

SHRMe

The new Toshiba SHRMe puts the emphasis on evolution driving excellence in energy savings, expansion in capacity line up and enhancement in applications. Together, these offer professionals outstanding seasonal efficiency at lower operation cost, faster design, installation and commissioning, superior air comfort and enhanced quality and reliability.



High efficiency and low operating costs

The SHRMe allows freely selectable heating and cooling from each indoor unit on a single refrigerant piping system.

Innovative compressor technology

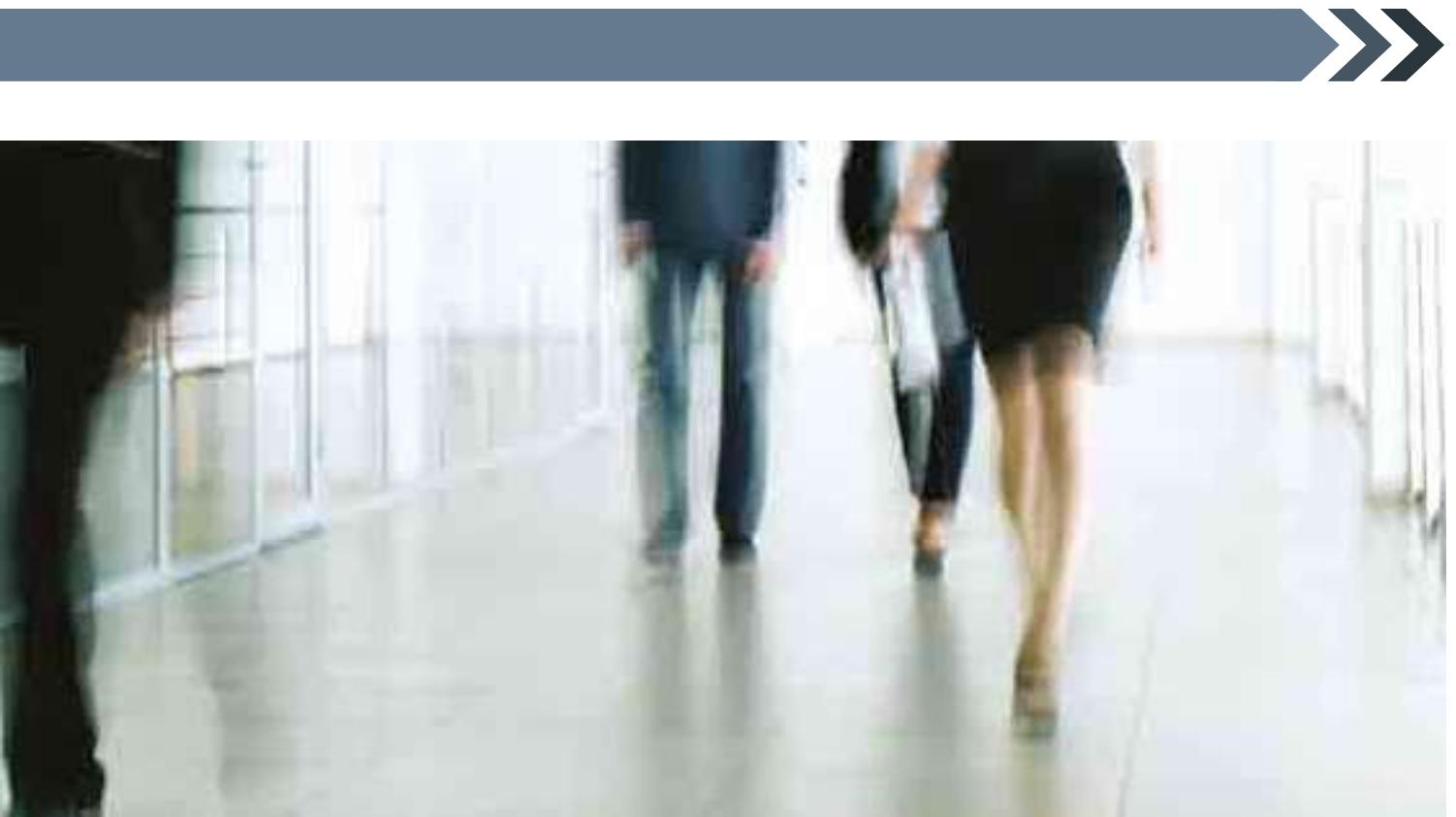
Toshiba's infinitely variable inverter driven control can continually adjust the operating speed of the compressors in real time. This ensures that the capacity output precisely matches end user demand. The advantages of this control are further optimised by incorporating Toshiba's twin rotary compressors. These which enable the SHRMe system to achieve maximum performance and class-leading ESEER values.



Wide range compressor

Using new cutting-edge technology, Toshiba's new twin rotary DC driven compressor can operate in a much wider range of rotational speed, giving increased performance, whilst maximising energy efficiencies.

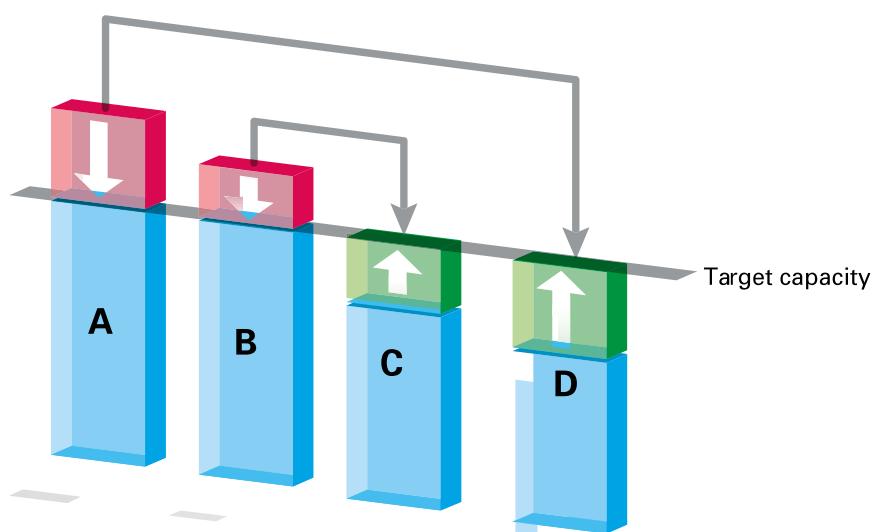




Intelligent flow technology

The unique IFT 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 even capacity distribution throughout the system, 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.



