



Owner's Manual

Original Instructions

Cassette Type Air Conditioner



Models:

Indoor Unit

GCC24S6I

GCC36S6I

GCC42S6I

Outdoor Unit

GMC24S6I

GMC36S6I

GMC42S6I

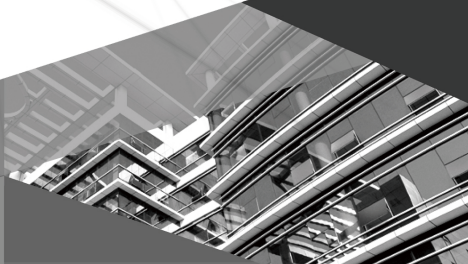
Thank you for choosing our product.

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.gree.com or send an email to global@cn.gree.com for the electronic version.

NOTE:

**Actual product may be different from graphics,
please refer to actual products.**



To Users

Thank you for selecting Gree 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 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.
- (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) If the product needs to be installed, moved or maintained, please contact our designated dealer or local service center for professional support. Users should not disassemble or maintain the unit by themselves, otherwise it may cause relative damage, and our company will bear no responsibilities.
- (5) 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. If there is adjustment in the product, please subject to actual product.
- (6) If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

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.



Contents

1 Safety Precautions	1
2 Installation.....	3
2.1 Installation Preparation	5
2.2 Unit Installation	11
2.3 Electrical Installation	30
2.4 Check after Installation.....	36
2.5 Product Operating Range	36
2.6 Test Running	37
3 Product Introduction	38
3.1 Overall Layout.....	38
3.2 Standard Accessories	43
4 Installation of Controller	44
5 Maintenance	44
5.1 Failures Not Caused by Faults of the AC.....	44
5.2 Error Code	46
5.3 Unit Maintenance	49
6 Specialist's Manual	53



Appliance filled with flammable gas R32.



Before use the appliance, read the owner's manual first.



Before install the appliance, read the installation manual first.



Before repair the appliance, read the service manual first.

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 leads 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 ozonosphere. 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^2 . (Please refer to table "a" in section of " Safety Operation of Inflammable 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.



1 Safety Precautions

Please read this manual carefully before use and operate correctly as instructed in this manual.

Please especially take notice of the following two symbols:

 **Warning!** It indicates improper operation which will lead to human casualty or sever injury.

 **Caution!** It indicates improper operation which will lead to injury or property damage.

 **Warning!**

◆The installation should be committed to the appointed service center; otherwise it all cause water leakage, electric shock or fire etc.

◆Please install the unit where is strong enough to withstand the weight of the unit; otherwise, the unit would fall down and cause injury or death.

◆The drain pipe should be installed as instructed in the manual to guarantee the proper drainage; meanwhile it should be insulated to prevent condensing; otherwise the improper installation would cause water leakage and then wet the household wares in the room.

◆Do not use or place any inflammable or explosive substance near the unit.

◆Under the occurrence of an error (like burning smell etc.), please cut off the main power supply of the unit.

◆Keep good ventilation in the room to avoid oxygen deficit.

◆Never insert your finger or any other object into the air outlet/inlet grille.

◆Please take notice of the supporting frame of the unit to see if it is damaged over the long time period of use.

◆Never refit the unit and contact the sales agent or the professional installation personnel for the repair or relocation of the unit.

An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.

 **Caution!**

◆Before installation, please check if the power supply corresponds with the

requirement specified on the nameplate and also check its security.

◆Before use, please check if the piping and wiring are correct to avoid water leakage, refrigerant leakage, electric shock, fire etc.

◆The main power supply must be earthed to avoid the hazard of electric shock and never connect this earth wire to the gas pipe, running water pipe, lightening rod or phone cable's earth lead.

◆Turn off the unit after it runs at least five minutes; otherwise its service life will be shortened.

◆Do not allow children operate this unit.

◆Do not operate this unit with wet hands.

◆Cut off the main power supply prior to the cleaning of the unit or the replacement of the air filter.

◆When the unit is not to be used for a long time, please cut off the main power supply of the unit.

◆Do not expose the unit to the moist or corrosive circumstances.

◆After the electric installation, please take an electric leakage test.

