OWNER'S MANUAL

Fan Coil Of Four-way Cassette Type

Original Manual.
Thank you very much for purchasing our air conditioner,
Before using your air conditioner , please read this manual carefully and keep it for future reference.

1. IMPORTANT SAFETY INFORMATION

To prevent injury to the user or other people and property damage, the following instructions must be followed. Incorrect operation due to ignoring of instructions may cause harm or damage.

The safety precautions listed here are divided into two categories. In either case, important safety information is listed which must be read carefully.

WARNING

Failure to observe a warning may result in injury.

CAUTION

Failure to observe a caution may result in injury or damage to the equipment.

WARNING

Ask your dealer for installation of the air conditioner.
Incomplete installation performed by yourself may result in a water leakage, electric shock, and fire.

Ask your dealer for modification, repair, and maintenance.
Incomplete modification, repair, and maintenance may result in a water leakage, electric shock, and fire.

In order to avoid electric shock, fire or injury, or if you detect any abnormality such as burning smell, turn off the power supply and call your dealer for instructions.

Never let the indoor unit or the remote controller get wet.
It may cause an electric shock or a fire.

Never press the button of the remote controller with a hard, pointed object.
The remote controller may be damaged.

Never replace a fuse with that of wrong rated current or other wires when a fuse blows out.
Use of wire or copper wire may cause the unit to break down or cause a fire.

It is not good for your health to expose your body to the air flow for a long time.

Do not insert fingers, rods or other objects into the air inlet or outlet.
When the fan is rotating at high speed, it will cause injury.

Never use a flammable spray such as hair spray, lacqueror paint near the unit.
It may cause a fire.

Never touch the air outlet or the horizontal blades while the swing flap is in operation.
Fingers may become caught or the unit may break down.

Never put any objects into the air inlet or outlet.
Objects touching the fan at high speed can be dangerous.

Never inspect or service the unit by yourself.
Ask a qualified service person to perform this work.

Do not dispose this product as unsorted municipal waste.Collection of such waste separately for special treatment is necessar

To prevent water leak, contact your dealer.
When the system is installed and runs in a small room, it is required to keep the concentration of the water, if by any chance coming out, below the limit. the cool capacity would be lower.

Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.
Do not use the air conditioner until a service person confirms that the portion where the water leaks is repaired.

CAUTION

Do not use the air conditioner for other purposes.
In order to avoid any quality deterioration, do not use the unit for cooling precision instruments, food, plants, animals or works of art.

Before cleaning, be sure to stop the operation, turn the breaker off or pull out the supply cord.
Otherwise, an electric shock and injury may result.

In order to avoid electric shock or fire, make sure that an earth leak detector is installed.

Be sure the air conditioner is grounded.
In order to avoid electric shock, make sure that the unit is grounded and that the earth wire is not connected to gas or water pipe, lightning conductor or telephone earth wire.

Do not operate the air conditioner with a wet hand.
An electric shock may happen.

Do not touch the heat exchanger fins.
These fins are sharp and could result in cutting injuries.

Do not place items which might be damaged by moisture under the indoor unit.
Condensation may form if the humidity is above 80%, the drain outlet is blocked or the filter is polluted.

After a long use, check the unit stand and fitting for damage.
If damaged, the unit may fall and result in injury.

To avoid oxygen deficiency, ventilate the room sufficiently if equipment with burner is used together with the air conditioner.

Arrange the drain hose to ensure smooth drainage.
Incomplete drainage may cause wetting of the building, furniture etc.

Never touch the internal parts of the controller.
Do not remove the front panel. Some parts inside are dangerous to touch, and a machine trouble may happen.

Never expose little children, plants or animals directly to the air flow.
Adverse influence to little children, animals and plants may result.

Do not place appliances which produce open fire in places exposed to the air flow from the unit or under the indoor unit.
It may cause incomplete combuston or deformation of the unit due to the heat.

Do not install the air conditioner at any place where flammable gas may leak out.
If the gas leaks out and stays around the air conditioner, a fire may break out.

The appliance should not be used by children without supervision.