Excess capacity in units A & B can be re-distributed to units C & D, ensuring perfect operation throughout the entire system.

Toshiba "IFT" technology ensures that any surplus capacity can be re-distributed in order to achieve optimum performance and efficiency throughout the entire system.



Maximum part load & full load efficiencies

Thanks to Toshiba's unique twin rotary compressor, re-designed heat exchanger and "intelligent flow" technology, the new SHRMe achieves a ESEER of 8.17, the highest seasonal efficiency in the market.

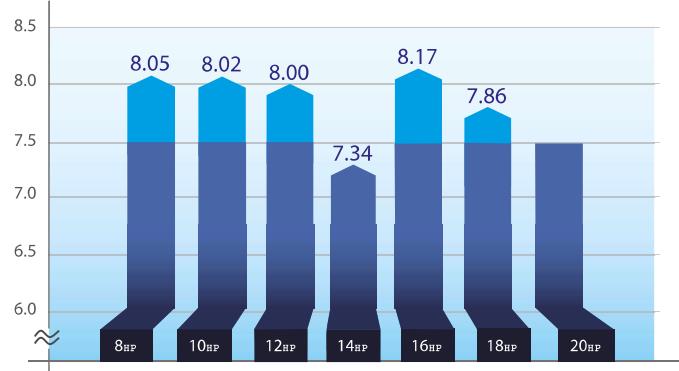
Maximum efficiency is obtained under 50% part load conditions, under which VRF systems operate predominantly.

The expert use and evolution of Toshiba's core technologies have allowed the new SHRMe system to achieve the highest part load COP and EER in the industry.



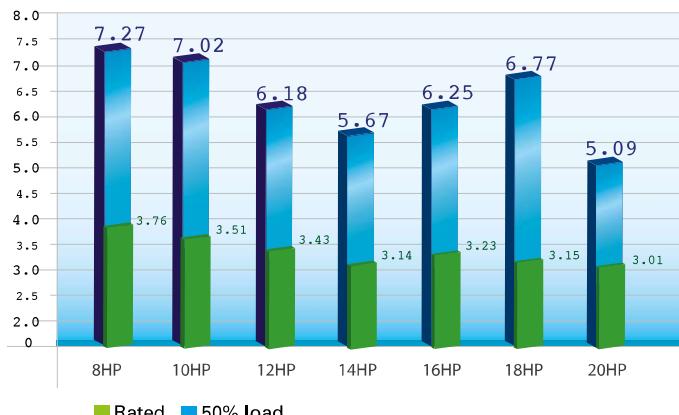
ESEER

Over 7.0 ESEER for all capacity range

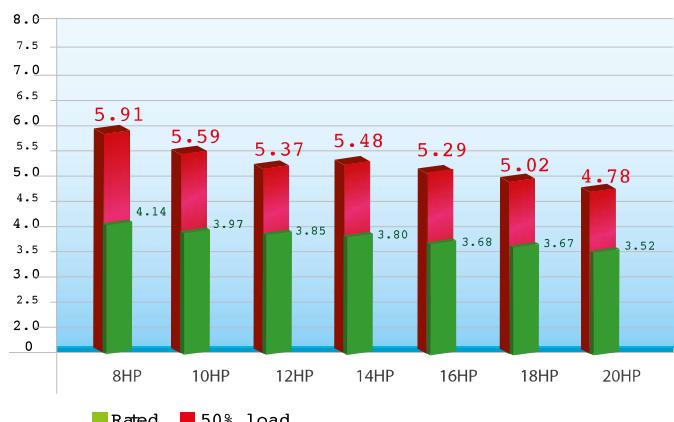


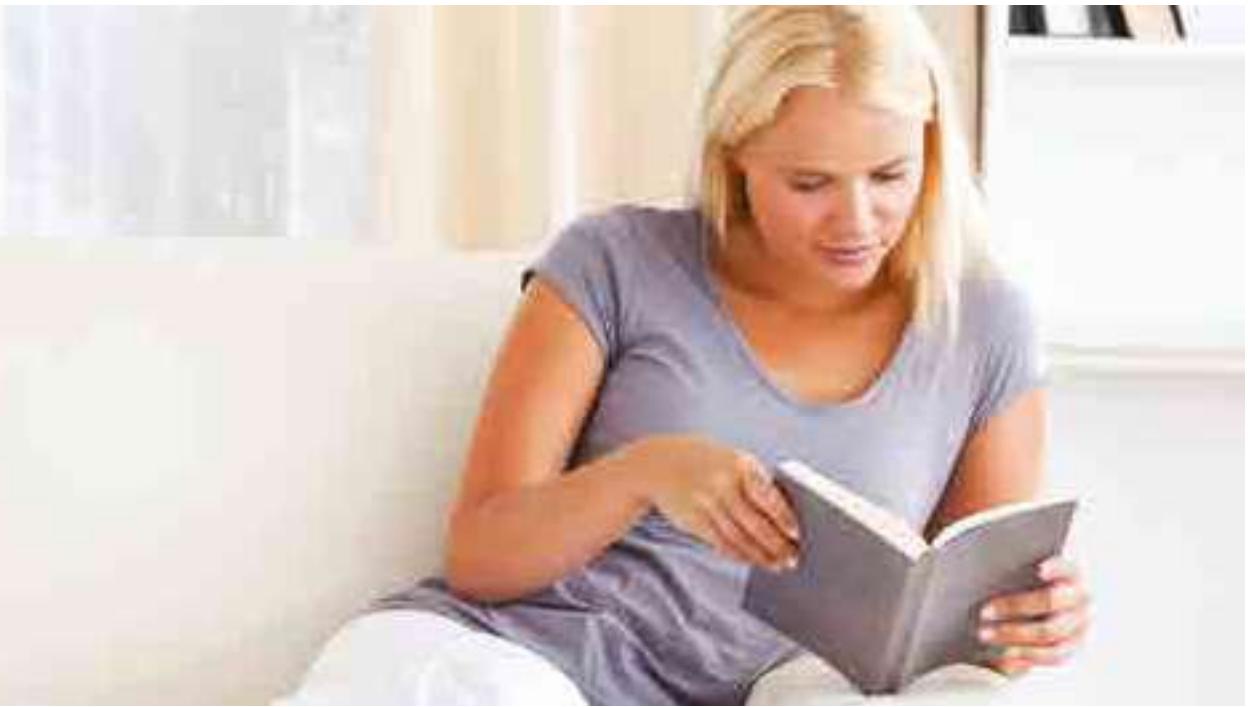
Utilizing the new highly efficient core technologies has resulted in greater energy efficiency and performance

