NOTE:
This service manual describes technical data of the indoor units.
• As for outdoor units MXZ-3A54VA-□, MXZ-4A71VA-□ and MXZ-4A80VA-□, refer to service manual OB377.
1. Indication of capacity has been changed. (BTU base → kW base)
2. Controller method between indoor and outdoor has been changed.
3. Power supply method has been changed (change to supply from outdoor unit).
4. Power supply cord has been removed.
5. Indoor electronic control P.C. board has been changed.
6. Position of terminal block has been changed.
7. Indoor fan motor has been changed. (AC → DC)
8. Indoor heat exchanger has been changed.
9. The horizontal vane motor unit has been changed.
   An external gear is added to the generalized stepping motor.
   The unit is structured so that the driving torque and stopping torque would increase.

10. The vertical vane motor unit has been added.
    An external gear is added to the generalized stepping motor.
    The unit is structured so that the driving torque and stopping torque would increase.

11. Front panel driving motor unit which opens and closes the front panel has been added.

12. PLASMA DEODORIZING/AIR PURIFYING filter units have been added.
13. i-see Sensor has been added.
    (i-see control operation and AREA setting have been added.)
14. Air cleaning filter has been removed.
15. Signal of remote controller has been changed. (It is not available for the conventional models.)
16. Symbol on terminal block has been changed (to S1/S2/S3).
**INDOOR UNIT**

**MSZ-FA25VA**
**MSZ-FA35VA**

- **PLASMA AIR PURIFYING filter**
- **Panel**
- **Heat exchanger**
- **Anti-mold air filter**
- **Air outlet**
- **Vertical vane**
- **Horizontal vane**
- **Line flow fan**
- **Air inlet**
- **Front panel**
- **PLASMA DEODORIZING filter**
- **Fan guard**
- **Remote controller**

**Auto front panel**
When the unit starts operating, the front panel opens automatically to draw in air. When the unit stops operating, the front panel closes automatically.

**Operation section**
(When the front panel is opened)

**Display section**

**POWER lamp**
**PLASMA/WASH lamp**
**AREA lamp**

**Emergency operation switch**
**WASH reset switch**

**Remote control receiving section**

**i-see Sensor**

**AREA lamp**
Indicate AREA setting
In AREA setting, the horizontal air flow direction changes automatically according to the detection of i-see Sensor which detects the floor/ wall temperature to air-condition the room evenly.

**i-see control operation**
i-see sensor constantly measures floor/wall temperature to automatically adjust to the set temperature by estimating the temperature actually perceived by a person inside the room (“sensible temperature”).
## ACCESSORIES

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation plate</td>
<td>1</td>
</tr>
<tr>
<td>Installation plate fixing screw 4 × 25 mm</td>
<td>5</td>
</tr>
<tr>
<td>Remote controller holder</td>
<td>1</td>
</tr>
<tr>
<td>Fixing screw for 3.5 × 1.6 mm (Black)</td>
<td>2</td>
</tr>
<tr>
<td>Battery (AAA) for remote controller</td>
<td>2</td>
</tr>
<tr>
<td>Wireless remote controller</td>
<td>1</td>
</tr>
<tr>
<td>Felt tape (Used for left or left-rear piping)</td>
<td>1</td>
</tr>
</tbody>
</table>

## REMOTE CONTROLLER

- **Signal transmitting section**
- **Operation display section**
- **OPERATE/STOP (ON/OFF) button**
- **Temperature buttons**
- **Indication of remote controller model is on back**
- **WIDE VANE button (Vertical vane button)**
- **OFF-TIMER button**
- **ON-TIMER button**
- **TIME SET buttons**
- **FORWARD button**
- **BACKWARD button**
- **CLOCK SET button**
- **VANE CONTROL button (Horizontal vane button)**
- **FAN SPEED CONTROL button**
- **OPERATION SELECT button**
- **ECONO COOL button**
- **PLASMA button**
- **AREA button**
- **i-see button**
- **RESET button**

Open the front lid.
### 3 SPECIFICATION

#### Indoor model

<table>
<thead>
<tr>
<th>Function</th>
<th>MSZ-FA25VA - ET</th>
<th>MSZ-FA35VA - ET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>Single phase</td>
<td>Single phase</td>
</tr>
<tr>
<td>Power outlet</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Running current</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Power input</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>Auxiliary heater</td>
<td>A(kW)</td>
<td>A</td>
</tr>
<tr>
<td>Power factor</td>
<td>%</td>
<td>57</td>
</tr>
<tr>
<td>Fan motor current</td>
<td>A</td>
<td>0.25</td>
</tr>
<tr>
<td>Model</td>
<td>RC0J40-EB</td>
<td>RC0J40-EB</td>
</tr>
<tr>
<td>Dimensions W×H×D</td>
<td>mm</td>
<td>780×298×198</td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td>10</td>
</tr>
</tbody>
</table>

**Special remarks**

| Air direction | 4               | 4               |
| Sound level(Super High) | dB(A)          | 42              |
| Sound level(HIGH/Low)      | dB(A)          | 36/29/21       |
| Fan speed(Super High)      | rpm            | 1,220           |
| Fan speed(HIGH/Low)        | rpm            | 1,010/800/610   |
| Thermistor RT11(at25˚C)    | kΩ             | 10              |
| Thermistor RT12(at25˚C)    | kΩ             | 10              |
| Thermistor RT13(at25˚C)    | kΩ             | 10              |
| Remote controller model    | KM05A          | KM05A           |

**When outdoor unit is MXZ type.**

<table>
<thead>
<tr>
<th>Function</th>
<th>MSZ-FA25VA - ET</th>
<th>MSZ-FA35VA - ET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>Single phase</td>
<td>Single phase</td>
</tr>
<tr>
<td>Power outlet</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Running current</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Power input</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>Auxiliary heater</td>
<td>A(kW)</td>
<td>A</td>
</tr>
<tr>
<td>Power factor</td>
<td>%</td>
<td>57</td>
</tr>
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</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td>10</td>
</tr>
</tbody>
</table>

**Special remarks**

| Air direction | 4               | 4               |
| Sound level(Super High) | dB(A)          | 42              |
| Sound level(HIGH/Low)      | dB(A)          | 36/29/21       |
| Fan speed(Super High)      | rpm            | 1,220           |
| Fan speed(HIGH/Low)        | rpm            | 1,010/800/610   |
| Thermistor RT11(at25˚C)    | kΩ             | 10              |
| Thermistor RT12(at25˚C)    | kΩ             | 10              |
| Thermistor RT13(at25˚C)    | kΩ             | 10              |
| Remote controller model    | KM05A          | KM05A           |

**NOTE**

Cooling: Indoor Dry-bulb temperature 27°C Wet-bulb temperature 19°C

Heating: Indoor Dry-bulb temperature 35°C Wet-bulb temperature 24°C

Refrigerant piping length (one way): 5m

*Reference value

1 Measured under rated operating frequency.

### Specifications and rating conditions of main electric parts

#### INDOOR UNIT

<table>
<thead>
<tr>
<th>Item</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuse</td>
<td>(F11)</td>
</tr>
<tr>
<td>Front panel driving motor</td>
<td>(MP)</td>
</tr>
<tr>
<td>i-see Sensor motor</td>
<td>(MT)</td>
</tr>
<tr>
<td>Horizontal vane motor</td>
<td>(MV1)</td>
</tr>
<tr>
<td>Vertical vane motor</td>
<td>(MV2)</td>
</tr>
<tr>
<td>Varistor</td>
<td>(NR11)</td>
</tr>
<tr>
<td>i-see Sensor</td>
<td>(RR)</td>
</tr>
<tr>
<td>Terminal block</td>
<td>(TB)</td>
</tr>
<tr>
<td></td>
<td>MSZ-FA25VA - ET</td>
</tr>
<tr>
<td></td>
<td>MSZ-FA35VA - ET</td>
</tr>
<tr>
<td>T3.15AL250V</td>
<td></td>
</tr>
<tr>
<td>NSEJ001DA1 12V DC 100Ω (at 25˚C)</td>
<td>MSBPC20M16 12V DC 250Ω (at 25˚C)</td>
</tr>
<tr>
<td>MP20Z 12V DC 300Ω (at 25˚C)</td>
<td>MSBPC20M11 12V DC 300Ω (at 25˚C)</td>
</tr>
<tr>
<td>ERZV14D471</td>
<td></td>
</tr>
<tr>
<td>A2TPM334F0V50HSOBA060P5L1J4S 5V DC</td>
<td></td>
</tr>
<tr>
<td>3P</td>
<td></td>
</tr>
</tbody>
</table>
NOISE CRITERIA CURVES

Test conditions,
Cooling: Dry-bulb temperature 27°C, Wet-bulb temperature 19°C
Heating: Dry-bulb temperature 20°C, Wet-bulb temperature 15°C

