

## **FLOOR-TYPE AIR CONDITIONERS**

INDOOR UNIT

MFZ-KA25VA MFZ-KA35VA

MFZ-KA50VA



 В целях правильной и безопасной эксплуатации данного устройства обязательно перед его использованием прочтите настоящее руководство по эксплуатации.

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# **S**AFETY PRECAUTIONS

- Since rotating parts and parts which could cause an electric shock are used in this product, be sure to read these "Safety Precautions" before use.
- Since the cautionary items shown here are important for safety, be sure to
   observe them.
- After reading this manual, keep it together with the installation manual in a handy place for easy reference.
- Be sure to receive a guarantee card from your dealer and check that the purchased date and shop name, etc. are entered correctly.

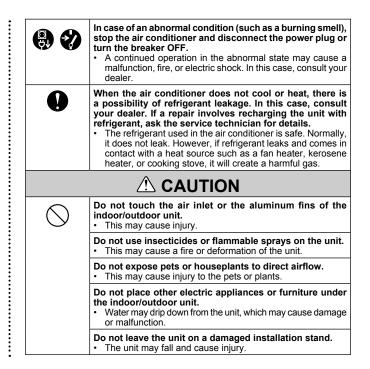
#### Marks and their meanings

	Incorrect handling could cause serious hazard, such as death, serious injury, etc. with a high probability.
CAUTION :	Incorrect handling could cause serious hazard depending on the conditions.

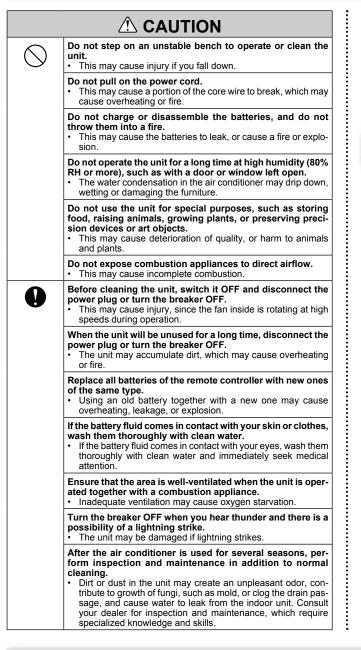
$\bigcirc$	Do not connect the power cord to an intermediate point, use an extension cord, or connect multiple devices to a single AC outlet. • This may cause overheating, fire, or electric shock.
	<ul> <li>Make sure the power plug is free of dirt and insert it securely into the outlet.</li> <li>A dirty plug may cause fire or electric shock.</li> </ul>
	Do not bundle, pull, damage, or modify the power cord, and do not apply heat or place heavy objects on it. • This may cause fire or electric shock.
	<ul> <li>Do not turn the breaker OFF/ON or disconnect/connect the power plug during operation.</li> <li>This may create sparks, which can cause fire.</li> <li>After the indoor unit is switched OFF at the remote controller, make sure to turn the breaker OFF or disconnect the power plug.</li> </ul>
	Do not expose your body directly to cool air for a prolonged length of time. • This could be detrimental to your health.
	<ul> <li>The unit should not be installed, relocated, disassembled, altered, or repaired by the user.</li> <li>An improperly handled air conditioner may cause fire, electric shock, injury, or water leakage.</li> </ul>
$\bigcirc$	<ul> <li>Do not insert your finger, a stick, or other objects into the air inlet or outlet.</li> <li>This may cause injury, since the fan inside rotates at high speeds during operation.</li> </ul>

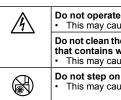
#### Meanings of symbols used in this manual

- : Be sure not to do.
- : Be sure to follow the instruction.
- Sever insert your finger or stick, etc.
- Rever step onto the indoor/outdoor unit and do not put anything on them.
- A : Danger of electric shock. Be careful.
- Be sure to disconnect the power supply plug from the power outlet.
- Be sure to shut off the power.