EER



COP

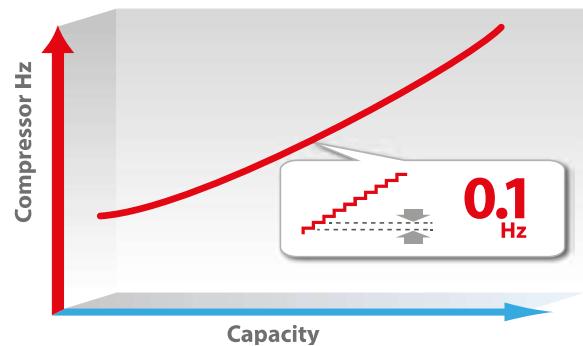




Intelligent systems work collaboratively to provide optimum operational efficiency.

Infinite Variable Control

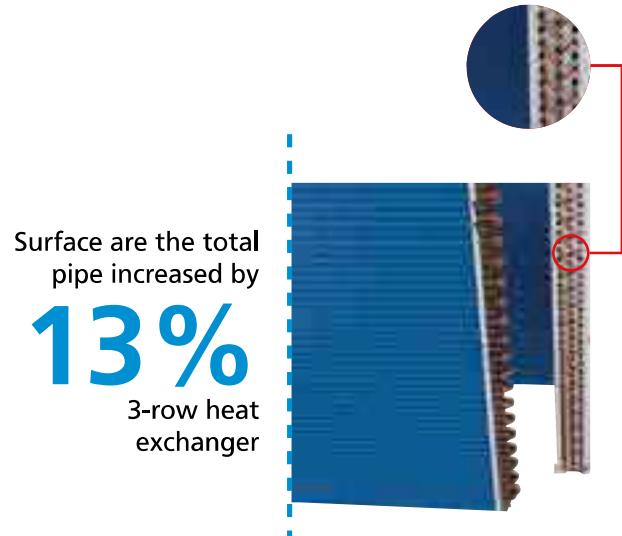
This feature has been continually evolved and developed, since its inception by TOSHIBA engineers back in 2004 with the original SMMS system. The control has the ability to adjust the compressor rotational speed in a near seamless 0,1 Hz steps. This control when matched with TOSHIBA's newest and latest Twin Rotary compressors, allows the system to respond precisely to the capacity needs of the end user, whilst minimizing energy losses.



Advanced heat exchanger

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

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

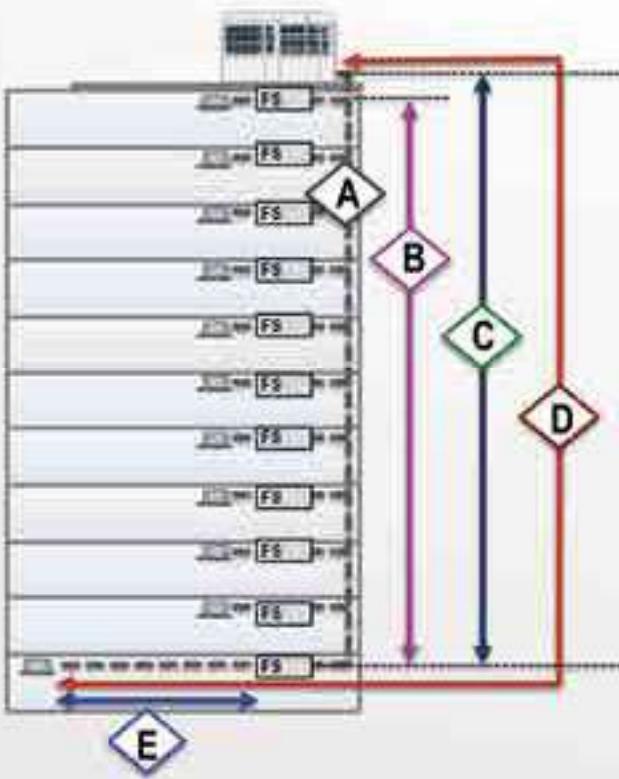


Flexible design and quick installation

Piping Design Flexibility >>>

Toshiba's piping technology makes them one of the industries leaders in system flexibility and ease of installation and with the new SHRMe system, the level of flexibility has increased further, giving more options to the contractor and installer alike.

Piping length & height difference extension by New CDU and FS unit



	SHRMe	Previous model
A Total length	1000m*	500m
B Height between FCU-FCU - outdoor unit above - outdoor unit below	40m 15m	40m 3m
C Height between CDU-FCU - outdoor unit above - outdoor unit below	90m** 40m**	50m 30m
D Farthest equivalent length	200m	200m
E Maximum actual length between FS unit and FCU	50m*	15m

A* Above 34HP compression
B* It is 70m for normal time, and has some specific conditions for 90m
C** It is 70m for piping length between FCU's is more than 3m
D* It is 30m for normal time, and has some specific conditions for 40m
E* It is allowed only if you use the Multi port PS unit



