

**Service
Manual**

Air Cleaners

**ACEF 3AV1-(C)(H)
ACEF 4AV1-(C)(H)**



Air Cleaners

ACEF 3AV1-(C)(H)

ACEF 4AV1-(C)(H)

1. Safety Cautions	iii
1.1 Cautions and Warnings	iii
1.2 Using Icons.....	v
1.3 Using Icons List	v

Part 1 Information 1

1. General Description	3
1.1 Introduction of Functions	3
1.2 Accessories	4
1.3 Tips for Appropriate Use	5
2. Names and Functions of the Operating Section	6
2.1 Names and Functions of Parts	6
3. Names and Functions of The Indicator Lamps	7
3.1 Indicator Lamps and their Functions	7

Part 2 Field Setting 9

1. Setup and Installation.....	11
1.1 Setup	11
1.2 Installation	13
2. Operation of The Unit.....	14
2.1 How to Operate The Unit.....	14

Part 3 Maintenance 17

1. Cleaning of Prefilter and Ionizer.....	19
1.1 Prefilter	19
1.2 Ionizer.....	20
2. Changing the Ion Filter (Roll)	21
2.1 How to Change the Ion Filter (Roll).....	21

Part 4 Troubleshooting 23

1. Troubleshooting	25
1.1 Equipment does not Operate.	25
1.2 Indicator does not Change from "Dirty" to "Clean."	27
1.3 Remote Controller Fails to Operate Equipment.	28
1.4 Photocatalytic Operation does not Activate.....	29

Part 5 Removal Procedure	31
1. In Case of ACEF4AV1-(C)(H)	33
1.1 Removal of External Accessories	33
1.2 Removal of Ionizing Wire	36
1.3 Removal of Electrical Parts (Inverter Lamp).....	37
1.4 Removal of PCB.....	40
1.5 Removal of Fan Motor.....	43
1.6 Removal of Safety Switch	45
1.7 Installation of Power Cable.....	46
Part 6 Reference Data	47
1. Optional Accessories	49
1.1 Specifications	49
2. Wiring Diagram	50
2.1 ACEF3AV1-C, H.....	50
2.2 ACEF4AV1-C, H.....	51
3. Parts List	52
3.1 Parts Illustration.....	52
3.2 Parts List	53
Index	i
Drawings & Flow Charts	iii

1. Safety Cautions

1.1 Cautions and Warnings

Read the following warnings and cautions **BEFORE** operating the system and use it correctly.

- This manual classifies the precautions to the user into the following two categories.
Each mention important cautions on safety, so be sure to keep them.



WARNING

Failure to follow a warning is very likely to result in such grave consequences as death or serious injury.



CAUTION

Failure to follow a caution may result in serious injury or property damage, and in certain conditions, may result in a grave consequence.

- The pictograms in the text show the following meanings.



Absolutely prohibited



Be sure to operate following instructions



Be sure to unplug the power cable

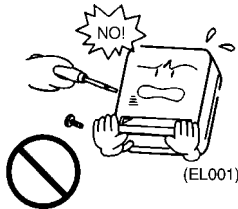
- After reading, keep this manual in a place where the actual user can see it whenever necessary. And in case of changing user, be sure to hand it to the new user.



Warning

Do not disassemble, service or modify this equipment.

Unwarranted tempering can lead to fire and/or malfunction.



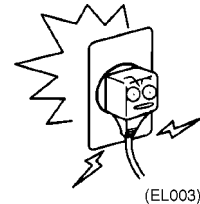
Do not operate the equipment with wet hands.

Otherwise electrical shock can result.



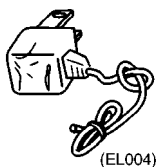
Use only 220-240 VAC 50 Hz power supply.

Otherwise fire and electrical shock can result.



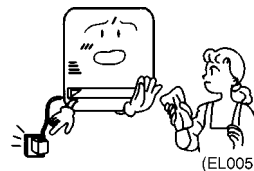
Do not use the power cable if it is damaged.

Using a damaged power cable is extremely hazardous; if the power cord becomes damaged, you must obtain a replacement from the manufacturer or from a properly-authorized service agent.



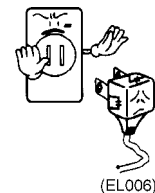
Before changing filters, cleaning the equipment or moving it, turn it OFF and unplug the power cable.

Working with power ON can lead to fire and/or electric shock.



Do not use the power cable if damaged or loose in the socket.

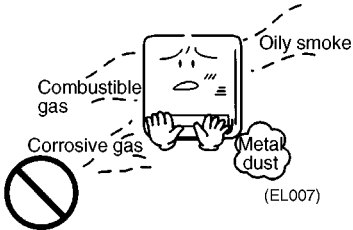
Using the power cable in anything but proper working condition can lead to short-circuits and subsequently electric shock and/or fire.



⚠ Caution

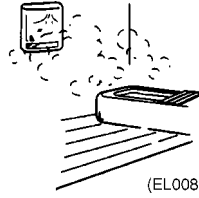
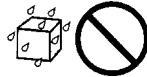
Do not use the equipment in a place filled with oily smoke such as a kitchen or in a place filled with combustible gas, corrosive gas or metal dust.

Otherwise fire and equipment malfunction can result.



Do not use in humid places or places which might be wet, such as bathrooms.

Contact with water can lead to electric shock or damage the equipment.

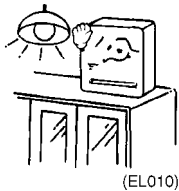


Select a sturdy wall or pillar when mounting the equipment on a wall.



Do not use the equipment near a lighting fixture (keep a distance of at least 1 m).

Lighting equipment can cause poor reception of remote controller signals and equipment discoloration.



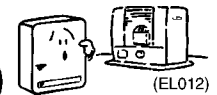
Do not use outdoors or where exposed to direct sunlight.

Direct sunlight can weaken remote control signal reception sensitivity and discolor the casing.



Do not use near to sources of heat such as heaters.

Heat can discolor and deform the casing.



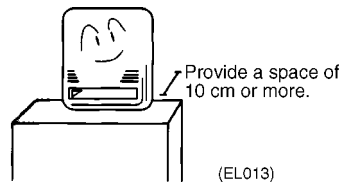
Keep the unit and remote control minimum 1 m from lighting, TVs, radios, stereos and aerials.

This unit can disturb TV pictures and generate interference. Illumination can weaken remote control signal reception sensitivity and discolor the casing.



Keep the equipment 10 cm or more away from the wall when used on a table.

Otherwise the wall can become dirty.



Do not use in the place of kitchen fans or cooker hood fans.

Adverse conditions of use can shorten service-life of the prefilter and ion filter, as well as lead to equipment damage.



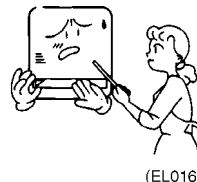
Prevent combustibles (hair sprays, etc.), sparks and incense from being drawn into the unit.

Such substances can cause fire.



Do not insert fingers or objects into the openings of the suction and discharge grilles.

Otherwise electrical shock and equipment malfunction can result.



When used in conjunction with a humidifier, keep mist from being directly drawn into the unit.

Mists can lead to electric shock and/or equipment damage.



 **Caution**

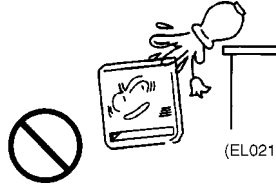
Do not block the intake or outlet.

Blocked openings can reduce capacity (air will not be cleaned throughout the entire room) and/or damage the equipment.



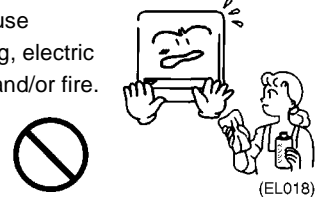
Do not place water containers such as fish bowls and flower vases near the equipment.

Water can cause electrical shock and equipment malfunction when it enters the equipment.



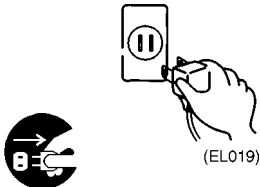
Do not wipe with benzene or thinner, or spray with insecticide.

Such substances can cause cracking, electric shock and/or fire.



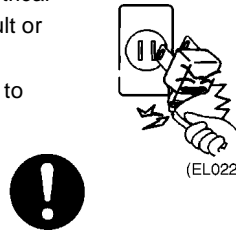
If not using the unit for long periods of time, unplug the power cable.

Dielectric breakdown can lead to leakage current and subsequently electric shock and/or fire.



Hold the plug to unplug the power cord from the AC outlet. Do not pull the cord to unplug.

Otherwise electrical shock can result or sparks may be generated due to shorting.



Do not operate the equipment without the prefilter or roll filter.

Operating the equipment without the filter can result in equipment malfunction.



Do not sit or stand on the equipment.

Otherwise equipment malfunction can result.

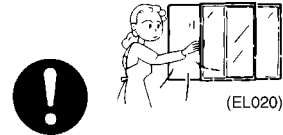
Do not position the equipment on its side or tilt it during use.

Otherwise equipment malfunction can result.



Ventilate the room frequently when used together with a heating device.





This product does not remove carbon monoxide. Insufficient ventilation can result in carbon monoxide poisoning.



1.2 Using Icons

Icons are used to attract the attention of the reader to specific information. The meaning of each icon is described in the table below:

1.3 Using Icons List

Icon	Type of Information	Description
 Note:	Note	A "note" provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.
 Caution	Caution	A "caution" is used when there is danger that the reader, through incorrect manipulation, may damage equipment, lose data, get an unexpected result or has to restart (part of) a procedure.
 Warning	Warning	A "warning" is used when there is danger of personal injury.
	Reference	A "reference" guides the reader to other places in this binder or in this manual, where he/she will find additional information on a specific topic.

Part 1

Information

- 1. General Description3
 - 1.1 Introduction of Functions3
 - 1.2 Accessories4
 - 1.3 Tips for Appropriate Use5
- 2. Names and Functions of the Operating Section6
 - 2.1 Names and Functions of Parts6
- 3. Names and Functions of The Indicator Lamps7
 - 3.1 Indicator Lamps and their Functions7

1. General Description

1.1 Introduction of Functions

Dust Collection

Removes minute dust particles from room air.

Deodorizing

Effectively removes cigarette odors, raw garbage odors and body odors.

Harmful Gas Removal

Breaks down automobile emissions (NOx) and new home odors.

Antiviral/ Disinfecting Effect

Removes and inactivates captured germs and viruses.

Convenient Ion Filter Roll

Easy, economical and inexpensive filter replacement.

Designed for Quiet Running

Users get the dual benefit of effective and quiet operation thanks to ion filtering.

Inverter Lamp (Photocatalytic cleaning).

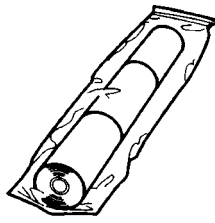
The inverter lamp illuminates a photocatalyst which inactivates bacteria and viruses by high oxidation, thus minimizing the possibility of contamination; It also decomposes components which generate offensive odor in cigarette smoke, raw waste, exhaust gas (NOx), etc.

- When used for the first time, the smell of the photocatalyst can be detected coming from the air outlet, but there is nothing wrong with the equipment. As the unit runs, the odor will be decomposed and eventually eliminated.

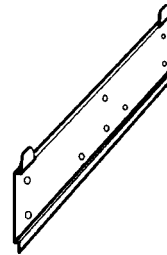
1.2 Accessories

Contents of Accessories

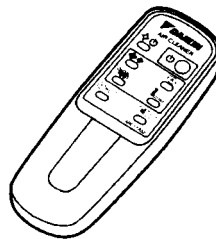
Check the following accessories have been included in the product package.



Filter roll
(6 filters per roll)



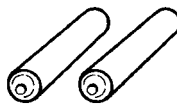
Wall-mounting
bracket



Wireless remote
control



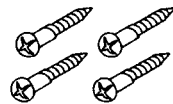
Remote control
holder



Batteries (AA × 2)



Installation screw for
remote control holder
(M3.1 × 16 × 1)



Installation screws for
wall-mounting bracket
(M4 × 20 × 4)

(EL024)

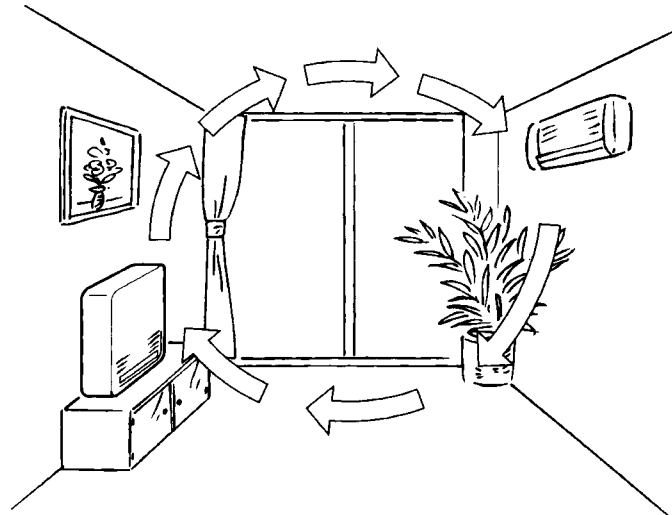
1.3 Tips for Appropriate Use

To remove house dust, set the unit near to the floor.

To remove cigarette smoke, install the unit high on a wall.

Installing the air cleaner as shown below improves air circulation in the room.

While heating or cooling the room, air can be cleaned and temperature fluctuation minimized.



(EL025)

Set Operating Mode as Needed.

Auto

Fan speed is controlled automatically depending on air quality. This mode ensures the most efficient operation.

Manual (Fan speed)

Manual (Fan speed) - The unit runs independent of air quality. This mode is effective for regularly removing odors not readily detected by the odor sensor or quickly eliminating house dust in room air.

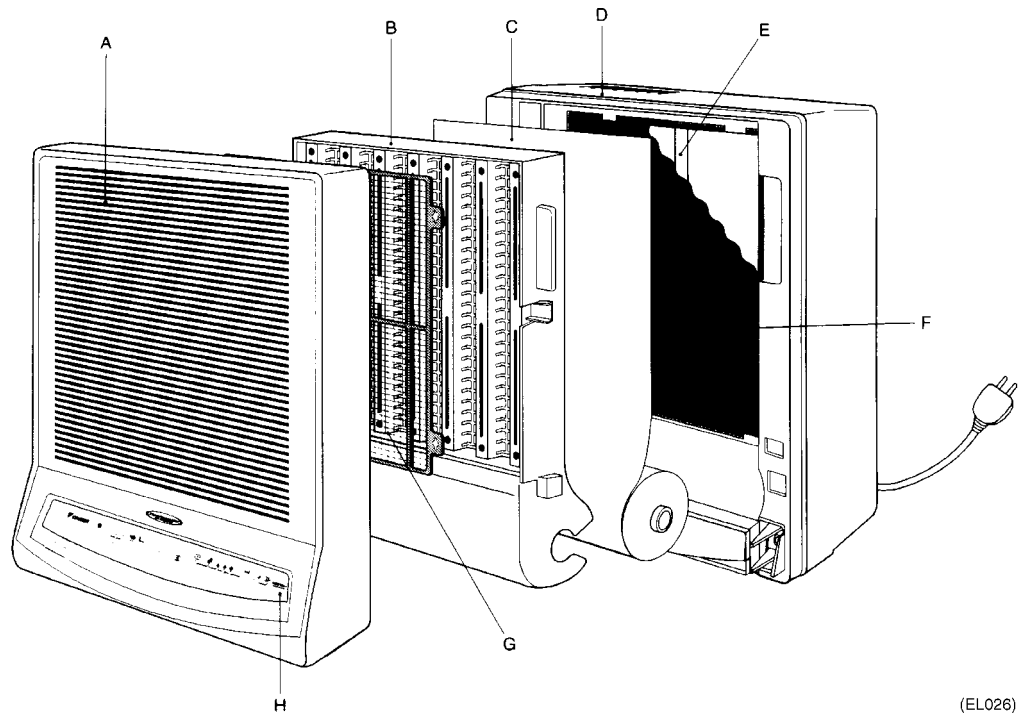
Use the OFF timer appropriately to ensure the best room air quality when needed.

