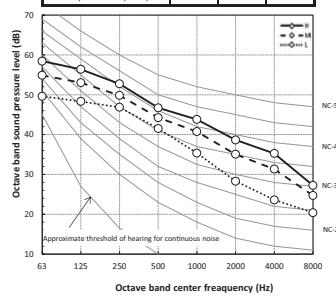
MMD-AP0366HP1-E

External static pressure 150Pa			
Fan tap	H	M	L
Sound pressure (dBA)	45.0	41.0	36.0



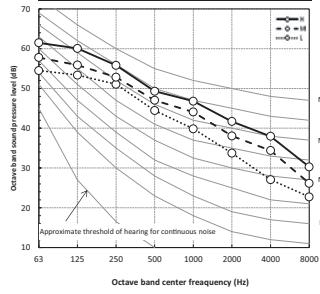
MMD-AP0486HP1-E

External static pressure 150Pa			
Fan tap	H	M	L
Sound pressure (dBA)	45.0	42.0	38.0



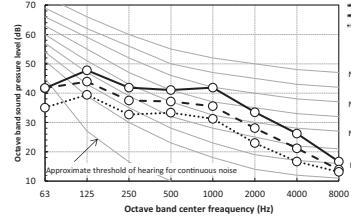
MMD-AP0566HP1-E

External static pressure 150Pa			
Fan tap	H	M	L
Sound pressure (dBA)	48.0	45.0	42.0



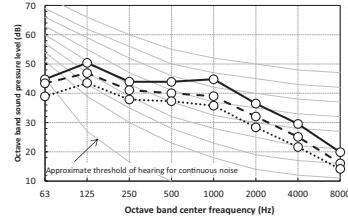
MMD-AP0726HP-E

External static pressure 150Pa



MMD-AP0966HP-E

External static pressure 150Pa



## Accessories

Type	Model name	Applied model	Appearance	Remarks
Spigot shaped flange	TCB-SF80C6BE	MMD-AP0186/0246/0276HP1-E		263x994x175mm / Spigot diameter 200mm
	TCB-SF160C6BE	MMD-AP0366/0486/0566HP1-E		263x1394x175mm / Spigot diameter 200mm
Long life filter kit	TCB-LK801D-E	MMD-AP0186/0246/0276HP1-E		Flange shaped Mount chassis directly Upside down mounting possible Left and right removable
	TCB-LK1401D-E	MMD-AP0366/0486/0586HP1-E		
	TCB-LK2801DP-E	MMD-AP0726/0966HP-E		
Auxiliary fresh air flange	TCB-FF151US-E	MMD-AP0186/0246/0276/0366/0486/0586HP1-E		
Drain pump kit	TCB-DP40DPE	MMD-AP0726/0966HP-E		

## HSP duct connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
Up to 6HP	•	•	•	•	•
8 & 10HP	•	TCB-PCUC2E pcb needed	•	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed



The simple, yet elegant design helps to create a pleasant and relaxing environment, quickly conditioning the room air to the desired temperature.

CAPACITY	SOUND PRESSURE LEVEL
1.7 HP > 6 HP	28 dB(A)

## OUTDOOR UNITS COMPATIBILITY



Side Blow &amp; Mini SMMS-e



SMMS-e



SHRM-e

## LOCAL CONTROLS

RBC-AX33CE  
TCB-AX32E2RBC-AMS55E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

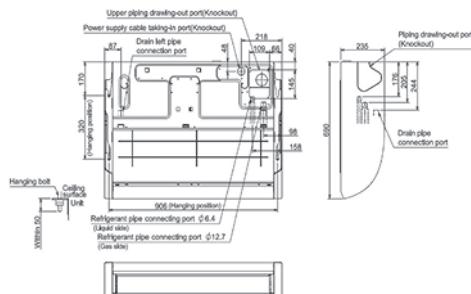
## Features

Model name	MMC-	AP0158HP-E	AP0188HP-E	AP0248HP-E	AP0278HP-E	AP0368HP-E	AP0488HP-E	AP0568HP-E
Capacity code	HP	1.7	2	2.5	3	4	5	6
Cooling capacity	kW	4.55	5.6	7.1	8	11.2	14	16
Heating capacity	kW	5	6.3	8	9	12.5	16	18
Electrical characteristics	Power supply	kW		1 phase 50Hz 230V (220-240V) / 1 phase 60Hz 220V				
	Running current (50/60 Hz)	A	0.36/0.37	0.37/0.38	0.65/0.67	0.65/0.67	0.77/0.80	0.77/0.80
	Power consumption H/L	kW	0.033/0.014	0.034/0.014	0.067/0.018	0.067/0.018	0.083/0.024	0.083/0.031
	Starting current (50/60 Hz)	A	0.54/0.55	0.55/0.57	0.97/1.00	0.97/1.00	1.16/1.20	1.16/1.20
Appearance				Pure White (Munsell N9.1)				
Dimensions	HxLxP	mm	235x950x690		235x1270x690		235x1586x690	
Total weight	kg		23		29		35	
Heat exchanger				Finned tube				
Soundproof/Heat-insulating material				Polyethylene foam				
Fan unit				Centrifugal fan (Sirocco fan)				
Standard air flow	High	m³/h	840	960	1440	1440	1860	1860
	Mid.	m³/h	690	720	1020	1020	1350	1530
	Low	m³/h	540	540	750	750	1020	1200
Motor output		W		94			139	
Sound pressure level (High/Mid/Low)	dBA	36/34/28	37/35/28	41/36/29	41/36/29	44/38/32	44/41/35	46/42/36
Sound power level (High)	dBA	51	52	56	56	59	59	61
Air filter				Long life filter				
Controller				Infrared or wired remote controller				
Connecting pipe	Gas side	inch	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"
	Liquid side	inch	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
	Drain port	mm			20 (Polyvinyl chloride tube)			

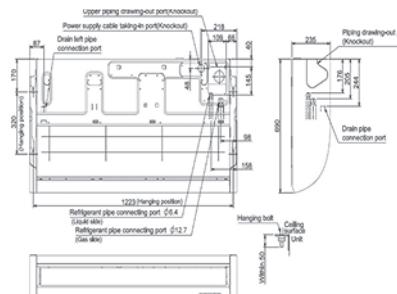
Unit: mm

## Drawings

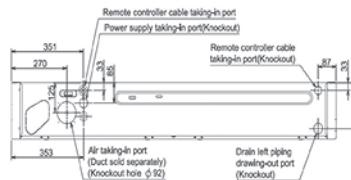
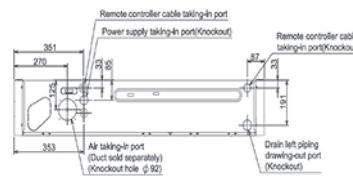
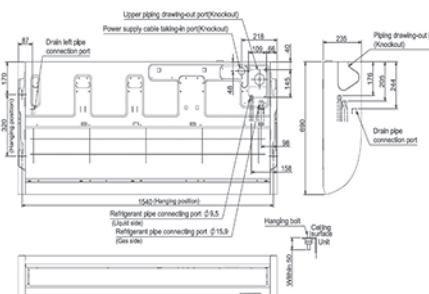
MMC-AP0158HP-E, MMC-AP0188HP-E



MMC-AP0248HP-E, MMC-AP0278HP-E



MMC-AP0368HP-E to MMC-AP0568HP-E

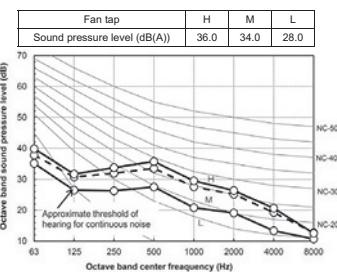


## UNDER CEILING

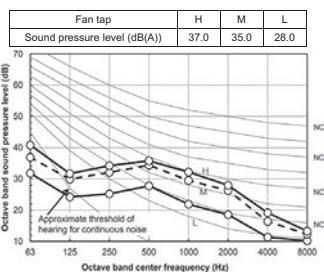
## Sound pressure levels

Unit: dB(A)

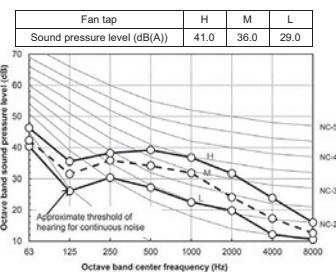
MMC-AP0158HP-E



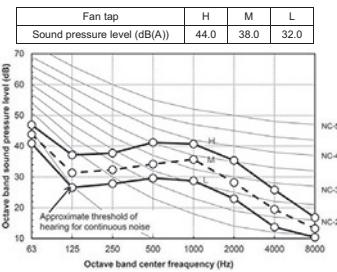
MMC-AP0188HP-E



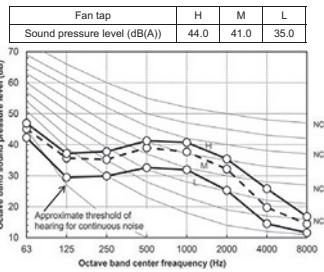
MMC-AP0248HP-E, AP0278HP-E



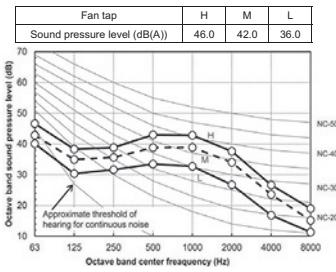
MMC-AP0368HP-E



MMC-AP0488HP-E

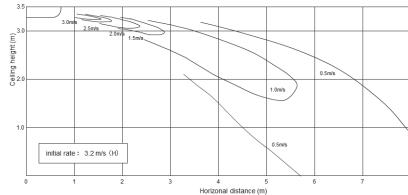
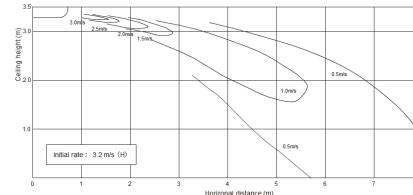
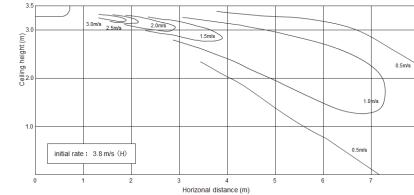
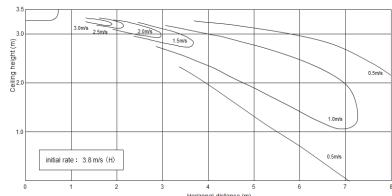
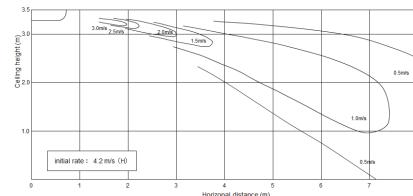


MMC-AP0568HP-E



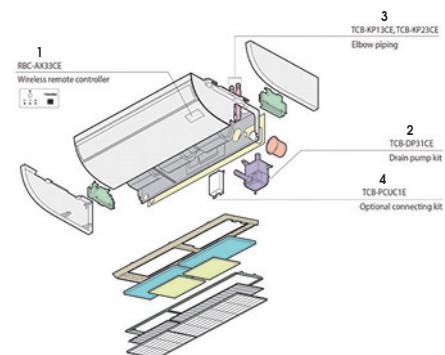
## Air diffusion

Unit: m/s

MMC-AP0158HP-E  
CoolingMMC-AP0188HP-E  
CoolingMMC-AP0248HP-E, AP0278HP-E  
CoolingMMC-AP0368HP-E, AP0488HP-E  
CoolingMMC-AP0568HP-E  
Cooling

## Accessories

No	Part name	Model name	Applied model	Feature	Remark
1	Wireless Remote Controller kit	RBC-AX33CE	MMC-AP0158 to 0568HP-E	-	
2	Drain pump kit	TCB-DP31CE	MMC-AP0158 to 0568HP-E	Antibacterial glass is built into drain pump kit	
3	Elbow piping kit	TCB-KP13CE	MMC-AP0158 to 0188HP-E	It is necessary for installation of drain pump kit	Use with TCB-DP31CE
		TCB-KP23CE	MMC-AP0248 to 0568HP-E		
4	Option connecting kit	TCB-PCUC2E	MMC-AP0158 to 0568HP-E	For external I/O signal without local relay preparation	



## Ceiling connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	TCB-PCUC2E pcb needed	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed

# MML-AP\_NH1

## BI-FLOW CONSOLE



Innovative and compact unit to be installed on the floor and in low wall applications, fits perfectly under the window sills or in a low ceiling attic.

CAPACITY	SOUND PRESSURE LEVEL
0.8 HP < 2 HP	26dB(A)

## OUTDOOR UNITS



Side Blow &amp; Mini SMMS-e



SMMS-e



SHRM-e

## LOCAL CONTROLS



IR control (included)

RBC-AMS55E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

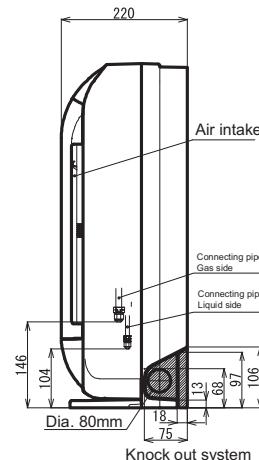
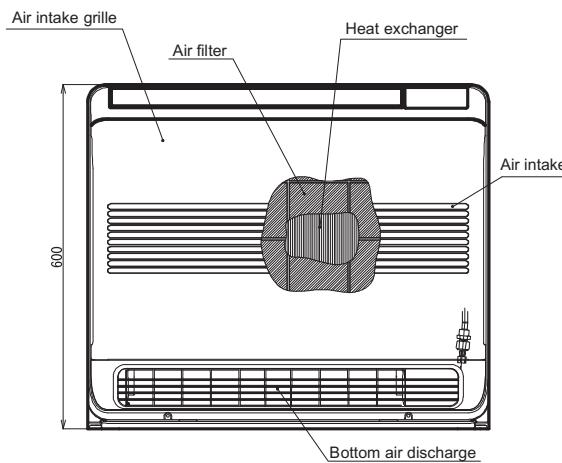
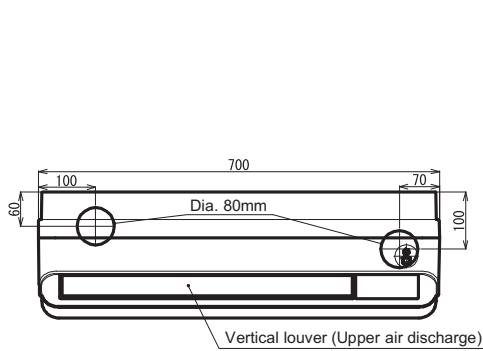
## Features

Model name	MML-	AP0074NH1-E	AP0094NH1-E	AP0124NH1-E	AP0154NH1-E	AP0184NH1-E
Capacity code	HP	0.8	1	1.3	1.5	2
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6
Heating capacity	kW	2.5	3.2	4	5	6.3
Electrical characteristics		Power supply 1 phase 50Hz 220-240V / 1 phase 60Hz 220V (separate power supply for indoor units is required.)				
Running current	50 Hz	A	0.20	0.23	0.29	0.42
	60 Hz		0.17	0.17	0.25	0.36
Power consumption	H/L kW	0.021/0.010	0.021/0.010	0.025/0.012	0.034/0.015	0.052/0.17
Starting current	A	0.26 / 0.22	0.26 / 0.22	0.30 / 0.25	0.38 / 0.33	0.55 / 0.47
Appearance		Air intake grille and side panel Moon white (Munsell : 2.5GY 9.0/0.5)				
Discharge grille		Moon white (Munsell : 2.5GY 9.0/0.5)				
Bottom surface		Moon white (Munsell : 2.5GY 9.0/0.5)				
Dimensions	HxLxP mm		600x700x220			
Weight	kg		17			
Heat exchanger			Finned tube			
Soundproof / Heat-insulating material			Foamed polystyrene, Polyethylene			
Fan			Turbo fan			
Motor output (W)			41			
Air flow	High (m³/h)	510	510	552	624	726
	Mid. (m³/h)	366	366	408	468	528
	Low (m³/h)	282	282	324	384	426
Sound pressure level (High/Mid./Low)	dB(A)	38 / 32 / 26	38 / 32 / 26	40 / 34 / 29	43 / 37 / 31	47 / 40 / 34
Sound power level (High)	dB(A)	53	53	55	58	62
Air filter			Standard filter attached			
Controller			Infrared (remote delivered with indoor unit) or wired remote controller			
Connecting pipe	Gas side	inch	3/8"	3/8"	1/2"	1/2"
	Liquid side	inch	1/4"	1/4"	1/4"	1/4"
Drain port (Nominal dia.)		mm	16 (Polypropylene tube)			

## Drawings

Unit: mm

## All models

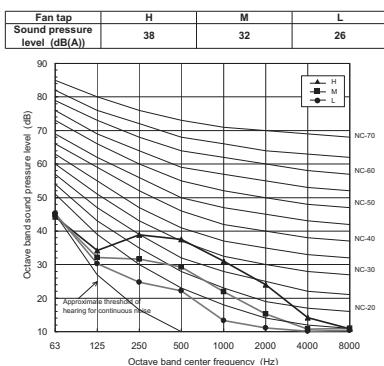


## BI-FLOW CONSOLE

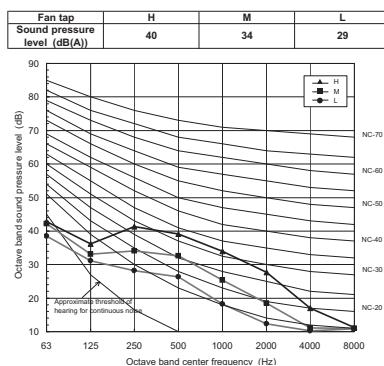
## Sound pressure levels

Unit: dB(A)

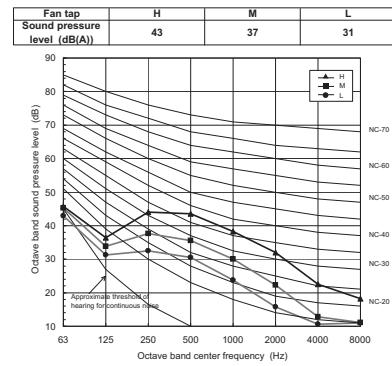
MML-AP0074NH1-E/AP0094NH1-E



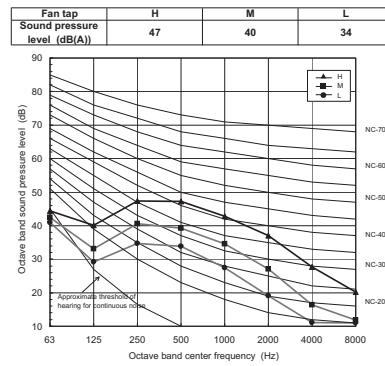
MML-AP0124NH1-E



MML-AP0154NH1-E



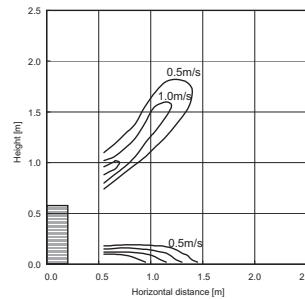
MML-AP0184NH1-E



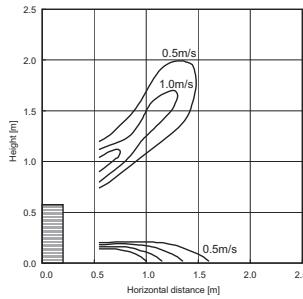
## Air diffusion

MML-AP0074NH1-E, AP0094NH1-E

Cooling - Upper &amp; Lower

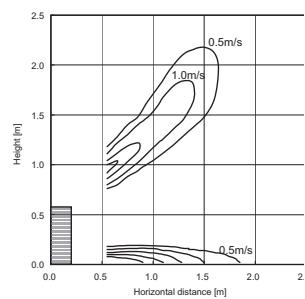


Heating - Upper &amp; Lower

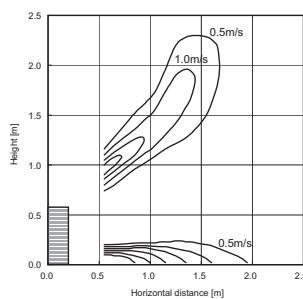


MML-AP0154NH1-E

Cooling - Upper &amp; Lower

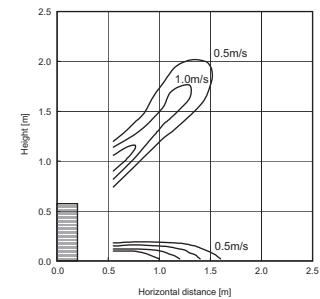


Heating - Upper &amp; Lower

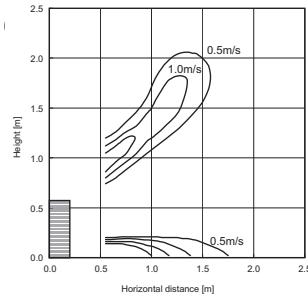


MML-AP0124NH1-E

Cooling - Upper &amp; Lower

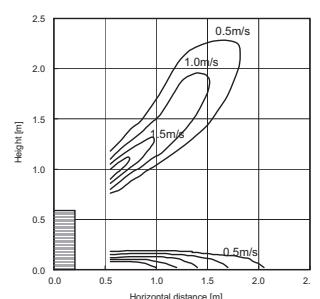


Heating - Upper &amp; Lower

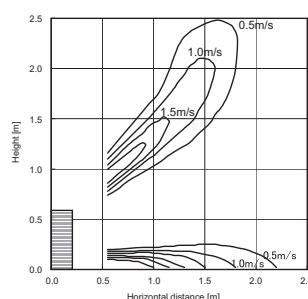


MML-AP0184NH1-E

Cooling - Upper &amp; Lower



Heating - Upper &amp; Lower



## Bi-flow console connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	-	-	*



The simple design of this unit represents the perfect choice, for refurbishment projects, where the available space is limited, or where neither the walls nor ceiling are able to house the unit.

