

# TOSHIBA



**MINI-SMMS 7**

**Air Conditioning for small and medium-size building**



*Better Air Solutions*

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Because  
in air con  
this VRF is

»»» Sense of  
Space saving  
light wei

»»» Sense of endurance  
Wider ambient oper

»»» Sense of efficiency  
Higher energy effi



## Better Air Solutions

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.

### 7 Senses of smartness

To understand your real needs, we have searched for and finally found 7 senses of smartness in air conditioning, which we have innovately developed into the most advanced technologies MINI-SMMS 7 with cooling optimized for hot and humid temperature.

space  
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>>> Sense of flexibility  
Design flexibility

>>> Sense of strength  
High reliability

>>> Sense of care  
Environmentally oriented

>>> Sense of convenience  
Smart control



MINI-SMMS 7

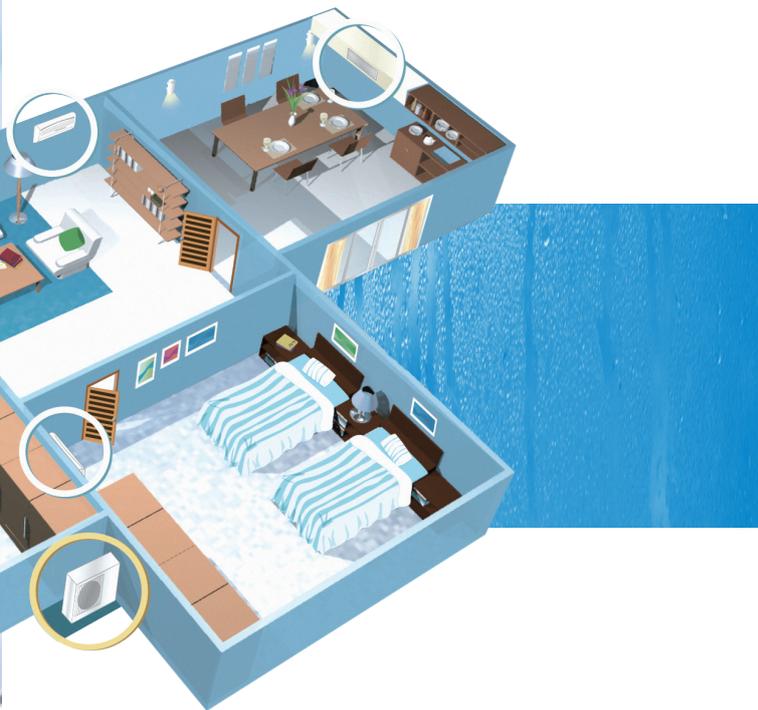
"SMMS-7 the senses of cooling"



## MiNi-SMMS 7

### Luxury through flexibility and technology

Toshiba new advanced single fan MiNi-SMMS 7 will deliver the ultimate in cooling comfort. The very latest air conditioning technology ensures optimal performance greatly for the quality of your life.



### Small unit but huge advantages

Toshiba MiNi-SMMS 7 exterior units are lightweight and compact. An outdoor unit takes up only little space on the wall or yard. It makes the exterior of building look neat & modern with quieter operation.

### Benefits of the Toshiba MiNi-SMMS 7 flexibility

One external condenser can serve up to six interior units for excellent flexibility, cost-effectiveness, and high reliability



## Space saving and light weight *Space*

Space saving and light weight chassis provides the optimal solution for limited installation space like a condominium with limited balcony, hotel, small office and small shop.

Inside view of a condominium



Optimized cooling  
MiNi-SMMS 7  
4HP/5HP/6HP

**NEW**

Light weight  
**74kg**



Outside view of a condominium



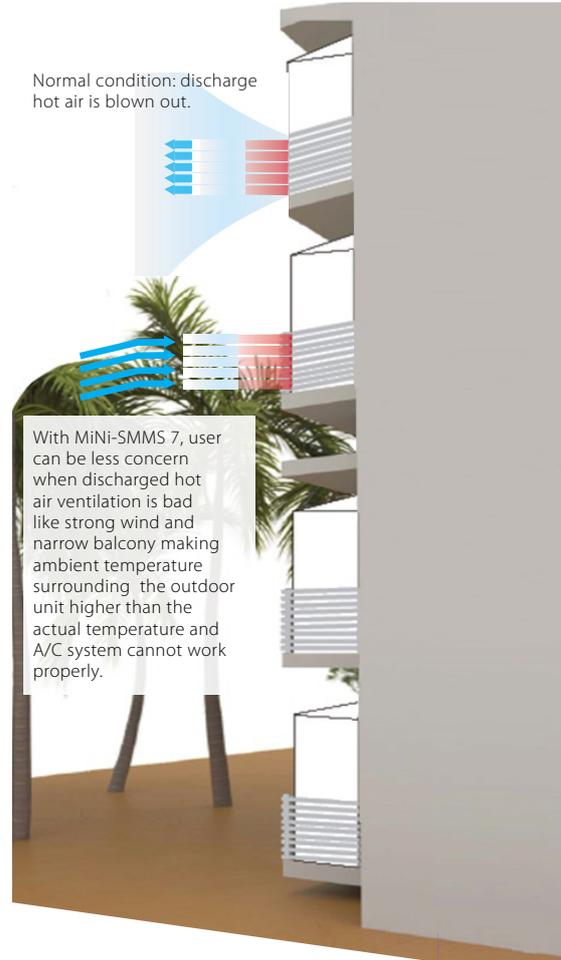
## Wider ambient operation *Endurance*

MiNi-SMMS 7 is designed to well and smoothly operate at higher ambient temperature up to 50°C DB , this 50°C DB is the wider cooling operation range. which Toshiba tested to ensure the products keep high reliability.

Outdoor operation temperature

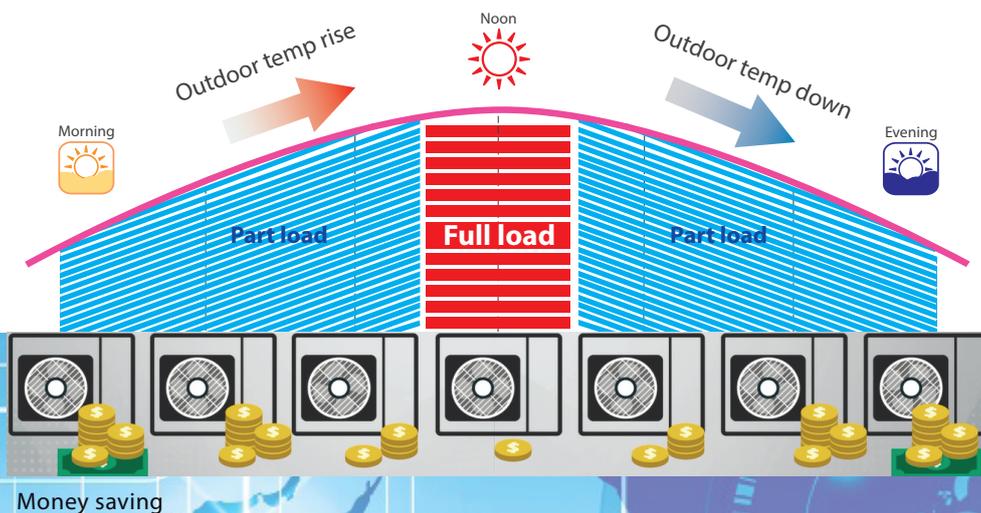


Normal condition: discharge hot air is blown out.



## Higher energy efficiency *Efficiency*

Part load EER is our great advantage, A/C system in residential and small office applications is mostly operated at part load condition. MiNi-SMMS 7 with high energy efficiency can help customers save power consumption and their money.



## Design flexibility

## Flexibility

MiNi-SMMS 7 provides high flexibility in design due to wide range of indoor unit choices, this helps expanding interior design ideas, opening the door to stylish and elegant life style.



Connectable up to 6 indoor units for exceptional flexibility, luxury and well-designed.



## High reliability

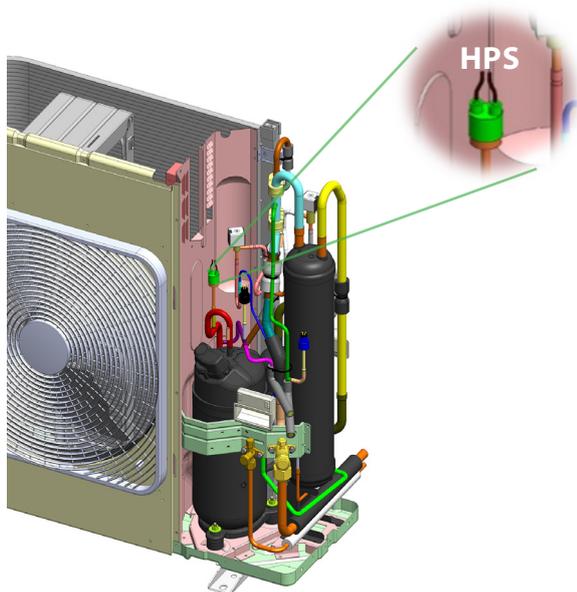
## Strength

### Small animal protection

To prevent the small animals from entering and interfering with the electronic components in the system, our new inverter box has been upgraded with additional protection, while allowing reliable operation. The inverter box is fitted with punched sheet metal & resin sheet.



Punched sheet metal  
The diameter of each hole of punched sheet metal is  $\phi 4\text{mm}$  to prevent small insect

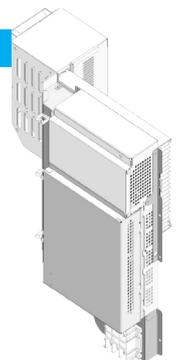


### HPS protection

High pressure switch is safeties installed on CDU to protect component failure. HPS will stop compressor operation if the pressure of refrigerant over the design pressure, this will protect A/C component from critical damage.

### Fully enclosure E-box design

Fully fireproof electrical enclosure to ensure no risk by preventing fire spread. TOSHIBA is seriously concerned on human safety, our safety standard cover electrical shock explosion and fire-burn spread



# Environmentally oriented *Care*

At Toshiba, our concerns for environment have led us to use the R-410A HFC refrigerant, which is confirmed to be non-ozone depleting, non-flammable and non-toxic.

6HP 3.3 kg

73% Reduced refrigerant

6HP 0.9 kg \* Factory charging

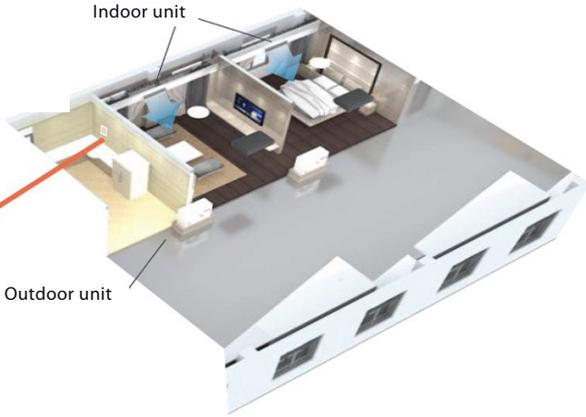


# Smart control *Convenience*

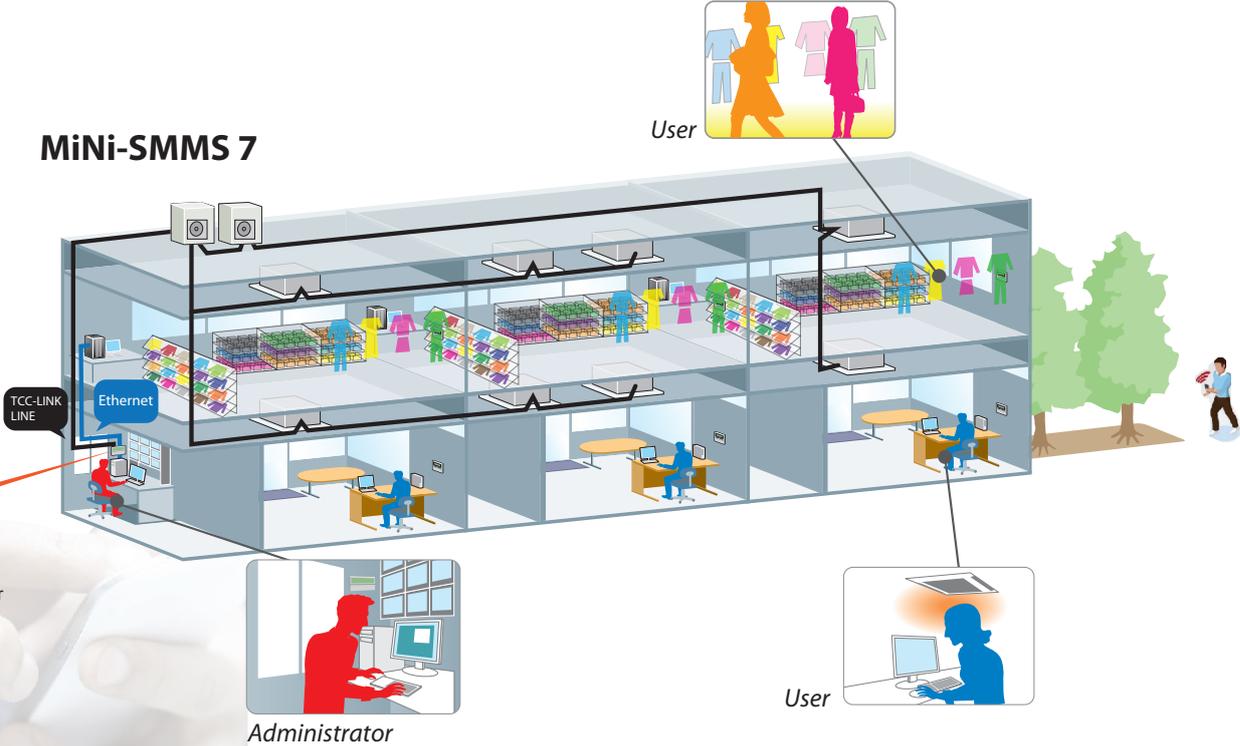
MiNi-SMMS 7 is compatible with various type of controller which will expand user air conditioner control capability

The ON-OFF controller makes it easy to manage all indoor units from single location.

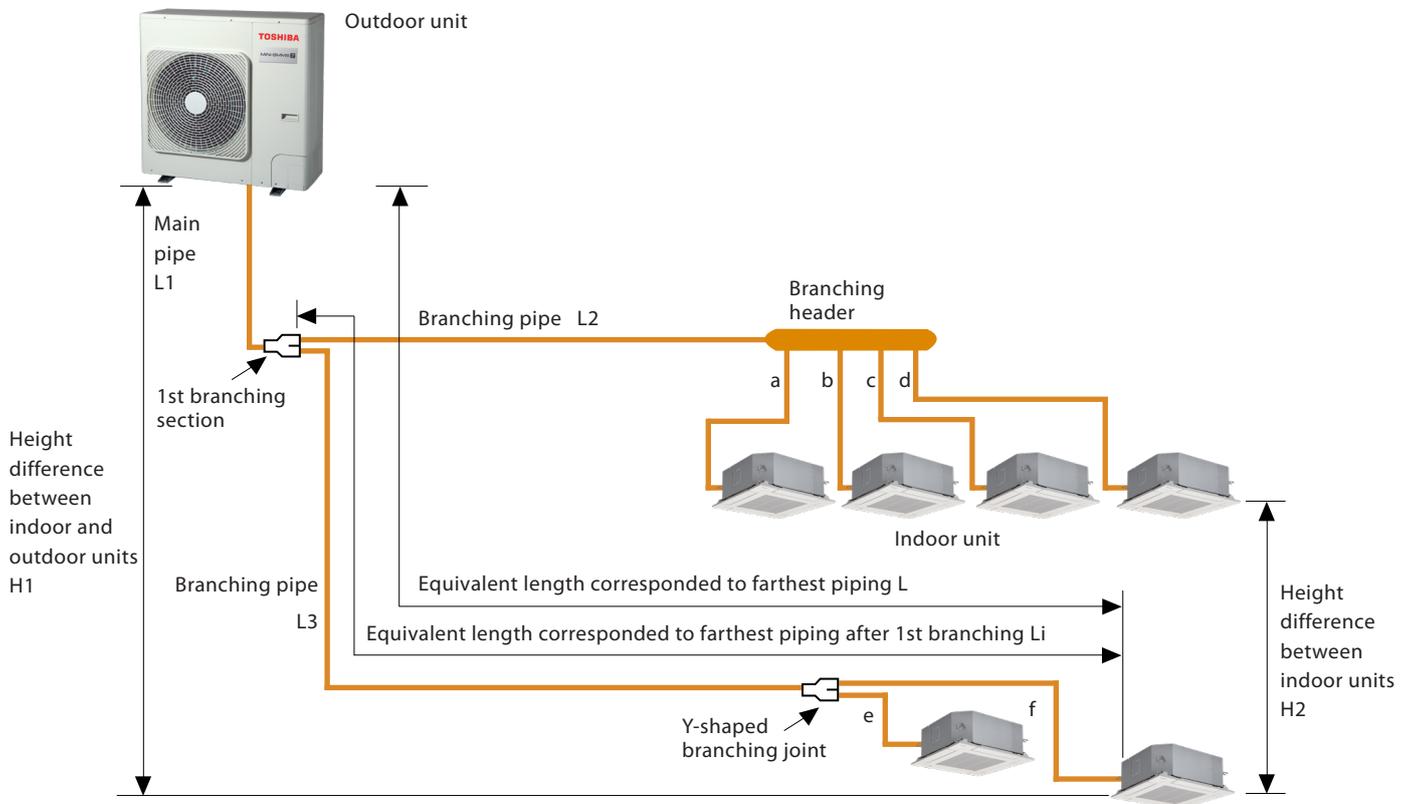
ON-OFF controller TCB-CC163TLE2



## MiNi-SMMS 7



## Piping design flexibility



		Allowable value	Piping section	
Pipe Length	Total extension of pipe (Liquid pipe, real length)	90 m	$L1 + L2 + L3 + a + b + c + d + e + f$	
	Furthest piping length L (*1)	Real length	50 m	
		Equivalent length	60 m	$L1 + L3 + f$
	Max. equivalent length of main pipe	30 m	L1	
	Max. equivalent length of furthest piping from 1st branching $L_i$ (*1)	20 m	$L3 + f$	
Max. real length of indoor unit connecting pipe	10 m	a, b, c, d, e, f		
Height Difference	Height between indoor and outdoor units H1	Upper outdoor unit	15 m	---
		Lower outdoor unit	15 m	---
	Height between indoor units H2	10 m	---	

