

# USER AND INSTALLATION MANUAL

## Indoor unit - 4 way cassette

CASK-12C      CASK-24  
CASK-18C      CASK-36  
CASK-18        CASK-48



## DICHIARAZIONE CE DI CONFORMITÀ

## CE DECLARATION OF CONFORMITY

### Descrizione - Description

MONO/MULTI CASSETTE DC INVERTER - MONO/MULTI CASSETTE DC INVERTER

### Modello - Model

CASK-12C	CASK-24
CASK-18C	CASK-36
CASK-18	CASK-48

Risulta in conformità con quanto previsto dalle seguenti direttive, comprese le modifiche, e con la relativa legislazione nazionale di recepimento:

2004/108/CE  
2006/95/CE  
2003/108/CE  
2011/65/CE  
2012/2016/CE

Is in compliance with the follow ECC direcrives, latest modification included, and the relevant nationale granting regulations in force:

2004/108/CE  
2006/95/CE  
2003/108/CE  
2011/65/CE  
2012/2016/CE

Marcon (VE), 04 Aprile 2016

L'amministratore

**Claudio De Gregorio**



**TEKNO POINT ITALIA S.R.L.**

Via dell'Artigianato, 5 | 30020 Marcon VE - IT  
Tel. 041 5020421 | Fax 041 5029514  
commerciale@teknopoint.com  
www.teknopoint.com | www.climainvisibili.it

## INDEX

chapter	page
1. GENERAL INFORMATION	<b>04</b>
2. DESCRIPTION	<b>06</b>
3. PRELIMINARY CHECKS	<b>07</b>
4. INSTALLATION	<b>09</b>
5. TEST RUNNING	<b>17</b>
6. TROUBLESHOOTING AND MAINTENANCE	<b>18</b>

# 1. GENERAL INFORMATION

## 1.1 SYMBOLOGY

Within this publication and / or inside the equipment we used the following symbols:



**USER:** Information, paragraph, chapter Manual affecting the user or the user.



**INSTALLER:** Information, paragraph, section of the manual that affect the installer.



**TECHNICAL ASSISTANCE CENTRE:** Information, paragraph, chapter of the manual that affect the service center.



**IMPORTANT:** Calls attention to technical information and practical advice that make possible a more efficient use and economical equipment.



**OBLIGATION:** Calls attention to actions that impose an obligation in order to obtain the correct functioning of the machine.



**WARNING:** Calls attention to actions that, if not correctly performed, may cause serious injury.



**PROHIBITION:** Calls attention to actions that impose a ban.



**VOLTAGE WARNING:** Calls attention to actions that, if not carried out correctly, can cause serious injury or death to exposed persons.



**DANGER HIGH TEMPERATURES:** Calls attention to actions that, if not correctly performed, may cause serious personal injury caused by the high temperature of the components.

## 1.2 USE ALLOWED

These appliances have been designed for heating and / or cooling of the air. A different application, unless expressly authorized by Tekno Point, is to be considered improper and therefore not permitted.

Tekno Point excludes all contractual and non-contractual liability for damage caused to people, animals or things by incorrect installation, adjustment and maintenance, improper use or as a partial or superficial reading of the information contained in this manual. In addition, the ongoing improvements of the products, reserves the right to change the data in any time and without notice and is not responsible for any inaccuracies contained in this document, if due to printing or copying errors.

**Please read this file, the execution of all work must be performed by qualified and experienced personnel, knowing the rules in force in different countries.**

**The guarantee is invalidated if they do not meet the above mentioned directions.**

The documentation supplied with the unit must be delivered to the end customer (user) who should keep it carefully for future maintenance or service.

**Upon delivery of the goods by the carrier,** check the integrity of the packaging is that the units. Should you find any damage or lack of components, indicate this on the delivery note to the unit's receipt: please make an all-party control, in order to verify that the transport did not cause damage, the damage may be present must be communicated to the carrier, adding the clause reserves on the transport document, specifying the type of damage, also inform, by fax or registered mail within 8 days from the date of receipt of goods, a formal complaint to the company.

## 1.3 OBSERVATIONS

Keep the manual in a dry location to avoid deterioration. Carefully read and understand all the information contained in this manual.

Pay particular attention to the operating standards with **“DANGER,” “PROHIBITION” or “REQUIRED”** because, if neglected, may cause damage to the machine and / or to persons and property.

For anomalies do not by this manual, contact the Customer Service. Tekno Point accepts no responsibility for any damage due to improper use of the machine, and a partial or superficial reading of the information contained in this manual.

The device must be installed in such a way as to make possible the maintenance and / or repair.

The warranty does not cover in any case cover costs due to lifting apparatus and platforms or other lifting systems that would be necessary to carry out warranty work.

Tekno Point does not emit drawings or specifications of the connection systems. Any departure from the requirements contained in this manual must be validated in writing by the technical Tekno Point.

## 1.4 WARNINGS AND PRECAUTIONS



Do not put your fingers or other objects in the inlet and outlet holes.



You must install the unit in a dry place. If the unit is directly exposed to direct heat sources need to be protected from them.



The unit should be used only for purposes specified by the manufacturer.



Do not insert any object above or below the unit.



Around the unit, there must be sufficient space for cleaning or for repair in case of need.



The positioning in the following locations can cause malfunctions:

locations that contain mineral oil, places where air can be high in salt (proximity to riverside areas or marine coasts), places with the presence of sulfur, places where there are large fluctuations in the power supply, places where there are flammable substances such as fossil fuels (eg natural gas, LPG, diesel) or kitchens, heating plants, industrial, places where there are chemical substances and / or explosive gases and high power flash and places where acids are present and / or alkaline substances.

## 1.5 NOTES FOR THE INSTALLER

You need to choose a suitable mode of transport for the unit so that they can not cause problems along the way that might impact on its functional structure. Maintain the condensing ELF retractable in the vertical, as indicated by the arrow. Do not flip or place horizontally. Move the unit from the truck to the installation site without removing the original packaging if possible, which also serves as protection. If the media outdoor unit are in contact with metallic parts of the building, there must be effective to isolate the unit according to the technical norms in force, in order to avoid problems and / or noise and / or vibration transmission along the elements of metal continuity between exterior and part of the building units. If you install the unit in a place isolated or very hot and humid, which can be frequent phenomena of lightning, provide the appropriate protection systems units as voltage arresters and / or current arresters. It is necessary that the metal exterior of the unit is connected to the earth conductor and from the latter to the relative dispersion system.

**According to Directive 89/336 / EEC. During installation, to prevent the formation of a power sparks during the start of the compressor, observe the following conditions:**

- The connection to the air conditioner must be run directly to the main line of supply.
- No other electrical device must be connected to the power line conditioner service (switchboard).
- Ensure that the operation can take place simultaneously with the use of other equipment such as washing machines, air conditioners and / or electric ovens.
- For more on nutrition outdoor unit details check the technical data on the label.
- For other problems related to plug the external drive is not specifically mentioned contact technical service Tekno Point.



