

# Air Conditioning for Small and Medium-size Buildings



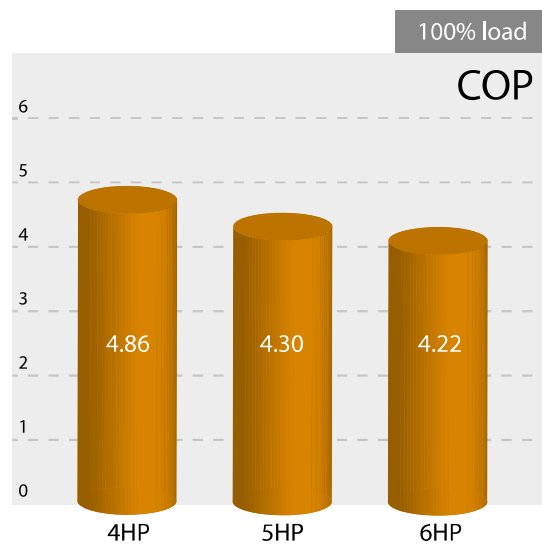
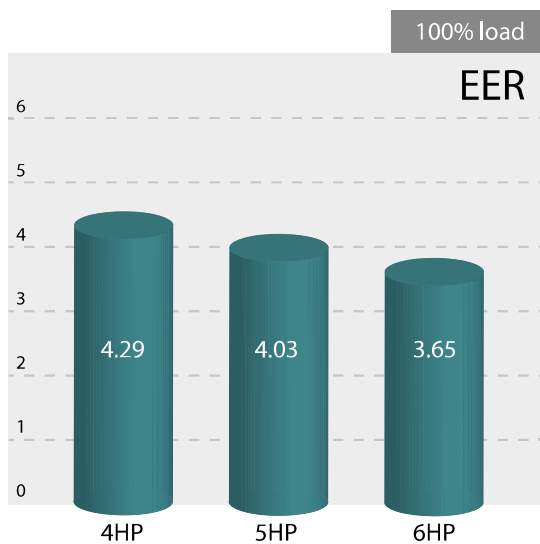
MINI-SMMS 

# Industry-leading energy savings

## Energy-efficient performance for greater eco-consciousness >>>

Adopting the highly efficient DC twin-rotary compressors and variable refrigerant pressure controlled inverters realized greater energy efficient performance.