CAPACITY	SOUND PRESSURE LEVEL
0.8 HP < 2.5 HP	35dB(A)

## OUTDOOR UNITS COMPATIBILITY

Side Blow  
& Mini SMMS-e

SMMS-e



SHRM-e

## LOCAL CONTROLS



TCB-AX32E2

RBC-AMS55E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

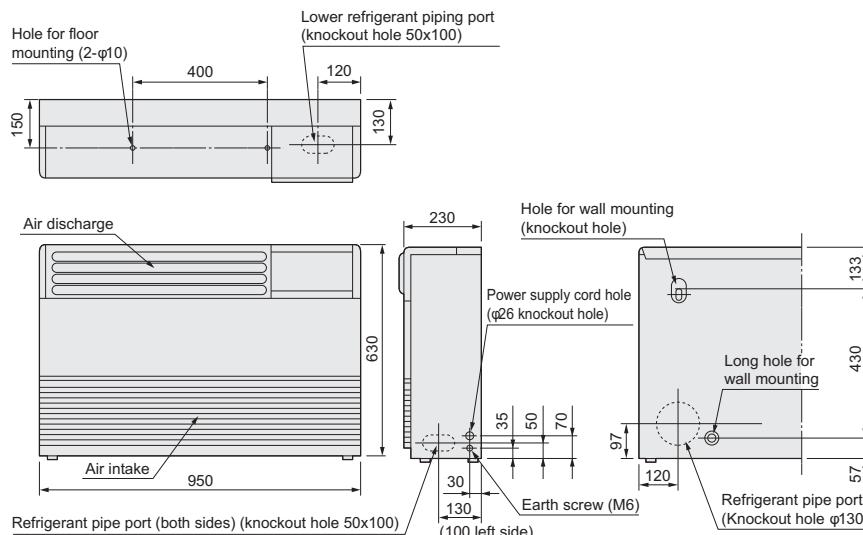
## Features

Model name	MML-	AP0074H1-E	AP0094H1-E	AP0124H1-E	AP0154H1-E	AP0184H1-E	AP0244H1-E	
Capacity code	HP	0.8	1	1.3	1.7	2	2.5	
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	
Heating capacity	kW	2.5	3.2	4	5	6.3	8	
Electrical characteristics		Power supply 1 phase 50Hz 220-240V / 1 phase 60Hz 220V (Separate power supply for indoor units is required.)						
Running current	50 Hz	A	0.26	0.43	0.47			
	60 Hz	A	0.25	0.44	0.53			
Power consumption	H/L kW		0.056 / 0.044	0.092 / 0.069	0.102 / 0.076			
Power factor	%		94 / 96	93 / 95	94 / 97			
Starting current	A		0.60	0.80	1.10			
Appearance		Silky shade (Munsell : 1Y8.5/0.5)						
Outer dimensions	HxLxP mm			630x950x230				
Total weight	kg		37		40			
Heat exchanger		Finned tube						
Soundproof/Heat-insulating material		Non-flammable insulation						
Fan unit	Fan			Centrifugal fan				
	Standard air flow (High/Mid./Low)	m <sup>3</sup> /h	480 / 420 / 360	900 / 780 / 650	1,080 / 930 / 780			
Sound pressure level (High/Mid./Low)	Motor output	W	45		70			
	dB(A)		39 / 37 / 35	45 / 41 / 38	49 / 44 / 39			
Sound power level (High)	dB(A)		54	60	64			
Air filter		Standard filter						
Controller		Infrared or wired remote controller						
Connecting pipe	Gas side	inch	3/8"	3/8"	1/2"	1/2"	5/8"	
	Liquid side	inch	1/4"	1/4"	1/4"	1/4"	3/8"	
Drain port (Nominal dia.)		mm		20 (Polyvinyl chloride tube)				

## Drawings

Unit: mm

## All models

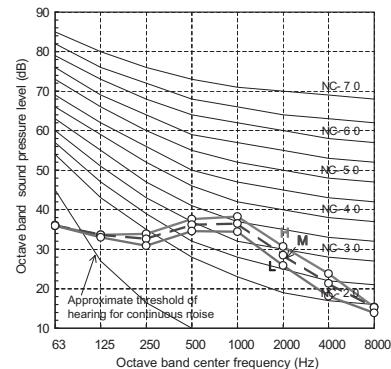


## Sound pressure levels

Unit: dB(A)

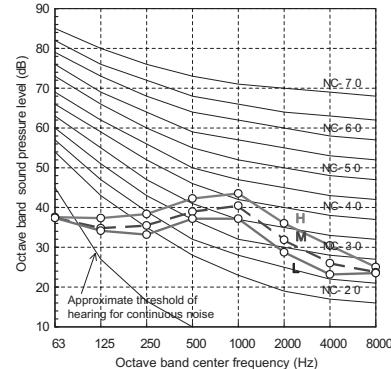
MML-AP0074H1-E, AP0094H1-E

Fan tap	H	M	L
Sound pressure level (dB(A))	39	37	35



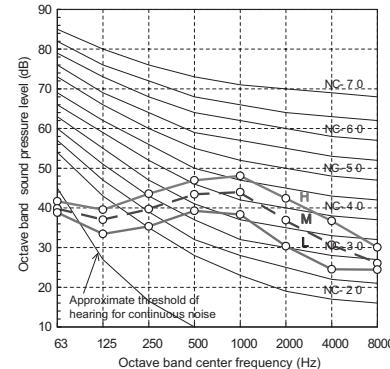
MML-AP0124H1-E, AP0154H1-E

Fan tap	H	M	L
Sound pressure level (dB(A))	45	41	38



MML-AP0184H1-E, AP0244H1-E

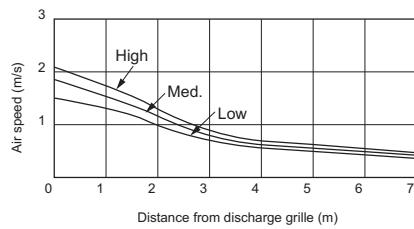
Fan tap	H	M	L
Sound pressure level (dB(A))	49	44	39



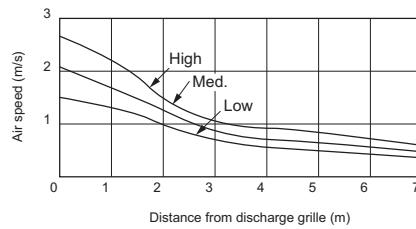
## Air diffusion

Unit: m/s

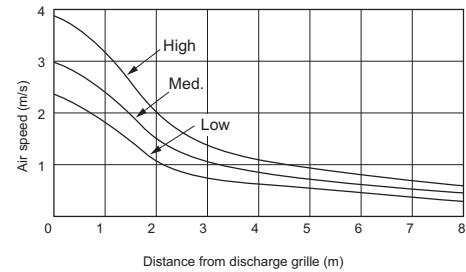
MML-AP0074H1-E, AP0094H1-E



MML-AP0124H1-E, AP0154H1-E



MML-AP0184H1-E, AP0244H1-E



## Console connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*



This slim unit is designed to easily fit into a compact space and to perfectly integrate itself behind a decorative panel. This is the ideal unobtrusive solution that blends into any interior

CAPACITY	SOUND PRESSURE LEVEL
 0.8 HP < 2.5 HP	 32dB(A)

## OUTDOOR UNITS COMPATIBILITY



Side Blow  
& MiNi SMMS-e



SMMS-1



SHRM-e

## LOCAL CONTROLS



TCB-AX32E2



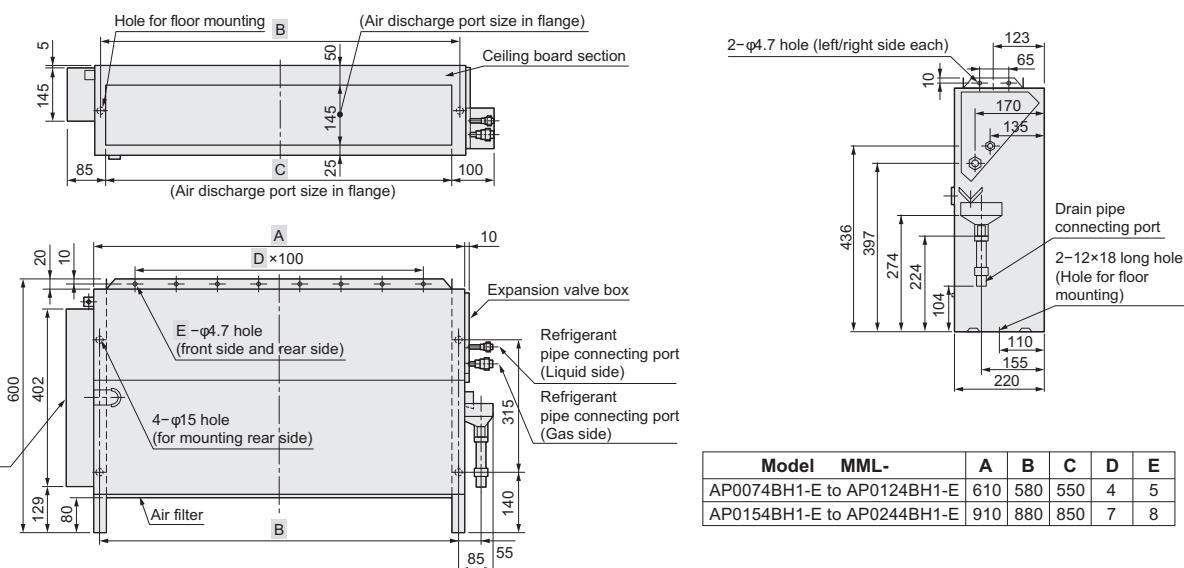
RBC-AMS55E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

## Features

Model name	MML-	AP0074BH1-E	AP0094BH1-E	AP0124BH1-E	AP0154BH1-E	AP0184BH1-E	AP0244BH1-E					
Capacity code	HP	0.8	1	1.3	1.7	2	2.5					
Cooling capacity	kW	2.2	2.8	3.8	4.5	5.6	7.1					
Heating capacity	kW	2.5	3.2	4	5	6.3	8					
Power supply		1 phase 50Hz 200-240V / 1 phase 60Hz 220V (separate power supply for indoor units is required.)										
Electrical characteristics	Running current	50 Hz 60 Hz	A	0.25 v0.27	0.45 0.46	0.46 0.51	0.46					
	Power consumption H/L	50 Hz 60 Hz	kW	0.056/0.039 0.058/0.041	0.090/0.062 0.096/0.068	0.095/0.067 0.110/0.071	0.095/0.067					
	Power factor	50 Hz 60 Hz		97 98	87 95	90 98	90					
	Starting current		A	0.60	0.80	0.80	1.00					
Appearance	Zinc hot dipping steel plate											
Dimensions	HxLxP	mm	600x745x220			600x1075x220						
Weight		kg	21			29						
Heat exchanger	Finned tube											
Soundproof/Heat-insulating material	Non-flammable insulation											
Fan unit	Fan		Centrifugal fan									
	Standard air flow (High/Mid./Low)	m³/h	460 / 400 / 300			740 / 600 / 490	950 / 790 / 640					
	Motor output	W	19			70						
	Static pressure	Pa	0									
Air filter	Standard filter											
Controller	Infrared or wired remote controller											
Connecting pipe	Gas side	inch	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"				
	Liquid side	inch	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"				
	Drain port (Nominal dia.)	mm	20 (One side of male screw)									
Sound pressure level (High/Mid./Low)		dB(A)	36 / 34/32			42 / 37/33						
Sound power level (High)		dB(A)	54			60						

## Drawings

Unit: mm

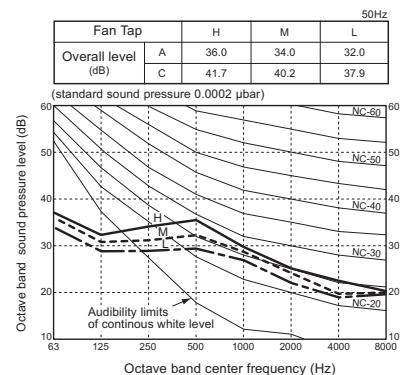


## CONCEALED CONSOLE

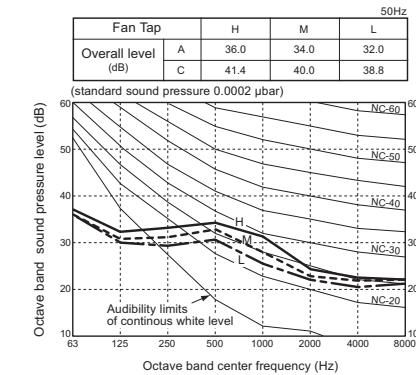
## Sound pressure levels

Unit: dB(A)

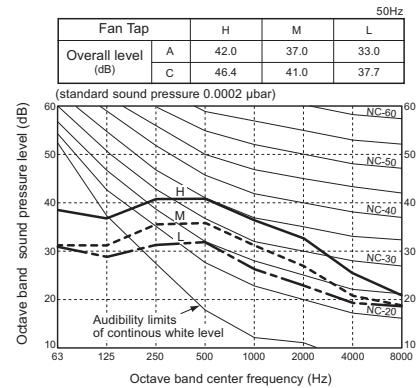
MML-AP0074BH1-E to MML-AP0124BH1-E



MML-AP0154BH1-E &amp; MML-AP0184BH1-E



MML-AP0244BH1-E



## Concealed chassis embedded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	*	*

&gt; IDU

# MMF-AP\_H1

## FLOOR STANDING



This system is particularly suitable to air condition large rooms like shops or showrooms or with low ceilings like restaurants or lofts.

CAPACITY	SOUND PRESSURE LEVEL
1.7 HP < 6 HP	37dB(A)

OUTDOOR UNITS COMPATIBILITY			LOCAL CONTROLS		
Side Blow & Mini SMMS-e	SMMS-e	SHRM-e	TCB-AX32E2	RBC-AMS41E	RBC-AMT32E
				RBC-ASC11E	RBC-AMS55E-ES(EN)

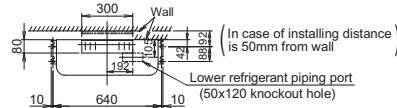
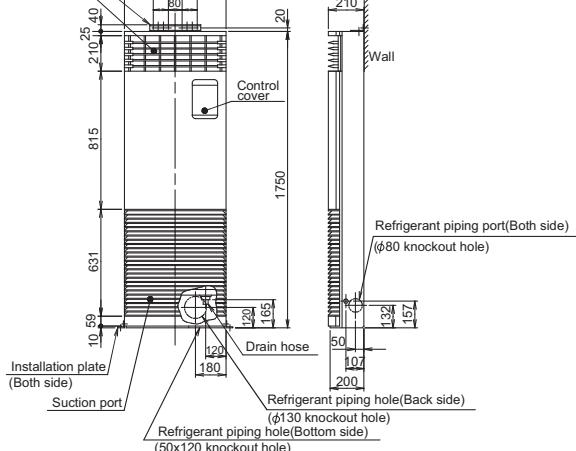
### Features

Model name	MMF-	AP0156H1-E	AP0186H1-E	AP0246H1-E	AP0276H1-E	AP0366H1-E	AP0486H1-E	AP0566H1-E	
Capacity code		1.7	2	2.5	3	4	5	6	
Cooling capacity	kW	4.5	4.6	7.1	8	11.2	14	16	
Heating capacity	kW	5	6.3	8	9	12.5	16	18	
Electrical characteristics		Power supply 1 phase 50Hz 220-240V / 1 phase 60Hz 220V (separate power supply for indoor units is required.)							
Running current	50 Hz 60 Hz	A	0.38 0.40	0.60 0.63	0.90 0.94	1.10 1.15			
Power consumption H/L	kW	0.055/0.026		0.089/0.034	0.135/0.052	0.160/0.074			
Starting current	50 Hz 60 Hz	A	0.53 0.56	0.84 0.88	1.26 1.32	1.54 1.61			
Appearance					Silky shade (Munsell: TY 8.5 / 8.0)				
Dimensions	HxLxP	mm	1750x600x210			1750x600x390			
Weight	kg	46		47		62			
Heat exchanger				Finned tube					
Soundproof/Heat-insulating material				Non-flammable insulation					
Fan unit	Fan Standard air flow (High/Mid./Low)	m³/h	900 / 780 / 660		1.200 / 990 / 840	1.920 / 1.620 / 1.380	2.160 / 1.730 / 1.560		
Air filter	Motor	W	62		62		109		
Controller				Standard filter					
Connecting pipe	Gas side Liquid side Drain port (Nominal dia.)	inch inch mm	1/2" 1/4" 20 (One side of male screw)	1/2" 1/4" 3/8"	1/2" 3/8" 3/8"	1/2" 3/8" 3/8"	1/2" 3/8" 3/8"		
Sound pressure level (High/Mid./Low)	dB(A)	46 / 42 / 37		49 / 45 / 39	51 / 46 / 41	54 / 49 / 44			
Sound power level (High)	dB(A)	64		67	69	72			

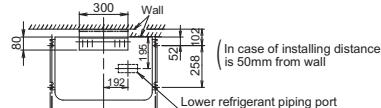
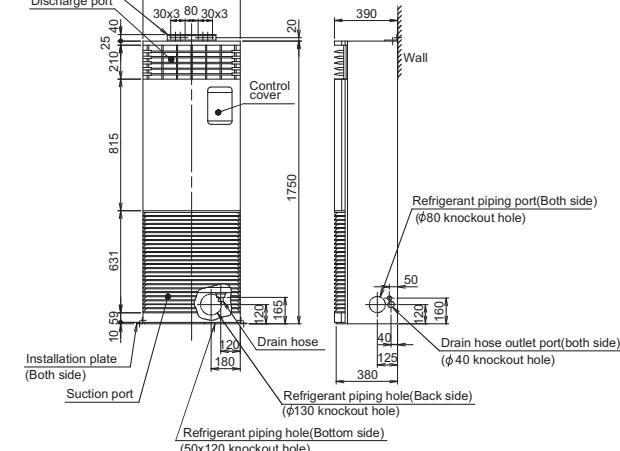
### Drawings

Unit: mm

MMF-AP0156H1-E to MMF-AP0276H1-E

Installation plate  
Discharge port

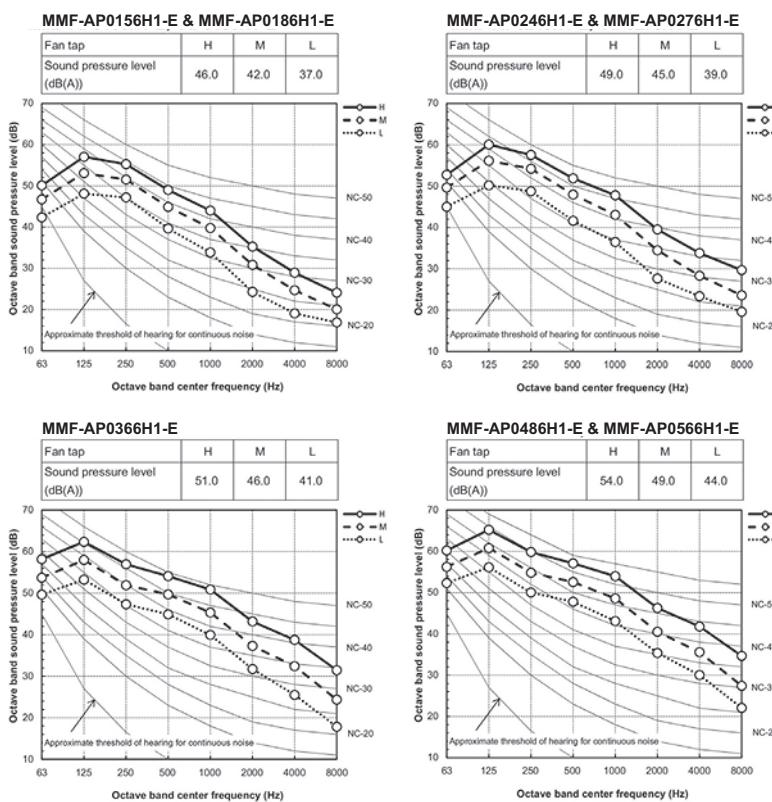
MMF-AP0366H1-E to MMF-AP0566H1-E

Installation plate  
Discharge port

## FLOOR STANDING

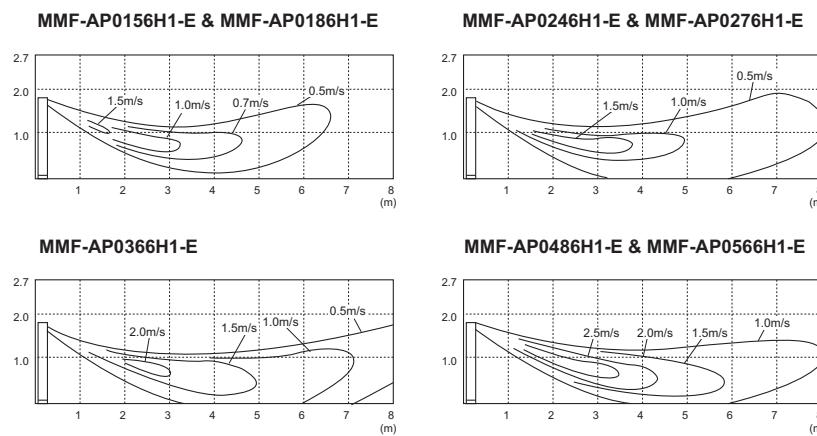
## Sound pressure levels

Unit: dB(A)



## Air diffusion

Unit: m/s



## Floor standing embedded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	TCB-PCUC2E pcb needed	*	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed	TCB-PCUC2E pcb needed



Particularly compact, this high-wall is perfect for limited spaces, such as offices or small shops.

