TOSHIBA

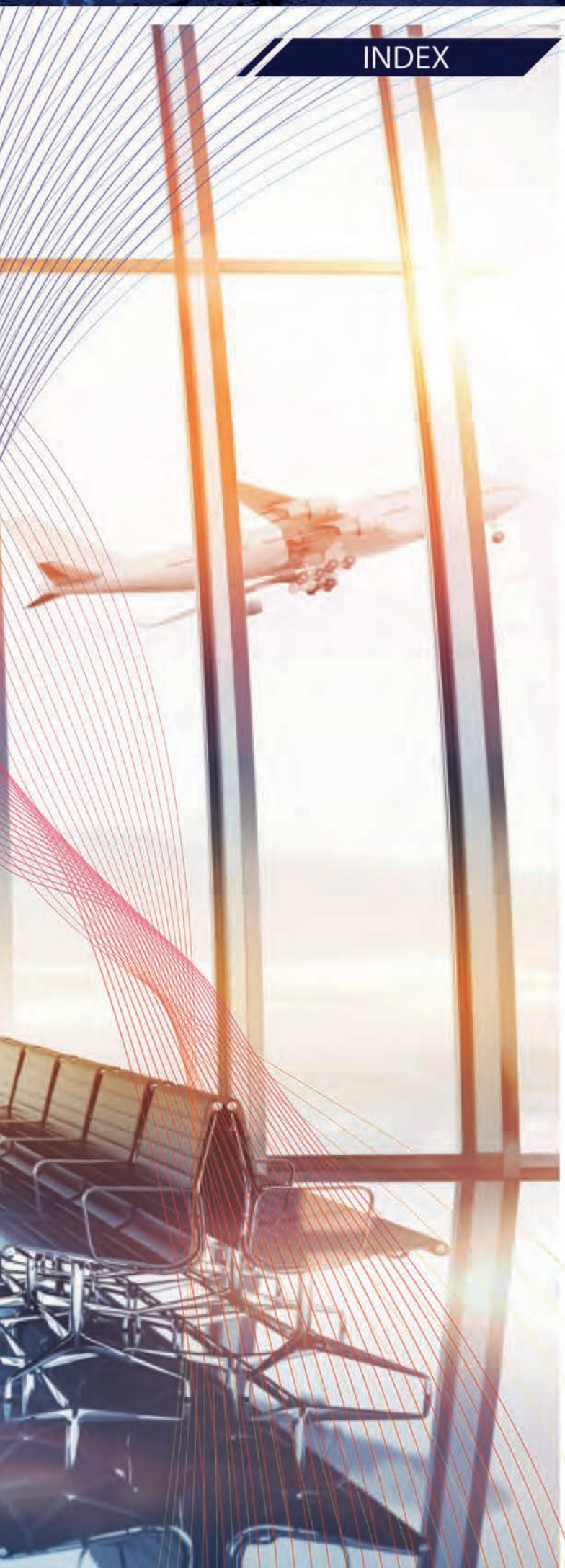
Leading Innovation

SMMS 7
SUPER MODULAR MULTI SYSTEM

"SMMS-7 the Senses of Cooling"

Air Conditioning for large building

Better Air Solutions



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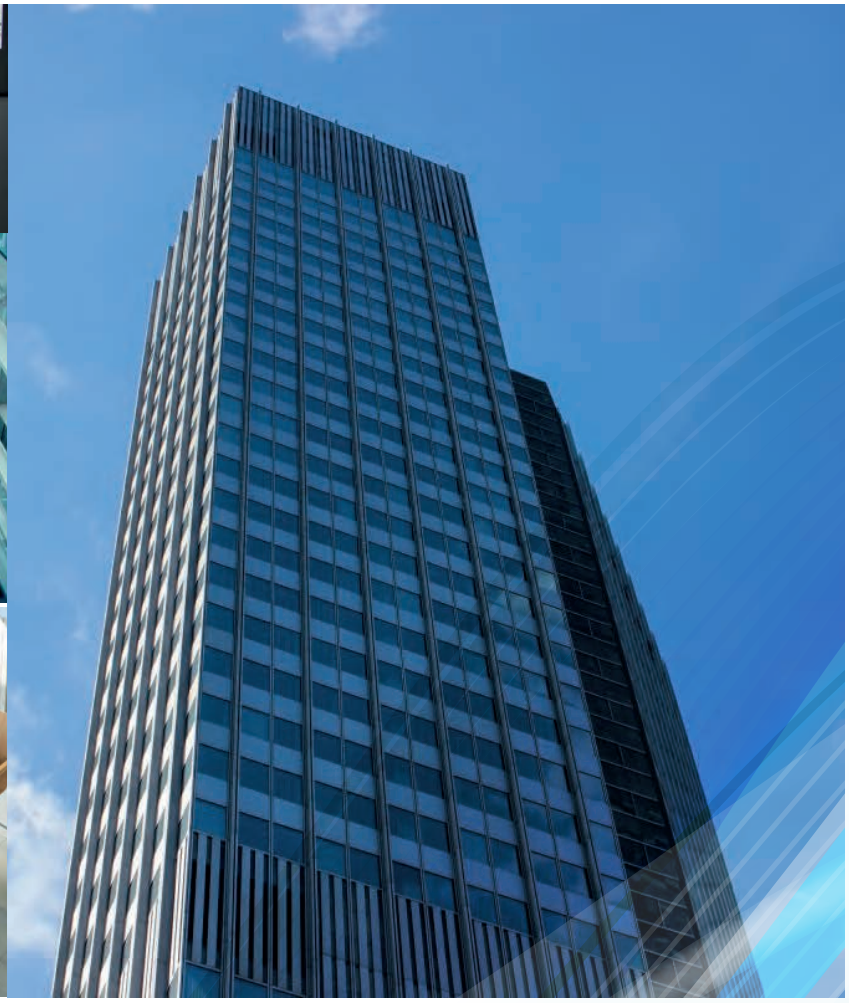
TOSHIBA AIR CONDITIONING VISION



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.

SMMS 7
SUPER MODULAR MULTI SYSTEM

7 Senses

Because understand your real needs, we have
in air conditioning, which we have innovately
this VRF is cooling optimized for hot and humid

Sense of efficiency
Higher energy efficiency

Sense of care
Enviromentally - oriented

Sense of space
Space saving and light weight

Sense of en
Wider ambient

of **smartness**

e searched for and finally found 7 senses of smartness
developed into the most advance technologies SMMS-7
d temperature.

Sense of convenience
Easy installation and maintenance

Sense of flexibility
Design flexibility

Sense of strength
High reliability

durance
operation

SMMS 7
SUPER MODULAR MULTI SYSTEM

"SMMS-7 the senses of cooling"

SMMS 7
SUPER MODULAR MULTI SYSTEM

"SMMS-7 the senses of cooling"

PRODUCT LINE UP

Standard model

Equivalent HP	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP
Appearance									
External dimensions (H x W x D)	1,800 x 990 x 780mm				1,800 x 1,210 x 780mm			1,800 x 1,600 x 780mm	
Refrigerant type	R410A								

High efficiency model

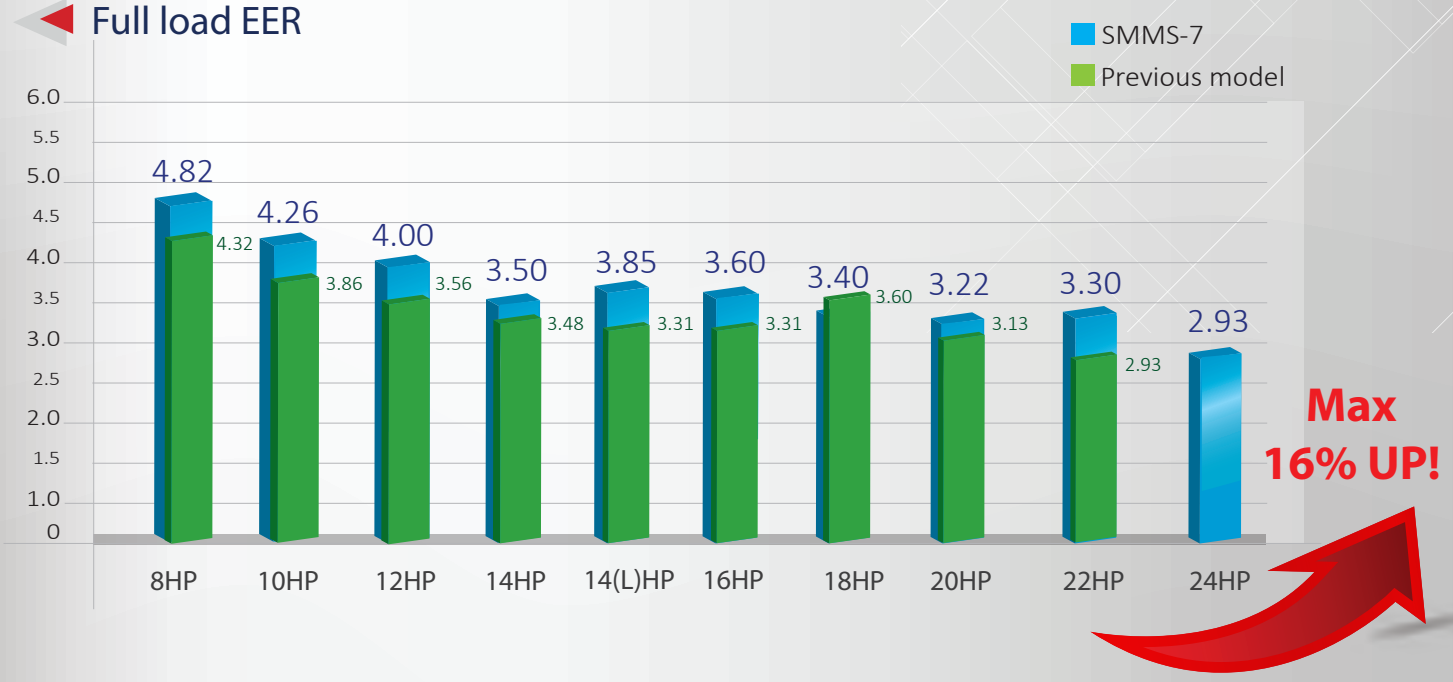
Equivalent HP	14HP
Appearance	
External dimensions (H x W x D)	1,800 x 1,210 x 780mm
Refrigerant type	R410A

Product line up

Sense of efficiency

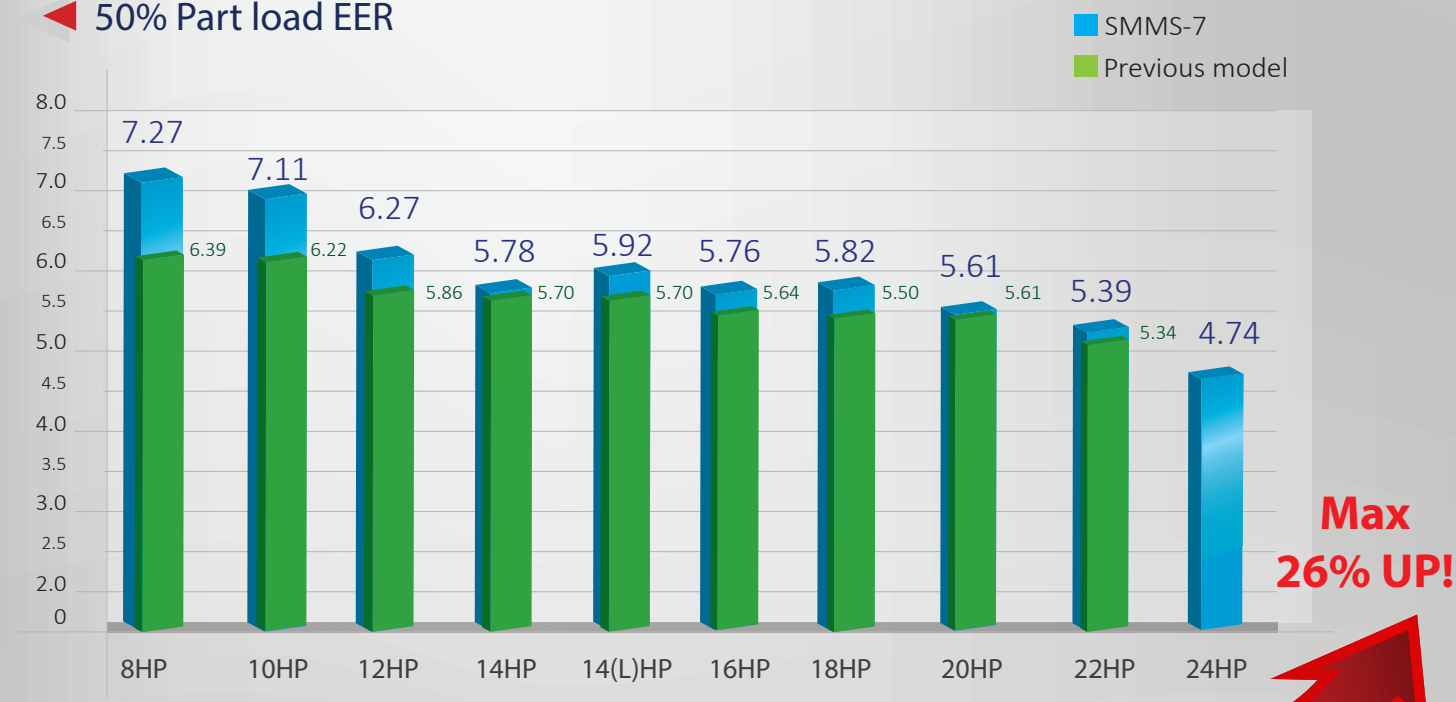
Higher energy efficiency

Full load EER



Max 16% UP!

50% Part load EER



Max 26% UP!

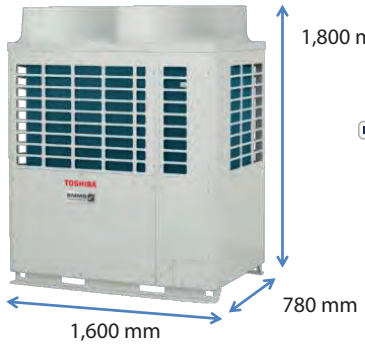
Sense of space

Space saving and light weight

20 HP Model

SMMS 7

Previous model

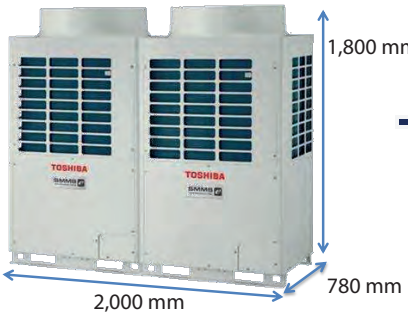


-24% Reduced space saving

24 HP Model

SMMS 7

Previous model



-20% Reduced space saving

60 HP Combination model

The new compact design not only reduce the installation foot print, but also reduce the time to deliver and install

SMMS 7

-18% Reduced space saving

Previous model

Sense of endurance

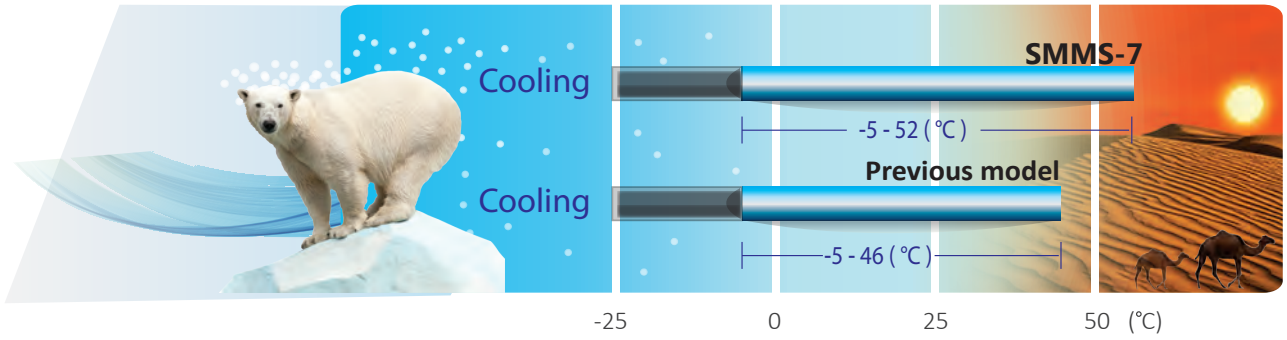
Wider ambient operation

Outdoor temperature range

The combination of new compressor design and system controls have enabled SMMS-7 to expand its allowable operational temperature range

Operation ambient temperature expansion

(Cooling : ℃DB)



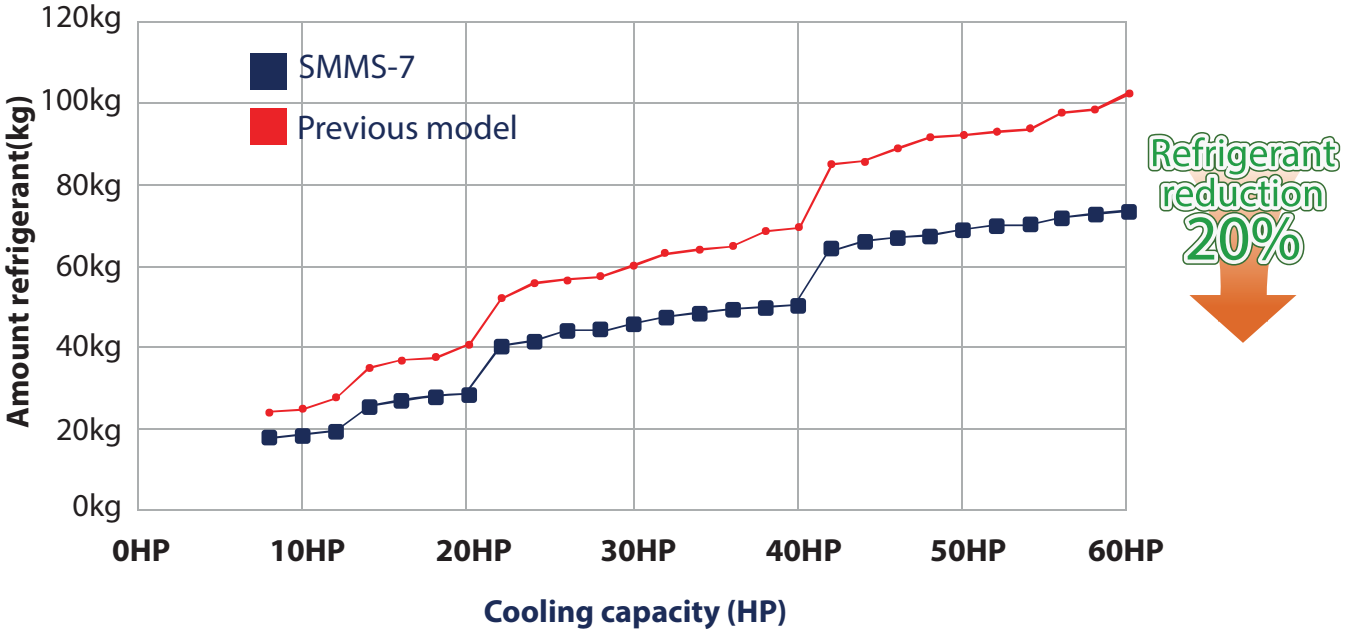
Note : Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

Sense of care

Environmentally - oriented

Reduce refrigerant amount

More than 20% by delicated cooling design*



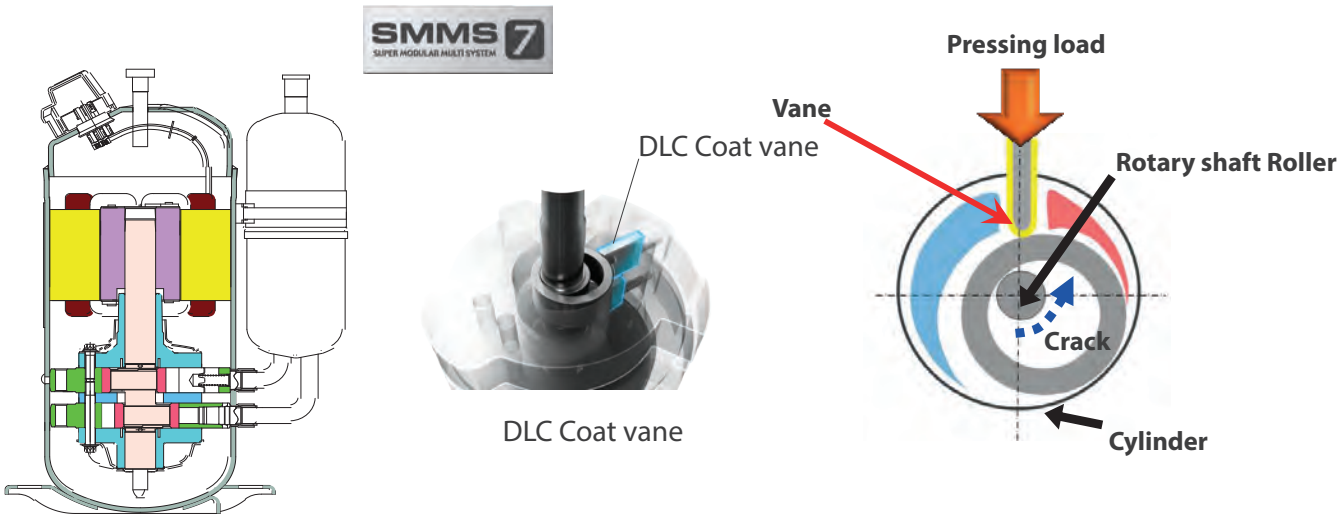
* Testing under controlled conditions.

Sense of strength

High reliability

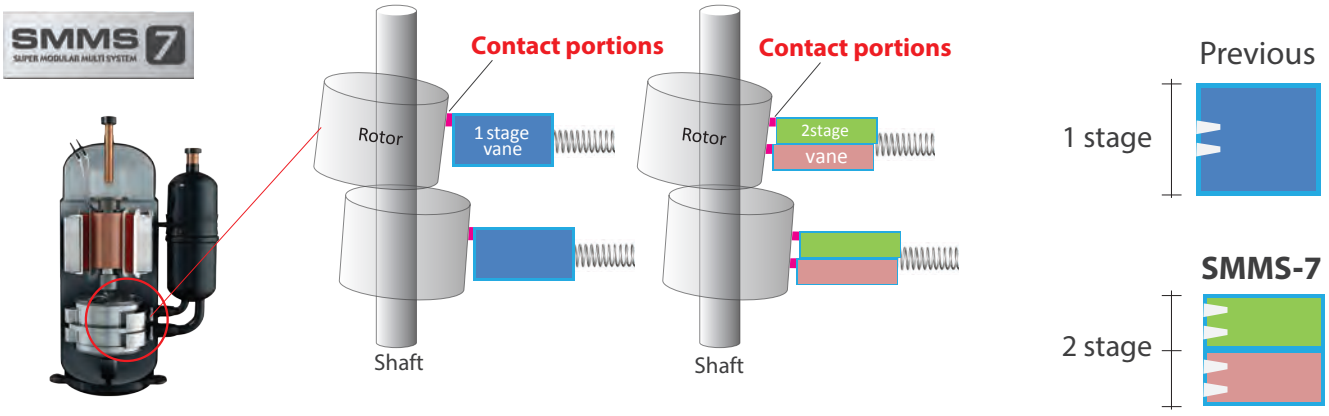
DLC (Diamond like carbon) coated vane

Diamond Like Carbon (DLC) protection coating inside "All compressor's vane" increases efficiency and reliability



2-stage vane

2 stage vane reduce friction and results in a significiant improvement in reliability and performance.

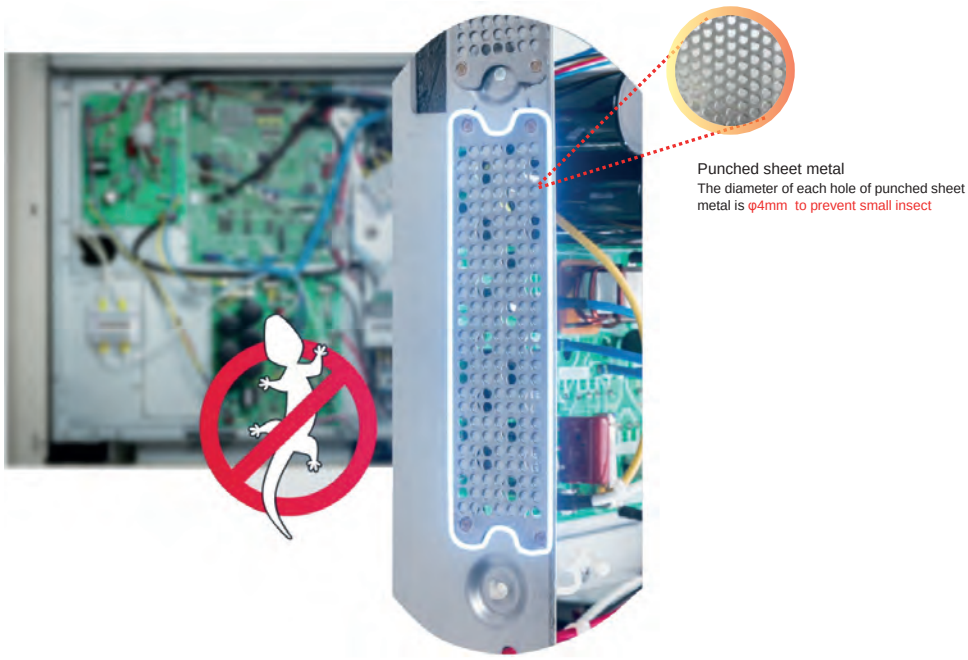


Sense of strength

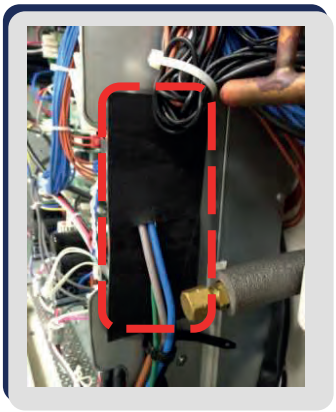
High reliability

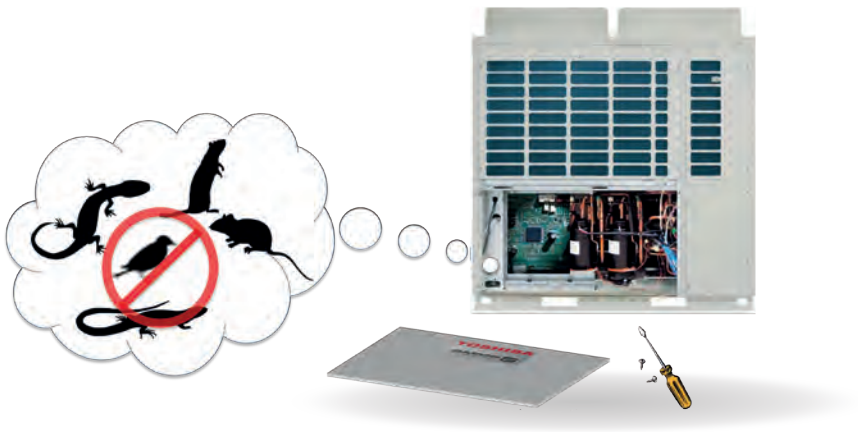
Small animal protection

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.



In order to stop small animals get into inverter box, SMMS-7 has resin sheet. It's preventive measure to keep them from shorting out PC boards.



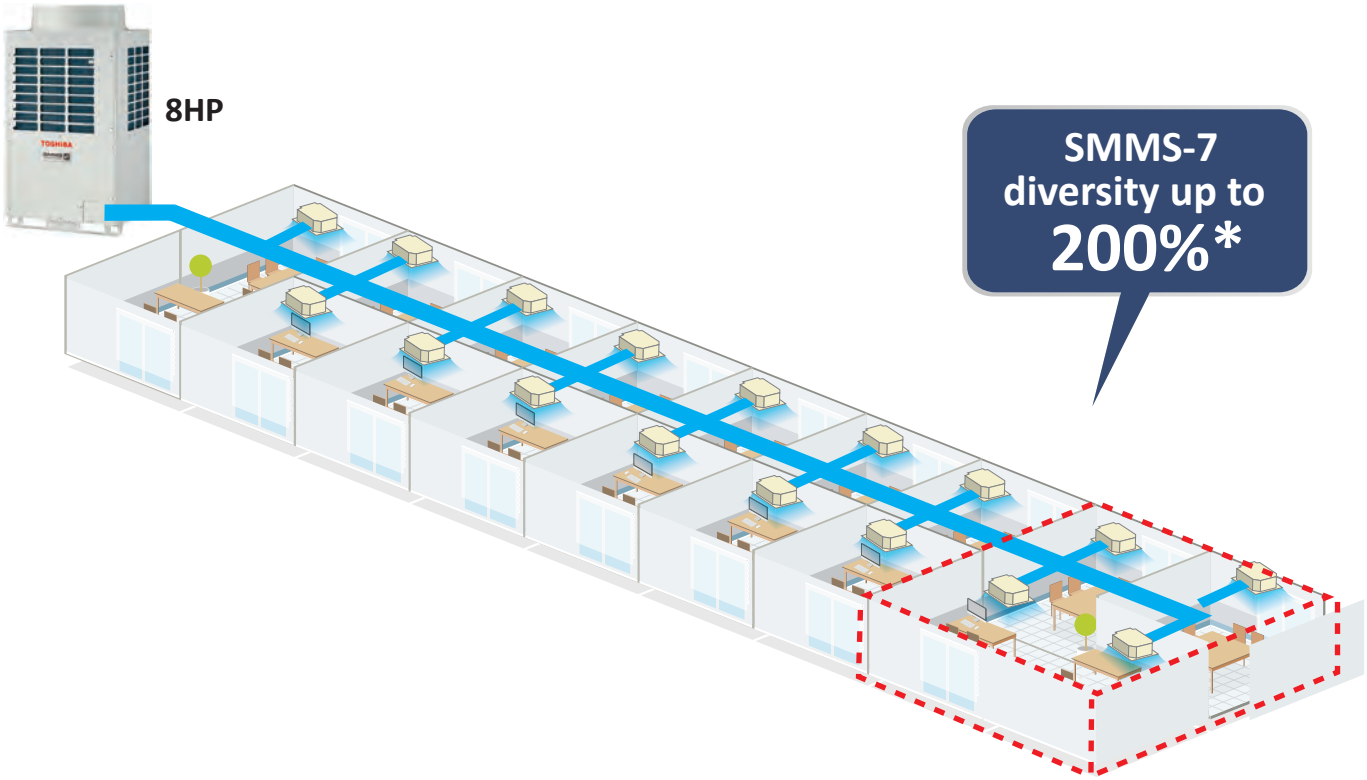


Sense of flexibility

Design flexbility

200 % Maximum diversity

Thanks to the newly developed refrigerant circuit, the diversity of outdoor units has drastically increased. This makes it much easier to design for installations with many rooms or offices.



Standard model

8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP
200%	200%	200%	200%	200%	200%	200%	200%	200%

26HP	28HP	30HP	32HP	34HP	36HP	38HP	40HP
180%	180%	180%	180%	180%	180%	180%	180%

42HP	44HP	46HP	48HP	50HP	52HP	54HP	56HP	58HP	60HP
150%	150%	150%	150%	150%	150%	150%	150%	150%	150%

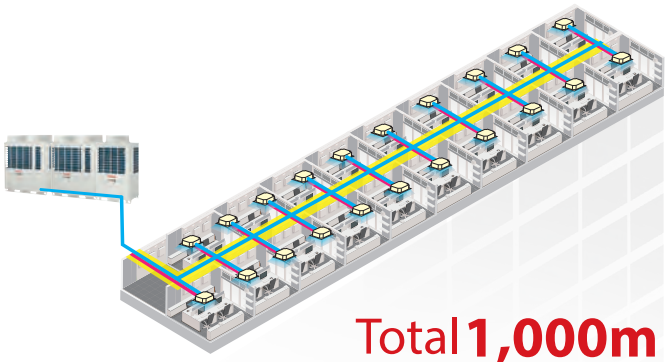
*Single module

Sense of flexibility

Design flexbility

Total piping length

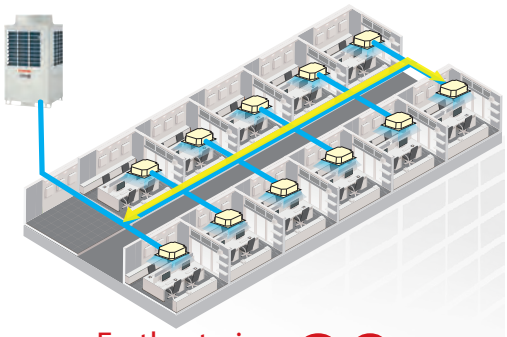
Applied with Toshiba's unique and greatly improved technology, SMMS-7 can reach up to 1,000 meters maximum piping length.



Total **1,000m**
piping length
SMMS-7 Max. total length

Farthest pipe from 1st branch

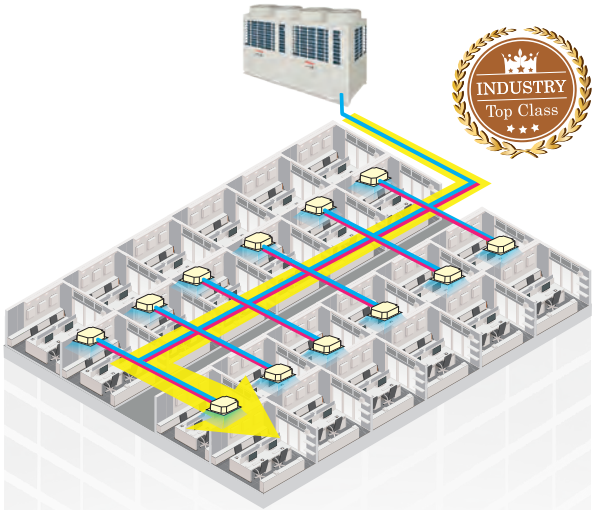
Even more convenient with the piping distance from the first branch to the furthest indoor unit at 90 meters, increasing the flexibility of the installation within the hotel or office building.



Farthest pipe
from 1st branch **90m**

Farthest equivalent length

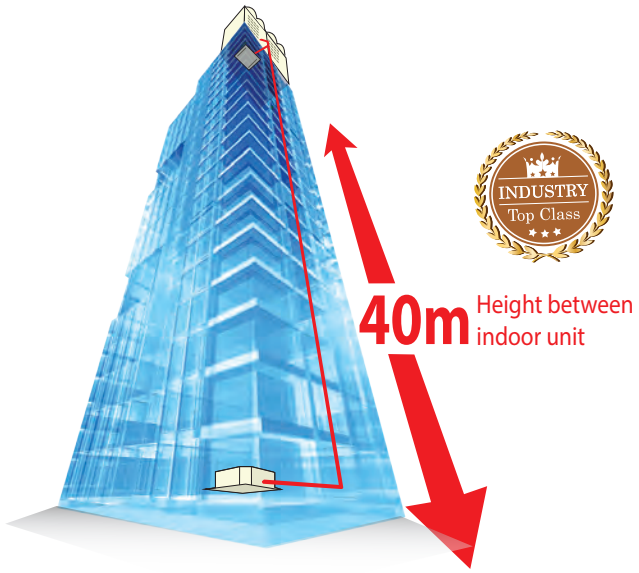
The maximum equivalent distance between outdoor unit and farthest indoor unit tops at 235 meters, which tops the industry class.



Farthest
equivalent length **235m**

Height between indoor units

Another industry's top class is a maximum vertical distance between indoor units which reaches up to 40 meters, equal to an entire 11-storied building. SMMS-7's enhanced piping capabilities result in more benefits for the system design, installation flexibility, as well as the less installation cost.



40m Height between indoor unit

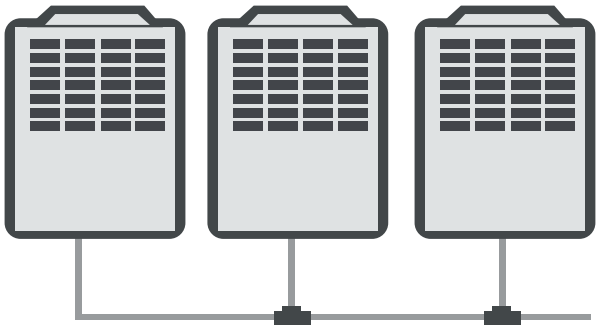
Sense of convenience

Easy installation and maintenance

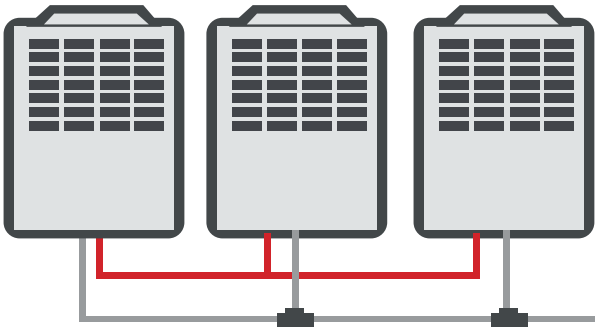
Installation flexibility

New system of oil management, balance pipe no longer required.

SMMS 7



Previous model



Easy maintenance

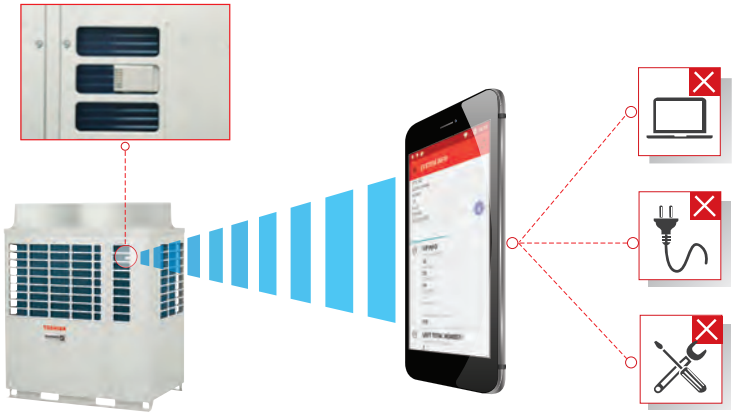
Secure space for maintenance in machine area. Temperature control of liquid pipe leads to removal of liquid tank, leading to reduce refrigerant.

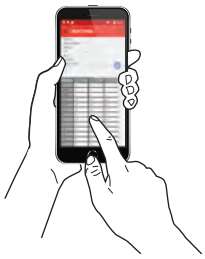
SMMS 7

Previous model

SMMS wave tool

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

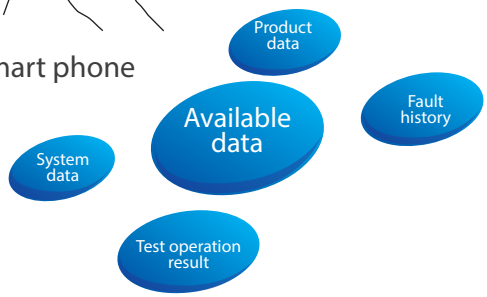




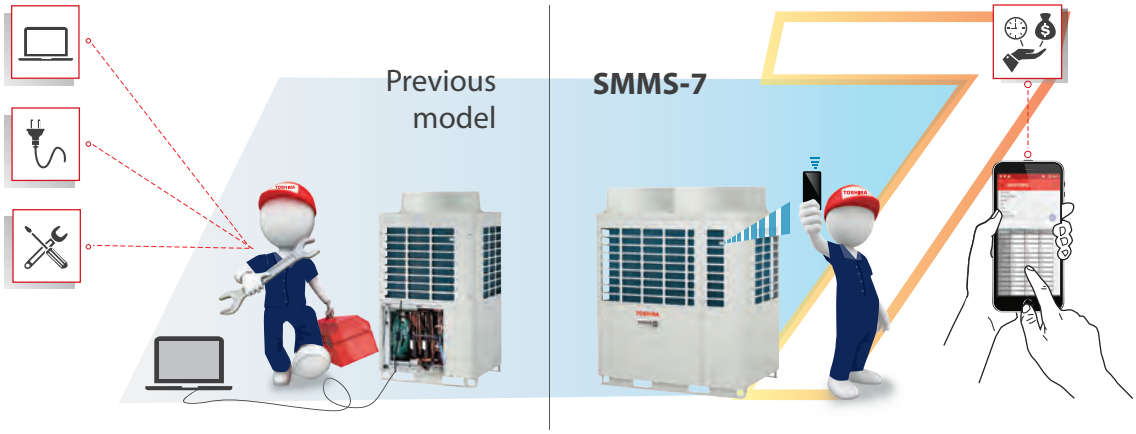
In case of below situation

- ✓ Installation
- ✓ Service maintenance
- ✓ Power failure

Smart phone



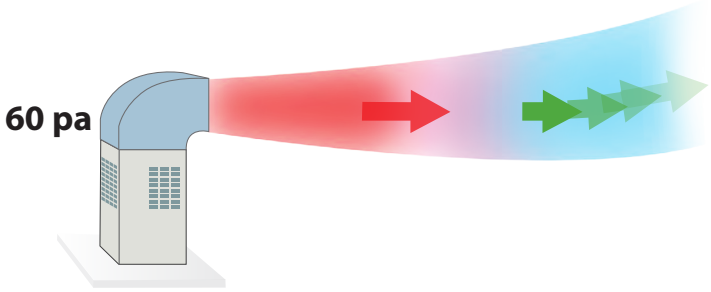
By the new smart phone application, the testing and commissioning can be done without opening the cabinet.