## Specifications

Outdoor unit model name			MCY-MAP0401TP	MCY-MAP0501TP	MCY-MAP0601TP	
Outdoor unit type			Inverter	Inverter	Inverter	
Capacity code			HP 4	5	6	
Cooling Capacity (*1)			kW 12.1	14.1	16.0	
Electrical characteristics (Nominal) (*1)	Power supply (*2)		1 phase 50Hz 220-240V, 1 phase 60Hz 220V			
	Cooling	Running current	A 15.6-14.3	19.1-17.5	22.9-21.0	
		Power consumption	kW 3.18	3.95	4.79	
		Power factor	% 93	94	95	
		EER	3.81	3.57	3.34	
Starting Current		A	Soft start	Soft start	Soft start	
Dimension	Unit	mm 890	890	890		
		Width	mm 900	900	900	
		Depth	mm 320	320	320	
	Packing	Unit	mm 960	960	960	
		Width	mm 970	970	970	
		Depth	mm 440	440	440	
Total Weight	Unit	kg 74	74	74		
	Packing unit	kg 79	79	79		
Appearance (Color)			Silky shade (Munsell 1Y8.5/0.5)			
Compressor	Type		Hermetic twin rotary compressor			
	Motor output		kW	3.75		
Fan unit	Fan		Propeller fan			
	Motor output		W	100		
	Air volume		m3/h	4700	4850	5000
Refrigerant R410A (Charged refrigerant amount) (*3)			kg	0.9		
Electrical specifications	Unit	MCA (*4)	A 27.0	28.0	28.0	
		MOCP (*5)	A 32.0	32.0	32.0	
Piping length	Total extension of pipe		90.0	90.0	90.0	
	Farthest piping length (real length)		50.0	50.0	50.0	
	Height difference (upper outdoor unit)		15.0	15.0	15.0	
	Height difference (lower outdoor unit)		15.0	15.0	15.0	
	Height between indoor units		10.0	10.0	10.0	
Refrigerant piping	Connecting port dia	Gas side (main pipe)	mm 15.9	15.9	19.1	
		Liquid side (main pipe)	mm 9.5	9.5	9.5	
	Connecting method	Gas side	Flare	Flare	Flare	
		Liquid side	Flare	Flare	Flare	
Operation temperature range			°C DB	5 to 50		
Max. No. of connected indoor units				6		
Connectable FCU diversity				80 - 130%		
Sound pressure level			dB(A)	52	53	55

(1\*) Rated conditions Cooling : Indoor 27 degC Dry Bulb /19 degC Wet Bulb , Outdoor 35 degC Dry Bulb.

The standard pipe means that equivalent piping length of 7.5m and standard 0m piping height difference .

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

(3\*) The amount dose not consider extra piping length and indoor unit type.

Refrigerant must be added on site in accordance with the actual piping length and indoor unit type.

(4\*) Select wire size base on the larger value of MCA.

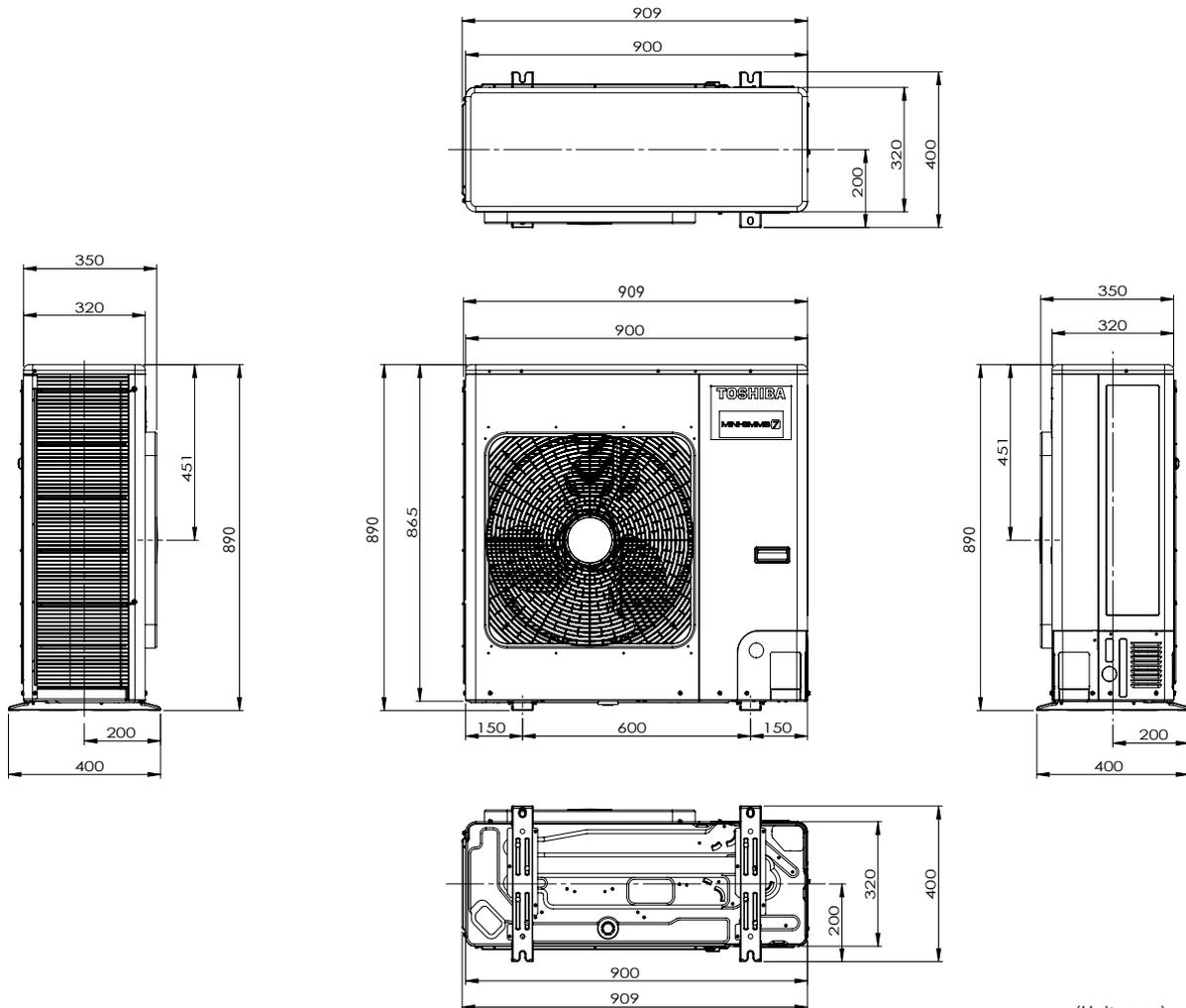
(5\*) MOCP:Maximum overcurrent protection (Amps)

## Outdoor units



4HP	Model name	MCY-MAP0401TP
	Cooling capacity	12.1 kW
5HP	Model name	MCY-MAP0501TP
	Cooling capacity	14.1 kW
6HP	Model name	MCY-MAP0601TP
	Cooling capacity	16.0 kW

MCY-MAP0401TP to MCY-MAP0601TP



(Unit : mm)

## Indoor units



Cooling capacity (HP)	4-way air discharge cassette type	Compact 4-way cassette type	2-way air discharge cassette type	1-way air discharge cassette type	Slim duct type	Concealed duct type	Concealed duct high static pressure type
2.2 kW (0.8 HP)		MMU-AP0077MH-E	MMU-AP0072WH1	MMU-AP0074YH1-E	MMD-AP0074SPH1-E	MMD-AP0076BHP1-E	
2.8 kW (1.0 HP)	MMU-AP0094HP1-E	MMU-AP0097MH-E	MMU-AP0092WH1	MMU-AP0094YH1-E	MMD-AP0094SPH1-E	MMD-AP0096BHP1-E	
3.6 kW (1.25 HP)	MMU-AP0124HP1-E	MMU-AP0127MH-E	MMU-AP0122WH1	MMU-AP0124YH1-E	MMD-AP0124SPH1-E	MMD-AP0126BHP1-E	
4.5 kW (1.7 HP)	MMU-AP0154HP1-E	MMU-AP0157MH-E	MMU-AP0152WH1	MMU-AP0154SH1-E	MMD-AP0154SPH1-E	MMD-AP0156BHP1-E	
5.6 kW (2.0 HP)	MMU-AP0184HP1-E	MMU-AP0187MH-E	MMU-AP0182WH1	MMU-AP0184SH1-E	MMD-AP0184SPH1-E	MMD-AP0186BHP1-E	MMD-AP0186HP1-E
7.1 kW (2.5 HP)	MMU-AP0244HP1-E		MMU-AP0242WH1	MMU-AP0244SH1-E	MMD-AP0244SPH1-E	MMD-AP0246BHP1-E	MMD-AP0246HP1-E
8.0 kW (3.0 HP)	MMU-AP0274HP1-E		MMU-AP0272WH1		MMD-AP0274SPH1-E	MMD-AP0276BHP1-E	MMD-AP0276HP1-E
9.0 kW (3.2 HP)	MMU-AP0304HP1-E		MMU-AP0302WH1			MMD-AP0306BHP1-E	
11.2 kW (4.0 HP)	MMU-AP0364HP1-E		MMU-AP0362WH1			MMD-AP0366BHP1-E	MMD-AP0366HP1-E
14.0 kW (5.0 HP)	MMU-AP0484HP1-E		MMU-AP0482WH1			MMD-AP0486BHP1-E	MMD-AP0486HP1-E
16.0 kW (6.0 HP)	MMU-AP0564HP1-E		MMU-AP0562WH1			MMD-AP0566BHP1-E	MMD-AP0566HP1-E



Cooling capacity (HP)	Super slim duct with drainpump type	Super slim duct without drainpump type	Ceiling type	High wall type Series 3	High wall type Series 7	Console type	Floor standing cabinet type
2.2 kW (0.8 HP)	MMD-AP0076MPHY	MMD-AP0076MHY		MMK-AP0073H1	MMK-AP0077HP-E	MML-AP0074NH1-E	MML-AP0074H1-E
2.5 kW (0.9 HP)	MMD-AP0086MPHY	MMD-AP0086MHY					
2.8 kW (1.0 HP)	MMD-AP0096MPHY	MMD-AP0096MHY		MMK-AP0093H1	MMK-AP0097HP-E	MML-AP0094NH1-E	MML-AP0094H1-E
3.2 kW (1.1 HP)	MMD-AP0106MPHY	MMD-AP0106MHY					
3.6 kW (1.25 HP)	MMD-AP0126MPHY	MMD-AP0126MHY		MMK-AP0123H1	MMK-AP0127HP-E	MML-AP0124NH1-E	MML-AP0124H1-E
4.0 kW (1.5 HP)	MMD-AP0146MPHY	MMD-AP0146MHY					
4.5 kW (1.7 HP)	MMD-AP0156MPHY	MMD-AP0156MHY	MMC-AP0158HP-E	MMK-AP0153H1	MMK-AP0157HP-E	MML-AP0154NH1-E	MML-AP0154H1-E
5.0 kW (1.85 HP)	MMD-AP0176MPHY	MMD-AP0176MHY					
5.6 kW (2.0 HP)	MMD-AP0186MPHY	MMD-AP0186MHY	MMC-AP0188HP-E	MMK-AP0183H1	MMK-AP0187HP-E	MML-AP0184NH1-E	MML-AP0184H1-E
6.3 kW (2.25 HP)	MMD-AP0206MPHY	MMD-AP0206MHY					
7.1 kW (2.5 HP)	MMD-AP0246MPHY	MMD-AP0246MHY	MMC-AP0248HP-E	MMK-AP0243H1	MMK-AP0247HP-E		MML-AP0244H1-E
8.0 kW (3.0 HP)	MMD-AP0276MPHY	MMD-AP0276MHY	MMC-AP0278HP-E				
9.0 kW (3.2 HP)							
11.2 kW (4.0 HP)			MMC-AP0368HP-E				
14.0 kW (5.0 HP)			MMC-AP0488HP-E				
16.0 kW (6.0 HP)			MMC-AP0568HP-E				



Cooling capacity (HP)	Floor standing concealed type	Floor standing type
2.2 kW (0.8 HP)	MML-AP0074BH1-E	
2.8 kW (1.0 HP)	MML-AP0094BH1-E	
3.6 kW (1.25 HP)	MML-AP0124BH1-E	
4.5 kW (1.7 HP)	MML-AP0154BH1-E	MMF-AP0156H1-E
5.6 kW (2.0 HP)	MML-AP0184BH1-E	MMF-AP0186H1-E
7.1 kW (2.5 HP)	MML-AP0244BH1-E	MMF-AP0246H1-E
8.0 kW (3.0 HP)		MMF-AP0276H1-E
9.0 kW (3.2 HP)		
11.2 kW (4.0 HP)		MMF-AP0366H1-E
14.0 kW (5.0 HP)		MMF-AP0486H1-E
16.0 kW (6.0 HP)		MMF-AP0566H1-E



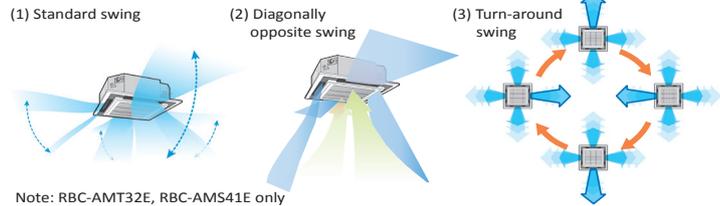
## 4-way air discharge cassette type



**MMU-AP\*\*\*4HP1-E**

### Individual louver control

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



### Easy installation

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



RBC-U31PGP(W)-E

### Technical specifications

Model name	MMU-	AP0094HP1-E	AP0124HP1-E	AP0154HP1-E	AP0184HP1-E	AP0244HP1-E	AP0274HP1-E	AP0304HP1-E	AP0364HP1-E	AP0484HP1-E	AP0564HP1-E
Cooling capacity <sup>1)</sup>	kW	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220~240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)									
	Power consumption 50 Hz / 60 Hz	kW	0.021/0.021	0.023/0.023	0.026/0.026	0.036/0.036	0.043/0.043	0.088/0.088	0.112/0.112		
Appearance (Ceiling panel)	Model	RBC-U31PGP(W)-E									
External dimensions: Main unit (Ceiling panel)*	Height	mm	256 (30)*						319 (30)*		
	Width	mm	840 (950)*								
	Depth	mm	840 (950)*								
Total weight : Main unit (Ceiling panel)*	kg	18 (4)*	20 (4)*				25 (4)*				
Fan unit	Standard air flow (High/Mid/Low)	m <sup>3</sup> /h	800/730/680	930/830/790	1050/ 920/800	1290/920/800	1320/1110/850	1970/ 1430/1070	2130/ 1430/1130	2130/ 1520/1230	
	Motor output	W	14			20		68	72		
Connecting pipe	Gas side	mm	ø9.5	ø12.7		ø15.9					
	Liquid side	mm	ø6.4			ø9.5					
	Drain port (nominal dia.)	mm	25 (Polyvinyl chloride tube)								
Sound pressure level <sup>2)</sup> (High/Mid/Low)	dB(A)	30/29/27	31/29/27	32/29/27	35/31/28	38/33/30	43/38/32	46/38/33	46/40/33		

\*Figures in parentheses are for ceiling panels.

