

DEHUMIDIFIER**2013****SERVICE MANUAL**

No.MJW-E-1207A

Model MJ-E21BG-S1-IT

Sold from 2013

CONTENTS

1. Precautions	2
2. Names and Functions of Parts	3
3. Specifications	5
4. Outer Dimensions	5
5. Wiring Diagram	6
6. Function	8
7. Technical Points	9
8. Precautions for failure diagnosis	10
9. Troubleshooting Procedure	11
10. Troubleshooting	18
11. Maintenance	19
12. Service Checklist	21
13. Precautions for Disassembly and Reassembly	22
14. Disassembly and Reassembly Hints	24
15. Parts Catalog	32

1. Precautions

Precautions

The following diagrams indicate circumstances where danger can result from mishandling the unit.



WARNING
Mishandling may result in fatal or serious injuries.



CAUTION
Mishandling may result in minor injuries or damage to your home or property, etc.

Meanings of the graphic symbols used in this manual and on the unit are explained below.



WARNING

Do not start/stop the unit by plugging/unplugging the power cord.

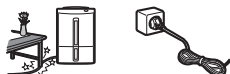
This may result in **fire and/or electric shock**.

Do not use extension cords or multiple head adapters.

This may result in **fire, electric shock or malfunctions**.

Do not damage or modify the power cord or plug.

Do not modify, bundle, twist, bend or heat the power cord. Do not place under objects or use with the end close to the plug bent. (Keep pets from biting the cord.)



The cord may be damaged resulting in **fire or electric shock**.

Do not put your fingers or any long object, into the air intake/outlet. Do not touch the swing louvre.

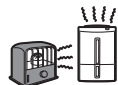
The internal fan rotates at high speeds, and such actions may result in **injury or malfunctions**.

Do not attempt to repair, disassemble, or modify the unit.



This may result in **fire and/or electric shock**. Refer servicing to your dealer or Mitsubishi Electric Service Centre.

Do not put the unit near heat-generating devices (such as stoves, fan heaters, etc.).



The plastic parts may **melt and cause fire**.

Wipe dust off the power plug and insert the plug firmly.

If the plug is not fully inserted into the socket, dust may gather on the connectors which may cause **fire and/or electric shock**.

Use 220–240V AC power sockets.

Connecting to power sockets other than 220–240V AC may result in **fire and/or electric shock**.

Remove water that has collected in the tank.

Accidentally drinking the water or using it for other purposes may cause **illness and/or unforeseen accidents**.

Should abnormal symptoms occur (a burning smell, etc.), switch off the unit and unplug it from the socket.



Continuing to operate the unit may result in **fire, electric shock, or malfunctions**. Contact your dealer or Mitsubishi Electric Service Centre for consultation.

(Note) This page is extracted from the instruction manual.

CAUTION

Do not cover the front or side air intakes or the air outlet with cloth, curtain, etc.

This results in poor ventilation and may cause **heat generation/fire**.



Do not stand on, sit on or lean against the unit.

The unit may tip over causing **injury**.

Do not put vases or any other objects filled with water on the unit.

Water may leak into the unit adversely affecting electric insulation and cause **electric shock and/or fire by short-circuiting**.

Do not use the unit where it may be exposed to direct sunlight or other weather conditions. (This unit is for indoor use only.)

This may cause **overheating, electric shock and/or fire** caused by an electric leak.

Do not use the unit in narrow, enclosed places such as inside closets, between pieces of furniture, etc.

This results in poor ventilation and may cause **heat generation and/or fire**.

Do not use combustion appliances in the path of the air outlet.

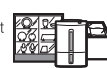
This may cause **incomplete combustion** in the appliance.

Do not use the unit in places where chemicals are used (such as hospitals, factories, laboratories or beauty salons).

Chemicals and solvents evaporated in the air may harm the unit and cause water in the tank to leak, **resulting in damage to property**.

Do not use the unit for special purposes, such as preservation of food, art or scientific works.

This may negatively affect the **quality of the items stored**.



Do not drain water continuously if there is a possibility that temperature around the hose could drop to freezing point.

Water inside the hose may freeze and prevent the water in the tank from flowing out. The water may leak from the unit and **damage surrounding objects**.

Do not use the unit in places that may be subject to oil or flammable gas leakage.

Such a leak around the unit may cause **combustion and fire**.

Do not remove the Styrofoam from the floating element.

The floating element will not be able to detect a full tank resulting in water leakage, which may **damage surrounding objects or cause electric shock and/or an electric leak**.

Do not wash the unit with water. Do not use the unit where it is likely to come in contact with water.

Exposure to water may result in **fire or electric shock caused by an electric leak**.

Do not point air-flow from the unit directly at the body.

If air-flow is directed at the body for long periods, it may **harm one's physical condition and lead to dehydration**.

Install the unit in a location where the floor is flat and stable.

If the unit falls over, the water collected in the water tank may leak damaging surrounding objects and in turn result in **fire or electric shock caused by an electrical leak**.

Grasp the plug and remove from the power socket.

When removing the plug from the power socket, do not pull on it diagonally or by the cord as this may cause the projections/wiring to be **damaged resulting in a short circuit, electric shock or fire**.

Before moving the unit always switch it off, unplug it and remove water from the water tank.

Moving the unit with water in its tank may cause the water to leak and **damage the surrounding objects and in turn result in electric shock and/or an electric leak**.

Note) This page is extracted from the instruction manual.

Precautions (Cont.)

CAUTION

After emptying the tank, transport the unit by grasping the handle firmly.

Losing your footing while carrying the unit may cause **personal injury** or **damage to the floor**.

When using the continuous drainage outlet, make sure to position the hose so that the water drains without obstruction.

The water in the tank may leak and **damage surrounding objects**.

When draining water continuously or left unattended for long periods, inspect the unit every two weeks.

Do not allow debris to clog the filter/hose as this may cause **overheating/leakage**.

Use the unit with caution in rooms where the walls, furniture and art work are vulnerable to dry air, as it may cause **cracks and warping**.

Switch the unit off and unplug from the power source when cleaning it.

When the unit is on, the internal fan rotates at high speeds and may cause **injury**.

Unplug the unit from the power source when not using the unit for an extended period of time.

Otherwise it may cause **fire and/or electric shock** caused by an electric leak.

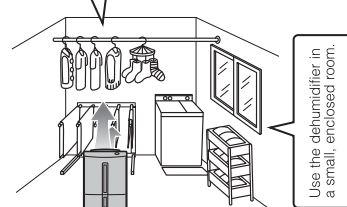
Tips on Dehumidifying

Drain the water tank before use

Refrain from opening doors/windows during operation

Drying laundry indoors

- Direct the louvres at the laundry.
- Space laundry to improve airflow.



Maintain room temperature above 16°C with a heater

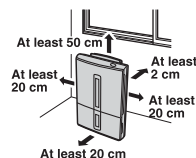
- Drying times will vary depending on the nature of the laundry and the room temperature.
- The airflow is strongest to the top right of the unit.

Installing your dehumidifier

Make sure to leave some space around the unit.

<For use in close proximity to a wall>

Stop the louvre in the vertical position. Blowing air at the wall may cause staining.



Operating noise

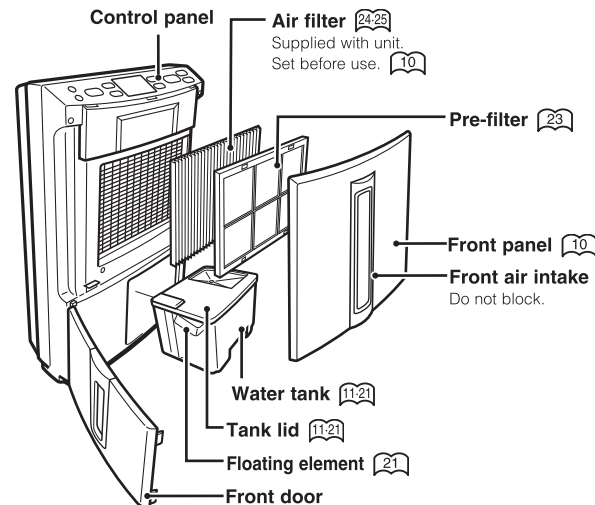
Place the unit on top of a mat. This reduces vibration and noise. It also prevents leaving depressions on carpets.



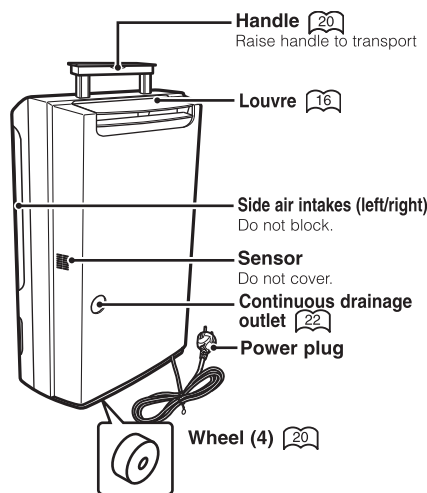
2. Names and Functions of Parts

Names and Functions of Parts

Front

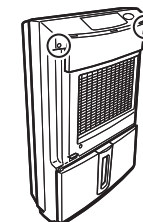


Back



NOTE

It is impossible to remove the back panel because the two spots shown are fastened with two special screws. If the unit malfunctions, contact your Mitsubishi dealer.



The water tank may contain water residue at time of purchase. This is from final product testing at the factory and is not due to a defect.

Warnings

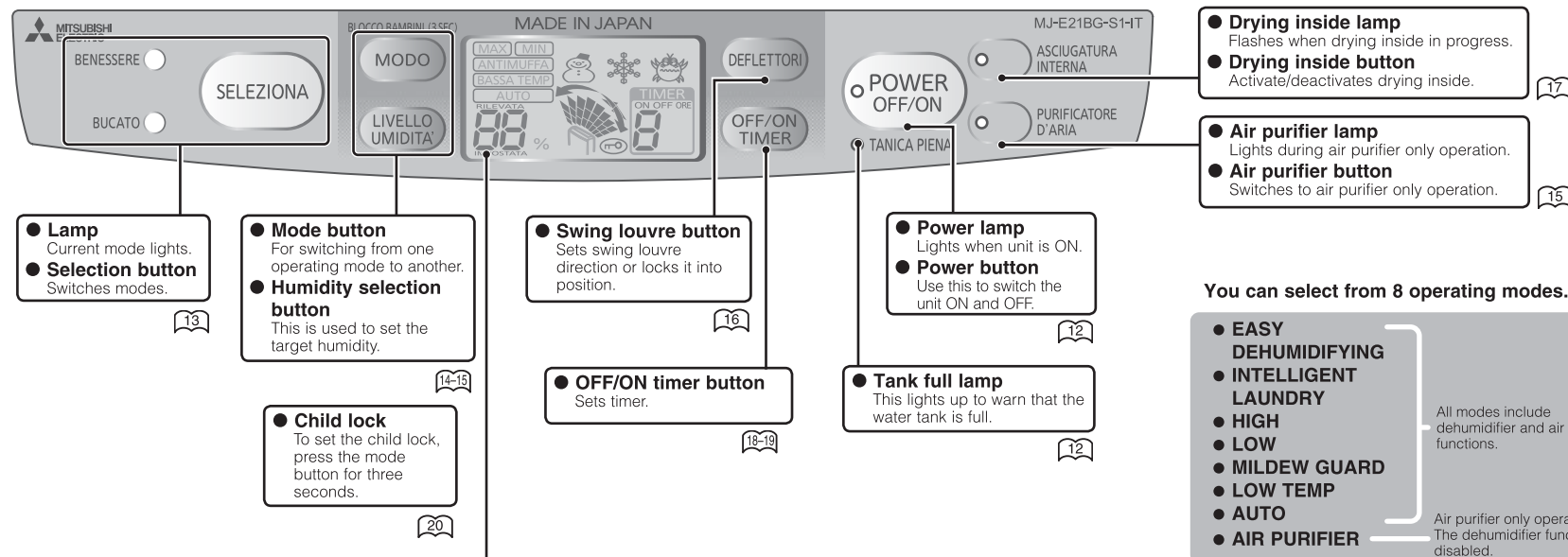
- **Keep the unit always in an upright position.** Inclining the unit may cause water in the tank to leak into the unit, **resulting in malfunction**. Should this happen contact service number on the last page for advice.
- Damage to the dehumidifier caused by atmospheric conditions (ie. Salt or Sulphur) will not be covered under warranty.

- **Do not carry or store the unit horizontally.** This may **result in malfunctions**. Such malfunctions are NOT covered under warranty.

Note) This page is extracted from the instruction manual.

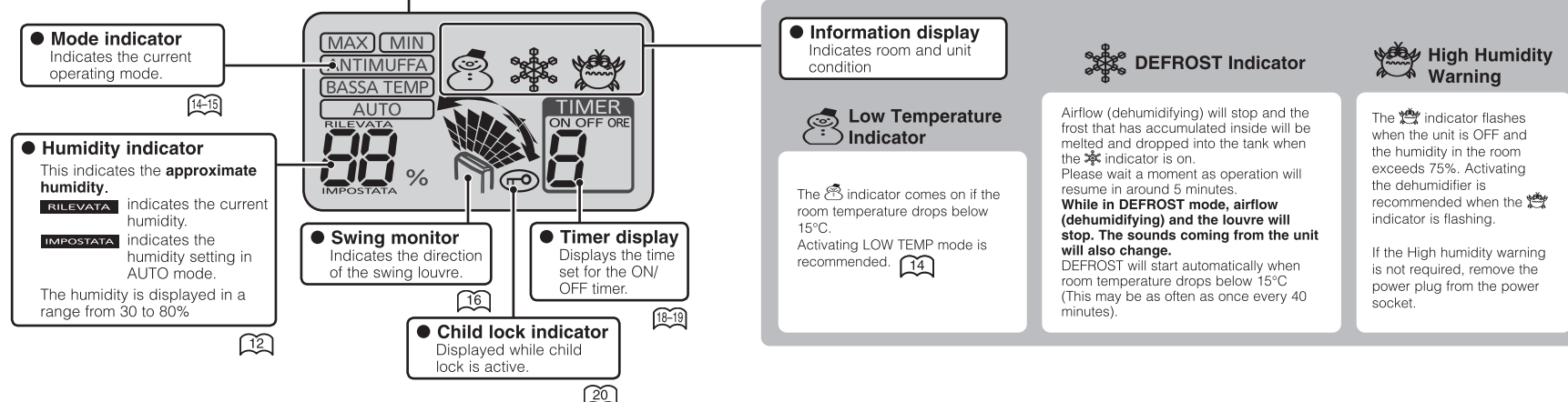
Names and Functions of Parts (Cont.)

