



Owner's Manual

Original Instructions

Cassette Type Air Conditioner

Thank you for choosing our product.

Please read this Owner's Manual carefully before operation and retain it for future reference.

If you have lost the Owner's Manual, please contact the local agent or visit www.niponcoolair.com or send an email to geral@nipon-coolair.com the electronic version.

MV09 GA UI
MV12 GA UI
MV18 GA UI
MV20 GA UI

To Users

Thank you for choosing a NIPON COOLAIR product. Please read this instruction manual carefully before installing and using the product, so as to master and correctly use the product. In order to guide you to correctly install and use our product and achieve expected operating effect, we hereby instruct as below:

- (1) 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.
- (2) In order to ensure reliability of product, the product may consume some power under stand-by status for maintaining normal communication of system and preheating refrigerant and lubricant. If the product is not to be used for long, cut off the power supply; please energize and preheat the unit in advance before reusing it.
- (3) Please properly select the model according to actual using environment, otherwise it may impact the using convenience.
- (4) This product has gone through strict inspection and operational test before leaving the factory. In order to avoid damage due to improper disassembly and inspection, which may impact the normal operation of unit, please do not disassemble the unit by yourself. You can contact with the special maintenance center of our company if necessary.
- (5) When the product is faulted and cannot be operated, please contact an authorized NIPON Coolair technical center, providing the following information.
 - 1) Owner details and address of the facility;
 - 2) Contents of the product identification plate (model, serial number, factory ref.);
 - 3) Description of the fault (specify the situations before and after the error occurred)
- (6) All the illustrations and information in the instruction manual are only for reference. In order to make the product better, we will continuously conduct improvement and innovation. We have the right to make necessary revision to the product from time to time due to the reason of sales or production, and reserve the right to revise the contents without further notice.
- (7) The final right to interpret for this instruction manual belongs to manufacturer.

Exception Clauses

Manufacturer will bear no responsibilities when personal injury or property loss is caused by the following reasons:

- (1) Damage the product due to improper use or misuse of the product;
- (2) Alter, change, maintain or use the product with other equipment without abiding by the instruction manual of manufacturer;
- (3) After verification, the defect of product is directly caused by corrosive gas;
- (4) After verification, defects are due to improper operation during transportation of product;
- (5) Operate, repair, maintain the unit without abiding by instruction manual or related regulations;
- (6) After verification, the problem or dispute is caused by the quality specification or performance of parts and components that produced by other manufacturers;
- (7) The damage is caused by natural calamities, bad using environment or force majeure .

The Refrigerant

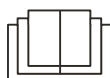
- To realize the function of the air conditioner unit, a special refrigerant circulates in the system. The used refrigerant is the fluoride R32, which is specially cleaned. The refrigerant is flammable and inodorous. Furthermore, it can lead to explosion under certain conditions. But the flammability of the refrigerant is very low. It can be ignited only by fire.
- Compared to common refrigerants, R32 is a nonpolluting refrigerant with no harm to the ozoneosphere. The influence upon the greenhouse effect is also lower. R32 has got very good thermodynamic features which lead to a really high energy efficiency. The units therefore need a less filling.



WARNING!

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacture. Should repair be necessary, contact your nearest authorized Service Centre. Any repairs carried out by unqualified personnel may be dangerous. The appliance shall be stored in a room without continuously operating ignition sources. (for example: open flames, an operating gas appliance or an operating electric heater.) Do not pierce or burn.

Appliance shall be installed, operated and stored in a room with a floor area larger than Xm . (Please refer to table "a" in section of " Safety operation of flammable refrigerant" for Space X.) Appliance filled with flammable gas R32. For repairs, strictly follow manufacturer's instructions only. Be aware that refrigerants may not contain an odour. Read specialist's manual.






Contents


Exception Clauses.....	4
The Refrigerant	5


Contents **Erro! Marcador não definido.**

1	Safety Notices (Please be sure to abide)	1
2	Product Introduction	3
2.1	Names of Key Components	3
2.2	Rated Working Condition	4
3	Preparations for Installation	4
3.1	Standard Fittings	4
3.2	Installation Position Selection	5
3.3	Wiring Requirement	6
4	Installation Instructions	6
4.1	Indoor Unit Installation	6
4.1.1	Ceiling Opening Dimension and Suspension Bolt Position.	6
4.1.2	Suspend the Indoor Unit.....	7
4.2	Refrigerant Pipe Connection	8
4.3	Drainage Pipe Installation and Drainage System Testing	8
4.3.1	Notice for Installation of Drain Pipe.....	8
4.3.2	Drainage Pipe Installation	9
4.3.3	Test of Drainage System	10
4.4	Panel Installation	11
4.4.1	Notices for installation.....	11
4.4.2	Panel Installation.....	12
4.5	Wired Controller Installation	13
5	Wiring Precautions	13
5.1	Connection of Wire and Pactch Board Terminal	13
5.2	Installation of Controllers	15
6	Routine Maintenance	16
6.2	Maintenance before the Seasonal Use	16
6.3	Maintenance after the Seasonal Use	16
7	Trial Operation and Testing	17
8	Troubleshooting	18
9	Safety operation of flammable refrigerant	19

1 Safety Notices (Please be sure to abide)







- **WARNING!** If not abide strictly, it may cause severe damage to the unit or the people.
- **NOTE!** If not abide strictly, it may cause slight or medium damage to the unit or the people.
- 



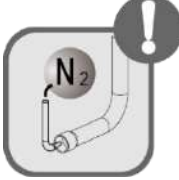



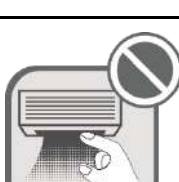





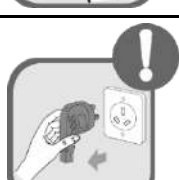



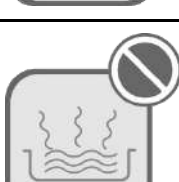

This sign indicates that the operation must be prohibited. Improper operation may cause severe damage or death to people.
- 

This sign indicates that the items must be observed. Improper operation may cause damage to people or property.
- **WARNING!**

This product can't be installed at corrosive, inflammable or explosive environment or the place with special requirements, such as kitchen. Otherwise, it will affect the normal operation or shorten the service life of the unit, or even cause fire hazard or serious injury. As for above special places, please adopt special air conditioner with anti-corrosive or anti explosion function.

This Multi VRF System shall only be connected to an appliance suitable for the same refrigerant. All units in Manual Cover is a partial unit, complying with partial unit of IEC 60335-2-40:2018, and must only be connected to other units that have been confirmed as complying to corresponding partial unit requirements of this international standard. The electrical interface shall comply with electrical security requirement, voltage shall be 220-240V~50Hz,current shall be referred to the table of "Dimension of power cord" in Section 3.3, and safety class of construction is I .

