



SERVICE MANUAL

PORTABLE

ROOM AIR CONDITIONER

Models: PAD-91
PAD-121

IMPORTANT NOTICE

This service manual is intended for use by individuals possessing adequate backgrounds of electrical, electronic and mechanical experience. Any attempt to repair the appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

The information, specifications and parameter are subject to change due to technical modification or improvement without any prior notice. The accurate specifications are presented on the nameplate label.

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CHAPTER 1 PRODUCTS

Window Type Room Air Conditioner

No.	Model	No.	Model
1	PAD-91	3	PAD-121-E
2	PAD-121		

CHAPTER 2 FEATURES

<i>MODE</i>	<i>DESCRIPTION</i>
COOLING	Cools, dehumidifies and filters the room air. Maintains desired room temperature.
FAN ONLY	Re-circulates and filters the room air. Maintains constant air movement in the room.
FAN SPEED HIGH LOW	1.The appliance can set at different indoor fan motor speed by pressing the FAN SPEED button on the remote controller. 2. When this symbol is being displayed on the LCD of the remote controller, the signal is transmitting from the remote controller to the air conditioner.
TEMP. SET UP DOWN	Press DOWN button once, the set temperature is decreased by 1°F. Press UP button once, the set temperature is increased by 1°F.
TIMER	Automatically switches the appliance ON at preset time intervals, ensuring a comfortable environment before you return home, or switches OFF the appliance automatically when you sleep without wasting electricity.
ENERGY SAVING	When the room temperature is higher than the setting temperature 4°F, the compressor is on. When the room temperature is lower than the setting temperature, the compressor is off and the fan motor runs low speed.. When the room temperature is lower than 66°F , the unit turns off. (For Electronic Type)

CHAPTER 3 OPERATING RANGE

Temperature rang for air conditioner

- The preset temperature of the appliance ranges from 66°F to 88°F.
- The ambient temperature of the cooling only air conditioner ranges from 64.4°F to 109.4°F.
- The rated cooling operation test condition is as following.

Indoor DB/WB temperature: 80°F /67°F

outdoor DB/WB temperature: 95°F /75°F

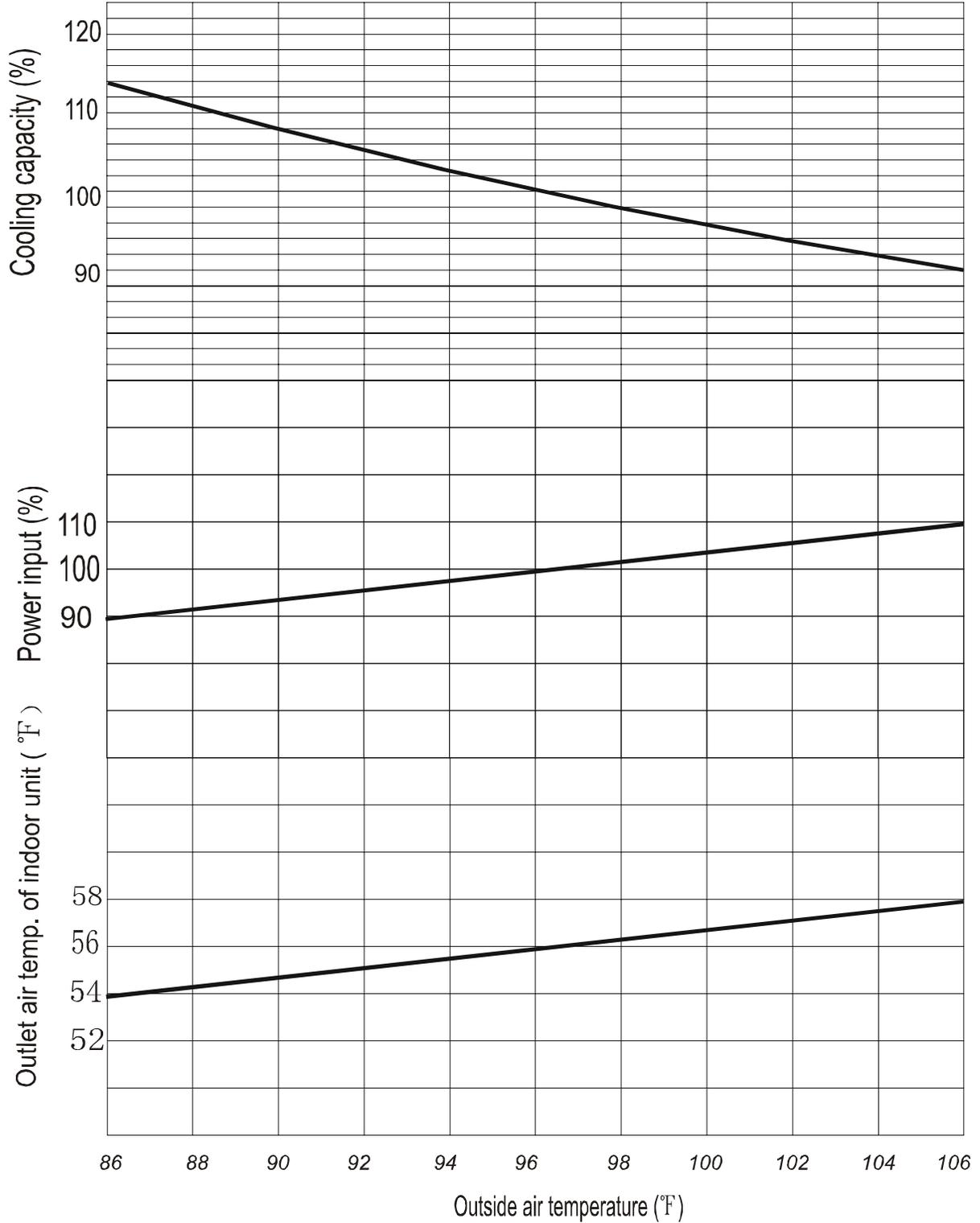
- The rated heating operation test condition is as following.
- indoor DB/WB temperature: 20°C/Max.15°C
- outdoor DB/WB temperature: 7°C/6°C

