SHRMe
3 pipe heat recovery

What you'll find inside:

- Technology
- Features
- Controllers
- Product specifications

+ Flexibility in design

+ Energy efficient

+ Simultaneous Heating & Cooling

TOSHIBA

AIR CONDITIONING

SHRM e
SUPER MODULAR MULTI SYSTEM

About Toshiba's SHRMe - 3 pipe heat recovery

The new Toshiba SHRMe puts the emphasis on evolution driving excellence in energy savings, expansion in capacity line up and enhancement in applications. Together, they offer professionals and users faster design, installation and commissioning plus air comfort with enhanced quality and reliability.

Piping design flexibility

With its new multi-flow selector units, the SHRMe expands capacity line up with fewer connections for faster and simpler installation. It also offers extended piping length of up to 50 metres from multi-flow selector to indoor unit.

Farthest pipe from Flow Selector

50m

Total piping length

Toshiba's piping technology allows for system flexibility and ease of installation and with the SHRMe system, the level of flexibility has increased, giving more options to the contractor and installer alike. SHRMe has a maximum piping length reaching 1,000m.

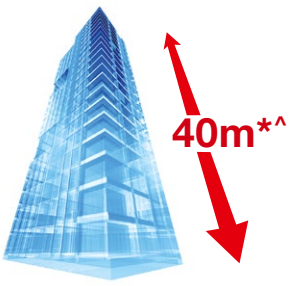
Total piping length

1,000m*

SHRMe Max. total length

Height between indoor units

A maximum vertical distance between indoor units which reaches up to 40 metres



Height between indoor unit

Farthest equivalent length

The maximum equivalent distance between outdoor unit and farthest indoor unit tops at 200 metres.

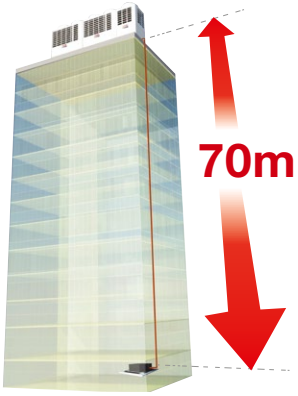
Farthest equivalent length

200m

*1000m for 34HP and above 300m for under 34HP.
** 22.4 to 56kW = 185m. 61.5 to 112kW = 195m. 120kW = 200m.
*^ 40m when outdoor unit is above. 15m when outdoor unit is below.

Height between outdoor unit to indoor unit

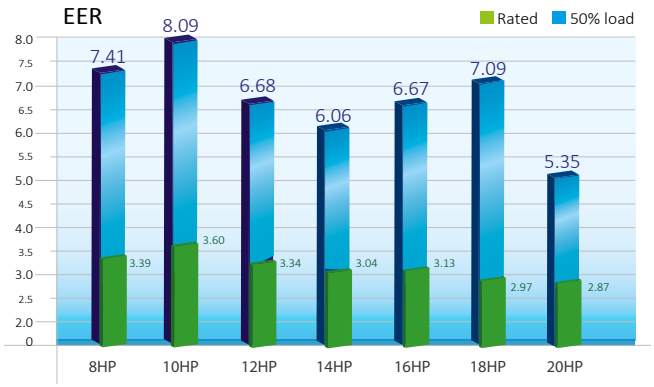
SHRMe's enhanced piping capabilities result in more benefits for the system design, installation flexibility, as well as the less installation costs at 200** metres (maximum distance between outdoor and farthest fan coil).

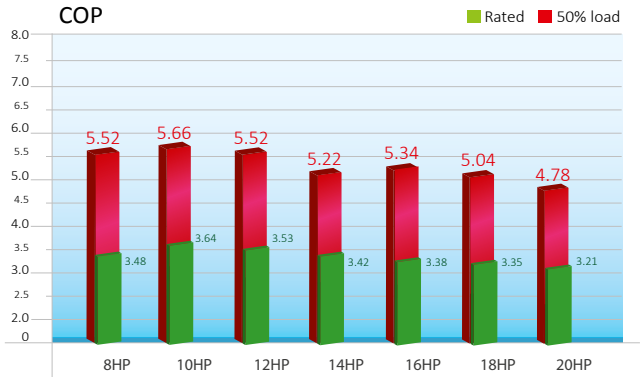


Height between outdoor unit to indoor unit

EER and COP

Through non-stop development, improvements have been made to the twin rotary compressor as the introduction of new technology, SHRMe, saves on energy achieving an EER (Energy Efficiency Ratio) as high as 8.09 and COP (Coefficient of Performance) of 5.66.