### Mini-SMMSe

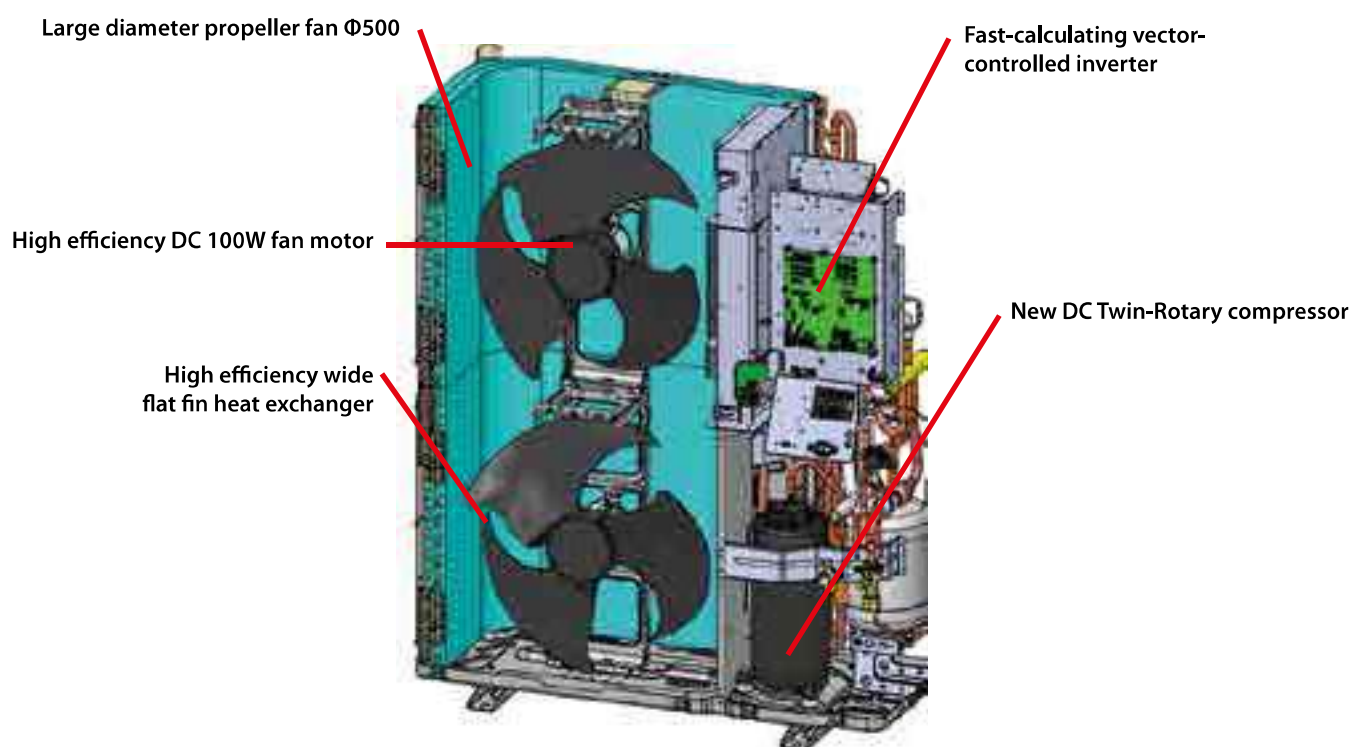




## Mini-SMMSe technology



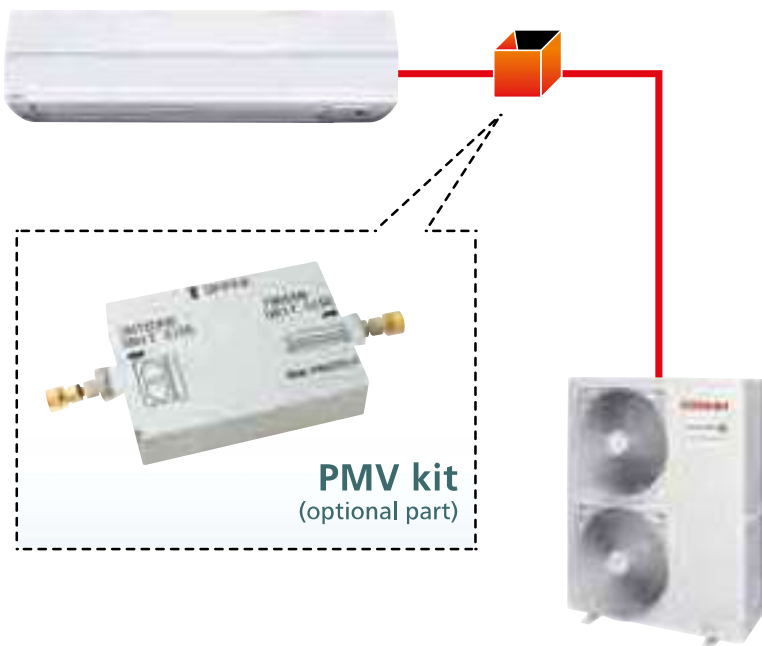
Remarkable Toshiba technologies  
all for saving energy