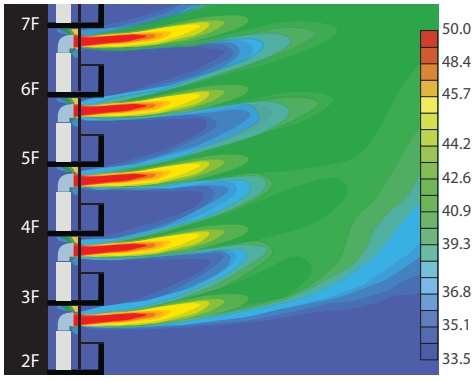
*Smartphone specification : Android™ OS 5.0

The external static pressure

The SMMS-7 units are suitable for challenging installations where high external static pressure performance



Air flow simulation diagram



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

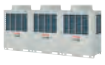
Outdoor units

Standard model

									
Capacity		8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP
Model Name (MMY-)	50 Hz	MAP0807T8P	MAP1007T8P	MAP1207T8P	MAP1407T8P	MAP1607T8P	MAP1807T8P	MAP2007T8P	MAP2207T8P	MAP2407T8P
Cooling capacity (kW)		22.4	28.0	33.5	40.0	45.0	50.4	56.0	61.5	67.0

															
Capacity		26HP		28HP		30HP		32HP		34HP		36HP		38HP	
Model Name (MMY-)	50 Hz	AP2617T8P		AP2817T8P		AP3017T8P		AP3217T8P		AP3417T8P		AP3617T8P		AP3817T8P	
Units in combination (MMY-)		MAP1407T8P	MAP1207T8P	MAP1407T8P	MAP1407T8P	MAP1607T8P	MAP1407T8P	MAP1607T8P	MAP1607T8P	MAP1807T8P	MAP1607T8P	MAP1807T8P	MAP1807T8P	MAP2007T8P	MAP1807T8P
Cooling capacity (kW)		73.5		80.0		85.0		90.0		95.4		100.8		106.4	

															
Capacity		40HP		42HP			44HP			46HP			48HP		
Model Name (MMY-)	50 Hz	AP4017T8P		AP4217T8P			AP4417T8P			AP4617T8P			AP4817T8P		
Units in combination (MMY-)		MAP2007T8P	MAP2007T8P	MAP1407T8P	MAP1407T8P	MAP1407T8P	MAP1607T8P	MAP1407T8P	MAP1407T8P	MAP1807T8P	MAP1407T8P	MAP1407T8P	MAP2007T8P	MAP1407T8P	MAP1407T8P
Cooling capacity (kW)		112.0		120.0			125.0			130.4			136.0		

																	
Capacity		50HP			52HP			54HP			56HP			58HP			60HP
Model Name (MMY-)	50 Hz	AP5017T8P			AP5217T8P			AP5417T8P			AP5617T8P			AP5817T8P			AP6017T8P
Units in combination (MMY-)		MAP2007T8P	MAP1607T8P	MAP1407T8P	MAP2007T8P	MAP1807T8P	MAP1407T8P	MAP2007T8P	MAP2007T8P	MAP1407T8P	MAP2007T8P	MAP2007T8P	MAP1607T8P	MAP2007T8P	MAP2007T8P	MAP1807T8P	MAP2007T8P	MAP2007T8P	MAP2007T8P
Cooling capacity (kW)		141.0			146.4			152.0			157.0			162.4			168.0

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

High efficiency Model

																							
Capacity		14HP	16HP		18HP		20HP		22HP		24HP												
Model Name (MMY-)	50 Hz	MAP14A7T8P	AP1627T8P		AP1827T8P		AP2027T8P		AP2227T8P		AP2427T8P												
Units in combination (MMY-)		-	MAP0807T8P	MAP0807T8P	MAP1007T8P	MAP0807T8P	MAP1007T8P	MAP1007T8P	MAP1207T8P	MAP1007T8P	MAP0807T8P	MAP0807T8P	MAP0807T8P										
Cooling capacity (kW)		40.0	44.8		50.4		56.0		61.5		67.2												

																							
Capacity		26HP	28HP		30HP			32HP			34HP												
Model Name (MMY-)	50 Hz	AP2627T8P	AP2827T8P		AP3027T8P			AP3227T8P			AP3427T8P												
Units in combination (MMY-)		MAP14A7T8P	MAP1207T8P	MAP14A7T8P	MAP14A7T8P	MAP1007T8P	MAP1007T8P	MAP1007T8P	MAP1207T8P	MAP1007T8P	MAP1007T8P	MAP1207T8P	MAP1207T8P	MAP1007T8P									
Cooling capacity (kW)		73.5	80.0		84.0			89.5			95.0												

																							
Capacity		36HP	38HP				40HP				42HP												
Model Name (MMY-)	50 Hz	AP3627T8P	AP3827T8P				AP4027T8P				AP4227T8P												
Units in combination (MMY-)		MAP1207T8P	MAP1207T8P	MAP1207T8P	MAP14A7T8P	MAP1207T8P	MAP1207T8P	MAP14A7T8P	MAP14A7T8P	MAP1207T8P	MAP14A7T8P	MAP14A7T8P	MAP14A7T8P										
Cooling capacity (kW)		105.0	107.0				113.5				120.0												

																							
Capacity		44HP	46HP			48HP			50HP			52HP			54HP								
Model Name (MMY-)	50 Hz	AP4427T8P	AP4627T8P			AP4827T8P			AP5027T8P			AP5227T8P			AP5427T8P								
Units in combination (MMY-)		MAP1607T8P	MAP14A7T8P	MAP14A7T8P	MAP1807T8P	MAP14A7T8P	MAP14A7T8P	MAP1607T8P	MAP1607T8P	MAP1607T8P	MAP1807T8P	MAP1607T8P	MAP1607T8P	MAP1807T8P	MAP1807T8P	MAP1607T8P	MAP1807T8P	MAP1807T8P	MAP1807T8P	MAP1807T8P	MAP1807T8P	MAP1807T8P	MAP1807T8P	MAP1807T8P
Cooling capacity (kW)		125.0	130.4			135.0			140.4			145.8			151.2								

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

※ Anti-Corrosion protection model : MMY-MAP****T8JP, MMY-MAP****T7JP

Outdoor unit specifications

Standard model (Single unit)

Technical specifications

Equivalent HP				8HP	10HP	12HP	14HP	16HP
Model name		50Hz (MMY-)		MAP0807T8P	MAP1007T8P	MAP1207T8P	MAP1407T8P	MAP1607T8P
Outdoor unit type				Inverter				
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V)/3phase 4 wires 60Hz 380 Hz				
Cooling (*2)	Capacity 100%		(kW)	22.4	28.0	33.5	40.0	45.0
	Power consumption		(kW)	4.65	6.57	8.38	11.4	12.5
	EER (Energy Efficiency Ratio)	Capacity 100%		4.82	4.26	4.00	3.50	3.60
		Capacity 80%		5.79	5.31	5.04	4.32	4.32
		Capacity 50%		7.27	7.11	6.29	5.78	5.75
External dimensions (Height / Width / Depth)			(mm)	1,800 / 990 / 780	1,800 / 990 / 780	1,800 / 990 / 780	1,800 / 990/ 780	1,800 / 1,210 / 780
Total weight			(kg)	200	200	200	200	281
Compressor	Motor output		(kW)	4.0 x 1	5.8 x 1	7.1 x 1	10.0 x 1	5.5 x 2
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	9,700	9,700	12,200	12,200	12,600
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 19.1	ø 22.2	ø 28.6	ø 28.6	ø 28.6
		Liquid side	(mm)	ø 12.7	ø 12.7	ø 12.7	ø 15.9	ø 15.9
Sound pressure level			(dB(A)	55	57	60	61	61
Diversity(*3)				200%	200%	200%	200%	200%
Max.external static pressure			(Pa)	60	60	50	40	40
Recommended isolator			(A)	20	32	32	32	32

Standard model (Single unit)

Technical specifications

Equivalent HP				18HP	20HP	22HP	24HP
Model name		50Hz (MMY-)		MAP1807T8P	MAP2007T8P	MAP2207T8P	MAP2407T8P
		60Hz (MMY-)		MAP1807T7P	MAP2007T7P	MAP2207T7P	MAP2407T7P
Outdoor unit type				Inverter			
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V			
Cooling (*2)	Capacity 100%		(kW)	50.4	56.0	61.5	67.0
	Power consumption		(kW)	14.8	17.4	18.6	22.9
	EER (Energy Efficiency Ratio)	Capacity 100%		3.40	3.22	3.30	2.93
		Capacity 80%		4.15	3.93	4.00	3.67
		Capacity 50%		5.82	5.61	5.39	4.75
External dimensions (Height / Width / Depth)			(mm)	1,800/1,210/780	1,800/1,210/780	1,800/1,600/780	1,800/1,600/780
Total weight			(kg)	281	281	340	340
Compressor	Motor output		(kW)	6.6 x 2	7.8 x 2	8.2 x 2	10.3 x 2
Fan unit	Motor output		(kW)	1.0	1.0	2.0	2.0
	Air volume		(m^3/h)	12,600	12,600	18,500	18,500
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 28.6	ø 28.6	ø 28.6	ø 34.9
		Liquid side	(mm)	ø 15.9	ø 15.9	ø 19.1	ø 19.1
Sound pressure level			(dB(A)	61	61	63	63
Diversity(*3)				200%	200%	200%	200%
Max.external static pressure			(Pa)	40	40	40	40
Recommended isolator			(A)	40	63	63	63

Outdoor unit specifications

Standard model (Combination)

Technical specifications

Equivalent HP				26HP		28HP		30HP	
Model name		50Hz (MMY-)		AP2617T8P		AP2817T8P		AP3017T8P	
Outdoor unit type				Inverter					
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V					
Outdoor unit model		50Hz (MMY-)		MAP1407T8P	MAP1207T8P	MAP1407T8P	MAP1407T8P	MAP1607T8P	MAP1407T8P
Cooling (*2)	Capacity 100%		(kW)	73.5		80.0		85.0	
	Power consumption		(kW)	19.7		22.9		23.9	
	EER (Energy Efficiency Ratio)	Capacity 100%		3.73		3.50		3.55	
		Capacity 80%		4.63		4.32		4.33	
		Capacity 50%		6.00		5.77		5.77	
Total weight			(kg)	200	200	200	200	281	200
Compressor	Motor output		(kW)	10.0 x 1	7.1 x 1	10.0 x 1	10.0 x 1	5.5 x 2	10.0 x 1
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	12,200	12,200	12,200	12,200	12,600	12,200
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 34.9		ø 34.9		ø 34.9	
		Liquid side	(mm)	ø 19.1		ø 19.1		ø 19.1	
Sound pressure level			(dB(A)	63.5		64.0		64.0	
Diversity(3*)				180%		180%		180%	

Standard model (Combination)

Technical specifications

Equivalent HP				32HP		34HP		36HP	
Model name		50Hz (MMY-)		AP3217T8P		AP3417T8P		AP3617T8P	
Outdoor unit type				Inverter					
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V					
Outdoor unit model		50Hz (MMY-)		MAP1607T8P	MAP1607T8P	MAP1807T8P	MAP1607T8P	MAP1807T8P	MAP1807T8P
Cooling (*2)	Capacity 100%		(kW)	90.0		95.4		100.8	
	Power consumption		(kW)	25.0		27.3		29.6	
	EER (Energy Efficiency Ratio)	Capacity 100%		3.60		3.49		3.40	
		Capacity 80%		4.31		4.24		4.15	
		Capacity 50%		5.76		5.79		5.79	
Total weight			(kg)	281	281	281	281	281	281
Compressor	Motor output		(kW)	5.5 x 2	5.5 x 2	6.6 x 2	5.5 x 2	6.6 x 2	6.6 x 2
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	12,600	12,600	12,600	12,600	12,600	12,600
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 34.9		ø 34.9		ø 41.3	
		Liquid side	(mm)	ø 19.1		ø 19.1		ø 22.2	
Sound pressure level			(dB(A)	64.0		64.0		64.0	
Diversity(3*)				180%		180%		180%	

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

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

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

*3 Be sure to refer to the Engineering Data book for details of those conditions and requirments.

Outdoor unit specifications

Standard model (Combination)

Technical specifications

Equivalent HP				38HP		40HP		42HP		
Model name		50Hz (MMY-)		AP3817T8P		AP4017T8P		AP4217T8P		
Outdoor unit type				Inverter						
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V						
Outdoor unit model		50Hz (MMY-)		MAP2007T8P	MAP1807T8P	MAP2007T8P	MAP2007T8P	MAP1407T8P	MAP1407T8P	MAP1407T8P
Cooling (*2)	Capacity 100%		(kW)	106.4		112.0		120.0		
	Power consumption		(kW)	32.1		34.8		34.3		
	EER (Energy Efficiency Ratio)	Capacity 100%		3.31		3.22		3.50		
		Capacity 80%		4.03		3.91		4.32		
		Capacity 50%		5.71		5.61		5.77		
Total weight				281	281	281	281	200	200	200
Compressor	Motor output		(kW)	7.8 x 2	6.6 x 2	7.8 × 2	7.8 × 2	10.0 × 1	10.0 × 1	10.0 × 1
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m³/h)	12,600	12,600	12,600	12,600	12,200	12,200	12,200
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 41.3		ø 41.3		ø 41.3		
		Liquid side	(mm)	ø 22.2		ø 22.2		ø 22.2		
Sound pressure level			(dB(A)	64.0		64.0		66.0		
Diversity(*3)				180%		180%		150%		

Standard model (Combination)

Technical specifications

Equivalent HP				44HP			46HP			48HP		
Model name		50Hz (MMY-)		AP4417T8P			AP4617T8P			AP4817T8P		
Outdoor unit type				Inverter								
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V								
Outdoor unit model		50Hz (MMY-)		MAP1607T8P	MAP1407T8P	MAP1407T8P	MAP1807T8P	MAP1407T8P	MAP1407T8P	MAP2007T8P	MAP1407T8P	MAP1407T8P
Cooling (*2)	Capacity 100%		(kW)	125.0			130.4			136.0		
	Power consumption		(kW)	35.3			37.7			40.2		
	EER (Energy Efficiency Ratio)	Capacity 100%		3.54			3.46			3.38		
		Capacity 80%		4.33			4.26			4.15		
		Capacity 50%		5.79			5.77			5.71		
Total weight			(kg)	281	200	200	281	200	200	281	200	200
Compressor	Motor output		(kW)	5.5 × 2	10.0 × 1	10.0 × 1	6.6 x 2	10.0 x1	10.0 x 1	7.8 x 2	10.0 x 1	10.0 x 1
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m³/h)	12,600	12,200	12,200	12,600	12,200	12,200	12,600	12,200	12,200
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 41.3			ø 41.3			ø 41.3		
		Liquid side	(mm)	ø 22.2			ø 22.2			ø 22.2		
Sound pressure level			(dB(A)	66.0			66.0			66.0		
Diversity(3*)				150%			150%			150%		

Standard model (Combination)

Technical specifications

Equivalent HP				50HP			52HP			54HP		
Model name		50Hz	(MMY-)	AP5017T8P			AP5217T8P			AP5417T8P		
Outdoor unit type				Inverter								
Power supply (*2)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V								
Outdoor unit model		50Hz	(MMY-)	MAP2007T8P	MAP1607T8P	MAP1407T8P	MAP2007T8P	MAP1807T8P	MAP1407T8P	MAP2007T8P	MAP2007T8P	MAP1407T8P
Cooling (*1)	Capacity 100%		(kW)	141.0			146.4			152.0		
	Power consumption		(kW)	41.2			43.6			46.2		
	EER (Energy Efficiency Ratio)	Capacity 100%		3.42			3.36			3.29		
		Capacity 80%		4.15			4.09			4.01		
		Capacity 50%		5.69			5.72			5.67		
Total weight			(kg)	281	281	200	281	281	200	281	281	200
Compressor	Motor output		(kW)	7.8 x 2	5.5 x 2	10.0 x 1	7.8 x 2	6.6 x 2	10.0 x 1	7.8 x 2	7.8 x 2	10.0 x 1
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	12,600	12,600	12,200	12,600	12,600	12,200	12,600	12,600	12,200
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 41.3			ø 41.3			ø 41.3		
		Liquid side	(mm)	ø 22.2			ø 22.2			ø 22.2		
Sound pressure level			(dB(A)	66.0			66.0			66.0		
Diversity(*3)				150%			150%			150%		

Standard model (Combination)

Technical specifications

Equivalent HP				56HP			58HP			60HP		
Model name		50Hz	(MMY-)	AP5617T8P			AP5817T8P			AP6017T8P		
Outdoor unit type				Inverter								
Power supply (*2)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V								
Outdoor unit model		50Hz	(MMY-)	MAP2007T8P	MAP2007T8P	MAP1607T8P	MAP2007T8P	MAP2007T8P	MAP1807T8P	MAP2007T8P	MAP2007T8P	MAP2007T8P
Cooling (*1)	Capacity 100%		(kW)	157.0			162.4			168.0		
	Power consumption		(kW)	47.1			49.5			52.2		
	EER (Energy Efficiency Ratio)	Capacity 100%		3.33			3.28			3.22		
		Capacity 80%		4.03			3.98			3.92		
		Capacity 50%		5.65			5.68			5.60		
Total weight			(kg)	281	281	281	281	281	281	281	281	281
Compressor	Motor output		(kW)	7.8 x 2	7.8 x 2	5.5 x 2	7.8 x 2	7.8 x 2	6.6 x 2	7.8 x 2	7.8 x 2	7.8 x 2
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,600
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 41.3			ø 41.3			ø 41.3		
		Liquid side	(mm)	ø 22.2			ø 22.2			ø 22.2		
Sound pressure level			(dB(A)	66.0			66.0			66.0		
Diversity(*3)				150%			150%			150%		

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

*2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB
Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

*3 Be sure to refer to the Engineering Data book for details of those conditions and requirments.

Outdoor unit specifications

High efficiency model (Single unit/Combination)

Technical specifications

Equivalent HP				14HP	16HP		18HP	
Model name		50Hz	(MMY-)	MAP14A7T8P	AP1627T8P		AP1827T8P	
Outdoor unit type				Inverter				
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V				
Outdoor unit model		50Hz	(MMY-)	MAP14A7T8P	MAP0807T8P	MAP0807T8P	MAP1007T8P	MAP0807T8P
Cooling (*2)	Capacity 100%		(kW)	40.0	44.8		50.4	
	Power consumption		(kW)	10.4	9.29		11.2	
	EER (Energy Efficiency Ratio)	Capacity 100%		3.85	4.82		4.51	
		Capacity 80%		4.58	5.79		5.51	
		Capacity 50%		5.92	7.27		7.18	
External dimensions (Height / Width / Depth)			(mm)	1,800 /1,210/ 780	1,800 / 990 / 780	1,800 / 990 / 780	1,800 / 990 / 780	1,800 / 990 / 780
Total weight			(kg)	281	200	200	200	200
Compressor	Motor output		(kW)	4.6 x 2	4.0 x 1	4.0 x 1	5.8x1	4.0x1
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	12,200	9,700	9,700	9,700	9,700
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 28.6	ø 28.6		ø 28.6	
		Liquid side	(mm)	ø 15.9	ø 15.9		ø 15.9	
Sound pressure level			(dB(A)	60	58.0		59.5	
Diversity(*3)				200%	180%		180%	
Max.external static pressure			(Pa)	50				
Recommended isolator				32				

High efficiency model (Combination)

Technical specifications

Equivalent HP				20HP		22HP		24HP		
Model name		50Hz	(MMY-)	AP2027T8P		AP2227T8P		AP2427T8P		
Outdoor unit type				Inverter						
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V						
Outdoor unit model		50Hz	(MMY-)	MAP1007T8P	MAP1007T8P	MAP1207T8P	MAP1007T8P	MAP0807T8P	MAP0807T8P	MAP0807T8P
Cooling (*2)	Capacity 100%		(kW)	56.0		61.5		67.2		
	Power consumption		(kW)	13.1		14.9		13.9		
	EER (Energy Efficiency Ratio)	Capacity 100%		4.26		4.12		4.82		
		Capacity 80%		5.31		5.16		5.80		
		Capacity 50%		7.11		6.64		7.27		
External dimensions (Height / Width / Depth)			(mm)	1,800/990/780	1,800/990/780	1,800/990/780	1,800/990/780	1,800/990/780	1,800/990/780	1,800/990/780
Total weight			(kg)	200	200	200	200	200	200	200
Compressor	Motor output		(kW)	5.8 x 1	5.8 x 1	7.1 x 1	5.8 x 1	4.0 x 1	4.0 x 1	4.0 x 1
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	9,700	9,700	12,200	9,700	9,700	9,700	9,700
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 28.6		ø 28.6		ø 34.9		
		Liquid side	(mm)	ø 15.9		ø 19.1		ø 19.1		
Sound pressure level			(dB(A)	60.0		62.0		60.0		
Diversity(*3)				180%		180%		150%		

Outdoor unit specifications

High efficiency model (Combination)

Technical specifications

Equivalent HP				26HP		28HP		30HP		
Model name		50Hz	(MMY-)	AP2627T8P		AP2827T8P		AP3027T8P		
Outdoor unit type				Inverter						
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V						
Outdoor unit model		50Hz	(MMY-)	MAP14A7T8P	MAP1207T8P	MAP14A7T8P	MAP14A7T8P	MAP1007T8P	MAP1007T8P	MAP1007T8P
Cooling (*2)	Capacity 100%		(kW)	73.5		80.0		84.0		
	Power consumption		(kW)	18.8		20.8		19.7		
	EER (Energy Efficiency Ratio)	Capacity 100%		3.92		3.85		4.26		
		Capacity 80%		4.78		4.57		5.29		
		Capacity 50%		6.08		5.93		7.09		
External dimensions (Height / Width / Depth)			(mm)	1,800 / 1,210 / 780	1,800 / 990 / 780	1,800 / 1,210 / 780	1,800 / 1,210/ 780	1,800 / 990 / 780	1,800 / 990 / 780	1,800 / 990 / 780
Total weight			(kg)	281	200	281	281	200	200	200
Compressor	Motor output		(kW)	4.6 x 2	7.1 x 1	4.6 x 2	4.6 x 2	5.8 x 1	5.8 x 1	5.8 x 1
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	12,200	12,200	12,200	12,200	9,700	9,700	9,700
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 34.9		ø 34.9		ø 34.9		
		Liquid side	(mm)	ø 19.1		ø 19.1		ø 19.1		
Sound pressure level			(dB(A)	63.0		63		62.0		
Diversity(*3)				180%		180%		150%		

High efficiency model (Combination)

Technical specifications

Equivalent HP				32HP			34HP			36HP		
Model name		50Hz	(MMY-)	AP3227T8P			AP3427T8P			AP3627T8P		
Outdoor unit type				Inverter								
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V								
Outdoor unit model		50Hz	(MMY-)	MAP1207T8P	MAP1007T8P	MAP1007T8P	MAP1207T8P	MAP1207T8P	MAP1007T8P	MAP1207T8P	MAP1207T8P	MAP1207T8P
Cooling (*2)	Capacity 100%		(kW)	89.5			95.0			100.5		
	Power consumption		(kW)	21.5			23.3			25.1		
	EER (Energy Efficiency Ratio)	Capacity 100%		4.16			4.08			4.00		
		Capacity 80%		5.19			5.10			5.03		
		Capacity 50%		6.78			6.50			6.28		
External dimensions (Height / Width / Depth)			(mm)	1,800/990/780	1,800/990/780	1,800/990/780	1,800/990/780	1,800/990/780	1,800/990/780	1,800/990/780	1,800/990/780	1,800/990/780
Total weight			(kg)	200	200	200	200	200	200	200	200	200
Compressor	Motor output		(kW)	7.1 x 1	5.8 x 1	5.8 x 1	7.1 x 1	7.1 x 1	5.8 x 1	7.1 x 1	7.1 x 1	7.1 x 1
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	12,200	9,700	9,700	12,200	12,200	9,700	12,200	12,200	12,200
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 34.9			ø 34.9			ø 41.3		
		Liquid side	(mm)	ø 19.1			ø 19.1			ø 22.2		
Sound pressure level			(dB(A)	63.0			64.0			65.0		
Diversity(*3)				150%			150%			150%		

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

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

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

*3 Be sure to refer to the Engineering Data book for details of those conditions and requirments.

Outdoor unit specifications

High efficiency model (Combination)

Technical specifications

Equivalent HP				38HP			40HP			42HP		
Model name		50Hz	(MMY-)	AP3827T8P			AP4027T8P			AP4217T8P		
Outdoor unit type				Inverter								
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V								
Outdoor unit model		50Hz	(MMY-)	MAP14A7T8P	MAP1207T8P	MAP1207T8P	MAP14A7T8P	MAP14A7T8P	MAP1207T8P	MAP14A7T8P	MAP14A7T8P	MAP14A7T8P
Cooling (*2)	Capacity 100%		(kW)	107.0			113.5			120.0		
	Power consumption		(kW)	27.2			29.1			31.2		
	EER (Energy Efficiency Ratio)	Capacity 100%		3.94			3.90			3.85		
		Capacity 80%		4.86			4.70			4.57		
		Capacity 50%		6.14			6.03			5.94		
External dimensions (Height / Width / Depth)			(mm)	1,800/1,210/780	1,800/990/780	1,800/990 /780	1,800/1,210/780	1,800/1,210/780	1,800/990/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780
Total weight			(kg)	281	200	200	281	281	200	281	281	281
Compressor	Motor output		(kW)	4.6 x 2	7.1x1	7.1 x 1	4.6 × 2	4.6 × 2	7.1 × 2	4.6 × 2	4.6 × 2	4.6 × 2
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 41.3			ø 41.3			ø 41.3		
		Liquid side	(mm)	ø 22.2			ø 22.2			ø 22.2		
Sound pressure level			(dB(A)	65.0			65.0			65.0		
Diversity (*3)				150%			150%			150%		

High efficiency model (Combination)

Technical specifications

Equivalent HP				44HP			46HP			48HP		
Model name		50Hz	(MMY-)	AP4427T8P			AP4627T8P			AP4827T8P		
Outdoor unit type				Inverter								
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V								
Outdoor unit model		50Hz	(MMY-)	MAP1607T8P	MAP14A7T8P	MAP14A7T8P	MAP1807T8P	MAP14A7T8P	MAP14A7T8P	MAP1607T8P	MAP1607T8P	MAP1607T8P
Cooling (*2)	Capacity 100%		(kW)	125.0			130.4			135.0		
	Power consumption		(kW)	33.2			35.5			37.5		
	EER (Energy Efficiency Ratio)	Capacity 100%		3.76			3.67			3.60		
		Capacity 80%		4.48			4.40			4.32		
		Capacity 50%		5.84			5.87			5.77		
External dimensions (Height / Width / Depth)			(mm)	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780
Total weight			(kg)	281	281	281	281	281	281	281	281	281
Compressor	Motor output		(kW)	5.5 × 2	4.6 × 2	4.6 × 2	6.6 x 2	4.6 x2	4.6 x 2	5.5 x 2	5.5 x 2	5.5 x 2
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	12,600	12,200	12,200	12,600	12,200	12,200	12,600	12,600	12,600
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 41.3			ø 41.3			ø 41.3		
		Liquid side	(mm)	ø 22.2			ø 22.2			ø 22.2		
Sound pressure level			(dB(A)	65.5			65.5			66.0		
Diversity (*3)				150%			150%			150%		

Outdoor unit specifications

High efficiency model (Combination)

Technical specifications

Equivalent HP				50HP			52HP			54HP		
Model name		50Hz (MMY-)		AP5027T8P			AP5227T8P			AP5427T8P		
Outdoor unit type				Inverter								
Power supply (*1)				3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V								
Outdoor unit model		50Hz (MMY-)		MAP1807T8P	MAP1607T8P	MAP1607T8P	MAP1807T8P	MAP1807T8P	MAP1607T8P	MAP1807T8P	MAP1807T8P	MAP1807T8P
Cooling (*2)	Capacity 100%		(kW)	140.4			145.8			151.2		
	Power consumption		(kW)	39.8			42.1			44.5		
	EER (Energy Efficiency Ratio)	Capacity 100%		3.53			3.46			3.40		
		Capacity 80%		4.25			4.19			4.16		
		Capacity 50%		5.80			5.79			5.82		
External dimensions (Height / Width / Depth)			(mm)	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780	1,800/1,210/780
Total weight			(kg)	281	281	281	281	281	281	281	281	281
Compressor	Motor output		(kW)	6.6 x 2	5.5 x 2	5.5 x 2	6.6x 2	6.6 x 2	5.5 x 2	6.6 x 2	6.6 x 2	6.6 x 2
Fan unit	Motor output		(kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Air volume		(m^3/h)	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,600
Refrigerant piping	Main pipe diameter	Gas side	(mm)	ø 41.3			ø 41.3			ø 41.3		
		Liquid side	(mm)	ø 22.2			ø 22.2			ø 22.2		
Sound pressure level			(dB(A)	66.0			66.0			66.0		
Diversity(*3)				150%			150%			150%		

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

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

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

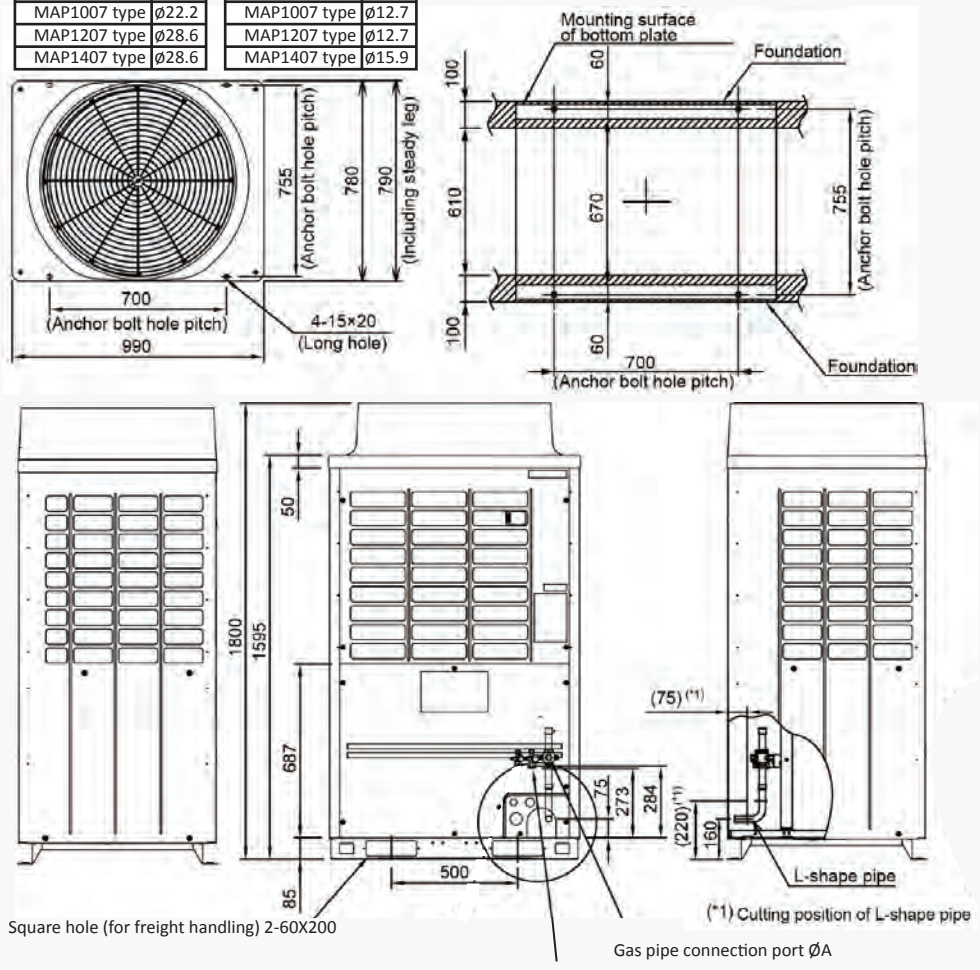
*3 Be sure to refer to the Engineering Data book for details of those conditions and requirments.

Outdoor units external drawings

Model : MMY-MAP0807T8P
MMY-MAP1007T8P
MMY-MAP1207T8P
MMY-MAP1407T8P

Model Name	øA
MAP0807 type	ø19.1
MAP1007 type	ø22.2
MAP1207 type	ø28.6
MAP1407 type	ø28.6

Model Name	øB
MAP0807 type	ø12.7
MAP1007 type	ø12.7
MAP1207 type	ø12.7
MAP1407 type	ø15.9

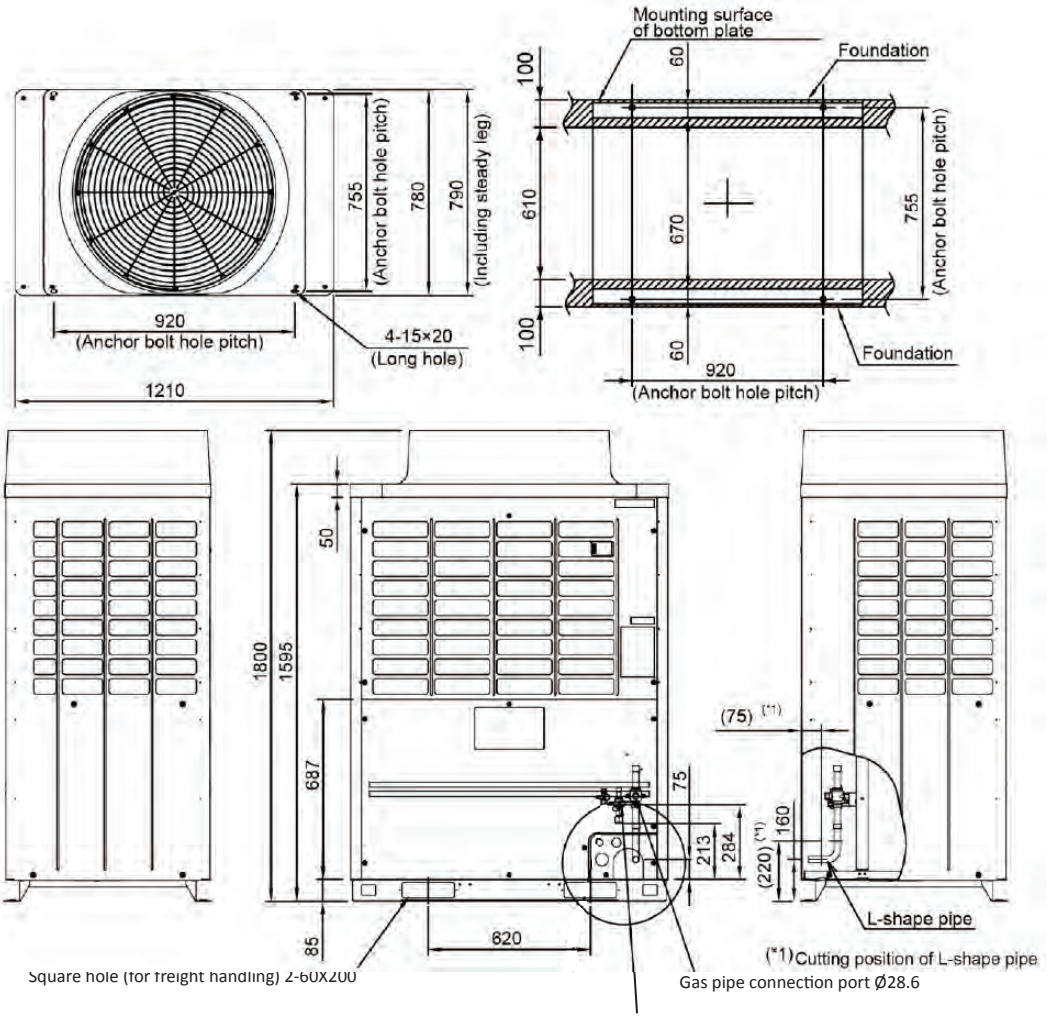


(Note)

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

(Unit:mm)

Model : MMY-MAP14A7T8P
MMY-MAP1607T8P
MMY-MAP1807T8P
MMY-MAP2007T8P

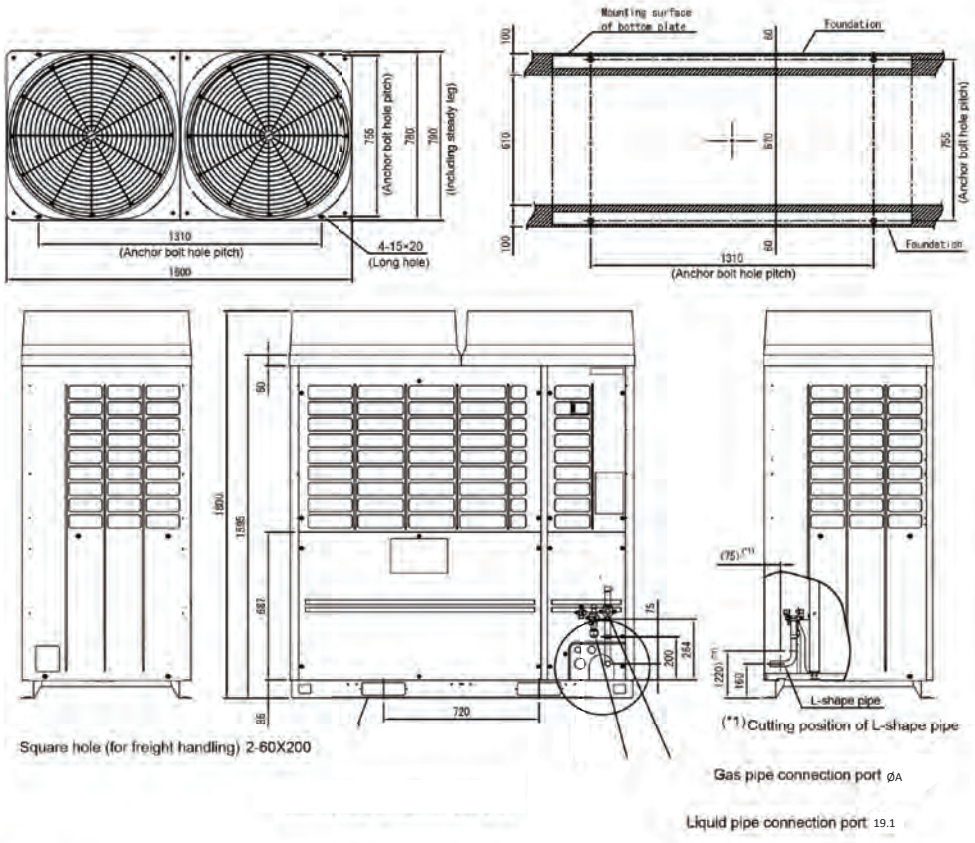


(Note)
1. IF there is an obstacle at the upper side of the outdoor unit, set the top end of the outdoor unit 2000mm apart from the obstacle
2. Limit the height of the obstacle surrounding the outdoor unit to 800mm or less from the bottom end of the outdoor unit.
3. Draw out the pipe procured locally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

(Unit:mm)

Model : MMY-MAP2207T8P
MMY-MAP2407T8P

Model Name	ØA
MMY-MAP2207T8P	Ø28.6
MMY-MAP2407T8P	Ø34.9



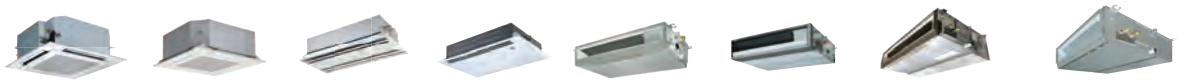
(Note)

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

(Unit:mm)


eMeeting
Product Roadmap

Indoor units



Cooling capacity (HP)	4-way air discharge cassette type (MMU-)	Compact 4-way cassette type (MMU-)	2-way air discharge cassette type (MMU-)	1-way air discharge cassette type (MMU-)	Slim duct type (MMD-)	Super Slim duct type (MMD-)	Concealed duct high static pressure type (MMD-)	Concealed type (MMD-)
2.2 kW (0.8 HP)		AP0077MH-E	AP0072WH1	AP0074YH1-E	AP0074SPH1-E	AP0076M(P)HY*		AP0076BHP1-E
2.5 kW (0.9HP)						AP0086M(P)HY*		
2.8 kW (1.0 HP)	AP0094HP1-E	AP0097MH-E	AP0092WH1	AP0094YH1-E	AP0094SPH1-E	AP0096M(P)HY*		AP0096BHP1-E
3.2kW (1.1HP)						AP0106M(P)HY*		
3.6 kW (1.25HP)	AP0124HP1-E	AP0127MH-E	AP0122WH1	AP0124YH1-E	AP0124SPH1-E	AP0126M(P)HY*		AP0126BHP1-E
4.0 kW (1.5HP)						AP0146M(P)HY*		
4.5 kW (1.7 HP)	AP0154HP1-E	AP0157MH-E	AP0152WH1	AP0154SH1-E	AP0154SPH1-E	AP0156M(P)HY*		AP0156BHP1-E
5.0 kW (1.85HP)						AP0176M(P)HY*		
5.6 kW (2.0 HP)	AP0184HP1-E	AP0187MH-E	AP0182WH1	AP0184SH1-E	AP0184SPH1-E	AP0186M(P)HY*	AP0186HP1-E	AP0186BHP1-E
6.3 kW (2.25HP)						AP0206M(P)HY*		
7.1 kW (2.5HP)	AP0244HP1-E		AP0242WH1	AP0244SH1-E	AP0244SPH1-E	AP0246M(P)HY*	AP0246HP1-E	AP0246BHP1-E
8.0 kW (3.0 HP)	AP0274HP1-E		AP0272WH1		AP0274SPH1-E	AP0276M(P)HY*	AP0276HP1-E	AP0276BHP1-E
9.0 kW (3.2 HP)	AP0304HP1-E		AP0302WH1					AP0306BHP1-E
11.2 kW (4.0 HP)	AP0364HP1-E		AP0362WH1				AP0366HP1-E	AP0366BHP1-E
14.0 kW (5.0 HP)	AP0484HP1-E		AP0482WH1				AP0486HP1-E	AP0486BHP1-E
16.0 kW (6.0 HP)	AP0564HP1-E		AP0562WH1				AP0566HP1-E	AP0566BHP1-E
22.4 kW (8.0 HP)							AP0726HP-E	
28.0 kW (10.0 HP)							AP0966HP-E	

Ceiling, High wall and console type

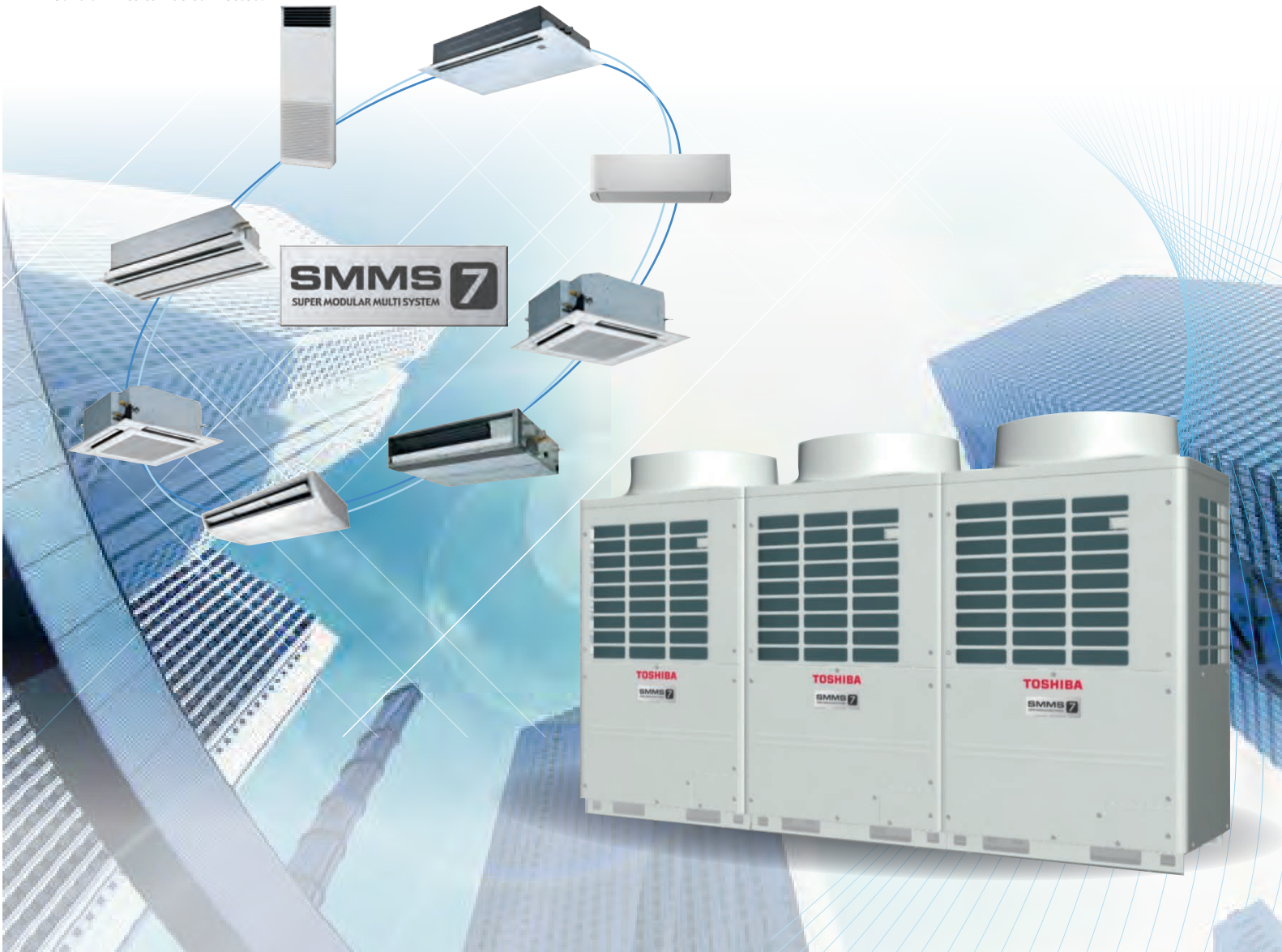
Cooling capacity (HP)	Ceiling type (MMC-)	High wall type series 3 (MMK-)	High wall type Series 7 (MMK-)	Floor standing concealed type (MML-)	Floor standing cabinet type (MML-)	Console type (MML-)	Floor standing type (MMF-)	Large capacity floor standing type Direct blow (MMF-)	Large capacity floor standing type Duct (MMF-)
2.2 kW (0.8 HP)		AP0073H1	AP0077HP-E	AP0074BH1-E	AP0074H1-E	AP0074NH1-E			
2.8 kW (1.0 HP)		AP0093H1	AP0097HP-E	AP0094BH1-E	AP0094H1-E	AP0094NH1-E			
3.6 kW (1.25 HP)		AP0123H1	AP0127HP-E	AP0124BH1-E	AP0124H1-E	AP0124NH1-E			
4.5 kW (1.7 HP)	AP0158HP-E	AP0153H1		AP0154BH1-E	AP0154H1-E	AP0154NH1-E	AP0156H1-E		
5.6 kW (2.0 HP)	AP0188HP-E	AP0183H1		AP0184BH1-E	AP0184H1-E	AP0184NH1-E	AP0186H1-E		
7.1 kW (2.5 HP)	AP0248HP-E	AP0243H1		AP0244BH1-E	AP0244H1-E		AP0246H1-E		
8.0 kW (3.0 HP)	AP0278HP-E						AP0276H1-E		
11.2 kW (4.0 HP)	AP0368HP-E						AP0366H1-E		
14.0 kW (5.0 HP)	AP0488HP-E						AP0486H1-E		
16.0 kW (6.0 HP)	AP0568HP-E						AP0566H1-E		
22.4 kW (8.0 HP)								AP0724H-VA/VB	AP0724DH-V
28.0 kW (10.0 HP)								AP0964H-VA/VB	AP0964DH-V
45.0 kW (16.0 HP)								AP1444H-VA/VB	AP1444DH-V
56.0 kW (20.0 HP)								AP1924H-VA/VB	AP1924DH-V

*Super slim duct MMD-AP***6MPHY, P means coming with drain pump.