CAPACITY	SOUND PRESSURE LEVEL
0.6 HP < 2.5 HP	25dB(A)

## OUTDOOR UNITS COMPATIBILITY



Side Blow &amp; Mini SMMS-e



SMMS-e



SHRM-e

## LOCAL CONTROLS



IR control (included)

RBC-AMS55E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E  
RBC-ASC11E

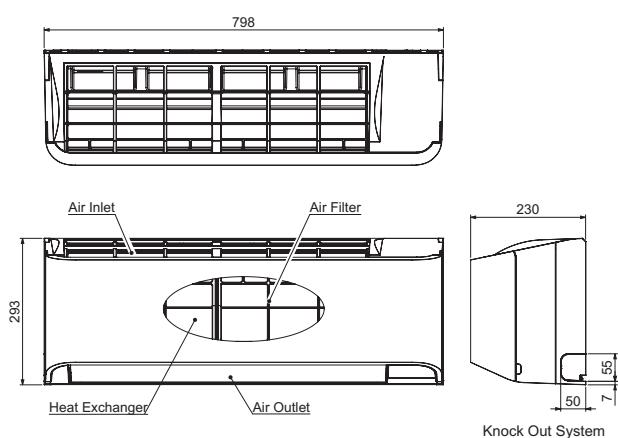
## Features

Model name	Standard application	MMK-AP0057HP-E	MMK-AP0077HP-E	MMK-AP0097HP-E	MMK-AP0127HP-E	MMK-AP0157HP-E	MMK-AP0187HP-E	MMK-AP0247HP-E
	Low noise applications	MMK-AP0057HP-E1	MMK-AP0077HP-E1	MMK-AP0097HP-E1	MMK-AP0127HP-E1	MMK-AP0157HP-E1	MMK-AP0187HP-E1	MMK-AP0247HP-E1
Capacity code		0.6	0.8	1	1.25	1.7	2	2.5
Cooling capacity	kW	1.7	2.2	2.8	3.6	4.5	5.6	7.1
Heating capacity	kW	1.9	2.5	3.2	4.0	5.0	6.3	8.0
Electrical characteristics	Power supply	1 phase / 50Hz / 230V(220V-240V). 1 phase / 60 Hz / 220V (separate power supply for indoor units is required.)						
	Running current	A	0.14	0.15	0.16	0.17	0.25	0.28
	Power consumption	kW	0.013	0.015	0.016	0.017	0.028	0.032
	Starting current	A	0.19	0.20	0.21	0.22	0.35	0.38
Dimensions	HxLxP	mm	293x798x230					320x1050x250
Weight	kg	11	16					
Air flow (H / M+ / M / L+ / L)	m³/h	455/370/270	480/385/270	510/395/270	540/410/270	840/770/690 /620/550	900/810/720 /640/550	1200/1050/900 /750/600
Sound pressure level (H / M+ / M / L+ / L)	dB(A)	33/29/25	35/30/25	36/31/25	37/32/25	40/38/36/34/32	41/39/37/35/32	45/42/39/36/33
Sound Power Level (H)	dB(A)	48	50	51	52	55	56	60
Heat exchanger		Finned tube						
Soundproof/Heat-insulating material		Non-flammable insulation						
Fan		Cross flow fan						
Controller (Packed with unit)		WH-TA09NE infrared remote						
Connecting pipe	Gas side	inch	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"
	Liquid side	inch	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"
Drain port diameter	mm	16 (Polyvinyl chloride tube)						

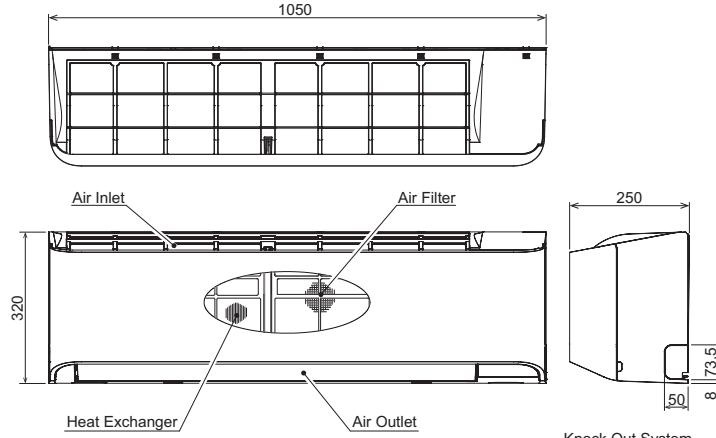
## Drawings

Unit: mm

MMK-AP0057HP-E(1) to MMK-AP0127HP-E(1)

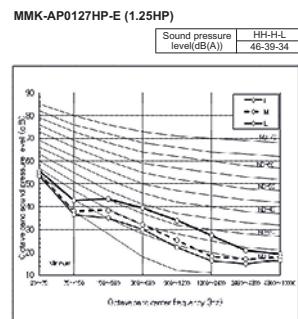
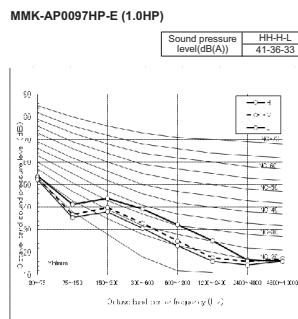
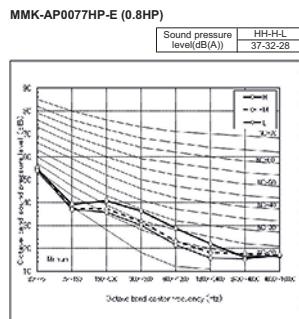
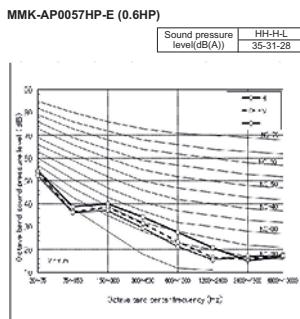


MMK-AP157HP-E(1) to MMK-AP0247HP-E(1)

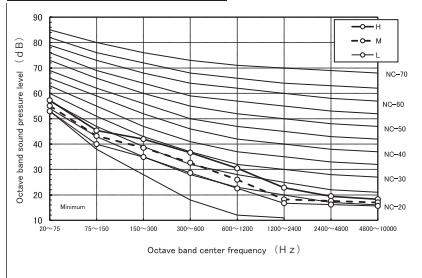


**HIGH-WALL****Sound pressure levels**

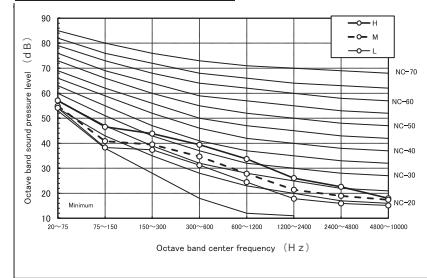
Unit: dB(A)

**MMK-AP0157HP-E/E1**

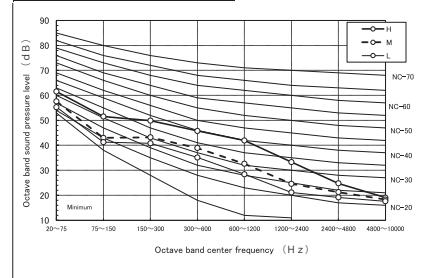
Cooling			
Specification (dB)	H	M	L
Fan tap	40	36	32
Sound pressure level (dB(A))			

**MMK-AP0187HP-E/E1**

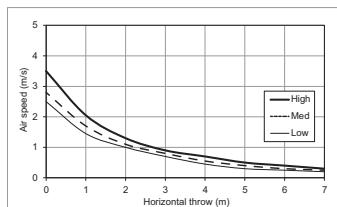
Cooling			
Specification (dB)	H	M	L
Fan tap	41	37	32
Sound pressure level (dB(A))			

**MMK-AP0247HP-E/E1**

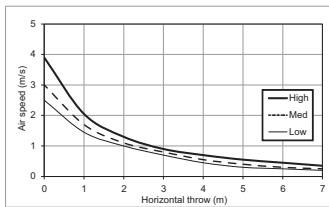
Cooling			
Specification (dB)	H	M	L
Fan tap	45	39	33
Sound pressure level (dB(A))			

**Air diffusion****MMK-AP0057HP-E/E1**

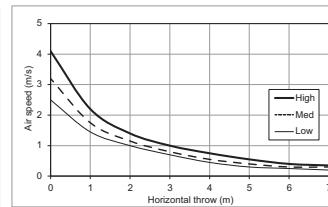
High wind : 3.8m/s  
Med wind : 2.8m/s  
Low wind : 2.5m/s

**MMK-AP0077HP-E/E1**

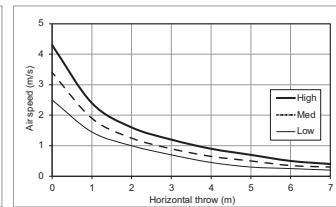
High wind : 3.9m/s  
Med wind : 3.0m/s  
Low wind : 2.5m/s

**MMK-AP0097HP-E/E1**

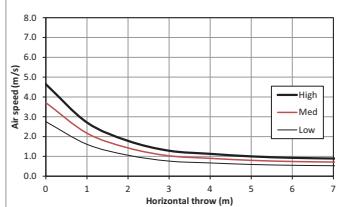
High wind : 4.1m/s  
Med wind : 3.2m/s  
Low wind : 2.5m/s

**MMK-AP0127HP-E/E1**

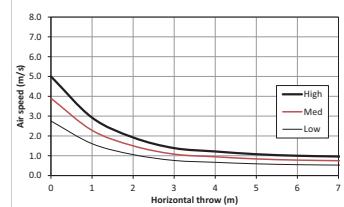
High wind : 4.3m/s  
Med wind : 3.4m/s  
Low wind : 2.5m/s

**MMK-AP0157HP-E/E1**

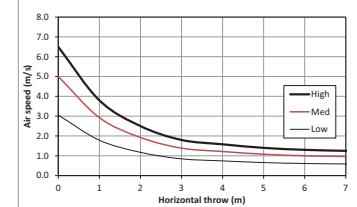
High wind : 4.6 m/s  
Med wind : 3.7 m/s  
Low wind : 2.8 m/s

**MMK-AP0187HP-E/E1**

High wind : 5.0 m/s  
Med wind : 3.9 m/s  
Low wind : 2.8 m/s

**MMK-AP0247HP-E/E1**

High wind : 6.5 m/s  
Med wind : 5.0 m/s  
Low wind : 3.1 m/s

**Accessories**

Type	Model name	Applied model	Appearance	Remarks
PMV Kit	RBM-PMV0303E	0.6 to 1.25HP high-wall		Needed for low noise application high wall
	RBM-PMV0903E	1.7 to 3.0HP high-wall		

**Floor standing embeded connectors**

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	-	-	*

VN-M-HE

## AIR-TO-AIR HEAT EXCHANGER



Toshiba's VN model uses exhaust air to pre-condition the incoming air, thus reducing the cooling or heating load on the system. This allows the overall capacity size of the system to be reduced.

AIR FLOW



SOUND PRESSURE LEVEL

150m<sup>3</sup>/h > 2,000m<sup>3</sup>/h

20dB(A)

## OUTDOOR UNITS

Side Blow  
& Mini SMMS-e

SMMS-e



SHRM-e

## LOCAL CONTROLS

NRC-01HE  
RBC-AMT32E

## Features

Item	Fan speed	VN-M150HE	VN-M250HE	VN-M350HE	VN-M500HE	VN-M650HE	VN-M800HE	VN-M1000HE1	VN-M1500HE1	VN-M2000HE1
Air volume (m <sup>3</sup> /h)	Extra high	150	250	350	500	650	800	1000	1500	2000
	High	150	250	350	500	650	800	1000	1500	2000
	Low	110	155	210	390	520	700	700	1200	1400
Power consumption (W)	Extra high	68-78	123-138	165-182	214-238	262-290	360-383	390	640	780
	High	59-67	99-111	135-145	176-192	240-258	339-353	340	570	680
	Low	42-47	52-59	82-88	128-142	178-191	286-300	190	320	380
External static pressure (Pa)	Extra high	82-102	80-98	114-125	134-150	91-107	142-158	105	140	105
	High	52-78	34-65	56-83	69-99	58-82	102-132	80	110	80
	Low	47-64	28-40	65-94	62-92	61-96	76-112	70	80	70
Sound pressure level (dB(A))	Extra high	26-28	29/5/30	34-35	32.5-34	34-36	37-38.5	38.0	41.0	41.5
	High	24-25.5	25-27	30-32	29/5/31	33-34	35.5-37	37.0	40.0	40.5
	Low	20-22	21-22	27-29	26-29	31-32.5	33.5-35	33.0	36.0	36.5
Sound power level (dB(A))	Extra high	41.0-43.0	44.5-45.0	49.0-50.0	47.5-49.0	49.0-51.0	52.0-53.5	53.0	56.0	56.5
Temperature exchange efficiency (%)	Extra high	81.5	78	74.5	76.5	75	76.5	73.5	76.5	73.5
	High	81.5	78	74.5	76.5	75	76.5	73.5	76.5	73.5
	Low	83	81.5	79.5	78	76.5	77.5	77.0	79.0	77.5
Enthalpy exchange efficiency (%)	For heating	Extra high	74.5	70	65	72	69.5	71	68.5	71.0
	High	74.5	70	65	72	69.5	71	68.5	71.0	68.5
	Low	76	74	71.5	73.5	71.5	71.5	71.5	73.5	72.0
For cooling	Extra high	69.5	65	60.5	64.5	61.5	64	60.5	64.0	60.5
	High	69.5	65	60.5	64.5	61.5	64	60.5	64.0	60.5
	Low	71	69	67	66.5	64	65.5	64.5	67.0	65.5
Power supply (V)						220-240V~, 50Hz				
Dimensions (LxWxH) (mm)		900 x 900 x 290			1140 x 1140 x 350		1189 x 1189 x 400		1189 x 1189 x 810	
Weight (kg)		36	36	38	53	53	70	70	126	126
Duct diameter (mm)		100	150		200		250		Inside: 250 Outside: 283x730	
Filtration efficiency grade (%)						82				
Operating range	Around unit					-10°C-40°C 80%RH or less				
	Outdoor Air (OA)					-15°C(*1)-43°C 80%RH or less				
	Return Air (RA)					5°C-40°C 80%RH or less				

\* Air volume can be changed over to high (Extra high) mode or low mode at both heat exchange and normal ventilation modes.

\* Sound power level is the value of casing.

\* Sound pressure level is measured 1.5 m below the center of the unit, and the value which was measured at the acoustic room.

\*1) When the temperature of the outdoor air is below -10°C, the unit runs cold operation mode (intermittent operation of the ventilation for air supply).

\* Sound pressure levels usually become higher than above values by the influence of actual installation condition such as reflected sound and peripheral noise.

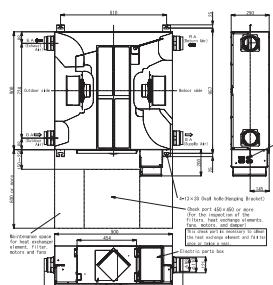
The unit cannot be used at -15°C or less.

The ventilator for air supply stops, and the ventilator for air exhaust also can be stopped by the setting.

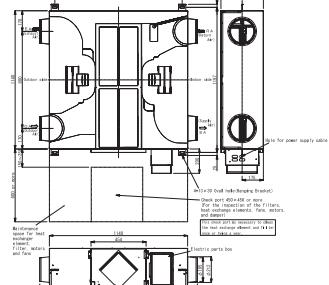
## Drawings

Unit: mm

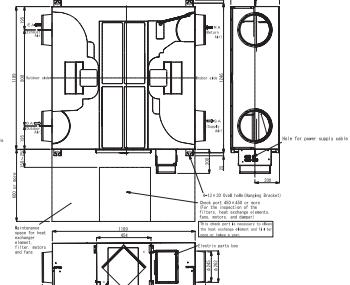
## VN-M150HE to VN-M350HE



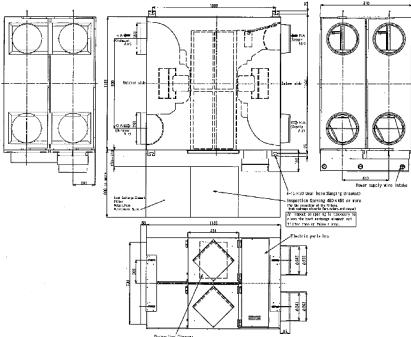
## VN-M500HE &amp; VN-M650HE'



## VN-M800HE &amp; VN-M1000HE1



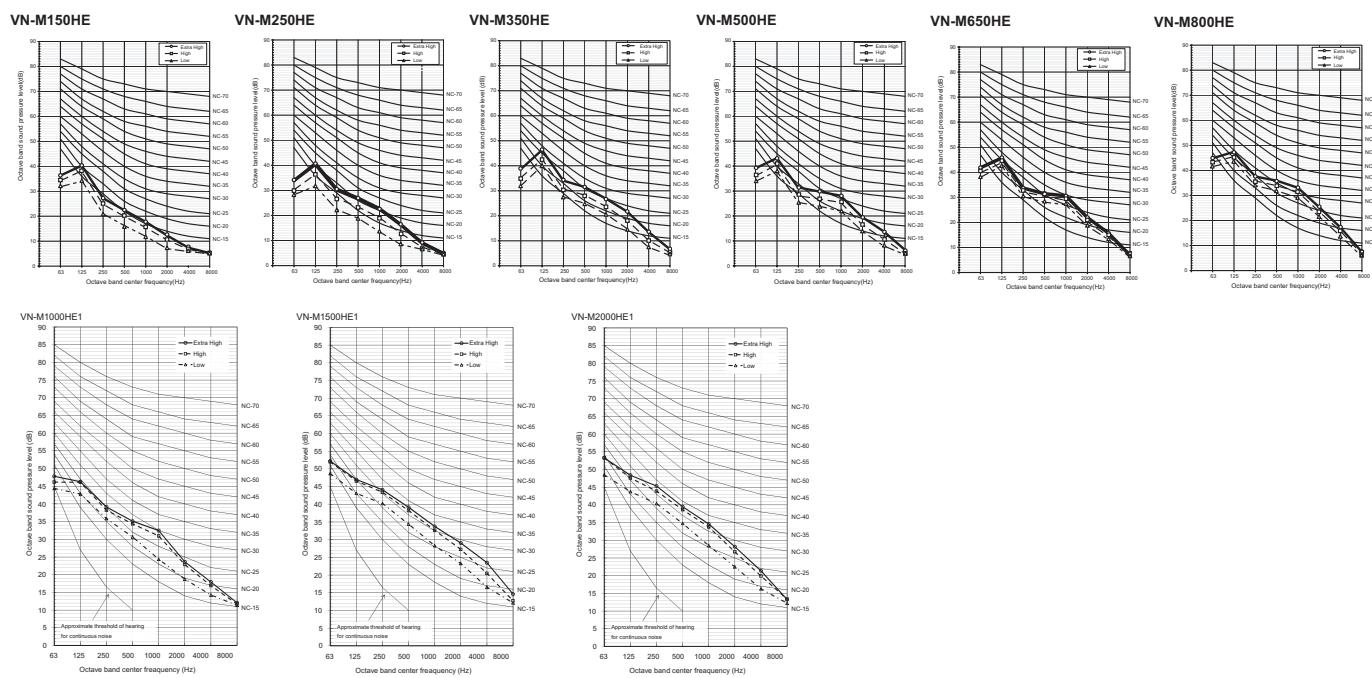
## VN-M1500HE1 &amp; VN-M2000HE1



## AIR-TO-AIR HEAT EXCHANGER

## Sound pressure levels

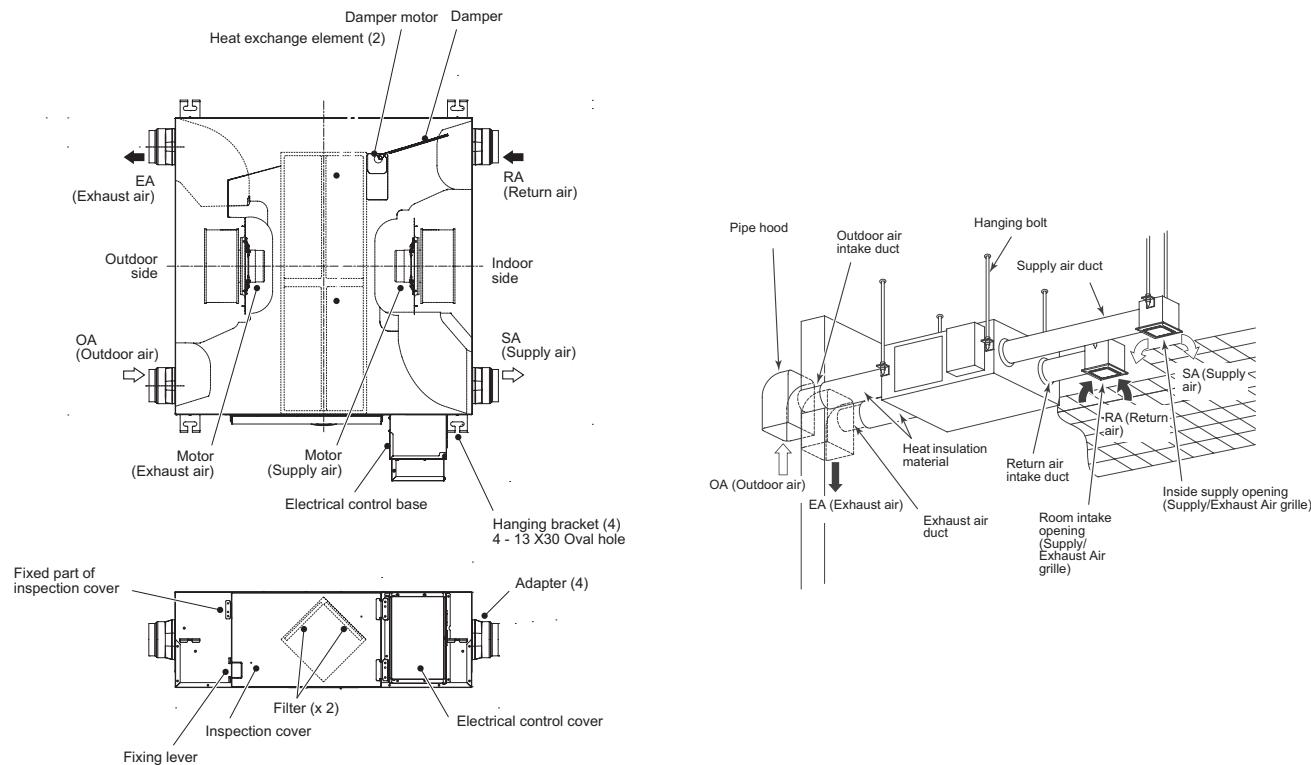
Unit: dB(A)



## Accessories

Type	Model name	Description	Appearance	Remarks
Control	NRC-01HE	All air-to-air heat exchangers dedicated remote control		Integrated functions : fan speed, freecooling, air balance volume rate, temperature management and timer.
	NRB-1HE	All air-to-air heat exchangers On/Off additional PCB		On/off optional PCB for air-to-air heat exchanger

## Other information



## MMD-VN(K)

## AIR-TO-AIR HEAT EXCHANGER WITH DX COIL



MMD-VN(K) ventilation products are using exhaust air + DX coil to pre-condition the incoming air, thus reducing the cooling or heating load and the overall size of the required air conditioning system.



