ADVANCED AND EVER ADVANCING MITSUBISHI ELECTRIC

MITSUBISHI ELECTRIC

SPLIT-TYPE, HEAT PUMP AIR CONDITIONERS

CE

2001

No. OC238

TECHNICAL & SERVICE MANUAL

Series PMH Ceiling Cassettes R407C

Indoor unit
[Model names]

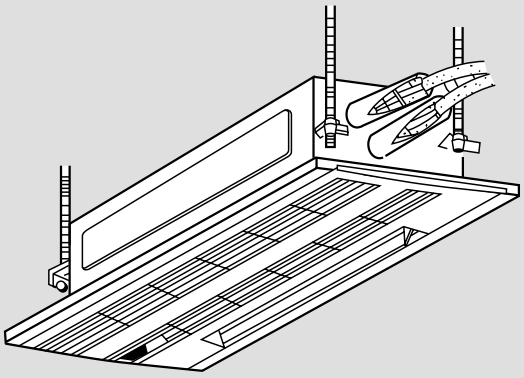
PMH-P1.6BA

PMH-P2BA

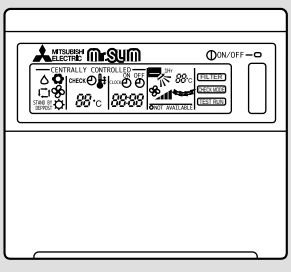
[Service Ref.]

PMH-P1.6BA
PMH-P2BA

Refer to the OCT03 REVISED EDITION-C as regarding control relation.
This manual does not cover the following outdoor units. When servicing them, please refer to the service manual No.OC180 REVISED EDITION-A and this manual in a set.
[Service Ref.]
<OC180 REVISED EDITION-A>
PUH-P1.6VGA
PUH-P1.6YGA
PUH-P2VGA
PUH-P2YGA



INDOOR UNIT



REMOTE CONTROLLER

CONTENTS

Mr.SLIM™

1 COMBINATION OF INDOOR AND OUTDOOR UNITS

Indoor unit	Outdoor unit			
	PUH-P			
	1.6VGA	1.6YGA	2VGA	2YGA
PMH-P1.6BA	○	○	—	—
PMH-P2BA	—	—	○	○

2 SAFETY PRECAUTION

Cautions for using with the outdoor unit which adopts R407C refrigerant.

· **Do not use the existing refrigerant piping.**
-The old refrigerant and lubricant in the existing piping contains a large amount of chlorine which may cause the lubricant of the new unit to deteriorate.

· **Do not use copper pipes which are broken, deformed or discolour .**
In addition, be sure that the inner surfaces of the pipes are clean, free of hazardous sulphur and oxides, or have no dust / dirt, shaving particles, oils, moisture or any other contamination.
-If there is a large amount of residual oil (hydraulic oil, etc.) inside the piping and joints, deterioration of the lubricant will result.

· **Store the piping to be used during installation indoors and keep both ends of the piping sealed until just before brazing. (Store elbows and other joints in a plastic bag.)**
-If dust, dirt, or water enters the refrigerant cycle, deterioration of the oil and compressor trouble may result.

· **Use ester oil, ether oil or alkyl benzene (small amount) as the lubricant to coat flares and flange connections.**
-The lubricant will degrade if it is mixed with a large amount of mineral oil.

Use liquid refrigerant to fill the system.
-If gas refrigerant is used to fill the system, the composition of the refrigerant in the cylinder will change and performance may drop.

· **Do not use a refrigerant other than R407C.**
-If another refrigerant (R22, etc.) is used, the chlorine in the refrigerant may cause the lubricant to deteriorate.

· **Use a vacuum pump with a reverse flow check valve.**
-The vacuum pump oil may flow back into the refrigerant cycle and cause the lubricant to deteriorate.

· **Do not use the following tools that are used with conventional refrigerant.**
(Gauge manifold , charge hose, gas leak detector, reverse flow check valve, refrigerant charge base, vacuum gauge, refrigerant recovery equipment)
-If the conventional refrigerant and lubricant are mixed in the R407C, the refrigerant may deteriorated.
-If water is mixed in the R407C, the lubricant may deteriorate.
-Since R407C does not contain any chlorine, gas leak detectors for conventional refrigerant will not react to it.

· **Do not use a charging cylinder.**
-Using a charging cylinder may cause the refrigerant to deteriorate.

· **Be especially careful when managing the tools.**
-if dust, dirt, or water gets in the refrigerant cycle, the refrigerant may deteriorate.

· **Do not use the drier which is sold in the field.**
-The drier for R407C refrigerant is per-attached to outdoor unit refrigerant circuit.
-Some drier in the field are not in conformity with R407C refrigerant .

[1] Service tools

Use the below service tools as exclusive tools for R407C refrigerant.

No.	Tool name	Specifications
①	Gauge manifold	·Only for R407C.
		·Use the existing fitting SPECIFICATIONS. (UNF7/16)
		·Use high-tension side pressure of 3.43MPa·G or over.
②	Charge hose	·Only for R407C.
		·Use pressure performance of 5.10MPa·G or over.
③	Electronic scale	
④	Gas leak detector	·Use the detector for R407C.
⑤	Adapter for reverse flow check.	·Attach on vacuum pump.
⑥	Refrigerant charge base.	
⑦	Refrigerant cylinder.	·For R407C ·Top of cylinder (Brown)
		·Cylinder with syphon
⑧	Refrigerant recovery equipment.	

[2] Notice on repair service

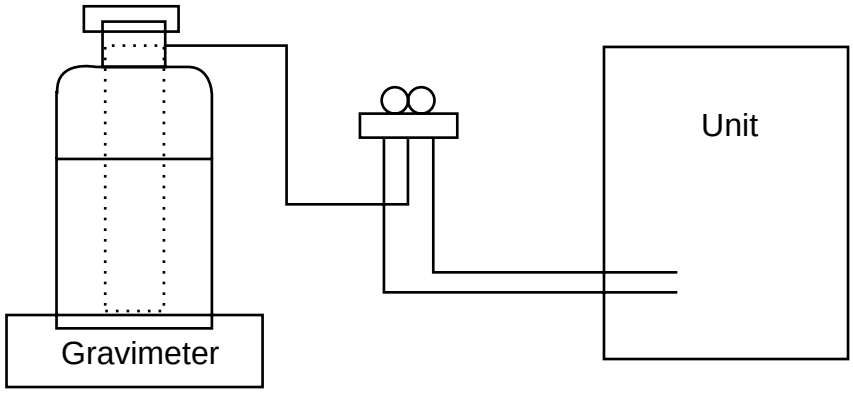
·After recovering the all refrigerant in the unit, proceed to working.
·Do not release refrigerant in the air.
·After completing the repair service, recharge the cycle with the specified amount of liquid refrigerant.

[3] Refrigerant recharging

(1) Refrigerant recharging process

①Direct charging from the cylinder.

·R407C cylinder are available on the market has a syphon pipe.
·Leave the syphon pipe cylinder standing and recharge it.
(By liquid refrigerant)



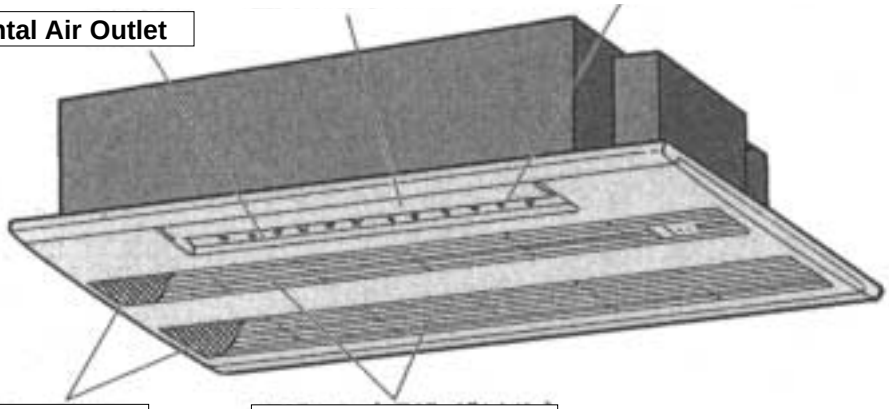
(2) Recharge in refrigerant leakage case

·After recovering the all refrigerant in the unit, proceed to working.
·Do not release the refrigerant in the air.
·After completing the repair service, recharge the cycle with the specified amount of liquid refrigerant.

3 PART NAMES AND FUNCTIONS

● Indoor (Main) Unit

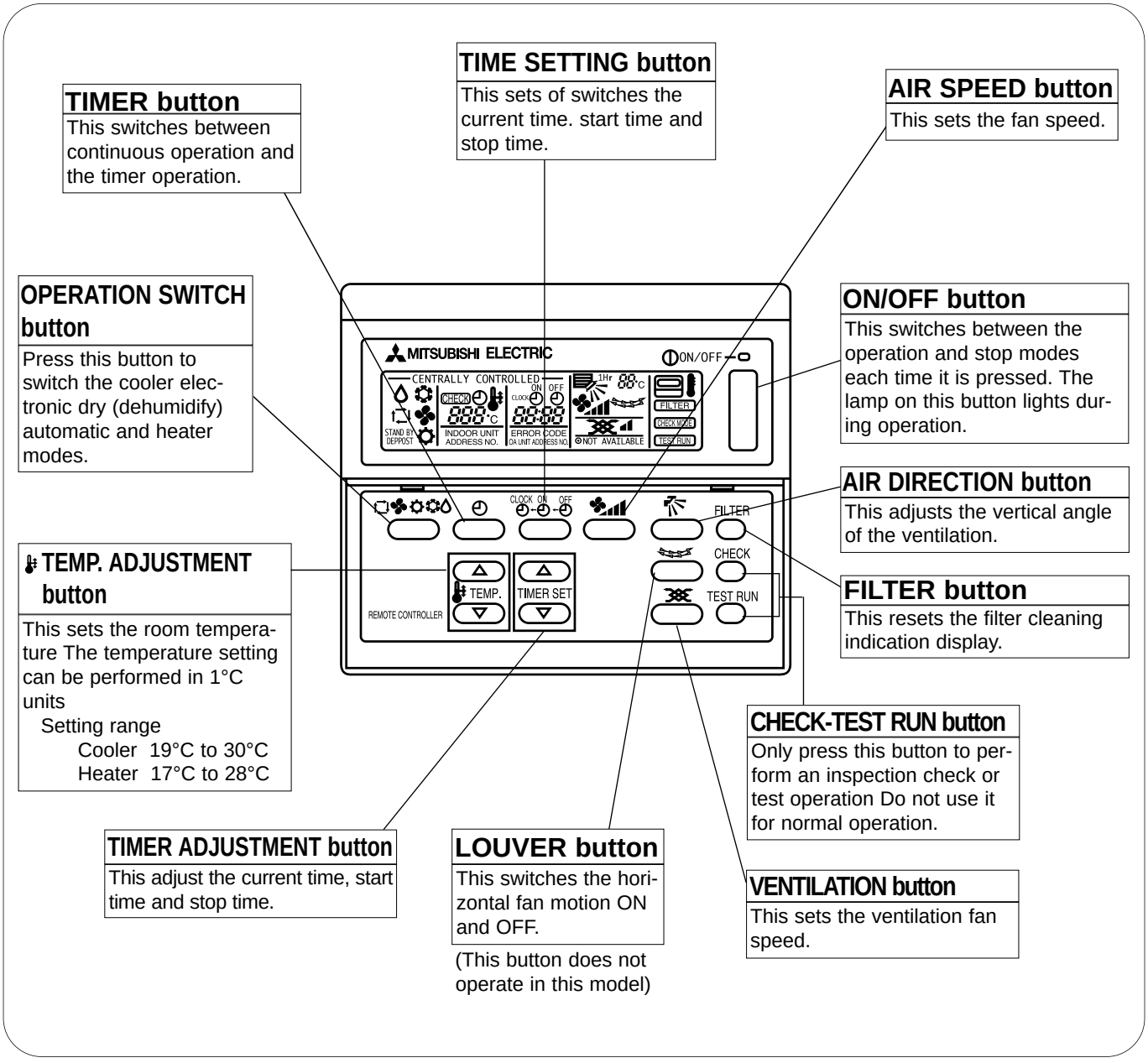
PMH-P1.6BA
PMH-P2BA



● Remote controller

● Once the controls are set, the same operation mode can be repeated by simply pressing the ON/OFF button.

● Operation buttons



TIMER button
This switches between continuous operation and the timer operation.

TIME SETTING button
This sets of switches the current time. start time and stop time.

AIR SPEED button
This sets the fan speed.

OPERATION SWITCH button
Press this button to switch the cooler electronic dry (dehumidify) automatic and heater modes.

ON/OFF button
This switches between the operation and stop modes each time it is pressed. The lamp on this button lights during operation.

AIR DIRECTION button
This adjusts the vertical angle of the ventilation.

FILTER button
This resets the filter cleaning indication display.