Approximate threshold of hearing for continuous noise

Indoor unit

WALL

1m

0.8m

Microphone
OUTLINES AND DIMENSIONS

MSZ-FA25VA - EN
MSZ-FA35VA - EN

INDOOR UNIT

Unit: mm

780
155 155
335 320
41.5 215
42.5 214
3 287.5
7055
5555 225 225

Wireless remote controller

11×26 Oblong hole
11×20 Oblong hole

Installation plate

Indoor unit

Air in

Wall hole 65

Air out

Installation plate

Liquid line Ø6.35 - 0.5m
Gas line Ø9.52 - 0.43m
Insulation Ø35 O.D
Ø19 I.D

Drain hose Ø16
(Connected part O.D)

Insulation Ø28

Required space (Indoor unit)

75 or more
75 or more

10 or more
11.5 or more

In case of left, left back, or
left under piping (using spacer),
6 WIRING DIAGRAM

MSZ-FA25VA - ET
MSZ-FA35VA - ET

MODELS WIRING DIAGRAM

INDOOR UNIT

TO OUTDOOR UNIT CONNECTING

INDOOR ELECTRONIC CONTROL P.C. BOARD

SYMBOl
DB111
F11
MF
MP
MV1
MV2
MT
NR1
PLASMA_A
PLASMA_D
RR
RT11
RT12
RT13
TB

NAME
DIODE STACK
FUSE (T3.15AL250V)
INDOOR FAN MOTOR
FRONT PANEL DRIVING MOTOR
i-see Sensor MOTOR
VANE MOTOR (HORIZONTAL)
VANE MOTOR (VERTICAL)
VARISTOR
TERMINAL BLOCK
TRANSFORMER

NOTE: 1. About the outdoor side electric wiring refer to the outdoor unit electric wiring diagram for servicing.
2. Use copper conductors only. (For field wiring)
3. Symbols below indicate.
   ☐: Terminal block, ☐☐☐: Connector

7 REFRIGERANT SYSTEM DIAGRAM

MSZ-FA25VA - ET
MSZ-FA35VA - ET

INDOOR UNIT

Refrigerant flow in cooling
Refrigerant flow in heating

Refrigerant pipe ø9.52 (with heat insulator)
Indoor coil thermistor RT12(main)
Indoor heat exchanger
Refrigerant pipe ø6.35 (with heat insulator)
Room temperature thermistor RT11

Refrigerant pipe ø9.52 (with heat insulator)
Indoor coil thermistor RT12(main)
Indoor heat exchanger
Refrigerant pipe ø6.35 (with heat insulator)
Room temperature thermistor RT11
8 SERVICE FUNCTIONS

MSZ-FA25VA -
MSZ-FA35VA -

8-1. TIMER SHORT MODE
For service, set time can be shortened by short circuit of JPG and JPS the electronic control P.C. board.
The time will be shortened as follows. (Refer to 9-7.)
Set time : 1-minute → 1-second
Set time : 3-minute → 3-second (It takes 3 minutes for the compressor to start operation. However, the starting time is shortened by short circuit of JPG and JPS.)

8-2. P.C. BOARD MODIFICATION FOR INDIVIDUAL OPERATION
A maximum of 4 indoor units with wireless remote controllers can be used in a room.
In this case, to operate each indoor unit individually by each remote controller, P.C. boards of remote controller must be modified according to the number of the indoor unit.

How to modify the remote controller P.C. board
Remove batteries before modification.
The board has a print as shown below:

Remote controller model : KM05A

The P.C. board has the print “J1” and “J2”. Solder “J1” and “J2” according to the number of indoor unit as shown in Table 1.
After modification, press the RESET button.

Table 1

<table>
<thead>
<tr>
<th>No. 1 unit</th>
<th>1 unit operation</th>
<th>2 units operation</th>
<th>3 units operation</th>
<th>4 units operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 2 unit</td>
<td>No modification</td>
<td>Same as at left</td>
<td>Same as at left</td>
<td>Same as at left</td>
</tr>
<tr>
<td>No. 3 unit</td>
<td>–</td>
<td>Solder J1</td>
<td>Same as at left</td>
<td>Same as at left</td>
</tr>
<tr>
<td>No. 4 unit</td>
<td>–</td>
<td>–</td>
<td>Solder J2</td>
<td>Same as at left</td>
</tr>
</tbody>
</table>

How to set the remote controller exclusively for particular indoor unit.
After you turn the breaker ON, the first remote controller that sends the signal to the indoor unit will be regarded as the remote controller for the indoor unit.
The indoor unit will only accepts the signal from the remote controller that has been assigned to the indoor unit once they are set.
The setting will be cancelled if the breaker has turned off, or the power supply has shut down.
Please conduct the above setting once again after the power has restored.

8-3. AUTO RESTART FUNCTION
When the indoor unit is controlled with the remote controller, the operation mode, the set temperature, and the fan speed are memorized by the indoor electronic control P.C. board. The “AUTO RESTART FUNCTION” sets to work the moment power has restored after power failure. Then, the unit will restart automatically.

Operation
① If the main power has been cut, the operation settings remain.
② After the power is restored, the unit restarts automatically according to the memory.
(However, it takes at least 3 minutes for the compressor to start running.)
How to release "AUTO RESTART FUNCTION"

1. Turn off the main power for the unit.
2. Solder the Jumper wire to JR07 on the indoor electronic control P.C. board. (Refer to 9-7.)

NOTE:
- The operation settings are memorized when 10 seconds have passed after the indoor unit was operated with the remote controller.
- If main power is turned OFF or a power failure occurs while AUTO START/STOP timer is active, the timer setting is cancelled.
- If the unit has been off with the remote controller before power failure, the auto restart function does not work as the power button of the remote controller is off.
- To prevent breaker off due to the rush of starting current, systematize other home appliance not to turn on at the same time.
- When some air conditioners are connected to the same supply system, if they are operated before power failure, the starting current of all the compressors may flow simultaneously at restart. Therefore, the special counter-measures are required to prevent the main voltage-drop or the rush of the starting current by adding to the system that allows the units to start one by one.

8-4. Remote controller
Be sure to set the slide switch inside the remote controller to an appropriate position in accordance with the installed position of the indoor unit. If the switch is not set correctly, the air conditioner may not function properly.

<table>
<thead>
<tr>
<th>Area</th>
<th>Left</th>
<th>Center</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position of the slide switch</td>
<td>L.C.R</td>
<td>L.C.R</td>
<td>L.C.R</td>
</tr>
<tr>
<td>Display on the remote controller</td>
<td>![Remote Controller Display]</td>
<td>![Remote Controller Display]</td>
<td>![Remote Controller Display]</td>
</tr>
</tbody>
</table>

Where is the indoor unit installed in your room?
- Installed at left, if the distance is not more than 50 cm.
- Installed at right, if the distance is not more than 50 cm.

Is the indoor unit installed at right, left or center?
- Yes
- No

NOTE: If the indoor unit is installed more than 50 cm away from the side walls, cabinets or other nearby objects, set the slide switch to the "center" position.
TROUBLESHOOTING

9

MSZ-FA25VA  MSZ-FA35VA
9-1. Cautions on troubleshooting
1. Before troubleshooting, check the following:
   1) Check the power supply voltage.
   2) Check the indoor/outdoor connecting wire for mis-wiring.
2. Take care the following during servicing.
   1) Before servicing the air conditioner, be sure to turn off the unit first with the remote controller, and then after confirming the horizontal vane is closed, turn off the breaker and / or disconnect the power plug.
   2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
   3) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
   4) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.

3. Troubleshooting procedure
   1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the abnormality indication is flashing on and off before starting service work.
   2) Before servicing check that the connector and terminal are connected properly.
   3) If the electronic control P.C. board is supposed to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.

4. How to replace batteries
   Weak batteries may cause the remote controller malfunction.
   In this case, replace the batteries to operate the remote controller normally.
   ① Remove the front lid and insert batteries. Then reattach the front lid.
   ② Press RESET button with tip end of ball point pen or the like, and then use the remote controller.

NOTE: 1. If RESET button is not pressed, the remote controller may not operate correctly.
       2. This remote controller has a circuit to automatically reset the microcomputer when batteries are replaced.
       This function is equipped to prevent the microcomputer from malfunctioning due to the voltage drop caused by the battery replacement.

5. How to install the horizontal vane
   If horizontal vane is not installed correctly, All of the operation indicator lamps will blink.
   In this case, install the horizontal vane correctly by following the procedures ① to ②.

NOTE: Before installation of the horizontal vane, turn OFF the power supply.
6. How to remove and install PLASMA DEODORIZING / AIR PURIFYING filter units

If PLASMA/WASH lamp on the indoor unit blinks, clean the filters as soon as possible. The lamp will start blinking when accumulated operating time exceeds 330 hours.

<Remove>
(1) Switch the indoor unit OFF with the remote controller and disconnect the power supply plug and/or turn OFF the breaker.

