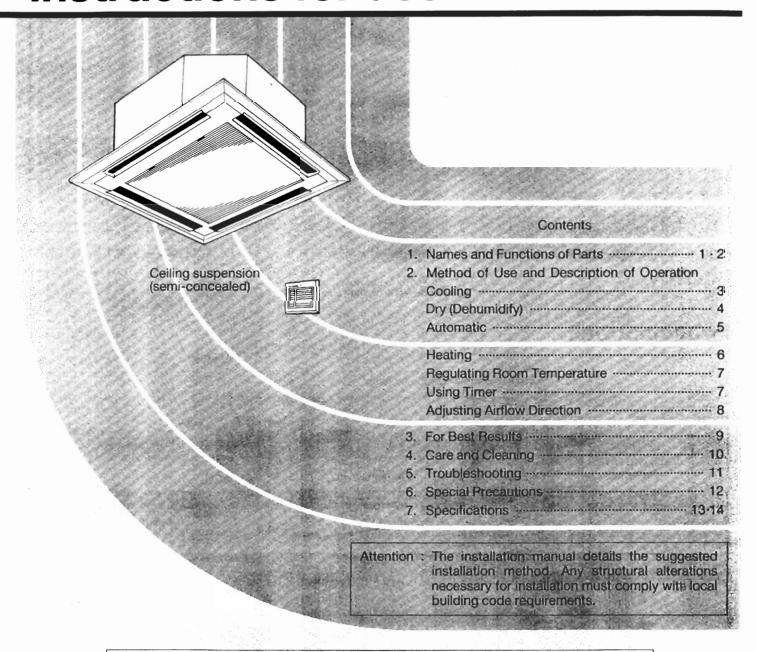
MITSUBISHI ELECTRIC Air-Conditioners



Models: PLH-2,2.5,3GK(H)A,4,5,6GK(H)SA

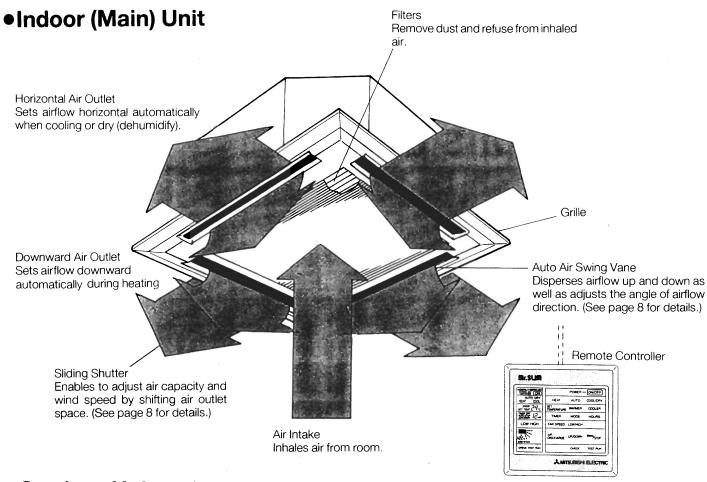
Instructions for use



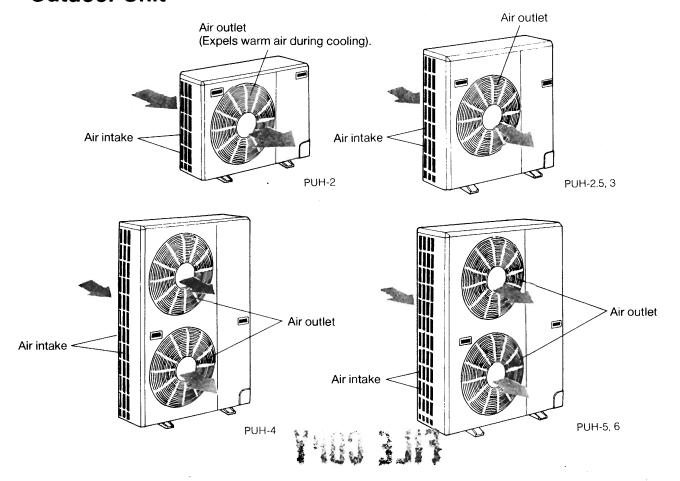
These air conditioners incorporate the latest technological advances of Mitsubishi Electric and are produced under strict quality control.