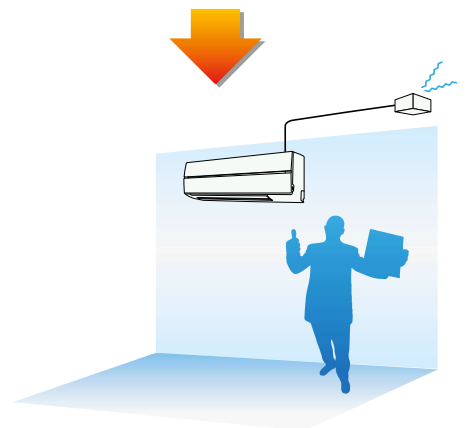


**PMV kit for quieter operation** >>>

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



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

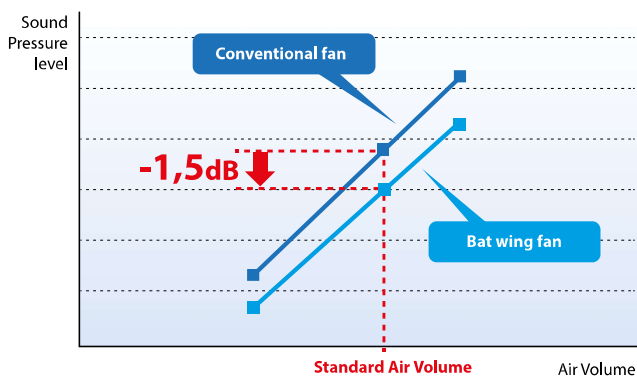


If the PMV function is removed from the indoor unit, noise can be significantly reduced.



## Bat wing fan

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



At same air volume, sound is reduced by 1,5 dB.

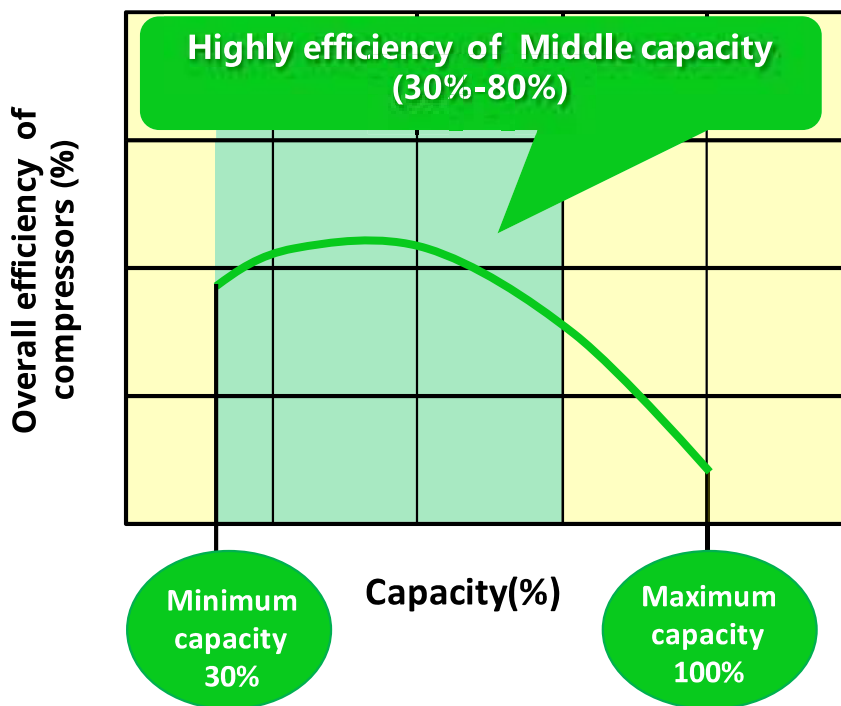


- ① **Anti-eddy projections**  
Minimizes the generation of large eddies.
- ② **Reverse-arc-shaped wing**  
Reduces rear turbulence due to less pressure loss.