Air volume	Fresh air intake indoor unit type (MMD-)	Air to air heat exchanger with DX coil (MMD-)	Air to air heat exchanger**
150 m^3/h			VN-M150HE
250 m^3/h			VN-M250HE
350 m^3/h			VN-M350HE
500 m^3/h		VN502HEX1E	VN-M500HE
650 m^3/h			VN-M650HE
800 m^3/h		VN802HEX1E	VN-M800HE
1000 m^3/h		VN1002HEX1E / HEX1E2*	VN-M1000HE
1500 m^3/h			VN-M1500HE
2000 m^3/h			VN-M2000HE
1080 m^3/h	AP0481HFE		
1680 m^3/h	AP0721HFE		
2100 m^3/h	AP0961HFE		

* 60Hz (7P) Models Only
** Do not connect to refrigerant piping from outdoor unit.
Control wires can be connected.



4-way air discharge cassette type

MMU-AP***4HP1-E

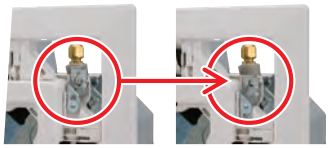
Individual louver control

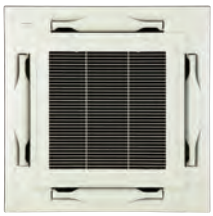
The angles of each of the four louver can be set individually
=> Enables airflow to be adapted to user preferences.

Note: RBC-AMT32E, RBC-AMS41E only

Easy installation

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





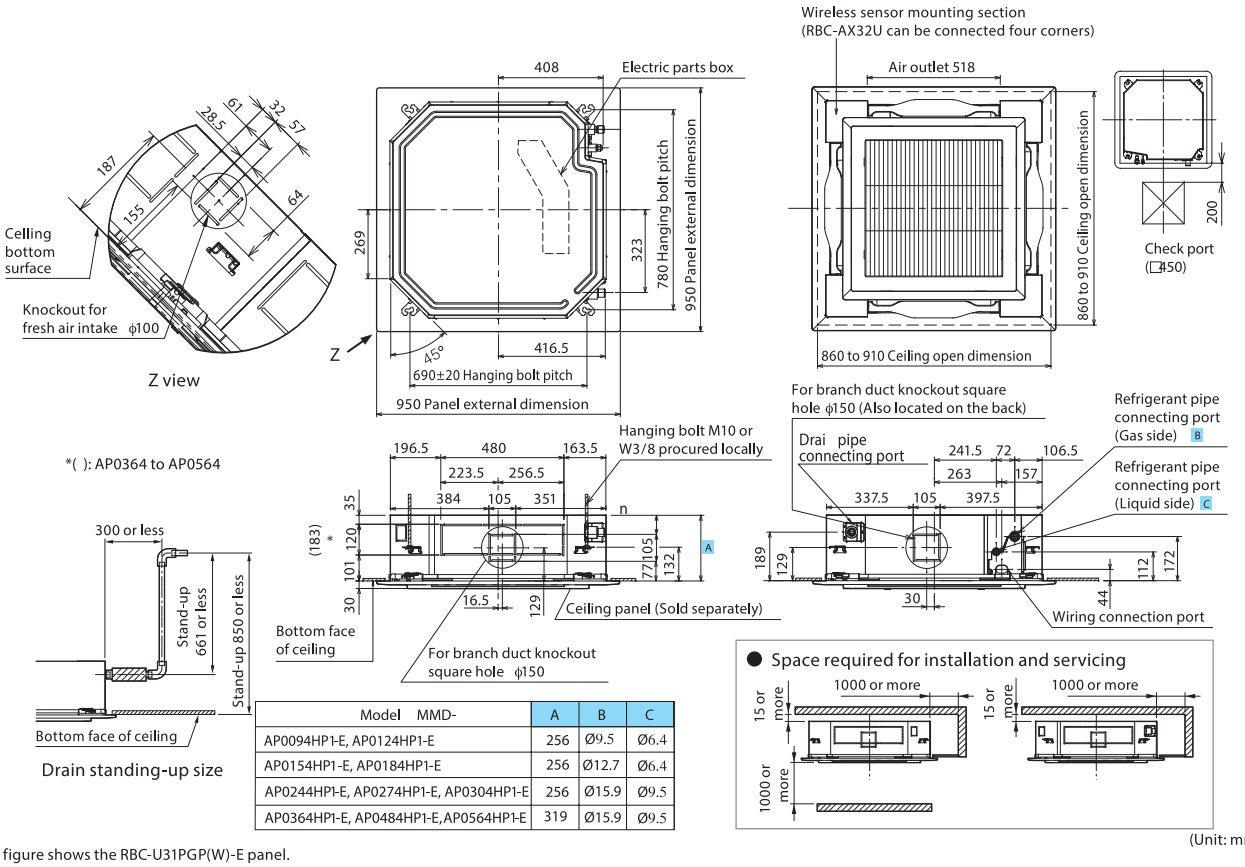
RBC-U31PGP(W)-E

Technical specifications

Model name		MMU-	AP0094HP1-E	AP0124HP1-E	AP0154HP1-E	AP0184HP1-E	AP0244HP1-E	AP0274HP1-E	AP0304HP1-E	AP0364HP1-E	AP0484HP1-E	AP0564HP1-E
Cooling capacity*1		(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	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^3/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*2 (High/Mid/Low)		(dB(A))	30/29/27		31/29/27	32/29/27	35/31/28		38/33/30	43/38/32	46/38/33	46/40/33

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

MMU-AP0074HP1-E to AP0564HP1-E



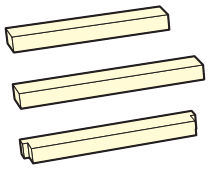
Model MMD-	A	B	C
AP0094HP1-E, AP0124HP1-E	256	Ø9.5	Ø6.4
AP0154HP1-E, AP0184HP1-E	256	Ø12.7	Ø6.4
AP0244HP1-E, AP0274HP1-E, AP0304HP1-E	256	Ø15.9	Ø9.5
AP0364HP1-E, AP0484HP1-E, AP0564HP1-E	319	Ø15.9	Ø9.5

(Unit: mm)

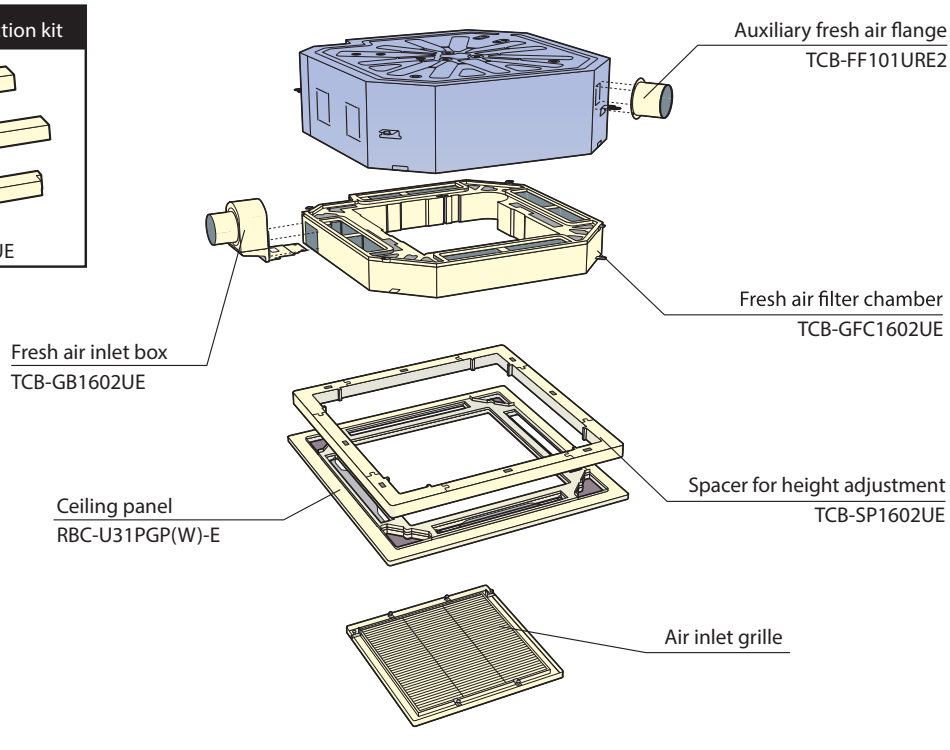
* The figure shows the RBC-U31PGP(W)-E panel.

Options

Air discharge direction kit



TCB-BC1602UE

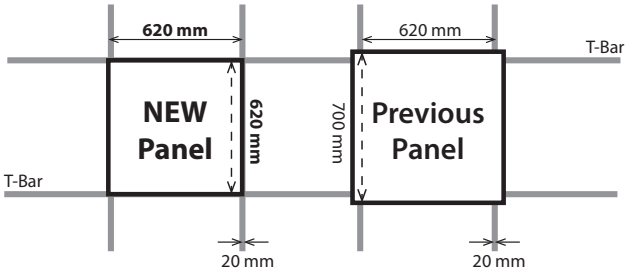


Compact 4-way cassette type

MMU-AP***7MH-E

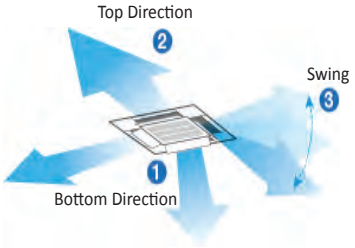
Superior design with compact chassis

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.



Occupancy sensor

TCB-SIR41UM-E

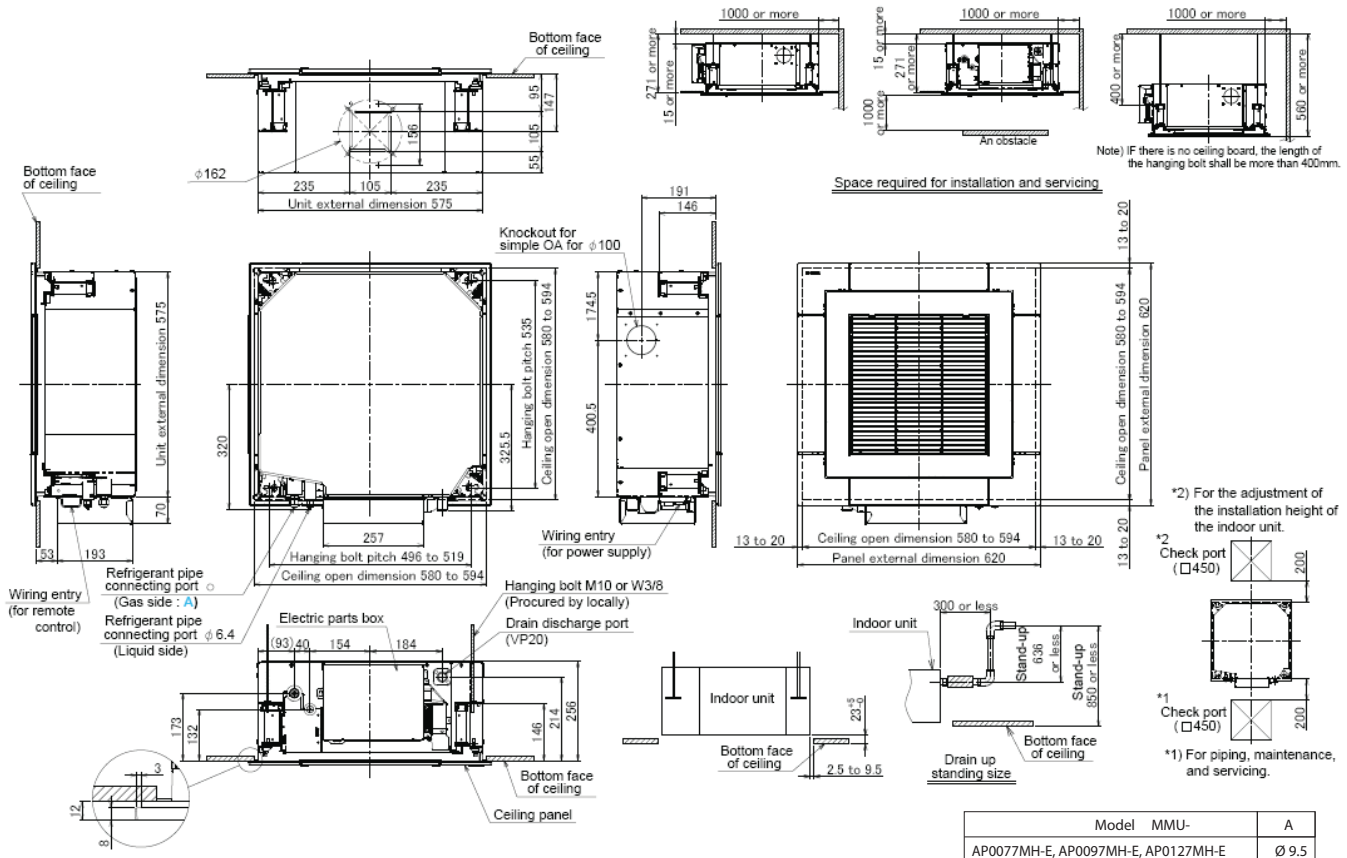
*The function is available with RBC-AMS55E-ES/EN

Technical specifications

Model name		MMU-	AP0077MH-E	AP0097MH-E	AP0127MH-E	AP0157MH-E	AP0187MH-E
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3
Electrical characteristics	Power requirements		1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)				
	Power consumption 50 Hz/60 Hz	(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^3/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*2 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)

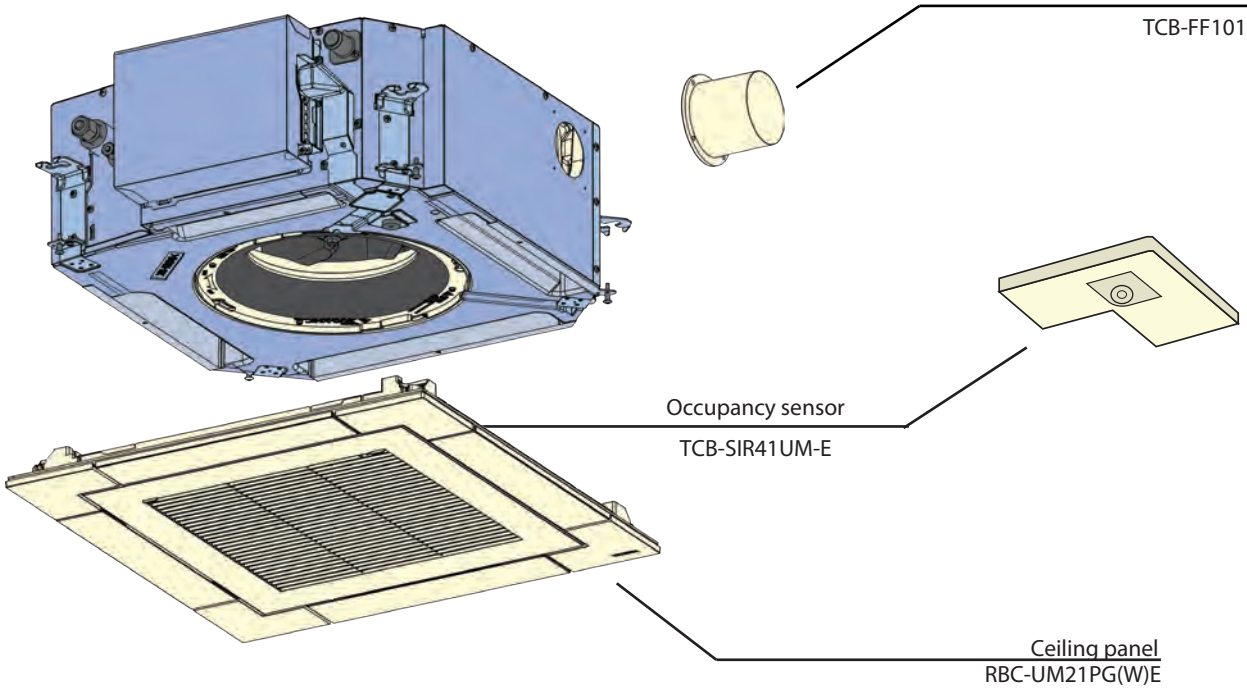
* Figures in parentheses are for ceiling panels.
Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured 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
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB
Note: M+, L+ will be available with RBC-AMS54E-ES/EN only.

MMU-AP0077MH-E to AP0187MH-E



Model MMU-	A
AP0077MH-E, AP0097MH-E, AP0127MH-E	Ø 9.5
AP0157MH-E, AP0187MH-E	Ø12.7

Options



2-way air discharge cassette type

MMU-AP***2WH1

Slim and compact unit

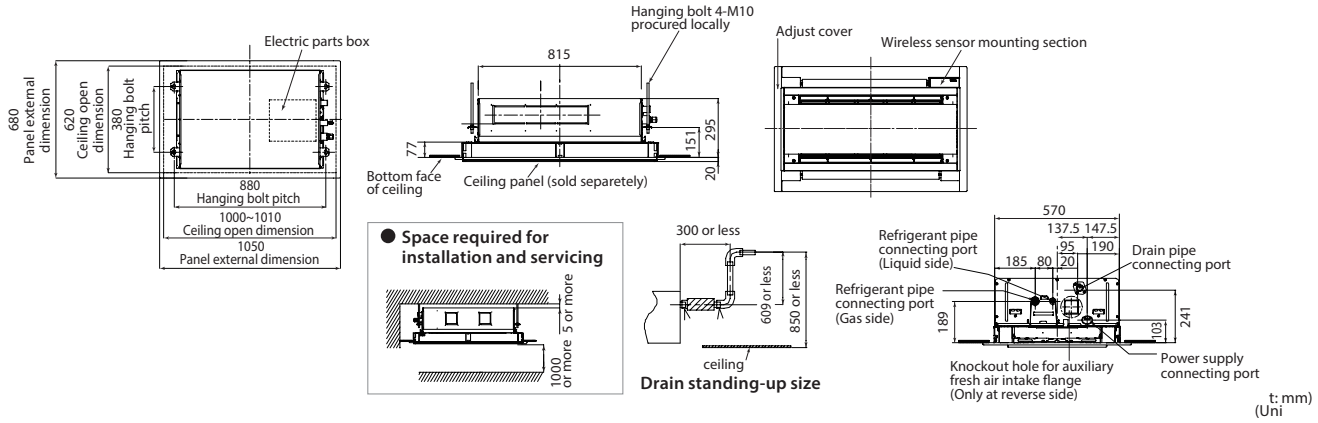
Unified the width of ceiling panel to 680mm.
Condensate drain pump included.
Available for ceilings up to 3.8m in height. (in case of 0.8HP to 3.2HP)
Easy installation and fine adjustment using the “Adjust-Cover” function.

Technical specifications

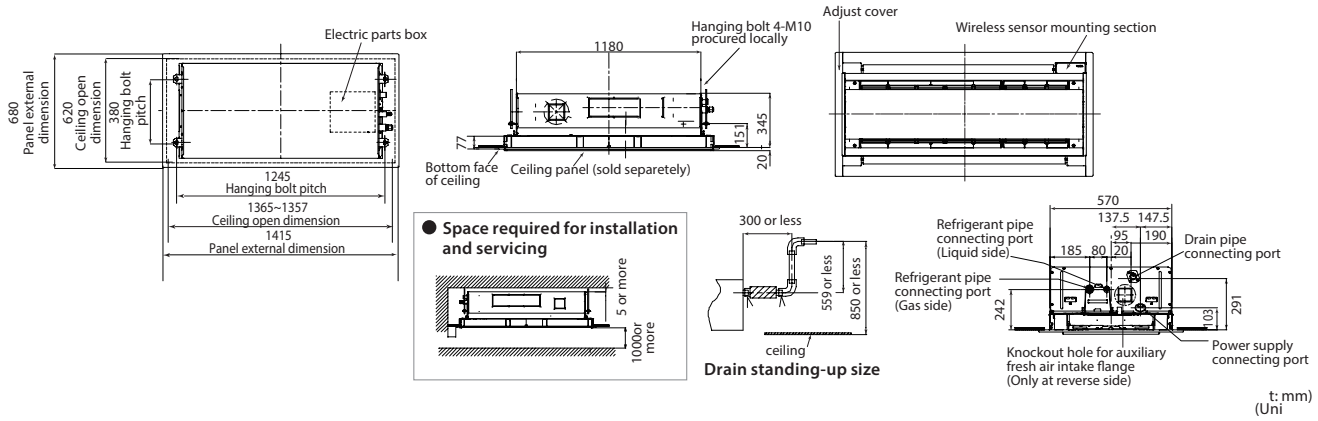
Model name		MMU-	AP0072WH1	AP0092WH1	AP0122WH1	AP0152WH1	AP0182WH1	AP0242WH1	AP0272WH1	AP0302WH1	AP0362WH1	AP0482WH1	AP0562WH1
Cooling capacity*1		(kW)	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0
Electrical characteristics	Power requirements		1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate 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-UW1403(W)PG-E		
External dimensions: Main unit (Ceiling panel)*	Height	(mm)	295 (20)				345 (20)						
	Width	(mm)	815 (1050)				1180 (1415)				1600 (1835)		
	Depth	(mm)	570 (680)										
Total weight: Main unit (Ceiling panel)*		(kg)	19 (10)				26 (14)				36 (14)		
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	558/498/450			600/534/450	900/750/618	1050/840/738		1260/900/780	1740/1434/1182	1800/1482/1230	2040/1578/1320
	Motor output	(W)	20				30	40		50	70		
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9					
	Liquid side	(mm)	ø6.4					ø9.5					
	Drain port	(nominal dia.)	25 (Polyvinyl chloride tube)										
Sound pressure level*2 (High/Mid/Low)		(dB(A))	34/32/30			35/33/30		38/35/33		40/37/34	42/39/36	43/40/37	46/42/39

* 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

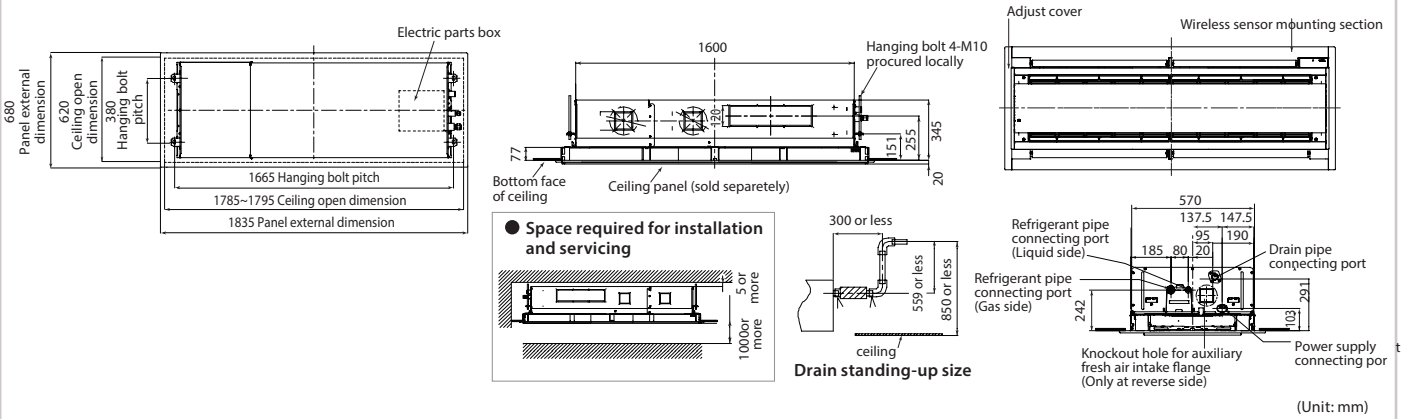
MMU-AP0072WH1 to AP0152WH1



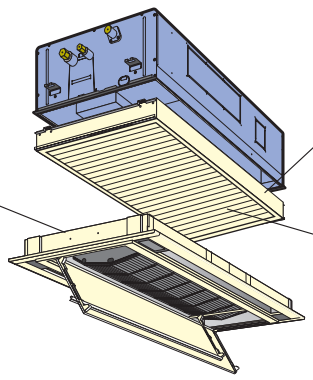
MMU-AP0182WH1 to AP0302WH1



MMU-AP0362WH1 to AP0562WH1



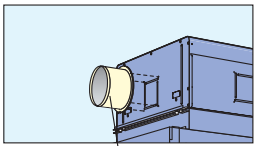
Options



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

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

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



Auxiliary fresh air flange
TCB-FF151US-E

1-way air discharge cassette type

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

The perfect choice for hotels and reception areas

Silent sound design ensures the quiet required for the office.Ideal for smaller rooms where one-way air distribution is required. Able to blow air straight out. Condensate drain pump included. Long-life filters fitted as standard.

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

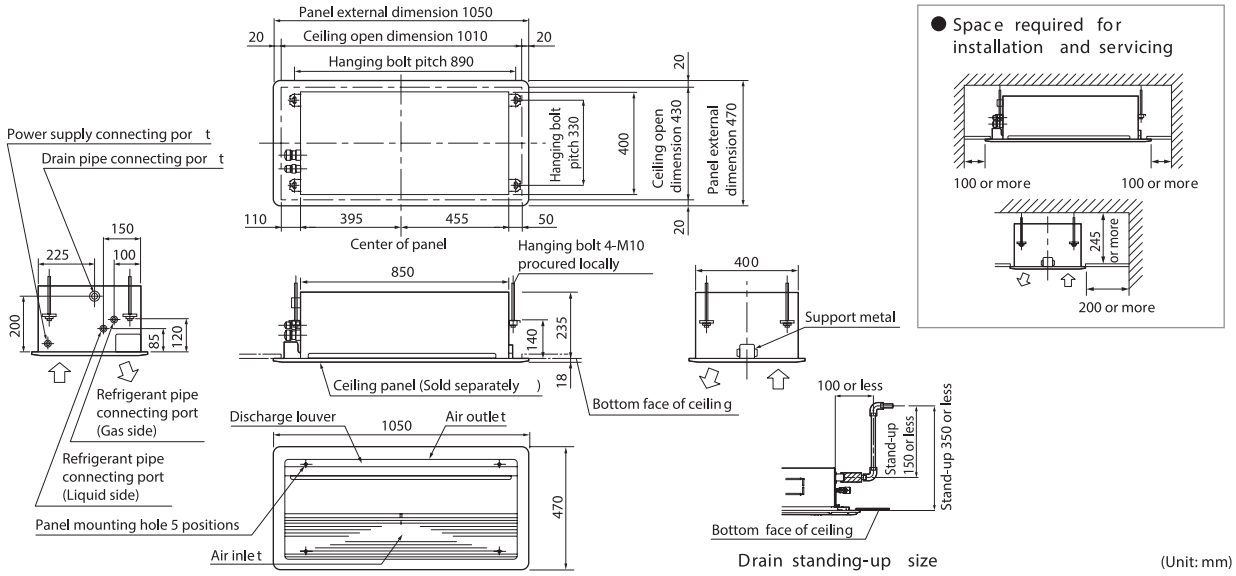
Preparations/connection possible with a circle duct flange.

Technical specifications

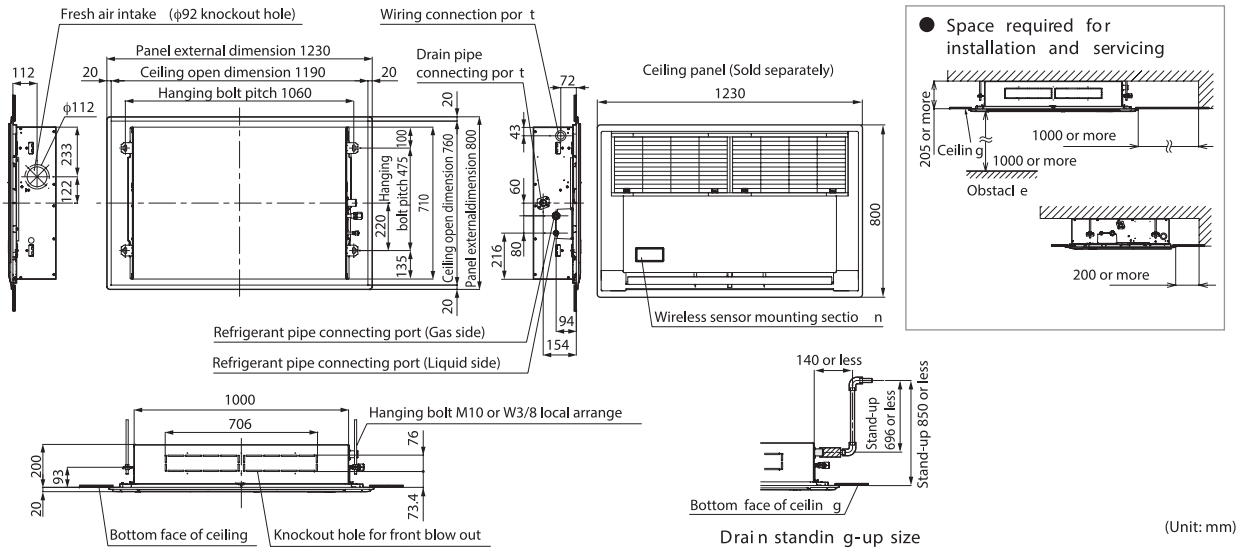
Model name		MMU-	AP0074YH1-E	AP0094YH1-E	AP0124YH1-E	AP0154SH1-E	AP0184SH1-E	AP0244SH1-E
Cooling capacity*1		(kW)	2.2	2.8	3.6	4.5	5.6	7.1
Electrical characteristics	Power requirements		1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)					
	Power consumption 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^3/h)	540/480/420			750/690/630	780/720/660	1140/960/810
	Motor output	(W)	22			30		
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9
	Liquid side	(mm)	ø6.4					ø9.5
	Drain port	(nominal dia.)	25 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	42/39/34			37/35/32	38/36/34	45/41/37

* 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

MMU-AP0074YH1-E to AP0124YH1-E

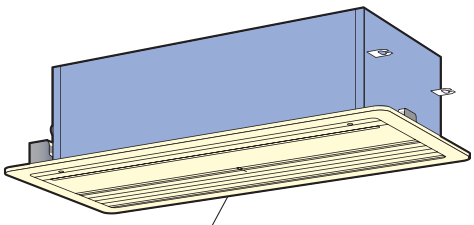


MMU-AP0154SH1-E to AP0244SH1-E

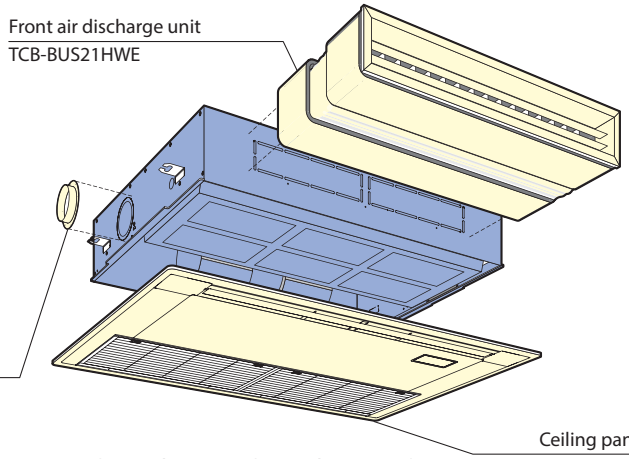


Options

AP0074YH1-E/AP0094YH1-E/AP0124YH1-E



Ceiling panel
RBC-UY136PG

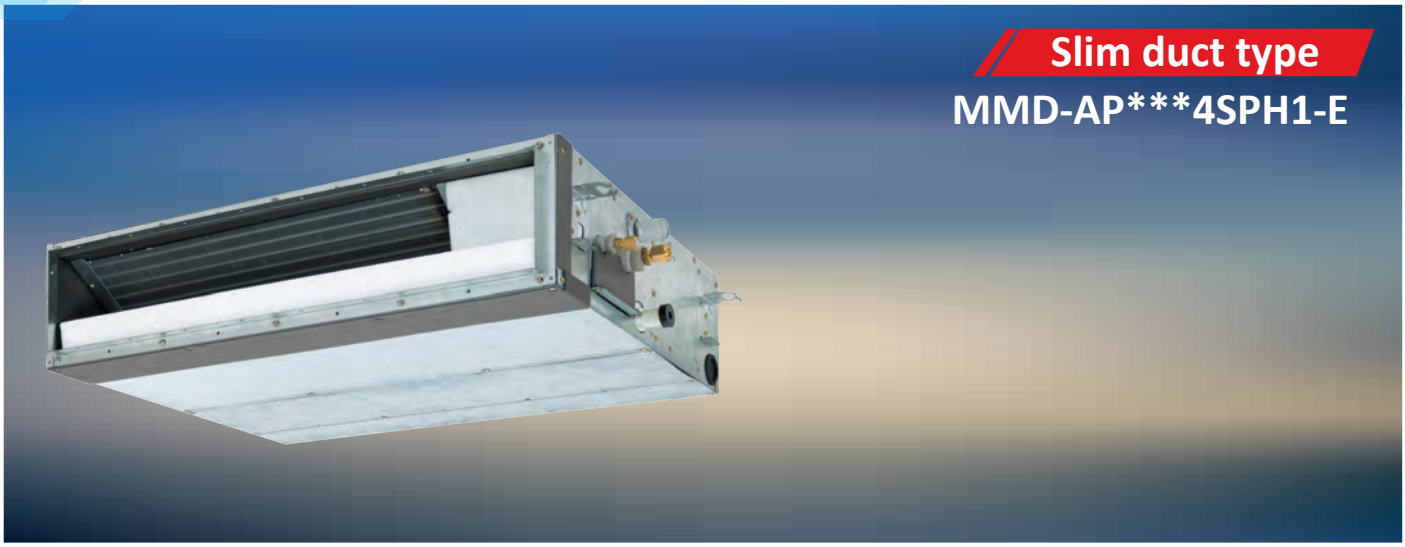


Front air discharge unit
TCB-BUS21HWE

Auxiliary fresh air flange
TCB-FF101URE2

AP0154SH1-E/AP0184SH1-E/AP0244SH1-E

Ceiling panel
RBC-US21PGE



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

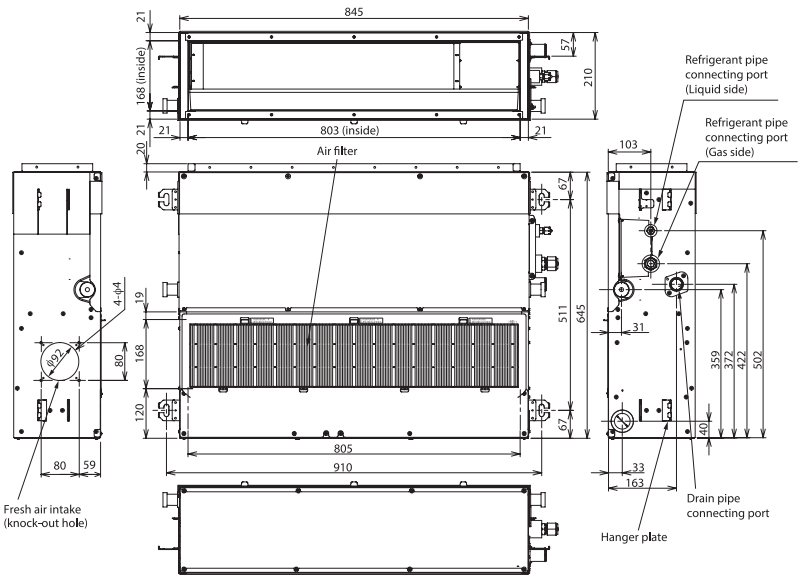
Perfect comfort throughout the room. Can be used with any style of air diffuser. Quiet, powerful operation.

