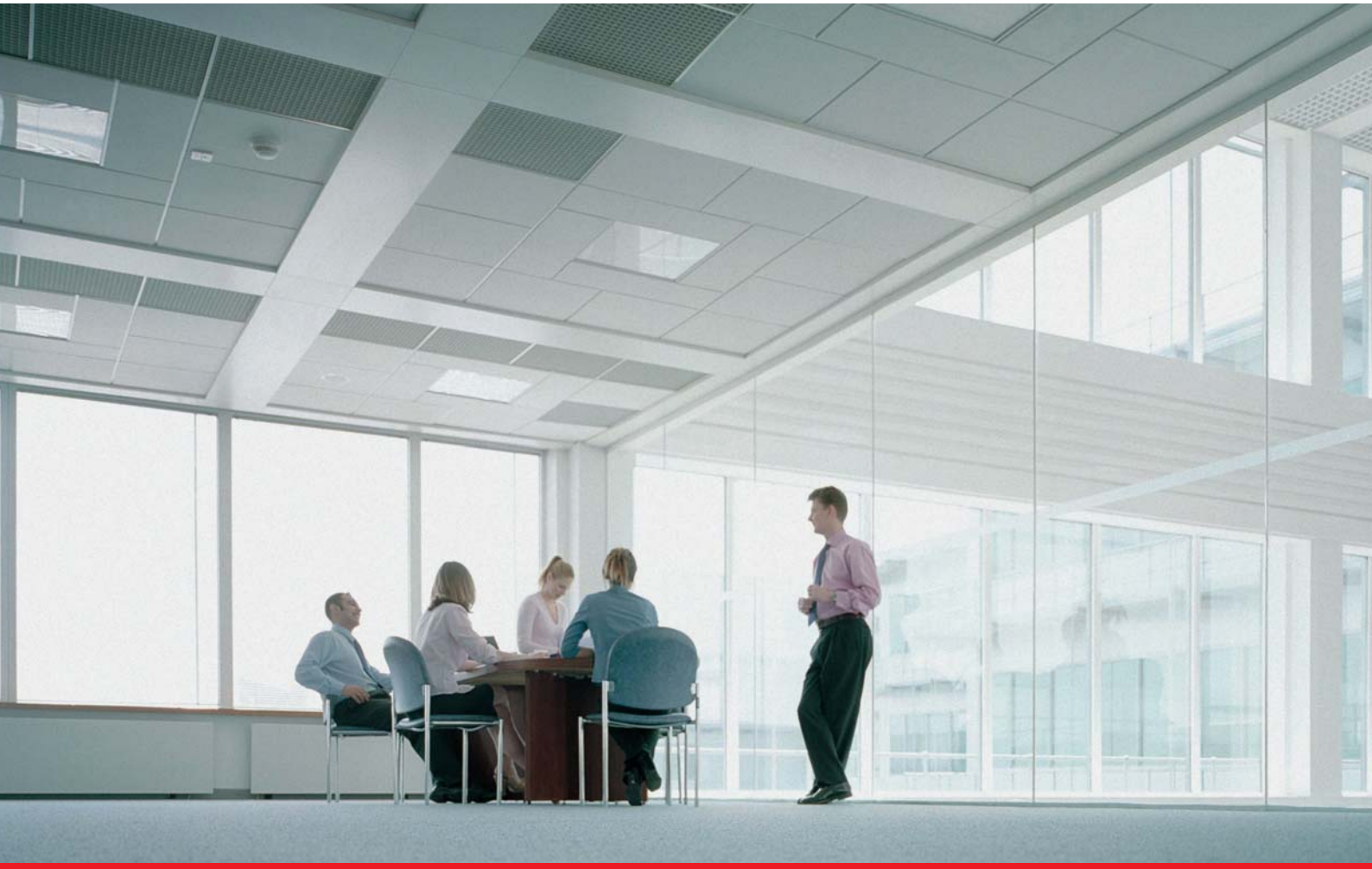
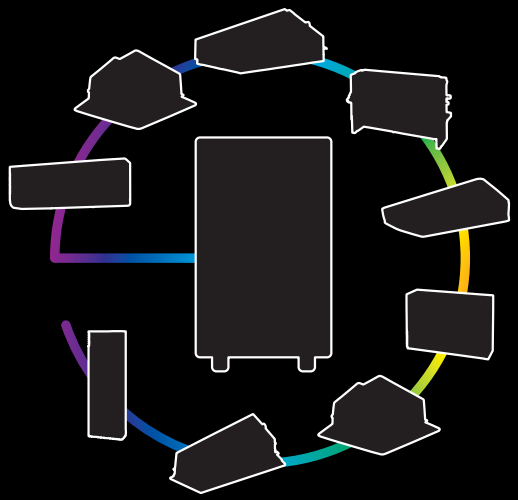
TOSHIBA





Superior new Toshiba VRF system for small and mid-size buildings

MiNi-SMMS

Life keeps getting better and better.

MiNi-SMMS

Toshiba MiNi-SMMS Air Conditioning lets you cool or warm as many as 9 rooms with a single system.

The 4, 5, and 6 HP compact multi outdoor units are intended for small shops, office buildings and light commercial space.

With 13 types of indoor units to choose from, our line-up includes combinations that are capable of air conditioning up to 9 rooms.

Toshiba MiNi-SMMS Air Conditioning — Greater Flexibility for Even More Comfort

- Superior new Toshiba VRF system for small and mid-size buildings
- Toshiba's innovative spirit and VRF concept: Advantages of the reputable SMMS technologies

World's best class energy savings

- COP of 4.61* achieved by Toshiba's unrivalled SMMS technologies and newly developed components

*When heating with 4 HP CDU system

Greatest installation flexibility

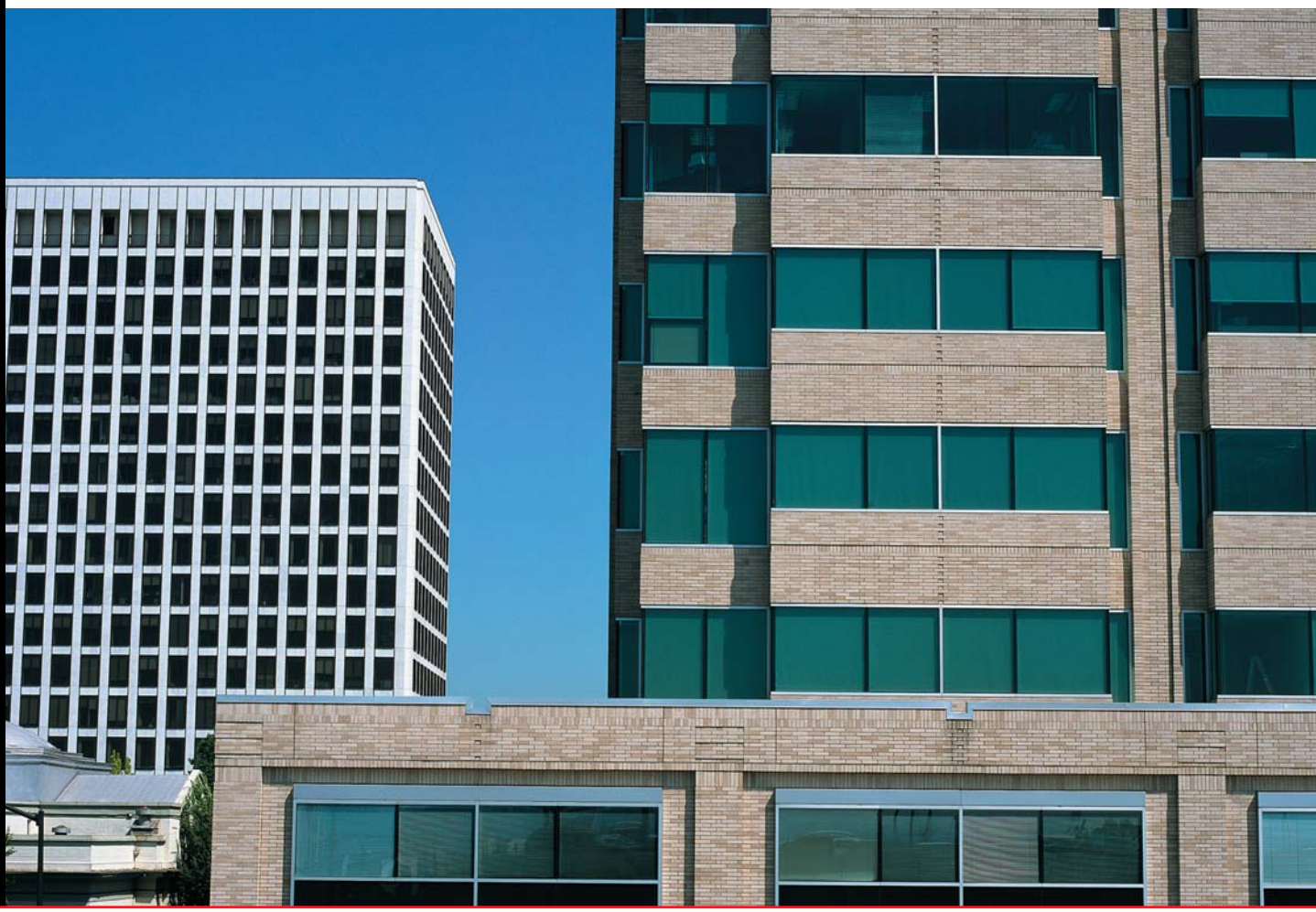
- 13 types of indoor units for use in up to 9 rooms; max. 6 HP
- Small and light weight outdoor unit
- Total piping length 180 m (farthest 100 m)
- Maximum height variation
  (Outdoor unit is up to 30 m higher than indoor unit / outdoor unit is up to 20 m lower than indoor unit)

Surprising quiet operation

- Product with quieter outdoor unit by introduction of bat wing fan

*Pulse Motor Valve

- Quiet operation enables a tranquil interior environment, which can be further enhanced with our optional PMV* kit



World's best class energy savings

COP of 4.61* achieved by Toshiba's unrivalled SMMS technologies and newly developed components *When heating with 4 HP CDU system

DC fan motor

- Highly efficient DC motor
- 63 W + 63 W output
- Sine wave drive

Heat exchanger

High-efficiency R410A heat-transfer tube

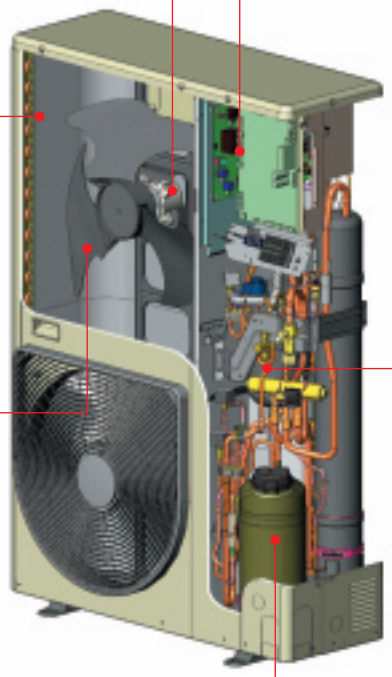
Configuration of the finned heat-transfer tube

New

Bat wing fan

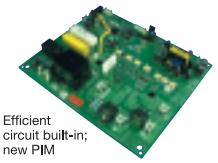
New development for high-pressure low-volume fan

→ The bat wing fan realizes a sound level equivalent to the current model.

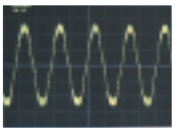


Vector-controlled inverter

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



Efficient circuit built-in; new PIM



Smooth sine curve realizes higher efficiency and less noise.