Control Panel



LCD Panel

All indicators on the LCD panel shown below.



3. Specifications

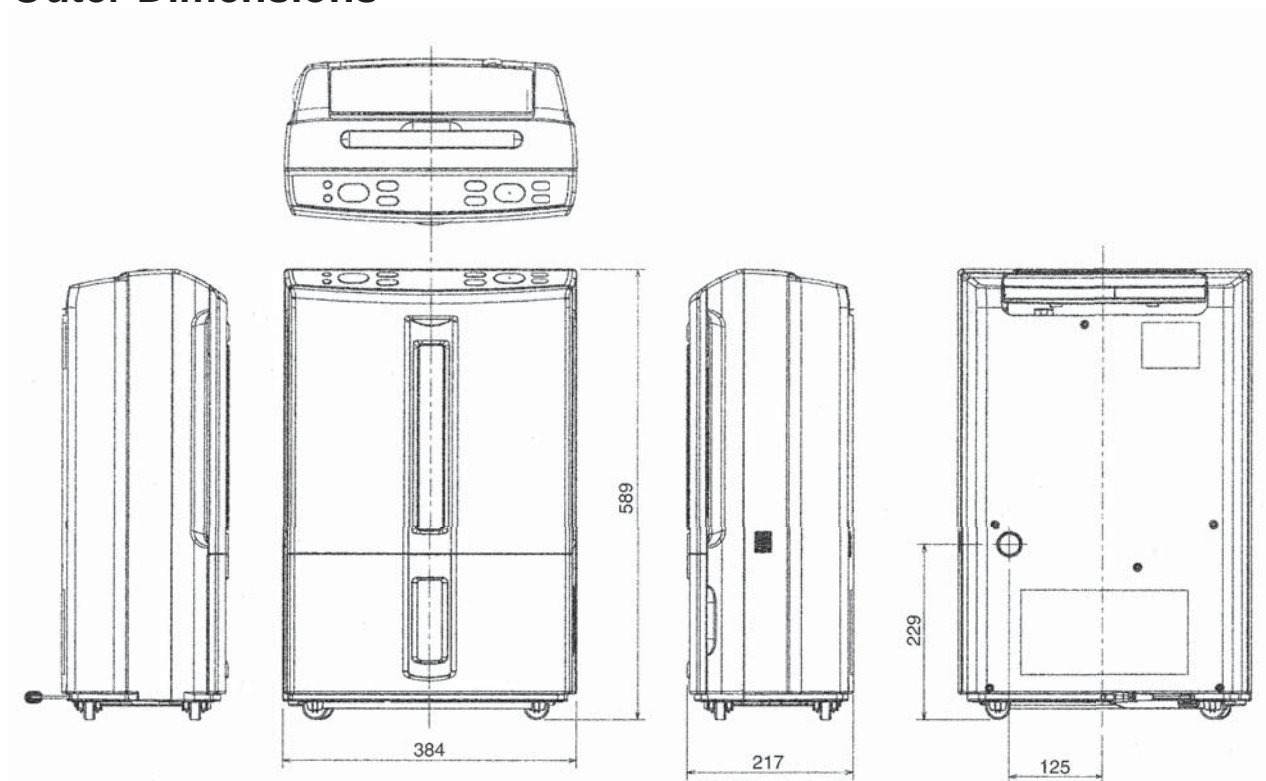
Note) This page is extracted from the instruction manual.

Specifications

Model	MJ-E21BG-S1-IT
Power supply	Single phase 220-240 V, 50 Hz
Dehumidifying capacity	21 L/day
Power consumption	380 W
Water tank capacity	Stops automatically at approx. 4.5 L
Weight	13.7 kg
Dimensions (h × w × d)	589 mm × 384 mm × 217 mm

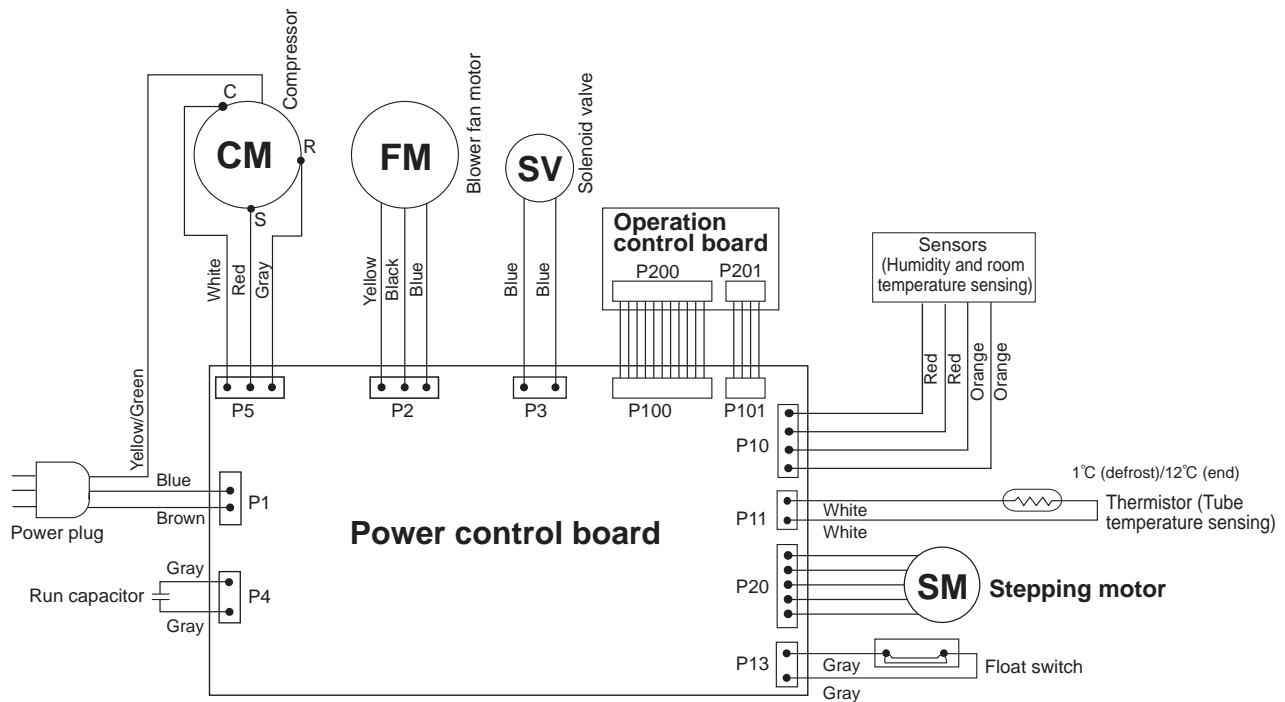
- The dehumidifying capacity is a value obtained when the dehumidifier is continuously run at a room temperature of 32°C and humidity of 80%. It indicates the amount of dehumidification per day (24 hours).

4. Outer Dimensions



5. Wiring Diagram

1) Wiring Diagram

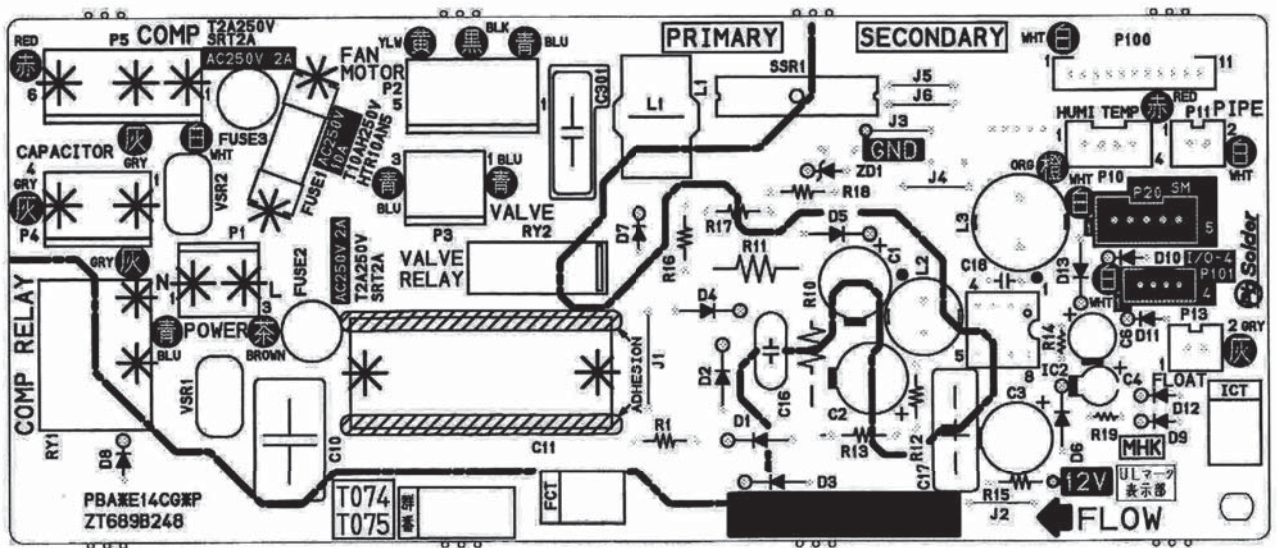


Safety Devices

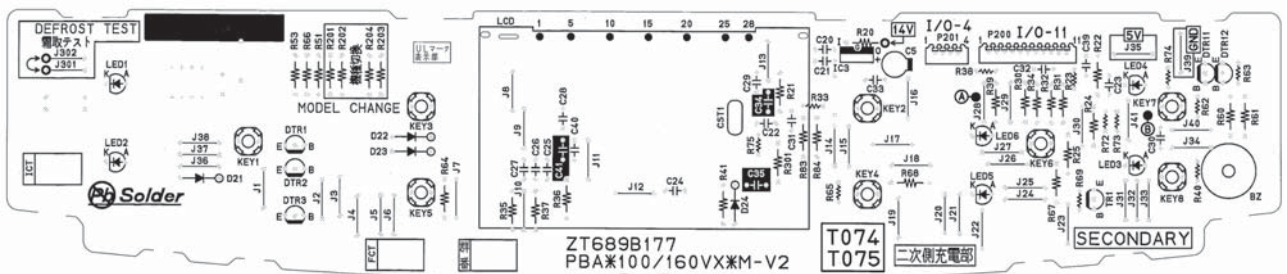
- (1) Current fuseOvercurrent flow caused by deterioration in electrical parts or other problems turns the power source to OFF.
<Current setting: 2A>
- (2) Motor protectorThe compressor stops operating if the room temperature exceeds 35°C.
(Overload relay) The compressor will also shut down when malfunctions or other problems cause the current flow to exceed 5.3A.
- (3) Control circuitryThe room temperature thermister senses temperature below about 0°C, and shuts down the compressor.
- (4) Thermal fuseWhen blower motor temperature exceeds 133°C due to blower locking or other malfunctions, blower operation shuts down.
- (5) Current fuse for compressor protection
..... If the protection by motor protector and control circuitry is not effective, the compressor shuts down when the current to it exceeds approximately 10A.
<Setting current: 10A>

2) Board Diagram

[Power control board]



[Operation control board]



6. Function

■ Function List

		Operation off	Operation mode														
			Dehumidifying operation							Air purifier	Drying inside	Full	Defrost	Off timer on	On timer being set	On timer counting	Child lock
			Auto	High	Low	Mildew guard	Low Temp	Easy dehumidifying	Intelligent Laundry								
Compressor		OFF	—	ON	ON	—	ON	—	ON	OFF	—	OFF	ON	—	OFF	OFF	—
Blower fan		OFF	—	ON	ON	—	ON	—	ON	ON	—	OFF	OFF	—	OFF	OFF	—
Solenoid valve		OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	—	OFF	ON	—	OFF	OFF	—
Swing louvre		Closed	▲	△	△	▲	△	▲	△	▲	Upward	OFF	OFF	▲	Closed	Closed	—
LED indicator	Power	×	○	○	○	○	○	○	○	○	×	×	○	○	◎	○	—
	Lamps	×	×	×	×	×	×	Dehu- midifying	Intelligent Laundry	×	×	×	□	□	■	□	—
	Air Purifier	×	×	×	×	×	×	×	×	○	×	×	×	□	■	□	—
	Full	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	—
	Drying inside	×	×	×	×	×	×	×	×	×	◎	×	×	×	×	×	—
LCD indicator	Humidity (set/current)	○	○	○	○	○	○	○	○	○	×	○	○	○	○	○	—
	Operation mode	×	AUTO	HIGH	LOW	Mildew guard	Low Temp	×	×	×	×	×	□	□	■	□	—
	Swing area	×	△	△	△	△	△	△	△	△	×	×	△	△	△	△	—
	Swing monitor	×	▲	▲	▲	▲	▲	▲	▲	▲	×	×	×	▲	×	×	—
	Off/on timer	×	×	×	×	×	×	×	×	×	×	×	×	○ Off	◎ On	○ On	—
	Mildew guard	—	×	×	×	×	×	×	×	×	×	×	×	×	×	×	—
	Defrost	×	×	×	×	×	×	×	×	×	×	×	○	×	×	×	—
	Low temp	×	☆	☆	☆	☆	☆	☆	☆	☆	×	×	☆	☆	☆	☆	—
	Child lock	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○
Button	Power	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	×
	Selection	×	○	○	○	○	○	○	○	○	×	×	○	○	○	○	×
	Mode	×	○	○	○	○	○	○	○	○	×	×	○	○	○	○	×
	Humidity Selection	×	○	○	○	○	○	○	○	○	×	×	○	○	○	○	×
	Air purifier	×	○	○	○	○	○	○	○	○	×	×	○	○	○	○	×
	Swing louvre	×	○	○	○	○	○	○	○	○	×	×	○	○	○	○	×
	Off/on timer	○	○	○	○	○	○	○	○	○	×	○	○	○	○	○	×
	Drying inside	○	○	○	○	○	○	○	○	○	○	×	○	○	○	○	×
	Child lock	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Note ○ : Display lamp/Operable