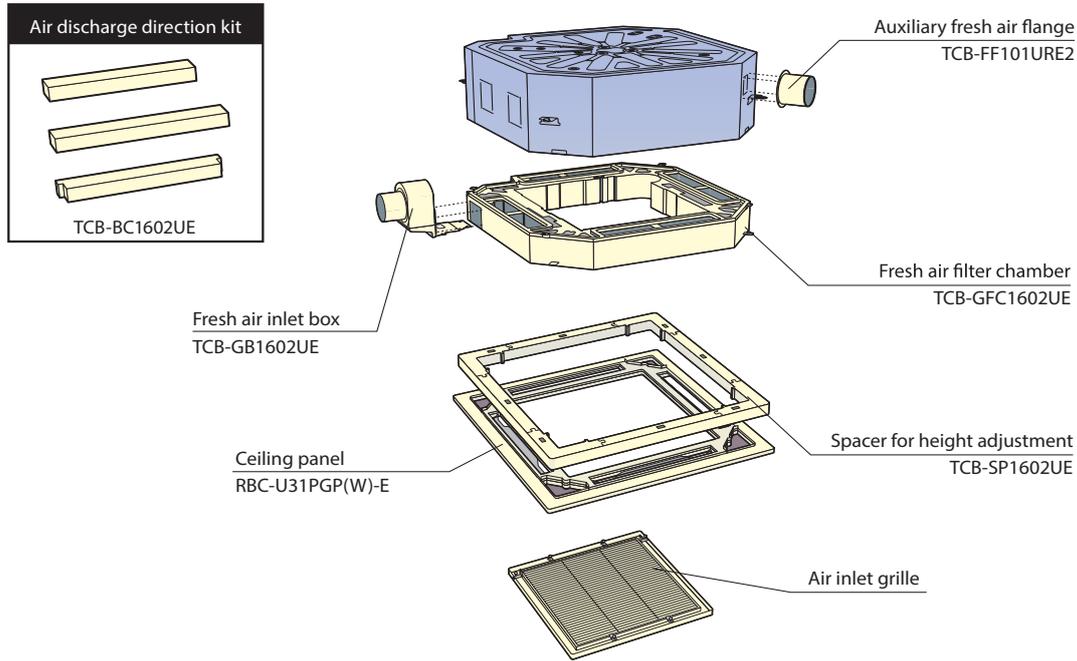
Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.  
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

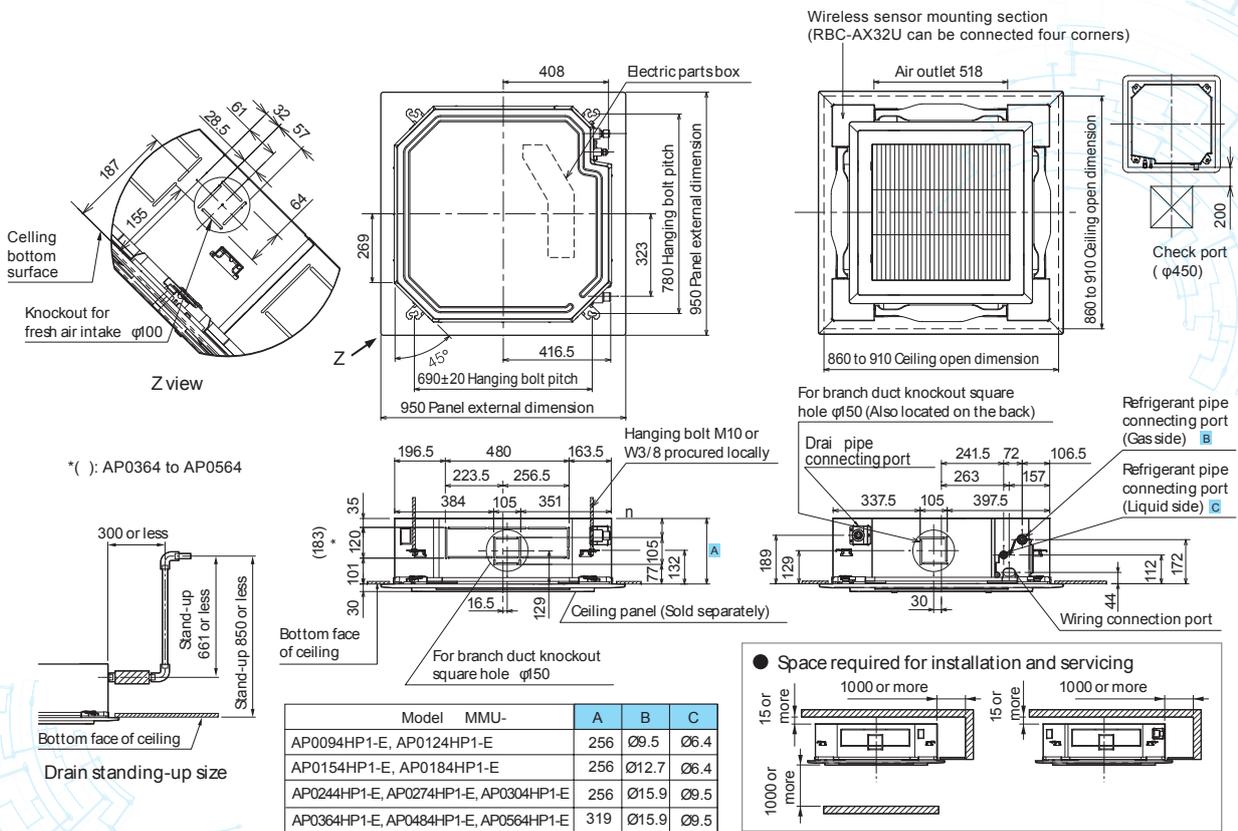
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

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

## Options



## MMU-AP0094HP1-E to MMU-AP0564H1P-E



\*The figure shows the RBC-U31PGP(W)-E panel.

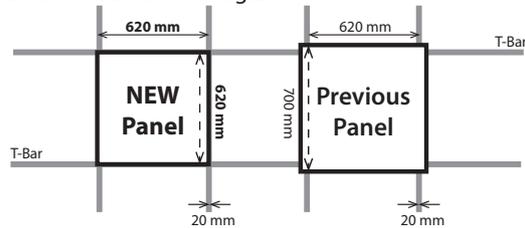
## Compact 4-way cassette type



**MMU-AP\*\*\*7MH-E**

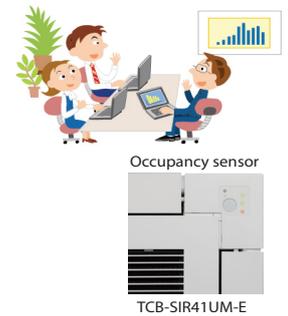
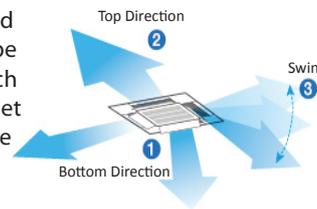
### Superior design with compact chassis

This compact unit (620 × 620 mm) fits with flat panel perfectly into ceilings and matches standard architectural modules without the need to cut ceiling tiles, makes your room look more elegant.



### Individual louver control\*

The wind direction and swing operation can be set individually by each louver, which can be set into memory for future use. Furthermore, the optional occupancy sensor also improve efficiency energy.



\*The function is available only RBC-AMS55E-ES/EN

### Technical specifications

Model name	MMU-	AP0077MH-E	AP0097MH-E	AP0127MH-E	AP0157MH-E	AP0187MH-E	
Cooling capacity <sup>1</sup>	kW	2.2	2.8	3.6	4.5	5.6	
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60Hz	kW	0.016/0.016	0.025/0.025	0.027/0.027	0.030/0.030	0.052/0.052
Appearance (Ceiling panel)	Model	RBC-UM21PG(W)-E					
External dimensions: Main unit (Ceiling panel)*	Height	mm 256 (12)*					
	Width	mm 575 (620)*					
	Depth	mm 575 (620)*					
Total weight : Main unit (Ceiling panel)*	kg	15 (2.5)*					
Fan unit	Standard air flow (M+/M/L+/L)	m <sup>3</sup> /h	552 (500/462/395/378)	570 (520/468/395/378)	594 (550/504/420/402)	660 (600/552/480/468)	840 (740/642/540/522)
	Motor output	W	60				
Connecting pipe	Gas side	mm	ø9.5		ø12.7		
	Liquid side	mm	ø6.4				
	Drain port (Nominal dia.)	mm	VP 20 (Polyvinyl chloride tube)				
Sound pressure level <sup>2</sup> High (M+/M/L+/L)	dB(A)	37 (34/33/30/29)	38 (35/33/30/29)	38 (36/34/31/30)	40 (37/35/32/31)	47 (43/39/36/34)	

\*Figures in parentheses are for ceiling panels.

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

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

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

Note: M+, L+ will be available with RBC-AMS55E-ES/EN only.



## 2-way air discharge cassette type



**MMU-AP\*\*\*2WH1**

### Slim and compact unit

Unified the width of ceiling panel to 680mm.  
 Condensate drain pump included.  
 Available for ceilings up to 3.8m in height. (in case of 0.8HP to 3.2HP)  
 Easy installation and fine adjustment using the "Adjust-Cover" function.

### Technical specifications

Model name	MMU-	AP0072WH1	AP0092WH1	AP0122WH1	AP0152WH1	AP0182WH1	AP0242WH1	AP0272WH1	AP0302WH1	AP0362WH1	AP0482WH1	AP0562WH1			
Cooling capacity* <sup>1</sup>	kW	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0			
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220-240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)													
	Power consumption 50 Hz/60 Hz	kW	0.029/0.029		0.030/ 0.030	0.044/ 0.044	0.054/0.054		0.064/ 0.064	0.076/ 0.076	0.088/ 0.088	0.117/ 0.117			
Appearance (Ceiling panel)	Model	RBC-UW283PG(W)-E				RBC-UW803PG(W)-E				RBC-UW1403PG(W)-E					
External dimensions: Main unit (Ceiling panel)*	Height	mm		295 (20)				345 (20)							
	Width	mm		815(1050)				1180(1415)				1600(1835)			
	Depth	mm		570 (680)											
Total weight : Main unit (Ceiling panel)*	kg	19(10)				26(14)				36(14)					
	Standard air flow (High/Mid/Low)	m <sup>3</sup> /h		558/498/450		600/ 534/450	900/ 750/618	1050/840/738		1260/ 900/780	1740/ 1434/1182	1800/ 1482/1230	2400/ 1578/1230		
	Motor output	W		20		30		40		50		70			
Connecting pipe	Gas side	mm		ø9.5		ø12.7		ø15.9							
	Liquid side	mm		ø6.4				ø9.5							
	Drain port (Nominal dia.)	mm		25 (Polyvinyl chloride tube)											
Sound pressure level* <sup>2</sup> (High/Mid/Low)	dB(A)		34/32/30		35/33/30		38/35/33		40/37/34	42/39/36	43/40/37	46/42/39			

\*Figures in parentheses are for ceiling panels.

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.

The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

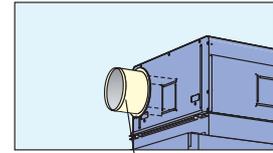
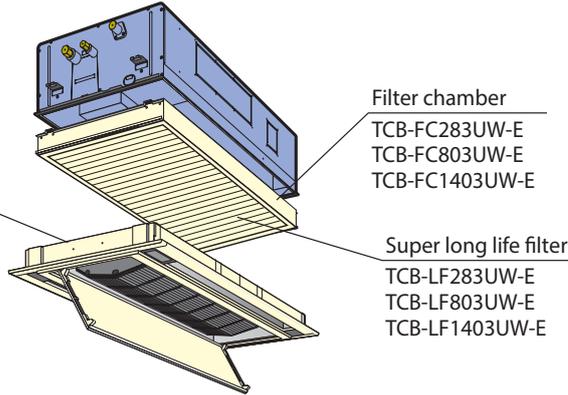
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

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

## Options

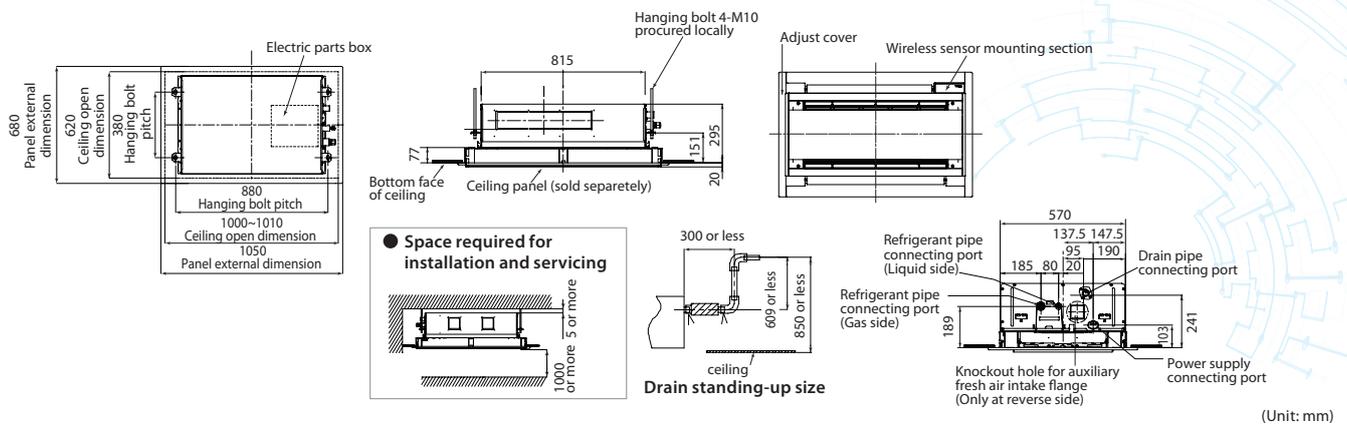
### Ceiling panel

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

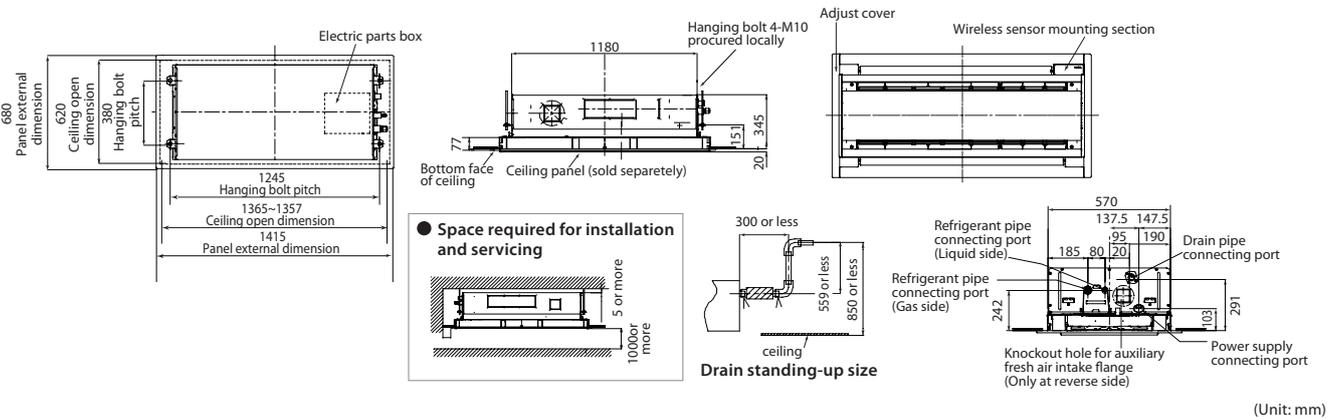


Auxiliary fresh air flange  
TCB-FF151US-E

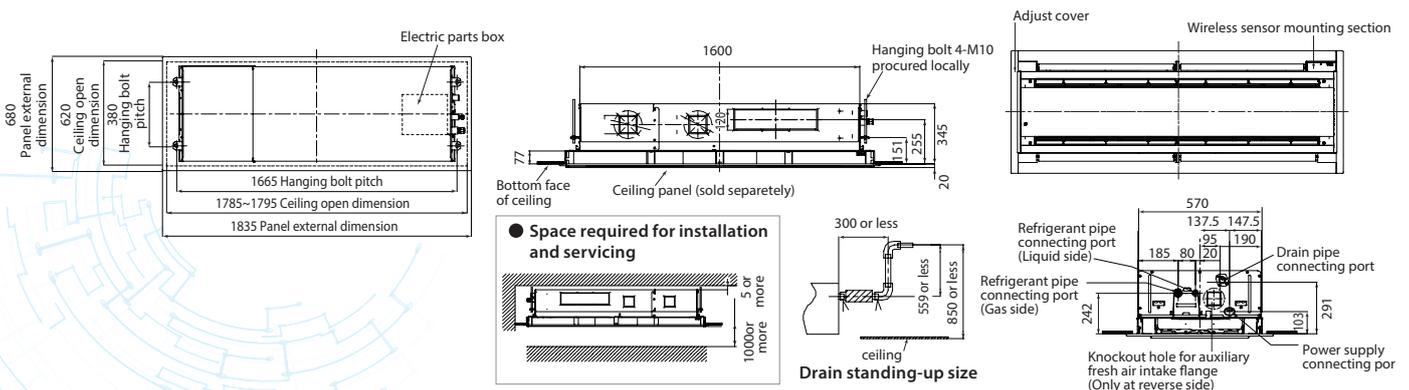
### MMU-AP0072WH1 to MMU-AP0152WH1



### MMU-AP0182WH1 to MMU-AP0302WH1



### MMU-AP0362WH1 to MMU-AP0562WH1



## 1-way air discharge cassette type



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

### The perfect choice for hotels and reception areas

Silent sound design ensures the quiet required for the office. Ideal for smaller rooms where one-way air distribution is required.

Able to blow air straight out.  
Condensate drain pump included.  
Long-life filters fitted as standard

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

Preparations/connection possible with a circle duct flange.

		Technical specifications						
Model name	MMU-	AP0074YH1-E	AP0094YH1-E	AP0124YH1-E	AP0154SH1-E	AP0184SH1-E	AP0244SH1-E	
Cooling capacity <sup>1</sup>	kW	2.2	2.8	3.6	4.5	5.6	7.1	
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)						
	Power consumption 50 Hz/60 Hz	kW	0.053/0.056		0.042/0.041	0.046/0.045	0.075/0.073	
Appearance (Ceiling panel)	Model	RBC-UY136PG			RBC-US21PGE			
External dimensions: Main unit (Ceiling panel)*	Height	mm	235 (18)*		200 (20)*			
	Width	mm	850 (1050)*		1000 (1230)*			
	Depth	mm	400 (470)*		710 (800)*			
Total weight : Main unit (Ceiling panel)*	kg	22 (3.5)*		21 (5.5)*		22 (5.5)*		
Fan unit	Standard air flow (High/Mid/Low)	m <sup>3</sup> /h	540/480/420		750/690/630	780/720/660	1140/1960/810	
	Motor output	W	22		30			
Connecting pipe	Gas side	mm	ø9.5		ø12.7		ø15.9	
	Liquid side	mm	ø6.4				ø9.5	
	Drain port (Nominal dia.)	mm	25 (Polyvinyl chloride tube)					
Sound pressure level <sup>2</sup> (High/Mid/Low)	dB(A)	42/39/34		37/35/32		38/36/34	45/41/37	

\*Figures in parentheses are for ceiling panels.

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.

The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

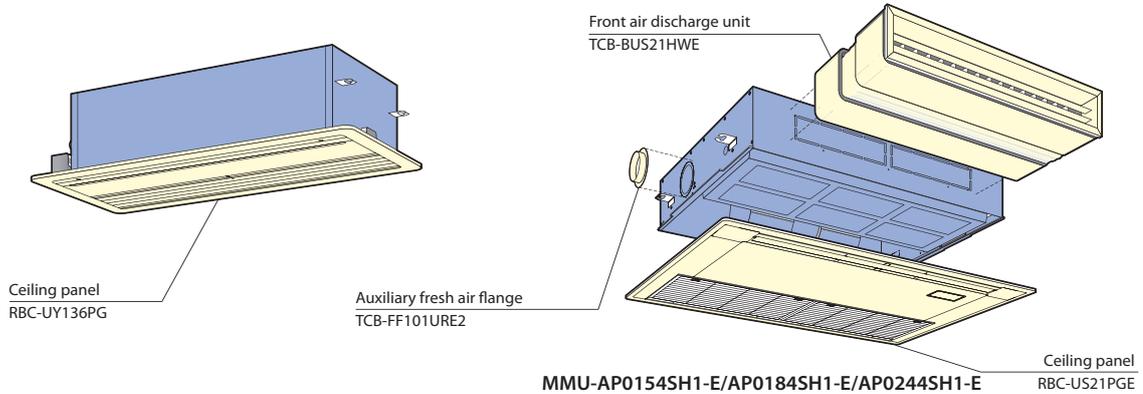
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.