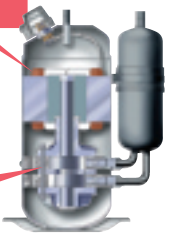
Vector IPDU control changes the motor current wave to a smooth sinus pattern so that noise emitted from the drive units is greatly reduced.

Twin-rotary DC compressor

Increased, wide range efficiency is realized.

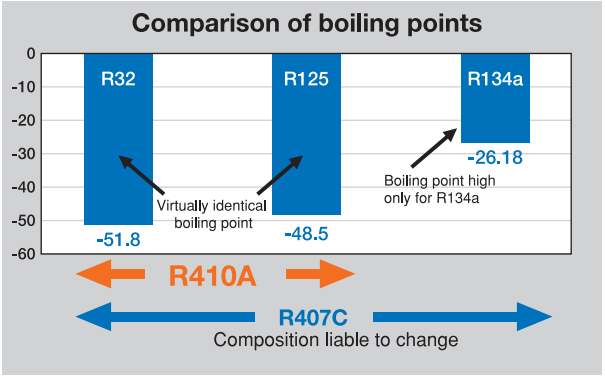
DC driven motor with rare earth magnet
- Compact
- Higher efficiency
- Higher power motor torque

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



R410A High-efficiency Refrigerant

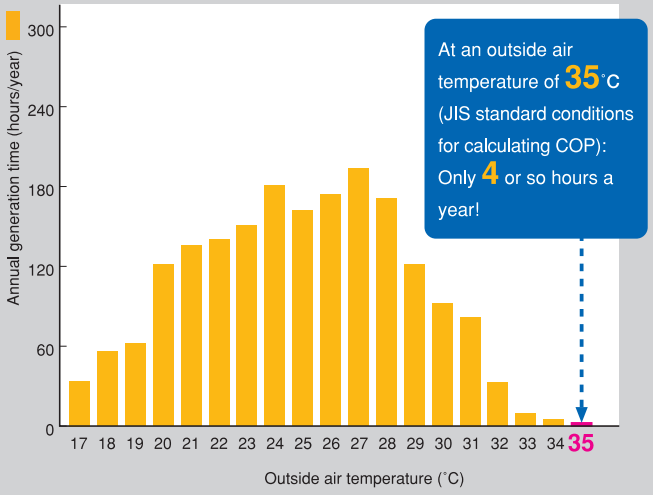
Toshiba is the first in the industry to incorporate R410A refrigerant.



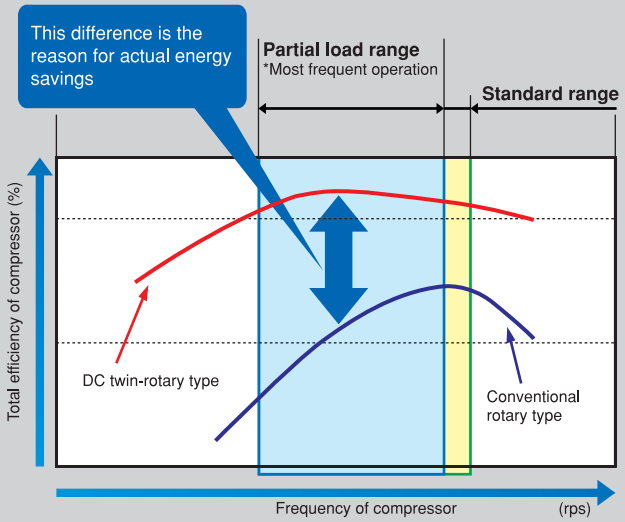
	R410A	R407C	Features of R410A
Composition	R32/R125 Pseudo-azeotropic refrigerant	R32/R125/R134a Non-azeotropic refrigerant	Straightforward installation and servicing. Easy to handle.
Ozone-depleting potential (ODP)	0	0	Does not deplete the ozone layer.
Global warming potential (GWP)	1730	1530	Successfully reduces power consumption by achieving a quantum leap in energy conservation. Minimizes the amount of carbon dioxide discharged to help reduce global warming.
Operating pressure (compared with R22)	160%	107%	Resolves any issues by engineering innovations in DC twin-rotary compressor and twin-inverter drive technology.
Refrigerating capacity (compared with R22)	147%	100%	High refrigerating capacity
Pressure loss (compared with R22)	56%	106%	Even higher efficiency

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

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



Comparison of DC twin-rotary and Conventional Rotary Compressors



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

Whereas the constantly fluctuating outside air temperature is factored in when calculating an electricity bill (= seasonal power consumption), the COP expresses the energy efficiency for only two outside air temperature points, 7˚C (heating rating) and 35˚C (cooling rating).

You can figure out for yourself how much energy will really be conserved using the seasonal power consumption amount into which is factored the actual outside air temperature generation time.

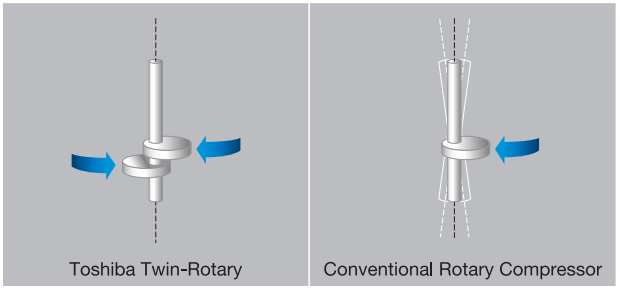
DC twin-rotary compressor

High reliability

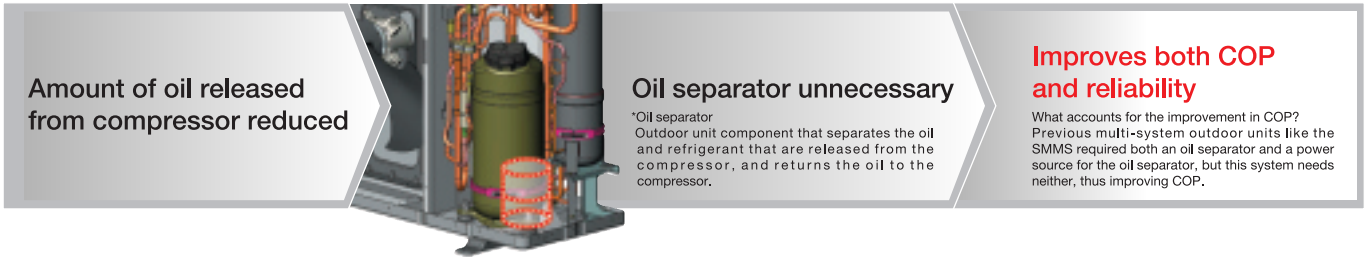
The enhanced DC twin-rotary compressor delivers stable performance
with minimum friction. Ideal for noise-sensitive applications.
The sound of the outdoor unit is almost imperceptible.

- Low vibration
- Super-quiet operation
- High reliability

TWIN-ROTARY COMPRESSOR



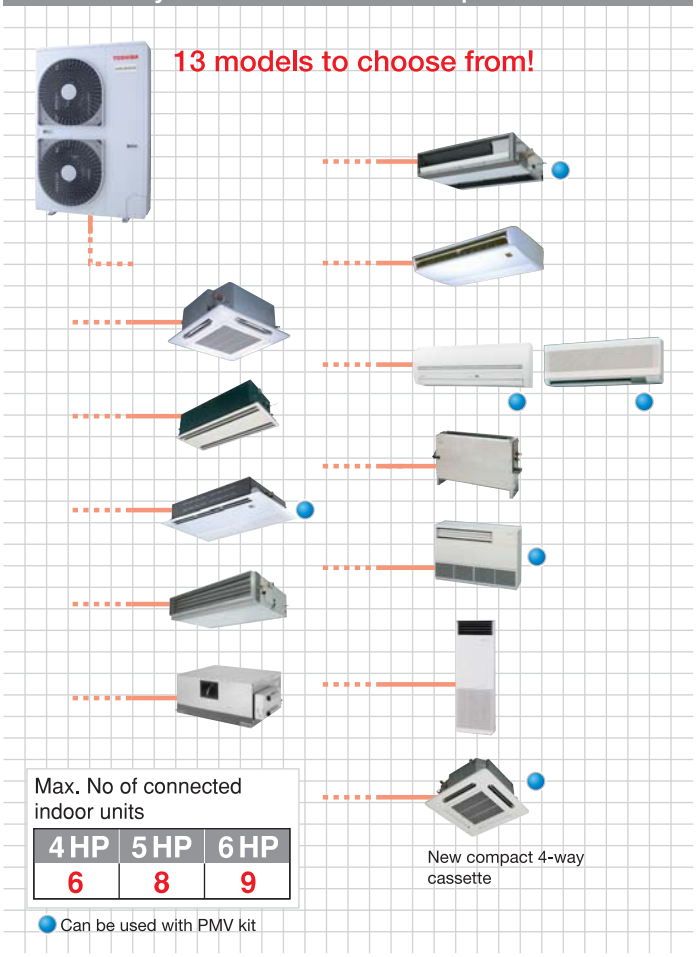
Mechanism of improving COP



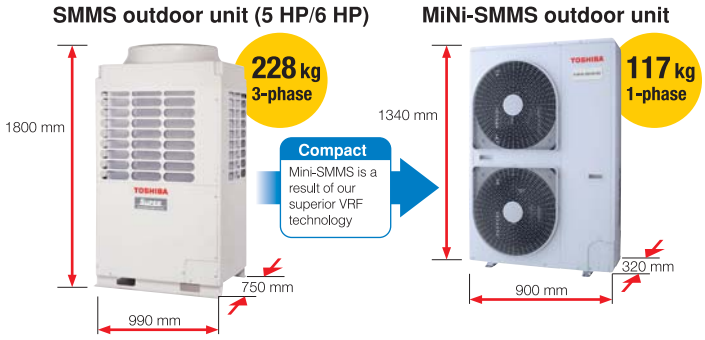
Greatest Installation Flexibility

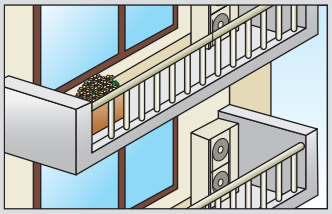
The new bat wing fan combined with the PMV kit provides high efficiency and quieter operation.

Wide variety in our indoor unit line-up



Small and lightweight





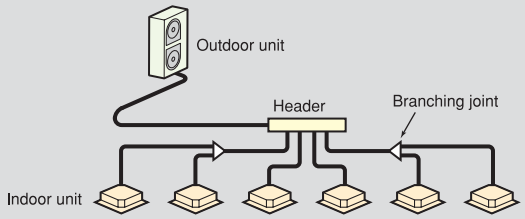
The outdoor unit is compact and expels exhaust air to the side, so it can be installed even in limited spaces such as this!

Shortest route design by free branching

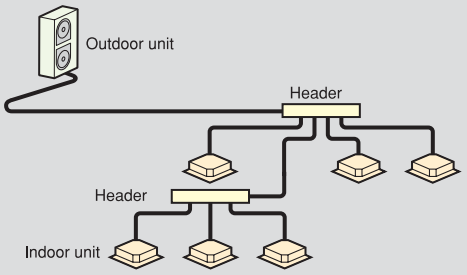
Combination of line and header branching is highly flexible, allowing the shortest route possible thereby saving on installation time and costs.
Line/header branching after header branching is only available with TOSHIBA.