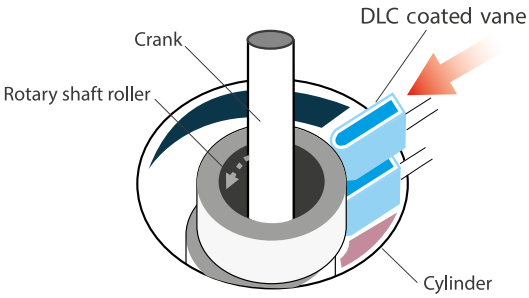




Key technologies

1 Twin Rotary Compressor

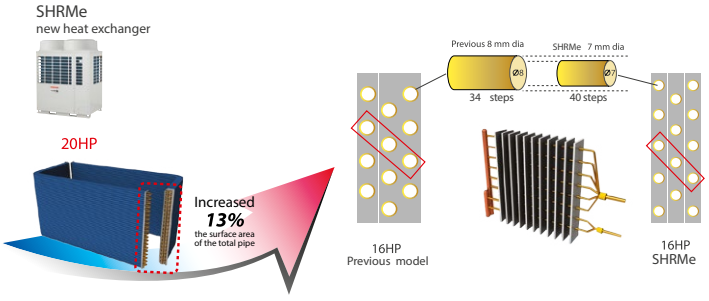
The Toshiba DC Twin Rotary Compressor is compact and reliable with a wide operating range. It utilises two rollers rotating together making accurate compressor rotation possible, and the low oil release method combines to deliver higher performance efficiencies, and peaceful operation.



DLC: Diamond Like Carbon

DLC coated dual vane reduces friction due to increased hardness and high adhesion of the material.

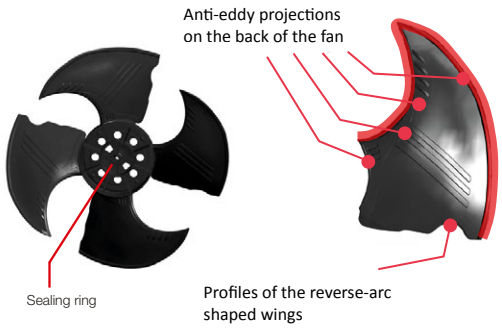
2 Heat exchanger



Toshiba's 3-row heat exchanger design, with reduced pipe size from 8mm to 7mm and increased total number of passes, improves both system performance and efficiency.

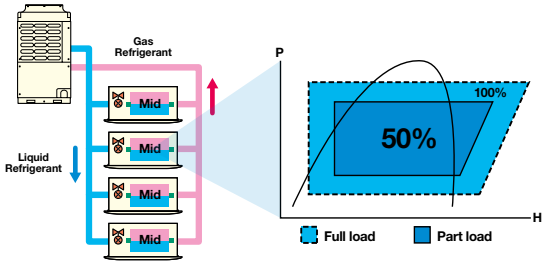
While the 3-row heat exchanger design allows the outdoor unit to automatically select the most suitable heat exchanger size and precisely matching the indoor capacity load, its 4-sided design ensures maximum possible flow rate across the entire coil, improving system efficiency.

3 Propeller fan



Toshiba's bat wing fan design increases the delivery of air volume while the anti-eddy ribs and rubber sealing rings work in harmony to reduce air resistance thus achieving quieter operation.

4 Intelligent VRF control



The advanced intelligent VRF control continually adjusts the operation of both indoor and outdoor units, based on the feedback from multiple sensors.

While the refrigerant flow to each indoor unit is precisely controlled by the outdoor unit ensuring a more even capacity distribution throughout the system. Plus the evaporative and condensing temperature is automatically adjusted to maintain optimum indoor room temperature, regardless of the unit's load or its physical distance from the outdoor unit.