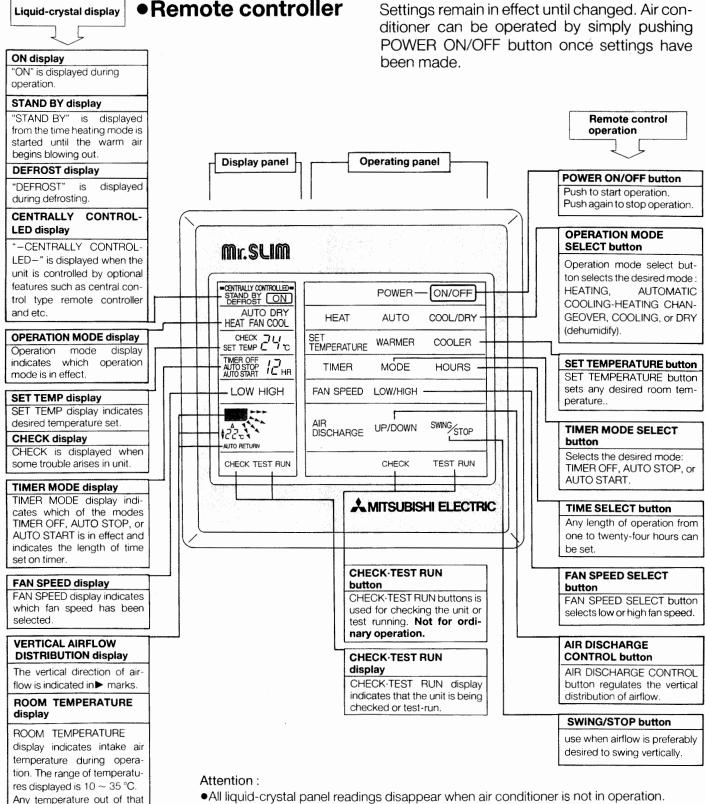


1. Names and Functions of Parts



Outdoor Unit





range reads "▼ 10 °C"or "▲

RETURN

comes on when downward

airflow is set during cooling or

dry (dehumidify) with low fan

speed, and goes off after one hour elapses. (See page 8.)

display

AUTO RETURN display

35°C"display.

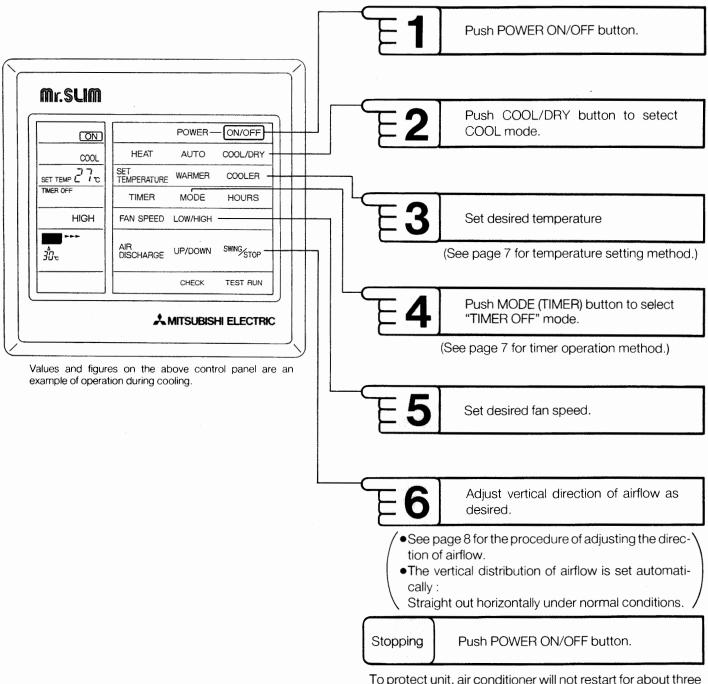
AUTO

- When any button on control panel is pushed, it beeps to indicate that it has functioned.
- Avoid button operation with fingernails or other sharp objects. They may damage the control panel.
- •They may be the case that "−CENTRALLY CONTROLLED−" is displayed a moment and goes off. This is not mulfunction.
- Fan Speed or Vertical Airflow Direction can be adjusted even in case of use with centrally controlled type remote controller (optional).

2. Method of Use and Description of Operation

Cooling

- Cooling can be controlled by simply pushing POWER ON/ OFF button once settings have been made. Check that power is on before starting. Avoid turning off main power while cooling is operating. As it will turn off crankcase heater.
- Mode of COOL or DRY is transferred alternately at every pushing COOL/DRY button. The current operation shall be confirmed on the display.



To protect unit, air conditioner will not restart for about three minutes after stopping. Air conditioner will restart automatically after three minutes have elapsed if POWER ON/OFF button is pushed during this time.

Dry (Dehumidify)

linkage automatically.

operations.

After getting to desired temperature.