# SAFETY PRECAUTIONS



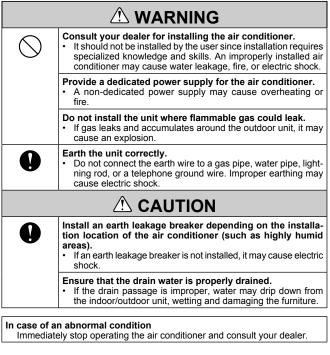


Do not operate switches with wet hands.This may cause electric shock.

Do not clean the air conditioner with water or place an object that contains water, such as a flower vase, on it. • This may cause fire or electric shock.

Do not step on or place any object on the outdoor unit. • This may cause injury if you or the object falls down.

## For installation



# Disposal

To dispose of this product, consult your dealer.



## Note: -

This symbol mark is for EU countries only. This symbol mark is according to the directive 2002/96/ EC Article 10 Information for users and Annex IV, and/ or to the directive 2006/66/EC Article 20 Information for end-users and Annex II. Your MITSUBISHI ELECTRIC product is designed and manufactured with high quality materials and components which can be recycled and/or reused.

This symbol means that electrical and electronic equipment, batteries and accumulators, at their end-of-life, should be disposed of separately from your household waste.

If a chemical symbol is printed beneath the symbol (Fig. 1), this chemical symbol means that the battery or accumulator contains a heavy metal at a certain concentration. This will be indicated as follows:

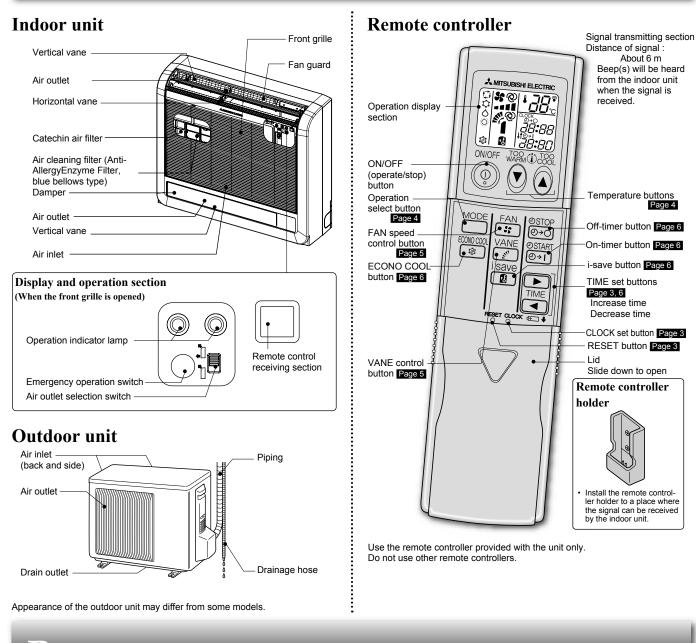
Hg: mercury (0,0005%), Cd: cadmium (0,002%), Pb: lead (0,004%)

In the European Union there are separate collection systems for used electrical and electronic products, batteries and accumulators.

Please, dispose of this equipment, batteries and accumulators correctly at your local community waste collection/recycling centre.

Please, help us to conserve the environment we live in!

# NAME OF EACH PART

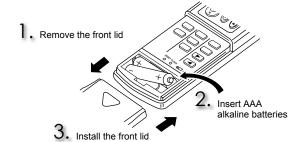


i

# **REPARATION BEFORE OPERATION**

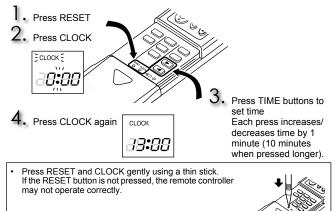
Before operation: Insert the power supply plug into the power outlet and/or turn the breaker on.

## Installing the remote controller batteries



- Make sure the polarity of the batteries is correct.
- Do not use manganese batteries. The remote controller could malfunction. Do not use rechargeable batteries.
- :
- Replace all batteries with new ones of the same type. Batteries can be used for approximately 1 year. However, batteries with expired shelf lives last shorter.

## Setting current time

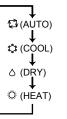


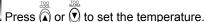
# Selecting operation modes



Press (0) to start the operation.

Press to select operation mode. Each press changes mode in the following order:





Each press raises or lowers the temperature by 1°C.