Reliabilities And Backup Operation

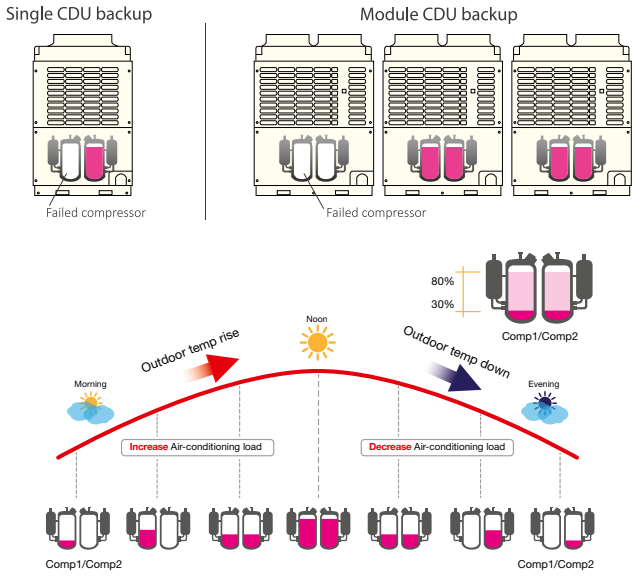
Continuous operation with the reliabilities and backup operation

The SHRMe has the reliabilities and backup operation system to ensure efficient and continuous operation.

Backup operation

The SHRMe's backup operation system was developed to ensure continuous air conditioning operation. If the compressor should encounter a problem, for example, if a single outdoor unit compressor encounters a problem, compressor 2 will engage to assist the system to continue to operate or if one outdoor unit of module system encounters a problem, the remaining units automatically will assist.

For maximum reliability, ALL inverter control can be adjusted to compensate for a failed compressor of header unit. In the unlikely event of a compressor failure, backup operation is available in both a single system or as a module.



Reliabilities rotation control

The reliabilities rotation control system helps in the control of every system compressor so one is not working harder than another. The system will control the compressors by referring to data on environmental conditions and send results to the outdoor unit to reduce stress and, thus, extend operational life.

Operation ambient temperature expansion

The SHRMe outdoor unit can withstand most types of weather conditions. In cooling mode it can operate from -10°C to 46°C and in heating mode from -25°C to 15.5°C.

Multi Flow Selector Unit

Multi Flow selector unit for freedom to set temperature

Offices often demand different temperatures at the same time. For example, during the winter months there will be a high demand for heating operation however for some areas of the building, for example an area with many electrical appliances, the heat load maybe too high, requiring the indoor unit to cool the room. Toshiba's SHRMe and Multi Port Flow selector unit helps end users to achieve the fine balance between heating and cooling at the same time, whilst maximising energy efficiency values.

New choice in air conditioning system design

Toshiba's Multi Port Flow selector can now control the supply of refrigerant for up to 6 indoor units off a Multi Flow Selector box. These units when fitted with a separate remote controller, provides the user with the freedom to set the room temperature they want.

The installation flexibility of the Multi Port Flow selector also provides the installer with an increased number of options with regards to location and piping design.