	Please install the unit according to instructions in this manual. Read this manual carefully before starting up or checking the machine.		Installation should be performed by dealer or qualified technicians. Do not install the product by yourself. Improper installation may result in water leakage, electric shock or fire hazard.
	Make sure the local power supply is in accordance with units before installation, and check the power supply carefully.		This air conditioner must be properly grounded through the receptacle to avoid electric shock. The grounding wire shouldn't be connected with gas pipe, water pipe, lightning arrester or telephone line.
	Please use specialized accessories or parts to carry out installation, or water leakage, electric shock, fire hazard may resulted.		R32 refrigerant can produce poisonous gas once it meets fire, so please ventilate the room immediately if refrigerant leaks out during installation.

	Diameter of power cord must be large enough. Damaged power cord and connecting wire must be replaced by specialized electric cable.		After the power cord is Connected, please install the cover of electric box to avoid danger.
	Nitrogen must be charged according to technical requirements.		Short circuit is forbidden. Do not cancel the pressure switch in case the unit may be damaged.
	For units with wired controller, do not connect power supply until the wired controller is well installed. Otherwise, the wired controller cannot be used.		When the installation is finished, please check and make sure the drain pipe, pipeline and electric wire are all well connected in order to avoid water leakage, refrigerant leakage, electric shock or fire hazard.
	Do not extend fingers or objects into air outlet or air return grille.		If you use gas heater or petroleum heater in the same room, please open the door or window to maintain good air circulation in case the room may lack of oxygen.
	Never start or stop the air conditioner by inserting or removing the power cord.		Do not turn off the air conditioner until it runs for at least 5 minutes. Otherwise, oil-return of the compressor will be affected.
	Children are not allowed to operate the air conditioner.		Do not operate the air conditioner with wet hands.
	Please turn the unit off and unplug your air conditioner before cleaning. Otherwise, it may cause electric shock or personal injury.		Do not spray water on the air conditioner or it will cause malfunction or electric shock.
	Do not expose the air conditioner directly to water or place it in a damp or corrosive environment.		Connect power supply 8 hours before operation. Do not disconnect power if you want to stop the unit in a short period of time, e.g. in one night. (This is for protecting the compressor.)
	Volatile liquid like thinner or gasoline will damage the appearance of air conditioner. (Please use soft dry cloth and wet cloth with mild detergent to clean the outer case of air conditioner.)		During Cooling mode, indoor temperature should not be set too low. Keep the difference between indoor temp and outdoor temp within 5°C.

	If abnormal condition occurs (e.g. unpleasant smell), please turn off the unit at once and disconnect power supply. Then contact service center. If the air conditioner continues to operate despite of abnormal condition, the unit may be damaged and it may cause electric shock or electric shock or fire hazard.)		Do not repair the air conditioner by yourself. Improper repair will cause electric shock or fire hazard. Please contact service center and have it repaired by professional technicians.
--	--	--	--

Any personal injury or property loss caused by improper installation, improper debug, unnecessary repair or not following the instructions of this manual should not be the responsibility of manufacturer.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

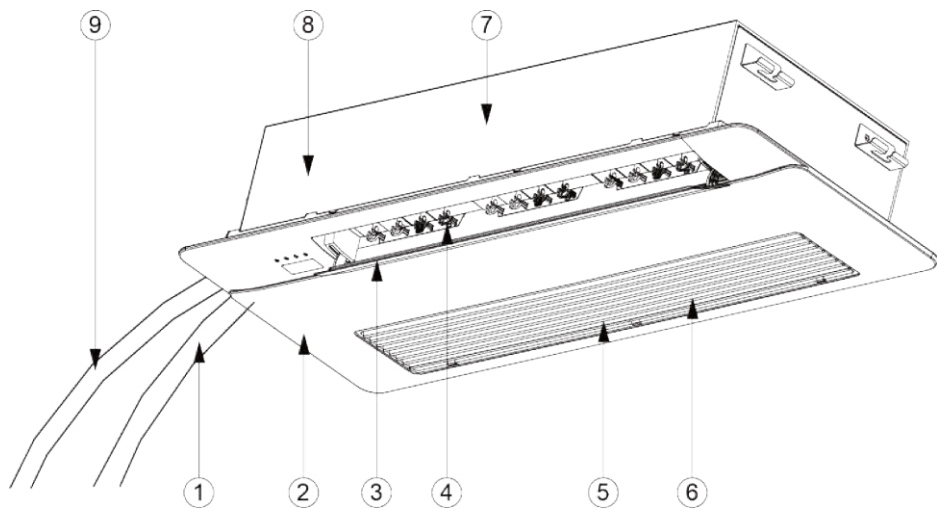


DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.



2 Product Introduction

2.1 Names of Key Components



N.	①	②	③	④	⑤
Name	Connection pipe	Panel	Air louver	Swing blade	Air-in grille
N.	⑥	⑦	⑧	⑨	-
Name	Built-in filter	Main body	Drainage device (built-in)	Drainage Pipe	-

2.2 Rated Working Condition


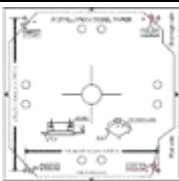








Test condition	Indoor Side Condition		Outdoor Side Condition	
	Dry Bulb Temp°C (°F)	Wet Bulb Temp°C (°F)	Dry Bulb Temp°C (°F)	Wet Bulb Temp°C (°F)
Rated Cooling	27 (81)	19 (66)	35 (95)	24 (75)
Rated Heating	20 (68)	15 (59)	7 (45)	6 (43)

3 Preparations for Installation

! NOTE! This picture is for reference only, please refer to the actual product, the unit of dimension is mm.

3.1 Standard Fittings

Use the following provided accessories according to the requirement.

N..	Name	Appearance	Qt.	Usage
1	Wireless controller		1	To control the indoor unit
2	Paper pattern for installation		1	Locate the drill hole on ceiling
3	Tapping screw with washer		4	Fix paper pattern
4	Washer fixing plate		4	Prevent the washer from falling off.
5	Drain Hose Assembly		1	To connect with the hard PVC drain pipe
6	M10 Washer		10	To be used together with the hanger bolt for installing the unit.
7	Insulation		1	To insulate the gas pipe.
8	Insulation		1	To insulate the liquid pipe.
9	Sponge		1	To insulate the drain pipe.
10	Fastener		4	To fasten the sponge.

3.2 Installation Position Selection

- (1) The appliance shall not be installed in the laundry.
- (2) The location should be able to withstand the weight of unit.
- (3) The water can be drained conveniently from drainage pipe.
- (4) There should be no obstruction near air inlet and air outlet.
- (5) Follow the installation distance required in the fig below to ensure sufficient space for maintenance.
- (6) The installation location should be far from heat sources, flammable or explosive gas, or smog spread in the air.
- (7) The indoor unit, outdoor unit, power cord and connection electricity wire should be at least 1m from television and radio in order to prevent interference and noise. (Even though 1m distance is ensure, there may be noise if the electric wave is too strong.)