4.1kW &gt; 10.9kW



Up to 500m³/h &gt; 1,000m³/h



34dB(A)

## OUTDOOR UNITS



MINI SMMS-e



SMMS-e



SHRM-e

## LOCAL CONTROLS

NRC-01HE  
RBC-AMT32E

## Features

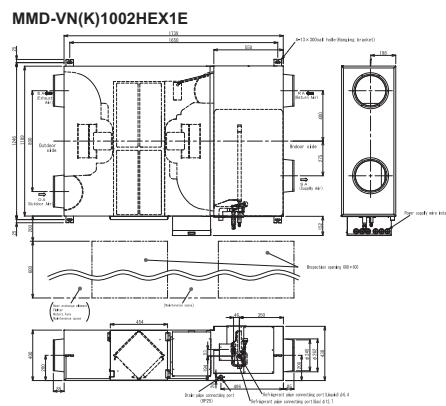
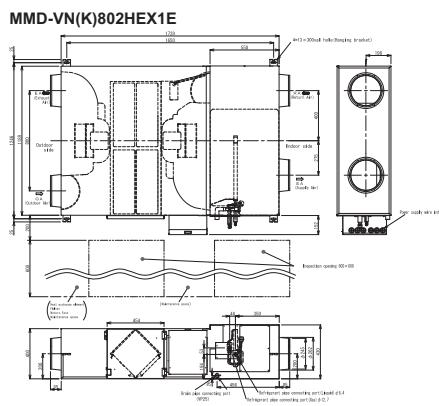
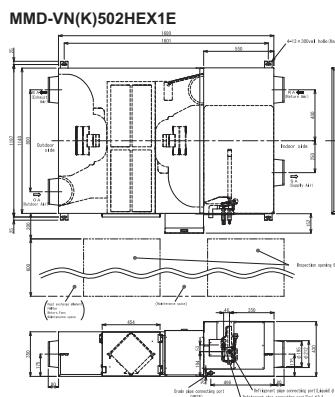
Model name	MMD-	Without humidifier			With humidifier			
		VN502HEX1E	VN802HEX1E	VN1002HEX1E	VNK502HEX1E	VNK802HEX1E	VNK802HEX1E	
Cooling Capacity	kW	4.10(1.30)	6.56(2.06)	8.25(2.32)	4.10(1.30)	6.56(2.06)	8.25(2.32)	
Heating Capacity	kW	5.53(2.33)	8.61(3.61)	10.92(4.32)	5.53(2.33)	8.61(3.61)	10.92(4.32)	
Power supply	1 phase 50Hz 230V(220V-240V) / 1 phase 60Hz 220V(Separate power supply for indoor units is required.)					1 phase 50Hz 230V(220V-240V)		
Temperature exchange efficiency	Extra High	%	70.5	70.0	65.5	70.5	70	65.5
	High	%	70.5	70.0	65.5	70.5	70	65.5
	Low	%	71.5 / 72.0	72.5 / 73.0	67.5 / 68.0	71.5	72.5	67.5
Enthalpy exchange efficiency	Extra High	%	56.5	56.0	52.0	56.5	56.0	52.0
	High	%	56.5	56.0	52.0	56.5	56.0	52.0
	Low	%	57.5 / 58.0	59.0 / 59.5	54.0 / 55.0	57.5	59.0	54.5
Cooling	Extra High	%	68.5	70.0	66.0	68.5	70.0	66.0
	High	%	68.5	70.0	66.0	68.5	70.0	66.0
	Low	%	69.0 / 69.0	73.0 / 73.5	68.5 / 69.0	69.0	73.0	68.5
Heating	Extra High	%	69.0 / 69.0	73.0 / 73.5	68.5 / 69.0	69.0	73.0	68.5
Power input (Heat exchange mode)	High	kw	0.300 / 0.365	0.505 / 0.595	0.550 / 0.720	0.305	0.530	0.575
	Low	kw	0.280 / 0.350	0.465 / 0.555	0.545 / 0.665	0.285	0.485	0.565
	Extra High	kw	0.235 / 0.250	0.335 / 0.390	0.485 / 0.530	0.240	0.350	0.520
Running current	Extra High	A	1.30 / 1.65	2.25 / 2.77	2.46 / 3.38	1.33	2.37	2.56
	High	A	1.21 / 1.62	2.07 / 2.59	2.43 / 3.11	1.24	2.14	2.51
	Low	A	1.01 / 1.14	1.46 / 1.79	2.16 / 2.45	1.03	1.54	2.31
Fan unit	Standard air flow	m³/h	500	800	950	500	800	950
	High	m³/h	500	800	950	500	800	950
	Low	m³/h	440 / 410	640 / 600	820 / 800	440	640	820
	External static pressure	Pa	120 / 200	120 / 190	135 / 195	95	105	110
	High	Pa	105 / 170	100 / 155	120 / 160	85	85	90
	Low	Pa	115 / 150	100 / 130	105 / 130	95	90	115
	Air flow limit	Lower limit m³/h	330	480	640	330	480	640
	Upper limit m³/h	600	960	1140	600	960	1140	
Humidifier	System	-	-	-	Permeable film humidifier			
	Amount	-	-	-	3.0	5.0	6.0	
	Feed water pressure	-	-	-	0.02-0.49			
Sound pressure	Extra High	dB	37.5 / 40	41 / 43	43 / 43.5	36.5	40	42
	High	dB	36.5 / 38	40 / 42	42 / 42	35.5	39	41
	Low	dB	34.5 / 36.5	38 / 37	40 / 40	33.5	38	39
Sound power		dB	55	58	59	55	58	59
Appearance	Zinc hot dipping steel plate				Zinc hot dipping steel plate			
Dimensions	HxWxD	mm	430x1140x1690	430x1189x1739	430x1189x1789	430x1140x1690	430x1189x1739	430x1189x1739
Weight	kg		84	100	101	91	111	112
Heat exchanger			Finned tube		Finned tube			
Heat-insulating material			Flexible urethane foam		Flexible urethane foam			
Air filter			Standard filter & High efficiency filter		Standard filter (Gravitational method 82%) & High efficiency filter (Colormetric method 65%)			
Controller			Remote controller (Separately sold parts)		Remote controller (Separately sold parts)			
Connecting piping	Gas side	mm	3/8"	1/2"	1/2"	3/8"	1/2"	1/2"
	Liquid side	mm	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	Drain port (Nominal dia.)	mm	25 (Polyvinyl chloride tube)		25 (Polyvinyl chloride tube)			
Water supply connection (Port size)			-		R1/2			
Operating range	Around unit		-10 - 40°C , RH ≤80%		-10 - 40°C , RH ≤80%			
	Outdoor Air (OA)		-15 - 43°C , RH ≤80%		-15 - 43°C , RH ≤80%			
	Return Air (RA)		5 - 40°C , RH ≤80%		5 - 40°C , RH ≤80%			

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

## AIR-TO-AIR HEAT EXCHANGER WITH DX COIL

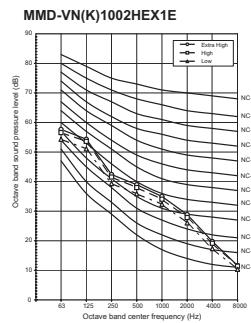
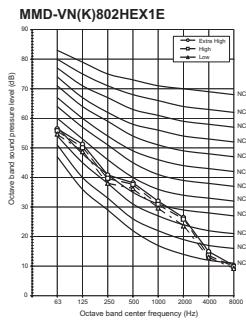
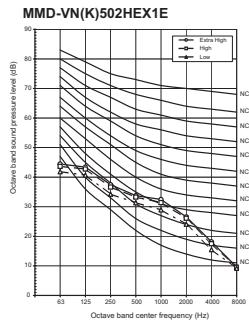
## Drawings

Unit: mm



## Sound pressure levels

Unit: dB(A)



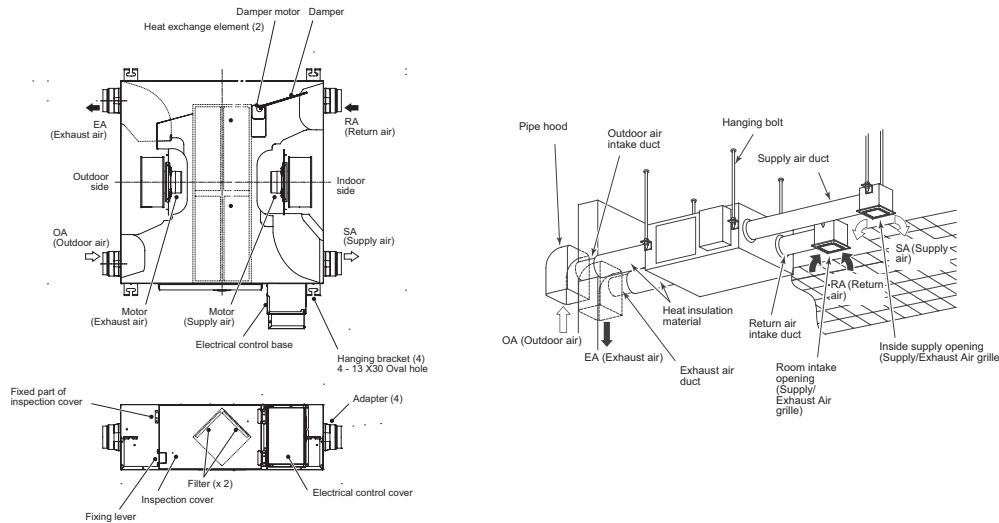
## Accessories

Type	Model name	Description	Appearance	Remarks
Control	NRC-01HE	Dedicated remote controller for air-to-air heat exchanger		Integrated functions: fan speed, freecooling, air balance volume rate, temperature management and timer.
	NRB-1HE	On/off optional PCB for air-to-air heat exchanger		
Condensates	TCB-DP31HEXE	Drain pump kit		

## Air-to-air heat exchanger (with DX coil) embedded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
-	-	*	*	*	*

## Other information





This indoor unit has been specifically designed to manage and treat fresh air before its distribution into the building.

CAPACITY	AIR FLOW	SOUND PRESSURE LEVEL
 5 HP < 10 HP	 1,080m³/h > 2,100m³/h	 41dB

## OUTDOOR UNITS



## LOCAL CONTROLS

A small digital display on a Toshiba laptop showing the time as 12:24 and the temperature as 24°C.

RBC-AMS55E-ES(EN)  
RBC-AMS41E  
RBC-AMT32E

## Features

Model name		MMD-AP0481HFE		MMD-AP0721HFE		MMD-AP0961HFE	
Ligne Capacity		5		8		10	
Cooling capacity	kW	14		22.4		28	
Heating capacity	kW	8.9		13.9		17.4	
Electrical characteristics	Power supply			1 phase 50Hz 220-240V / 1 phase 60Hz 220V			
	Running current	A	1.43 / 1.66		2.52 / 2.75		2.73 / 3.12
	Power consumption	kW	0.28 / 0.34		0.45 / 0.55		0.52 / 0.65
	Starting current	A	3.50 / 3.40		7.00 / 6.80		7.00 / 6.80
Dimensions	Main unit	HxWxD	482x892x1262		482x1392x1262		482x1392x1262
Weight	Main unit	kg	93		144		144
Heat exchanger				Finned tube			
Soundproof / Heat-insulating material				Non-flammable insulation			
Fan unit	Fan			Centrifugal fan			
	Standard air flow	m³/h	1.080		1.680		2.100
	Motor	W	160			160 x 2	
	External static pressure	50 Hz Pa	170-210-230		140-165-180		160-190-205
		60 Hz Pa	115-215-260		150-210-235		80-180-220
	Factory setting 50 Hz / 60 Hz	Pa	210 / 215		165 / 210		190 / 180
	Air flow limit	Lower limit m³/h	756		1.176		1.470
		Upper limit m³/h	1.188		1.848		2.310
Air filter				Option or field supply			
Controller				Wired remote controller			
Connecting pipe	Gas pipe	inch	5/8"			7/8"	
	Liquid pipe	inch	3/8"			1/2"	
	Drain pipe	mm			25		
Sound pressure level (Note 2) (High/Med./Low)	dB(A)	45 / 43 / 41				46 / 45 / 44	
Sound power level (High/Med./Low)	dB(A)	65 / 63 / 61				66 / 65 / 64	
Operation range	Cooling (Note 3)	°C		5 - 43			
	Heating (Note 4)	°C		-5 - 43			

#### 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 18°C  
Blower: 7.5 W/11.1 L/S

Normally the values measured in the natural operating environment are less than the indicated values due to the effects of external coupling.

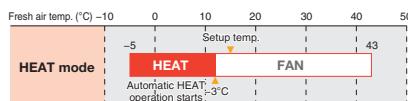
Normally, the values measured in the actual operating environment become large than the indicated values. When supply air temperature is  $<$  setting temperature + 3°C, or less, fresh air intake unit operates as FAN mode.

When supply air temperature is «setting temperature + 3°C» or less, fresh air intake unit operates as FAN mode.

When supply air temperature is « $19^{\circ}\text{C}$ » or less, fresh air intake unit operates as FAN mode.  
When supply air temperature is «**Setting temperature**  $-3^{\circ}\text{C}$ » or over, fresh air intake 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°, 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.

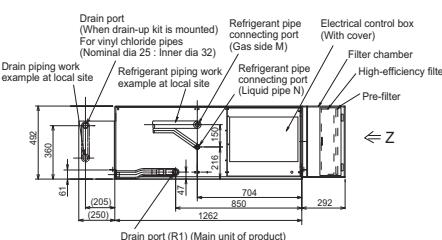
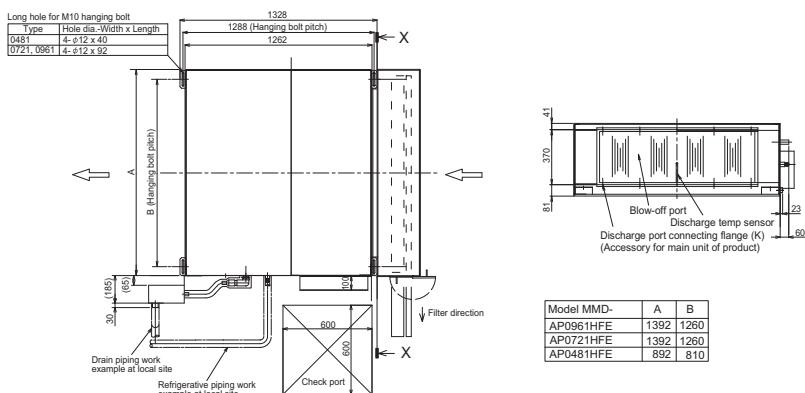


Operable mode and discharge temperature setup range

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

## Drawings

Unit: mm



## FRESH AIR INTAKE

## Fresh air intake indoor unit type

System restriction	
Max. no. of combined outdoor units	1 unit
Max. capacity of combined outdoor units	22HP
Max. no. of combined indoor units	3 units

Allowable length and height difference of refrigerant piping				Allowable value (m)	
				Heat Pump configuration	Cooling Only configuration
Pipe length	Total extension of pipe (Liquid pipe)	Actual length	m	300	300
	Farthest piping length	Equivalent length	m	150	235
		Actual length	m	130	190
	Main piping length	Equivalent length	m	Max. 120 (Min. - )	Max. 120 (Min. - )
		Actual length	m	Max. 100 (Min. 50)	Max. 100 (Min. - )
	Farthest equivalent piping length from the first branching section	Equivalent length	m	30	90
	Maximum actual length of pipes connected to indoor units	Actual length	m	30	30
Height difference	Height between outdoor and indoor units	Equivalent length	m	30	30
		Upper outdoor units	m	40	70
		Lower outdoor units	m	3	40
	Height between indoor units		m	0,5	0,5

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

\* An option 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

Note 2: Normally, the values measured in the actual operating environment become larger 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 unit operates as FAN mode.

When supply air temperature is «19°C» or less, fresh air intake unit operates as FAN mode.

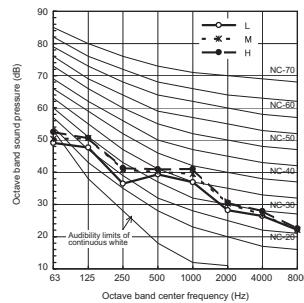
Note 4: When supply air temperature is «setting temperature -3°C» or over, fresh air intake unit operates as FAN mode

## Sound pressure levels

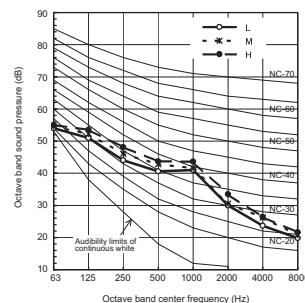
Unit: dB(A)

## MMD-AP0481HFE

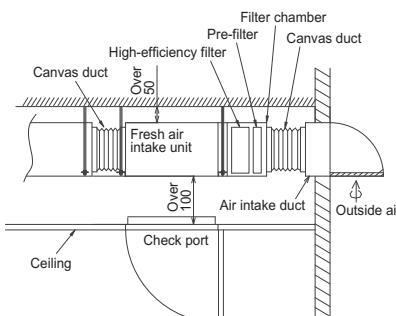
Fan tap	H	M	L
Sound pressure level (dB(A))	45	43	41

MMD-AP0721HFE  
MMD-AP0961HFE

Fan tap	H	M	L
Sound pressure level (dB(A))	46	45	44



## Other information



## Accessories

Type	Model name	Description	Applied model	Appearance	Remarks
Air filtration	TCB-UFM3DE	High-efficiency filter 65	MMD-AP0721-0961HFE		Filter chamber TCB-FCY51DFE TCB-FCY100DE  Long life prefilter TCB-PF3DE TCB-PF4D-1E  High-efficiency filter 65 TCB-UFM3DE, TCB-UFM4D-1E High-efficiency filter 90 TCB-UHF7DE, TCB-UFH8D-1E  Drain pump kit TCB-DP32DFE
	TCB-UFM4D-1E	High-efficiency filter 65	MMD-AP0481HFE		
	TCB-UHF7DE	High-efficiency filter 90	MMD-AP0721-0961HFE		
	TCB-UHF8D-1E	High-efficiency filter 90	MMD-AP0481HFE		
	TCB-PF3DE	Long life prefilter	MMD-AP0721-0961HFE		
	TCB-PF4D-1E	Long life prefilter	MMD-AP0481HFE		
	TCB-FCY51DFE	Filter chamber	MMD-AP0481HFE		
	TCB-FCY100DE	Filter chamber	MMD-AP0721-0961HFE		
Drain pump kit	TCB-DP32DFE	Drain pump kit	All models		

## Fresh air duct embeded connectors

CN32	CN60	CN61	CN70	CN73	CN80
Additional ventilation control from remote control	Operation status signal output (cooling, heating, fan, defrost, thermo-on)	External On/Off, operation output and alarm output	Warning symbol on remote control based on signal input. No IDU thermo off.	Forced IDU thermo-off based on signal input	Forced IDU thermo-off and IDU lock based on signal input
*	*	*	*	-	-

# MM-DXC

## STANDARD DX KIT



Built an efficient and reliable ventilation system managed by Toshiba remote controller mixing third party AHU, DX coil and Toshiba VRF system.