**NOTE:** Otherwise, you may get injured since PLASMA DEODORIZING/AIR PURIFYING filter units are charged with high voltage.
(2) Hold the knobs on both sides of the front panel and lift the panel up until its level.
(3) Remove the anti-mold air filter. (See Figure 1.)
(4) Remove PLASMA DEODORIZING/AIR PURIFYING filter units. (See Figure 2.)

<Install>
(1) Insert the top of PLASMA DEODORIZING/AIR PURIFYING filter units into the aperture in the plasma element holder. (See Figure 3.)
(2) Push in PLASMA DEODORIZING/AIR PURIFYING filter units until they click into place.
- The front panel does not close if PLASMA DEODORIZING/AIR PURIFYING filter units are not installed properly.
(3) Install the anti-mold air filter.
(4) Connect the power supply plug and/or turn ON the breaker.
(5) Press WASH reset switch. A short “beep” is heard and the blinks of PLASMA/WASH lamp will be cancelled. Make sure PLASMA/WASH lamp is not blinking at the start of operation next time. (See Figure 4.)
(6) Hold both sides of the front panel and close the front panel.
(7) Press the 3 positions on the front panel as indicated by the arrows. (See Figure 5.)

**NOTE:**
Install PLASMA DEODORIZING/AIR PURIFYING filter units only when they are completely dry. If the filter unit remains wet, PLASMA/WASH lamp may blink and the plasma function may be disabled.(When PLASMA DEODORIZING/AIR PURIFYING filter units are cleaned.)
INFORMATION FOR MULTI SYSTEM AIR CONDITIONER
OUTDOOR UNIT : MXZ series

Multi system air conditioner can connect two or more indoor units with one outdoor unit.

• Unit won’t operate in case the total capacity of indoor units exceeds the capacity of outdoor units. Do not connect indoor units beyond the outdoor unit capacity.

Operation indicator lamp flashes as shown in the figure below.

• When you try to operate two or more indoor units with one outdoor unit simultaneously, one for the cooling and the other for heating, the operation mode of the indoor unit that operates earlier is selected. The other indoor units which start the operation later cannot operate, indicating as shown in the figure below. In this case, please set all the indoor units to the same operation mode.

- When indoor units start the operation while the defrosting of outdoor unit is being done, it takes a few minutes (max. 10 minutes) to blow out the warm air.

- In the heating operation, though indoor unit that does not operate may get warm or the sound of refrigerant flowing may be heard, they are not malfunction. The reason is that the refrigerant continuously flows into it.
9-2. Failure mode recall function

Outline of the function

This air conditioner can memorize the abnormal condition which has occurred once. Even though LED indication listed on the troubleshooting check table disappears, the memorized failure details can be recalled.

This mode is very useful when the unit needs to be repaired for the abnormality which doesn't recur.

1. Flow chart of the indoor/outdoor unit failure mode recall function

Operational procedure

Setting up the failure mode recall function

1. While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
2. First, release RESET button. And release the other two buttons since all LCD in operation display section of the remote controller is displayed after 3 seconds.

Press OPERATE/STOP(ON/OFF) button of the remote controller (the set temperature is displayed).
With the remote controller headed towards the indoor unit, press TOO COOL or TOO WARM button to adjust the set temperature to 24℃.

Does POWER lamp on the indoor unit blink at the interval of 0.5 seconds?
Blinks: Either indoor or outdoor unit is abnormal. Beep sounds are emitted at the same timing of the blinking of POWER lamp.

Judgment of indoor/outdoor abnormality

No (OFF)

Yes (Blinks)

Before blinking, does POWER lamp stay ON for 3 seconds?
Stays ON for 3 seconds (without beep): The outdoor unit is abnormal.

Releasing the failure mode recall function

Release the failure mode recall function by the following procedures.

1. With the remote controller headed towards the indoor unit, press any button that is not used in this failure mode recall function (e.g. TIMER button).
   OR
   1. Turn OFF the power supply and turn ON it again.
   2. Press RESET button of the remote controller.

Repair the defective parts.

Deleting the abnormal condition

1. After repairing the unit, recall the failure mode again according to “Setting up the failure mode recall function” mentioned above.
2. Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted.
3. Release the failure mode recall function according to “Releasing the failure mode recall function” mentioned above.

Note1: Make sure to release the failure mode recall function once it's set up, otherwise the unit cannot operate properly.
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

**Blinking pattern when the indoor unit is abnormal:**

**Blinking pattern when the outdoor unit is abnormal:**

---

*1. Regardless of normal or abnormal, a short beep is emitted once as the signal is received.*

*2. Blinking pattern when the indoor unit is abnormal:*

*3. Blinking pattern when the outdoor unit is abnormal:*

---

*As for outdoor unit MUZ type, refer to service manual OB372.*

*As for outdoor unit MXZ type, refer to service manual OB377.*
2. Flow chart of PLASMA DEODORIZING/PLASMA AIR PURIFYING power failure mode recall function

**Operational procedure**

- There is a possibility that the plasma unit is abnormal. Confirm the presence of abnormality according to the following procedures.

- Confirm that the remote controller is in the failure mode recall function.

- With the remote controller headed towards the indoor unit, press TOO COOL or TOO WARM button to adjust the set temperature to 23°C.

- **Yes** (Blinks) The plasma unit is abnormal. Beep sounds are emitted at the same time of the blinking of POWER lamp.

- **No** (OFF) The plasma unit is normal.

**Confirmation of abnormality presence**

- **Yes** (Blinks)

**Releasing the failure mode recall function**

- Release the failure mode recall function by the following procedures.
  1. With the remote controller headed towards the indoor unit, press any button that is not used in this failure mode recall function (e.g. TIMER button).
  2. Turn OFF the power supply and turn ON it again.
  3. Press RESET button of the remote controller.

**Deleting the abnormal condition**

- After repairing the unit, recall the failure mode again according to "Setting up the failure mode recall function" mentioned above.
- Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted.
- Release the failure mode recall function according to "Releasing the failure mode recall function" mentioned above.

**Note 1.** Make sure to release the failure mode recall function once it’s set up, otherwise the unit cannot operate properly.

2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

**2. Blinking pattern when outdoor unit is abnormal:**

- 2.5-second OFF
- Blinking at 0.5-second interval
- Beeps

**3. PLASMA DEODORIZING/PLASMA AIR PURIFYING power operation check**

PLASMA DEODORIZING/PLASMA AIR PURIFYING power goes ON when PLASMA button on the remote controller is pressed once while the indoor error indication is being checked or after one short beep sound (signal reception beep) is emitted. PLASMA button is pressed, the power of plasma is changed in sequence:

- PLASMA DEODORIZING power goes ON
- PLASMA AIR PURIFYING power goes ON
- Cancel

Check the operation display section of the remote controller to confirm that PLASMA DEODORIZING power or PLASMA AIR PURIFYING power is activated.

While PLASMA/WASH lamp stays OFF, and it means normal. Flashing PLASMA/WASH lamp means abnormal, and the plasma power is not being conducted.

<table>
<thead>
<tr>
<th>PLASMA/WASH lamp</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuously flashes</td>
<td>Follow &quot;Check of PLASMA DEODORIZING power&quot; or &quot;Check of PLASMA AIR PURIFYING power&quot; to identify the error.(Refer to 9-6. or 6.)</td>
</tr>
<tr>
<td>2-time flash</td>
<td>PLASMA DEODORIZING power or PLASMA AIR PURIFYING power control circuit on the indoor electronic control P.C. board is out of order.(Refer to 9-6. or 6.)</td>
</tr>
</tbody>
</table>

**NOTE:** Perform the above mentioned check with the front panel closed. Panel open is detected by the SAFETY DEVICE (PLASMA UNIT).
4. Indoor unit failure mode table

NOTE: Blinking patterns of this mode differs from the ones of Troubleshooting check table(9-4.).