Unidade: mm

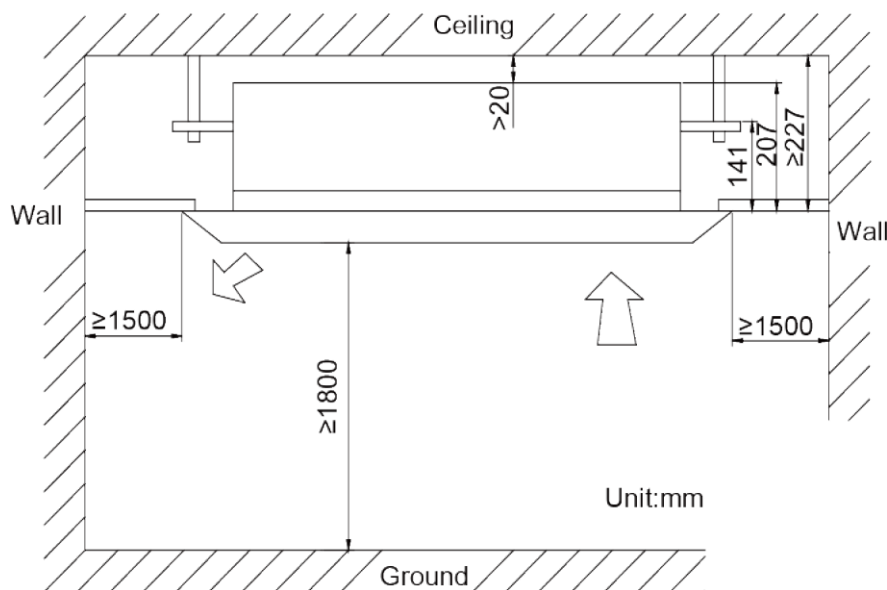


Fig 3.2

! NOTES!

- ① The unit shall be installed in accordance with national standards or local regulations.
- ② Only qualified personnel can carry out installation work, please contact with local dealer before installation.
- ③ Make sure all the installation work completed before energizing.

3.3 Wiring Requirement

Dimension of power cord.

Model	Minimum Sectional Area of Power Cord (mm ²)
MV09 GA UI MV12 GA UI MV18 GA UI MV20 GA UI	4 x 1,0

NOTES!

- ① An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.
- ② The power cord specification in above sheet is based on ambient temperature of 40°C.

4 Installation Instructions

4.1 Indoor Unit Installation

4.1.1 Ceiling Opening Dimension and Suspension Bolt Position.

Unidade: mm

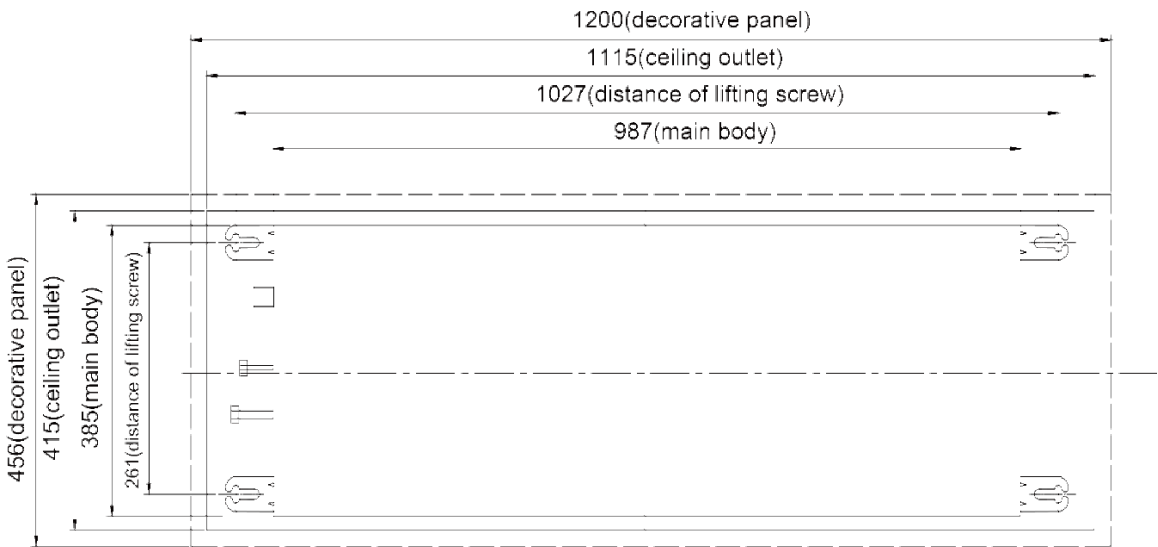


Fig 4.1.1

4.1.2 Suspend the Indoor Unit

(1) Drill bolt holes and install bolts.

- 1) Stick the reference cardboard on the installation position; drill 4 holes according to the hole site on the cardboard as shown in fig 4.1.2; diameter of drilling hole is according to the diameter of expansion bolt and the depth is 60-70mm, as shown in fig 4.1.3.

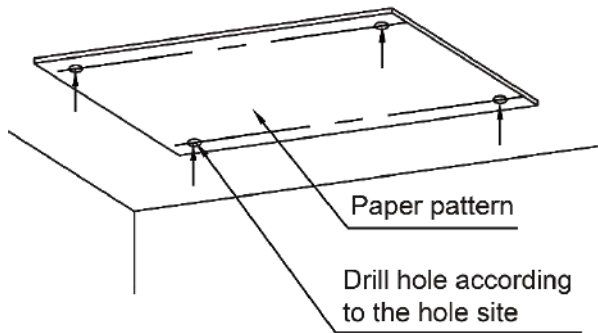


FIG 4.1.2

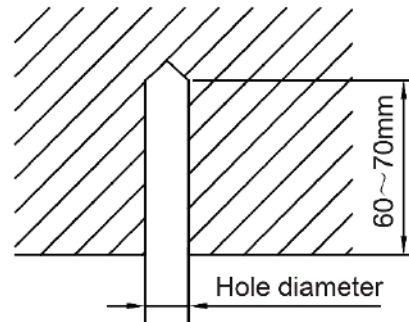


Fig 4.1.3

- 2) Insert the M10 expansion bolt into the hole and then knock the nail into the bolt, as shown in fig 4.1.4.

! NOTE! The length of bolt depends on the installation height of the unit, bolts are field supplied.