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

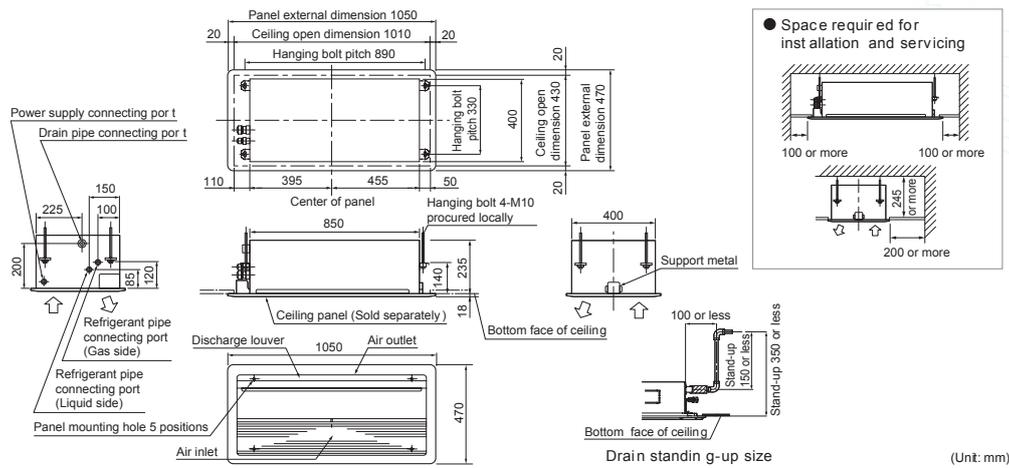
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

## Options

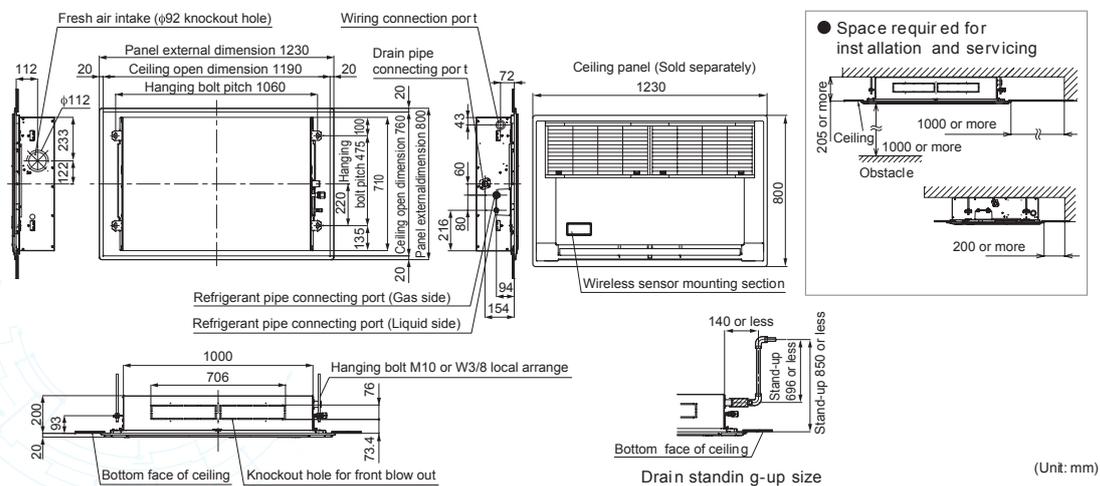
MMU-AP0074YH1-E/AP0094YH1-E/AP0124YH1-E



MMU-AP0074YH1-E to MMU-AP0124YH1-E



MMU-AP0154SH1-E to MMU-AP0244SH1-E



## Slim duct type



### MMD-AP\*\*\*4SPH1-E

## Functional design

Only 210 mm in height for greater application flexibility. 4-step static pressure setup. Concealed installation within a ceiling void. Auxiliary fresh air intake available.

## Slim & quiet

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

## Technical specifications

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

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.  
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

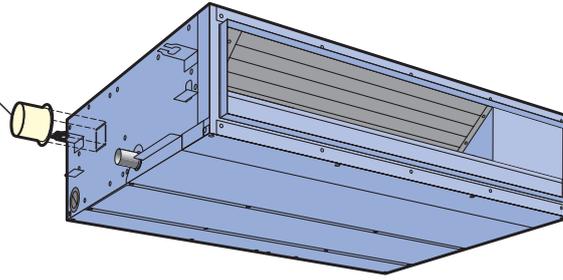
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.

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

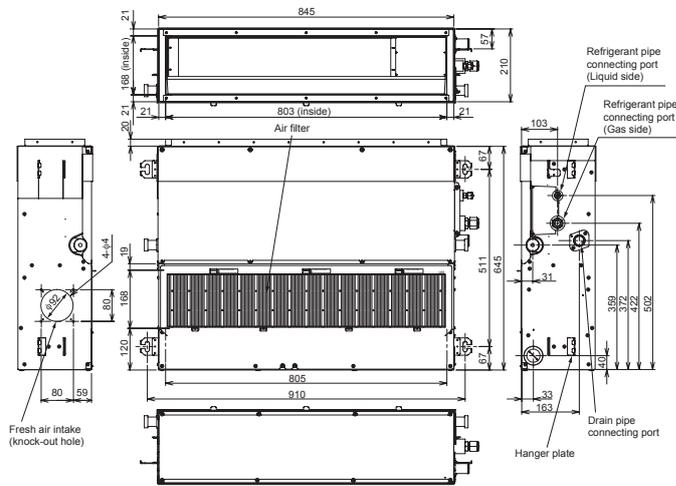
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

## Options

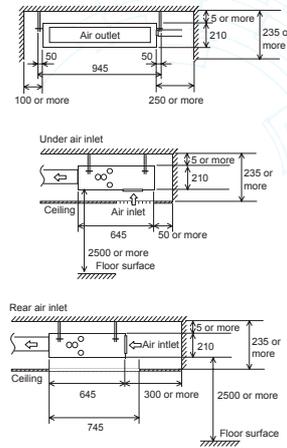
Auxiliary fresh air flange  
TCB-FF101URE2



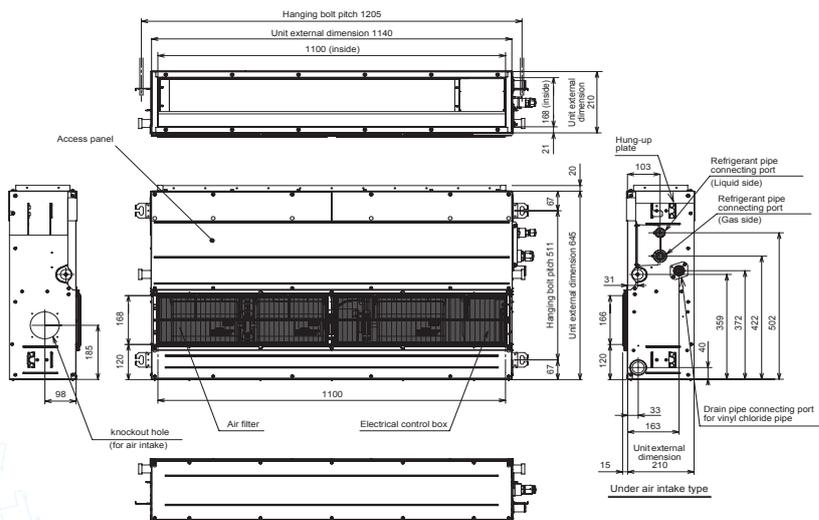
### MMD-AP0074SPH1-E to MMD-AP0184SPH1-E



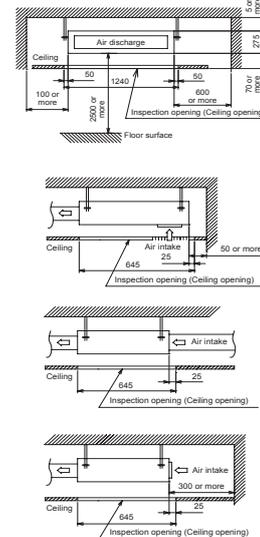
● Space required for installation and servicing



### MMD-AP0244SPH1-E to MMD-AP0274SPH1-E



● Space required for installation and servicing



## Concealed duct type



### MMD-AP\*\*\*6BHP1-E

### High static pressure

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

### High-lift drain pump

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

### Technical specifications

Model name	MMD-	AP0076BHP1-E	AP0096BHP1-E	AP0126BHP1-E	AP0156BHP1-E	AP0186BHP1-E	AP0246BHP1-E	AP0276BHP1-E	AP0306BHP1-E	AP0366BHP1-E	AP0486BHP1-E	AP0566BHP1-E		
Cooling capacity <sup>1)</sup>	kW	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0		
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)												
	Power consumption 50 Hz/60 Hz	kW	0.038/ 0.038	0.043/0.043	0.062/0.062	0.077/0.077	0.094/ 0.094	0.172/ 0.172	0.198/0.198					
External dimensions	Height	mm	275											
	Width	mm	700				1000				1400			
	Depth	mm	750											
Total weight	kg	23					30				40			
Fan unit	Standard air flow (Mid/Low)	m <sup>3</sup> /h	540/ 450/360	570/480/390	798/660/540	1200/990/870	1260/ 1110/930	1920/ 1620/1380	2100/1740/1500					
	Motor output	W	150									250		
	External static pressure (Factory setting)	Pa	30					40				50		
	External static pressure	Pa	30-40-50-65-80-100-120 (7 steps)											
Connecting pipe	Gas side	mm	ø9.5			ø12.7			ø15.9					
	Liquid side	mm	ø6.4						ø9.5					
	Drain port (Norminal dia.)	mm	25 (Polypropylene tube)											
Sound pressure level <sup>2)</sup> (High/Mid/Low)	dB(A)	29/26/23	30/26/23	33/29/25	36/31/27	40/36/33								

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.

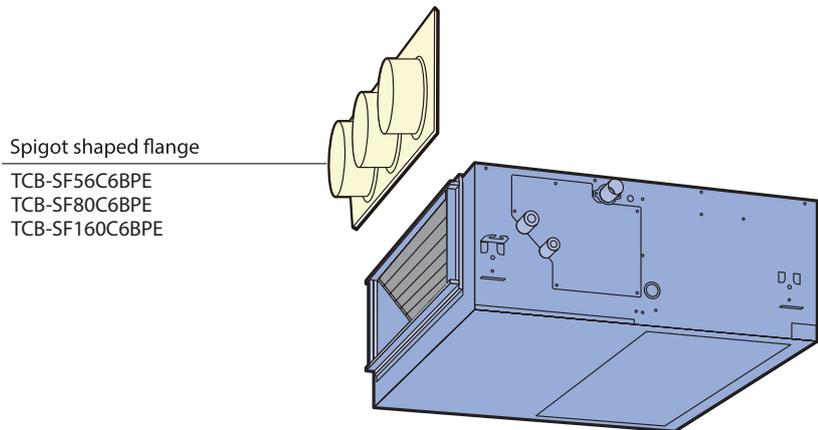
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

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

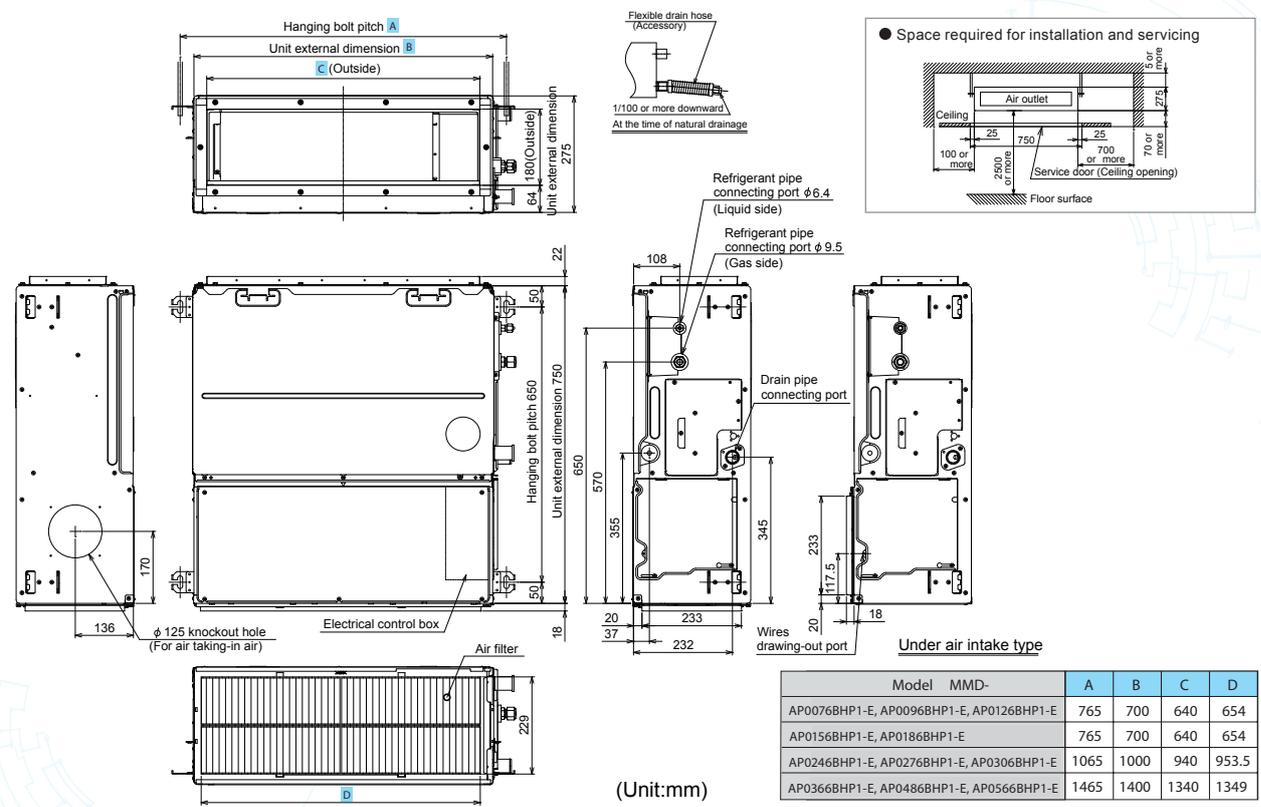
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

Options



Spigot shaped flange  
 TCB-SF56C6BPE  
 TCB-SF80C6BPE  
 TCB-SF160C6BPE

MMD-AP0076BHP1-E to MMD-AP0566BHP1-E



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

## Concealed duct high static pressure type



**MMD-AP\*\*\*6HP1-E**

### Design flexibility

Satisfies all your design needs. Compatible with external static pressures up to 200 Pa.

Can be equipped with internal drain pump lift up to 850mm and long life filter kit

### Construction characteristics

Seven-stage-switchable static pressure.

The flexible duct is accessible.

Easy service and installation.

Inspection hole enables easy access and maintenance.

### Technical specifications

Model name	MMD-	AP0186HP1-E	AP0246HP1-E	AP0276HP1-E	AP0366HP1-E	AP0486HP1-E	AP0566HP1-E
Cooling capacity <sup>1)</sup>	kW	5.6	7.1	8.0	11.2	14.0	16.0
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220-240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	kW	0.085/0.085	0.115/0.115	0.198/0.198	0.230/0.230	0.290/0.290
External dimensions	Height	mm	298				
	Width	mm	1000		1400		
	Depth	mm	750				
Total weight	kg	34			43		
Fan unit	Standard air flow (Mid/Low)	m <sup>3</sup> /h	800(650/550)	1200(970/800)	1920(1560/1340)	2100(1740/1420)	2400(2040/1660)
	Motor output	W	250			350	
	External static pressure (Factory setting)	Pa	100				
	External static pressure	Pa	50-75-125-150-175-200 (7steps)				
Connecting pipe	Gas side	mm	ø12.7	ø15.9			
	Liquid side	mm	ø6.4	ø9.5			
	Drain port (Nominal dia.)	mm	25 (Polyvinyl chloride tube)				
Sound pressure level <sup>2)</sup> (High/Mid/Low)	dB(A)	37/32/30	38/34/31		41/37/34	42/40/35	45/42/37

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.