Appliance shall be installed, operated and stored in a room with a floor area larger than Xm^2 . (Please refer to table "a" in section of " Safety Operation of Inflammable Refrigerant" for Space X.)



Please notice that the unit is filled with flammable gas R32. Inappropriate treatment of the unit involves the risk of severe damages of people and material. Details to this refrigerant are found in chapter "refrigerant".

R32:675

2 Installation

● Qualification requirement for installation and maintenance man

1. 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.
2. It can only be repaired by the method suggested by the equipment's manufacturer.

● Installation notes

1. 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).
2. 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.

3. Leak test is a must after installation.

table- Minimum room area (m²)

	Charge amount (kg)	floor location	window mounted	wall mounted	ceiling mounted
	≤1.2	/	/	/	/
Minimum room area(m ²)	1.3	14.5	5.2	1.6	2.6
	1.4	16.8	6.1	1.9	2.8
	1.5	19.3	7	2.1	3
	1.6	22	7.9	2.4	3.2
	1.7	24.8	8.9	2.8	3.4
	1.8	27.8	10	3.1	3.6
	1.9	31	11.2	3.4	3.8
	2.0	34.3	12.4	3.8	4
	2.1	37.8	13.6	4.2	4.2
	2.2	41.5	15	4.6	4.4
	2.3	45.4	16.3	5	4.6
	2.4	49.4	17.8	5.5	4.8
	2.5	53.6	19.3	6	5
	2.6	58.1	20.9	6.5	5.2
	2.7	62.6	22.6	7	5.4
	2.8	67.4	24.3	7.5	5.6
	2.9	72.3	26	8.1	5.8
	3.0	77.3	27.9	8.6	6
	3.1	82.6	29.8	9.2	6.2
	3.2	88	31.7	9.8	6.6
	3.3	93.6	33.7	10.4	7
	3.4	99.3	35.8	11.1	7.4
	3.5	105.2	37.9	11.7	7.9
	3.6	111.3	40.1	12.4	8.3
	3.7	117.6	42.4	13.1	8.8
	3.8	124	44.7	13.8	9.3
	3.9	130.7	47.1	14.6	9.8
	4.0	137.4	49.5	15.3	10.3

● Maintenance notes

1. 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.
2. Check whether the maintenance area is well-ventilated.
 - The continuous ventilation status should be kept during the operation process.
3. Check whether there is fire source or potential fire source in the maintenance area.
4. Check whether the appliance mark is in good condition.
 - Replace the vague or damaged warning mark.

● Welding

1. 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
 - f. carry back to the service spot for welding
2. The refrigerant should be recycled into the specialized storage tank.
3. Make sure that there isn't any naked flame near the outlet of the vacuum pump and it's well-ventilated.

● Filling the refrigerant

1. Use the refrigerant filling appliances specialized for R32. Make sure that different kinds of refrigerant won't contaminate with each other.
2. The refrigerant tank should be kept upright at the time of filling refrigerant.
3. Stick the label on the system after filling is finished (or haven't finished)
4. Don't overfilling.
5. 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

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

2.1 Installation Preparation

2.1.1 Unit Dimension

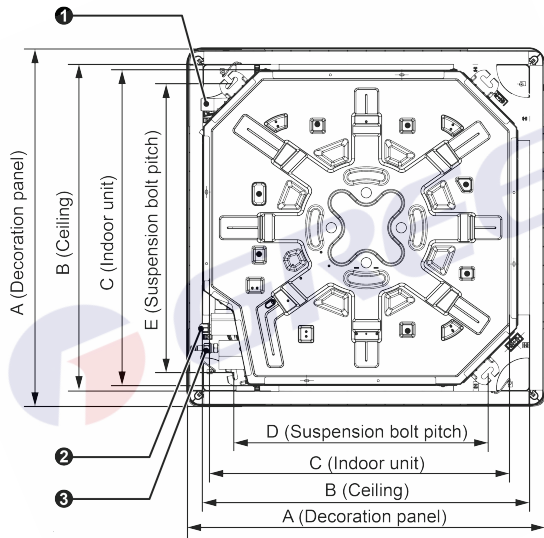


WARNING!