Multi-flow selector for faster installation

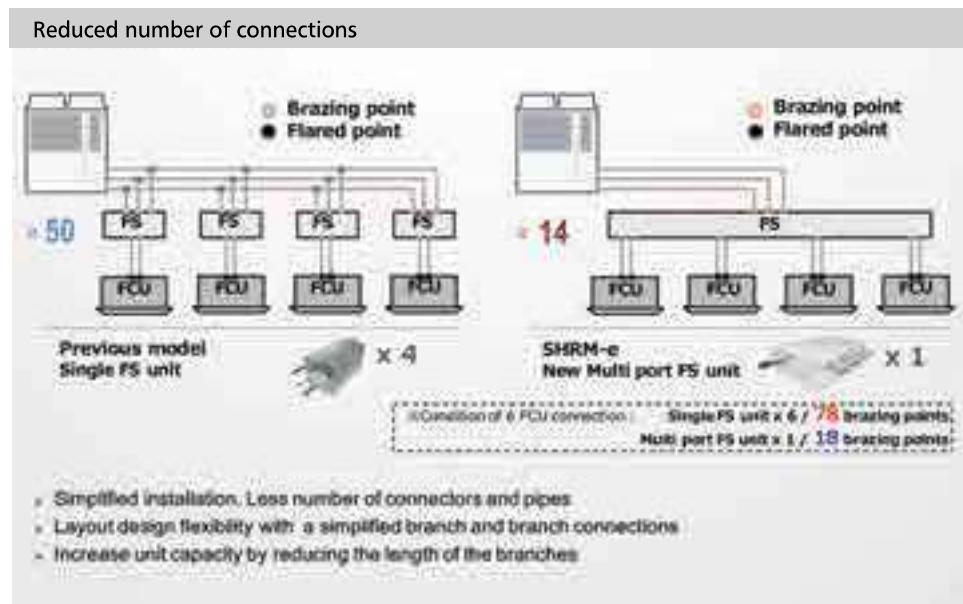
The use of multi-flow selector units increases the design flexibility of the system, offering the same overall capacity with a reduced number of connections. For example a 4-branch multi-flow selector box requires only 14 brazing points, whereas the equivalent combination of single selector box would require up to 50 brazing points. This allows much faster and simpler installation, while layout design is more flexible, thanks to simplified branch and branch connections. Reducing the length of the branches also allows increased capacity. This configuration is available with either group or individual remote control.

Range Overview		
Branches	4	6
Model Name	RBM-Y1801F4PE	RBM-Y1801F6PE
Appearance		
Connectable FCU capacity	1.7kW (0.6HP) to 18.0kW (6.4HP)	1.7kW (0.6HP) to 18.0kW (6.4HP)
Connectable FCU number for each port	Max. 10 ^{*1,2}	Max. 10 ^{*1,2}
Dimension (Height/Width/Depth)	215 / 730 / 567	215 / 1.050 / 567
Weight(kg)	38	53

- Group remote control or individual remote control
- Same overall capacity and connectable units for both models
- Same piping connections as the single flow selector unit

^{*1:} Only individual control operation is possible for Max. 10 FCU and only group operation is possible with 1 (or 2) remote controller

^{*2:} Only group operation is possible with 1 (or 2) remote controller



Superior air comfort

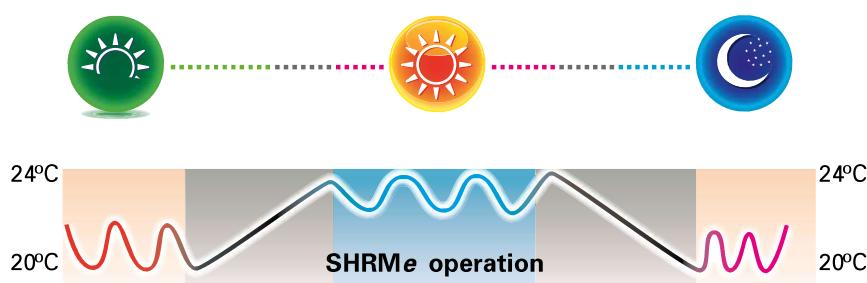
Optimised heating operations

The SHRM_e allows continuous heating, even during external defrost operations, thanks to the new hot gas bypass control. Indoor units will now operate continually, with only a minimal reduction in capacity output. This results in an uninterrupted flow of warm air, ensuring maximum comfort to the end user.



Dual set point for more precision

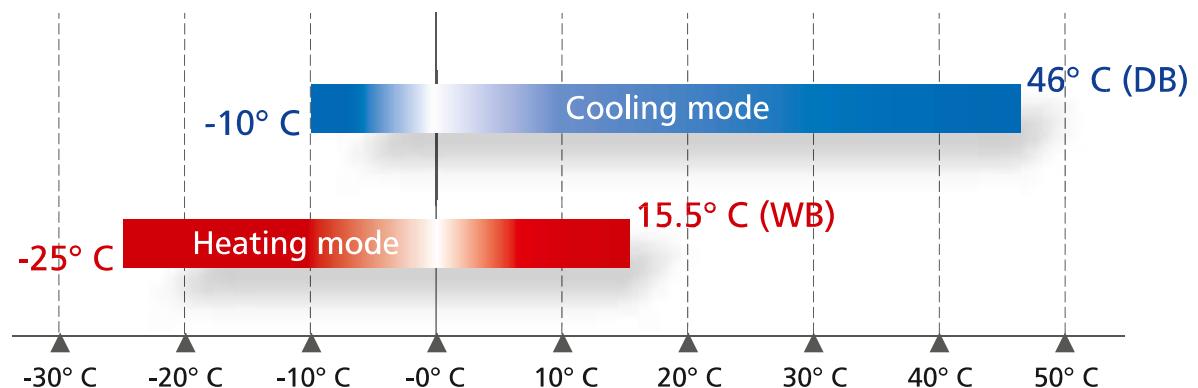
The Dual Set Point increases the system's energy efficiency and reduces overall running costs, with longer periods of time in thermal off mode. Heating and cooling temperatures at which the indoor unit will begin to operate can now be individually selected giving maximum flexibility to the user.





Operating temperature range

Extensive operating temperature range of up to 46 °C in cooling mode and down to -25 °C in heating mode thanks to new compressor design and system controls.