If the OFF timer is set when leaving the room, the air is clean when you return. When cleaning the room, set fan speed to "High".

2. Names and Functions of the Operating Section

2.1 Names and Functions of Parts

Illustration



(EL026)

A Front panel

B Ion filter (roll) case

Positively (+) charges minute dust particles not trapped by the prefilter.

C Ion filter roll

Working on the principle of electrostatic attraction, the negatively (-) charged filter catches and removes the positively (+) charged dust.

D Air intake

E Inverter lamp

Activates the photocatalyst by illuminating it with light.

F Photocatalyst

Removes odors, bacteria and viruses when activated by the inverter lamp.

Do not subject the photocatalyst to excessive force. The inverter lamp located behind it will break.

G Prefilter

Removes comparatively large dust particles.

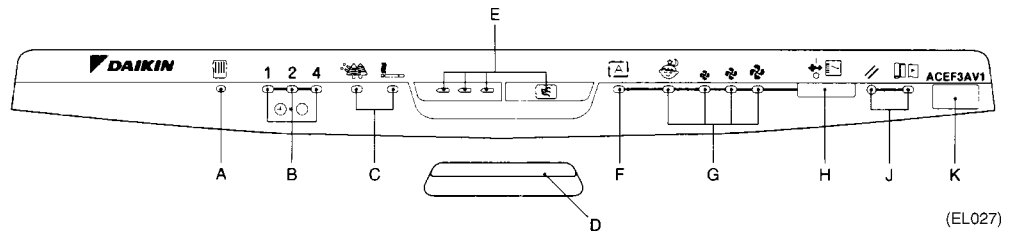
H Indicator lamps

Display operating status. See page 19.

3. Names and Functions of The Indicator Lamps

3.1 Indicator Lamps and their Functions

Illustration



- A “Ionizer needs cleaning” lamp**
Flashes when the ionizer is dirty. See page 14.
- B Timer settings**
The selected OFF timer setting is lit. As time elapses, the remaining time is displayed on the remote control. See page 14.
- C Pollen/Cigarette smoke mode lamps**
The corresponding lamp is lit when the unit is in either the pollen or cigarette smoke mode. See page 14.
- D Inverter lamp**
Lit while the inverter lamp is ON. The lamp can be turned OFF from on the remote control. See page 14.
- E Air Quality lamps**
These lamps indicate how clean/dirty room air is.

Low odor intensity High odor intensity	Green	Green	Green
	Green	Green	Red
	Red	Red	Red
	Red	Red	Red

(EL028)

- Sharp fluctuations in temperature, humidity or odorless gases (carbon monoxide) can cause lamps to light up and go out.
- In the following cases, the lowest odor intensity is indicated for 2 minutes regardless of the true intensity. There is nothing wrong with the equipment.
 - Immediately after reattaching the front panel.
 - Immediately after plugging in the power cable.

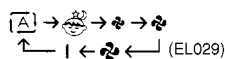
Constant Air Quality Monitoring

This unit monitors air quality even when OFF. Air quality is always displayed on the front panel. To turn the display OFF in such a case, press once more on the remote control. See page 14.

- F Auto mode lamp**
Lit when the unit is in the auto mode. See page 14.

- G Fan speed lamp**
The lamp under the set fan speed is lit. See page 14.

- H Mode selector (OFF) button**
Every time the button is pressed, the mode switches as follow.



- J Time to cut filter lamp/Reset button**

This lamp lights up when it is time to change the ion filter. After fitting a new filter, press with ball-point pen, etc. See page 22.

- K Signal reception window**
Signals from the remote controller are received through this window.

Part 2

Field Setting

1. Setup and Installation.....	11
1.1 Setup	11
1.2 Installation	13
2. Operation of The Unit.....	14
2.1 How to Operate The Unit.....	14

1. Setup and Installation

1.1 Setup

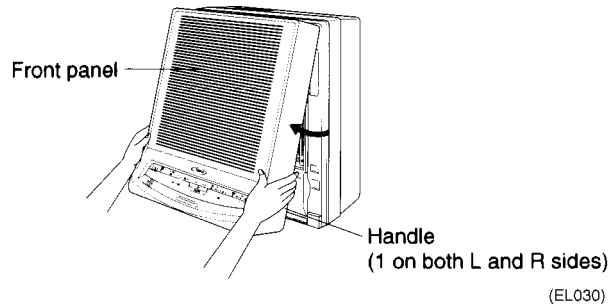
1.1.1 How to Fit The Ion Filter



CAUTION Always fit the prefilter and ion filter roll before use.
Use without filters can damage the equipment.

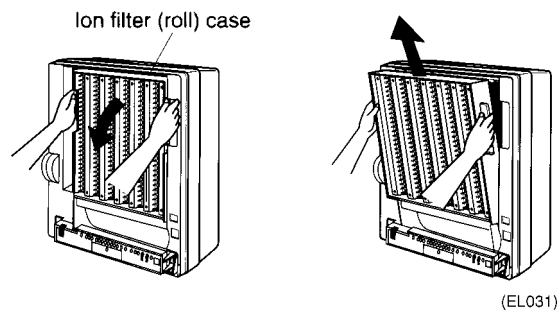
Remove the Front Panel.

Hold the front panel by the left and right side handles, and pull forwards and out.



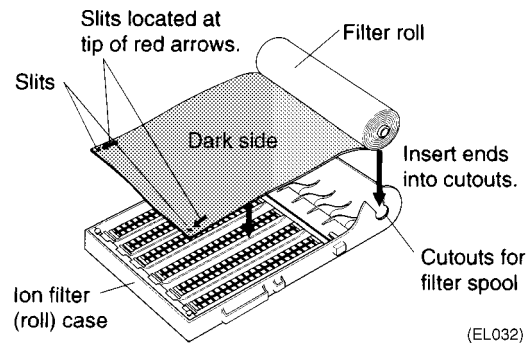
Remove The Ion Filter (Roll) Case.

Hold the ion filter (roll) case by the left and right side handles, and lift upward and out.

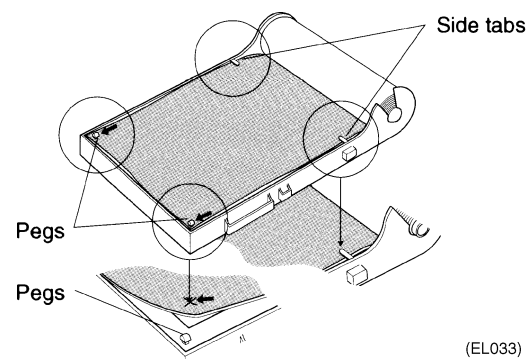


Fit The Filter Roll.

1. Face the ion filter (roll) case downwards as shown below and fit the filter roll in the cutouts for the filter spool.



2. Unroll enough of the filter to cover the case and tuck the edges underneath the side tabs (x2). Then, fit the slits on leading edge over the pages on both sides of the case.

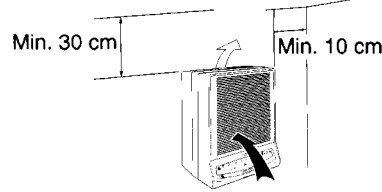


1.2 Installation

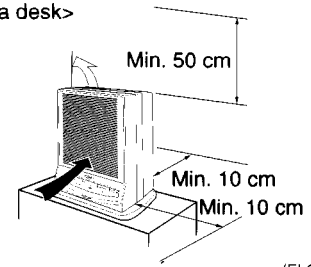
Selecting an Installation Site.

The unit can be either mounted on a wall or place on a flat surface such as a desk.

<To mount on a wall>



<To place on a desk>



(EL034)

Select a wall, shelf or floor that is sturdy enough to support the unit.

ACEF3AV1: The unit weighs 6.7 kg.

ACEF4AV1: The unit weighs 7.1 kg.

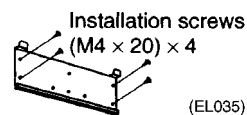
Select a location that blows air across the entire room.

For installation tips, see "Tips for appropriate use" page 5.

How to Mount on Walls

1. Select a location and attach the wall mounting provided to the wall.

Select the holes in the wall mount which best suit the wall.



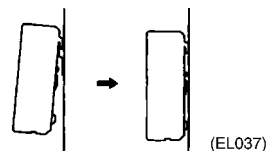
(EL035)

2. Hold the unit at a slight angle and fit the holes on the rear top edge of the unit over the projections on the top of the wall mount.



(EL036)

3. Slide the unit downward and set flat against the wall.



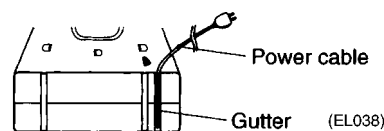
(EL037)



Note: When using the air cleaner mounted on a wall, as time goes by, the wall becomes marked where the unit is hanging. In this case, either move the unit to a desk or shelf, ensuring a min. 10 cm clearance from the wall, or cover the wall with a sheet, etc.

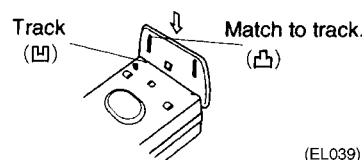
To Place on a Desk

1. Lie unit on its front and feed the power cable through the wide gutter on the bottom of the unit.



(EL038)

2. Slide the stand provided into the tracks on the bottom of the unit until you hear it click into place.



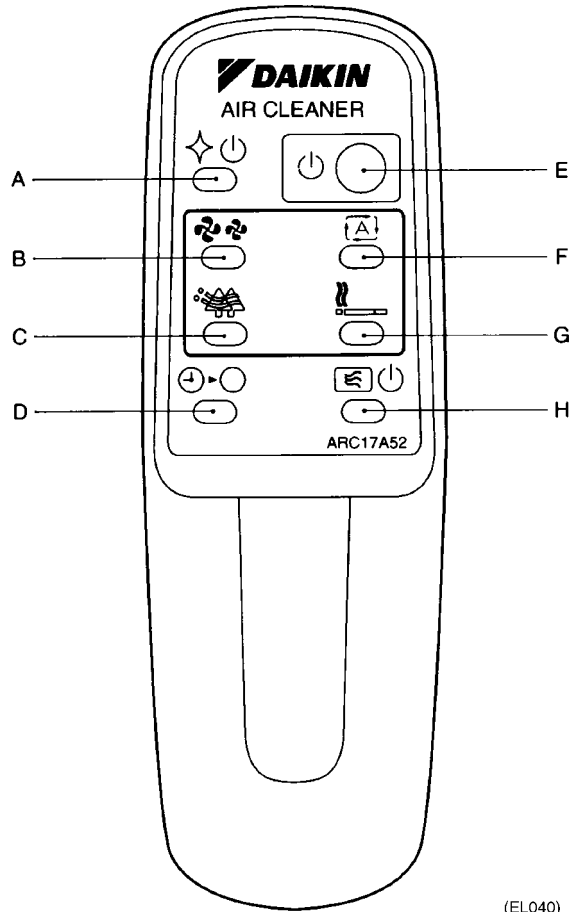
(EL039)

2. Operation of The Unit

2.1 How to Operate The Unit

Before attempting to use the unit, plug the power cable into a single phase 220-240V socket. The buttons and their functions are explained below.


Illustration




(EL040)

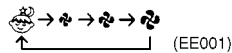
Explanation

A To turn the lamps ON/OFF

Pressing  turns the inverter lamp ON and OFF. Turn the lamp OFF if light from the front panel is disturbing, for example at night. If left OFF, deodorizing and antiviral performance is reduced.

B To set fan speed manually


Every time  is pressed, fan speed changes as follows.




The fan starts at the last set fan speed.

When "Quiet" is selected, the fan turns slowly enough not to disturb people in their sleep.

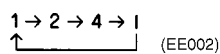
C To remove pollen

Press  once to remove pollen from room air effectively. The unit will repeatedly switch between 5 minutes at normal speed and 5 minutes at low speed.

Press  again to turn the pollen mode OFF.


D To set the OFF timer

Every time  is pressed, the OFF timer setting changes as follows.




When the set time elapses, the unit shuts OFF automatically. The setting can be changed at any time even while the unit is running.


E To start/stop the unit

The first time  is pressed, the unit starts up. The next time, it turns OFF.

F To set fan speed automatically

Press . Fan speed is selected automatically - Quiet Low, Normal, High - depending on air quality.

G To remove cigarette odors and smoke effectively



Press  once to remove cigarette odors and smoke from room air rapidly. The unit will run for 5 minutes at high speed followed by 15 minutes at normal speed, and will then switch to auto fan speed control.

Press  again to turn OFF the cigarette smoke mode.

H To turn OFF air quality lamps

Turn the air cleaner OFF before pressing this button when you want to turn OFF the lamps.

To operate the unit from the front panel

The unit can be operated from the front panel instead of the remote control. Pressing the   selects operating mode and turns the unit OFF. See page 6.

If the unit malfunctions

If, during electrical storms or because of radio communications, the front panel lamps light irregularly, if the unit cannot be operated from the remote controller or if some other problem occurs, unplug the power cable for a moment, then plug it back in and restart the unit.

Part 3

Maintenance

- 1. Cleaning of Prefilter and Ionizer19
 - 1.1 Prefilter19
 - 1.2 Ionizer.....20
- 2. Changing the Ion Filter (Roll)21
 - 2.1 How to Change the Ion Filter (Roll)21

1. Cleaning of Prefilter and Ionizer

1.1 Prefilter

1.1.1 How to Clean the Prefilter

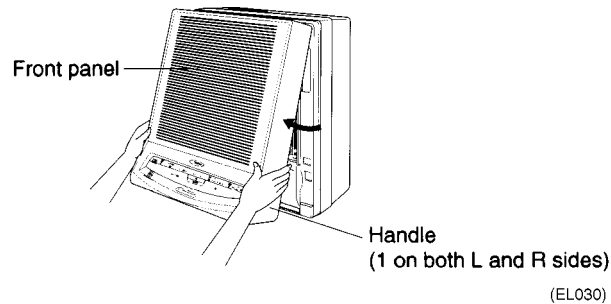
When to clean
Once every 2 weeks or so.

Procedure

1. Stop the unit and remove the power cable from its socket.

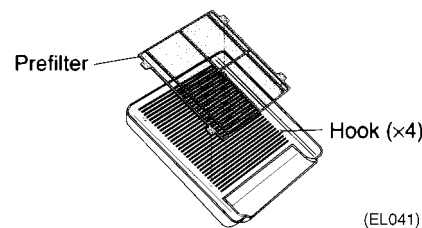
2. Remove the front panel.