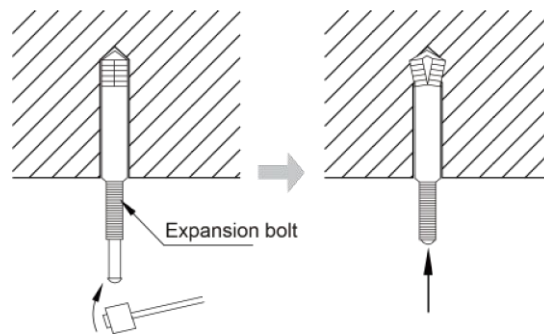


Fig 4.1.4

(2) Install the indoor unit temporarily.

Assemble suspension bolt on the expansion bolt, attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from upper and lower sides of the hanger bracket. The washer fixing plate will prevent the washer from falling.

(3) The usage of paper pattern.

Refer to paper pattern of installation for ceiling opening dimension. The center of ceiling opening is indicated on the paper pattern. Fix the paper pattern to the unit with 4 screws and fix the corners of the waterspout at the drainage pipe by screws.

(4) Adjust the unit to the right position.

(5) Verifique o nível da unid Check the level of the unit

The indoor unit is equipped with build-in water pump and float switch, verify the levelness of 4 directions by level gauge or vinyl tube (filled with water) respectively.

- (6) Remove the washer locating plate and then tighten the nut on it.
- (7) Remove the paper pattern.

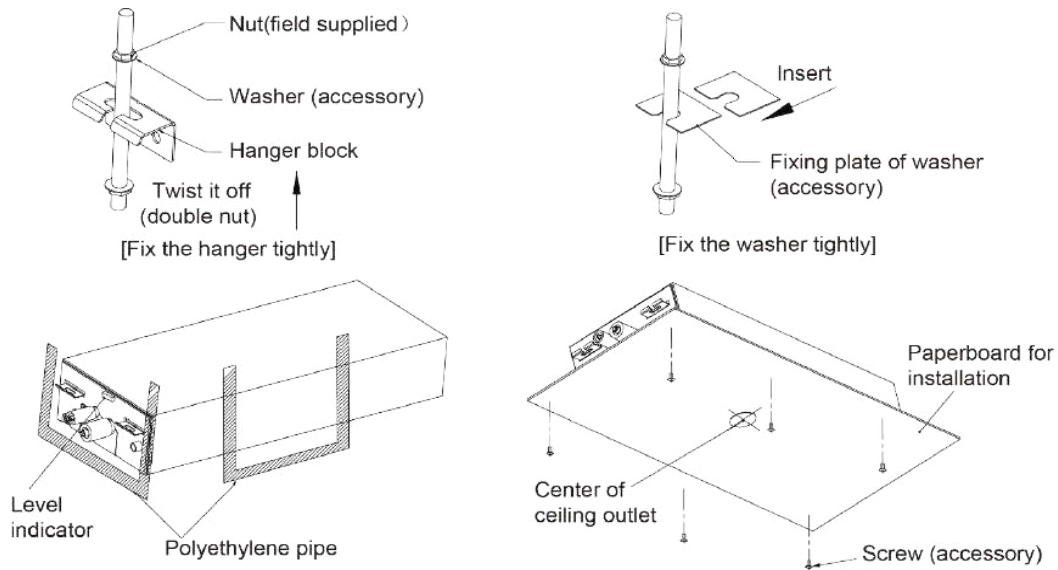


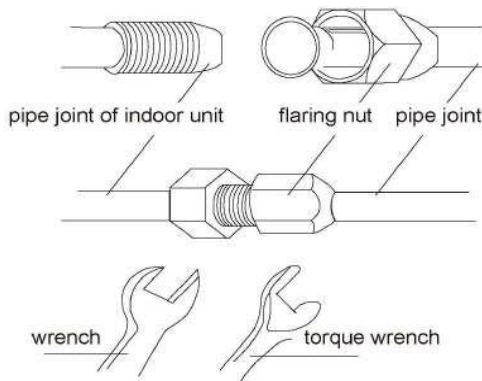
Fig 4.1.5

! NOTE!

- ① Drilling of ceiling opening and installation of air conditioner must be performed by professionals!
- ② Please refer to the installation cardboard for the dimension of drilling hole of lifting screw of cassette unit.

4.2 Refrigerant Pipe Connection

- (1) Aim the flaring port of copper pipe at the center of screwed joint and then tighten the flaring nut with hand as shown in fig 4.2.
- (2) Tighten the flaring nut with torque wrench.



Torque for tightening nut

Pipe diameter (mm)	Torque (N·m)
Φ6	15~30
Φ9.52	35~40
Φ12	45~50
Φ16	60~65

Fig.4.2

- (3) Use pipe bend when bending the pipe and the bending angle should not be too small.
- (4) Wrap the connection pipe and joint with sponge and then tie them firmly with tape.

4.3 Drainage Pipe Installation and Drainage System Testing

4.3.1 Notice for Installation of Drain Pipe

- (1) It is not allowed to connect the condensate drain pipe into waste pipe or other pipelines which are likely to produce corrosive or peculiar smell to prevent the smell from entering indoors or corrupt the unit.

- (2) It is not allowed to connect the condensate drain pipe into rain pipe to prevent rain water from pouring in and cause property loss or personal injury.
- (3) Condensate drain pipe should be connected into special drain system for air conditioner.
- (4) The drainage pipe should be short and the gradient downwards should be at least 1%~2% in order to drain condensation water smoothly.
- (5) The diameter of drainage hose should be bigger or equal to the diameter of drainage pipe joint.
- (6) Install drainage pipe according to the following fig and arrange insulation to the drainage pipe. Improper installation may lead to water leakage and damp the furniture and other things in the room.
- (7) You can buy normal hard PVC pipe used as the drainage pipe. During connection, insert the end of PVC pipe into the drainage hole and then tighten it with drainage hole and wire binder. Can't connect the drainage hole and drainage hole with glue.
- (8) When the drainage pipelines are used for several units, the position of pipeline should Fig 4.3.1 be about 100mm lower than the drainage port of each unit. In this case, thicker pipes should be applied.

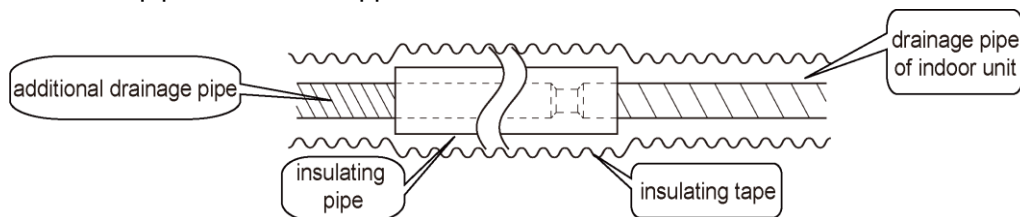


Fig 4.3.1

4.3.2 Drainage Pipe Installation

- (1) Drainage pipe should have the same diameter or larger diameter than the connecting pipes (PVC pipe, outside diameter 25mm, thickness \geq 1.5mm).
- (2) Keep drainage pipe short and sloping downwards at a gradient of at least 1% for preventing forming air bubbles.
- (3) If the gradient of drainage pipe could not meet the installation requirements, raising pipe should be applied.
- (4) Insert the drainage hose into drain socket, tighten the metal clamp securely.
- (5) Warp the sealing pad over drain hose and metal clamp for heat insulation.
- (6) Make sure to perform insulation work for all drainage piping in order to prevent any possible water drop due to dew condensation.
- (7) Apply the suitable diameter for converging drainage pipe according to the operating capacity of the unit.