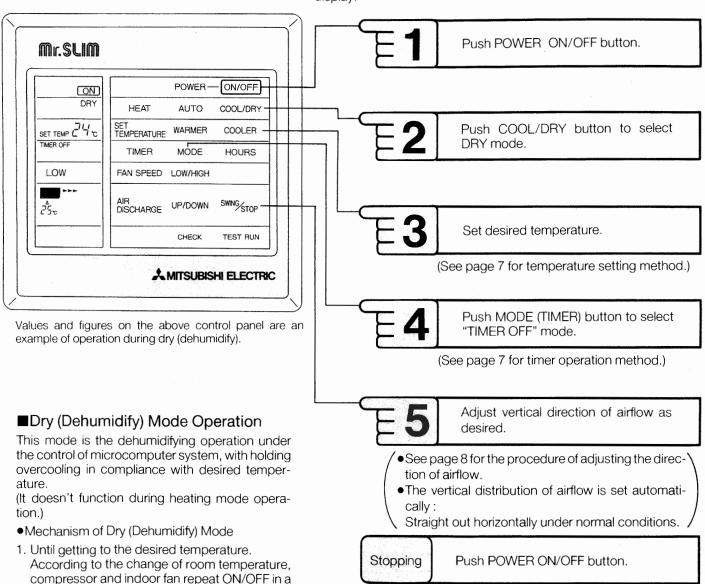
Both of compressor and indoor fan stop their

 After ten minutes stop, they operate for 3 minutes to keep the existing low humidity.

- Dry (dehumidify) can be controlled by simply pushing POWER ON/OFF button once settings have been made.
 Check that power is on before starting. Avoid turning off main power while dry (dehumidify) is operating. As it will turn off crankcase heater.
- •When the room temperature is lower than 18 deg. C, do not became to dry (dehumidify) mode operation.
- •Indoor fan operation will be kept at low speed which cannot be changed.

(It is changed only on the display of remote controller.)

 Mode of COOL or DRY is transferred alternately at every pushing COOL/DRY button. The current operation shall be confirmed on the display.



To protec unit, air conditioner will not restart for about three minutes after stopping. Air conditioner will restart automatically after three minutes have elapsed if POWER ON/ OFF button is pushed during this time.

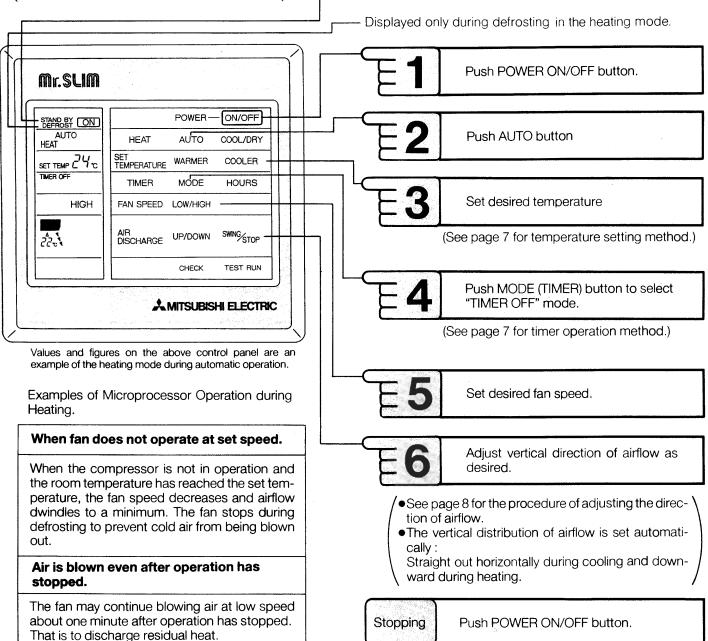
Automatic

•An automatic cooling and heating changeover operation system is equipped to ensure easy control and year-round air conditioning. Once the desired temperature is set, unit operation is switched automatically between cooling and heating, in accordance with the room temperature. In addition, the use of outdoor unit fan speed controller enables cooling operation at outdoor temperatures as low as -5 °C.

Automatic can be controlled by simply pushing POWER ON/OFF button once settings have been made. Check that power is on before starting. Avoid turning off main power while automatic is operating. As it will turn off crankcase heater.

