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HIGH AMBIENT APPLICATION



AIR CONDITIONING FOR LARGE BUILDINGS





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INDEX

Control devices

Safe precautions

Introduction	03
SMMS-e features energy saving	06
Capacity range	08
Operating temperature range	09
Enhanced comfort	10
System control	11
DC twin-rotary compressor	12
Heat exchanger	13
Precise refrigerant flow	14
Reliability	15
Piping design flexibility	16
Slimmer pipe size	17
Propeller fan	18
Connectable indoor unit	19
SMMS wave tool	20
Outdoor units	
Outdoor units line-up	22
Outdoor units specifications	24
Outdoor units external view drawings	28
Indoor units	
Indoor units line-up for SMMS-e	30
4-way air discharge cassette type	32
Compact 4-way cassette (600 x 600) Type	34
2-way air discharge cassette Type	36
1-way air discharge cassette type	38
Concealed duct type	40
Concealed duct high static pressure type	42
Slim duct type	44
Ceiling type	46
High-wall type (3 series)	48
High-wall type (4 series)	49
Console type	50
Floor standing cabinet type	51
Floor standing concealed type	52
Floor standing type	53
Air-conditioning management system	54
Remote controller	56
Open network systems	60
Smart phone apps	62
Indoor unit accessories for SMMS-e	63

64



Toshiba solutions

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STATISTICS.

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

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

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

Leading Innovation >>>

History



Ichisuke Fujioka



Hisashige Tanaka







TOSHIBA VRF History





Greater efficiency performance

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





Cooling mode

EER

Rated





The overall capacity range and the highest COP and EER of 6.44 (*21.96) and 6.39 (*21.78), the SMMS-e has truly excellence as the industry's top class in energy saving.





COP Rated 50% load * BTU/W



Single unit capacity expanded

SMMS-e comes with 3 new larger capacity units, producing up to 20HP on a single module platform.



System capacity expanded

With the SMMS-e, it is now possible to connect up to 56HP in one system.



Installation flexibility

While expanding the maximum combination from 48 to 56HP in one system. This helps save more time and expense on additional unit system required in the previous model. The new compact unit design also increases more flexibility on installation with less foot print.



SMMS-e is capable of covering up to 20HP with a single module. Reducing pipe work and overall installation time.





Outdoor temperature range

Utilizing the newly designed compressor, SMMS-e can operate under the wider range of outdoor ambience with the expansion of cooling and heating temperature from -25°C to 54°C.

Operation ambient temperature expansion

(Cooling * CDB, Heating : CWB)



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

Heat pipe technology*

Thank to excellent heat sink with heat pipe technology, SMMS-e product can keep high reliability at high ambient temperature.





Heat sink with heat pipe - In order to cool for inverter

*18-20 HP - High ambient model

The external static pressure

The SMMS-e 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.

Note: For ESP consult to local sales person.



New intelligent VRF control

Toshiba systems with intelligent VRF control provide levels of comfort other systems simply cannot match. That's because differing pipe lengths in commercial buildings result in inconsistent levels of performance, especially when several indoor units are connected to a system. This imbalance is caused by pressure loss and thermal leaks that inhibit the optimum refrigerant flow to each indoor unit.

For example, without intelligent control, upper floor indoor units within VRF systems place loads on the refrigerant supply. This causes a delay before enough refrigerant reaches the lower floors to deliver efficient levels of operation.

Without intelligent VRF control, refrigerant flows unevenly throughout the structure, typically oversupplying areas closer to the outdoor unit and undersupplying areas that are farther away.



Without intelligent VRF control







Total system control and consistent room-to-room temperature

The Toshiba intelligent VRF control overcomes these issues by providing precise control of indoor units with just electrical wiring and copper refrigerant tubing. It's intelligent because it sends more refrigerant to areas that need it, and supplies less refrigerant to areas that don't. Comfort is distributed evenly regardless of line length. As a result, occupants enjoy greater overall comfort whether they are closest to the outdoor unit or farthest away.

Additionally, Toshiba SMMS-e systems monitor the flow of refrigerant to each indoor unit while tracking the model number of each indoor unit, pipe length between each indoor unit and the outdoor unit, as well as data on operating conditions. The system computes the amount of refrigerant required by each indoor unit and controls the unit's pulse motor valve to ensure optimal supply across the system with height difference between outdoor unit and indoor unit of up to 90 meter.

With intelligent VRF control, Toshiba delivers consistent, room to room comfort across several floors of a commercial structure.



Wide range compressor

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





DLC coated vane

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





* DLC: Diamond Like Carbon



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







New heat exchanger

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





One of the keys to delivering precision refrigerant flow and enhanced comfort is the Toshiba pulse motor valve (PMV) control. The PMV control prevents refrigerant from flowing to indoor units that are not operating. The system reduces bypass loss and achieves tighter control over the compressor capacity of the outdoor unit.







Backup operation

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

Single outdoor unit backup



Module outdoor unit backup



Reliability rotational control

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



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Total piping length

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



Farthest equivalent length

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

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 90m from 1st branch

Height between indoor units

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





Piping capabilities summary

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



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

- * : 34HP combination or more
- ** : 65m if the height piping length between outdoor unit and indoor unit is more than 3m
- *** : Be sure to refer to local sales person for details of these conditions and requirements.

Slimmer pipe size

Piping saving costs

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





New advanced blade shapes for a better air flow management

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





More quiet in comparison with the previous fan

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







Indoor lineup







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



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





Available data

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



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Outdoor units

22

Standard model

			III I				INTER E			
Capacity		8HP	10HP	12HP	14HP	16HP	18HP	20HP		
Model Name	50 Hz	MAP0806HT8P-ME	MAP1006HT8P-ME	MAP1206HT8P-ME	MAP1406HT8P-ME	MAP1606HT8P-ME	MAP1806HT8P-ME	MAP2006HT8P-ME		
(MMY-)	60 Hz	MAP0806HT7P-ME	MAP1006HT7P-ME	MAP1206HT7P-ME	MAP1406HT7P-ME	MAP1606HT7P-ME	MAP1806HT7P-ME	MAP2006HT7P-ME		
Cooling capacity*1	(kW)	22.4	28.0	33.5	40.0	45.0	50.4	56.0		
Cooling capacity*2	(kW)	20.3	25.2	26.8	34.0	36.0	42.8	44.8		
Heating capacity	(kW)	25.0	31.5	37.5	45.0	50.0	56.0	63.0		
No's of connectable Indoor units	•	13	16	20	23	27	30	33		

			ų,	III I						III I							
Capacity		22	IP	24	24HP		26HP		28HP		HP	32HP		34	ŀΗΡ		
Model Name	50 Hz	AP2216H	T8P-ME	AP2416	AP2416HT8P-ME		AP2616HT8P-ME		AP2816HT8P-ME AP		HT8P-ME	AP3216F	AP3216HT8P-ME		HT8P-ME		
(MMY-)	60 Hz	AP2216H	T7P-ME	AP2416	HT7P-ME	AP2616HT7P-ME		AP2816HT7P-ME		AP3016HT7P-ME		AP3216HT7P-ME		AP3416HT7P-ME			
Units in combination	on	1206HT8P-ME	1206HT7P-ME	1206HT8P-ME	1206HT7P-ME	1406HT8P-ME	1406HT7P-ME	1406HT8P-ME	1406HT7P-ME	1606HT8P-ME	1606HT7P-ME	1606HT8P - ME	1606HT7P-ME	1806HT8P-ME	1806HT7P-ME		
(MMY-MAP)		1006HT8P-ME	1006HT7P-ME	1206HT8P-ME	1206HT7P-ME	1206HT8P-ME	1206HT7P-ME	1406HT8P-ME	1406HT7P-ME	1406HT8P-ME	1406HT7P-ME	1606HT8P-ME	1606HT7P-ME	1606HT8P-ME	1606HT7P-ME		
Cooling capacity*1	(kW)	61.	.5	6	7.0	73	.5	80.0		85.0		90.0		9	5.4		
Cooling capacity*2	(kW)	52.	.0	5	3.6	60	.8	68	3.0	70.0		72.0		7	8.8		
Heating capacity	(kW)	69.	.0	7	5.0	82	.5	90	90.0		95.0 100.0		100.0		06.0		
No's of connectable Indoor units	э	37	7	4	10	4	43		43		47		50		54		57

			MAR MAR 1		INTE THE INTE									
Capacity		36HP 38HP 40HP				42	ΗP	44	ΗP	46⊢	IP	48HP		
Model Name	50 Hz	AP3616HT8P-ME	3616HT8P-ME AP3816HT8P-ME		AP4016HT8P-ME		AP4216HT8P-ME		AP4416HT8P-ME		AP4616HT8P-ME		AP4616HT8P-ME AP4816HT8P-M	
(MMY-)	60 Hz	AP3616HT7P-ME		AP3816HT7P-ME	P-ME AP4016HT7P-ME		AP4216HT7P-ME AP4416HT7P-ME		IT7P-ME	AP4616HT7P-ME		AP4816HT7P-ME		
Units in combinatio (MMY-MAP)	on	1806HT8P-ME 1806HT 1806HT8P-ME 1806HT	P-ME P-ME	2006HT8P-ME 2006HT7P-ME 1806HT8P-ME 1806HT7P-ME	2006HT8P-ME 20 2006HT8P-ME 20	006HT7P - ME 006HT7P - ME	1406HT8P-ME 1406HT8P-ME 1406HT8P-ME	1406HT7P-ME 1406HT7P-ME 1406HT7P-ME	1606HT8P-ME 1406HT8P-ME 1406HT8P-ME	1606HT7P-ME 1406HT7P-ME 1406HT7P-ME	1606HT8P-ME 1606HT8P-ME 1406HT8P-ME	1606HT7P - ME 1606HT7P - ME 1406HT7P - ME	1606HT8P-ME 1606HT8P-ME 1606HT8P-ME	1606HT7P-ME 1606HT7P-ME 1606HT7P-ME
Cooling capacity*1	(kW)	100.8		106.4	112.0)	12).0	125.0		130	.0	13	5.0
Cooling capacity*2	(kW)	85.7		87.6	89.6		10:	2.0	104	4.0	106	.0	10	8.0
Heating capacity	(kW)	112.0		119.0	126.0	126.0		135.0		140.0		145.0		0.0
No's of connectable Indoor units	9	60 64 64			64		64		64		64			

						HĮH I HŲ				
Capacity		50HP		52	HP	54	HP	56HP		
50 Model Name) Hz	AP5016HT8P-ME		AP5216F	HT8P-ME	AP5416	HT8P-ME	AP5616HT8P-ME		
(MMY-) 60) Hz	AP5016H	T7P-ME	AP5216HT7P-ME		AP5416	HT7P-ME	AP5616HT7P-ME		
Units in combination (MMY-MAP)		1806HT8P-ME 1606HT8P-ME 1606HT8P-ME	1806HT7P-ME 1606HT7P-ME 1606HT7P-ME	1806HT8P-ME 1806HT8P-ME 1606HT8P-ME	1806HT8P-ME 1806HT7P-ME 1806HT8P-ME 1806HT7P-ME 1606HT8P-ME 1606HT7P-ME		2006HT7P-ME 2006HT7P-ME 1406HT7P-ME	2006HT8P-ME 2006HT8P-ME 1606HT8P-ME	2006HT7P-ME 2006HT7P-ME 1606HT7P-ME	
Cooling capacity*1 (k	(W)	140	1.4	14	5.8	152.0		157.0		
Cooling capacity*2 (k	(W)	114	.8	12	1.7	12	3.6	12	5.6	
Heating capacity (k	(W)	156	.0	16	2.0	17	1.0	176.0		
No's of connectable Indoor units		64	1	64		6	4	64		

* 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 *2 Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 46°C DB

Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/s°C WB Based on equivalent piping length of 7.5 m and piping height difference of 0 m.