CHAPTER 4 PERFORMANCE CURVES

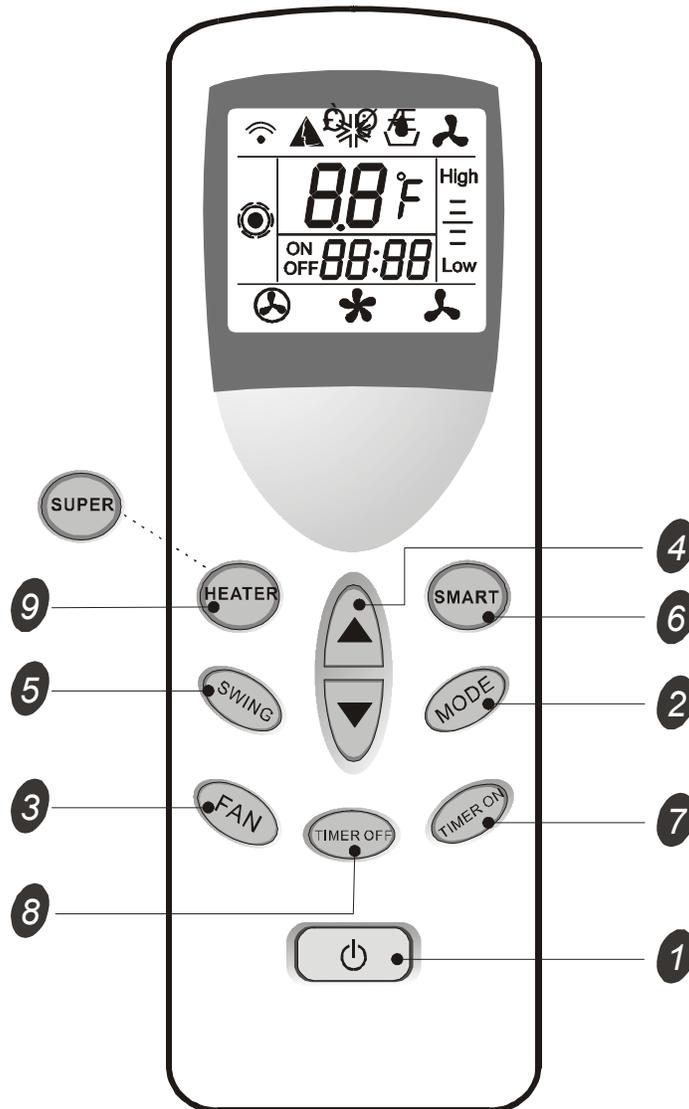
PERFORMANCE CURVE

- COOLING UNIT

Indoor air temp.: 81°F
Indoor humidity: 47%RH
Indoor fan speed: Hi



CHAPTER 6 REMOTE CONTROLLER



The remote controller transmits signals to the system.