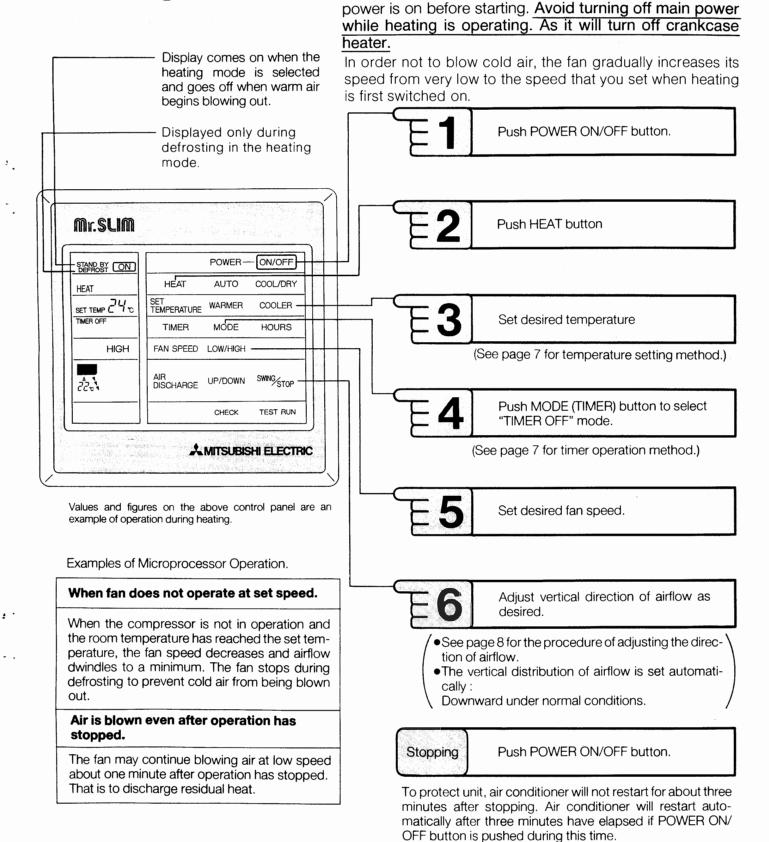
In order not to blow cold air, the fan gradually increases its speed from very low to the speed that you set when heating is first switched on.

> Display comes on when the heating mode is selected and goes off when warm air begins blowing out.



To protect unit, air conditioner will not restart for about three minutes after stopping. Air conditioner will restart automatically after three minutes have elapsed if POWER ON/OFF button is pushed during this time.

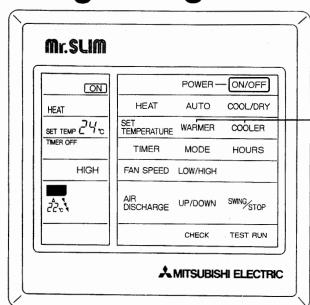
Heating



Heating can be controlled by simply pushing POWER ON/

OFF button once settings have been made. Check that

Regulating Room Temperature



Changing Room Temperature

To change room temperature, push WARMER or COOLER button while referring to display panel.

> Push WARMER or COOLER button to set desired temperature.

Each time the WARMER button is pushed, the temperature setting is increased by 1 °C.

Holding down the button increases the temperature setting 1 °C every 0.5 seconds.

Each time the COOLER button is pushed, the temperature setting is decreased by 1 °C.

Holding down the button decreases the temperature setting 1 °C every 0.5 seconds.

Temperature Setting Range

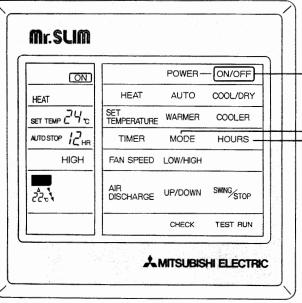
Cooling: 19 ~ 30 °C Heating: 17 ~ 28 °C Automatic: 19 ~ 28 °C Dry: 19 ~ 30 °C

Example of Temperature Setting Display

SET TEMP

Using Timer

Setting Timer



Push MODE (TIMER) button to select "AUTO STOP" or "AUTO START" mode.

Push POWER ON/OFF button

Push HOURS (TIMER) button to set desired length of time set on timer.

- Each time the button is pushed, the time setting is increased by one hour. Holding down the button increases the time setting one hour every 0.5 seconds to a maximum of 24 hours.
- •The unit can be either started or stopped while in AUTO STOP or AUTO START mode by pushing the POWER ON/OFF button regardless of any remaining time set on the timer.
- The last settings of AUTO START and AUTO STOP are each stored in memory whenever the timer mode is entered, the previous settings are restored.

Example Timer Setting

AUTOSTOP HR

The example shows the AUTO STOP mode by which the unit stops after 12 hours of operation. The time reading decreases by one hour after each hour elapses, indicating the remaining time.

Cancellation

Push POWER ON/OFF button

If timer mode has been set "AUTO START", Air conditioner will begin to operate.

If timer mode has been set "AUTO STOP", unit will stop its operation.

Function of Timer

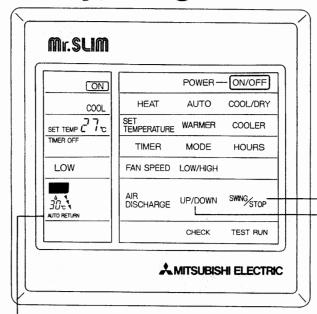
AUTO STOP | Mode:

 Air conditioner stops after operating for length of time set on timer.

AUTO START | Mode:

 Air conditioner starts after length of time set on timer elapses.