<table>
<thead>
<tr>
<th>POWER lamp</th>
<th>Abnormal point (Failure mode)</th>
<th>Detection method</th>
<th>Check point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not lighted</td>
<td>Normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-time flash every 0.5-second</td>
<td>Room temperature thermistor</td>
<td>When the room temperature thermistor short or open circuit is detected every 8 seconds during operation.</td>
<td>Refer to the characteristics of the room temperature thermistor (9-7.).</td>
</tr>
<tr>
<td>2-time flash 2.5-second OFF</td>
<td>Indoor coil thermistor</td>
<td>When the indoor coil thermistor short or open circuit is detected every 8 seconds during operation.</td>
<td>Refer to the characteristic of the main indoor coil thermistor, the sub indoor coil thermistor (9-7.).</td>
</tr>
<tr>
<td>3-time flash 2.5-second OFF</td>
<td>Serial signal error</td>
<td>When the serial signal from outdoor unit is not received for a maximum of 6 minutes.</td>
<td>Refer to 9-6. &quot;How to check miswiring and serial signal error&quot;.</td>
</tr>
<tr>
<td>11-time flash 2.5-second OFF</td>
<td>Indoor fan motor</td>
<td>When the rotational frequency feedback signal is not emit during 12-second the indoor fan operation.</td>
<td>Refer to 9-6. &quot;Check of indoor fan motor&quot;.</td>
</tr>
<tr>
<td>12-time flash 2.5-second OFF</td>
<td>Indoor control system</td>
<td>When it cannot properly read data in the nonvolatile memory of the indoor electronic control P.C. board.</td>
<td>Replace the indoor electronic control P.C. board.</td>
</tr>
</tbody>
</table>

5. PLASMA DEODORIZING/PLASMA AIR PURIFYING power failure mode table

<table>
<thead>
<tr>
<th>POWER lamp</th>
<th>Abnormal point (Failure mode)</th>
<th>Detection method</th>
<th>Check point</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-time flash</td>
<td>PLASMA DEODORIZING/PLASMA AIR PURIFYING power control</td>
<td>When PLASMA DEODORIZING/PLASMA AIR PURIFYING power cannot be turned OFF.</td>
<td>Replace the indoor electronic control P.C. board.</td>
</tr>
<tr>
<td>2-time flash</td>
<td>Spark discharge</td>
<td>When the voltage between CN1 (+) and (GND) on the PLASMA POWER P.C. board (PLASMA DEODORIZING or PLASMA AIR PURIFYING) falls below 1.6V(spark discharge judgment voltage).</td>
<td>Refer to 9-6. &quot;Check of PLASMA DEODORIZING power&quot; or 9-6. &quot;Check of PLASMA AIR PURIFYING power&quot;.</td>
</tr>
<tr>
<td>3-time flash</td>
<td>Abnormal electric discharge error 1</td>
<td>When the voltage between CN1 (+) and (GND) on the PLASMA POWER P.C. board (PLASMA DEODORIZING or PLASMA AIR PURIFYING) falls 0.9V below the normal range voltage.</td>
<td>Refer to 9-6. &quot;Check of PLASMA DEODORIZING power&quot; or 9-6. &quot;Check of PLASMA AIR PURIFYING power&quot;.</td>
</tr>
<tr>
<td>4-time flash</td>
<td>Abnormal electric discharge error 2</td>
<td>When the voltage between CN1 (+) and (GND) on the PLASMA POWER P.C. board (PLASMA DEODORIZING or PLASMA AIR PURIFYING) falls significantly. (0.4V / 0.5ms)</td>
<td>Refer to 9-6. &quot;Check of PLASMA DEODORIZING power&quot; or 9-6. &quot;Check of PLASMA AIR PURIFYING power&quot;.</td>
</tr>
<tr>
<td>5-time flash</td>
<td>PLASMA DEODORIZING/PLASMA AIR PURIFYING power</td>
<td>When the voltage between CN1 (+) and (GND) on the PLASMA POWER P.C. board (PLASMA DEODORIZING or PLASMA AIR PURIFYING) rises above the normal voltage value (3V).</td>
<td>Refer to 9-6. &quot;Check of PLASMA DEODORIZING power&quot; or 9-6. &quot;Check of PLASMA AIR PURIFYING power&quot;.</td>
</tr>
</tbody>
</table>

* As soon as an error is detected, PLASMA DEODORIZING power or PLASMA AIR PURIFYING power goes OFF, therefore measuring instrument which records the voltage wave is required in order to perform the above mentioned voltage measurement.
9-3. Instruction of troubleshooting

**Start**

- Indoor unit operates. Outdoor unit doesn't operate.
- Indoor unit operates. Outdoor unit doesn't operate normally.
- Indoor unit doesn't receive the signal from remote controller.
- Outdoor unit operates in only Test Run operation. *

**Indoor unit operation**

- Operation indicator lamp on the indoor unit is flashing on and off.
- Operation indicator lamp on the indoor unit stays off.
- Outdoor unit operates. Outdoor unit doesn't operate even in Test Run operation.

**Check room temperature thermistor. Refer to 9-7. "Test point diagram and voltage".**

**Outdoor unit operation**

- Outdoor unit operates in only Test Run operation. *
- Unit doesn't operate even in Test Run operation. *
- Indoor unit operates, when EMERGENCY OPERATION switch is pressed.
- Indoor unit doesn't operate, when EMERGENCY OPERATION switch is pressed.

**Check of remote controller and receiver P.C. board**

- Check of indoor fan motor.
- Replace the indoor electronic control P.C. board.
- Replace the inverter P.C. board or the outdoor electronic control P.C. board.
- Replace the outdoor control system.
- Replace the outdoor power system abnormality.
- Replace the outdoor control system.
- Replace the outdoor power control or PLASMA AIR PURIFYING power control.
- Replace the indoor electronic control P.C. board.

**All lamps Flash on and off at 0.5-second intervals Cause:** Indoor unit
- The horizontal vane is not installed correctly.

**Check of installation of the horizontal vane**

- Check of indoor fan motor.
- Replace the inverter P.C. board.
- Check flow chart of the detailed outdoor unit failure mode recall function.

---

As for outdoor unit MUZ type, refer to service manual OB372.
As for outdoor unit MXZ type, refer to service manual OB377.
### 9-4. Troubleshooting check table

<table>
<thead>
<tr>
<th>No.</th>
<th>Abnormal point</th>
<th>Operation indicator lamp</th>
<th>Symptom</th>
<th>Detection method</th>
<th>Check point</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mis-Wiring or serial signal</td>
<td>POWER lamp flashes. 0.5-second ON</td>
<td>Outdoor unit does not operate.</td>
<td>When the serial signal from the outdoor unit is not received for a maximum of 6 minutes.</td>
<td>• Refer to 9-6. &quot;How to check mis-wiring and serial signal error&quot;.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POWER lamp lights up</td>
<td>Outdoor unit does not operate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Outdoor control system</td>
<td>POWER lamp flashes. 2-time flash</td>
<td>Indoor unit and outdoor unit do not operate.</td>
<td>When it cannot properly read data in the nonvolatile memory of the inverter P.C. board or the outdoor electronic control P.C. board.</td>
<td>Check the blinking pattern of the LED on the inverter P.C. board or the outdoor electronic control P.C. board.</td>
</tr>
<tr>
<td>3</td>
<td>Indoor coil thermistor</td>
<td>POWER lamp flashes. 2-time flash</td>
<td>Indoor unit and outdoor unit do not operate.</td>
<td>When the indoor coil or the room temperature thermistor is short or open circuit.</td>
<td>Refer to 9-7. the characteristics of indoor coil thermistor, and the room temperature thermistor.</td>
</tr>
<tr>
<td>4</td>
<td>Indoor fan motor</td>
<td>POWER lamp flashes. 3-time flash</td>
<td>Indoor unit and outdoor unit do not operate.</td>
<td>When the rotational frequency feedback signal is not emit during the indoor fan operation.</td>
<td>Refer to 9-7. &quot;Check of indoor fan motor&quot;.</td>
</tr>
<tr>
<td>5</td>
<td>Outdoor power system</td>
<td>POWER lamp flashes. 5-time flash</td>
<td>Indoor unit and outdoor unit do not operate.</td>
<td>When it consecutively occurs 3 times that the compressor stops for overcurrent protection or start-up failure protection with in 1 minute after start-up.</td>
<td>Refer to &quot;Check of inverter/compressor&quot;. Refer to service manual OB372 or OB377. Check the stop valve.</td>
</tr>
<tr>
<td>6</td>
<td>Outdoor thermostors</td>
<td>POWER lamp flashes. 6-time flash</td>
<td>Indoor unit and outdoor unit do not operate.</td>
<td>When the outdoor thermostors short or open circuit during the compressor operation.</td>
<td>Refer to &quot;Check of outdoor thermistor&quot;. Refer to service manual OB372 or OB377.</td>
</tr>
<tr>
<td>7</td>
<td>Outdoor control system</td>
<td>POWER lamp flashes. 7-time flash</td>
<td>Indoor unit and outdoor unit do not operate.</td>
<td>When it cannot properly read data in the nonvolatile memory of the inverter P.C. board or the outdoor electronic control P.C. board.</td>
<td>Replace the inverter P.C. board or the outdoor electronic control P.C. board. Refer to service manual OB372 or OB377.</td>
</tr>
<tr>
<td>8</td>
<td>Other abnormality</td>
<td>POWER lamp flashes. 14-time flash</td>
<td>Indoor unit and outdoor unit do not operate.</td>
<td>An abnormality other than above mentioned is detected.</td>
<td>Confirm the abnormality in detail using the failure mode recall function.</td>
</tr>
</tbody>
</table>

**NOTE:** Before taking measures, make sure that the symptom reappears for accurate troubleshooting.

Self check table

- **Lighted**
- **Blinking**
- **Not lighted**

- Flashing of POWER lamp indicates abnormalities.