TEMP. ADJUSTMENT button
This sets the room temperature The temperature setting can be performed in 1°C units
Setting range
Cooler 19°C to 30°C
Heater 17°C to 28°C

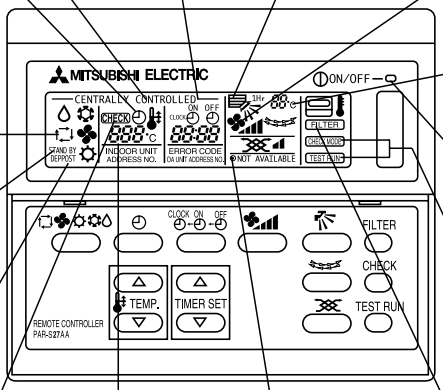
CHECK-TEST RUN button
Only press this button to perform an inspection check or test operation Do not use it for normal operation.

TIMER ADJUSTMENT button
This adjust the current time, start time and stop time.

LOUVER button
This switches the horizontal fan motion ON and OFF.
(This button does not operate in this model)

VENTILATION button
This sets the ventilation fan speed.

● Display



CENTRALLY CONTROLLED display

This indicates when the unit is controlled by optional features such as central control type remote controller.

CLOCK display

The current time , start time and stop time can be displayed in ten second intervals by pressing the time switch button. The start time or stop time is always displayed during the timer operation.

In this display example on the bottom left, a condition where all display lamps light is shown for explanation purposes although this differs from actual operation.

AIR DIRECTION display

This displays the air direction.

TIMER display

This indicates when the continuous operation and time operation modes are set.
It also display the time for the timer operation at the same time as when it is set.

FAN SPEED display

The selected fan speed is displayed.

ROOM TEMPERATURE display

The temperature of the suction air is displayed during operation. The display range is 8° to 39°C. The display flashes 8°C when the actual temperature is less than 8° and flashes 39°C when the actual temperature is greater than 39°C.

OPERATION MODE display

This indicates the operation mode.

Operation lamp

This lamp lights during operation, goes off when the unit stops and flashes when a malfunction occurs.

STANDBY display

This indicates when the standby mode is set from the time the sleep operation starts until the heating air is discharged.

CHECK MODE / TEST RUN display

This display lights in the check mode or when a test operation is performed.

DEFROST display

This indicates when the defrost operation is performed.

FILTER display

This lamp lights when the filter need to be cleaned.

CHECK display

This indicates when a malfunction has occurred in the unit which should be checked.

SET TEMPERATURE display

This displays the selected setting temperature.

POWER display

This lamp lights when electricity is supplied to the unit.

Caution

- Only the Power display lights when the unit is stopped and power supplied to the unit.
- When power is turned ON for the first time the (CENTRAL CTRL) display appears to go off momentarily but this is not a malfunction.
- When the central control remote control unit, which is sold separately, is used the ON-OFF button, operation switch button and TEMP. adjustment button do not operate.
- “NOT AVAILABLE” is displayed when the Air speed button are pressed.This indicates that this room unit is not equipped with the fan direction adjustment function and the louver function.
- When power is turned ON for the first time, it is normal that “H0” is displayed on the room temperature indication (For max. 2minutes). Please wait until this “H0” indication disappear then start the operation.

4 SPECIFICATIONS

4-1. SPECIFICATIONS

Item \ Service Ref.				PMH-P1.6BA			
Function				Cooling		Heating	
Capacity			Btu/h	14,800		16,900	
			W	4,350		4,950	
Total input			kW	1.59		1.64	
INDOOR UNIT	**Service Ref.**			**PMH-P1.6BA**			
	Power supply(phase, cycle, voltage)			Single, 50Hz, 220 / 230 / 240V			
		Input	kW	0.06		0.06	
		Running current	A	0.29		0.29	
		Starting current	A	0.32		0.32	
	External finish			Unit : Galvanized sheets with gray heat insulation, Grille munsell 0.98Y 8.99/0.63			
	Heat exchanger			Plate fin coil			
	Fan	Fan(drive) x No.		Lineflow fan (direct) x 1			
		Fan motor output	kW	0.028			
		Airflow(Lo / Mi1 / Mi2 / Hi)	m³/min(CFM)	7.0 / 8.0 / 9.0 / 10.0(247 / 282 / 318 / 353)			
		External static pressure	Pa(mmAq)	0(direct blow)			
	Operation control & Thermostat			Remote controller & built-in			
	Noise level(Lo / Mi1 / Mi2 / Hi)		dB	34-36-38-40			
	Unit drain pipe I.D.		mm(in.)	26(1-1/32)			
	Dimensions	W	mm(in.)	UNIT : 854(33-5/8) PANEL : 1000(39-3/8)			
		D	mm(in.)	UNIT : 395(15-9/16) PANEL : 470(18-1/2)			
		H	mm(in.)	UNIT : 230(9-1/16) PANEL : 30(1-3/16)			
	Weight		kg(lbs)	UNIT : 14(31) PANEL : 3.0(6.6)			
OUTDOOR UNIT	**Service Ref.**			**PUH-P1.6VGA**	**PUH-P1.6YGA**	**PUH-P1.6VGA**	**PUH-P1.6YGA**
	Power supply (phase, cycle, voltage)			Single, 50Hz, 220 / 230 / 240V	3-phase, 50Hz, 380 / 400 / 415V(4wires)	Single, 50Hz, 220 / 230 / 240V	3-phase, 50Hz, 380 / 400 / 415V(4wires)
		Input	kW	1.67		1.76	
		Running current	A	7.21	2.43	7.5	2.53
		Starting current	A	35		19	
	External finish			Munsell 5Y 8/1			
	Refrigerant control			Linear Expansion Valve			
	Compressor			Hermetic			
		Model		RE277VHSM		RE277YFKM	
		Motor output	kW	1.3			
		Starter type		Line start			
		Protection devices		※1		※2	
		Crankcase heater	W	28			
	Heat exchanger			Plate fin coil			
	Fan	Fan(drive) x No.		Propeller (direct) x 1			
		Fan motor output	kW	0.070			
		Airflow	m³/min(CFM)	45(1,590)			
	Defrost method			Reverse cycle			
	Noise level	Cooling	dB	46			
		Heating	dB	48			
	Dimensions	W	mm(in.)	900(35-7/16)			
		D	mm(in.)	330+20(13+3/4)			
		H	mm(in.)	650(25-5/8)			
	Weight		kg(lbs)	55(121)			
REFRIGERANT PIPING	Refrigerant			R407C			
		Charge	kg(lbs)	2.6(5.7)			
		Oil (Model)	L	1.2(Ester)MEL56			
	Pipe size O.D.	Liquid	mm(in.)	9.52(3/8)			
		Gas	mm(in.)	15.88(5/8)			
	Connection method	Indoor side		Flared			
		Outdoor side		Flared			
	Between the indoor & outdoor unit	Height difference		Max. 40m			
		Piping length		Max. 40m			

Notes1. Rating Conditions (ISO T1)
Cooling : Indoor : D.B. 27˚C(80˚F), W.B. 19˚C (66˚F) Outdoor : D.B. 35˚C(95˚F), W.B. 24˚C (75˚F)
Heating : Indoor : D.B. 20˚C(68˚F) Outdoor : D.B. 7˚C(45˚F), W.B. 6˚C (43˚F)
Refrigerant piping length (one way) : 5m (16ft)

2. Guaranteed operating range

		Indoor	Outdoor
Cooling	Upper limit	D.B. 35˚C W.B. 22.5˚C	D.B. 46˚C
	Lower limit	D.B. 19˚C W.B. 15˚C	D.B. -5˚C
Heating	Upper limit	D.B. 28˚C	D.B. 24˚C W.B. 18˚C
	Lower limit	D.B. 17˚C	D.B. -11˚C W.B. -12˚C

3. Above data based on indicated voltage
Indoor Unit 1 phase 230V 50Hz
Outdoor Unit 1 phase 230V 50Hz
3 phase 400V 50Hz

※1: Inner thermostat, HP switch, Discharge thermo.
※2: Thermal relay, Discharge thermo, HP switch, Anti-phase protector.

Item \ Service Ref.				PMH-P2BA			
Function				Cooling		Heating	
Capacity			Btu/h	18,300		21,200	
			W	5,350		6,200	
Total input			kW	2.31		2.37	
INDOOR UNIT	**Service Ref.**			**PMH-P2BA**			
	Power supply(phase, cycle, voltage)			Single, 50Hz, 220 / 230 / 240V			
		Input	kW	0.06		0.06	
		Running current	A	0.29		0.29	
		Starting current	A	0.32		0.32	
	External finish			Unit : Galvanized sheets with gray heat insulation, Grille munsell 0.98Y 8.99/0.63			
	Heat exchanger			Plate fin coil			
	Fan	Fan(drive) x No.		Lineflow fan (direct) x 1			
		Fan motor output	kW	0.028			
		Airflow(Lo / Mi1 / Mi2 / Hi)	m³/min(CFM)	8.0 / 9.0 / 10.0 / 11.0(282 / 318 / 353 / 388)			
		External static pressure	Pa(mmAq)	0(direct blow)			
	Operation control & Thermostat			Remote controller & built-in			
	Noise level(Lo / Mi1 / Mi2 / Hi)		dB	36-38-40-42			
	Unit drain pipe I.D.		mm(in.)	26(1-1/32)			
	Dimensions	W	mm(in.)	UNIT : 854(33-5/8) PANEL : 1000(39-3/8)			
		D	mm(in.)	UNIT : 395(15-9/16) PANEL : 470(18-1/2)			
		H	mm(in.)	UNIT : 230(9-1/16) PANEL : 30(1-3/16)			
	Weight		kg(lbs)	UNIT : 14(31) PANEL : 3.0(6.6)			
OUTDOOR UNIT	**Service Ref.**			**PUH-P2VGA**	**PUH-P2YGA**	**PUH-P2VGA**	**PUH-P2YGA**
	Power supply (phase, cycle, voltage)			Single, 50Hz, 220 / 230 / 240V	3-phase, 50Hz, 380 / 400 / 415V(4wires)	Single, 50Hz, 220 / 230 / 240V	3-phase, 50Hz, 380 / 400 / 415V(4wires)
		Input	kW	2.44		2.53	
		Running current	A	10.91	3.73	11.21	3.73
		Starting current	A	71		29	
	External finish			Munsell 5Y 8/1			
	Refrigerant control			Linear Expansion Valve			
	Compressor			Hermetic			
		Model		NE38VMJM		NE38YEJM	
		Motor output	kW	1.7			
		Starter type		Line start			
		Protection devices		※1		※2	
		Crankcase heater	W	35			
	Heat exchanger			Plate fin coil			
	Fan	Fan(drive) x No.		Propeller (direct) x 1			
		Fan motor output	kW	0.070			
		Airflow	m³/min(CFM)	55(1,940)			
	Defrost method			Reverse cycle			
	Noise level	Cooling	dB	48			
		Heating	dB	49			
	Dimensions	W	mm(in.)	900(35-7/16)			
		D	mm(in.)	330+20(13+3/4)			
		H	mm(in.)	855(33-5/8)			
	Weight		kg(lbs)	71(157)			
REFRIGERANT PIPING	Refrigerant			R407C			
		Charge	kg(lbs)	3.1(6.8)			
		Oil (Model)	L	1.2(Ester)MEL56			
	Pipe size O.D.	Liquid	mm(in.)	9.52(3/8)			
		Gas	mm(in.)	15.88(5/8)			
	Connection method	Indoor side		Flared			
		Outdoor side		Flared			
	Between the indoor & outdoor unit	Height difference		Max. 40m			
		Piping length		Max. 40m			

Notes1. Rating Conditions (ISO T1)
Cooling : Indoor : D.B. 27˚C(80˚F), W.B. 19˚C (66˚F) Outdoor : D.B. 35˚C(95˚F), W.B. 24˚C (75˚F)
Heating : Indoor : D.B. 20˚C(68˚F) Outdoor : D.B. 7˚C(45˚F), W.B. 6˚C (43˚F)
Refrigerant piping length (one way) : 5m (16ft)

2. Guaranteed operating range

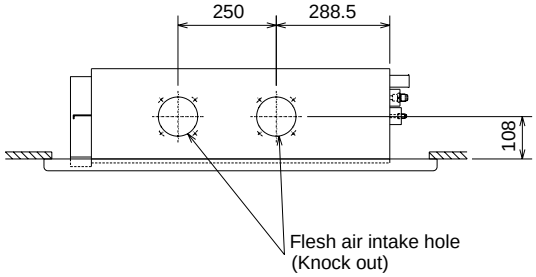
		Indoor	Outdoor
Cooling	Upper limit	D.B. 35˚C W.B. 22.5˚C	D.B. 46˚C
	Lower limit	D.B. 19˚C W.B. 15˚C	D.B. -5˚C
Heating	Upper limit	D.B. 28˚C	D.B. 24˚C W.B. 18˚C
	Lower limit	D.B. 17˚C	D.B. -11˚C W.B. -12˚C

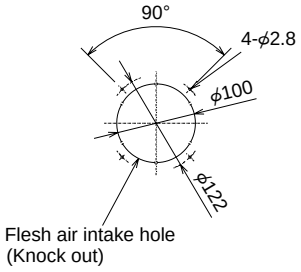
3. Above data based on indicated voltage
Indoor Unit 1 phase 230V 50Hz
Outdoor Unit 1 phase 230V 50Hz
3 phase 400V 50Hz

※1: Inner thermostat, HP switch, Discharge thermo.
※2: Thermal relay, Discharge thermo, HP switch, Anti-phase protector.