- **Line branching**
- **Header branching**
- **Line + Header branching**

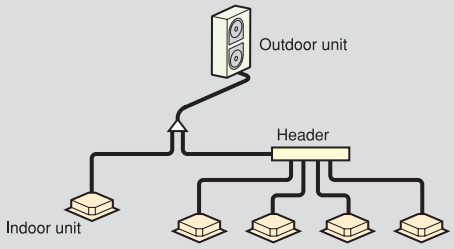
Line branching after header branching



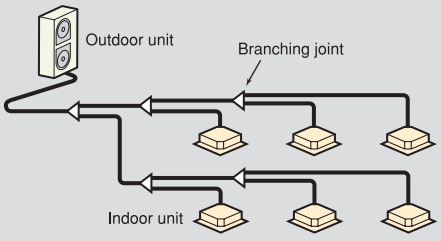
Header branching after header branching

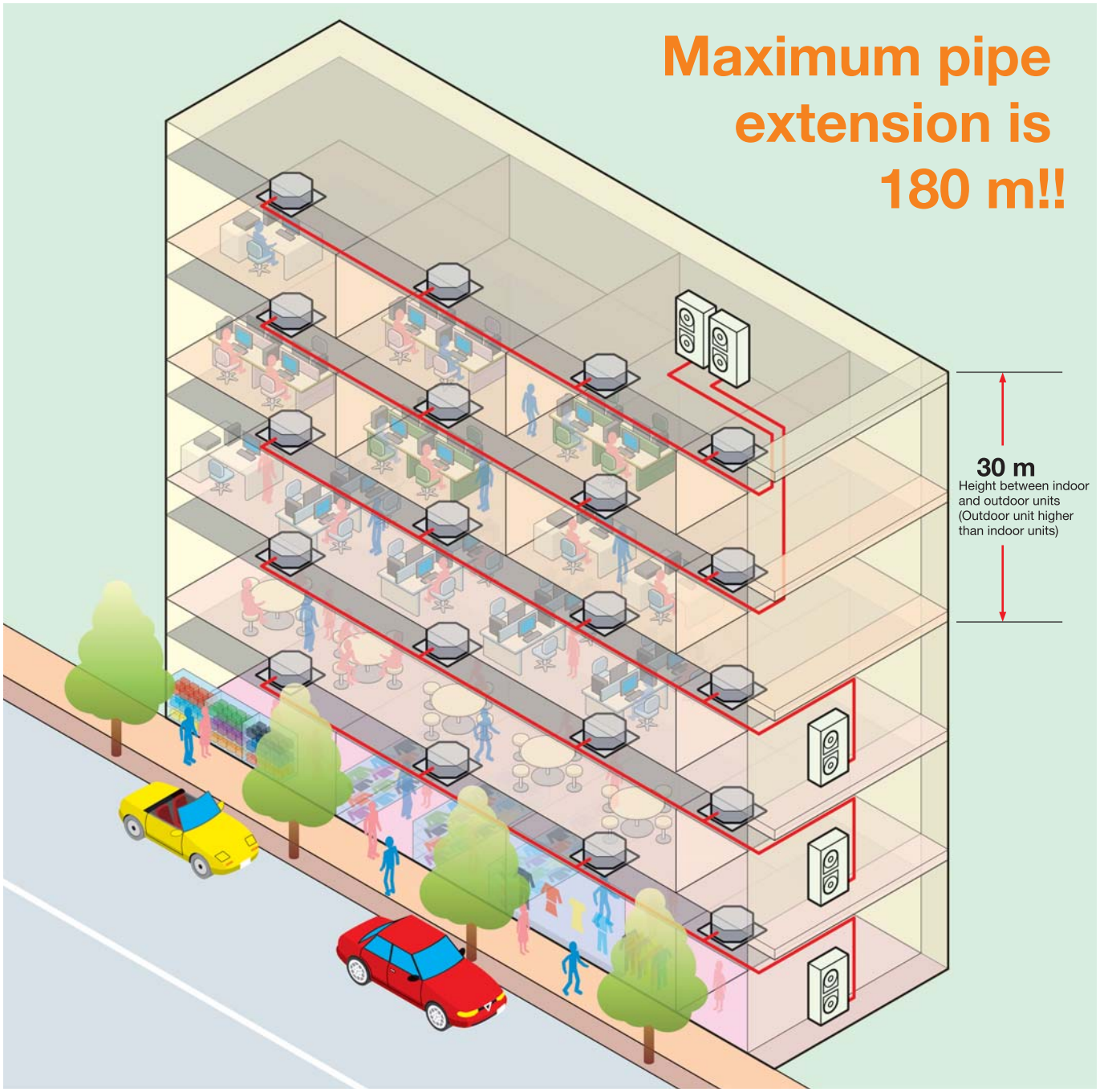


Header branching after line branching



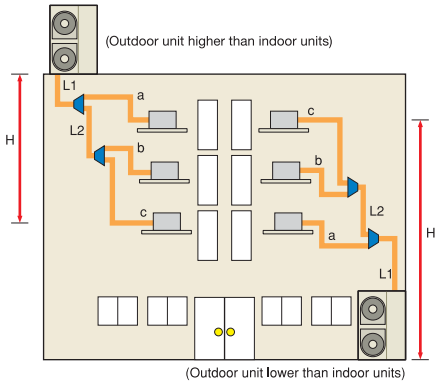
Line branching





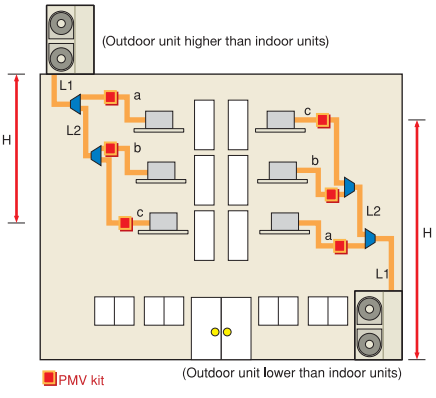
Piping length

When PMV kit is not used



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

When PMV kit is used

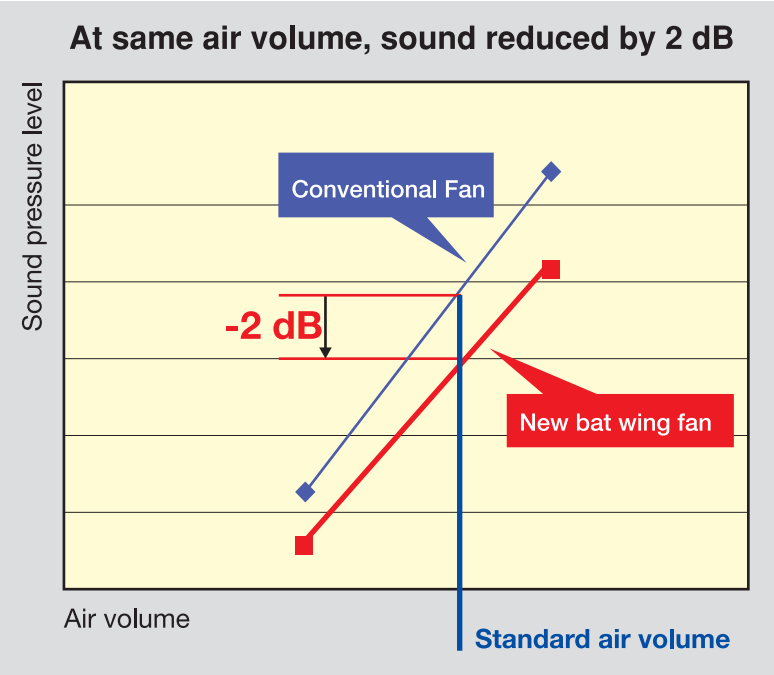


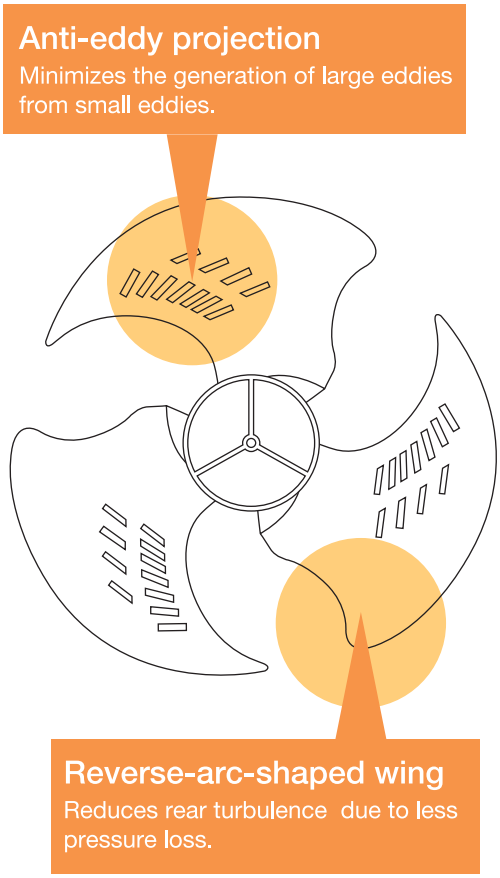
Surprising quieter operation

Toshiba MiNi-SMMS Air Conditioning, featuring the exclusive DC Vector-controlled Inverter, provides a full range of choices to create your desired comfort level.

Bat Wing Fan

Anti-eddy projection minimizes large eddies to reduce air resistance.
Reverse-arc-shaped wing reduces air resistance.





Night operation (sound reduction) control

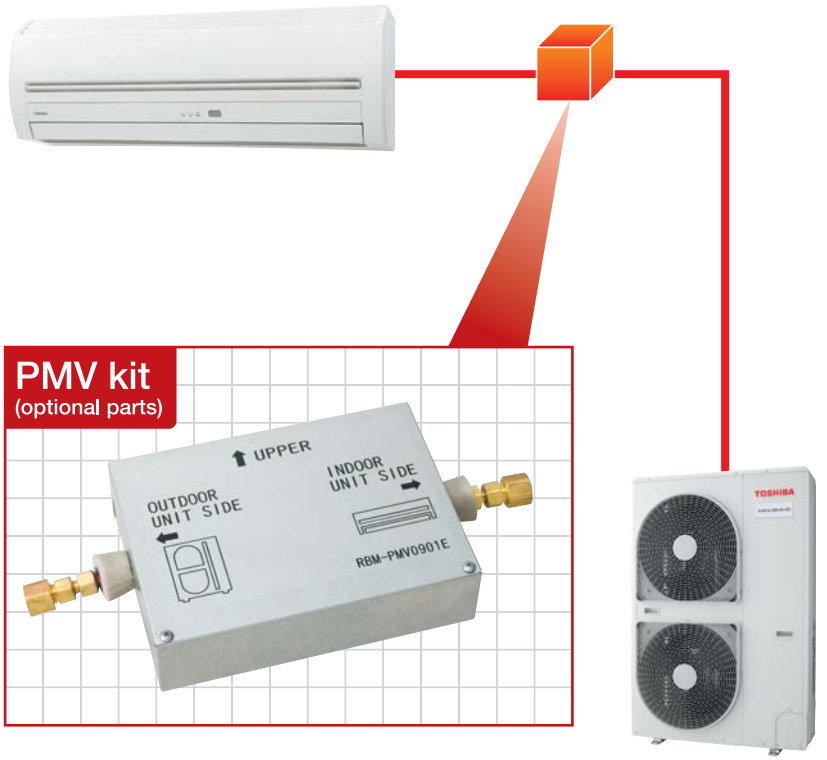
(with optional PC Board (TCB-PCMO2E) and locally supplied timer/switch)

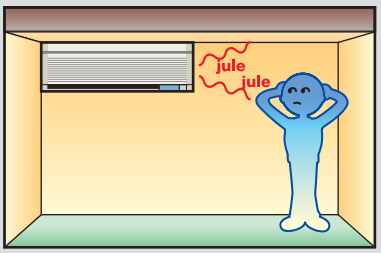
The unit also comes with a night-time low-noise mode, which reduces operating noise at the programmed activation time. (Timer or switch to be locally available.)