		Y-shape bra	nching joint			Branch	headers		Outdoor unit connection piping kit		
Appearance					4	(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	
		Total 6.4	Total		Max.4 b	Max.4 branche s		ranches			
Usage (Classification according to indoor unit capacity code)	Total below 6.4	or more and below 14.2	14.2 or more and below 25.2	Total 25.2 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	Total below 26.0	Total 26.0 or more	



24

Outdoor unit specifications

Standard mo	del (Single unit)				Tec	hnical specifications					
Equivalent HP				8HP	10HP	12HP					
Madal nome	Liset Dump	50Hz (1	/MY-)	MAP0806HT8P-ME	MAP1006HT8P-ME	MAP1206HT8P-ME					
wodel name	Heat Pump	60Hz (M	/MY-)	MAP0806HT7P-ME	MAP1006HT7P-ME	MAP1206HT7P-ME					
Outdoor unit type					Inverter						
Power supply (*1)				3phase 4wire	3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V						
	Capacity 100%		(kW)	22.4	28.0	33.5					
Cooling (*2)	Power consumption		(kW)	5.19	7.26	9.41					
	EER (Energy efficiency ratio)			4.32	3.86	3.56					
	Capacity 100%		(kW)	20.3	25.2	26.8					
Cooling (*3)) Power consumption		(kW)	6.55	8.75	8.98					
	EER (Energy efficiency ratio)			3.10	2.88	2.98					
	Capacity 100%	(k		25.0	31.5	37.5					
Heating (*2)	Power consumption		(kW)	5.38	7.08	9.24					
	COP (Coefficiency of performance)			4.65	4.45	4.06					
Starting Current			(A)		Soft Start						
External dimension	s (Height / Width / Depth)		(mm)	1,800 / 990 / 780	1,800 / 990 / 780	1,800 / 990 / 780					
Total weight	Heat Pump		(kg)	242	242	242					
Compressor	Quantity		(nos)	2	2	2					
Fan unit	Air volume		(m³/h)	9,700	9,700	12,200					
Refrigerant R410A(Charged refrigerant amount)		(kg)	11.5	11.5	11.5					
		Gas side	(mm)	Ф19.1	Φ22.2	Φ28.6					
Refrigerant	Main pipe diameter	Liquid side	(mm)	Φ12.7	Φ12.7	Φ12.7					
P.P.1.9		Balance pipe	(mm)	Ф9.5	Φ9.5	Ф9.5					
Sound pressure lev	el (Cooling/Heating)	(0	dB(A))	55 / 56	57 / 58	59 / 61					
Sound power level	(Cooling/Heating)	(0	dB(A))	74 / 74	74 / 74	80 / 82					
Connectable indoor units (nos) 13 16 20					16	20					

Standard mod	del (Single unit)					Technica	I specifications
Equivalent HP				14HP	16HP	18HP	20HP
Madalasana	Lis et Duran	50Hz	(MMY-)	MAP1406HT8P-ME	MAP1606HT8P-ME	MAP1806HT8P-ME	MAP2006HT8P-ME
wodel name	Heat Pump	60Hz	(MMY-)	MAP1406HT7P-ME	MAP1606HT7P-ME	MAP1806HT7P-ME	MAP2006HT7P-ME
Outdoor unit type					Inve	erter	
Power supply (*1)				3ph	ase 4wires 50Hz 400V (380-4	15V) / 3phase 4wires 60Hz 3	80V
	Capacity 100%		(kW)	40.0	45.0	50.4	56.0
Cooling (*2)	Power consumption		(kW)	11.50	13.60	14.0	17.90
	EER (Energy efficiency ratio)			3.48	3.31	3.60	3.13
	Capacity 100%		(kW)	34.0	36.0	42.8	44.8
Cooling (*3)	Power consumption		(kW)	11.6	12.5	14.2	14.9
	EER (Energy efficiency ratio)			2.93	2.88	3.01	3.01
	Capacity 100%		(kW)	45.0	50.0	56.0	63.0
Heating (*2)	Power consumption		(kW)	10.6	12.50	13.6	16.5
	COP (Coefficiency of performance)			4.25	4.00	4.12	3.82
Starting Current			(A)		Soft	Start	
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	Heat Pump		(kg)	299	299	370	370
Compressor	Quantity		(nos)	2	2	2	2
Fan unit	Air volume		(m³/h)	12,200	12,600	17,300	17,900
Refrigerant R410A (Charged refrigerant amount)		(kg)	11.5	11.5	11.5	11.5
		Gas side	(mm)	Ф28.6	Ф28.6	Ф28.6	Ф28.6
Refrigerant	Main pipe diameter	Liquid side	(mm)	Ф15.9	Φ15.9	Φ15.9	Φ15.9
piping		Balance pipe	(mm)	Ф9.5	Φ9.5	Φ9.5	Φ9.5
Sound pressure leve	el (Cooling/Heating)		(dB(A))	60 / 62	62 / 64	60 / 61	61 / 62
Sound power level (Cooling/Heating)		(dB(A))	80 / 82	81 / 83	81 / 83	80 / 82
Connectable indoor	units		(nos)	23	27	30	33

Protective devices: Discharge temp. sensor / Suction temp. sensor / High-pressure sensor Low-pressure sensor / High-pressure switch / PC board fuse

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

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

*3 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 46°C DB Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

Outdoor unit specifications

Standard model (Combination) **Technical specifications** Equivalent HP 22HP 24HP 26HP 50Hz (MMY-) AP2216HT8P-ME MAP2416HT8P-ME MAP2616HT8P-ME Model name Heat Pump 60Hz (MMY-) AP2216HT7P-ME MAP2416HT7P-ME MAP2616HT7P-ME Outdoor unit type Inverter 3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V Power supply (*1) 50Hz (MMY-) MAP1206HT8P-ME MAP1006HT8P-ME MAP1206HT8P-ME MAP1206HT8P-ME MAP1406HT8P-ME MAP1206HT8P-ME Outdoor unit model Heat Pump MAP1206HT7P-ME MAP1006HT7P-ME MAP1206HT7P-ME MAP1206HT7P-ME MAP1406HT7P-ME MAP1206HT7P-ME 60Hz (MMY-) Capacity 100% 615 67.0 73 5 (kW) Cooling (*2) Power consumption (kW) 16.7 18.8 20.9 3.69 3.56 EER (Energy efficiency ratio) 3.52 Capacity 100% (kW) 52.0 53.6 60.8 Cooling (*3) Power consumption (kW) 177 18.0 20.6 EER (Energy efficiency ratio) 2.93 2.98 2.95 Capacity 100% (kW) 69.0 75.0 82.5 Heating (*2) Power consumption (kW) 16.3 18.5 19.8 4.23 4.06 COP (Coefficiency of performance) 4.16 Starting current (A) Soft start 242 242 242 242 242 Total weight Heat Pump 299 (kg) 2 Compressor Quantity (nos) 2 2 2 2 2 Fan unit Air volume (m³/h) 12.200 9.700 12.200 12.200 12.200 12.200 Refrigerant R410A (Charged refrigerant amount) 11.5 11.5 11.5 11.5 11.5 (kg) 11.5 Gas side (mm) Φ28.6 Φ34.9 Φ34.9 Refrigerant Liquid side Φ19.1 Φ19.1 Φ19.1 Main pipe diameter (mm) piping Φ9.5 Φ9.5 Φ9.5 Balance pipe (mm) Sound pressure level (Cooling/Heating) (dB(A)) 61.5/63 62/64 62.5/64.5 83/85 Sound power level (Cooling/Heating) (dB(A)) 81/83 83/85 Connectable indoor units 37 40 43 (nos)

Standard mod	lel (Combination)						Тес	hnical spec	ifications	
Equivalent HP				281	IP	30	HP	32	HP	
Madalaama	Liest Duran	50Hz	(MMY-)) AP2816HT8P-ME		AP3016H	T8P-ME	AP3216HT8P-ME		
wodel name	Heat Pump	60Hz	(MMY-)	AP2816H	T7P-ME	AP3016	HT7P-ME	AP3216HT7P-ME		
Outdoor unit type						Inve	erter			
Power supply (*1)					3phase 4wire	s 50Hz 400V (380-4	15V) / 3phase 4wire	es 60Hz 380V		
Outdoor unit	Heat Pump	50Hz	(MMY-)	MAP1406HT8P-ME	MAP1406HT8P-ME	MAP1606HT8P-ME	MAP1406HT8P-ME	MAP1606HT8P-ME	MAP1606HT8P-ME	
model	lieat i unp	60Hz	(MMY-)	MAP1406HT7P-ME	MAP1406HT7P-ME	MAP1606HT7P-ME	MAP1406HT7P-ME	MAP1606HT7P-ME	MAP1606HT7P-ME	
	Capacity 100%		(kW)	80	.0	85	5.0	90	.0	
Cooling (*2)	Power consumption (kV			23	.0	25	5.1	27	.2	
	EER (Energy efficiency ratio)			3.4	18	3.	39	3.3	31	
	Capacity 100%			68	.0	70	0.0	72.0		
Cooling (*3)	Power consumption		(kW)	23	.2	24	l.1	25	.0	
EER (Energy efficiency ratio)				2.9	93	2.	90	2.8	38	
	Capacity 100%		(kW)	90	.0	95	5.0	10	0.0	
Heating (*2)	Power consumption		(kW)	21.2		23	3.1	25	.0	
	COP (Coefficiency of performance)			4.2	25	4.	11	4.00		
Starting current			(A)			Soft	start			
Total weight	Heat Pump		(kg)	299	299	299	299	299	299	
Compressor	Quantity		(nos)	2	2	2	2	2	2	
Fan unit	Air volume		(m³/h)	12,200	12,200	12,600	12,200	12,600	12,600	
Refrigerant R410A (0	Charged refrigerant amount)		(kg)	11.5	11.5	11.5	11.5	11.5	11.5	
Defrigerent		Gas side	(mm)	Φ34	4.9	Ф3	4.9	Ф3	4.9	
piping	Main pipe diameter	Liquid side	(mm)	Φ19	9.1	Φ1	9.1	Φ1	9.1	
F ·F ··· · · · · ·		Balance pipe	(mm)	Ф9	.5	Φ!	9.5	Φ).5	
Sound pressure level (Cooling/Heating) (dB(A))) 63/65		64.5	/66.5	65/67			
Sound power level (Cooling/Heating) (dB(A))			(A)) 83/85		83.5	/85.5	84/86			
Connectable indoor	units		(nos)	4	7	5	0	54		