Adjusting Airflow Direction



The display comes on when the unit is set for cooling or dry (dehumidify) with low fan speed and downward airflow. It goes off one hour later with airflow direction automatically returning to horizontal.

Swing Limit

When airflow is blown off in horizontal direction

When airflow is blown off downwards

In case that remote controller does not control the vertical direction adjustment of airflow, it will set as below:

During Cool or Dry (Dehumidify) mode

Horizontal Approx. 20 deg.

During Heat mode

Downward, Approx. 70 deg.

Procedure of adjusting vertical direction of airflow.

You can get your desired airflow direction by auto air swing vane controlled by remote controller.

= 1

Auto Air Swing Vane is ready to Swing or Stop by pushing SWING/STOP button.

- •If "Swing" is set, auto air swing vane will ply within a swing range to diffuse the airflow vertically.
- •Transferring the selection from swing to stop, the auto air swing vane returns to the position where it was before swing was selected. However, in case that the modes of Cool, Dry or Heat are changed during "Stop" setting, the direction of airflow is automatically set "Horizontal, 20 deg." under the operation of Cooling or Dry (Dehumidify) and "Downward, 70 deg." at Heating operation.

Indication on remote controller display at swing mode.









Moving arrow indicates that the auto air swing vane is in operation.

☆Arrow indication on remote controller display does not always coincide with the actual position of auto air swing vane.

E2

Direction of air discharge will be changed at every pushing UP/DOWN button of Air Discharge Direction.

☆During "Swing" being set, the UP/DOWN button of Air Discharge Direction will not function.

Indication Examples









•In the case of high fan speed during cooling, or of heating, the

distribution changes in the sequence $(1) \rightarrow (2) \rightarrow (3) \rightarrow (4)$

•In the case of high fan speed and downward airflow ②, during cooling, switching to low fan speed causes airflow distribution to change automatically to horizontal ①.

• In the case of low fan speed during cooling, or of dry (dehumidify)

the distribution changes in the order $(1) \rightarrow (3) \rightarrow (4)$ and is shown on the liquid-crystal display panel. One hour after downward airflow (3) or (4) is set with low fan speed during cooling or dry (dehumidify), the airflow distribution returns automatically to horizontal (1).

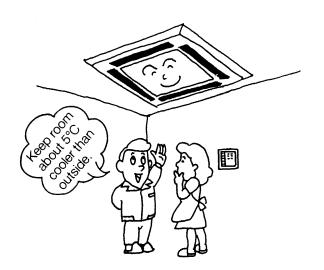
(Avoid overly frequent use since that may cause the condensation of moisture and dripping.)

3. For Best Results ...

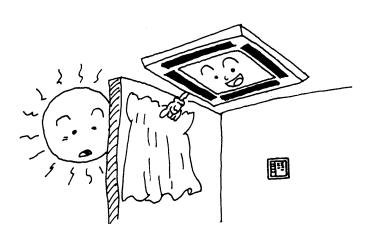
A few simple steps will permit the most effective and economical air conditioner operation.

Cool to Reasonable Temperatures

- •Cooling is most efficient when the difference between room and outside temperatures is less than 5°C.
- •Raising room temperature 1°C during cooling will result in electricity savings of about 10%.
- •Overcooling is not good for health and wastes electricity.



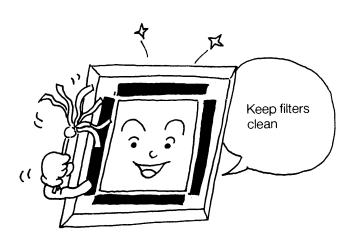
Block Sources of Outside Heat



•Use curtains to cover windows subject to direct sunlight during cooling. Avoid opening doors more often than necessary.

Clean Filters Conscientiously

Allow Fresh Air into Room Occassionally



- •Dirty or clogged filters block airflow and reduce cooling and heating efficiency. Especially dirty filters can damage the air conditioner itself. Clean filters once every two weeks, or more often in particularly dusty locations.
- Fresh air
 - •Air is closed off rooms will grow musty over time as changing air.

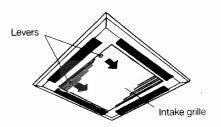
4. Care and Cleaning

Always turn power off before cleaning or servicing air conditioner.

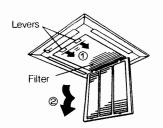
Filters

Removing Filters

• Intake grille will open by pulling levers on grille in direction of arrow.



•For removing filter, pull levers on filter in direction of arrow ① to unfasten filter, then draw it out in direction of arrow ②.



Cleaning Filters

Tap lightly or clean with vacuum cleaner. Rinse in water or neutral detergent dissolved in lukewarm water if filters are especially dirty. Be sure to throughly rinse off any detergent used. Dry before reinstalling into air conditioner.