The Owner's Manual is an integral part of the equipment; it is recommended to read and kept with care.

Unpack only with equipment placed in the installation position. After removing the packaging, handling should be carried out by qualified personnel and equipped with adequate facilities to the weight of the structure. The manipulation of the condensing unit is only permitted in the vertical position maintained equipment.



To disperse the parts of the package, or leave them within reach of children as they are potential sources of danger. Packaging must be disposed according to local legislation.



Check upon receipt that there are no transport damage and / or handling, and that in the package are present all desired accessories.

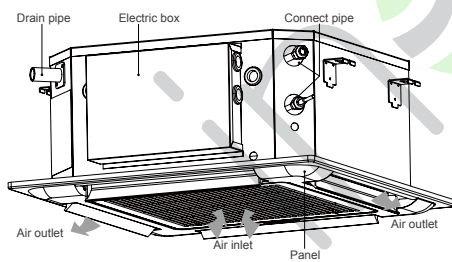


## 2. DESCRIPTION

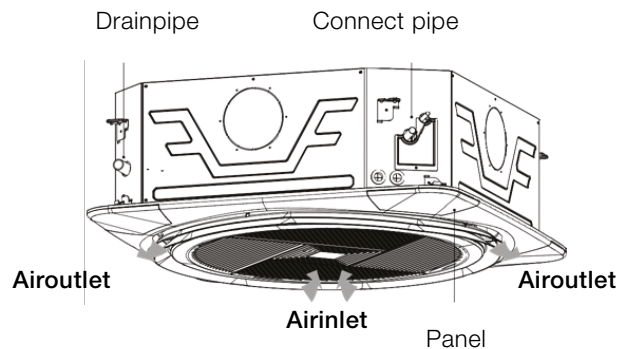
### 2.1 COMPONENTS AND MEASURES

#### INDOOR UNIT

CASK-12C, CASK-18C

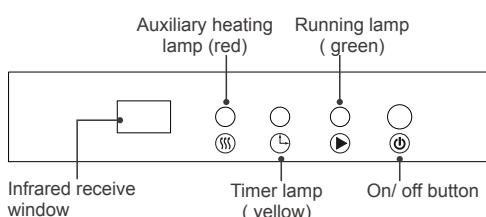


CASK-18, CASK-24, CASK-36, CASK-48

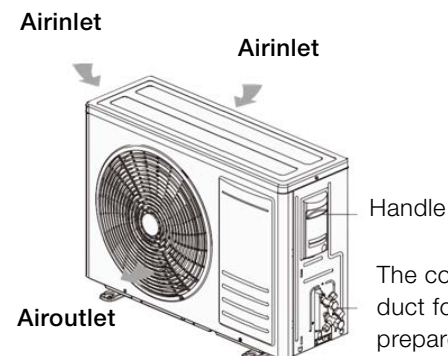


#### DISPLAY INDOOR UNIT

CASK-12C, CASK-18C



#### OUTDOOR UNIT



The connection pipe and duct for this unit should be prepared by the user. The unit is standard equipped with rectangular duct.

# 3. PRELIMINARY CHECKS

## 3.1 EQUIPMENT

1. Level
2. Drill
3. Hexagonal wrench
4. Wrench
5. Vacuum pump
6. Screwdriver
7. Flaring
8. Cutter
9. Measuring tape
10. Pressure gauges
11. Core drill
12. Vacuum cleaner
13. Search Getaway
14. Metro

## 3.2 SELECTION OF THE INSTALLATION LOCATION



- Do not install where there is a danger of combustible gasleakage.
- Do not install the unit near heat source, steam, or flamma blegas.
- Children under 10 years old must be supervised not to operate the unit.

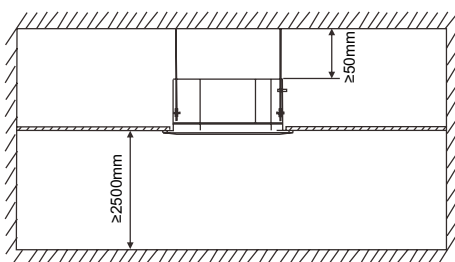
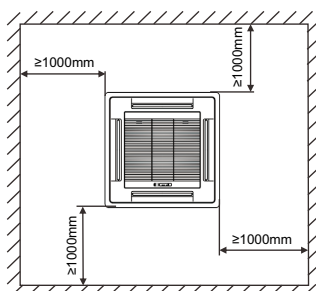


- The unit must be installed where strong enough to withstand the weight of the unit and fixed securely, otherwise the unit would topple or fall off.

### DECIDE THE INSTALLATION LOCATION WITH THE CUSTOMER AS FOLLOWS:

1. Obstruct should be put away from the intake or outlet vent of the indoor unit so that the airflow can be blown through all the room.
  2. Make sure that the installation meets the requirement of the schematic diagram of installation spaces.
  3. Select the place where can stand 4 times of the weight of the indoor unit and would not increase the operating noise and vibration.
  4. The horizontality of the installation place should be guaranteed.
  5. Select the place where is easy to drain out the condensate water, and connect with outdoor unit.
  6. Make sure that there are enough space for care and maintenance, and the heightfall between the indoor unit and ground is above 1800 mm.
  7. When installing the suspension bolt, check if the installation place can stand 4 time sof the weight of the unit. If not, reinforce it before installation.
- Note:**  
There will be large amount of greasy dirt accumulated on the fan, heat exchanger and water pump located in the dinning room and kitchen, which would reduce the capacity of the heater exchanger, lead to leakage and abnormal operation of the water pump.

CASK-12C, CASK-18C



CASK-18, CASK-24, CASK-36, CASK-48

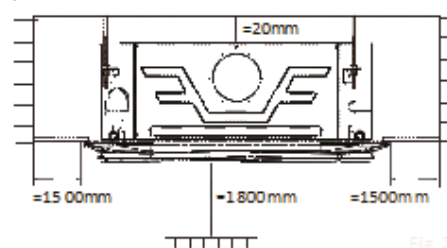


Fig.2

### 3.3 CONNECTION PIPE REQUIREMENT

The maximum length of the connection pipe is listed in the table below. Do not place the units between which the distance exceeds the maximum length of the connection pipe.

Model	Size of Fitting Pipe (Inch)		Max.Pipe Length (m)	Max.height Difference between Indoor and Outdoor Unit (m)
	Liquid	Gas		
CASK-12C	1/4	3/8	30	15
CASK-18C	1/4	1/2	30	15
CASK-18	1/4	5/8	30	15
CASK-24	3/8	5/8	30	15
CASK-36	1/2	3/4	50	30
CASK-48	1/2	3/4	50	30

- The connection pipes should be insulated with proper water-proof insulating material.
- The pipe wall thickness shall be 0.5-1.0mm and the pipe wall shall be able to withstand the pressure of 6.0 MPa. The longer the connecting pipe, the lower the cooling and heating effect performs.