Technical specifications

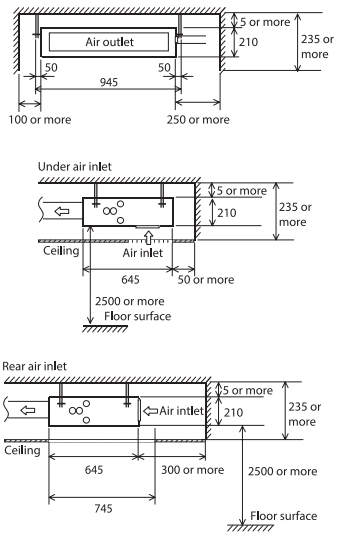
Model name		MMD-	AP0074SPH1-E	AP0094SPH1-E	AP0124SPH1-E	AP0154SPH1-E	AP0184SPH1-E	AP0244SPH1-E	AP0274SPH1-E
Cooling capacity*1		(kW)	2.2	2.8	3.6	4.5	5.6	7.1	8.0
Electrical characteristics	Power requirments		1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)						
	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^3/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					ø9.5	
	Drain port	(nominal dia.)	25 (Polyvinyl chloride tube)						
Sound pressure level*2 (High/Med./Low)	Under air inlet	(dB(A))	36/33/30		38/35/32	39/36/33	40/38/36	49/47/44	
	Back air inlet	(dB(A))	28/26/24		29/27/25	32/30/28	33/31/29	38/36/33	

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

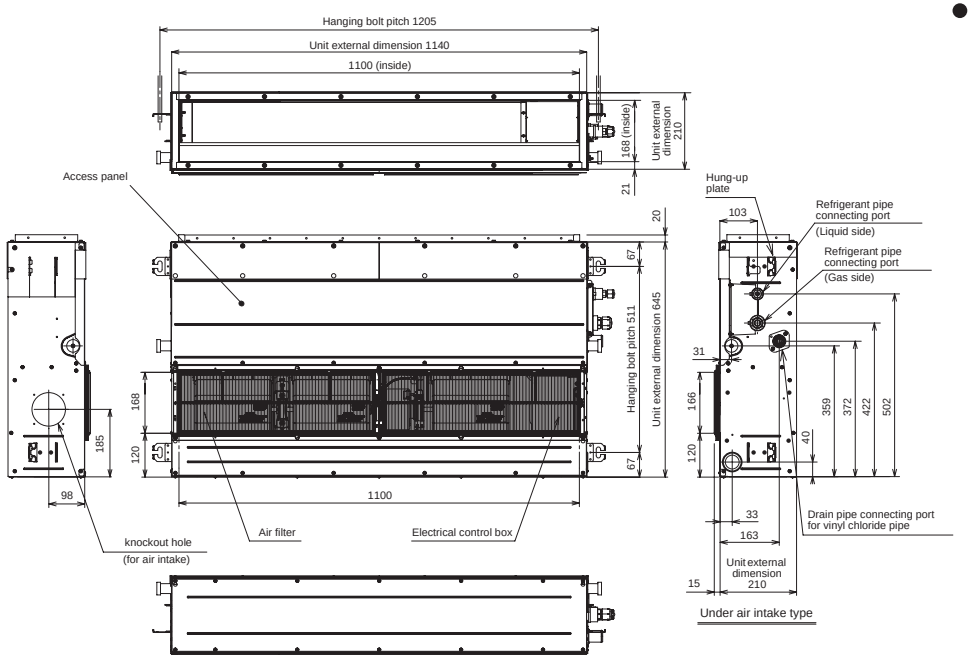
MMD-AP0074SPH1-E to AP0184SPH1-E



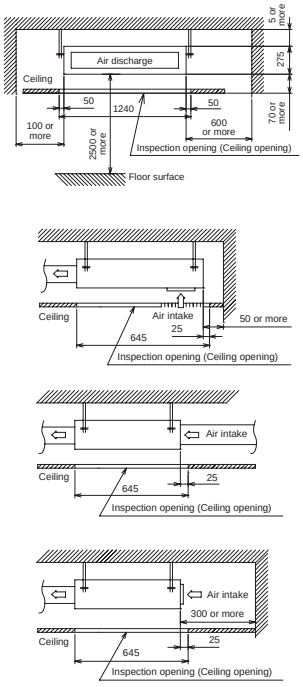
● Space required for installation and servicing



MMD-AP0244SPH1-E to AP0274SPH1-E

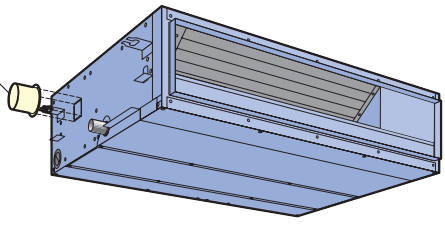


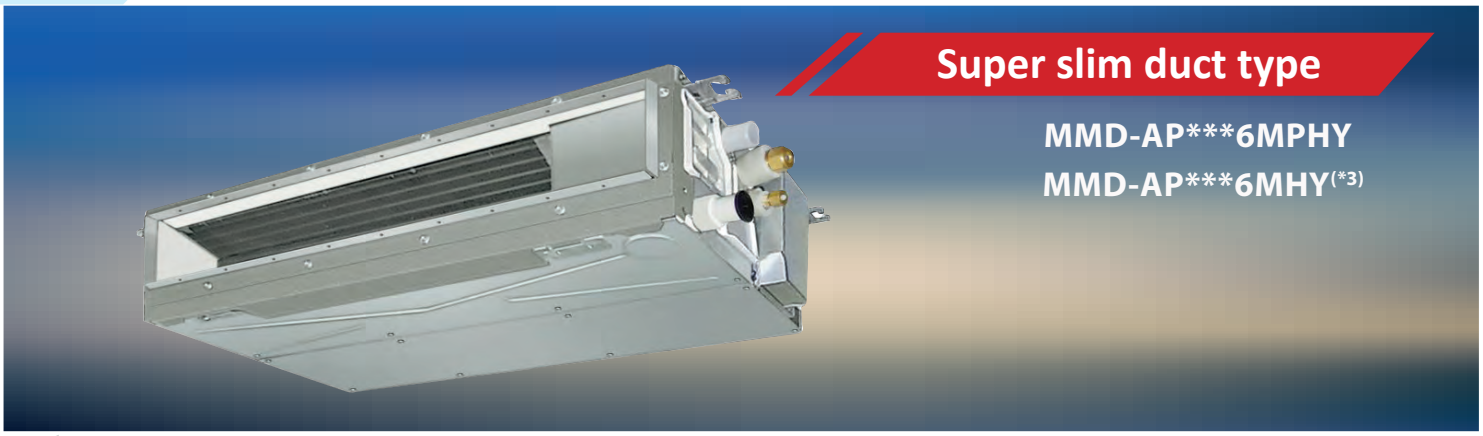
● Space required for installation and servicing



Options

Auxiliary fresh air flange
TCB-FF101URE2





Super slim duct type

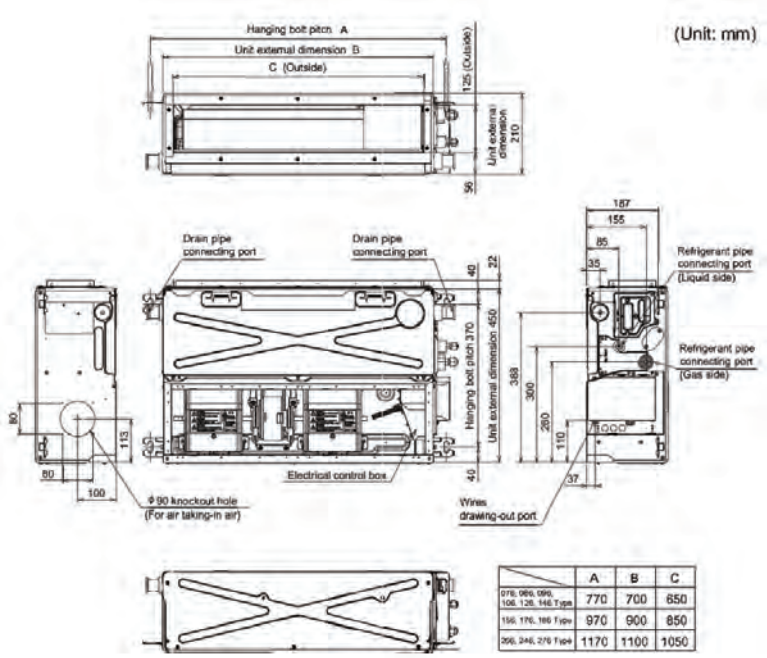
MMD-AP***6MPHY
MMD-AP***6MHY(*3)

Features

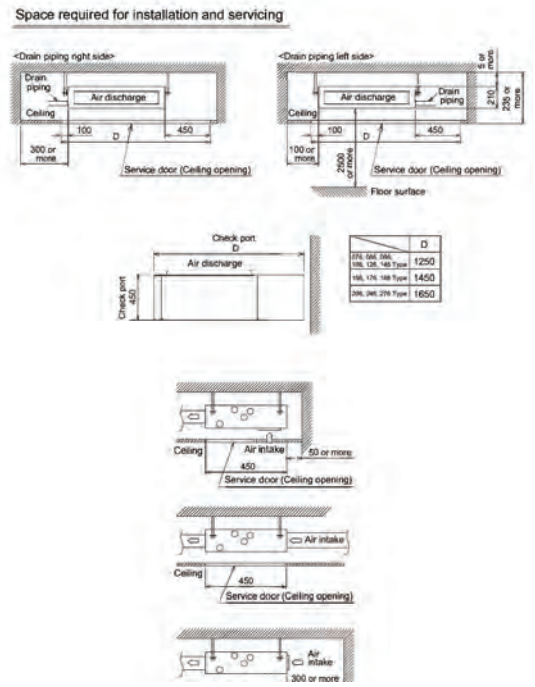
- Very compact design: Only 21 cm height & 45 cm depth
- Wide range choice (12 capacities)
- Easy maintenance - external electrical box
- Choice with high-lift drain pump (350 mm) M**P**HY or without drain pump MHY(*3)

MMD-AP***6MPHY/MMD-AP***6MHY*

(Unit: mm)



	A	B	C
076, 086, 096, 106, 126, 146 Type	770	700	650
156, 176, 186 Type	970	900	850
206, 246, 276 Type	1170	1100	1050



	D
076, 086, 096, 106, 126, 146 Type	1250
156, 176, 186 Type	1450
206, 246, 276 Type	1650

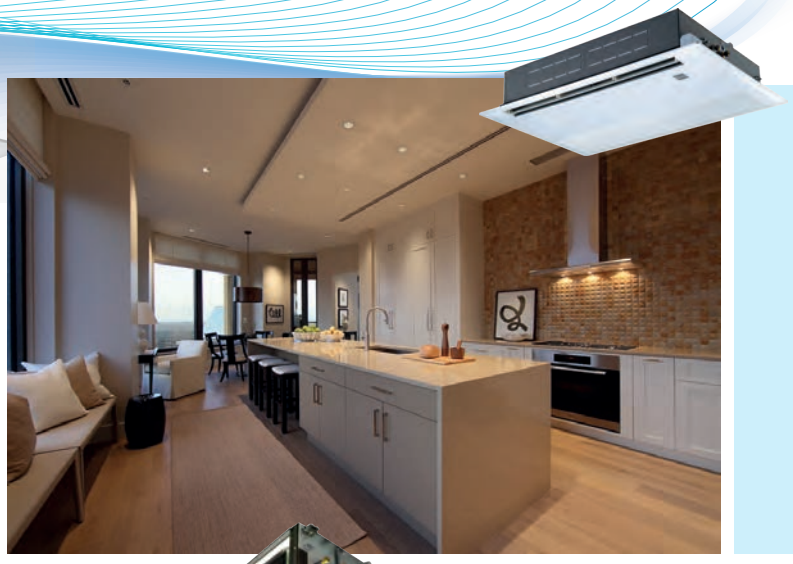
* Standard filter needs to be purchased locally.

Technical specifications

Model name		MMD-	AP0076MPHY AP0076MHY(*3)	AP0086MPHY AP0086MHY(*3)	AP0096MPHY AP0096MHY(*3)	AP0106MPHY AP0106MHY(*3)	AP0126MPHY AP0126MHY(*3)	AP0146MPHY AP0146MHY(*3)	AP0156MPHY AP0156MHY(*3)	AP0176MPHY AP0176MHY(*3)	AP0186MPHY AP0186MHY(*3)	AP0206MPHY AP0206MHY(*3)	AP0246MPHY AP0246MHY(*3)	AP0276MPHY AP0276MHY(*3)
Cooling capacity*1		kW	2.2	2.5	2.8	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0
Electrical characteristics	Power requirements		1-phase 50Hz 230V (220–240V) / 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)	m³/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									ø9.5		
	Drain port (norminal dia.)	mm	25 (Polyvinyl chloride tube)											
Sound pressure level*2 (High/Mid/Low)	Under air inlet	dB(A)	41/35/30				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	

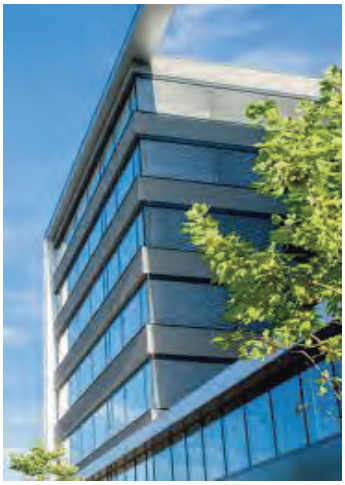
Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS 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 : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB

Note *3 : Without drain pump

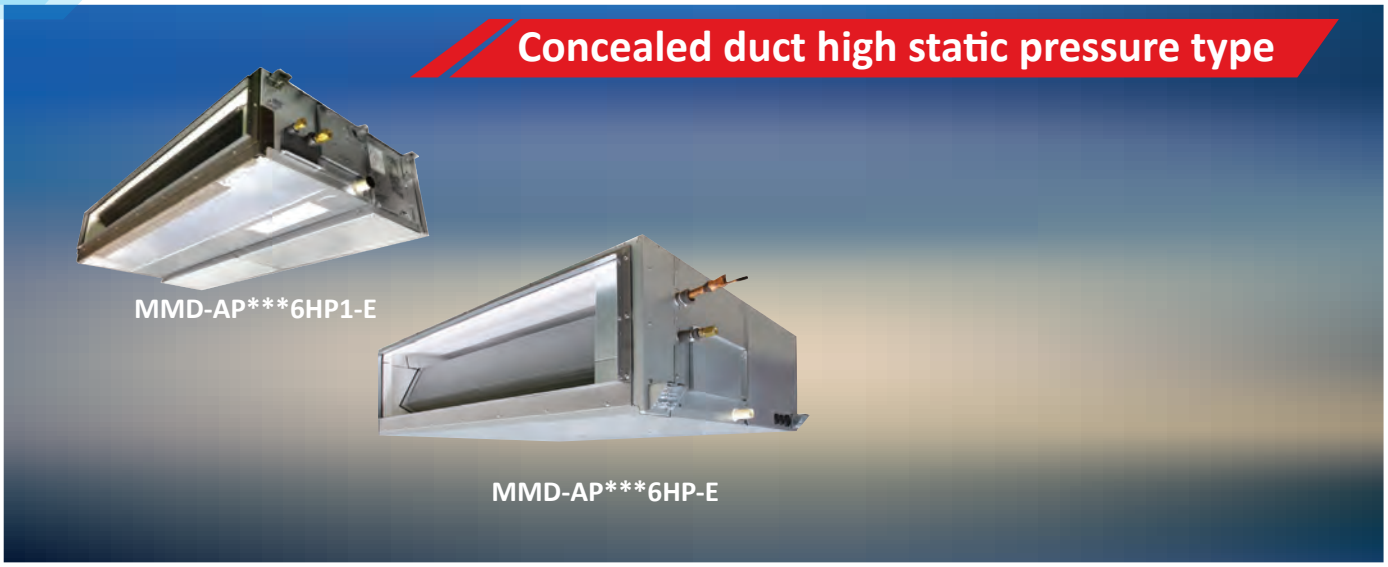


SMMS -7 VRF

Air Conditioning for large building.



Concealed duct high static pressure type



Design flexibility

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

Can be equipped with the following options:
- Long life filter kit
- Drain pump kit

Construction characteristics

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

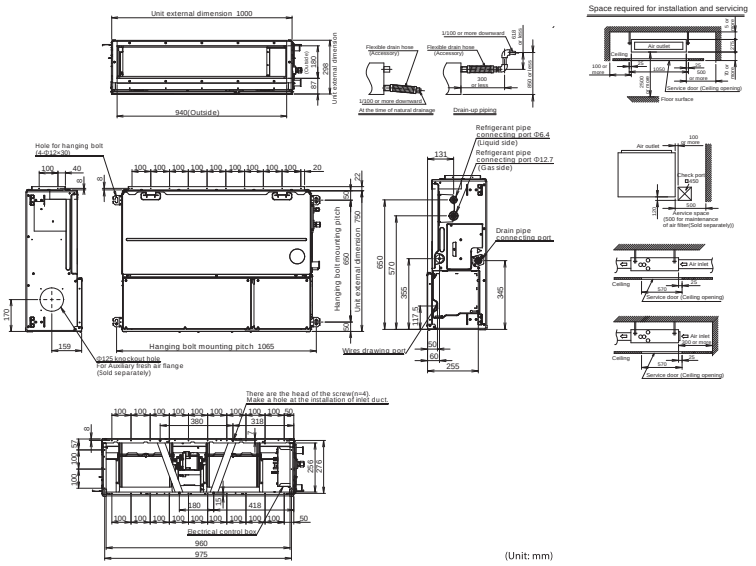
*Built-in Drain-pump : up to 6 HP model

Technical specifications

Model name		MMD-	AP0186HP1-E	AP0246HP1-E	AP0276HP1-E	AP0366HP1-E	AP0486HP1-E	AP0566HP1-E	AP0726HP-E	AP0966HP-E
Cooling capacity*1		(kW)	5.6	7.1	8.0	11.2	14.0	16.0	22.4	28.0
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	0.115		0.198	0.230	0.290	0.540	0.790
External dimensions	Height	(mm)	298						448	
	Width	(mm)	1,000			1,400			1,400	
	Depth	(mm)	750						900	
Total weight		(kg)	34			43			97	
Fan unit	Standard air flow (Med./Low)	(m^3/h)	800 (660/550)	1,200 (970/800)		1,920 (1,560/1,340)	2,100 (1,740/1,420)	2,400 (2,040/1,660)	3,800 (3,200/2,500)	4,800 (4,200/3,500)
	Motor output	(W)	250			350			250	
	External static pressure (factory setting)	(Pa)	100						150	
	External static pressure	(Pa)	50-75-125-150-175-200 (7steps)						50-83-117-150-183-217-250 (7steps)	
Connecting pipe	Gas side	(mm)	ø12.7	ø15.9					ø22.2	
	Liquid side	(mm)	ø6.4	ø9.5					ø12.7	
	Drain port	(nominal dia.)	25 (Polyvinyl chloride tube)						25 (Polyvinyl chloride tube)	
Sound pressure level*2 (High/Mid/Low)		(dB(A))	37 (32/30)	38 (34/31)		41 (37/34)	42 (40/35)	45 (42/37)	44 (40/36)	46 (42/38)

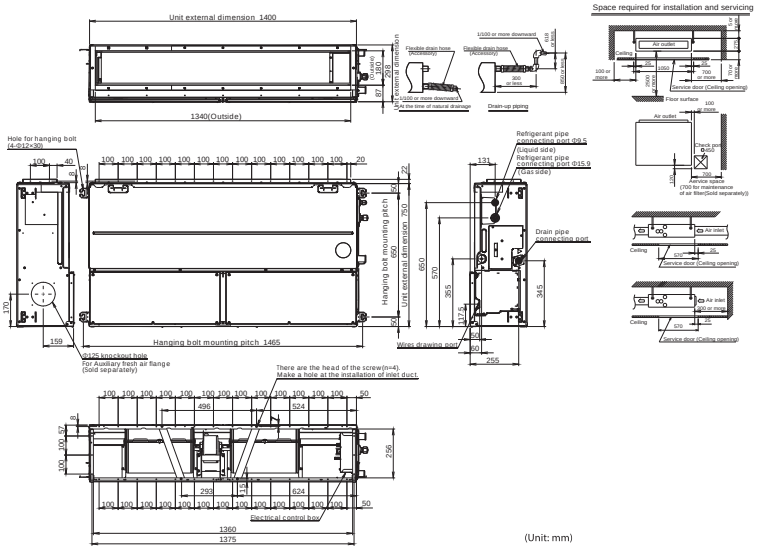
Note 1 : The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5m of main piping and 2.5 of branch piping connected with 0 meter height.
Note 2 : The sound level are measured in an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

MMD-AP0186HP1-E to AP0276HP1-E



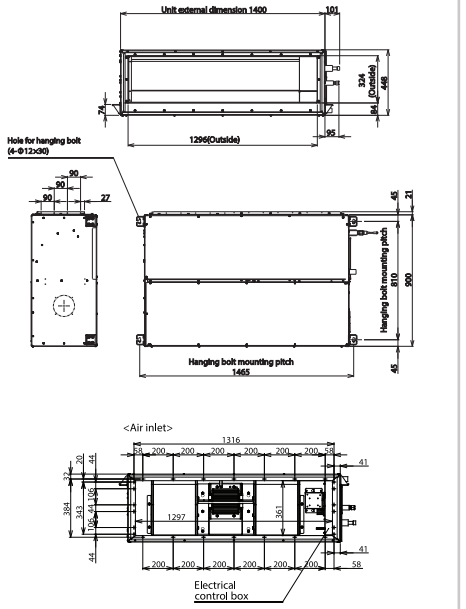
(Unit: mm)

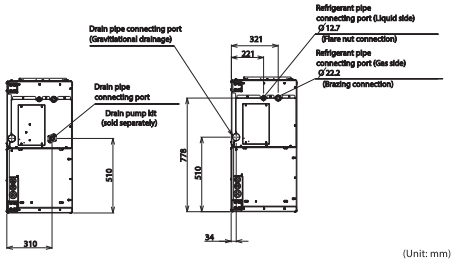
MMD-AP0366HP1-E to AP0566HP1-E



(Unit: mm)

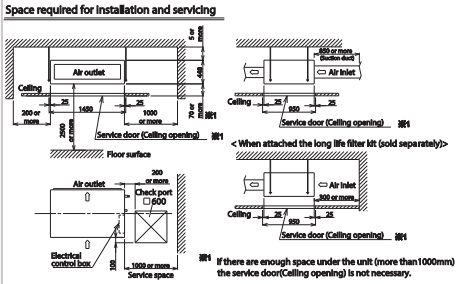
MMD-AP0726HP-E, AP0966HP-E





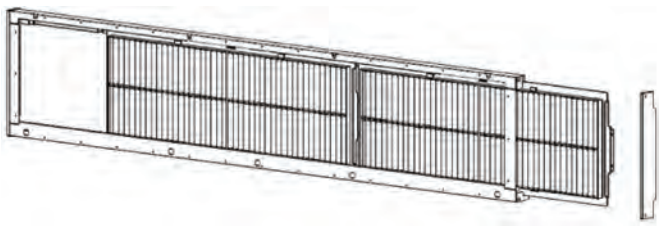
(Unit: mm)

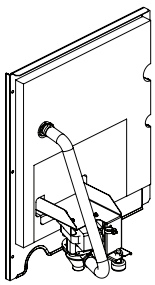
Space required for installation and servicing



Options

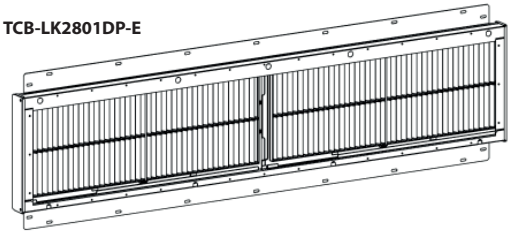
TCB-LK801D-E
TCB-LK1401D-E





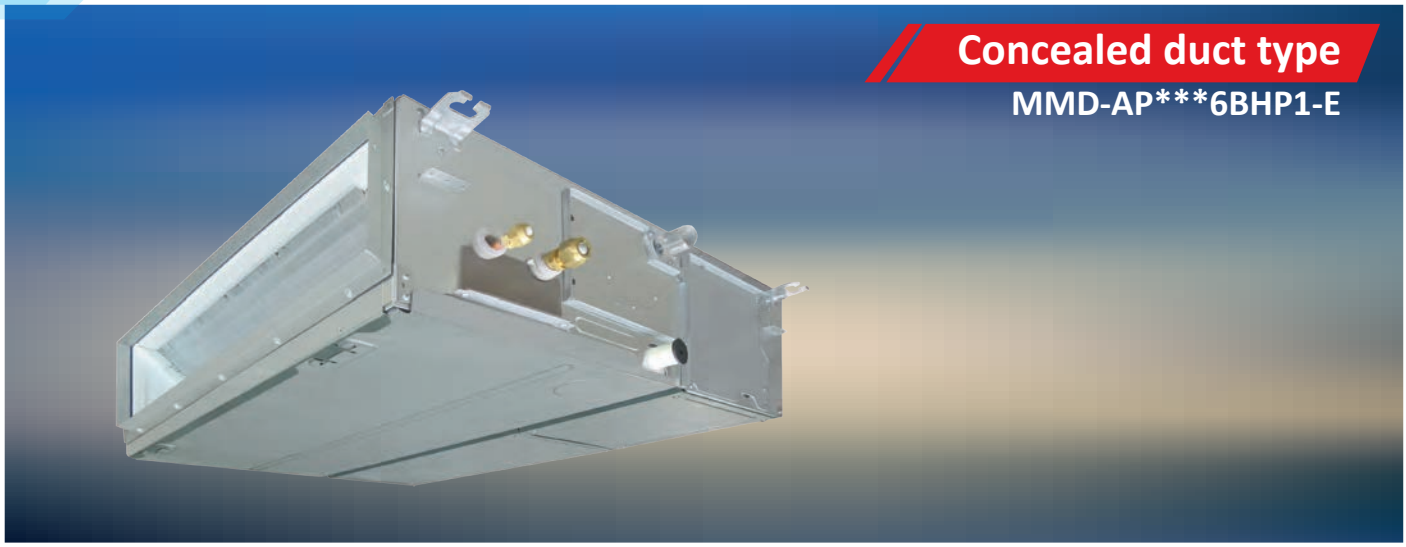
TCB-DP40DPE
Drain Pump kit for 8,10 HP

TCB-LK2801DP-E



Option Parts	Model Name	Application FCU
Long life filter kit*	TCB-LK801D-E	MMD-AP0186/0246/0276HP1-E
	TCB-LK1401D-E	MMD-AP0366/0486/0566HP1-E
Long life filter kit*	TCB-LK2801DP-E	MMD-AP0726/0966HP-E

* Long Life Filter Kit ;
- Flange shaped
- Mount chassis directly
- Upside down mountable
- Removable to both left and right



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

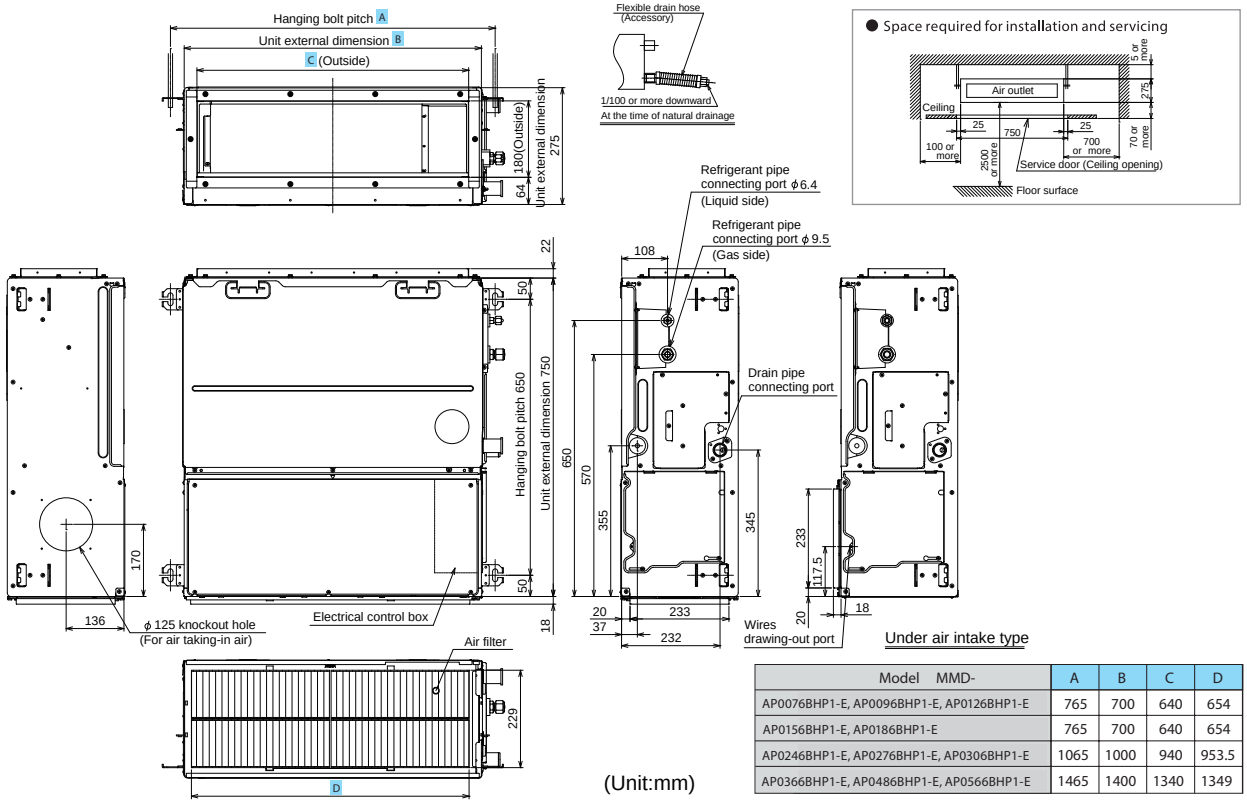
Built-in high-lift drain pump up to 850 mm.

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*1		(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 dimension	Height	(mm)	275										
	Width	(mm)	700			700		1,000			1,400		
	Depth	(mm)	750										
Total weight		(kg)	23					30			40		
Fan unit	Standard air flow (Mid/Low)	(m^3/h)	540/ 450/360	570/ 480/390		798/ 660/540		1,200/990/870		1,260/ 1,110/930	1,920/ 1,620/1,380	2,100/ 1,740/1,500	
	Motor output	(W)	150								250		
	External static pressure (factory setting)	(Pa)	30					40			50		
	External static pressure	(Pa)	30-40-50-65-80-100-120 (7 steps)										
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9					
	Liquid side	(mm)	ø6.4					ø9.5					
	Drain port	(nominal dia.)	25 (Polypropylene tube)										
Sound pressure level*2 (High/Mid/Low)		(dB(A))	29/26/23	30/26/23		33/29/25		36/31/27			40/36/33		

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

MMD-AP0076BHP1-E to AP0566BHP1-E



(Unit:mm)

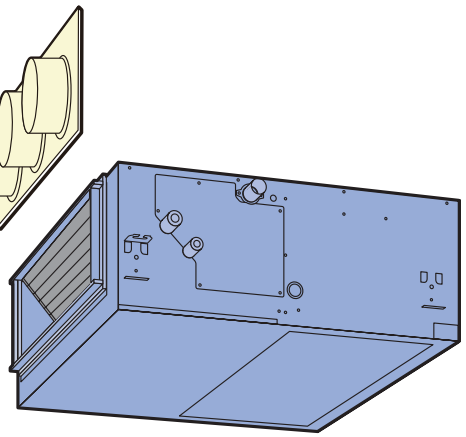
Model MMD-	A	B	C	D
AP0076BHP1-E, AP0096BHP1-E, AP0126BHP1-E	765	700	640	654
AP0156BHP1-E, AP0186BHP1-E	765	700	640	654
AP0246BHP1-E, AP0276BHP1-E, AP0306BHP1-E	1065	1000	940	953.5
AP0366BHP1-E, AP0486BHP1-E, AP0566BHP1-E	1465	1400	1340	1349

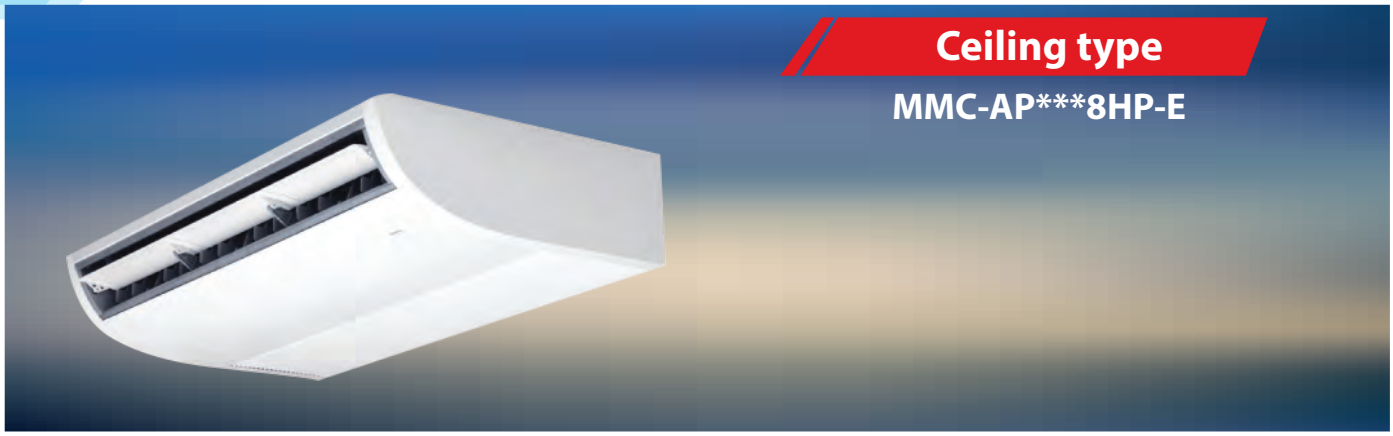
* Standard filter is provided, but deeper filtration filter needs to be purchased locally.

Options

Spigot shaped flange

TCB-SF56C6BPE
TCB-SF80C6BPE
TCB-SF160C6BPE





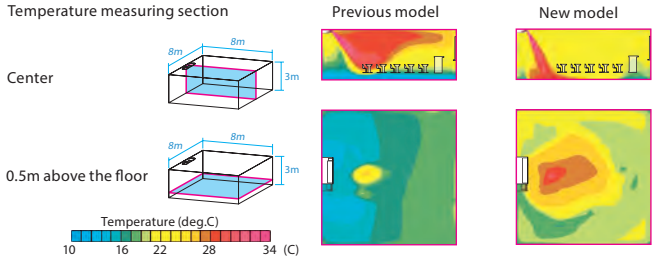
Ceiling type

MMC-AP***8HP-E

Smooth curve for pliant shape

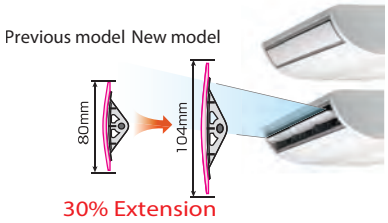
All-new chassis and new rounded design, This new models have been developed in response to customers' needs for ceiling units that better match their room interiors.

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.



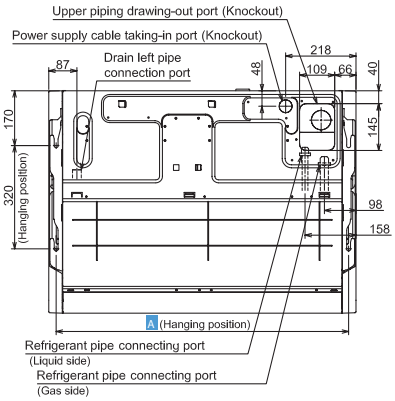
Flap control

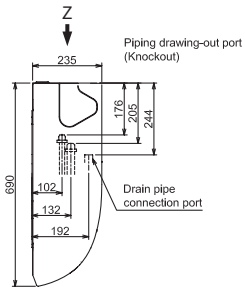
The airflow angle is automatically set to the most suitable setting according to your cooling or heating needs, and an automatic swing mode enables airflow to reach all areas of the room to create a comfortable ambience.

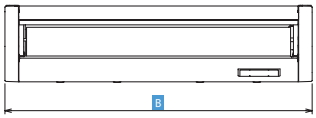
Technical specifications

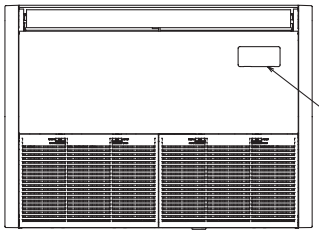
Model name		MMC-	AP0158HP-E	AP0188HP-E	AP0248HP-E	AP0278HP-E	AP0368HP-E	AP0488HP-E	AP0568HP-E
Cooling capacity*1		(kW)	4.5	5.6	7.1	8.0	11.2	14.0	16.0
Electrical characteristics	Power requirements		1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)						
	Power consumption 50 Hz/60 Hz	(kW)	0.033/0.033	0.034/0.034	0.067/0.067		0.083/0.083		0.111/0.111
External dimensions	Height	(mm)	235						
	Width	(mm)	950		1,269		1,586		
	Depth	(mm)	690						
Total weight		(kg)	24		30		37		
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	840 /690/540	960 /720/540	1440 /1020/750		1860 /1350/1020	1860 /1530/1200	2040 /1650/1260
	Motor	(W)	94		94		139		
Connecting pipe	Gas side	(mm)	ø12.7		ø15.9				
	Liquid side	(mm)	ø6.4		ø9.5				
	Drain port (nominal dia.)		20 (Polyvinyl chloride tube)						
Sound pressure level*2 (High/Mid/Low)		(dB(A))	36/34/28	37/35/28	41/36/29		44/38/32	44/41/35	46/42/36

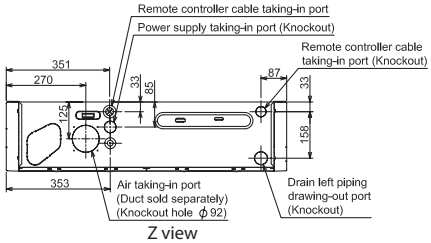
Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS 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





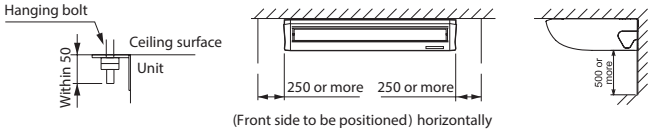






Model MMC-	A	B
AP0158HP-E, AP0188HP-E	906	950
AP0248HP-E, AP0278HP-E	1,223	1,270
AP0368HP-E, AP0488HP-E, AP0568HP-E	1,540	1,586

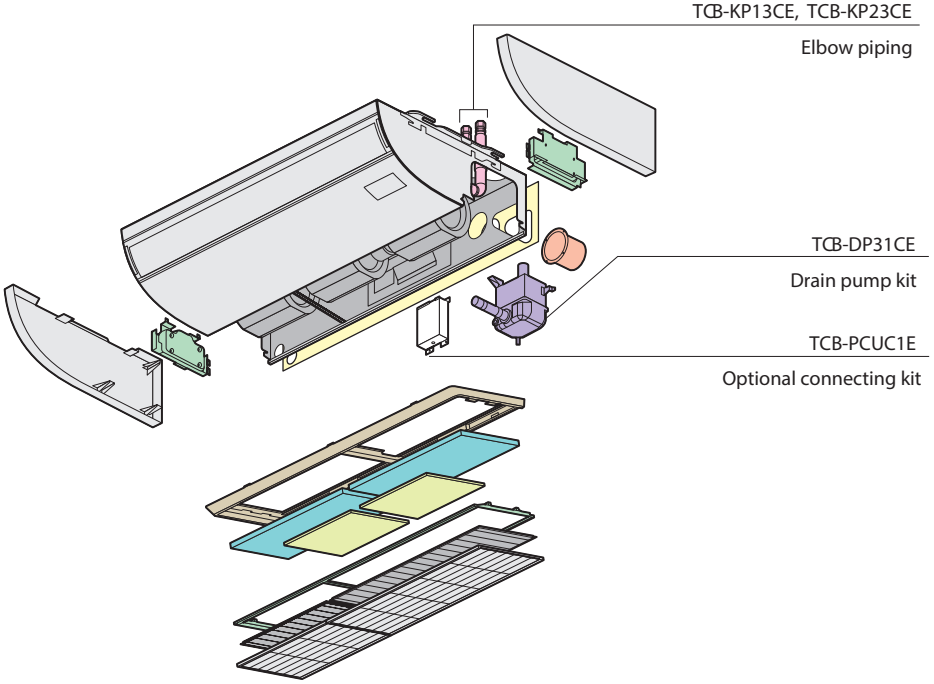
● Space required for installation and servicing



(Front side to be positioned) horizontally

(Unit: mm)

Options



High-wall type (series 3)

MMK-AP***3H1

Elegant and slim

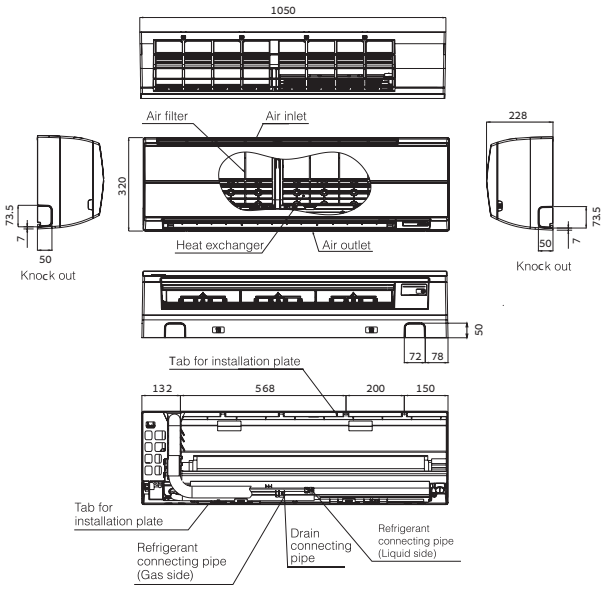
This classic high-wall is elegant and slim;
it can easily blend in with any room interior.

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

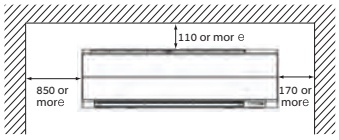
Remote controller

* Wireless remote controller is packed with indoor unit.

MMK-AP0073H1 to AP0243H1



● Space required for installation and servicing



(Unit: mm)

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	(kW)	0.018	0.021		0.043		0.050
External dimensions	Height	(mm)	320					
	Width	(mm)	1050					
	Depth	(mm)	228					
Total weight		(kg)	15					
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	570/450/390	600/480/390		840/660/540		1020/750/570
	Motor output	(W)	30					
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9
	Liquid side	(mm)	ø6.4					ø9.5
	Drain port	(nominal dia.)	16 (polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	35/31/28	37/32/28		41/36/33		46/39/34

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

High-wall type (series 7)

MMK-AP*7HP**

Remote controller*

*Wireless remote controller is packed with indoor unit.

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

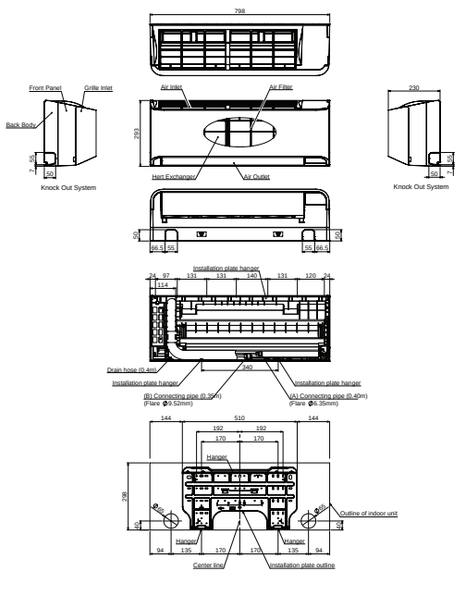
Aqua resin coated coil reduces formation of water or oil on the coil unit as well as minimizes dust accumulating on the coils for healthier air to breathe.