Protective devices: Discharge temp. sensor / Suction temp. sensor / High-pressure sensor Low-pressure sensor / High-pressure switch / PC board fuse

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

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

*3 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 46°C DB Based on equivalent piping length of 7.5 m and piping height difference of 0 m. 26

Outdoor unit specifications

Standard mod	del (Combination)						Тес	hnical spec	cifications			
Equivalent HP				34	HP	36	HP	38	HP			
Madalaama	Linet Dump	50Hz	(MMY-)	AP3416HT8P-ME		AP3616	HT8P-ME	AP3816F	IT8P-ME			
wodel name	Heat Pump	60Hz	(MMY-)	AP3416F	IT7P-ME	AP3616	HT7P-ME	AP3816F	T7P-ME			
Outdoor unit type					Inverter							
Power supply (*1)					3phase 4wire	es 50Hz 400V (380-4	15V) / 3phase 4wir	es 60Hz 380V				
Outdoor unit	Heat Pump	50Hz	(MMY-)	MAP1806HT8P-ME	MAP1606HT8P-ME	MAP1806HT8P-ME MAP1806HT8P-		MAP2006HT8P-ME	MAP1806HT8P-ME			
model	nearrunp	60Hz	(MMY-)	MAP1806HT7P-ME	MAP1606HT7P-ME	MAP1806HT7P-ME	MAP1806HT7P-ME	MAP2006HT7P-ME	MAP1806HT7P-ME			
	Capacity 100%		(kW)	95	.4	10	0.8	10	δ.4			
Cooling (*2)	Power consumption (kV			27	.6	28	3.0	31	.9			
	EER (Energy efficiency ratio)			3.4	46	3	.6	3.3	34			
	Capacity 100% (kW)			78	.8	8	5.7	87.6				
Cooling (*3)	Power consumption		(kW)	26	5.7	28	3.4	29).1			
	EER (Energy efficiency ratio)			2.9	95	3.	02	3.0	01			
	Capacity 100%		(kW)	10	6.0	11	2.0	119	9.0			
Heating (*2)	Power consumption	(kW)		26.1		27.2		30).1			
	COP (Coefficiency of performance)			4.0	06	4.	12	3.95				
Starting current			(A)			Soft	start					
Total weight	Heat Pump		(kg)	370	299	370	370	370	370			
Compressor	Quantity		(nos)	2	2	2	2	2	2			
Fan unit	Air volume		(m³/h)	17,300	12,600	17,300	17,300	17,900	17,300			
Refrigerant R410A (Charged refrigerant amount)		(kg)	11.5	11.5	11.5	11.5	11.5	11.5			
Defrigerent		Gas side	(mm)	Ф3	4.9	Φ4	1.3	Φ4	1.3			
piping	Main pipe diameter	Liquid side	(mm)	Φ1	9.1	Φ2	2.2	Φ2	2.2			
	Balance pipe (mm			Φ	9.5	Φ	9.5	Φ).5			
Sound pressure level (Cooling/Heating) (dB(A))			64.5	5/66	63	/64	63.5/	64.5				
Sound power level (Sound power level (Cooling/Heating) (dB(A))		A)) 84/86		84/86		84.5/86.5					
Connectable indoor units (nos				5	7	6	60	6	4			

Standard mo	del (Combination)							Тес	chnical s	specific	ations		
Equivalent HP				40	HP		42HP			44HP			
Madalasana	Line (Duran	50Hz	(MMY-)	AP4016	HT8P-ME	A	P4216HT8P-N	ИE	AF	P4416HT8P-I	ИE		
wodel name	Heat Pump	60Hz	(MMY-)	AP4016H	A	AP4216HT7P-ME			AP4416HT7P-ME				
Outdoor unit type							Inverter						
Power supply (*1)					3phase 4wir	es 50Hz 400V	(380-415V)/	3phase 4wir	es 60Hz 380\	/			
Outdoor unit	List During	50Hz	(MMY-)	MAP2006HT8P-ME MAP1406HT8P-ME MAP1406HT8P-ME MAP1406HT8P-ME MAP1406HT8P-ME MAP1606HT8P-ME M					MAP1406HT8P-ME	MAP1406HT8P-ME			
model	Heat Pump	60Hz	(MMY-)	MAP2006HT7P-ME	MAP2006HT7P-ME	MAP1406HT7P-ME	MAP1406HT7P-ME MAP1406HT7P-ME MAP1406HT7P-ME			E MAP1606HT7P-ME MAP1406HT7P-ME MAP1406HT7P-MI			
	Capacity 100%		(kW)	11	2.0		120.0			125.0			
Cooling (*2)	Power consumption (k ¹			35	5.8		34.5			36.6			
	EER (Energy efficiency ratio)			3.	13		3.48			3.42			
		(kW)	89	9.6		102.0			104.0				
Cooling (*3)	Power consumption		(kW)	29	9.8		34.8			35.7			
E	EER (Energy efficiency ratio)			3.	01		2.93			2.91			
	Capacity 100%		(kW)	12	6.0		135.0			140.0			
Heating (*2)	Power consumption		(kW)	33		31.8			33.7				
	COP (Coefficiency of performance))		3.	82		4.25 4.15						
Starting current			(A)				Soft start						
Total weight	Heat Pump		(kg)	370	370	299	299	299	299	299	299		
Compressor	Quantity		(nos)	2	2	2	2	2	2	2	2		
Fan unit	Air volume		(m³/h)	17,900	17,900	12,200	12,200	12,200	12,600	12,200	12,200		
Refrigerant R410A	(Charged refrigerant amount)		(kg)	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5		
		Gas side	(mm)	Ф4	1.3		Ф41.3			Φ41.3			
Refrigerant	Main pipe diameter	Liquid side	(mm)	Φ2	2.2		Φ22.2			Φ22.2			
piping		Balance pipe	e (mm)	Φ!	9.5		Φ9.5			Φ9.5			
Sound pressure lev	Sound pressure level (Cooling/Heating) (dB(A))			A)) 64.0/65.0		65/67			66.5/67.5				
Sound power level (Cooling/Heating) (dB(A)			(dB(A))	(A)) 85/87		85/87			85.5/87.5				
Connectable indoor	runits		(nos)	6	64		64		64				

Protective devices: Discharge temp. sensor / Suction temp. sensor / High-pressure sensor Low-pressure sensor / High-pressure switch / PC board fuse

*1 The source voltage must not flucture more than $\pm 10\%$.

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

*3 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 46°C DB Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

Outdoor unit specifications

Standard model (Combination) **Technical specifications** Equivalent HP 46HP 48HP 50HP 50Hz (MMY-) AP4616HT8P-ME AP4816HT8P-ME AP5016HT8P-ME Model name Heat Pump 60Hz (MMY-) AP4816HT7P-ME AP5016HT7P-ME AP4616HT7P-ME Outdoor unit type Inverte Power supply (*1) 3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V 50Hz (MMY-) MAP1606HT8P-ME MAP1606HT8P-ME MAP1606HT8P-ME MAP1606HT8P-ME MAP1606HT8P-ME MAP1606HT8P-ME MAP1606HT8P-ME Outdoor unit Heat Pump model 60Hz (MMY-) MAP1606HT7P-ME MAP1606HT7P-ME MAP1406HT7P-ME MAP1606HT7P-ME MAP1606HT7P-ME MAP1606HT7P-ME MAP1806HT7P-ME MAP1806HT7P-ME MAP1606HT7P-ME Capacity 100% 130.0 135.0 (kW)140 4 Cooling (*2) Power consumption (kW) 38.7 40.8 41.2 3.36 EER (Energy efficiency ratio) 3.31 3.41 Capacity 100% (kW) 106.0 108.0 114.8 Cooling (*3) Power consumption (kW) 36.6 37.5 39.2 EER (Energy efficiency ratio) 2.88 2.90 2.93 Capacity 100% (kW) 145.0 150.0 156.0 Heating (*2) Power consumption (kW) 35.6 37.5 38.6 COP (Coefficiency of performance) 4.07 4.00 4.04 Starting current (A) Soft start Total weight Heat Pump 299 299 299 299 299 370 299 (kg) 299 299 Compressor Quantity (nos) 2 2 2 2 2 2 2 2 2 Fan unit Air volume (m³/h) 12.600 12 600 12 200 12.600 12.600 12.200 17.300 12.600 12 600 Refrigerant R410A (Charged refrigerant amount) 115 11 5 115 115 115 115 115 (kg) 11.5 115 Gas side (mm) Φ41.3 Φ41.3 Φ41.3 Refrigerant Liquid side Φ22.2 Φ22.2 Φ22.2 Main pipe diameter (mm) piping Balance pipe (mm) Φ9.5 Φ9.5 Φ9.5 Sound pressure level (Cooling/Heating) (dB(A)) 66.5/68.5 67/69 66.5/68 85.5/87.5 86/88 86/88 Sound power level (Cooling/Heating) (dB(A)) Connectable indoor units 64 (nos) 64 64