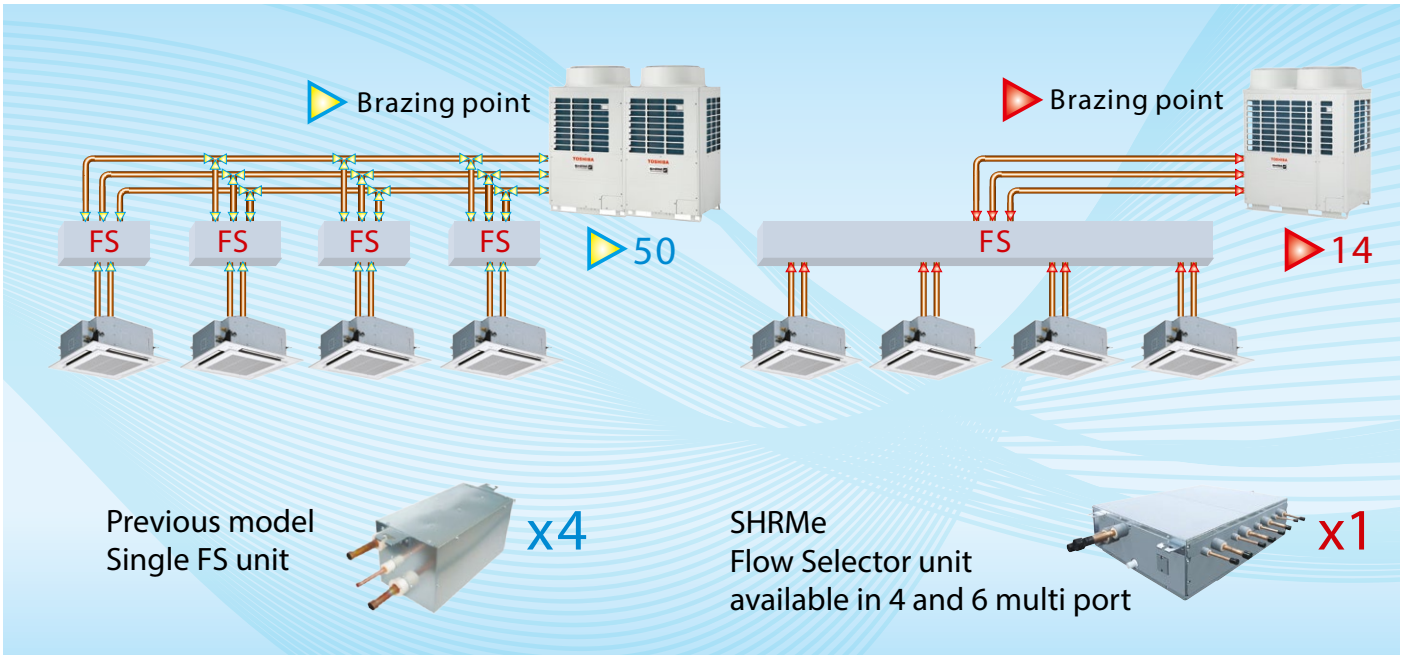
Save time and costs by reducing connecting points and piping

The Multi Flow selector unit can reduce the number of connections (brazing points) compared to the old model single flow selectors. The Multi Flow selectors are available in 4 port and 6 port connections.

More flexibility with the individual remote control connection system

The Multi Flow Selector unit affords greater satisfaction as it can work with a single remote control to control the temperature of each indoor unit so each space has the temperature to fit its demands.

Reduced number of connections



Soft Cooling

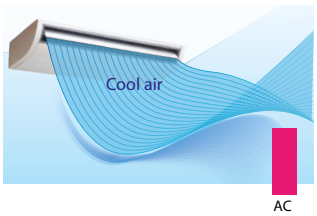
More comfortable and more energy saving

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

Greater efficiency with soft cooling mode

The multi louver setting is a new development for our indoor units that allows the end user to personalise the flow of air to their personal preference.

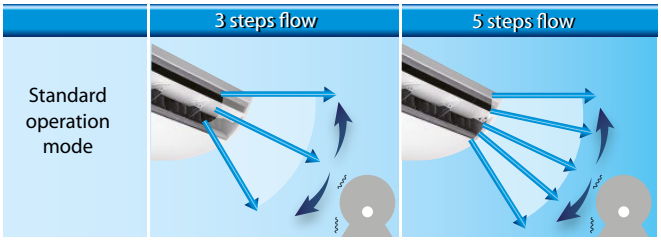
tandard operating mode

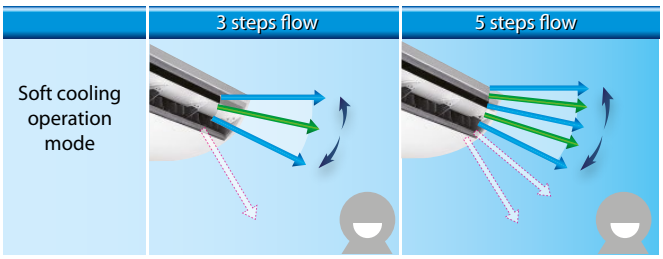


Soft cooling mode

Greater louver control

The standard louver control provides air flow over a wide area, in particular circumstances this may both be appropriate. With the new soft cooling mode, the louver positions can be set at either 3 or 5 steps, providing the end user with more precise control over the air flow direction.