1. ON/OFF BUTTON

- When button is pressed, the unit will start operating or stop operating, if it is in operation.

● MODE BUTTON

- Used to select operation mode.
SMART mode

COOLING mode

DRY mode

FAN ONLY mode

3. FAN BUTTON

- Used to select the indoor fan motor speed.
 - Automatic fan speed
 - High fan speed
 - Low fan speed

4. TEMPERATURE SETTING BUTTON

- Used to set room temperature.
- Used to adjust time in TIMER mode.

5. SWING BUTTON

- Press to adjust airflow direction.

6. SMART BUTTON

- Used to enter fuzzy logic operation directly, regardless if the unit is operating or not

7. TIMER ON BUTTON

- Used to set or cancel “timer on” operation.

8. TIMER OFF BUTTON

- Used to set or cancel the “timer off” operation.

9. SUPER BUTTON

- Used to start or stop fast cooling.

The indication symbols on LCD:

Indication symbols on LCD:

 Signal transmit.

 Smart indicator

 Cooling indicator

 Dry indicator

 Fan only indicator

 Auto fan speed

 High fan speed

 Low fan speed

 **BB°F** Display set temperature

High



Used to regulate temperature in Smart mode or Dry mode (See page 9 "Smart Mode" for details)

Low

ON

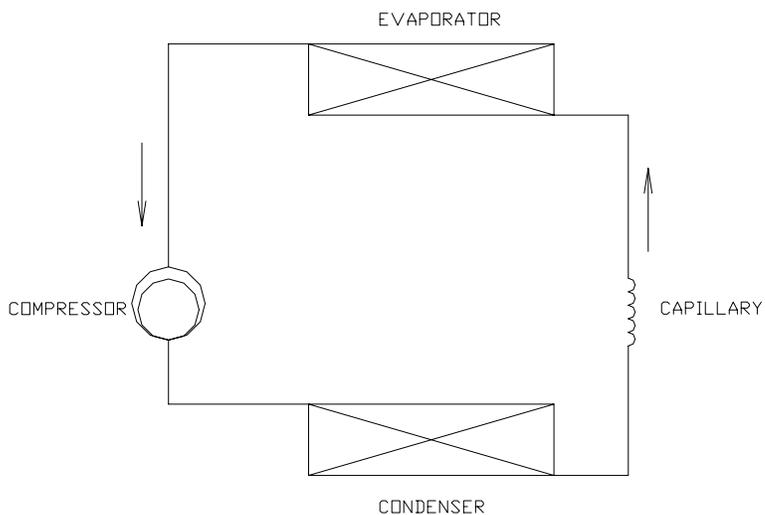
OFF

BB:BB

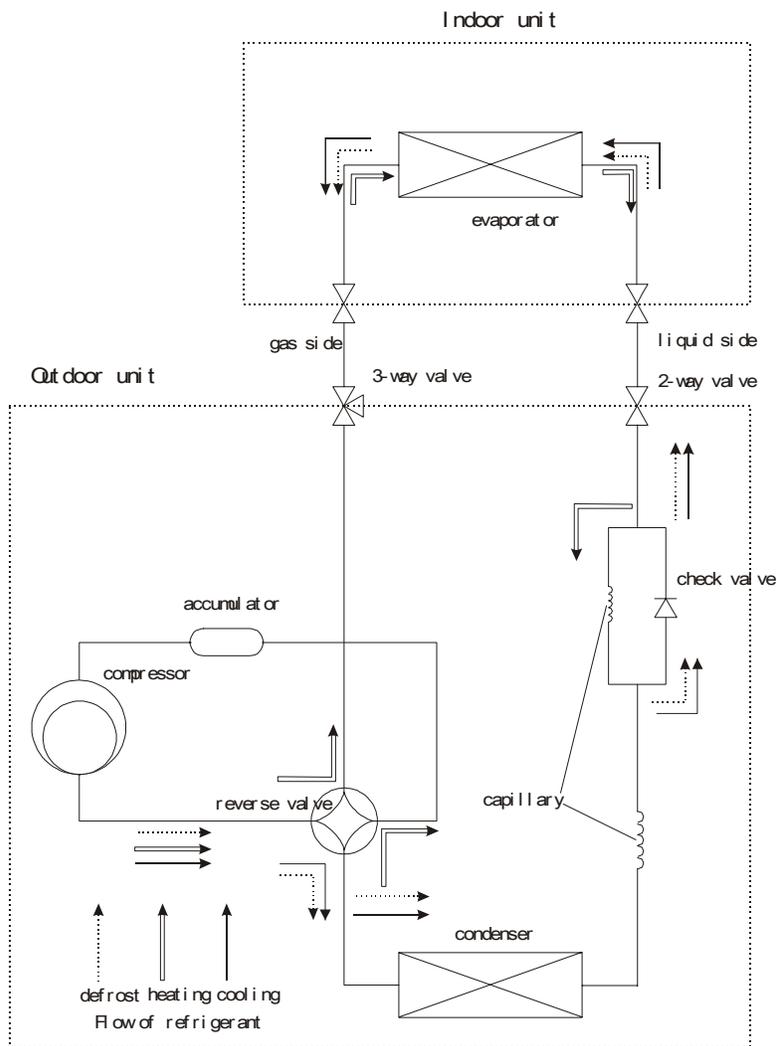
Indicator of Timer on and Timer off
Display real time

CHAPTER 7 REFRIGERATION CYCLE

1. Cooling only appliance



2. Heat pump



CHAPTER 8 INSTALLATION

1. Installation accessories

Description	Quantity
Air inlet hose Stretches from 17 ³ / ₄ (45cm) up to 70 ⁵ / ₈ (180cm)	2/set
Air outlet hose Stretches from 17 ³ / ₄ (45cm) up to 70 ⁵ / ₈ (180cm)	2/set
Window exhaust adapter	2pc
Window/patio door slider kit From 28 ³ / ₈ (72cm) up to 55 ⁵ / ₈ (140cm)	3/set

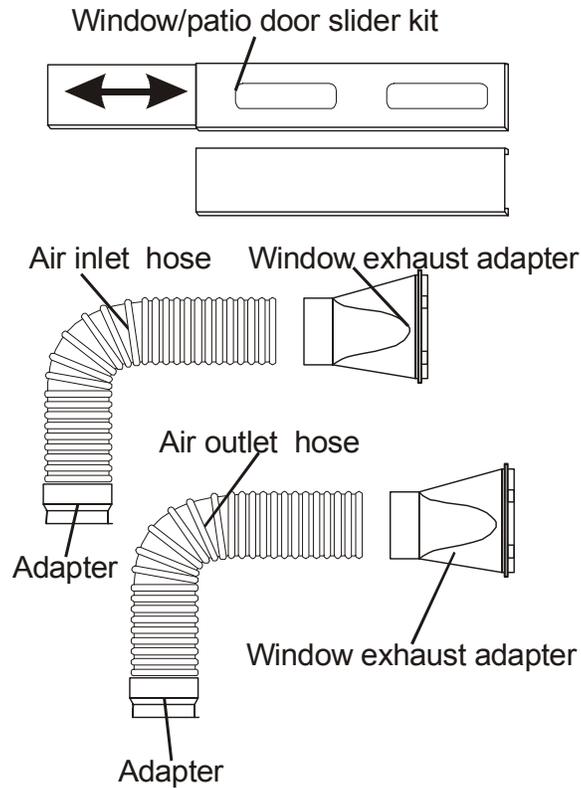


Fig .8.1

2. Window kit installation

Your window kit is designed to fit most standard vertical and horizontal window applications. However, it may be necessary for you to improvise/modify some aspects of the installation procedures for certain types of windows. Please refer to minimum and maximum window openings.(Fig 8.2 and Fig 8.3)