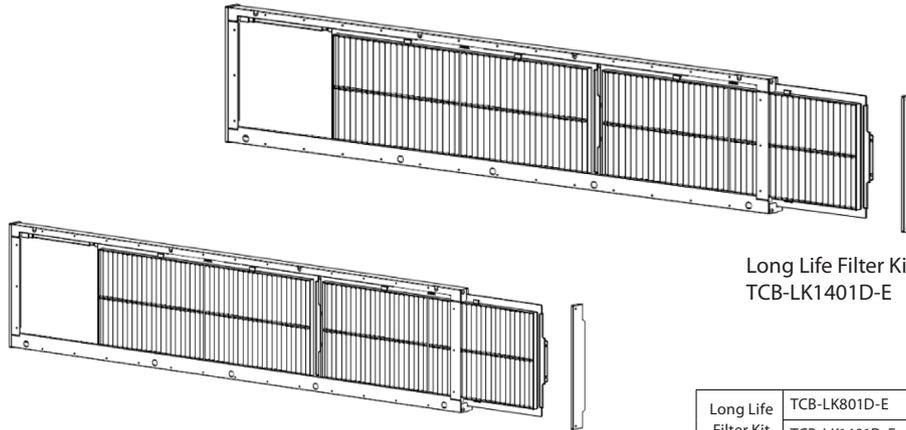
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

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

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

## Options

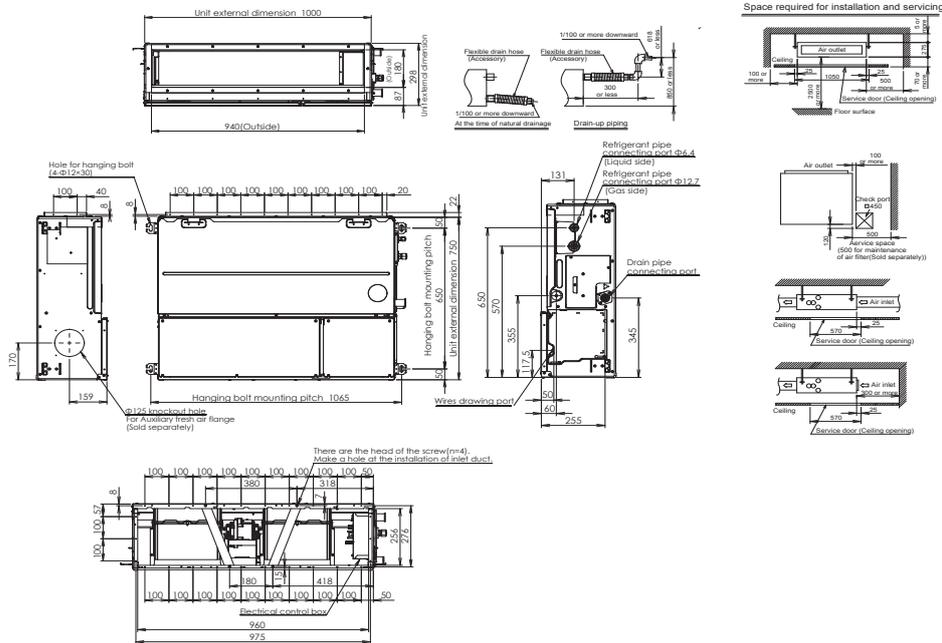


Long Life Filter Kit  
TCB-LK1401D-E

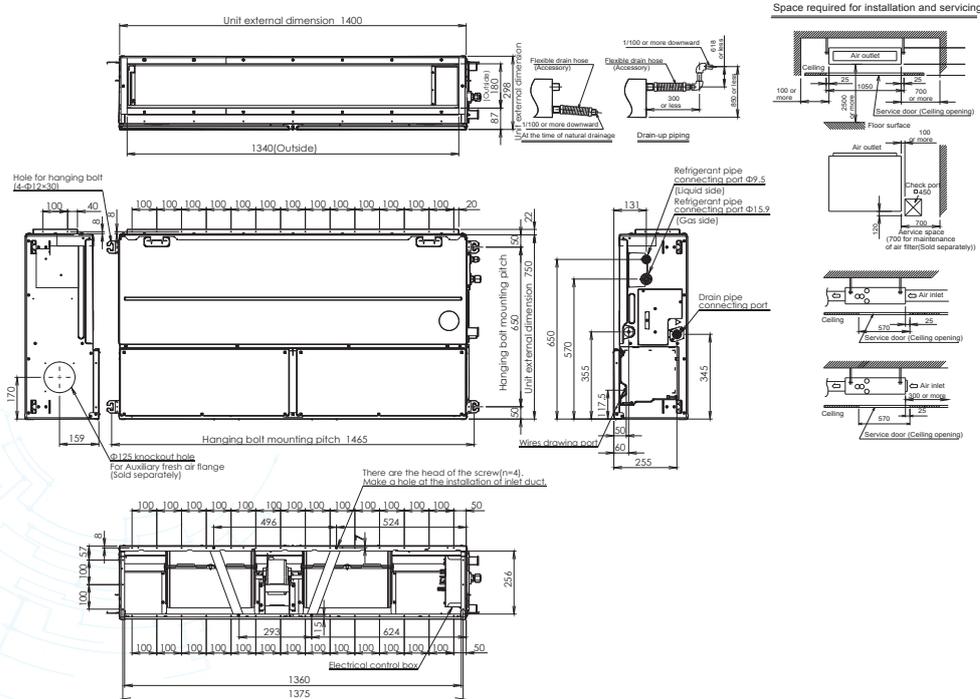
Long Life Filter Kit  
TCB-LK801D-E

Long Life Filter Kit	TCB-LK801D-E	MMD-AP0186/0246/0276HP1-E
	TCB-LK1401D-E	MMD-AP0366/0486/0566HP1-E

### MMD-AP0186HP1-E to MMD-AP0276HP1-E



### MMD-AP0366HP1-E to MMD-AP0566HP1-E



## Ceiling type



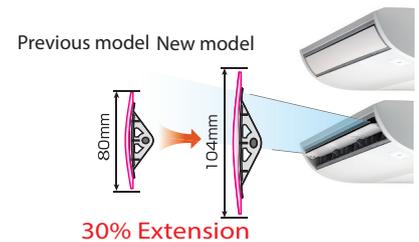
**MMC-AP\*\*\*8HP-E**

### Smooth curve for pliant shape

All-new chassis and new rounded design, This new models have been developed in response to customers' needs for ceiling units that better match their room interiors. New fan has adopted the turbulence prevention rib to optimize the ventilating way. Air volume has increased and noise level also has decreased compared with previous model. Winds of new ceiling type of 4HP to 6HP can be reached up to 4.3 metre

### New designed wide flap

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

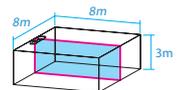


### Flap control

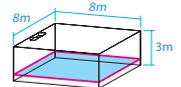
The airflow angle is automatically set to the most suitable setting according to your cooling needs, and an automatic swing mode enables airflow to reach all areas of the room to create a comfortable ambience.

Temperature measuring section

Center



0.5m above the floor



### Technical specifications

Model name	MMC-	AP0158HP-E	AP0188HP-E	AP0248HP-E	AP0278HP-E	AP0368HP-E	AP0488HP-E	AP0568HP-E	
Cooling capacity <sup>1</sup>	kW	4.5	5.6	7.1	8.0	11.2	14.0	16.0	
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220-240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)							
	Power consumption 50 Hz/60Hz	kW	0.033/0.033	0.034/0.034	0.067/0.067		0.083/0.083		0.111/0.111
External dimensions	Height	mm	235						
	Width	mm	950		1270		1586		
	Depth	mm	690						
Total weight	kg	24		30		39			
Fan unit	Standard air flow (High/Mid/Low)	m <sup>3</sup> /h	840/690/540	960/720/540	1440/1020/750		1860/1350/1020	1860/1530/1200	2040/1650/1260
	Motor output	W	94				139		
Connecting pipe	Gas side	mm	ø12.7		ø15.9				
	Liquid side	mm	ø6.4		ø9.5				
	Drain port (Nominal dia.)	mm	20 (Polyvinyl chloride tube)						
Sound pressure level <sup>2</sup> (High/Mid/Low)	dB(A)	36/34/28	37/35/28	41/36/29		44/38/32	44/41/35	46/42/36	

Note 1: The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.

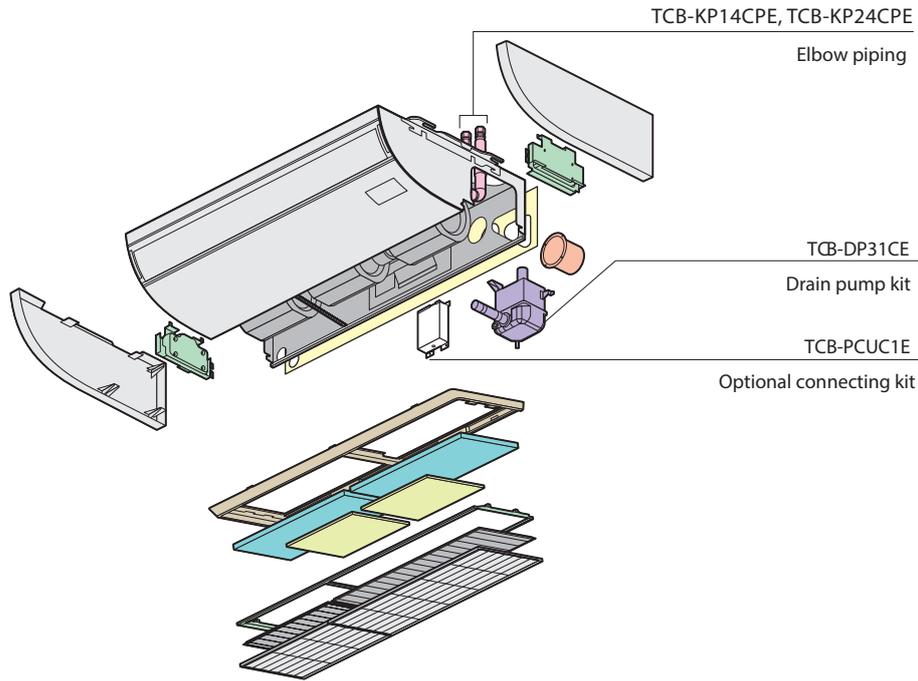
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

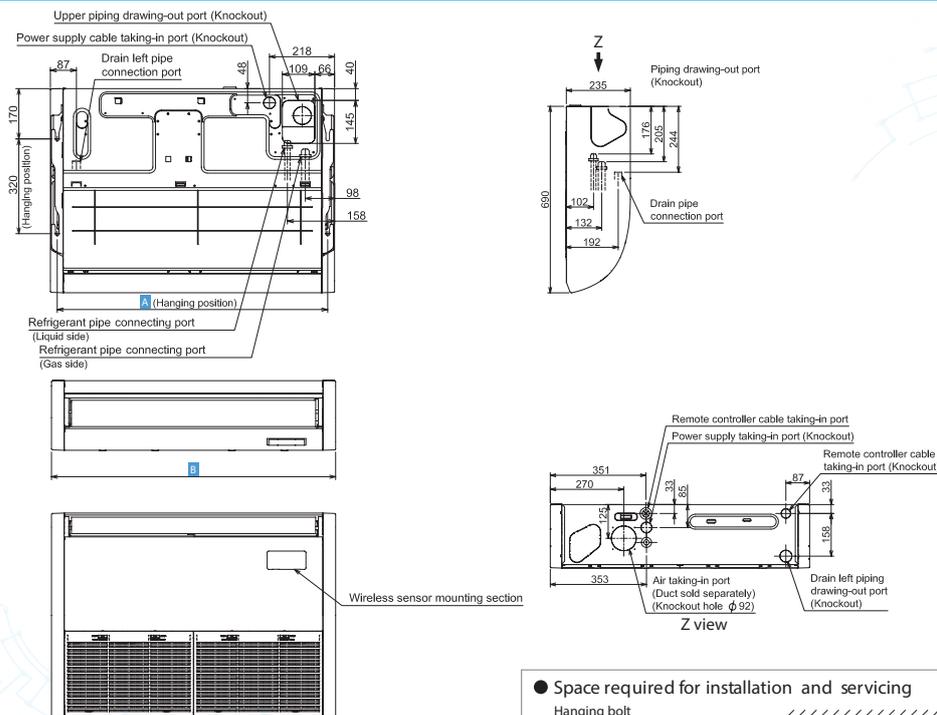
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

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

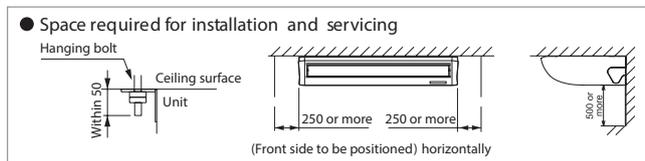
## Options



## MMC-AP0158HP-E to MMC-AP0568HP-E



Model	MMC-	A	B
AP0158HP-E, AP0188HP-E		906	950
AP0248HP-E, AP0278HP-E		1,223	1,270
AP0368HP-E, AP0488HP-E, AP0568HP-E		1,540	1,586



## Super slim duct type



**MMD-AP\*\*\*6MPHY**  
**MMD-AP\*\*\*6MHY\***

### Features

- Very compact design: Only 21 cm height & 45 cm depth
- Wide range choice (12 capacities)
- Easy maintenance - external electrical box
- Choice with high-lift drain pump (350 mm) MPH<sup>Y</sup> or without drain pump MH<sup>Y</sup>\*<sup>3</sup>

### Technical specifications

Model name	MMD-	AP0076MPHY AP0076MHY <sup>3</sup>	AP0086MPHY AP0086MHY <sup>3</sup>	AP0096MPHY AP0096MHY <sup>3</sup>	AP0106MPHY AP0106MHY <sup>3</sup>	AP0126MPHY AP0126MHY <sup>3</sup>	AP0146MPHY AP0146MHY <sup>3</sup>	AP0156MPHY AP0156MHY <sup>3</sup>	AP0176MPHY AP0176MHY <sup>3</sup>	AP0186MPHY AP0186MHY <sup>3</sup>	AP0206MPHY AP0206MHY <sup>3</sup>	AP0246MPHY AP0246MHY <sup>3</sup>	AP0276MPHY AP0276MHY <sup>3</sup>			
Cooling capacity <sup>1</sup>	kW	2.2	2.5	2.8	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0			
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220-240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)														
	Power consumption (AP***MPHY/AP***MHY)	kW	0.052/ 0.048	0.052/ 0.048	0.052/ 0.048	0.052/ 0.048	0.058/ 0.054	0.058/ 0.054	0.066/ 0.062	0.066/ 0.062	0.066/ 0.062	0.069/ 0.065	0.076/ 0.072	0.076/ 0.072		
External dimensions	Height	mm	210													
	Width	mm	700				900				1100					
	Depth	mm	450													
Total weight	kg	19				22				25						
Fan unit	Standard air flow (High/Mid/Low)	m <sup>3</sup> /h	570/475/380				610/500/385				780/580/420				1000/ 870/740	1060/910/760
	Motor output	W	95													
	External static pressure	Pa	10-20-35-45 (4 steps)													
Connecting pipe	Gas side	mm	ø9.5				ø12.7				ø15.9					
	Liquid side	mm	ø6.4													
	Drain port (Nominal dia.)	mm	25 (Polyvinyl chloride tube)													
Sound pressure level <sup>2</sup> (High/Mid/Low)	Under air inlet	dB(A)	41/35/40				43/36/30				41/34/27				43/40/37	45/41/38
	Back air inlet	dB(A)	33/29/25				35/29/25				33/27/22				37/33/30	38/34/31

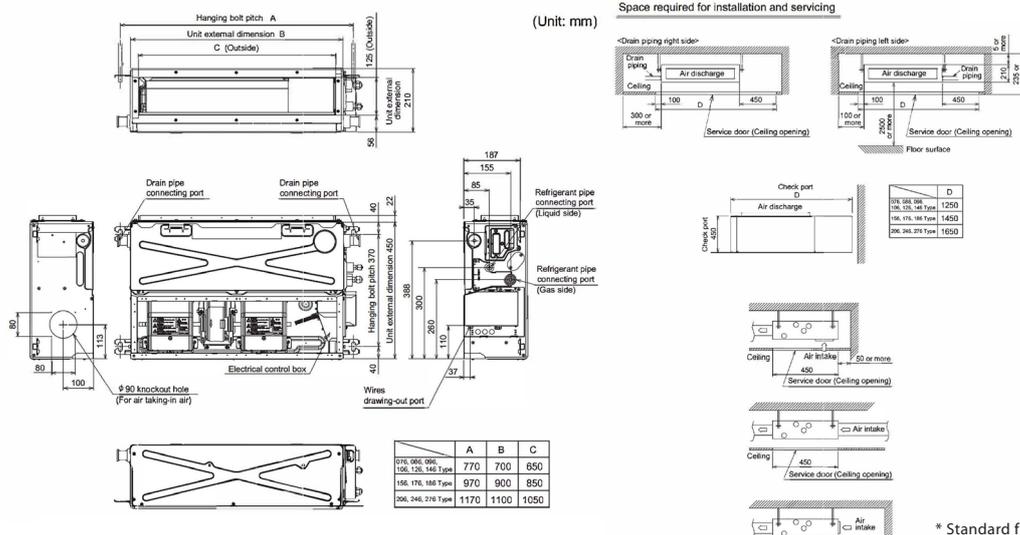
Note 1: The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.  
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

Note 3: Without drain pump

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

### MMD-AP0076M(P)HY to MMD-AP0276M(P)HY



\* Standard filter needs to be purchased locally.

## High-wall type (series 3)



Remote controller\*

### Elegant and slim

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

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

### MMK-AP\*\*\*3H1

\*Wireless remote controller is packed with indoor unit.

#### Technical specifications

Model name	MMK-	AP0073H1	AP0093H1	AP0123H1	AP0153H1	AP0183H1	AP0243H1
Cooling capacity*1	kW	2.2	2.8	3.6	4.5	5.6	7.1
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220–240V) (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	kW	0.018/0.018	0.021/0.021	0.043/0.043	0.050/0.050	
External dimensions	Height	mm	320				
	Width	mm	1050				
	Depth	mm	228				
Total weight	kg	15					
Fan unit	Standard air flow (High/Mid/Low)	m <sup>3</sup> /h	570/450/390	600/480/390	840/660/540	1020/750/570	
	Motor output	W	30				
Connecting pipe	Gas side	mm	ø9.5		ø12.7		ø15.9
	Liquid side	mm	ø6.4				ø9.5
	Drain port (Normal dia.)	mm	16 (polyvinyl chloride 1tube)				
Sound pressure level*2 (High/Mid/Low)	dB(A)	35/31/28	37/32/28	41/36/33	46/39/34		

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.

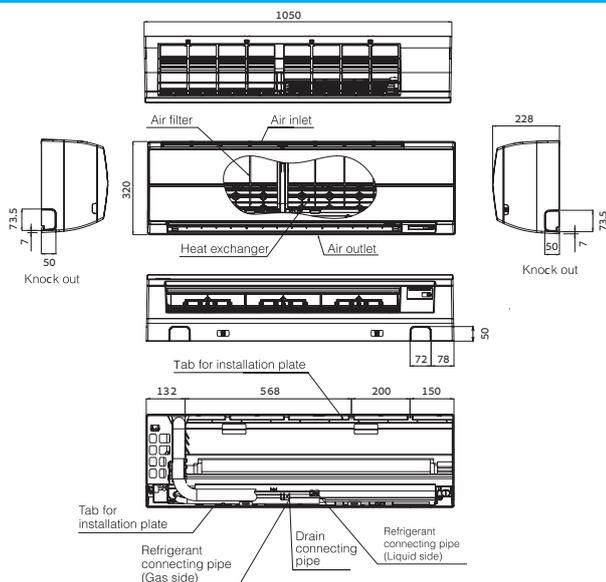
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

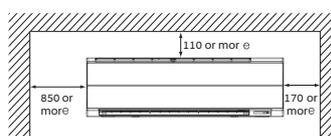
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

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

#### MMK-AP0073H1 to MMK-AP0243H1



#### ● Space required for installation and servicing



(Unit: mm)

## High-wall type (series 7)



**MMK-AP\*\*\*7HP**



Remote controller\*

### Compact and aesthetic design

Glossy material, smooth, curve and white LED are designed to reflect luxurious appearance and to complement modern exterior beautifully.