◎ : Timer - flashes when on

×

△ : Operable only when swing on/lit

▲ : Operable only when swing on and blower fan rotates

□ : LCD/LED lights at each operation mode

■ : LCD/LED flashes at each operation mode

☆ : Lights at room temperatures of 14°C or under

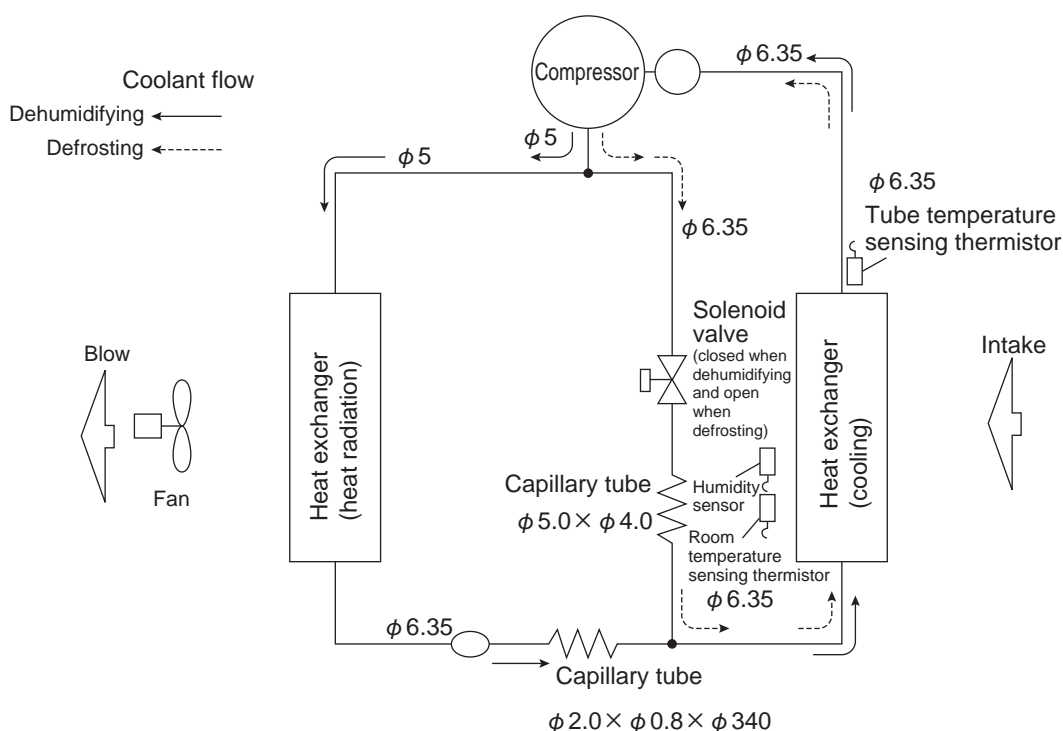
— : Varies by conditions.

ON : ON LED lit or flashing

OFF : OFF LED lit

7. Technical Points

■ Coolant Circuit



■ Performance curve

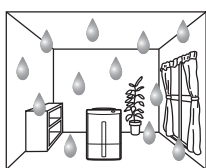
Frequently Asked Questions

Note) This page is extracted from the instruction manual.

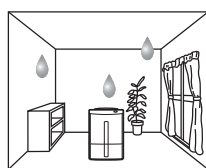
Q. Why does the dehumidifier seem to collect less water in winter?

A. When the temperature and humidity are low, the amount of water collected is decreased.

In winter, because the temperature is lower than in summer, the effect of the dehumidifier decreases dramatically as shown in the graph below. Although less water collects in the tank, this is not a malfunction.

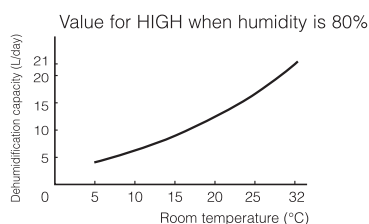


Summer (humidity)



Winter (dampness)

* If the temperature is low, but the humidity is high due to snow or rain, operating the unit in LOW TEMP mode will yield better results than in HIGH mode. 14



• The values shown on the graph were measured at constant temperature and humidity and do not reflect values obtained in actual usage conditions.

Q. • Why doesn't the dehumidifier operate?
• Why does the unit stop operating suddenly?

A. The unit might be in INTELLIGENT LAUNDRY mode.



The unit may sometimes stop operation after just a short amount of time as a result of conditions such as the room temperature and humidity. 13

A. The unit might be in EASY DEHUMIDIFYING, MILDEW GUARD, or AUTO mode.

The unit automatically switches between dehumidifying, airflow only, and non-operation. 13-15








8. Precautions for failure diagnosis


The following precautions should be observed in order to perform troubleshooting safely and correctly.
The following diagrams indicate circumstances where danger can result from mishandling the unit.

 WARNING	Mishandling may result in fatal or serious injury, or fire.
 CAUTION	Mishandling may result in minor or damage to your home or property ,etc.

Meanings of graphic symbols are explained below.


 Forbidden	 Always follow the instructions	 Alert
--	---	--

<div> WARNING</div>			
Remove the power plug from the socket.	 Unplug	When performing work with the power on, be careful not to touch the live part.	 Electric shock
Failure to do so may cause electric shock or injuries.		This may cause electric shock.	
Do not touch a rotating object until it completely stops.	 Don't touch	Do not work with wet hands.	 No wet hands
The rotating object may catch your hand etc, and result in injuries.		This may cause electric shock.	
Check the wiring diagram before wiring processing.	 Check	After the work, lay the wire out as it was before.	 Return to as it was
Failure to do so may cause combustion, generation of smoke, and/or malfunction.		Failure to do so may cause combustion, generation of smoke, and/or malfunction.	

**CAUTION**


Wear protective gloves.

Failure to do so may result in injuries by the edge of metal, electric shock, and/or burns caused by contact with hot section.

**Wear gloves**

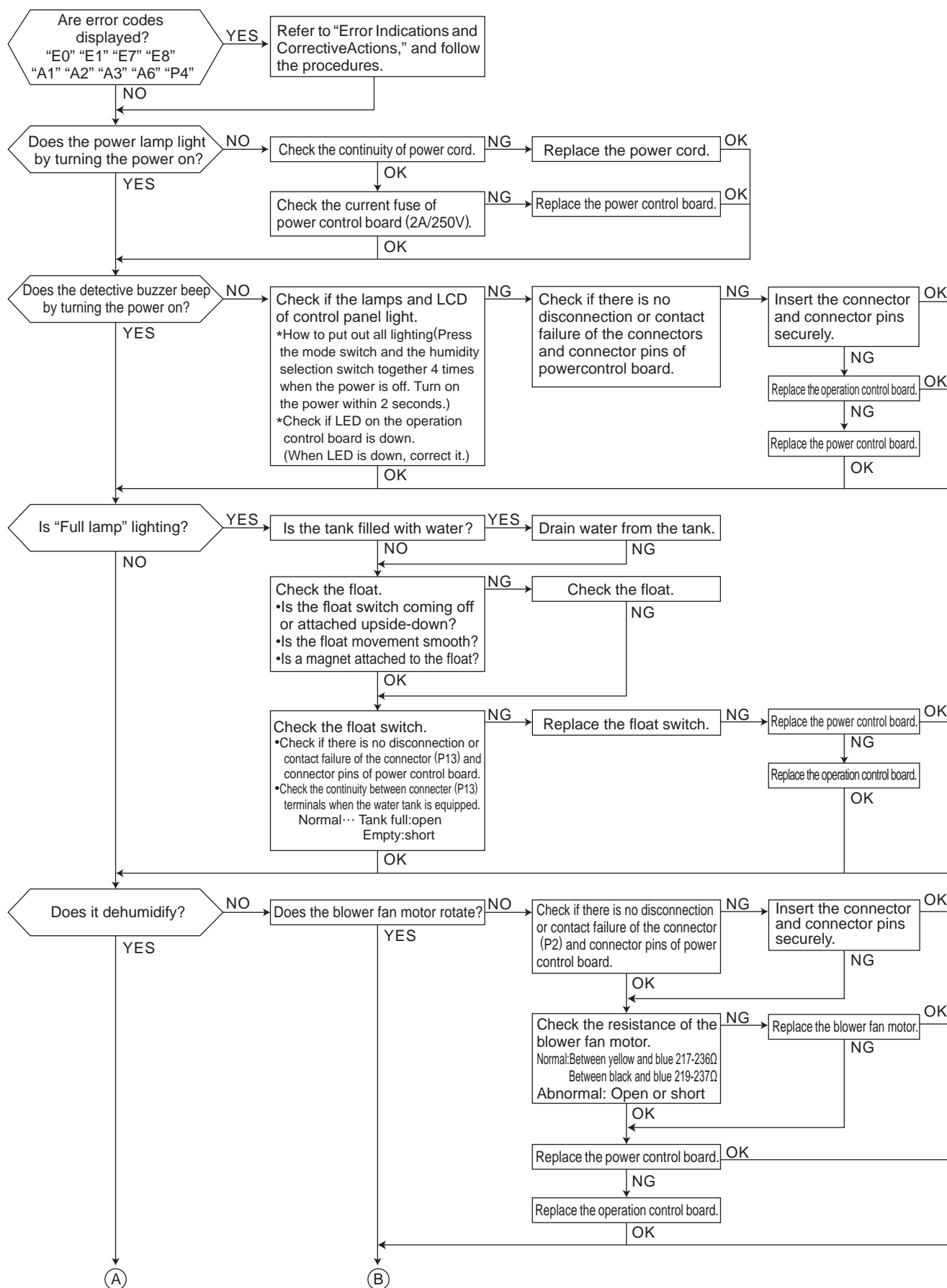
Keep children away.

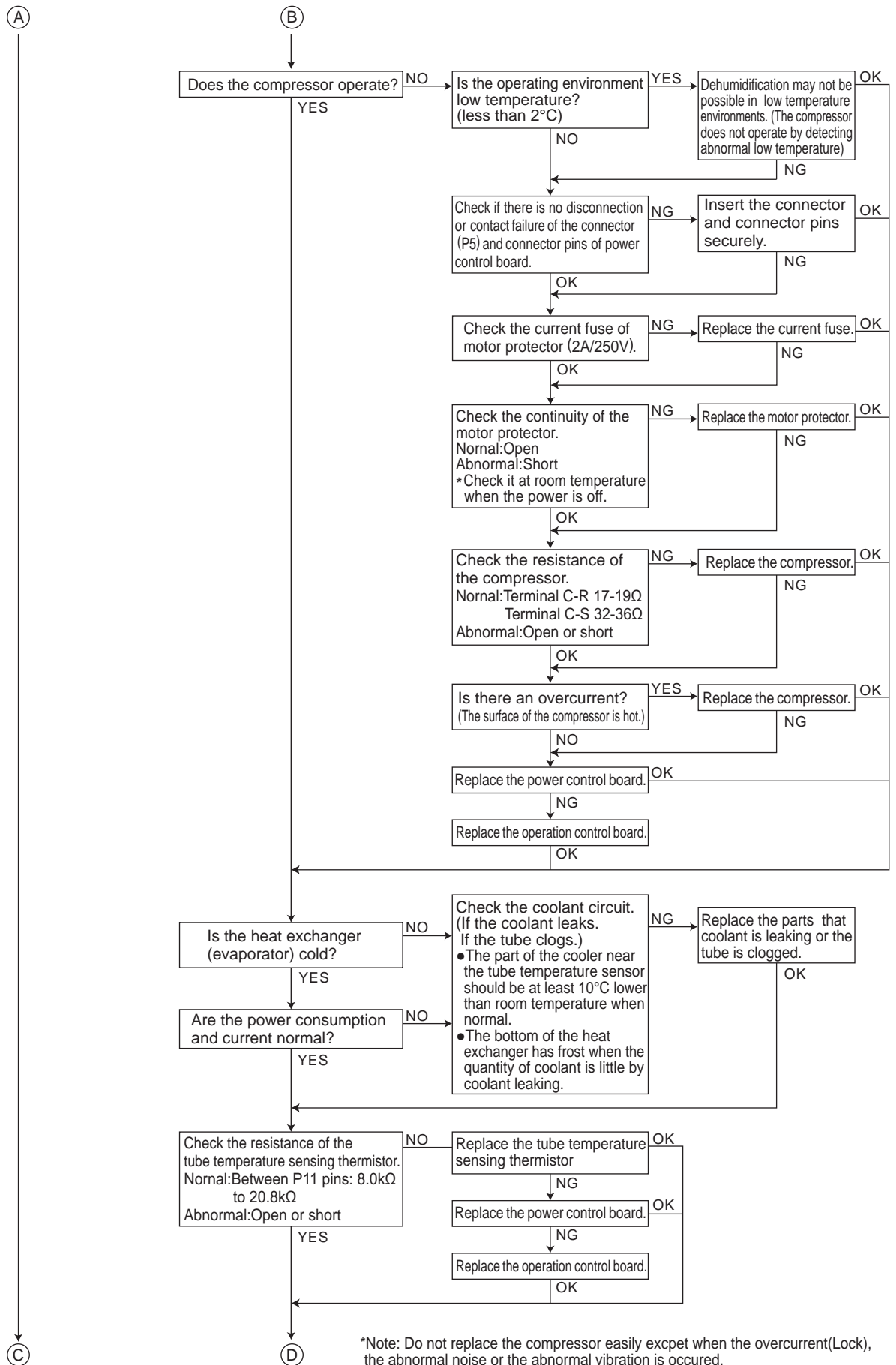
Failure to do so may result in electric shock and/or injuries when moving the unit or using a measuring device.