System Line-Up - 54 HP maximum capacity

Model (MMY-)	MAP0806FT8P-E	MAP1006FT8P-E	MAP1206FT8P-E	MAP1406FT8P-E	MAP1606FT8P-E	MAP1806FT8P-E						
HP	8	10	12	14	16	18						
Capacity kW (C/H)	22.4	25.0	28.0	31.5	33.5	37.5	40.0	45.0	45.0	50.0	50.4	56.5

Model (MMY-)	AP2006FT8P-E	AP2216FT8P-E	AP2416FT8P-E	AP2616FT8P-E	AP2816FT8P-E	AP3016FT8P-E						
HP	20	22 = 12+10	24 = 14+10	26 = 14+12	28 = 14+14	30 = 16+14						
Capacity kW (C/H)	56.0	58.0	61.5	69.0	68.0	76.5	73.5	82.5	80.0	90.0	85.0	95.0

Model (MMY-)	AP3206FT8P-E	AP3416FT8P-E	AP3616FT8P-E	AP3816FT8P-E	AP4016FT8P-E	AP4216FT8P-E						
HP	32 = 18+14	34 = 18+16	36 = 18+18	38 = 20+18	40 = 20+20	42 = 14+14+14						
Capacity kW (C/H)	90.4	101.5	95.4	106.5	100.8	113.0	106.4	114.5	112.0	116.0	120.0	135.0

Model (MMY-)	AP4406FT8P-E	AP4616FT8P-E	AP4816FT8P-E	AP5016FT8P-E	AP5216FT8P-E	AP5416FT8P-E						
HP	44 = 16+14+14	46 = 18+14+14	48 = 18+16+14	50 = 18+18+14	52 = 18+18+16	54 = 18+18+18						
Capacity kW (C/H)	125.0	140.0	130.4	146.5	135.4	151.5	140.8	158.0	145.8	163.0	151.2	169.5

Rated conditions:

Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB.

Heating : Indoor 20°C DB, Outdoor 7°C DB / 6°C WB.

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

Flow selectors (Single)			
	RBM-Y1123FE	RBM-Y1803FE	RBM-Y2803FE
Appearance			
Connectable indoor unit capacity (HP)	Below 4.0	4.0 to below 6.4	6.4 to 10.0 or less
Connectable indoor units*	5	8	8

*Only group operation is possible with 1 (or 2) remote controller.

*Connecion cable kit : RBC-CBK15FE

Flow selectors (Multi)		
Branches	4	6
Model Name	RBM-Y1801F4PE	RBM-Y1801F6PE
Appearance		
Connectable FCU capacity	1.7kW (0.6HP) to 18.0kW (6.4HP)	1.7kW (0.6HP) to 18.0kW (6.4HP)
Connectable FCU number for each port	Max. 10* ^{1,2}	Max. 10* ^{1,2}
Dimension (Height/Width/Depth)	215 / 730 / 567	215 / 1.050 / 567
Weight(kg)	38	53

- Group remote control or individual remote control
- Same overall capacity and connectable units for both models
- Same piping connections as the single flow selector unit

*1: Only individual control operation is possible for Max. 10 FCU and only group operation is possible with 1 (or 2) remote controller

*2: Only group operation is possible with 1 (or 2) remote controller

Branching joints										
	Y-shape branching joint				Branch headers				Outdoor unit connection piping kit	
Appearance										
Model name	RBM-BY55FE	RBM-BY105FE	RBM-BY205FE	RBM-BY305FE	RBM-HY1043FE	RBM-HY2043FE	RBM-HY1083FE	RBM-HY2083FE	RBM-BT14FE	RBM-BT24FE
Usage (HP) (Classification according to indoor unit capacity code)	Total below 6.4	Total 6.4 or more and below 14.2	Total 14.2 or more and below 25.2	Total 25.2 or more	Max. 4 branches		Max. 8 branches		Total below 26.0	Total 26.0 or more
					Total below 14.2	Total 14.2 or more and below 25.2	Total below 14.2	Total 14.2 or more and below 25.2		

Outdoor unit specifications

Single Units

Technical specifications

Equivalent HP		8	10	12	14		
Model name		(MMY-)	MAP0806FT8P-E	MAP1006FT8P-E	MAP1206FT8P-E	MAP1406FT8P-E	
Outdoor unit type							
Cooling capacity ^{(*)1}		(kW)	22.4	28.0	33.5	40.0	
Heating capacity ^{(*)1}		(kW)	25.0	31.5	37.5	45.0	
Power Supply ^{(*)2}			3-phase 4 wires 50Hz 400 V (380-415V)				
Electrical characteristics ^{(*)1}	Cooling	Power Consumption	(kW)	5.95	7.96	9.75	
		EER		3.76	3.51	3.43	
	Heating	ESEER	(kW)	8.05	8.02	8.00	
		Power Consumption	(kW)	5.40	7.05	8.70	
Dimensions		COP		4.14	3.97	3.85	
		(Height/Width/Depth)	(mm)	1,830 / 990 / 780	1,830 / 990 / 780	1,830 / 1,210 / 780	
	Weight	Heat Pump	(kg)	263	263	316	
		Type		Hermetic Twin Rotary			
Compressor		Quantity		2	2	2	
		Motor output	(kW)	2.3x2	3.1x2	3.9x2	
Fan unit		Motor output	(kW)	1.0	1.0	1.0	
		Air volume	(m³/h)	9700	9700	12200	
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	22.2	22.2	28.6	
		Discharge gas side	(mm)	19.1	19.1	19.1	
		Liquid side	(mm)	12.7	12.7	12.7	
		Balance side	(mm)	9.5	9.5	9.5	
Sound pressure level (Cooling/Heating)		(dB(A))	59.0/61.0	59.0/61.0	60.0/62.0	62.0/64.0	
Operating temperature rate ^{(*)2}		Cooling	CDB	- 10.0 to 46.0	- 10.0 to 46.0	- 10.0 to 46.0	
		Heating	CDW	- 25.0 to 15.5	- 25.0 to 15.5	- 25.0 to 15.5	