4-2. Air capacity taken from outside

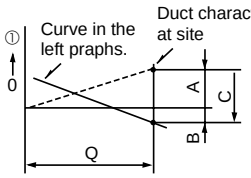
PMH-P·BA series are possible to be taken air from outside.
When taking air from the outside, the duct fan can be used to.
The air capacity should be 20% or less of the air flow SPEC(Hi).

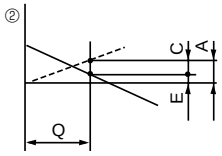


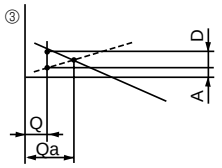


	Air flow (Hi)	Air capacity taken outside
PMH-P1.6BA	10.0m^3/min	2.0m^3/min
PMH-P2BA	11.0m^3/min	2.2m^3/min

How to read curves







Q…Planned amount of fresh air intake <m^3/min>

A…Static pressure loss of fresh air intake duct system with air flow amount Q <Pa>

B…Forced static pressure at air conditioner inlet with air flow amount Q <Pa>

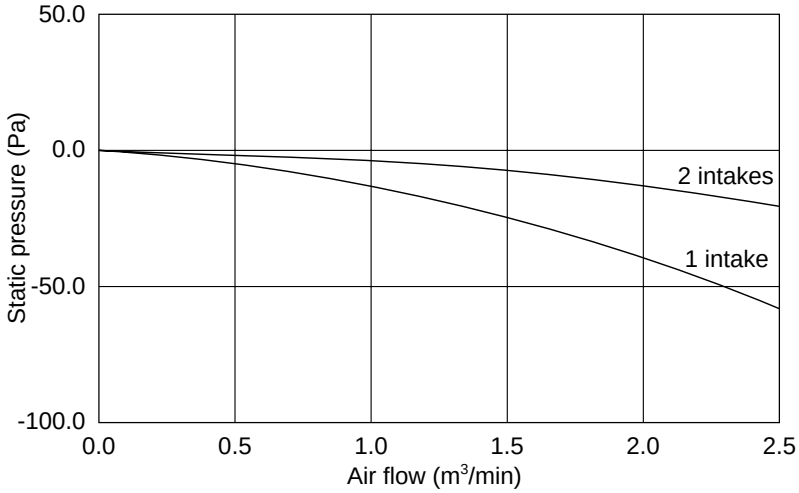
C…Static pressure of booster fan with air flow amount Q <Pa>

D…Static pressure loss increase amount of fresh air intake dust system for air flow amount Q <Pa>

E…Static pressure of indoor unit with air flow amount Q <Pa>

Qa…Estimated amount of fresh air intake with out D <Pa>

Characteristic diagram of air capacity taken from outside



5 DATA

5-1. PERFORMANCE DATA

1) COOLING CAPACITY(1)

PMH-P1.6BA

Indoor Intake air D.B.(°C)	Indoor Intake air W.B.(°C)	Outdoor intake air D.B.(°C)											
		20				25				30			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	4307	2584	0.60	1.27	4176	2506	0.60	1.34	4046	2427	0.60	1.42
20	18	4611	2213	0.48	1.30	4481	2151	0.48	1.37	4328	2078	0.48	1.46
20	20	4959	1785	0.36	1.34	4850	1746	0.36	1.40	4720	1699	0.36	1.49
22	16	4307	2928	0.68	1.27	4176	2840	0.68	1.34	4046	2751	0.68	1.42
22	18	4611	2582	0.56	1.30	4481	2509	0.56	1.37	4328	2424	0.56	1.46
22	20	4959	2182	0.44	1.34	4850	2134	0.44	1.40	4720	2077	0.44	1.49
24	16	4307	3273	0.76	1.27	4176	3174	0.76	1.34	4046	3075	0.76	1.42
24	18	4611	2951	0.64	1.30	4481	2868	0.64	1.37	4328	2770	0.64	1.46
24	20	4959	2579	0.52	1.34	4850	2522	0.52	1.40	4720	2454	0.52	1.49
24	22	5285	2114	0.40	1.37	5177	2071	0.40	1.45	5046	2048	0.40	1.54
26	16	4307	3617	0.84	1.27	4176	3508	0.84	1.34	4046	3398	0.84	1.42
26	18	4611	3320	0.72	1.30	4481	3226	0.72	1.37	4328	3116	0.72	1.46
26	20	4959	2975	0.60	1.34	4850	2910	0.60	1.40	4720	2832	0.60	1.49
26	22	5285	2537	0.48	1.37	5177	2485	0.48	1.45	5046	2422	0.48	1.54
28	16	4307	3962	0.92	1.27	4176	3842	0.92	1.34	4046	3722	0.92	1.42
28	18	4611	3689	0.80	1.30	4481	3584	0.80	1.37	4328	3463	0.80	1.46
28	20	4959	3372	0.68	1.34	4850	3298	0.68	1.40	4720	3209	0.68	1.49
28	22	5285	2960	0.56	1.37	5177	2899	0.56	1.45	5046	2826	0.56	1.54
30	16	4307	4307	1.00	1.27	4176	4176	1.00	1.34	4046	4046	1.00	1.42
30	18	4611	4058	0.88	1.30	4481	3943	0.88	1.37	4328	3809	0.88	1.46
30	20	4959	3769	0.76	1.34	4850	3686	0.76	1.40	4720	3587	0.76	1.49
30	22	5285	3383	0.64	1.37	5177	3313	0.64	1.45	5046	3229	0.64	1.54
32	16	4307	4307	1.00	1.27	4176	4176	1.00	1.34	4046	4046	1.00	1.42
32	18	4611	4427	0.96	1.30	4481	4301	0.96	1.37	4328	4155	0.96	1.46
32	20	4959	4166	0.84	1.34	4850	4074	0.84	1.40	4720	3965	0.84	1.49
32	22	5285	3805	0.72	1.37	5177	3727	0.72	1.45	5046	3633	0.72	1.54
34	16	4307	4307	1.00	1.27	4176	4176	1.00	1.34	4046	4046	1.00	1.42
34	18	4611	4611	1.00	1.30	4481	4481	1.00	1.37	4328	4328	1.00	1.46
34	20	4959	4562	0.92	1.34	4850	4462	0.92	1.40	4720	4342	0.92	1.49
34	22	5285	4228	0.80	1.37	5177	4141	0.80	1.45	5046	4037	0.80	1.54

Note CA : Capacity (W)
P.C. : Power consumption (kW)
SHC(W) : Sensible heat capacity
SHF : Sensible heat factor

Above data based on indicated voltage
Indoor unit : 1 phase 230V 50Hz
Outdoor unit : 1 phase 230V 50Hz / 3 phase 400V 50Hz

COOLING CAPACITY(2)
PMH-P1.6BA

Indoor Intake air D.B.(°C)	Indoor Intake air W.B.(°C)	Outdoor intake air D.B.(°C)											
		35				40				45			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	3872	2323	0.60	1.53	3698	2219	0.60	1.64	3524	2114	0.60	1.77
20	18	4176	2004	0.48	1.57	4046	1942	0.48	1.69	3785	1817	0.48	1.81
20	20	4524	1629	0.36	1.61	4350	1566	0.36	1.72	4089	1472	0.36	1.84
22	16	3872	2633	0.68	1.53	3698	2514	0.68	1.64	3524	2396	0.68	1.77
22	18	4176	2339	0.56	1.57	4046	2265	0.56	1.69	3785	2119	0.56	1.81
22	20	4524	1991	0.44	1.61	4350	1914	0.44	1.72	4089	1799	0.44	1.84
24	16	3872	2942	0.76	1.53	3698	2810	0.76	1.64	3524	2678	0.76	1.77
24	18	4176	2673	0.64	1.57	4046	2589	0.64	1.69	3785	2422	0.64	1.81
24	20	4524	2352	0.52	1.61	4350	2262	0.52	1.72	4089	2126	0.52	1.84
24	22	4872	1949	0.40	1.64	4698	1879	0.40	1.76	4437	1775	0.40	1.88
26	16	3872	3252	0.84	1.53	3698	3106	0.84	1.64	3524	2960	0.84	1.77
26	18	4176	3007	0.72	1.57	4046	2913	0.72	1.69	3785	2725	0.72	1.81
26	20	4524	2714	0.60	1.61	4350	2610	0.60	1.72	4089	2453	0.60	1.84
26	22	4872	2339	0.48	1.64	4698	2255	0.48	1.76	4437	2130	0.48	1.88
28	16	3872	3562	0.92	1.53	3698	3402	0.92	1.64	3524	3242	0.92	1.77
28	18	4176	3341	0.80	1.57	4046	3236	0.80	1.69	3785	3028	0.80	1.81
28	20	4524	3076	0.68	1.61	4350	2958	0.68	1.72	4089	2781	0.68	1.84
28	22	4872	2728	0.56	1.64	4698	2631	0.56	1.76	4437	2485	0.56	1.88
30	16	3872	3872	1.00	1.53	3698	3698	1.00	1.64	3524	3524	1.00	1.77
30	18	4176	3675	0.88	1.57	4046	3560	0.88	1.69	3785	3330	0.88	1.81
30	20	4524	3438	0.76	1.61	4350	3306	0.76	1.72	4089	3108	0.76	1.84
30	22	4872	3118	0.64	1.64	4698	3007	0.64	1.76	4437	2840	0.64	1.88
32	16	3872	3872	1.00	1.53	3698	3698	1.00	1.64	3524	3524	1.00	1.77
32	18	4176	4009	0.96	1.57	4046	3884	0.96	1.69	3785	3633	0.96	1.81
32	20	4524	3800	0.84	1.61	4350	3654	0.84	1.72	4089	3435	0.84	1.84
32	22	4872	3508	0.72	1.64	4698	3383	0.72	1.76	4437	3195	0.72	1.88
34	16	3872	3872	1.00	1.53	3698	3698	1.00	1.64	3524	3524	1.00	1.77
34	18	4176	4176	1.00	1.57	4046	4046	1.00	1.69	3785	3785	1.00	1.81
34	20	4524	4162	0.92	1.61	4350	4002	0.92	1.72	4089	3762	0.92	1.84
34	22	4872	3898	0.80	1.64	4698	3758	0.80	1.76	4437	3550	0.80	1.88

Note CA : Capacity (W)
P.C. : Power consumption (kW)
SHC(W) : Sensible heat capacity
SHF : Sensible heat factor

Above data based on indicated voltage
Indoor unit : 1 phase 230V 50Hz
Outdoor unit : 1 phase 230V 50Hz

COOLING CAPACITY(3)
PMH-P2BA

Indoor Intake air D.B.(°C)	Indoor Intake air W.B.(°C)	Outdoor intake air D.B.(°C)											
		20				25				30			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	5297	3019	0.57	1.85	5136	2928	0.57	1.95	4976	2836	0.57	2.07
20	18	5671	2552	0.45	1.88	5511	2480	0.45	1.99	5323	2395	0.45	2.13
20	20	6099	2013	0.33	1.94	5965	1969	0.33	2.03	5805	1916	0.33	2.17
22	16	5297	3443	0.65	1.85	5136	3338	0.65	1.95	4976	3234	0.65	2.07
22	18	5671	3006	0.53	1.88	5511	2921	0.53	1.99	5323	2821	0.53	2.13
22	20	6099	2501	0.41	1.94	5965	2446	0.41	2.03	5805	2380	0.41	2.17
24	16	5297	3866	0.73	1.85	5136	3749	0.73	1.95	4976	3632	0.73	2.07
24	18	5671	3459	0.61	1.88	5511	3361	0.61	1.99	5323	3247	0.61	2.13
24	20	6099	2989	0.49	1.94	5965	2923	0.49	2.03	5805	2844	0.49	2.17
24	22	6500	2405	0.37	1.99	6367	2356	0.37	2.10	6206	2296	0.37	2.24
26	16	5297	4290	0.81	1.85	5136	4160	0.81	1.95	4976	4030	0.81	2.07
26	18	5671	3913	0.69	1.88	5511	3802	0.69	1.99	5323	3673	0.69	2.13
26	20	6099	3476	0.57	1.94	5965	3400	0.57	2.03	5805	3309	0.57	2.17
26	22	6500	2925	0.45	1.99	6367	2865	0.45	2.10	6206	2793	0.45	2.24
28	16	5297	4714	0.89	1.85	5136	4571	0.89	1.95	4976	4428	0.89	2.07
28	18	5671	4367	0.77	1.88	5511	4243	0.77	1.99	5323	4099	0.77	2.13
28	20	6099	3964	0.65	1.94	5965	3877	0.65	2.03	5805	3773	0.65	2.17
28	22	6500	3445	0.53	1.99	6367	3374	0.53	2.10	6206	3289	0.53	2.24
30	16	5297	5138	0.97	1.85	5136	4982	0.97	1.95	4976	4826	0.97	2.07
30	18	5671	4820	0.85	1.88	5511	4684	0.85	1.99	5323	4525	0.85	2.13
30	20	6099	4452	0.73	1.94	5965	4355	0.73	2.03	5805	4237	0.73	2.17
30	22	6500	3965	0.61	1.99	6367	3884	0.61	2.10	6206	3786	0.61	2.24
32	16	5297	5297	1.00	1.85	5136	5136	1.00	1.95	4976	4976	1.00	2.07
32	18	5671	5274	0.93	1.88	5511	5125	0.93	1.99	5323	4951	0.93	2.13
32	20	6099	4940	0.81	1.94	5965	4832	0.81	2.03	5805	4702	0.81	2.17
32	22	6500	4485	0.69	1.99	6367	4393	0.69	2.10	6206	4282	0.69	2.24
34	16	5297	5297	1.00	1.85	5136	5136	1.00	1.95	4976	4976	1.00	2.07
34	18	5671	5671	1.00	1.88	5511	5511	1.00	1.99	5323	5323	1.00	2.13
34	20	6099	5428	0.89	1.94	5965	5309	0.89	2.03	5805	5166	0.89	2.17
34	22	6500	5005	0.77	1.99	6367	4902	0.77	2.10	6206	4779	0.77	2.24