Technical specifications

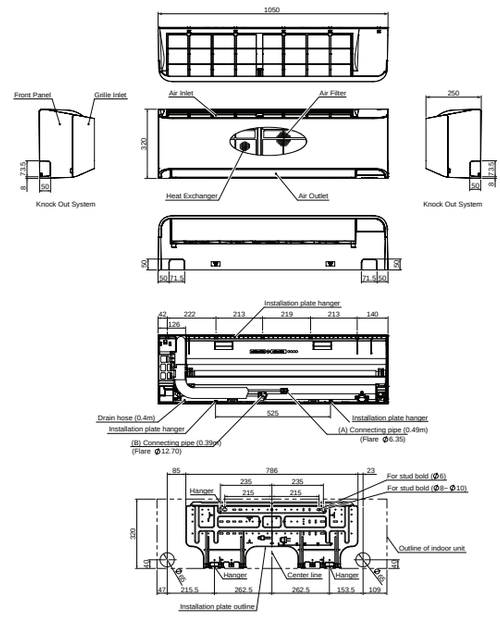
Model name		MMK-	AP0077HP	AP0097HP	AP0127HP	AP0157HP	AP0187HP	AP0247HP
Cooling capacity*1		kW	2.5	2.8	3.6	4.5	5.6	7.1
Electrical characteristics	Power requirements		1-phase 50Hz 230V (220–240V) (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	kW	0.015/0.015	0.016/0.016	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^3/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 (Norminal dia.)	mm	16 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		dB(A)	35/30/25	36/31/25	37/32/25	40/36/32	41/37/32	45/39/33

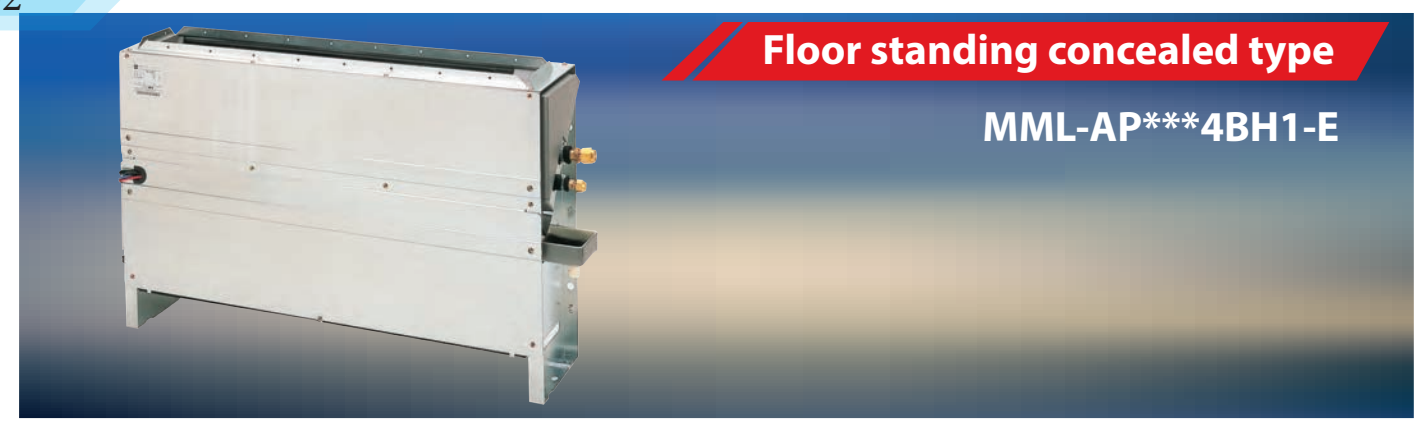
Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS 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



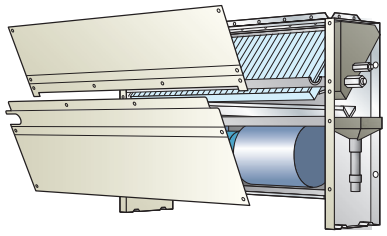


Floor standing concealed type

MML-AP***4BH1-E

Cool air makes for a pleasant indoor environment

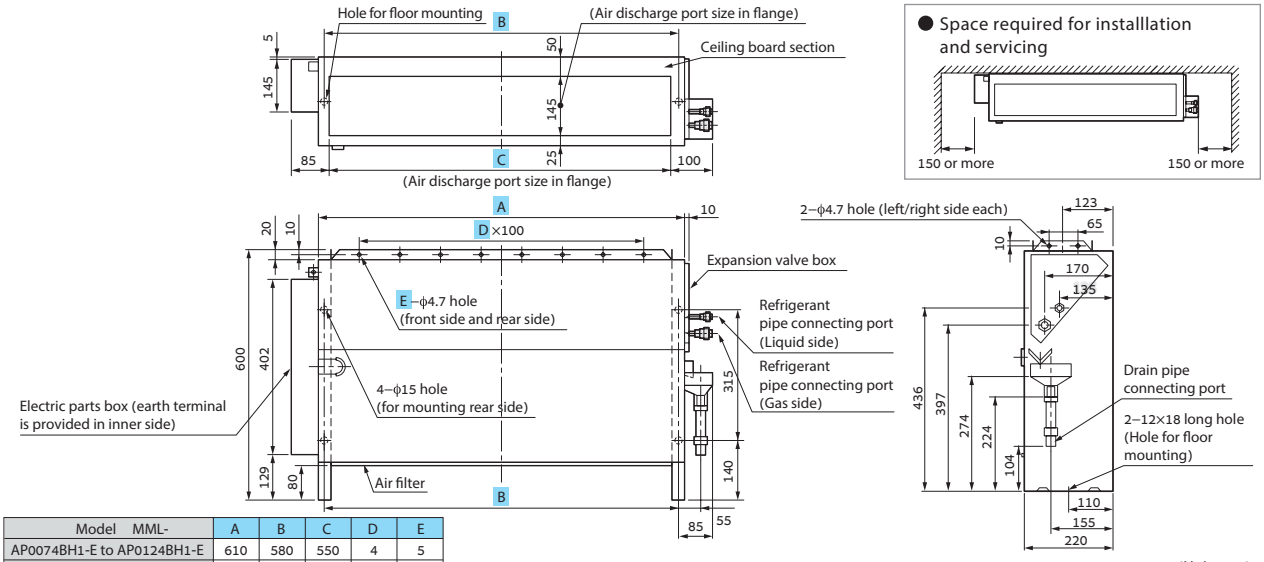
Install it under a window and air-condition any room effectively.



Easy maintenance

Simplified design of fan and drainage pipe eases maintenance.

MML-AP0074BH1-E to AP0244BH1-E



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

(Unit: mm)

Technical specifications

Model name		MML-	AP0074BH1-E	AP0094BH1-E	AP0124BH1-E	AP0154BH1-E	AP0184BH1-E	AP0244BH1-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) / 1-phase 60Hz 220V (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)	74			045		
	Depth	(mm)	220					
Total weight		(kg)	21			29		
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	460/400/300			740/600/490		950/790/640
	Motor output	(W)	19			70		
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9
	Liquid side	(mm)	ø6.4					ø9.5
	Drain port	(nominal dia.)	20 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	36/34/3					2/37/33

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

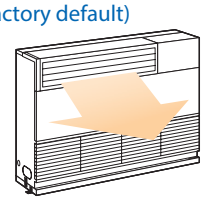
Floor standing cabinet type

MML-AP***4H1-E

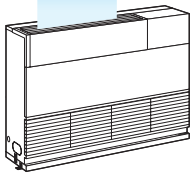
Slim & compact design

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

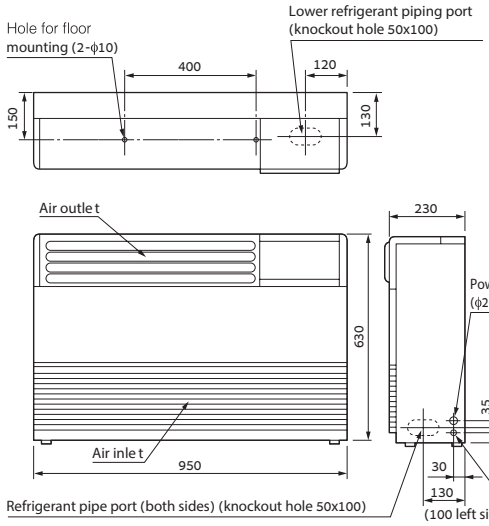
Air blow from front panel (factory default)

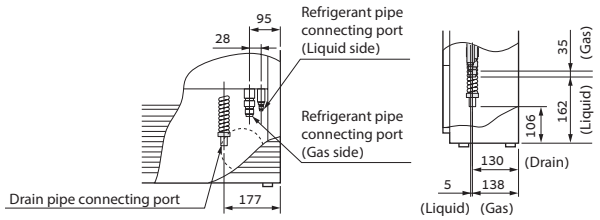


Air blow from top

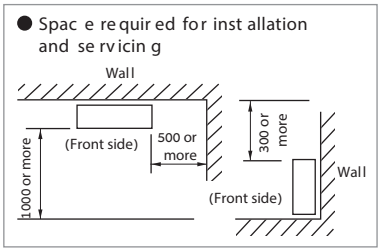


MML-AP0074H1-E to AP0244H1-E





Piping positional drawing



(Unit: mm)

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) / 1-phase 60Hz 220V (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^3/h)	480/420/360		900/780/650		1080/930/780	
	Motor output	(W)	45				70	
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7		ø15.9
	Liquid side	(mm)	ø6.4					ø9.5
	Drain port	(nominal dia.)	20 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	39/37/35		45/41/38		49/44/39	

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

Console type

MML-AP***4NH1-E

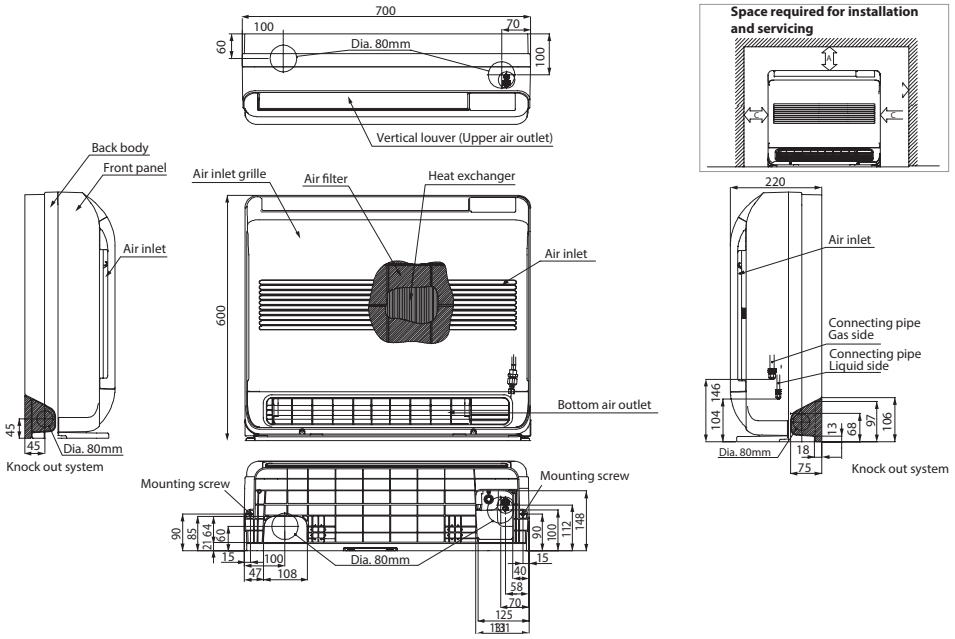
Elegant & simple design

Elegant & simple design makes this unit a perfect fit for shops, office buildings, and luxury apartments. Bottom flow functionality ensures comfortable air bi-flow for an advantage in heating and floor warming. Multi-function operation is convenient, making adjustments by the user possible using the wireless remote controller.

Remote controller

* Wireless remote controller is packed with indoor unit.

MML-AP0074NH1-E to AP0184NH1-E

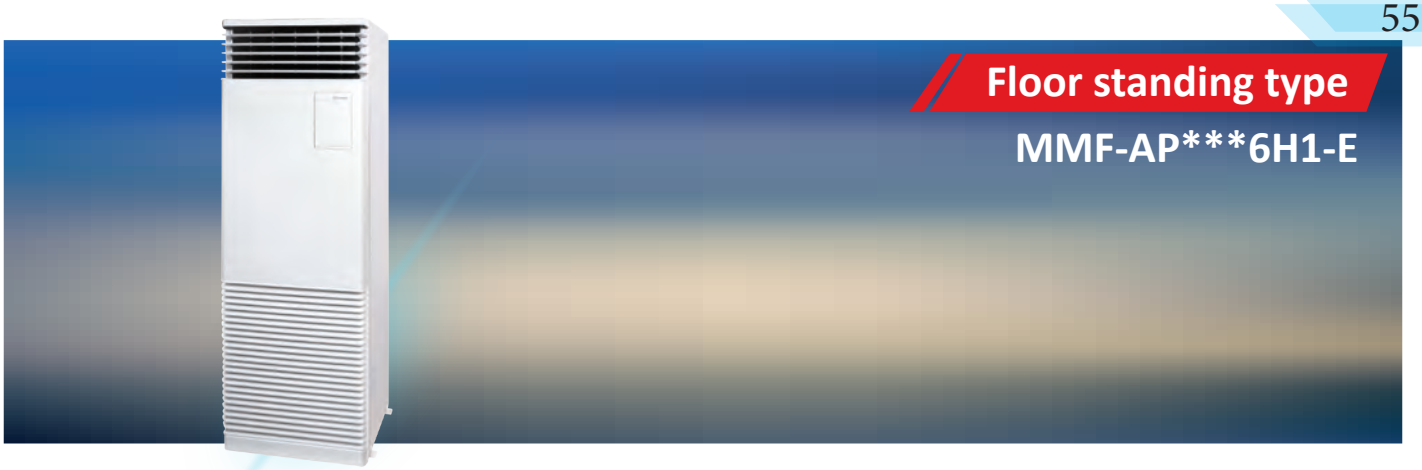


(Unit: mm)

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) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)				
	Power consumption 50 Hz/60 Hz	(kW)	0.021		0.025	0.034	0.052
External dimensions	Height	(mm)	600				
	Width	(mm)	700				
	Depth	(mm)	220				
Total weight		(kg)	17				
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	510/366/282		552/408/324	624/468/384	726/528/426
	Motor output	(W)	41				
Connecting pipe	Gas side	(mm)	ø9.5			ø12.7	
	Liquid side	(mm)	ø6.4				
	Drain port	(nominal dia.)	16 (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

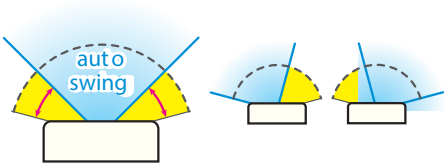


Floor standing type

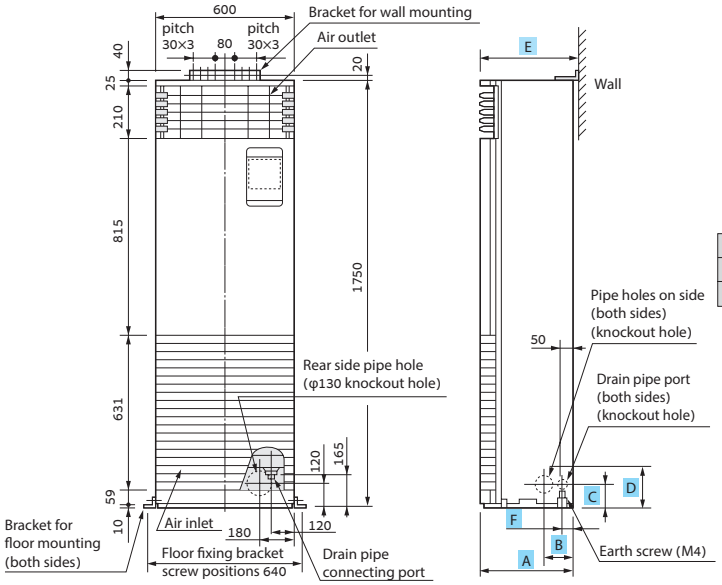
MMF-AP***6H1-E

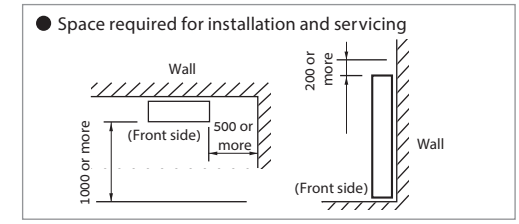
Wide outlet

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

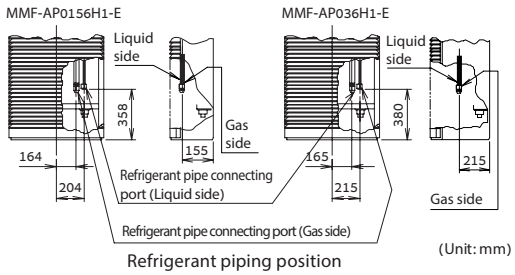


MMF-AP0156H1-E to AP0566H1-E





Model MMF-	A	B	C	D	E	F
AP0156H1-E to AP0276H1-E	200	107	132	157	210	50
AP0366H1-E to AP0566H1-E	380	125	120	160	390	40



Refrigerant piping position

(Unit: mm)

Technical specifications

Model name		MMF-	AP0156H1-E	AP0186H1-E	AP0246H1-E	AP0276H1-E	AP0366H1-E	AP0486H1-E	AP0566H1-E
Cooling/Heating capacity*1		(kW)	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0	16.0/18.0
Electrical characteristics	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)	0.055		0.089		0.135	0.160	
External dimensions	Height	(mm)	1750						
	Width	(mm)	600						
	Depth	(mm)	210				390		
Total weight		(kg)	46		47		62		
Fan unit	Standard air flow (High/Mid/Low)	(m³/h)	900/780/660		1200/990/840		1920/1620/1380	2160/1730/1560	
	Motor output	(W	62		62		109	109	
Connecting pipe	Gas side	(mm)	ø12.7			ø12.7			
	Liquid side	(mm)	ø6.4			ø9.5			
	Drain port	(nominal dia.)	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	

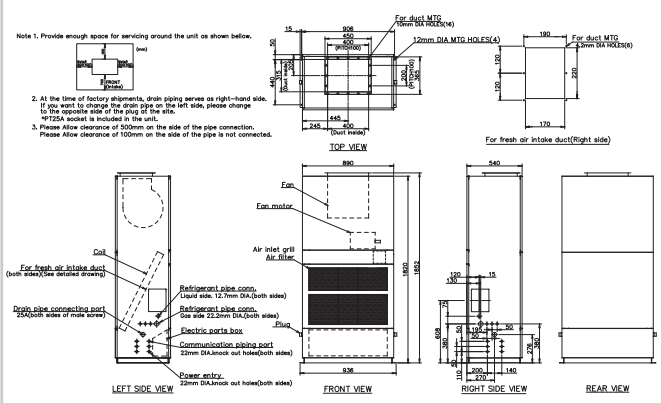
Note 1 : The capacities are measured under the conditions specified by JIS B 8615 based on the reference piping.
The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 m height.
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS 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
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

Large capacity floor standing duct type

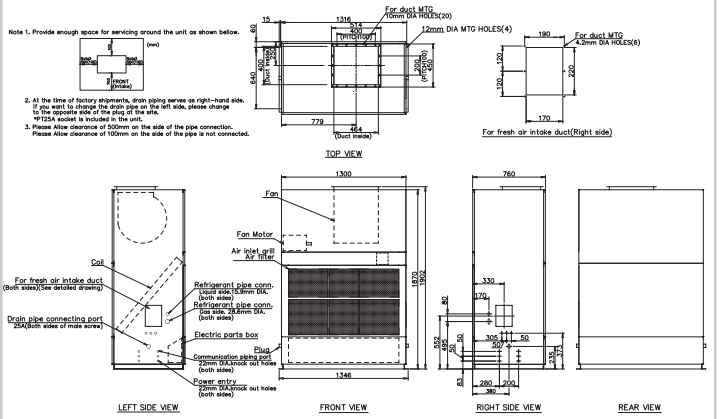
Floor standing <duct type>

(50 Hz/60 Hz)
MMF-AP0724DH-V/MMF-AP0964DH-V
MMF-AP1444DH-V/MMF-AP1924DH-V

MMF-AP0724DH-V, MMF-AP0964DH-V



MMF-AP1444DH-V, MMF-AP1924DH-V



(Unit: mm)

Technical specifications

Model name		MMF-	AP0724DH-V	AP0964DH-V	AP1444DH-V	AP1924DH-V
Cooling*1		(kW)	22.4	28.0	45.0	56.0
Electrical characteristics	Power requirements		3 phase 50/60Hz 400V(Separate power supply for indoor units is required.)			
	Power consumption 50 Hz/60 Hz	(kW)	0.59/0.70	0.80/0.99	1.04/1.28	1.79/2.26
External dimensions	Height	(mm)	1820		1870	
	Width	(mm)	890		1300	
	Depth	(mm)	540		760	
Total weight		(kg)	170	170	280	290
Fan unit*2	Standard air flow	(m^3/h)	3600	4200	7200	8400
	Motor output	(kW)	1.5	1.5	2.2	3.7
	External static pressure (50Hz/60Hz)	(Pa)	43/122	39/148	28/111	86/222
Connecting pipe	Gas side	(mm)	ø22.2		ø28.6	
	Liquid side	(mm)	ø12.7		ø15.9	
	Drain port	(nominal dia.)	25 (Both sides of male screw)			
Sound pressure level*3		(dB(A))	54/56	55/57	61/63	62/64

Note 1 : The capacities and electrical characteristics are measured under the conditions specified by JIS B 8615.
Note 2 : As air volume is fixed, by remote controller, air volume cannot be charged.
When required high static pressure and air volume change, a pulley change is requested.
Note 3 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the sound level measured in the actual operating environment become bigger than the rated figures due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

Large capacity floor standing direct type

MMF-AP0**4H-VA/VB

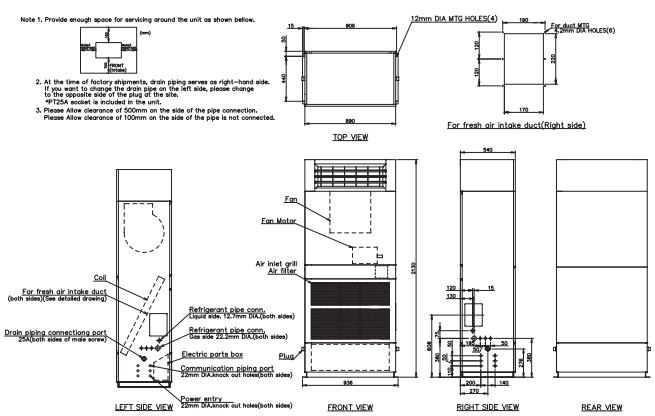
MMF-AP1**4H-VA/VB

Floor standing <direct type>

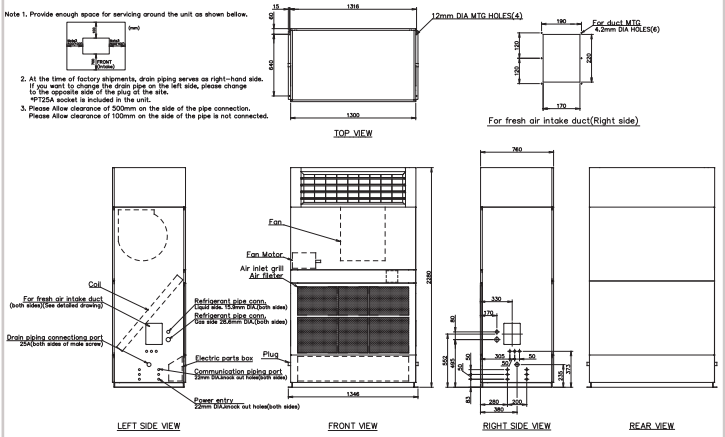
(50 Hz)
MMF-AP0724H-VA/MMF-AP0964H-VA
MMF-AP1444H-VA/MMF-AP1924H-VA

(60 Hz)
MMF-AP0724H-VB/MMF-AP0964H-VB
MMF-AP1444H-VB/MMF-AP1924H-VB

MMF-AP0724H-VA/VB, MMF-AP0964H-VA/VB



MMF-AP1444H-VA/VB, MMF-AP1924H-VA/VB



(Unit: mm)

Technical specifications

Model name (50Hz/60Hz)		MMF-	AP0724H-VA/VB	AP0964H-VA/VB	AP1444H-VA/VB	AP1924H-VA/VB
Cooling*1		(kW)	22.4	28.0	45.0	56.0
Electrical characteristics	Power requirements		3 phase 50/60Hz 400V(Separate power supply for indoor units is required.)			
	Power consumption 50 Hz/60 Hz	(kW)	0.56/0.53	0.80/0.79	1.24/1.19	2.07/2.05
External dimensions	Height	(mm)	2,130		2,280	
	Width	(mm)	890		1,300	
	Depth	(mm)	540		760	
Total weight		(kg)	182	188	320	320
Fan unit*2	Standard air flow	(m^3/h)	3,600	4,200	7,200	8,400
	Motor output	(kW)	0.75	1.5	2.2	2.2
Connecting pipe	Gas side	(mm)	ø22.2		ø28.6	
	Liquid side	(mm)	ø12.7		ø15.9	
	Drain port	(nominal dia.)	25 (Both sides of male screw)			
Sound pressure level*3		(dB(A))	62	63	64	66

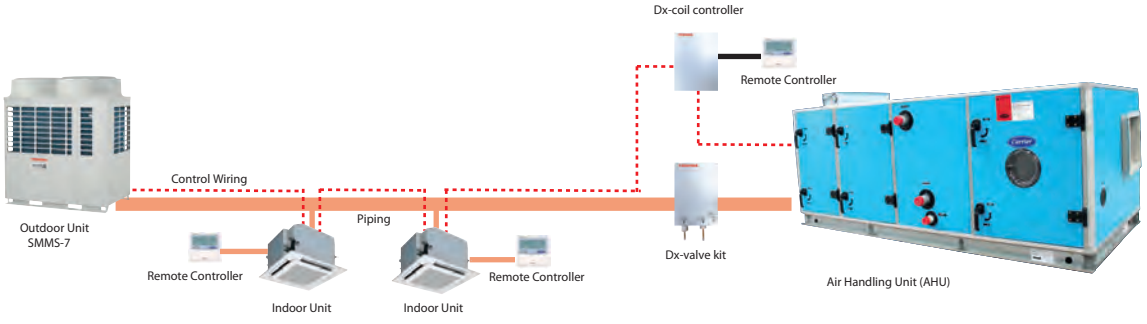
Note 1 : The capacities and electrical characteristics are measured under the conditions specified by JIS B 8615.
Note 2 : As air volume is fixed, by remote controller, air volume cannot be charged.
When required high static pressure and air volume change, a pulley change is requested.
Note 3 : The sound level are measured in an anechoic chamber in accordance with JIS B 8616.
Normally, the sound level measured in the actual operating environment become bigger than the rated figures due to the effects of external sound.
Note : Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB

Key features

The Dx-coil interface enables the connection between CARRIER AHU and TOSHIBA VRF with maximum capacity of the connectable AHU up to 60 HP for multiple Dx-coil (TA Control Type) interface and 20 HP for single Dx-coil (DDC) interface.

Technical specifications

Dx-coil interface type			Dx-valve kit					Dx-coil interface type			Dx-coil controller	
											TA Control Type	DDC Control Type
Model Name			RBM-A101VAE		RBM-A201VAE			Model Name			TCB-IFDTA201E	TCB-IFDDC201E
HP			8	10	16	18	20	Power Supply			1ph 50Hz 220V - 240V / 1ph 60 Hz 220V	
Dimension	Height	(mm)	420					Dimension	Height	(mm)	420	
	Width	(mm)	420						Width	(mm)	330	
	Depth	(mm)	420						Depth	(mm)	95	
Weight		(kg)	3.0					Weight		(kg)	3.5	4.5

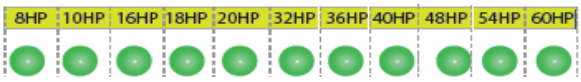


Combination

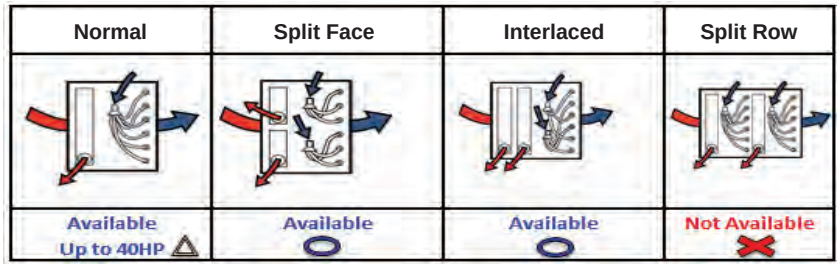
Type of DX-COIL		TA Control Type						DDC Control Type		
		Normal			Interlaced, Split face			Normal		
		Dx-coil controller	Dx-valve kit		Dx-coil controller	Dx-valve kit		Dx-coil controller	Dx-valve kit	
Model Name		TCB-IFDTA201E	RBM-A101VAE	RBM-A201VAE	TCB-IFDTA201E	RBM-A101VAE	RBM-A201VAE	TCB-IFDDC201E	RBM-A101VAE	RBM-A201VAE
Connectable AHU Capacity	8 HP	1	1	-	-	-	-	1	1	-
	10 HP	1	1	-	-	-	-	1	1	-
	16 HP	1	-	1	2	2	-	1	-	1
	18 HP	1	-	1	2	2	-	1	-	1
	20 HP	1	-	1	2	2	-	1	-	1
	32 HP	1	-	2	2	-	2	-	-	-
	36 HP	1	-	2	2	-	2	-	-	-
	40 HP	1	-	2	2	-	2	-	-	-
	48 HP	-	-	-	3	-	3	-	-	-
	54 HP	-	-	-	3	-	3	-	-	-
	60 HP	-	-	-	3	-	3	-	-	-

VRF AHU Line Up

Available Capacity



AHU Coil Type



VRF AHU Specification

Model			39CQM0913	39CQM1015	39CQM1016
Total Cooling Capacity		kW	45.0	50.0	55.3
		HP	16	18	20
Sensible Heat		kW	35.31	33.54	37.09
Supply Air Volume (Nominated) (Min. - Max.)		CMH	7200 (5760 - 8640)	7800 (6240 - 9360)	8400 (6720 - 10080)
Fresh Air Volume		%	10	10	10
Entering Air Temperature		CDB/CWB	27.0/19.5	27.0/19.5	27.0/19.5
Leaving Air Temperaure		CDB/CWB	14.6/13.9	14.3/13.6	14.3/13.6
Fresh Air Temperaure		CDB/CWB	35/28	35/28	35/28
Coil Type			DX Coil R410a	DX Coil R410a	DX Coil R410a
Coil Face Are		m^2	0.75	0.91	1.14
Coil Face Velocity		m/s	2.67	2.37	2.05
Static Pressure (Nominated)		Pa	400	400	400
Fan Type			Backward Curve Centrifugal	Backward Curve Centrifugal	Backward Curve Centrifugal
Fan Model			BDB 355	BDB 400	BDB 400
Fan Motor		kW / Pole	3 / 4	3 / 4	3 / 4
Power Supply		V/PH/Hz	415/3/50	415/3/50	415/3/50
Outlet Sound Level (Nominated)		dBA	87	85	86
Condensing Unit			MMY-MAP1607T8P	MMY-MAP1807T8P	MMY-MAP2007T8P-SG
DX Coil Controller			TCB-IFDTA201E	TCB-IFDTA201E	TCB-IFDTA201E
DX-Valve Kit			RBM-A201VAE	RBM-A201VAE	RBM-A201VAE
Piping Connection	Liquid	mm	Φ15.9	Φ15.9	Φ15.9
	Gas	mm	Φ28.6	Φ28.6	Φ28.6
Diversity		%	60 - 110	60 - 110	60 - 110

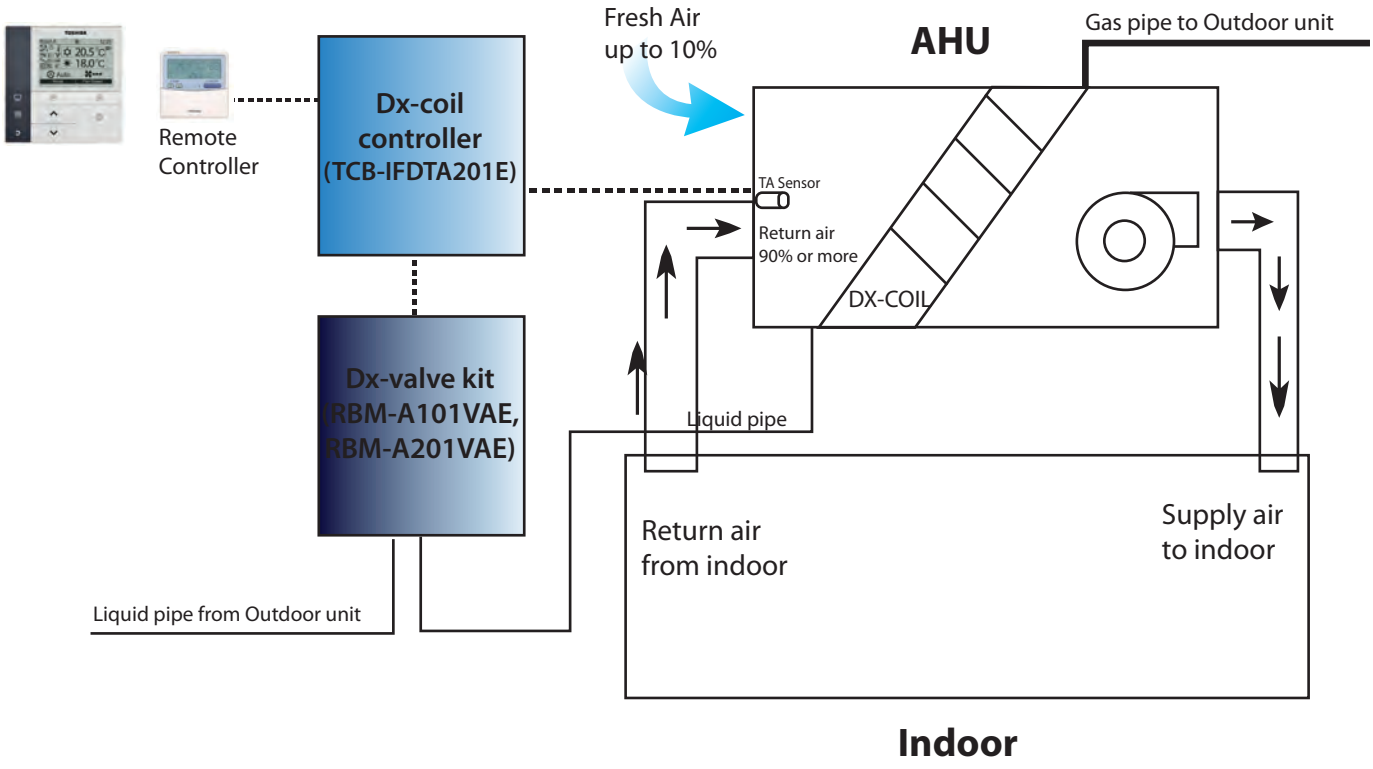
VRF AHU Specification

Model			39CQM1317	39CQM1418	39CQM1518
Total Cooling Capacity		kW	88.0	100.8	111.9
		HP	32	36	40
Sensible Heat		kW	60.33	70.4	80
Supply Air Volume (Nominated) (Min. - Max.)		CMH	14400 (11520 - 17280)	15600 (12480 - 18720)	16800 (13440 - 20160)
Fresh Air Volume		%	10	10	10
Entering Air Temperature		CDB/CWB	27.0/19.5	27.0/19.5	27.0/19.5
Leaving Air Temperaure		CDB/CWB	15.0/14.1	14.0/13.5	13.3/12.8
Fresh Air Temperaure		CDB/CWB	35/28	35/28	35/28
Coil Type			DX Coil R410a	DX Coil R410a	DX Coil R410a
Coil Face Are		m^2	1.65	1.86	2.05
Coil Face Velocity		m/s	2.42	2.33	2.28
Static Pressure (Nominated)		Pa	500	500	500
Fan Type			Backward Curve Centrifugal	Backward Curve Centrifugal	Backward Curve Centrifugal
Fan Model			BDB 560	BDB 560	BDB 630
Fan Motor		kW / Pole	7.5 / 4	7.5 / 4	7.5 / 4
Power Supply		V/PH/Hz	415/3/50	415/3/50	415/3/50
Outlet Sound Level (Nominated)		dBA	85	86	86
Condensing Unit			MMY-AP3217T8P	MMY-AP3617T8P	MMY-AP4017T8P-SG
DX Coil Controller			TCB-IFDTA201E x 2	TCB-IFDTA201E x 2	TCB-IFDTA201E x 2
DX-Valve Kit			RBM-A201VAE x 2	RBM-A201VAE x 2	RBM-A201VAE x 2
Piping Connection	Liquid	mm	Φ19.1	Φ22.2	Φ22.2
	Gas	mm	Φ34.9	Φ41.3	Φ41.3
Diversity		%	60 - 110	60 - 110	60 - 110

Model			39CQM1521	39CQM1622	39CQM1624
Total Cooling Capacity		kW	135.0	151.2	168.0
		HP	48	54	60
Sensible Heat		kW	95	106.7	114.4
Supply Air Volume (Nominated) (Min. - Max.)		CMH	20400 (16320 - 24480)	23400 (18720 - 28080)	25200 (20160 - 30240)
Fresh Air Volume		%	10	10	10
Entering Air Temperature		CDB/CWB	27/19.5	27/19.5	27/19.5
Leaving Air Temperaure		CDB/CWB	13.6/13.1	13.8/13.3	13.9/13.4
Fresh Air Temperaure		CDB/CWB	35/28	35/28	35/28
Coil Type			DX Coil R410a	DX Coil R410a	DX Coil R410a
Coil Face Are		m^2	2.45	2.71	2.99
Coil Face Velocity		m/s	2.31	2.4	2.34
Static Pressure (Nominated)		Pa	500	500	500
Fan Type			Backward Curve Centrifugal	Backward Curve Centrifugal	Backward Curve Centrifugal
Fan Model			BDB 630	BDB 710	BDB 710
Fan Motor		kW / Pole	11 / 4	11 / 4	11 / 4
Power Supply		V/PH/Hz	415/3/50	415/3/50	415/3/50
Outlet Sound Level (Nominated)		dB	88	86	86
Condensing Unit			MMY-AP4817T8P	MMY-AP5417T8P	MMY-AP6017T8P
DX Coil Controller			TCB-IFDTA201E x 3	TCB-IFDTA201E x 3	TCB-IFDTA201E x 3
DX-Valve Kit			RBM-A201VAE x 3	RBM-A201VAE x 3	RBM-A201VAE x 3
Piping Connection	Liquid	mm	Φ22.2	Φ22.2	Φ22.2
	Gas	mm	Φ41.3	Φ41.3	Φ41.3
Diversity		%	60 - 110	60 - 110	60 - 110

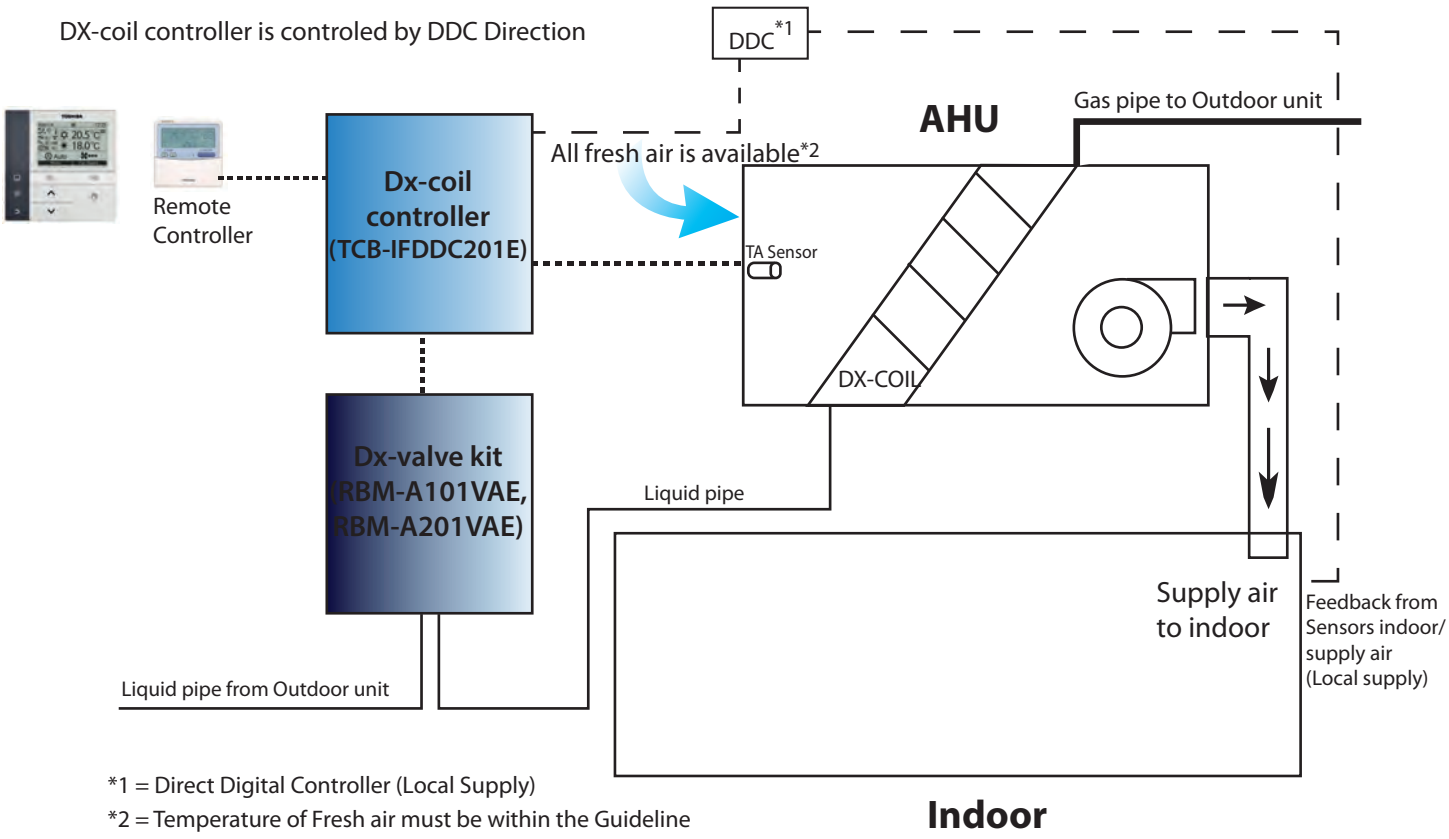
Operation Pattern 1: TA Control

DX-coil controller is controlled by TA Sensor.



Operation Pattern 2: DDC Control

DX-coil controller is controled by DDC Direction



*1 = Direct Digital Controller (Local Supply)
*2 = Temperature of Fresh air must be within the Guideline

For more detail, please contact your local sales company.