Attention

- Do not dry filters in direct sunlight or by other heat sources. Heat may disfigure filters
- Washing in hot water (over 50°C) may disfigure filters.

Main Unit

Cleaning

•Wipe with clean, dry, soft cloth.



 Use neutral household detergent (for dishes or laundry) to clean oil or handprints.

Before Season Starts

- Check that intakes and outlets on both indoor and outdoor units are free of obstruction.
- •Be sure to remove protective cover from outdoor unit.

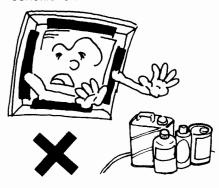


•Check that ground wire is properly in place.



- Check drain hose for bends, kinks, clogging and improper positioning.
- Always replace filters before starting air conditioner. Running air conditioner without filters can damage unit.
- Turn main power on at least 12 hours before starting actual operation. This will ensure smooth trouble-free starting.

 Never use gasoline, benzene, thinner, scouring powder or non-neutral detergents. These materials may damage air conditioner.

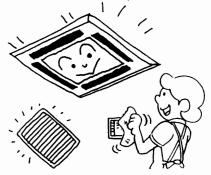


After Season is Over

•Turn main power off.



•Clean filters and other parts.



 Cover outdoor unit with plastic or other cover to protect from dirt and foreign matter.



5. Troubleshooting

Check the following points before calling for service.

Problem	Display	Cause	Remedy
Unit does not operate	When POWER ON/OFF	Power outage.	Push POWER ON/OFF button after power restored.
at all.	button is pushed, there is no beep and nothing	Main power not on.	Turn main power on.
		Main power fuse blown.	Replace fuse.
	is displayed.	Ground fault breaker open.	Reset ground fault breaker.
Air is blown but is not cooled or heated.	Liquid-crystal display indicates that the unit is on.	Improper temperature setting.	After checking the temperature setting and the intake air temperature reading on the liquid-crystal display and after referring to "Regulating Room Temperature" on page 7, make the necessary adjustment with the WARMER or COOLER button.
		Clogged filters.	Clean filters. See page 10 "Cleaning Filters".
		Intake or outlet of indoor or outdoor unit obstructed.	Remove obstruction.
		Open window or door.	Shut window or door.
Neither cool nor warm air is blown out	Liquid-crystal display indicates that the unit operates.	3-Minute Restart Preventive Circuit is functioning.	As 3-Minute Restart Preventive Circuit is built in outdoor unit to protect compressor, compressor will not sometimes restart at once. In such case, please wait for a little while until the compressor restarts. It takes three minutes at longest.
Operation stops soon after starting.	Liquid-crystal display reads CHECK and	Intake or outlet of indoor or outdoor unit obstructed.	Restart after removing obstruction.
	<i>"P\$"</i> or <i>"P8"</i> .	Clogged filters.	Restart after cleaning filters. See page 10 "Cleaning Filters".

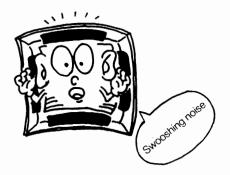
If the above measures fail to solve the problems, turn off main switch and inform the dealer from which the air conditioner was purchased of the model name and the nature of the problem. If remote control liquid-crystal display panel displays "CHECK" and "P I-PB, EC" also inform the dealer of that. Never attempt to repair the air conditioner yourself. ("UB" is not malfunction.)

The following are not malfunctions

Odor Bad odors!

Air from air conditioner may sometimes carry odors. These odors are from tobacco smoke, cosmetics, furniture finish or other odors taken in during air conditioning and adhering to filters and other parts of air conditioner.

Noise



A swooshing noise may be heard during and upon stopping operation. This is merely refrigerant circulating inside air conditioner and does not represent a problem.



A ticking sound may occur just after stopping or starting cooling or heating. This is caused by slight shrinking or expansion of grille with temperature changes and does not represent a problem.

6. Special Precautions

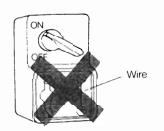
Avoid pulling remote controller cord strongly.



Yanking or tugging cord can damage unit or controller.

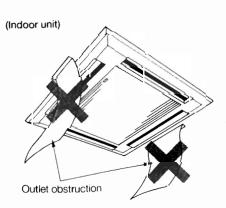
Always observe voltage rating and fuse and breaker capacities.

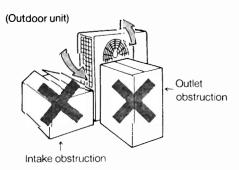
Never substitute piece of wire or higher capacity fuse for fuse of rated capacity. This can cause breakdowns or fires.



Do not obstruct indoor or outdoor unit intake or outlet

Obstruction will impeded performance and can cause breakdowns.