Note CA : Capacity (W)　　SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW)　　SHF : Sensible heat factor

Above data based on indicated voltage
Indoor unit : 1 phase 230V 50Hz
Outdoor unit : 1 phase 230V 50Hz / 3 phase 400V 50Hz

COOLING CAPACITY(4)
PMH-P2BA

Indoor Intake air D.B.(°C)	Indoor Intake air W.B.(°C)	Outdoor intake air D.B.(°C)											
		35				40				45			
		CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.	CA	SHC(W)	SHF	P.C.
20	16	4762	2714	0.57	2.22	4548	2592	0.57	2.38	4334	2470	0.57	2.58
20	18	5136	2311	0.45	2.28	4976	2239	0.45	2.45	4655	2095	0.45	2.63
20	20	5564	1836	0.33	2.33	5350	1766	0.33	2.49	5029	1660	0.33	2.68
22	16	4762	3095	0.65	2.22	4548	2956	0.65	2.38	4334	2817	0.65	2.58
22	18	5136	2722	0.53	2.28	4976	2637	0.53	2.45	4655	2467	0.53	2.63
22	20	5564	2281	0.41	2.33	5350	2194	0.41	2.49	5029	2062	0.41	2.68
24	16	4762	3476	0.73	2.22	4548	3320	0.73	2.38	4334	3163	0.73	2.58
24	18	5136	3133	0.61	2.28	4976	3035	0.61	2.45	4655	2839	0.61	2.63
24	20	5564	2726	0.49	2.33	5350	2622	0.49	2.49	5029	2464	0.49	2.68
24	22	5992	2217	0.37	2.38	5778	2138	0.37	2.56	5457	2019	0.37	2.73
26	16	4762	3857	0.81	2.22	4548	3683	0.81	2.38	4334	3510	0.81	2.58
26	18	5136	3544	0.69	2.28	4976	3433	0.69	2.45	4655	3212	0.69	2.63
26	20	5564	3171	0.57	2.33	5350	3050	0.57	2.49	5029	2867	0.57	2.68
26	22	5992	2696	0.45	2.38	5778	2600	0.45	2.56	5457	2456	0.45	2.73
28	16	4762	4238	0.89	2.22	4548	4047	0.89	2.38	4334	3857	0.89	2.58
28	18	5136	3955	0.77	2.28	4976	3831	0.77	2.45	4655	3584	0.77	2.63
28	20	5564	3617	0.65	2.33	5350	3478	0.65	2.49	5029	3269	0.65	2.68
28	22	5992	3176	0.53	2.38	5778	3062	0.53	2.56	5457	2892	0.53	2.73
30	16	4762	4619	0.97	2.22	4548	4411	0.97	2.38	4334	4203	0.97	2.58
30	18	5136	4366	0.85	2.28	4976	4229	0.85	2.45	4655	3956	0.85	2.63
30	20	5564	4062	0.73	2.33	5350	3906	0.73	2.49	5029	3671	0.73	2.68
30	22	5992	3655	0.61	2.38	5778	3525	0.61	2.56	5457	3329	0.61	2.73
32	16	4762	4762	1.00	2.22	4548	4548	1.00	2.38	4334	4334	1.00	2.58
32	18	5136	4776	0.93	2.28	4976	4627	0.93	2.45	4655	4329	0.93	2.63
32	20	5564	4507	0.81	2.33	5350	4334	0.81	2.49	5029	4073	0.81	2.68
32	22	5992	4134	0.69	2.38	5778	3987	0.69	2.56	5457	3765	0.69	2.73
34	16	4762	4762	1.00	2.22	4548	4548	1.00	2.38	4334	4334	1.00	2.58
34	18	5136	5136	1.00	2.28	4976	4976	1.00	2.45	4655	4655	1.00	2.63
34	20	5564	4952	0.89	2.33	5350	4762	0.89	2.49	5029	4476	0.89	2.68
34	22	5992	4614	0.77	2.38	5778	4449	0.77	2.56	5457	4202	0.77	2.73

Note CA : Capacity (W)　　SHC(W) : Sensible heat capacity
P.C. : Power consumption (kW)　　SHF : Sensible heat factor

Above data based on indicated voltage
Indoor unit : 1 phase 230V 50Hz
Outdoor unit : 1 phase 230V 50Hz / 3 phase 400V 50Hz

2) HEATING CAPACITY

Service Ref.	Indoor intake air D.B.(°C)	Outdoor intake air W.B.(°C)											
		-10		-5		0		5		10		15	
		CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.
PMH-P1.6BA	15	3143	0.97	3416	1.07	3812	1.23	5000	1.48	5643	1.64	6287	1.77
	20	3020	1.05	3267	1.15	3614	1.33	4826	1.59	5445	1.77	6064	1.90
	25	2921	1.12	3168	1.25	3465	1.44	4554	1.69	5247	1.89	5841	2.04
PMH-P2BA	15	3937	1.40	4278	1.54	4774	1.78	6262	2.13	7068	2.37	7874	2.56
	20	3782	1.52	4092	1.66	4526	1.92	6045	2.30	6820	2.56	7595	2.75
	25	3658	1.61	3968	1.80	4340	2.09	5704	2.44	6572	2.74	7316	2.95

Note CA : Capacity (W)
P.C. : Power consumption (kW)

Above data based on indicated voltage
Indoor unit : 1 phase 230V 50Hz
Outdoor unit : 1 phase 230V 50Hz / 3 phase 400V 50Hz

Cooling capacity correction factors

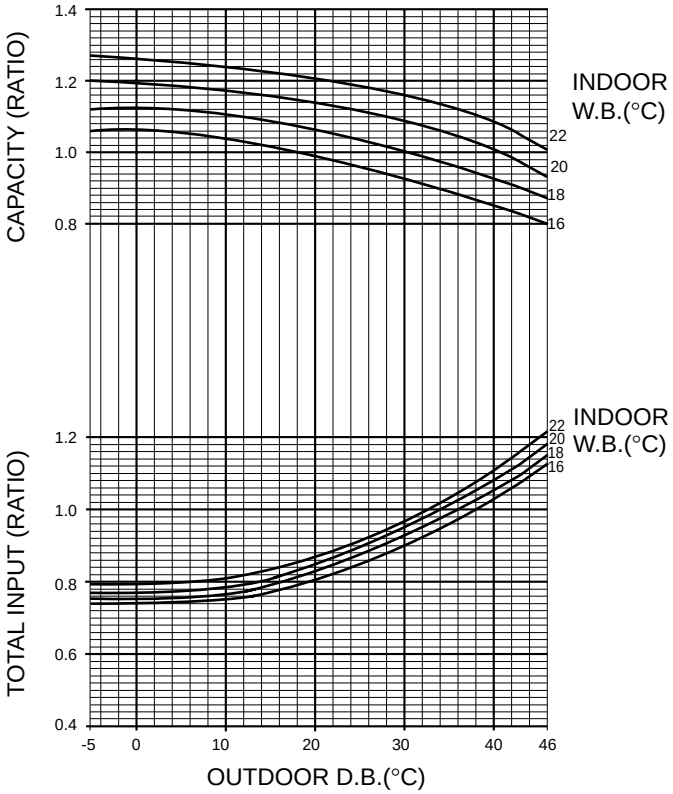
Service Ref.	Refrigerant piping length (no way)									
	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m
PMH-P1.6BA	1.00	0.993	0.984	0.978	0.969	0.961	0.956	0.948	—	—
PMH-P2BA	1.00	0.993	0.984	0.978	0.969	0.961	0.956	0.948	—	—

Heating capacity correction factors

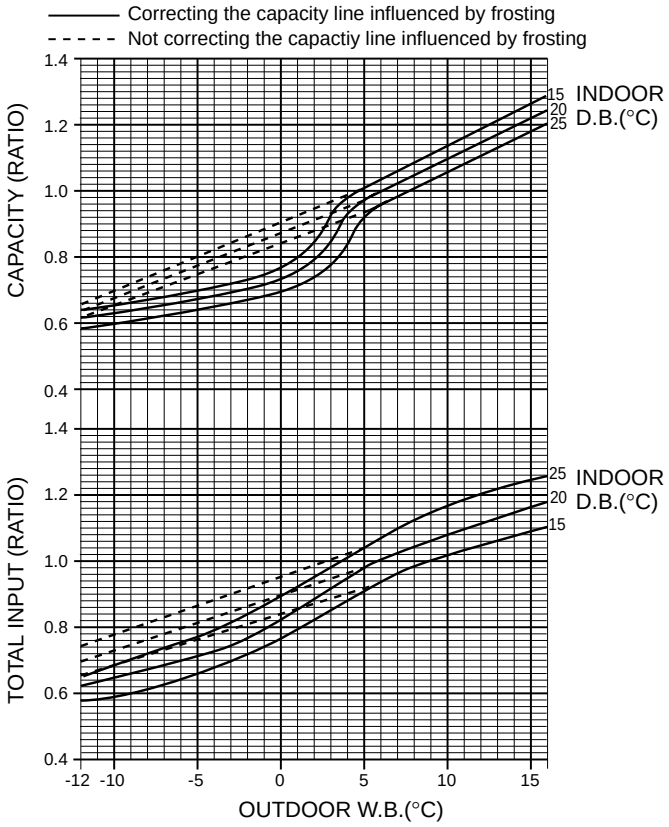
Service Ref.	Refrigerant piping length (no way)									
	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m
PMH-P1.6BA	1.00	0.998	0.995	0.993	0.990	0.988	0.985	0.983	—	—
PMH-P2BA	1.00	0.998	0.995	0.993	0.990	0.988	0.985	0.983	—	—

5-2. PERFORMANCE CURVE

Cooling performance curve(50Hz)



Heating performance curve(50Hz)



5-3. ELECTRICAL DATA

Indoor unit ··· 220V 50Hz 1phase Outdoor unit···220V/380V 50Hz 1/3phase

Service Ref.	Indoor unit	PMH-P1.6BA				PMH-P2BA			
	Outdoor unit	PUH-P1.6VGA		PUH-P1.6YGA		PUH-P2VGA		PUH-P2YGA	
Mode		Cool	Heat	Cool	Heat	Cool	Heat	Cool	Heat
Capacity (W)		4,300	4,900	4,300	4,900	5,300	6,150	5,300	6,150
Total Input (kW)		1.54	1.58	1.54	1.58	2.27	2.32	2.27	2.32
Total current (A)		7.6	7.9	2.65	2.75	11.3	11.6	4.0	4.0
Starting current (A)		33	33	18	18	68	68	28	28

Indoor unit ··· 230V 50Hz 1phase Outdoor unit···230V/400V 50Hz 1/3phase

Service Ref.	Indoor unit	PMH-P1.6BA				PMH-P2BA			
	Outdoor unit	PUH-P1.6VGA		PUH-P1.6YGA		PUH-P2VGA		PUH-P2YGA	
Mode		Cool	Heat	Cool	Heat	Cool	Heat	Cool	Heat
Capacity (W)		4,350	4,950	4,350	4,950	5,350	6,200	5,350	6,200
Total Input (kW)		1.59	1.64	1.59	1.64	2.31	2.37	2.31	2.37
Total current (A)		7.5	7.8	2.6	2.7	11.2	11.5	3.9	3.9
Starting current (A)		35	35	19	19	71	71	29	29

Indoor unit ··· 240V 50Hz 1phase Outdoor unit···240V/415V 50Hz 1/3phase

Service Ref.	Indoor unit	PMH-P1.6BA				PMH-P2BA			
	Outdoor unit	PUH-P1.6VGA		PUH-P1.6YGA		PUH-P2VGA		PUH-P2YGA	
Mode		Cool	Heat	Cool	Heat	Cool	Heat	Cool	Heat
Capacity (W)		4,400	5,000	4,400	5,000	5,400	6,250	5.400	6,250
Total Input (kW)		1.65	1.70	1.65	1.70	2.35	2.42	2.35	2.42
Total current (A)		7.4	7.7	2.55	2.65	11.1	11.4	3.8	3.8
Starting current (A)		36	36	20	20	74	74	30	30