Operation control		Normal	Night
4HP	Cooling	49 dB	46 dB
5HP	Heating	50 dB	48 dB
6HP	Cooling	50 dB	47 dB
	Heating	52 dB	49 dB

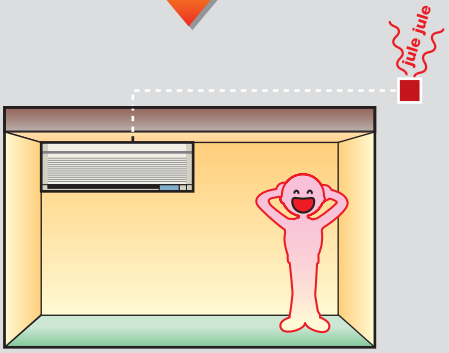
PMV kit specifications

An optional PMV kit allows quieter placement to further reduce refrigerant sound.





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



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

Indoor units that can be used with PMV kit

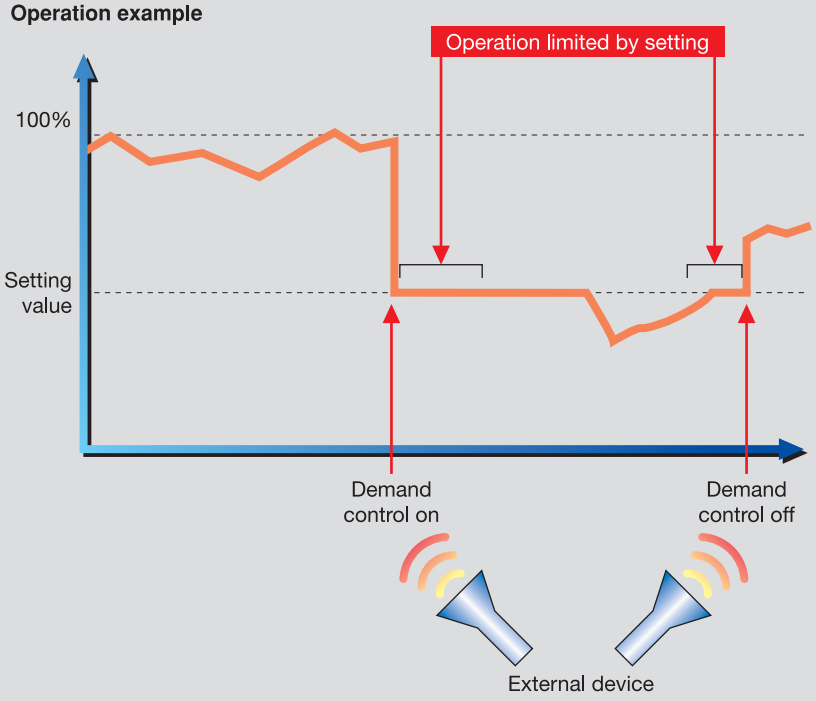
Cooling capacity (HP equivalent)	1-way air discharge cassette type	Slim duct type (Includes drain pump)	High wall type 1 series	High wall type 2 series	Floor standing cabinet	Compact 4-way cassette type
007 type 2.2 kW (0.8 HP)	MMU-AP0071YH	MMD-AP0071SPH	MMK-AP0071H	MMK-AP0072H	MML-AP0071H	MMU-AP0071MH
009 type 2.8 kW (1 HP)	MMU-AP0091YH	MMD-AP0091SPH	MMK-AP0091H	MMK-AP0092H	MML-AP0091H	MMU-AP0091MH
012 type 3.6 kW (1.25 HP)	MMU-AP0121YH	MMD-AP0121SPH	MMK-AP0121H	MMK-AP0122H	MML-AP0121H	MMU-AP0121MH
015 type 4.5 kW (1.7 HP)	MMU-AP0152SH	MMD-AP0151SPH	MMK-AP0151H		MML-AP0151H	MMU-AP0151MH
018 type 5.6 kW (2 HP)	MMU-AP0182SH	MMD-AP0181SPH	MMK-AP0181H		MML-AP0181H	MMU-AP0181MH
024 type 7.1 kW (2.5 HP)	MMU-AP0242SH		MMK-AP0241H		MML-AP0241H	

More attractive features

Reducing peak power consumption levels (optional)

An optional circuit board (TCB-PCDM2E) can be used to limit operation to previously specified setting ranges (four patterns), controlled by the demand signal status. The settings control two variables, capacity value and current value. System operation is confined to a range that does not exceed either setting.

Operation example



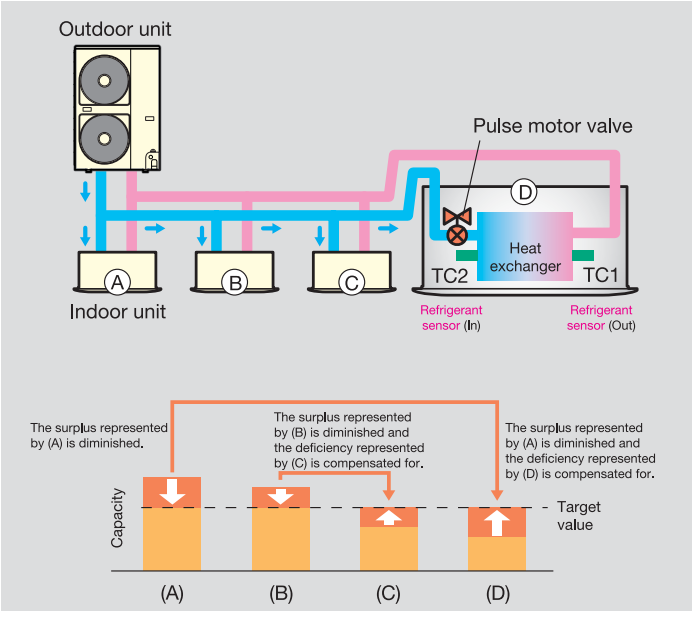
Four patterns

		Capacity	Current
Plan 1	Pattern A	100% (Normal)	100% (Normal)
	Pattern B	0% (Stop)	0% (Stop)
Plan 2	Pattern A	100% (Normal)	100% (Normal)
	Pattern B	Up to 60%	Up to 80%
Plan 3	Pattern A	100% (Normal)	100% (Normal)
	Pattern B	Up to 80%	Up to 80%
	Pattern C	Up to 60%	Up to 70%
	Pattern D	0% (Stop)	0% (Stop)
Plan 4	Pattern A	100% (Normal)	100% (Normal)
	Pattern B	Up to 85%	Up to 90%
	Pattern C	Up to 75%	Up to 80%
	Pattern D	Up to 60%	Up to 70%

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

Optimal refrigerant control

- When a multiple number of indoor units are connected, an insufficient or excess amount of refrigerant may be supplied to indoor units depending on the difference in length of the connection pipe from the outdoor unit.
- This is because pressure loss and heat leaks occur as the refrigerant travels through the pipes, resulting in incorrect amounts of refrigerant being supplied to the indoor units.
- Optimal refrigerant control uses a multiple number of refrigerant sensors to detect the air-conditioning status of each indoor unit and control the capacity (refrigerant amounts) very precisely to eliminate the variations.

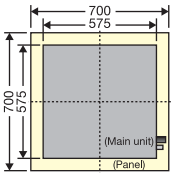


Compact 4-way Cassette
(600 mm × 600 mm)

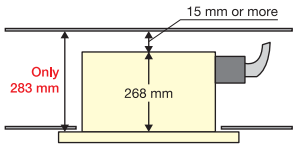
A new indoor unit joins the Toshiba VRF family!

Perfect for grid system ceilings

- Compact body (575 mm × 575 mm) “1 size unit”
  Designed to suit all standard 600 mm × 600 mm grid ceilings.
- Slim design 268 mm
  Fits into ceilings with restricted void spaces.
- Flat, stylish design panel
  Louvers close flat against the panel when operation stops.
  Air grille can be rotated 360°.



Compact body



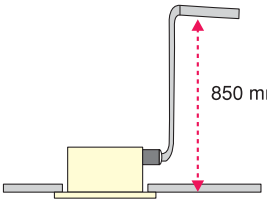
Slim design

Flat & stylish design panel

Easy installation and maintenance

- Panel adjust pocket
  Adjustment corner pocket adopted as panel on all four corners.
  (Easier fine tuning of main part height after ceiling panel attachment.)
- Drain height up to 850 mm
  Installation possible under various conditions.
- Easy access to electrical box
  Electric parts and connection wiring are packed into one place.
  Easy access to electrical box by simply removing the suction grille.
- Opening for checking drain
  Possible to check drain pan and drain pump through the side case.

Panel adjust pocket



Drain height 850 mm

Easy access to electrical box

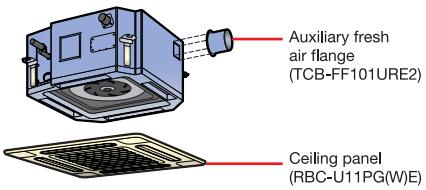
Opening for checking drain

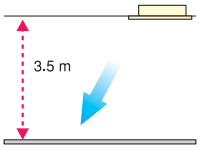
Clean & comfortable

- Long-life filter is a standard accessory
- Fresh air intake is available (Option)
- Washable louver & grille
  Easy to detach & clean.
  Washable with water.
- Quiet operation
  When operating, it is as quiet as the inside of a library. (about 39 dB)

Washable louver & grille
Parts circled in red can be washed.

- Effective to ceiling heights up to 3.5 m
  High-power DC motor distributes air throughout room.
  (High-ceiling mode set by wired remote controller or indoor control PC board)
  (AP0151MH, 0181MH)





Ceiling heights up to 3.5 m possible

Line-up

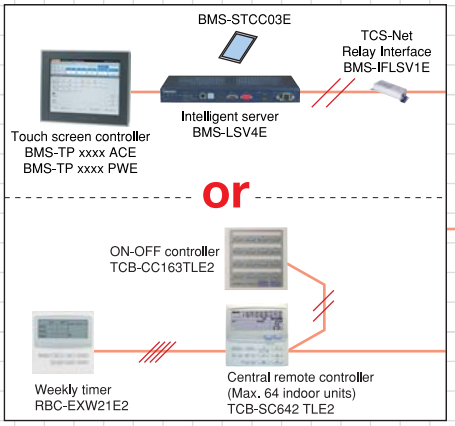
HP	Cooling capacity (kW)	Model name
0.8	2.2	MMU-AP0071MH
1	2.8	MMU-AP0091MH
1.25	3.6	MMU-AP0121MH
1.7	4.5	MMU-AP0151MH
2	5.6	MMU-AP0181MH