Single Units

Technical specifications

Equivalent HP		16	18	20		
Model name		(MMY-)	MAP1606FT8P-E	MAP1806FT8P-E	MAP2006FT8P-E	
Outdoor unit type						
Cooling capacity ^{(*)1}		(kW)	45.0	50.4	56.0	
Heating capacity ^{(*)1}		(kW)	50.0	56.5	58.0	
Power Supply ^{(*)2}			3-phase 4 wires 50Hz 400 V (380-415V)			
Electrical characteristics ^{(*)1}	Cooling	Power Consumption	(kW)	13.9	16.0	
		EER		3.23	3.15	
	Heating	ESEER	(kW)	8.17	7.86	
		Power Consumption	(kW)	12.20	13.70	
Dimensions		COP		3.68	3.67	
		(Height/Width/Depth)	(mm)	1,830 / 1,600 / 780	1,830 / 1,600 / 780	
	Weight	Heat Pump	(kg)	377	377	
		Type		Hermetic Twin Rotary		
Compressor		Quantity		2	2	
		Motor output	(kW)	5.8x2	6.5x2	
Fan unit		Motor output	(kW)	2.0	2.0	
		Air volume	(m³/h)	17300	17300	
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	28.6	28.6	
		Discharge gas side	(mm)	22.2	22.2	
		Liquid side	(mm)	19.1	19.1	
		Balance side	(mm)	9.5	9.5	
Sound pressure level (Cooling/Heating)		(dB(A))	61.0/62.0	61.0/62.0	61.0/62.0	
Operating temperature rate ^{(*)2}		Cooling	CDB	- 10.0 to 46.0	- 10.0 to 46.0	
		Heating	CDW	- 25.0 to 15.5	- 25.0 to 15.5	

Outdoor unit specifications

Combinations

Equivalent HP			22	24	26	28	
Model name			(MMY-)	AP2216FT8P-E	AP2416FT8P-E	AP2616FT8P-E	AP2816FT8P-E
Combination			(MMY-)	MAP1206FT8P-E	MAP1406FT8P-E	MAP1406FT8P-E	MAP1406FT8P-E
Outdoor unit type							
Cooling capacity (*1)		(kW)	61.5	68.0	73.5	80.0	
Heating capacity (*1)			69.0	76.5	82.5	90.0	
Power Supply (*2)		(kW)			3-phase 4 wires 50Hz 400 V (380-415V)		
Electrical characteristics (*1)	Cooling	Power Input	(kW)	17.71	20.66	22.45	25.40
		EER		3.47	3.29	3.27	3.15
Electrical characteristics (*1)	Heating	Power Input	(kW)	15.75	17.55	19.20	21.00
		COP	(kW)	3.90	3.87	3.83	3.81
Total weight		Heat Pump	(kW)	316+263	316+263	316+316	316+316
Compressor	Qty		(m3/h)	2+2	2+2	2+2	2+2
		Motor output	(mm)	3.9x2 + 3.1x2	4.8x2 + 3.1x2	4.8x2 + 3.9x2	4.8x2 + 4.8x2
Fan unit	Motor output		(mm)	1.0 + 1.0	1.0 + 1.0	1.0 + 1.0	1.0 + 1.0
	Air volume		(mm)	12,200 + 9,700	12,200 + 9,700	12,200 + 12,200	12,200 + 12,200
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	34.9	34.9	34.9	34.9
		Discharge gas side	(dB(A))	28.6	28.6	28.6	28.6
		Liquid side	(mm)	19.1	19.1	22.2	22.2
		Balance side	(mm)	9.5	9.5	9.5	9.5
Sound pressure level (Cooling/Heating)			(mm)	63.0/65.0	64.0/66.0	64.5/66.5	65.5/67.5

Combinations

Equivalent HP			30	32	34	
Model name			(MMY-)	AP3016FT8P-E	AP3216FT8P-E	AP3416FT8P-E
Combination			(MMY-)	MAP1406FT8P-E	MAP1806FT8P-E	MAP1806FT8P-E
Outdoor unit type						
Cooling capacity (*1)		(kW)	85.0	90.4	95.4	
Heating capacity (*1)			95.0	101.5	106.5	
Power Supply (*2)		(kW)		3-phase 4 wires 50Hz 400 V (380-415V)		
Electrical characteristics (*1)	Cooling	Power Input	(kW)	26.60	28.70	29.90
		EER		3.20	3.15	3.19
Electrical characteristics (*1)	Heating	Power Input	(kW)	22.70	24.40	25.90
		COP	(kW)	3.74	3.70	3.68
Total weight		Heat Pump	(kW)	377 + 316	377 + 316	377 + 377
Compressor	Qty		(m3/h)	2+2	2+2	2+2
		Motor output	(mm)	5.8x2 + 4.8x2	6.5x2 + 4.8x2	6.5x2 + 5.8x2
Fan unit	Motor output		(mm)	2.0 + 1.0	2.0 + 1.0	2.0 + 2.0
	Air volume		(mm)	17,300 + 12,200	17,300 + 12,200	17,300 + 17,300
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	34.9	34.9	34.9
		Discharge gas side	(dB(A))	28.6	28.6	28.6
		Liquid side	(mm)	22.2	22.2	22.2
		Balance side	(mm)	9.5	9.5	9.5
Sound pressure level (Cooling/Heating)			(mm)	65.0/66.5	65.0/66.5	64.5/65.5

Combinations

Equivalent HP			36	38	40	
Model name			(MMY-)	AP3616FT8P-E	AP3816FT8P-E	AP4016FT8P-E
Combination			(MMY-)	MAP1806FT8P-E	MAP2006FT8P-E	MAP2006FT8P-E
Outdoor unit type						
Cooling capacity (*1)		(kW)	100.8	106.4	112.0	
Heating capacity (*1)			113.0	114.5	116.0	
Power Supply (*2)		(kW)		3-phase 4 wires 50Hz 400 V (380-415V)		
Electrical characteristics (*1)	Cooling	Power Input	(kW)	32.00	34.60	37.20
		EER		3.15	3.08	3.01
Electrical characteristics (*1)	Heating	Power Input	(kW)	27.40	29.60	31.80
		COP	(kW)	3.68	3.59	3.52
Total weight		Heat Pump	(kW)	377 + 377	377 + 377	377 + 377
Compressor	Qty		(m3/h)	2+2	2+2	2+2
		Motor output	(mm)	6.5x2 + 6.5x2	7.6x2 + 6.5x2	7.6x2 + 7.6x2
Fan unit	Motor output		(mm)	2.0 + 2.0	2.0 + 2.0	2.0 + 2.0
	Air volume		(mm)	17,300 + 17,300	17,900 + 17,300	17,900 + 17,900
Refrigerant piping	Connecting port diameter	Sunction gas side	(mm)	41.3	41.3	41.3
		Discharge gas side	(dB(A))	34.9	34.9	34.9
		Liquid side	(mm)	22.2	22.2	22.2
		Balance side	(mm)	9.5	9.5	9.5
Sound pressure level (Cooling/Heating)			(mm)	64.5/65.5	64.5/65.5	64.5/65.5