### 3.4 ELECTRICAL REQUIREMENT

Model	Power Supply	Capability of Air Switch (A)	Min. Sectional Area of Power Cable and Earth line (mm <sup>2</sup> )
CASK-12C	220-240V~, 50Hz	16	1.5
CASK-18C	220-240V~, 50Hz	16	1.5
CASK-18	220-240V~, 50Hz	25	2.5
CASK-24	380-415V~, 50Hz	16	1.5
CASK-36	380-415V~, 50Hz	16	1.5
CASK-48	380-415V~, 50Hz	16	1.5

**Note:**

- The fuse is located on the main board.
- Install the disconnect device with a contact gap of at least 3 mm in all poles nearby the units (Both indoor and outdoor unit). The appliance must be positioned so that the plug is accessible.
- The specifications of the breaker and power cable listed in the table above are determined based on the maximum power (maximum amps) of the unit.
- The specifications of the power cable listed in the table above are applied to the conduit guarded multi-wire copper cable (like, YJV copper cable, consisting of PE insulated wires and a PVC cable jacket) used at 40°C and resistant to 90°C (see IEC60364-5-52). If the working condition changes, they should be modified according to the related national standard.
- The specifications of the breaker listed in the table above are applied to the breaker with the working temperature at 40°C. If the working condition changes, they should be modified according to the related national standard.
- Take 2 pieces of power cord of 0.75 mm<sup>2</sup> as the communication lines between indoor and outdoor unit, with their longest lengths of 50m. Please select the appropriate line length as per the actual installation conditions. The communication lines can not be twisted together. For the unit, it's recommended to use 8 m long communication line.
- Take 2 pieces of power cord of 0.75 mm<sup>2</sup> as the communication lines between the wired controller and the indoor unit, with their longest lengths of 30 m. Please select the appropriate line length as per the actual installation conditions. The communication lines can not be twisted together. It's recommended to use 8 m long communication line.
- The wire size of the communication lines should be no less than 0.75 mm<sup>2</sup>. It's recommended to take 0.75 mm<sup>2</sup> power cords as the communication line.



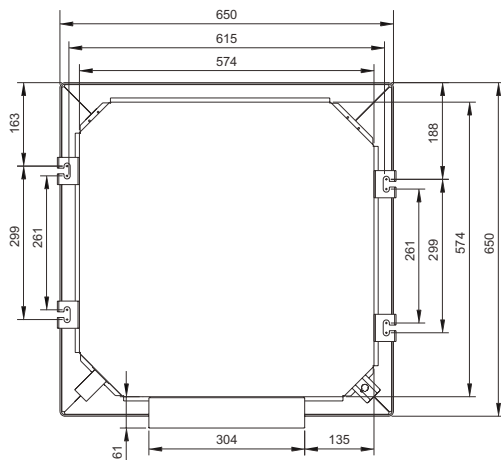
# 4. INSTALLATION

## 4.1 INDOOR UNIT DIMENSION

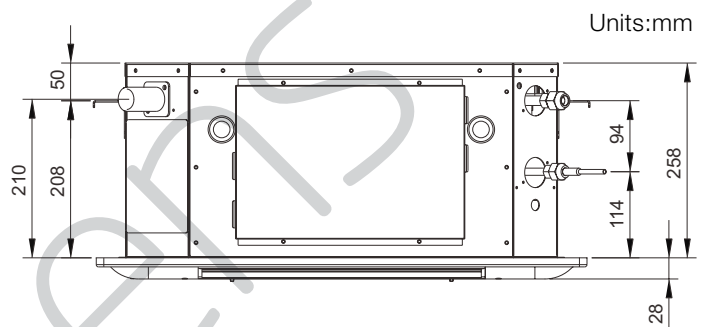
1. Install the indoor unit in a location which can withstand a load of at least five times the weight of the main unit and which will not amplify sound or vibration.
2. If the installation location is not strong enough, the indoor

unit may fall and cause injuries.

3. If the job is done with the panel frame only, there is a risk that the unit will come loose. **Please take care.**



CASK-12C, CASK-18C



CASK-18, CASK-24, CASK-36, CASK-48

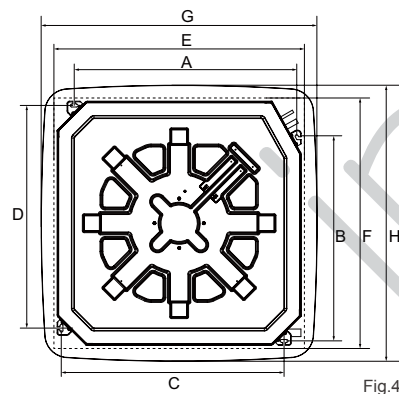


Fig.4

Installation Dimension				The Ceiling Dimension		Panel Dimension	
A	B	C	D	E	F	G	H
769.3	697.6	766.3	766.3	900	900	950	950

Units:mm

## 4.2 INSTALLATION FOR CASK-12C AND CASK-18C

### 1. Hang the main unit to the ceiling

Mark the fixing points on the ceiling with the marking. By drilling, or referring to the measurements indicated in "DIMENSIONS", screw in and then hang the unit. Tighten the nut and make sure the unit is firm.

During installation, make sure that the ceiling is in the horizontal position.

If the unit is installed on an inclined ceiling, a seal should be installed between the ceiling and the air outlet panel in order to ensure that the unit is installed on a properly leveled surface.