Standard model (Combination) Technical specifications Equivalent HP 52HP 54HP 56HP AP5616HT8P-ME 50Hz (MMY-) AP5216HT8P-ME AP5416HT8P-ME Model name Heat Pump 60Hz (MMY-) AP5216HT7P-ME AP5416HT7P-ME AP5616HT7P-ME Outdoor unit type Inverter 3phase 4wires 50Hz 400V (380-415V) / 3phase 4wires 60Hz 380V Power supply (*1) 50Hz (MMY-) MAP1806HT8P-ME MAP186HT8P-ME MAP1606HT8P-ME MAP2006HT8P-ME MAP2006HT8P-ME MAP1406HT8P-ME MAP2006HT8P-ME MAP2006HT8P-ME MAP1606HT8P-ME Outdoor unit Heat Pump model 60Hz (MMY-) MAP1806HT7P-ME MAP1806HT7P-ME MAP1606HT7P-ME MAP2006HT7P-ME MAP2006HT7P-ME MAP2006HT7P-ME MAP2006HT7P-ME MAP2006HT7P-ME Capacity 100% (kW) 145.8 152.0 157.0 Cooling (*2) Power consumption (kW) 416 47.3 494 EER (Energy efficiency ratio) 35 3 21 3 18 Capacity 100% (kW) 121.7 123.6 125.6 Power consumption (kW) 40.9 41.4 42.3 Cooling (*3) EER (Energy efficiency ratio) 2.98 2.99 2.97 Capacity 100% (kW) 162.0 171.0 176.0 (kW) 39.7 43.6 45.5 Heating (*2) Power consumption COP (Coefficiency of performance) 4.08 3.92 3.87 Starting current (A) Soft start Total weight Heat Pump 370 370 299 370 370 299 370 370 299 (kg) Compressor Quantity (nos) 2 2 2 2 2 2 2 2 2 17,300 12,600 17,900 12,200 17,900 17,900 12,600 Fan unit Air volume 17.300 17.900 (m³/h) Refrigerant R410A (Charged refrigerant amount) (kg) 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 Gas side (mm) Φ413 Φ41.3 Φ413 Refrigerant Main pipe diameter Liquid side (mm) Φ22.2 Φ22.2 Φ22.2 piping Balance pipe (mm) Φ9.5 Φ9.5 Φ9.5 Sound pressure level (Cooling/Heating) 65.5/67 65.5/67 66.5/67.5 (dB(A)) (dB(A)) Sound power level (Cooling/Heating) 86/88 86.5/88.5 86.5/88.5 Connectable indoor units (nos) 64 64 64

Protective devices: Discharge temp. sensor / Suction temp. sensor / High-pressure sensor / Low-pressure sensor / High-pressure switch / PC board fuse

*1 The source voltage must not flucture more than $\pm 10\%$.

- *2 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 35°C DB Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB Based on equivalent piping length of 7.5 m and piping height difference of 0 m.
- *3 Rated conditions Cooling : Indoor air temperature 27°C DB/19°C WB, Outdoor air temperature 46°C DB Based on equivalent piping length of 7.5 m and piping height difference of 0 m.



28

MMY-MAP0806HT8P-ME, MAP0806HT7P-ME MMY-MAP1006HT8P-ME, MAP1006HT7P-ME MMY-MAP1206HT8P-ME, MAP1206HT7P-ME



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)

the same as that of standard model.







30

Leading Innovation >>>

Indoor units line-up











Cooling capacity (HP	equivalent)	4-way air discharge cassette type	Compact 4-way cassette (600 × 600) type	2-way air discharge cassette type	1-way air discharge cassette type	Concealed duct type
007 type 2.2 kW	(0.8HP)		MMU-AP0074MH-E	MMU-AP0072WH	MMU-AP0074YH-E	MMD-AP0076BHP-E
009 type 2.8 kW	(1HP)	MMU-AP0094HP-E	MMU-AP0094MH-E	MMU-AP0092WH	MMU-AP0094YH-E	MMD-AP0096BHP-E
012 type 3.6 kW	(1.25HP)	MMU-AP0124HP-E	MMU-AP0124MH-E	MMU-AP0122WH	MMU-AP0124YH-E	MMD-AP0126BHP-E
015 type 4.5 kW	(1.7HP)	MMU-AP0154HP-E	MMU-AP0154MH-E	MMU-AP0152WH	MMU-AP0154SH-E	MMD-AP0156BHP-E
018 type 5.6 kW	(2HP)	MMU-AP0184HP-E	MMU-AP0184MH-E	MMU-AP0182WH	MMU-AP0184SH-E	MMD-AP0186BHP-E
024 type 7.1 kW	(2.5HP)	MMU-AP0244HP-E		MMU-AP0242WH	MMU-AP0244SH-E	MMD-AP0246BHP-E
027 type 8.0 kW	(3HP)	MMU-AP0274HP-E		MMU-AP0272WH		MMD-AP0276BHP-E
030 type 9.0 kW	(3.2HP)	MMU-AP0304HP-E		MMU-AP0302WH		MMD-AP0306BHP-E
036 type 11.2 kW	(4HP)	MMU-AP0364HP-E		MMU-AP0362WH		MMD-AP0366BHP-E
048 type 14.0 kW	(5HP)	MMU-AP0484HP-E		MMU-AP0482WH		MMD-AP0486BHP-E
056 type 16.0 kW	(6HP)	MMU-AP0564HP-E		MMU-AP0562WH		MMD-AP0566BHP-E
072 type 22.4 kW	(8HP)					
096 type 28.0 kW	(10HP)					





MMD-AP0***6HP-E

Cooling capacity (HP	equivalent)	Concealed duct high static pressure type	Slim duct type	Ceiling type	High wall type 3 series	High wall type 4 series
007 type 2.2 kW	(0.8HP)		MMD-AP0074SPH-E		MMK-AP0073H	MMK-AP0074MH
009 type 2.8 kW	(1HP)		MMD-AP0094SPH-E		MMK-AP0093H	MMK-AP0094MH
012 type 3.6 kW	(1.25HP)		MMD-AP0124SPH-E		MMK-AP0123H	MMK-AP0124MH
015 type 4.5 kW	(1.7HP)		MMD-AP0154SPH-E	MMC-AP0157HP-E	MMK-AP0153H	
018 type 5.6 kW	(2HP)	MMD-AP0186HP-E	MMD-AP0184SPH-E	MMC-AP0187HP-E	MMK-AP0183H	
024 type 7.1 kW	(2.5HP)	MMD-AP0246HP-E	MMD-AP0244SPH-E	MMC-AP0247HP-E	MMK-AP0243H	
027 type 8.0 kW	(3HP)	MMD-AP0276HP-E	MMD-AP0274SPH-E	MMC-AP0277HP-E		
030 type 9.0 kW	(3.2HP)					
036 type 11.2 kW	(4HP)	MMD-AP0366HP-E		MMC-AP0367HP-E		
048 type 14.0 kW	(5HP)	MMD-AP0486HP-E		MMC-AP0487HP-E		
056 type 16.0 kW	(6HP)	MMD-AP0566HP-E		MMC-AP0567HP-E		
072 type 22.4 kW	(8HP)	MMD-AP0724H-E				
096 type 28.0 kW	(10HP)	MMD-AP0964H-E				









Cooling capacity (HP	equivalent)	Console	Floor standing cabinet type	Floor standing concealed type	Floor standing type
007 type 2.2 kW	(0.8 HP)	MML-AP0074NH-E	MML-AP0074H-E	MML-AP0074BH-E	
009 type 2.8 kW	(1.0 HP)	MML-AP0094NH-E	MML-AP0094H-E	MML-AP0094BH-E	
012 type 3.6 kW	(1.25 HP)	MML-AP0124NH-E	MML-AP0124H-E	MML-AP0124BH-E	
015 type 4.5 kW	(1.7 HP)	MML-AP0154NH-E	MML-AP0154H-E	MML-AP0154BH-E	MMF-AP0156H-E
018 type 5.6 kW	(2.0 HP)	MML-AP0184NH-E	MML-AP0184H-E	MML-AP0184BH-E	MMF-AP0186H-E
024 type 7.1 kW	(2.5 HP)		MML-AP0244H-E	MML-AP0244BH-E	MMF-AP0246H-E
027 type 8.0 kW	(3.0 HP)				MMF-AP0276H-E
030 type 9.0 kW	(3.2 HP)				
036 type 11.2 kW	(4.0 HP)				MMF-AP0366H-E
048 type 14.0 kW	(5.0 HP)				MMF-AP0486H-E
056 type 16.0 kW	(6.0 HP)				MMF-AP0566H-E





Individual louver control

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



Easy installation

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



		11007010		00-0011-01	(**)-∟
		-	Technical	specifica	itions
·F	AP0274HP-F	AP0304HP-F	AP0364HP-F		AP0564

Model name MM			AP0094HP-E	AP0124HP-E	AP0154HP-E	AP0184HP-E	AP0244HP-E	AP0274HP-E	AP0304HP-E	AP0364HP-E	AP0484HP-E	AP0564HP-E	
Cooling/Heating c	apacity*1	(kW)	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	11.2/12.5	14.0/16.0	16.0/18.0	
	Power requirements			1-phase	e 50Hz 230V (2	220–240V) / 1-p	hase 60Hz 220	0V (Separate po	ower supply for	indoor units required.)			
characteristics	Power consumption 50 Hz/60 Hz	(kW)	0.021/	0.021	0.023/0.023	0.026/0.026	0.036/0.036 0.04		0.043/0.043	0.088/0.088	0.112/0.112	0.112/0.112	
Appearance (Ceil	ng panel)	Model		RBC-U31PGP(W)-E									
External	Height	(mm)				256 (30)*					319 (30)*		
dimensions: Main unit	Width	(mm)					840 (950)*					
(Ceiling panel)*	Depth	(mm)		840 (950)*									
Total weight: Mair	n unit (Ceiling panel)*	(kg)	18 (4)* 20 (4)* 25 (4)*										
Fan unit	Standard air flow (High/Mid/Low)	(m ³ /h)	800/73	30/680	930/830/790	1050/ 920/800	1290/9	20/800	1320/ 1110/850	1970/ 1430/1070	2130/ 1430/1130	2130/ 1520/1230	
	Motor output	(w)		1	4			20		68	7	2	
	Gas side	(mm)	ø9	.5	ø1	2.7			ø1	5.9			
Connecting pipe	Liquid side	(mm)		ø6	6.4				øS	9.5			
	Drain port (nominal dia.)) (mm)					25 (Polyvinyl	chloride tube)					
Sound pressure le	evel*2 (High/Mid/Low)	(dB(A))	30/2	9/27	31/29/27	32/29/27	35/3	1/28	38/33/30	43/38/32	46/38/33	46/40/33	
Sound power leve	I (High/Mid/Low)	(dB(A))	45/4	4/42	46/44/42	47/44/42	50/4	6/43	53/48/45	58/53/47	61/53/48	61/55/48	

* Figures in parentheses are for ceiling panels.