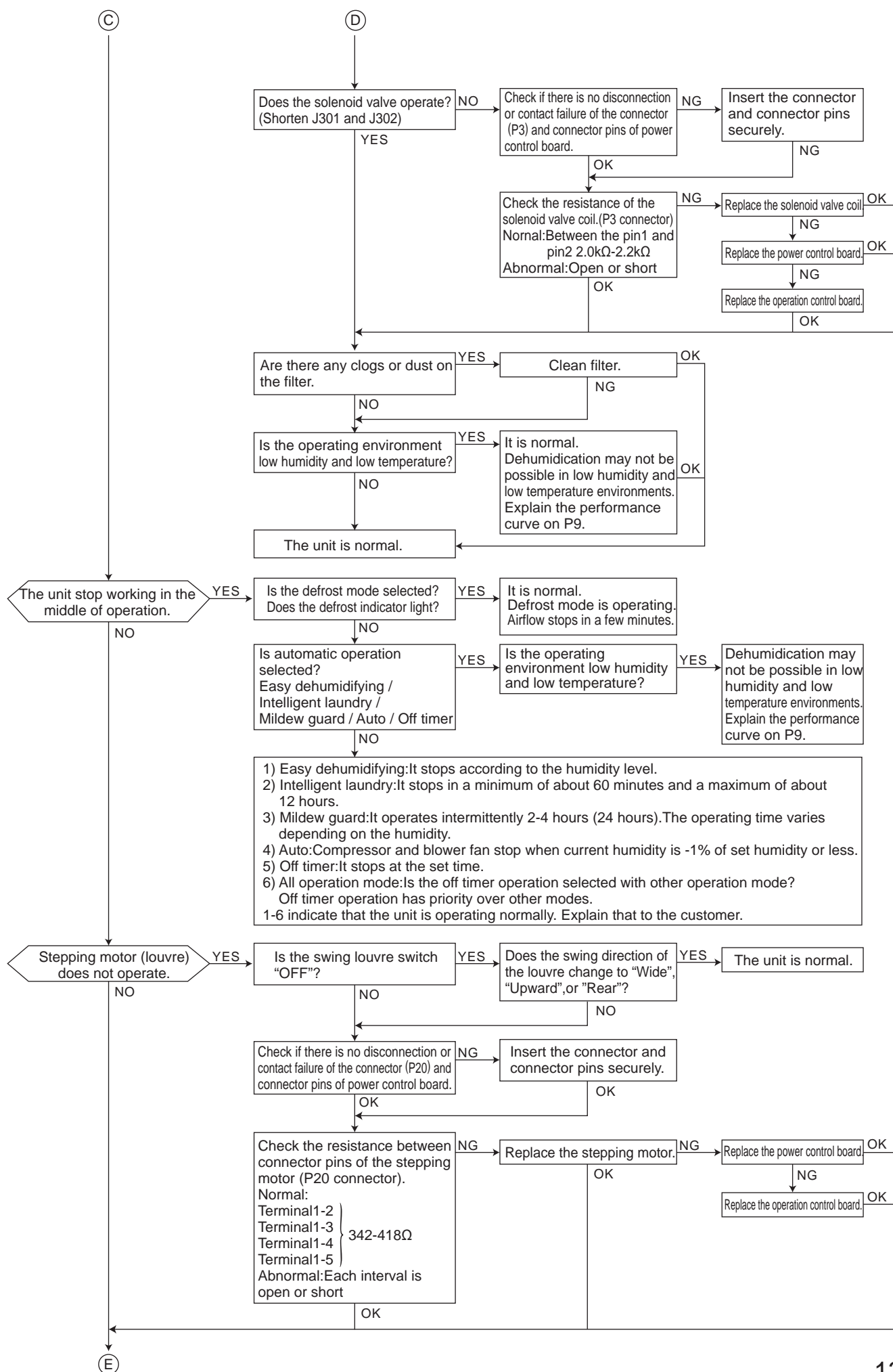
**Keep away**

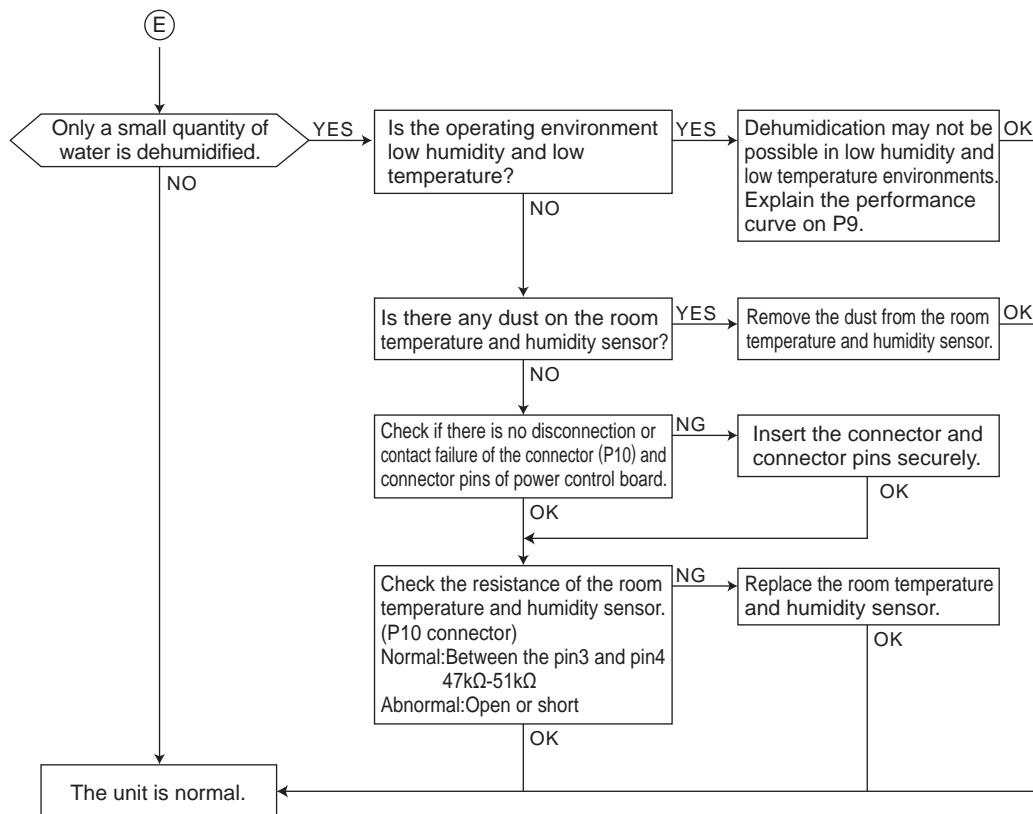
9. Troubleshooting procedure

1) Failure diagnosis flowchart









2) Simple Check Table for Main Parts

Component name	Testing procedure		
Tube temperature sensing thermistor	Detach the connector and measure the resistance using a multimeter (component temperature: 10°C to 30°C).		
	Normal		Abnormal
	Between P11 pins: 8.0kΩ to 20.8kΩ		Open or shorted
Room temperature and humidity sensor board	Detach the connector and measure the resistance using a multimeter (component temperature: 10°C to 30°C). Normal: 47 to 51kΩ (between P10 pins 3 and 4) Abnormal: Open or shorted		
Compressor	With the connector detached, measure the resistance across the terminals using a multimeter (winding temperature: 10°C to 30°C).		
		Normal	Abnormal
	C-R side	17Ω ~ 19Ω	Open or shorted
	C-S side	32Ω ~ 36Ω	
Blower fan motor	Measure the resistance between terminals using a multimeter (winding temperature: 10°C to 30°C).		
		Normal	Abnormal
	Yellow-Blue	217Ω ~ 236Ω	Open or shorted
	Black-Blue	219Ω ~ 237Ω	
Solenoid valve coil	Measure the resistance between terminals using a multimeter (component temperature: 10°C to 30°C).		
	Normal		Abnormal
	2.0kΩ ~ 2.2kΩ		Open or shorted
Stepping motor	Measure the resistance across terminals with a multimeter. (Part temperature: approx 25°C)		
		Normal	Abnormal
	Terminals 1-2	342Ω ~ 418Ω	Open or shorted
	Terminals 1-3		
	Terminals 1-4		
	Terminals 1-5		

3) Error Indications and Corrective Actions

Indication (Timer display)	Error (failure)	Corrective action
E0	P10 connector out of position Room temperature thermistor blowout	Check the P10 connection. Check the room temperature and humidity sensor board.
E1	Room temperature thermistor short Room temperature and humidity sensor board failure	
E7	P11 connector out of position Tube temperature thermistor blowout	Check the P11 connection. Check the tube temperature thermistor.
E8	Tube temperature thermistor short Tube temperature sensor failure	
A1	Microprocessor failure RAM error	Replace the main board.
A2	Frequency determination error (When power is on)	Outlet/power check (Replace the main and power supply boards.)
A3	Frequency determination error (During operation)	
A6	Watchdog timer error	Replace the main board.
P4	Compressor	Follow the "Does it dehumidify?" in the "Failure diagnosis flowchart" of P11.

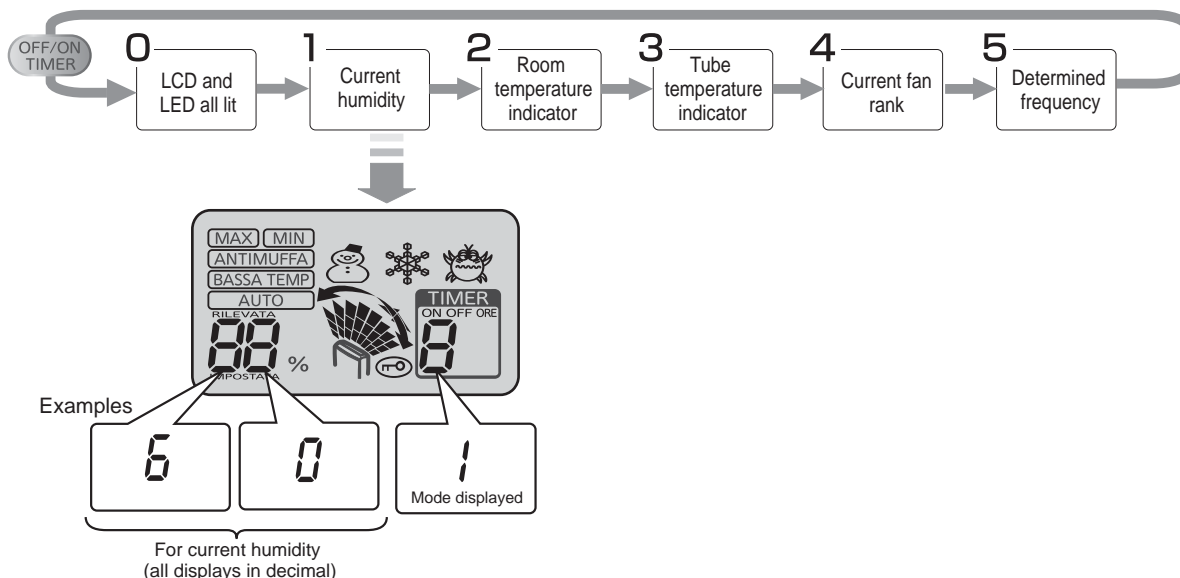
4) Self-Test Program and Execution Procedure

(1) Deactivating 3-minute restart prevent lock

- ① Start: Press the MODE and HUMIDITY SELECTION buttons together 3 times when the power is off. Press the POWER button within 2 seconds.
- ② Functions:
 - ① Deactivates 3-minute restart prevention lock (immediate operation)
 - ② Fan: Fix at rank 6 (max. airflow)
 - ③ Activates compressor
 - ④ Operating mode: Low Temp
 - ⑤ Low temperature is indicated on LCD.
 - ⑥ When E²PROM error is detected, FULL, DRYING INSIDE and AIR PURIFIER LEDs are lit.
- ③ To end: Turn power off. The solenoid valve functions for 3 seconds.

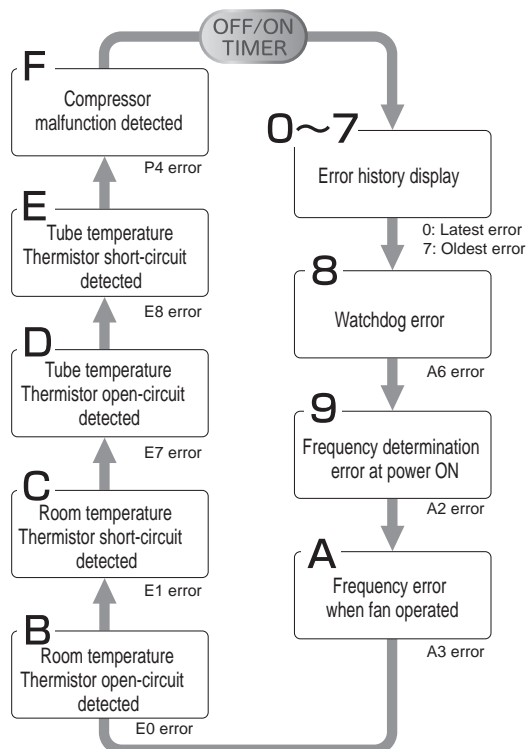
(2) LED, LCD and fan tests

- ① Start: Press the MODE and HUMIDITY SELECTION buttons simultaneously 4 times when the power is off. Press the POWER button within 2 seconds.
- ② Mode select: Use the OFF/ON TIMER button to change the diagnosis mode (0 - 5).

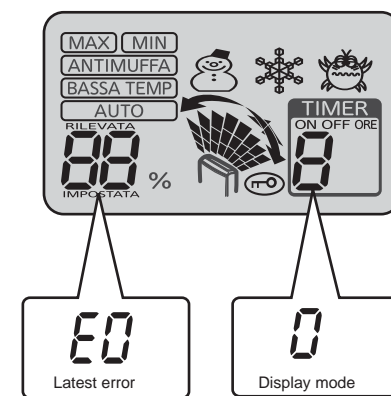


(3) Operation/Error history mode

- ① Start: Press the MODE and HUMIDITY SELECTION buttons simultaneously 5 times when the power is off. Press the POWER button within 2 seconds.
- ② Mode select: Use the OFF/ON TIMER button to select indicator mode (0-F).



Example: Latest error display



When "display mode" is 8 to F, the number of error generations is displayed in hexadecimal.
















(4) Demo program

- ① Start: With the power OFF, hold down the MODE and HUMIDITY SELECTION buttons, and press the POWER button. The demo program starts in 3 seconds.
- ② Operations (all buttons are disabled):
 - ① Fan: Fixed at rank 3
 - ② Compressor/solenoid valve: Stopped
 - ③ LCD/LED: Lights in random sequence
 - ④ Swing louvre: Wide
- ③ End: Remove power plug.






10. Troubleshooting

Troubleshooting




● For the symptoms listed below, refer to the remedies listed right.