5-4. STANDARD OPERATION DATA

Service Ref.				PMH-P1.6BA				PMH-P2BA			
Mode				Cooling		Heating		Cooling		Heating	
Total	Capacity		W	4,350		4,950		5,350		6,200	
	Input		kW	1.59		1.64		2.31		2.37	
Electrical circuit	**Indoor unit Service Ref.**			**PMH-P1.6BA**				**PMH-P2BA**			
	Phase, Hz			1, 50				1, 50			
	Volts		V	230				230			
	Amperes		A	0.29		0.29		0.29		0.29	
	Outdoor unit Service Ref.			**PUH-P**				**PUH-P**			
				1.6VGA	**1.6YGA**	**1.6VGA**	**1.6YGA**	**2VGA**	**2YGA**	**2VGA**	**2YGA**
	Phase, Hz			1, 50	3, 50	1, 50	3, 50	1, 50	3, 50	1, 50	3, 50
	Volts		V	230	400	230	400	230	400	230	400
	Amperes		A	7.5	2.6	7.8	2.7	11.2	3.9	11.5	3.9
Refrigerant circuit	Discharge pressure		MPa (kgf/cm²)	1.99 (20.3)		2.15 (21.9)		2.37 (24.2)		2.52 (25.7)	
	Suction pressure		MPa (kgf/cm²)	0.49 (5.0)		0.41 (4.2)		0.49 (5.0)		0.41 (4.2)	
	Discharge temperature		°C	75		80		86		93.0	
	Condensing temperature		°C	46		50		53		53	
	Suction temperature		°C	5		1.2		5.0		1.0	
	Ref. pipe length		m	5		5		5		5	
Indoor side	Intake air temperature	D.B.	°C	27		20		27		20	
		W.B.	°C	19		15		19		15	
	Discharge air temperature	D.B.	°C	12.4		47.2		11.4		49	
Outdoor side	Intake air temperature	D.B.	°C	35		7		35		7	
		W.B.	°C	24		6		24		6	
SHF				0.70		—		0.67		—	
BF				0.15		—		0.15		—	

The unit of pressure has been changed to Mpa based on international SI system.
The conversion factor is : 1(Mpa)=10.2(kgf/cm²)

5-5. OUTLET AIR SPEED AND COVERAGE RANGE

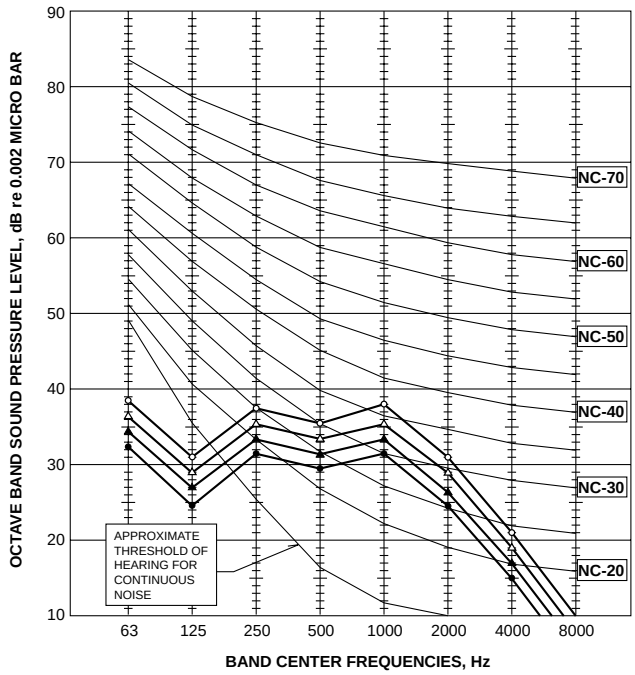
			PMH-P1.6BA	PMH-P2BA
Standard	Air flow	m^3/min	10.0	11.0
	Air speed	m/sec.	4.3	4.7
	Coverage range	m	7.0	7.7

※ The air coverage range is the value up to the position where the air speed is 0.25m/sec.
When air is blown out horizontally from the unit at the Hi notch position.
The coverage range should be used only as a general guideline since it varies according to the size of the room and the furniture inside the room.

5-6. NOISE CRITERION CURVES

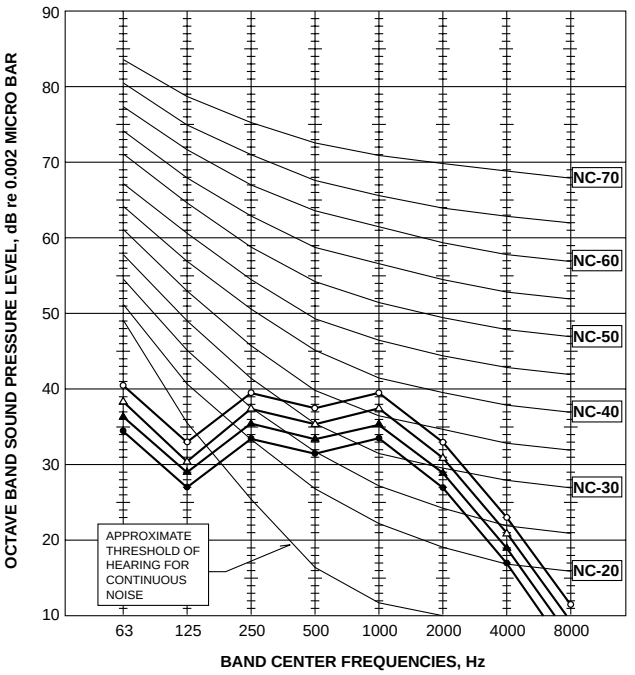
PMH-P1.6BA

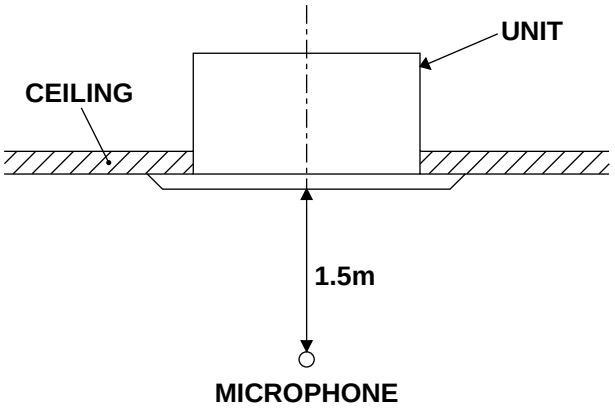
NOTCH	SPL(dB)	LINE
Hi	40	
Mi2	38	
Mi1	36	
Lo	34	



PMH-P2BA

NOTCH	SPL(dB)	LINE
Hi	42	
Mi2	40	
Mi1	38	
Lo	36	





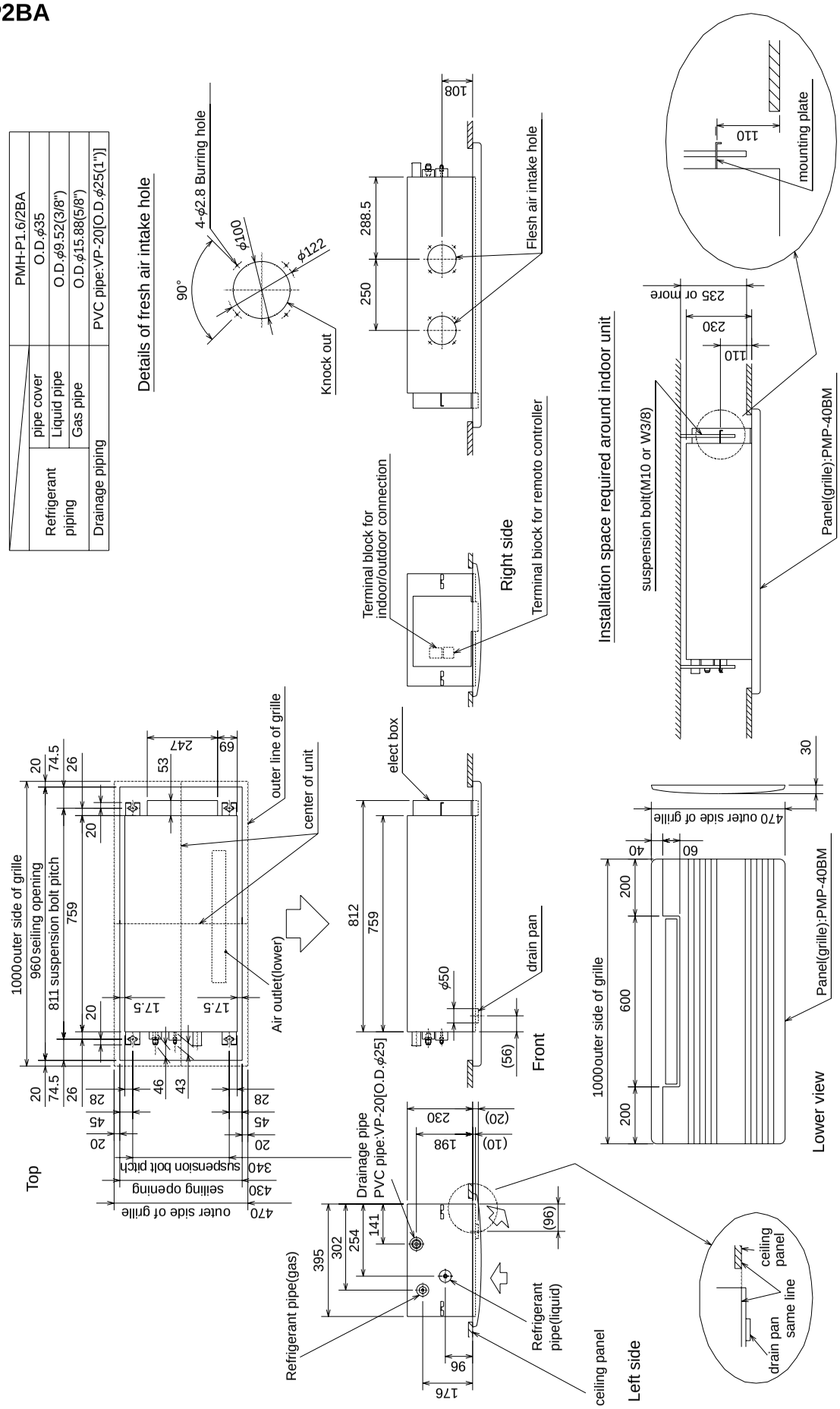
Ambient temperature 27℃

Test conditions are based on JIS Z8731

6 OUTLINES AND DIMENSIONS

PMH-P1.6BA
PMH-P2BA

Unit : mm



7 WIRING DIAGRAM

PMH-P1.6BA, PMH-P2BA

[LEGEND]