### 2. Secure the main unit to the ceiling

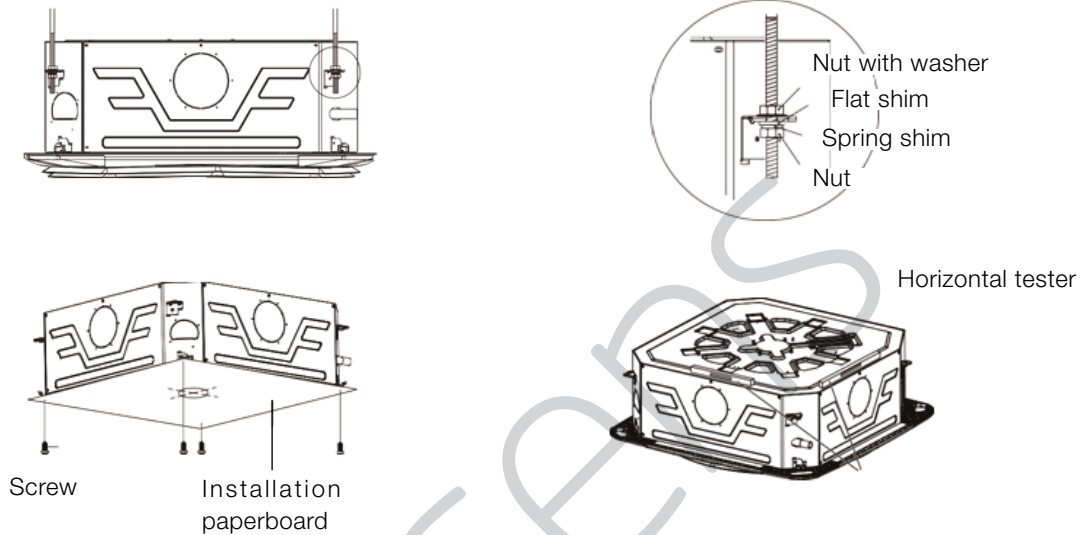
Mark the fixing points on the ceiling with the marking. By drilling, or referring to the measurements indicated in "DIMENSIONS", screw in and then hang the unit. Tighten the nut and make sure the unit is firm.

Adjust the position of the suspension hook on the suspension bolt so that the master is in position in all directions. Tighten the bolt and make sure that the four hooks are in close contact with the nuts and the thicknesses, and that the unit is firmly suspended on the hooks.

The center of the internal master unit should almost coincide with that of the opening on the ceiling.

### 4.3 INSTALLATION FOR CASK-18, CASK-24, CASK-36 AND CASK-48

1. Install the hoisting stand on the hoisting screw by using nuts and gaskets at both the upper and lower sides of the hoisting stand. To prevent the gasket from breaking off, a gasket anchor board can be helpful.
2. Install the paper template on the unit, and fix the drain pipe at the outlet vent.
3. Adjust the unit to the best position.
4. Check if the unit is installed horizontally at four directions. If not, the water pump and the float switch would function improperly and even lead to water leakage.
5. Remove the gasket anchor board and tighten the nut remained.
6. Remove the paper template.



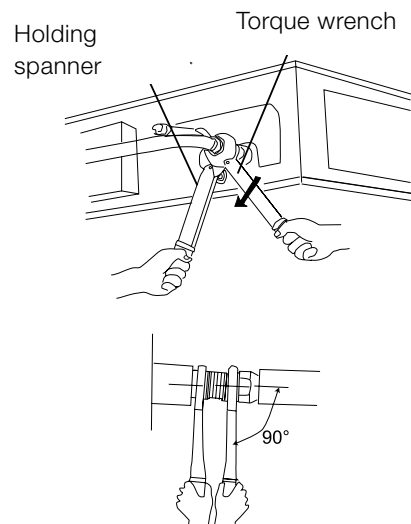
### 4.4 INSTALLING THE SUSPENSION BOLTS

1. Using the installation template, drill holes for bolts (four holes).
2. Install the bolts to the ceiling at a place strong enough to hang the unit. Mark the bolt positions from the installation template. With a concrete drill, drill for 12.7 mm (1/2") diameter holes.
3. Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer.
4. The water level test must be done after installing the indoor unit to make the unit is horizontal, as shown below.

### 4.5 INSTALLATION OF THE CONNECTION PIPE

#### 1. Flare Processing

- Cut the connection pipe with the pipe cutter and remove the burrs.
- Hold the pipe downward to prevent cuttings from entering the pipe.
- Remove the flare nuts at the stop valve of the outdoor unit and inside the accessory bag of the indoor unit, then insert them to the connection pipe, after that, flare the connection pipe with a flaring tool.
- Check if the flare part is spread evenly and there are no cracks.

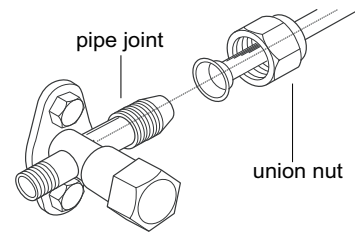


## 2. Bending Pipes

- The pipes are shaped by your hands. Be careful not to collapse them.
- Do not bend the pipes in an angle more than 90°.
- When pipes are repeatedly bent or stretched, the material will harden, making it difficult to bend or stretch them any more. Do not bend or stretch the pipes more than three times.
- When bending the pipe, do not bend it as is. The pipe will be collapsed. In this case, cut the heat insulating pipe with a sharp cutter, and bend it after exposing the pipe.
- After bending the pipe as you want, be sure to put the heat insulating pipe back on the pipe, and secure it with tape.

● To prevent breaking of the pipe, avoid sharp bends. Bend the pipe with a radius of curvature of 150 mm or over.

● If the pipe is bent repeatedly at the same place, it will break.



diameter pipe [mm]	tightening torque [Nm]
6,35 - 1/4"	15 - 18
9,52 - 3/8"	31 - 35
12,70 - 1/2"	50 - 55
15,88 - 5/8"	60 - 85
19,05 - 3/4"	100 - 120

### CAUTION!

Be sure to connect the gas pipe after connecting the liquid pipe completely.

## 3. Connecting the Pipe at the Indoor Unit Side

Detach the caps and plugs from the pipes.

### CAUTION!

Be sure to apply the pipe against the port on the indoor unit correctly. If the centering is improper, the flare nut cannot be tightened smoothly. If the flare nut is forced to turn, the threads will be damaged.

Do not remove the flare nut until the connection pipe is to be connected so as to prevent dust and impurities from coming

into the pipe system.

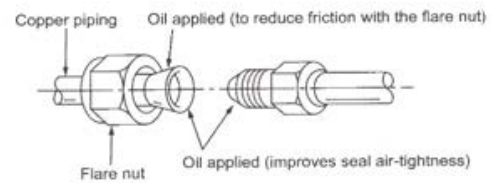
Centering the pipe against port on the indoor unit, turn the flare nut with your hand.

### CAUTION!

Hold the torque wrench at its grip, keeping it in the right angle with the pipe, in order to tighten the flare nut correctly.

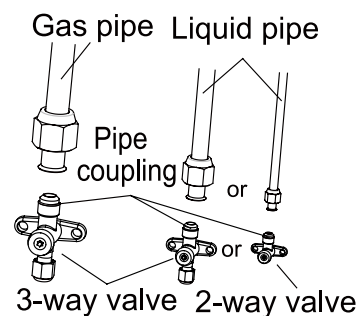
## 4. Connecting the Pipe at the Outdoor Side Unit

Tighten the flare nut of the connection pipe at the outdoor unit valve connector. The tightening method is the same as that as at the indoor side.