CAPACITY      AIR FLOW



2 HP < 60 HP    Up to 30,000m³/h

### OUTDOOR UNITS



MINI SMMS-e



SMMS-e



SHRM-e



RBC-AMT32E

### LOCAL CONTROLS

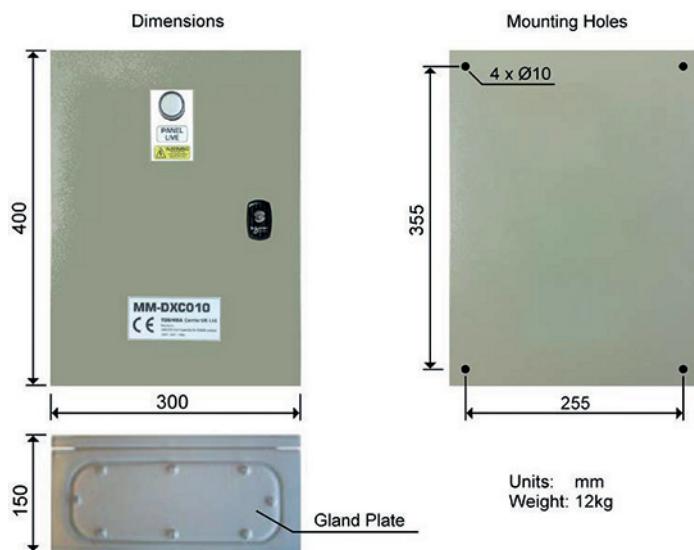
## Features

DX controller unit	MM-	DXC010	DXC012
		VRF DX COIL CONTROLLER (Individual / Header)	VRF DX COIL CONTROLLER (Follower)
Dimensions (HxWxD)	mm	400 x 300 x 150	400 x 300 x 150
Weight	kg	8	7.6
Standard rating	IP	65	65
Operating temperature/Humidity	°C / RH	5-40 / 10-90	5-40 / 10-90
Operating range - Cooling coil «Air on» temp	°C	15°CWB±24°CWB	15°CWB±24°CWB
Operating range - Heating coil «Air on» temp	°C	15°CDB±28°CDB	15°CDB±28°CDB
Power supply	V-ph-Hz	220/240-1-50	220/240-1-50

DX valve kit	MM-	DXV080	DXV140	DXV280
Nominal capacity		5.6kW. 7.1kW. 8.0kW 1.7 - 3.2 HP	11.2kW. 14.0kW. 16.0kW 4 - 6HP	22.4kW. 28.0kW 8 - 10 HP
Dimensions	mm		155 x 155 x 185	
Weight	kg		0.9kg	
Integrated components		TA,TC1,TC & TCJ sensors. PMV sensor holder 4 & 6 mm. fix plate, strainer and P clamp (For TA)		

## Drawings

Unit: mm



## STANDARD DX KIT

## Capacity table

Capacity in HP	VRF DX Coil controller (Individual/Header)	VRF DX Coil Controller (Follower)	VRF DX Coil valve kit			Nominal capacity (kW)		DX coil internal volume (cc)		Recommended liquid capillary	Air volume flow rate (m³/h)	
	MM-DXC010	MM-DXC012	MM-DXV080	MM-DXV140	MM-DXV280	Cool	Heat	Min	Std	Max	mm	Std
All models	2	1				5.6	6.3	850	1000	1150	3.2 ~ 3.5	900
	2.5	1				7.1	8	1063	1250	1438	3.5 ~ 4	1320
	3	1				8	9	1275	1500	1725	3.5 ~ 4	1320
	3.2	1				9	10	1360	1600	1840	3.5 ~ 4	1320
	4	1			1	11.2	12.5	1700	2000	2300	4.5 ~ 5	1600
	5	1				14	16	2125	2500	2875	5 ~ 5.5	2100
	6	1				16	1	2550	3000	3450	5.5 ~ 6	2800
	8	1				24	25	3400	4000	4600	6.5 ~ 7	3600
	10	1				28	31.5	4250	5000	5250	7 ~ 8	4200
	12	1	1		2	33.5	37.5	5100	6000	6900		5600
SMMSe	14	1	1	1	1	40	45	5950	7000	8050		6400
	16	1	1		2	45	50	6800	800	9200		7200
	18	1	1		2	50.4	56	7650	9000	10350		7800
	20	1	1		2	56	63	8500	10000	11500		8400
	22	1	2	1	2	61.5	64	9350	11000	12650		10000
	24	1	2		3	67	75	10200	12000	13800		10800
	26	1	2		3	73.5	82.5	11050	13000	14950		11400
	28	1	2		3	78.5	87.5	11900	14000	16100		12000
	30	1	2		2	85	95	12750	15000	17250		12600
	32	1	3		4	90	100	13600	16000	18400		14400
	34	1	3		4	95.4	106.5	14450	17000	19550		15000
	36	1	3		4	101	113	15300	18000	20700		15500
	38	1	3		4	106.5	114	16150	19000	21850		16200
	40	1	3		4	112	126	17000	20000	23000		16800
	42	1	4		5	117.5	127	17850	21000	24150		18600
	44	1	4		5	123	128	18700	22000	25300		19200
	46	1	4		5	130	145	19550	23000	26450		19800
	48	1	4		5	135	150	20400	24000	27600		20400
SHRMe	50	1	4		5	140.4	156	21250	25000	28750		21000
	52	1	4		6	146	163	22100	26000	29900		22800
	54	1	5		6	151.5	164	22950	27000	31050		23400
	56	1	5		6	157	176	23800	28000	32200		24000
	58	1	5		6	162.5	177	24650	29000	33350		24600
	60	1	5		6	168	178	25500	30000	34500		25200
	12	1	1	2	2	33.5	37.5	5100	6000	6900		5600
	14	1	1	1	1	40	45	5950	7000	8050		6400
	16	1	1		2	45	50	6800	800	9200		7200
	18	1	1		2	50.4	56	7650	9000	10350		7800
	20	1	1		2	56	58	8500	10000	11500		8400
	22	1	2	1	2	61.5	69	9350	11000	12650		10000
	24	1	2		3	68	76.5	10200	12000	13800		10800
	26	1	2		3	73.5	82.5	11050	13000	14950		11400
	28	1	2		3	80	90	11900	14000	16100		12000
	30	1	2		2	85	95	12750	15000	17250		12600
	32	1	3		4	90.4	101.4	13600	16000	18400		14400
	34	1	3		4	95.4	106.5	14450	17000	19550		15000
	36	1	3		4	100.8	113	15300	18000	20700		15500
	38	1	3		4	106.5	114.5	16150	19000	21850		16200
	40	1	3		4	112	126	17000	20000	23000		16800
	42	1	4		5	120	135	17850	21000	24150		18600

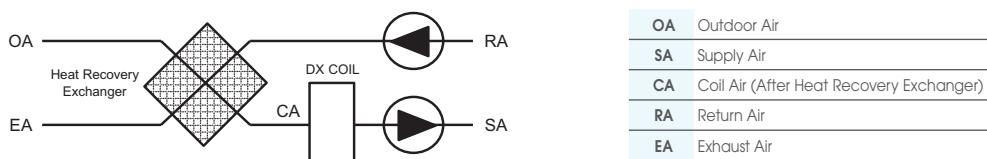
DX-Cools > 10HP must be designed with multiple sections each 10HP or less. These sections must have dedicated Headers and liquid capillary distributors. Therefore recommended sizes only needed for 2 - 10HP.

Cooling Capacity Conditions (Indoor 27 °Cdb / 19 °Cwb & Outdoor 35 °Cdb) at Standard Air Flow rate  
 Heating Capacity Conditions (Indoor 20 °Cdb & Outdoor 7 °Cdb / 6 °Cdb) at Standard Air Flow rate  
 DX-Cools > 10HP must be designed with multiple pathways each 10HP or less. These pathways must have dedicated Headers and liquid capillary distributors. Therefore recommended sizes only needed for 2 - 10HP.

SHRMe Capacity quoted as nominal cooling and maximum heating.  
 The standard Air volume flow rate is a guideline. The required capacity should determine DX-Interface size selection.  
 Single Port Flow Selectors (3-Series) MUST be used with the DX-Interface. It is not compatible with Multi Port Flow Selector (This limits the maximum SHRMe DX-Interface size to 42HP).

## Other information

- The DX Coil **MUST** be operated within the following limits to ensure reliability:
  - Cooling mode DX coil "air on" temp: Min: 15°C WB (18°CDB) ~ Max: 24°C WB (32°CDB)
  - Heating mode DX coil "air on" temp: Min: 15°C DB ~ Max: 28°C DB
- When used for ventilation, the DX-Coil **MUST** be combined with other equipment such as heat recovery exchanger or heaters / coolers to ensure that the CA limits are not exceeded:



## DX-Coil design

- The DX Coil must be suitable for R410A.
- The design should allow operation as both an evaporator and a condenser (Features: Multiple circuits / Liquid Capillary Distributor / Gas Header).
- The counter flow principle must be observed.
- Design target evaporation temperature: 6.5°C.
- Design target condensation temperature: 52°C.
- A drain pan must be fitted (even if only used in heat mode) due to defrost cycles.
- It is recommended to fit droplet eliminator plates in the discharge air stream if used in cool mode.
- The sensor holders must be brazed on to DX-Coil to ensure accurate temperature sensing.
- DX Coils (>10HP) must be designed with multiple pathways each 10HP or less. These pathways must have dedicated headers and liquid capillary distributors each with the appropriate DX valve kit. These DX-Coils can be Interlaced or split face:-
- Where grouped the header controller (MM-DXC010) must be connected to the largest DX-Coil valve kit.
- AHU fan motor must be interlocked to fan control output.
- Maximum DXCoil U-pipe outer diameter: 12.7 mm (1/2")
- Recommended DX-Coil U-pipe outer diameter: 9.52 mm (3/8")

# MCYMHT\_HP

## 0/10V DX KIT



Control the capacity of the Toshiba VRF system directly from the air handling unit controller to maintain constant fresh air temperature intake inside the building: the ultimate in fresh air solution.

CAPACITY      AIR FLOW



6 HP < 10 HP      Up to 6000m³/h

### OUTDOOR UNITS COMPATIBILITY



SMMS-e

### LOCAL CONTROLS



RBC-AMT32E

## Features

LC / VRF DX Coil Controller Unit	RBC-	DXC031
Minimum air flow rate	m³/h	2310
Maximum air flow rate	m³/h	3960
Dimensions (HxWxD)	mm	400 x 300 x 165
Weight	kg	8
Cable max length (Analogue Input) (Screened cable: 0.5 ~ 1.0 mm²)	m	200
Cable max length (Digital Input) (Non screened cable: 1.5 ~ 2.5 mm²)	m	100
Cable max length (Digital Output) (Non screened cable: 1.5 ~ 2.5 mm²)	m	500
Cable max length (TCC Link) (Screened cable: 1.5 ~ 2.5 mm²)	m	1000
Standard rating	IP	65
Operating temperature/humidity	°C / RH	5-40 / 10-90
Operating range - Cooling coil «Air on» temp	°C	15°CWB÷24°CWB
Operating range - Heating coil «Air on» temp	°C	12°CDB÷28°CDB
System diversity	%	75 - 100
Outdoor Unit		8HP SMMS-e only
Power supply		220 - 240V AC 50Hz

VRF DX coil controller unit	RBC-	DXC031	DXC031	DXC031
VRF DX PMV valve unit	MM-	DXV141	DXV281	DXV281
Cooling capacity	kW	16.0	22.4	28.0
Heating capacity	kW	18.0	25.0	31.5
Capacity code	HP	6.0	8.0	10.0

Heating & Cooling Capacity are guide-line figures. the design of each customer's AHU and DX Coil will have an impact on the actual system performance  
Cooling Capacity Conditions (Indoor 27 °Cdb / 19 °Cwb & Outdoor 35 °Cdb) at Standard Air Flow rate  
Heating Capacity Conditions (Indoor 20 °Cdb & Outdoor 7 °Cdb / 6 °Cdb) at Standard Air Flow rate

## Drawings

Unit: mm



**Capacity table**

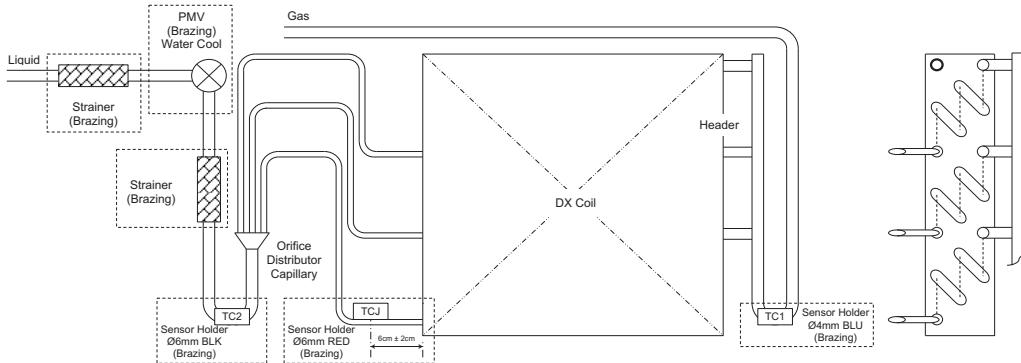
Capacity in HP	Diversity ratio	VRF DX Coil controller (Individual/Header)		VRF DX Coil valve kit		Nominal capacity (kW)		DX coil internal volume (cc)		Recommended liquid capillary		Air volume flow rate (m³/h)
		RBC-DXC031	MM-DXV141	MM-DXV281	Min	Cool Max	Heat Min	Max	Min	Max	mm	Std
SMMSe	6	1	1		8	16	7,2	18	1700	3200	5.5 ~ 6	3300
	8	75 to 100%	1		11,2	22,4	10	25	3000	4200	6.5 ~ 7	4300
	10		1		14	28	12,6	31,5	3	5400	7 ~ 8	5000

Cooling & Heating output figures are based on calculations and 'general' test data. All figures are to be taken as approximations. The properties of the 3rd Party DX Coil will have an effect on the performance of the Outdoor units. The DX Coil must be suitable for R410A. The design should allow operation as both an Evaporator and a Condenser (Features: Multiple circuits / Liquid Capillary Distributor / Gas Header). The standard Air volume flow rate is a guideline. The required capacity should determine DX-Interface size selection.

The counter flow principle must be observed for the DX coil design. A Drain Pan must be fitted (even if only used in Heat mode) due to defrost cycles. It is recommended to fit droplet eliminator plates in the discharge air stream if used in Cool mode. 1:1 Connection: The DX Interface (0-10V) must be connected 1:1 with Toshiba outdoor units. Only Heating and Cooling Modes are available on the RBC-DXC031 (No Automatic or Fan Only).

**Inputs and Outputs**

	Terminal block	Description	Type	Remarks	
Input	TB4 & 5	Capacity demand	Analog input		0/10V
	TB6 & 7	On /Off	Digital input		
	TB8 & 9	Mode input	Digital input		
	TB14 & 15	Safety contact input	Digital input	NC	
	TB16 & KP1	Fan error input	Digital input	KP1.14_NO	
Output	KP2	Fan Operation	Digital output	KP2.11 & KP2.12_NC / KP2.14_NO	250VAC 6A
	KP3	Alarm output	Digital output	KP3.11 & KP3.12_NC / KP3.14_NO	250VAC 6A
	KP4	Defrost output	Digital output	KP4.11 & KP4.12_NC / KP4.14_NO	250VAC 6A
	KP5	VRF Start-up Control	Digital output	KP5.11 & KP5.12_NC / KP5.14_NO	250VAC 6A
	KP6	VRF Pre-Defrost Active	Digital output	KP6.11 & KP6.12_NC / KP6.14_NO	250VAC 6A
	KP7	Heat Mode Active / Cool Mode Active	Digital output	KP7.11 & KP7.12_NC / KP7.14_NO	250VAC 6A
	TB10 & 11 (SW1_0)	Capacity lower than Capacity Demand	Digital output	KP2.11 & KP2.12_NC / KP2.14_NO	
	TB12 & 13 (SW2_0)			KP3.11 & KP3.12_NC / KP3.14_NO	
	TB10 & 11 (SW1_1)	Capacity higher than Capacity Demand	Digital output	KP4.11 & KP4.12_NC / KP4.14_NO	
	TB12 & 13 (SW2_1)			KP5.11 & KP5.12_NC / KP5.14_NO	
	TB10 & 11 (SW1_2)	VRF Cooling Oil Recovery / VRF Heating refrigerant recovery control	Digital output	KP6.11 & KP6.12_NC / KP6.14_NO	
	TB12 & 13 (SW2_2)			KP7.11 & KP7.12_NC / KP7.14_NO	
	TB10 & 11 (SW1_3)	Cooling Mode Active	Digital output		
	TB12 & 13 (SW2_3)				
	TB10 & 11 (SW1_4)	Heating Mode Active	Digital output		
	TB12 & 13 (SW2_4)				

**Other information****VRF DX Coil Schematic****Notes:**

- 1) The PMV must be water cooled whilst brazing, to prevent damage to the mechanism.
- 2) To ensure reliable operation, all Sensor Holders must be fitted by brazing.
- 3) The TCJ Sensor Holder must be brazed to the capillary on the DX Coil's lowest circuit.
- 4) For brazing, be sure to use nitrogen gas to avoid oxidation of pipe inner surface.

# MMW-AP\_LQ

## MID TEMPERATURE HOT WATER MODULE



With the mid temperature hot water module, produce hot water in addition of cooling and heating.

CAPACITY	HOT WATER	SOUND PRESSURE LEVEL
8kW > 16kW	Max 50°C	25dB(A)

## OUTDOOR UNITS

SMMSe  
SHRM-e

## LOCAL CONTROLS



RBC-AMT32E

## Features

Model	MMW-AP0271LQ-E	MMW-AP0561LQ-E.
<b>Heating capacity *1</b>	<b>kW</b>	<b>8.0</b>
Electrical characteristics	Power supply *2	1 phase 50 Hz 230 V (220 - 240 V)
	Running current A	0.08
	Power consumption W	14
Appearance		Zinc hot dipping steel plate
Dimensions	Unit HxL(leg included)xD mm	580x400(467)x250
Weight	Unit kg	17.8 20.3
Design pressure	Refrigerant side MPa	3.73
	Water side MPa	1.0
Heat exchanger		Plate type heat exchanger
Heat-insulating material		Polyethylene foam + Polyurethane foam
Water flow rate	Standard L/min	22.9 45.8
	Min. L/min	19.5 38.9
Water pressure loss (At standard water flow rate)	kPa	40.5 44.2
Controller		Remote controller
	indoor CDB	+5 / +32
	Allowable dew point CWB	+23 or less
	RH%)	+30 / +85
Operation range	Ambient Outdoor (At heating) CDB	-25 / +21
	SMMS-e CWB	-25 / +19
	Outdoor (At heating) CDB	-25 / +40
	SHRM-e CWB	-25 / +28
	Water inlet side C	+15 or more and +45 or less
	Water outlet side C	+25 / +50
Water filter		Strainer with Mesh 30 to 40 (Procured locally)
	Water pipe Inlet	R1 - 1/4
	Outlet	R1 - 1/4
Connecting pipe	Refrigerant pipe Gas pipe inch	5/8" flare connection
	Liquid pipe inch	3/8" flare connection
	Drain pipe	R1
Sound pressure level	dB(A)	25 27
Sound power level	dB(A)	25 27
Installation place		Indoor

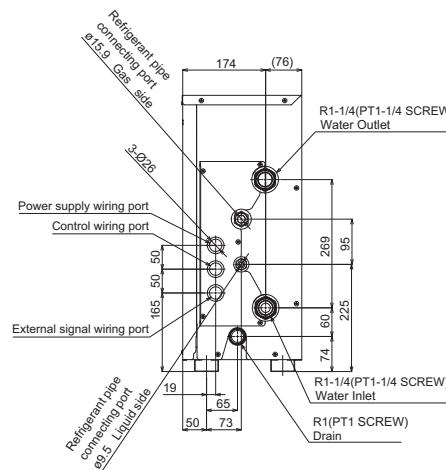
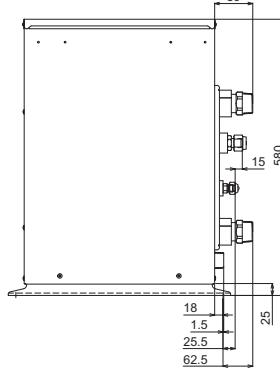
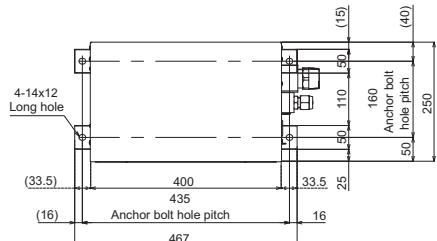
\*1: Rated conditions: entering condenser water temp. 30 °C leaving condenser water temp. 35 °C Outdoor air temp. 7 °CDB / 6 °CWB

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

\*2: The source voltage must not fluctuate more than ±10%.

## Drawings

Unit: mm



## MID TEMPERATURE HOT WATER MODULE

## Piping rules

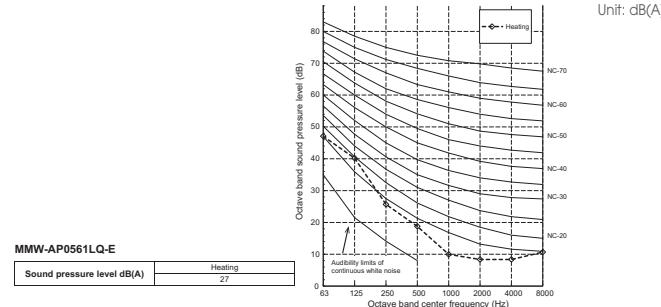
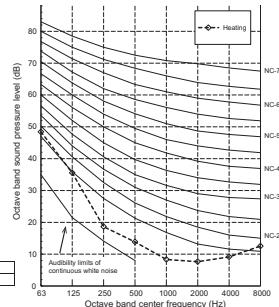
		SMMSe	SHRMe
Piping length	Total extension of pipe (Liquide pipe, real length)	Below 34HP 34HP or more	300m 1000m
	Farthest piping length	Equivalent length	235m 200m
		Real length	190m 180m
	Equivalent length of farthest piping from 1st branching	High difference between IDU >3 m	65m 50m
		High difference between IDU ≤3 m	90m 65m
	Equivalent length of farthest piping between outdoor units	25m	15m
		Height difference between IDU >3 m	120/100m
		Height difference between IDU ≤3 m	100/85m 120/100m
	Max. equivalent length of main piping	10m	10m
	Max. real length of indoor unit connecting piping	30m	30m
	Max. equivalent length between branches	50m	50m
Difference in height	Maximum real length of terminal branching section to indoor units	Single port type Multi port type	15m 50m
	Height between indoor and outdoor units	Maximum equivalent length between branching section Upper outdoor unit	50m
		Upper outdoor unit Lower outdoor unit	70m 40m
	Height between indoor units	Upper outdoor unit Lower outdoor unit	3m* 10m* 40m
		Upper outdoor unit Lower outdoor unit	15m 3m 15m
In case of 4serie flow selector connection to indoor units	Height between HWM	Upper outdoor unit	40m
	Height between indoor units and HWM	Upper outdoor unit Lower outdoor unit	3m* 10m*
		Height between outdoor units	15m 5m
	Height difference between indoor units in group control by one single		30m
	Maximum real length between flow selector unit and indoor unit	Single port type Multi port type	15m 50m
	Height difference between indoor units in group control by one flow selector unit		0.5m

\* 40 m if hot water module and indoor units are not operating at the same time.

## Connectivity restrictions

		SMMSe	SHRMe
Indoor connection capacity	Total	Standard Indoor unit + M-HWM	65 - 115%
	Farthest piping length	Standard indoor unit M-HWM	50 - 115% 0 - 50%
Number of combined indoor units and M-HWM	Total	Standard indoor unit + M-HWM	2 - 64
	Allowed number	Standard indoor unit	2 - 32
		M-HWM	0 - 2
			0 - 14

## Sound pressure levels

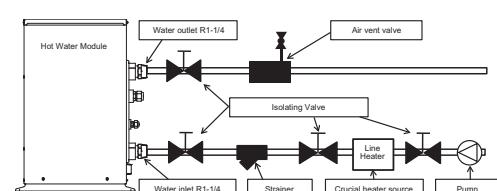


## Other information

## Water piping and line heater installation

- Make the piping route a closed circuit. (An open water circuit may cause a failure.)
- Before a long period of non-use, purge the water out of the pipes and thoroughly let them dry.
- Do not add brine to the circulating water.
- Do not use the water used for the unit for drinking or food manufacturing.
- To ensure easy maintenance, inspection, and replacement of the unit, use a proper joint, valve, etc. (procured locally) on the water inlet and outlet port.
- Be sure to install a strainer with 30 to 40 meshes (procured locally) on the water inlet pipe. If a strainer is not installed, this may cause impaired performance or damage to the plate heat exchanger from freezing.
- Install a suitable air vent (procured locally) on the water pipe. After sending water through the pipe, be sure to vent the excess air.
- To avoid water leak, wrap some sealing tape around the screw part.
- Water pipes can get very hot, depending on the preset temperature. Wrap the water pipes with heat insulation (procured locally) to prevent burns.
- Be sure to install the line heater (procured locally) on the water inlet side. In addition, position it within 5 m of the water inlet pipe of the Hot Water Module.
- Follow capacity table to select a line heater (procured locally) within the range of 40 to 50% of the Hot Water Module's rated capacity.