### Healthy & Fresh air

Aqua resin coated coil reduces formation of water or oil on the coil unit as well as minimizes dust accumulating on the coils for healthier air to breathe.

\*Wireless remote controller is packed with indoor unit.

### Technical specifications

Model name	MMK-	AP0077HP	AP0097HP	AP0127HP	AP0157HP	AP0187HP	AP0247HP	
Cooling capacity <sup>1</sup>	kW	2.5	2.8	3.6	4.5	5.6	7.1	
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220-240V) (Separate power supply for indoor units required.)						
	Power consumption 50 Hz/60 Hz	kW	0.015/0.015	0.016/0.016	0.017/0.017	0.028/0.028	0.032/0.032	0.050/0.050
External dimensions	Height	mm	293			320		
	Width	mm	798			1050		
	Depth	mm	230			250		
Total weight	kg	11			16			
Fan unit	Standard air flow (High/Mid/Low)	m <sup>3</sup> /h	480/385/270	510/395/270	540/410/300	840/690/550	900/720/550	1200/900/600
	Motor output	W	30					
Connecting pipe	Gas side	mm	ø9.5			ø6.4		ø9.5
	Liquid side	mm	ø6.4			ø12.7		ø15.9
	Drain port (Nominal dia.)	mm	16 (Polyvinyl chloride tube)					
Sound pressure level <sup>2</sup> (High/Mid/Low)	dB(A)	35/30/25	36/31/25	37/32/25	40/36/32	41/37/32	45/39/33	

Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.

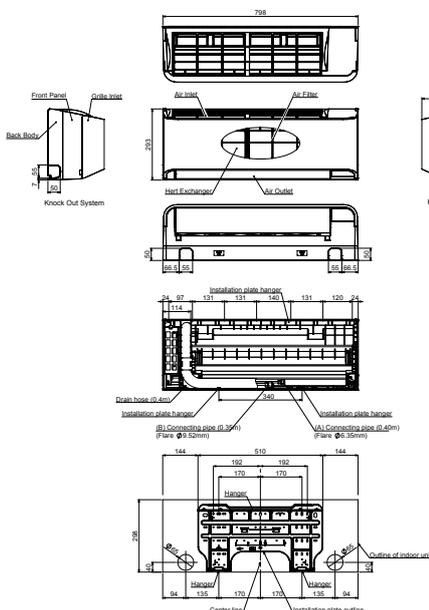
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

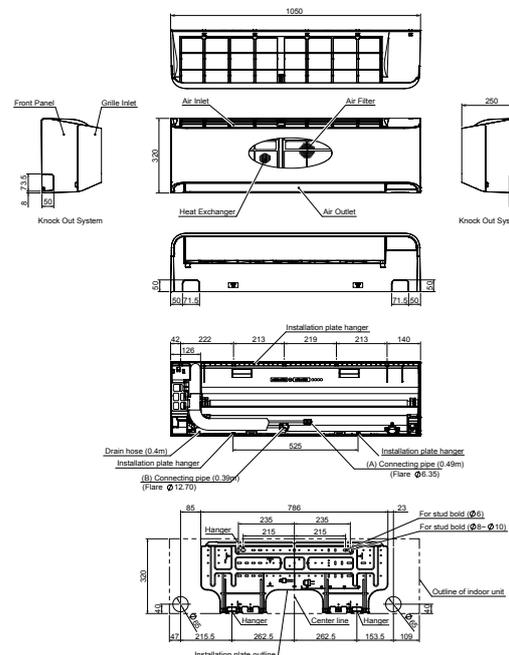
Normally, the values measured in the actual operating environment become larger than the indicated values due

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

### MMK-AP0077HP to MMK-AP0127HP



### MMK-AP0157HP to MMK-AP0247HP



## Console type



Remote controller\*

### MML-AP\*\*\*4NH1-E

## Elegant & simple design

Elegant & simple design makes this unit a perfect fit for shops, office buildings, and luxury apartments. Multi-function operation is convenient, making adjustments by the user possible using the wireless remote controller.

\*Wireless remote controller is packed with indoor unit.

## Technical specifications

Model name	MML-	AP0074NH1-E	AP0094NH1-E	AP0124NH1-E	AP0154NH1-E	AP0184NH1-E
Cooling capacity*1	kW	2.2	2.8	3.6	4.5	5.6
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220-240V) (Separate power supply for indoor units required.)				
	Power consumption 50 Hz / 60 Hz	kW	0.021/0.021	0.025/0.025	0.034/0.034	0.052/0.052
External dimensions	Height	mm	600			
	Width	mm	700			
	Depth	mm	220			
Total weight	kg	17				
Fan unit	Standard air flow (High/Mid/Low)	m <sup>3</sup> /h	510/366/285	552/408/324	624/468/384	726/528/426
	Motor output	W	41			
Connecting pipe	Gas side	mm	ø9.5		ø12.7	
	Liquid side	mm	ø6.4			
	Drain port (Nominal dia.)	mm	16 (Polyvinyl chloride tube)			
Sound pressure level*2 (High/Mid/Low)	dB(A)	38/32/26		40/34/29	43/37/31	47/40/34

Note 1: The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.

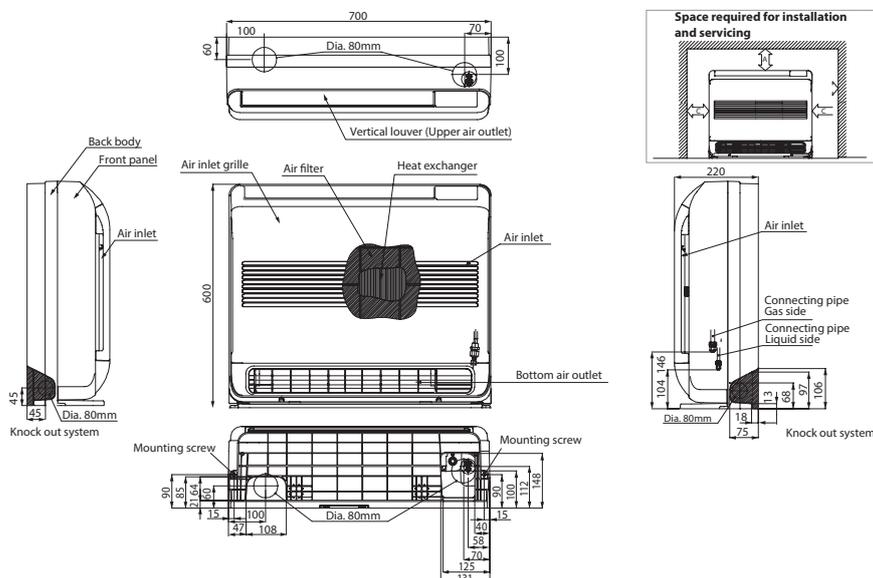
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

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

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

## MML-AP0074NH1-E to MML-AP0184NH1-E



(Unit: mm)

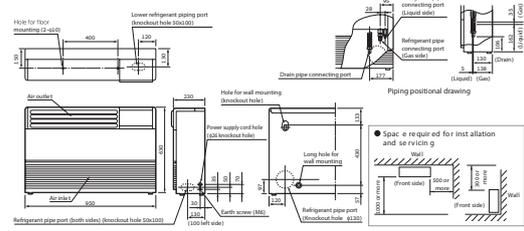
## Floor standing cabinet type



**MML-AP\*\*\*4H1-E**

### Slim and compact design

Under-window mounting does not block lighting.  
Indoor unit size of 2.2 kW to 7.1 kW is the same.  
Distribution can be reversed to suit occupant preference.



### Technical specifications

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

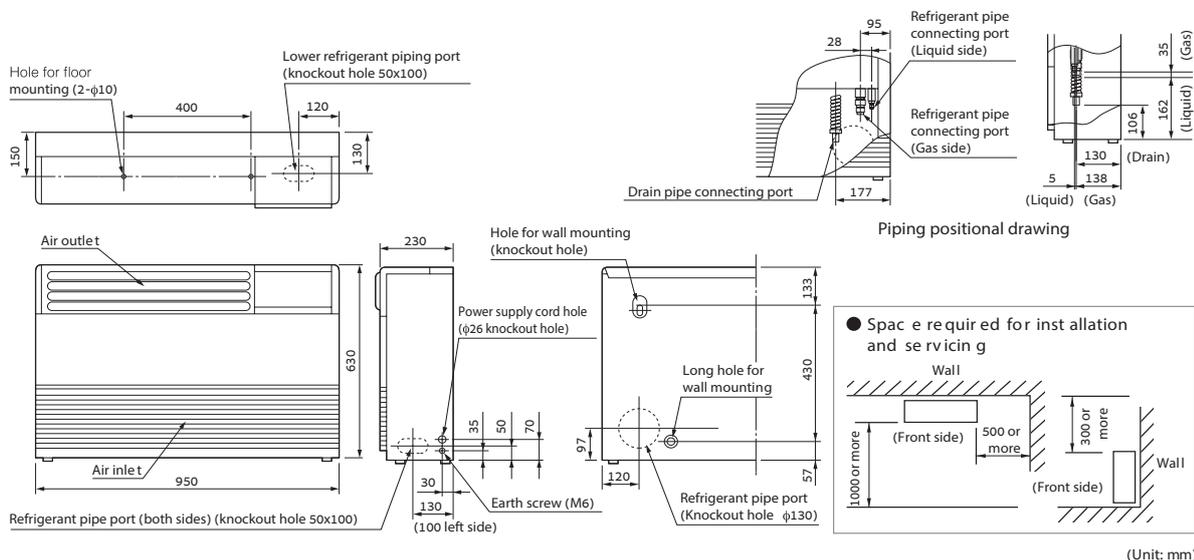
Note 1: The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.  
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

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

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

### MML-AP0074H1-E to MML-AP0244H1-E



## Floor standing concealed type



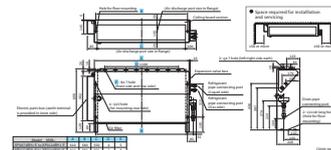
**MML-AP\*\*\*4BH1-E**

### Cool air makes for a pleasant indoor environment

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

### Easy maintenance

Simplified design of fan and drainage pipe eases maintenance.



### Technical specifications

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

Note 1: The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.

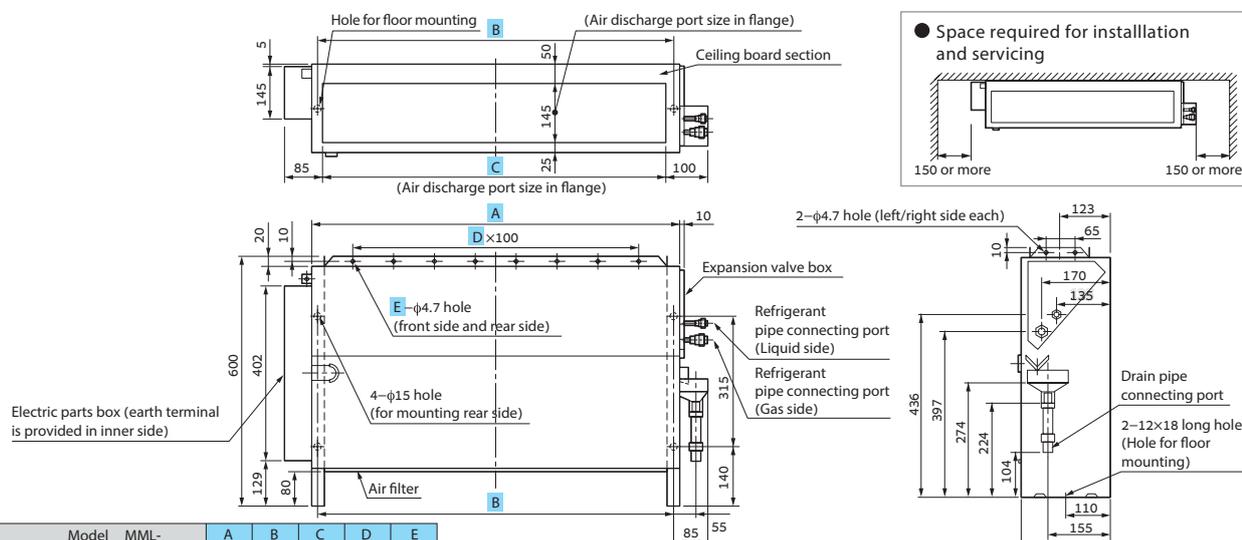
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.

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

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

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

### MML-AP0074BH1-E to MML-AP0244BH1-E



(Unit: mm)

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

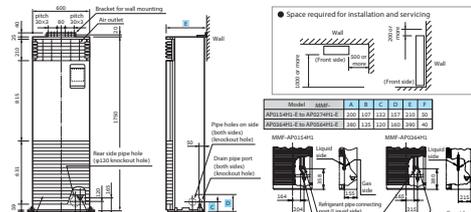
## Floor standing type



**MMF-AP\*\*\*6H1-E**

## Wide outlet

Corner location is also possible, with right and left auto swing. Set the vertical angle manually.

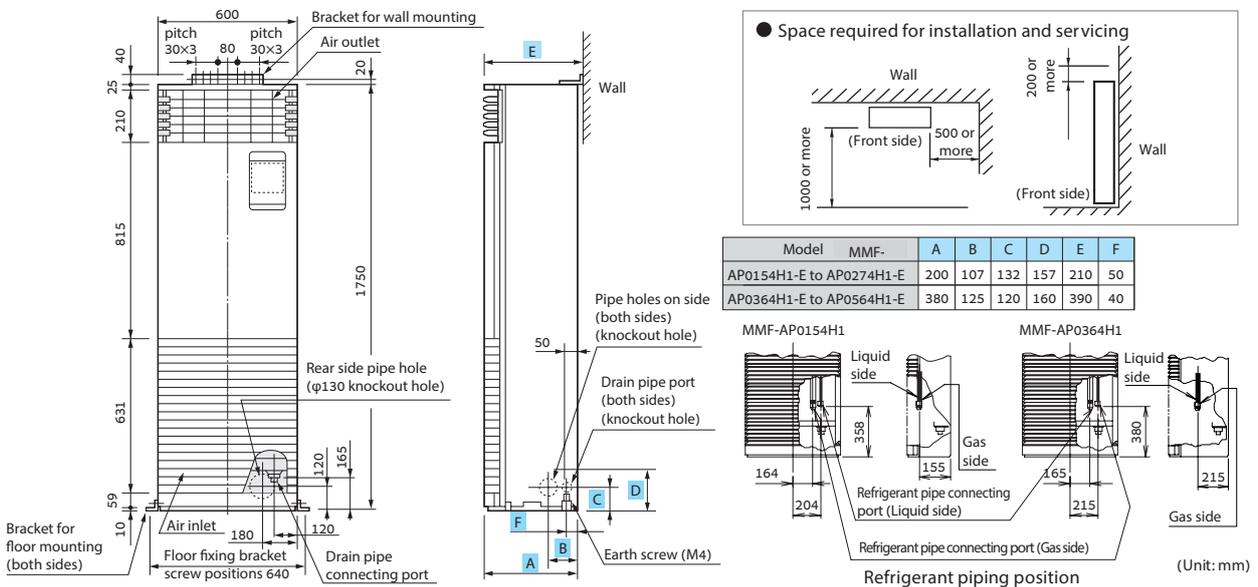


## Technical specifications

Model name	MMF-	AP0156H1-E	AP0186H1-E	AP0246H1-E	AP0276H1-E	AP0366H1-E	AP0486H1-E	AP0566H1-E
Cooling capacity*1	kW	4.5	5.6	7.1	8.0	11.2	14.0	16.0
Electrical characteristics	Power requirements	1-phase 50Hz 230V (220–240V) (Separate power supply for indoor units required.)						
	Power consumption 50 Hz/60 Hz	kW	0.055/0.055		0.089/0.089		0.135/0.135	0.160/0.160
External dimensions	Height	mm	1750					
	Width	mm	600					
	Depth	mm	210			390		
Total weight	kg	46		47		62		
Fan unit	Standard air flow (High/Mid/Low)	m <sup>3</sup> /h	900/780/660		1200/990/840		1920/1620/1380	2160/1730/1560
	Motor output	W	62					
Connecting pipe	Gas side	mm	ø12.7					
	Liquid side	mm	ø6.4			ø9.5		
	Drain port (nominal dia.)	mm	20 (One side of male screw)					
Sound pressure level*2 (High/Mid/Low)	dB(A)	46/42/37		49/45/39		51/46/41	54/49/44	

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

## MMF-AP0156H1-E to MMF-AP0566H1-E



## Indoor unit accessories

Indoor unit	Parts name	Model name	Applied model	Notes	Remarks
4-way air discharge cassette type	Ceiling panel	RBC-U31PG(W)-E	MMU-AP***4HP1-E	Required accessory	Use with TCB-GFC1602UE
	Fresh air inlet box	TCB-GB1602UE		For fresh air intake by using the knockout hole of fresh air filter chamber (dia.=100 mm)	
	Fresh air filter chamber	TCB-GFC1602UE		For fresh air inlet box	
	Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit (dia.=100 mm)	
	Spacer for height	TCB-SP1602UE		Height=50 mm	
	Air discharge direction kit	TCB-BC1602UE		Air direction charge by cutting off air discharge port (3 pcs.)	
Compact 4-way cassette type	Ceiling panel	RBC-UM21PG(W)-E	MMU-AP***7MH-E	Required accessory	
	Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit (dia.=100 mm)	
	Occupany sensor	TCB-SIR41UM-E			
2-way air discharge cassette type	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-AP0362/0482/0562WH1		
	Super long life filter	TCB-LF283UW-E	MMU-AP0072 to 0152WH1	Dust collecting effect: 50% (Weight method)	Use with TCB-FC283UW-E
		TCB-LF803UW-E	MMU-AP0182 to 0302WH1		
		TCB-LF1403UW-E	MMU-AP0362/0482/0562WH1		
	Filter chamber	TCB-FC283UW-E	MMU-AP0072 to 0152WH1	For super long life filter	Use with TCB-FC803UW-E
		TCB-FC803UW-E	MMU-AP0182 to 0302WH1		
		TCB-FC1403UW-E	MMU-AP0362/0482/0562WH1		
Auxiliary fresh air flange	TCB-FF151US-E	MMU-AP***2WH1	For fresh air intake by using the knockout hole of indoor unit.	Use with TCB-FC1403UW-E	
1-way air discharge cassette type	Ceiling panel	RBC-UY136PG	MMU-AP***4YH1-E	Required accessory	
	Front air discharge unit	RBC-US21PGE	MMU-AP***4SH1-E	Required accessory	
	Auxiliary fresh air flange	TCB-BUS21HWE		For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	
Slim duct type	Auxiliary fresh air flange	TCB-FF101URE2	MMD-AP***4SPH1-E	For fresh air intake by using the knockout hole of indoor unit. (dia.=100mm)	
Concealed duct type	Spigot shaped flange	TCB-SF56C6BPE	MMD-AP0076 to 0186BHP1-E		
		TCB-SF80C6BPE	MMD-AP0246/0276/0306BHP1-E		
		TCB-SF160C6BPE	MMD-AP0366/0486/0566BHP1-E		
Concealed duct high static pressure type	Long life filter kit	TCB-LK801D-E	MMD-AP0186/0246/0276HP1-E		
		TCB-LK1401D-E	MMD-AP0366/0486/0566HP1-E		
	Auxiliary fresh air flange	TCB-FF151US-E	MMD-AP***6HP1-E		
Ceiling type	Drain pump kit	TCB-DP31CE	MMC-AP0158/0188HP-E	Stand-up 600 or less (from bottom face of ceiling)	Use with TCB-KP13CE
		MMC-AP0248 to 0568HP-E	Use with TCB-KP23CE		
	Elbow piping kit	TCB-KP14CPE	MMC-AP0158/0188HP-E	Needed when drain pump kit is used	
TCB-KP24CPE	MMC-AP0248 to 0568HP-E				