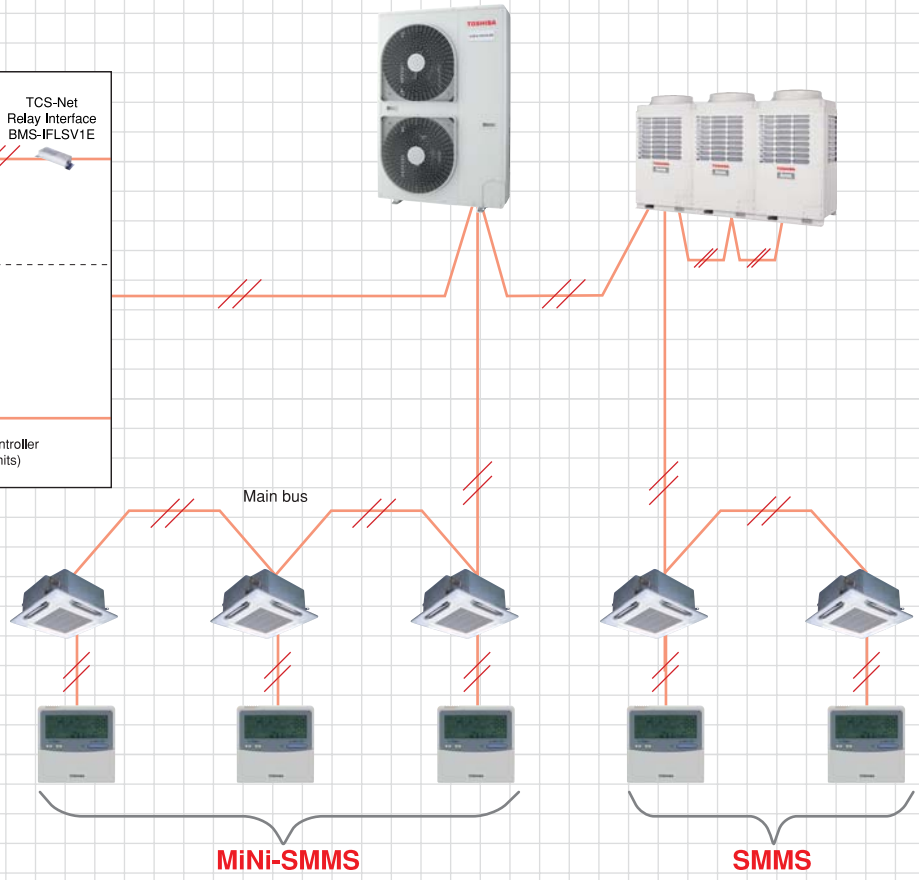
Accessories

	Model name
Ceiling Panel for Compact 4-way Cassette	RBC-UM11PG(W)E
Wired Remote Controller	RBC-AMT31E
Wireless Remote Controller Kit (ETC)	TCB-AX21E2
Auxiliary Fresh Air Flange	TCB-FF101URE2

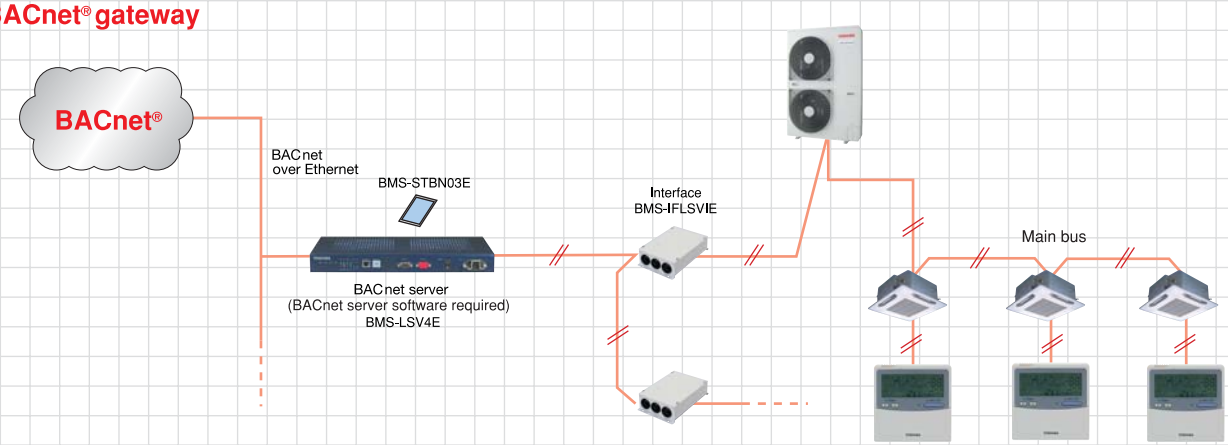
Wide control applications (Artificial intelligence network system)

Touch screen controller and central remote controller

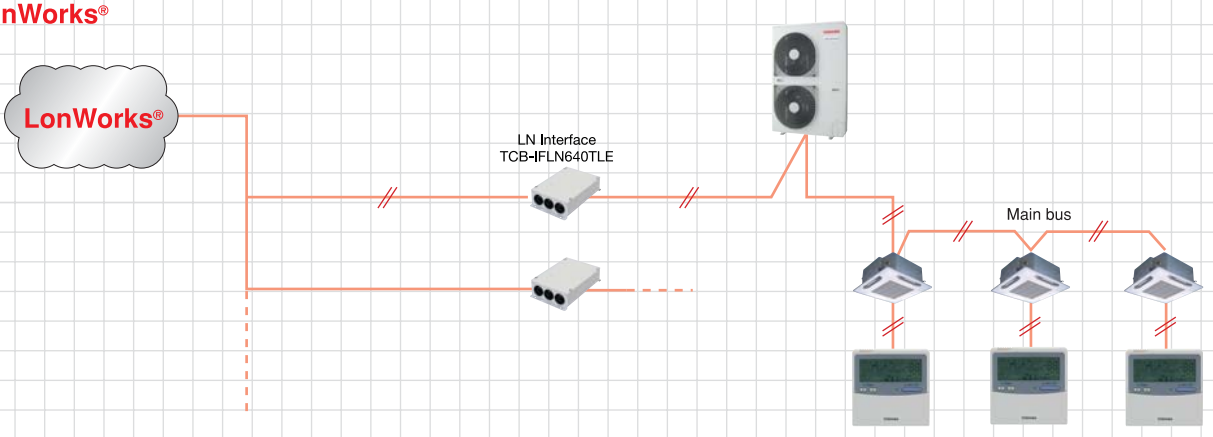




BACnet® gateway



LonWorks®



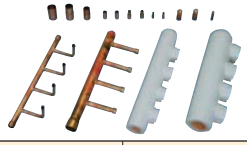
Outdoor unit range

				Equivalent to 4 HP	Equivalent to 5 HP	Equivalent to 6 HP
Model name 50 Hz				MCY-MAP0401HT	MCY-MAP0501HT	MCY-MAP0601HT
60 Hz				MCY-MAP0401HT2D	MCY-MAP0501HT2D	MCY-MAP0601HT2D
Outdoor unit type				Inverter unit		
Cooling capacity			(kW)	12.1	14.0	15.5
Heating capacity			(kW)	12.5	16.0	18.0
Power supply				220 – 240 V-1 Ph-50 Hz / 220 V-1 Ph-60 Hz		
Electrical characteristics	Cooling	Power consumption	(kW)	2.82	3.47	4.63
		EER (Energy Efficiency Ratio)	(W/W)	4.29	4.03	3.35
	Heating	Power consumption	(kW)	2.71	4.00	4.85
		COP (Coefficient Of Performance)	(W/W)	4.61	4.00	3.71
External dimensions			(mm)	Height 1340 / Width 900 / Depth 320		
Total weight			(kg)	117		
Compressor	Motor output		(kW)	2.3	3.1	4.2
Fan unit	Motor output		(kW)	0.063 + 0.063		
	Air volume		(m^3/h)	5820	6120	6420
Refrigerant piping Specifications	Connecting port dia.	Gas side (OD)	(mm)	15.9		19.1
		Liquid side (OD)	(mm)	9.5		
	Max. pipe extension (Liquid pipe, real length)		(m)	180 (150 *1)		
	Max. pipe length (Real length)		(m)	100 (65 *1)		
	Max. pipe length (Equivalent length)		(m)	125 (80 *1)		
	Max. height between indoor and outdoor units		(m)	Outdoor unit higher than indoor unit: 30		
				Outdoor unit lower than indoor unit: 20		
Max. no. of connected indoor units				6	8	9
Sound pressure level (Cooling / Heating) *2			(dB(A))	49/50	50/52	51/53

*1 When PMV kit is used
*2 Sound pressure levels measured in an anechoic chamber

Consult local dealer for model suitability in a highly saline or coastal environment.

Branching joints and headers

	Y-shape branching joints		Branching headers	
Appearance				
Model name (RBM-)	BY53E	BY103E	HY1043E	HY1083E
Usage	Indoor unit capacity code Total: below 6.4	Indoor unit capacity code Total: 6.4 or more and below 7.8	Indoor unit capacity code Total: below 7.8	Indoor unit capacity code Total: below 7.8

* After header branching, each system can be connected up to a maximum capacity code total of 6.0.
* Capacity codes are shown as HP equivalents.

PMV Kit

Model name	RBM-PMV0361E	RBM-PMV0901E
Appearance		
Indoor unit capacity type	007/009/012 type	015/018/024 type

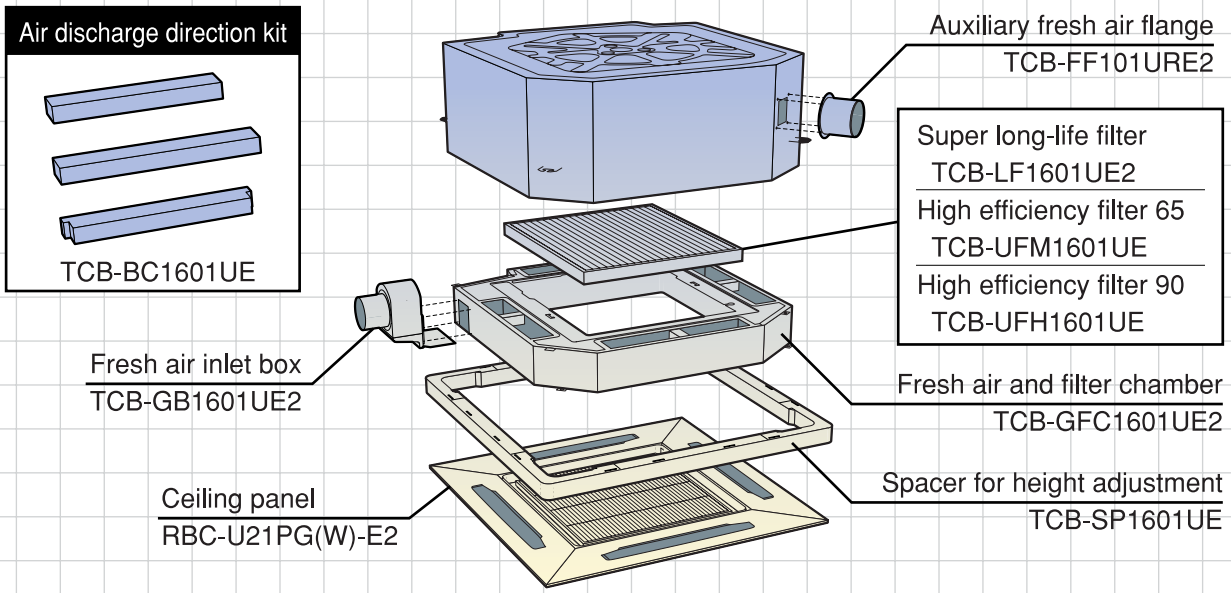
4-way Air Discharge Cassette Type

Model name		MMU-	AP0091H	AP0121H	AP0151H	AP0181H	AP0241H	AP0271H	AP0301H	AP0361H	AP0481H
Cooling/Heating capacity*1		(kW)	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	11.2/12.5	14.0/16.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)								
	Power consumption 50 Hz/60 Hz	(kW)	0.020/0.020		0.022/0.022	0.026/0.026	0.032/0.032		0.048/0.048	0.070/0.070	0.110/0.110
Appearance (Ceiling panel)		Model	RBC-U21PG (W)-E2								
External dimensions: Main unit (Ceiling panel)*	Height	(mm)	256 (35)*							319 (35)*	
	Width	(mm)	840 (950)*								
	Depth	(mm)	840 (950)*								
Total weight: Main unit (Ceiling panel)*		(kg)	20 (4.5)*		22 (4.5)*		23 (4.5)*			28 (4.5)*	
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	800/730/680		930/830/790	1050/ 920/800	1200/920/820		1320/ 1110/850	1680/ 1300/1070	2040/ 1430/1130
	Motor output	(W)	60							90	
Connecting pipe	Gas side	(mm)	Ø9.5		Ø12.7		Ø15.9				
	Liquid side	(mm)	Ø6.4				Ø9.5				
	Drain port (nominal dia.)		25 (Polyvinyl chloride tube)								
Sound pressure level*2 (High/Mid/Low)		(dB(A))	30/29/27		31/29/27	32/29/28	34/31/28		37/33/30	40/36/33	44/38/34