Hold the front panel by the left and right side handles, and pull forwards and out.



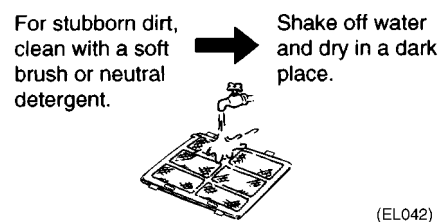
3. Remove the prefilter.

Lie the front panel face down and unhook the prefilter from the panel (×4 hooks).



4. Clean the prefilter.

Remove dirt with a vacuum cleaner or by other means, and then rinse the filter under plain water.



Note: Do not rinse in water 50°C or higher. Hot water will discolor and deform the filter beyond usable limits. Keep away from fire and sources of heat. High temperatures will discolor and deform the filter beyond usable limits.

1.1.2 How to Clean the Front Panel

When to clean

Whenever necessary if using the unit where the front panel is easily dirtied, clean the front panel more frequently.

Vacuum up dust with the small nozzle attachment of your vacuum cleaner.


For stubborn dirt, clean the front panel with a neutral household detergent. Thoroughly blot up all detergent and dry in a dark place.



Note: Do not use gasoline, benzene, thinner, polish, kerosene or other chemicals. Such chemicals can discolor or deform the front panel. Do not use metal wire brushes or other hard implements. Such implements can scratch the front panel.

1.2 Ionizer

1.2.1 How to Clean the Ionizer

If  (see page 7) on the front panel begins to flash, clean the ionizer.

Procedure

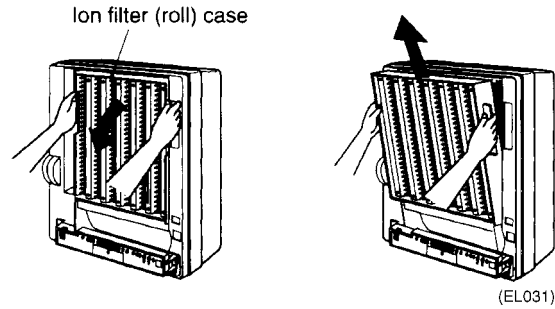
1. Stop the unit and remove the power cable from its socket.

2. Remove the front panel.

See page 11.

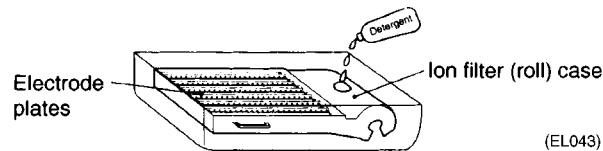
3. Remove the ion filter (roll) case.

Hold the ion filter (roll) case by the left and right side handles, and lift upwards and out.



4. Clean the ionizer.

Wipe the electrode plates and adjacent plastic parts with a soft cloth moistened with water or a wet tissue. For stubborn dirt, detach the ion filter roll and wash with a neutral household detergent or soak and wipe with a piece of cloth or soft brush. Thoroughly rinse off all detergent and dry in a dark place.




Note:

When cleaning the ionizer, always wear rubber gloves to prevent direct contact with the ionizing wires. Be careful not to break the ionizing wires. If they should break, you can obtain replacements from your supplier. If the unit is used with broken ionizing wires, the Clean Ionizer lamp will flash constantly. After cleaning, dry the ionizer thoroughly. Using the air cleaner with the ionizer still wet can damage the unit.

2. Changing the Ion Filter (Roll)

2.1 How to Change the Ion Filter (Roll)

Explanation

If  (see page 6 on the front panel lightsup, change the ion filter. When the ion filter needs to be changed will depend on the conditions of use.

If the unit is used where air is dirty, the ion filter will need changing more frequently. When using for 7 hours per day in auto mode, change the filter every 8 months.

Procedure

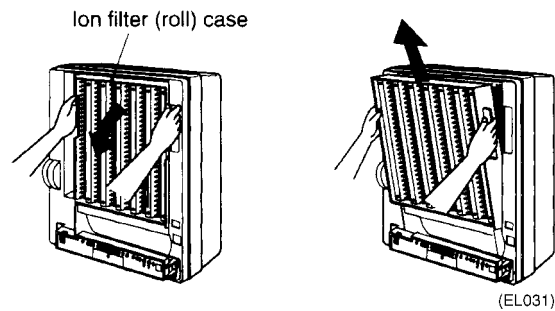
1. Stop the unit and remove the power cable from its socket.

2. Remove the front panel.

See page 11.

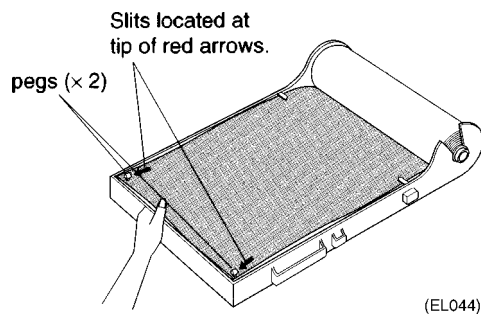
3. Remove the ion filter (roll) case.

Hold the ion filter (roll) case by the left and right side handles, and lift upwards and out.

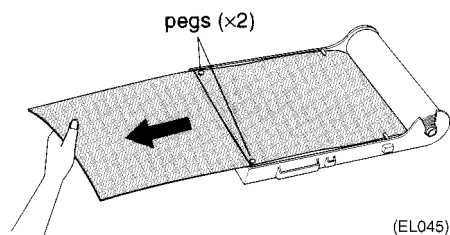


4. Cut the ion filter.

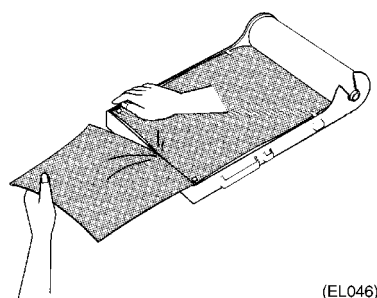
A Pull the ion filter off the 2 pegs on the case.



B Unroll the ion filter until the slits in the leading edge of the next filter sheet can be fitted over the pegs on the case.



C Tear the old filter sheet off at the perforated line.



5. Attach the ion filter (roll) case to the unit.

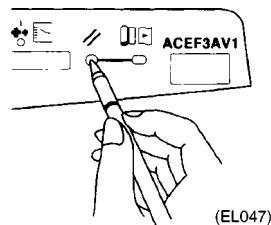
See step 3.

6. Replace the front panel on the unit.

See page 11.

7. Plug the power cable into its socket.**8. Press the Reset button on the front panel.**

Use a ball-point pen or other pointed object. Check the Change Ion Filter lamp goes out. A short acoustic buzzer can be heard when the sensor is reset.



Part 4

Troubleshooting

1. Troubleshooting	25
1.1 Equipment does not Operate.	25
1.2 Indicator does not Change from "Dirty" to "Clean."	27
1.3 Remote Controller Fails to Operate Equipment.	28
1.4 Photocatalytic Operation does not Activate.....	29

1. Troubleshooting

1.1 Equipment does not Operate.

Method of Malfunction Detection

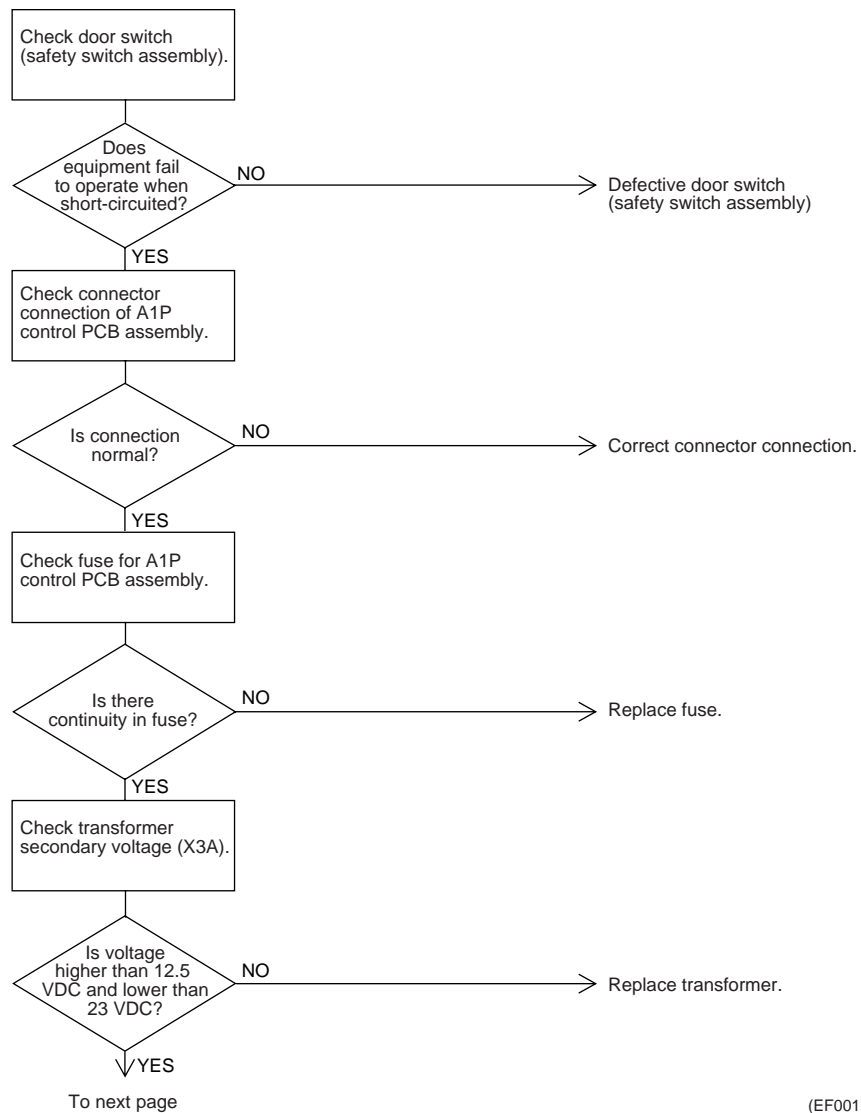
Malfunction Decision Conditions

Equipment cannot be operated by remote controller or switch on main unit.

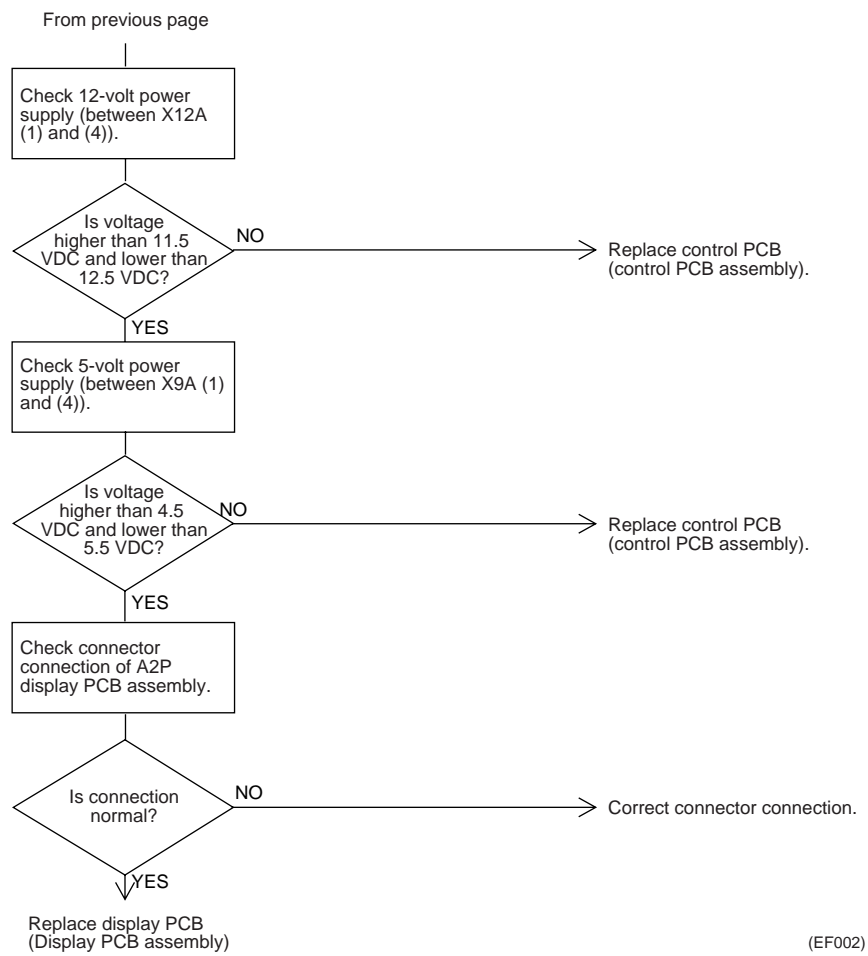
Supposed Causes

- Faulty door switch (safety switch assembly)
- Blown fuse
- Faulty transformer
- Faulty printed circuit board (control PCB assembly, display PCB assembly)

Troubleshooting



Troubleshooting



1.2 Indicator does not Change from "Dirty" to "Clean."

Method of Malfunction Detection

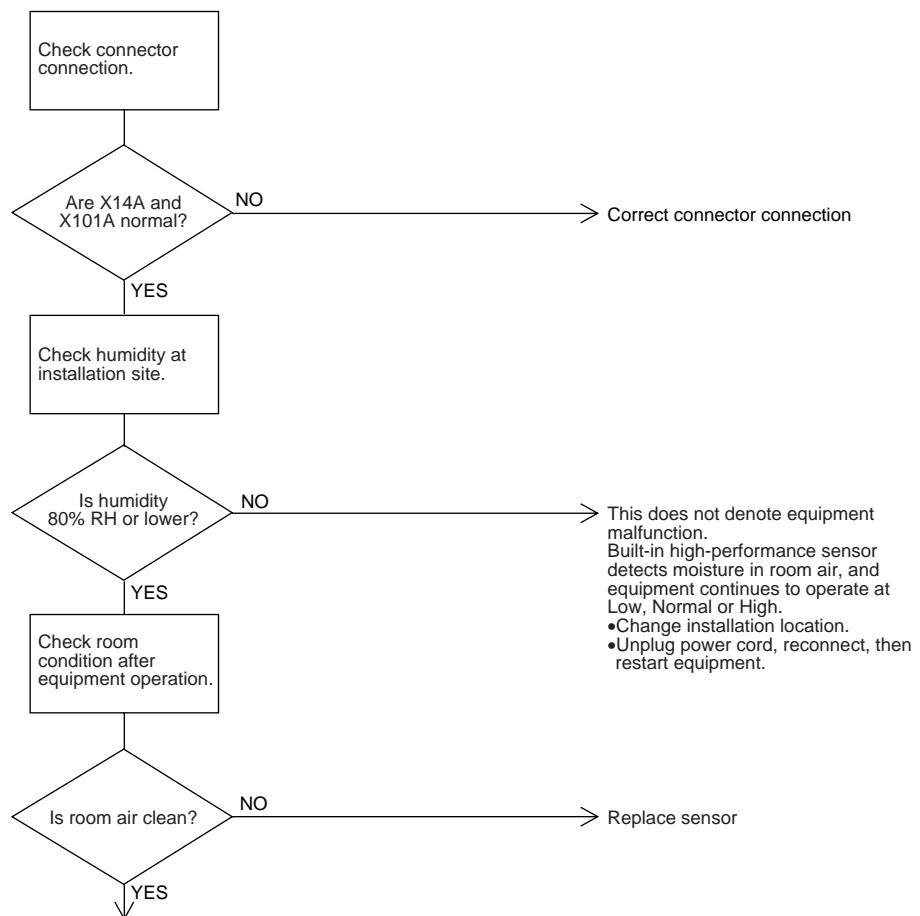
Malfunction Decision Conditions

Air contamination indicator does not change to "clean" even when equipment is operated in ventilated room for a whole day.