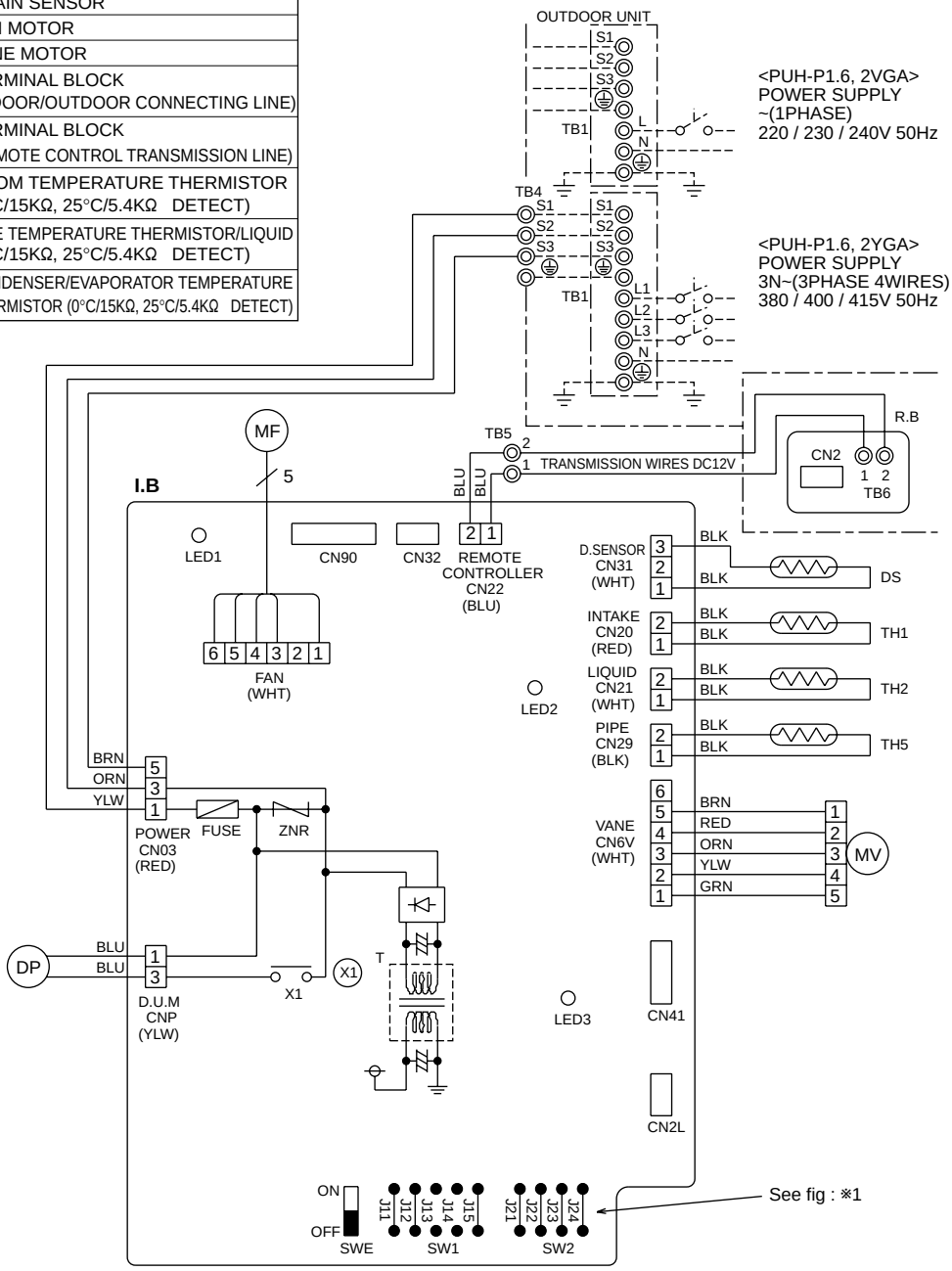
SYMBOL		NAME
I.B		INDOOR CONTROLLER BOARD
	CN2L	CONNECTOR (LOSSNAY)
	CN32	CONNECTOR (REMOTE SWITCH)
	CN41	CONNECTOR (HA TERMINAL-A)
	FUSE	FUSE (6.3A, 250V)
	LED1	POWER SUPPLY (I.B)
	LED2	POWER SUPPLY (R.B)
	LED3	TRANSMISSION (INDOOR-OUTDOOR)
	SW1	JUMPER WIRE (MODEL SELECTION)
	SW2	JUMPER WIRE (CAPACITY CODE)
	SWE	SWITCH (EMERGENCY OPERATION)
	T	TRANSFORMER
	X1	RELAY (DRAIN PUMP)
	ZNR	VARISTOR
R.B		REMOTE CONTROLLER BOARD
	CN2	CONNECTOR (SCHEDULE TIMER)
	TB6	TERMINAL BLOCK (REMOTE CONTROLLER TRAMSMISSION LINE)
DP		DRAIN-UP MACHINE
DS		DRAIN SENSOR
MF		FAN MOTOR
MV		VANE MOTOR
TB4		TERMINAL BLOCK (INDOOR/OUTDOOR CONNECTING LINE)
TB5		TERMINAL BLOCK (REMOTE CONTROL TRANSMISSION LINE)
TH1		ROOM TEMPERATURE THERMISTOR (0°C/15KΩ, 25°C/5.4KΩ DETECT)
TH2		PIPE TEMPERATURE THERMISTOR/LIQUID (0°C/15KΩ, 25°C/5.4KΩ DETECT)
TH5		CONDENSER/EVAPORATOR TEMPERATURE THERMISTOR (0°C/15KΩ, 25°C/5.4KΩ DETECT)

NOTES:
1. Since the outdoor side electric wiring may change be sure to check the outdoor unit electric wiring for servicing.
2. Indoor and outdoor connecting wires are made with polarities, make wiring matching terminal numbers(S1, S2, S3).
3. Symbols used in wiring diagram above are, □□□ :Connector, ◎ :Terminal (block).

Please set the voltage using the remote controller.
For the setting method, please refer to the indoor unit Installation Manual.

<※1>

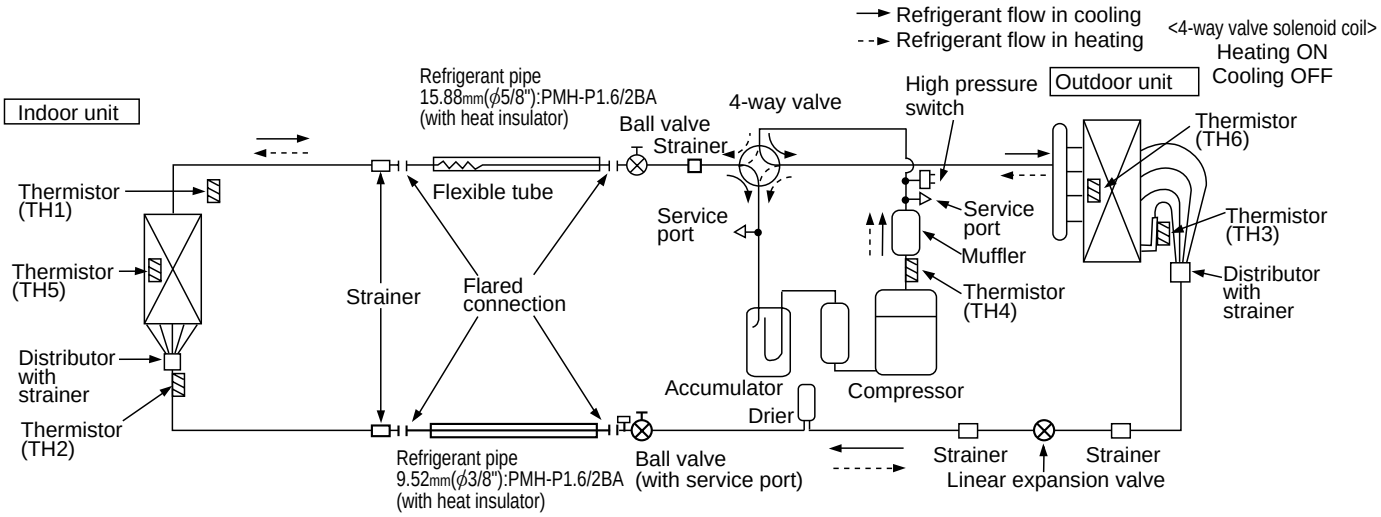
	MODELS	Manufacture	Service board
SW1	PMH-P1.6/2BA	J11 J12 J13 J14 J15	J11 J12 J13 J14 J15
SW2	PMH-P1.6BA	J21 J22 J23 J24	1 2 3 4 ON OFF
	PMH-P2BA	J21 J22 J23 J24	1 2 3 4 ON OFF



8 REFRIGERANT SYSTEM DIAGRAM

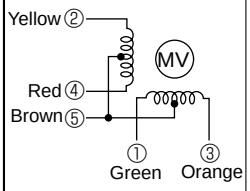
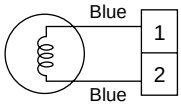
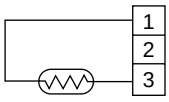
PMH-P1.6BA / PUH-P1.6VGA, PUH-P1.6YGA
PMH-P2BA / PUH-P2VGA, PUH-P2YGA

Unit : mm



9 TROUBLE SHOOTING

How to check the parts PMH-P1.6BA, PMH-P2BA

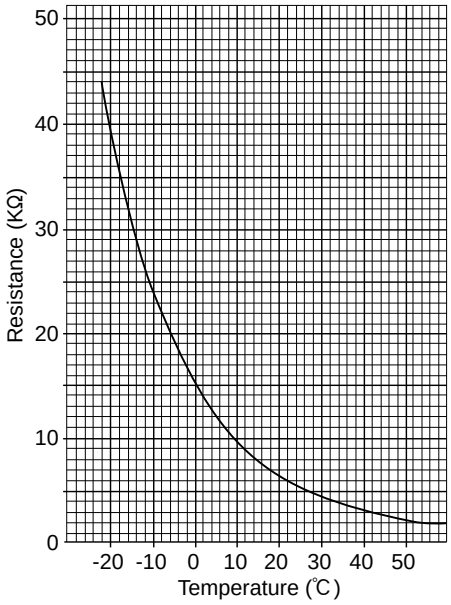
<table>
<tr><th>Parts name</th><th>Check points</th></tr>
<tr><td>Room temperature thermistor (TH1)
Pipe temperature thermistor (TH2)
Condenser/evaporator temperature thermistor (TH5)</td><td>Disconnect the connector then measure the resistance using a tester.
(Surrounding temperature 10℃~30℃)
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>4.3kΩ~9.6kΩ</td><td>Open or short</td></tr></table>(Refer to the thermistor)</td></tr>
<tr><td>Vane motor
  </td><td>Measure the resistance between the terminals using a tester.
(Surrounding temperature 20℃~30℃)<table><tr><th>Connector</th><th>Normal</th><th>Abnormal</th></tr><tr><td>Brown — Yellow</td><td rowspan="4">380Ω ±7%</td><td rowspan="4">Open or short</td></tr><tr><td>Brown — Red</td></tr><tr><td>Brown — Orange</td></tr><tr><td>Brown — Green</td></tr></table></td></tr>
<tr><td>Drain-up mechanism
  </td><td>Measure the resistance between the terminals using a tester.
(Surrounding temperature 20℃)<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>400Ω~480Ω</td><td>Open or short</td></tr></table></td></tr>
<tr><td>Drain sensor
  </td><td>Measure the resistance between the terminals using a tester.
(Surrounding temperature 20℃~30℃)<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>0.6kΩ~6.0kΩ</td><td>Open or short</td></tr></table>(Refer to the thermistor)</td></tr>
</table>

<Thermistor Characteristic graph>

Thermistor for lower temperature

Room temperature thermistor(TH1)
Pipe temperature thermistor(TH2)
Condenser/evaporator temperature thermistor(TH5)

< Thermistor for lower temperature >



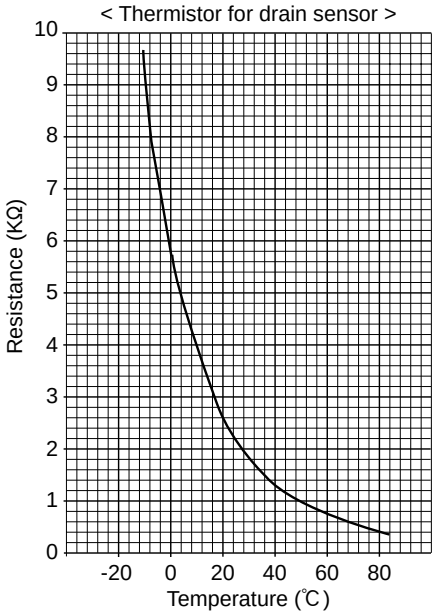
Thermistor R_0=15kΩ ± 3%
Fixed number of B=3480kΩ ± 2%

$$Rt=15\exp\{3480(\frac{1}{273+t}-\frac{1}{273})\}$$

0℃	15kΩ
10℃	9.6kΩ
20℃	6.3kΩ
25℃	5.2kΩ
30℃	4.3kΩ
40℃	3.0kΩ

Thermistor for drain sensor

< Thermistor for drain sensor >



Thermistor R_0=6.0kΩ ±5%
Fixed number of B=3390kΩ ±2%

$$Rt=15\exp\{3390(\frac{1}{273+t}-\frac{1}{273})\}$$

0℃	6.0kΩ
10℃	3.9kΩ
20℃	2.6kΩ
25℃	2.2kΩ
30℃	1.8kΩ
40℃	1.3kΩ

10 DISASSEMBLY PROCEDURE

Be careful on removing heavy parts.

PMH-P1.6BA

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS

1. Removing the intake grille

Opening the air intake grille

(1) Press the PUSH of the air intake grille.(See figure 1)
(2) Put your figure on the both end of nut of the air intake grille and put it down after the grille clicked.