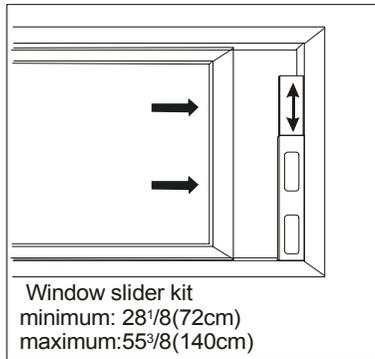


Fig. 8.2

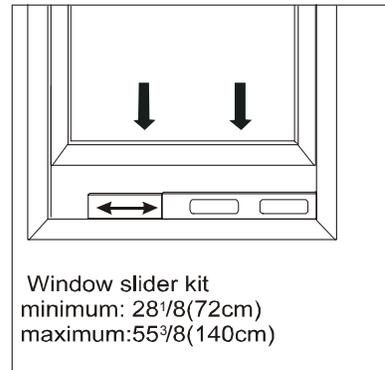


Fig .8.3

3. Select the best location

- Beside the window, door or French window.
- Keep the distance between the return air outlet and the wall or other obstacles to at least 20 inches (50cm)
- Fix one end of the air hose on the air intake or outlet at the back of the unit.
- Extend the air hose to the clearance between window, door, or French window, or wall hole.
- Air outlet or intake should not be blocked by protective grid or objects.
- The distance between two ends of the air hose should be kept at minimum of 8 inches (200mm)

Note: the cooling capacity will decrease if only the air discharge hose is used, but air outlet temperature will be lower.

Installation instruction

- Air outlet or intake opening should not be blocked by curtain, or other objects.
- Hose opening should not be block by shutters or other similar objects.
- Do not bend the air hose when assembling; keep it straight as figure 3.
- When operating in cool or dry mode, condensate will accumulate in the water tank. When the tank is full, water full indicator will light up (red) and LCD will display the sign E. The unit will stop operating.

Shut off the power supply, pull out the rubber plug in drain port at the rear of the unit, drained the water into a container or other appropriate area.

Note: water should be drained off when the water full light is on, otherwise, the appliance will not operate.

Installation sequence

Before starting the unit

1. Select a suitable location, making sure you have easy access to an electrical outlet.
2. Install the flexible exhaust hose and adjustable window slider kit as depicted in Fig.8.4

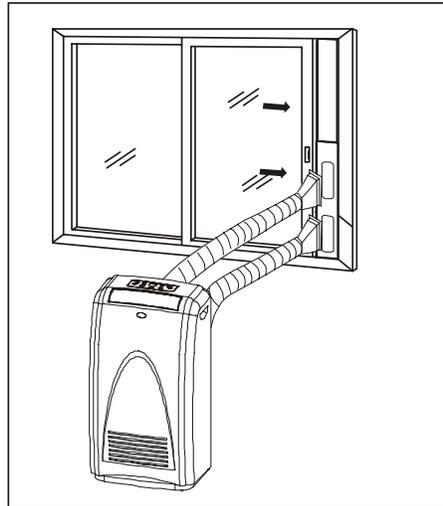


Fig.8.4

- NOTE:** 1. *Step 2 is required only if operating in cooling or dry mode, In cooling mode, you can install both hoses or just the air discharge hose. In dry mode install only air discharge hose.*
2. *When operating, the hoses should not be blocked by curtains or other objects.*
3. Plug the appliance into an 115V/60Hz grounded electrical outlet.
Note: Do not use a regular extension cord.
 4. To start the appliance, press On/Off button.

Notes

- Please read this manual before installing and using this equipment
- Test run the air conditioner after installing and record details of operation.
- Type of fuse used on indoor unit controller is 50T, with rating 2.5 A, T, 250V.
- The fuse for the unit is to be provided by the user according to the current at maximum power input. Alternatively, used a over-current protective device.