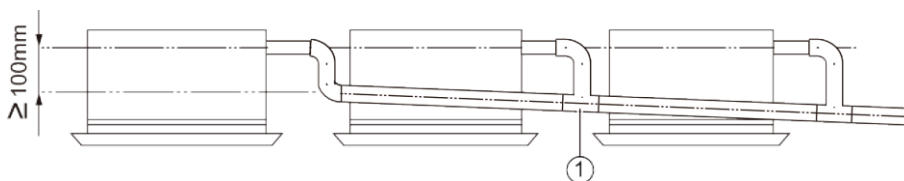


Fig 4.3.2

① – drainage pipes assembled by T-shaped joints

- (8) The installation height of raising pipe for drainage should be lower than B. The gradient from raising pipe towards drainage direction should be at least 1%~2%. If the raising pipe is vertical with the unit, the raising height should be less than C.

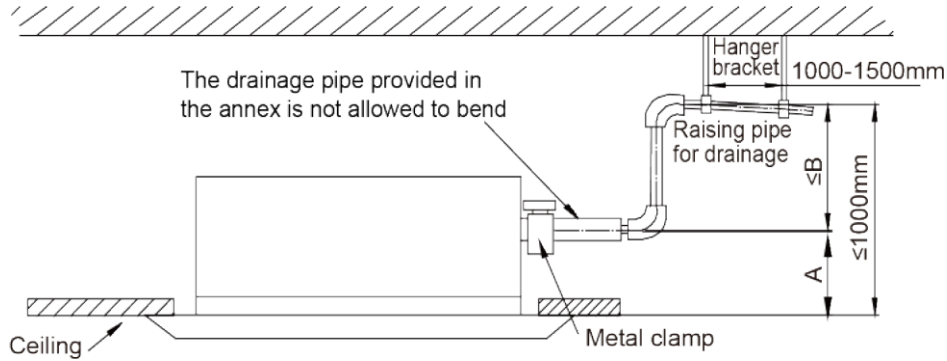


Fig 4.3.3

Model	A (mm)	B (mm)	C (mm)
MV09 GA UI MV12 GA UI MV18 GA UI MV20 GA UI	100	900	850

- (9) Drain pipes should have a downward slope of at least 1%~2%, in order to prevent pipes from sagging, install hanger bracket at intervals of 1000~1500mm.

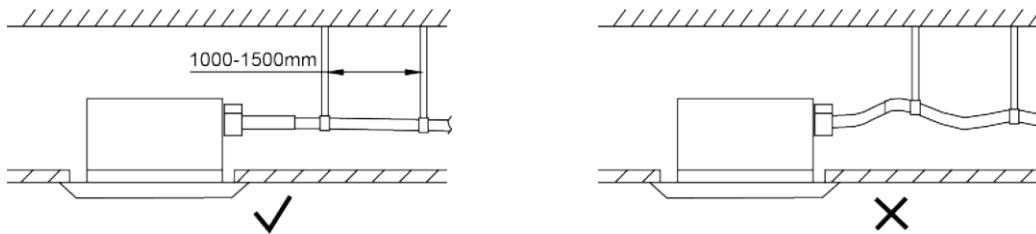


Fig 4.3.4

4.3.3 Test of Drainage System

- (1) Please test drainage system after electric work is finished.

Inject approximately 1L purified water to drain pan from air vent, ensure that not to splash the water over the electrical components (e.g. water pump. etc.)

- 1) In case of commissioning finished, please energize the IDUs and switch to cooling or dry mode, meanwhile, the water pump operates, you can check the draining through the transparent part of drain socket.
 - 2) If communication wire is not connected, communication malfunction "E6" will occur after 180s of energizing. In this case, the water pump operates automatically. Check if the water pump drains normally through drainage port. The water pump will stop automatically after running for 1min.
- (2) During the test, please carefully check the drainage joint; make sure no any leakage occur.
- (3) It's strongly recommend to do the drain test before ceiling decoration.

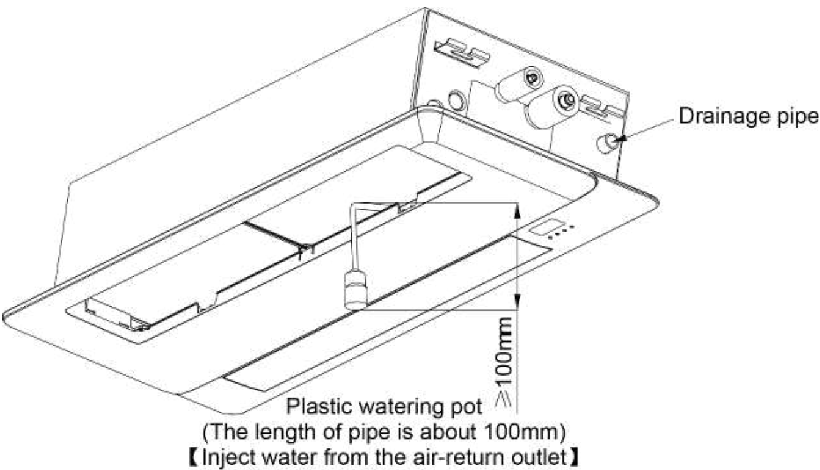


Fig 4.3.5

4.4 Panel Installation

4.4.1 Notices for installation

- (1) Improper decorative panel installation could cause the following problems.

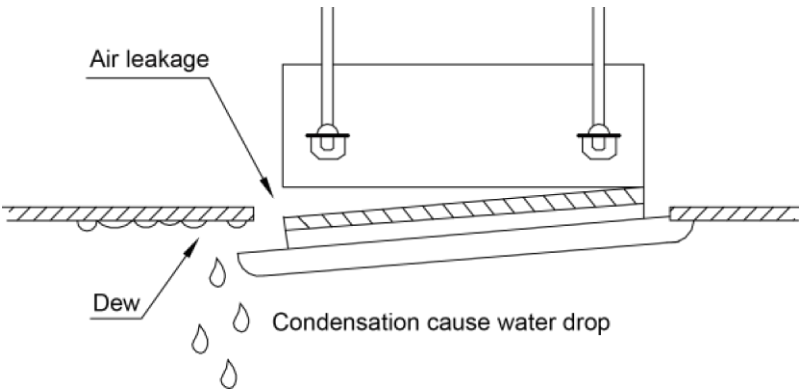


Fig 4.4.1

- (2) Ensure that it's clearance-free between decoration panels and ceiling board after installation, if not, please adjust the body position.