Supposed Causes

- Faulty harness
- Faulty sensor

Troubleshooting



This does not denote equipment malfunction.
When the room is too large for the unit's capacity, the indicator may still indicate "dirty" after smoke is removed. This is caused by the high-performance sensor detecting slight contamination in the room.

(EF003)

1.3 Remote Controller Fails to Operate Equipment.

Method of Malfunction Detection

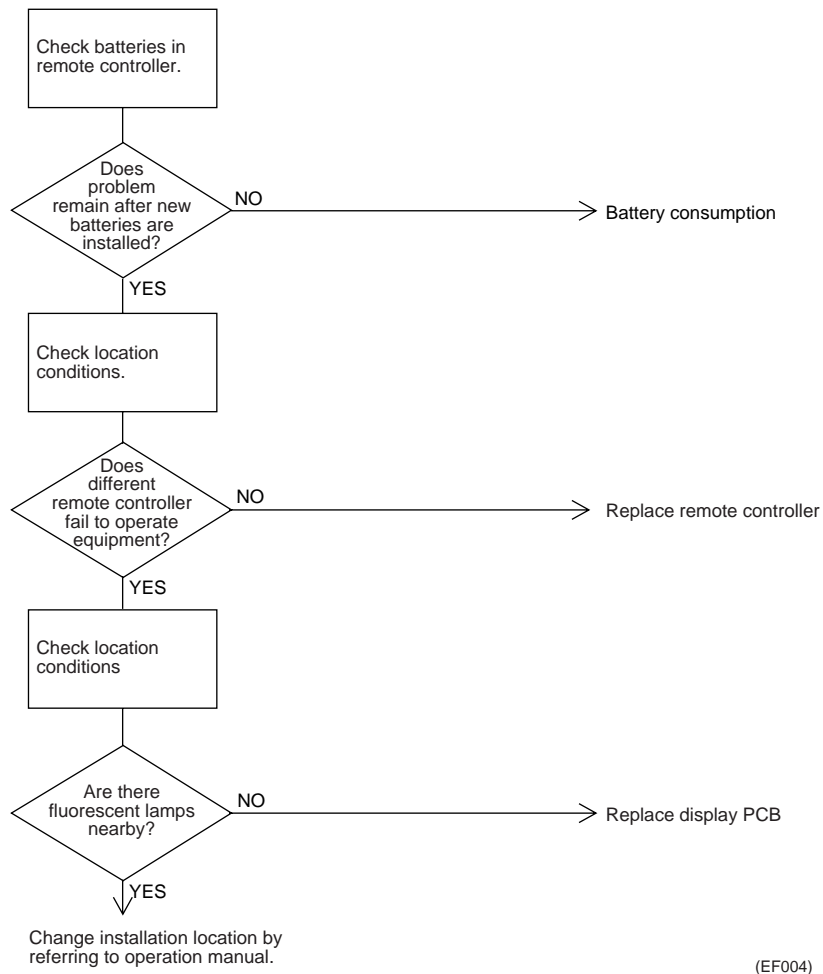
Malfunction Decision Conditions

Switches on main unit work properly, but remote controller fails to operate equipment.

Supposed Causes

- Noise generated by fluorescent lamps
- Faulty remote controller
- Faulty PCB

Troubleshooting



1.4 Photocatalytic Operation does not Activate.

Method of Malfunction Detection

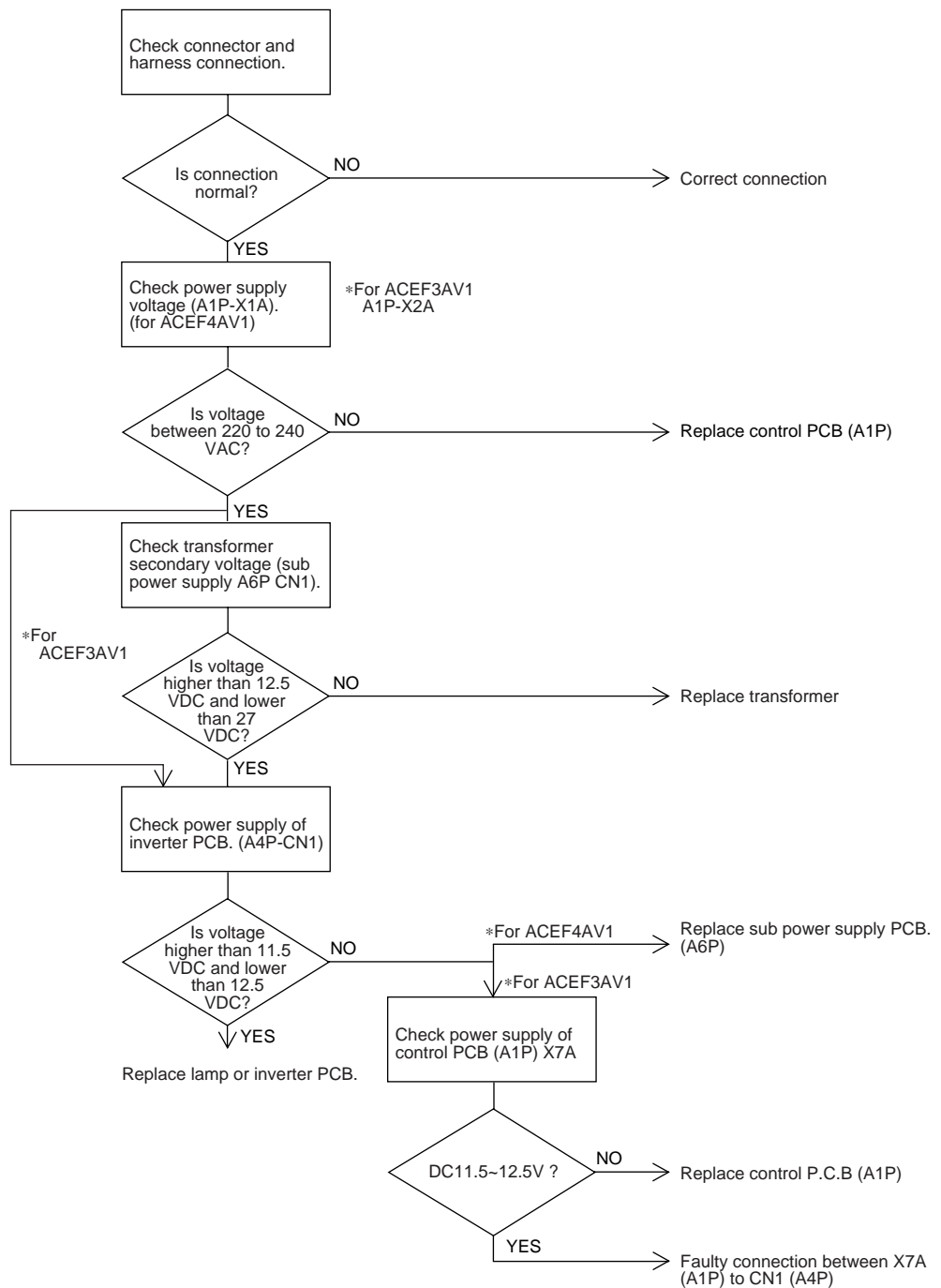
Malfunction Decision Conditions

Photocatalytic operation does not activate during equipment operation (lamp does not light).

Supposed Causes

- Faulty lamp
- Faulty transformer
- Faulty PCB

Troubleshooting



(EF005)

Part 5

Removal Procedure

1. In Case of ACEF4AV1-(C)(H)	33
1.1 Removal of External Accessories.....	33
1.2 Removal of Ionizing Wire	36
1.3 Removal of Electrical Parts (Inverter Lamp).....	37
1.4 Removal of PCB.....	40
1.5 Removal of Fan Motor.....	43
1.6 Removal of Safety Switch	45
1.7 Installation of Power Cable.....	46

1. In Case of ACEF4AV1-(C)(H)

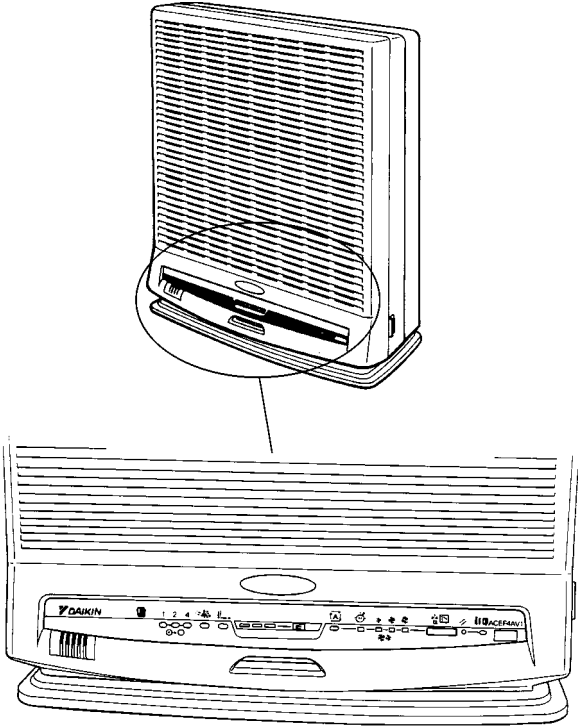
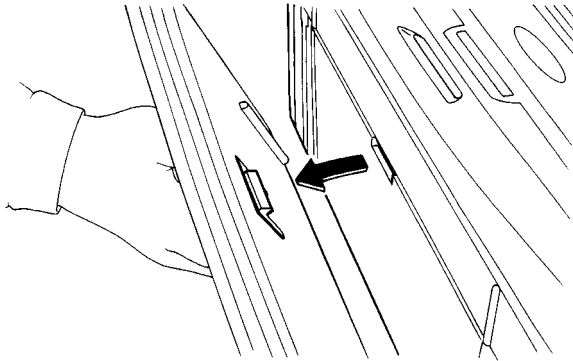
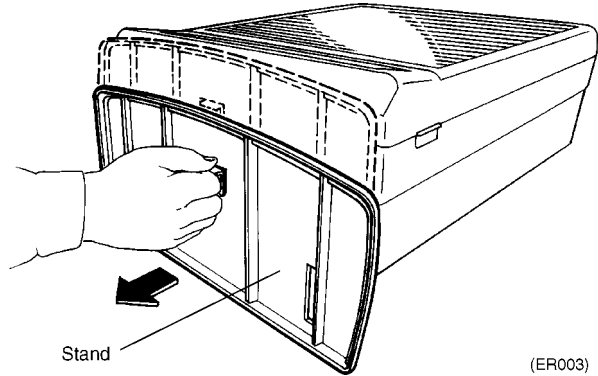
1.1 Removal of External Accessories

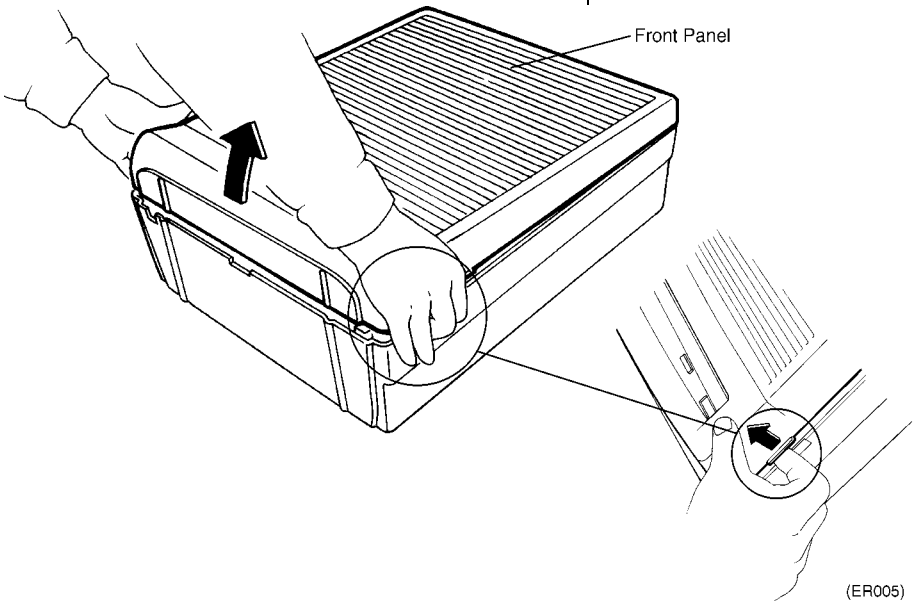
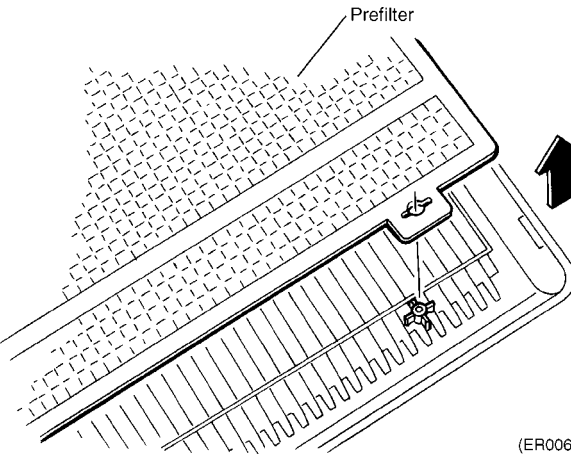
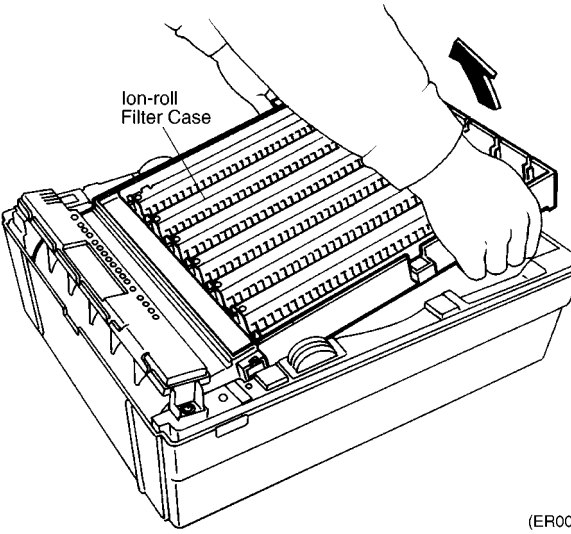
Procedure