Symptom	Cause/Remedy
The unit blows warm air	<ul style="list-style-type: none"> Dehumidified air passes through heating coils causing it to warm (this unit is not a cooler). This is not a malfunction. 
Water does not collect in the water tank (minimal dehumidifying results)	<ul style="list-style-type: none"> Check to see if the temperature/humidity is low. Low room temperature/humidity reduces dehumidifying effectiveness. Confirm the current humidity reading (in winter, the air is cooler reducing the amount of water collected). This is not a malfunction. 
The unit does not turn on (no air comes out) The unit keeps turning off	<ul style="list-style-type: none"> Check to see if the power cord is correctly plugged. → Plug the power cord properly into the power socket. 
	<ul style="list-style-type: none"> Check to see if anything is blocking the air intake or outlet. → Remove the obstruction. 
	<ul style="list-style-type: none"> Check to see if the pre-filter is clogged. → Clean according to the maintenance procedures. 
	<ul style="list-style-type: none"> Check to see if the unit is operating in "INTELLIGENT LAUNDRY" mode. The unit may sometimes stop operation after just a short amount of time as a result of conditions such as the room temperature and humidity. 
	<ul style="list-style-type: none"> Check to see if the unit is in EASY DEHUMIDIFYING, MILDEW GUARD, or AUTO. The unit is automatically controlling the dehumidifier, fan, and standby times. 
Stops after a short time	<ul style="list-style-type: none"> Check to see if the water tank is full. → Empty the water tank and return it to its original position. 
Louvre does not swing	<ul style="list-style-type: none"> Check to see if the water tank is inserted properly. → Adjust the position of the water tank. 
○ TANICA PIENA lights	<ul style="list-style-type: none"> Check to see if the unit is in defrosting mode. The unit activates defrosting mode when the room temperature drops below 15°C. The dehumidifier and blower functions stop during defrosting. 
 indicates	
The unit continues to operate even though it is turned off	<ul style="list-style-type: none"> Is the unit set to drying inside mode? This function activates automatically after the unit finishes operating. 
The humidity level does not reach the level set	<ul style="list-style-type: none"> Check to see if the room is not too large. Check to see if the exits to the room are open. → Refrain from opening doors/windows during operation. Check to see if steam producing appliances such as kerosene heaters are on in the vicinity.
The hygrometer reading on the unit differs from other hygrometers in the room	<ul style="list-style-type: none"> Hygrometer readings differ from place to place even if in the same room. Use the unit humidity reading as an estimate. 
The louvre does not move as set	<ul style="list-style-type: none"> Press the Swing louvre button again. 
The water tank contains liquid or white water residue	<ul style="list-style-type: none"> The residue is from final product testing at the factory. It is not a result of a malfunction.
There is black residue on the inside of the water tank and lid	<ul style="list-style-type: none"> The residue is from debris in the air. → Clean according to the maintenance procedures. 

Note) This page is extracted from the instruction manual.

Symptom	Cause/Remedy
The unit makes noises	The operating noise is loud/reverberates <ul style="list-style-type: none"> Check to see if the unit is on a slope or uneven surface. → Move to a sturdy even surface.  Check to see if the pre-filter is clogged. → Clean according to the maintenance procedures.  Operating the unit in small rooms or in tight spaces sometimes causes the sound to reverberate. → Place a mat underneath the unit. 
	The operating sound suddenly increases in volume <ul style="list-style-type: none"> The sound increases when the compressor activates (3 minutes after turning on the unit or during Automatic modes).
	The wind sound changes in volume <ul style="list-style-type: none"> The volume of the sound differs depending on the angle of the louvre. 
	The unit produces a simmering sound <ul style="list-style-type: none"> This is the sound of the refrigerant. The sound can be heard while the refrigerant stabilizes after the unit turns on, changes modes, or stops.
	The unit produces a buzz that sounds intermittently (or the compressor does not activate) <ul style="list-style-type: none"> This is the sound of the compressor. In modes that monitor the humidity level or during drying inside, the compressor operates intermittently causing the sound to be heard occasionally. The compressor does not activate after turning the unit off, or for 3 minutes after plugging the unit into a power socket. (This is to protect the compressor from damage.) 
The unit produces an odour	When first used <ul style="list-style-type: none"> The heat converter heats rapidly causing a brief odour. This is not a malfunction.
	During drying inside <ul style="list-style-type: none"> The moisture expelled from inside the unit may smell due to odorants that were not caught by the air filter dissolving in the water. This is not a malfunction.

● Error message (Humidity indicator)

Digital display	Cause/Remedy
A2 or A3 is displayed	<ul style="list-style-type: none"> Check to see if the power cord is plugged into the power socket properly. → Plug the power cord into the power socket properly. 
P4 is displayed	<ul style="list-style-type: none"> Check to see if anything is blocking the air outlet. → Remove the obstruction, and plug the power cord into the power socket again.  Check to see if the pre-filter is clogged. → Clean according to the maintenance procedures. 
A1, A6, or E0 through E8 is displayed	<ul style="list-style-type: none"> Malfunction → Take note of the error message, unplug the power cord, and contact the place of purchase.

- If the symptoms persist even after following the prescribed remedies, or the error message does not disappear, unplug the power cord, and contact the place of purchase.
- If the supply cord is damaged, it must be replaced by the manufacturer, its services agent or similar qualified persons in order to avoid a hazard.

11. Maintenance

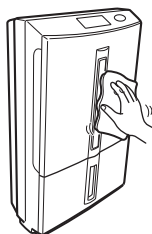
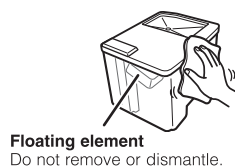
Maintenance

Do not use detergents, cleaning agents for heat exchange equipment, abrasive powders, chemically treated dusters, gasoline, benzene, thinners or other solvents, as they can damage the unit or the water tank, which may result in leakage.

Cleaning

Water tank • Main unit

Wipe with a soft cloth.



- The unit draws in dust present in the air, and this may cause the tank to **gradually become dirty**. If the dirt does not come off easily, wash with cold or warm water, then wipe with a soft, dry cloth.
- Mildew may form in the tank unless kept clean.

Once every two weeks

Pre-filter

Debris clogging the pre-filter reduces the effectiveness of the dehumidifier. Clean once every 2 weeks.

For maintenance procedures see 10

- 1 Remove the front panel and pre-filter.
- 2 Remove the air filter.
- 3 Clean the pre-filter.



- 4 Fit the air filter.
- 5 Attach the pre-filter and front panel.

Note) This page is extracted from the instruction manual.

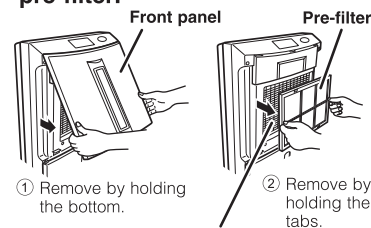
Maintenance (Cont.)

Once every three months

Air filter

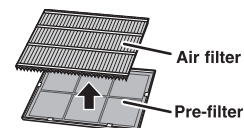
Soak the filter in water about once every three months.
For maintenance procedures see 10

- 1 Remove the front panel and pre-filter.



Performance is unaffected even if the metal fins inside the main unit are slightly bent.

- 2 Remove the air filter.



- 3 Soak the air filter in water.



Soak in cool to lukewarm water for 30 minutes.

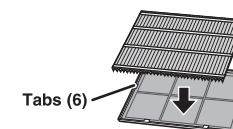
Do not use detergent or hot water. Also, do not brush or rub while soaking as this may damage the filter.

- Stains may remain on the filter, but should not affect performance.
- The filter can be soaked for a total of eight times.
After that, replace with a new filter.

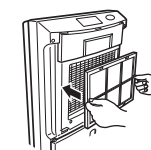
- 4 Dry the air filter.

**Do not hang with pegs as this may damage the filter.
Do not use the filter while wet.**

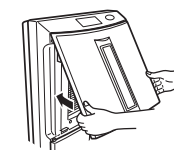
- 5 Fit the air filter.
With the strips facing up, set the air filter inside the tabs on the pre-filter.



- 6 Attach the pre-filter and front panel.



① Attach by holding the tabs.



② Hook the top edge to the top part of the unit and push the bottom in.

Replacement Parts

The air filter is a consumable item.

Replace the filter when it becomes time for replacement.

Replacing the air filter

Although the air filter lasts roughly 2 years, replace it when:

- You have soaked the filter 8 times.
- The air filter has turned brown due to cigarette smoke or black with dust.

Filter life differs on usage and environmental conditions.

Remove the front panel and pre-filter to replace the air filter.

For maintenance procedures see  10

Parts sold separately

Air filter for replacement

- Type: MJPR-ECGFT
- Type code: 5C7 859

For these items contact your nearest Mitsubishi Electric dealer.

Storage and Disposal

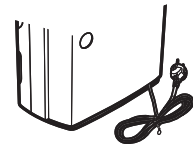
Storage

After switching the unit off, leave for one day until any water inside has had time to run off, then carry out the following steps.

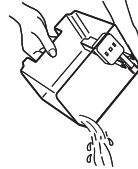
1 Perform drying inside. 17

Performing drying inside to prevent mildew growth is recommended.

2 Bundle power cord.



3 Remove the drainage water. 21



Empty the water tank and wipe away any remaining drops of water.

4 Clean the pre-filter. 23



Remove grit with vacuum cleaner

5 Store the unit.

- When you are sure that all parts of the unit are dry, cover it with a cloth to keep it from dust.
- Store the unit in an upright position in a place not exposed to direct sunlight.

When disposing the unit

Dispose according to the garbage regulations in your district.

- Air filter
Material: PET and PS
- Unit
Do not disassemble. Dispose according to the garbage regulations in your district.

12. Service Checklist



(1) Points to be checked after completing repairing

After completing repairing, check the all items below to prevent re-repair.

Check items		Check
At installation	Was the proper tool used?	
	Are the parts on the parts catalog used?	
	Verify that there is no problem in the lead wire (layout and connection) and/or clamp.	
	Verify that there is no defect, such as lead wire caught in other parts, damage, and/or intermediate connection.	
	Verify that there is no defect, such as deteriorated or damaged power cord and/or intermediate connection.	
	Verify that there is no slack and/or damage to power cord.	
	Are the connectors and metal terminals inserted securely?	
	Verify that there is no abnormal sound of the motor etc.	
	If electrical parts are replaced, was the insulation performance checked?	
	Verify that there is no insufficient inserting or gap in the fitting and/or calking sections.	
	Is the cushioning attached without fail? Is the parts requires silicon coating surely coated with silicon?	
	Are the all sorts of specified screws on the parts catalog used?	
	Are the all sorts of packing, washers, etc. installed without fail?	
	Are the waterproofing and rust prevention performed on the products which require those treatment?	
Installation conditions	Is the unit installed at the flat place?	
	Is the unit installed at the stable place? (The unit is not easy to fall down?)	
	Is a firm ground selected for the installation place? (Be careful with a hollow floor, corrosion, etc.)	
	Is there enough space around the unit? (Is there no wall, ceiling, curtains, etc. near the unit?)	
	Verify that the unit is not installed where it is exposed to direct sunlight or near heat- generating devices.	
	Verify that the unit is not installed in a special environment. (places where chemicals are used or there is a lot of dust.)	
	Is the product which requires earthing correctly earthed? (Do not connect the earth wire to a water pipe or gas pipe.)	
Operation check	Is the installation criteria described in the instruction or installation manual fulfilled?	
	Is the power on when you turn it on?	
	Is the basic operation described in the instruction manual successfully performed?	
	Verify that there is no problem in operation around the open and close part, rotation part, slide part, etc.	
	Verify that no abnormal sound or smell is emitted.	
Explanation after repair	Is the power off when you turn it off.	
	Explain the content of repair, check, and/or adjustment to the customer well.	
	Tell the customer to read the instruction manual well to use this dehumidifier.	
	Tell the customer not to disassemble the product.	
	Explain to the customer if the installation place is not good or if there is more efficient way.	














13. Precautions for Disassembly and Reassembly

The following precautions should be observed in order to perform disassembly and reassembly safely and correctly. The following diagrams indicate circumstances where danger can result from mishandling the unit.

 WARNING	Mishandling may result in fatal or serious injury, or fire.
 CAUTION	Mishandling may result in minor or damage to your home or property etc.







Meanings of graphic symbols are explained below.

 Forbidden	 Always follow the instructions	 Alert
--	---	--

 WARNING	
Remove the power plug from the socket.  Unplug Failure to do so may cause electric shock or injuries.	When replacing parts, use the specified parts listed on the parts catalog.  Return to as it was Failure to do so may cause combustion, smoke, and/or malfunction,
Do not touch a rotating object until it completely stops.  Don't touch The rotating object may catch your hand etc, and result in injuries.	Do not work with wet hands.  No wet hands This may cause electric shock.
Check the wiring diagram before wiring processing.  Check Failure to do so may cause combustion, generation of smoke, and/or malfunction.	After the work, lay the wire out as it was before.  Return to as it was Failure to do so may cause combustion, generation of smoke, and/or malfunction.
Do not alter the product.  No alteration This may cause fire, electric shock, and/or injuries.	Comply with the law.  Obey the law Follow the applicable laws and regulations, such as "Fire Prevention Ordinance" and "Electric Equipment Technical Standards." Failure to do so may cause fire and electric shock.
Use appropriate tools.  Use proper tools Failure to do so may result in an accident caused by contact failure or loose parts.	Earth the product which requires earthing correctly.  Earth Incomplete earthing or connection to a gas pipe, water pipe, etc. may cause an explosion or electric shock.
Do not damage or process the power cord or lead wire.  Forbidden This may cause fire, combustion, and/or electric shock.	Replace the damaged or deteriorated power cord or lead wire.  Replace Failure to do so may cause fire, combustion, and/or electric shock.



CAUTION

Wear protective gloves. Failure to do so may result in injuries by the edge of metal, electric shock, and/or burns caused by contact with hot section.	 Wear gloves	Keep children away. Failure to do so may result in electric shock and/or injuries when moving the unit or using a measuring device.	 Keep away
Do not put the unit where it may burn. This may cause fire, or combustion.	 Do not install unit	Check the firmness of installation location. The product may fall down, which could cause an accident or injuries.	 Check
Perform operation check after reassembly. Failure to do so may result in an accident or malfunction.	 Operation check	Do not wash the unit with water. This may result in fire, combustion, or malfunction	 No water

Safety precautions for the inspection and service

1. When the service requires disassembly, be sure to remove the power cord from the outlet.
2. When it is necessary to perform the work with the power on, be careful not to touch the live part.
3. Use appropriate tools for the work.
4. Use the specified parts listed on the "Parts Catalog" of the applicable model.
5. Check the deterioration of the power cord and lead wire at service.
Replace the damaged or deteriorated power cord and lead wire.
6. After the service, perform the operation check.
Verify that the tank full detection works properly and the unit operates without a problem.