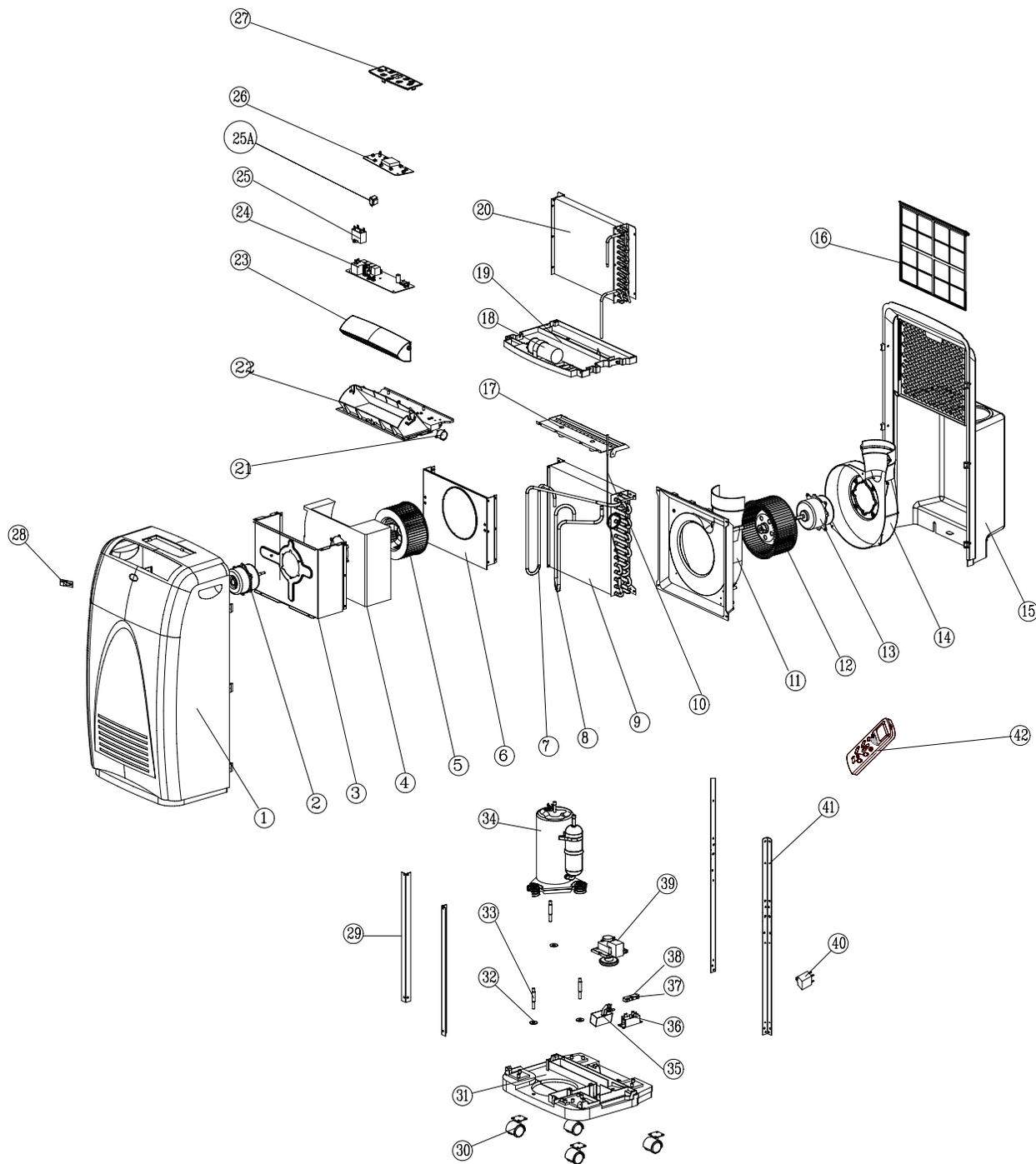
CHAPTER 9 TROUBLESHOOTING

The following cases may not always be a malfunction, please check it before calling for service.