Press () to stop the operation.

The same setting is selected the next time by simply pressing

## **Operation indicator lamp**

The operation indicator at the right side of the indoor unit indicates the operation state.

		(Green) : Lighted	
Operation Indicator		道: (Orange): Lighted	
		道: (Green) : Blinking	
		(Orange) : Blinking	
		Inot lighted	

Indication I ()neration state		Difference between target tem- perature and room temperature
濛 漾	This shows that the air conditioner is op- erating to reach the target temperature. Please wait until the target temperature is obtained.	About 2°C or more
<b>≋</b> □	This shows that the room temperature is approaching the target temperature.	About 2°C or less
[Normal operation] 二二:二:二:二: [i-save operation] 二二:二:二:二:二:二:二:二:二:二:二:二:二:二:二:二:二:二:二	This shows a state of standby for opera- tion. Please refer to Information for multi system air conditioner above.	
黨黨	Refer to the description of i-save mode.	_

## AUTO mode (Auto changeover)

The unit selects the operation mode according to the difference between the room temperature and the set temperature. During AUTO mode, the unit changes mode (COOL $\leftrightarrow$ HEAT) when the room temperature is 2°C away from the set temperature for more than 15 minutes.

### Note:

During multi system operation, the unit may not be able to switch operation mode between COOL and HEAT. In this case, the indoor unit becomes standby mode.

## COOL mode

Enjoy cool air at your desired temperature.

Do not operate COOL mode at low outside temperature (less than -10°C) Water condensed in the unit may drip and wet or damage furniture, etc.

### **△ DRY mode**

Dehumidify your room. The room may be cooled slightly. Temperature cannot be set during DRY mode.

## **O HEAT mode**

Enjoy warm air at your desired temperature.

### **Emergency operation**

#### When the remote controller cannot be used...

Emergency operation can be activated by pressing the emergency operation switch on the indoor unit.



Each time the emergency operation switch is pressed, the operation will change in the following order:

┦ /     י	Operation indicator lamp	
	Emergency COOL	Set temperature : 24°C Fan speed : Medium Horizontal vane : Auto
	↓ ○ ○ Stop	

#### Note:

The first 30 minutes of operation is test run. Temperature control does not work, and fan speed is set to High.

### Auto restart function

If a power failure occurs or the main power is turned off during operation, "Auto restart function" automatically starts operation in the same mode as the one set with the remote controller just before the shutoff of the main power. When timer is set, timer setting is cancelled and the unit starts operation when power is resumed.

If you do not want to use this function, please consult the service representative because the setting of the unit needs to be changed.

## Multi system operation

Two or more indoor units can be operated by one outdoor unit. When several indoor units are operated simultaneously, cooling and heating operations cannot be done at the same time. When COOL is selected with one unit and HEAT with another or vice versa, the unit operated later becomes standby mode.

#### • OPERATING INSTRUCTIONS •

## **T** AN SPEED AND AIRFLOW DIRECTION ADJUSTMENT



Press for select fan speed. Each press will change fan speed in the following order:

• Two short beeps will be heard from the indoor unit when set to AUTO.

VANE Press in to select vertical airflow direction. Each press will change airflow direction in the following order:

$$\xrightarrow{\mathbf{0}} \mathbf{0} \xrightarrow{\mathbf{0}} \mathbf{1} \xrightarrow{$$

- Two short beeps will be heard from the indoor unit when set to AUTO.
- Moving the horizontal vane manually can cause trouble.
- The horizontal vane automatically moves in certain intervals to determine its position, and then it returns to the set position.

## **Airflow direction**

- (AUTO)...... The vane will be set to the most efficient airflow direction. COOL/DRY : position (1) HEAT (upper and lower air outlets) : position (3) HEAT (upper air outlet only) : position (5)
- (Manual).....For efficient air conditioning, select upper position for COOL/ DRY, and lower position for HEAT. During COOL/DRY, when the vane is set to position (3), (4), or (5), the vane automatically moves to position (1) after 0.5 to 1 hour to prevent water dripping.

(Swing)......The vane will move up and down intermittently.