### Combination pattern

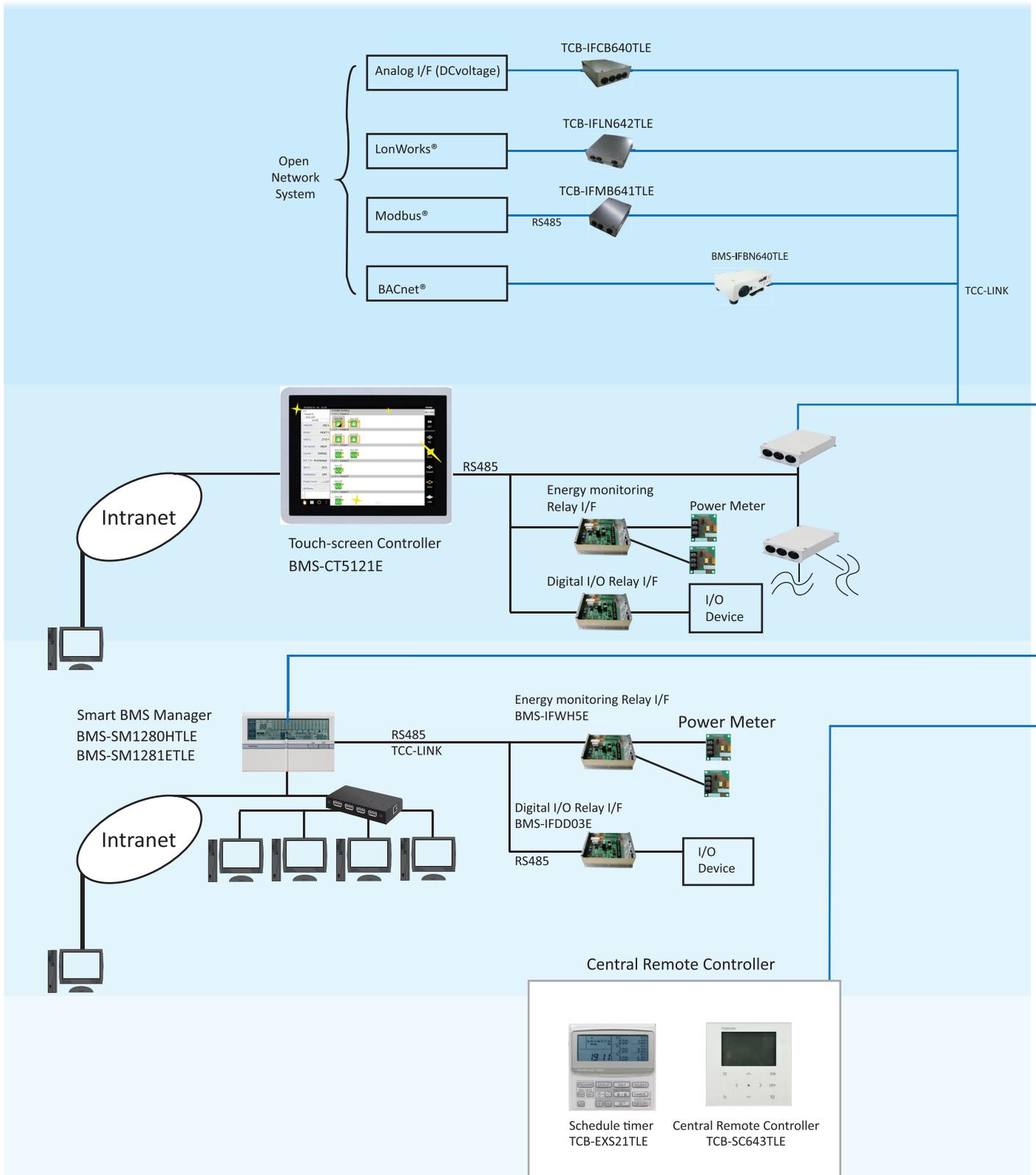
Accessory for 4-way air discharge cassette type: combination pattern

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

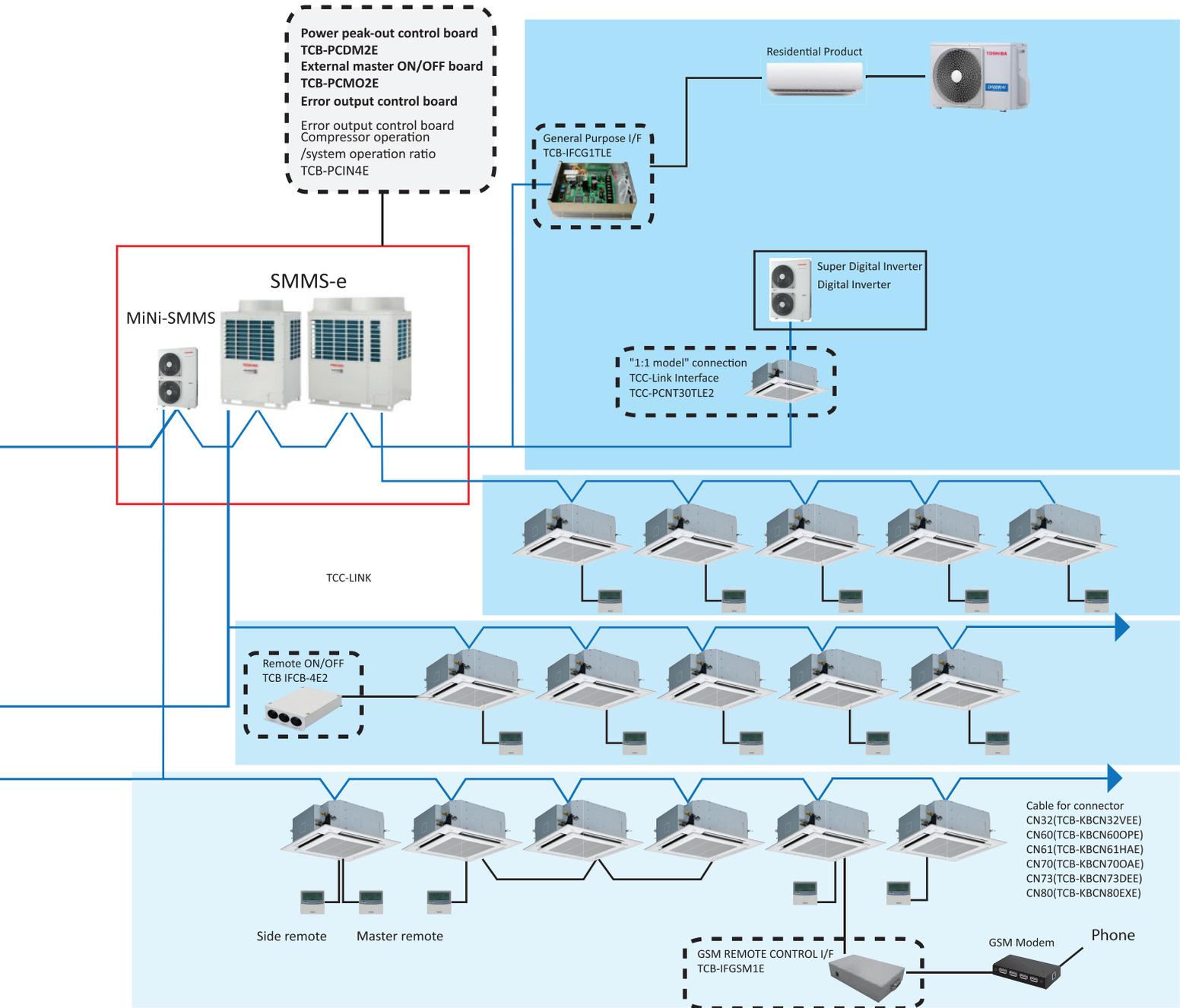


## Remote controllers

### Air-conditioning Management System on site



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



## Wire remote controller/Wireless remote controller

						
Compact Wired Remote Controller RBC-ASC11E	Wired Remote Controller RBC-AMS55E-ES RBC-AMS55E-EN	Wired remote controller with Weekly timer RBC-AMS41E	Wired remote controller RBC-AMT32E	Simple remote controller RBC-AS41E	Wireless remote controller	Remote Sensor TCB-TC41LE



**Wired Remote Controller**  
RBC-AMS55E-E  
RBC-AMS55E-EN

Wired remote controller with a built in 7-day timer-featuring a new multi-language, LCD display with backlight, energy saving options and a return back function.

- Possibility to set and display the room name to easily set-up and monitor the working parameter.
- New modern and desirable controller design with menu driven display.
- Save mode by schedule timer to optimise energy consumption.
- Room temperature display always available.
- Two "Hot Keys" (F1, F2) for easy operation of air conditioner functions.
- Easy to read layout including display of indoor unit model name and serial number.
- Built-in backup power. Settings are kept in memory up to 72 hours in case of power failure.
- Remote TA sensor available in controller.
- Can be connected to a single indoor unit or a group of up to 8 indoor units.



**Standard Remote controller**  
RBC-AMT32E

Standard wired remote controller can be connected to a single indoor unit or a group of up to 8 indoor units.

Power save operation limits the greatest current value. The remote controller allows error to be displayed while the protective device works or a error occurs.



**Remote controller with weekly timer (7-day timer function)**  
RBC-AMS41E

- **Clock display**
- **Schedule timer:**  
Possible to program schedule timer (7-day timer) function  
Possible to program 8 functions for each day of the week

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



**Simple wired remote controller**  
RBC-AS41E

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



**Wired Remote Controller**  
RBC-ASC11E

- Compact size H86mm x W86mm x D16mm
- Stylish design with big screen and backlight
- Time off
- Available by 0.5°C

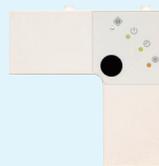


**Wireless remote controller kit & sensor unit (receiver unit)**

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



**RBC-AX33CE**  
Integral receiver  
(For ceiling) (MMC-AP\*\*\* 8HP-E)  
(MMU-AP\*\*\* 4SH1-E)



**RBC-AX32U(W)-E**  
RBC-AX32U(WS)-E  
Integral receiver (MMU-AP\*\*\*4HP1-E)  
(For 4-way air discharge cassette)



**TCB-AX32E2**  
Stand alone receiver  
(For 4-way air discharge cassette, compact 4-way cassette, 2-way air discharge cassette, ceiling, concealed duct, slim duct, floor standing cabinet, floor standing, 1-way discharge cassette (MMU-AP \*\*\*4YH1-E/SH1-E))



**RBC-AX32UW(W)-E**  
Integral receiver (For 2-way air discharge cassette) (MMU-AP \*\*\* 2WH1)



**RBC-AX32UM(W)-E**  
Integral receiver  
(MMU-AP\*\*\*7MH-E)  
(For compact 4-way cassette)



**Central remote controller**  
TCB-SC643TLE

- **Operation panel part**  
The new central remote controller has a simple touch operation to use
- **Features**
  - Easy control and simple monitoring for multi IDU's up to 64 air-conditioner and those can divide into 1 to 10 zones.
  - Multiple display mode (All, Zone, Unit) to control and monitor.
  - Easy operation to touch the mark part



**Schedule timer**  
TCB-EXS21TLE

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



**Remote sensor**  
TCB-TC41LE

Install this sensor when outside air has been introduced or when overcooling is to be minimised.

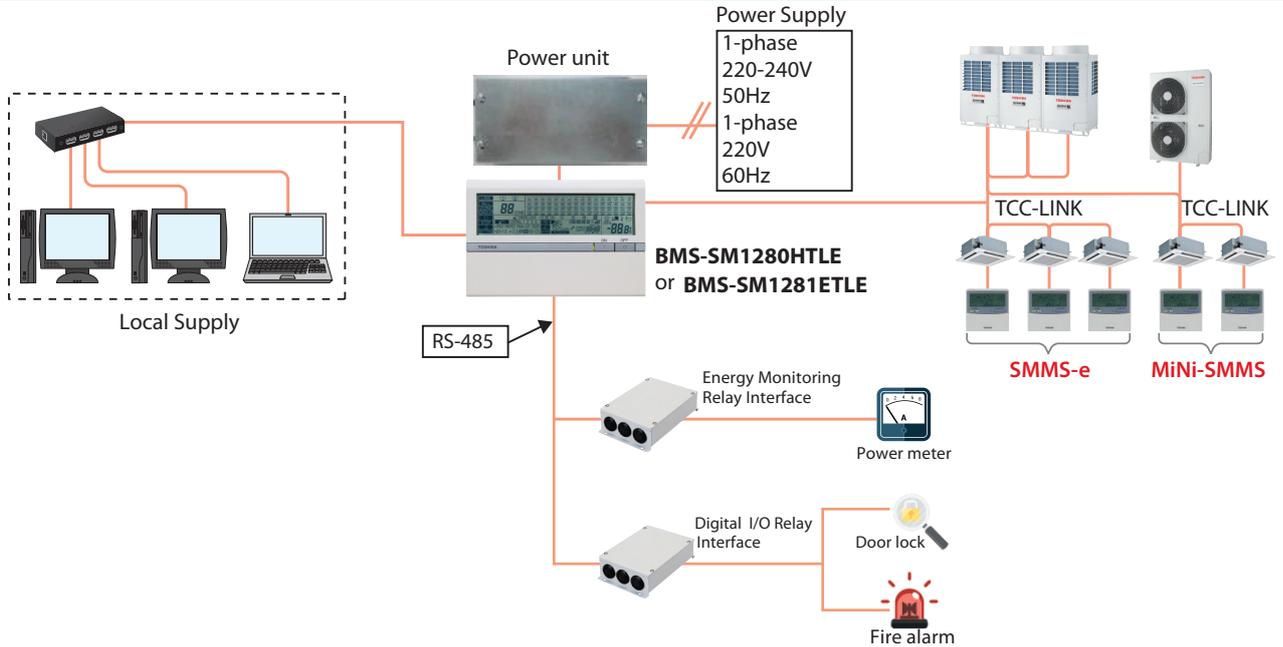


**Wired remote controller for air to air heat exchanger**  
NRC-01HE

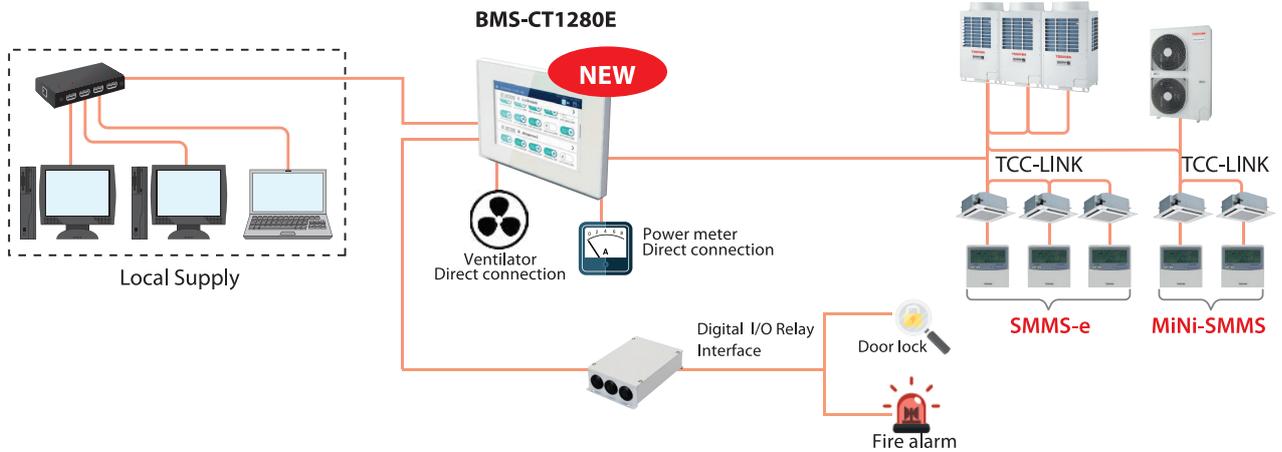
- Up to 8 units of the Air to Air Heat Exchanger can be operated using this remote controller.
- Control by 2 remote controllers is available.  
Two remote controllers can operate a single Air to Air Heat Exchanger.
- Air conditioning units may be controlled in addition to controlling the Air to Air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