Fresh air intake indoor unit type

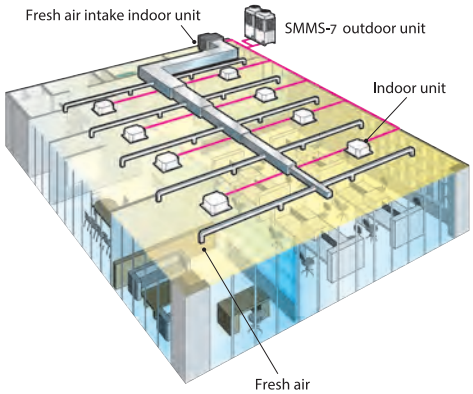
MMD-AP***HFE

Air controller for fresh-air intake

Fresh-air intake often influences the system, rendering normal control of the air conditioner difficult, or placing large loads on the system and its cooling performance.
Therefore it is frequently adopted to handle the fresh air to a certain condition before the fresh air will enter in the main air conditioner.

This device is known as a fresh air intake indoor unit.

For some application need to get all fresh air intake connect to VRF system, SMMS-7 are available connected to 1-3 Fresh air Units up to 22 HP



NOTE: The fresh air intake indoor unit is an air conditioner provided to handle the fresh air load and is not to control the room temperature. For correspondence to the load of the indoor air controller, set an air conditioner separately.

Technical specifications

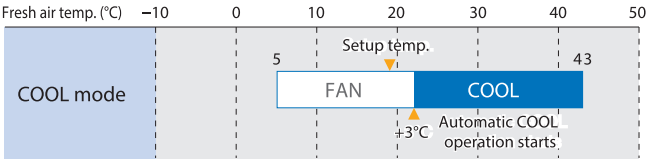
Model name				MMD-	AP0481HFE	AP0721HFE	AP0961HFE
Cooling capacity*1				(kW)	14.0	22.4	28.0
Electrical characteristics	Power requirement			(kW)	1-phase 50 Hz 230 V (220–240 V)/60 Hz 220 V		
	Power consumption 50Hz/60Hz			(kW)	0.28/0.34	0.45/0.5	0.52/0.65
External dimensions	Main unit		Height	(mm)	492		
			Width	(mm)	892	1,392	
			Depth	(mm)	1,262		
Total weight				(kg)	93	144	
Fan unit	Standard air flow			(m^3/h)	1,080	1,680	2,100
	Motor output			(kW)	0.160	0.160×2	
	External static pressure	50 Hz/60 Hz		(Pa)	170-210-230 / 115-215-260	140-165-180 / 150-210-235	160-190-205 / 80-180-220
	Air flow limit	Lower limit/Upper limit		(m^3/h)	756/1,188	1,176/1,848	1,470/2,310
Connecting pipe	Gas side			(mm)	ø15.9	ø22.2	
	Liquid side			(mm)	ø9.5	ø12.7	
	Drain port			(mm)	25		
Sound pressure level*2	(High/Med./Low)			(dB(A))	45/43/41	46/45/44	
Operation range	Cooling*3			(°C)	5 – 43		

* The setting temperature is 16 – 27°C (standard FCU…18 – 29°C).
* An optional humidifier is not available with fresh air intake indoor unit.
* Height difference between fresh air intake indoor units must be within 0.5 m. Height difference between fresh air intake indoor unit and standard FCU must be within 30 m.

NOTE 1 Rated conditions Cooling: Outdoor air temperature 33°C DB/28°C WB setting temperature 18°C
Heating: Outdoor air temperature 0°C DB/–2.9°C WB setting temperature 25°C
Piping: Length 7.5 m / Height 0 m
NOTE 2 Normally, the values measured in the actual operating environment become large than the indicated values due to the effects of external sound.
NOTE 3 * When supply air temperature is "setting temperature + 3°C" or less, fresh air intake indoor unit operates as FAN mode.
* When supply air temperature is 19°C or less, Fresh Air Intake Indoor unit operates as FAN mode.

Use conditions

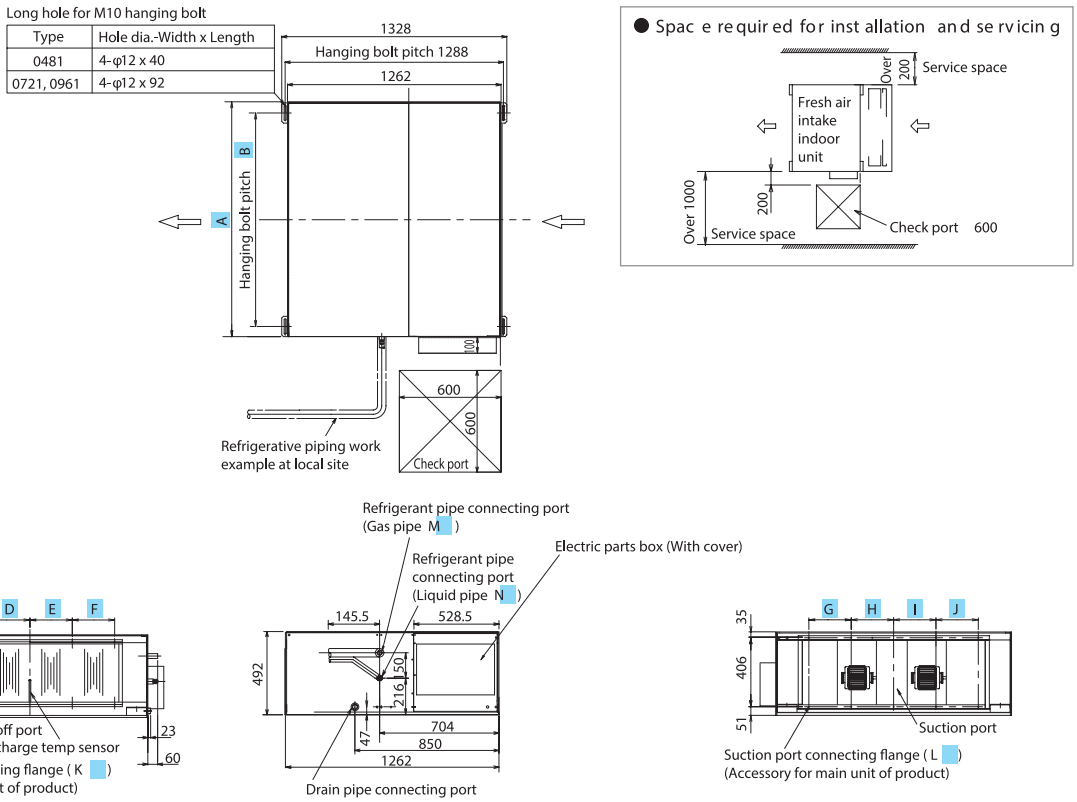
• In COOL mode, if temperature of the fresh air is below the setup temp. of +3°C, FAN status is automatically made. When temperature of the fresh air is below 19°C, FAN status is also made regardless of the setup temperature.



Operable mode and discharge temperature setup range

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

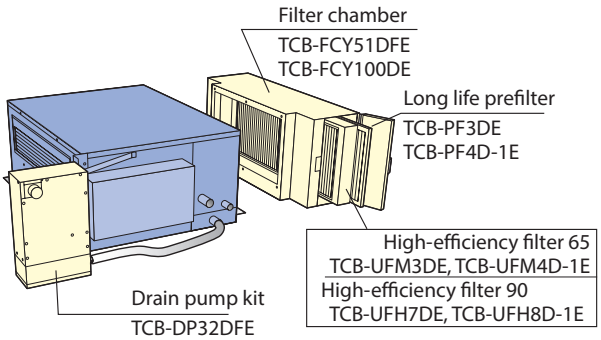
MMD-AP0481HFE to AP0961HFE



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

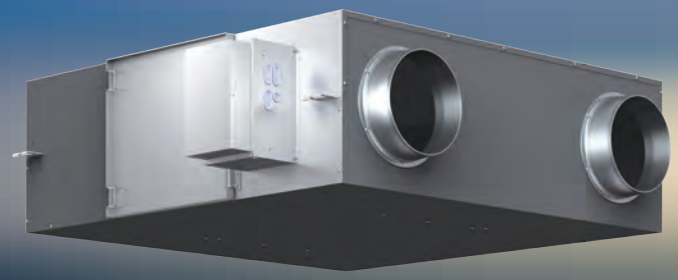
(Unit: mm)

Options



Air -to- Air heat exchanger with DX-coil

MMD-VN***HEX1E/HEX1E2



Greater comfort and reduce load

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

Flexible control

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

Free cooling at night

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

Remote controller
NRC-01HE

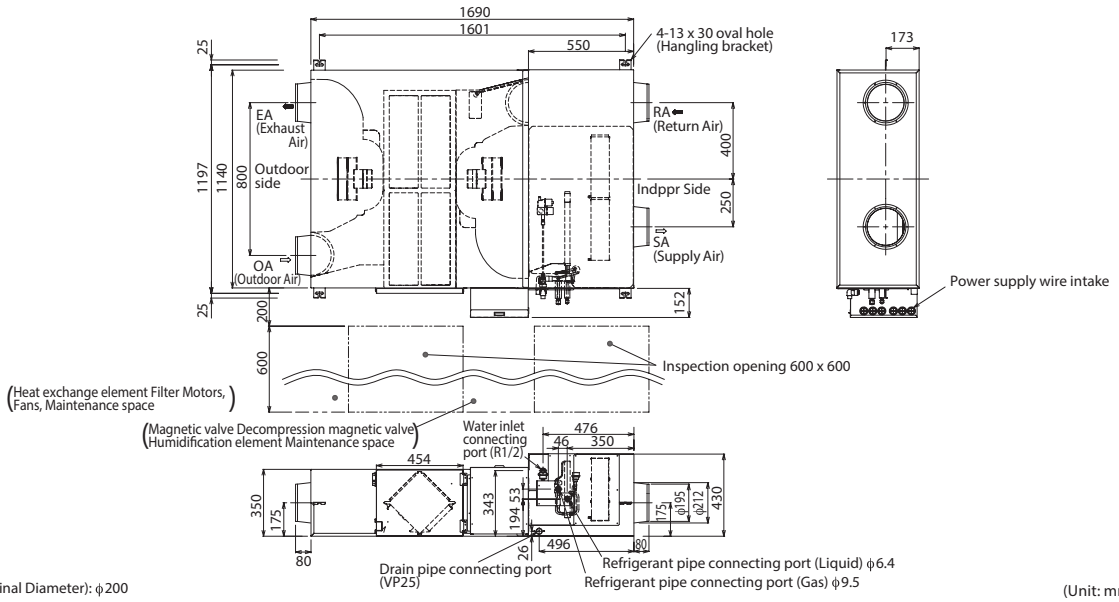
Technical specifications

Model name			MMD-	VN502HEX1E	VN802HEX1-E	VN1002HEX1-E	VN1002HEX1E2
Fresh air conditioning load	Cooling (*1)		(kW)	4.10 (1.30)	6.56 (2.06)	8.25 (2.32)	8.25 (2.32)
Power supply				1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)		1-phase 50Hz 230V (220V-240V) (Separate power supply for indoor units is required.)	1-phase 60Hz 220V (Separate power supply for indoor units is required.)
Temperature exchange efficiency 50Hz / 60Hz	High		(%)	70.5/70.5	70.0/70.0	65.5	
	Mid		(%)	70.5/70.5	70.0/70.0	65.5	
	Low		(%)	71.5/72.0	72.5/73.0	67.5	68.0
Enthalpy exchange efficiency 50Hz / 60Hz	Cooling	High	(%)	56.5/56.5	56.0/56.0	52.0	
		Mid	(%)	56.5/56.5	56.0/56.0	52.0	
		Low	(%)	57.5/58.0	59.0/59.	54.0	5.0
Fan unit 50Hz / 60Hz	Standard air flow	High	(m^3/h)	500/500	800/800	950	
		Mid	(m^3/h)	500/500	800/800	950	
		Low	(m^3/h)	440/410	640/600	820	800
	External static pressure	High	(Pa)	120/200	120/190	135	195
		Mid	(Pa)	105/170	100/155	120	160
		Low	(Pa)	115/150	100/130	105	130
Sound pressure 50Hz / 60Hz	High		(dB)	37.5/40.0	41.0/43.0	43.0	43.5
	Mid		(dB)	36.5/38.0	40.0/42.0	42.0	
	Low		(dB)	34.5/36.5	38.0/37.0	40.0	
External Dimensions	Height		(mm)	430			
	Width		(mm)	1140	1189		
	Depth		(mm)	1690	1739		
Total weight			(kg)	84	100	101	103
Connecting piping	Gas side		(mm)	ø9.5	ø12.7		
	Liquid side		(mm)	ø6.4			
Drain port			(Nominal dia .mm)	25(Polyvinyl chloride tube)			

(*1) Cooling and heating capacities are based on the following conditions:
Cooling capacities are based on : indoor temperature :27 °CDB/19°CWB, Outdoor temperature : 35°CDB
Heating capacities are based on : indoor temperature :20 °CDB, Outdoor temperature : 7 °CDB/6°CWB
Fan is based on High and Middle
( ): The figures in ( ) indicate the heat reclaimed from the heat recovery ventilator.

*If high humidily air (about 80% or more of relative humidity), such as fog, is inhaled by the Heat Exchanger, dew condensation water may trickle from a main body.

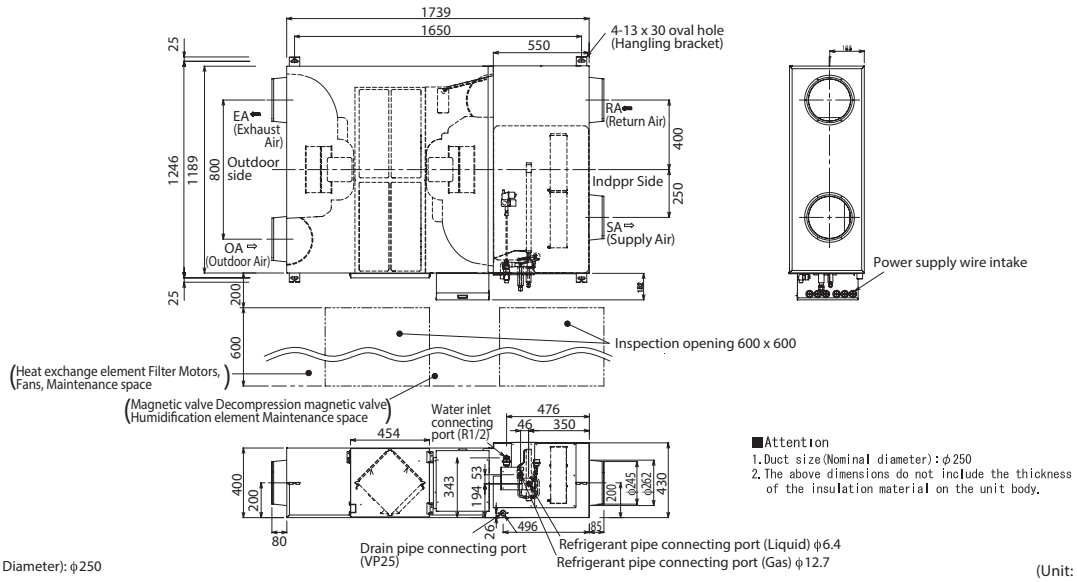
MMD-VN502HEX1E



Duct size (Nominal Diameter): ϕ200

(Unit: mm)

MMD VN802HEX1E to VN1002HEX1E/2

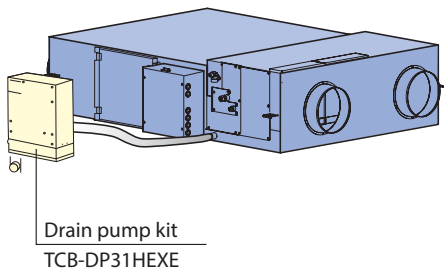


■Attention
1. Duct size (Nominal diameter) : ϕ250
2. The above dimensions do not include the thickness of the insulation material on the unit body.

Duct size (Nominal Diameter): ϕ250

(Unit: mm)

Options



Drain pump kit
TCB-DP31HEXE

Air-to-Air heat exchanger (Stand alone unit)

VN-M***HE

Greater comfort and reduced load

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

Free cooling at night

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

Flexible control

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

Easy maintenance

The heat exchange element can be washed in water.

Remote controller
NRC-01HE

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

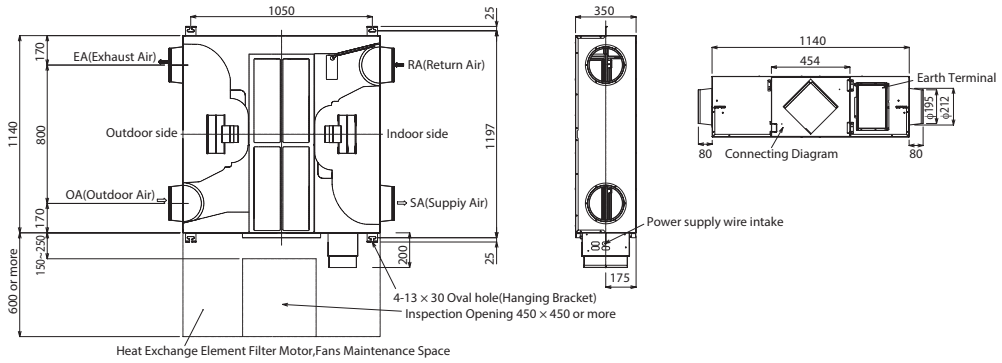
Technical specifications

Model name		VN-	M150HE	M250HE	M350HE	M500HE	M650HE	M800HE	M1000HE	M1500HE	M2000HE
Power supply (V)	Fan speed		1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)								
Power consumption 50Hz/60Hz (W)	(Extra high)		68-78/76	123-138/131	165-182/209	214-238/260	262-290/307	360-383/446	532-569/622	751-786/928	1084-1154/1294
	High		59-67/65	99-111/105	135-145/162	176-192/206	240-258/283	339-353/408	494-538/589	708-784/830	1032-1080/1220
	Low		42-47/45	52-59/54	82-88/94	128-142/144	178-191/206	286-300/333	353-370/411	570-607/660	702-742/818
Air volume (m³/h)	(Extra high)		150/150	250/250	350/350	500/500	650/650	800/800	1000/1000	1500/1500	2000/2000
	High		150/150	250/250	350/350	500/500	650/650	800/800	1000/1000	1500/1500	2000/2000
	Low		110/110	155/155	210/210	390/390	520/520	700/700	755/755	1200/1200	1400/1400
External static pressure (Pa)	(Extra high)		82-102/99	80-98/97	114-125/167	134-150/181	91-107/134	142-158/171	130-150/185	135-156/165	124-143/165
	High		52-78/59	34-65/38	56-83/33	69-99/63	58-82/68	102-132/102	97-122/120	103-129/108	92-116/102
	Low		47-64/46	28-40/22	65-94/39	62-92/44	61-96/52	76-112/58	84-127/55	112-142/109	110-143/87
Sound pressure level (dB(A))	(Extra high)		26-28/27.5	29.5-30/31.5	34-35/35.5	32.5-34/33.5	34-36/35.5	37-38.5/38	39.5-40.5/41.5	38-39/39.5	41-42.5/42.5
	High		24-25.5/24.5	25-27/25	30-32/29.5	29.5-31/29	33-34/34	35.5-37/35	38.5-40/39	36.5-37.5/36.5	39.5-41/40
	Low		20-22/20	21-22/21	27-29/23.5	26-29/24.5	31-32.5/29.5	33.5-35/32.5	34-35.5/33.5	36-37.5/35.5	37-38/36.5
Temperature exchange efficiency (%)	(Extra high)		81.5/81.5	78/78	74.5/74.5	76.5/76.5	75/75	76.5/76.5	73.5/73.5	76.5/76.5	73.5/73.5
	High		81.5/81.5	78/78	74.5/74.5	76.5/76.5	75/75	76.5/76.5	73.5/73.5	76.5/76.5	73.5/73.5
	Low		83/83	81.5/81.5	79.5/79.5	78/78	76.5/76.5	77.5/77.5	77/77	79/79	77.5/77.5
Enthalpy exchange efficiency (%)	for cooling	(Extra high)	69.5/69.5	65/65	60.5/60.5	64.5/64.5	61.5/61.5	64/64	60.5/60.5	64 /64	60.5/60.5
		High	69.5/69.5	65/65	60.5/60.5	64.5/64.5	61.5/61.5	64/64	60.5/60.5	64/64	60.5/60.5
		Low	71/71	69/69	67/67	66.5/66.5	64/64	65.5/65.5	64.5/64.5	67/67	65.5/65.5
Dimensions (Length x Width x Height) (mm)			900 x 900 x 290			1140 x 1140 x 350		1189 x 1189 x 400		1189 x 1189 x 810	
Weight (kg)			36		38	53		70		143	
Duct diameter (mm)			100	150		200		250		inside: 250, outside: 283 x 730	
Operating range	Around unit		-10°C – 40°C 80% RH or less								
	Outdoor Air (OA)		-15°C (*1) – 43°C RH								
	Return Air (RA)		5°C – 40°C 0% RH or less								

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

*If high humidily air (about 80% or more of relative humidity), such as fog, is inhaled by the Heat Exchanger, dew condensation water may trickle from a main body.

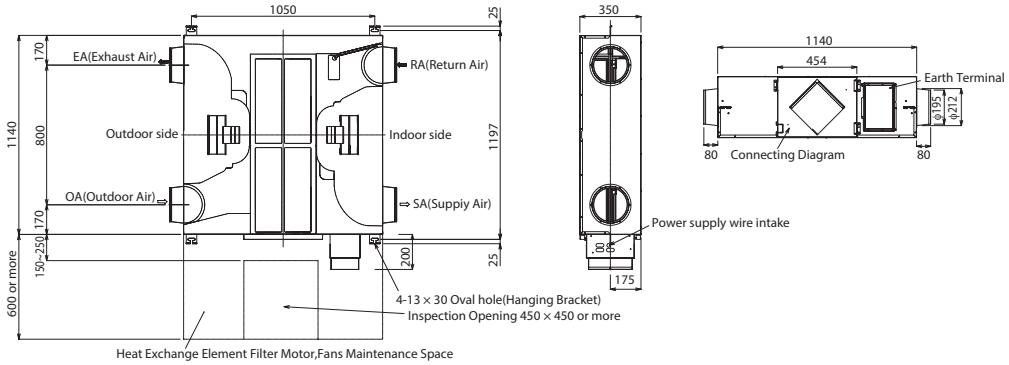
VN-M150HE to VN-M350HE



Duct size (Nominal Diameter): ϕ200

(Unit: mm)

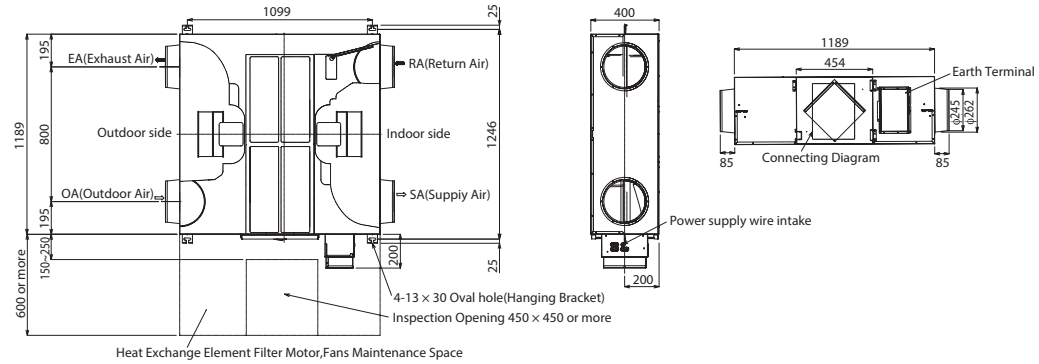
VN-M500HE, VN-M650HE



Duct size (Nominal Diameter): ϕ200

(Unit: mm)

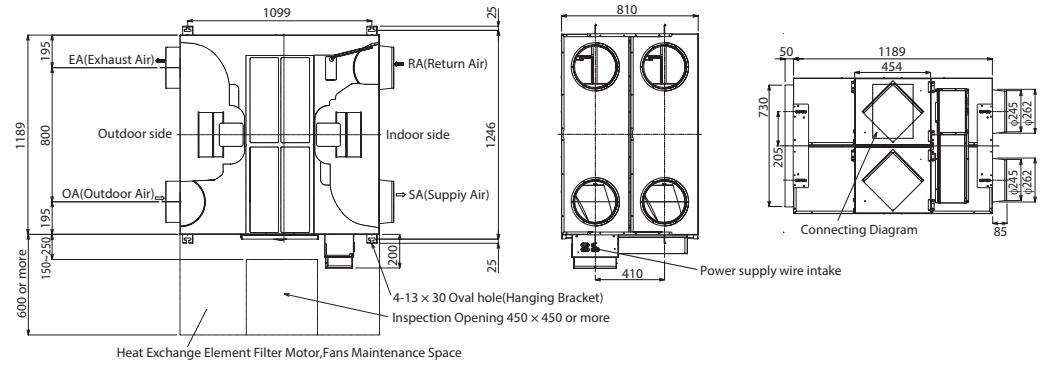
VN-M800HE, VN-M1000HE



Duct size (Nominal Diameter): ϕ250

(Unit: mm)

VN-M1500HE, VN-M2000HE



Duct size (Nominal Diameter): ϕ250

(Unit: mm)

Indoor unit accessories

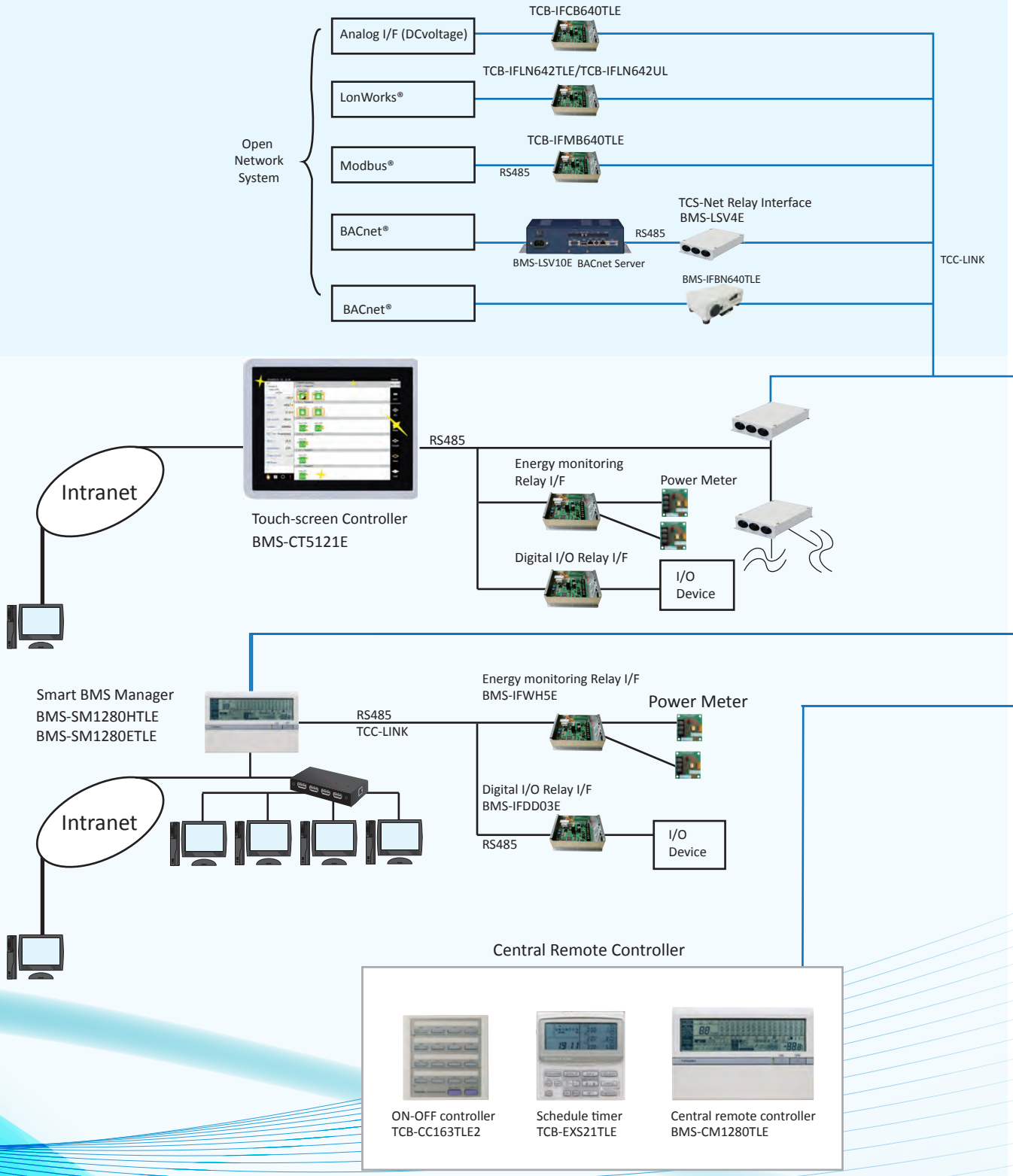
Indoor unit	Parts Name	Model Name	Applied Model	Notes	Remarks
4-way air discharge cassette type	Ceiling panel	RBC-U31PGP(W)-E	MMU-AP***4HP1-E	Required accessory	
	Fresh air inlet box	TCB-GB1602UE		For fresh air intake by using the knockout hole of fresh air filter chamber. (dia.=100 mm)	Use with TCB-GFC1602UE
	Fresh air filter chamber	TCB-GFC1602UE		For fresh air inlet box	
	Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	
	Spacer for height	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)	
	Occupancy 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		Use with TCB-FC803UW-E
		TCB-LF1403UW-E	MMU-AP0362/0482/0562WH1		Use with TCB-FC1403UW-E
	Filter chamber	TCB-FC283UW-E	MMU-AP0072 to 0152WH1	For super long life filter	
		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.	
1-way air discharge cassette type	Ceiling panel	RBC-UY136PG	MMU-AP***4YH1-E	Required accessory	
		RBC-US21PGE	MMU-AP***4SH1-E	Required accessory	
	Front air discharge unit	TCB-BUS21HWE			
	Auxiliary fresh air flange	TCB-FF101URE2		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.=100	
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-AP0366/0486/0586HP1-E		
	Auxiliary fresh air flange	TCB-FF151US-E	MMD-AP***6HP1-E		
	Long life filter kit	TCB-LK2801DP-E	MMD-AP0726/0966HP-E	Flange shaped, Mount chassis directly, Upside down mountable	
	Drain pump kit	TCB-DP40DPE	MMD-AP0726/0966HP-E	Lift up 500 mm	
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-KP13CE	MMC-AP0158/0188HP-E	Needed when drain pump kit is used	
		TCB-KP23CE	MMC-AP0248 to 0568HP-E		
Air to Air Heat Exchanger with DX-coil	Drain pump kit	TCB-DP31HEXE	MMD-VN502 to 1002HEX1E	Stand-up 330 mm or less (from bottom face of ceiling)	
Fresh air intake indoor unit type	High-efficiency filter 65	TCB-UFM3DE	MMD-AP0721/0961HFE	Dust collecting effect: 65% (NBS Colorimemtric method)	Use with TCB-PF3DE
		TCB-UFM4D-1E	MMD-AP0481HFE		Use with TCB-PF4D-1E
	High-efficiency filter 90	TCB-UFH7DE	MMD-AP0721/0961HFE	Dust collecting effect: 90% (NBS Colorimemtric method)	Use with TCB-PF3DE
		TCB-UFH8D-1E	MMD-AP0481HFE		Use with TCB-PF4D-1E
	Long life prefilter	TCB-PF3DE	MMD-AP0721/0961HFE	Dust collecting effect: 50% (Weight method)	
		TCB-PF4D-1E	MMD-AP0481HFE		
	Filter chamber	TCB-FCY51DFE	MMD-AP0481HFE	For high-efficiency filter or long life prefilter	
		TCB-FCY100DE	MMD-AP0721/0961HFE		
	Drain pump kit	Drain pump kit	MMD-AP0481HFE/0721/0961HFE	Stand-up 330 or less (from bottom face of ceiling)	

Combination Pattern

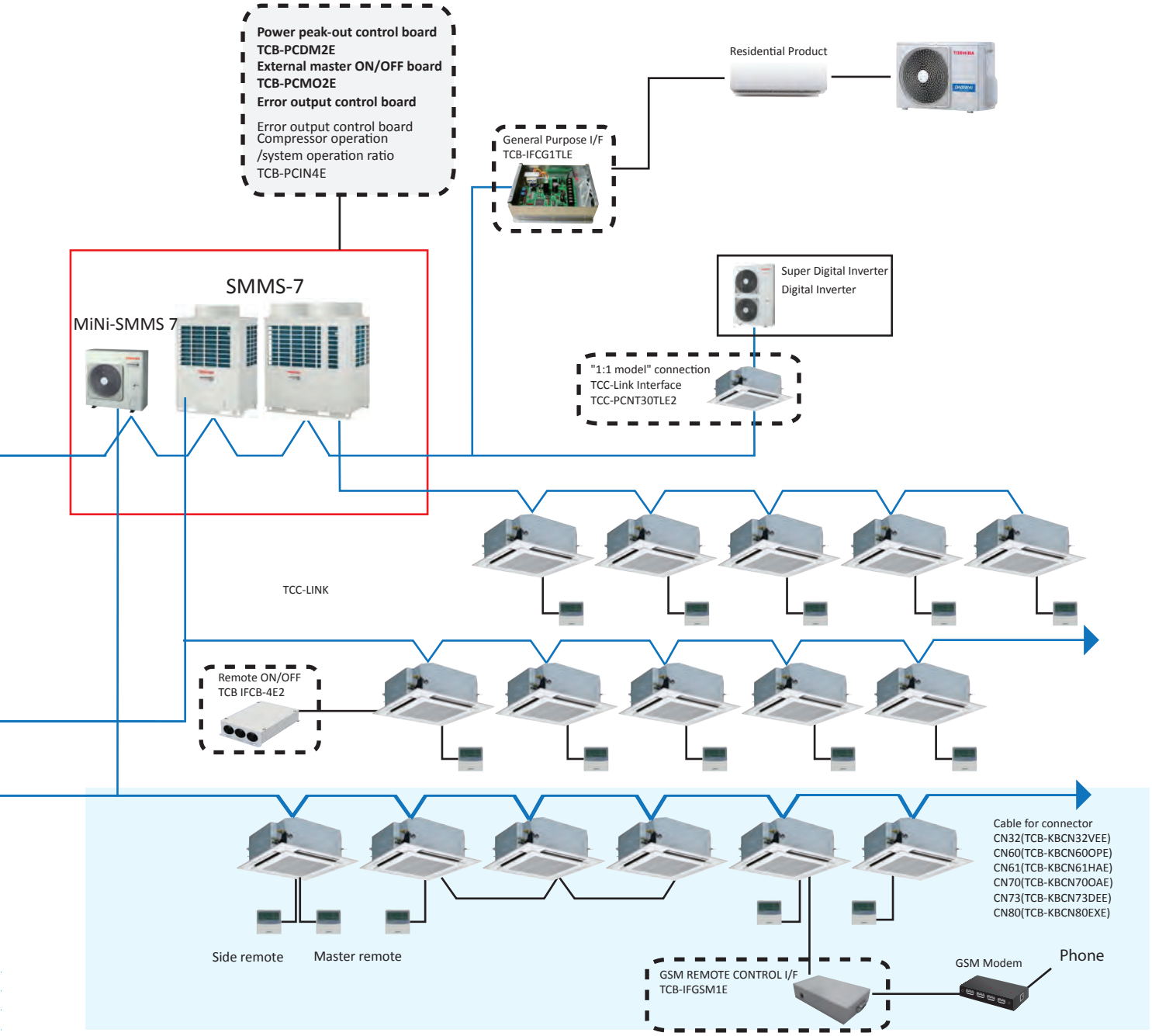
1) Accessory for 4-way air discharge cassette type: combination pattern		1	2	3	4	5	6
		Ceiling panel	Fresh air inletbox + Fresh air filter chamber	Fresh air filter chamber	Auxiliary fresh air flange	Spacer for height adjustment	Air discharge direction kit
1	Ceiling panel		OK	OK	OK	OK	OK
2	Fresh air inlet box + Fresh air filter chamber	OK			OK	—	OK
3	Fresh airfilter chamber	OK			OK	OK	OK
4	Auxiliary fresh airflange	OK	OK	OK		OK	OK
5	Spacer for height adjustment	OK	—	OK	OK		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

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-AS41E2

Wireless remote
controller

Remote Sensor
TCB-TC41LE

Wired remote controller

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

Wireless remote controller

Wireless remote controller kit & sensor unit (receiver unit)

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

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

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

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

RBC-AX32U(W)-E

Integral receiver (For 4-way air discharge cassette)
(MMU-AP***4HP1-E)

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

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

Central remote controller

Central remote controller

BMS-CM1280TLE

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

* Schedule timer necessary

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

ON-OFF controller

TCB-CC163TLE2

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

Schedule timer

TCB-EXS21TLE

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

Other

Remote sensor

TCB-TC41LE

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

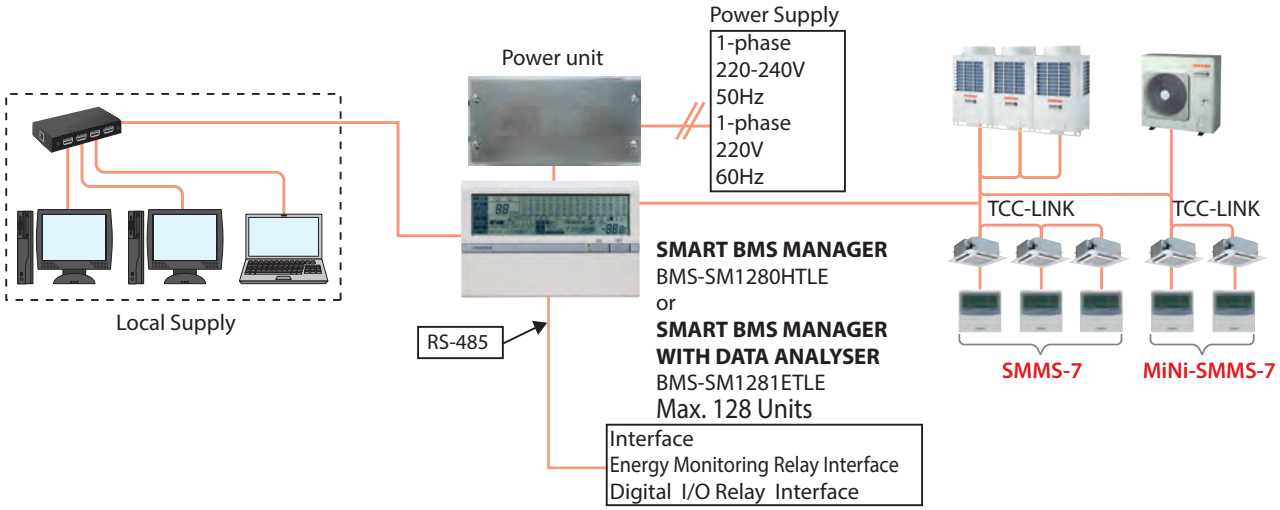
Wired remote controller for air to air heat exchanger

NRC-01HE

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

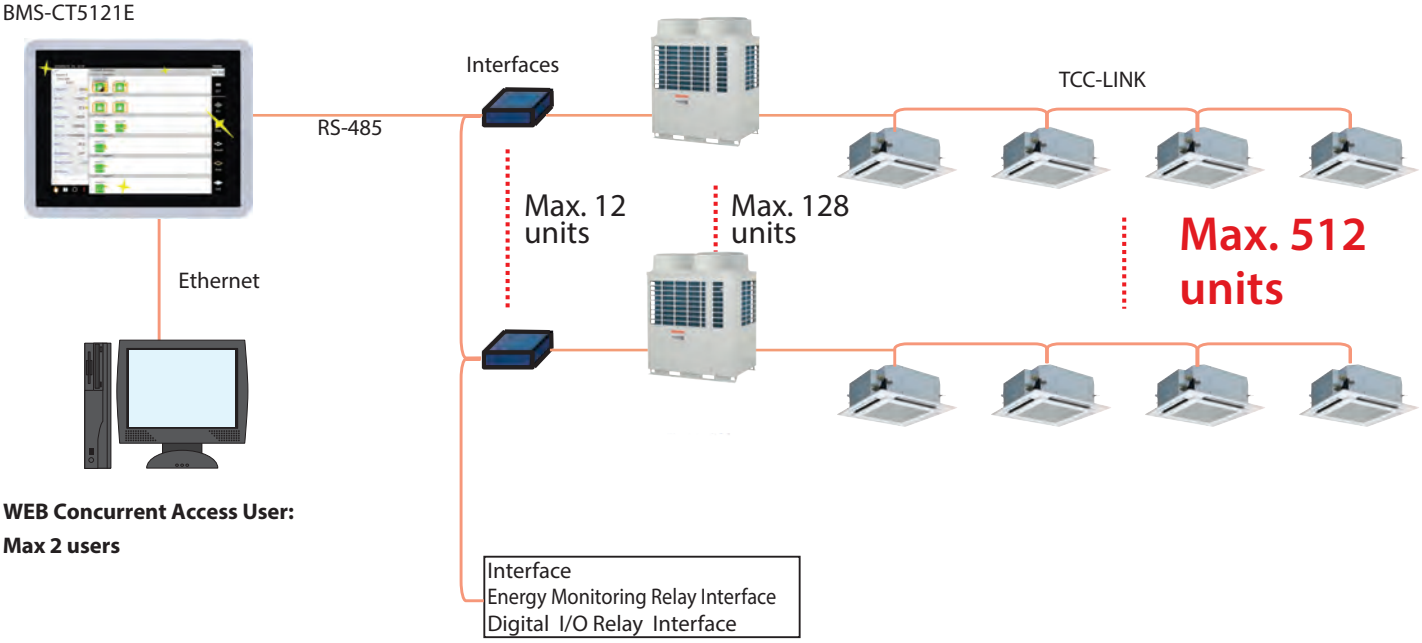
Building management systems

SMART BMS MANAGER / SMART MANAGER WITH DATA ANALYSER

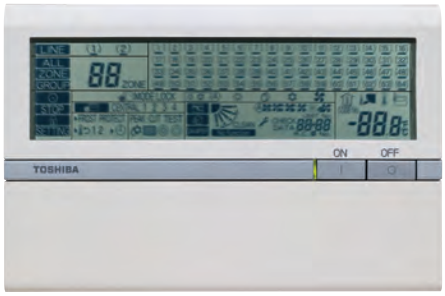


Touch screen controller

TOUCH SCREEN CONTROLLER
BMS-CT5121E



WEB Concurrent Access User:
Max 2 users



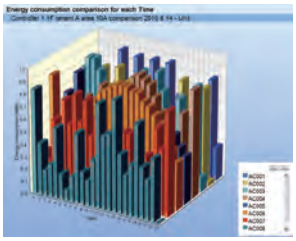
SMART BMS MANAGER
BMS-SM1280HTLE

Web browser control software

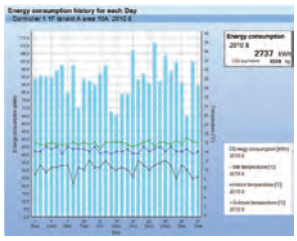
- List View available - Displays all indoor units in one screen
- Set View available - Shows basic indoor unit settings on main screen
- Advanced operation and master schedule functions available
- Advanced operation & master schedules can be set on a calendar
- Up to 4 concurrent users can be connected
- 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
- Maximum 128 FCU

SMART MANAGER WITH DATA ANALYSER
BMS-SM1281ETLE

Energy monitoring display



3D energy view



Daily energy view

TOUCH SCREEN CONTROLLER
BMS-CT5121E

- **Touch screen controller**

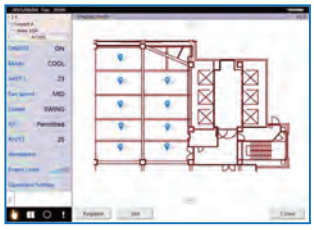
Using the touch screen controller provides a clear display and enables easy operation.
A maximum of 512 units / groups are controllable.