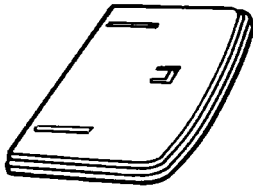
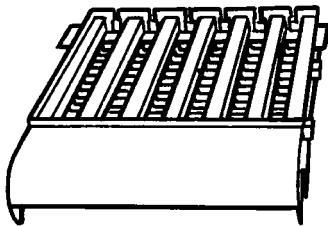
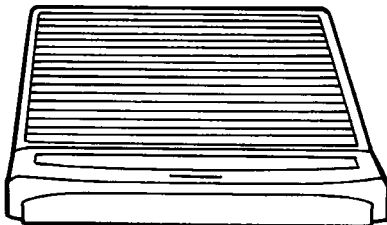
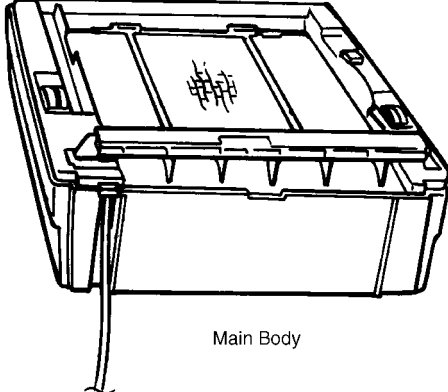
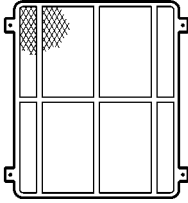


Warning


Be sure to turn off all power supplies before disassembling work

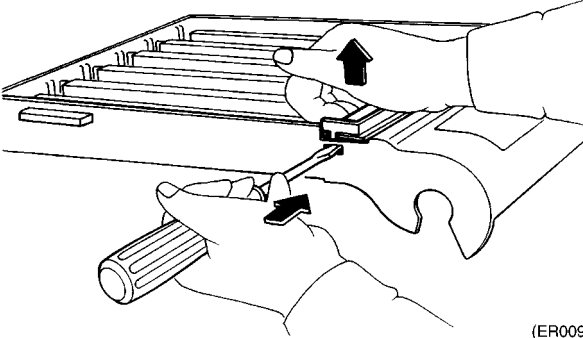
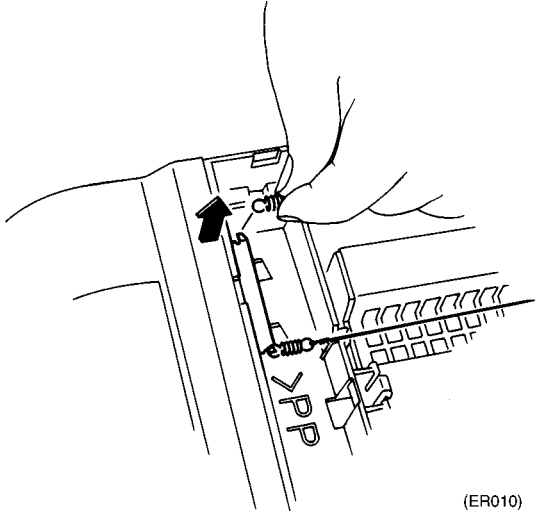
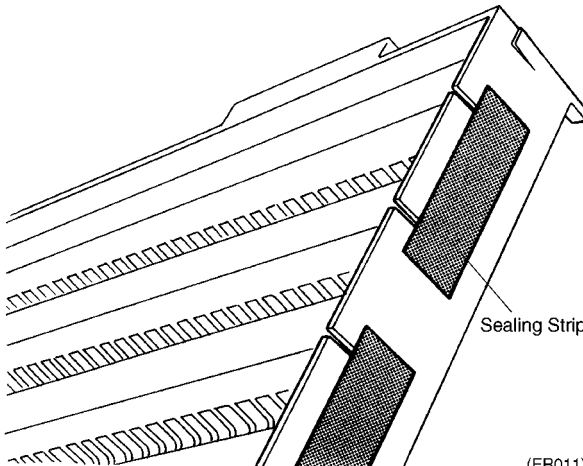
Step	Procedure	Procedure	Points
1	External appearance	 <p style="text-align: right;">(ER001)</p>	
2	Tilt main body to remove stand.	 <p style="text-align: right;">(ER004)</p>	 <p style="text-align: right;">(ER003)</p>

Step	Procedure	Procedure	Points
3	Remove front panel	 <p>Front Panel</p> <p>(ER005)</p>	
4	Disengage hooks located at four of corners of the filter to remove prefilter located at rear side of panel.	 <p>Prefilter</p> <p>(ER006)</p>	
5	Remove ion-roll filter case	 <p>Ion-roll Filter Case</p> <p>(ER007)</p>	

Step		Procedure	Points
6	Main components	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center; margin: 10px;">  <p>Stand</p> </div> <div style="text-align: center; margin: 10px;">  <p>Ion-roll Filter Case</p> </div> <div style="text-align: center; margin: 10px;">  <p>Front Panel</p> </div> <div style="text-align: center; margin: 10px;">  <p>Main Body</p> </div> <div style="text-align: center; margin: 10px;">  <p>Prefilter</p> </div> </div>	<p style="text-align: right; margin-top: 200px;">(ER008)</p>

1.2 Removal of Ionizing Wire

Procedure  **Warning** Be sure to turn off all power supplies before disassembling work

Step	Procedure	Procedure	Points
1	Push the hook using (-) screw driver to remove ionizing wire fixing plate.	 <p style="text-align: right;">(ER009)</p>	
2	Remove ionizing wire	 <p style="text-align: right;">(ER010)</p>	
3	Peel off sealing strips at top of main body.	 <p style="text-align: right;">(ER011)</p>	

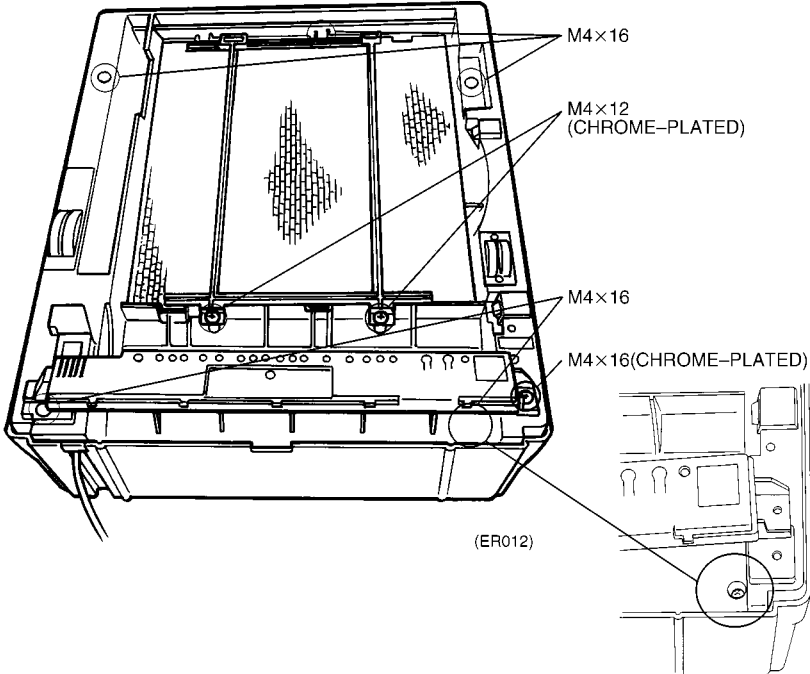
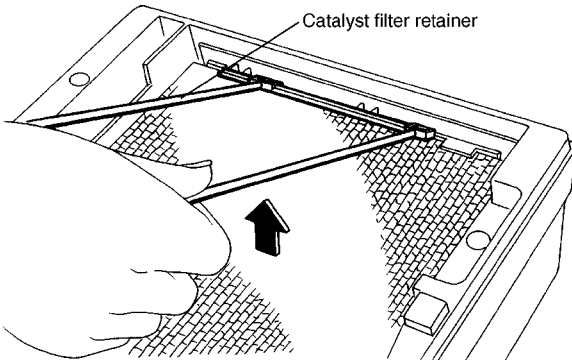
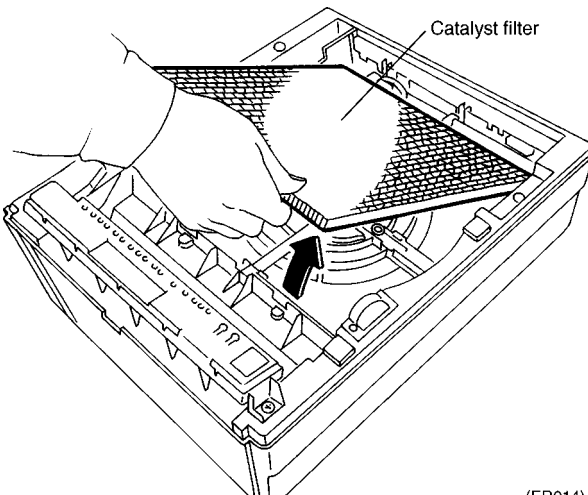
1.3 Removal of Electrical Parts (Inverter Lamp)

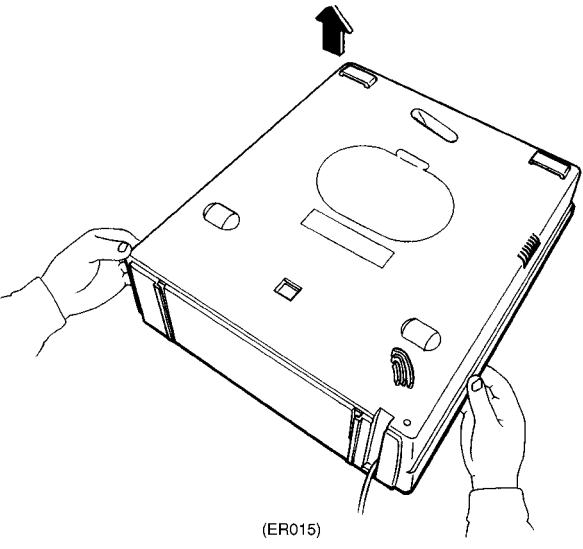
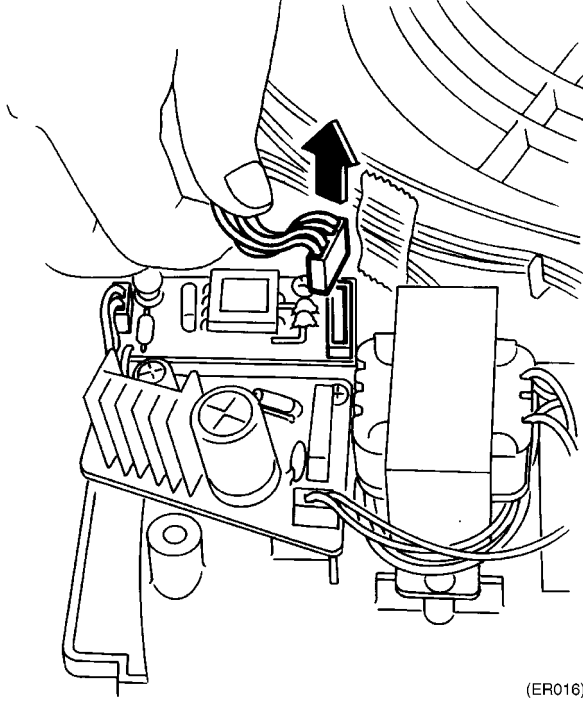
Procedure

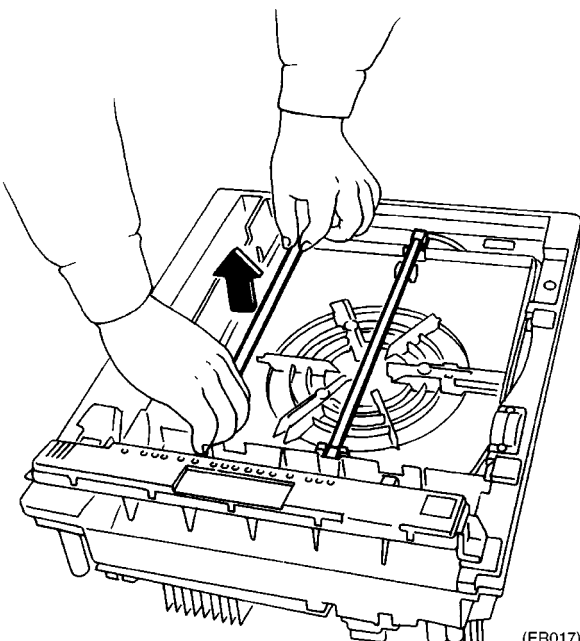
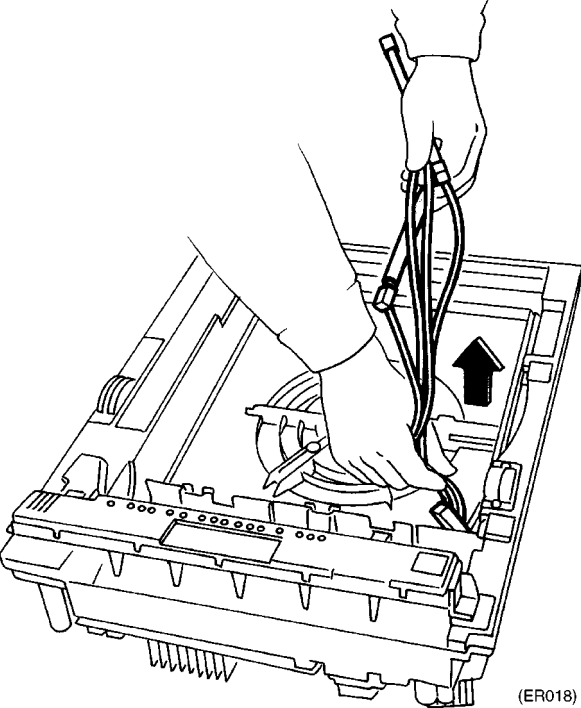
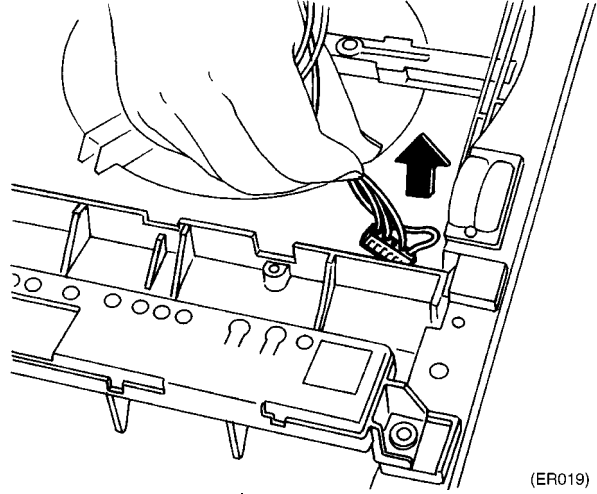


Warning

Be sure to turn off all power supplies before disassembling work

Step	Procedure	Procedure	Points
1	Remove eight screws. Remove display box before remove a screw located at bottom right of main body front side.		
2	Remove catalyst filter retainer.		
3	Remove catalyst filter.		