Note 1: The capacities are measured under the conditions 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 e ects of external sound.

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



MMU-AP0094HP-E to AP0564HP-E



Options





Perfect for grid system ceiling

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





RBC-UM11PG(W)E TCB-A

TCB-AX32E2

Designed for simple & easy installation and maintenance

The slim design is only 268 mm in height even when an electrical box is located inside the unit. Easy installation is also possible using the panel adjust pocket. Use the "adjust pocket" function for fine adjustments after installation. Available for ceilings up to 3.5 m in height. The drain-checking hole makes it possible to check the drain pan through the side case.





le Maximur

Maximum height

						Technica	I specifications					
Model name		MMU-	AP0074MH-E	AP0094MH-E	AP0124MH-E	AP0154MH-E	AP0184HP-E					
Cooling/Heating c	apacity*1	(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3					
Electrical.	Power requirements		1-phas	e 50Hz 230V (220–240V) / 1-p	ohase 60Hz 220V (Separate po	ower supply for indoor units required.)						
characteristics	Power consumption 50 Hz/60 Hz	(kW)	0.034/0.034	0.036/0.036	0.038/0.038	0.041/0.041	0.052/0.052					
Appearance (Ceili	ng panel)	Model		RBC-UM11PG(W)-E								
External	Height	(mm)			268 (27)*							
aimensions: Width (mm) 575 (700)*												
(Ceiling panel)*	Depth	(mm)		575(700)*								
Total weight: Main	unit (Ceiling panel)*	(kg)	17 (3)*									
Fan unit	Standard air flow (High/Mid/Low)	(m ³ /h)	552/462/378	570/468/378	590/504/402	660/552/468	762/642/522					
	Motor output	(w)			60							
	Gas side	(mm)		ø9.5		ø1.	2.7					
Connecting pipe	Liquid side	(mm)			ø6.4							
	Drain port (nominal dia.)	(mm)	25 (Polyvinyl chloride tube)									
Sound pressure le	evel*2 (High/Mid/Low)	(dB(A))	36/32/28	3 37/33/28 37/33/29 40/35/30		44/39/34						
Sound power leve	l (High/Mid/Low)	(dB(A))	51/47/43	52/48/43	52/48/44	55/50/45	59/54/49					

* Figures in parentheses are for ceiling panels.

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

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

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

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

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



MMU-AP0074MH-E to AP0184MH-E



Options







Slim and compact unit

Unified the width of ceiling panel to 680mm.

Condensate drain pump included.

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

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

REMOTE CONTROLS

RBC-AMS41E





RBC-AX32UW(W)-E

RBC-AMS51E

Technical specification								lions					
Model name		MMU-	AP0072WH	AP0092WH	AP0122WH	AP0152WH	AP0182WH	AP0242WH	AP0272WH	AP0302WH	AP0362WH	AP0482WH	AP0562WH
Cooling/Heating c	apacity*1	(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	11.2/12.5	14.0/16.0	16.0/18.0
Electrical.	Power requirements			1-ph	ase 50Hz 230)V (220–240V) / 1-phase 60	Hz 220V (Sep	arate power	supply for inde	por units requi	ired.)	
characteristics	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 (Ceili	ng panel)	Model		RBC-UW28	33PG(W)-E			RBC-UW80)3PG(W)-E		RBC	-UW1403(W)	PG-E
External	Height	(mm)		295	(20)					345 (20)			
dimensions: Main unit	Width	(mm)		815 (1050)			1180	(1415)		1600 (1835)		
(Ceiling panel)*	Depth	(mm)		570 (680)									
Total weight: Mair	n unit (Ceiling panel)*	(kg)		19 ((10)			26	(14)			36 (14)	
Fan unit	Standard air flow (High/Mid/Low)	(m³/h)		558/498/450		600/ 534/450	900/ 750/618	1050/8	40/738	1260/ 900/780	1740/ 1434/1182	1800/ 1482/1230	2040/ 1578/1320
	Motor output	(w)		2	0		30	30 40 50				70	
	Gas side	(mm)		ø9.5		ø1	2.7			ø1	5.9		
Connecting pipe	Liquid side	(mm)			ø6.4					ø	9.5		
	Drain port (nominal dia.)	(mm)					25 (Polyvinyl chloride tube)						
Sound pressure le	evel*2 (High/Mid/Low)	(dB(A))		34/32/30		35/3	3/30	38/3	5/33	40/37/34	42/39/36	43/40/37	46/42/39
Sound power level (High/Mid/Low) (dB(A)) 49/47/45 50/48/45 53/50/48 55/52/49 57/54/51 58/55/52						61/57/54							

* Figures in parentheses are for ceiling panels.

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

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

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

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

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



MMU-AP0072WH to AP0152WH



MMU-AP0182WH to AP0302WH



(Unit: mm)

MMU-AP0362WH to AP0562WH



 Ceiling panel

 RBC-UW283PG(W)-E

 RBC-UW1403PG(W)-E

 RBC-UW1403PG(W)-E

 Ceiling panel

 CB-FC1403UW-E

 CB-FC1403UW-E

TOSHIBA Leading Innovation >>>



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***4SH-E)

Preparations/connection possible with a circle duct flange.

REMOTE CONTROLS







TBC-AX32E2 For series SH- RBC-AX33CE2

RBC-AMS41E RBC-AMS51E

			Technical specifica								
Model name		MMU-	AP0074YH-E	AP0094YH-E	AP0124YH-E	AP0154SH-E	AP0184SH-E	AP0244SH-E			
Cooling/Heating c	apacity*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			
FI ()	Power requirements		1-	ohase 50Hz 230V (220-2	240V) / 1-phase 60Hz 22	0V (Separate power suppl	y for indoor units require	ed.)			
characteristics	Power consumption 50 Hz/60 Hz	(kW)		0.053/0.056		0.042/0.041	0.046/0.045	0.075/0.073			
Appearance (Ceili	ng panel)	Model		RBC-UY136PG			RBC-US21PGE				
External	Height	(mm)		235 (18)*			200 (20)*				
dimensions: Main unit	Width	(mm)		850 (1050)*		1000 (1230)*					
(Ceiling panel)*	Depth	(mm)		400 (470)*			710 (800)*				
Total weight: Mair	unit (Ceiling panel)*	(kg)		22 (3.5)*		21 (5	5.5)*	22 (5.5)*			
Fan unit	Standard air flow (High/Mid/Low)	(m ³ /h)		540/480/420		750/690/630	750/690/630 780/720/660 1140/960				
	Motor output	(w)		22			30				
	Gas side	(mm)		ø9.5		ø1:	2.7	ø15.9			
Connecting pipe	Liquid side	(mm)		ø6.4				ø9.5			
	Drain port (nominal dia.)	(mm)			25 (Polyvinyl	yl chloride tube)					
Sound pressure le	evel*2 (High/Mid/Low)	(dB(A))		42/39/34		37/35/32	38/36/34	45/41/37			
Sound power leve	l (High/Mid/Low)	(dB(A))		57/54/49		57/54/51 58/56/52					

* Figures in parentheses are for ceiling panels.

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

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

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

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

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



MMU-AP0074YH-E to AP0124YH-E



MMU-AP0154SH-E to AP0244SH-E



Options





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.

REMOTE CONTROLS

RBC-AMS41E





TCB-AX32E2

RBC-AMS51E

										16	cinical	specific	anons	
Model name		MMD-	AP0076BHP-E	AP0096BHP-E	AP0126BHP-E	AP0156BHP-E	AP0186BHP-E	AP0246BHP-E	AP0276BHP-E	AP0306BHP-E	AP0366BHP-E	AP0486BHP-E	AP0566BHP-E	
Cooling/Heating c	apacity*1	(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	11.2/12.5	14.0/16.0	16.0/18.0	
Electrical	Power requirements			1-ph	ase 50Hz 230)V (220–240V) / 1-phase 60	Hz 220V (Sep	parate power	supply for inde	pply for indoor units required.)			
characteristics	Power consumption 50 Hz/60 Hz	(kW)	0.038/0.038	0.043/	/0.043	0.062/	0.062/ 0.062		0.077/0.077 0.094		0.172/ 0.172	0.198/0.198		
	Height	(mm)						275						
External dimensions	Width	(mm)	700 700 1,000								1,400			
	Depth	(mm)						750						
Total weight		(kg)			23				30			40		
_	Standard air flow (High/Mid/Low)	(m ³ /h)	540/ 450/360	570/ 480/390		798/ 660/540		1,2 990/	00/ /870	1,260/ 1,110/930	1,920/ 1,620/1,380	2,10 1,740/	00/ 1,500	
Fon unit	Motor output	(w)				15	50					250		
rail Uliil	External static pressu (factory setting)	^{ire} (Pa)			30	40					50			
	External static pressu	ire (Pa)					30-40-50-	65-80-100-120	0 (7 steps)					
	Gas side	(mm)		ø9.5		ø1	2.7			ø1	5.9			
Connecting pipe	Liquid side	(mm)			ø6.4					Ø9	9.5			
	Drain port (nominal dia.) (mm)					25 (F	olypropylene	tube)					
Sound pressure le (High/Mid/Low)	pressure level*2 (dB(A)) 29/26/23 30/26/23 33/29/25 36/31/27 40/36/33													
Sound power leve (High/Mid/Low)	·I	(dB(A))	44/41/38	45/-	41/38	48	/44/40	51/46	6/42	55/51/48				

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

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

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

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



MMD-AP0076BHP-E to AP0566BHP-E



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

Options





Design flexibility

Satisfies all your design needs. Compatible with external static pressures up to 196 Pa.