- **Energy monitoring and billing application**

Power meter locally supplied Energy

- **Web connection**
- **Layout diagram function (Option)**

GRAPH FUNCTION



LAYOUT DIAGRAM FUNCTION
(OPTION)

Relay Interface BMS-IFWH5E
For Energy Monitoring to connect power meter

Relay Interface BMS-IFDD03E
to connect external digital input/output

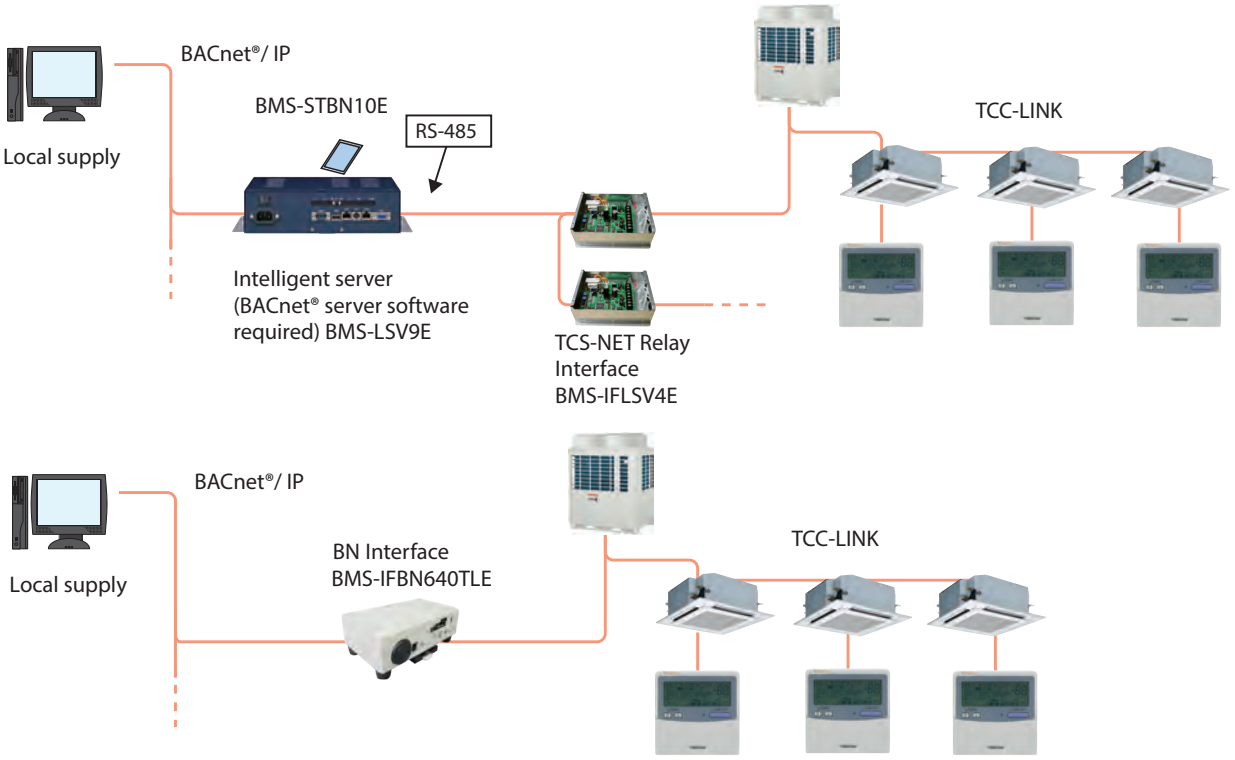
Relay Interface BMS-IFLSV4E
For TCS-NET (Max. 64 FCU/Unit)

FEATURES

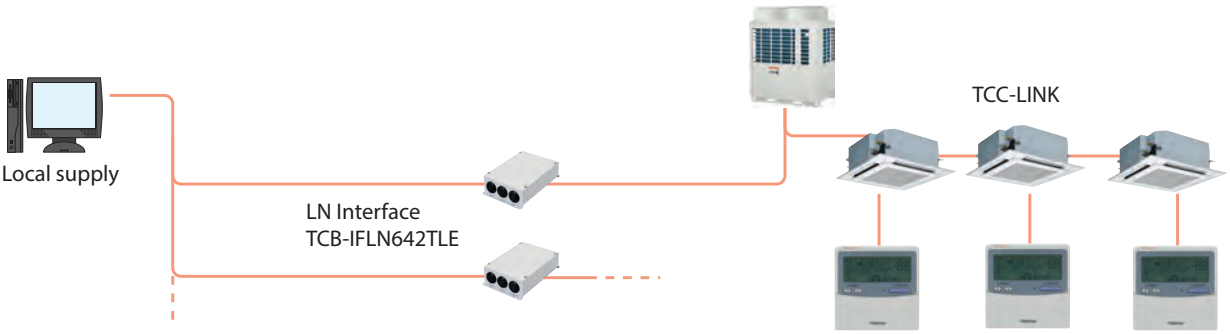
- Icon display
- Return back function
- Save & demand control for outdoor unit
- Ventilation unit control & monitoring
- Setting temp. range control
- Setting temp. shift
- Layout diagram function (Option)

Open network systems

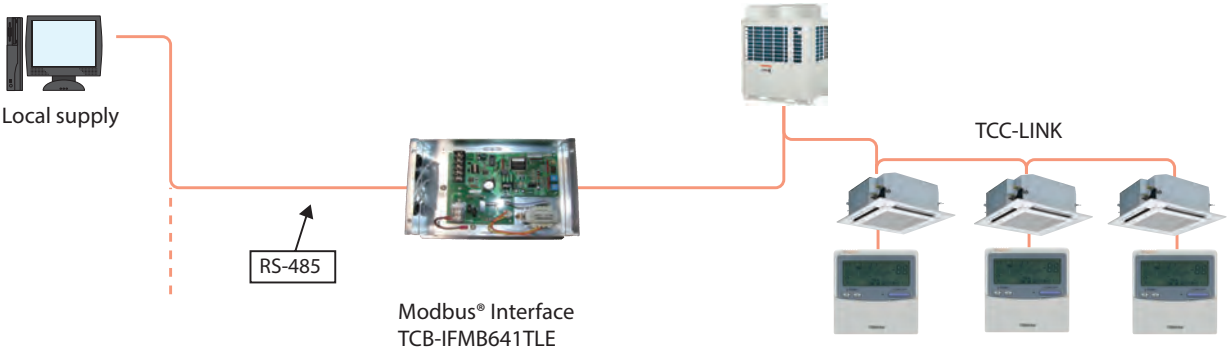
BACnet® system



LonWorks®



Modbus®



Intelligent Server
BMS-LSV9E

BACnet® Server Software
BMS-STBN10E

Relay Interface BMS-IFLSV4E
For TCS-NET

• 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
- Max. 128 FCU

• Monitoring
– ON/OFF
– Operation mode
– Temperature setting
– Room temperature
– Local remote controller : permit / prohibit

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
- Max 64 FCU

• 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 custormer'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
- Max 64 FCU

• Monitoring
– ON/OFF
– Operation mode
– Temperature setting
– Room temperature
– Local remote controller : permit / prohibit

Modbus® Interface
TCB-IFMB641TLE-SG

• Modbus®

The Modbus® interface manages the SMMS-e air conditioning system as a Modbus® device to communicate with the custormer's Building Management System.
Accessible to 64 units / groups per one TCB-IFMB641TLE-SG

Signals and provides the following functions:

• Control
– ON/OFF
– Temperature setting
– Fan speed
- Max 64 FCU

• Monitoring
– ON/OFF
– Operation mode
– Temperature setting
– Room temperature
– Local remote controller : permit / prohibit
– CU cooling capacity output
(for efficiency calculation)

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 controls

TCB-PCDM4E

Size: 71 × 85 (mm)

Power peak-cut control

• Feature

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

• Function

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

TCB-PCMO4E

Size: 55.5 × 60 (mm)

Snowfall fan control

• Feature

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

External master ON/OFF control

• Feature

The outdoor unit starts or stops the system.

Night operation (Sound reduction) control

• Feature

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

Operation mode selection control

• Feature

This control can restrict the selectable operation modes.

TCB-PCIN4E

Size: 73 × 79 (mm)

Error/Operation output control

• Feature

Enables external output of error and operation signals.

Compressor operation output

• Feature

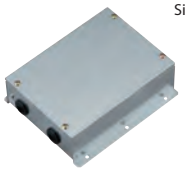
Enables external signal output for each compressor that is in operation within any given outdoor unit. This feature provides a practical method for calculating total operating times for each compressor.

Operating rate output

• Feature

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

TCB-IFCB-4E2

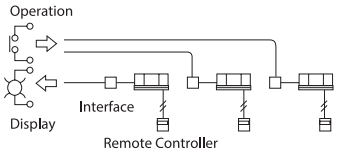


Size: 200 × 170 × 66 (mm)

Remote location ON/OFF control box

• Feature

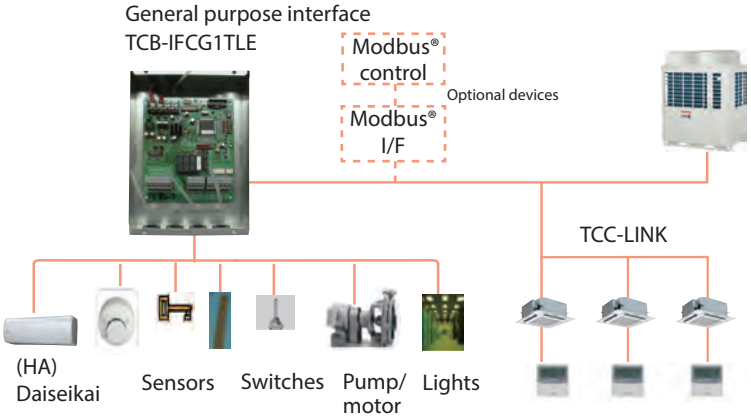
Start and stop of the air conditioner is possible by an external signal and indication of operation/ alarm externally.



Monitoring

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

General Purpose Interface



Concept

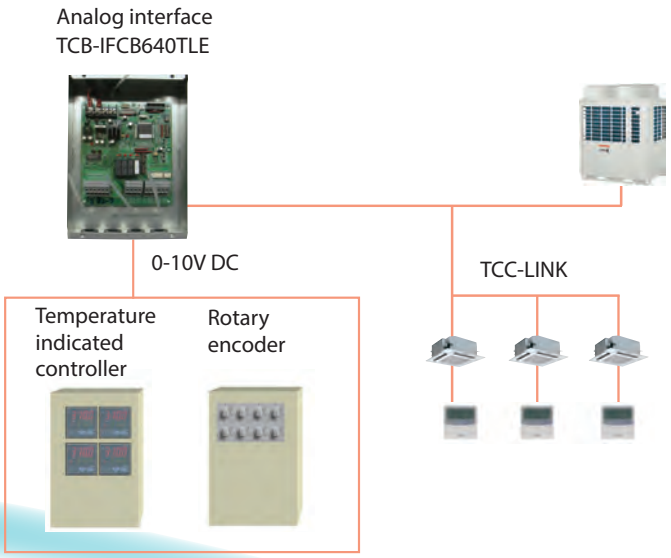
• Controls the operation status of each indoor unit.

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

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

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

Analog Interface



Concept

• Provides access to 64 indoor units.

• Does not require special network knowledge.

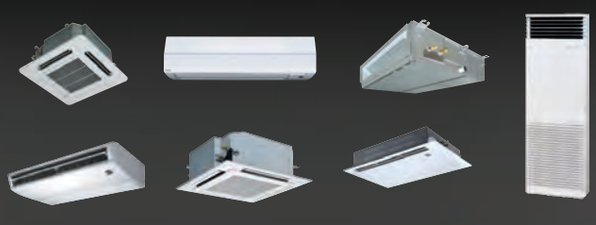
• Can control each indoor unit on TCC-LINK, (on/off, temperature setting, airflow volume, louver position), and monitor status based on 0-10V DC voltage input.

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

TOSHIBA

Leading Innovation

Air Conditioning for Small and Medium-size Buildings



MiNi-SMMS

Defining a HIGHER standard

The all-new MiNi-SMMS air conditioner lineup lets you cool or warm as many as 12[*1] rooms with a single system. Outdoor units ranging 4 to 12HP, offer best class energy savings, installation flexibility and quiet operation, plus with 13 indoor units to choose from, the MiNi-SMMS makes a perfect solution for small shops and office buildings.

*1: 3-phase 12HP outdoor unit

MiNi-SMMS

The all-new MiNi-SMMS 10 and 12HP models featuring 3-phase power supply for small and mid-size installations

HIGHER ENERGY SAVINGS

MiNi-SMMS achieves world-class COP of 4.40[*2] and EER of 3.60[*2] thanks to an integrated combination of Toshiba's more advanced twin rotary compressor, vector-controlled inverter and heat exchanger technologies.

*2: 3-phase 6HP outdoor unit

HIGHER COMFORT AND EASE

A single outdoor unit is powerful enough to accommodate up to 12[*1] independently controlled interior units, delivering ideal quiet comfort to every room.

HIGHER INSTALLATION FLEXIBILITY

MiNi-SMMS's small footprint allows for fast and easy installation. Furthermore, a maximum piping extension of 180m*3 affords unprecedented configuration flexibility, making this unit ideal for a wide variety of applications.

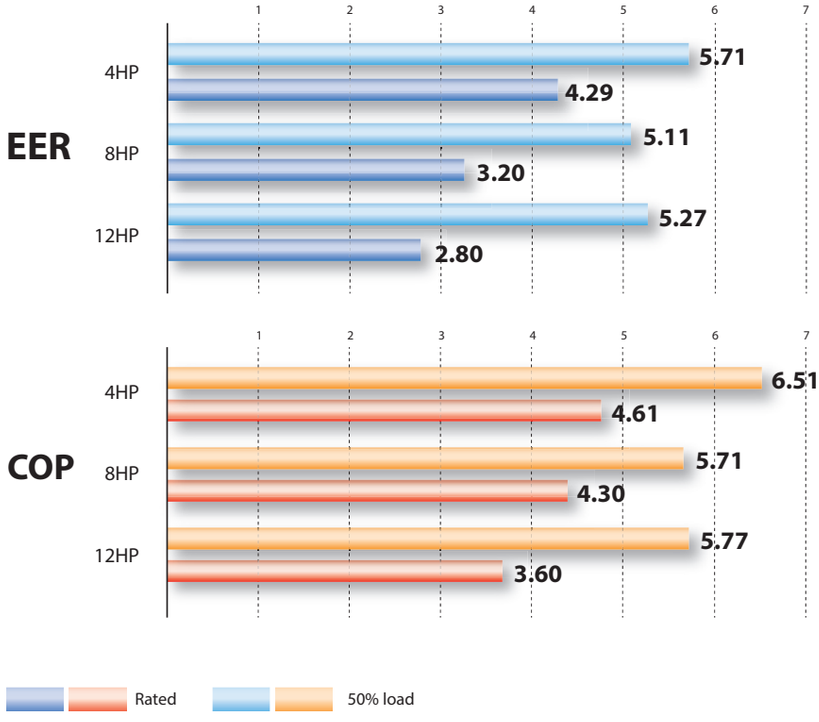
*3: 3-phase 10 and 12HP outdoor units

HIGHER ENERGY SAVINGS

Industry-leading energy savings

Energy-efficient performance for greater eco-consciousness

Adopting the highly efficient DC twin-rotary compressors and advanced vector-controlled inverters realize a EER of 5.71 (under 50% partial load, 4HP). Greater operating performance is now possible when operating under a constant load.



4HP: MCY-MAP0401HT/HT2D 8HP: MCY-MAP0804HT8/HT7 12HP: MCY-MHP1204HT8

*Rated conditions
Cooling : Indoor air temperature 27°C DB / 19°C WB, Outdoor air temperature 35°C DB
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB / 6°C WB

Toshiba's unique energy-efficient air conditioning innovations and technologies deliver high energy savings.

DC fan motor

- Highly efficient DC motor
- Sine wave drive

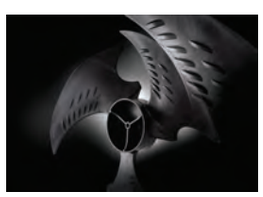
Heat exchanger

High-efficiency R410A heat-transfer tube

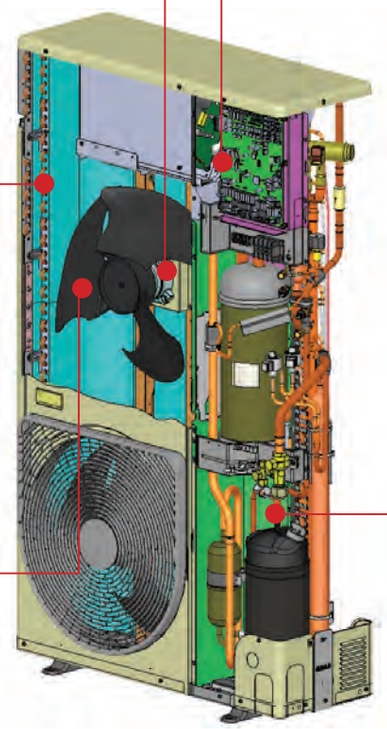
Configuration of the finned heat-transfer tube

Bat wing fan

High-pressure low-volume fan

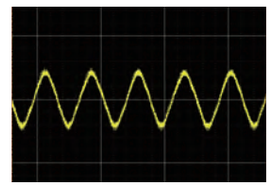


The bat wing fan realizes low sound level.



Vector-controlled inverter

The inverter boosts efficiency by controlling R410A and a twin-rotary DC compressor.



Smooth sine curve realizes higher efficiency and less noise.

Efficient circuit built-in; new PIM

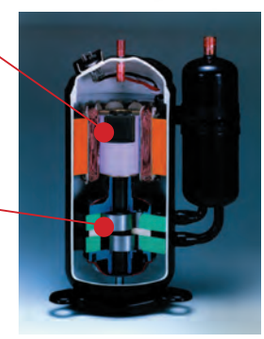
Vector IPDU control changes the motor current wave to a smooth sine pattern so that noise emitted from the drive units is greatly reduced.

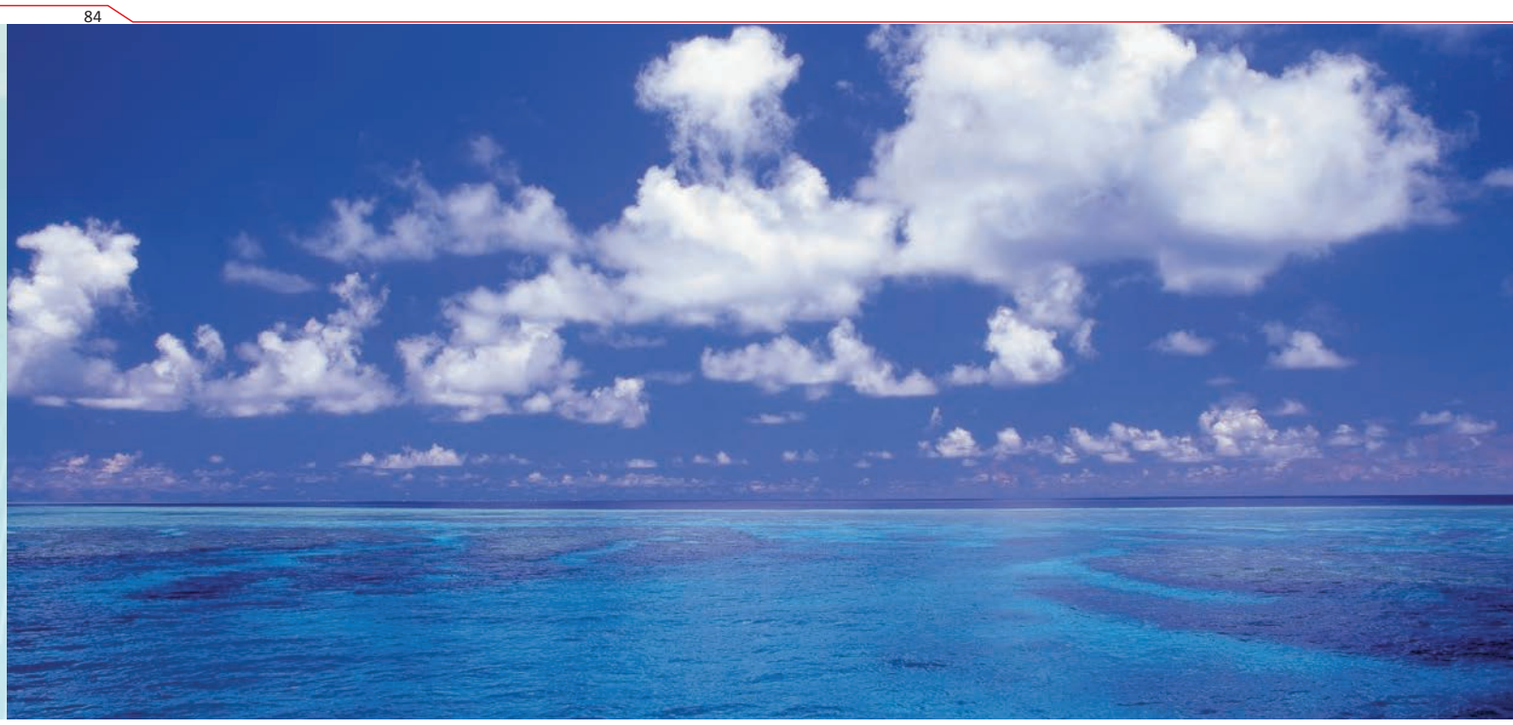
Twin-rotary DC compressor

Increased, wide range efficiency is realized.

DC driven motor with rare-earth magnet
- Compact
- Higher efficiency
- Higher power motor torque

Precise manufacturing technology in the compression parts
- Higher efficiency (in wide range)
- Higher reliability





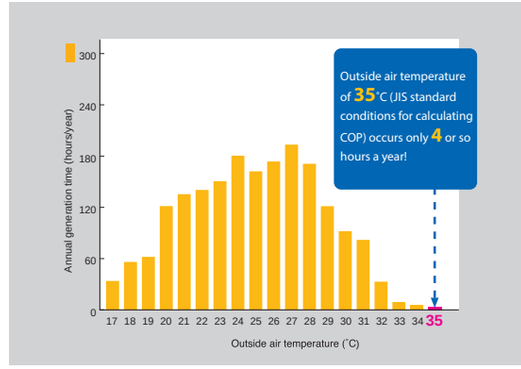
Our MiNi-SMMS has the lowest seasonal power consumption and the highest energy conservation.

Why our systems make a big difference to your electricity bill even though the COP is virtually the same!

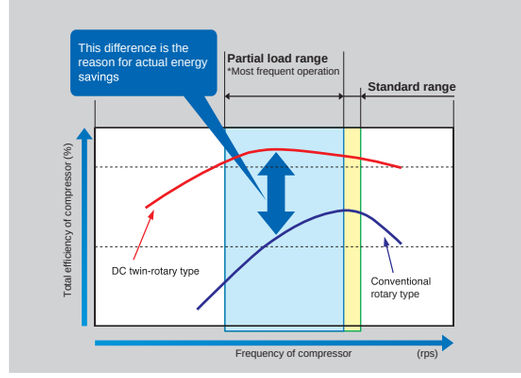
Your electricity bill (seasonal power consumption) is highly dependent on fluctuating outside air temperature.

However, COP is calculated at only two outside temperature points, 7˚C (heating rating) and 35˚C (cooling rating) which is often not representative of actual conditions.

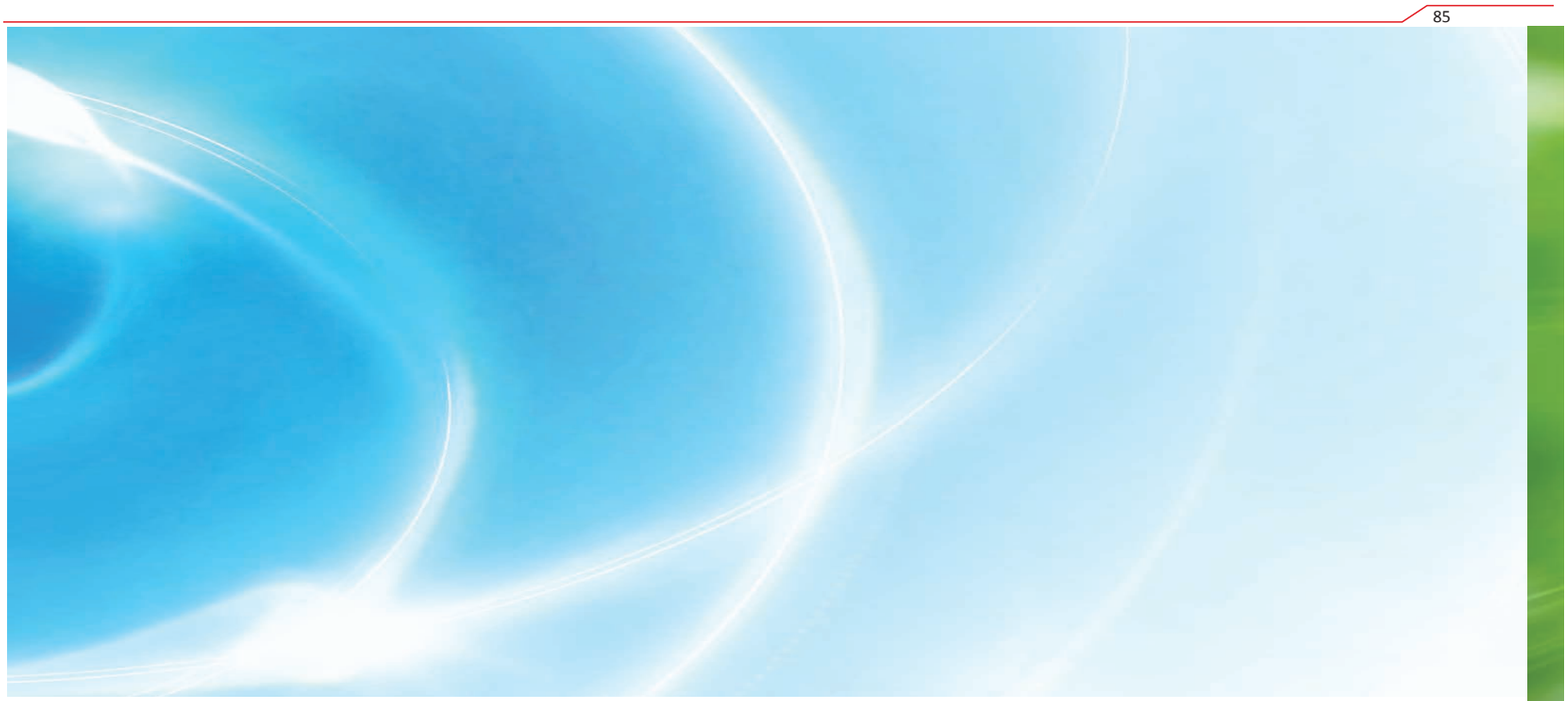
To estimate energy savings, you should factor the actual outside air temperature generation time into your seasonal power consumption.



Outside air temperature conditions for calculating COP during cooling (from 8:00 to 21:00 in Tokyo)



Comparison of DC twin-rotary and conventional rotary compressors



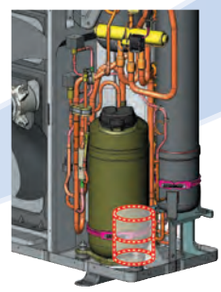
Mechanism of improving COP

Improves both COP and reliability

What accounts for the improvement in COP? Previous multi-system outdoor units like the SMMS required both an oil separator and a power source for the oil separator, but this system needs neither, thus improving COP.

Oil separator unnecessary

Oil separator:
This component separates the oil and refrigerant that are released from the compressor, and returns the oil to the compressor.



Amount of oil released from compressor reduced

DC twin-rotary compressor advantage

MiNi-SMMS uses twin-rotary inverter compressors that deliver a more stable, energy-efficient performance through their full range of compressor rotation when compared to scroll type compressors.
Scroll compressors too can achieve high-efficiency operation, but only within a narrow range.
As VRF systems require a wide range of capacity, twin-rotary compressors are the ideal choice.

HIGHER COMFORT AND EASE

A single outdoor unit is powerful enough to accommodate up to 12* independently controlled interior units, delivering ideal quiet comfort to every room.

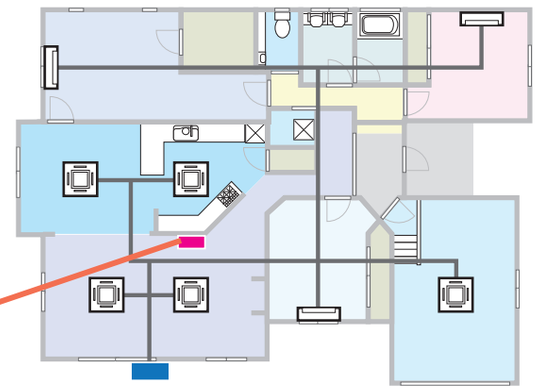
*3-phase 12HP outdoor unit

Comfort and wide application control

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

ON-OFF controller
TCB-CC163TLE2

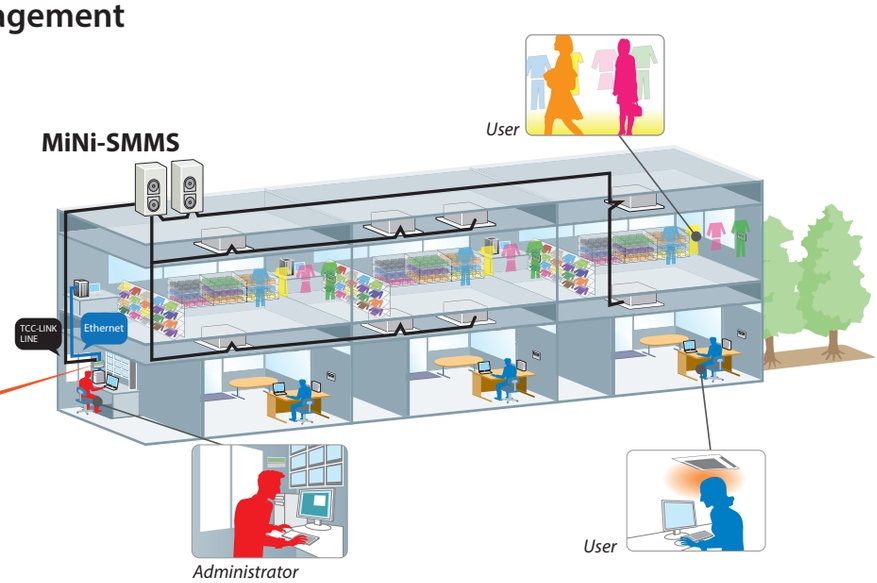
All ON-OFF button

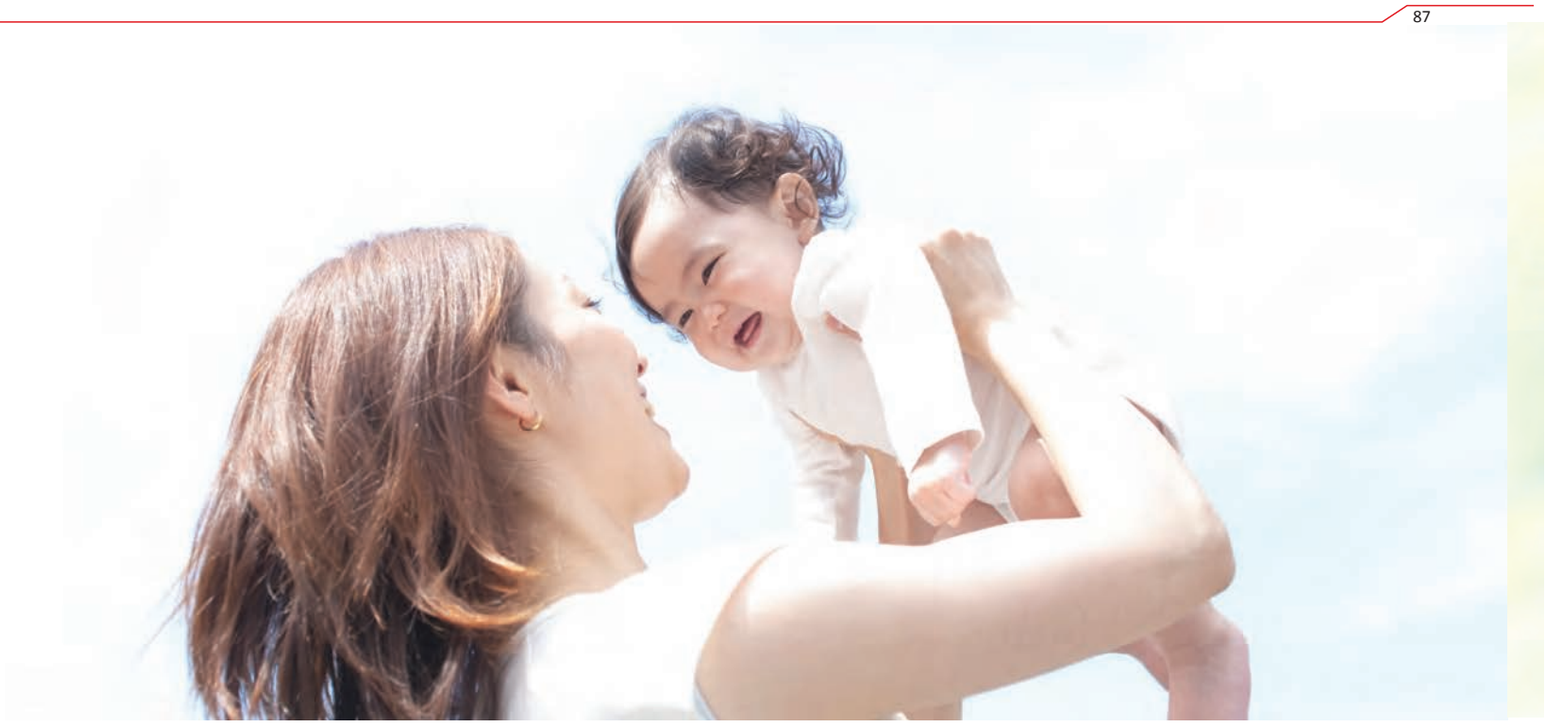


Smart Manager for remote management

By connecting a PC to the system via Ethernet, temperatures and operation in each room can be remotely monitored and controlled. Furthermore, daily, weekly, and monthly schedules can be set for automated operation.

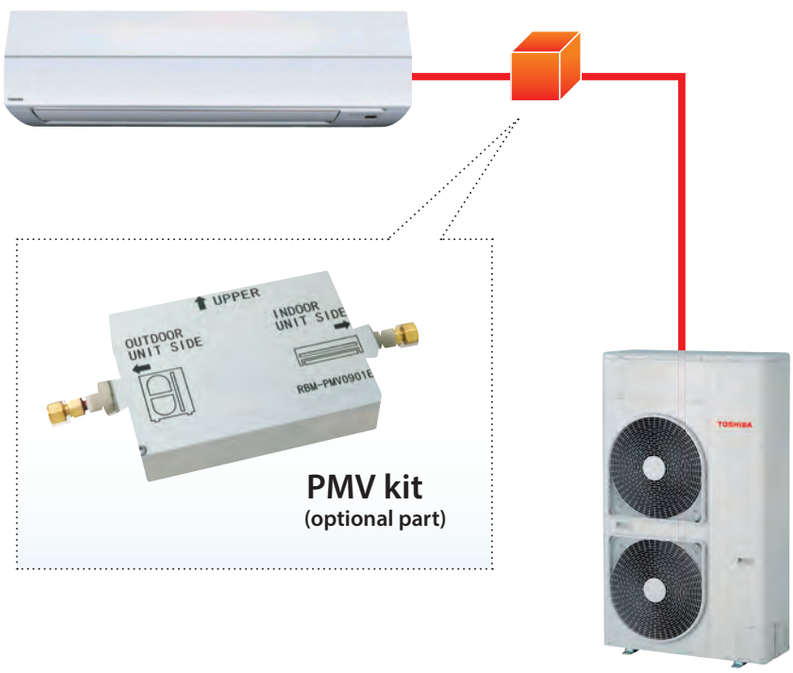
SMART MANAGER
BMS-SM1280HTLE



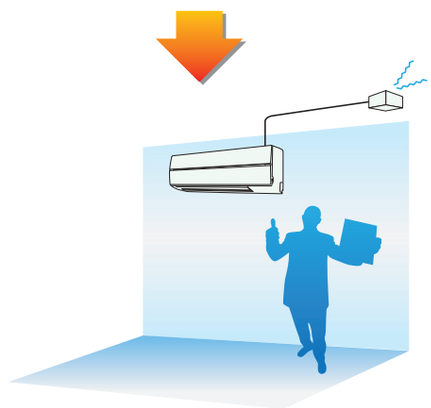


PMV kit for quieter operation

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



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

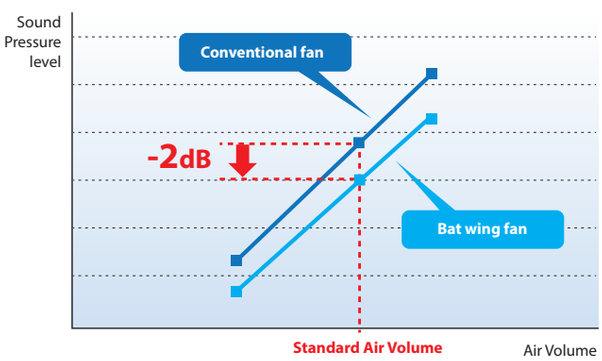


If the PMV function is removed from the indoor unit, noise can be significantly reduced.

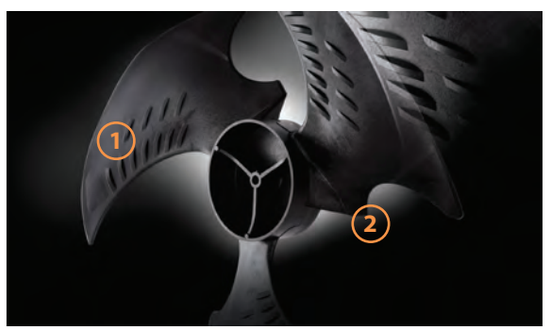
Bat wing fan

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

1-phase outdoor unit

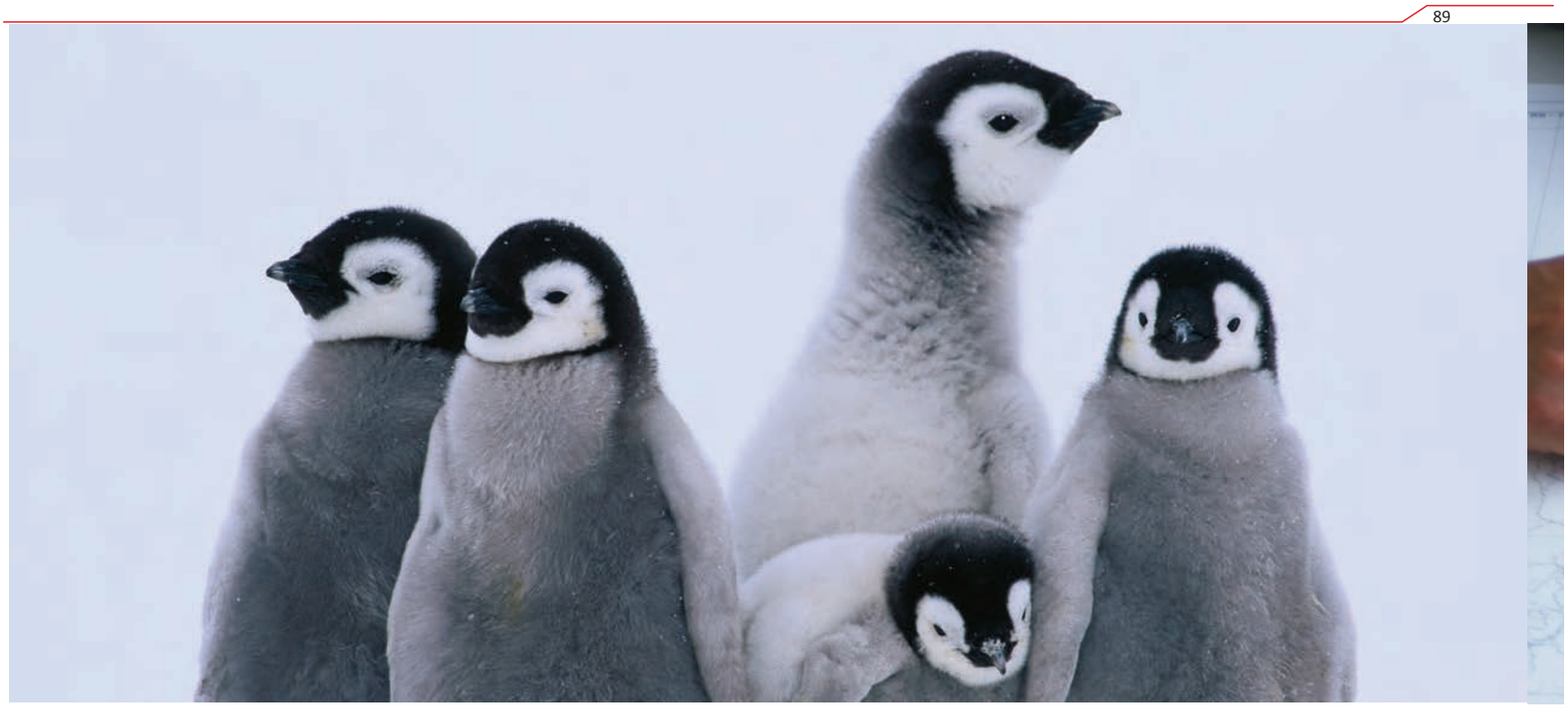


At same air volume, sound is reduced by 2 dB.