Outdoor unit specifications

Combinations

Technical specifications

Equivalent HP			42	44	46	48
Model name	(MMY-)	AP4216FT8P-E	AP4416FT8P-E	AP4616FT8P-E	AP4816FT8P-E	
Combination	(MMY-)	MAP1406FT8P-E	MAP1606FT8P-E	MAP1806FT8P-E	MAP1806FT8P-E	
Outdoor unit type				Inverter		
Cooling capacity (*1)	(kW)	120.0	125.0	130.4	135.4	
Heating capacity (*1)		135.0	140.0	146.5	151.5	
Power Supply (*2)	(kW)			3-phase 4 wires 50Hz 400 V (380-415V)		
Electrical characteristics (*1)	Cooling	Power Input (kW)	38.1	39.3	41.4	41.7
		EER	3.15	3.18	3.15	3.25
	Heating	Power Input (kW)	31.5	33.2	34.7	36.6
		COP (kW)	3.81	3.77	3.76	3.70
Total weight	Heat Pump (kW)	316 + 316 + 316	377 + 316 + 316	377 + 316 + 316	377 + 377 + 316	
Compressor	Qty (m3/h)	2+2+2	2+2+2	2+2+2	2+2+2	
Fan unit	Motor output (mm)	4.8x2 + 4.8x2 + 4.8x2	5.8x2 + 4.8x2 + 4.8x2	6.5x2 + 4.8x2 + 4.8x2	6.5x2 + 5.8x2 + 4.8x2	
	Motor output (mm)	1.0 + 1.0 + 1.0	2.0 + 1.0 + 1.0	2.0 + 1.0 + 1.0	2.0 + 2.0 + 1.0	
Refrigerant piping	Air volume (mm)	12,200 + 12,200 + 12,200	17,300 + 12,200 + 12,200	17,300 + 12,200 + 12,200	17,300 + 17,300 + 12,200	
	Connecting port diameter (mm)	Suction gas side 41.3 Discharge gas side 34.9 Liquid side 22.2 Balance side 9.5	41.3 34.9 22.2 9.5	41.3 34.9 22.2 9.5	41.3 34.9 22.2 9.5	
Sound pressure level (Cooling/Heating)	(mm)	67.0/69.0	66.5/68.5	66.5/68.5	66.5/68.0	

Combinations

Technical specifications

Equivalent HP			50	52	54
Model name	(MMY-)	AP5016FT8P-E	AP5216FT8P-E	AP5416FT8P-E	
Combination	(MMY-)	MAP1806FT8P-E	MAP1806FT8P-E	MAP1806FT8P-E	
Outdoor unit type			Inverter		
Cooling capacity (*1)	(kW)	140.8	145.8	151.2	
Heating capacity (*1)		158.0	163.0	169.5	
Power Supply (*2)	(kW)		3-phase 4 wires 50Hz 400 V (380-415V)		
Electrical characteristics (*1)	Cooling	Power Input (kW)	44.7	45.9	48.0
		EER	3.15	3.18	3.15
	Heating	Power Input (kW)	38.1	39.6	41.1
		COP (kW)	3.70	3.68	3.68
Total weight	Heat Pump (kW)	377 + 377 + 316	377 + 377 + 377	377 + 377 + 377	
Compressor	Qty (m3/h)	2+2+2	2+2+2	2+2+2	
Fan unit	Motor output (mm)	6.5x2 + 6.5x2 + 4.8x2	6.5x2 + 6.5x2 + 5.8x2	6.5x2 + 6.5x2 + 6.5x2	
	Air volume (mm)	2.0 + 2.0 + 1.0	2.0 + 2.0 + 2.0	2.0 + 2.0 + 2.0	
Refrigerant piping	Connecting port diameter (mm)	Suction gas side 41.3 Discharge gas side 34.9 Liquid side 22.2 Balance side 9.5	41.3 34.9 22.2 9.5	41.3 34.9 22.2 9.5	
	Sound pressure level (Cooling/Heating)	(mm)	66.5/68.0	66.0/67.0	66.0/67.0