# Part Load Performance

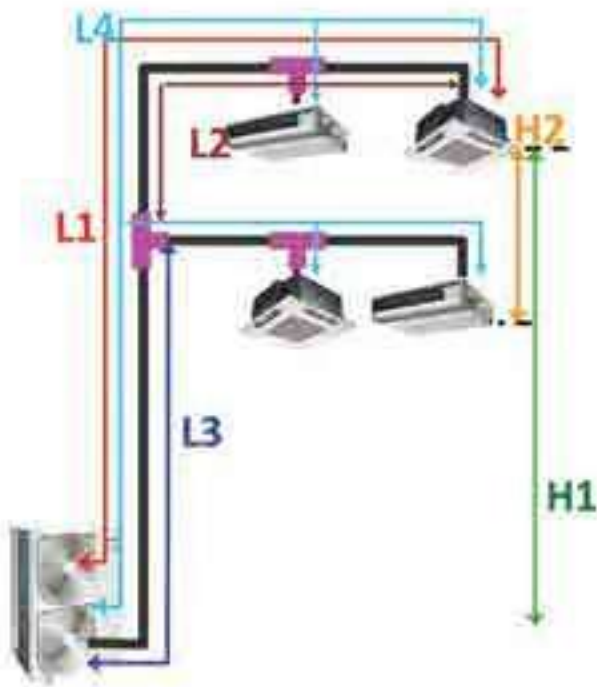
## Part Load Performance >>>

Greater operating performance is now possible when operating under a constant load.





Installation Flexibility



<b>L1</b>	Max. equivalent length from CDU to FCU	<b>125m</b>
<b>L2</b>	Max. length 1st branch to the furthest FCU	<b>35m</b>
<b>L3</b>	Max. equivalent main pipe length	<b>65m</b>
<b>L4</b>	Max. total pipe length	<b>180m</b>
<b>H1</b>	Max. height CDU to FCU (Upper/Lower outdoor unit)	<b>30/20m</b>
<b>H2</b>	Max. height FCU to FCU	<b>15m</b>

**15 m** as height indoor unit to indoor unit is better for the residential building.



## Mini-SMMSe (1-phase)

## Outdoor units

Capacity				4HP	5HP	6HP
Model name			MCY-	MHP0404HS-E	MHP0504HS-E	MHP0604HS-E
Outdoor unit type				Inverter		
Cooling capacity (*1)			kW	12.1	14.0	15.5
Heating capacity (*1)			kW	12.5	16.0	18.0
Max No of connected indoor units				8	10	13
Power supply				1-phase 50Hz 220/230/240 V		
Electrical characteristics	Cooling	Power consumption	kW	2.83	3.50	4.29
		EER		4.28	4.00	3.61
	Heating	Power consumption	kW	2.59	3.75	4.31
		COP		4.83	4.27	4.18
Dimensions		Height/Width/Depth	mm	1,235/990/390	1,235/990/390	1,235/990/390
Total weight			kg	127	127	127
Compressor				Hermetic twin rotary		
Fan unit air volume			m <sup>3</sup> /h	5.660	5.820	6.050
Refrigerant charge			kg	6.4	6.4	6.4
Suction line type - diameter			mm	15.9	15.9	15.9
Liquid line type - diameter			mm	9.5	9.5	9.5
Piping		Total length	mm	180	180	180
		Farthest length	mm	112	100	100
		Height between IDU & ODU (Upper/Lower)	mm	30/20	30/20	30/20
		Height between IDUs	mm	15	15	15
Operating range db	Cooling			from -5°C to +46°C		
Operating range wb	Heating			from -20°C to +15°C		
Sound pressure level Night Operation	Cooling / Heating			46/48	46/48	47/49
Sound pressure level	Cooling / Heating		dB(A)	49/52	50/53	51/54

(\*1) 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.