Removing the air intake grille

(1) Press the PUSH of air intake grille, and pull down the both end of nut with your fingers after the grille clicked. (See figure 1)
(2) Pull out the handle of air intake grille strong toward you. (See figure 2)
(3) Draw the string of air intake grille to prevent the grille from dropping.(see figure 3)

Photo 1

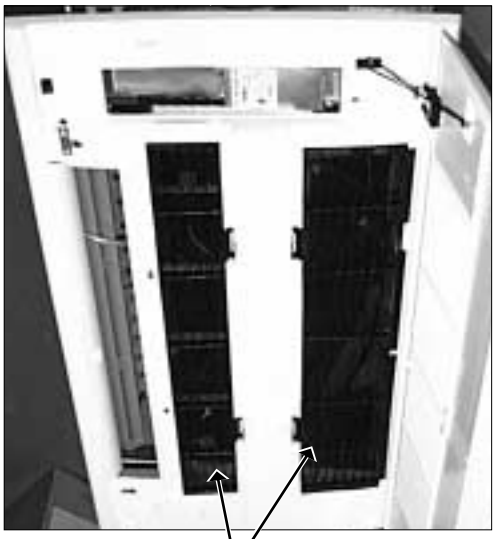


Figure 1

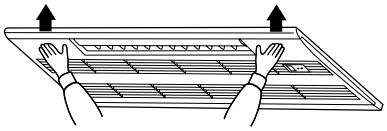


Figure 2

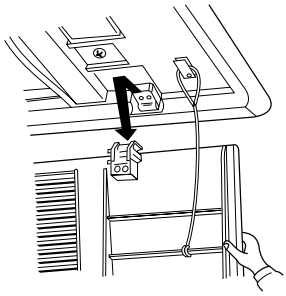
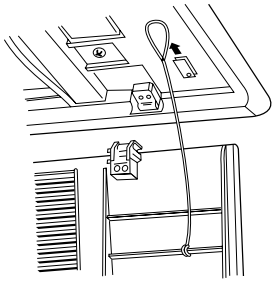
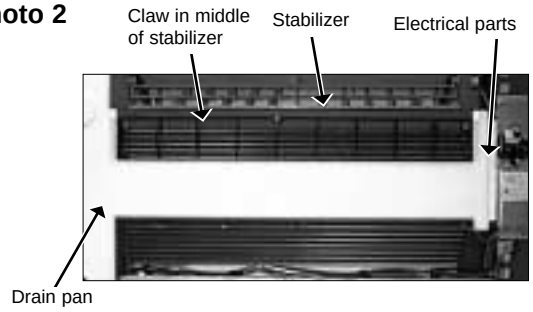
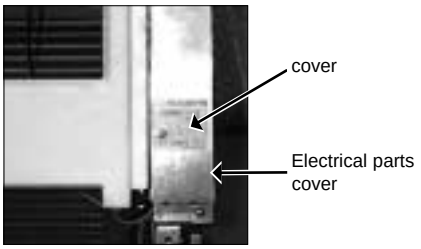
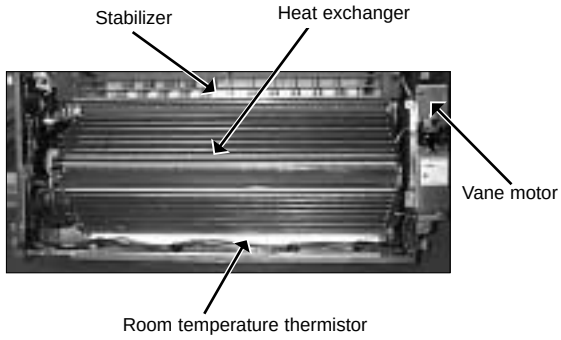
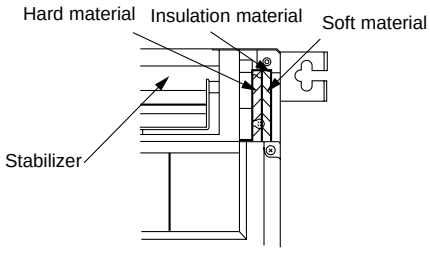
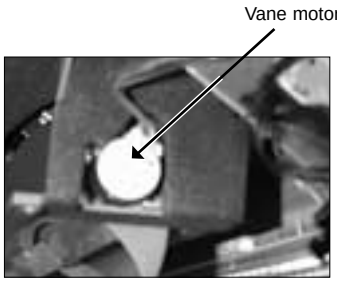
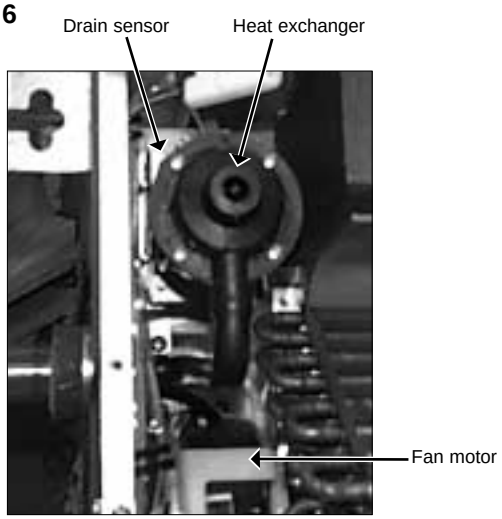
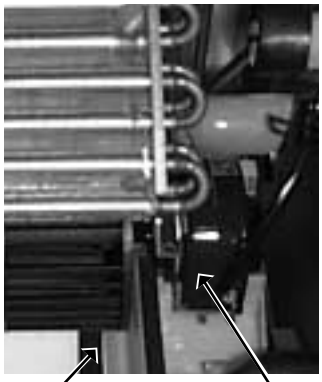


Figure 3

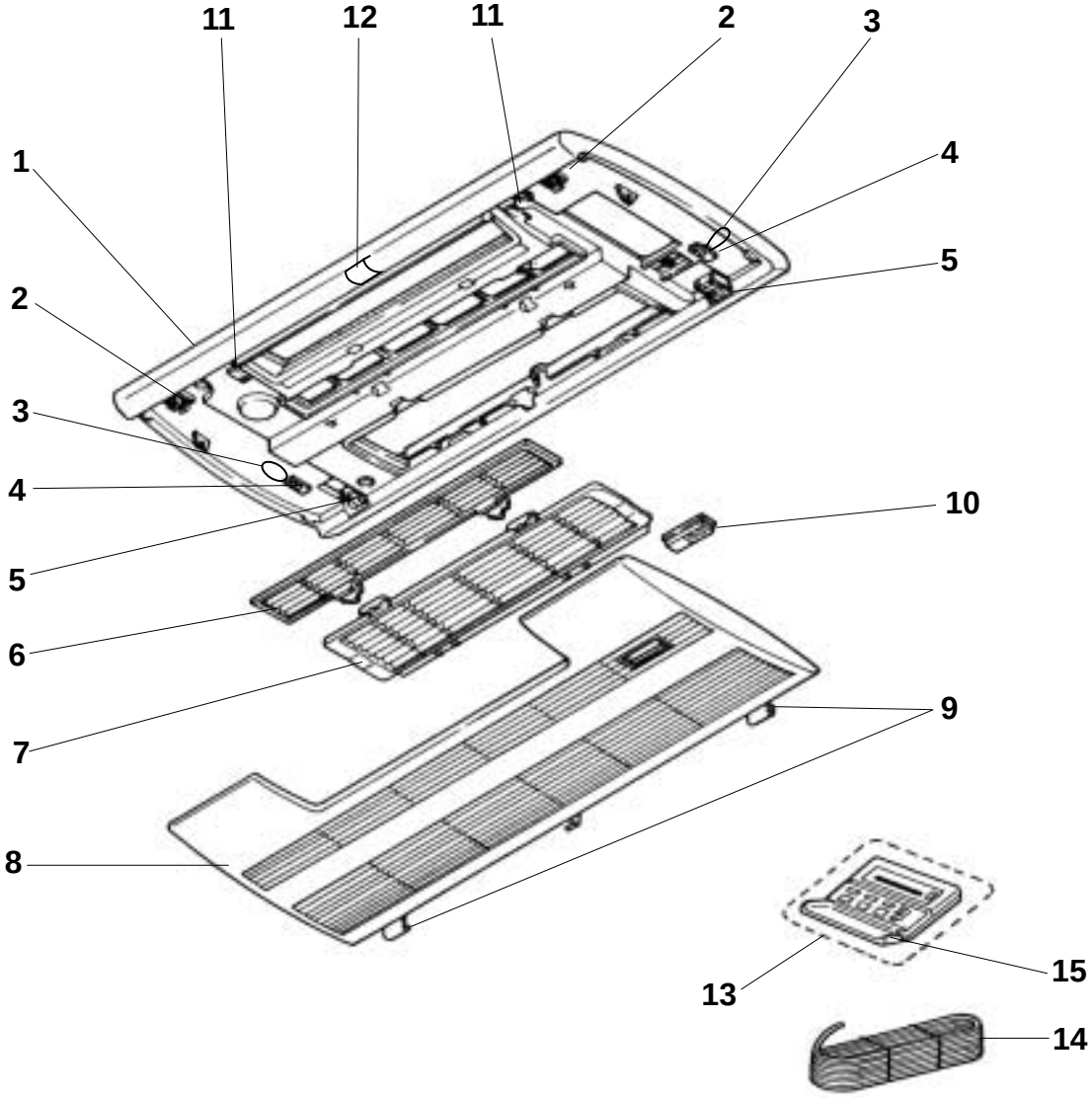


OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
2. Removing the electrical parts box (1) Remove the panel. (2) Remove the cover. (3) Remove the electrical parts cover. (4) Disconnect the connectors of fan motor, vane motor, drain pump, room temperature thermistor, pipe temperature thermistor, condenser/evaporator temperature thermistor and drain sensor on the electrical controller board. (5) Disconnect the lead wire and earth wire from terminal block. (6) Remove tne electrical parts box.	**Photo 2**  **Photo 3** 
3. Removing the stabilizer (1) Remove the panel. (2) Remove the room temperature thermistor. (3) Unhook the claw in the middle of stabilizer and remove the drain pan. (5 screws) (See photo 2) (4) Remove the stabilizer side of the heat exchanger. (2 screws) (5) Remove the cover. (6) Remove the electrical parts cover. (7) Disconnect the connector of vane motor. (8) Remove the insulation material (white) on the right side of stabilizer. (9)Remove the stabilizer. (6 screws) Note when the stabilizer is removed ·Since the insulation material (white) which prevents water-drops from putting is mounted to the side of vane motor,remove the insulation material when the stabilizer is removed.(See figure 4) ·After completing the service, mount the insulation material as before as shown in right figure. ·Since the insulation material to prevent water-drops from putting consists of double layer of soft and hard materials, mount the insulation material so that the hard material faces to the stabilizer side.	**Photo 4**  **Figure 4** 
4. Removing the vane motor (1) Remove the stabilizer. Refer to above-mentioned (3) Removing the stabilizer. (2) Remove the vane motor.	**Photo 5** 

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
5. Removing the drain pump (1) Remove the panel. (2) Unhook the claw in the middle of stabilizer and remove the drain pan. (3) Remove the cover. (4) Remove the electrical parts cover. (5) Disconnect the connector of drain pump. (6) Remove the drain hose. (7) Remove the drain pump.(2 screws)	**Photo 6** 
6. Removing the fan motor and line flow fan (1) Remove the panel. (2) Unhook the claw in the middle of stabilizer and remove the drain pan. (3) Unscrew 2 screws at the stabilizer side of the heat exchanger (4) Remove the cover. (5) Remove the electrical parts cover. (6) Disconnect the connectors of vane motor, fan motor and drain pump. (7) Remove the stabilizer side of the heat exchanger. (2 screws) (8) Remove the stabilizer. (9) Remove the drain pump. (10) Unscrew 2 screws in the motor support. (11) Remove the fan motor and line flow fan (The fan motor and line flow fan can be removed without removing the heat exchanger.)	**Photo 7** 
7. Removing the thermistor<Room temperature thermistor> (1) Remove the panel. (2) Bring down the electrical parts box and remove the cover. (3) Remove the thermistor <Room temperature thermistor> (4) Disconnect the lead wire from the cord clamp (5 points) (5) Disconnect the connector (CN20) on the indoor controller board.	
8. Removing the thermistor<Pipe temperature thermistor/liquid> <Condenser/evaporator temperature thermistor> (1) Remove the panel. (2) Bring down the electrical parts box and remove the cover. (3) Remove the drain pan. (4) Remove the thermistor <Pipe temperature thermistor/liquid> /<Condenser/evaporator temperature thermistor>. (5) Disconnect the lead wire from the cord clamp (6) Disconnect the connector (CN29)/(CN21) on the indoor controller board.	