* Figures in parenthesis are for ceiling panels.
*1 The cooling capacity and electrical characteristics are measured under the conditions specified by JIS B 8615 according to the reference piping. This reference piping consists of 5 m of main piping and 2.5 m of branch piping connected at the same height level.
*2 The sound pressure level is measured in an anechoic chamber in accordance with JIS B8616. The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

The classy choice

- New panel design improves air distribution, control and prevents ceiling stains
- Easy access to control components via corner pockets



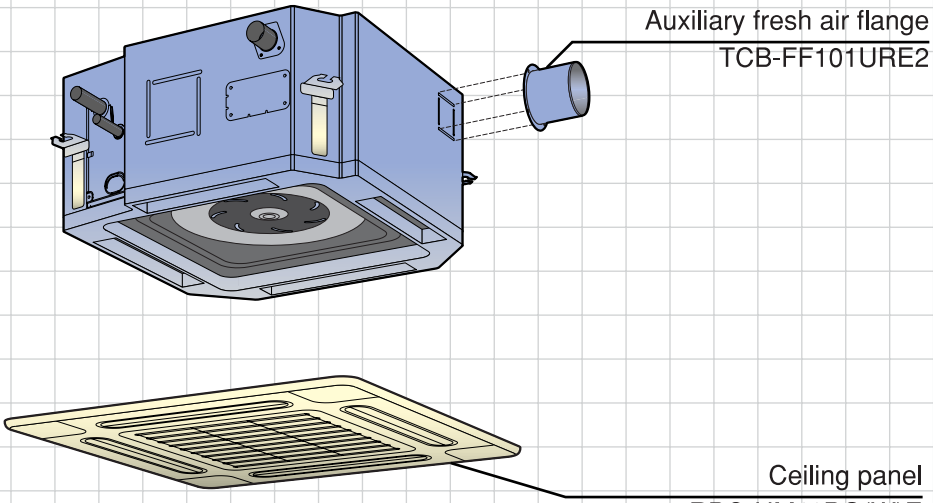
Compact 4-way Cassette Type

Model name		MMU-	AP0071MH	AP0091MH	AP0121MH	AP0151MH	AP0181MH
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)				
	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 (Ceiling panel)		Model	RBC-U11PG (W)-E				
External dimensions: Main unit (Ceiling panel)*	Height	(mm)	268 (27)*				
	Width	(mm)	575 (700)*				
	Depth	(mm)	575(700)*				
Total weight: Main unit (Ceiling panel)*		(kg)	17 (3)*				
Fan unit	Standard air flow (High/Mid/Low)	(m³/h)	552/462/378	570/468/378	594/504/402	660/552/468	762/642/522
	Motor output	(W)	60				
Connecting pipe	Gas side	(mm)	Ø9.5			Ø12.7	
	Liquid side	(mm)	Ø6.4				
	Drain port (nominal dia.)		25 (Polyvinyl chloride tube)				
Sound pressure level*2 (High/Mid/Low)		(dB(A))	36/32/28	37/33/28	37/33/29	40/35/30	44/39/34

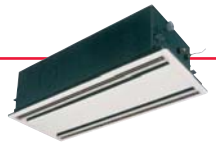
* Figures in parenthesis are for ceiling panels.
*1 The cooling capacity and electrical characteristics are measured under the conditions specified by JIS B 8615 according to the reference piping. This reference piping consists of 5 m of main piping and 2.5 m of branch piping connected at the same height level.
*2 The sound pressure level is measured in an anechoic chamber in accordance with JIS B8616. The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

600 mm × 600 mm compact body

- Perfect for grid system ceiling
- Simple & easy installation and maintenance
- Clean & comfortable



2-way Air Discharge Cassette Type



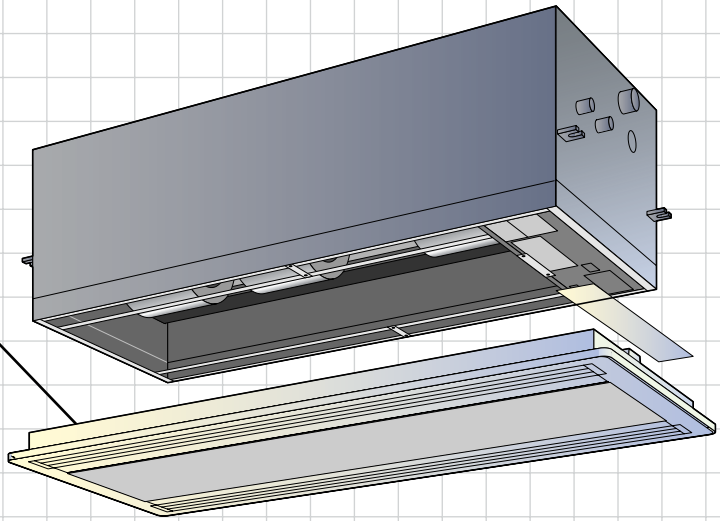
Model name		MMU-	AP0071WH	AP0091WH	AP0121WH	AP0151WH	AP0181WH	AP0241WH	AP0271WH	AP0301WH
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)							
	Power consumption 50 Hz/60 Hz	(kW)	0.070/0.070			0.072/0.076		0.105/0.115		0.106/0.123
Appearance (Ceiling panel)		Model	RBC-UW136PG			RBC-UW266PG				
External dimensions: Main unit (Ceiling panel)*	Height	(mm)	398 (8)*							
	Width	(mm)	830 (1,000)*			1,350 (1,520)*				
	Depth	(mm)	550 (650)*							
Total weight: Main unit (Ceiling panel)*		(kg)	33 (8)*			44 (11)*		48 (11)*		
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	570/510/450			780/700/600		1140/960/720		1260/ 1140/960
	Motor output	(W)	53			39		53		
Connecting pipe	Gas side	(mm)	Ø9.5			Ø12.7		Ø15.9		
	Liquid side	(mm)	Ø6.4					Ø9.5		
	Drain port (nominal dia.)		25 (Polyvinyl chloride tube)							
Sound pressure level*2 (High/Mid/Low)		(dB(A))	34/32/30			35/33/30		38/35/33		40/37/34

* Figures in parenthesis are for ceiling panels.
*1 The cooling capacity and electrical characteristics are measured under the conditions specified by JIS B 8615 according to the reference piping. This reference piping consists of 5 m of main piping and 2.5 m of branch piping connected at the same height level.
*2 The sound pressure level is measured in an anechoic chamber in accordance with JIS B8616. The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Ideal for smaller rooms

- Slim, flat ceiling panel, just 8 mm high
- Long-life filters are standard

Ceiling panel
RBC-UW136PG
RBC-UW266PG



1-way Air Discharge Cassette Type

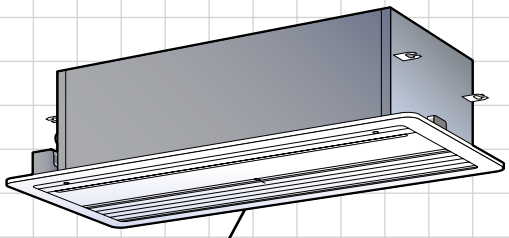
Model name		MMU-	AP0071YH	AP0091YH	AP0121YH	AP0152SH	AP0182SH	AP0242SH
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	(kW)	0.053/0.056			0.042/0.041	0.046/0.045	0.075/0.073
Appearance (Ceiling panel)		Model	RBC-UY135PG			RBC-US21PGE		
External dimensions: Main unit (Ceiling panel)*	Height	(mm)	235 (18)*			200 (20)*		
	Width	(mm)	850 (1,050)*			1000 (1,230)*		
	Depth	(mm)	400 (470)*			710 (800)*		
Total weight: Main unit (Ceiling panel)*		(kg)	22 (3.5)*			21 (5.5)*		22 (5.5)*
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	540/480/420			750/690/630	780/720/660	1140/960/810
	Motor output	(W)	22			30		
Connecting pipe	Gas side	(mm)	Ø9.5			Ø12.7		Ø15.9
	Liquid side	(mm)	Ø6.4					Ø9.5
	Drain port (nominal dia.)		25 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	42/39/34			37/35/32	38/36/34	45/41/37

* Figures in parenthesis are for ceiling panels.
*1 The cooling capacity and electrical characteristics are measured under the conditions specified by JIS B 8615 according to the reference piping. This reference piping consists of 5 m of main piping and 2.5 m of branch piping connected at the same height level.
*2 The sound pressure level is measured in an anechoic chamber in accordance with JIS B8616. The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

The perfect choice for hotels and reception areas

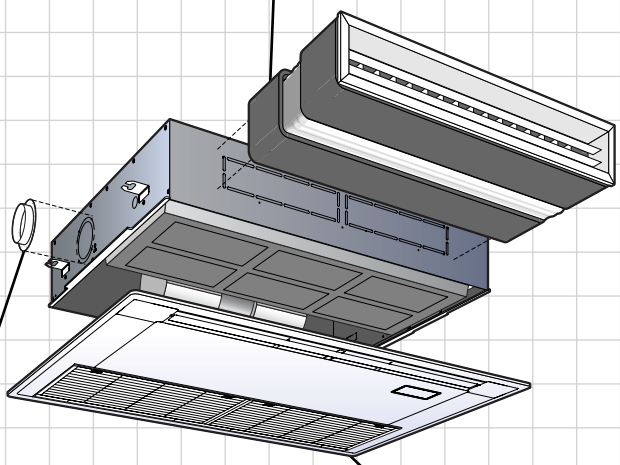
- Ideal for smaller rooms where one-way air distribution is required
- Compact hi-tech design