Hot Water Module model name	Capacity of line heater (kW)
MMW-AP0271LQ-E	3.2~4.0
MMW-AP0561LQ-E	6.4~8.0



# MMW-AP\_CHQ

## HIGH TEMPERATURE HOT WATER MODULE



In addition to the standard simultaneous heating and cooling function of the SHRM-e system, it is now possible with the new Toshiba high temperature hot water module, to produce hot water up to 85°C, whilst still retaining the comfort operation of the indoor units.

CAPACITY	HOT WATER
5HP	82°C

## OUTDOOR UNITS COMPATIBILITY



SHRM-e

## LOCAL CONTROLS



RBC-AMT32E

## Features

Model	MMW-AP0481CHQ-E		
Heating capacity *1	kW		
Electrical characteristics	Power supply *2	14.0	
	Running current (max)	A	1 phase 50 Hz 220-240 V
	Power consumption (max)	kW	17.5
Appearance		4.15	
Dimensions	HxWxD (leg included)	mm	Zinc hot dipping steel plate
Weight	Unit	kg	700x900x320(400)
Design pressure	Refrigerant (R410A) side	MPa	100
	Refrigerant (R134a) side	MPa	3.73
	Water side	MPa	4.15
Heat exchanger (Water)		1.0	
Heat exchanger (Cascade)		Plate type heat exchanger	
Heat-insulating material		Plate type heat exchanger	
Water flow rate	Standard	L/min	Polyethylene foam + Polyurethane foam
	Max - Min.	L/min	40
Water pressure loss (At standard water flow rate)		kPa	46 - 34
Control method		15	
Operation range	indoor	°CDB	Wired remote controller (Option)
	Ambient couvre Indoor, allowable and Outdoor	°CWB	+5 / +32
	Allowable dew point	RH(%)	+23 or less
	Outdoor (At heating) SHRM-e	°CDB	+30 / +85
		°CWB	-25 / +40 (*3)
	Water outlet side	°C	-25 / +28 (*3)
			+50 / +82
Water filter		Strainer with mesh 30 to 40 (Procured locally)	
Connecting pipe	Water pipe	Inlet	R1-1/4
		Outlet	R1-1/4
	Refrigerant pipe	Gas pipe	5.8" flare connection
		Liquid pipe	3/8" flare connection
	Drain nipple	inch	ID 15
Sound pressure level *1		dB(A)	44
Sound power level *1		dB(A)	60
Refrigerant	type/charge	kg / TCO <sub>2</sub> eq	R134A 2.1/3
Installation place		Indoor	

\*1 Rated conditions: entering condenser water temp. 60°C leaving condenser water temp. 65°C Outdoor air temp. 7°CDB / 6°CWB

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

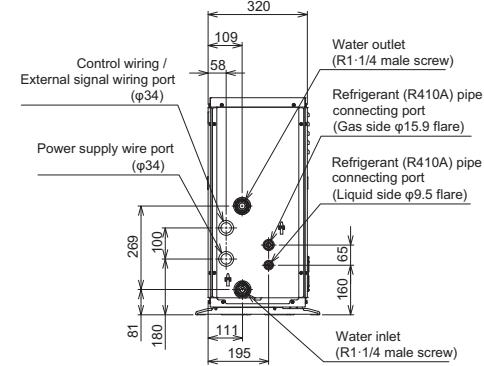
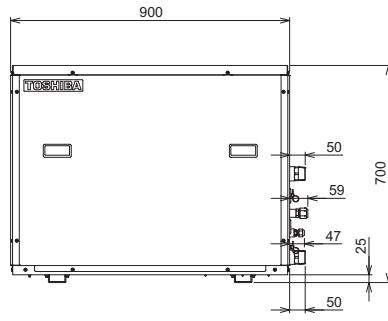
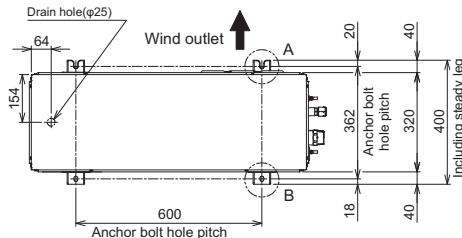
\*2 The source voltage must not fluctuate more than ±10%.

\*3 Low ambient heating (-20°C or less) for extended periods of time is not allowed.

Model name of usable Flow Selector unit: RBM-Y1124FE, RBM-Y1804FE, RBM-Y2804FE, RBM-Y1801F6PE, RBM-Y1801F4PE

## Drawings

Unit: mm



## HIGH TEMPERATURE HOT WATER MODULE

## Piping rules

		SHRMe
Piping length	Total extension of pipe (Liquid pipe, real length)	Below 34HP 34HP or more
	Farthest piping length	Equivalent length Real length
	Equivalent length of farthest piping from 1st branching	High difference between IDU >3 m High difference between IDU ≤ 3m
	Equivalent length of farthest piping between outdoor units	15m
	Max equivalent length of main piping	High difference between IDU > 3m High difference between IDU ≤ 3m
	Max. equivalent length of outdoor unit connecting piping	10m
	Max. real length of indoor unit connecting piping	30m
	Max. equivalent length between branches	50m
	Maximum real length of terminal branching section to indoor units	Single port type Multi port type
	Maximum equivalent length between branching section	Upper outdoor unit
Difference in height	Height between indoor and outdoor units	Upper outdoor unit Lower outdoor unit
	Height between indoor units	Upper outdoor unit Lower outdoor unit
	Height between HWM	Upper outdoor unit Lower outdoor unit
	Height between indoor units and HWM	Upper outdoor unit Lower outdoor unit
	Height between outdoor units	15m
In case of 4serie flow selector connection to indoor units	Maximum equivalent length indoor units in group control by one single port flow selector unit	30m
	Maximum real length between flow selector unit and indoor unit	Single port type Multi port type
	Height difference between indoor units in group control by one flow selector unit	0.5m

## Connectivity restrictions

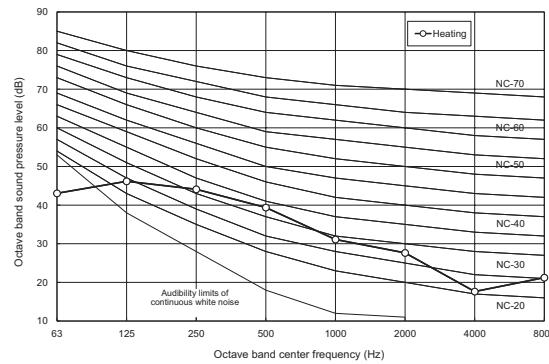
		SHRMe
Indoor connection capacity	Total	Standard indoor unit + M-HWM + H-HWM
	Allowed capacity	Standard indoor unit H-HWM
Number of combined indoor units and M-HWM	Total	Standard indoor unit + M-HWM + H-HWM
	Allowed number	Standard indoor unit H-HWM
		2 - 32

## Sound pressure levels

Unit: dB(A)

MMW-AP0481CHQ-E

Sound pressure level dB(A)	Heating
	44

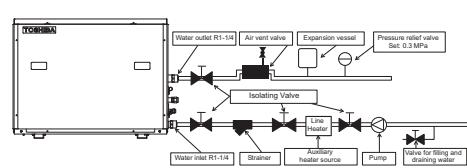


## Other information

## Water piping and line heater installation

- Make the piping route a closed circuit. (An open water circuit may cause a failure.)
- Before a long period of non-use, purge the water out of the pipes and thoroughly let them dry.
- Do not add brine to the circulating water.
- Do not use the water used for the unit for drinking or food manufacturing.
- To ensure easy maintenance, inspection, and replacement of the unit, use a proper joint, valve, etc. (procured locally) on the water inlet and outlet port.
- Be sure to install a strainer with 30 to 40 meshes (procured locally) on the water inlet pipe. If a strainer is not installed, this may cause impaired performance, or damage to the plate heat exchanger from freezing.
- Install a suitable air vent (procured locally) on the water pipe. After sending water through the pipe, be sure to vent the excess air.
- To avoid water leak, wrap some sealing tape around the screw part.
- Water pipes can get very hot, depending on the preset temperature. Wrap the water pipes with heat insulation (procured locally) to prevent burns.
- Be sure to install the line heater (procured locally) on the water inlet side. In addition, position it within 5 m of the water inlet pipe of the Hot Water Module.
- Follow capacity table to select a line heater (procured locally) within the range of 40 to 50% of the Hot Water Module's rated capacity.

Hot Water Module model name	Capacity of line heater (kW)
MMW-AP0481CHQ-E	5.8 ~ 7.2



# WIRELESS SOLUTIONS KEEP CONTROL!



In addition to the high quality of the air conditioners, the controls also play a significant part in the ease-of-use and efficiency of the units. Optimized settings create the perfect climate. As well as local control options, Toshiba also offers a broad selection of central control systems or the option to integrate these in the building control system.

## > ONE CONTROL FOR EVERY USAGE



### Local controls

Cable remote controls (max. cable length 500 m) or wireless infrared remote controls are used to control individual units or groups of up to 8 indoor units. Additional modules allow units to be controlled from any location via apps or the Internet.



### Central controls

VRF systems can be controlled from a preferred central location, such as the reception or plant room. Cable lengths can be max. 2,000 m and up to 512 indoor units can be controlled.



### Building control systems

Toshiba air conditioners can be interlinked with all conventional building control systems. This makes air conditioning an integral part of the central control of a building.

## > WHEREVER YOU ARE



On the cloud with Toshiba AC control app

Locally with standard remote control

Using Toshiba WebBrowser for all your facilities

## > TRUST TOSHIBA TCC LINK

All control devices are connected to the air conditioner side using Toshiba's dedicated central control network, also called the TCC-Link. It can be used to directly connect all equipment.

**Wiring:** 2-core, non-polarity

**Type:** Shield wire

**Size/length:**

• 1.25 mm<sup>2</sup> / Up to 1,000 m

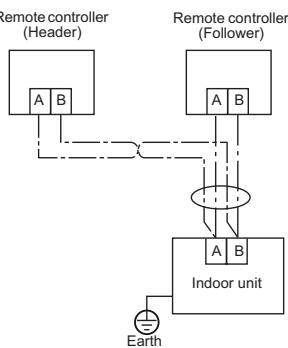
• 2 mm<sup>2</sup> / Up to 2,000 m

## INDIVIDUAL REMOTE CONTROLLER

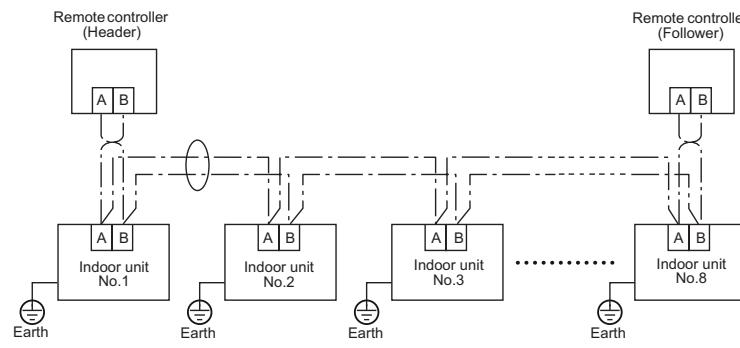
TYPE		INFRARED					WIRED					
Part number		TCB-AX32E2	RBC-AX32U(W)-E	RBC-AX32UM(W)-E	RBC-AX32UW(W)-E	RBC-AX33CE	RBC-ASC11E	RBC-AS41E	RBC-AMT32E	RBC-AMS41E	RBC-AMS55ES	NRC-01HE
Picture												
Dimensions (hxwxd) in mm	Remote	157x56x19	157x56x19	157x56x19	157x56x19	157x56x19	86x86 x16	120x70 x18	120x120 x16	120x120 x16	120x120 x20	120x120 x16
Infrared receiver		120x70x18	163x163x24	163x163x24	162x63x33	130x65						
Compatibility	All indoor units	4-Way Cassette	Compact 4-Way Cassette	2-Way Cassette	Ceiling & 1-way cassette		All indoor units	All indoor units	All indoor units	All indoor units	Air-to-air heat exchanger	
Connectivity	1:1	1:1	1:1	1:1	1:1		1:8	1:8	1:8	1:8	1:8 (1:7 SHRMe)	1:8
Standard functions	On/Off	•	•	•	•	•	•	•	•	•	•	•
	Mode (Heat, cool, ventilation, dry, auto)	•	•	•	•	•	•	•	•	•	•	•
	Temperature setting (Min/Max) in °C	17 / 30	17 / 30	17 / 30	17 / 30	17 / 30	18 / 29	18 / 29	18 / 29	18 / 29	18 / 29	18 / 29
	Fan speed (Auto, manual 5 speeds)	•	•	•	•	•	•	•	•	•	•	•
	Air direction (Swing mode or manual orientation)	•	•	•	•	•	•	•	•	•	•	•
Scheduling	Timer function	•	•	•	•	•	•	•	•	•	•	•
	Schedule function									•	•	
	Return back											•
Advanced functions	Dual set point											•
	Soft cooling											•
	Night operation											•
	Energy save function									•	•	•
	Frost protection								•	•	•	•
	Lock function											•
	Summer time											•
	Room naming											•
Installation & maintenance	Filter dirt indication						•	•	•	•	•	•
	Error display	•	•	•	•	•	•	•	•	•	•	•
	System settings						•	•	•	•	•	•
	Indoor unit serial number											•
Outputs	Error output						•	•	•	•	•	•
	External ventilation control							•	•	•	•	•
Display & Interface	Interface	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Menu	Icon
	Multilanguage											•
	Luminous buttons											•
	Backlight display						•					•
Other	Temperature sensor						•	•	•	•	•	•

## Installation drawings

## Individual control



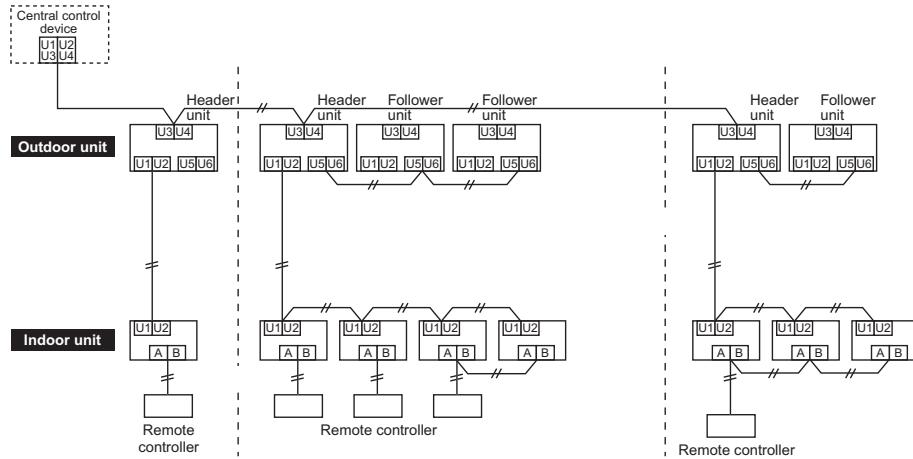
## Groupe control



\* The Header or Follower remote controller can be connected to any indoor unit.

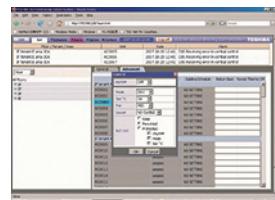
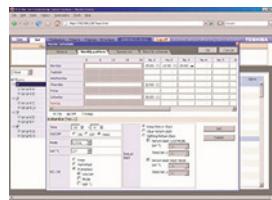
# CENTRAL CONTROL

TYPE	WIRED	WIRED	WIRED
Part number	TCB-SC643TLE	BMS-CM1280TLE	BMS-SM1281TLE
		Compliant Manager	Smart Manager
Picture			
Dimensions (hxwxp)	120x120x20mm	180x120x90mm	180x120x90mm
Compatibility	All systems	All systems	All systems
Connectivity	1:64	1:128	1:128
Standard function	On/Off Mode (Heat, cool, ventilation, dry, auto) Temperature setting Fan speed (Auto, manual 5 speeds) Air direction (Swing mode or manual orientation)	• • • • • •	• • • • • •
Scheduling	Timer function Schedule function Return back	• • •	• • •
Advanced functions	Dual set point Soft cooling Energy save function Energy monitoring	• • • •	• • • • (If power meter, BMS-IFWH5E interface relay needed)
Central control	Permit/Prohibit function Group control	• •	• •
Installation & maintenance	Filter dirt indication Error display Error transfer by Email System setting	• • • •	• • • •
Display & Interface	Interface Multilanguage Luminous buttons Backlight display	Menu • • •	Icon • • •
Outputs	Digital input/output Digital I/O built in Web connection	• • •	• (BMS-IFDD03E interface needed) • •

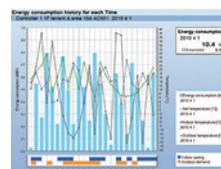
**Drawings****Focus on Web Browser**

The Smart Manager can be remotely connected via a computer and all functions can be controlled via web browser:

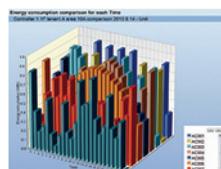
Standard operation - Advanced scheduling - Dual set point management - Up to 64 zones - Permit/Prohibit function - Energy saving - Return back

**Focus on Data Analyzer**

With or without power meter, the Data Analyzer software allows facility manager to manage system energy consumption. Through graphics on different periods, different indoor units, different energy consumption zones can be compared to optimize global efficiency. Set point, ambient temperature and outdoor temperature are monitored.



Energy consumption history

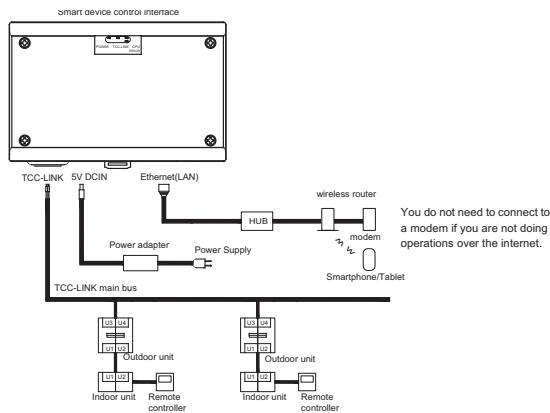


Energy consumption comparison

## CLOUD SOLUTION

Part number	BMS-IWF0320E
App name	Smart Device control interface Toshiba AC Control
Picture	
Dimensions	140x90x45mm
Compatibility	All indoor units (Except hot water module, DX kit, fresh air, A2A heat exchanger)
Connectivity	1:32
Standard functions	On/Off Mode (Heat, cool, ventilation, dry, auto) Temperature setting Fan speed (Auto, manual 5 speeds) Air direction (Swing mode or manual orientation)
Scheduling	Timer function Schedule function Return back
Advanced functions	Energy save function Eco temperature shift Soft cooling Customize room/floor/building name
Central control	Permit/Prohibit function Group control
Display & Interface	Interface Multilanguage Apps compatibility Devices compatibility
Installation & maintenance	Filter dirt indication Error display Error transfer by Email
Users	Login & Password 1 admin / 32 users

## Drawings



## User access

Level	Administrator	User
Function		
Air conditioner's display	•	• *1
Air conditioner's settings	•	• *1, *2
Users settings	•	-
Alarm	•	- *3
Schedule	•	-
Air conditioner's various settings	•	- *4
Clock settings	• (via intranet acces only)	-
Operation mode restriction	• (via intranet acces only)	-

\*1:Only the air conditioners in the "Access Area" can be displayed.

\*2:If the locking setting is enabled, you cannot do any settings.

\*3:The alarm settings for "Access Area" can only be displayed.

\*4:The settings can only be displayed.

## Toshiba AC control



Designed for commercial applications, the Toshiba AC Control App is your one-stop solution for managing up to 32 indoor units via an Android or iOS smartphone, with all main functions accessible in a single touch.