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

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



Night operation (sound reduction) control

(with optional PC Board (TCB-PCMO4E) and locally supplied timer/switch)

The unit also comes with a night-time low-noise mode, which reduces operating noise at the programmed activation time. (Timer or switch to be locally obtained.)

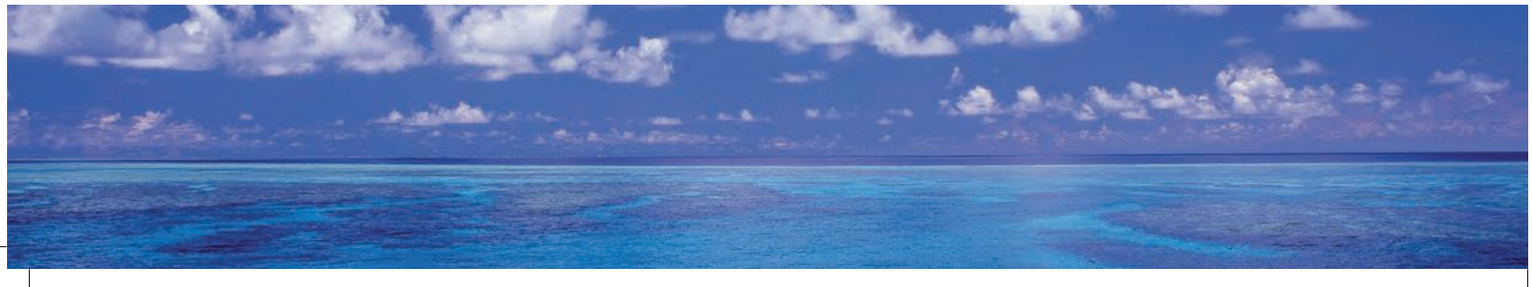
1-phase outdoor unit

Operation control		Normal	Night
4HP	Cooling	49dB(A)	46dB(A)
5HP	Cooling	50dB(A)	46dB(A)
6HP	Cooling	51dB(A)	47dB(A)

3-phase outdoor unit

Operation control		Normal	Night
6HP	Cooling	58dB(A)	50dB(A)
8HP	Cooling	58dB(A)	50dB(A)
10HP	Cooling	58dB(A)	50dB(A)
12HP	Cooling	61dB(A)	50dB(A)

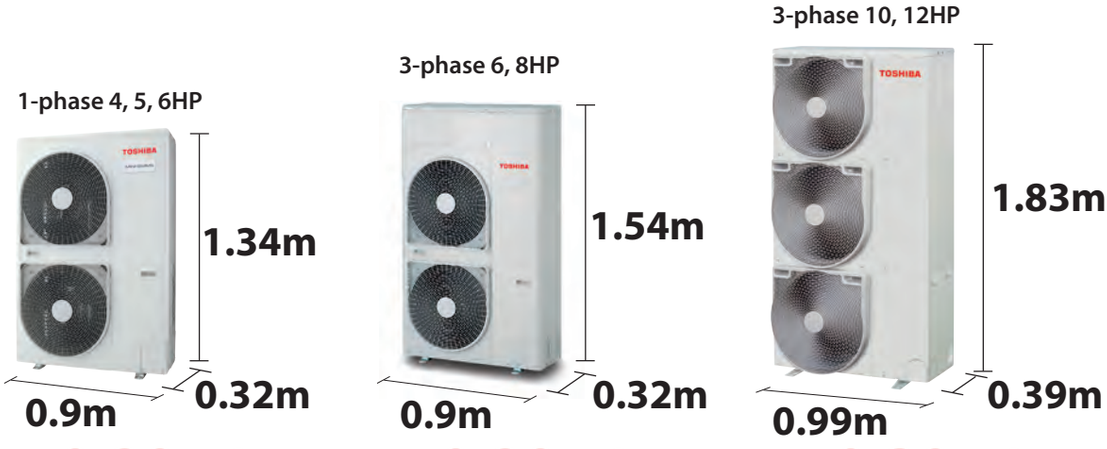
*Sound pressure level: dB(A)



HIGHER INSTALLATION FLEXIBILITY

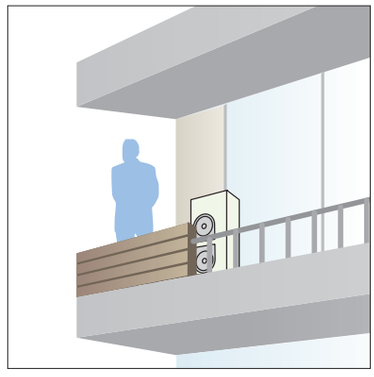
Small footprint

The outdoor unit has a small physical footprint of only 0.29m² and 0.39m², taking up as little space outside as possible.



MiNi-SMMS is suitable for balconies

The outdoor unit is compact and expels exhaust air to the side, so it can be installed even in limited spaces as shown.

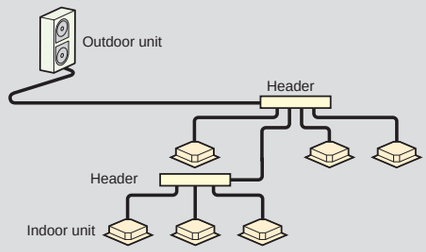


Shortest route design by free branching

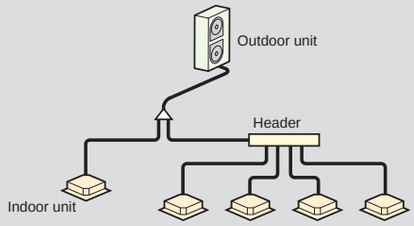
Combination of line and header branching is highly flexible, allowing the shortest route possible thereby saving on installation time and costs.

Header branching after header branching is only available with Toshiba systems.

Header branching after header branching



Header branching after line branching

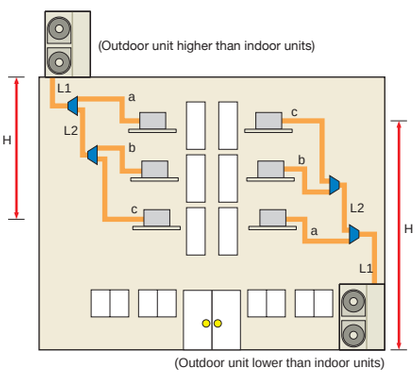


Maximum piping length with PMV kit

Extended refrigerant piping possibilities are possible even with the optional PMV kit installed.
3-phase 6 and 8HP outdoor units have a maximum pipe extension of 100m, regardless of PMV kits used.
3-phase 10 and 12HP outdoor units have a maximum pipe extension of 180m, and 150m when equipped with PMV kits.
On 1-phase outdoor units, piping lengths will differ when PMV kits are used, as shown below.

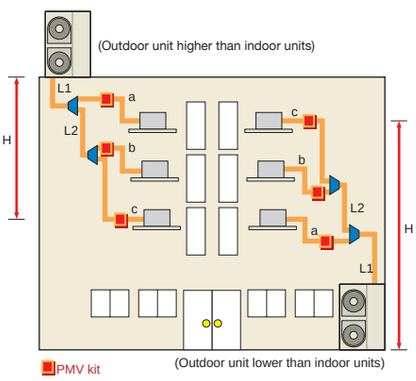
1-phase outdoor unit

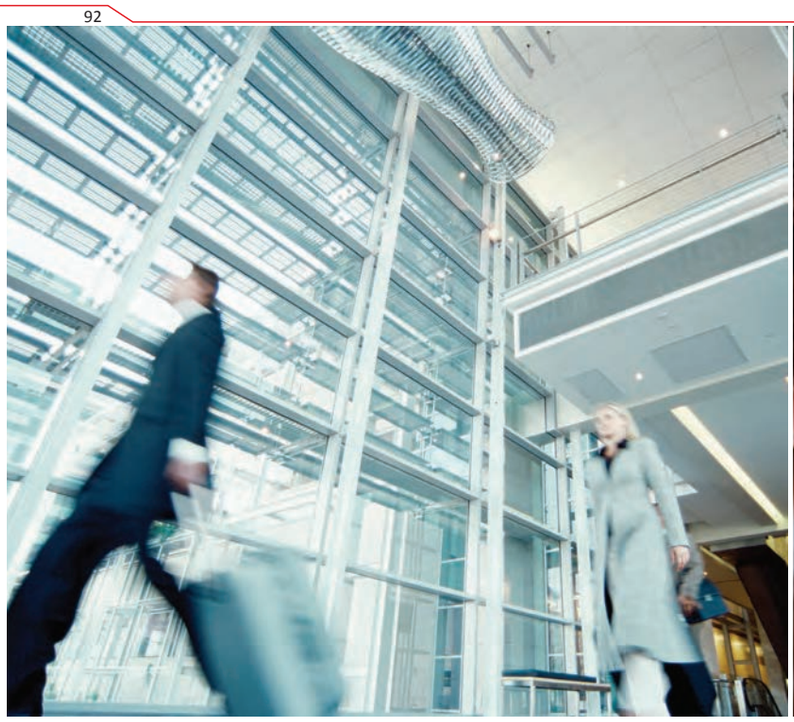
When PMV kit is not used



Not used	Piping length	Used
	Maximum pipe extension (Liquid pipe, real length)	
180	Piping section: L1+L2+a+b+c	150
	Farthest piping length (equivalent length)	
125	Piping section: L1+L2+c	80
	Height difference	
	Height between indoor and outdoor units (Outdoor unit higher than indoor units)	
30	Piping section: H	30
	Height between indoor and outdoor units (Outdoor unit lower than indoor units)	
20	Piping section: H	20

When PMV kit is used

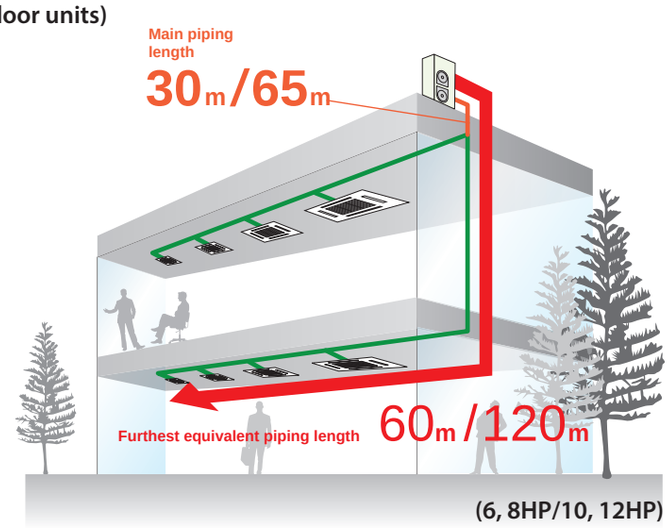




Maximum piping length (3-phase outdoor units)

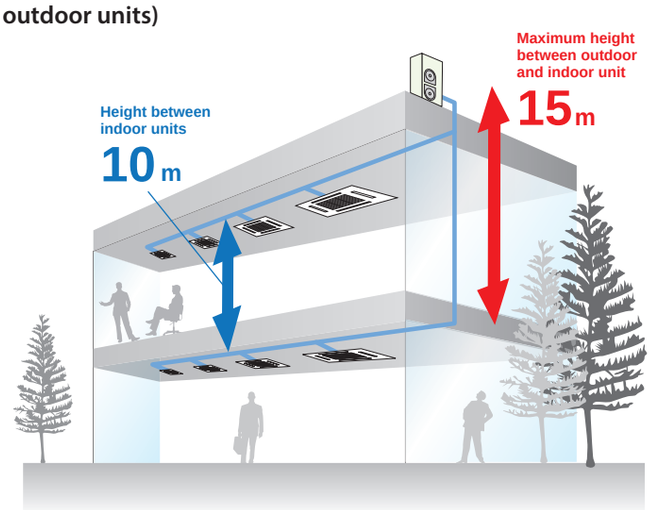
With a maximum piping length of up to 120m*, the the outdoor unit can be placed far away and out of sight.

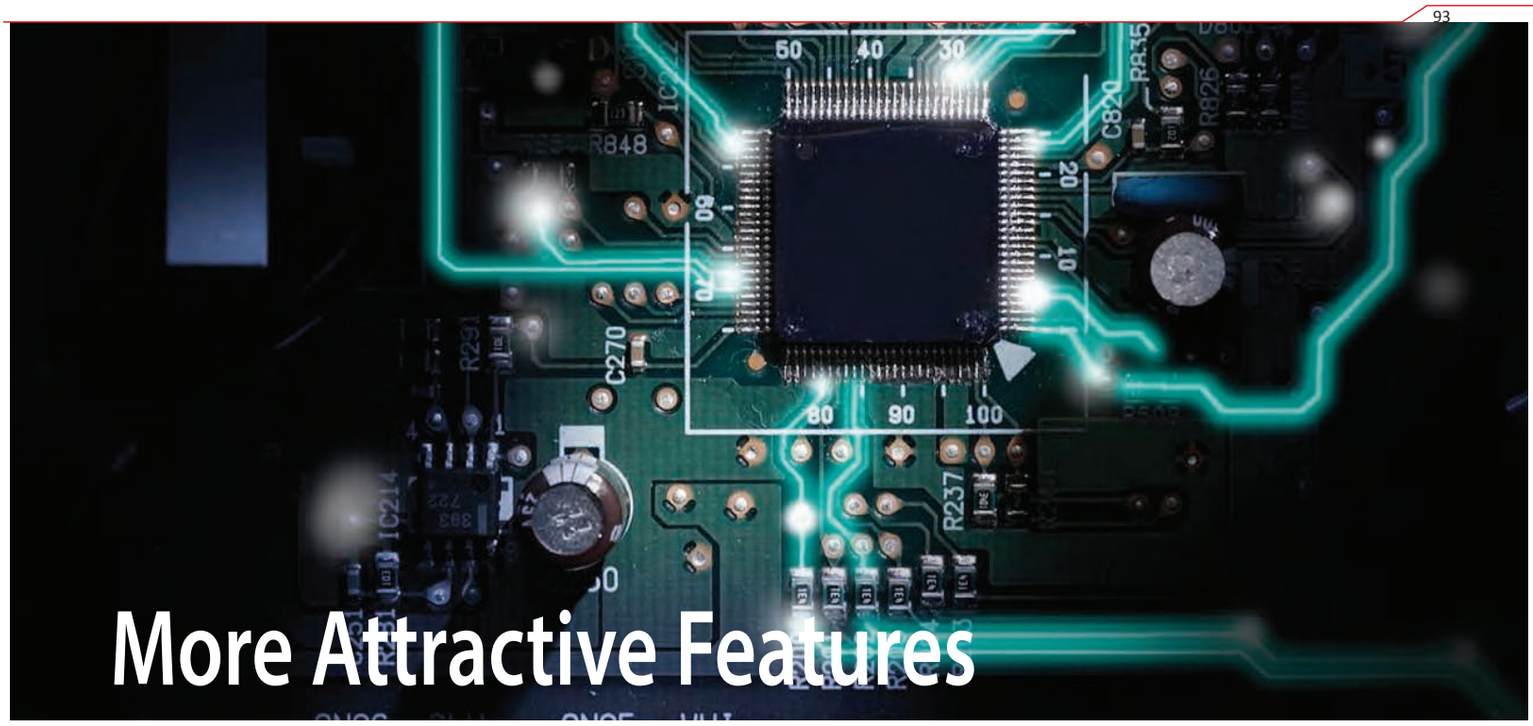
*: 3-phase 10 and 12HP outdoor units



Maximum height difference (3-phase outdoor units)

A maximum height difference of 15m means a single unit can supply indoor units on two or even three floors.

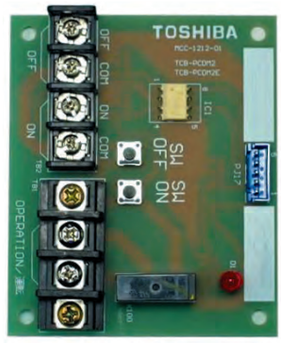


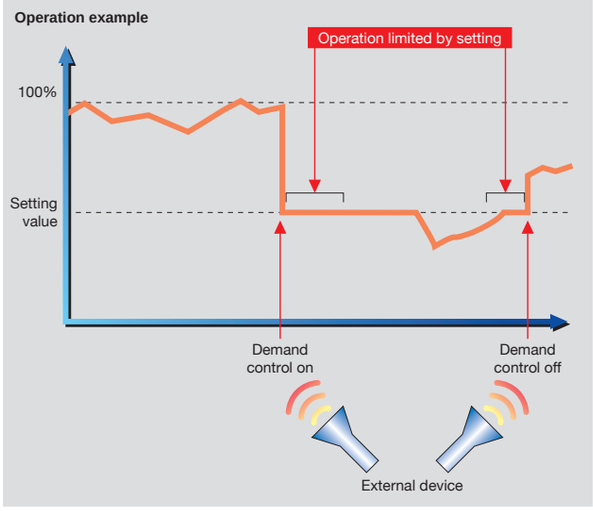


More Attractive Features

Reducing peak power consumption levels (optional)

An optional circuit board (TCB-PCDM4E) can be used to limit operation to specified setting ranges (Standard and Extended modes), controlled by the demand signal status. System operation is confined to a range that does not exceed thresholds.





Mode	Pattern	Selectable Capacity
Standad (2-steps)	A	100%(Normal) / 0%(Stop)
	B	100%(Normal) / Up to 60%
Extended (4-steps)	A	100%(Normal) / Up to 80% / Up to 60% / 0%(Stop)
	B	100%(Normal) / Up to 85% / Up to 75% / Up to 60%

Note: The above limitations do not apply at startup after heating operation has been turned off, during defrosting, and when heating operation is starting after defrosting finishes.

Outdoor units line-up

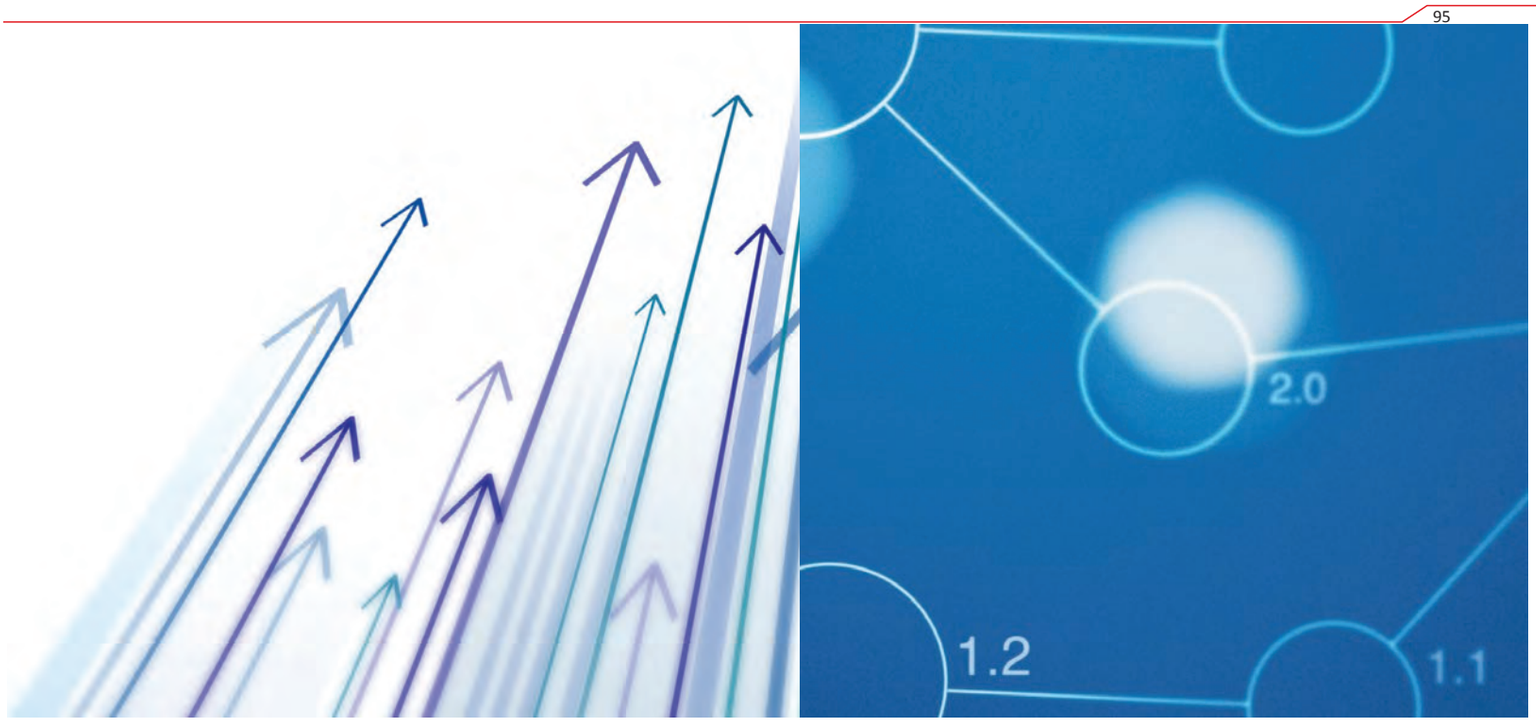
1-phase model

					
Capacity		4HP	5HP	6HP	
Model Name	50 Hz (MCY-)	MHP0404HT-SG	MHP0504HT-SG	MHP0604HT-SG	
Cooling capacity*	(kW)	12.1	14.0	15.5	
Power supply		1-phase 2 wires 50Hz 220 - 240 V			

3-phase model

					
Capacity		6HP	8HP	10HP	12HP
Model Name	50 Hz (MCY-)	MAP0604HT8	MAP0804HT8	MHP1004HT8	MHP1204HT8
Cooling capacity*	(kW)	15.5	22.4	28.0	33.5
Power supply		3-phase 4 wires 50Hz 380V-415V		3-phase 4 wires 50Hz 380V-415V	

*Rated conditions
Cooling : Indoor air temperature 27°C DB / 19°C WB, Outdoor air temperature 35°C DB
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB / 6°C WB

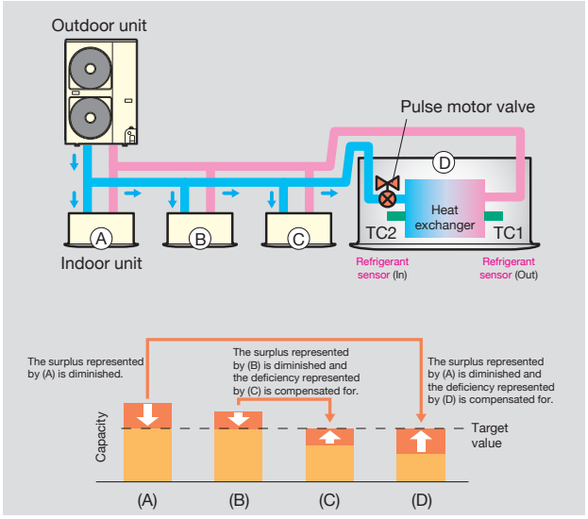


Optimal refrigerant control

When a multiple number of indoor units are connected, an insufficient or excess amount of refrigerant may be supplied to indoor units depending on the difference in length of the connection pipe from the outdoor unit.

This is because pressure loss and heat leaks occur as the refrigerant travels through the pipes, resulting in incorrect amounts of refrigerant being supplied to the indoor units.

Optimal refrigerant control uses a multiple number of refrigerant sensors to detect the air-conditioning status of each indoor unit and precisely controls the capacity (amount of refrigerant) to eliminate variations.



Branching joints and headers

	Y-shape branching joint		Branch headers	
Appearance			 (4-branch headers)	
Model name (RBM-)	BY55E (Below 6.4HP)	BY105E (6.4HP or more)	HY1043E (Max. 4 branches)	HY1083E (Max. 8 branches)

PMV kit

	PMV kit	
Appearance		
Model name (RBM-)	PMV0362E	PMV0902E
Indoor unit capacity type	007/009/012 type	015/018/024 type

Outdoor unit specifications

1-phase model

Technical specifications

Equivalent HP				4HP	5HP	6HP
Model name				MCY-MHP0404HT-SG	MCY-MHP0504HT-SG	MCY-MHP0604HT-SG
Outdoor unit type				Inverter unit		
Power supply				1-phase 50Hz 220 – 240 V / 1-phase 60Hz 220V		
Cooling *1	Capacity 100%		(kW)	12.1	14.0	15.5
	Power consumption		(kW)	2.88	3.50	4.35
	EER (Energy Efficiency Ratio)	Capacity 100%		4.20	4.00	3.56
		Capacity 80%		4.92	4.74	4.24
		Capacity 50%		6.22	6.25	5.73
Heating *1	Capacity 100%		(kW)	12.5	16.0	18.0
	Power consumption		(kW	2.73	3.81	4.50
	COP (Coefficient of Performance)	Capacity 100%		4.58	4.20	4.00
		Capacity 80%		4.92	4.67	4.52
		Capacity 50%		5.77	5.88	5.88
External dimensions (Height / Width / Depth)			(mm)	1235 / 990 / 390		
Total weight			(kg)	115		
Compressor	Motor output		(kW)	3.75	3.75	3.75
Fan unit	Motor output		(kW)	0.1 + 0.1		
	Air volume		(m^3/h)	6030	6210	6410
Refrigerant piping Specifications	Connecting port dia.	Gas side (OD)	(mm)	15.9		19.1
		Liquid side (OD)	(mm)	9.5		
	Max. pipe extension (Liquid pipe, real length)		(m)	90 (75 *2)		
	Max. pipe length (Real length)		(m)	50 (40 *2)		
	Max. pipe length (Equivalent length)		(m)	60 (50 *2)		
	Max. height between indoor and outdoor units		(m)	Outdoor unit higher than indoor unit: 15		
				Outdoor unit lower than indoor unit: 15		
Max. no. of connected indoor units				6	6	6
Sound pressure level (Cooling/Heating) *3			(dB(A))	50/52	51/54	52/55

*1 Rated conditions Cooling : Indoor air temperature 27°C DB / 19°C WB, Outdoor air temperature 35°C DB
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB / 6°C WB
The standard pipe means that equivalent piping length of 7.5 m and standard 0 m piping height difference.

*2 When PMV kit is used

*3 Sound pressure levels measured in an anechoic chamber in accordance with JIS B 8616.

3-phase model

Technical specifications

Equivalent HP				6HP	8HP	10HP	12HP
Model name	50Hz		(MCY-)	MAP0604HT8	MAP0804HT8	MHP1004HT8	MHP1204HT8
Outdoor unit type				Inverter unit			
Power supply				3-phase 4 wires 50Hz 380 - 415V		3-phase 4 wires 50Hz 380 - 415V	
Cooling *1	Capacity 100%		(kW)	15.5	22.4	28.0	33.5
	Power consumption		(kW)	4.31	7.00	9.34	11.98
	Efficiency (iKw/RT)	Capacity 100%		0.98	1.10	1.17	1.26
		Capacity 80%		0.77	0.87	0.96	1.01
		Capacity 50%		0.61	0.69	0.68	0.67
	EER (Energy Efficiency Ratio)	Capacity 100%		3.60	3.20	3.00	2.80
		Capacity 80%		4.56	4.05	3.67	3.49
		Capacity 50%		5.74	5.11	5.20	5.27
External dimensions (Height / Width / Depth)			(mm)	1540 / 900 / 320		1825 / 990 / 390	
Total weight (kg)				123		162	164
Compressor	Motor output		(kW)	3.75		5.60	
Fan unit	Motor output		(kW)	0.1 +0.1		0.1 +0.1 +0.1	
	Air volume		(m^3/h)	7860		11100	12000
Refrigerant piping Specifications	Connecting port dia.	Gas side (OD)	(mm)	19.1	22.2	22.2	25.4
		Liquid side (OD)	(mm)	9.5		12.7	
	Max. pipe extension (Liquid pipe, real length)		(m)	100 (100) *2		180 (150) *2	
	Max. pipe length (Real length)		(m)	50 (50) *2		100 (65) *2	
	Max. pipe length (Equivalent length)		(m)	60 (60) *2		120 (80) *2	
	Max. height between indoor and outdoor units		(m)	Outdoor unit higher than indoor unit: 15			
				Outdoor unit lower than indoor unit: 15			
Max. no. of connected indoor units				8	8	10	12
Sound pressure level (Cooling) *3			(dB(A))	58	58	58	61

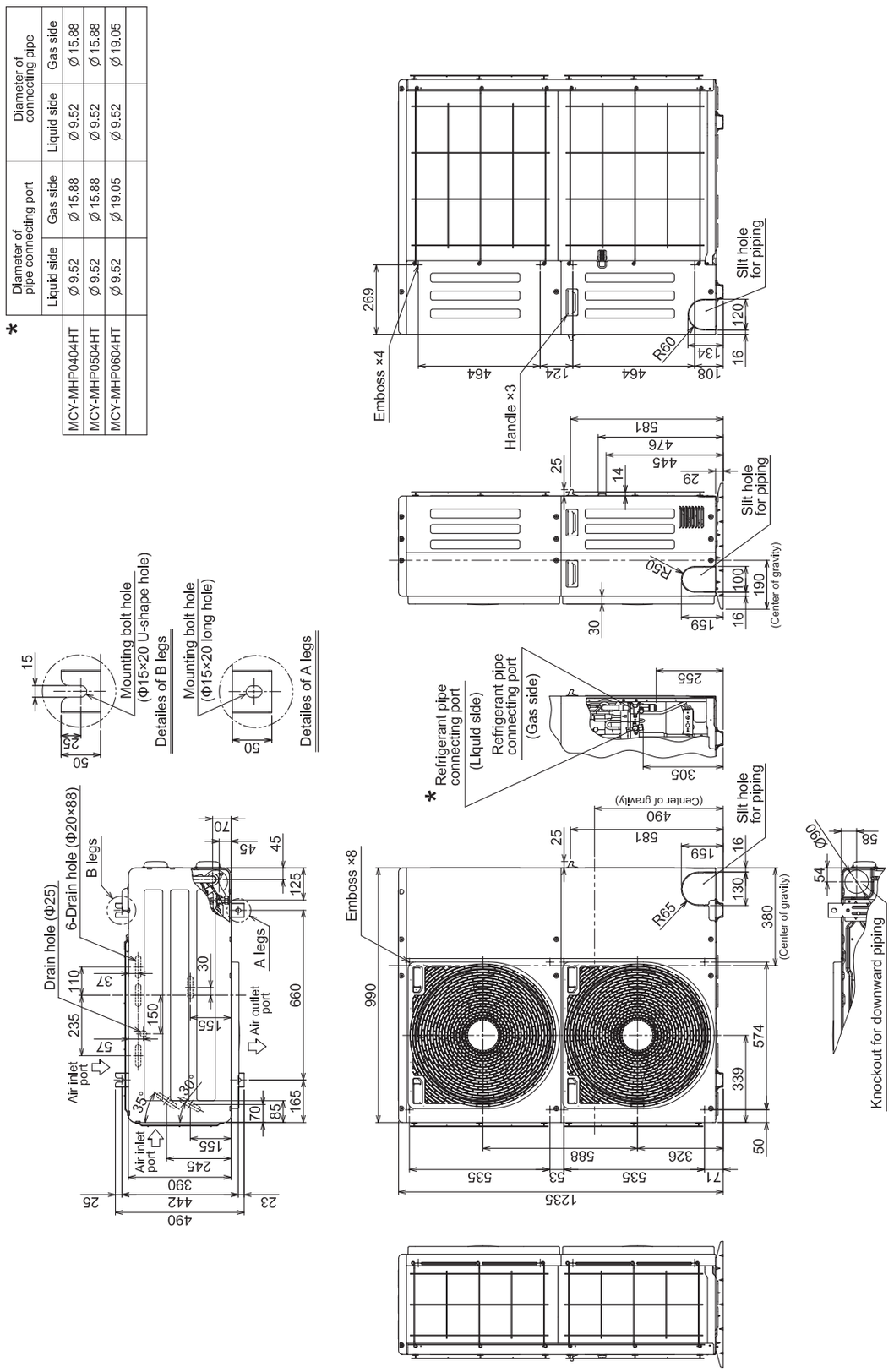
*1 Rated conditions Cooling : Indoor air temperature 27°C DB / 19°C WB, Outdoor air temperature 35°C DB
*2 When PMV kit is used
*3 Sound pressure levels measured in an anechoic chamber

※ Anti-Corrosion protection model : MCY-MAP****HT8ZG, MCY-MAP****HT7ZG, except 10HP, 12HP.

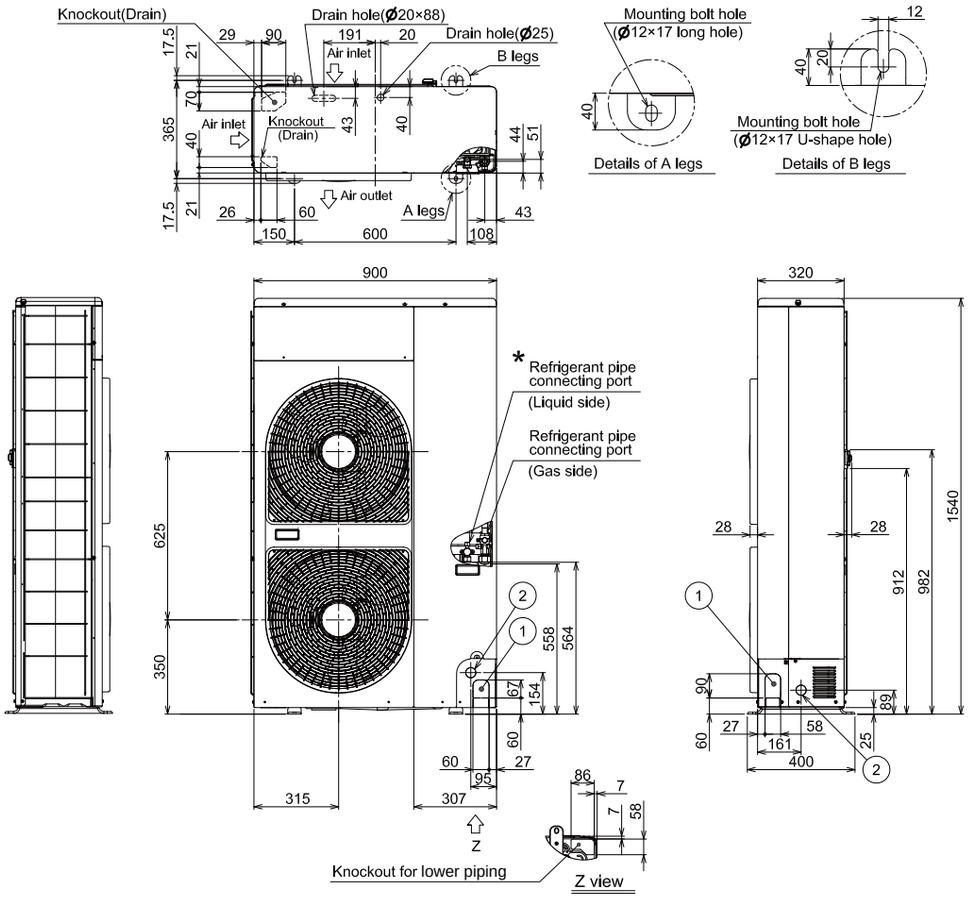
MCY-MHP0404HT, MCY-MHP0504HT, MCY-MHP0604HT

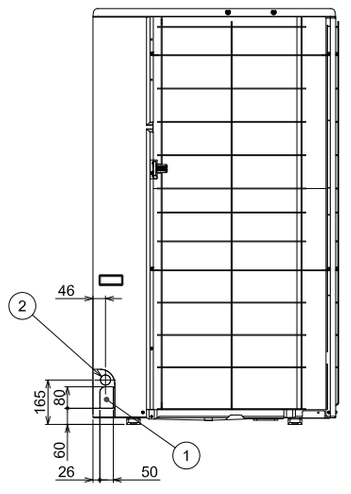
	Diameter of pipe connecting port		Diameter of connecting pipe	
	Liquid side	Gas side	Liquid side	Gas side
MCY-MHP0404HT	Ø 9.52	Ø 15.88	Ø 9.52	Ø 15.88
MCY-MHP0504HT	Ø 9.52	Ø 15.88	Ø 9.52	Ø 15.88
MCY-MHP0604HT	Ø 9.52	Ø 19.05	Ø 9.52	Ø 19.05

*



3-phase model :
MCY-MAP0604HT8, MAP0804HT8 (50Hz)





	Name	Note
①	Refrigerant piping hole Indoor/Outdoor Unit connecting wire inlet hole	——
②	Power supply inlet hole	Ø38 Knockout hole

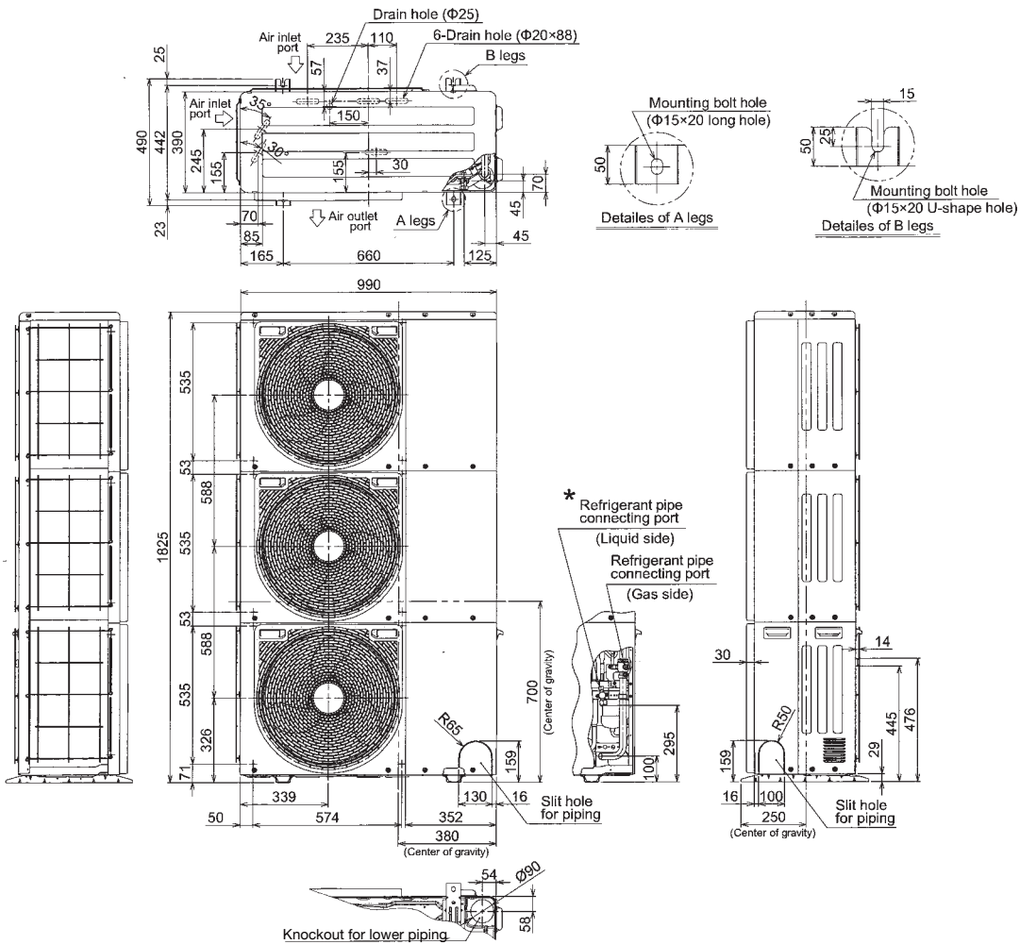
Diameter of refrigerant pipe

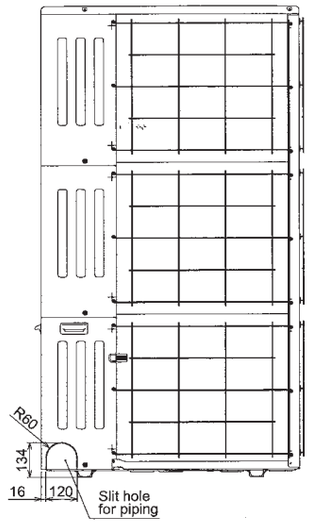
Model name	Gas side	Liquid side
MCY-MAP0604HT8/HT7	ϕ19.1	ϕ9.5
MCY-MAP0804HT8/HT7	ϕ19.1	ϕ9.5

(Unit:mm)

Outdoor drawings

3-phase model :
MCY-MHP1004HT8, MHP1204HT8 (50Hz)





	Diameter of pipe connecting port		Diameter of connecting pipe	
	Liquid side	Gas side	Liquid side	Gas side
MCY-MHP1004HT8	ø 12.7	ø 25.4	ø 12.7	*1 ø 22.2
MCY-MHP1204HT8	ø 12.7	ø 25.4	ø 12.7	ø 25.4

*1 The diameter of ball valve connecting port on the outdoor unit is 25.4, and therefore please use the accessory joint for installation.

(Unit:mm)

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 automatic defrosting unit

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

Concerning the air conditioner's operating conditions and their selection

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

(2) Before using an air conditioner in any of the following locations, consult with your dealer or a qualified contractor.
- Locations where vapors from edible oils are given off (such as in bakeries or kitchens and restaurants that use edible oils) ...The air conditioner's operating performance may be compromised or condensation may form as a result of clogged filters, and the plastic parts may incur damage. In line with the prevailing conditions, take countermeasures such as tailoring the installation conditions in accordance with the conditions, using air conditioners designed for kitchens or oil guard filters, etc.
- Locations with disinfectant-induced chlorine atmospheres (water tanks, etc.) The metal parts in the heat exchangers, motors, etc., may become corroded.
- Locations with high salinity (coastal areas, etc.) Corrosion may occur so use outdoor units specifically designed to withstand exposure to salt.
- Locations where power is supplied from independent power generators. The power line frequency and/or voltage may fluctuate, possibly causing the air conditioner to malfunction.
- Locations where high frequencies or electrical noise is generated (from high-frequency welders used for vinyl welding and processing, high-frequency therapeutic devices used for thermotherapy, etc.) The electronic components may be adversely affected, possibly causing the air conditioner to malfunction.
- Locations where electronic equipment is installed. Electrical noise may adversely affect the operation of the electronic equipment.

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

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

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

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Leading Innovation »»

bsi. ISO 9001 Quality Management | ISO 14001 Environmental Management | OHSAS 18001 Occupational Health & Safety Management

R-410A HFC

Notice : 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

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