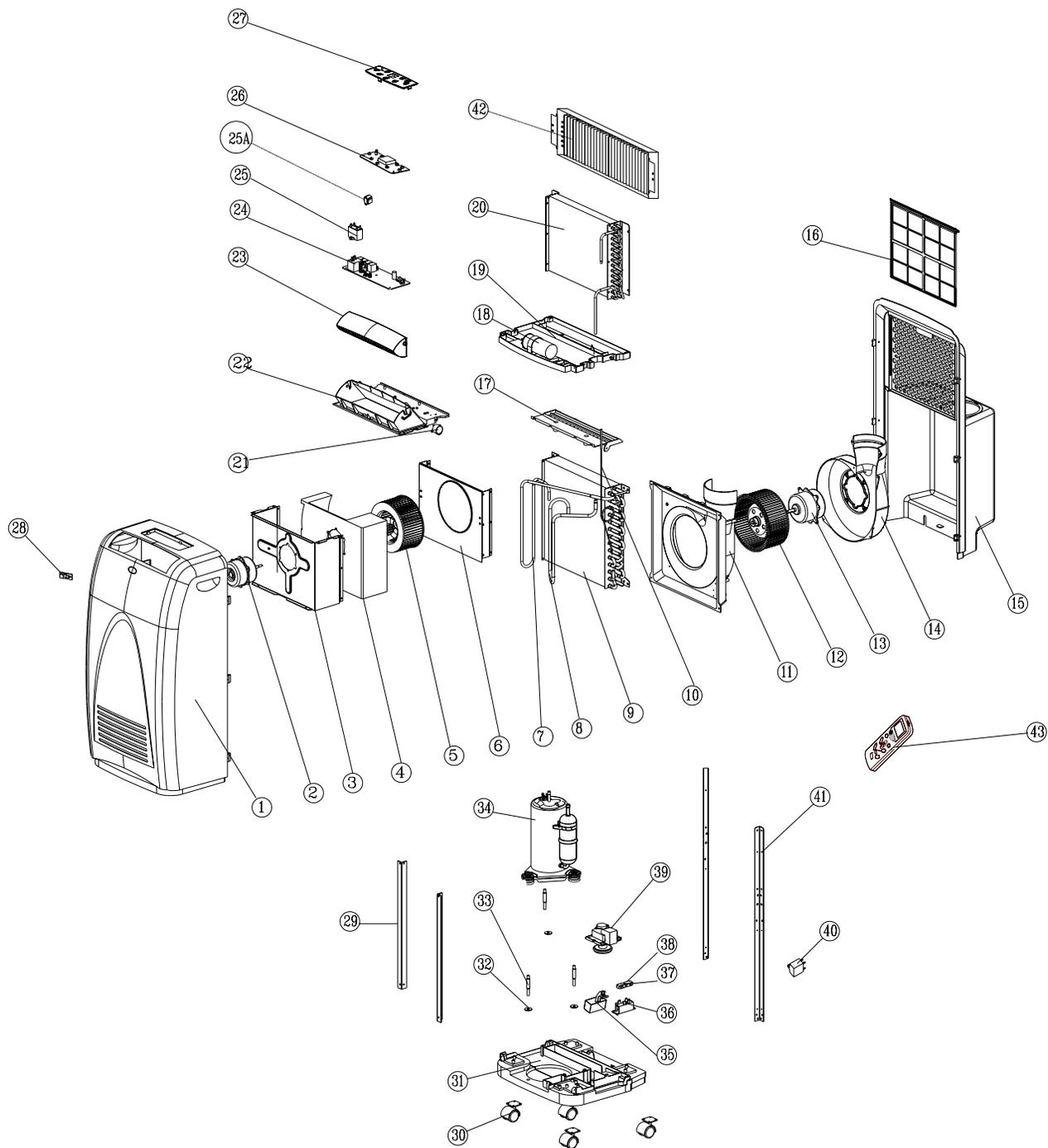
Trouble	Analysis
Does not operate	<ul style="list-style-type: none"> ● Is the fuse blown or protector tripped? ● Please wait for 3 minutes and start again, protector device may be preventing unit to start. ● Is batteries in the remote controller defective? ● Is the plug correctly plugged?
Operate for a short while only	<ul style="list-style-type: none"> ● Is the set temperature very close to the room temperature? Lower the set temperature. ● Air discharge is blocked by foreign object? Remove the foreign object.
Operating but not cooling	<ul style="list-style-type: none"> ● Is the door or window open? ● Is there is heating appliance operating in the same room, like heater. ● The air filter is clog, clean it. ● Air discharge or inlet hose is blocked. ● Set temperature is too high.
Water leaking when moving the unit.	<ul style="list-style-type: none"> ● Drain the condensate before moving.
Stop operating and water full indicator lamp lights up.	<ul style="list-style-type: none"> ● Pull out the rubber plug to drain water. ● If this is very frequent, contact the dealer.