Step	Procedure	Points
4	Turn main body over, then remove back panel.	
	 <p>(ER015)</p>	
5	Disconnect CN2 connector located at bottom left of main body rear side.	
	 <p>(ER016)</p>	

Step	Procedure	Points
6	<p data-bbox="199 212 470 280">Turn front side of main body up, then remove inverter lamps from lamp sockets.</p>  <p data-bbox="1013 862 1077 896">(ER017)</p>	
7	<p data-bbox="199 918 406 963">Pull out connector for inverter lamp.</p>  <p data-bbox="726 1680 798 1713">(ER018)</p>  <p data-bbox="1372 1635 1444 1668">(ER019)</p>	

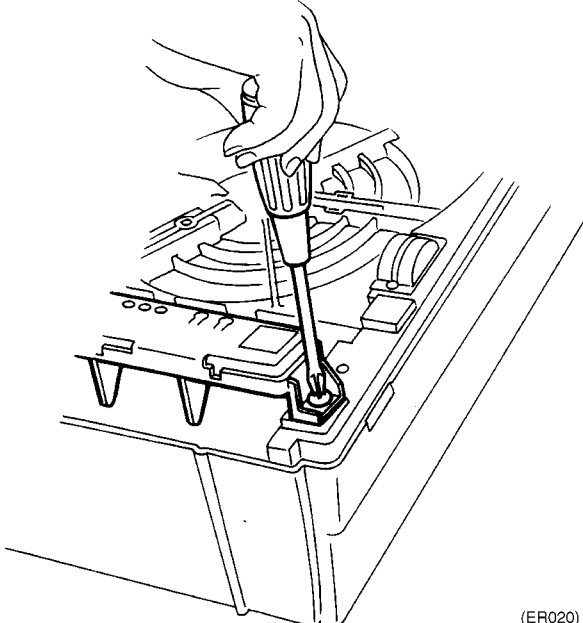
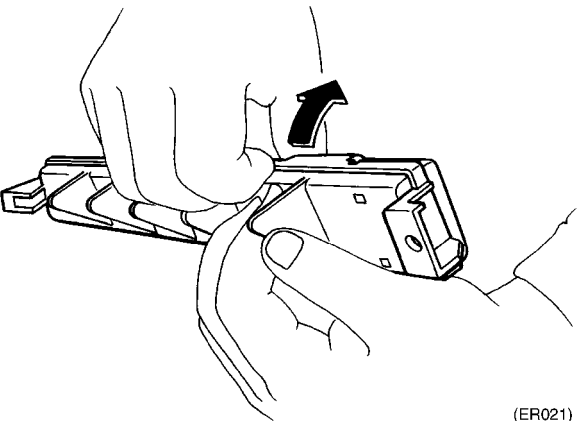
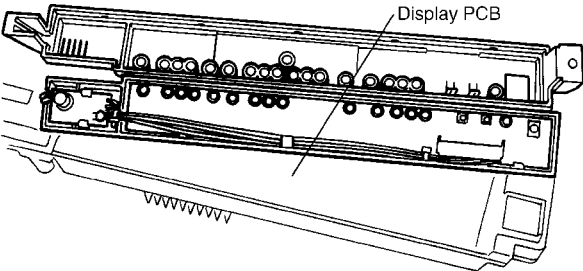
1.4 Removal of PCB

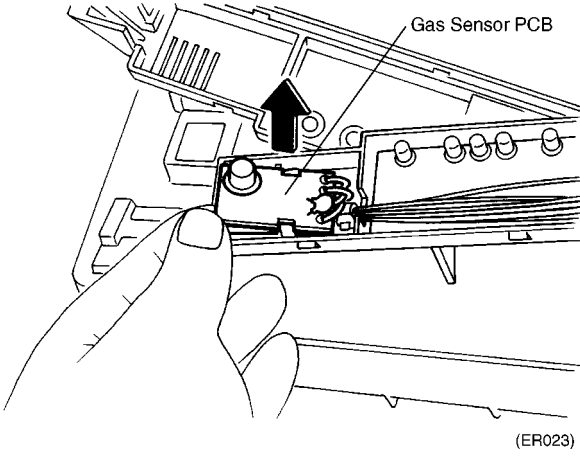
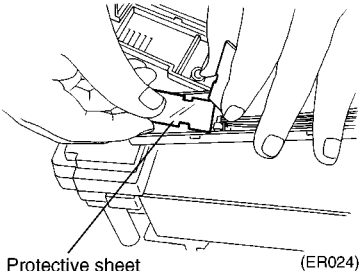
Procedure



Warning


Be sure to turn off all power supplies before disassembling work

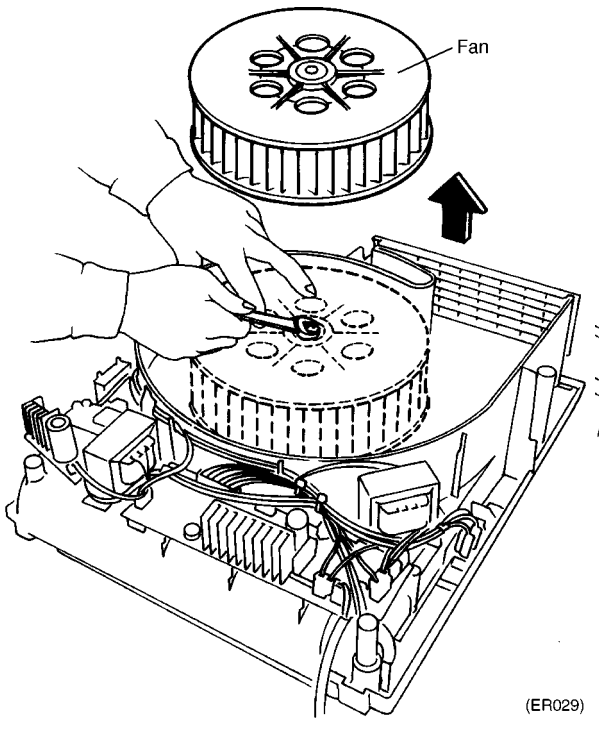
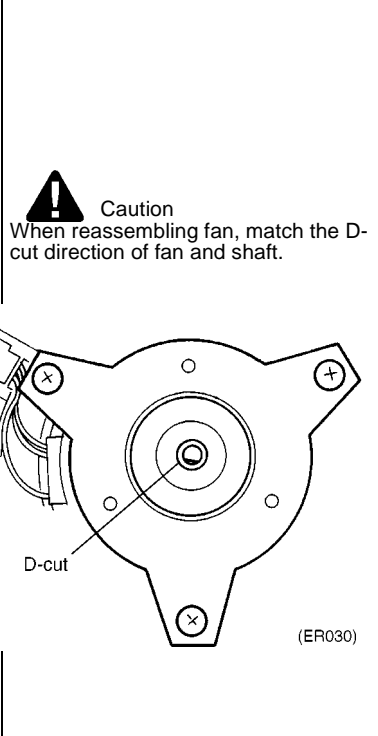
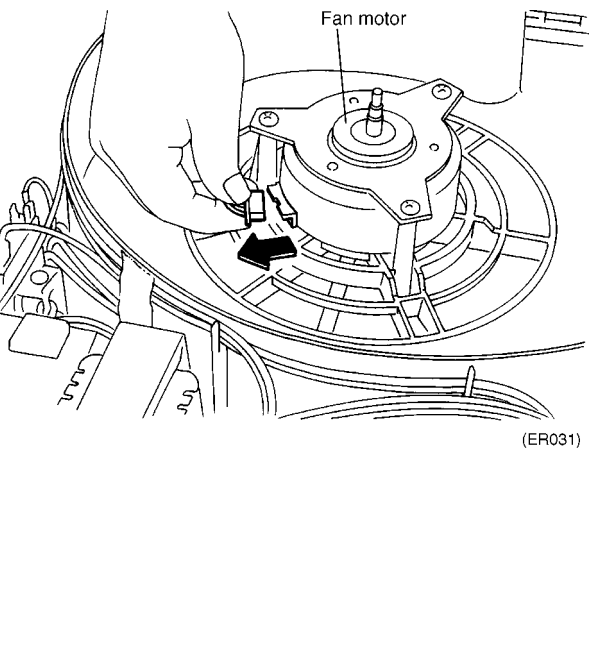
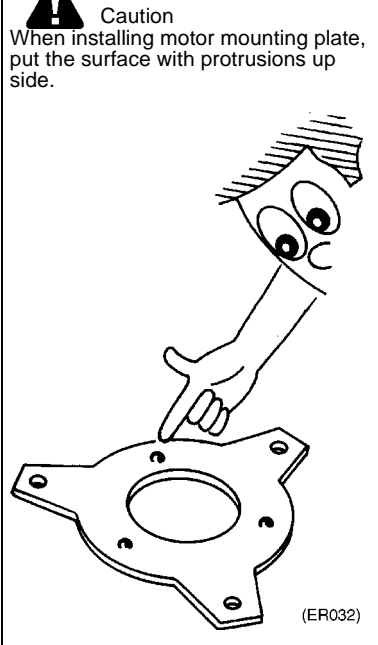
Step	Procedure	Procedure	Points
1	Dismount a screw located at bottom right of main body to remove display box.	 <p style="text-align: right;">(ER020)</p>	
2	Disengage 10 hooks.	 <p style="text-align: right;">(ER021)</p>	
3	Disengage the hooks to remove display PCB.	 <p style="text-align: right;">(ER022)</p>	

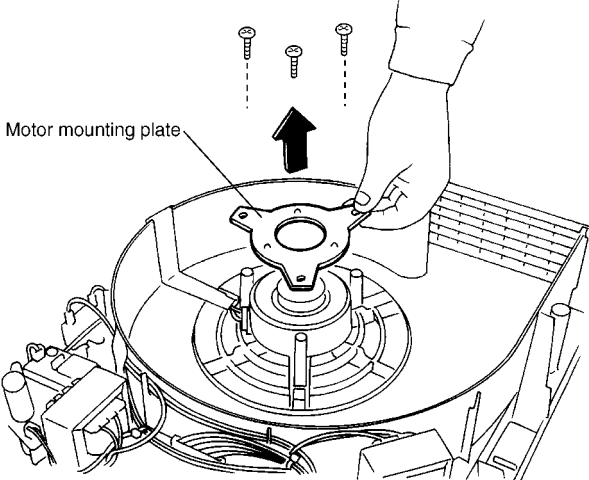
Step	Procedure	Points
4	Be careful not to lose protective sheet when removing gas sensor PCB.	
	 <p>Gas Sensor PCB</p> <p>(ER023)</p>	 <p>Protective sheet</p> <p>(ER024)</p>

Step	Procedure	Points
<p>5</p>	<p>Location of PCBs is shown in the following illustrations.</p> <p>High voltage power supply unit (ER025)</p> <p>Capacitor (only for ACEF4AV1) Transformer (ER027)</p> <p>Cold CRT inverter Sub-power supply PCB (only for ACEF4AV1) Power supply transformer (only for ACEF4AV1) (ER026)</p> <p>PCB assembly (for control) (ER028)</p>	

1.5 Removal of Fan Motor

Procedure  **Warning** Be sure to turn off all power supplies before disassembling work

Step	Procedure	Procedure	Points
1	Remove back panel to remove fan securing nut.		
2	Disconnect connector.		

Step	Procedure	Points
3	<p data-bbox="201 215 440 259">Remove three screws on motor mounting plate.</p>  <p data-bbox="507 383 687 405">Motor mounting plate</p> <p data-bbox="1038 748 1098 770">(ER033)</p>	

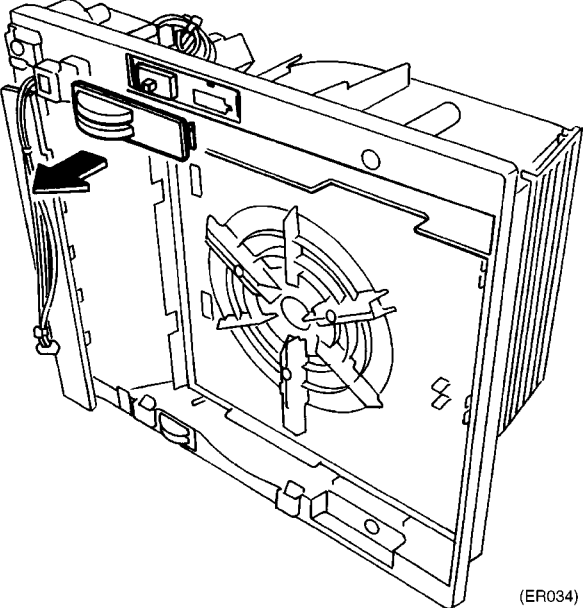
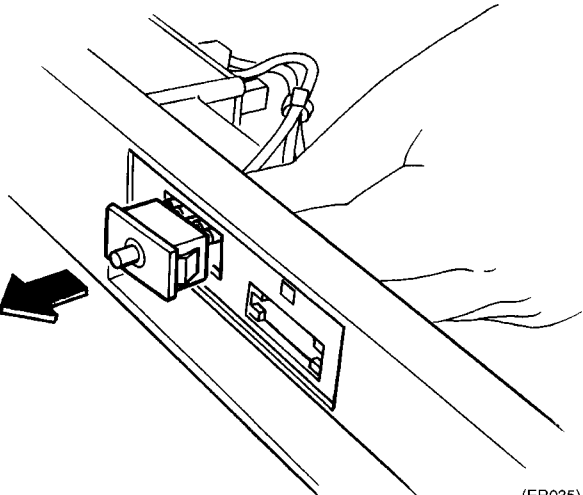
1.6 Removal of Safety Switch

Procedure




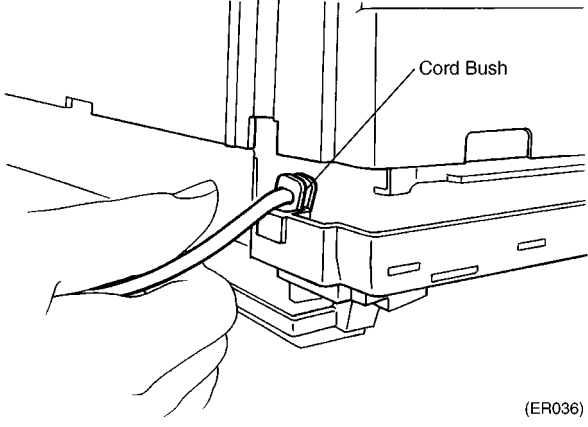
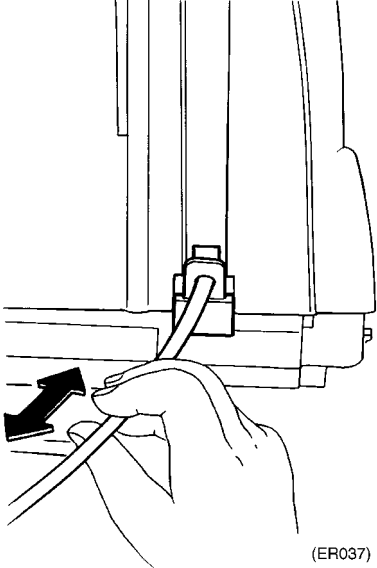
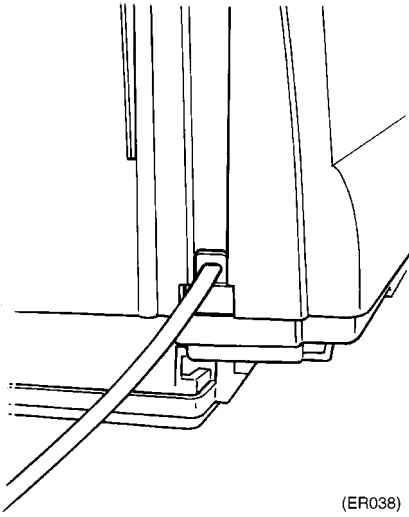
Warning