## PMV Kit



Model name	Indoor unit capacity
RMB-PMV0363E	0,8-1,25HP
RMB-PMV0903E	1,7-2-2,5HP

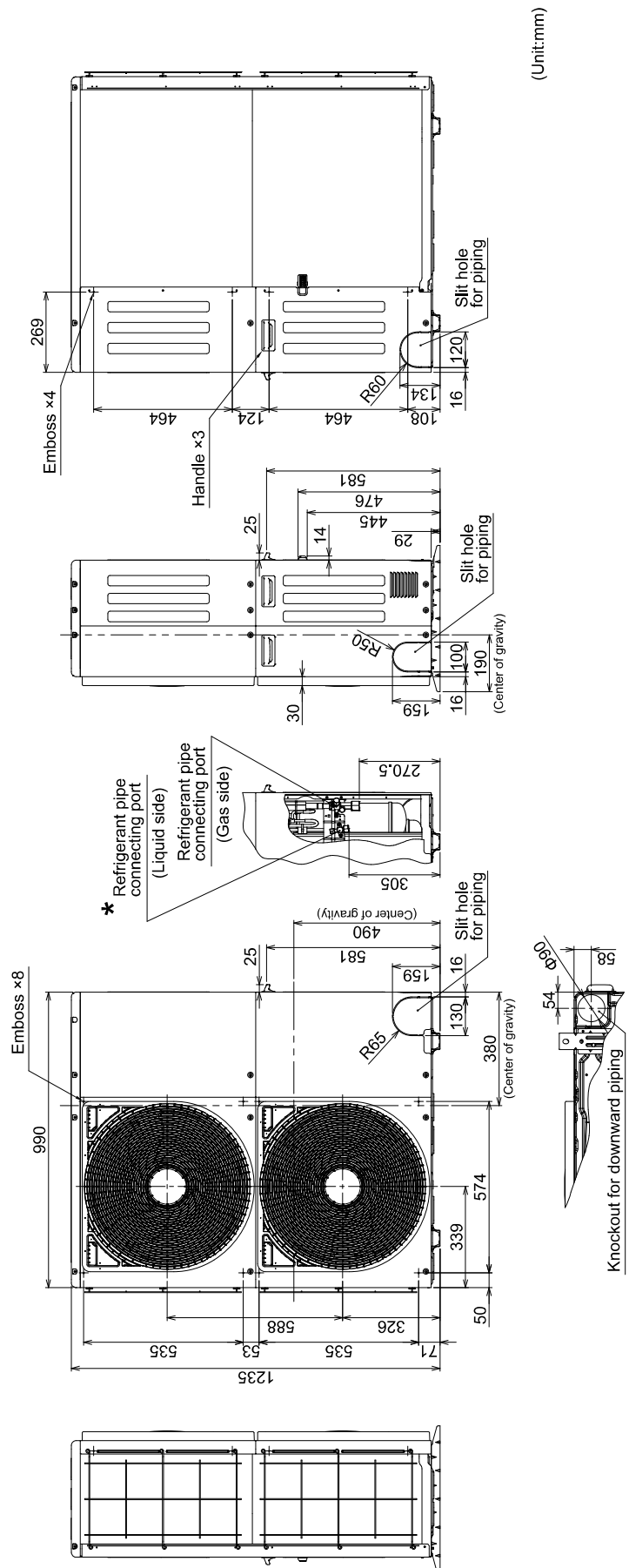
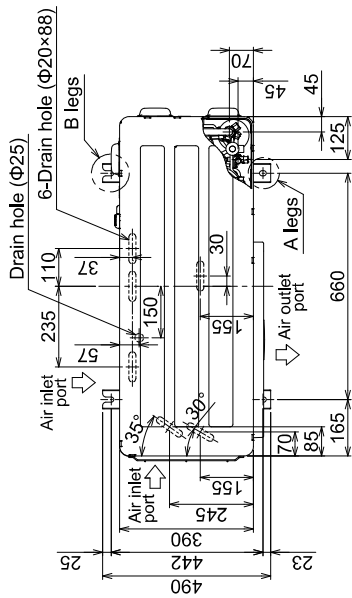
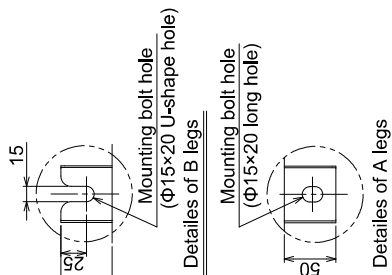
## PMV Kit