DISPOSAL：Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

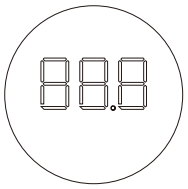
- Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.
- Contact you local government for information regarding the collection systems available.
- Don't install the air conditioner in salty air surrounding (near the coast).

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being

2. PARTS NAMES

The air conditioner consists of the indoor unit, the outdoor unit, the connecting pipe and the remote controller.

- **Function indicators on indoor unit Display Panel**



Display functions:

- In Standby mode, the main interface displays "---".
- When starting up in Cooling or Heating mode, the main interfacedisplays the set temperature. In Fan mode, the main interface displays the indoor temperature. In Dry mode, the main interface displays the set temperature.
- The light display on the main interface can be turned on or off through the light button on the remote controller.
- When the system fails or runs in a special mode, the main interfacedisplays the error code or the operating status codes. For details, see the section "Error Codes and definitions".

3. OPERATION RANGE

Use the system in the following temperature for safe and effective operation.

Temperature / Mode	Room temperature	inlet water temperature
Cooling operation	17 °C～32 °C	3 °C～20 °C
Heating operating (cooling only type without)	0 °C～30 °C	30 °C～75 °C

NOTE

1 If air conditioner is used outside the above conditions, it may cause the unit to function abnormally.

2 The phenomenon is normal that the surface of air conditioning may condense water when the relatively high humidity in room, please close the door and window.

3 Optimal performance is achieved within these operating temperature range.

4 In heating mode,the temperature of the inlet water must be under 75℃.

5 Water system operating pressuer: Max: 1.6MPa, Min: 0.15MPa.

4. HINTS FOR ECONOMICAL OPERATION

The following should be noticed to ensure an economical operation.

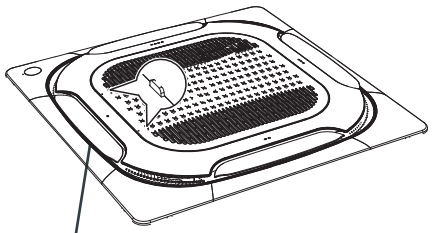
- Adjust the air flow louver properly and avoid direct air flow to room inhabitants.
- Adjust the room temperature properly for a comfortable environment. Avoid excessive heating or cooling.
- Prevent direct sunlight during cooling operation by using curtains or blinds.
- Ventilate often. Extended use requires special attention to ventilation.
- Keep doors and windows closed. If the doors and windows remain open, air will flow out of your room causing a decrease in the cooling or heating effect.
- Never place objects near the air inlet or the air outlet of the unit. It may cause deterioration in the effect or stop the operation.
- Set the timer .
- If you don't plan to use the unit for a long time, please take the batteries from the remote controller. When the power is on, some energy will be consumed,even if the air conditioner isn't in operation. So please disconnect the power to save energy.

- Keep the indoor unit and remote controller at least 1 m away from televisions, radios, stereos, and other similar equipment. Failing to do so may cause static or distorted pictures.

- A dirty air filter will reduce cooling or heating efficiency, please clean it once two weeks.

5. ADJUSTING AIR FLOW DIRECTION

While the unit is in operation, you can adjust the air flow louver to change the flow direction and distribute the room temperature evenly . Thus you can enjoy it more comfortably.



(figure 2)

- **Set the air flow direction.**
  Press the SWING button to adjust the louver to the desired position and press this button again to maintain the louver at this position.

- **Best mode of operation.**
  To improve the cooling and heating effect, it is recommended that the air flow angle between the inverted air strip and the ceiling be 30° to 65°during the cooling and heating operation.

6. MAINTENANCE

CAUTION

Before you clean the air conditioner, be sure the power supply is off.

Check if the wiring is not broken off or disconnected.

Disconnect the power supply before cleaning and maintenance. Use dry cloth to clean the unit.

A wet cloth may be used to clean the indoor unit if it is very dirty.

Never use a damp cloth on the remote controller.

Do not use a chemically-treated duster for wiping or leave such material on the unit for long.
it may damage or fade the surface of the unit.

Do not use benzine, thinner, polishing powder, or similar solvents for cleaning.
These may cause the plastic surface to crack or deform.