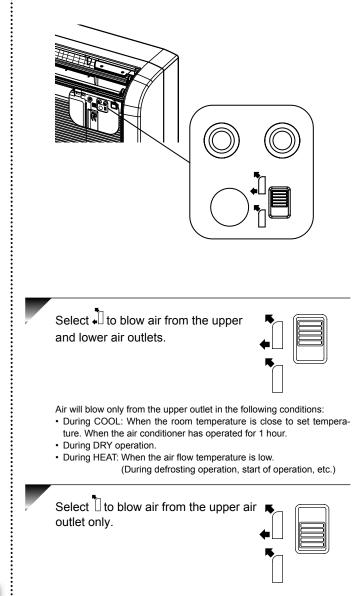
#### To change the horizontal airflow direction.

Move the vertical vane manually before starting operation.



Always adjust the vane when the damper is open. Opening the damper forcibly with hands can cause damage or malfunction.

## **A**IR OUTLET SELECTION

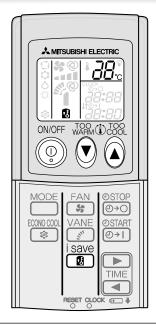


#### Note:

Be sure to keep the area around the damper of the lower air outlet free of any objects. If any objects block the normal operation of the damper, the left operation indicator lamp may blink.

Set the air outlet selection switch to the end. Otherwise, air outlet cannot be selected as intended.

## **1**-save OPERATION



# Press to select i-save mode. Select i-save during COOL, ECONO COOL, or HEAT operation.

 The operation indicator lamp on the right side of the indoor unit lights in orange.

#### 2

- Set the temperature, fan speed, and air flow direction.
- The same setting will be selected from the next time by simply pressing (a).
- Two groups of setting can be saved. (one for COOL/ECONO COOL, one for HEAT)

#### Press again to cancel i-save operation.

- Pressing will also cancel i-save operation.
- The operation indicator lamp on the right side of the indoor unit turns off or changes from orange to green.

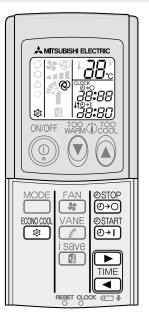
#### i-save operation

A simplified set back function enables to recall the preferred (preset) setting with a single push of the  $\boxed{1000}{100}$  button. Press the button again and you can go back to the previous setting in an instance.

#### Example of use:

- 1. Low energy mode
- Set the temperature 2 to 3°C warmer in COOL and cooler in HEAT mode. This setting is suitable for unoccupied room, and while you are sleeping. 2. Saving frequently used settings
- Save your preferred setting for COOL/ECONO COOL and HEAT. This enables you to select your preferred setting with a single push of the button.

# Econo cool operation





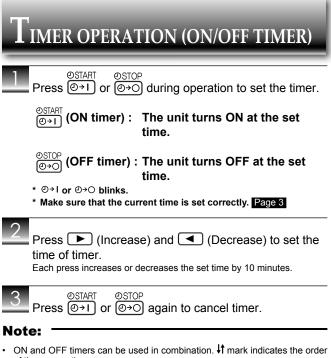
Press ightharpoonup during COOL mode page 4 to start ECONO COOL operation.

The unit performs swing operation vertically in various cycle according to the temperature of the unit. Set temperature is set 2°C higher automatically.

Press again to cancel ECONO COOL operation.

### What is "ECONO COOL"?

Swing air flow (change of air flow) makes you feel cooler than constant air flow. So, even though the set temperature is automatically set 2°C higher, it is possible to perform cooling operation with keeping comfort. As a result, energy can be saved.

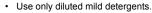


- of timer operations. If power failure occurs while ON/OFF timer is set, see page 4 "Auto restart
- If power failure occurs while ON/OFF timer is set, see page 4 "Auto restart function".