Model name	Function
TCB-PCM04E	Night operation (sound reduction) external master on/off operation mode selection control
TCB-PCDM4E	Power peak cut control
TCB-PCIN4E	Error / operation output

# Dimensional drawing

MCY-MHP0404HS, MCY-MHP0504HS-E, MCY-MHP0604HS-E

* Model	Diameter of pipe connecting port		Diameter of connecting pipe	
	Liquid side	Gas side	Liquid side	Gas side
MCY-MHP0404HS-E MCY-MHP0404HS-J-E	∅ 9.52	∅ 15.88	∅ 9.52	∅ 15.88
MCY-MHP0504HS-E MCY-MHP0504HS-J-E	∅ 9.52	∅ 15.88	∅ 9.52	∅ 15.88
MCY-MHP0604HS-E MCY-MHP0604HS-J-E	∅ 9.52	∅ 19.05	∅ 9.52	∅ 19.05



(Unit:mm)

## Mini-SMMSe (3-phase)

## Outdoor units

Capacity				4HP	5HP	6HP
Model name			MCY-	MHP0404HS8-E	MHP0504HS8-E	MHP0604HS8-E
Outdoor unit type				Inverter		
Cooling capacity <sup>(*)</sup>			kW	12.1	14.0	15.5
Heating capacity <sup>(*)</sup>			kW	12.5	16.0	18.0
Max No of connected indoor units				8	10	13
Power supply				3-phase 50Hz 380/400/415V		
Electrical characteristics	Cooling	Power consumption	kW	2.82	3.47	4.25
		EER		4.29	4.03	3.65
	Heating	Power consumption	kW	2.57	3.72	4.27
		COP		4.86	4.30	4.22
Dimensions		Height/Width/Depth	mm	1235x990x390	1235x990x390	1235x990x390
Total weight			kg	125	125	125
Compressor type				Hermetic twin rotary		
Fan unit air volume			m <sup>3</sup> /h	5660	5820	6050
Refrigerant charge			kg	6.4	6.4	6.4
Suction line type - diameter			mm	15.9	15.9	15.9
Liquid line type - diameter			mm	9.5	9.5	9.5
Piping		Total length	mm	180	180	180
		Farthest length	mm	112	100	100
		Height between IDU & ODU (Upper/Lower)	mm	30/20	30/20	30/20
		Height between IDUs	mm	15	15	15
Operating range db	Cooling			from -5°C to +46°C		
Operating rangewdb	Heating			from -20°C to +15°C		
Sound pressure level Night Operation	Cooling / Heating		dB(A)	46/48	46/48	47/49
Sound pressure level	Cooling / Heating			49/52	50/53	51/54

(\*1) 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.