### 9-4. Troubleshooting check table

- **Before taking measures, make sure that the symptom reappears for accurate troubleshooting.**

- **Self check table**
  - **Lighted**
  - **Blinking**
  - **Not lighted**

- **Flash of POWER lamp indicates abnormalities.**

### 9-4. Troubleshooting check table

- **Before taking measures, make sure that the symptom reappears for accurate troubleshooting.**

- **Self check table**
  - **Lighted**
  - **Blinking**
  - **Not lighted**

- **Flash of POWER lamp indicates abnormalities.**
### Flashing of AREA lamp (left-hand side lamp) indicates abnormality.

<table>
<thead>
<tr>
<th>No.</th>
<th>Abnormal point</th>
<th>Operation indicator lamp</th>
<th>Symptom</th>
<th>Detection method</th>
<th>Check point</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Indoor control system</td>
<td>Left lamp of AREA lamp flashes. 4-time flash 2.5-second OFF</td>
<td>Indoor unit and outdoor unit do not operate.</td>
<td>When it cannot properly read data in the nonvolatile memory of the indoor electronic control P.C. board.</td>
<td>• Replace the indoor electronic control P.C. board.</td>
</tr>
</tbody>
</table>

### Flashing of All lamps indicate abnormality.

<table>
<thead>
<tr>
<th>No.</th>
<th>Abnormal point</th>
<th>Operation indicator lamp</th>
<th>Symptom</th>
<th>Detection method</th>
<th>Check point</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attachment of the horizontal vane</td>
<td>All lamps flash at the same time. 0.5-second ON 0.5-second OFF</td>
<td>Indoor unit and outdoor unit do not operate.</td>
<td>When the electricity is not conducted to the interlock switch (Fan) of the horizontal vane.</td>
<td>• Refer to 9-6. &quot;Check of installation of the horizontal vane&quot;.</td>
</tr>
</tbody>
</table>

### Flashing of AREA lamp (both lamps) indicates abnormality. • POWER lamp is lighted.

<table>
<thead>
<tr>
<th>No.</th>
<th>Abnormal point</th>
<th>Operation indicator lamp</th>
<th>Symptom</th>
<th>Detection method</th>
<th>Check point</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MXZ type Operation mode setting</td>
<td>Both lamps flash 2.5-second OFF</td>
<td>Outdoor unit operates but indoor unit does not operate.</td>
<td>When the operation mode of the each indoor unit is differently set to COOL (includes DRY) and HEAT at the same time, the operation mode of the indoor unit that has operated at first has the priority.</td>
<td>• Unify the operation mode. Refer to service manual OB377.</td>
</tr>
</tbody>
</table>

### Flashing of PLASMA/WASH lamp indicates abnormality.

<table>
<thead>
<tr>
<th>No.</th>
<th>Abnormal point</th>
<th>Operation indicator lamp</th>
<th>Symptom</th>
<th>Detection method</th>
<th>Check point</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PLASMA DEODORIZING PLASMA AIR PURIFYING power control</td>
<td>PLASMA/WASH lamp flashes. 2-time flash 2.5-second OFF</td>
<td>Indoor unit and outdoor unit do not operate.</td>
<td>When PLASMA DEODORIZING power or PLASMA AIR PURIFYING power can not be turned OFF.</td>
<td>• Replace the indoor electronic control P.C. board.</td>
</tr>
</tbody>
</table>

**NOTE:** Before taking measures, make sure that the symptom reappears for accurate troubleshooting.

**Self check table**

**NOTE:** When the indoor unit has started operation and the above detection method has detected an abnormality (the first detection after the power ON), the indoor electronic control P.C. board turns OFF the indoor fan motor with OPERATION INDICATOR lamp flashing.
9-5. Trouble criterion of main parts

**MSZ-FA25VA - E1 MSZ-FA35VA - E1**

<table>
<thead>
<tr>
<th>Part name</th>
<th>Check method and criterion</th>
<th>Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room temperature thermistor (RT11)</td>
<td>Measure the resistance with a tester. (Part temperature 10°C ~ 30°C)</td>
<td><img src="image1" alt="Diagram" /></td>
</tr>
<tr>
<td>Indoor coil thermistor (RT12(MAIN), RT13(SUB))</td>
<td>Normal: 8 kΩ ~ 20 kΩ Abnormal: Open or short-circuit</td>
<td><img src="image2" alt="Diagram" /></td>
</tr>
<tr>
<td>Indoor fan motor (MF)</td>
<td>Check 9-6. ⊗.</td>
<td><img src="image3" alt="Diagram" /></td>
</tr>
<tr>
<td>Horizontal vane motor (MV1)</td>
<td>Measure the resistance between the terminals with a tester. (Part temperature 10°C ~ 30°C)</td>
<td><img src="image4" alt="Diagram" /></td>
</tr>
<tr>
<td>Vertical vane motor (MV2) i-see Sensor motor (MT)</td>
<td>Measure the resistance between the terminals with a tester. (Part temperature 10°C ~ 30°C)</td>
<td><img src="image5" alt="Diagram" /></td>
</tr>
<tr>
<td>Front panel driving motor (MP)</td>
<td>Measure the resistance between the terminals with a tester. (Part temperature 10°C ~ 30°C)</td>
<td><img src="image6" alt="Diagram" /></td>
</tr>
<tr>
<td>i-see Sensor (RR)</td>
<td>Turn the power ON (i-see Sensor is energized) with the aluminum block part on the i-see Sensor P.C. board (upper part of i-see Sensor) covered with black vinyl tape, then measure the voltage between connector terminals of i-see Sensor using tester. (Part temperature 10 ~ 40°C)</td>
<td><img src="image7" alt="Diagram" /></td>
</tr>
<tr>
<td>i-see Sensor connector terminals</td>
<td>Normal range: 1.010 ~ 1.420V DC Abnormal: Below 1.010 or above 1.420V DC</td>
<td><img src="image8" alt="Diagram" /></td>
</tr>
<tr>
<td>PLASMA DEODORIZING/ PLASMA AIR PURIFYING power</td>
<td>Check 9-6. ⊗ or ⊗.</td>
<td><img src="image9" alt="Diagram" /></td>
</tr>
</tbody>
</table>

**NOTE**: Pay attention to static electricity.
9-6. Troubleshooting flow

When POWER lamp flashes 3-time.
Indoor fan does not operate.

[Diagram]

A: Check of indoor fan motor

The indoor fan motor error has occurred, and the indoor fan doesn't operate.

- Turn OFF the power supply.
  Insert a stick such as a screw driver into the air outlet, and check if there is any catch in the rotation of the line flow fan.

- Pay careful attention to the high voltage on the fan motor connector CN211.

  * Turn ON the power supply, wait 5 seconds or more, and then press EMERGENCY OPERATION switch.
  Measure the supply voltage as follows within 12 seconds after EMERGENCY OPERATION switch is pressed.
  If more than 12 seconds passes by, turn OFF the power supply and turn ON it again, then measure the voltage.
  1. Measure the voltage between CN211 \( (+) \) and \( (-) \).
  2. Measure the voltage between CN211 \( (+) \) and \( (-) \).

- If 12 seconds or more passes after EMERGENCY OPERATION switch is pressed, the voltage mentioned above 2 goes 0V DC although the indoor electric control P.C. board is normal.

- Is there any foreign matter that interferes the rotation of the line flow fan?
  Yes
  Adjust the line flow fan and remove the foreign matter.
  No

- Is there 311V DC between CN211 \( (+) \) and \( (-) \), and does the voltage between CN211 \( (+) \) and \( (-) \) rise to the range of 3 to 6V DC within 12 seconds after EMERGENCY OPERATION switch is pressed?
  Yes
  Replace the indoor fan motor.
  No
  Replace the indoor electronic control P.C. board.

- The indoor fan motor error has occurred, and the indoor fan repeats "12-second ON and 30-second OFF" 3 times, and then stops.

  - Measure the voltage between CN211 \( (+) \) and \( (-) \) while the fan motor is rotating.
  - Is it unchanged holding 0V DC or 15V DC?
    Changed
    Replace the indoor electronic control P.C. board.
    Unchanged
    Replace the indoor fan motor.
Indoor unit operates by pressing EMERGENCY OPERATION switch, but does not operate with the remote controller.

**Check of remote controller and receiver P.C. board**

*Check if the remote controller is exclusive for this air conditioner.

1. Switch on the remote controller.
2. Is LCD display on the remote controller visible?
   - No: Replace the batteries. (Refer to 9-1.4.)
   - Yes: Remove the batteries, then set them back and press RESET button. (Refer to 9-1.4.) Check if the unit operates with the remote controller.
3. Does the unit operate with the remote controller?
   - No: Turn on a radio to AM and press switch on the remote controller.
   - Yes: Is noise heard from radio?
     - No: Replace the remote controller.
     - Yes: Are there any fluorescent lights of inverter or rapid-start type within the range of 1m?
       - No: Replace the indoor electronic control P.C. board.
       - Yes: Reinstall the unit away from lights. Attach a filter on receiving part.
The unit does not operate with the remote controller. Also, POWER lamp does not light up by pressing EMERGENCY OPERATION switch.