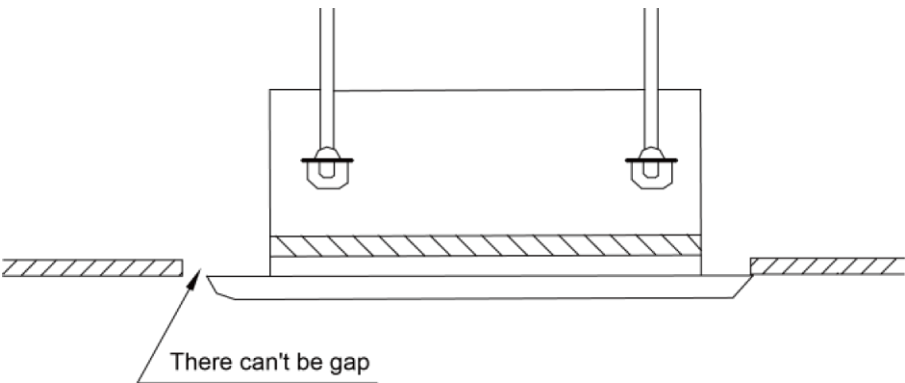


Fig 4.4.2

- (3) Connect the decoration panel terminals (Female) to body terminals (male) as shown in figure 4.4.3.

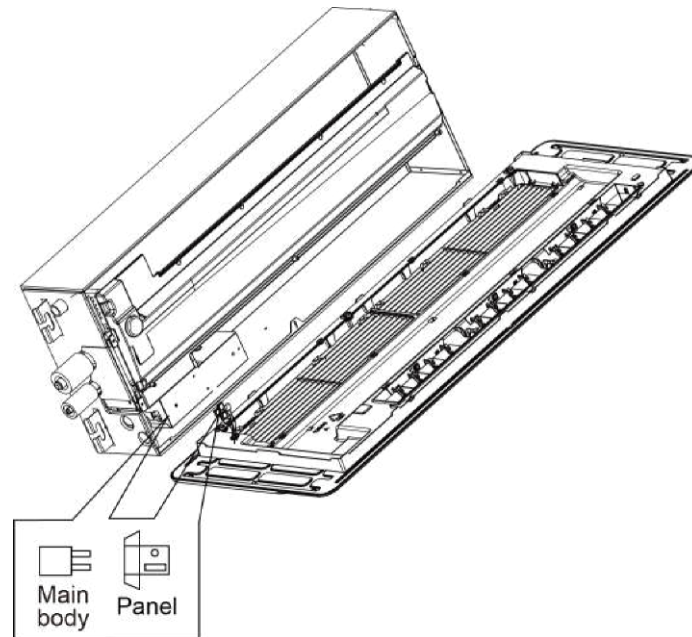


Fig 4.4.3

4.4.2 Panel Installation

- (1) Remove the grille from the panel, and then open the horizontal louver.
- (2) Aim the screw hole on panel at the corresponding screw hole on main unit.
- (3) Screw up the screws on corresponding holes and then install the corresponding screw cover.
- (4) Close the horizon lover, connect the butt terminal and arrange the wires.
- (5) Install the grille.

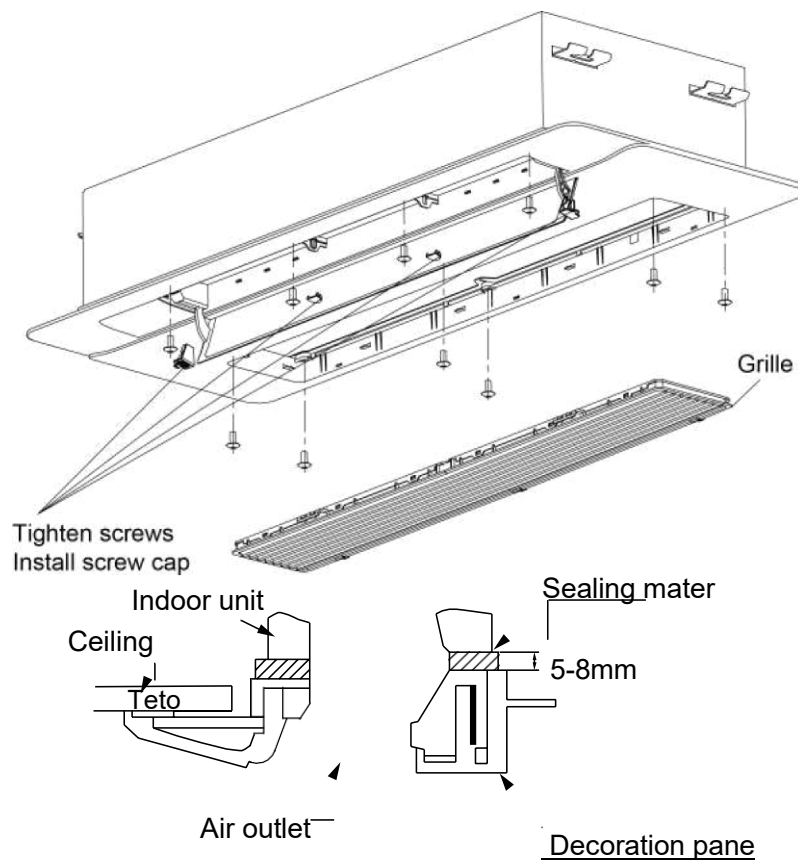



Fig 4.4.4

4.5 Wired Controller Installation

Wired controller is optional accessory. If wired controller is needed, please contact your local dealer and install the wired controller according to the instruction manual.

 **NOTE!** Do perform the commissioning operation before first use, automatic addressing or other settings, please refer to the manual of ODU.

5 Wiring Precautions



WARNING!

- ① Before obtaining access to terminals, all supply circuits must be disconnected.
- ② The rated voltage of the unit is as shown as Table 1. Poor electrical connection may cause malfunction or even damage the unit.
- ③ Before turning on, verify that the voltage is within the 198~264V range(for single phrase unit) or 342~457V range (for three-phrase unit).
- ④ Always use a special branch circuit and install a special receptacle to supply power to the air conditioner.
- ⑤ The special branch circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3mm between the contacts of each pole.
- ⑥ Perform wiring work in accordance with standards so that the air conditioner can be operated safely and positively.
- ⑦ Install a leakage special branch circuit breaker in accordance with the related laws and regulations and electric company standards.



CAUTION!