## PMV Kit



Model name	Indoor unit capacity
RMB-PMV0363E	0,8-1,25HP
RMB-PMV0903E	1,7-2-2,5HP

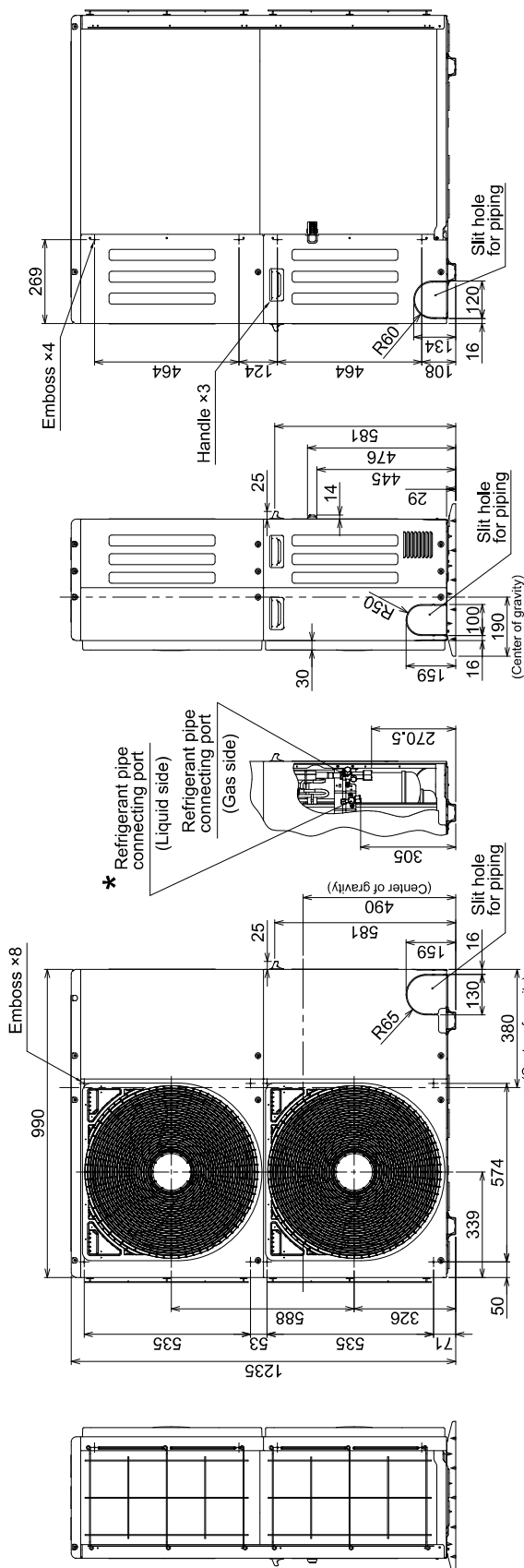
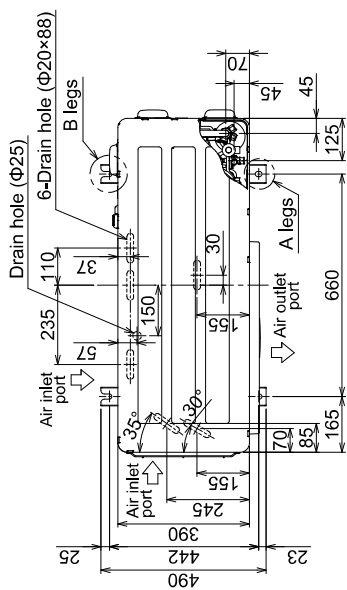
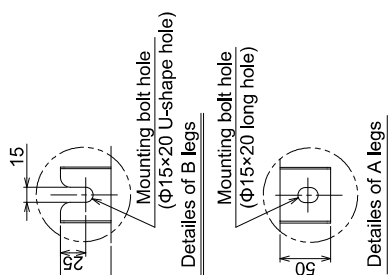
## PMV Kit

Model name	Function
TCB-PCM04E	Night operation (sound reduction) external master on/off operation mode selection control
TCB-PCDM4E	Power peak cut control
TCB-PCIN4E	Error / operation output

# Outdoor unit

## MCY-MHP0404HS8-E, MCY-MHP0504HS8-E, MCY-MHP0604HS8-E

* Model	Diameter of pipe connecting port		Diameter of connecting pipe	
	Liquid side	Gas side	Liquid side	Gas side
MCY-MHP0404HS8-E	Ø 9.52	Ø 15.88	Ø 9.52	Ø 15.88
MCY-MHP0504HS8-E	Ø 9.52	Ø 15.88	Ø 9.52	Ø 15.88
MCY-MHP0604HS8-E	Ø 9.52	Ø 19.05	Ø 9.52	Ø 19.05



(Unit:mm)