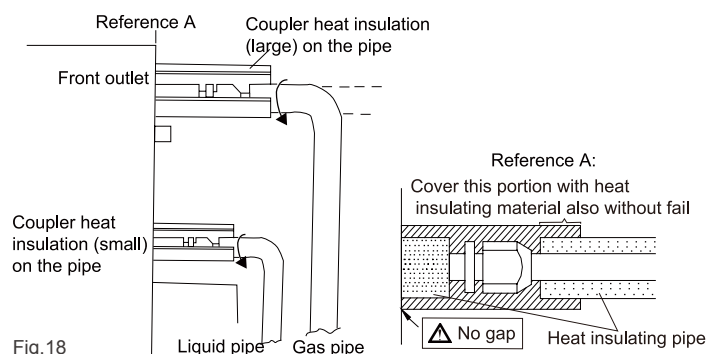
## 5. Checking the Pipe Connections for Gas Leaking

For both indoor and outdoor unit side, check the joints for gas leaking by the use of a gas leakage detector without fail when the pipes are connected.



## 6. Heat Insulation on the Pipe Joints (Indoor Side Only)

Stick coupler heat insulation (large and small) to the place where connecting pipes.



## 4.5 VACUUM AND GAS LEAKAGE INSPECTION

### CAUTION!

Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation! There is no extra refrigerant in the outdoor unit for air purging!

#### 1. Vacuum

- (1). Remove the caps of the liquid valve, gas valve and also the serviceport.
- (2). Connect the hose at the low pressure side of the manifold valve assembly to the service port of the unit's gas valve, and meanwhile the gas and liquid valves should be kept closed in case of refrigerant leak.
- (3). Connect the hose used for evacuation to the vacuum pump.
- (4). Open the switch at the lower pressure side of the manifold valve assembly and start the vacuum pump. Meanwhile, the switch at the high pressure side of the manifold valve assembly should be kept closed, otherwise evacuation would fail.
- (5). The evacuation duration depends on the unit's capacity, generally, 20 minutes for the 18K units, 30 minutes for the 24 units.

And verify if the pressure gauge at the low pressure side of the manifold valve assembly reads - 1.0 Mp (-75 cm Hg), if not, it indicates there is leak somewhere. Then, close the switch fully and then stop the vacuum pump.

(6). Wait for some time to see if the system pressure can remain unchanged, 5 minutes for the 18K~24K units. During this time, the reading of the pressure gauge at the low pressure side can not be larger than 0.005Mp (0.38cmHg).

(7). Slightly open the liquid valve and let some refrigerant go to the connection pipe to balance the pressure inside and outside of the connection pipe, so that air will not come into the connection pipe when removing the hose. Note that the gas and liquid valve can be opened fully only after the manifold valve assembly is removed.

(8). Place back the caps of the liquid valve, gas valve and also the serviceport.

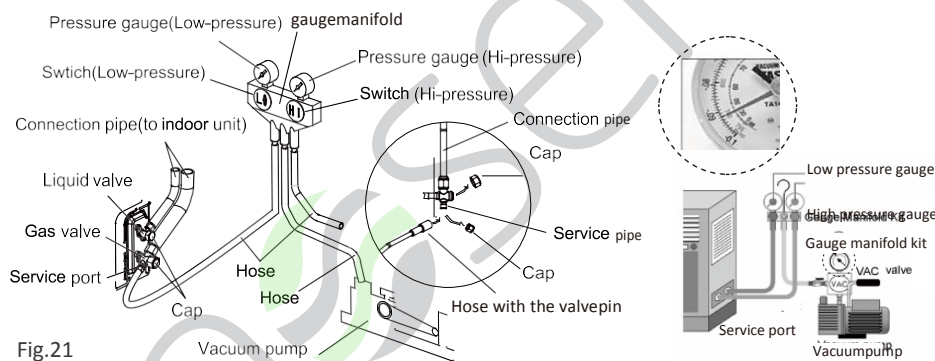


Fig.21

#### Note:

**For the large-sized unit, it has the service port for both the gas valve and the liquid valve.**

During evacuation, it is available to connect two hoses of the manifold valve assembly to two service ports to quicken the evacuating speed.

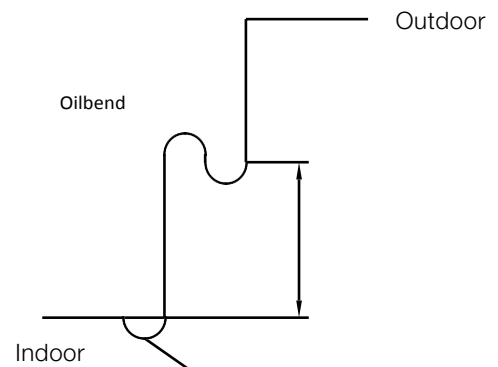
#### 2. Additional Charge

Refrigerant suitable for a piping length of 5m is charged in the 12~36K outdoor unit at the factory, and for 48~60K outdoor unit refrigerant is charged for a piping length of 7.5m.

When the piping of 12~36k unit is longer than 7m or the piping of 48~60k unit is longer than 9m, additional charging is necessary.

Model	Additional Refrigerant
12 - 18 - 24	22
36	54
42 - 48	110

When the height difference between the indoor unit and outdoor unit is larger than 10 meters, an oil bend should be employed for every 6 meters.



## 4.6 INSTALLATION OF THE DRAIN HOSE

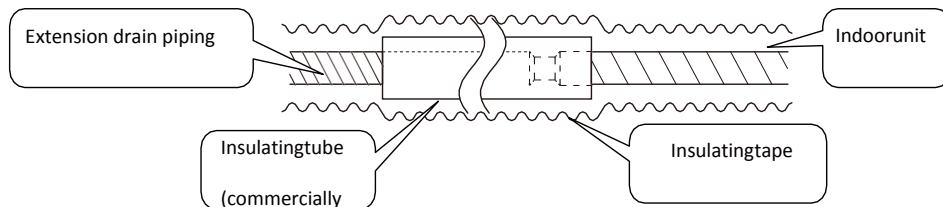
### CAUTION!

Install the drain hose in accordance with the instructions in this installation manual and keep the area warm enough to prevent condensation. Problems with the piping may lead to water leaks.

1. Keep piping as short as possible and slope it downwards at a gradient of at least 1/100 so that air may not remain trapped inside the pipe.

2. Keep pipe size equal to or greater than that of the connecting pipe.

3. Install the drain piping as shown and take measures against condensation. Improperly rigged piping could lead to leak sand eventually wet furniture and belongings.