Can be equipped with the following options:

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

Construction characteristics

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



REMOTE CONTROLS

RBC-AMS41E



TCB-AX32E2

RBC-AMS51E

								Iech	nical specif	cations	
Model name		MMD-	AP0186HP-E	AP0246HP-E	AP0276HP-E	AP0366HP-E	AP0486HP-E	AP0566HP-E	AP0724H-E	AP0964H-E	
Cooling/Heating c	apacity*1	(kW)	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0	16.0/18.0	22.4/25.0	28.0/31.5	
	Power requirements			1-phase 50Hz	230V (220–240V) /	1-phase 60Hz 220	V (Separate powe	r supply for indoor	or units required.)		
characteristics	Power consumption 50 Hz/60 Hz	(kW)	0.085	0.1	15	0.198	0.230	0.290	1.200/1.540	1.260/1.610	
	Height	(mm)			29	98			47	0	
External	Width	(mm)		1,000			1,400		1,3	80	
	Depth	(mm)		750						50	
Total weight		(kg)		34			43		150		
	Standard air flow (High/Mid/Low)	(m ³ /h)	800 (660/550)	1,2 (970/	00 /800)	1,920 (1,560/1,340)	2,100 (1,740/1,420)	2,400 (2,040/1,660)	3,600	4,200	
Fan unit	Motor output	(w)		250			350		370	i×3	
ran unit	External static pressu (factory setting)	^{ire} (Pa)			1(00			137		
	External static pressu	ıre (Pa)			50-75-125-150-1	75-200 (7steps)			68.6 – 1	37 – 196	
	Gas side	(mm)	ø12.7			ø15.9			ø2	2.2	
Connecting pipe	Liquid side	(mm)	ø6.4			ø9.5			ø1:	2.7	
Drain port (nominal dia.) (mm)						Polyvinyl chloride t	ube)		25 (Male	e screw)	
Sound pressure le (High/Mid/Low)	evel*2	(dB(A))	37 (32/30)	3 (34/	8 /31)	41 (37/34)	42 (40/35)	45 (42/37)	49 50		
Sound power leve (High/Mid/Low)	l	(dB(A))	60 (54/50)	6 (55/	0 /51)	62 (57/53)	65 (62/54)	68 (64/56)	69 70		

Note 1: The cooling capacities and electrical characteristics are measured under the conditions 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 emects of external sound.

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



MMD-AP0186HP-E to AP0276HP-E



MMD-AP0366HP-E to AP0566HP-E



MMD-AP0724H-E, AP0964H-E











(Unit : mm)

Options







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.

REMOTE CONTROLS

RBC-AMS41E





TCB-AX32E2

RBC-AMS51E

Model name		MMD-	AP0074SPH-E	AP0094SPH-E	AP0124SPH-E	AP0154SPH-E	AP0184SPH-E	AP0244SPH-E	AP0274SPH-E	
Cooling/Heating c	apacity*1	(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	
	Power requirements			1-phase 50Hz 230V	(220–240V) / 1-phase	e 60Hz 220V (Separa	te power supply for in	door units required.)		
characteristics	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	
	Height	(mm)								
External dimensions	Width	(mm)			845			11	40	
	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	1,080/1,	000/900	
Fanunii	Motor output	(w)			60			120		
	External static pressu	ıre (Pa)	6-16-31-46	δ (4 steps)	5-15-30-4	45 (4 steps)	4-14-29-44(4 steps)	2-12-22-42	2 (4 steps)	
	Gas side	(mm)	ø9.5 ø12.7					ø1	5.9	
Connecting pipe	Liquid side	(mm)			ø6.4			ø۵	.5	
	Drain port (nominal dia.) (mm)			25	(Polyvinyl chloride tu	be)			
Sound pressure	Under air inlet	(dB(A))	36/33	3/30	38/35/32	39/36/33	40/38/36	49/4	7/44	
(High/Med./Low)	Back air inlet	(dB(A))	28/26	6/24	29/27/25	32/30/28	33/31/29	38/3	6/33	
Sound power	Under air inlet	(dB(A))	51/48	8/45	53/50/47	54/51/48	55/53/51	64/6	2/59	
(High/Med./Low)	Back air inlet	(dB(A))	43/4	1/39	44/42/40	47/45/43	48/46/44	53/5	1/48	

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

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

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

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

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



MMD-AP0074SPH-E to AP0274SPH-E



Options





46

Ceiling Type



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.

Smooth curve for pliant Shape

New fan has adopted the turbulence prevention rib to optimize the ventilating way.

Air volume has increased and noise level also has decreased compared with previous model. Winds of new ceiling type of 4HP to 6HP can be reached up to 4.3 metre.



New Designed Wide Flap

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





RBC-AX33CE

30% Extension

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.

							•	echnical spe	ecifications	
Model name		MMC-	AP0157HP-E	AP0187HP-E	AP0247HP-E	AP0277HP-E	AP0367HP-E	AP0487HP-E	AP0567HP-E	
Cooling/Heating of	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	
The state of	Power requirements			1-phase 50Hz 230V	(220-240V) / 1-phase	e 60Hz 220V (Separa	te power supply for in	door units required.)		
characteristics	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	
	Height	(mm)			_					
External	Width	(mm)	9	50	1,2	69		1,586		
	Depth	(mm)				690				
Total weight		(kg)	2	4	3	0	37			
Fan unit	Standard air flow (High/Mid/Low)	(m³/h)	840 /690/540 960 /720/540		1,440 /1	020/750	1,860 /1,350/1,020	1,860 /1,530/1,200	2,040 /1,650/1,260	
	Motor	(w)	g	4	9	4		139		
	Gas side	(mm)	ø1	2.7			ø15.9			
Connecting pipe	Liquid side	(mm)	ø	6.4			ø9.5			
	Drain port (nominal dia	.) (mm)			20	(Polyvinyl chloride tu	be)			
Sound pressure I (High/Mid/Low)	evel*2	(dB(A))	36/34/28	37/35/28	7/35/28 41/36/29 44/38/32 44/41/35 46/42/36					
Sound power leve (High/Mid/Low)	əl	(dB(A))	51/49/43	52/50/43	56/5	1/44	59/53/47 59/56/50 61/57/51			

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

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

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

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

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



MMC-AP0157HP-E to AP0567HP-E



Options







Elegant and slim

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

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



MMK-AP0073H to AP0243H

(Unit: mm)



Technical specifications Model name MMK-AP0183H AP0243H AP0073H AP0093H AP0123H AP0153H 3.6/4.0 2.2/2.5 2 8/3 2 4 5/5 0 5 6/6 3 7.1/8.0 Cooling/Heating capacity*1 (kW) 1-phase 50Hz 230V (220-240V) (Separate power supply for indoor units required.) Power requirements Electrical Power consumption 50 Hz/60 Hz characteristics 0.018 0.021 0.050 (kW) 0.043 Heiaht 320 (mm) External Width 1.050 (mm) dimensions Depth (mm) 228 Total weight 15 (kg) Standard air flow 570/450/390 600/480/390 1,020/750/570 (m^3/h) 840/660/540 (High/Mid/Low) Fan unit 30 Motor output (w) Gas side ø9.5 ø12.7 ø15.9 (mm) Connecting pipe Liquid side ø6.4 ø9.5 (mm) Drain port (nominal dia.) 16 (polyvinyl chloride tube) (mm) 35/31/28 37/32/28 41/36/33 46/39/34 Sound pressure level*2 (High/Mid/Low) (dB(A)) 52/47/43 56/51/48 61/54/49 Sound power level (High/Mid/Low) (dB(A)) 50/46/43 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





Elegant and slim

Model name

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

Total comfort is granted. For uniform air distribution with the help of directional auto switch louver.



AP0074MH-E, AP0094MH-E, AP0124MH-E



Technical specifications AP0124MH-E 3.6/4.0

(Unit : mm)

Cooling/Heating capacity*1 (kW)		(kW)	2.2/2.5	2.2/2.5 2.8/3.2 3.6/4.0					
	Power requirements		1-phase 50Hz 230V (220-240V) (Separate power supply for indoor units required.)						
characteristics	Power consumption 50 Hz/60 Hz	(kW)	0.017	0.017 0.018					
	Height	(mm)		275					
External	Width	(mm)		790					
aintenente	Depth	(mm)		208					
Total weight		(kg)	11						
Fan unit	Standard air flow (High/Mid/Low)	(m³/h)	480/420/360	510/450/360	540/450/360				
	Motor output	(w)		30					
	Gas side	(mm)		ø9.5					
Connecting pipe	Liquid side	(mm)		ø6.4					
	Drain port (nominal dia.)	(mm)		16 (polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low) (dB(A))			35/32/29	36/33/29	37/33/29				
Sound power level (High/Mid/Low) (dB(A))			50/47/44	51/48/44	52/48/44				

AP0094MH-E

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.

MMK-

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

AP0074MH-E

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





Wide outlet

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



MML-AP0074NH-E to AP0184NH-E



(Unit: mm)

						Technica	I specifications		
Model name MML-			AP0074NH-E	AP0094NH-E	AP0124NH-E	AP0154NH-E	AP0184NH-E		
Cooling/Heating c	apacity*1	(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3		
Flectrical	Power requirements		1-phase	e 50Hz 230V (220–240V) / 1-p	ohase 60Hz 220V (Separate po	ower supply for indoor units re-	quired.)		
characteristics	Power consumption 50 Hz/60 Hz	(kW)	0.0	21	0.025	0.034	0.052		
	Height	(mm)		600					
External dimensions	Width	(mm)		700					
	Depth	(mm)		220					
Total weight		(kg)			17				
Fan unit	Standard air flow (High/Mid/Low)	(m³/h)	510/30	510/366/282		624/468/384	726/528/426		
	Motor output	(w)			41				
	Gas side	(mm)		ø9.5		ø1	ø12.7		
Connecting pipe	Liquid side	(mm)			ø6.4				
	Drain port (nominal dia.) (mm)		16 (Polyvinyl chloride tube)					
Sound pressure le	evel*2 (High/Mid/Low)	(dB(A))	38/3	2/26	40/34/29	43/37/31	47/40/34		
Sound power level (High/Mid/Low) (dB(A))		(dB(A))	53	/41	55/44	58/46	62/55		
Note 1 The car	pacities are measured i	under the	conditions specified by JIS B	3615 based on the reference r	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





Slim & compact design

kW is the same.

Under-window mounting does not block lighting.

Indoor unit size of 2.2 kW to 7.1

Slim & compact design Distribution can be reversed

to suit occupant preference.