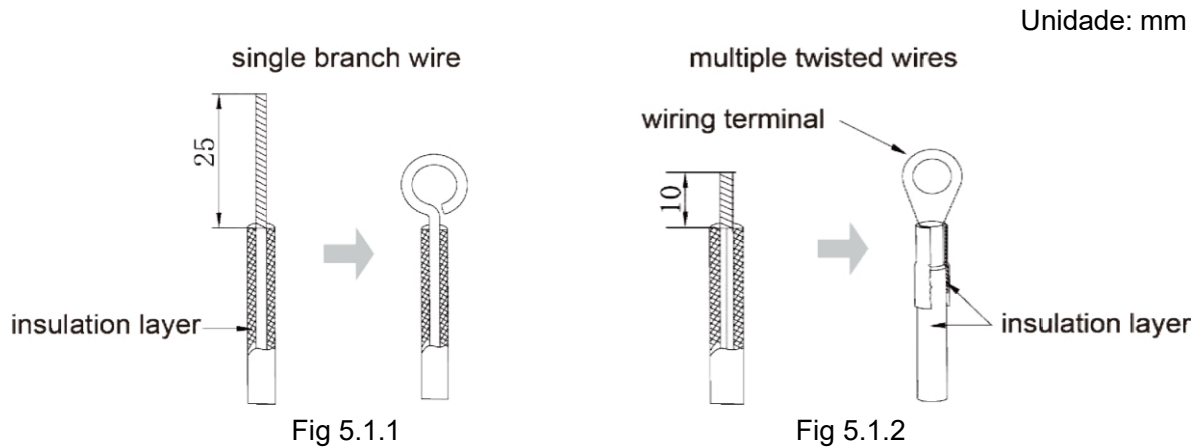
- ① The power source capacity must be the sum of the air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contrated capacity.
- ② When the voltage is low and the air conditioner is difficult to start, contact the power company to raise the voltage.

5.1 Connection of Wire and Pactch Board Terminal

- (1) The connection of wire (as shown in fig 5.1.1)
 - 1)Strip about 25mm insulation of the wire end by stripping and cutting tool.
 - 2)Remove the wiring screws on the terminal board.
 - 3)Shape the tail of wire into ring by needle nose plier, and keep the gauge of ring in accordance with screw.
 - 4)Use the screwdriver for tightening the terminal.

(2) The connection of stranded wire (as shown in fig 5.1.2)

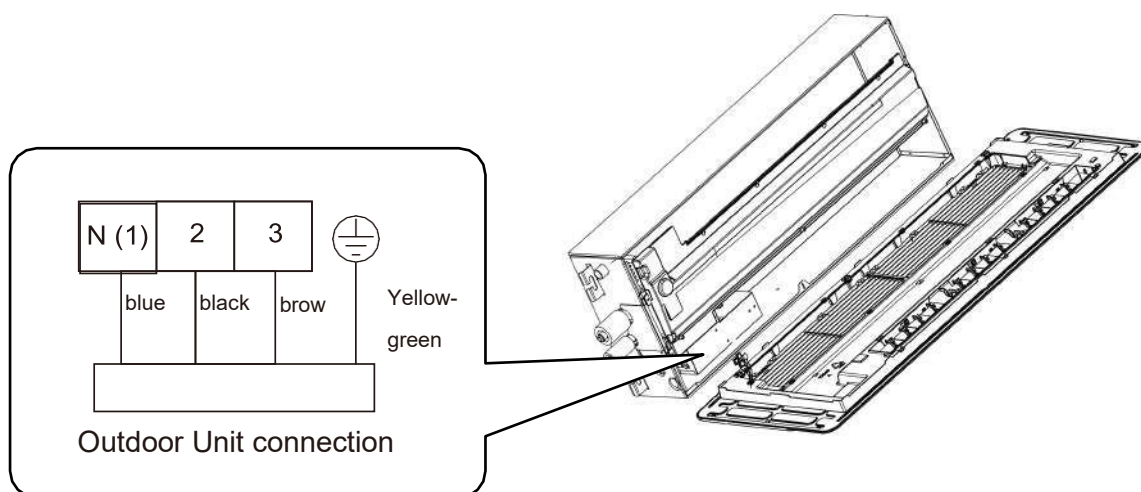
- 1) Strip about 10mm insulation of the end of stranded wire by stripping and cutting tool.
- 2) Loosen the wiring screws on terminal board.
- 3) Insert the wire into the ring tongue terminal and tighten by crimping tool.
- 4) Use the screwdriver for tightening the terminal.



WARNING!

- ① Before starting work, check that power is not being supplied to the indoor unit and outdoor unit.
- ② Match the terminal block numbers and connection cord colors with those of the indoor unit side.
- ③ Erroneous wiring may cause burning of the electric parts.
- ④ Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
- ⑤ Always fasten the outside covering of the connection cord with cord clamps. (If the insulator is not clamped, electric leakage may occur.)
- ⑥ Always connect the ground wire.

(4) Electric wiring between the indoor and outdoor units Single-phase units(09~20k)



(5) Electric wiring of indoor unit side

Remove the electric box cover from the electric box sub-assy and then connect the wire.

**CAUTION!**

- ① Tighten the power cord respectively on the terminal boards with screws. Faulty connection may cause a fire.
- ② If the power supply are wired incorrectly, the air conditioner may be damaged.
- ③ Connect the indoor unit connection cord properly based on the corresponding marks as shown in fig 5.1.5.
- ④ Ground both the indoor and outdoor units by attaching a ground wire.
- ⑤ Unit shall be grounded in compliance with the applicable local and national codes.

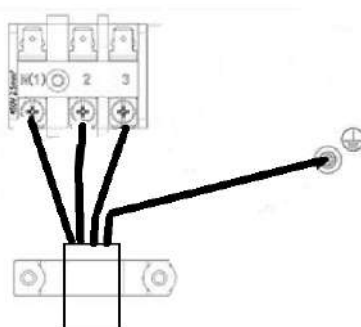


Fig 5.1.5

5.2 Installation of Controllers

Refer to the Installation Manual of the controller for more details.

6 Routine Maintenance



WARNING:

- ① Do not turn off the unit and cut off the main power supply when cleaning the air conditioner to avoid electric shock or injury.
- ② Stand at solid table when cleaning the unit.
- ③ Do not clean the unit with hot water whose temperature is higher than 45°C to prevent fade or deformation.
- ④ Do not dry the filters by fire, or it may catch fire or become deformed.
- ⑤ Clean the filter with a wet cloth dipped in neutral detergent.
- ⑥ Please contact after-sales service staff if there is abnormal situation.

6.1 Cleaning of Filter

- (1) Remove the filters from inlet of IDU. Use a vacuum cleaner to remove dust. If the filters are dirty, wash them with warm water and mild detergent, and dry the filters in the shade.
- (2) If the unit used in the environment with much dust, please clean it regularly. (Usually once every two weeks).