## 4.7 INSTALLING THE DRAIN PIPES

1. Insert the drain pipe to the drain outlet of the unit and then tighten the clamp securely with tape.

2. Connect the extension drain pipe to the drain pipe and then tighten the clamp with tape

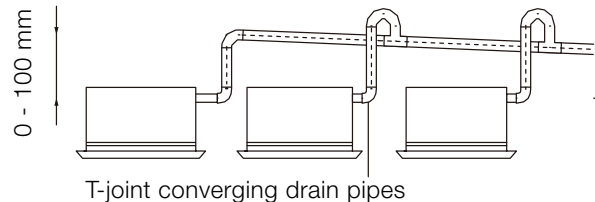
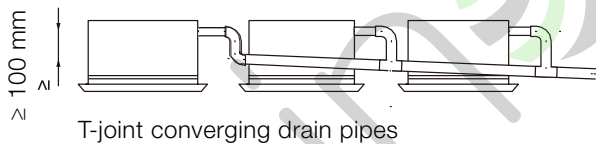
3. When unifying multiple drainpipes, install the pipes. Select converging drain pipes whose gauge is suitable for the operating capacity of the unit (take the cassette type unit for example).

4. When the drain hose cannot keep a sufficient gradient, it is necessary to fit a riser pipe (field supplied) to it.

5. If the air flow of indoor unit is high, this might cause negative pressure and result in return suction of outdoor air. Therefore, U-type water trap shall be designed on the drainage side of each indoor unit.

6. Install one water trap for each unit.

7. Installation of water trap shall consider easy cleaning in the future.

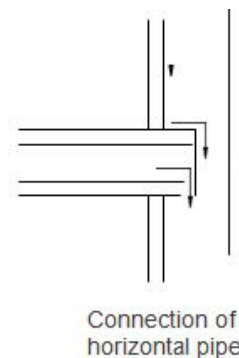
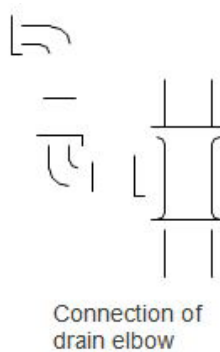
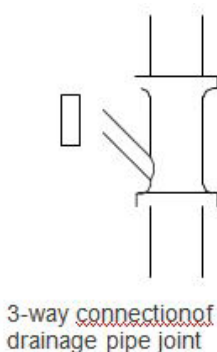


8. Connection of drainage branch pipe to the stand pipe or horizontal pipe of drainage main pipe. The horizontal pipe cannot be connected to the vertical pipe at a same height. It can be connected in a manner as shown below:

NO.1: Attach the 3-way connection of the drainage pipe joint.

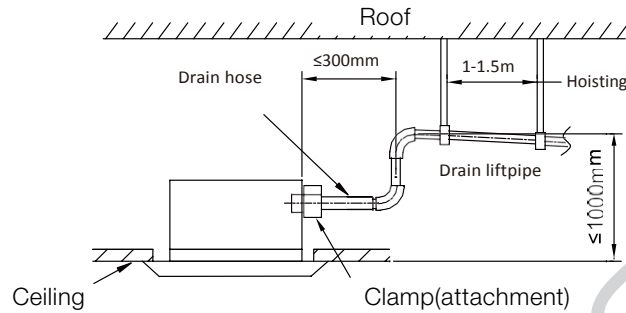
NO.2: Attach the drain elbow.

NO.3: Attach the horizontal pipe.



## 4.8 PRECAUTIONS WHEN DOING RISER PIPING WORK

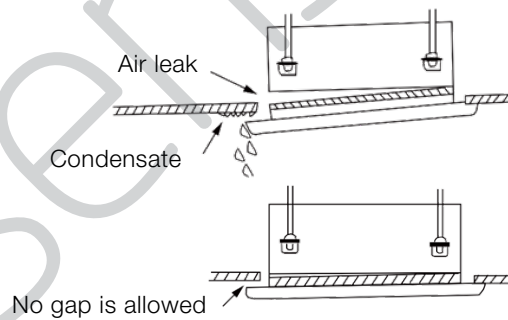
1. Make sure that heat insulation work is executed on the following 2 spots to prevent any possible water leakage due to dew condensation.
  - 1). Connect the drain hose to the drain lift pipe, and insulate them.
  - 2). Connect the drain hose to the drain outlet on the indoor unit, and tighten it with the clamp.
2. Make sure the lift pipe is at most 280 mm.
3. Stand the lift pipe vertically, and make sure it is not further than 300 mm from the base of the drain outlet.
4. Secure a downward gradient of 1/100 or more for the drain pipe. To accomplish this, mount supporting brackets at an interval of 1 - 1.5 m.



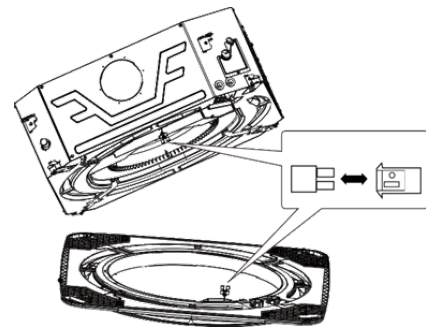
## 4.9 THE PANEL INSTALLATION

1. Improper screwing of the screws may cause the troubles as shown below.

2. If gap still exists between ceiling and decoration panel after tightening the screws, readjust the height of the indoor unit.

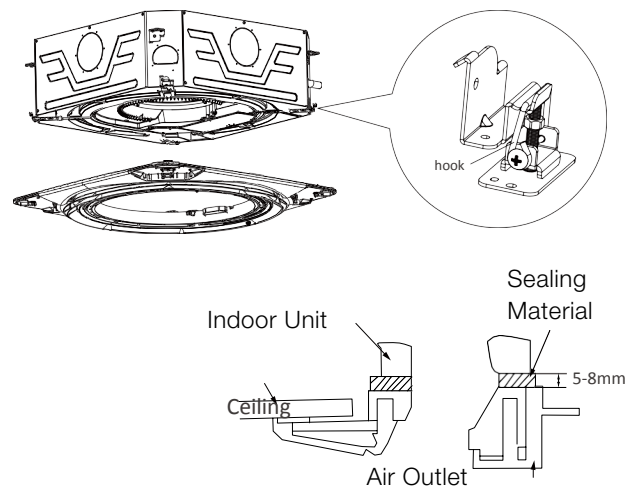


3. Wire the swing flap motor as shown below.



4. Installing the Panel

- A. Place the panel at the unit, and latch the hooks beside and opposite the swing flap motor.
- B. Latch other two hooks.
- C. Tighten four hexagonal screws under the latches about 15 mm.
- D. Adjust the panel along the direction indicated by the arrow as shown.
- E. Tighten the screws until the thickness of the sealing material between the panel and the indoor unit reduces to 5-8 mm.



## 4.10 ELECTRICAL WIRING CASK-18, CASK-24, CASK-36 E CASK-48

- Before obtaining access to terminals, all supply circuits must be disconnected.
- The rated voltage of the unit is as shown in table 3.
- Before turning on, verify that the voltage is within the 198~264V range (for single phase unit) or 342~457V range (for three-phase unit).
- Always use a special branch circuit and install a special receptacle to supply power to the air conditioner.
- Use a special branch circuit breaker and receptacle matched to the capacity of the air conditioner.
- 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 3 mm between the contacts of each pole.
- Perform wiring work in accordance with standards so that

the air conditioner can be operated safely and positively.