Be sure to turn off all power supplies before disassembling work

Step	Procedure	Procedure	Points
1	Remove door switch cover	 <p>(ER034)</p>	
2	To remove safety switch, push it out from back side.	 <p>(ER035)</p>	

1.7 Installation of Power Cable

Procedure  **Warning** Be sure to turn off all power supplies before disassembling work

Step	Procedure	Points
1	<p>Insert cord bushing to the hole at front side of main body.</p>  <p>(ER036)</p>	
2	<p>Adjust the bushing position in order to insert back panel into groove of cord bushing before install back panel.</p>  <p>(ER037)</p>	
3	<p>Installation of power cable is complete.</p>  <p>(ER038)</p>	

Part 6

Reference Data

1. Optional Accessories	49
1.1 Specifications	49
2. Wiring Diagram	50
2.1 ACEF3AV1-C, H.....	50
2.2 ACEF4AV1-C, H.....	51
3. Parts List	52
3.1 Parts Illustration.....	52
3.2 Parts List	53

1. Optional Accessories

1.1 Specifications

Unit

Model	ACEF3AV1-C,-H	ACEF4AV1-C,-H
Required Power Supply	220-240V 50Hz	
Outer Dimensions	395×462×180 (Without Stand) 395×479×184 (When Installed on Stand)	
Rated Power Consumption (W)	43	62
Air Blow Rate (m ³ /min)	High Speed 3.0 Normal Speed 2.0 Quiet 0.6 Low Speed 1.4	High Speed 3.8 Normal Speed 2.7 Quiet 0.6 Low Speed 1.7
Applicable Room Area	~30m ²	~40m ²
Weight	6.7	7.1
Replacement Ion Filter	KAC 12A	KAC 13A

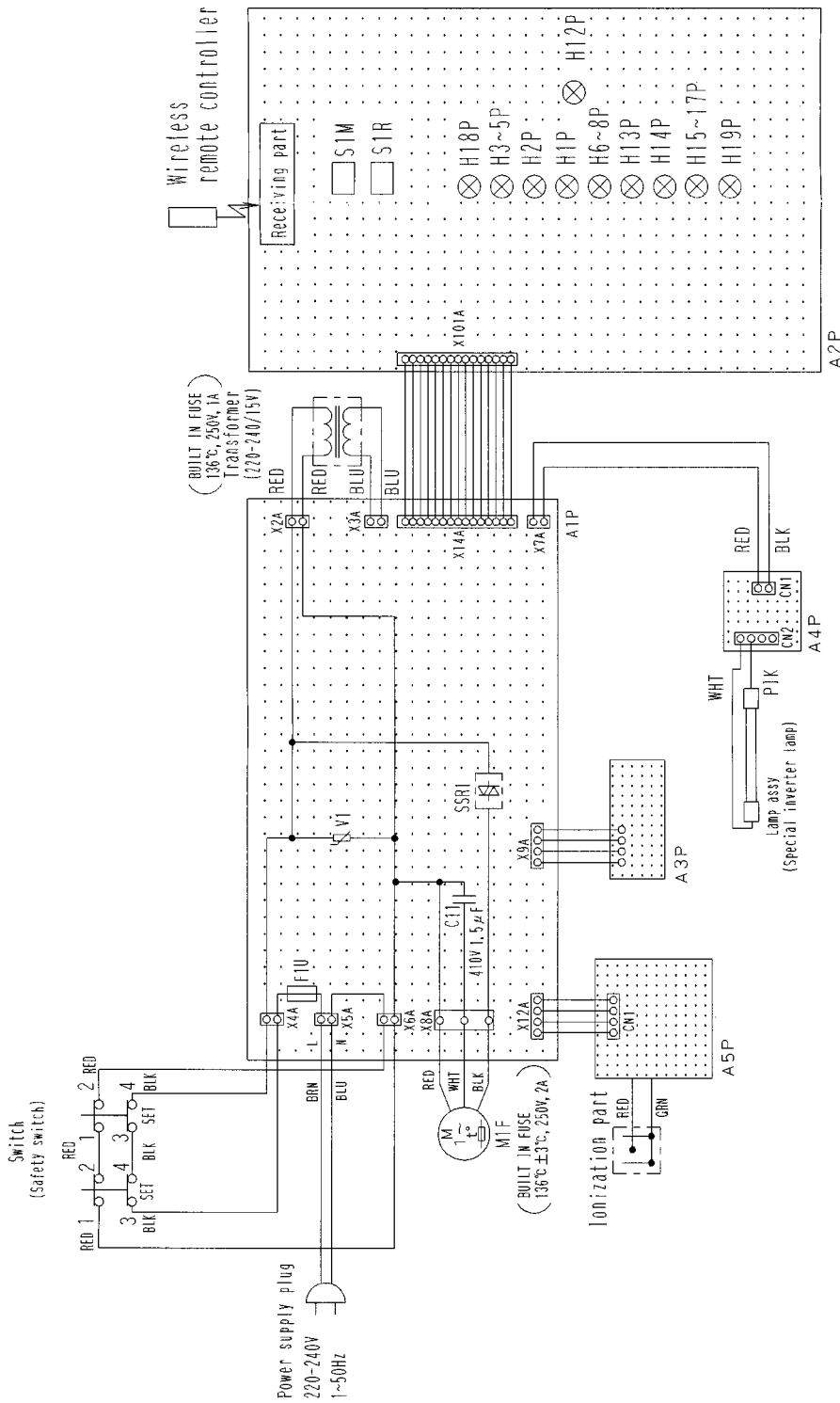
Screw

Location	Part Name	Designation	ACEF3/4 AV1-(C)(H)
Motor Mounting Plate	Tapping Screw + Truss Head	(2)M4X16N	3
Printed Circuit Board Assy (For Power Supply)	Pan Head Tapping	(2) M4X16	1
Rear Panel	Tapping Screw + Truss Head	(2)M4X16N	5
Printed Circuit Board Assy (For Power Supply) -Sensor Tunnel	Pan Head Tapping	(2) M4X16	1
Power Transformer-Sensor Tunnel	Tapping Screw + Truss Head	(2)M4X16N	1
Indicate Box Assy	Tapping Screw + Truss Head	(2)M4X16CHROME-PLATED	1
Inverter	Tapping Screw + Pan Head	(2)M3X12N	2
Contact Plate	Tapping Screw + Truss Head	(2)M4X16N	1
High Voltage Contact	Tapping Screw + Truss Head	(2)M4X16N	1
Power Transformer	Tapping Screw + Truss Head	(2)M4X16N	1
Power Transformer2	Tapping Screw + Truss Head	(2)M4X16N	2
Printed Circuit Board Assy(For Sub Power Supply)	Pan Head Tapping	(2) M4X12	2
Stepping Motor Assy	Tapping Screw + Truss Head	(2)M4X16N	0
Guide For Catalyst	Tapping Screw + Truss Head	(2)M4X12CHROME-PLATED	2
Fan	Nut	M6	1
Capacitor	Tapping Screw + Truss Head	(2)M4X16N	1

2. Wiring Diagram

2.1 ACEF3AV1-C, H

A1P	PRINTED CIRCUIT BOARD (FOR CONTROL)
A2P	PRINTED CIRCUIT BOARD (FOR INDICATION)
A3P	PRINTED CIRCUIT BOARD (FOR GAS SENSOR)
A4P	PRINTED CIRCUIT BOARD (FOR COLD CATHODE TUBE INVERTER)
A5P	PRINTED CIRCUIT BOARD (FOR HIGH VOLTAGE POWER SUPPLY UNIT)
F1U	FUSE(250V, 3A)
H1P	LED(AUTO OPERATION)
H2P	LED(ON SILENT)
H3P	LED(AIR QUANTITY)
H4P	LED(AIR QUALITY)
H5P	LED(PHOTO OPERATION LAMP)
H13P	LED(CIGARETTE)
H14P	LED(POLLEN)
H15~17P	LED(CUT OFF TIMER)
H18P	LED(FILTER CUT OFF)
H19P	LED(CLEANING OF IONIZATION PART)
M1F	FAN MOTOR
S1M	MAIN SWITCH
S1R	RESET SWITCH
S.SR.1	PHASE CONTROL CIRCUIT
V1	VARIABLE

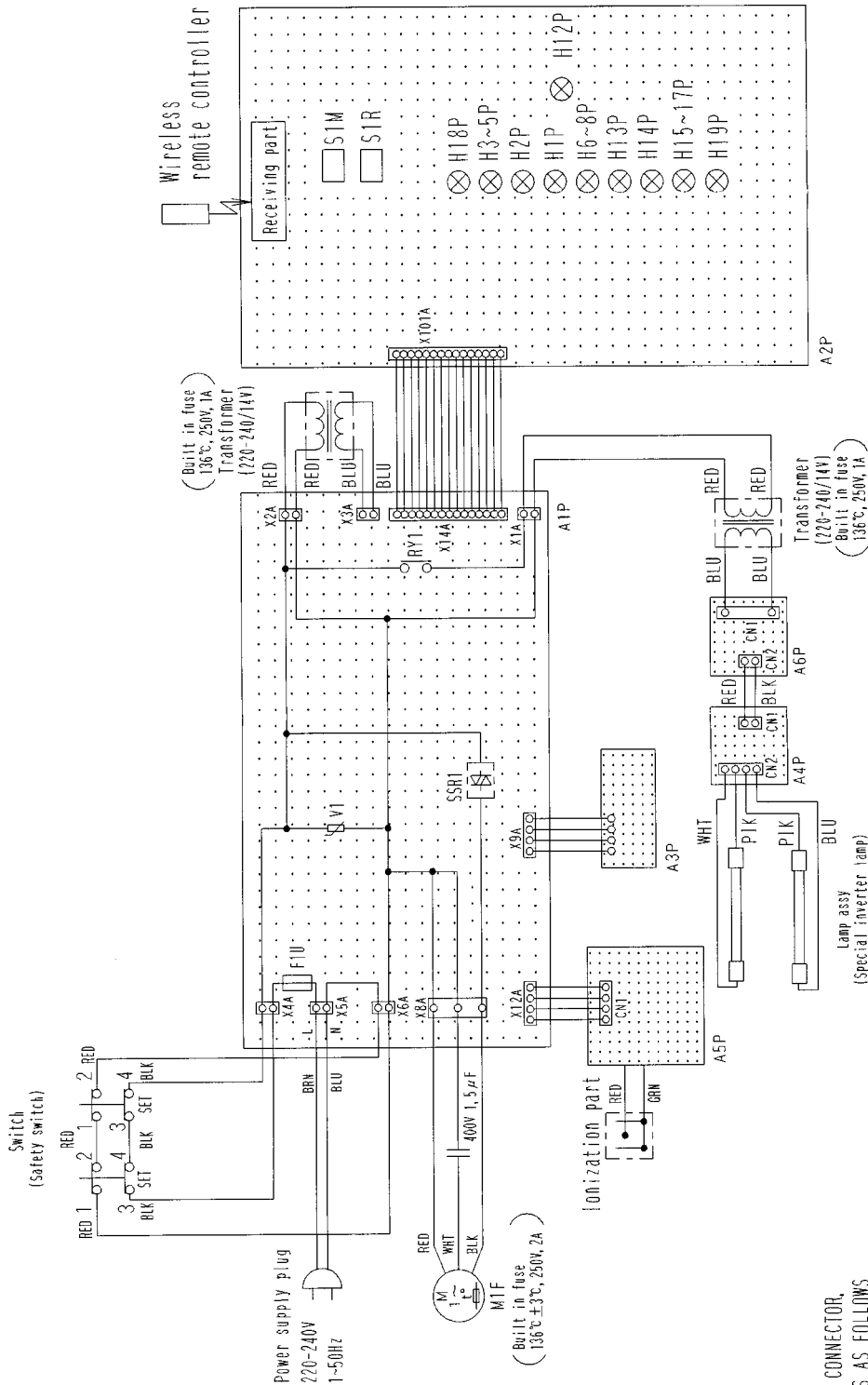


Note : 1. CN, X SHOWS A CONNECTOR.
 2. C SHOWS A CAPACITOR.
 3. SYMBOLS SHOWS AS FOLLOWS
 RED: RED BLK: BLACK WHT: WHITE YLW: YELLOW GRN: GREEN
 BLU: BLUE PIK: PINK BRN: BROWN

(ELO48)

2.2 ACEF4AV1-C, H

A1P	PRINTED CIRCUIT BOARD (FOR CONTROL)
A2P	PRINTED CIRCUIT BOARD (FOR INDICATION)
A3P	PRINTED CIRCUIT BOARD (FOR GAS SENSOR)
A4P	PRINTED CIRCUIT BOARD (FOR COLD CATHODE TUBE INVERTER)
A5P	PRINTED CIRCUIT BOARD (FOR HIGH VOLTAGE POWER SUPPLY UNIT)
A6P	PRINTED CIRCUIT BOARD (FOR SUB POWER SUPPLY)
F1U	FUSE(250V 3A)
H1P	LED(AUD OPERATION)
H2P	LED(LON SILENT)
H3~5P	LED(AIR QUANTITY)
H6~9P	LED(AIR QUALITY)
H10P	LED(PHOTO OPERATION LAMP)
H11P	LED(PHOTO)
H12P	LED(CIGARETTE)
H13P	LED(POLLEN)
H14P	LED(CUT OFF TIMER)
H15~17P	LED(FILTER CUT OFF)
H18P	LED(FILTER CUT OFF)
H19P	LED(CLEANING OF IONIZATION PART)
M1F	FAN MOTOR
RY1	RELAY
STM	MAIN SWITCH
STR	RESET SWITCH
SSR1	PHASE CONTROL CIRCUIT
V1	VARIABLE