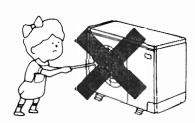




Never insert stick or foreign object in intakes or outlets.

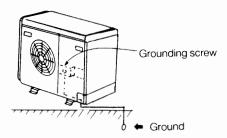
Touching rotating or electrical parts can be hazardous.

Exercise special care around children.



Always ground air conditioner.

Check that wire is properly connected between unit ground wire terminal and ground.

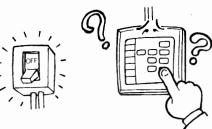


Restarting after power outage

When operation has been stopped by power outage the "power outage restarting prevention circuit" keeps unit from restarting itself after power is restored. Push POWER ON/OFF button to restart.

Stop operation and contact dealer in the following cases.



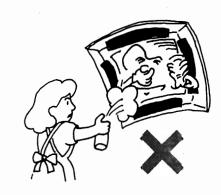


Remote controller

functions erratically.

- Remote controller inspection display runs continuously.
- Any other operation or display differing from normal.

Do not spray with insecticide or other combustible gas.



Do not apply water directly to air conditioner unit.

This can cause breakdowns or electrical shocks.



When stopping operation for long periods of time.

Turn main air conditioner power off before stopping air conditioner for extended periods of time or between operating seasons. Transformer and compressor-protection crankcase heater will consume electricity of approximately 40 W unless main power is turned off.

When restarting after long periods of no operation.

Turn main power on at least 12 hours before starting actual operation. This will ensure smooth trouble-free starting.



7. Specifications

Ite	m	Model PLH-2GK(H)A PLH-2.5GK(H)A		PLH-30	3K(H)A	PLH-4GK(H)SA	PLH-5GK(H)SA	PLH-6GK(H)SA				
			W	520	00	6000	6200	77	00	9700	12100	13300
£ 2	Coolin	Cooling *2 capacity		177	00	20500	21200	263	300	33100	41300	45400
	To	otal input	kW	2.6	35	2.93	3.09	3.	57	3.97	5.18	5.21
erformance	Heating *3 capacity		W	5800(7400)	6500 (8600)	6700 (8800)	8400(1	10500)	10400(13000)	13400(16400)	15700(18700)
Perfor			BTU/h	19800(25200)	22200 (29300)	22900 (30000)	28700(35800)	35500(44400)	45700(56000)	53600(63800)
	Total input kW		kW	2.61(4	4.21)	2.68 (4.78)	2.72 (4.82)	3.59(5.69)	3.93(6.53)	4.88(7.88)	5.09(8.09)
	Model name		PLH-2G	iK(H)A	PLH-2.5GK(H)A		PLH-30	3K(H)A	PLH-4GK(H)SA	PLH-5GK(H)SA	PLH-6GK(H)SA	
	Power supply *1		~(1ph),220-	240V,50Hz	~(1ph),220-240V,50Hz		~(1ph),220	-240V,50Hz	~(1ph),220-240V,50Hz	~(1ph),220-240V,50Hz	~(1ph),220-240V,50Hz	
ij		Air flow (Lo-Hi)	СММ	12-	-16	14-	-18	14-18		23-32	24-33	25-35
ndoor unit	Fan Ex. static pressure		Pa(mmAq)	O).	()	()	0	0	0
9		Moter output	kW	0.030		0.050		0.0	50	2×0.050	2×0.050	2×0.050
٤	Booste	er heater *4	kW	(1.6)		(2.1)		(2	.1)	(2.6)	(3.0)	(3.0)
	Dimens	sions ($H\times W\times D$)	mm	258×82	0×820	20 258×820×820		258×82	20×820	258×1340×820	258×1340×820	258×1340×820
	Weight kg		26(27)	28(29)	28(29)	44(45)	44(45)	44(45)	
Grille	Dimensions (H×W×D) mm		65×95	0×950	65×950×950		65×95	0×950	65×1470×950	65×1470×950	65×1470×950	
Ö	Weight		kg	7	•	-	7	7		10	10	10
		Model name		PUH-2AKA	PUH-2VKA	PUH-2.5AKA	PUH-2.5VKA	PUH-3VKA	PUH-3YKA	PUH-4YKSA	PUH-5YKSA	PUH-6YKSA
unit	Power	supply *1		~(1ph) 240V 50Hz	~(1ph) 220- 240V 50Hz	~(1ph) 240V 50Hz	~(1ph) 220- 240V 50Hz	240V	3N~(3ph,4wires) 380/220- 415/240V 50Hz	3N~(3ph,4wires) 380/220- 415/240V 50Hz	3N~(3ph,4wires) 380/220- 415/240V 50Hz	3N~(3ph,4wires) 380/220- 415/240V 50Hz
	Fan Air flow	Air flow	CMM	4:	5	5	0 -	5	0	95	95	100
Outdoor	Motor output		kW	0.0	65	0.0	85	0.0	85	0.065 + 0.065	0.085 + 0.085	0.10+0.10
0	Compre	ssor motor output	kW	1.7		2.0		2.2	2.4	2.7	3.5	4.0
	Crank	case heater	W	38 38		3	8	38	38	38		
	Dimens	sions (H×W×D)	mm	650×870×295		850×870×295		850×87	70×295	1258×870×295	1258×970×345	1258×970×345
	Weight kg		6-	4	6	8	7	5	94	114	117	