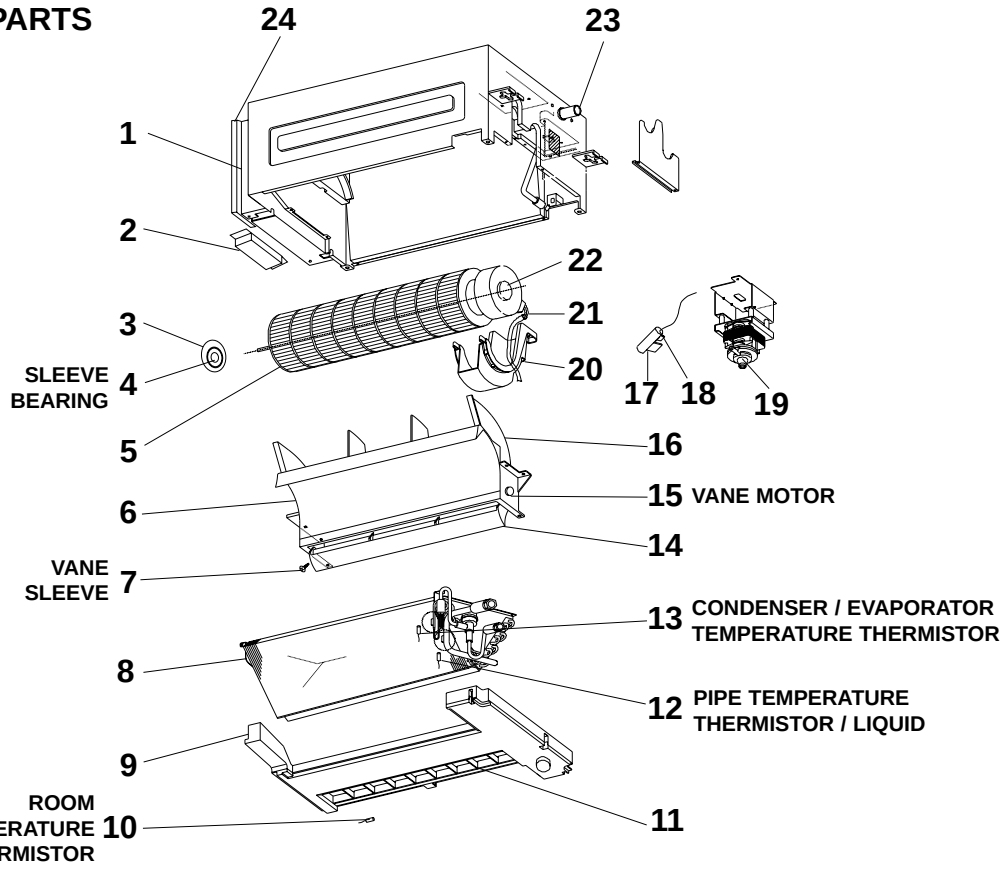
11 PARTS LIST

PANEL PARTS
PMH-P1.6BA
PMH-P2BA



No.	Part No.	Part Name	Specification	Q'ty/set PMH-P 1.6/2BA	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Price Amount
1	T7W E11 003	AIR OUTLET GRILLE		1					
2	R01 E00 055	LATCH		2					
3	—	HANGER		2	(DT88D360H03)				
4	R01 E00 099	PANEL HOOK		2					
5	R01 E01 054	GRILLE CATCH		2					
6	R01 E01 500	LL.FILTER		1					
7	R01 E02 500	LL.FILTER		1					
8	TW7 E01 691	INTAKE GRILLE		1					
9	R01 E00 054	GRILLE CATCH		2					
10	R01 E00 648	RECEIVER COVER		1					
11	R01 E00 044	MAGNET		2					
12	R01 E00 096	SCREW CAP		1					
13	T7W E00 713	REMOTE CONTROLLER		1					
14	T7W A00 305	REMOTE CONTROLLER CABLE		1					
15	T7W E04 049	REMOTE CONTROLLER COVER		1					

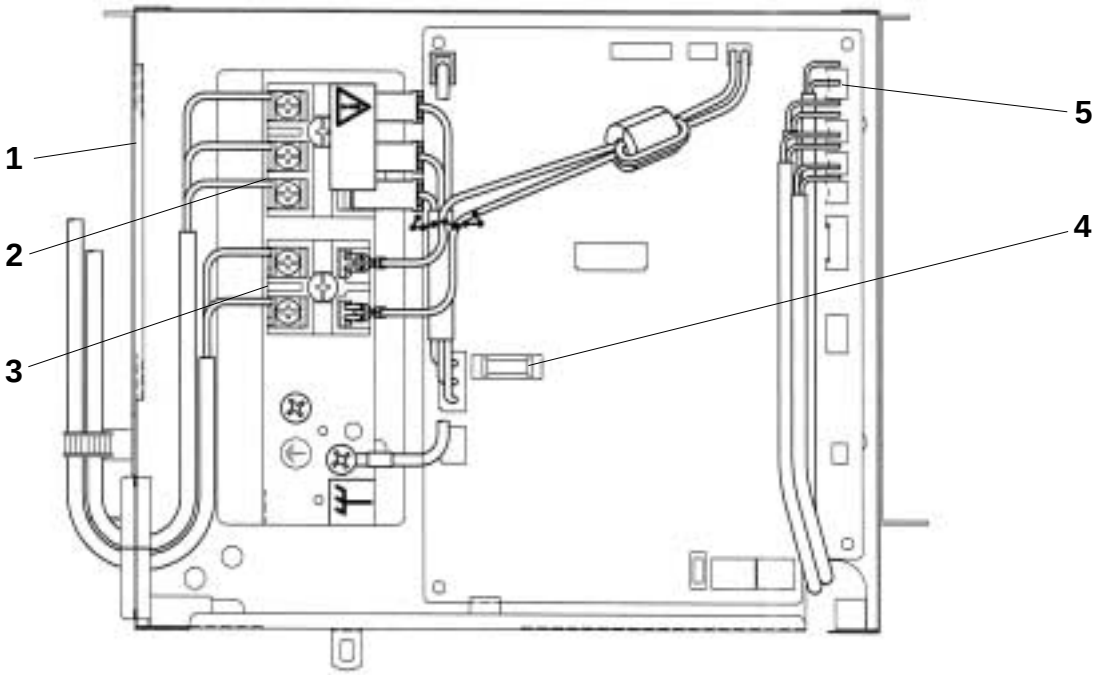
FUNCTIONAL PARTS
PMH-P1.6BA
PMH-P2BA



Part number that is circled is not shown in the figure.

No.	Part No.	Part Name	Specification	Q'ty/set PMH-·BA P1.6	Q'ty/set PMH-·BA P2	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Price Amount
1	—	CABINET		1	1	(DT00A478G64)				
2	—	COVER		1	1	(RG02L277H02)				
3	R01 22A 102	BEARING MOUNT		1	1					
4	R01 005 103	SLEEVE BEARING		1	1					
5	R01 E02 114	LINE FLOW FAN		1	1					
6	R01 E00 079	STABILIZER ASSY		1	1					
7	R01 E00 092	VANE SLEEVE		1	1					
8	T7W E70 480	HEAT EXCHANGER		1	1					
9	R01 E04 529	DRAIN PAN		1	1					
10	R01 E00 202	ROOM TEMPERATURE THERMISTOR		1	1		TH1			
11	R01 E00 038	GUIDE VANE		1	1					
12	R01 E41 202	PIPE TEMPERATURE THERMISTOR / LIQUID		1	1		TH2			
13	R01 E44 202	CONDENSER / EVAPORATOR TEMPERATURE THERMISTOR		1	1		TH5			
14	R01 E01 002	VANE		1	1					
15	R01 E01 223	VANE MOTOR		1	1		MV			
16	R01 E00 110	CASING		1	1					
17	R01 31K 241	SENSOR HOLDER		1	1					
18	R01 E01 266	DRAIN SENSOR		1	1		DS			
19	T7W E02 355	DRAIN PUMP		1	1		DP			
20	R01 E00 130	MOTOR SUPPORT		1	1					
21	R01 E03 220	FAN MOTOR		1	1		MF			
22	R01 E01 105	MOTOR MOUNT		1	1					
23	R01 E00 527	DRAIN PIPE		1	1					
24	—	CONTROL BOX COVER		1	1	(RG00L311G06)				
㉕	R01 E01 673	SCREW ASSY		1	1					

ELECTRIC PARTS
PMH-P1.6BA
PMH-P2BA



No.	Part No.	Part Name	Specification	Q'ty/set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recom-mended Q'ty	Price	
				PMH-P 1.6/2BA				Unit	Amount
1	—	CONTROL BOX		1	(RG02B337G08)				
2	T7W E01 716	TERMINAL BLOCK	3P (S1, S2, S3)	1	TB4				
3	T7W 515 716	TERMINAL BLOCK	2P (1, 2)	1	TB5				
4	T7W 520 239	FUSE	250V 6.3A	1	FUSE				
5	T7W E13 310	INDOOR CONTROLLER BOARD		1	I.B				

12 OPTIONAL PARTS

12-1. TIMER

Part No.	PAC-SC32PTA (with set back function)
Model Name	Program timer

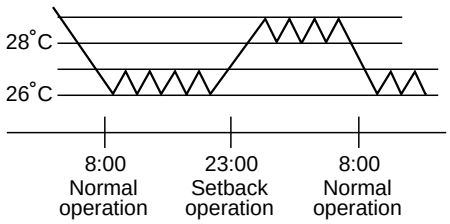
12-1-1. Program timer specifications

Part name	Program timer
Parts No.	PAC-SC32PTA
Exterior dimensions (inch)	5-4/32X4-23/32X23/32 (130X120X18mm)
Installation	Wall mount
Type of clock	Quartz
Clock accuracy	±50 second / month at 25℃
Display-Time -Week -Timer setting unit	Liquid crystal display Liquid crystal display Liquid crystal display
Program cycle	24 hours
Timer setting unit	30 minutes
No. of set points	48 / day
Power rating	5V DC ±5% (Supplied by Remote Controller)

12-1-2. Feature of program timer

(1) Daily timer function
Daily timer can be set in 30 minutes units for up to 24 hours.
Each unit can be set for unit ON, unit OFF, or setback operation.

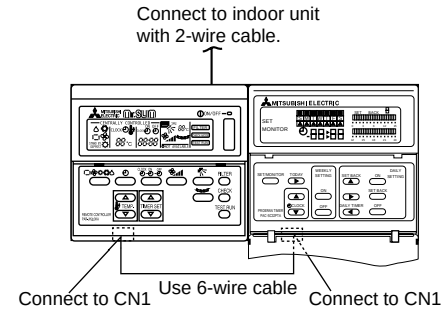
(2) Setback operation
Set back operation is useful for reducing running costs
e.g. At a hotel with a 24-hour system
8:00~23:00 Cooling operation with set temperature at 26°C
23:00~8:00 Setback operation with 2 degrees of setback
As shown in the chart on the right, the set temperature rises 2 degrees automatically during the setback operation. When the setback operation ends, normal operation will begin.



(3) Weekly timer function
Daily timer function can apply to each day of the week.

12-1-3. How to connect program timer

(1) Install the program timer next to the remote controller the same way as the remote controller is installed.
(2) Connect the program timer and the remote controller with a 6-wire cable as shown in the figure below



NOTE:While the program timer is connected to the remote controller, the 24hour ON/OFF timer on the remote controller will not operate.

12-1-4. Names and functions

<PAC-SC32PTA>

WEEKLY TIMER SETTING DISPLAY

Used for selection of if or not the day operation pattern set by PATTERN SETTING is to be applied in weekly day unit, setting.

CURRENT TIME DISPLAY

During MONITOR status,current time is display.
During Daily timer setting, a time desire for timer setting is displayed.

SET BACK DISPLAY

Indicates the setting set back range.

DAILY TIMER SETTING DISPLAY

24 hours is divided into 48 blocks and each block express 30 minutes.
The block display consists of 3 pattern.

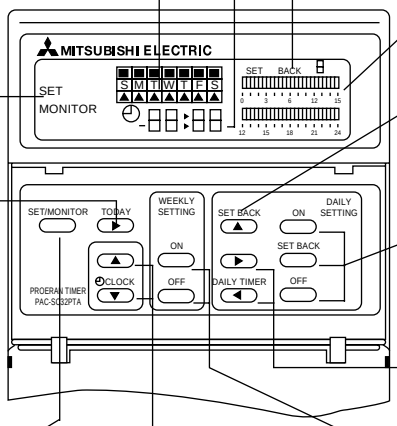
Set back can be done in the range of 1,2,4,6 and 8°C.

SET BACK SETTING SW

Used for set back setting.

SET/MONITOR DISPLAY

During SET is display, clock adjustment, change of weekly day, daily and weekly timer setting can be performed.
During MONITOR is display, all switches except SET/MONITOR SW are invalidated.
This is normal status.



ON/SET BACK/OFF SW

Used to specify the time setting pattern.

WEEK DAY SETTING SW

Used for week day setting.

DAILY TIMER SW

Used for timer setting in 30 minutes unit.

MODE SELECTOR SW

Using this switch select “MONITOR” or “SET” Mode.

“MONITOR” :Indicates the current timer setting. All switch expect MODE SELECTOR SW are invalidated then.This is the normal status.
“SET”: Set to “SET” mode for clock adjustment, charge of week day, daily and weekly timer setting.

CLOCK ADJUSTMENT SW

Used for adjustment of the current time.

Push ▲ SW to advance the time. Each time the button is pushed the time advance by 1 minute, pushing continuously advances by 1 minute at 0.5 second interval, and when the lower digit of minute becomes 0 indication advances in 10 minutes unit.
▼ SW is used for reversing the time. Each time the button is pushed the time reverses by 1 minute, pushing continuously reverses the time by 1 minute at 0.5 second interval, and when the lower digit of minute becomes 0 indication reverses in 10 minutes unit.

WEEKLY TIMER SW

Used for setting timer in day of week unit.

Pushing ▶ SW moves the week day light display in order of
S → M → T → W ⋯
enabling to set the week day.

12-2. Remote Sensor

Part No.	PAC-SE41TS-E
Applied Service Ref.	PMH-P1.6/2BA

12-3. Remote Operation Adapter

Part No.	PAC-SF40RM-E
Applied Service Ref.	PMH-P1.6/2BA

12-4. Remote ON/OFF Adapter

Part No.	PAC-SE55RA-E
Applied Service Ref.	PMH-P1.6/2BA

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