### Check of indoor electronic control P.C. board and indoor fan motor

1. **Turn OFF the power supply.**
   - Remove indoor fan motor connector CN211, vane motor connector CN151 front panel driving motor connector CN11U1 and i-see Sensor motor connector CN110 from the indoor electronic control P.C. board and turn ON the power supply.

2. **Does the unit operate with the remote controller?**
   - Yes
   - **No**

   **No**
   - **Does POWER lamp light up by pressing EMERGENCY OPERATION switch?**
   - **Yes**
   - **No**

3. **Replace the varistor(NR11) and fuse(F11).**
   - **Yes**
   - **No**

   **No**
   - **Are the varistor(NR11) burnt and the fuse(F11) blown?**
   - **Yes**
   - **No**

   **No**
   - **Is the fuse(F11) blown only?**
   - **Yes**
   - **No**

   **No**
   - **Measure the resistance between CN211 ③ and ④ of the indoor fan motor connector.**
   - **Normal value is approx. 30kΩ to 50kΩ.**
   - **Short circuit:**
   - Replace the indoor fan motor.

   **No**
   - **Is the resistance 1MΩ or more?**
   - **Yes**
   - **No**

   **No**
   - **Measure the cement resistance R111 on the indoor electronic control P.C. board.**
   - **Is the resistance approx. 4Ω?**
   - **Yes**
   - **No**

   **Yes**
   - **Replace the indoor electronic control P.C. board.**

4. **Measure the resistance of the front panel driving motor coil.**
   - **Normal value is approx. 100Ω.**
   - **Replace the front panel driving motor and the indoor electronic control P.C. board.**

5. **Measure the resistance of the i-see Sensor motor coil.**
   - **Normal value is approx. 300Ω.**
   - **Short circuit:**
   - Replace i-see Sensor motor and the indoor electronic control P.C. board.

6. **Measure the resistance of the horizontal vane motor coil and the vertical vane motor coil.**
   - **Normal value is approx. 300Ω or 250Ω.**
   - **Short circuit:**
   - Replace the horizontal vane motor, the vertical vane motor and the indoor electronic control P.C. board.

7. **Replace the fuse (F11).**
   - **Replace the fuse (F11) and the indoor fan motor.**

8. **Measures the resistance of i-see Sensor motor coil.**
   - **Normal value is approx. 300Ω.**
   - **Short circuit:**
   - Replace i-see Sensor motor and the indoor electronic control P.C. board.

9. **Measure the resistance of the front panel driving motor coil.**
   - **Normal value is approx. 100Ω.**
   - **Replace the front panel driving motor and the indoor electronic control P.C. board.**

10. **Replace the indoor electronic control P.C. board.**

---

**Notes:**
- #1. The fan motor connector's ① lead wire is red, whereas ③ is black.
- #2. Connect "+" of the tester to fan motor connector's ① lead wire, and "−" to ③ lead wire, otherwise the resistance cannot be measured properly.
When POWER lamp flashes ON and OFF in every 0.5-second. Outdoor unit does not operate.

**1) How to check mis-wiring and serial signal error**

1. Turn OFF the power supply.
2. Is there rated voltage of 230V AC in the power supply? 
   - Yes: Check the power supply.
   - No: Is there 230V AC between outdoor terminal block S1 and S2? 
     - Yes: Check the wiring.
     - No: Press EMERGENCY OPERATION switch.
3. Does POWER lamp light up? <Confirmation of the power to the indoor unit>
   - Yes: Is there any mis-wiring, poor contact, or wire disconnection of the indoor/outdoor connecting wire? 
     - Yes: Make them sure.
     - No: Is the self-check of the indoor unit displayed 6 minutes after? 
       - Yes: Serial signal error display.
       - No: POWER lamp blinks quickly.
4. Turn OFF the power supply. Check once more if the indoor/outdoor connecting wire is not mis-wiring. Short-circuit outdoor terminal block S2 and S3. 
   - *1. Mis-wiring may damage indoor electronic control P.C. board during the operation. Be sure to confirm the wiring is correct before the operation starts.
5. Turn ON the power supply of the outdoor unit. 
6. In 3 minutes after turning ON the power supply of the outdoor unit, does the LED on the inverter P.C. board repeat quick blinking “3.6-second-OFF and 0.8-second-ON”? Be sure to check above in 3 minutes after turning ON. After 3 minutes, LED blinks 6 times. When the inverter P.C. board is normal, LED also blinks 6 times after 3 minutes.
7. Replace the inverter P.C. board. 
   - *2. Be careful to the residual voltage of smoothing capacitor.
8. Reinstall either the unit or the light each other away. Attach a filter on receiving section of the indoor unit.
9. Is serial signal error indicated 6 minutes later? 
   - Yes: Reinstall either the unit or the light each other away. Attach a filter on receiving section of the indoor unit.
   - No: Is there any error of the indoor/outdoor connecting wire, such as the damage of the wire, intermediate connection, poor contact to the terminal block? 
     - Yes: Replace the indoor/outdoor connecting.
     - No: Is there 230V AC between outdoor terminal block S1 and S2? <Confirmation of power voltage> 
       - Yes: Replace the indoor electronic control P.C. board.
6. Be sure to release the failure-mode recall function after checking.

As for outdoor unit MUZ type, refer to service manual OB372.
As for outdoor unit MXZ type, refer to service manual OB377.
When All lamps flash ON and OFF every 0.5-second. Indoor unit and outdoor unit do not operate.

**Check of installation of the horizontal vane**

1. **Start**
2. Turn OFF the power supply.
3. Is the stopper of the horizontal vane locked to the indoor unit correctly?  
   - Yes: Relock the stopper of the horizontal vane to the indoor unit. Refer to 9-1-5.  
   - No: Turn ON the power supply.  
4. Are all lamp flashing?  
   - Yes: OK  
   - No: Are there resistance 0 Ω?  
5. Replace the indoor electronic control P.C. board.

To check the continuity of the interlock switch (Fan), measure the resistance of connector (1) - (2) connected to CN1R1 on the indoor electronic control P.C. board.

6. Replace the interlock switch(Fan).
When PLASMA/WASH lamp flashes 2-time.

The power failure mode for PLASMA DEODORIZING power is memorized when the failure mode is called.

**Check of PLASMA DEODORIZING power**

After performing the check, make sure to release the failure mode recall function.

1. Turn ON the power supply.

   - While the operation is being stopped, does PLASMA/WASH lamp flash twice?
     - Yes
       - High voltage (approx. -3.9kV) is generated during PLASMA DEODORIZING power operation. Pay careful attention and never touch PLASMA/WASH unit and the high-voltage lead part (red wire).
     - No
       - Replace the indoor electronic control P.C. board is out of order.

   - Make sure that the front panel is firmly closed.
     - During pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
     - First, release RESET button. And release the other two buttons since all LCD in operation display section of the remote controller is displayed after 3 seconds. (Failure mode recall function is set.)
     - Press OPERATE/STOP (ON/OFF) button.
     - After a short beep sound is emitted, press once PLASMA button. PLASMA DEODORIZING operation is selected.
     - The plasma power operation check mode is set. (Refer to 9-2.5.)

2. Does PLASMA/WASH lamp stay OFF, or continuously flash?
   - Stays OFF
     - PLASMA DEODORIZING power supply is normal. The front panel is not firmly closed, therefore the protection by the interlock switch is active.
     - Continuously flashes.
       - Remove the plasma unit, firmly close the front panel, and then perform PLASMA DEODORIZING power operation check (①). Does PLASMA/WASH lamp stay OFF, or continuously flash?
         - Stays OFF
           - If the plasma unit is dirty, clean the unit. After cleaning, make sure to attach the unit when it is completely dry.
           - If the air conditioner goes ON with the plasma unit being wet, protection gets active and PLASMA/WASH lamp continuously flashes.
         - Continuously flashes.
           - Turn OFF the power supply, and check the SAFETY DEVICE (PLASMA UNIT). Is it firmly fixed?
             - No
               - Firmly fix the SAFETY DEVICE.
             - Yes
               - Turn ON and OFF the SAFETY DEVICE (PLASMA UNIT) using something like a screw driver, and measure the resistance value between CN1T2 ① and ③ on the indoor electronic control P.C. board. Does the switch work?
                 - Yes
                   - Keep the SAFETY DEVICE (PLASMA UNIT) ON using something like a screw driver. Turn ON the power supply. While the operation is being stopped, is the voltage between CN1 ①(+x) and ②(GND) on the PLASMA POWER P.C. board (PLASMA DEODORIZING) 0V?
                     - No
                       - Replace the SAFETY DEVICE (PLASMA UNIT).
                     - Yes
                       - Set the plasma power failure mode recall function.

3. When PLASMA button is pressed, is there voltage of 12.5V DC between CN1 ①(+x) and ②(GND)?
   - Yes
     - Replace the PLASMA POWER P.C. board (PLASMA DEODORIZING).
   - No
     - Replace the indoor electronic control P.C. board.
When PLASMA/WASH lamp flashes 2-time.