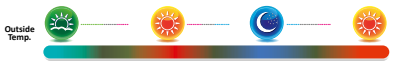




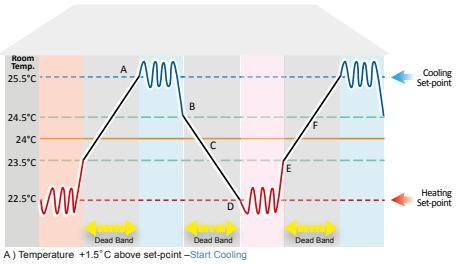
ote: The louver control for a indoor unit which the air direction can be set

Greater energy saving with the dual set point

The SHRMe's Automatic Temperature Control (ATC) system has been designed to enhance user comfort and reduce energy consumption. Each user can easily set minimum and maximum temperatures. Once the maximum temperature has been reached, the intelligent Dual Set Point function will tell the system to shut down and change mode to adjust the temperature to the minimum required, or vice versa. This enhances efficiency and reduces running costs, by extending the thermal off periods, when the unit stops between changes in heating and cooling mode.

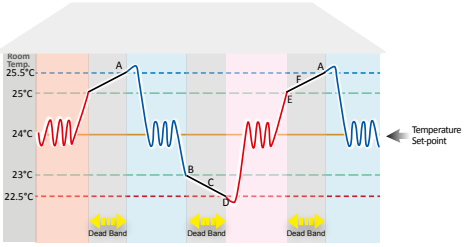


Dual set point system



A) Temperature +1.5°C above set-point –Start Cooling
B) Temperature -1.0°C below set-point – Stop Cooling
C) Thermal off. Fan operation (Cooling mode)
D) Temperature -1.5°C below set-point – Start Heating
E) Temperature +1.0°C above set-point – Stop Heating
F) Thermal off. Fan operation (Heating mode)

Auto temperature control system



A) Temperature reaches Cooling set-point –Start Cooling
B) Temperature -1.0°C below Cooling set-point – Stop Cooling
C) Thermal off. Fan operation (Cooling mode)
D) Temperature -reaches Heating set-point – Start Heating
E) Temperature +1.0°C above Heating set-point – Stop Heating
F) Thermal off. Fan operation (Heating mode)

Note : Dead band (Thermal off status) The Thermal off is a condition when the units is operating in ventilation mode only