Air blown from front panel



Air blown from top

MML-AP0074H-E to AP0244H-E



(Unit: mm)

							Technical s	pecifications	
Model name		MML-	AP0074H-E	AP0094H-E	AP0124H-E	AP0154H-E	AP0184H-E	AP0244H-E	
Cooling/Heating of	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	
	Power requirements		1-	phase 50Hz 230V (220–2	240V) / 1-phase 60Hz 220	V (Separate power supp	y for indoor units required.)		
characteristics	Power consumption 50 Hz/60 Hz	(kW)	0.056	/0.053	0.092/0.092		0.102/0.113		
	Height	(mm)		630					
External dimensions	Width	(mm)		950					
	Depth	(mm)		230					
Total weight		(kg)		37			4	0	
Fan unit	Standard air flow (High/Mid/Low)	(m³/h)	480/4	480/420/360 900/780/650				30/780	
	Motor output	(w)		4	15		70		
	Gas side	(mm)		ø9.5		ø1:	2.7	ø15.9	
Connecting pipe	Liquid side	(mm)			ø6.4			ø9.5	
	Drain port (nominal dia	.) (mm)			20 (Polyvinyl	chloride tube)			
Sound pressure level*2 (High/Mid/Low) (dB(A))		39/3	7/35	45/4	1/38	49/4	4/39		
Sound power level (High/Mid/Low) (dB(A))			54/5	54/52/50 60/56/53 64/59/54				9/54	
Noto 1 · The ear	nacities are measured	under the	conditions specified by I	IS P 9615 based on the r	oforonoo nining				

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

TOSHIBA Leading Innovation >>>



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-AP0074BH-E to AP0244BH-E



							Technical s	pecifications	
Model name		MML-	AP0074BH-E	AP0094BH-E	AP0124BH-E	AP0154BH-E	AP0184BH-E	AP0244BH-E	
Cooling/Heating of	apacity*1	(kW) 2.2/2.5 2.8/3.2 3.6/4.0 4.5/5.0 5.6/6.3 7				7.1/8.0			
	Power requirements		1-	ohase 50Hz 230V (220-	240V) / 1-phase 60Hz 220	0V (Separate power supply for indoor units required.)			
characteristics	Power consumption 50 Hz/60 Hz	(kW)	0.056/0.058			0.090/0.096 0.095/0.1		0.095/0.110	
_	Height	(mm)			6	00			
External dimensions	Width	(mm)		745			1,145		
	Depth	(mm)			2	20			
Total weight		(kg)		21			29		
Fan unit	Standard air flow (High/Mid/Low)	(m³/h)		460/400/300			740/600/490 950/790/640		
	Motor output	(w)		19		70			
	Gas side	(mm)		ø9.5		ø1	2.7	ø15.9	
Connecting pipe	Liquid side	(mm)			ø6.4			ø9.5	
	Drain port (nominal dia.) (mm)		:	20 (Polyvinyl chloride tube	e)			
Sound pressure level*2 (High/Mid/Low) (dB(A))			36/34/32					42/37/33	
Sound power level (High/Mid/Low) (dB(A))			54/52/50 60/55/5				60/55/51		
Note 1: The car	pacities are measured u	under the	conditions specified by J	S B 8615 based on the I	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.

Note :

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

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





Thin profile suits interior design Slender, space-saving type (1.7-6.0HP)

Wide outlet

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



MMF-AP0156H-E to AP0566H-E



							Te	echnical spe	cifications	
Model name		MMF-	AP0156H-E	AP0186H-E	AP0246H-E	AP0276H-E	AP0366H-E	AP0486H-E	AP0566H-E	
Cooling/Heating c	apacity*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	
Ele stris el	Power requirements			1-phase 50Hz 230V (220–240V) / 1-phase 60Hz 220V (Separate power supply for indoor units required.)						
characteristics	Power consumption 50 Hz/60 Hz	(kW)	0.055		0.089		0.135	0.160		
	Height	(mm)				1,750				
External dimensions	Width	(mm)				600				
	Depth	(mm)		2	10		390			
Total weight		(kg)	46 47				62			
Fan unit	Standard air flow (High/Mid/Low)	(m³/h)	900/78	900/780/660		1200/990/840		2160/17	30/1560	
	Motor output	(w)	6	2	62		109	109 109		
	Gas side	(mm)		ø12.7				ø12.7		
Connecting pipe	Liquid side	(mm)		ø6.4			ø9	ø9.5		
Drain port (nominal dia.) () (mm)		20 (one side of male		one side of male scr	ew)			
Sound pressure level*2 (High/Mid/Low) (dB(A))			46/4	2/37	49/4	5/39	51/46/41	54/4	9/44	
Sound power leve	I (High/Mid/Low)	(dB(A))	64/6	0/55	67/6	3/57	69/64/59	72/6	7/62	

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

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

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54

Air-conditioning management system on site



4. KNX[®]: Registered trademark by knx.org





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56

Wired remote controller



Lite-Vision plus Remote Controller RBC-AMS51E-ES RBC-AMS51E-EN

Wired remote controller with a built in 7-day timer-featuring a new multi-language,

LCD display with backlight, energy saving options and a return back function.

• Possibility to set and display the room name to easily set-up and monitor the working parameter.

- New modern and desirable controller design with menu driven display.
- Save mode by schedule timer to optimise energy consumption.
- Room temperature display always available.
- Two "Hot Keys" (F1, F2) for easy operation of air conditioner functions.

• Easy to read layout including display of indoor unit model name and serial number.

• Built-in backup power. Settings are kept in memory up to 72 hours in case of power failure.

• Remote TA sensor available in controller.

Wireless remote 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 kit & sensor unit (receiver unit)

- Start/Stop •Changing mode •Temperature setting Airflow changing
- Timer function

Either "ON" time or "OFF" time or "CYCLIC" can be set how many 30 min. later ON or OFF is operated.

• Control by 2 remote controllers is available. Two wireless remote controllers can operate one indoor unit. The indoor unit can then be operated separately from the two different locations.

Check code display

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



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



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



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

TCB-AX32E2 Stand alone

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







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 $\ensuremath{\mathsf{NRC-01HE}}$

• 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)

58

Advance control systems

Smart Manager with Data Analyzer



BMS-SM1280ETLE

The Smart Manager has the same hardware Control Function as the BMS-CM1280TLE Controller, but also has the ability of control from a Local Area Network and , with the use of an additional Interface, is capable of Energy Monitoring and Report Creation Functions. This controller is ideal where advanced control, Energy Monitoring, advanced scheduling or access to individual Air Conditioners is required from networked computer systems.

Web Browser Control Software Features

- List View available -Displays all Indoor Units from one screen
- Set View available Shows Basic Indoor Unit settings on main screen g
- Advanced Operation and Master schedule functions available
- 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)

Section Blance Control Control





Equipment List

Device	Number of pieces	Description
BMS-SM1280ETLE	1	Up to 128 indoor unit can be connected to Smart Manager
BMS-IFDD03E	Up to 4 Boards	Interface for Digital Input & Outputs. Can connect up to 8 Power Meters per Board (Optional)
BMS-IFWH5E	Up to 4 Boards	Interface for Power Meter (Energy Monitoring Option only)
		Locally Produced Item

			Ecoulty 1 rootice herit
Device	Number of pieces	Description	
Power Meter		Digital Energy Meter with Pulse Output (Energy Monitoring Option only)	
PC		For Operation Monitoring	
Network Hub		For LAN Connection.	



Energy consumption comparison





Alarm list

Energy consumption history (Hours)

Energy consumption history (days)



Advance control systems

Touch-screen controller



Touch-screen Controller BMS-CT5120E



• Touch-screen controller

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

- Function
- Operation monitoring
- Operation control
- Operation Schedule
- Error Code
- Alarm List
- Energy monitoring/Billing
 Digital I/O Signal Control

Up to 12 Relay Interface BMS-IFLSV4E For TCS-NET



Up to 8 Relay Interface BMS-IFWH5E For Energy Monitoring (Optional)



Up to 8 Relay Interface BMS-IFDD03E For Digital I/O (Optional)



Open network systems

BACnet® system

BMS-IFBN640TLE

BACnet® Server

60

The Toshiba BMS-IFBN640TLE BACnet Interface can be connect to the TCC-Link Central Control Network to enable control of the attached Air Conditioner product from a BACnet Building Management System.

Features

• Maximum 64 Indoor Units/Groups and 16 Outdoor Systems can be connected to a single Interface.

 TCB-PCNT30TLE2 Network adaptor required for connection of DI/SDI to BACnet System.



KNX® Interface





Open network systems

LonWorks®



LN Interface TCB-IFLN642TLE

LonWorks® LN Interface

The LonWorks® interface manages the SMMS-i 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 are controllable per interface.

SNVT signal

Signals and provides the following functions: Object signals command

- ÓN/OFF
- Mode: cool/heat/fan
- Temperature setting
- Central/local

Monitoring

- ON/OFF
- Mode
- Cool/heat/fan/failure
- Temperature setting
- Room temperature
- Central/local, etc.



Modbus ®



Modbus Interface TCB-IFMB641TLE

• Modbus ®

The Modbus® interface manages the SMMS-i air conditioning system as a Modbus® device to communicate with the custormer's Building Management System. Accessible to 64 units per one TCB-IFMB641TLE, 15 TCB-IFMB641TLEs on one Modbus® Master (prepared by user).

Signals and provides the following functions:

- ON/OFF
- Mode: cool/heat/fan
- Air flow/Louver setting
- Temperature setting
- Filter reset
- Accumulated operation time, etc.



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

62

Smart phone apps



Smart Phone Application Interface TO-RC-WiFi-1

User can remotely manage an Air Conditioning system using all sort of mobile devices such as Smartphones, Tablets and PC. Internet connection is necessary for operation.

Wi-Fi adapter connect with indoor unit on wired remote controller's connection terminal (A/B).

Two type of connection possible with Toshiba LC & VRF's Indoor unit.

1:1 Individual i.e each indoor unit requires one adapter.

Group Control (Up to 8 Indoor Unit).

Function	Setting	Monitor
On/Off	✓	\checkmark
Mode	Auto, Heat, Cool, Dry, Fan	~
Set Point	18 - 29° C	~
Fan speed	Auto, Low, Medium, High	~
Louver	Swing, Fix	~
Fault Code	Reset	Hex



Connectors

Toshiba Indoor Units have a number of Connectors built in to allow for connection and control of external equipment and control/monitoring of the Air Conditioning.									
Cable Model Name	Function	Connector	Outline						
TCB-KBCN32VEE	Fan output	CN32	External Ventilation fan control from Remote controller.						
TCB-KBCN60OPE	Option output	CN60	Operation status signal output (cooling, heating, fan, defrost, thermo-ON).						
TCB-KBCN61HAE	Operation Input / Output	CN61	External ON/OFF control, operation ON/ OFF status output, alarm status output.						
TCB-KBCN70OAE	Option error input	CN70	Alarm display on Remote controller by this input.						
TCB-KBCN73DEE	Demand input	CN73	Forced thermo-off control by this input.						
TCB-KBCN80EXE	Outside error input	CN80	Generate check code "L30" (for 1 minutes continuously) to stop forcedly the operation.						