6.2 Maintenance before the Seasonal Use

- (1) Check if the air inlet and air outlet of indoor and outdoor unit are blocked.
- (2) Check if securely grounded.
- (3) Check if all power cords are securely connected.
- (4) Check if any error code displayed after energized.

6.3 Maintenance after the Seasonal Use

- (1) Set the unit in fan mode for half a day in a sunny day to dry the inner part of unit;
- (2) When the unit won't be used for a long time, please cut off power supply for energy saving; the characters on the wired controller screen will disappear after cutting off the power supply.

7 Trial Operation and Testing

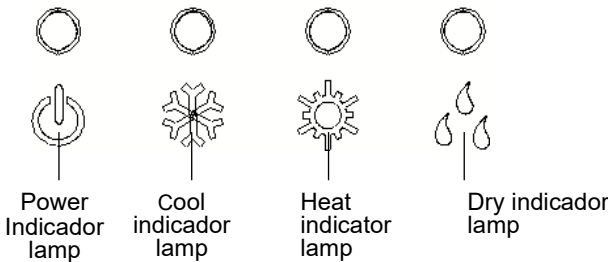
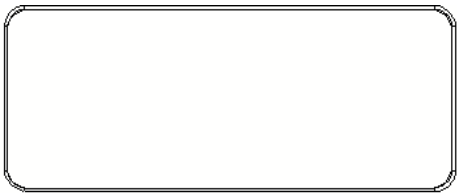
(1) The meaning of error codes as shown below:

Number	Error code	Error
1	E1	Compressor high pressure protection
2	E2	Indoor anti-freeze protection
3	E3	Compressor low pressure protection, refrigerant lack protection and refrigerant collecting mode
4	E4	Compressor high discharge temperature protection
5	E5	AC over-current protection
6	E6	Communication error
7	E7	Mode conflict
8	E8	Anti-high temperature protection
9	E9	Full water protection
10	F1	Indoor ambient temperature sensor is open/short circuited
11	F2	Indoor evaporator temperature sensor is open/short circuited
12	F3	Outdoor ambient temperature sensor is open/short circuited
13	F4	Outdoor condenser temperature sensor is open/short circuited
14	F5	Outdoor discharge temperature sensor is open/short circuited
15	C5	Jumper cap malfunction protection
16	EE	Loading EEPROM malfunction

! NOTE!

If there're other error codes, please contact qualified professionals for service. When the unit is connected with the wired controller, the error code will be simultaneously shown on it.

(2) Instructions to the Error Indicating Lamps on the Panel of the Cassette Type Unit.



8 Troubleshooting

If your air-conditioning unit suffers from abnormal operation or failure, please first check the following points before repair:

Failure	Possible Reasons
The unit cannot be started.	①. The power supply is not connected. ②. Electrical leakage of air-conditioning unit causes tripping of the leakage switch. ③. The operating keys are locked. ④. The control loop has failure.
The unit operates for a while and then stops.	①. There is obstacle in front of the condenser. ②. The control loop is abnormal. ③. Cooling operation is selected when the outdoor ambient temperature is above 48°C.
Unidade produz pouco frio	①. The air filter is dirty or blocked. ②. There is heat source or too many people inside the room. ③. The door or window is open. ④. There is obstacle at the air intake or outlet. ⑤. The set temperature is too high. ⑥. There is refrigerant leakage. ⑦. The performance of room temperature sensor becomes worse.
Unidade produz pouco calor	①. The air filter is dirty or blocked ②. The door or window is not firmly closed. ③. The set room temperature is too low. ④. There is refrigerant leakage. ⑤. The outdoor ambient temperature is lower than -5°C. ⑥. Control loop is abnormal.

! NOTE!

After carrying out the check of the above items and taking relevant measures to solve the problems but the air-conditioning unit still does not function well, please stop the operation of the unit immediately and contact the local service agency designated. Only ask professional serviceman to check and repair the unit.

9 Safety operation of flammable refrigerant

Qualification requirement for installation and maintenance man

- All the work men who are engaging in the refrigeration system should bear the valid certification awarded by the authoritative organization and the qualification for dealing with the refrigeration system recognized by this industry. If it needs other technician to maintain and repair the appliance, they should be supervised by the person who bears the qualification for using the flammable refrigerant.
- It can only be repaired by the method suggested by the equipment’s manufacturer.

Installation notes

- The air conditioner is not allowed to use in a room that has running fire (such as fire source, working coal gas ware, operating heater).
- It is not allowed to drill hole or burn the connection pipe.
- The air conditioner must be installed in a room that is larger than the minimum room area. The minimum room area is shown on the nameplate or following table a.
- Leak test is a must after installation.

tabela a - Minimum room area (m ²)

Minium room área (m ²)	Charge amount (kg)	≤1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2	2,1	2,2	2,3	2,4	2,5
	floor location	/	14,5	16,8	19,3	22	24,8	27,8	31	34,3	37,8	41,5	45,4	49,4	53,6
	window mounted	/	5,2	6,1	7	7,9	8,9	10	11,2	12,4	13,6	15	16,3	17,8	19,3
	wall mounted	/	1,6	1,9	2,1	2,4	2,8	3,1	3,4	3,8	4,2	4,6	5	5,5	6
	ceiling mounted	/	1,1	1,3	1,4	1,6	1,8	2,1	2,3	2,6	2,8	3,1	3,4	3,7	4

Maintenance notes

- Check whether the maintenance area or the room area meet the requirement of the nameplate.
 - It’s only allowed to be operated in the rooms that meet the requirement of the nameplate.
- Check whether the maintenance area is well-ventilated.
 - The continuous ventilation status should be kept during the operation process.
- Check whether there is fire source or potential fire source in the maintenance area.
 - The naked flame is prohibited in the maintenance area; and the “no smoking” warning board should be hanged.
- Check whether the appliance mark is in good condition.
 - Replace the vague or damaged warning mark.

Welding

- If you should cut or weld the refrigerant system pipes in the process of maintaining, please follow the steps as below:

- a. Shut down the unit and cut power supply
 - b. Eliminate the refrigerant
 - c. Vacuuming
 - d. Clean it with N2 gas
 - e. Cutting or welding
- The refrigerant should be recycled into the specialized storage tank.
 - Make sure that there isn't any naked flame near the outlet of the vacuum pump and it's well-ventilated.

Filling the refrigerant

- Use the refrigerant filling appliances specialized for R32. Make sure that different kinds of refrigerant won't contaminate with each other.
- The refrigerant tank should be kept upright at the time of filling refrigerant.
- Stick the label on the system after filling is finished (or haven't finished).
- Don't overfilling.
- After filling is finished, please do the leakage detection before test running; another time of leak detection should be done when it's removed.

Safety instructions for transportation and storage

- Please use the flammable gas detector to check before unload and open the container.
- No fire source and smoking.
- According to the local rules and laws.



NIPON COOLAIR
www.nipon-coolair.com

600005061336