Indoor Units

Type	Model Name	Equivalent HP	Cooling Capacity (kW)	Heating Capacity (kW)
4-way air discharge cassette type 	MMU-AP0094HP1-E	1.00	2.80	3.20
	MMU-AP0124HP1-E	1.25	3.60	4.00
	MMU-AP0154HP1-E	1.70	4.50	5.00
	MMU-AP0184HP1-E	2.00	5.60	6.30
	MMU-AP0244HP1-E	2.50	7.10	8.00
	MMU-AP0274HP1-E	3.00	8.00	9.00
	MMU-AP0304HP1-E	3.20	9.00	10.00
	MMU-AP0364HP1-E	4.00	11.20	12.50
	MMU-AP0484HP1-E	5.00	14.00	16.00
	MMU-AP0564HP1-E	6.00	16.00	18.00
Compact 4-way cassette (600 x 600) type 	MMU-AP0074MH1-E	0.80	2.20	2.50
	MMU-AP0094MH1-E	1.00	2.80	3.20
	MMU-AP0124MH1-E	1.25	3.60	4.00
	MMU-AP0154MH1-E	1.70	4.50	5.00
	MMU-AP0184MH1-E	2.00	5.60	6.30
2-way air discharge cassette type 	MMU-AP0072WH	0.80	2.20	2.50
	MMU-AP0092WH	1.00	2.80	3.20
	MMU-AP0122WH	1.25	3.60	4.00
	MMU-AP0152WH	1.70	4.50	5.00
	MMU-AP0182WH	2.00	5.60	6.30
	MMU-AP0242WH	2.50	7.10	8.00
	MMU-AP0272WH	3.00	8.00	9.00
	MMU-AP0302WH	3.20	9.00	10.00
	MMU-AP0362WH	4.00	11.20	12.50
	MMU-AP0482WH	5.00	14.00	16.00
	MMU-AP0562WH	6.00	16.00	18.00
1-way air discharge cassette type 	MMU-AP0074YH-E	0.80	2.20	2.50
	MMU-AP0094YH-E	1.00	2.80	3.20
	MMU-AP0124YH-E	1.25	3.60	4.00
	MMU-AP0154SH-E	1.70	4.50	5.00
	MMU-AP0184SH-E	2.00	5.60	6.30
	MMU-AP0244SH-E	2.50	7.10	8.00
Concealed duct type 	MMD-AP0076BHP1-E	0.80	2.20	2.50
	MMD-AP0096BHP1-E	1.00	2.80	3.20
	MMD-AP0126BHP1-E	1.25	3.60	4.00
	MMD-AP0156BHP1-E	1.70	4.50	5.00
	MMD-AP0186BHP1-E	2.00	5.60	6.30
	MMD-AP0246BHP1-E	2.50	7.10	8.00
	MMD-AP0276BHP1-E	3.00	8.00	9.00
	MMD-AP0306BHP1-E	3.20	9.00	10.00
	MMD-AP0366BHP1-E	4.00	11.20	12.50
	MMD-AP0486BHP1-E	5.00	14.00	16.00
	MMD-AP0566BHP1-E	6.00	16.00	18.00
Concealed duct high static pressure type 	MMD-AP0186HP-E	2.00	5.60	6.30
	MMD-AP0246HP-E	2.50	7.10	8.00
	MMD-AP0276HP-E	3.00	8.00	9.00
	MMD-AP0366HP-E	4.00	11.20	12.50
	MMD-AP0486HP-E	5.00	14.00	16.00
	MMD-AP0566HP-E	6.00	16.00	18.00
	MMD-AP0726HP-E	8.00	22.40	25.00
	MMD-AP0966HP-E	10.00	28.00	31.50
Slim duct type 	MMD-AP0074SPH1-E	0.80	2.20	2.50
	MMD-AP0094SPH1-E	1.00	2.80	3.20
	MMD-AP0124SPH1-E	1.25	3.60	4.00
	MMD-AP0154SPH1-E	1.70	4.50	5.00
	MMD-AP0184SPH1-E	2.00	5.60	6.30
	MMD-AP0244SPH1-E	2.50	7.10	8.00
	MMD-AP0274SPH1-E	3.00	8.00	9.00
Super Slim duct type 	MMD-AP0076MPHY	0.80	2.20	2.50
	MMD-AP0086MPHY	1.00	2.50	2.80
	MMD-AP0096MPHY	1.25	2.80	3.20
	MMD-AP0106MPHY	1.70	3.20	3.60
	MMD-AP0126MPHY	2.00	3.60	4.00
	MMD-AP0146MPHY	2.50	4.00	4.50
	MMD-AP0156MPHY	2.00	4.50	5.00
	MMD-AP0176MPHY	2.00	5.00	5.60
	MMD-AP0186MPHY	2.50	5.60	6.30
	MMD-AP0206MPHY	2.00	6.30	7.10
	MMD-AP0246MPHY	2.50	7.10	8.00
	MMD-AP0276MPHY	3.00	8.00	9.00
Under Ceiling type 	MMC-AP0158HP-E	1.70	4.50	5.00
	MMC-AP0188HP-E	2.00	5.60	6.30
	MMC-AP0248HP-E	2.50	7.10	8.00
	MMC-AP0278HP-E	3.00	8.00	9.00
	MMC-AP0368HP-E	4.00	11.20	12.50
	MMC-AP0488HP-E	5.00	14.00	16.00
	MMC-AP0568HP-E	6.00	16.00	18.00