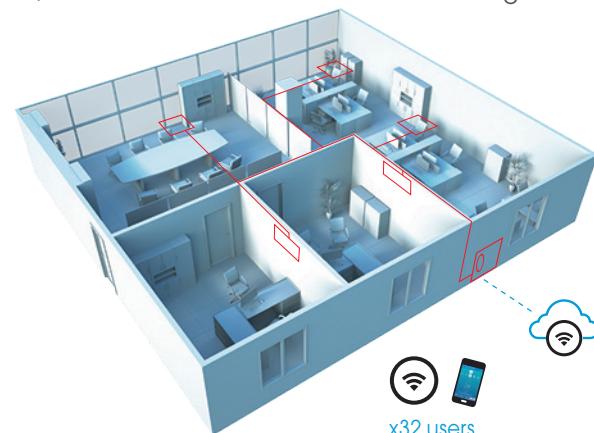
Mode  
(heating, cooling,  
ventilation, dry, auto)

Temperature set point,  
ambient temperature  
information

Fan speed  
(auto or manual)

On/Off

Louver control  
(fix or swing)



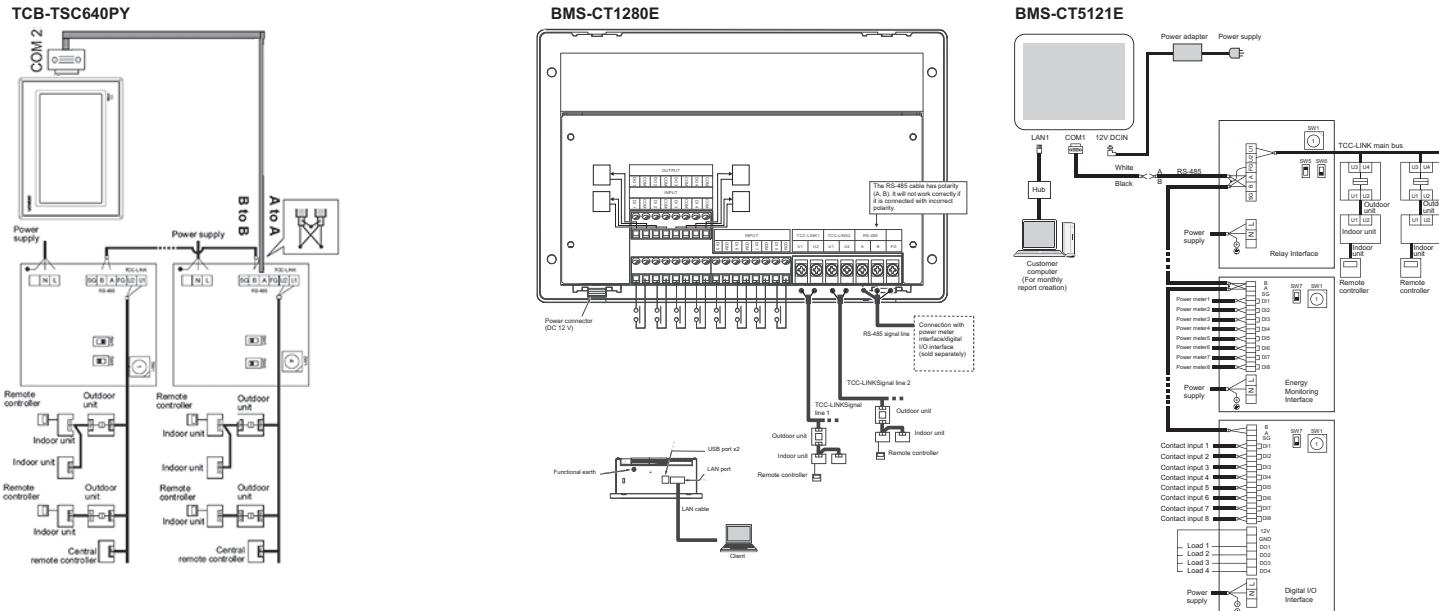
## TOUCH SCREEN SOLUTIONS

## Features



	TCB-TSC640-PY	BMS-CT1280E	BMS-CT5121E
Part number	TCB-TSC640-PY	BMS-CT1280E	BMS-CT5121E
Picture			
Dimensions	148x202x46mm	205x136x90mm	255x323x49mm
Compatibility	All indoor units (Except hot water module and A2A heat exchanger)	All indoor units (Except hot water module, DX kit, fresh air, A2A heat exchanger)	All indoor units (Except hot water module & A2A heat exchanger). TCS-NET relay interface needed (BMS-IFLSV4E)
Connectivity	1:64	1:128	1:512
Screen	Type Color touch screen Dimension 7"	Capacitive color touch screen 7"	Capacitive color touch screen 12.1"
Standard functions	On/Off Mode (Heat, cool, ventilation, dry, auto) Temperature setting Fan speed (Auto, manual 5 speeds) Air direction (Swing mode or manual orientation)	• • • • •	• • • • •
Scheduling	Timer function Schedule fonction Return back	• • •	• • •
Advanced functions	Dual set point Soft cooling Energy save function Energy monitoring Rooms naming External interlocking	• • • • • • (Requires General Purpose Interface TCB-IFCG1TLE)	• • • • (If power meter BMS-IFWH5E interface relay needed)
Central control	Permit/Prohibit function Group control	• •	• •
Installation & maintenance	Filter dirt indication Error display Error transfert by Email System setting	• • • •	• • • •
Outputs	Digital Input/Output Web connection	• (General Purpose Relay Interface needed TCB-IFCG1TLE)	• • (Digital I/O BMS-IFDD03E needed)
Display & interface	Interface Multilanguage Backlight display	Menu • •	Menu • •

## Installation drawings



## ADDITIONNAL PCB

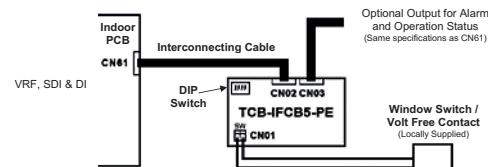
## Additional PCB for outdoor units

Power peak-cut control board			External master ON/OFF control board			Output control board			
Model name									
	TCB-PCDM4E		TCB-PCMO4E		TCB-PCIN4E				
System	SMMSe	SHRMe	MINI SMMSe	SMMSe	SHRMe	MINI SMMSe	SMMSe	SHRMe	MINI SMMSe
Power peak cut control	*	*	*						
Power peak cut extend	*	*	*						
Snowfall fan control				*	*				
External master ON/OFF control				*	*	*			
Night operation (Sound reduction) control				*	*	*			
Operation mode selection control				*	*	*			
Error/Operation output control							*	*	*
Compressor operation output							*	*	*
Operation rate display							*	*	
Max number installed	1	1	1	4	4	2	2	2	1
Kind of digital input / output	2 / 1		6 / -		- / 8				

## Additional PCB for indoors units

## &gt; Windows switch sensor TCB-IFCB5PE

Function	Mode / Description	Dip Switch setting
Remote On/Off control application	Remote On-Off signal has full priority	All Bits OFF
	Priority is given to the remote ON signal	Bit 1 ON
	Priority is given to the remote OFF signal	Bit 2 ON
Window switch application	Last touch priority	Bit 1 & 2 ON
	With return back to previous operation	Bit 3 ON
	With no return back function	Bit 4 ON

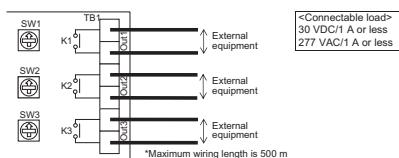


## &gt; Optionnal connection kit TCB-PCUC2-E

## SIGNAL

## OUTPUT TERMINAL TB1

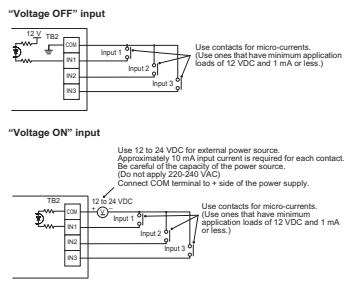
Signal outputs (Mode, fans status, alarm, defrost,...) are extracted from "OUT1", "OUT2", and "OUT3".



## EXTERNAL

## DIGITAL INPUT TERMINAL TB2

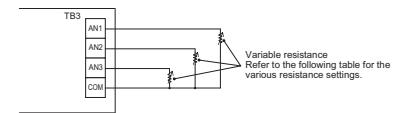
Stop air conditioner or lock local remote by inputting signal.



## EXTERNAL

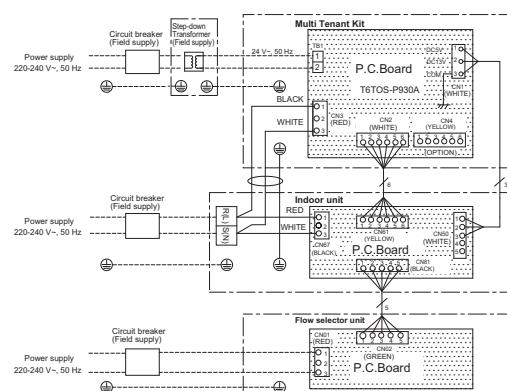
## ANALOG INPUT TERMINAL TB3

Change the indoor unit's operation mode (AN1), set temperature (AN2), and blower setting (AN3) by connecting a variable resistor to the analog input terminal.



## &gt; Multi tenant kit TCB-PSMT1E

For multi tenant application, this PCB maintains low voltage power during tenant absence when main power supply for the FCU is shut down.

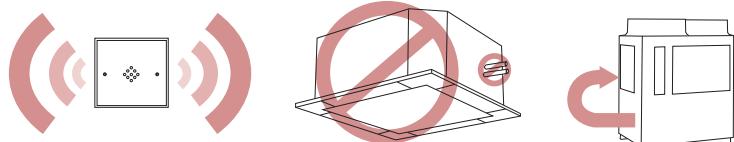


## Features

Part number	BMS-IFMB0TLR-E	TCB-IFMB641TLE	BMS-IFKX0TLR-E	TO-AC-KNX-16	TO-AC-KNX-64	TCB-IFLN642TLE	BMS-IFBN640TLE	TCB-IFCB640TLE
Language	Modbus		KNX		LonWorks	Bacnet	Analog and digital inputs	
Picture								
Dimensions (hxlxw)	53x86	170x200x66	92x82x33	217x147x90mm	193x246x66	90x140x45	66x170x200	
Compatibility	All indoor units	All indoor units (HWM, A2A heat exchanger excluded)	All indoor units (HWM, A2A heat exchanger excluded)	All indoor units (HWM, A2A heat exchanger excluded)	All indoor units (HWM, A2A heat exchanger excluded)	All indoor units (HWM excluded)	All indoor units (HWM excluded)	All indoor units
Connectivity	Max number of indoor units	8	64	8	16	64	64	64
	Max number of outdoor units		16			16		16
	Max number of gateways	63	15			10	1	
	On/Off	R/W	R/W	R/W	R/W	R/W	R/W	R/W
	Accumulated operation time		R/W					
	Mode (Heat, cool, ventilation, dry, auto)	R/W	R/W	R/W	R/W	R/W	R/W	R/W
	Temperature setting	R/W (Dual set point supported)	R/W	R/W (Dual set point supported)	R/W	R/W	R/W	R/W
	Fan speed (Auto, manual 5 speeds)	R/W	R/W	R/W	R/W	R/W	R/W	R/W
	Air direction (swing mode or manual orientation)	R/W	R/W	R/W	R/W	R/W	R/W	R/W
Command	Soft cooling	R/W						
	Save operation	R/W		R/W		R/W	R/W	
	Filter dirt indication	R/W	R/W	R/W	R/W	R/W	R/W	
	Room temperature	R	R	R		R	R	
	Permit/Prohibit of local operation	R/W	R/W	R/W	R/W	R/W	R/W	
	Temperature setting range limitation		R/W					
	Error status	R	R	R	R	R	R	R
	Error code	R	R	R	R	R		
	Error address	R		R	R			
	Model name		R					
	Serial number		R					
	Indoor unit capacity		R					
	Indoor unit type		R					
Protocol	Modbus RTU	Modbus RTU	EIB bus	EIB bus	LonTalk communication	Bacnet IP	Voltage signal	
Infrastructure	RS-485	RS-485	KNX TP1	KNX TP2	Twisted pair shield cable	LAN cable (Higher than Category 5, UTP)		
Requirements (Locally supplied)		Modbus master device	KNX power unit	KNX power unit	Lonworks control system			
		Modbus graphic control	ETS4 or ETS5 tool	ETS4 or ETS5 tool	Lonworks Network Card for PC Control			

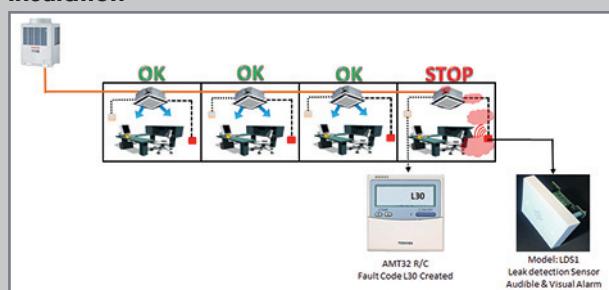
## Leak detection

**> YOUR SAFETY  
FIRST AND FOREMOST**



Toshiba Air Conditioning is offering a full set of leak detection solutions compliant with EN378 standard.

### **> Solution 1 : Audible & visible alarm + indoor unit insulation**

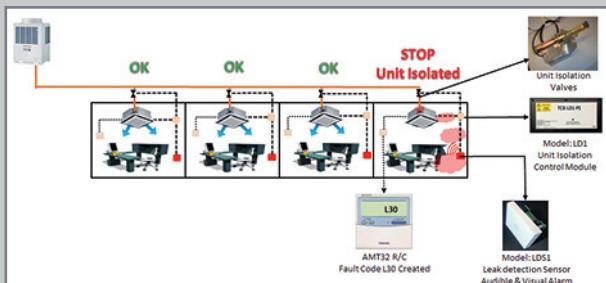


Leak detector: TCB-LDS1 (Plastic) or TCB-LDS2 (Metal)  
Flush mounting: TCB-LDSBB1 (Dry lining) or TCB-LDSBB2 (Concrete)

## Controls

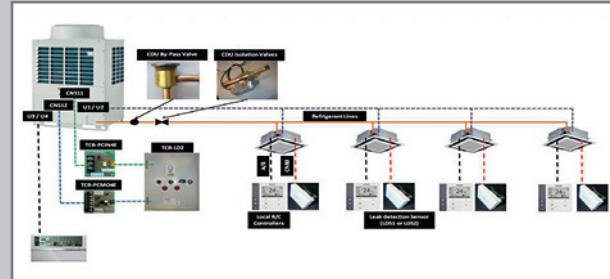
Model number	Reference	Description	Used with
BMS-CM1280TLE	Compliant Manager	Enables full control of up to 128 indoor units	
BMS-CT1280E	7-inch Touch Screen Controller	Enables full control of up to 128 indoor units	
BMS-CT5121E	12-inch Touch Screen Controller	Enables full control of up to 512 indoor units with electric billing, ML	
BMS-IFBN640TLE	BN Interface	BACnet Interface for LC & VRF	Enables integration with BACnet
BMS-IFDD03E	Digital I/O relay interface	Digital I/O relay interface	Touch screen controller, Compliant manager, Web based controller, Smart Manager
BMS-IFKK01LR-E	1:1 KNX interface	Connect the system to a KNX Building Management System	Remote Control wiring
BMS-IFLSV4E	TCS-Net relay Interface	Relay for integration to TCS-Net	Bacnet gateway, Touch-screens & Web based controller
BMS-IFMB01LR-E	1:1 Modbus interface	Connect the system to a Modbus Building Management System	Remote Control wiring
BMS-IFWH5E	Energy monitoring relay interface	Energy monitoring relay interface	Touch screen controller, Compliant manager, Web based controller, Smart Manager
BMS-IWF0320E	Smart Device Control interface	Enables full control of up to 32 indoor units by using Toshiba AC app (Smart phone & Tablet)	
BMS-SM1281ETLE	Smart BMS Manager with data analyzer	Enables full control of up to 128 indoor units with Energy Monitoring and Advanced Control options.	Network 1:1 model connection interface required for DI/SDI (Excluding high-wall type)
NRB-1HE	Remote ON/OFF adapter	Allows ON/OFF control	All Air-to-air heat exchangers
NRC-01HE	Wired remote controller	Air-to-air heat exchanger remote controller, including with DX coil and humidifiers models	Air-to-air heat exchangers and Air-to-air heat exchangers with DX coil
RBC-AMS41E	Remote controller with schedule timer	Indoor unit operation with schedule timer (7-days) allowing to program 8 functions/day + clock display	
RBC-AMS55E-EN/ES	Design remote controller with schedule timer	Multi-Language LCD display, a built-in 7-Day timer, Energy Saving options and Return Back function, Dual set points, and Soft Cooling, EN = English, Italian, Polish, Greek, Russian, Turkish, ES = English, Spanish, Portuguese, French, Dutch, German	
RBC-AMT32E	Wired remote controller	Main wired remote controller	
RBC-AS41E	Simplified wired remote controller	dedicated to hotel and domestic applications	
RBC-ASC11E	Simplified wired remote controller	Dedicated to hotel and domestic applications	
RBC-AX32CE2	Infra-red remote kit	Wireless remote controller	All ceiling units and one-way cassettes (SH series)
RBC-AX32U(W)-E	Wireless remote unit kit	Wireless remote unit kit for 4-way cassette	4-way cassette series 4 & RBC-U31PGP(W)-E panel
RBC-AX32UM(W)-E	Wireless remote unit kit	Wireless remote unit kit for 2-way cassette	Compact 4way cassette MMU-AP***7MH-E
RBC-AX33CE	Infra-red remote kit	Wireless remote controller	For ceiling units series 8 (MMC-APxx8H-E) and one-way cassettes (SH series)
TCB-AX32E2	Infra-red remote kit	Wireless remote controller	
TCB-EXS21ITLE	Schedule timer	Operating in weekly timer mode or schedule timer mode	All units
TCB-IFCB-4E2	Remote location On/Off control box	Enables remote location On/Off control	
TCB-IFCB5-PE	Window Switch & Remote on/off	Ensure the indoor unit not operate when outside window is open or for Door Entry systems	
TCB-IFCG640TLE	Analog interface	Control & monitoring up to 64 IU on TCC-link	Combination with TCB-IFCG1TITLE
TCB-IFCG1TITLE	General purpose interface	Enable control of A/C by the DI/DO and AI/AO	Combination with TCB-IFCB640TITLE
TCB-IFLN642TLE	LN Interface	Allows control of 64 indoor units from a Lonworks based BMS	
TCB-IFMB641TITLE	Modbus interface box	Connect the system to a Modbus Building Management System	
TCB-KBCN32VEE	Connectors	For CN32	
TCB-KBCN60OPE	Connectors	For CN60	
TCB-KBCN61HAE	Connectors	For CN61	
TCB-KBCN70OAE	Connectors	For CN70	
TCB-KBCN73DEE	Connectors	For CN73	
TCB-KBCN80EXE	Connectors	For CN80	
TCB-PCDM4E	Application control PC board	Power Peak Cut Control	
TCB-PCIN4E	Application control PC board	Error/Individual compressor Operation Output Control Board	
TCB-PCM04E	Application control PC board	External Master ON/OFF Control Board	
TCB-PCUC2E	Optional connection kit		
TCB-PSMT1E	Optional connector kit	Multi-Tenant kit for VRF Systems	SMMS-e, SHRM-e and MINI-SMMS indoor units (Refer to I/M for more details of connectable Indoor units)
TCB-PX100-PE	Enclosure for the Window Switch / Remote On/Off	For use when the Window Switch / Remote On/Off Accessory cannot fit within the AC unit, eg. High Walls	For use with TCB-IFCB5-PE
TCB-PX30MUE	E-Box extension enclosure	For 1:1 Model connection I/F and Window Switch / Remote On/Off PCB	4-Way Cassettes only & TCB-IFCB5-PE
TCB-PX40MUE	E-Box extension enclosure	For 1:1 Model connection I/F and Window Switch / Remote On/Off PCB	4-Way Compact Cassettes only & TCB-IFCB5-PE
TCB-SC643TITLE	Centralized remote control	Up to 64 indoor units	
TCB-TC41LE	Remote temperature sensor	Remote temperature sensor for cassette & duct	
TCB-TSC640-PY	7-inch Touch Screen Controller	Enable full control of up to 64 indoor units	

### ► Solution 2: Audible & visible alarm only



Leak detector: TCB-LDS1 (Plastic) or TCB-LDS2 (Metal)  
Flush mounting: TCB-LDSBB1 (Dry lining) or TCB-LDSBB2 (Concrete)  
Isolation valve: TCB-AW17861/7  
Control module: TCB-LD1

### ► Solution 3: Audible & visible alarm + refrigerant pump down



Leak detector: TCB-LDS1 (plastic) or TCB-LDS2 (metal)  
Flush mounting: TCB-LDSBB1 (dry lining) or TCB-LDSBB2 (concrete)  
One per system: Isolation valve: TCB-AW17861/7  
Control module: TCB-LD1