				Indoor u	nit accessories
Indoor unit	Parts Name	Model Name	Applied Model	Notes	Remarks
	Ceiling panel	RBC-U31PGP(W)-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
4-way air	Fresh air filter chamber	TCB-GFC1602UE		For fresh air inlet box	
cassette type	Auxiliary fresh air flange	TCB-FF101URE2	MMU-AP***4HP-E	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	Ceiling panel	RBC-UM11PG(W)E		Required accessory	
cassette (600 × 600) type	Auxiliary fresh air flange	TCB-FF101URE2	MMU-AP***4MH-E	For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	
		RBC-UW283PG(W)-E	MMU-AP0072 to 0152WH		
	Ceiling panel	RBC-UW803PG(W)-E	MMU-AP0182 to 0302WH	Required accessory	
		RBC-UW1403PG(W)-E	MMU-AP0362/0482/0562WH		
2-way air		TCB-LF283UW-E	MMU-AP0072 to 0152WH		Use with TCB-FC283UW-E
	Super long life filter	TCB-LF803UW-E	MMU-AP0182 to 0302WH	Dust collecting effect: 50% (Weight method)	Use with TCB-FC803UW-E
cassette type		TCB-LF1403UW-E	MMU-AP0362/0482/0562WH		Use with TCB-FC1403UW-E
		TCB-FC283UW-E	MMU-AP0072 to 0152WH		
	Filter chamber	TCB-FC803UW-E	MMU-AP0182 to 0302WH	For super long life filter	
		TCB-FC1403UW-E	MMU-AP0362/0482/0562WH		
	Auxiliary fresh air flange	TCB-FF151US-E	MMU-AP***2WH	For fresh air intake by using the knockout hole of indoor unit.	
	Ceiling papel	RBC-UY136PG	MMU-AP***4YH-E	Required accessory	
1-way air	Ocining partor	RBC-US21PGE		Required accessory	
discharge	Front air discharge unit	TCB-BUS21HWE	MMU-AP***4SH-F		
casselle type	Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	
		TCB-SF56C6BPE	MMD-AP0076 to 0186BHP-E		
Concealed	Spigot shaped flange	TCB-SF80C6BPE	MMD-AP0246/0276/0306BHP-E		
		TCB-SF160C6BPE	MMD-AP0366/0486/0566BHP-E		
	Long Life Filter Kit	TCB-LK801D-E	MMD-AP0186/0246/0276HP-E		
		TCB-LK1401D-E	MMD-AP0366/0486/0586HP-E		
	Spigot Shaped Flange	TCB-SF80C6BPE	MMD-AP0186/0246/0276HP-E		
		TCB-SF160C6BPE	MMD-AP0366/0486/0586HP-E		
Concealed duct	Auxiliary fresh air flange	TCB-SF160C6BPE	MMD-AP***6HP-E		
high static pressure type	High-efficiency filter 65	TCB-UFM3DE	MMD-AP0724/0964H-E	Dust collecting effect: 65%(NBS Colorimentric method)	
	High-efficiency filter 90	TCB-UFH7DE	MMD-AP0724/0964H-E	Dust collecting effect: 90%(NBS Colorimentric method)	
	Long life prefilter	TCB-PF3DE	MMD-AP0724/0964H-E	Dust collecting effect: 50%(Weight method)	
	Filter chamber	TCB-FCY100DE	MMD-AP0724/0964H-E	For high-efficiency filter or long life prefilter	
	Drain pump kit	TCB-DP32DE	MMD-AP0724/0964H-E	Stand-up 330 mm or less (from bottom face of ceiling)	
Slim duct type	Auxiliary fresh air flange	TCB-FF101URE2	MMD-AP***4SPH-E	For fresh air intake by using the knockout hole of indoor unit. (dia.=100)	
			MMC-AP0157/0187HP-E		Use with TCB-KP13CE
	Drain pump kit	ICB-DP31CE	MMC-AP0247 to 0567HP-E	Stand-up 600 or less (from bottom face of ceiling)	Use with TCB-KP23CE
Ceiling type	-	TCB-KP13CE	MMC-AP0157/0187HP-E		
	Elbow piping kit	TCB-KP23CE	MMC-AP0247 to 0567HP-E	Needed when drain pump kit is used	

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

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			Control Devices	
Model Number	Reference	Description	Used with	
RBC-AMT32E	Wired Remote Controller	Main wired remote controller	VRF and VRF Air-to-air heat exchangers with (DX coil) indoor units	
RBC-AS41E	Simplified Wired Remote Controller	As above but designed for hotel and domestic applications	VRF and VRF Air-to-air heat exchanges with (DX coil) indoor units	
NRC-01HE	Wired Remote Controller	Wired remote controller for Air-to-air heat exchanger, including with DX coil and humidifiers models	New Air-to-air heat exchangers and Air-to-air heat exchangers with DX coil	
TCB-EXS21TLE	Schedule timer	Operating in weekly timer mode or schedule timer mode	VRF and VRF Air-to-air heat exchangers with (DX coil) indoor units	
RBC-AMS41E	Remote controller with schedule timer	Enables to control indoor unit operation with schedule timer (7-days) allowing to program 8 functions/day + clock display	VRF and VRF Air-to-air heat exchangers with (DX coil) indoor units	
RBC-AMS51E-EN RBC-AMS51E-ES	Lite-Vision plus Remote Controller	Local Controller with Multi-Language LCD display, a built-in 7-Day timer, Energy Saving options and return back function. EN =English, Italian, Polish, Greek, Russian, Turkish. ES = English, Spanish, Portuguese, French, Dutch, German	VRF and VRF Air-to-air heat exchangers with (DX coil) indoor units	
RBC-AX33CE	Infra-red Remote Kit	Wireless remote controller	All ceiling units and one-way cassettes (SH series)	
TCB-AX32E2	Infra-red Remote Kit	Wireless remote controller	All other units (including compact 4-way cassette	
RBC-AX32UW(W)-E	Wireless remote unit kit	Wireless remote unit kit for 2-way cassette	2-way-cassette MMU-AP***2WH	
RBC-AX32U(W)-E	Wireless remote unit kit	Wireless remote unit kit for 4-way cassette	RBC-U31PG(W)-E & RBC-U31PGS(W)-E panels for 4-way cassette indoors.	
RBC-AX32U(WS)-E	Wireless remote unit kit	Wireless remote unit kit for 4-way cassette	With RBC-U31PGS(WS)-E panels for 4-way cassette indoors.	
TCB-TC21LE2	Remote temperature sensor	Remote temperature sensor for cassette & duct	All VRF	
TCB-CC163TLE2	On / Off Controller	Enables On / Off control (Max. 16 units)	All VRF indoor units.	
TCB-IFCB5-PE	Remote location On / Off Control Box	Enables remote location On / Off control	All VRF indoor units.	
BMS-WB2561PWE	Web Based Controller (Web Gateway)	Gateway server. Network Intranet connection, yearly schedule, error message history, up to 256 IDUs	All VRF indoor units.	
BMS-WB01GTE	Web Based Controller (Web Server)	Web server. Network Intranet connection, yearly schedule, error message history,up to 2048 IDUs All VRF indoor units.	All VRF indoor units.	
BMS-CM1280TLE	Compliant Manager	Enables full control of up to 128 indoor units	All VRF indoor units.	
BMS-SM1280ETLE	Smart Manager with Data analyzer	Enables full control of up to 128 indoor units with Energy Monitoring and Advanced Control Options	All VRF indoor units.	





			Control Devices	
Model Number	Reference	Description	Used with	
TO-RC-WiFi-1	WiFi Interface	Interface for smart phone application	All VRF	
BMS-CT5120E	Touch Screen Controller	Enables full control of up to 512 indoor units, ML	All VRF	
BMS-IFLSV4E	TCS-Net Relay Interface	Relay for integration to TCS-Net	Bacnet gateway, Touch-screens & Web based controller	
BMS-IFWH5E	Energy monitoring relay interface	Energy monitoring relay interface	Touch screen controller, Compliant manager, Web based controller, Smart Manager	
BMS-IFBN640TLE	BACnet	BACnet interface	Up to 64 indoor unit. All VRF indoor unit.	
BMS-STBN10E	BACnet	Server Software	Enables integration with BACnet	
BMS-STCC06E	Intelligent Server Software	Software package for the intelligent server	All VRF indoor units	
TCB-IFLN642TLE	Lonworks® Gateway	Allows control of 64 indoor units from a Lonworks based BMS	All VRF indoor units	
TCB-IFMB641TLE	Modbus Interface	Allows control of 64 indoor units from a Modbus based BMS	All VRF indoor units	
TO-AC-KNX-64	KNX Interface	Allows control of 64 indoor units from a KNX based BMS/Home Auto machine	All VRF indoor units	
TCB-IFCG1TLE	General purpose interface	Enables control of A/C by the DI/DO and AI/AO	All VRF indoor units	
TCB-IFGSM1E	GSM control interface	Allows ON/OFF control, operation status monitoring & alarm monitoring of A/C	All VRF indoor units	
TCB-PX30MUE	Terminal box	Steel Terminal box to connect to	TCB-PCNT30TLE2, TCB-IFCB5-PE	
TCB-PX100PE	Terminal box	Plastic Terminal box to connect to	TCB-PCNT30TLE2, TCB-IFCB5-PE	
TCB-IFCB-4E2	Application Control PC Board	Remote On/Off Control	All VRF indoor units.	
TCB-IFCB5-PE	Application Control PC Board	Window Switch Remote On/Off control	All VRF indoor units.	
TCB-PCDM4E	Application Control PC Board	Power Peak Cut Control	SMMS, SMMS-i, SHRM and Mini-SMMS Outdoor Units	
TCB-PCMO4E	Application Control PC Board	External Master ON/OFF Control Board	SMMS, SMMS-i, SHRM and Mini-SMMS Outdoor Units	
TCB-PCIN4E	Connectors	Error/Individual compressor Operation Output Control Board	SMMS SMMS i SHRM d Mi i SMMS O td U it	
TCB-KBCN32VEE		For CN32	All VRF indoor units.	
TCB-KBCN60OPE		For CN60	All VRF indoor units.	
TCB-KBCN61HAE	Application	For CN61	All VRF indoor units.	
TCB-KBCN70OAE	Control PC Board	For CN70	All VRF indoor units.	
TCB-KBCN73DEE		For CN73	All VRF indoor units.	
TCB-KBCN80EXE		For CN80	All VRF indoor units.	



66

Installation and the use of refrigerants not specified by Toshoba 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 in 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 conditioner 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) 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



NOTES		

TOSHIBA Leading Innovation >>>







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

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