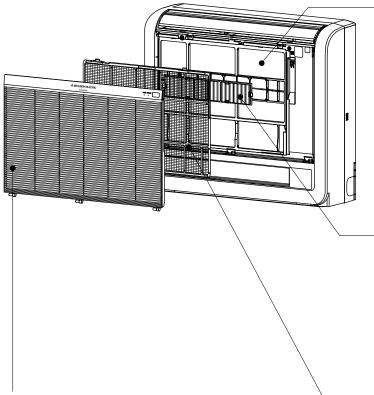


#### Instructions:

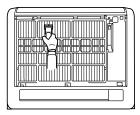
- Switch off the power supply or turn off the breaker before cleaning. Be careful not to touch the metal parts with your hands. Do not use benzine, thinner, polishing powder, or insecticide.



- Do not expose parts to direct sunlight, heat, or flames to dry. Do not water hotter than 50°C. •



- Heat exchanger
- Wear gloves to protect your hands.
- Use the QUICK CLEAN KIT (optional).
- Parts Number MAC-093SS-E Refer to the instructions described in the QUICK CLEAN KIT for details.

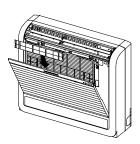


#### Note:

- Clean the filters regularly for best performance and to reduce power consumption.
- Please consult your dealer for seasonal inspection.

## Air cleaning filter

- Clean every 3 months. Soak the filter together with its frame
- in lukewarm water and wash it. After cleaning, dry it well in shade and put it back to its original position.
- Install all tabs of the air filter. Replace it with a new air cleaning filter every year for best performance.
- Parts Number MAC-415FT-E



## Front grille

- 1. Push the 2 positions indicated by the arrows until a click is heard, and open the front grille.
- 2. Unhook the string which holds the grille.
- 3. Open the grille completely and then remove it.
- Wipe with a soft dry cloth or wash it with water.
- · Do not soak it in water for more than two hours.
- Dry it well in shade before installing it.
- 4. Install the grille by following the removal procedure in reverse. Be sure to hook the string before closing the grille.



## Air filter (Catechin air filter)

- Clean every 2 weeks
- Remove dirt by a vacuum cleaner, or wash with water.
- Dry it well in shade before installing it.

### What is "Catechin air filter" ? =

The air filter is dyed with a natural material, catechin, that is contained in tea. The catechin air filter deodorizes odor and noxious gases such as formaldehyde, ammonia, and acetaldehyde. Moreover, it restraints the activity of the viruses adhering to the filter.

# When you think that trouble has occurred

## Even if these items are checked, when the unit does not recover from the trouble, stop using the air conditioner and consult your dealer.

Sumatom	Explanation & Chack points
Symptom Indoor Unit	Explanation & Check points
The unit cannot be operated. The unit cannot be operated for about 3 minutes when restarted.	<ul> <li>Is the breaker turned on?</li> <li>Is the power supply plug connected?</li> <li>Is the ON timer set?</li> <li>Is there anything that block the normal operation of the damper? Page 5</li> <li>This protects the unit according to instructions from the microprocessor. Please wait.</li> </ul>
Mist is discharged from the air outlet of the indoor unit.	<ul> <li>The cool air from the unit rapidly cools mois- ture in the air inside the room, and it turns into mist.</li> </ul>
The swing operation of the HORIZONTAL VANE is suspended for a while, then restarted.	This is for the swing operation of the HORI- ZONTAL VANE to be performed normally.
The air flow direction changes during operation. The direction of the horizontal vane cannot be adjusted with the remote controller.	<ul> <li>In the heating operation, if the air flow temperature is too low or when defrosting is being done, the horizontal vane is automatically set to vertical position.</li> <li>When the air conditioner is operated in COOL or DRY mode, if the operation continues with air blowing down for 1 hour, the direction of the air flow is automatically set to position (1) to prevent condensed water from dropping.</li> <li>The horizontal vane automatically moves in certain intervals to determine its position, and then it returns to the set position.</li> </ul>
The operation is stopped for about 10 minutes in the heat- ing operation.	Defrosting of the outdoor unit is being done. Since this is completed in max.10 minutes, please wait. (When the outside temperature is too low and humidity is too high, frost is formed.)
The unit starts operation by itself when the main power is turned on, though it isn't operated with the remote controller.	These models are equipped with an auto re- start function. When the main power is turned off without stopping the unit with the remote controller and is turned on again, the unit starts operation automatically in the same mode as the one set with the remote control- ler just before the shutoff of the main power. Refer to "Auto restart function" page 4.
The damper opens and closes automatically.	<ul> <li>The damper is automatically controlled by a microcomputer according to the air flow temperature and operation time of the air conditioner.</li> </ul>
Multi system	
The indoor unit which is not operating becomes warm and a sound, similar to water flow- ing, is heard from the unit.	<ul> <li>A small amount of refrigerant continues to flow into the indoor unit even though it is not operating.</li> </ul>
When heating operation is selected, operation does not start right away.	<ul> <li>When operation is started during defrosting of outdoor unit is done, it takes a few minutes (max. 10 minutes) to blow out warm air.</li> </ul>
Outdoor Unit	
The fan of the outdoor unit does not rotate even though the compressor is running. Even if the fan starts to rotate, it stops soon.	When the outside temperature is low dur- ing cooling operation, the fan operates intermittently to maintain sufficient cooling capacity.
Water leaks from the outdoor unit.	<ul> <li>During COOL and DRY operations, pipe or pipe connecting sections are cooled and this causes water to condense.</li> <li>In the heating operation, water condensed on the heat exchanger drips down.</li> <li>In the heating operation, the defrosting op- eration makes water frozen on the outdoor unit melt and drip down.</li> </ul>