It is necessary to remove the extension board fixed on the air deflector, before removing the air deflector for maintenance. It is necessary to remove the wire of the extension board, just the extension metal box.

Maintenance after a long stop period

(eg. at the beginning of the season)

Check and remove everything that might be blocking inlet and outlet vents of indoor units .

Clean air filters and casings of indoor units.
Refer to "Cleaning the air filter" for details on how to proceed and make sure to install cleaned air filters back in the same position.

Turn on the power at least 12 hours before operating the unit in order to ensure smoother operation. As soon as the power is turned on, the remote controller displays appear.

Maintenance before a long stop period

(eg. at the end of the season)

Let the indoor units run in fan only operation for about half a day in order to dry the interior of the units.

Clean air filters and casings of indoor units. Refer to " Cleaning the air filter" for details on how to proceed and make sure to install cleaned air filters back in the same position.

Cleaning the air filter

The air filter can prevent the dust or other particulate from going inside .In case of blockage of the filter , the working efficiency of the air conditioner may greatly decrease .
Therefore , the filter must be cleaned once two weeks during long time usage.

If the air conditioner is installed in a dust place , clean the the air filter frequent.

If the accumulated dust is too heavy to be cleaned , please replace the filter with a new one(replaceable air filter is an optional fitting).

1 **Open the air-in grill**
Push the grill switches towards the middle simultaneously as indicated in *figure 3*. Then pull down the air-in grill.
The control box cables ,which are originally connected with the main body electrical terminators must be pulled off before doing as indicated above.

2 **Take out the air-in grill (together with the air filter shown in *figure 4*).**
Pull the air-in grill down at 45° and lift it up to take out the grill.

3 **Dismantle the air filter.**

4 **Clean the air filter**
Vacuum cleaner or pure water may be used to clean the air filter.If the dust accumulation is too heavy , please use soft brush and mild detergent to clean it and dry out in cool place

- *The air-in side should face up when using vacuum cleaner. (See Fig. 5)*
- *The air-in side should face down when using water. (See Fig. 6)*

Caution : Do not dry out the air filter under direct sunshine or with fire.

5 **Re-install the air filter.**

6 **Install and close the air-in grill in the reverse order of step 1 and 2 and connect the control box cables to the corresponding terminators of the main body .**

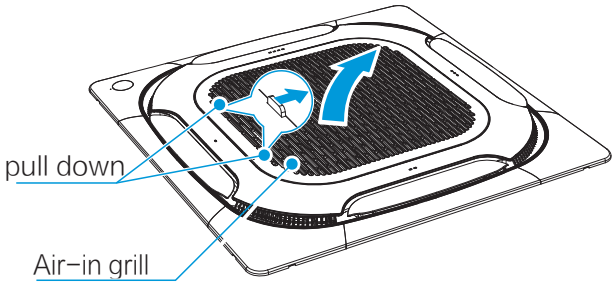


fig.3

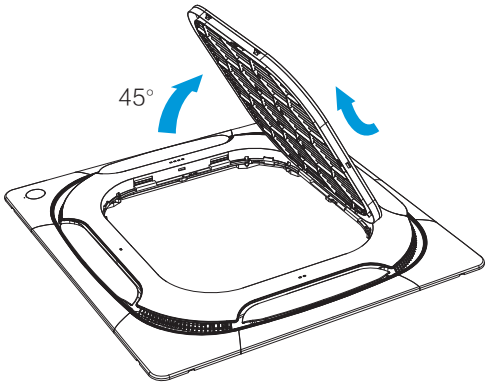


fig.4

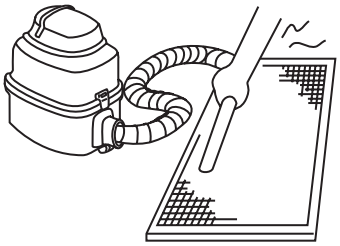


fig.5

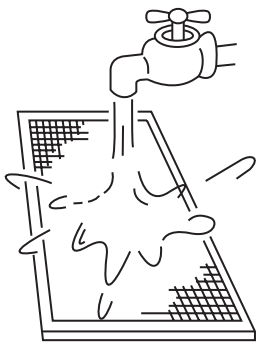


fig.6

7. FOLLOWING SYMPTOMS ARE NOT AIR CONDITIONER TROUBLES

Symptom 1: The system does not operate

- The air conditioner does not start immediately after the ON/OFF button on the romote controller is pressed.
  If the operation lamp does not lights, the system is in abnormal condition. or there is no problem with the unit.

- If the operation lamp and the "PRE-DEF indicator(cooling and heating type) or fan only indicator(cooling only type)" light, it means you choose the heating model, When just starting, the indoor unit appears "anti cold wind" protection because of its overlow outlet temperature.

Symptom 2: Change into the fan mode during cooling mode

- When the room temperature drops to the set temperature, the indoor unit changes to fan mode; when the temperature rises up, the rotate speed of the fan will rise too, It is same in the heating mode.

Symptom 3: white mist (condensation) comes out of a unit

- When humidity is high during cooling operation If the interior of an indoor unit is extremely contaminated, the temperature distribution inside a room becomes uneven. It is necessary to clean the interior of the indoor unit. Ask your dealer for details on cleaning the unit. This operation requires a qualified service person.

Symptom 4: Noise of air conditioners cooling

Symptom 4.1: Indoor unit

- A continuous low "shah" sound is heard when the system is in cooling operation or at a stop.
  When the drain pump (optional accessories) is in operation,this noise is heard.

- A "pishi-pishi" squeaking sound is heard when the system stops after heating operation.
  Expansion and contraction of plastic parts caused by temperature change make this noise.

Symptom 4.2: Indoor unit, outdoor unit

- A continuous low hissing sound is heard when the system is in operation.
  This is the sound of water flowing through both indoor and outdoor units.

- A hissing sound which is heard at the start or immediately after stopping operation .
  This is the noise of water caused by flow stop or flow change.

Symptom 5: Dust comes out of the unit

- When the unit is used for the first time in a long time. This is because dust has gotten into the unit.

Symptom 6: The units can give off odours

- The unit can absorb the smell of rooms, furniture, cigarettes, etc., and then emit it again.

8. TROUBLESHOOTING

8.1. Troubles and causes of air conditioner

If one of the following malfunctions occur, stop operation, shut off the power, and contact with your dealer.

- The operation lamp is flashing rapidly (five times per second), you disconnect the unit with the power and then connect the unit with the power again after two or three minutes but the lamps still flash.
- Switch operations are erratic.
- The fuse is blown frequently or the circuit breaker is tripped frequently.
- Foreign matter or water has fallen inside the air conditioner.
- Water leaks from the indoor unit.

If the system does not properly operate except the above mentioned cases or the above mentioned malfunctions is evident, investigate the system according to the following procedures. *(see in table 1)*

table 1

Symptoms	Causes	Solution
Unit does not start	• Power failure. • Power switch is off. • Fuse of power switch may have burned. • Batteries of remote controller exhausted or other problem of controller.	• Wait for the comeback of power. • Switch on the power. • Replace the fuse. • Replace the batteries or check the controller.
Air flowing normally but completely unable to cool	• Temperature is not setted correctly.	• Set the temperature properly.
Units start or stop frequently	• air or non-condensable gas in the water circuit. • three-way valve is malfunction. • Voltage is too high or too low. • System circuit is blocked. • Temperature is not setted correctly.	• Vacuum . • Maintenance or change three-way valve. • Install voltage stabilizer. • Find reasons and solution.
Low cooling effect	• Indoor unit heat exchanger is dirty. The air filter is dirty. • Inlet/outlet of indoor units is blocked. • Doors and windows are open Sunlight directly shine. • Too much heat resource. • Leakage of water .	• Clean the heat exchanger. • Clean the air filter. • Eliminate all dirties and make air smooth. • Close doors and windows. • Make curtains in order to shelter from sunshine. • Reduce heat source. • AC cooling capacity reduces (normal). • Check leakage .
Low heating effect	• Doors and windows not completely closed. • Leakage of water.	• Use heating device. • Close doors and windows. • Check leakage.

8.2 Malfunctions and malfunction code

If anything happens like the situation described below, please shut off the power supply of the unit and contact with the custormer service center immediately.

NO.	Malfunction	alarm lamp
1	Water pump switch error.	b34/b35
2	Water level switch error.	b36
3	Communication error between main control board and fan drive module .	C41
4	Communication error between main control board and wired controller.	C51
5	Communication error between main control board and panel.	C61
6	Communication error between main control board and extension board.	C78/C79
7	Controller/ Panel sensor error.	E31
8	External temperature sensor error.	E33
9	Fan drive module error within 60 minutes .	J01
10	Primary fan drive module error.	J3
11	Low voltage fault of fan.	J3E
12	Motor mismatch.	J45
13	EEPROM failure.	P71/P72
14	Model setting error.	U11
15	Performance setting error.	U12
16	Water temperature exceeds the protection range.	P01
17	Protection against freezing .	P02
18	T1 sensor error.	E24
19	T2A sensor error.	F01
20	T2B sensor error.	F21
21	Remote shutdown.	d61

9 MODEL PARAMETERS

MODE:MKA-V600-C(A)			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	1020	m³/h
Cooling capacity	Prated,c	5.5	kW
Heating capacity	Prated,h	6.5	kW
Total electric power input	Pelec	0.04	kW
Sound power level(high speed)	LWA	41	dB
contact details			

MODE:MKA-V700-C(A)			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	1190	m³/h
Cooling capacity	Prated,c	6.5	kW
Heating capacity	Prated,h	7.5	kW
Total electric power input	Pelec	0.045	kW
Sound power level(high speed)	LWA	42	dB
contact details			

MODE:MKA-V800-C(A)			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	1360	m³/h
Cooling capacity	Prated,c	7.5	kW
Heating capacity	Prated,h	8.5	kW
Total electric power input	Pelec	0.06	kW
Sound power level(high speed)	LWA	44	dB
contact details			

MODE:MKA-V1000-C(A)			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	1700	m³/h
Cooling capacity	Prated,c	8.5	kW
Heating capacity	Prated,h	9.5	kW
Total electric power input	Pelec	0.1	kW
Sound power level(high speed)	LWA	49	dB
contact details			

MODE:MKA-V1200-C(A)			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	1950	m³/h
Cooling capacity	Prated,c	10.5	kW
Heating capacity	Prated,h	12	kW
Total electric power input	Pelec	0.2	kW
Sound power level(high speed)	LWA	52	dB
contact details			

MODE:MKA-V600F-C(A)			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	1020	m³/h
Cooling capacity	Prated,c	4.4	kW
Heating capacity	Prated,h	6	kW
Total electric power input	Pelec	0.04	kW
Sound power level(high speed)	LWA	36	dB
contact details			

MODE:MKA-V700F-C(A)			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	1190	m³/h
Cooling capacity	Prated,c	5	kW
Heating capacity	Prated,h	7	kW
Total electric power input	Pelec	0.045	kW
Sound power level(high speed)	LWA	39	dB
contact details			

MODE:MKA-V800F-C(A)			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	1360	m³/h
Cooling capacity	Prated,c	5.5	kW
Heating capacity	Prated,h	7.5	kW
Total electric power input	Pelec	0.06	kW
Sound power level(high speed)	LWA	43	dB
contact details			

MODE:MKA-V1000F-C(A)			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	1700	m³/h
Cooling capacity	Prated,c	8	kW
Heating capacity	Prated,h	8.5	kW
Total electric power input	Pelec	0.112	kW
Sound power level(high speed)	LWA	48	dB
contact details			

MODE:MKA-V1200F-C(A)			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	2040	m³/h
Cooling capacity	Prated,c	9	kW
Heating capacity	Prated,h	9.3	kW
Total electric power input	Pelec	0.205	kW
Sound power level(high speed)	LWA	53	dB
contact details			

MODE:MKA-V1400-CA			
Information to identify the model(s)to which the information relation:			
Item	Symbol	Value	Unit
Air flow volume	CFM	2380	m³/h
Cooling capacity	Prated,c	12.8	kW
Heating capacity	Prated,h	14.5	kW
Total electric power input	Pelec	0.18	kW
Sound power level(high speed)	LWA	65	dB
contact details			

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