- Install a leakage special branch circuit breaker in accordance with the related laws and regulations and electric company standards.

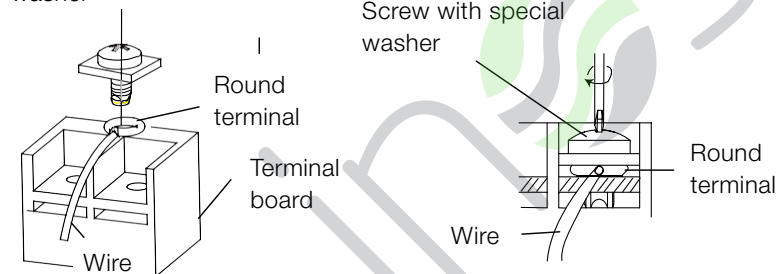
### CAUTION!

- **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 contracted capacity.**
- **When the voltage is low and the air conditioner is difficult to start, contact the power company to raise the voltage.**

### FOR SOLID CORE WIRING

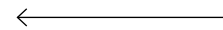
- 1). Cut the wire end with a wirecutter or wire-cutting pliers, then strip the insulation about 25mm (15/16").
- 2). Using a screwdriver, remove the terminal screw(s) on the terminal board.
- 3). Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
- 4). Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.

Screw with special washer



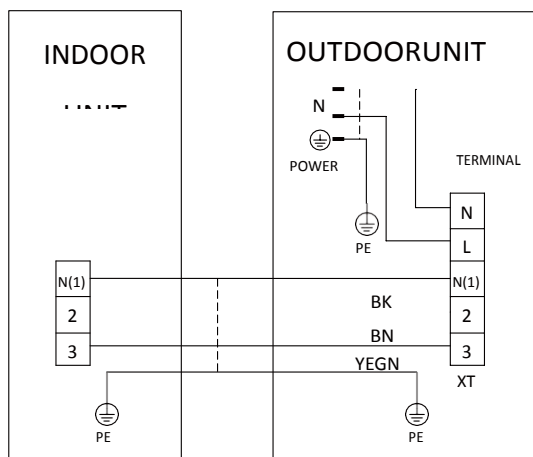
### FOR STRAND WIRING

- 1). Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation about 10mm (3/8").
- 2). Using a screwdriver, remove the terminal screw (s) on the terminal board.
- 3). Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
- 4). Position the round terminal wire, and replace and tighten the terminal screw with a screwdriver.

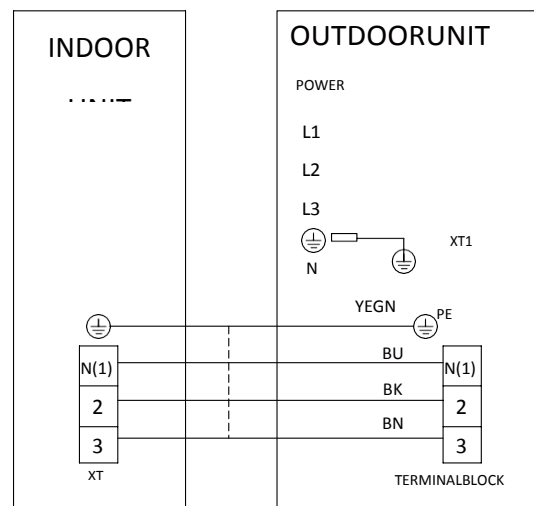


How to fix connection cord and power cord by cord clamp. After passing the connection cord and power cord through the insulation tube, fasten it with the cord clamp.

### Single-phase units (12K~24K)



### Three-phase units (36K~60K)



## 4.11 ELECTRICAL WIRINGS CASK-12C E CASK-18C

The power supply cable and the fresh air valve cable are high voltage, while the communication cable and the wired controller wire are low voltage. They should work separately against electromagnetic interference.

- High voltage and low voltage lines must pass through the rubber rings to several electrical covers.
- Do not pack the wiring harness and communication cable connection cable together or arrange them in parallel, otherwise it will result in improper operation.
- High voltage and low voltage lines must be securely and securely attached, with large internal terminals for high voltage lines and small terminals for low voltage lines.

- Tighten the internal / external connection cable and the power cord respectively to the terminal. The faulty connection can cause a fire.

- If the indoor unit (outdoor unit) and the power cord are incorrectly wired, the air conditioner may be damaged.
- Properly connect the internal connection cable of the indoor unit according to the corresponding signs.
- Ground both indoor and outdoor units by connecting a ground wire.
- The unit must be grounded in accordance with applicable local and national codes.

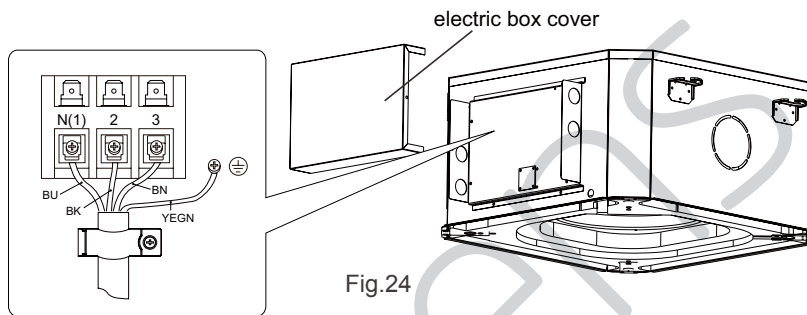


Fig.24

The flap is forbidden to be moved by hand

1. Open the grid and remove the grid from the panel.
2. Use the 4 bolts attached to the cardboard bag of the panel to connect the panel with the main unit, pls Refer to the position shown on the drawing on the right.
3. Hold the 4 bolts until the panel connects to the unit, making sure there are no spaces between the panel and the master unit



Use the 25 mm (M5) bolt (together with the panel packing) to connect the panel and Master, otherwise it may cause condensation water leakage.

### TEST AND TEST OPERATIONS

Operating state	Running (Green)	Timer (Yellow)	Heating (Red)
Standby	OFF	OFF	OFF
Cooling	ON	OFF	OFF
Dehumidification	ON	OFF	OFF
Heating	ON	OFF	ON
Ventilation	ON	OFF	OFF
Timing	-	ON	-
Outdoor unit error	blinking	blinking	OFF
Indoor unit error	blinking	blinking	blinking

When the drive is connected to the wired controller, the error code will be displayed on it at the same time.