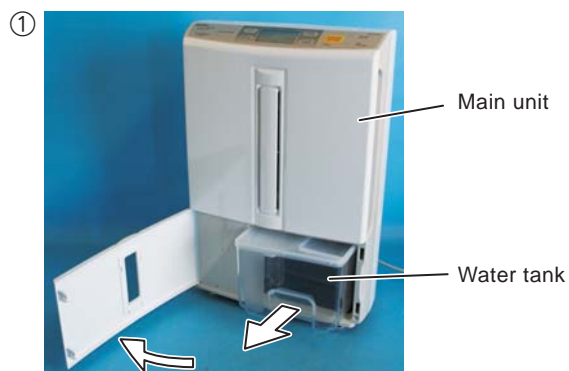
14. Disassembly and Reassembly Hints

【Precautions for disassembly】

- Connection should be performed without fail, especially when screws are used for it. Tighten the screws in that case.
- When the cable tie fixing the lead wire is cut, be sure to replace it with a new one.
- Removed lead wire should be fixed to a clammer etc. and perform wiring.

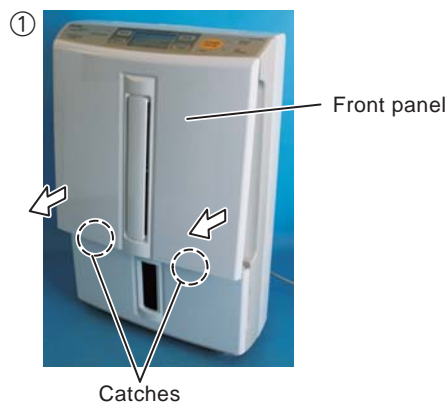
(1)Removing the water tank

- ①Open the front door and pull out the water tank.→(Removing the water tank)

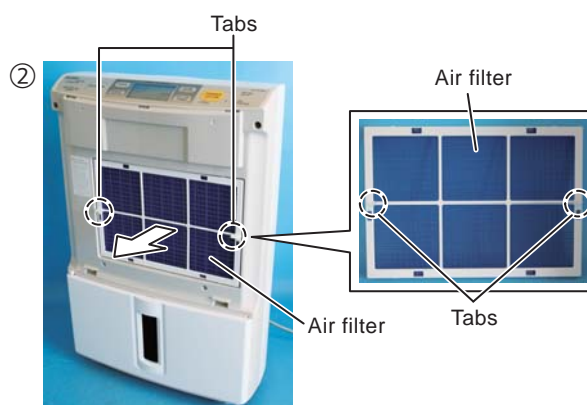


(2)Removing the front panel and air filter

- ①Push the front panel downward, and pull toward you (to release the catches on the bottom). Push up to remove.
→(Removing the front panel)

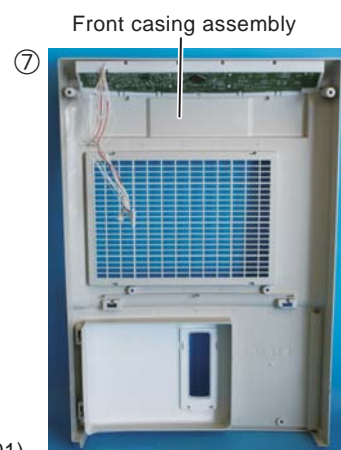
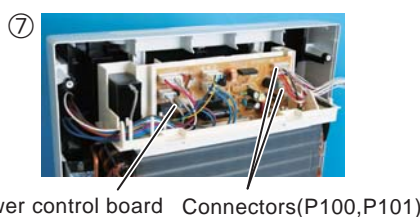
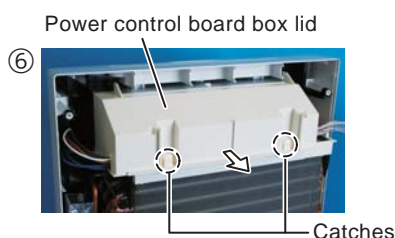
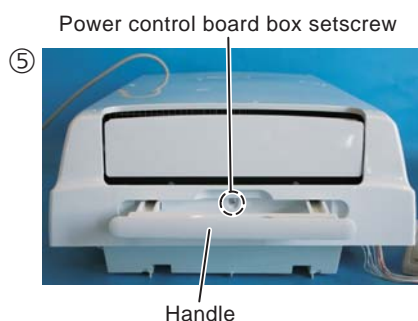
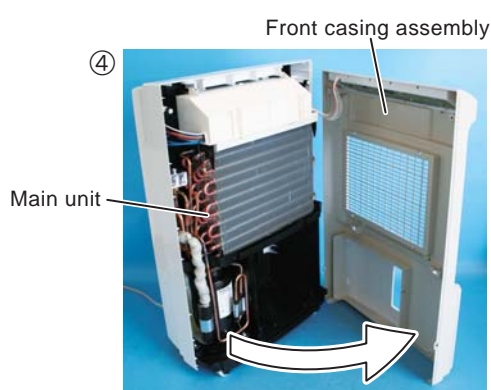
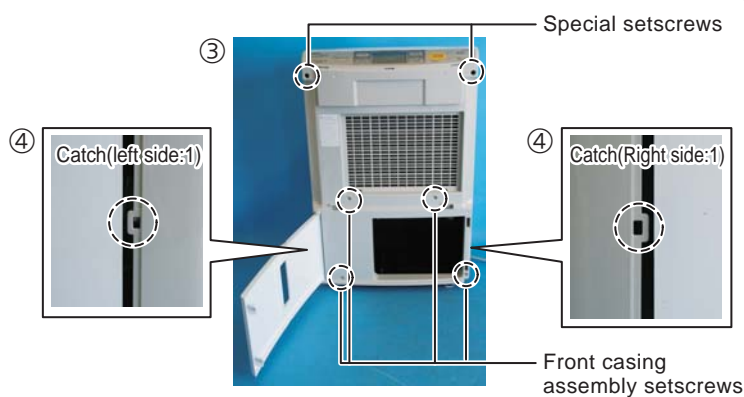


- ②Hold the tabs and pull the air filter toward you to remove.
→(Removing the air filter)



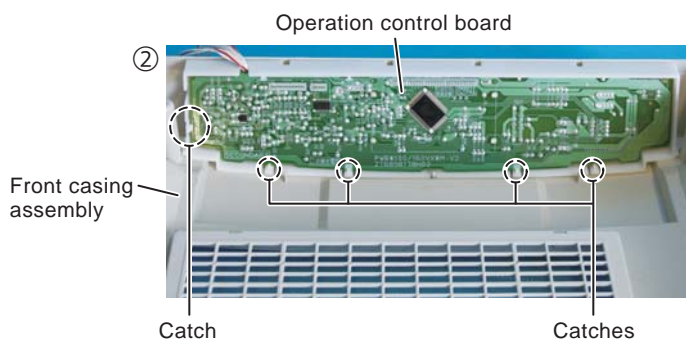
(3) Removing and replacing the front casing assembly

- ① Remove the water tank.
→ (Reference: (1) Removing the water tank)
- ② Removing the front panel assembly and air filter.
→ (Reference: (2) Removing the front panel and air filter)
- ③ Remove the special setscrews (2) and front casing assembly setscrews (4).
- ④ Detach the catches (2) from the side of front casing assembly and pull the front casing assembly toward you so that it is away from the main unit.
- ⑤ Raise the handle and remove the power control board box setscrew.
- ⑥ Pull the power control board box toward you, detach the catches (2) on the box lid (one on each side), and remove the lid.
- ⑦ Remove connectors P100 and P101 from the power control board and remove the front casing assembly. → (Removing and replacing the front casing assembly)



(4) Removing and replacing the operation control board

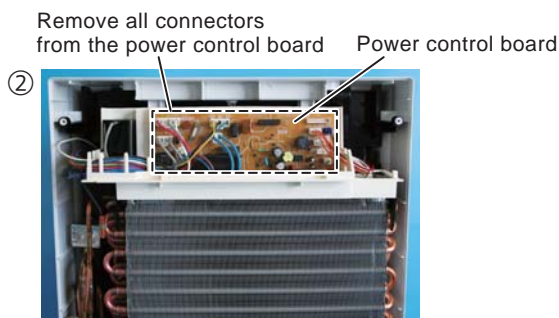
- ① Remove the front casing assembly.
→ (Reference: Removing and replacing the front casing assembly)
- ② Detach the catches (bottom: 4, right side: 1) to remove the operation control board. → (Removing and replacing the operation control board)



(5) Removing and replacing the power control board

- ① Remove the power control board box lid.
→(Reference:(3)Removing and replacing the front casing assembly)

- ② Remove all connectors from the power control board to remove the power control board.→(Removing and replacing the power control board)

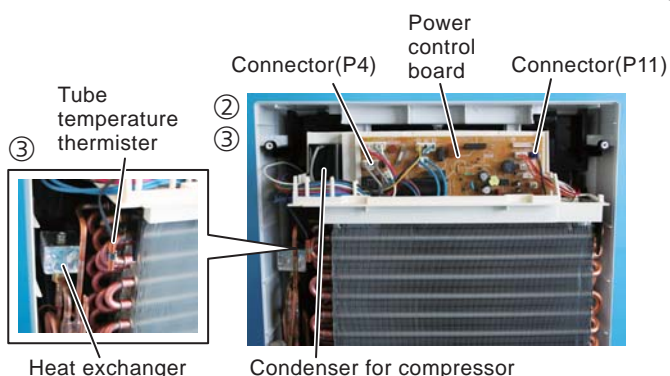


(6) Removing and replacing the condenser for compressor and tube temperature thermister

- ① Remove the power control board box lid.
→(Reference:(3)Removing and replacing the front casing assembly)

- ② Remove the connector P4 to remove the condenser for compressor from the power control board.→(Removing and replacing the condenser for compressor)

- ③ Remove the connector P11 from the power control board to remove the tube temperature thermister from the right side of heat exchanger.
→(Removing and replacing the temperature/humidity sensor)



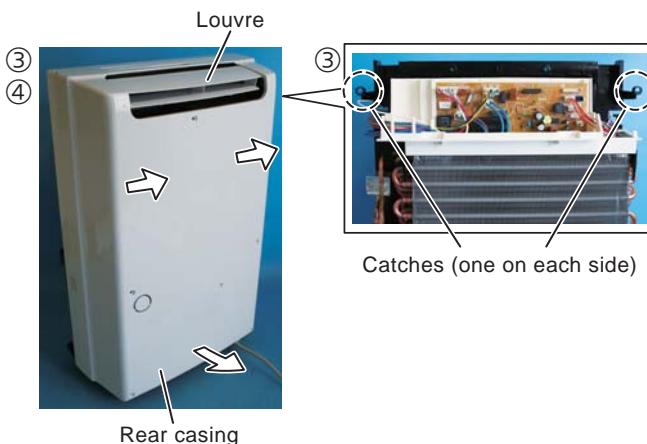
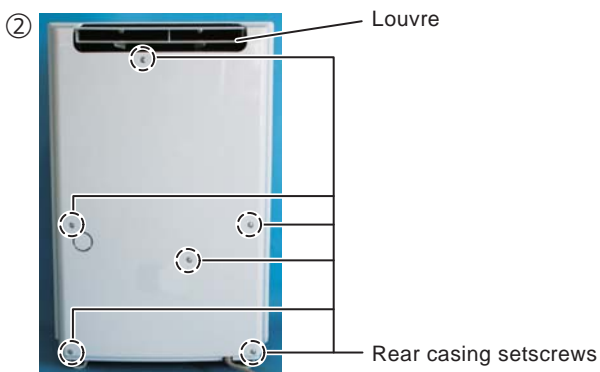
(7) Removing the rear casing

- ① Remove the front casing.
→(Reference:(3)Removing and replacing the front casing assembly)

- ② Detach the rear casing setscrews(6).

- ③ Detach the screw stop bosses(2) on the top of rear casing and the guides(2) on the side of the fan assembly.

- ④ Lift the rear casing upward, and remove from under the louver.→(removing the rear casing)



(8) Removing and replacing the stepping motor and temperature/humidity sensor

① Remove the rear casing. → (Reference: (7) Removing the rear casing)

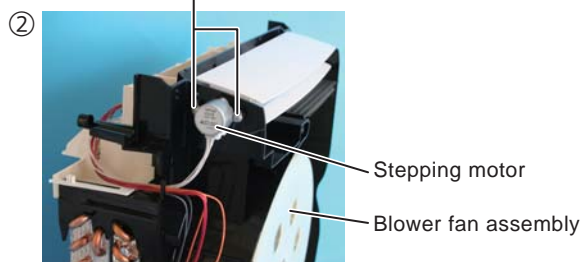
② Remove the connector P20 and stepping motor setscrews(2) to remove the stepping motor. → (Removing and replacing the stepping motor)

③ Remove the connector P10 and tape to separate the lead wire from the blower fan guide casing.

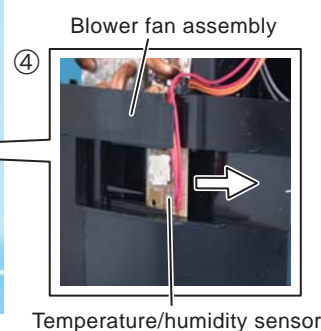
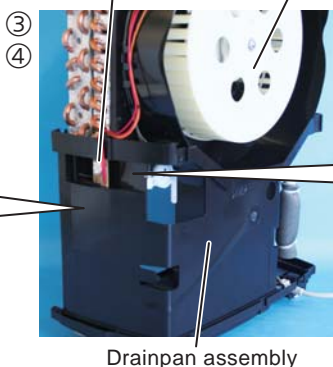
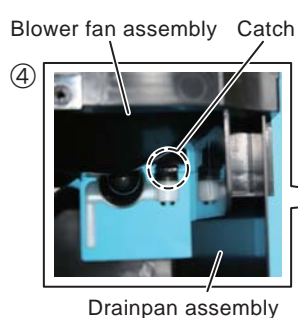
④ Detach the catch(1) from the blower fan assembly to remove the temperature/humidity sensor. → (Removing and replacing the temperature/humidity sensor)



Stepping motor setscrews



Temperature/humidity sensor Blower fan assembly



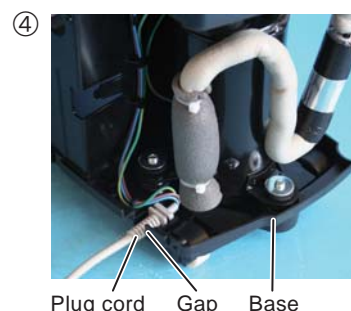
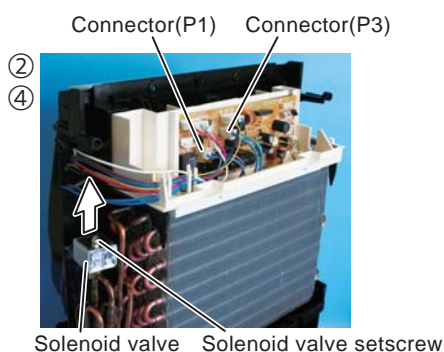
(9) Removing and replacing the solenoid valve and plug cord

① Remove the rear casing.
→ (Reference: (7) Removing the rear casing)

② Remove the connector P3 from the power control board and remove the solenoid valve setscrew(1) to remove the solenoid valve.
→ (Removing and replacing the solenoid valve)

③ Remove the earth wire setscrew(1) to remove the earth wire.