Symptom	Explanation & Check points
White smoke is discharged from the outdoor unit.	<ul> <li>In the heating operation, vapor generated by the defrosting operation looks like white smoke.</li> </ul>
Remote controller	
The display on the remote controller does not appear or it is dim. The indoor unit does not respond to the remote control signal.	<ul> <li>Are the batteries exhausted? Page 3</li> <li>Is the polarity (+, -) of the batteries correct? Page 3</li> <li>Are any buttons on the remote controller of other electric appliances being pressed?</li> </ul>
Does not cool or heat	
The room cannot be cooled or heated sufficiently.	<ul> <li>Is the temperature setting appropriate?</li> <li>Page 4</li> <li>Is the fan setting appropriate? Please change fan speed to higher setting. Page 5</li> <li>Is the air outlet selection switch set to upper air outlet only? Change to upper and lower air outlets. Page 5</li> <li>Is the filter clean? Page 7</li> <li>Is the fan or heat exchanger of the indoor unit clean? Page 7</li> <li>Are there any obstacles blocking the air inlet or outlet of the indoor or outdoor unit?</li> <li>Is a window or door open?</li> </ul>
The room cannot be cooled sufficiently.	<ul> <li>When a ventilation fan or a gas cooker is used in a room, the cooling load increases, resulting in an insufficient cooling effect.</li> <li>When the outside temperature is high, the cooling effect may not be sufficient.</li> </ul>
The room cannot be heated sufficiently.	• When the outside temperature is low, the heat- ing effect may not be sufficient.
Air does not blow out soon in the heating operation.	Please wait as the unit is preparing to blow out warm air.
Airflow	
The air from the indoor unit smells strange.	<ul> <li>Is the filter clean? Page 7</li> <li>Is the fan or heat exchanger of the indoor unit clean? Page 7</li> <li>The unit may suck in an odor adhering to the wall, carpet, furniture, cloth, etc. and blow it out with the air.</li> </ul>
Sound	
Cracking sound is heard.	This sound is generated by the expansion/ contraction of the intake grille, etc. due to change in temperature.
The sound as burbling is heard.	<ul> <li>This sound is heard when the outside air is absorbed from the drain hose by turning on the range hood or the ventilation fan, mak- ing water flowing in the drain hose to spout out.</li> <li>This sound is also heard when the outside air blows into the drain hose in case the outside wind is strong.</li> </ul>
Mechanical sound is heard from the indoor unit.	This is the switching sound in turning on/off the fan or the compressor.
The sound of water flowing is heard.	This is the sound of refrigerant or condensed water flowing in the unit.
Hissing sound is sometimes heard.	• This is the sound when the flow of refrigerant inside the unit is switched.

In the following cases, stop using the air conditioner and consult your dealer.