# 5. TEST RUNNING

## 5.1 TRIAL OPERATION AND TESTING

Error Code	Name
b3	Filter clean remind
E0	High exhaust temp. protection
E1	Overcapacity protection
E2	Compressor overload protection
E3	Anti-frost protection
E4	System high pressure protection
E5	System low pressure protection
E6	Lack refrigerant/ valve stop protection
HE	Auxiliary heat adhesion protection
L7	The communication between indoor unit and wired controller fault
U0	Indoor temp. sensor open/short circuit
U2	Outdoor temp. sensor open/short circuit
U9	Wired controller temp. sensor fault
dF	Defrost or heating oil return
L3	Indoor unit report outdoor unit fault
L9	Water full protection

**Note:** When the unit is connected with the wired controller, the error code will be simultaneously shown on it.

## 5.2 WORKING TEMPERATURE RANGE

The unit may not work properly temperature range					
Cooling operation	Outdoor side temperature: above 52°C or below 15°C	Heating operation	Outdoor side temperature: above 24°C or below -15°C	Dehumidify operation	Indoor side temperature: below 12°C
	Indoor side temperature: below 21°C		Indoor side temperature: above 27°C		

**Note:**

- The design of this unit conforms to the requirements of EN14511 standard.
- The air volume is measured at the relevant standard external static pressure.
- Cooling (heating) capacity stated above is measured under nominal working conditions corresponding to standard external static pressure. The parameters are subject to change with the improvement of products, in which case the values on name plate shall prevail.
- In this table, there are two outside DB values under the low temp cooling conditions, and the one in the brackets is for the unit which can operate at extreme low temperature.

## 5.3 TEST OPERATION

If matching with the MULTI-S external unit, after installing the complete drives, you must verify the operation  
When it turns on the first time and turns on the units to ensure proper installation.

The test operation phases are as follows:

A: Use the remote control to select the cooling mode and set the temperature to 16 ° C.

Inside card, press "+, -, +, -, +, -" in 5s, then the "LL" internal display with a long whistle. This indicates that the units will start testing the operation.

B: The test operation is terminated when the interior view is changed to show the temperature from "LL".

C: If the indoor display shows "PA" and locks the outdoor unit in the test operation, indicate

The installation has errors, check the cable connection and the pipe connection

refrigerant. Correct the error and start testing again.

**Note: All units can work normally until the test runs out.**

U

INS

CAT

# 6. TROUBLESHOOTING AND MAINTENANCE

## 6.1 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.	<ol style="list-style-type: none"> <li>1. The power supply is not connected.</li> <li>2. Electrical leakage of air-conditioning unit causes tripping of the leakage switch.</li> <li>3. The operating keys are locked.</li> <li>4. The control loop has failure</li> </ol>
The unit operates for a while and then stops.	<ol style="list-style-type: none"> <li>1. There is obstacle in front of the condenser.</li> <li>2. The control loop is abnormal.</li> <li>3. Cooling operation is selected when the outdoor ambient temperature is above 52°C</li> </ol>
Poor cooling effect	<ol style="list-style-type: none"> <li>1. The air filter is dirty or blocked.</li> <li>2. There is a source of heat or too many people inside the room.</li> <li>3. The door or window is open.</li> <li>4. There is an obstacle to air suction or discharge.</li> <li>5. The set temperature is too high.</li> <li>6. There is leakage of refrigerant.</li> <li>7. Ambient temperature performance will deteriorate</li> </ol>
Poor heating effect	<ol style="list-style-type: none"> <li>1. The air filter is dirty or blocked.</li> <li>2. The door or window is not firmly closed.</li> <li>3. The set room temperature is too low.</li> <li>4. There is refrigerant leakage.</li> <li>5. The outdoor ambient temperature is lower than -5°C.</li> <li>6. Control loop is abnormal.</li> </ol>

After carrying out the check of the above items and taking relevant measures to solve the problems found but the air-conditioning unit still does not function well, please stop

the operation of the unit immediately and contact the local service agency. Only ask professional serviceman to check and repair the unit.

## 6.2 ROUTINE MAINTENANCE CASK-18, CASK-24, CASK-36 E CASK-48

Only a qualified service person is allowed to perform maintenance. Before accessing to terminal devices, all power supply circuits must be disconnected.

Do not use water or air of 50°C or higher for cleaning air filters and outside panels.

### Note:

1. Do not remove the air filter except for cleaning. Unnecessary handling may damage the filter.
2. Do not clean the unit with gasoline, benzene, thinner, polishing powder or liquid insecticide, otherwise it would cause discoloration and deformation of the unit.
3. Do not wet the indoor unit in case of electric shock or firehazard.

Increase the frequency of cleaning if the unit is installed in a room where the air is extremely contaminated. (As a yardstick for yourself, consider cleaning the filter once a half year.) If dirt becomes impossible to clean, change the air filter. (Air filter for exchange is optional.)

(1). Removing the air filter from the duct.

(2). Cleaning the airfilter

Remove dust from the air filter using a vacuum cleaner and gently rinse them in cool water. Do not use detergent or hot water to avoid filter shrinking or deformation. After cleaning dry them in the shade.

(3). Replacing the air filter Reinstall the filter as before.

## 6.3 ROUTINE MAINTENANCE CASK-12C E CASK-18C

Only a qualified service person is authorized to perform maintenance.

Before accessing the terminal devices, all power circuits must be disconnected.

Do not use water or air at 50 ° C or higher to clean air filters and skirts.

Increase the cleaning frequency if the unit is installed in a room where the air is extremely contaminated (such as a meter for you, consider cleaning the filter once in the middle of the year). If dirt becomes impossible to clean, change the air filter.

- (1). Slide the two air intake grille bolts and then hang the grille.
- (2). Open the grid and then pull out the filter.
- (3). Cleaning the air filter

To clean the filter, use a dust or water collector. When the filter is very dirty, use water (Under 45 ° C) to clean it, then place it

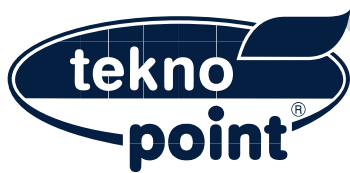
in a shaded area and cool to dry.

(4). Fit the filter and install the suction grid.

### Note:

1. Do not use the air conditioner with the uninstalled filter, otherwise dust in the unit will occur.
2. Do not remove the air filter except cleaning. Unnecessary maintenance can damage the machine filter.
3. Do not clean the unit with gasoline, benzene, diluent, polishing powder or insecticide liquid, otherwise it will cause the unit to blur and deform.
4. Do not immerse the indoor unit in the event of electrical shock or fire hazard.

invisible



**TEKNO POINT ITALIA S.R.L.**

Via dell'Artigianato, 5 | 30020 Marcon VE - IT

Tel. 041 5020421 | Fax 041 5029514

commerciale@teknopoint.com

www.teknopoint.com

www.climainvisibili.it