④ Remove the connector P1 and separate the power plug cord wire from the clammer to remove the power plug from the gap of the base. → (Removing and replacing the plug cord)



(10) Removing and replacing the blower fan and blower fan motor

① Removing the rear casing.
→(Reference:(7)Removing the rear casing)

② Remove the power control board.
→(Reference:(5)Removing and replacing the power control board)

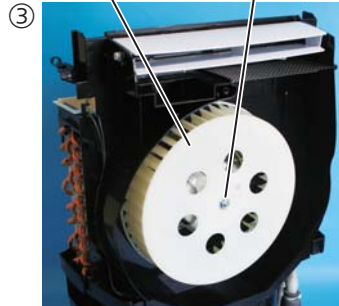
③ Remove the blower fan locknut(1) to remove the blower fan.
→(Removing and replacing the blower fan)

④ Detach the catch which fixes the blower fan motor lead wires to blower fan guide casing and detach lead wires from the blower fan guide casing.

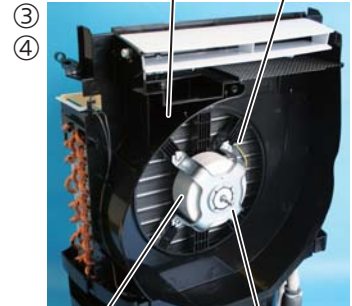
⑤ Remove the blower fan motor holding plate setscrews(3).

⑥ Remove the blower fan motor holding plate and cushions to remove the blower fan motor.
→(Removing and replacing the blower fan motor)

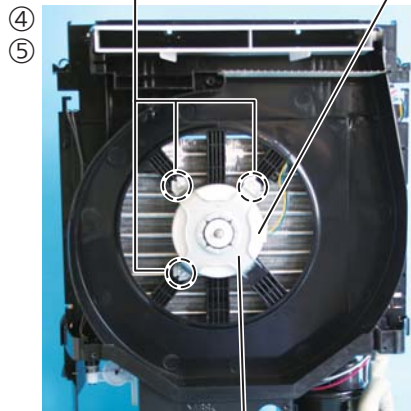
Blower fan Blower fan locknut



Blower fan guide casing Catch

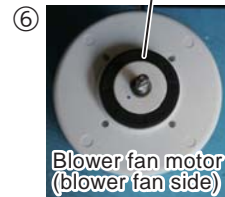


Blower fan motor holding plate setscrews Blower fan motor



Blower fan motor Blower fan motor holding plate

Cushion



Cushion



Blower fan motor holding plate

(11) Removing and replacing the blower fan assembly

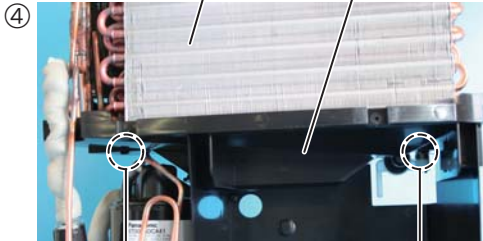
① Removing the rear casing.
→(Reference:(7)Removing the rear casing)

② Removing the power control board.→(Reference:(5)Removing and replacing the power control board)

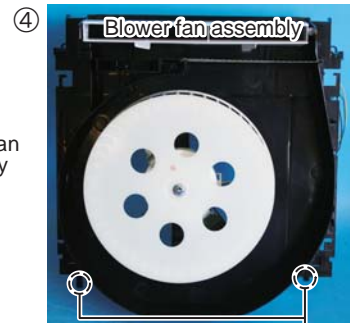
③ Remove the lead wires from the clampers on the blower fan guide casing sides.

④ Detach the catches from the blower fan assembly and drainpan assembly. Then Pull upward the blower fan assembly leaning toward the heat exchanger to remove the blower fan assembly.
→(Removing and replacing the blower fan assembly)

Heat exchanger assembly Drainpan assembly



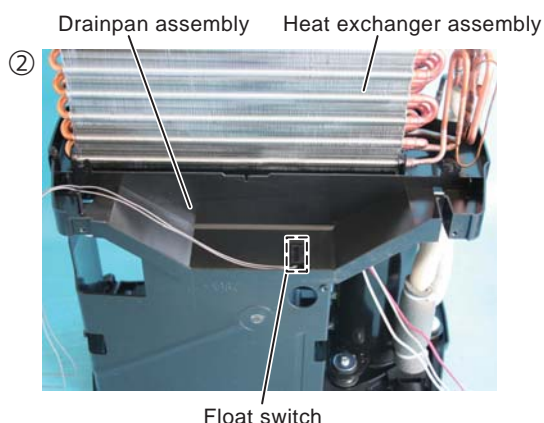
Catches(2)



Catches(2)

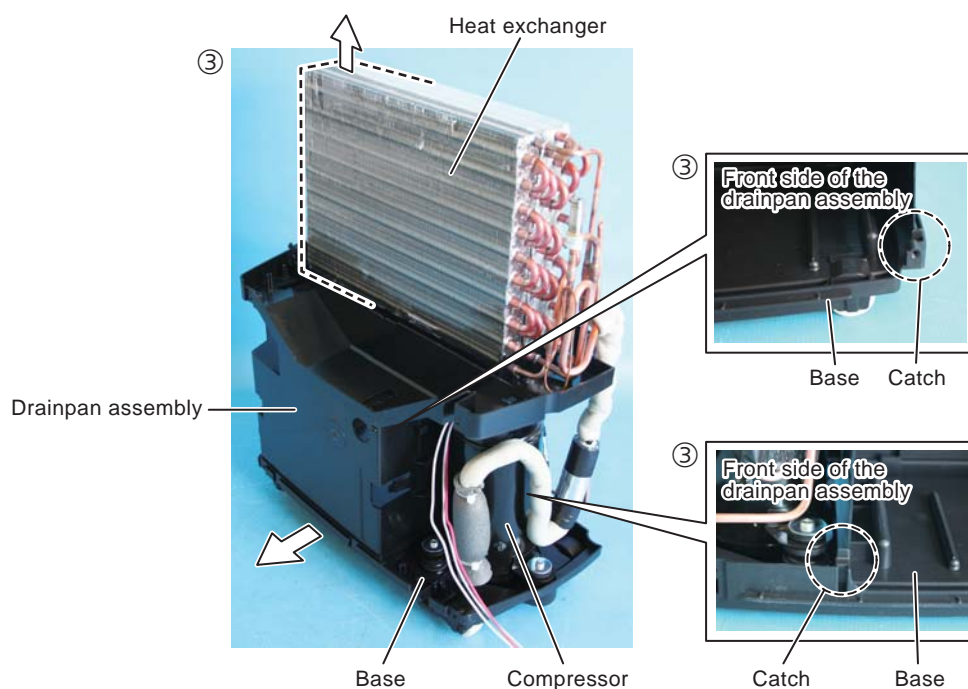
(12) Removing and replacing the float switch

- ① Remove the blower fan assembly.
→(Reference:(11)Removing and replacing the blower fan assembly)
- ② Remove the float switch from the drainpan assembly.→(Removing and replacing the float switch)



(13) Removing the drainpan

- ① Remove the blower fan assembly.
→(Reference:(11)Removing and replacing the blower fan assembly)
- ② Separate all the lead wires from the clampers on the drainpan assembly.
- ③ Detach the catches(2) on the rear side of drainpan assembly and catches(2) on the front side of drainpan assembly. Pull the base backward while lifting the right side of the heat exchanger and remove the drainpan assembly from the base.→(Removing the drainpan assembly)



(14) Removing and replacing the compressor/heat exchanger assembly

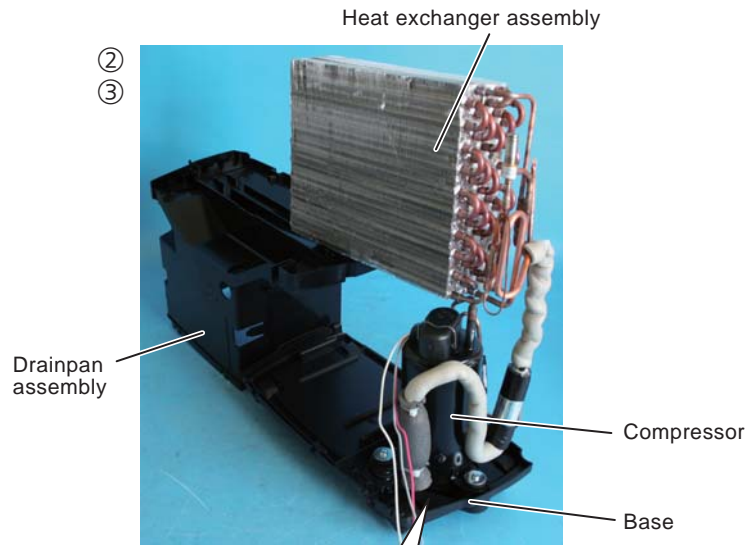
① Remove the drainpan assembly.

→(Reference:(13)Removing the drainpan assembly)

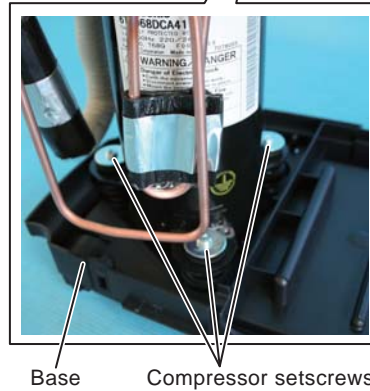
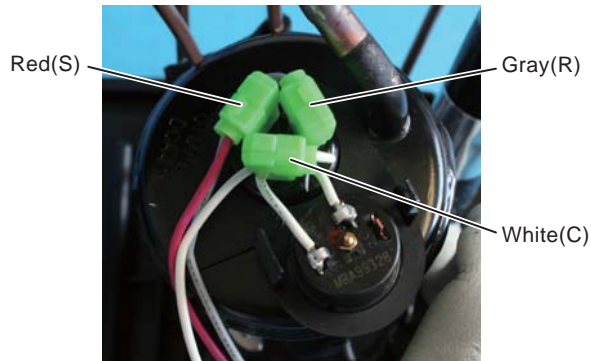
② Put a support under the right side of the heat exchanger assembly. Remove the compressor setscrews (3).

③ Remove the compressor and heat exchanger assembly from the base.→(Removing and replacing the compressor/heat exchanger)