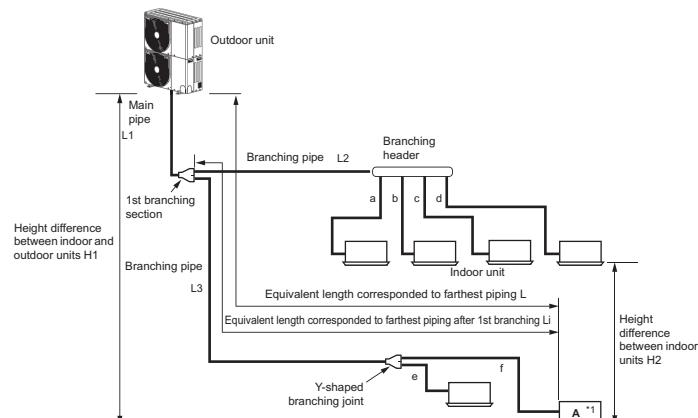
## Indoor units accessories

Indoor unit type	Part name	Model name	Compliance with VRF FCU	Notes	Remarks
4-way air discharge cassette type	Standard panel	RBC-U31PGP(W)-E	MMU-AP***4H/4HP-E/4HP1-E	Required accessory	
	Fresh air and filter chamber	TCB-GFC1602UE	MMU-AP***4H/4HP-E/4HP1-E	For fresh air inlet box	
	Fresh air inlet box	TCB-GB1602UE	MMU-AP***4H/4HP-E/4HP1-E	For fresh air intake by using the knockout hole of fresh air and filter chamber. (dia.=100 mm)	
	Auxiliary fresh air flange	TCB-FF101URE2	MMU-AP***4H/4HP-E/4HP1-E	For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100mm)	
	Spacer for height adjustment	TCB-SP1602UE	MMU-AP***2H,4H-E,4HP-E,4HP1-E	Height 50 mm	
	Air discharge direction kit	TCB-BC1602UE	MMU-AP***2H,4H-E,4HP-E,4HP1-E	Air direction change by cutting off air discharge port (3 pcs.)	
Compact 4-way cassette type	Decoration panel	RBC-UM21PG(W)-E	MMU-AP***7MH-E	Required accessory	
	Motion sensor	TCB-SIR41UM-E	MMU-AP***7MH-E		Wireless remote controller kit (RBC-AX32UM(W)-E) and Occupancy sensor cannot be used on the same indoor unit.
2-way cassette type	Decoration panel	RBC-UW283PG(W)-E	MMU-AP0072/0092/0122/0152WH, WH1	Required accessory	
	RBC-UW803PG(W)-E	MMU-AP0182/0242/0272/0302WH, WH1			
	RBC-UW1403PG(W)-E	MMU-AP0362/0484/0562WH, WH1			
	Auxiliary fresh air flange	TCB-FF151US-E	MMU-AP***2WH, WH1	For easy fresh air intake by using the knockout hole of indoor unit	
	Filter chamber	TCB-FC283UW-E	MMU-AP0072/0092/0122/0152WH, WH1		
	TCB-FC803UW-E	MMU-AP0182/0242/0272/0302WH, WH1			
	TCB-FC1403UW-E	MMU-AP0362/0484/0562WH, WH1			
	Super long life filter	TCB-LF283UW-E	MMU-AP0072/0092/0122/0152WH, WH1	For use with filter chamber	
	TCB-LF803UW-E	MMU-AP0182/0242/0272/0302WH, WH1			
	TCB-LF1403UW-E	MMU-AP0362/0484/0562WH, WH1			
1-way cassette type	Decoration panel	RBC-UY136PG	MMU-AP0071/0091/0121YH, 4YH-E, 4YH1-E	Required accessory	
	Front air discharge unit	TCB-BUS21WHE	MMU-AP0152/0182/0242SH, 4SH-E, 4SH1-E		
	Auxiliary fresh air flange	TCB-FF101URE2	MMU-AP***1SPH, 4SPH-E	For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100mm)	
Slim duct type	Auxiliary fresh air flange	TCB-FF101URE2	MMU-AP***1SPH, 4SPH-E	For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100mm)	
Concealed duct type	Spigot shaped flange	TCB-SF56C6BE	MMD-AP0076/0096/0126/0156/0186BH P-E, BHP1-E		
	TCB-SF80C6BE	MMD-AP0246/0276/0306BHP-E, BHP1-E			
	TCB-SF160C6BE	MMD-AP0366/0486/0566BHP-E, BHP1-E			
Concealed duct high static pressure type	Long life filter kit	TCB-LK801D-E	MMD-AP0186/0246/0276HP-E, 6HP1-E		
	TCB-LK1401D-E	MMD-AP0366/0466/0566HP-E, 6HP1-E			
	TCB-LK2801DP-E	MMD-AP0726/0966HP-E			
	Spigot shaped flange	TCB-SF80C6BE	MMD-AP0186/0246/0276HP-E, 6HP1-E		
	TCB-SF160C6BE	MMD-AP0366/0466/0566HP-E, 6HP1-E			
High-wall	Auxiliary fresh air flange	TCB-FF151US-E	MMD-AP***6HP-E, 6HP1-E		
	Drain pump kit	TCB-DP40DPE	MMD-AP***6HP-E, 6HP1-E		
	PMV Kit 3-Series	RBM-PMV0363E		For FCU capacity 0.8-1.3HP	
		RBM-PMV0903E		For FCU capacity 1.7-2.5HP	
	High efficiency filter 65	TCB-UFM4D-1E	MMD-AP0481HFE	Dust collecting effect: 65% (NBS Colorimetric method)	
		TCB-UFM5DE	MMD-AP0721/0961HFE		Use with TCB-PF4D-1E
Fresh air intake type	High efficiency filter 90	TCB-UHF8D-1E	MMD-AP0481HFE	Dust collecting effect: 90% (NBS Colorimetric method)	
		TCB-UHF7DE	MMD-AP0721/0961HFE		Use with TCB-PF3D
	Long life filter	TCB-PF4D-1E	MMD-AP0481HFE	Dust collecting effect: 50% (NBS Colorimetric method)	
		TCB-PF3DE	MMD-AP0721/0961HFE		Use with TCB-FCY51DFE
	Filter chamber	TCB-FCY51DFE	MMD-AP0481HFE		Use with TCB-PF3D
		TCB-FCY100DE	MMD-AP0721/0961H, 4H-E & MMD-AP0721/0961HFE	For high efficiency filter or long life prefilter	
Air-to-air heat exchanger with DX coil	Drain pump kit	TCB-DP32DFE	MMD-AP0481/0721/0961HFE	Lift up to 330 mm	
	Drain pump kit	TCB-DP31HEXE	MMD-VN502/802/1002HEXE & MMD-VNK502/802/1002HEXE	Lift up to 330 mm	
	Drain pump kit	TCB-DP31CE	MMC-AP***7HP-E, 7HP1-E, 8HP-E	Lift up to 600 mm	Use TCB-KP13, 23CE
Ceiling-suspended type	Elbow piping kit	TCB-KP13CE	MMC-AP0157/0187HP-7HP1-E, 8HP-E		
		TCB-KP23CE	MMC-AP0247/0277/0367/0487/0567HP-7HP1-E, 8HP-E		

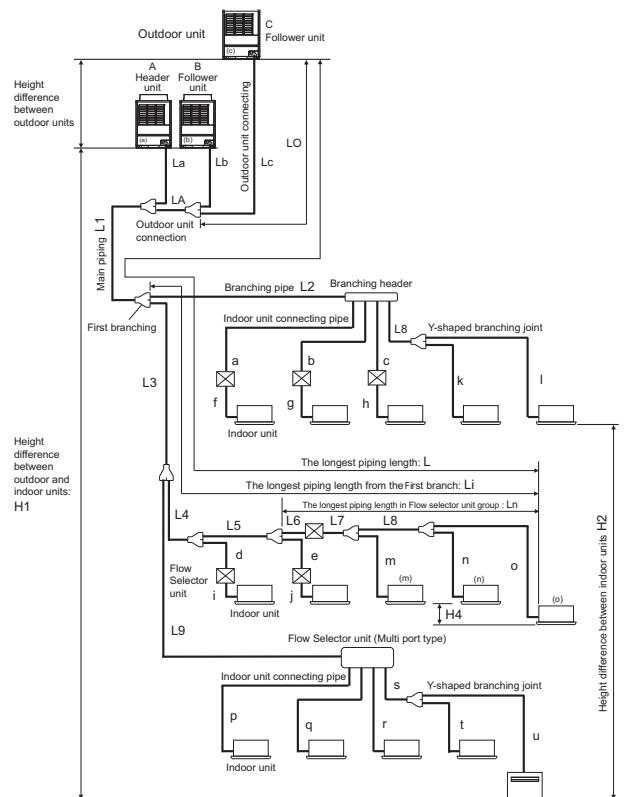
## Refrigerant accessories

Model name	Description	Picture	Capacities
Compatible with MiNi SMMS-e & SMMS-e	Compatible with SHRM-e		
RBM-BY55E	RBM-BY55FE	Branching joint	< 6.4 HP
RBM-BY105E	RBM-BY105FE	Branching joint	< 6.4 - 14.2 HP
RBM-BY205E	RBM-BY205FE		< 14.2 - 25.2 HP
RBM-BY305E	RBM-BY305FE		25.2 HP
RBM-HY1043E	RBM-HY1043FE	Headers branching four-way	< 14.2 HP
RBM-HY2043E	RBM-HY2043FE		< 14.2 - 25.2 HP
RBM-HY1083E	RBM-HY1083FE	Headers branching eight-way	< 14.2 HP
RBM-HY2083E	RBM-HY2083FE		< 14.2 - 25.2 HP
RBM-BT14E	RBM-BT14FE	Joints for connection of outdoor units	< 26 HP system capacity
RBM-BT24E	RBM-BT24FE		>26 HP system capacity
	RBM-Y1123FE		< 4.0 HP indoor units
	RBM-Y1803FE	Flow selector unit	< 4.0 - 6.4 HP indoor units
	RBM-Y2803FE		< 6.4 - 10.0 HP indoor units
	RBM-Y1124FE		< 4.0 HP indoor units
	RBM-Y1804FE	Flow selector unit long piping	< 4.0 - 6.4 HP indoor units
	RBM-Y2804FE		< 6.4 - 10.0 HP indoor units
	RBM-Y1801F4PE	Multi-port flow selector unit	< 6.4 HP indoor units x 4 ports
	RBM-Y1801F6PE		< 6.4 HP indoor units x 6 ports

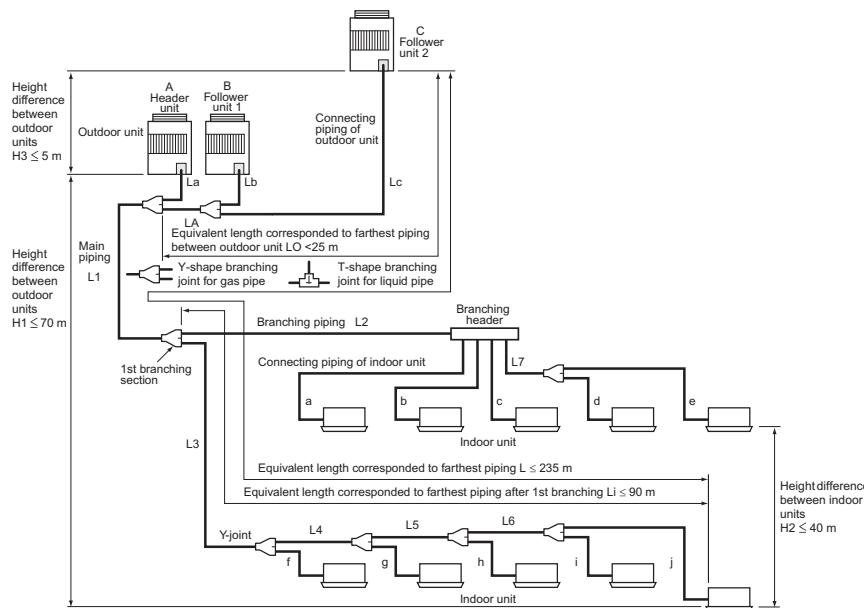
## Mini VRF piping



## SHRM-e piping



## SMMS-e piping



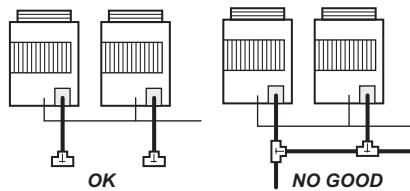


## &gt; SYSTEM RESTRICTION

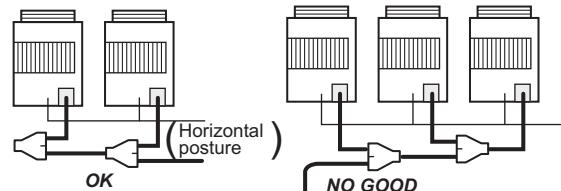
	SMMS-e		SHRM-e
	Standard	Stand alone	
Outdoor unit combination	Up to 3 units	1 unit	Up to 3 units
Total capacity of outdoor units	Up to 60HP	Up to 12HP	Up to 54HP
Indoor unit connection	Up to 64 units	Up to 27 units	Up to 64 units (54 with central control)
Total capacity of indoor units	H2 ≤ 15m 15m > H2	135% 105%	135%* 105%

\* 20HP &amp; 40HP: 125% 38HP: 130%

T-shape branching joint for liquid pipe



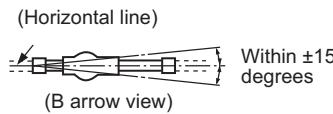
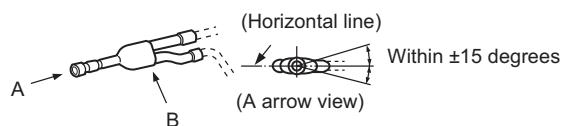
Y-shape branching joint for gas pipe



## &gt; CAUTION FOR INSTALLATION

Be careful of the connecting arrangement of the header unit and follower units. Set the outdoor units in order of capacity from the one with the largest capacity.

## At a level position

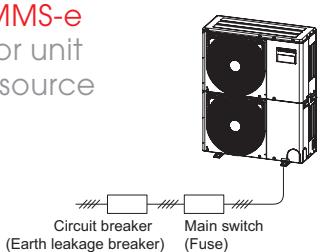


## &gt; FREE BRANCHING SYSTEM

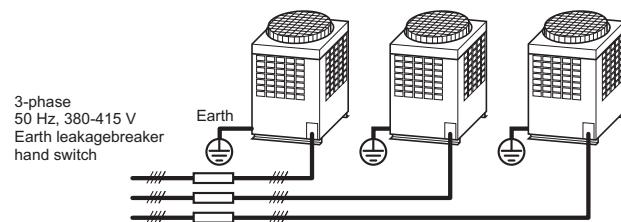
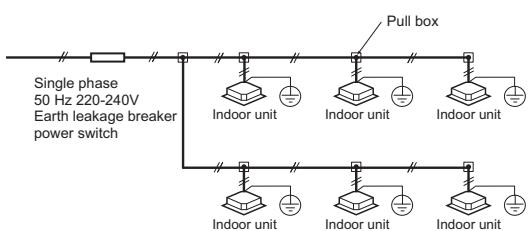
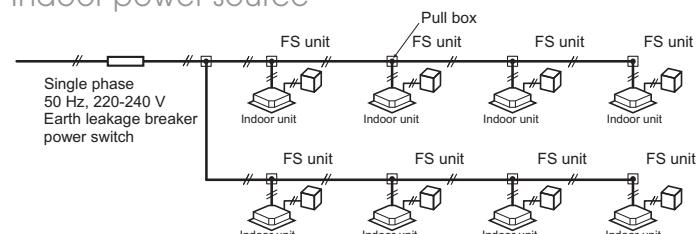
Line branching system	
Header branching system	
Header branching system after line branching	
Line branching system after header branching	
Header branching system after header branching	

**Electrical wiring**

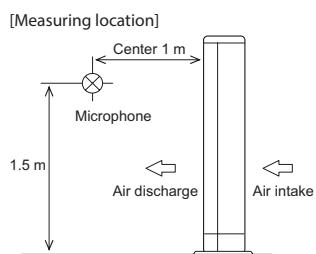
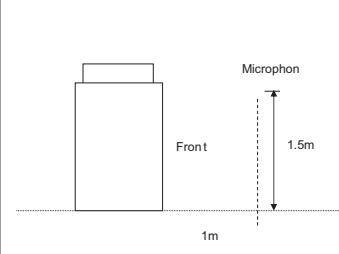
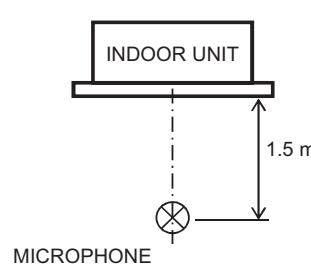
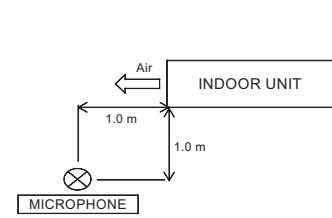
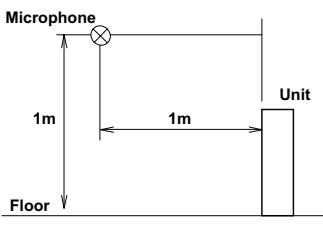
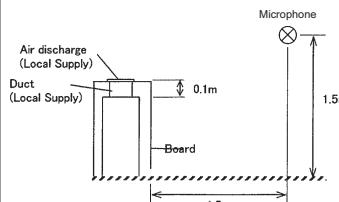
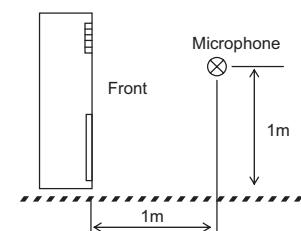
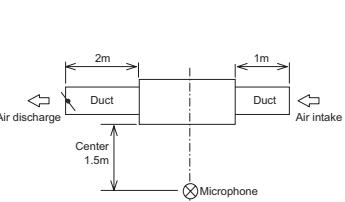
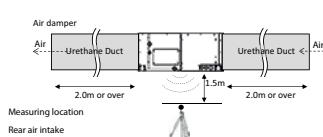
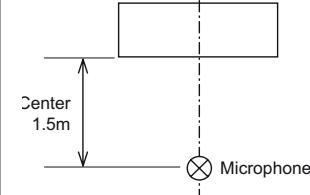
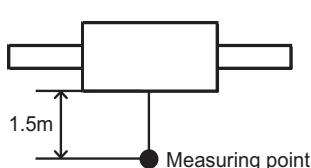
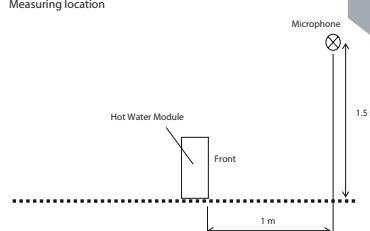
**Mini SMMS-e**  
Outdoor unit power source



**SMMS-e/SHRM-e**  
Outdoor power source

**Indoor unit power source****Indoor power source**

FS unit only applicable for SHRM-e. Multiple and 4 series FS boxes need to be powered separately from indoor unit.

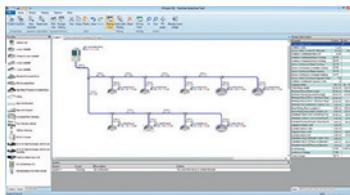
**Sound pressure level measurement****MINI SMMS****SMMS-e & SHRM-e****COMPACT 4-WAY CASSETTE & 4-WAY CASSETTE & 2-WAY CASSETTE & 1-WAY CASSETTE****HIGH-WALL & CEILING****CONSOLE & BIFLOW CONSOLE****CONCEALED CHASSIS****FLOOR STANDING****SLIM DUCT & STANDARD DUCT & HIGH STATIC DUCT****HIGH STATIC DUCT SIZES 72 & 96****FRESH AIR****A2A HEAT EXCHANGER****HOT WATER MODULE (MID & HIGH TEMPERATURE)**

## Toshiba selection Tool

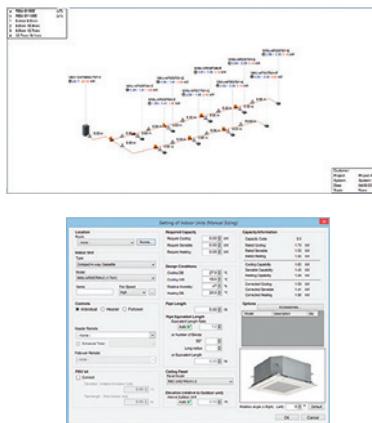
# > MAKE IT EASIER



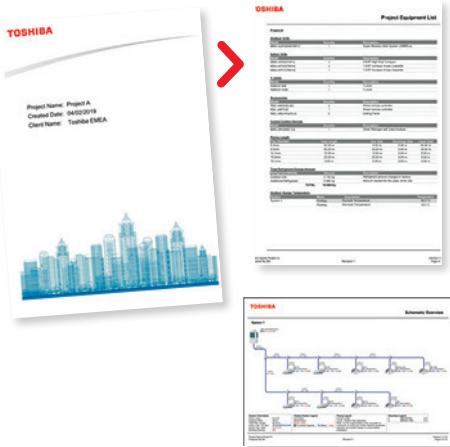
Software main screen



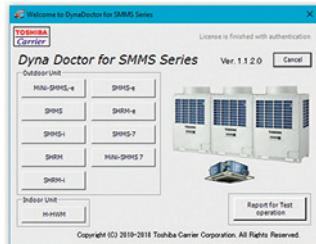
Project fully customizable



Complete report

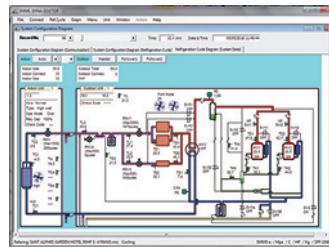
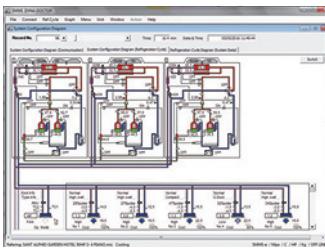


## Dyna Doctor



# > DIAGNOSTIC TOOL

System sophisticated as the VRF needs advanced solution to simplify commissioning and ensure good operation. Toshiba has developed Dyna Doctor software: a precious diagnostic tool for the technicians who deal with installation and maintenance. Technicians can connect to the VRF system using a dedicated interface that allows download of all parameters of operation. This allows analysis or instant verification of data.



## Wave tool

# > NEAR FIELD TECHNOLOGY AND WAVE TOOL, ALL YOUR DATA WITHIN REACH

With Near Field Communication (NFC), the SMMS-e and the SHRM-e are the first in the industry to allow remote monitoring of CDU operations. Using NFC technology, Read and Write data is exchanged wirelessly between the unit and a smartphone (Android, OS, 5.0) for remote commissioning and operations data checking.



**Product data  
System data  
Fault history  
Test operation  
results**  
(Android only)



Less time needed  
for system  
configuration  
and maintenance  
operations

## › INSTALLATION AND USE OF REFRIGERANTS NOT SPECIFIED BY TOSHIBA CARRIER CORPORATION

Toshiba Air Conditioning products are designed and manufactured on the assumption that each product is used with the specific refrigerant specified for that product.

The use of incorrect refrigerant may cause mechanical defects, malfunctions or failures which, in some cases, could result in a serious safety issue. For this reason Toshiba Carrier Corporation requires that only the specified refrigerant for a product should be used.

The type of refrigerant specified for a product is stated in the accompanying owners manual for a product, or on the label attached to the product itself.

Toshiba Carrier Corporation shall not assume any liability for failures, malfunctions or safety issues on any product if incorrect refrigerant is used in that product.

## › TESTING CONDITIONS BASED ON EUROVENT REQUIREMENTS

Cooling mode

Indoor air temperature: 27°CDB / 19°CWB

Outdoor temperature: 35°CDB / 24°CWB

Heating mode

Indoor air temperature: 20°CDB

Outdoor temperature: 7°CDB / 6°CWB

Certified data accessible on Eurovent website

Seasonal data accessible on Toshiba Ecodesign website

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Through our commitment to world-class **efficiency**,  
versatile **scalability** and leading **quality**, Toshiba Air  
Conditioning advances leading-edge technologies  
to find the most forward-thinking solutions possible  
for your world.



TOSHIBA Air Conditioning participates in the  
ECP program for Comfort Air Conditioner (AC).  
Check ongoing validity of certificate:  
[www.eurovent-certification.com](http://www.eurovent-certification.com)