## Building management systems

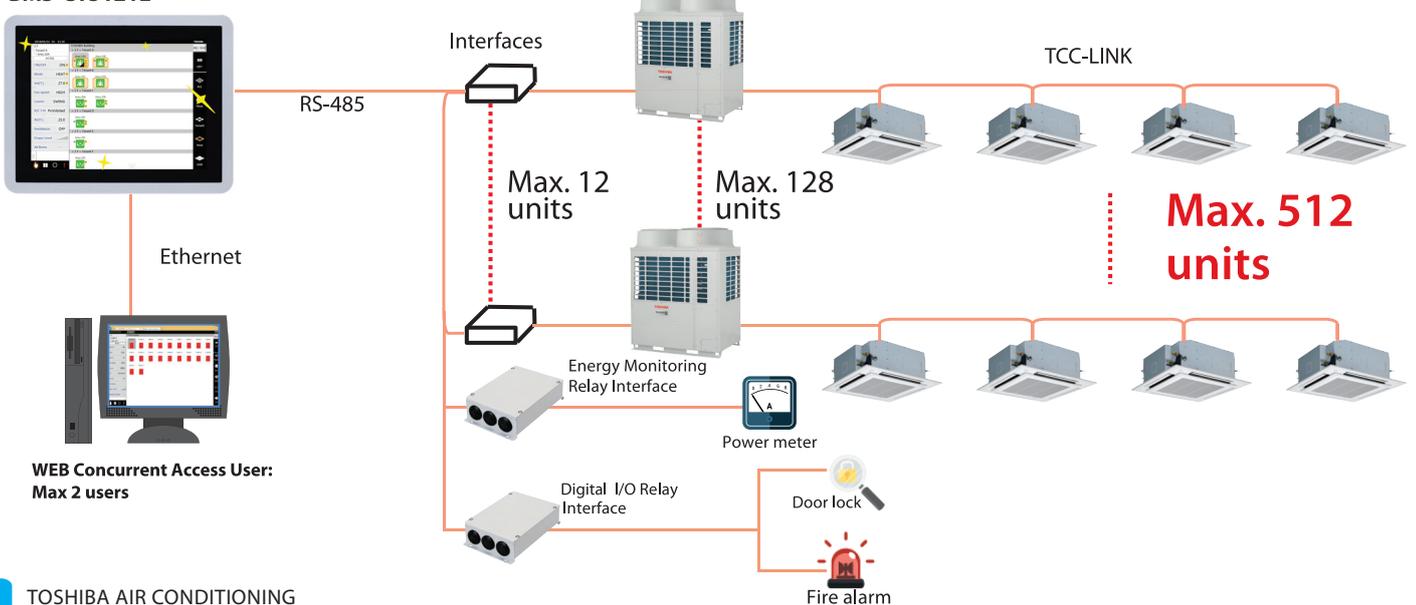
SMART BMS MANAGER / SMART BMS MANAGER WITH DATA ANALYSER

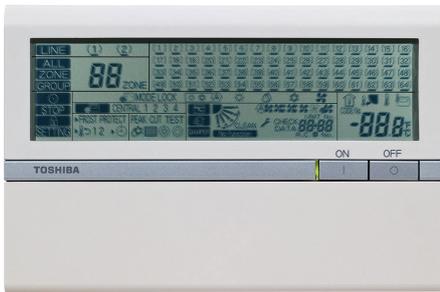


Touch screen controller



**BMS-CT5121E**





**SMART BMS MANAGER**  
BMS-SM1280HTLE

**Web browser control software**

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



**TOUCH SCREEN CONTROLLER**  
BMS-CT1280E



**SMART SLIDE SWITCH**

Individual



Toshiba touch screen controller **BMS-CT1280E**

won iF DESIGN AWARD 2019, with an excellence UI and display design.

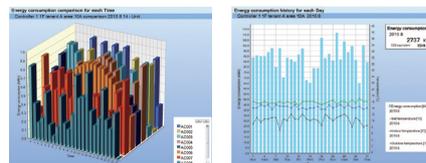
**Features**

- Easy control and user friendly design on the touch screen controller.
- Attractive UI and multiple display design for Business (Office/shop) use.
- Simple monitoring for multi IDU monitoring and control without PC, Connecting up to 128 IDUs.
- Direct DI/DO or Power meter I/P W/O relay interface
- Available to connect hot water module\* for VRF

**SMART MANAGER WITH DATA ANALYSER**  
BMS-SM1281ETLE



**Energy monitoring display**



3D energy view

Daily energy view



**TOUCH SCREEN CONTROLLER**  
BMS-CT5121E

**• Touch screen controller**

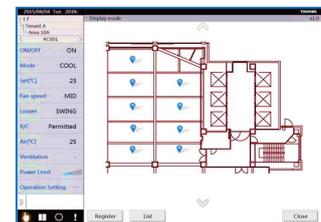
Using the touch screen controller provides a clear display and enables easy operation. A maximum of 512 units / groups are controllable.

**• Energy monitoring and billing application**

Power meter locally supplied Energy

**• Web connection**

**• Layout diagram function (Option)**



**LAYOUT DIAGRAM FUNCTION (OPTION)**

**FEATURES**

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



**Relay Interface BMS-IFWH5E**

For Energy Monitoring to connect power meter

**Relay Interface BMS-IFDD03E**

For to connect external digital input/output

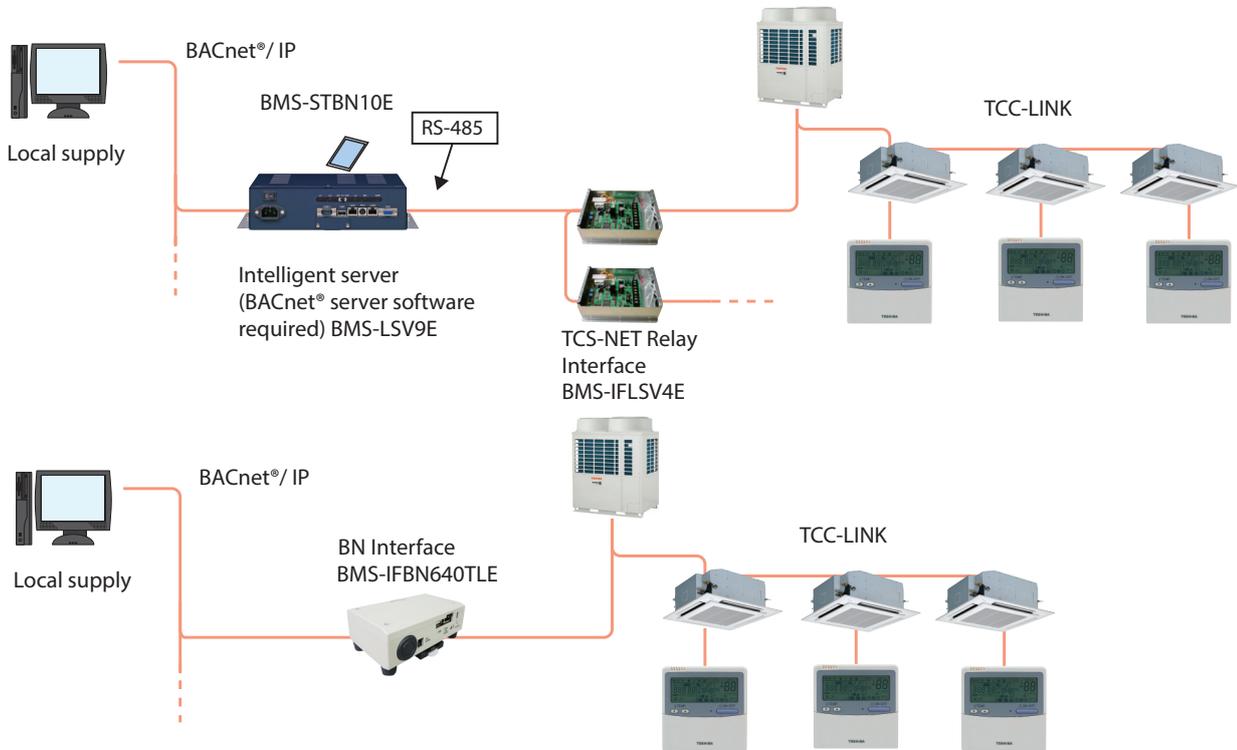


**Relay Interface BMS-IFLSV4E**

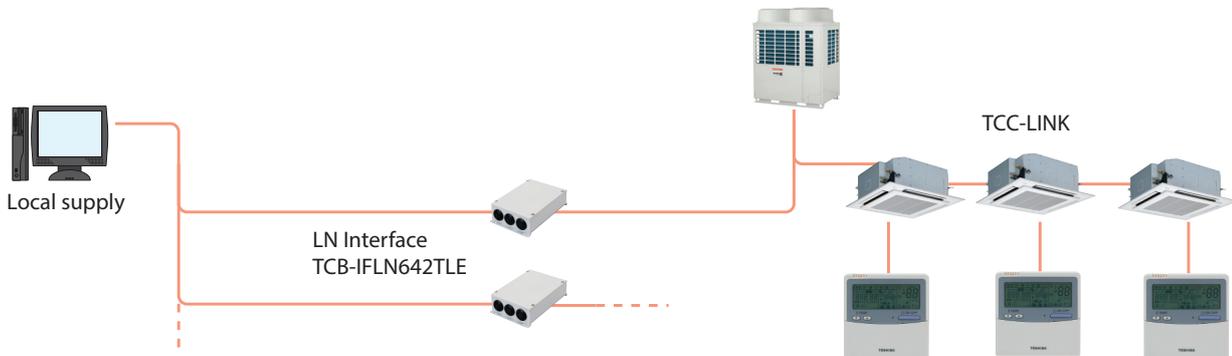
For TCS-NET (Max. 64 FCU/Unit)

## Open network systems

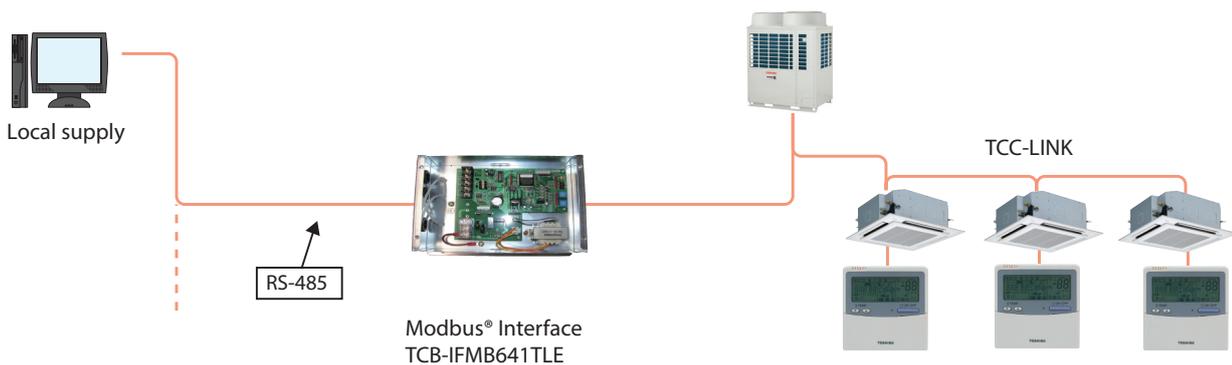
### BACnet® system



### LonWorks®



### Modbus®





**BN Interface**  
BMS-IFBN640TLE

• **BACnet®**

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

• **Control**

- ON/OFF
- Temperature setting
- Fan speed

• **Monitoring**

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



**LN Interface**  
TCB-IFLN642TLE

• **LonWorks® LN Interface**

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

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

• **SNVT signal**

Signals and provides the following functions:

• **Control**

- ON/OFF
- Temperature setting
- Fan speed

• **Monitoring**

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



**Modbus® Interface**  
TCB-IFMB641TLE

• **Modbus®**

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

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

Signals and provides the following functions:

• **Control**

- ON/OFF
- Temperature setting
- Fan speed

• **Monitoring**

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

1. LonWorks®: Registered trademark Echelon corporation.

2. BACnet®: ANSI/ASHRAE 135-2008, A data Communication Protocol for Building Automation and Control Networks.

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



## Application control

TCB-IFCB-4E2



Size: 200 × 170 × 66 (mm)

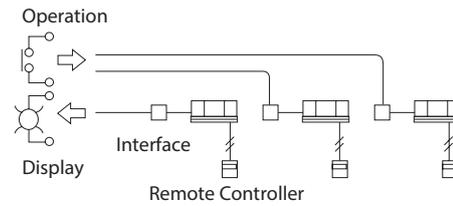
Remote location ON/OFF control box

• Feature

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

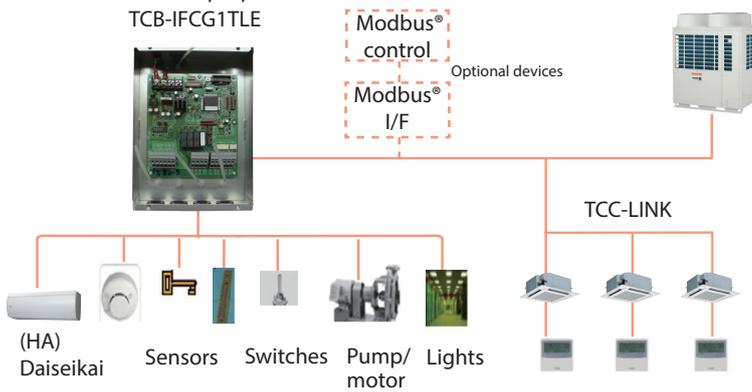
Monitoring

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



## General Purpose Interface

General purpose interface  
 TCB-IFCG1TLE



Concept

- Controls the operation status of each indoor unit.

- ON/OFF control of peripheral equipment via the relay point of Toshiba's BMS. (1pt only)

Standard function

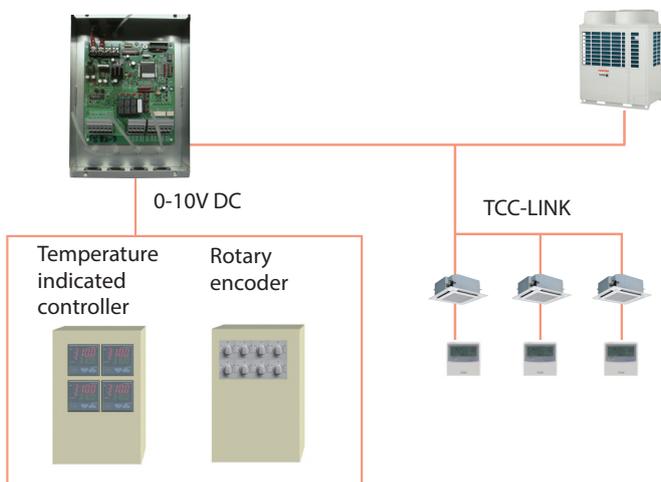
Central remote controller and Building Management System devices can control ON/OFF function via digital I/O ports.

Optional function

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

## Analog Interface

Analog interface  
 TCB-IFCB640TLE



Concept

- Provides access to 64 indoor units.

- Does not require special network knowledge.

- Can control each indoor unit on TCC-LINK, (on/off, temperature setting, airflow volume, louver position), and monitor status based on 0-10V DC voltage input.

- Enables relay control and status monitoring of general-purpose I/F TCB-IFCG1TLE.

## Installation and the use of refrigerants not specified by Toshiba Carrier Corporation

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

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

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

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



## SAFETY PRECAUTIONS

### For operation:

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

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

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

## Precautions for using air conditioners

### Concerning the air conditioner's operating conditions and their selection

- (1) Avoid using the air conditioner in the following locations.
  - Locations with acidic or alkaline atmospheres (locations at which highly acidic or alkaline air is directly drawn in, such as in hot springs areas from which sulfur gases are given off, or where chemicals, vinegar, exhaust air from burners, etc., are given off) The heat exchangers and other parts may become corroded.
  - Locations with atmospheres filled with coolant or other machine oil or steam exhaust (such as at food preparation factories or machine plants). The heat exchangers may corrode; frost may form as a result of heat exchanger malfunction; air conditioner operating performance may be compromised or condensation may form as a result of clogged filters; plastic parts may incur damage; heat-insulation materials may become separated, etc.
- (2) Before using an air conditioner in any of the following locations, consult with your dealer or a qualified contractor.
  - Locations where vapors from edible oils are given off (such as in bakeries or kitchens and restaurants that use edible oils) ...The air conditioner's operating performance may be compromised or condensation may form as a result of clogged filters, and the plastic parts may incur damage. In line with the prevailing conditions, take countermeasures such as tailoring the installation conditions in accordance with the conditions, using air conditioners designed for kitchens or oil guard filters, etc.
  - Locations with disinfectant-induced chlorine atmospheres (water tanks, etc.) The metal parts in the heat exchangers, motors, etc., may become corroded.
  - Locations with high salinity (coastal areas, etc.) Corrosion may occur so use outdoor units specifically designed to withstand exposure to salt.
  - Locations where power is supplied from independent power generators. The power line frequency and/or voltage may fluctuate, possibly causing the air conditioner to malfunction.
  - Locations where high frequencies or electrical noise is generated (from high-frequency welders used for vinyl welding and processing, high-frequency therapeutic devices used for thermotherapy, etc.) The electronic components may be adversely affected, possibly causing the air conditioner to malfunction.
  - Locations where electronic equipment is installed. Electrical noise may adversely affect the operation of the electronic equipment.
- (3) Concerning use in locations with high ceilings
  - In locations with high ceilings, use of circulators for improving the temperature distribution during heating is recommended.
- (4) Concerning use in high-humidity environments
  - When the ceiling-recessed type of indoor unit is installed in a location, such as those described below, and it is very hot and humid inside the ceiling, condensation may form on the external surfaces of the indoor unit and drip down. In such cases, add external heat-insulating materials.
    - Locations such as food preparation sites in which the areas above the ceilings are hot and humid
    - Locations in which outside air is drawn in and routed above the ceiling
    - Above ceilings with a slate roof or tiled roof overhead
- (5) Even when an air conditioner is shut down, it will still consume a small amount of power to protect the unit. If the air conditioner will not be used for a prolonged period, turn OFF the main switch (ground fault circuit breaker). However, before the unit is to be used again, turn ON the main switch (ground fault circuit breaker) for at least 12 hours in order to prevent trouble.

# TOSHIBA



Notice: - Products listed in this leaflet use HFC refrigerant R410A with a GWP of 2,088\*.  
- Toshiba is committed to continuously improving its products to ensure the highest quality and reliability standards, and to meet local regulations and market requirements. All features and specifications are subject to change without prior notice.

\*The GWP value is calculated based on information provided in the EU F gas Regulation and IPCC Fourth Assessment Report.