②
③

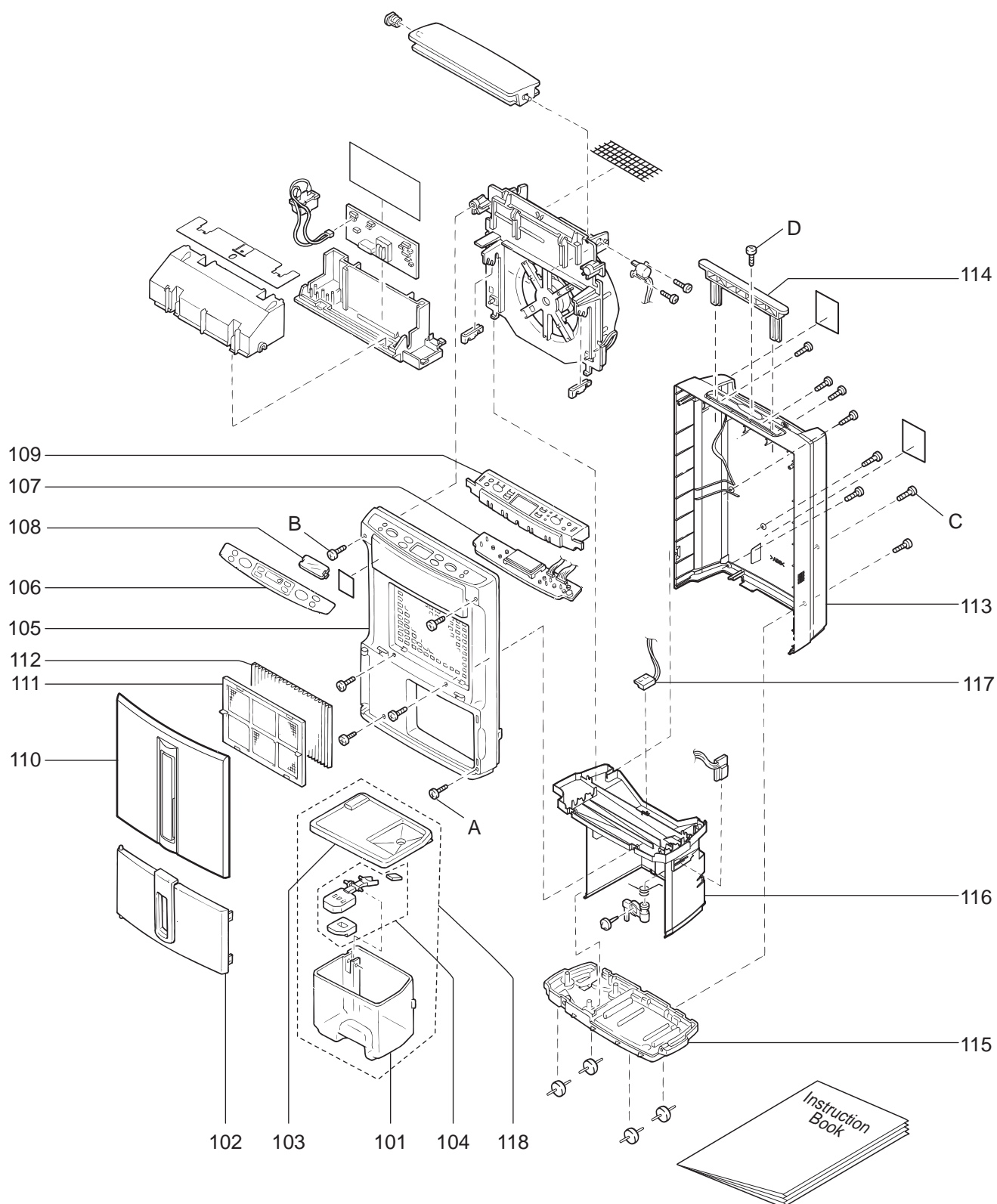


<Compressor part:wiring layout>





15. Parts Catalog

Model MJ-E21BG-S1-IT Exploded View <Casing and Structure>



Model MJ-E21BG-S1-IT Parts List <Casing and Structure>

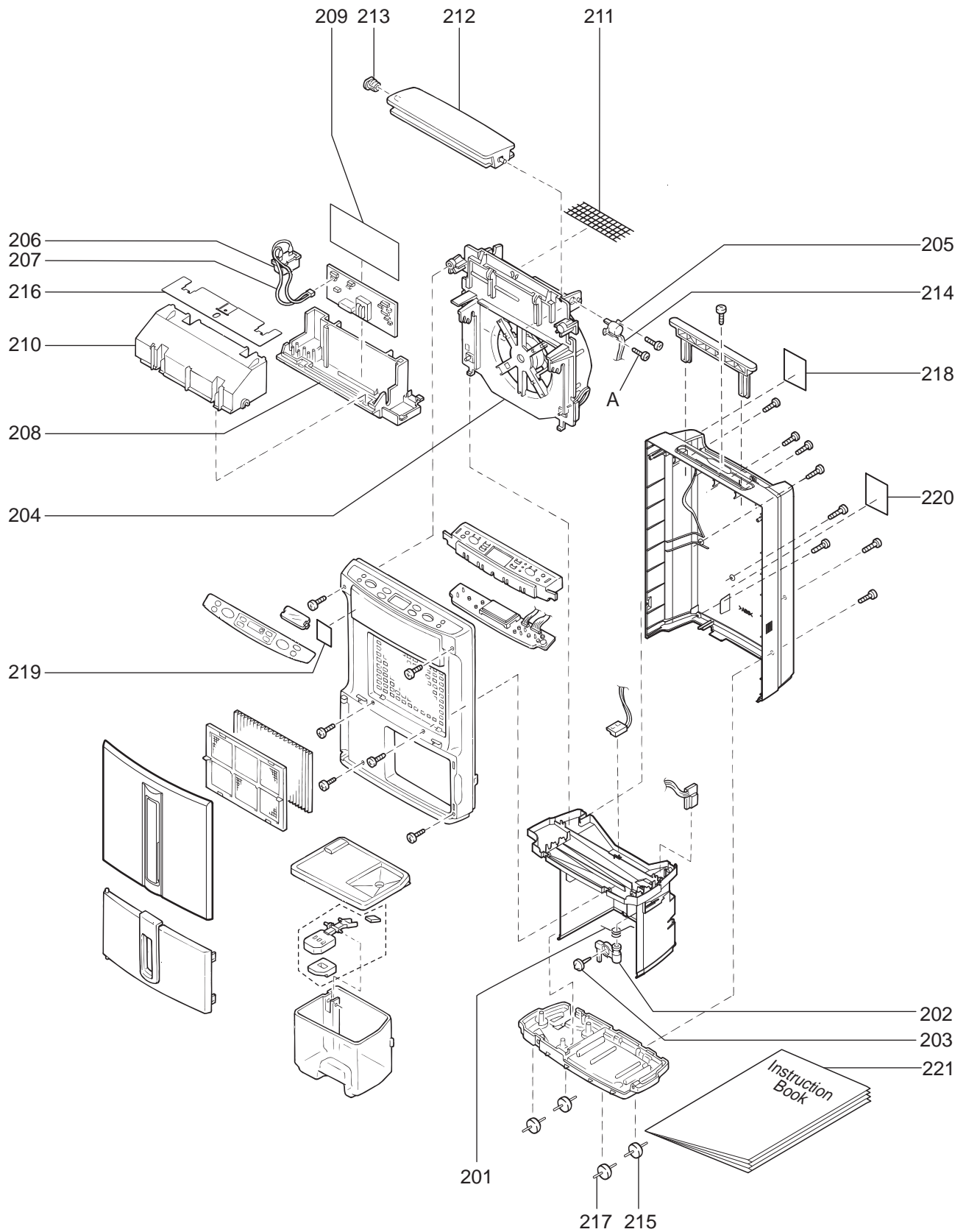
Notes:

1. Circled reference numbers indicate performance parts.
2. New parts and the parts that are used only with these models lack compatibility.
3. Those parts that are marked by  and  are of critical importance for sustaining safety and performance. Use specified parts at replacement.
4. When ordering parts without part numbers, use the design number. The order may take a while to process.

[illegible]



- *1. If the part is out of production, you may be required to use a common part.
*2. Parts found installed in products may have a different part number from service parts. However, there should be no difference in performance and can be installed.

Model MJ-E21BG-S1-IT Exploded View <Casing and Structure>



Model MJ-E21BG-S1-IT Parts List <Casing and Structure>

Notes:

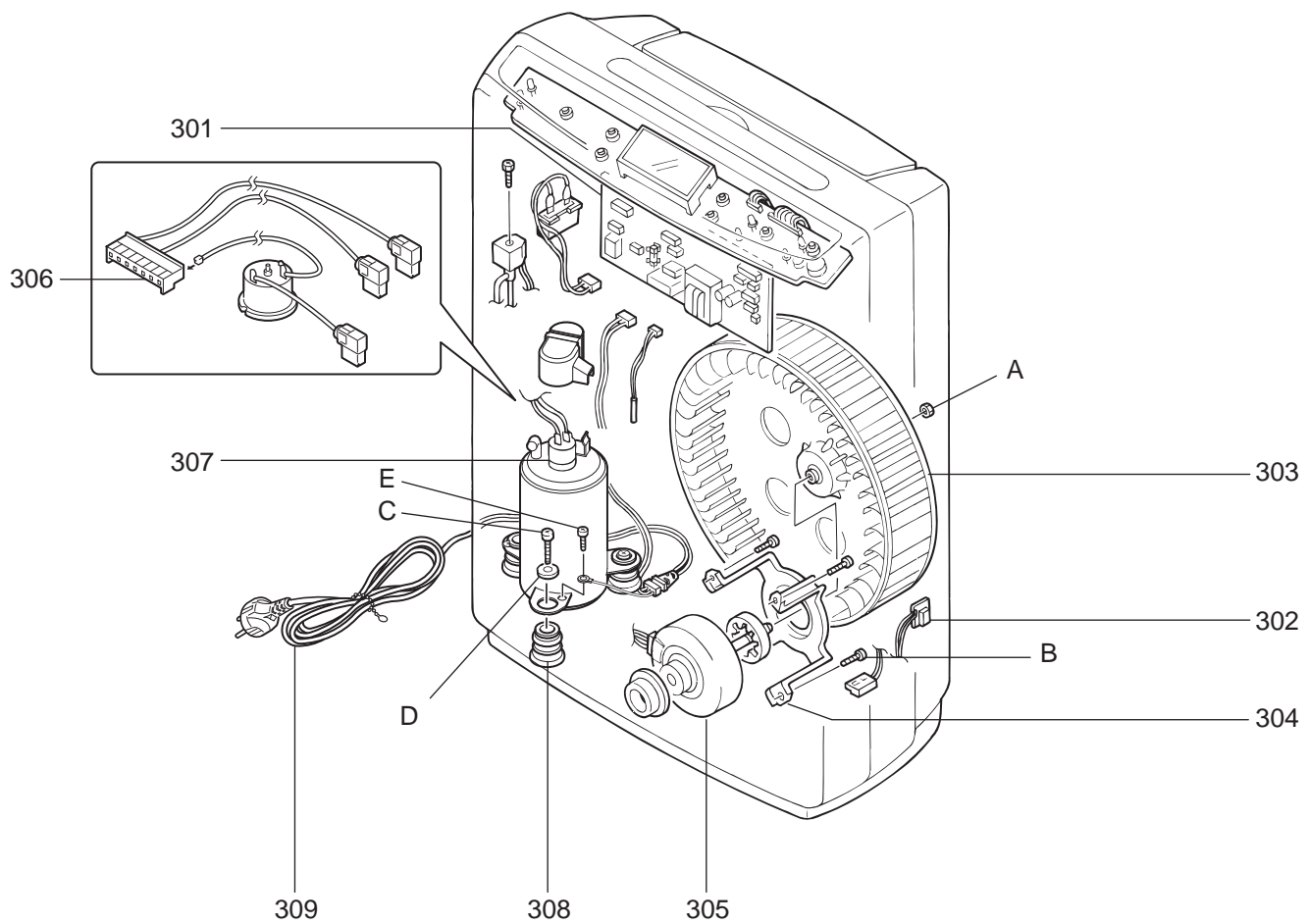
1. Circled reference numbers indicate performance parts.
2. New parts and the parts that are used only with these models lack compatibility.
3. Those parts that are marked by  and  are of critical importance for sustaining safety and performance. Use specified parts at replacement.
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[illegible]

*1. If the part is out of production, you may be required to use a common part.



*2. Parts found installed in products may have a different part number from service parts. However, there should be no difference in performance and can be installed.

Model MJ-E21BG-S1-IT Exploded View <Electrical Parts>



Model MJ-E21BG-S1-IT Parts List

Notes:

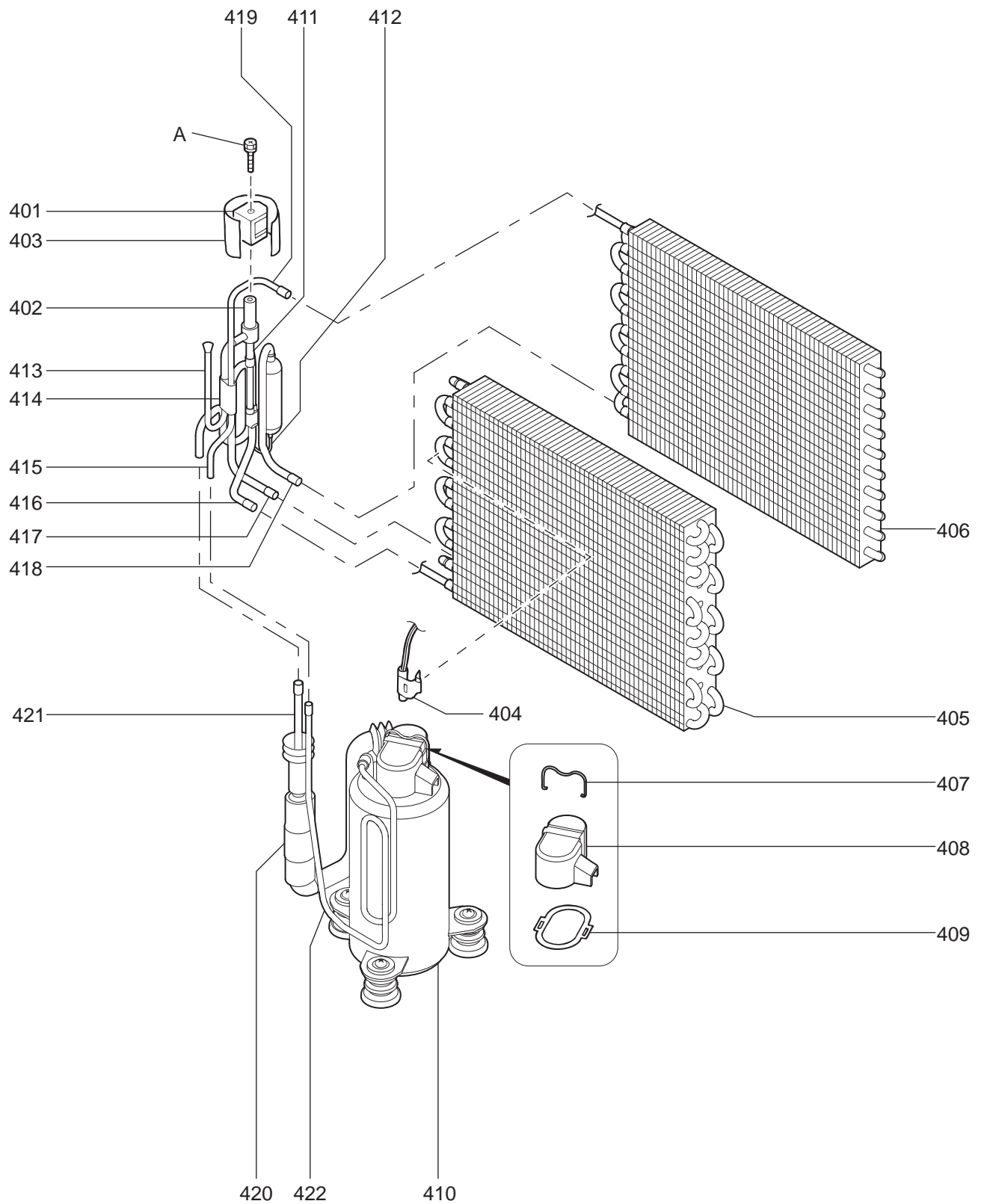
1. Circled reference numbers indicate performance parts.
2. New parts and the parts that are used only with these models lack compatibility.
3. Those parts that are marked by  and  are of critical importance for sustaining safety and performance. Use specified parts at replacement.
4. When ordering parts without part numbers, use the design number. The order may take a while to process.

[illegible]

*1. If the part is out of production, you may be required to use a common part.



*2. Parts found installed in products may have a different part number from service parts. However, there should be no difference in performance and can be installed.

Model MJ-E21BG-S1-IT Exploded View <Compressor Parts>



Model MJ-E21BG-S1-IT Parts List <Compressor Parts>

Notes:

1. Circled reference numbers indicate performance parts.
2. New parts and the parts that are used only with these models lack compatibility.
3. Those parts that are marked by  and  are of critical importance for sustaining safety and performance. Use specified parts at replacement.
4. When ordering parts without part numbers, use the design number. The order may take a while to process.

[illegible]

- *1. If the part is out of production, you may be required to use a common part.
*2. Parts found installed in products may have a different part number from service parts. However, there should be no difference in performance and can be installed.