Notes: *1 Refer to the product nameplate attached to the unit for the electrical specifications.

*2 Rating conditions (cooling) ··· Indoor: 27°C DB, 19°C WB Outdoor: 35°C DB

*3 Rating conditions (heating) ··· Indoor: 20°C DB Outdoor: 7°C DB, 6°C WB

*4 Only models PLH-2,2.5,3GKHA,4,5,6GKHSA are equipped with booster heater.

*5 These data based on indicated voltage. ~(1ph), 240V/3~(3ph), 415V

*6 Specifications subject to change without notice.

Operating range

		Indoor air intake temperature	Outdoor air intake temperature
Cooling	Maximum	35°C DB. 22.5°C WB	46°C DB
	Maximum	21°C DB. 15.5°C WB	−5°C DB
Heating	Maximum	27°C DB	21°C DB. 15.5°C WB
	Maximum	20°C DB	-8.5°C DB. −9.5°C WB

Units should be installed by licensed electric contractor accordingly to local code requirement.

					t eug est	
Ite	em	Model	PLH-2GKA	PLH-2.5GKA	PLH-3GKA	PLH-4GKSA
		W	5400	6700	8000	10900
	Cooling *2 capacity	BTU/h	18400	22900	27300	37200
0	Total input	kW	2.78	3.23	3.88	5.02
ance		W	4500	5800	6700	9400
Performance	Colling *3 capacity	BTU/h	15500	19800	23000	32100
erfo	Total input	kW	3.18	3.74	4.42	5.56
a		W	6200	7500	8800	12100
	Heating *4 capacity	kW	21000	25800	30100	41200
	Total input	kW	2.61	3.05	3.54	4.22
	Model name		PLH-2GKA	PLH-2.5GKA	PLH-3GKA	PLH-4GKSA
	Power supply *1		~(1ph),220V.60Hz	~(1ph),220V.60Hz	~(1ph),220V.60Hz	~(1ph),220V.60Hz
riit	Air flow (Lo-Hi) CMM		. 12-16	14-18	14-18	23-32
			0	0	0 .	0
Indoor	Moter output	kW	0.030	0.050	0.050	0,050+0.050
-	Dimensions (H×W×D) mm		258×820×820	258×820×820	258×820×820	258×1340×820
	Weight kg		26	28	28	44
Grille	Dimensions (H×W×D)	mm	65×950×950	65×950×950	65×950×950	65×1470×950
5	Weight	kg	7	7	7	10
	Model name		PUH-2NKA	PUH-2.5NKA	PUH-3NKA	PUH-4TKSA
	Power supply *1		~(1ph),220V.60Hz	~(1ph),220V.60Hz	~(1ph),220V.60Hz	3~(3ph),220V.60Hz
ritin	Fan Air flow	CMM	45	50	50	95
	Motor output	kW	0.065	0.085	0.085	0.065+0.065
Outdoor	Compressor motor output	kW	1.5	1.7	2.2	2.7
0	Crankcase heater W		38	38	38	38
	Dimensions (H×W×D)	mm	650×870×295	850×870×295	850×870×295	1258×870×295
	Weight	kg	66.5	74	78	94

Notes: *1 Refer to the product nameplate attached to the unit for the electrical specifications.

*2 Rating conditions (cooling) ··· Indoor : 27°C DB, 19°C WB Outdoor : 35°C DB

*3 Rating conditions (cooling) ··· Indoor : 29°C DB, 19°C WB Outdoor : 46°C DB, 24°C WB

*4 Rating conditions (heating) ··· Indoor : 21°C DB Outdoor : 7°C DB, 6°C WB

*5 Specifications subject to change without notice.

Operating range

		Indoor air intake temperature	Outdoor air intake temperature
Cooling	Maximum	35°C DB. 22.5°C WB	52°C DB
Cooling	Maximum	21°C DB. 15.5°C WB	−5°C DB
Heating	Maximum	27°C DB	21°C DB. 15.5°C WB
	Maximum	21°C DB	-8.5°C DB9.5°C WB

Units should be installed by licensed electric contractor accordingly to local code requirement.



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