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

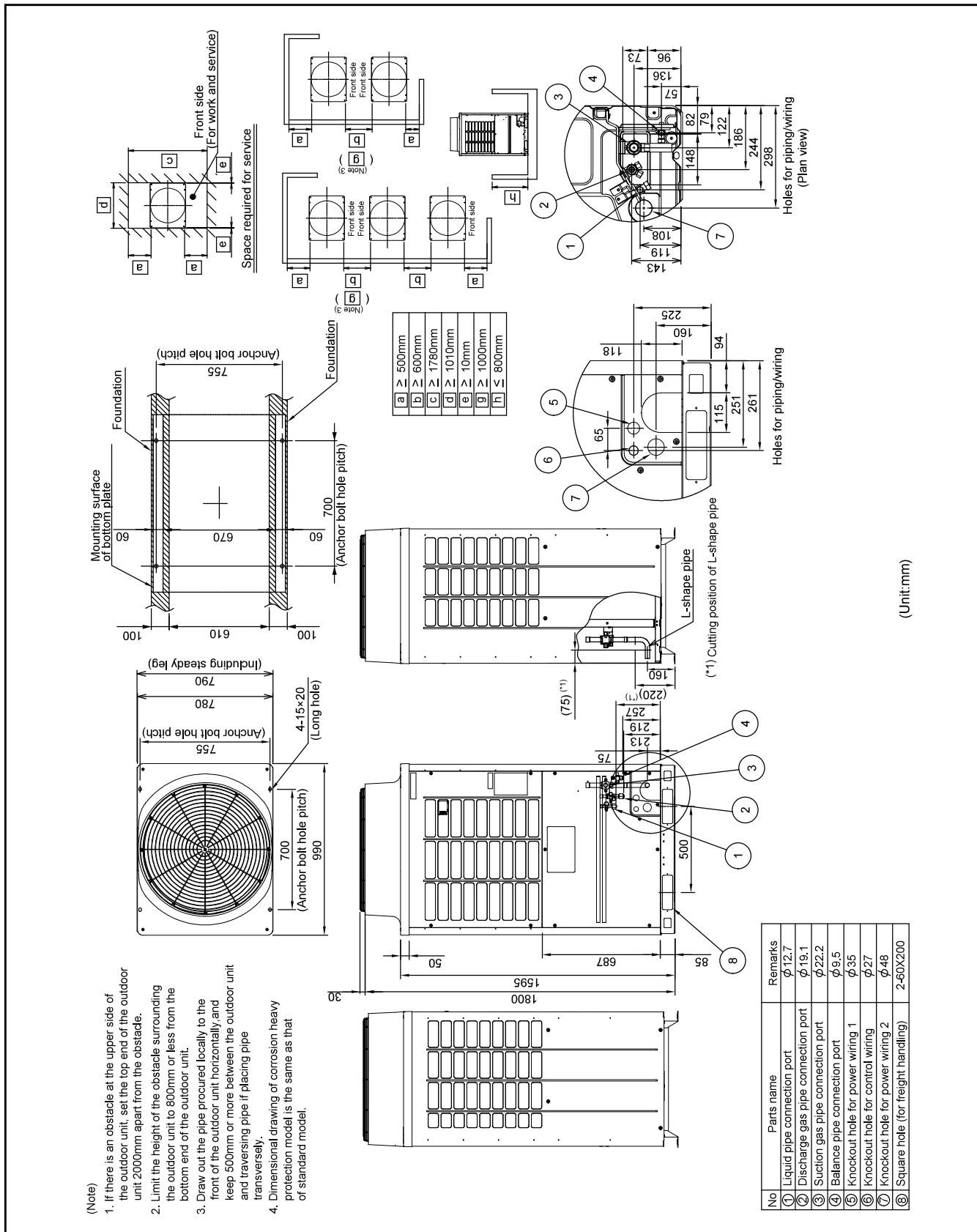
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB.

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

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

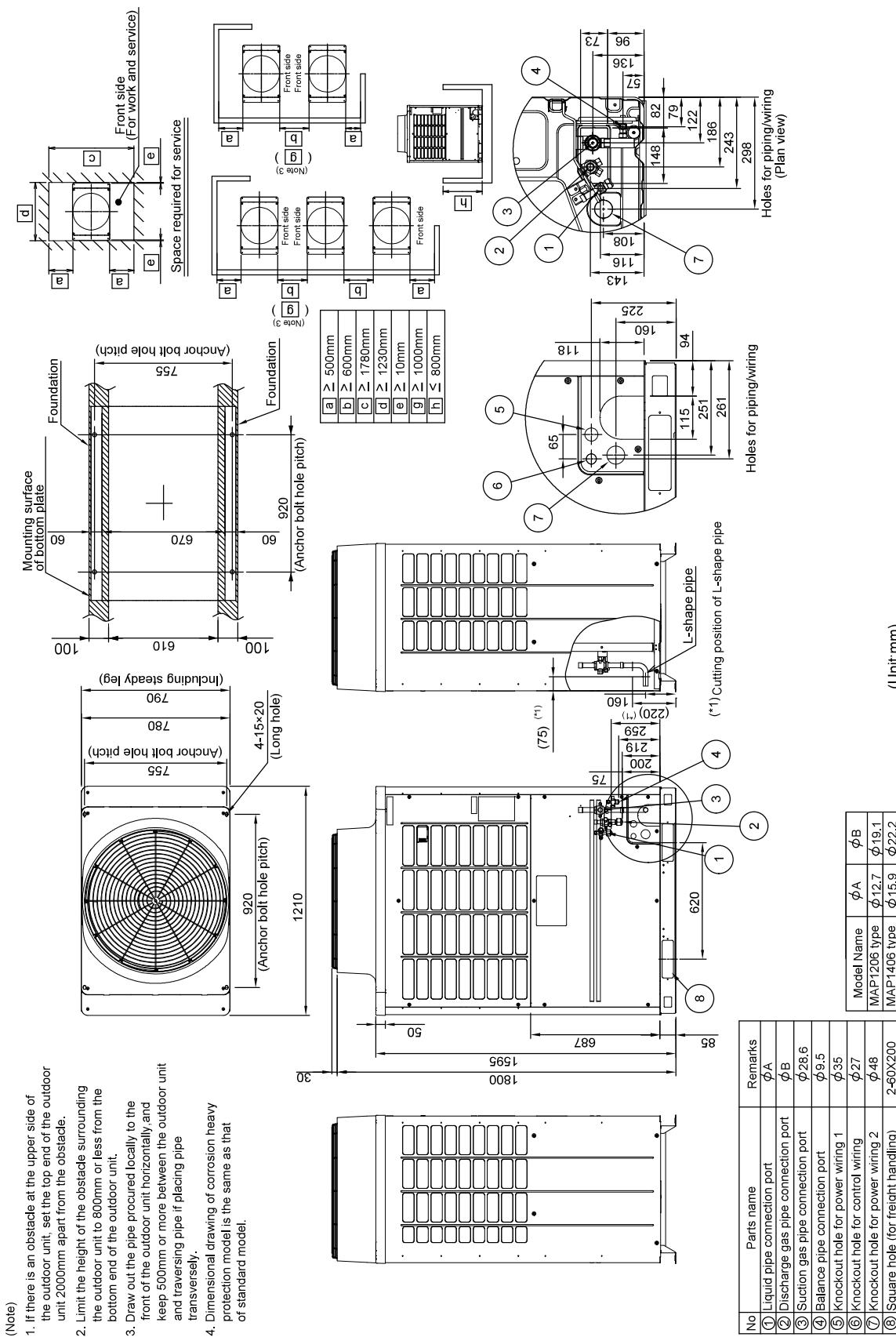
Single unit

Model : MMY-MAP0806FT8P-E , MAP1006FT8P-E



Single unit

Model : MMY-MAP1206FT8P-E, MAP1406FT8P-E



Single unit

Model : MMY-MAP1608FT8P-E, MAP1806FT8P-E, MAP2006FT8P-E