Type	Model Name	Equivalent HP	Cooling Capacity (kW)	Heating Capacity (kW)
High wall type 3 series	MMK-AP0073H1	0.80	2.20	2.50
	MMK-AP0093H1	1.00	2.80	3.20
	MMK-AP0123H1	1.25	3.60	4.00
	MMK-AP0153H1	1.70	4.50	5.00
	MMK-AP0183H1	2.00	5.60	6.30
	MMK-AP0243H1	2.50	7.10	8.00
High wall 7 series	MMK-AP0077HP-E	0.80	2.20	2.50
	MMK-AP0097HP-E	1.00	2.80	3.20
	MMK-AP0127HP-E	1.25	3.60	4.00
loor standing cabinet type 	MML-AP0074H-E	0.80	2.20	2.50
	MML-AP0094H-E	1.00	2.80	3.20
	MML-AP0124H-E	1.25	3.60	4.00
	MML-AP0154H-E	1.70	4.50	5.00
	MML-AP0184H-E	2.00	5.60	6.30
	MML-AP0244H-E	2.50	7.10	8.00
Floor Console 	MML-AP0074NH-E	0.80	2.20	2.50
	MML-AP0094NH-E	1.00	2.80	3.20
	MML-AP0124NH-E	1.25	3.60	4.00
	MML-AP0154NH-E	1.70	4.50	5.00
	MML-AP0184NH-E	2.00	5.60	6.30
Floor standing concealed type 	MMF-AP0156H-E	1.70	4.50	5.00
	MMF-AP0186H-E	2.00	5.60	6.30
	MMF-AP0246H-E	2.50	7.10	8.00
	MMF-AP0276H-E	3.00	8.00	9.00
	MMF-AP0366H-E	4.00	11.20	12.50
	MMF-AP0486H-E	5.00	14.00	16.00
	MMF-AP0566H-E	6.00	16.00	18.00
Air-to-Air Heat Exchangers* 		Air Flow in CMH (m³/h)		
	VN-M150HE	150		
	VN-M250HE	250		
	VN-M350HE	350		
	VN-M500HE	500		
	VN-M650HE	650		
	VN-M800HE	800		
	VN-M1000HE	1000		
	VN-M1500HE	1500		
	VN-M2000HE	2000		
Air-to-Air Heat Exchangers + DX Coils*	MMD-VN502HEXE	500		
	MMD-VN802HEXE	800		
	MMD-VN1002HEXE	1000		
Air-to-Air Heat Exchangers + DX Coils + Humidifier*	MMD-VNK502HEXE	500		
	MMD-VNK802HEXE	800		
	MMD-VNK1002HEXE	1000		

Controls

NRC-01HE	Wired Remote Controller for Air-to-Air Heat Exchanger, DX Coils & Humidifier
RBC-AMS41E	Remote controller with weekly timer (7-day timer function)
RBC-AMS54E-ES	Back lit remote controller with weekly timer (7-day timer function)
TCB-EXS21TLE	Schedule timer is connected directly to the TCC Link Central Control network and can set timer functions for up to 64 indoor units in up to 8 programmable control groups
TCB-SC642TLE2	Central controller can control all the individual functions of 64 indoor units individually. Can also connect to the weekly timer.
TCB-CC163TLE2	On-Off controller. Can be connected to up to 16 indoor units via the TCC-Link Central Control network to provide simple "1 touch" ON/OFF contro
BMS-SM1280ETLE	Smart Manager with Data Analyser. Advanced Central Control device that can be connected to up to 128 indoor units (2 x 64 IDU TCCLink Connections). The Smart manager model has the ability of control from a Local Area Network and, with the addition of an additional Interface, is capable of Energy Monitoring and report creation functions
BMS-CT5121E	Touch Screen Controller can be connected to 512 indoor units and offers Energy Monitoring and schedule program functions. The Touch Screen is connected to the air conditioner control network directly by relay interfaces. Password function available.
BMS-WB2561PWE BMS-WE01GTE	Web based controls. BMS-WB2561PWE (Web Server/Gateway) is an advanced Central Control device for large installations or where high-level control and/or energy monitoring functions are required (up to 256 FCU). With the use of this additional Master - BMS-WB01GTE - device it is possible to connect up to 2,048 indoor units
BACnet® BMS-IFBN640TLE	The Toshiba BACnet® control system which enables control of the attached air conditioner product from a BACnet building management system.
LonWorks® LN Interface TCB-IFLN642TLE	The Toshiba Lonworks interface 100 % LonMark Compliant and is designed to connect the Toshiba Air Conditioning system to a Lonworks BMS. This Interface connects directly to the Toshiba TCC-Link Central Control Network on the air conditioner side and can be wired on the lindoor or outdoor side. Up to 64 indoor units
Modbus® Interface TCB-IFMB641TLE	The Toshiba Modbus® interface is designed to connect the Toshiba Air Conditioning system to a Modbus BMS. The Toshiba Interface connects directly to the Toshiba TCC-Link Central Control Network on the Air Conditioner and can be wired on the Indoor or outdoor side. The Interface then uses the Modbus RTU protocol based on the RS-485 type serial communications protocol to connect to a suitable Modbus Master device. Finally, this Modbus Master device is connected to the BMS control system