AP0071YH/AP0091YH/AP0121YH



Ceiling panel
RBC-UY135PG

Front air discharge unit
TCB-BU21HWE



Auxiliary fresh air flange
TCB-FF101URE2

Ceiling panel
RBC-US21PGE

AP0152SH/AP0182SH/AP0242SH

Concealed Duct Type

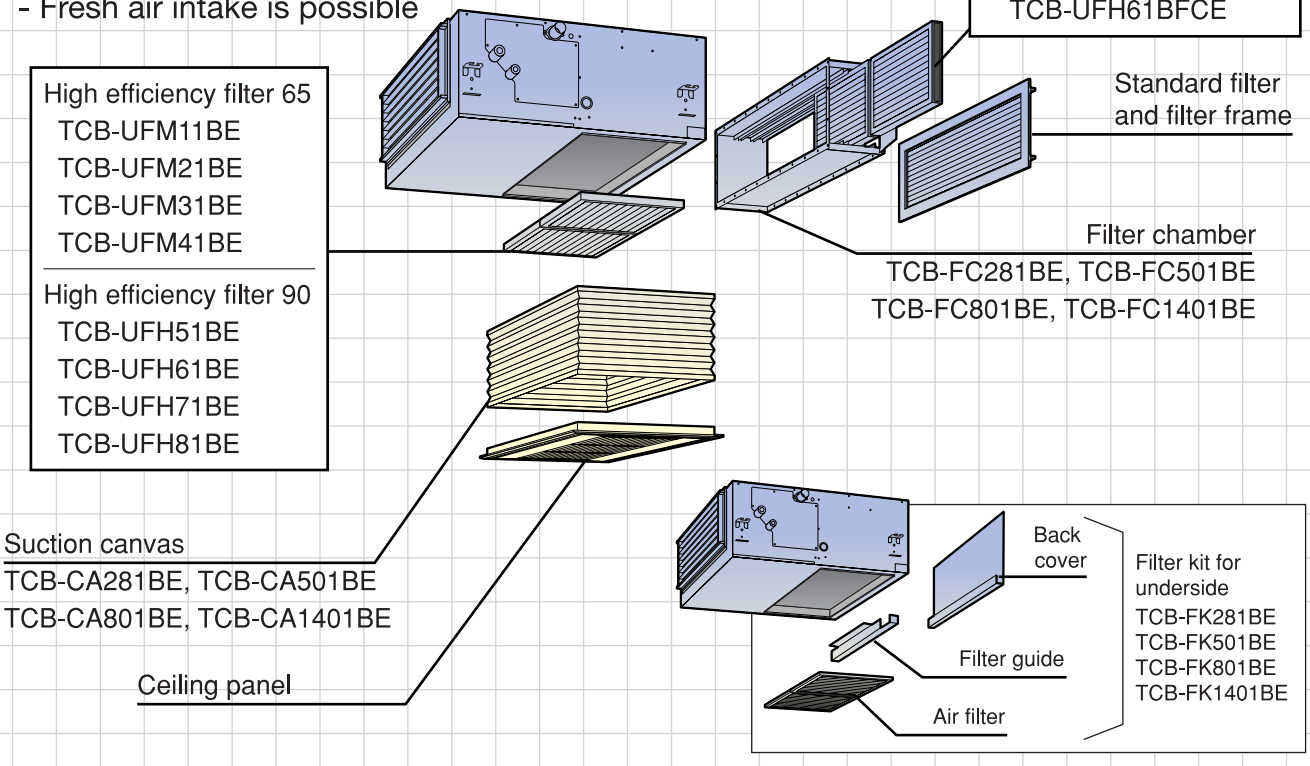
Model name		MMD-	AP0071BH	AP0091BH	AP0121BH	AP0151BH	AP0181BH	AP0241BH	AP0271BH	AP0301BH	AP0361BH	AP0481BH
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	11.2/12.5	14.0/16.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)									
	Power consumption 50 Hz/60 Hz	(kW)	0.033/0.033		0.039/0.039		0.050/0.050	0.060/0.060		0.071/0.071	0.107/0.107	0.128/0.128
External dimensions: Main unit	Height	(mm)	320									
	Width	(mm)	550			700		1,000			1,350	
	Depth	(mm)	800									
Total weight		(kg)	28			32		43			55	
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	480/420/340		570/ 490/400	650/ 540/480	780/ 660/540	1140/ 990/870		1260/ 1080/870	1620/ 1410/1200	1980/ 1710/1490
	Motor output	(W)	120									
	External static pressure (factory setting)	(Pa)	40									
	External static pressure	(Pa)	100									
Connecting pipe	Gas side	(mm)	Ø9.5			Ø12.7		Ø15.9				
	Liquid side	(mm)	Ø6.4					Ø9.5				
	Drain port (nominal dia.)		25 (Polyvinyl chloride tube)									
Sound pressure level*2 (High/Mid/Low)		(dB(A))	30/28/26		31/29/27		32/30/28	33/31/29		34/32/29	36/34/32	38/36/32

*1 The cooling capacity and electrical characteristics are measured under the conditions specified by JIS B 8615 according to the reference piping. This reference piping consists of 5 m of main piping and 2.5 m of branch piping connected at the same height level.

*2 The sound pressure level is measured in an anechoic chamber in accordance with JIS B8616. The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Versatile options

- Allows complete design flexiblity
- Full range of filters to enhance indoor air quality
- Fresh air intake is possible



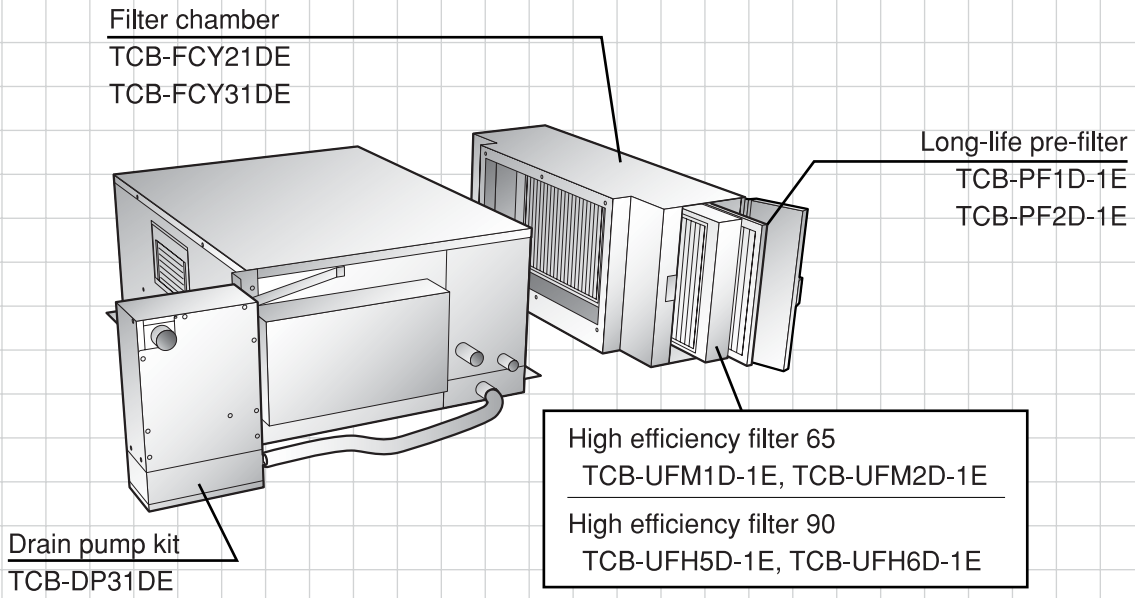
Concealed Duct High Static Pressure Type

Model name		MMD-	AP0181H	AP0241H	AP0271H	AP0361H	AP0481H
Cooling/Heating capacity*1		(kW)	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)				
	Power consumption 50 Hz/60 Hz	(kW)	0.184/0.198	0.299/0.385		0.368/0.450	0.414/0.490
External dimensions: Main unit	Height	(mm)	380				
	Width	(mm)	850				1200
	Depth	(mm)	660				
Total weight		(kg)	50	52		56	67
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	900	1320		1600	2100
	Motor output	(W)	160			260	
	External static pressure (factory setting)	(Pa)	137				
	External static pressure	(Pa)	68.6 – 137 – 196				
Connecting pipe	Gas side	(mm)	Ø12.7	Ø15.9			
	Liquid side	(mm)	Ø6.4	Ø9.5			
	Drain port (nominal dia.)		25 (One side of male screw)				
Sound pressure level*2 (High/Mid/Low)		(dB(A))	37	40			

*1 The cooling capacity and electrical characteristics are measured under the conditions specified by JIS B 8615 according to the reference piping. This reference piping consists of 5 m of main piping and 2.5 m of branch piping connected at the same height level.
*2 The sound level is measured in an anechoic chamber in accordance with JIS B8616. The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Meeting all your design needs

- Compatible with external static pressures up to 196 Pa
- Inspection inlet enables easy access and maintenance



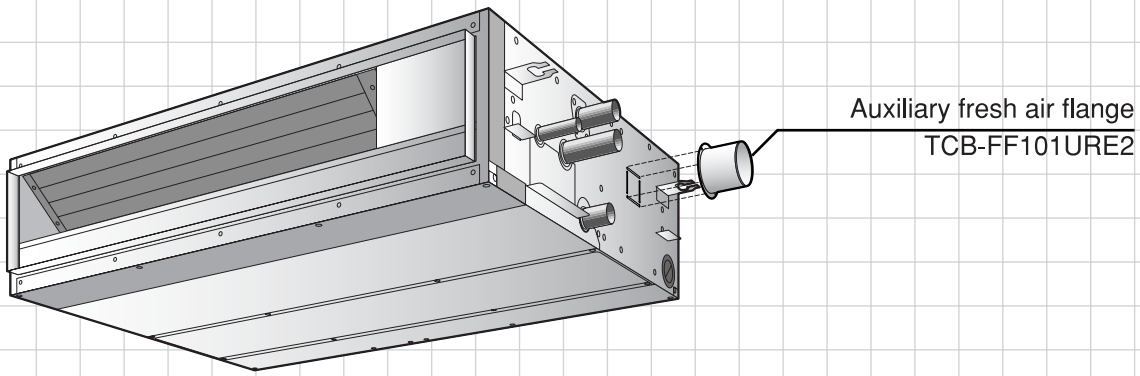
Slim Duct Type

Model name		MMD-	AP0071SPH	AP0091SPH	AP0121SPH	AP0151SPH	AP0181SPH
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)				
	Power consumption 50 Hz/60 Hz	(kW)	0.039/0.037		0.043/0.041	0.045/0.043	0.054/0.052
External dimensions: Main unit	Height	(mm)	210				
	Width	(mm)	845				
	Depth	(mm)	645				
Total weight		(kg)	22			23	
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	540/470/400		600/520/450	690/600/520	780/680/580
	Motor output	(W)	60				
	External static pressure (factory setting)	(Pa)	6 (Factory setting) –16 –31–46, 4 steps		5 (Factory setting) –15 –30–45, 4 steps		4 (Factory setting) –14 –29–44, 4 steps
	External static pressure	(Pa)	Ø9.5			Ø12.7	
Connecting pipe	Gas side	(mm)	Ø6.4				
	Liquid side	(mm)	25 (Polyvinyl chloride tube: External dia. 32, Internal dia. 25)				
	Drain port (nominal dia.)		36/33/30		38/35/32	39/36/33	40/38/36
Sound pressure level*2 (High/Mid/Low)		(dB(A))	28/26/24		29/27/25	32/30/28	33/31/29

* Includes drain pump and standard filter.
*1 The cooling capacity and electrical characteristics are measured under the conditions specified by JIS B 8615 according to the reference piping. This reference piping consists of 5 m of main piping and 2.5 m of branch piping connected at the same height level.
*2 The sound pressure level is measured in an anechoic chamber in accordance with JIS B8616. The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Slim and Quiet

- Smaller installation space required
  210H × 845W × 645 D(mm)
- 28dB sound pressure level
  (Rear suction cooling; Air flow: Hi)
  MMD-AP0071SPH / MMD-AP0091SPH



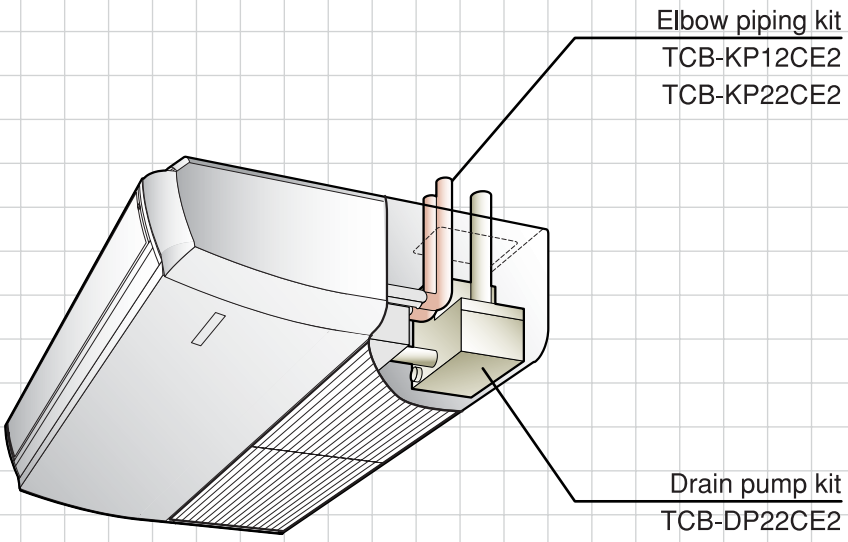
Under Ceiling Type

Model name		MMC-	AP0151H	AP0181H	AP0241H	AP0271H	AP0361H	AP0481H
Cooling/Heating capacity*1		(kW)	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	(kW)	0.033/0.033	0.038/0.038	0.050/0.050		0.091/0.091	0.110/0.110
External dimensions: Main unit	Height	(mm)	210					
	Width	(mm)	910		1,180		1,595	
	Depth	(mm)	680					
Total weight		(kg)	22		26		34	
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	720/600/540	780/660/540	1110/900/840		1650/1380/1200	1800/1560/1320
	Motor output	(W)	30		40		80	
Connecting pipe	Gas side	(mm)	Ø12.7		Ø15.9			
	Liquid side	(mm)	Ø6.4		Ø9.5			
	Drain port (nominal dia.)		20 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	35/32/30	36/33/30	38/36/33		41/38/35	43/40/37