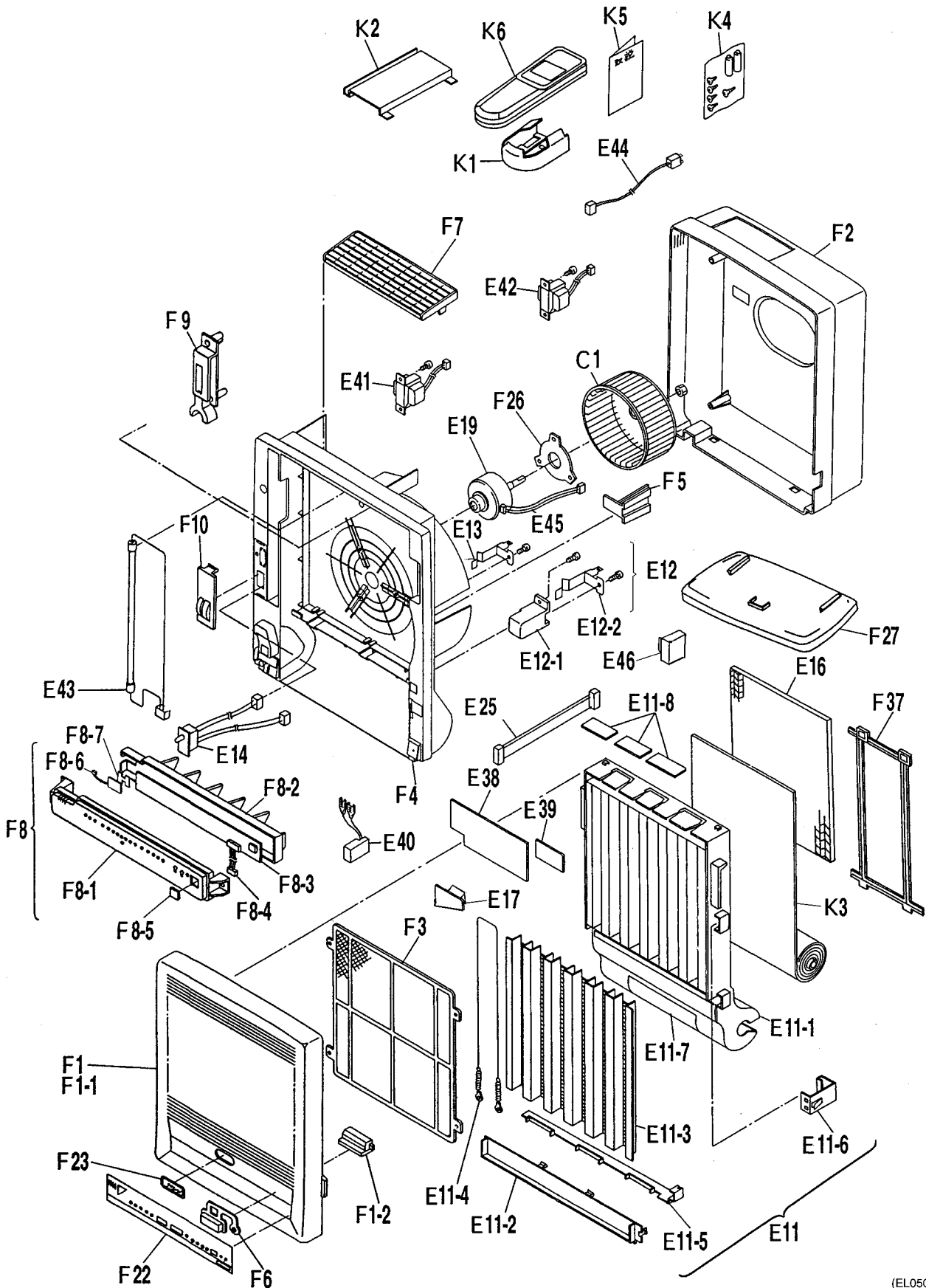
Note: 1, CN, X SHOWS A CONNECTOR,
 2, SYMBOLS SHOWS AS FOLLOWS
 RED:RED BLK:BLACK WHT:WHITE YLW:YELLOW GRN:GREEN
 BLU:BLUE PIK:PINK BRN:BROWN

(EL049)

3. Parts List

3.1 Parts Illustration

ACEF3/4AV1-C, H



(EL050)

3.2 Parts List

ACEF3/4AV1-C, H

No.	Index	Parts No.	Parts Name	Drwg. No.	Parts Model	Specification	Q'ty/Unit				Wiring Symbol	Notes
							ACEF3AV		ACEF4AV			
							1-C	1-H	1-C	1-H		
C1		0948119	SIROCCO FAN ASSY	3P003606-1			1	1	1	1		
E11	A	1071276	IONIZER AND ROLLCASE ASSY	3P010121-3			1	1	1	1		
E11-1		1069336	ION ROLL CASSETTE CASE	1P009666-2			1	1	1	1		
E11-2		1021194	IONIZER WIRE HOLD PLATE	3P009501-1		GREEN GRAY	1	1	1	1		
E11-3		1021202	ELECTRODE PLATE	3P006853-1			1	1	1	1		
E11-4		1041066	IONIZER WIRE ASSY	4PH11835-2			3	3	3	3		
E11-5		1021219	IONIZER WIRE MOUNTING PLATE	3P008923-1			1	1	1	1		
E11-6		1021226	EARTH PLATE	4P010468-1			1	1	1	1		
E11-7		1083301	OPERATION NAME PLATE	4P031138-1		55Kg/REAM WHITE	1	1	1	1		
E11-8		1069343	GUARD	4P028308-1		t0.125	3	3	3	3		
E12	A	0948809	CONTACTOR ASSY	4P010108-1			1	1	1	1		
E12-1		1021257	HIGH VOLTAG CONTACT PLATE FRAME	3P009404-1		COLOR GREEN GRAY	1	1	1	1		
E12-2		0948816	CONTACTOR	4P010467-1			1	1	1	1		
E13	A	0948816	CONTACTOR	4P010467-1			1	1	1	1		
E14	A	1083318	SAFETY SWITCH ASSY	4P027455-1			1	1	1	1		
E16	A	1041718	FILTER	3P026231-1			1	1	1	1		
E17	A	0812607	SUB POWER PCB	3PH14109-1	EH9608				1	1	A6P	
E19	A	1063422	SINGLE PHASE AC FAN MOTOR	3P025867-1		4P 18W 230V	1	1	1	1	M1F	
E25		1083615	WIRE HARNESS(FOR HVU)	4P028381-1			1	1	1	1		
E38	A	1063408	PCB ASSY(CONTROL)	2P025764-1			1	1			A1P	
E38	A	1063415	PCB ASSY(CONTROL)	2P025765-1	EH9821				1	1	A1P	
E39	A	0963550	INVERTER PCB ASS'Y	3P005968-1	EH9712		1	1			A4P	
E39	A	0960924	INVERTER PCB ASS'Y	3P005969-1					1	1	A4P	
E40	A	1071308	PCB ASSY(HIGH VOLTAGE POWER)	3P025771-1	HV9801		1	1	1	1	A5P	
E41	B	1071238	LOW FREQUENCY TRANSFORMER	3EA74047-1			1	1				
E41	B	1071245	LOW FREQUENCY TRANSFORMER	3EA74048-1					1	1		
E42	B	1071252	LOW FREQUENCY TRANSFORMER	3EA74048-2					1	1		
E43	A	0960948	LAMP ASSY	4P010948-1			1	1				
E43	A	0963497	LAMP ASSY	4P010949-1					1	1		
E44		1071315	POWER CABLE	3P030053-1		color:white	1		1			
E44		1071322	POWER CABLE	3P030053-2		color:black		1		1		
E45		1083325	WIRE HARNESS(FOR FAN MOTOR)	4P028383-1			1	1				
E45		1083332	WIRE HARNESS(FOR FAN MOTOR)	4P027456-1					1	1		
E46	A	625528	CAPACITOR	MI35015-4		1.5MF 400VAC			1	1		
F1		1083349	FRONT PANEL ASSY	3P025604-5			1					
F1		1083356	FRONT PANEL ASSY	3P025604-6				1				
F1		1083192	FRONT PANEL ASSY	3P025604-7					1			
F1		1083200	FRONT PANEL ASSY	3P025604-8						1		
F1-1		1083217	FRONT PANEL ASSY	3P026935-1			1		1			
F1-1		1083224	FRONT PANEL ASSY	3P026935-2				1		1		
F1-2	B	1069350	LIGHT MONITER	3P026218-1			1	1	1	1		
F2		1042766	REAR PANEL	1P007743-3			1		1			
F2		0952738	REAR PANEL	1P007743-2				1		1		
F3	A	0947572	PRE FILTER	1P009670-1			1	1	1	1		
F4		1071151	INSIDE FRAME	1P009062-2			1	1	1	1		
F5		0948289	WIRE CLAMP	3P009439-1			1	1	1	1		
F6	B	0948272	PUSH BUTTON	3P009078-1			1	1	1	1		
F7		1034152	DISCH.GRILLE (3)	3P008427-3		COLOUR BEIGE	1		1			
F7		0952745	DISCH.GRILLE (3)	3P008427-2				1		1		
F8		1083231	INDICATE BOX ASSY	3P026235-3			1	1	1	1		

No.	Index	Parts No.	Parts Name	Drwg. No.	Parts Model	Specification	Q'ty/Unit				Wiring Symbol	Notes
							ACEF3AV		ACEF4AV			
							1-C	1-H	1-C	1-H		
F8-1		1069312	DISPLAY BOX FRONT	1P009628-2			1	1	1	1		
F8-2		1069329	DISPLAY BOX	2P009024-1			1	1	1	1		
F8-3	A	1063390	PCB ASSY(FOR INDICATION)	2P025766-1	EH9822		1	1	1	1	A2P	
F8-4		1083248	WIRE HARNESS	4P027453-1			1	1	1	1		
F8-5		1021163	INFRARED RECEIVER UNIT LABEL	4P011300-1			1	1	1	1		
F8-6	A	1036901	GAS SENSOR PCB ASSY	3P005965-2	EH9711		1	1	1	1	A3P	
F8-7	B	1021365	PROTECTION SHEET	4P013881-1			1	1	1	1		
F9	B	0947750	SENSOR TUNNEL	2P008539-1			1	1	1	1		
F10	B	1021170	SWITCH COVER	3P008560-1			1	1	1	1		
F22		1083255	MANUFACTURER LABEL	4P031140-1		FRDSTED SILVER t0.05	1					
F22		1083262	MANUFACTURER LABEL	4P031140-2		FRDSTED SILVER t0.05		1				
F22		1083279	MANUFACTURER LABEL	4P031140-3		FRDSTED SILVER t0.05			1			
F22		1083286	MANUFACTURER LABEL	4P031140-4		FRDSTED SILVER t0.05				1		
F23		1083293	BLAND NAME LABEL	4P030906-1		t0.07	1	1	1	1		
F26		0948203	MOTOR MOUNTING PLATE	3P006693-1			1	1	1	1		
F27		1042742	STAND	1P026219-1			1		1			
F27		1042759	STAND	1P026219-2				1		1		
F37		1069374	GUIDE FOR CATALYST	3P026234-1		COLOR:GREEN GRAY	1	1	1	1		
K1		0811697	REMOTE CONTROLLER HOLDER	3PH13967-1			1	1	1	1		
K2		0377205	GUIDE	2PB21299-1			1	1	1	1		
K3	A	1083008	FILTER ASSY	4PB23743-6			1	1				
K3	A	1071562	FILTER ASSY	4PB23743-7					1	1		
K4		1083363	ACCESSORY KIT	4P025606-3			1	1	1	1		
K5		1083370	OPERATION MANUAL	3P026236-8			1	1	1	1		
K6	A	1083022	WIRELESS REMOTE CONTROLLER ASSY	3P026240-3			1	1	1	1		

Index

A	
Accessories	4
Air Blow Rate (m ³ /min)	49
Antiviral/Disinfecting Effect	3
Applicable Room Area	49
C	
Cautions and Warnings	iii
Changing the Ion Filter (Roll)	21
Cleaning of Prefilter and Ionizer	19
Convenient Ion Filter Roll	3
D	
Deodorizing	3
Designed for Quiet Running	3
Dust Collection	3
E	
Equipment does not Operate.	25
F	
Fit The Filter Roll.	12
H	
Harmful Gas Removal	3
How to Change the Ion Filter (Roll)	21
How to Clean the Front Panel	19
How to Clean the Ionizer	20
How to Clean the Prefilter	19
How to Fit The Ion Filter	11
How to Mount on Walls	13
How to Operate The Unit	14
I	
Indicator does not Change from "Dirty" to "Clean."	27
Indicator Lamps and their Functions	7
Installation of Power Cable	46
Introduction of Functions	3
Inverter Lamp (Photocatalytic cleaning).	3
Ionizer	20
N	
Names and Functions of Parts	6
O	
Optional Accessories	49
Outer Dimensions	49
P	
Parts Illustration	52
Parts List	52, 53
Photocatalytic Operation does not Activate.	29
Prefilter	19
R	
Rated Power Consumption (W)	49
Remote Controller Fails to Operate Equipment. ...	28
Removal of Electrical Parts (Inverter Lamp)	37
Removal of External Accessories	33
Removal of Fan Motor	43
Removal of Ionizing Wire	36
Removal of PCB	40
Removal of Safety Switch	45
Removal Procedure	31
Remove the Front Panel.	11
Remove The Ion Filter (Roll) Case.	11
Replacement Ion Filter	49
Required Power Supply	49
S	
Selecting an Installation Site.	13
Set Operating Mode as Needed.	5
Setup and Installation	11
T	
Tips for Appropriate Use	5
To Place on a Desk	13
Troubleshooting	25
W	
Weight	49
Wiring Diagram	
ACEF3AV1-C, H	50
ACEF4AV1-C, H	51

Drawings & Flow Charts

A		I	
Air Quality lamps	7	If not using the unit for long periods of time, unplug the power cable.	v
B		Indicator does not Change from "Dirty" to "Clean."	27
Before changing filters, cleaning the equipment or moving it, turn it OFF and unplug the power cable.	iii	Indicator Lamps and their Functions	7
C		Installation of Power Cable	46
Clean the ionizer.	20	K	
Clean the prefilter.	19	Keep the equipment 10 cm or more away from the wall when used on a table.	iv
Contents of Accessories	4	N	
Cut the ion filter.	21	Names and Functions of Parts	6
D		P	
Do not block the intake or outlet.	v	Parts Illustration	52
Do not disassemble, service or modify this equipment.	iii	Photocatalytic Operation does not Activate.	29
Do not insert fingers or objects into the openings of the suction and discharge grilles.	iv	Press the Reset button on the front panel.	22
Do not operate the equipment with wet hands.	iii	Prevent combustibles (hair sprays,), sparks and incense from being drawn into the unit.	iv
Do not place water containers such as fish bowls and flower vases near the equipment.	v	R	
Do not position the equipment on its side or tilt it during use.	v	Remote Controller Fails to Operate Equipment. ...	28
Do not use in humid places or places which might be wet, such as bathrooms.	iv	Removal of Electrical Parts (Inverter Lamp)	37
Do not use in the place of kitchen fans or cooker hood fans.	iv	Removal of External Accessories	33
Do not use near to sources of heat such as heaters.	iv	Removal of Fan Motor	43
Do not use outdoors or where exposed to direct sunlight.	iv	Removal of Ionizing Wire	36
Do not use the equipment in a place filled with oily smoke	iv	Removal of PCB	40
Do not use the equipment near a lighting fixture	iv	Removal of Safety Switch	45
Do not use the power cable if damaged or loose in the socket.	iii	Remove the Front Panel.	11
Do not use the power cable if it is damaged.	iii	Remove the front panel.	19
Do not wipe with benzene or thinner, or spray with insecticide.	v	Remove The Ion Filter (Roll) Case.	11
E		Remove the ion filter (roll) case.	20, 21
Equipment does not Operate.	25	Remove the prefilter.	19
F		S	
Fit The Filter Roll.	12	Select a sturdy wall or pillar when mounting the equipment on a wall.	iv
H		Selecting an Installation Site.	13
Hold the plug to unplug the power cord from the AC outlet. Do not pull the cord to unplug. ...	v	T	
How to Mount on Walls	13	Tips for Appropriate Use	5
How to Operate The Unit	14	To Place on a Desk	13
		To set fan speed manually	15
		To set the OFF timer	15
		U	
		Use only 220-240 VAC 50 Hz power supply.	iii
		V	
		Ventilate the room frequently when used together with a heating device.	v

W

Wiring Diagram50
 ACEF3AV1-C, H50
 ACEF4AV1-C, H51

DAIKIN INDUSTRIES, LTD.

Head office:

Umeda Center Bldg., 4-12, Nakazaki-Nishi 2-chome,
Kita-ku, Osaka, 530-8323 Japan

Tokyo office:

Shinjuku Sumitomo Bldg., 6-1 Nishi-Shinjuku
2-chome, Shinjuku-ku, Tokyo, 163-0235 Japan

DAIKIN EUROPE NV

Zandvoordestraat 300, B-8400 Oostende, Belgium