- · When water leaks or drips from the indoor unit.
- When the upper operation indicator lamp blinks.
- When the breaker trips frequently.
- The remote control signal is not received in a room where an electronic ON/OFF
  type fluorescent lamp (inverter-type fluorescent lamp, etc.) is used.
- Operation of the air conditioner interferes with radio or TV reception. An amplifier may be required for the affected device.
- When an abnormal sound is heard.

## HEN THE AIR CONDITIONER IS NOT GOING TO BE USED FOR A LONG TIME

Set to the highest temperature in manual COOL mode, and operate for 3 to 4 hours. Page 4 This dries the inside of the unit.

ON/OFF Press () to stop the operation.

Turn off the breaker and/or disconnect the power supply plug.

Remove all batteries from the remote controller.

## When using the air conditioner again:



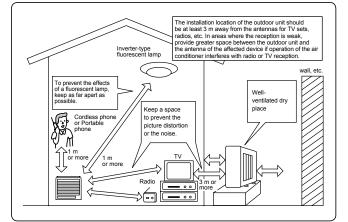
Clean the air filter. Page 7

Check that the air inlet and outlet of the indoor and outdoor units are not blocked.

Check that the earth is connected correctly.

## INSTALLATION PLACE AND **ELECTRICAL WORK**

- Installation place Avoid installing the air conditioner in the following places.
- Where there is much machine oil. • Salty places such as the seaside.
- Where sulfide gas is generated such as a hot spring.
- Where oil is splashed or where the area is filled with oily smoke.
- Where there is high-frequency or wireless equipment.
- Where the air from the outdoor unit air outlet is blocked.
- Where the operation sound or air from the outdoor unit does not bother the house next door.



## **Electrical work**

- Provide an exclusive circuit for the power supply of the air conditioner.
- Be sure to observe the breaker capacity.

If you have any questions, consult your dealer.

# PECIFICATIONS

	Set name		MFZ-KA	25VA(H)	MFZ-KA	35VA(H)	MFZ-K	A50VA
Model	Indoor Outdoor		MFZ-KA25VA SUZ-KA25VA(H)		MFZ-KA35VA SUZ-KA35VA(H)		MFZ-KA50VA SUZ-KA50VA	
Function			Cooling	Heating	Cooling	Heating	Cooling	Heating
Power supply					~ /N, 230	V, 50 Hz		
Capacity		kW	2.5	3.4	3.5	4.0	4.8	6.0
Input		kW	0.58	0.835	1.09	1.10	1.55	1.86
Moight	Indoor	kg		14				
Weight	Outdoor	kg	33		37		53	
Refrigerant filling capa	acity (R410A)	kg	0.9	90	1.	05	1.	60
IP code	Indoor		IP 20					
IP code	Outdoor				IP	24		
Permissible excessive	LP ps	MPa	1.64					
operating pressure	HP ps	MPa	4.15					
Noise level	Indoor (Super High/ High/Med./Low)	dB(A)	37/32/27/22	37/32/27/22	38/33/28/25	43/39/35/32	43/39/35/32	44/39/35/32
	Outdoor	dB(A)	4	6	47	48	53	55

#### Guaranteed operating range

Model		Indoor	Outdoor			
woder	wodei		SUZ-KA25/35VA	SUZ-KA50VA	SUZ-KA25/35VAH	
	Upper limit	32°C DB	46°C DB	43°C DB	46°C DB	
Cooling	opper mint	23°C WB	_	_	—	
Cooling	Lower limit	21°C DB	-10°C DB	-10°C DB	-10°C DB	
	Lower IIIIII	15°C WB	—	—	—	
	Upper limit	27°C DB	24°C DB	24°C DB	24°C DB	
Heating	opper minit	_	18°C WB	18°C WB	18°C WB	
	Lower limit	20°C DB	-10°C DB	-10°C DB	-20°C DB	
	Lower Infin	—	-11°C WB	-11°C WB	-21°C WB	

#### Note:

Rating condition				
Cooling —	Indoor:	27°C DB, 19°C WB	Outdoor:	35°C DB
Heating —	Indoor:	20°C DB	Outdoor:	7°C DB, 6°C WB
	· ···			

As for the specifications of multi system, please confirm your dealer and/or refer to the catalogue.

# MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN