

INSTALLATION, OPERATION & MAINTENANCE MANUAL

InverterFlex[®] Multi-Zone Floor and Ceiling Type Indoor Unit

B-VFH09UA-1

B-VFH12UA-1

B-VFH18UA-1

B-VFH24UA-1

User Notice

- When installing, the entire capacity of the sum of indoor units should not be larger than 150% of the outdoor unit, otherwise, it will cause a shortage of cooling (heating) capacity.
- The power supply of the entire unit must be the power supply of outdoor unit. Disconnect the main power of outdoor unit before cleaning.
- Power unit for 8 hours before startup.
- After cycling off, every indoor unit will continue to work for 20-70 sec to make good use residual cool air or, warm air in the heat exchanger, this is normal.
- When the selected operating mode of the indoor unit conflicts with the operating mode of the outdoor unit, after 5 sec the fault code will be shown on the indoor unit or wired controller, then the indoor unit will stop. Change the operating mode of the indoor unit to one that would not conflict with the outdoor operating mode. The HEAT mode conflicts with the COOL mode, DRY mode and FAN mode, while the COOL mode, DRY mode and FAN mode are compatible between each other.
- This appliance shall not be installed in a laundry. This appliance shall not be used by children without supervision.
- Power supply fluctuating range (+/-10%, +/-1Hz).
- Humidity range: 30%~95%.
- Main switch provided by end user.
- The main disconnect should be installed at a height of approx. 5.5 ft, check local codes. Over current protection is required (UL 1995, CSA C22.2).
- The outdoor ambient range for cooling 41~118°F (-5°C~48°C) DB, the heating range of the unit (for the heat pump) is the outdoor ambient temp. 5~80.6°F (-5°C~27°C) DB.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.



This product must not be disposed of together with the domestic waste. This product has to be disposed at an authorized place for recycling of electrical and electronic appliances.

**Thank you for selecting this Heat Controller air conditioner.
Before use, please read this manual carefully and keep it for further reference.**

ATTENTION

**When using a mini-split condensate pump
on a multi-head system,
the pump must be on a separate electrical circuit.
Do not access power from the indoor unit.**

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1 Safety Precautions

Please read this manual carefully before using this unit. Operate it correctly according to the guide in this manual.

Please pay special attention to the meaning of these two marks:

Warning!

This mark means that the unit may cause property damage, personal injury or loss of life if the operation is incorrect.

Caution!

This mark means that the unit may cause minor or moderate property damage or personal injury.

Warning!

- The unit should be grounded reliably. Do not connect the earth line to the gas pipe, water pipe, drainage pipe or other potentially unsafe places.
- Air conditioner must use a dedicated power supply and switches for creepage protection, and adequate air circulation.
- Ensure that the connecting of power cord is reliable, otherwise, electric shock or fire may happen.
- Do not cut off the power supply when the unit is running, otherwise the lifetime of the unit will be shortened.
- Do not damage wires or use wires that are not recommended, otherwise, electric shock or fire may happen.
- Please don't operate the unit with wet hands, or electric shock may happen.
- Do not put a finger, a rod or other objects into the air outlet or inlet to avoid of damage or personal injury.
- Shut off the main power supply immediately if any abnormality happens (such as smell of fire etc.). Contact a service center and consult a qualified technician.
- Do not repair or adjust the air conditioner by yourself. Please contact a service center.
- Do not use a fuse with unsuitable capacity or wire instead of fuse, otherwise, it will cause malfunction or fire.
- Switch off the power supply of the unit before cleaning the air conditioner, otherwise, electric shock or damage may happen.
- Chemical sprayer should be placed 3 ft. or more away from the unit, otherwise fire or explosion may happen.
- Do not block air inlets or outlets. Impaired air flow may result in insufficient performance or trouble.

2 Installation Precautions and Location Choosing

2.1 Installation Precautions

The installation of air conditioner must conform to national and local safety laws.

Installation quality will directly affect the normal operation of air conditioner. Do not attempt to install the air conditioner by yourself. Please contact your dealer after buying this machine. Professional installation workers will provide installation and test services according to installation manual.

Do not connect to power until all installation work is completed.

2.2 Location Choice

- Such a place where cool air can be distributed throughout the room.
- Such a place where condensate water could be easily drained out.
- Such a place that can handle the weight of indoor unit.
- A place which is easy to access for maintenance.
- A place that is easy to make connections with the outdoor unit.
- A place that is 3 ft. or more away from other electric appliances such as televisions, audio devices, etc.
- Avoid a location where there is a heat source, high humidity or flammable gas.
- Do not use the unit in moist surroundings, such as a laundry, a bath, a shower or a swimming pool.
- Be sure that the installation conforms to the installation drawings.

2.3 Inappropriate Location

- Where there is stored oil.
- Where it is acid base area.
- Where there is irregular electrical supply.

3 Installation of Floor and Ceiling Type Indoor Unit

3.1 Space Dimension for Unit Installation

The space around the unit is adequate for ventilation. (Refer to Fig. 1)

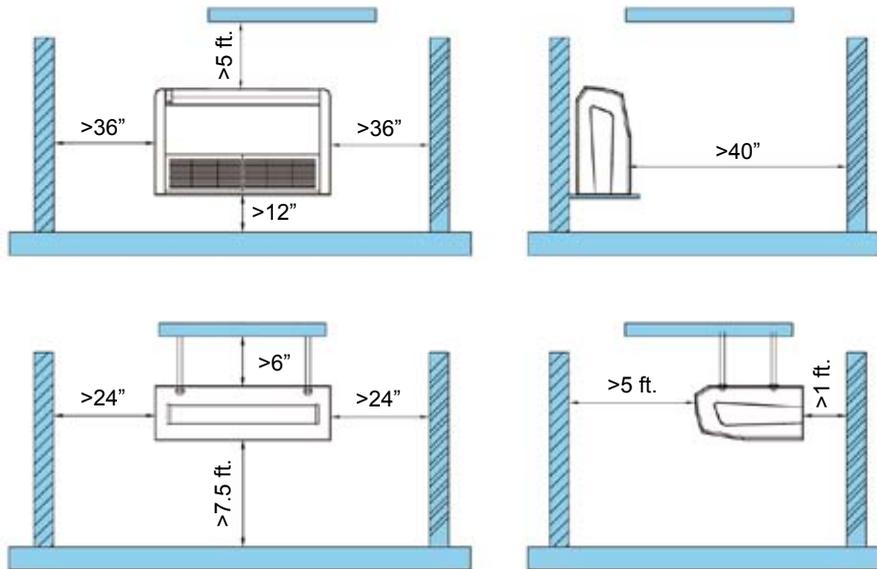


Fig. 1

3.2 Important Notice

- (1). The unit must be installed by professional personnel according to this installation manual to ensure proper function.
- (2). Relocation should be performed by professional personnel.

3.3 Installation Description

- Ceiling type
- Floor type

These two types of units have similar installation procedures as follows: (1). Determine the mounting position on ceiling or wall by using paper pattern to indicate indoor frame. Mark the pattern and pull out the paper pattern.(Refer to Fig. 2).

- (2). Remove the return grill, the side panel and the hanger bracket from the indoor unit as per procedure below.

- Press the fixing knob of the air intake grills, the grilles will be opened wider and then pull them out from the indoor.
- Loosen the side panel fixing screw and remove the side panel. (Refer to Fig. 3).
- Loosen two hanger bracket setting bolts (M8) on each side for less than $.5"$. Remove two hanger bracket fixing bolts (M6) on the rear side. Detach the hanger bracket by pulling it backward.

(Refer to Fig. 5).

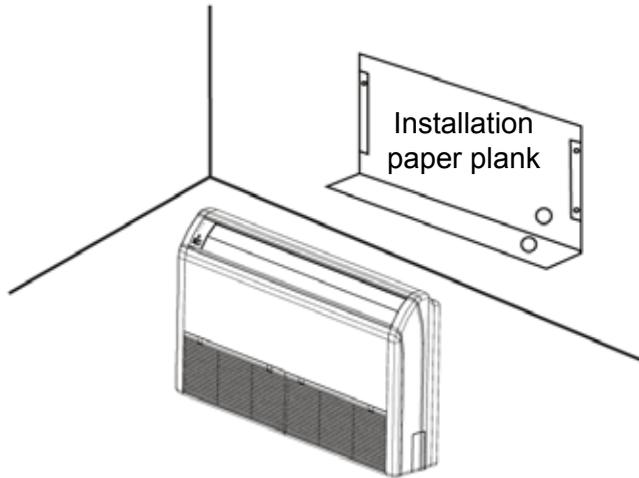


Fig. 2

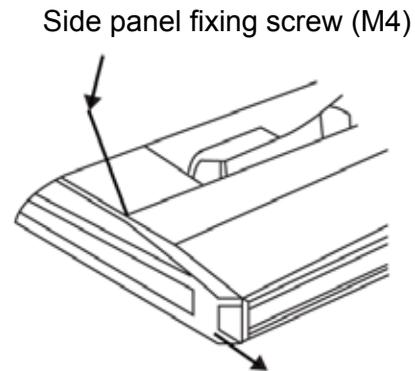


Fig. 3

(3). Set the suspension bolt. (Use W3/8 or M10 size suspension bolts).

■ Adjust the distance from the unit to the ceiling slab beforehand. (Refer to Fig. 4).

(4). Fix the hanger bracket to the suspension bolt.

Warning!

■ Make sure that extended suspension bolt from the ceiling stays inside the appointed position. Readjust the hanger bracket when it is out of the appointed position. (Refer to Fig. 6).

■ Suspension bolt is fixed in the cap of indoor unit. Never remove the cap.

(5). Lift the unit and slide forward unit in place. (Refer to Fig. 7).

(6). Screw tightly both hanger bracket-setting bolts (M8). (Refer to Fig. 5)

(7). Screw tightly both hanger bracket-fixing bolts (M6) to prevent the displacement of the indoor unit. (Refer to Fig. 5).

(8). Adjust the height so that rear side of the drainpipe slightly inclines to improve drainage.

Caution!

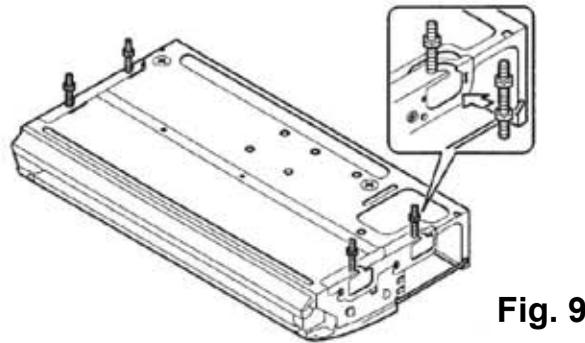
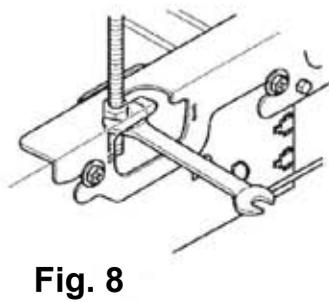
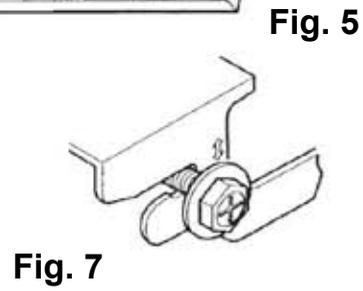
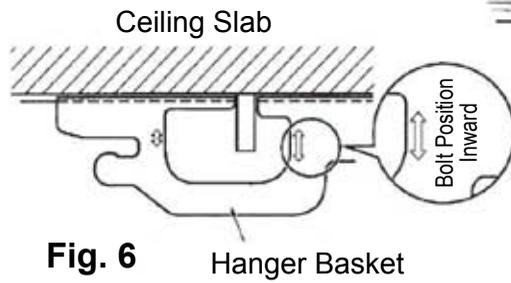
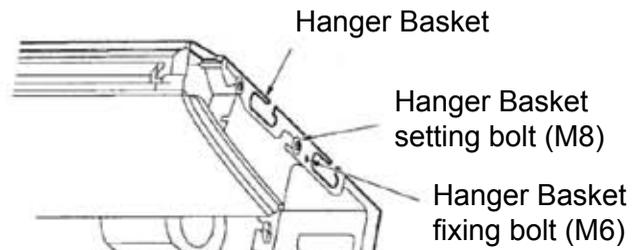
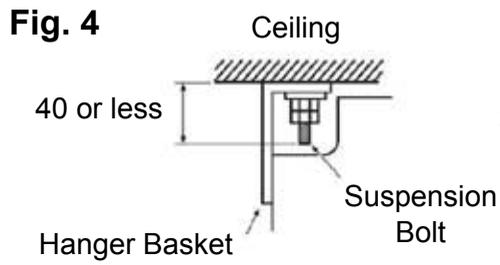
■ Adjust the height by rotating the nut with a spanner.

■ Insert the spanner into the hanger bracket through the interspace. (Refer to Fig.8).

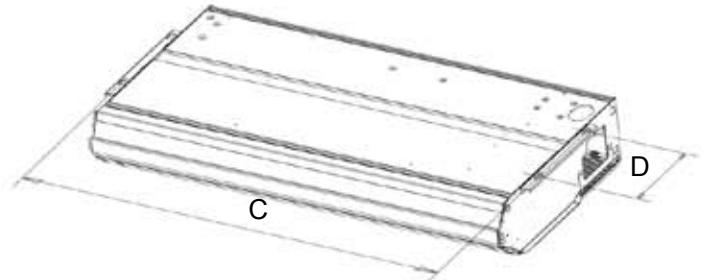
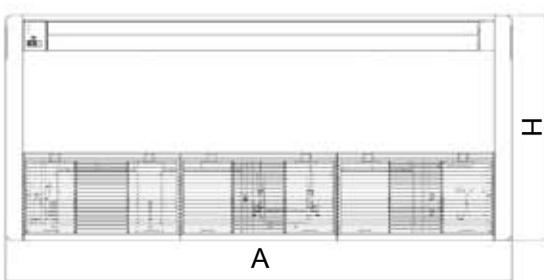
In case of hanging

It is possible to install hanger brackets by not removing the brackets from the indoor unit. (Refer to Fig. 9).

Only the specified accessories and parts for installation work should be used.



When installing the indoor unit, you can refer the paper pattern for installation. Make sure the drainage side must be $\frac{3}{8}$ " lower than the other side in order to drain the condensate water easily.



Model	A	B	H	C	D
B-VFH09UA-1	48"	8-7/8"	27-1/2"	48-5/8"	11"
B-VFH12UA-1					
B-VFH18UA-1					
B-VFH24UA-1					

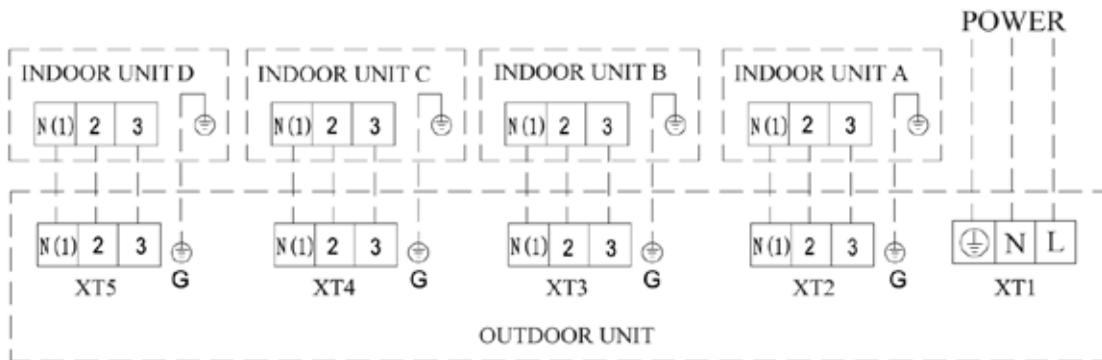
3.4 Electrical Wiring

Caution!

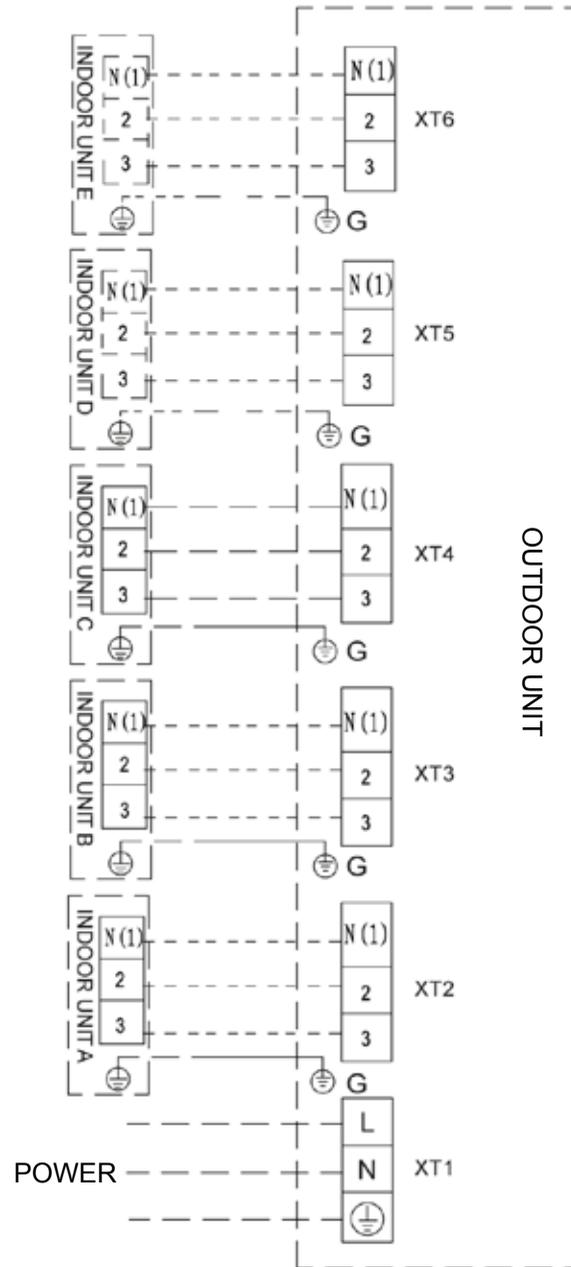
The power of every indoor unit should be connected in outdoor unit

- ① Open front panel.
- ② Remove the electrical box cover.
- ③ Route the power connection cord from the back of the indoor unit and pull it toward the front through the wiring hole upward.
- ④ Pull the 4-core cable through the hole of the chassis and the bottom of the appliance upward, and then connect the power line and the communication line from the outdoor unit to the corresponding terminals N(1), 2, 3, and grounding terminal of the indoor unit. Wiring shall be done properly as per the wire diagram. (Note: Be sure the wire terminals A/B/C/D and piping joints A/B/C/D of the indoor unit match with that of the outdoor unit respectively).
- ⑤ Reassemble the electrical box cover.
- ⑥ Reinstall the front panel.
- ⑦ Do not run bare copper pipe at interconnection part as the temperature of refrigerant circuit is high.

A-VFH36QA-1



A-VFH42PA-1



Caution!

- ① Incorrect wiring connection will lead malfunction.
- ② Be sure to leave some space between the connecting end and the clamp end after the wiring is landed.
- ③ The installation should conform to national wiring regulations.

3.5 Drainpipe Installation

Make sure the drain flows out

- (1). Drain piping.

- Either the right rear or right side of the unit is suitable for fixing the drainpipe.
- The diameter of the drainpipe should be equal to or greater than that of the connecting pipe.
- Make the drainpipe as short as possible and slope downward at a gradient of at least 1/100 to prevent air pockets. (Refer to Fig. 10).
- Use the attached drain hose ④ and clamp ⑤.
- Insert the drain hose completely into the drain socket. Tighten the clamp within the range of gray tape until the screw head is less than .15 inch from the hose. (Refer to Fig. 11, Fig. 12).
- Wrap the attached sealing pad 11 over the clamp and drain hose to insulate. (Refer to Fig. 12).
- Do not fold drain hose inside the indoor unit. (Refer to Fig. 13).

(2). Confirm that smooth drainage is achieved after the piping work.

Pour 20 oz. of water into the drain pan from the air outlet for confirming drainage.(Refer to Fig. 14).

(When drain hose is connected)

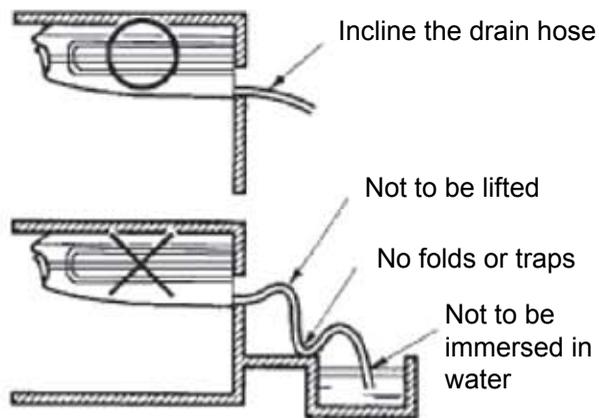


Fig. 10

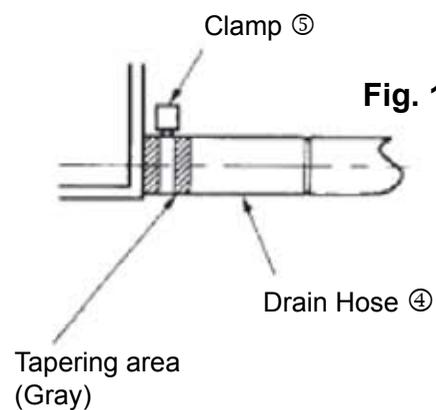


Fig. 11

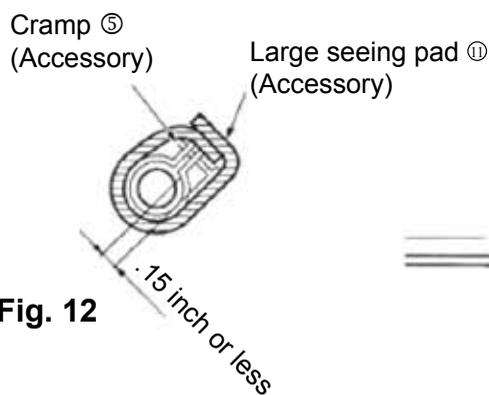


Fig. 12



Fig. 13

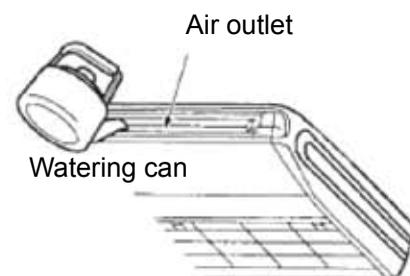
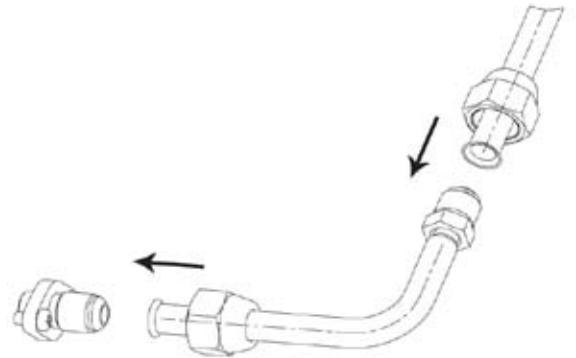


Fig. 14

3.6 Install the Refrigerant Lines

- ① The bending of the pipe shall not be too small, otherwise the pipe may crack. A pipe bender must be used when bending the pipe.(4).
- ② Wrap the thermally untreated pipe and connectors with sponge and then tighten the sponge with plastic tape.

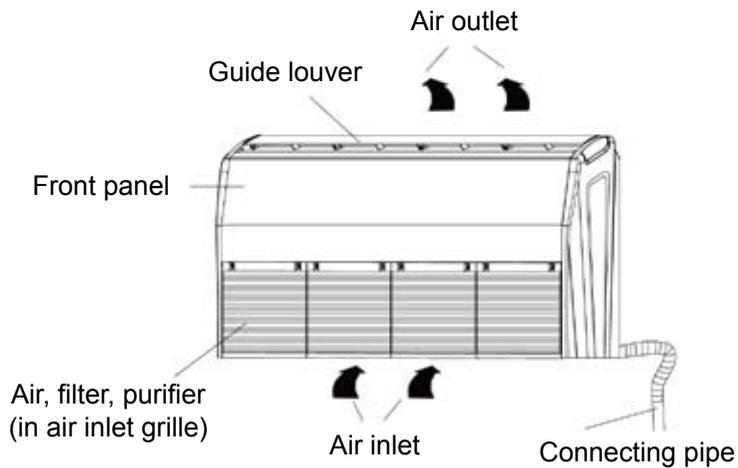


Notes:

- ① During the piping, do not pull any connector forcefully to prevent the capillary and other pipes from cracking, which then would result in leakage.
- ② The pipe should be properly supported in the way that its weight will not be borne by the unit. If the specification of the outdoor unit pipe joint does not conform to that of the indoor unit.

In some cases an adapter may be needed at the indoor and/or the outdoor line connection.

4 Part Names of Floor and Ceiling Type Indoor Unit



5 Working Temperature Range

Working Temperature Range

	Indoor side state °F (°C)		Outdoor side state °F (°C)	
	Dry bulb temp. °F (°C)	Wet bulb temp. °F (°C)	Dry bulb temp. °F (°C)	Wet bulb temp. °F (°C)
Rated. Cooling	80.0(26.7)	67.0(19.4)	95.0(35.0)	75.0(23.9)
Max. Cooling	80.0(26.7)	67.0(19.4)	115.0(46.1)	75.0(23.9)
Min. Cooling	67.0(19.4)	57.0(13.9)	67.0(19.4)	57.0(13.9)
Rated. Heating	70.0(21.1)	60.0(15.6)	47.0(8.3)	43.0(6.1)
Max. Heating	80.0(26.7)	—	75.0(23.9)	65.0(18.3)
Low Ambient Heating	70.0(21.1)	60.0(15.6)	5.0(-15.0)	3.2(-16.0)

6 Maintenance Method

Warning!

- ① Turn off the unit and cut off the power supply when cleaning the air conditioner, otherwise, electric shock may happen.
- ② Do not let the air conditioner get wet, or it will cause electric shock. Ensure that the air conditioner will not be cleaned by water rinse under any circumstances.
- ③ Volatile liquid like thinner or gasoline would damage the appearance of air conditioner.
(Note: Only soft cloth and wet cloth that moistened by neutral cleaning fluid could be used to clean the front panel of air conditioner.)

6.1 Cleaning the Air Filters

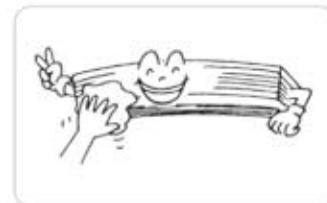
Suggestion:

If the air filter is dirty, it will influence normal airflow. As a result, the unit will be overloaded and consume 6% additional electric energy. So regular cleaning is necessary.



6.2 Cleaning the Unit

Clean the air conditioner and the remote control with dry cloth or a vacuum cleaner. If damp cloth is used, remove moisture by using dry cloth afterward.



Caution!

- ① Do not use benzene solvent, gasoline, thinners or polishing products for cleaning.
- ② Do not wash with hot water above 104°F (40°C). Some parts of the unit may be deformed.

6.3 At the Start of the Season

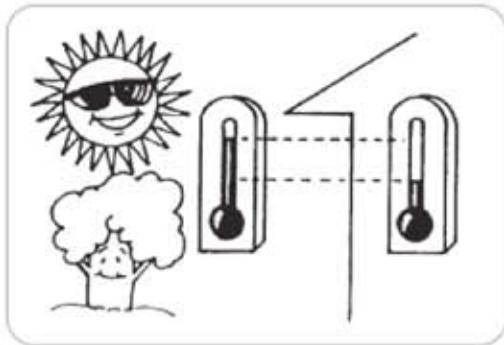
- Check if there is blockage at inlet and outlet of the air conditioner.
- Check the batteries in wireless remote controller.
- Check that the air filter has been installed.
- In order to start up the air conditioner smoothly after long “off time”, switch on the main power supply 8 hours before turning on the air conditioner.

6.4 During the off Season

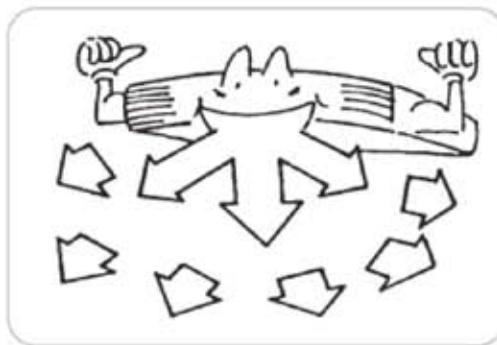
- Switch off the main power supply.
- Clean the air filters.
- Keep the fan running for 2-3 hours to dry out the inside of the unit.

7 Operating Instructions

- The expected temperature should be set at a moderate level to avoid of unnecessary energy consumption.



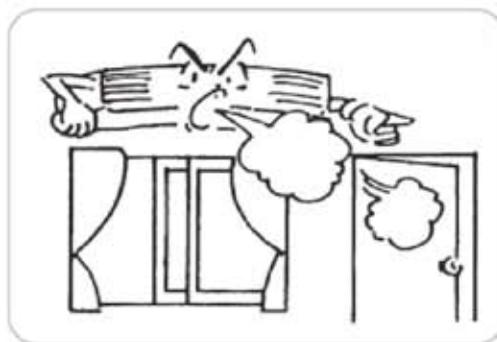
- Airflow direction will be changed by adjusting the louvers and flaps as shown.



- Clean the air filter every week for higher efficiency.



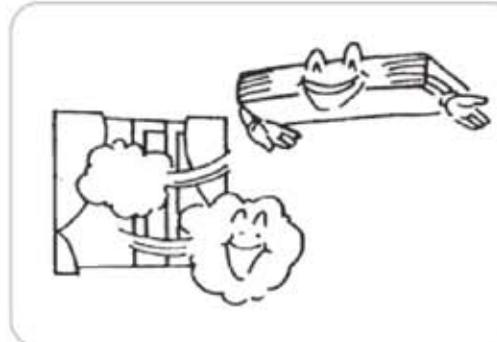
- Close the window and door while operating the unit to save energy.



- Cover windows with a blind or a curtain to prevent heat source from sunlight when the unit is cooling, which helps to reduce energy consumption.



- In case of ineffective ventilation, open the window to ventilate room air occasionally, meanwhile, close the window timely for saving energy.



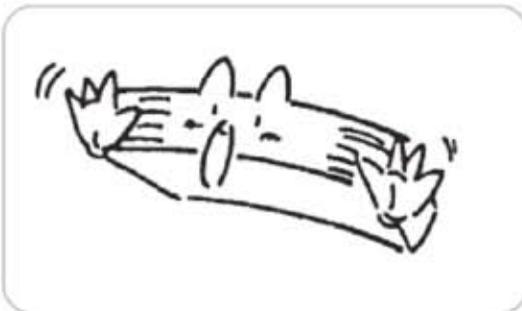
■ Check electrical system (voltage and frequency). Use the power supply indicated on the nameplate of the unit to operate the air conditioner and use only fuses as specified capacity should be done by technicians. Do not shunt around fuses.



■ If electric shock suddenly happens, turn off the unit. If the unit is not to be used for a long period, cut off the main power supply.



■ Do not insert objects into the air inlet or outlet when the air conditioner is running as it may cause damage or personal injury. Also pay special attention when children are around.



■ Do not place any obstacles around the indoor and outdoor unit to avoid inefficient performance or malfunction



■ Never expose infants, aged persons or patients directly to the air flow.



■ Do not locate a heater or any other heat source close to the unit. The heat may deform plastic parts.



8 Malfunction Analysis

 **Warning!** Repairing work should be done by Heat Controller technicians. For saving your time and spending, please check the following malfunction analysis before contacting customer service center.

After turning off the air conditioner, the unit does not restart immediately.	The overload protection switch of the unit needs 3 mins before restarting.
Odor gives out when the unit just turns on.	Environmental - unit may need to be cleaned.
Slight noise is heard when the unit is running.	The refrigerant flowing in the liquid pipe will make some noise.
There is mist coming from air outlet under cooling mode.	Indoor temperature dropping too fast.
Creak sound is heard when the unit is running or shut down.	When the ambient temperature changes, the panel and other parts expand or shrink, which might cause some grating sound.
The air conditioner does not run.	The unit is powered off. The unit is disconnected from power supply. The circuit breaker has tripped. The voltage is too high or too low. The TIMER has been set in the wireless remote controller.
The cooling (heating) effect of the air conditioner is not good.	Check the temperature setting. The temperature is set properly. The inlet or outlet of the unit is blocked. The air filter is too dirty causing blockage. The windows and doors are open. The airflow volume is set at low speed. There is a heat source in the room.
Wireless remote controller doesn't work.	If the wireless remote controller doesn't work with new batteries, remove the back cover and press "ACL" button to make it normal. The air conditioner is under abnormal disturbance or changing function too frequently, to make wireless remote controller not control. Cut off main power supply and re-electrify. Unit may resume normal operation. The controller is out of the signal receiving area; There is blockage; Remote not in "Line of Sight." Check if the batteries in wireless remote controller are worn out, change the batteries as needed.

8.1 Service Center

When the following phenomena appears, please stop operating immediately, cut off the power supply and contact service center for help.

- Harsh sound is heard when the unit is running.
- The fuse melts or the circuit breaker trips off frequently.
- When objects or water is sucked in the unit accidentally.
- When there is water leakage from indoor unit.
- When the power cord is overheating.
- Odor gives out when the unit is running.

8.2 After-sales Service

Please contact the dealer if the air conditioner has any quality problems.

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Due to ongoing product improvements, specifications and dimensions are subject to change and correction without notice or incurring obligations. Determining the application and suitability for use of any product is the responsibility of the installer. Additionally, the installer is responsible for verifying dimensional data on the actual product prior to beginning any installation preparations.

Incentive and rebate programs have precise requirements as to product performance and certification. All products meet applicable regulations in effect on date of manufacture; however, certifications are not necessarily granted for the life of a product. Therefore, it is the responsibility of the applicant to determine whether a specific model qualifies for these incentive/rebate programs.

1900 Wellworth Ave., Jackson MI 49203 • Ph. 517-787-2100 • www.heatcontroller.com