The power failure mode for PLASMA AIR PURIFYING power is memorized when the failure mode is called.

G Check of PLASMA AIR PURIFYING power

After performing the check, make sure to release the failure mode recall function.

High voltage (approx. -3.9kV) is generated during PLASMA AIR PURIFYING power operation. Pay careful attention and never touch PLASMA/WASH unit and the high-voltage lead part (red wire).

1. During pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
2. First, release RESET button. And release the other two buttons since all LCD in operation display section of the remote controller is displayed after 3 seconds. (Failure mode recall function is set.)
3. Press OPERATE/STOP (ON/OFF) button.
4. After a short beep sound is emitted, press twice PLASMA button. PLASMA AIR PURIFYING operation is selected.

The plasma power operation check mode is set. (Refer to 9-2.5.)

1. Turn PLASMA AIR PURIFYING power OFF and ON again.
   (For turning off PLASMA AIR PURIFYING power, refer to 9-2.3.)
   (If it goes normal without turning OFF and ON, PLASMA/WASH lamp doesn't go OFF.

2. Replace the indoor electronic control P.C. board is out of order.

3. Replace the indoor electronic control P.C. board.

4. Check the wiring of CN1T1 on the indoor electronic control P.C. board.

5. Keep the SAFETY DEVICE (PLASMA UNIT) ON using something like a screw driver. Turn ON the power supply. While the operation is being stopped, is the voltage between CN1 (+) and (GND) on the PLASMA POWER P.C. board (PLASMA AIR PURIFYING) 0V?

6. Replace the SAFETY DEVICE (PLASMA UNIT).

7. Firmly fix the SAFETY DEVICE.

8. Turn OFF the power supply, and check the SAFETY DEVICE (PLASMA UNIT). Is it firmly fixed?

9. Replace the SAFETY DEVICE (PLASMA UNIT).

10. Turn ON and OFF the SAFETY DEVICE (PLASMA UNIT) using something like a screw driver, and measure the resistance value between CN1T2 (and 7) on the indoor electronic control P.C. board. Does the switch work?

11. Replace the indoor electronic control P.C. board.

12. Set the plasma power failure mode recall function.

13. Replace the PLASMA POWER P.C. board (PLASMA AIR PURIFYING).

14. Replace the indoor electronic control P.C. board. Check the wiring of CN1T1 on the indoor electronic control P.C. board.
Indoor unit and outdoor unit do not operate.

**Check of auto front panel**

Turn the remote controller ON.

Does the front panel automatically open? (Does it start to move?)

Yes

Is the connector of the front panel driving motor unit or the indoor electric control P.C. board unplugged?

No

Is the connector of the front panel driving motor unit or the indoor electric control P.C. board unplugged?

Yes

Plug in the connector and check from the start again.

Yes

Is the resistance value between terminals of the front panel driving motor unit normal?

No

Replace the indoor electric control P.C. board.

Yes

Replace the front panel driving motor unit.

No

Replace the front panel driving motor unit.

No

Front panel is normal.

Is the front panel held 10mm or more upper than the level line of the nozzle top?

Yes

Replace the front panel driving motor unit.

No

10 mm or more

Z-Z side view
Electromagnetic noise enters into TV sets or radios

1. Is the unit earthed?
   - Yes
   - No
     - Earth the unit.

2. Is the distance between the antennas and the indoor unit within 3m, or is the distance between the antennas and the outdoor unit within 3m?
   - Yes
   - No
     - Extend the distance between the antennas and the indoor unit, or the antennas and the outdoor unit.

3. Is the distance between the TV sets or radios and the indoor unit within 1m, or is the distance between the TV sets or radios and the outdoor unit within 3m?
   - Yes
   - No
     - Extend the distance between the TV sets or radios and the outdoor unit.

4. Is there any antennas damage by rust or something, coaxial cable damage, or poor contact such as losing of the connectors or wire disconnection of wiring of the antennas?
   - Yes
   - No
     - Replace the antennas. Replace the coaxial cable.

5. Is the indoor/outdoor connecting wire of the air conditioner and the wiring of the antennas in close?
   - Yes
   - No
     - Extend the distance between the indoor/outdoor connecting wire of the air conditioner and the wiring of the antennas.

Even if all of the above conditions is fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring).

Check the followings before asking for service.
1. Devices affected by the electromagnetic noise
   - TV sets, radios (FM/AM broadcast, shortwave)
2. Channel, frequency, broadcast station affected by the electromagnetic noise
3. Channel, frequency, broadcast station unaffected by the electromagnetic noise
4. Layout of: indoor/outdoor unit of the air conditioner, indoor/outdoor wiring, grounding wire, antennas, wiring from antennas, receiver
5. Electric field intensity of the broadcast station affected by the electromagnetic noise
6. Presence or absence of amplifier such as booster
7. Operation condition of air conditioner when the electromagnetic noise enters in.
   1) Turn OFF the power supply once, and then turn ON the power supply. In this situation check for the electromagnetic noise.
   2) Within 3 minutes after turning ON the power supply, press OPERATE/STOP (ON/OFF) button on the remote controller for power-on, and check for the electromagnetic noise.
   3) After a short time (3 minutes later after turning ON), the outdoor unit starts running. During operation, check for the electromagnetic noise.
   4) Press OPERATE/STOP (ON/OFF) button on the remote controller for power off, when the outdoor unit stops but the indoor/outdoor communication still runs on. In this situation check for the electromagnetic noise.

After checking the above, consult the service representative.
9-7. Test point diagram and voltage

Indoor electronic control P.C. board

**Test Point Diagram and Voltage**

- **Indoor coil thermistor** [RT12 (MAIN), RT13 (SUB)]
- **Room temperature thermistor** (RT1 1)
- **Temperature** (°C)
- **Resistance** (kΩ)

**Indoor Fan Motor** (CN211)

- **5V DC**
- **12V DC**
- **Cement resistance** (R111)

- **311V DC**
- **15V DC**
- **(+3-6V DC**
- **(+0V DC or 15V DC**

**Interlock Switch (Fan)** (CN1R1)

- **Room temperature thermistor** (CN11)
- **Varistor** (NR11)
- **Ceramic resistance** (R111)

**Power Monitor Receiver P.C. Board**

- **SW P.C. Board**
  - WASH reset switch (SW2)
  - Emergency operation switch (SW1)

**Power Supply Input**

- **230V AC**

**Emergency Operation Switch (SW1)**

**Power Monitor Receiver P.C. Board**

**Plasma Power P.C. Board**

- **High-voltage lead wire** (Red)
- **Standard lead wire** (Green)

**Release of Auto restart function**

- Solder the Jumper wire to JR07. (Refer to 8-3.)

**Indoor Coil Thermistor [RT12 (MAIN), RT13 (SUB)]**

**Room Temperature Thermistor (RT11)**

**Graph**: Resistance vs. Temperature


10 DISASSEMBLY INSTRUCTIONS

<“Terminal with locking mechanism” Detaching points>
The terminal which has the locking mechanism can be detached as shown below.
There are two types (Refer to (1) and (2)) of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not. (2) The terminal with this connector has the locking mechanism.

1 Hold the sleeve, and pull out the terminal slowly.
2 Pull the terminal while pushing the locking lever.

MSZ-FA25VA - MSZ-FA35VA -
INDOOR UNIT

OPERATING PROCEDURE

1. Removing the panel
   (1) Press and unlock the knobs on both sides of the front panel and lift the front panel until it is level, and then pull the hinges forward to remove the front panel.
   (2) Remove the horizontal vane.
   (3) Remove the screw caps of the panel.
       Remove the screws. (See Photo 1.)
   (4) Remove the screw of the front panel driving motor.
       (See Photo 2.)
   (5) Hold the lower part of both ends on the panel and pull it slightly toward you, and then remove the panel by pushing it upward.

PHOTOS

Photo 1

Front panel

Screws of the panel

Horizontal vane

Photo 2

Screw of the front panel driving motor

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### OPERATING PROCEDURE

#### 2. Removing the electronic control P.C. board, the power monitor receiver P.C. board, i-see Sensor, SW P.C. board and the terminal block

1. Remove the horizontal vane, the panel (Refer to 1.) and the corner box.
2. Remove the screw of the V.A. clamp, and then the indoor/outdoor connecting wire. (See Photo 3.)
3. Remove the switch holder from the electrical cover. (See Photo 4.)
4. Remove the screw of the electrical cover, and then the electrical cover. (See Photo 4.)
5. Remove the ground wire connected to the indoor electronic control P.C. board from the electrical box. (See Photo 5.)
6. Unhook the power monitor receiver P.C. board holder from the catch. (See Photo 5.)
7. Open the rear cover of the power monitor receiver P.C. board holder and pull out the power monitor receiver P.C. board.
8. Remove the screws of the i-see Sensor cover and the i-see Sensor motor, and then the i-see Sensor motor.
9. Open the i-see Sensor holder and pull out the i-see Sensor.
10. Open the switch holder and pull out SW P.C. board.
11. Pull the electronic control P.C. board slightly toward you from the electrical box, and disconnect TAB3 and all the connectors on the electronic control P.C. board. (LD101 and LD105 are direct-mounted to the electronic control P.C. board.)
12. Pull out the electronic control P.C. board from the electrical box.
13. Remove the ground wire connected to the heat exchanger from the electrical box. (See Photo 5.)
14. Unhook the catches of the electrical box, and pull out the electrical box.
15. Remove the screws of the terminal block cover, and then the terminal block cover and the terminal block holder. (See Photo 3.)
16. Remove the terminal block by sliding it.