CHAPTER 11 EXPLODED VIEW

1.Exploded View for PAD-91 & PAD-121



2.Exploded View for PAD-121- E



CHAPTER 12 SPARE PART LIST

MODEL: PAD- 91 & 121

ITEM	PART DESCRIPTION	PART NO.	Q'ty
1	Front Panel assembly	81006195	1
2	Upper Motor	8140228	1
3	Upper Motor Fixed Board	8110110	1
4	Air Channel	810124	1
5	Upper Centrifugal Fan	8101161	1
6	Oriented Board	8101027	1
7	Discharge pipe	813032124	1
8	Suction pipe (PAD-91)	813032160	1
8	Suction pipe (PAD-121)	813032122	1
9	Condenser assembly	8130181	1
10	Capillary Assembly (PAD-91)	813032157	1
10	Capillary Assembly (PAD-121)	813032119	1
11	Front air channel of Condenser	810125	1
12	Lower Centrifugal Fan	8101162	1
13	Lower Motor	8140229	1
14	Back air channel of Condenser	810126	1
15	Back Board assembly	8100912	1
16	Filter	8110521	1
17	Shower Case	8210248	1
18	Running capacitor (PAD-91)	1411986	1
18	Running capacitor (PAD-121)	1411701	1
19	Mid partition assembly	8110919	1
20	Evaporator assembly	8130180	1
22	Oriented Channel assembly	810076	1
23	Air Outlet Grid	8101028	1
24	Control PCB. Assembly	81409165	1
25	Upper Fan capacitor	1411144	1
26	Display PCB. Assembly	81409166	1
27	Control Panel	81006196	1
28	Receiver PCB. Assembly	81409167	1
29	Front Knighthead	8110222	2
30	Castors	812021	4
31	Chassis	8100282	1
32	Gasket	817042	3
33	Compressor Bolt	817028	3
34	Compressor (PAD-91)	1304444	1
34	Compressor (PAD-121)	1304443	1
35	float	8110615	1
36	relay	815043	1
37	toggle switch (high)	8141016	1
38	toggle switch (low)	8141017	1
39	Water pump assembly	8110614	1
40	Lower Fan capacitor	1411144	1
41	Back Knighthead	8110223	2
	Remote controller	81401355	1
	Discharge air hose	813031327	1
	Supply air hose	813031327	1
	circular air hose end	8130721	2
	square air hose end	8130722	2
	inline mounting plate	8120918	1
	air hose mounting plate B	8120919	1
	air hose mounting plate A	8120920	1
	accessory bracing sheet	8110117	2

MODEL: PAD-121-E

ITEM	PART DESCRIPTION	PART NO.	Q'ty
1	Front Panel assembly	81006195	1
2	Upper Motor	8140228	1
3	Upper Motor Fixed Board	8110110	1
4	Air Channel	810124	1
5	Upper Centrifugal Fan	8101161	1
6	Oriented Board	8101027	1
7	Discharge pipe	813031472	1
8	Suction pipe	813031720	1
9	Condenser assembly	8130181	1
10	Capillary Assembly	813031468	1
11	Front air channel of Condenser	810125	1
12	Lower Centrifugal Fan	81011124	1
13	Lower Motor	8140229	1
14	Back air channel of Condenser	810126	1
15	Back Board assembly	8100912	1
16	Filter	8110521	1
17	Shower Case	8210248	1
18	Running capacitor	1411986	1
19	Mid partition assembly	8110919	1
20	Evaporator assembly	8130180	1
21	Louver Motor	8140275	1
22	Oriented Channel assembly	810076	1
23	Air Outlet Grid	8101028	1
24	Control PCB. Assembly	81409243	1
25	Upper Fan capacitor	1411144	1
25A	Transformer	814058	1
26	Display PCB. Assembly	81409244	1
27	Control Panel	81006196	1
28	Receiver PCB. Assembly	81409167	1
29	Front Knighthead	8110222	2
30	Castors	812021	4
31	Chassis	8100282	1
32	Gasket	817042	3
33	Compressor Bolt	817028	3
34	Compressor	1304381	1
35	Dobber	8110615	1
36	Jiggle switch Fixer	815043	1
37	Alram Jiggle switch	8141016	1
38	Jiggle switch	8141017	1
39	Water pump assembly	8110614	1
40	Lower Fan capacitor	1411144	1
41	Back Knighthead	8110223	2
42	PTC Heater	8140426	1
43	Remote Controler	81401355	1