*1 The cooling capacity and electrical characteristics are measured under the conditions specified by JIS B 8615 according to the reference piping. This reference piping consists of 5 m of main piping and 2.5 m of branch piping connected at the same height level.
*2 The sound level is measured in an anechoic chamber in accordance with JIS B8616. The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Ideal for refurbishment projects or fixed ceilings

- Air distribution is set automatically in cooling or heating mode
- Refrigerant piping can be installed from the rear, right or top of the unit



New compact design

High Wall Type (2 series)

Quiet
AP0072H: 35/32/29 dB(A)
AP0092H: 36/33/29 dB(A)
AP0122H: 37/33/29 dB(A)

Compact size
Height: 275 mm
Width: 790 mm
Depth: 208 mm

Lightweight **11kg**

Model name		MMK-	AP0072H	AP0092H	AP0122H
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)		
	Power consumption 50 Hz/60 Hz	(kW)	0.017/0.017	0.018/0.018	0.019/0.019
External dimensions: Main unit	Height	(mm)	275		
	Width	(mm)	790		
	Depth	(mm)	208		
Total weight		(kg)	11		
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	480/420/360	510/450/360	540/450/360
	Motor output	(W)	30		
Connecting pipe	Gas side	(mm)	Ø9.5		
	Liquid side	(mm)	Ø6.4		
	Drain port (nominal dia.)		16 (Polyvinyl chloride tube)		
Sound pressure level*2 (High/Mid/Low)		(dB(A))	35/32/29	36/33/29	37/33/29

High Wall Type (1 series)

Model name		MMK-	AP0071H	AP0091H	AP0121H	AP0151H	AP0181H	AP0241H
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	(kW)	0.035/0.035			0.037/0.037		0.040/0.040
External dimensions: Main unit	Height	(mm)	368					
	Width	(mm)	895			1055		1430
	Depth	(mm)	210					
Total weight		(kg)	18			19		25
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	600/540/480			780/660/600		1200/1020/900
	Motor output	(W)	30					
Connecting pipe	Gas side	(mm)	Ø9.5			Ø12.7		Ø15.9
	Liquid side	(mm)	Ø6.4					Ø9.5
	Drain port (nominal dia.)		20 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	39/34/31			42/38/35		42/38/35

*1 The cooling capacity and electrical characteristics are measured under the conditions specified by JIS B 8615 according to the reference piping. This reference piping consists of 5 m of main piping and 2.5 m of branch piping connected at the same height level.
*2 The sound pressure level is measured in an anechoic chamber in accordance with JIS B8616. The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

Floor Standing Concealed Type

Model name		MML-	AP0071BH	AP0091BH	AP0121BH	AP0151BH	AP0181BH	AP0241BH
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	(kW)	0.056/0.058			0.090/0.096		0.095/0.110
External dimensions: Main unit	Height	(mm)	600					
	Width	(mm)	745			1045		
	Depth	(mm)	220					
Total weight		(kg)	21			29		
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	460/400/300			740/600/490		950/790/640
	Motor output	(W)	19			70		
Connecting pipe	Gas side	(mm)	Ø9.5			Ø12.7		Ø15.9
	Liquid side	(mm)	Ø6.4					Ø9.5
	Drain port (nominal dia.)		20 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	36/34/32					42/37/33

Floor Standing Cabinet Type

Model name		MML-	AP0071H	AP0091H	AP0121H	AP0151H	AP0181H	AP0241H
Cooling/Heating capacity*1		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	(kW)	0.056/0.053		0.092/0.092		0.102/0.113	
External dimensions: Main unit	Height	(mm)	630					
	Width	(mm)	950					
	Depth	(mm)	230					
Total weight		(kg)	37			40		
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	480/420/360		900/780/650		1080/930/780	
	Motor output	(W)	45			70		
Connecting pipe	Gas side	(mm)	Ø9.5			Ø12.7		Ø15.9
	Liquid side	(mm)	Ø6.4					Ø9.5
	Drain port (nominal dia.)		20 (Polyvinyl chloride tube)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	39/37/35		45/41/38		49/44/39	

Floor Standing Type

Model name		MMF-	AP0151H	AP0181H	AP0241H	AP0271H	AP0361H	AP0481H
Cooling/Heating capacity*1		(kW)	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0
Electrical characteristics	Power requirements		Single-phase 50 Hz 230 V (220-240 V)/Single-phase 60 Hz 220 V (Separate power supply for indoor units required.)					
	Power consumption 50 Hz/60 Hz	(kW)	0.150/0.146		0.190/0.195		0.280/0.295	0.350/0.380
External dimensions: Main unit	Height	(mm)	1750					
	Width	(mm)	600					
	Depth	(mm)	210				390	
Total weight		(kg)	48		49		65	
Fan unit	Standard air flow (High/Mid/Low)	(m^3/h)	900/780/660		1200/1020/840		1920/1680/1380	2160/1860/1560
	Motor output	(W)	37		63		110	160
Connecting pipe	Gas side	(mm)	Ø12.7		Ø15.9			
	Liquid side	(mm)	Ø6.4		Ø9.5			
	Drain port (nominal dia.)		20 (Polyvinyl chloride tube: External dia. 26, Internal dia. 20)					
Sound pressure level*2 (High/Mid/Low)		(dB(A))	46/43/38		49/45/40		51/48/44	54/50/46

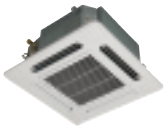
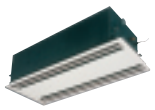
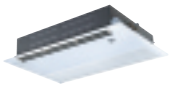
*1 The cooling capacity and electrical characteristics are measured under the conditions specified by JIS B 8615 according to the reference piping. This referexiping consists of 5 m of main piping and 2.5 m of branch piping connected at the same height level.

*2 The sound pressure level is measured in an anechoic chamber in accordance with JIS B8616. The actual values in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

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

Consult local dealer for model suitability in a highly saline or coastal environment.

Indoor unit range

	4-way air discharge cassette type	Compact 4-way cassette type	2-way air discharge cassette type	1-way air discharge cassette type	Slim duct type (Includes drain pump)	Concealed duct type	Concealed duct high static pressure type
Cooling capacity (HP equivalent)							
007 type 2.2 kW (0.8 HP)		MMU-AP0071MH	MMU-AP0071WH	MMU-AP0071YH	MMD-AP0071SPH	MMD-AP0071BH	
009 type 2.8 kW (1 HP)	MMU-AP0091H	MMU-AP0091MH	MMU-AP0091WH	MMU-AP0091YH	MMD-AP0091SPH	MMD-AP0091BH	
012 type 3.6 kW (1.25 HP)	MMU-AP0121H	MMU-AP0121MH	MMU-AP0121WH	MMU-AP0121YH	MMD-AP0121SPH	MMD-AP0121BH	
015 type 4.5 kW (1.7 HP)	MMU-AP0151H	MMU-AP0151MH	MMU-AP0151WH	MMU-AP0152SH	MMD-AP0151SPH	MMD-AP0151BH	
018 type 5.6 kW (2 HP)	MMU-AP0181H	MMU-AP0181MH	MMU-AP0181WH	MMU-AP0182SH	MMD-AP0181SPH	MMD-AP0181BH	MMD-AP0181H
024 type 7.1 kW (2.5 HP)	MMU-AP0241H		MMU-AP0241WH	MMU-AP0242SH		MMD-AP0241BH	MMD-AP0241H
027 type 8.0 kW (3 HP)	MMU-AP0271H		MMU-AP0271WH			MMD-AP0271BH	MMD-AP0271H
030 type 9.0 kW (3.2 HP)	MMU-AP0301H		MMU-AP0301WH			MMD-AP0301BH	
036 type 11.2 kW (4 HP)	MMU-AP0361H					MMD-AP0361BH	MMD-AP0361H
048 type 14.0 kW (5 HP)	MMU-AP0481H					MMD-AP0481BH	MMD-AP0481H

	Under ceiling type	High wall type 1 series	High wall type 2 series	Floor standing concealed	Floor standing cabinet	Floor standing
Cooling capacity (HP equivalent)						
007 type 2.2 kW (0.8 HP)		MMK-AP0071H	MMK-AP0072H	MML-AP0071BH	MML-AP0071H	
009 type 2.8 kW (1 HP)		MMK-AP0091H	MMK-AP0092H	MML-AP0091BH	MML-AP0091H	
012 type 3.6 kW (1.25 HP)		MMK-AP0121H	MMK-AP0122H	MML-AP0121BH	MML-AP0121H	
015 type 4.5 kW (1.7 HP)	MMC-AP0151H	MMK-AP0151H		MML-AP0151BH	MML-AP0151H	MMF-AP0151H
018 type 5.6 kW (2 HP)	MMC-AP0181H	MMK-AP0181H		MML-AP0181BH	MML-AP0181H	MMF-AP0181H
024 type 7.1 kW (2.5 HP)	MMC-AP0241H	MMK-AP0241H		MML-AP0241BH	MML-AP0241H	MMF-AP0241H
027 type 8.0 kW (3 HP)	MMC-AP0271H					MMF-AP0271H
030 type 9.0 kW (3.2 HP)						
036 type 11.2 kW (4 HP)	MMC-AP0361H					MMF-AP0361H
048 type 14.0 kW (5 HP)	MMC-AP0481H					MMF-AP0481H

PMV kit required for a quieter place's applications

Remote controller

	Wired remote controller	Simple wired remote controller	Weekly timer	Central remote controller	ON-OFF controller	Wireless remote controller kits		
Appearance						Integral receiver	Integral receiver	Stand alone receiver
Model name	RBC-AMT31E	RBC-AS21E2	RBC-EXW21E2	TCB-SC642TLE2	TCB-CC163TLE2	TCB-AX21U(W)-E2	RBC-AX22CE2	TCB-AX21E2
Remarks						For 4-way air discharge cassette type	For under ceiling type 1 way(2 series)	Stand-alone receiver type*

* Except for concealed duct high static pressure type

Optional P.C. boards

Appearance			
Model name	TCB-PCDM2E	TCB-PCIN2E	TCB-PCMO2E
	Power peak-cut control The upper limit capacity or outdoor unit current can be restricted with multiple value.	**Error / Operation output control** Operation and error signals can be output.	**External master ON/OFF control** Outdoor unit is turned ON/OFF by an outside signal. **Night operation (sound reduction) control** Sound level can be reduced. **Operation mode selection control** This control can restrict the selectable operation modes.

TOSHIBA

The suffix “-E” at the end of a model number indicates a product that is CE mark compliant.

Notice: Toshiba is committed to continuously improving its products to ensure the highest quality and reliability standards, and to meet local regulations and market requirements. All features and specifications are subject to change without prior notice.

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