#### 3. Removing the electrical box

1. Remove the horizontal vane, the panel (Refer to 1.) and the corner box.
2. Remove the screw of the V.A. clamp, and then the indoor/outdoor connecting wire. (See Photo 3.)
3. Remove the switch holder and the electrical cover. (See Photo 4.)
4. Remove the ground wire connected to the heat exchanger from the electrical box. (See Photo 4.)
5. Disconnect the following connectors on the electronic control P.C. board; the fan motor connector <CN211>, the indoor coil thermistor connector <CN112>, the vane motor connector <CN151>, the connector of the interlock switch (Fan) of the horizontal vane <CN1R1>, the connector of the safety device (plasma unit) <CN1T2>, the connector of the plasma power P.C. board <CN1T1>, the connector of the front panel driving motor <CN1U1>.
6. Unhook the catches of the electrical box, and pull out the electrical box. (See Photo 3.)

### PHOTOS

#### Photo 3
- Screws of the terminal block cover
- Drain hose
- Screw of the V.A. clamp

#### Photo 4
- Switch holder
- Screw of the electrical cover

#### Photo 5
- Ground wires
- Fan motor connector (CN211)
- Connector of the interlock switch(Fan) (CN1R1)
- Indoor coil thermistor connector (CN112)
- Connector of the plasma power P.C.board(CN1T1)
- Connector of the safety device(Plasma unit) (CN1T2)
- Vane motor connector (CN151)
- Connector of the front panel driving motor (CN1U1)
- Power monitor receiver P.C. board holder
- i-see Sensor
- i-see Sensor cover
### OPERATING PROCEDURE

#### 4. Removing the horizontal vane motor unit
1. Remove the horizontal vane and the panel. (Refer to 1.)
2. Remove the screws of the horizontal vane motor unit, and pull out the horizontal vane motor unit. (See Photo 6.)
3. Disconnect the connector from the horizontal vane motor unit.

#### 5. Removing the vertical vane motor unit
1. Remove the horizontal vane, the panel (Refer to 1.) and the corner box.
2. Pull out the drain hose from the nozzle assembly, and remove the nozzle assembly. (See Photo 5.)
3. Remove the crank of the vertical vane motor unit from the arm of the vertical vane. (See Photo 7.)
4. Remove the screws of the vertical vane motor unit, and pull the vertical vane motor unit. (See Photo 7.)

#### 6. Removing the indoor fan motor and the line flow fan
1. Remove the horizontal vane, the panel (Refer to 1.) and the corner box.
2. Remove the switch holder and the electrical box. (Refer to 3.)
3. Pull out the drain hose from the nozzle assembly, and remove the nozzle assembly.
4. Remove the screws fixing the motor bed. (See Photo 8.)
5. Loosen the screw fixing the line flow fan. (See Photo 9.)
6. Remove the motor bed together with fan motor and motor band.
7. Release the hooks of the motor band, and remove the motor band then pull out the indoor fan motor.
8. Remove the screws fixing the left side of the heat exchanger. (See Photo 10.)
9. Lift the heat exchanger, and pull out the line flow fan to the lower-left.

### PHOTOS

- **Photo 6**
  - Screw of the horizontal vane motor unit

- **Photo 7**
  - Arm
  - Crank of the vertical vane motor unit
  - Screws of the vertical vane motor unit

- **Photo 8**
  - Motor band
  - Screws of the motor bed

- **Photo 9**
  - Screw of the line flow fan

- **Photo 10**
  - Screws of the left side of the heat exchanger
### OPERATING PROCEDURE

**7. Removing the plasma power P.C. board**

1. Remove the horizontal vane, the panel (Refer to 1.) and the corner box.
2. Remove the switch holder and the electrical cover. (Refer to 3.)
3. Disconnect the connector of the front panel driving motor <CN1U1> from the electronic control P.C. board.
4. Remove the front panel driving motor.
5. Remove the screw of the plasma element holder, and remove the plasma element holder from the heat exchanger. (See Photo 11.)
6. Unhook all the catches of plasma unit cover and remove the plasma unit cover. (See Photo 12.)
7. Remove the terminals with locking mechanism connected to the plasma power P.C. board and the safety device (Plasma unit). (See Photo 13.)
8. Remove the plasma electrical box from the plasma element holder.
9. Remove the screw fixing the plasma electrical box, and open the plasma electrical box then pull out the plasma power P.C. board from the plasma electrical box. (See Photo 13.)

### PHOTOS

**Photo 11**

![Photo 11](Image)

**Photo 12**

![Photo 12](Image)

**Photo 13**

![Photo 13](Image)
**11-1. INDOOR UNIT STRUCTURAL PARTS**

<table>
<thead>
<tr>
<th>No.</th>
<th>Part No.</th>
<th>Part name</th>
<th>Symbol in Wiring Diagram</th>
<th>Q'ty/unit</th>
<th>Remarks</th>
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<td>E02 913 067</td>
<td>SCREW CAP</td>
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**11-2. ACCESSORY AND REMOTE CONTROLLER**

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11-3. INDOOR UNIT ELECTRICAL PARTS
AND FUNCTIONAL PARTS

11-4. INDOOR UNIT HEAT EXCHANGER
### 11-3. INDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS

<table>
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<tr>
<th>No.</th>
<th>Part No.</th>
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<th>Q’ty/unit</th>
<th>Remarks</th>
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<td>E02 897 303</td>
<td>FRONT PANEL DRIVING MOTOR</td>
<td>MP</td>
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<td>RC0J40-□□</td>
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<td>25</td>
<td>E02 897 302</td>
<td>LINE FLOW FAN</td>
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<td>26</td>
<td>E02 913 775</td>
<td>PLASMA ELEMENT HOLDER</td>
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<tr>
<td>27</td>
<td>E02 913 776</td>
<td>PLASMA UNIT COVER</td>
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<td>28</td>
<td>E02 913 777</td>
<td>PLASMA ELECTRICAL BOX</td>
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<td>29</td>
<td>E02 897 440</td>
<td>PLASMA POWER P.C. BOARD</td>
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<td>30</td>
<td>E02 898 316</td>
<td>SAFETY DEVICE (PLASMA UNIT)</td>
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<tr>
<td>31</td>
<td>E02 913 774</td>
<td>PLASMA AIR PURIFYING FILTER UNIT</td>
<td>PLASMA_A</td>
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<td></td>
</tr>
<tr>
<td>32</td>
<td>E02 914 774</td>
<td>PLASMA DEODORIZING FILTER UNIT</td>
<td>PLASMA_D</td>
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</tbody>
</table>

*1 Including SW P.C. BOARD and POWER MONITOR RECEIVER P.C. BOARD
*2 Including FAN MOTOR RUBBER MOUNT (2 PCS/SET)

### 11-4. INDOOR UNIT HEAT EXCHANGER

<table>
<thead>
<tr>
<th>No.</th>
<th>Part No.</th>
<th>Part name</th>
<th>Q’ty/unit</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>33</td>
<td>E02 913 620</td>
<td>INDOOR HEAT EXCHANGER</td>
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<tr>
<td>34</td>
<td>E02 815 666</td>
<td>UNION (GAS)</td>
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<tr>
<td>35</td>
<td>E02 151 667</td>
<td>UNION (LIQUID)</td>
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<td>6.35</td>
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</table>
DEODORIZING CERAMIC FILTER
Replacement of the deodorizing ceramic filter (about once every 6 years)

Deodorizing ceramic filter is installed inside PLASMA DEODORIZING filter unit. The filter is fragile. Handle it with care.

**NOTE:** PLASMA DEODORIZING filter unit may not operate properly if the deodorizing ceramic filter is not installed.

Be sure to install the deodorizing ceramic filter.

(1) Release the two knobs to open the filter unit.
(2) Pull the side knobs to outward and then forward to remove, as illustrated below.

(3) Pull out the deodorizing ceramic filter from the side of the filter unit.

(4) Install the deodorizing ceramic filter by following the removal procedure in reverse.

<table>
<thead>
<tr>
<th>Model</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSZ-FA25VA</td>
<td>MAC-305FT-E</td>
</tr>
<tr>
<td>MSZ-FA35VA</td>
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