Outdoor Units

HP	Model Name	Cooling Capacity	Heating Capacity	Appearance
8	MMY-MAP0806FT8P-A	22.4	22.4	
10	MMY-MAP1006FT8P-A	28.0	28.0	
12	MMY-MAP1206FT8P-A	33.5	33.5	
14	MMY-MAP1406FT8P-A	40.0	40.0	
16	MMY-MAP1606FT8P-A	45.0	45.0	
18	MMY-MAP1806FT8P-A	50.4	50.4	
20	MMY-MAP2006FT8P-A	56.0	56.0	
22	MMY-AP2216FT8P-A	61.5	61.5	
24	MMY-AP2416FT8P-A	68.0	68.0	
26	MMY-AP2616FT8P-A	73.5	73.5	
28	MMY-AP2816FT8P-A	80.0	80.0	
30	MMY-AP3016FT8P-A	85.0	85.0	
32	MMY-AP3216FT8P-A	90.4	90.4	
34	MMY-AP3416FT8P-A	95.4	95.4	
36	MMY-AP3616FT8P-A	100.8	100.8	
38	MMY-AP3816FT8P-A	106.4	106.4	
40	MMY-AP4016FT8P-A	112.0	112.0	
42	MMY-AP4216FT8P-A	120.0	120.0	
44	MMY-AP4416FT8P-A	125.0	125.0	
46	MMY-AP4616FT8P-A	130.4	130.4	
48	MMY-AP4816FT8P-A	135.4	135.4	
50	MMY-AP5016FT8P-A	140.8	140.8	
52	MMY-AP5216FT8P-A	145.8	145.8	
54	MMY-AP5416FT8P-A	151.2	151.2	

Model Name	Usage	Appearance
RBM-Y1123FE	Flow selector units - Below 11.2kW - SHRMi	   
RBM-Y1803FE	Flow selector units - 11.2kW to below 18.0Kw - SHRMi	
RBM-Y2803FE	Flow selector units - 18.0kW to 28.0kW or less - SHRMi	
RBM-Y1801F4PE	Multi-port flow selector SHRMe, connectable 4 ports x 18kW ea max.	
RBM-Y1801F6PE	Multi-port flow selector SHRMe, connectable 6 ports x18kW ea max.	
RBM-BY55FE	Y- Shape branching joint	
RBM-BY105FE		
RBM-BY205FE		
RBM-BY305FE		
RBM-HY1043FE	4-Branching header	
RBM-HY2043FE		
RBM-H1083FE	8-Branching header	
RBM-HY2083FE		
RBM-BT14FE	Branching joint for connection of outdoor units	
RBM-BT24FE		

AHIC is committed to continuously improving its product to ensure the highest quality and reliability standards, and to meet local regulations and market requirements.

Product specifications in this brochure are only indicative and are subject to change. These are not intended to be used in place of the engineering or installation book
All features and specifications are subject to change without prior notice. All images provided in this catalogue are used for illustration purposes only.

Cooling and heating capacities mentioned for the products are nominal capacities at standard operation conditions.

Part number: 1034-042018
Date: April 2018

Equipment rates in accordance with MEPS 3823.2-2013 E&OE

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