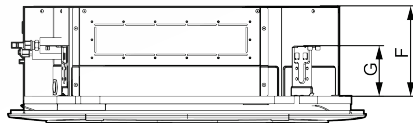
- (1) Install the indoor unit in a location which can withstand a load of at least five times the weight of the main unit and which will not amplify sound or vibration.
- (2) If the installation location is not strong enough, the indoor unit may fall and cause injuries.
- (3) If the job is done with the panel frame only, there is a risk that the unit will come loose. Please take care.

(1) Indoor Unit

24K、36K、42K:



- ① Drain pipe
- ② Liquid pipe
- ③ Gas pipe



Unit: mm

Model \ Dimensions	A	B	C	D	E	F	G
24K	950	890	840	680	780	200	135
36K、42K	950	890	840	680	780	240	135

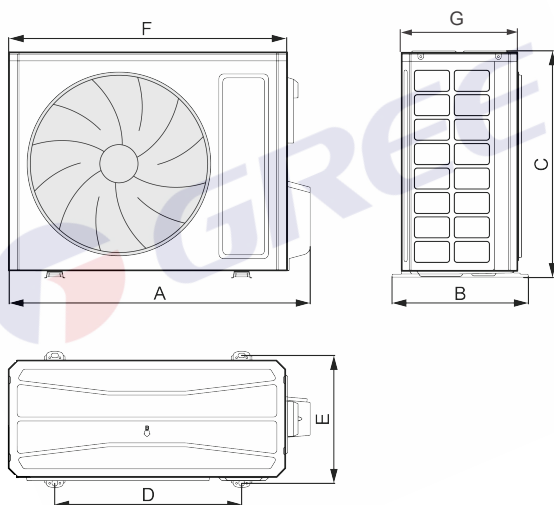


NOTES!

- (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.

(2) Outdoor Unit

24K、36K、42K:



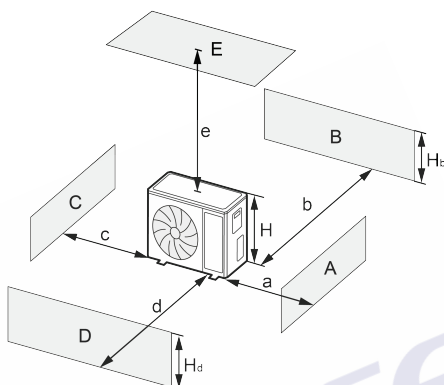
Unit: mm

Dimensions Model	A	B	C	D	E	F	G
24K	873	376	555	528	349	805	316.5
36K	958	402	660	570	371	889	340
42K	1000	427	746	610	395	923	369

2.1.2 Diagram of Unit Installation Space and Location

- (1) Diagram of installation space and location for outdoor unit (Notice: for best performance of the outdoor unit, make sure its installation space conforms to the following installation dimensions).

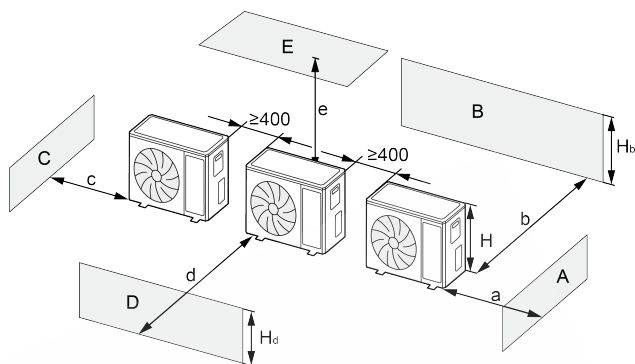
- 1) When one outdoor unit is to be installed.



A~E	H _b H _d H		(mm)				
			a	b	c	d	e
B	—		—	≥100	—	—	—
A,B,C,	—		≥300	≥100	≥100	—	—
B,E	—		—	≥100	—	—	≥1000
A,B,C,E	—		≥300	≥150	≥150	—	≥1000
D	—		—	—	—	≥1000	—
D,E	—		—	—	—	≥1000	≥1000
B,D	H _b <H _d	H _d >H	—	≥100	—	≥1000	—
	H _b >H _d	H _d <H	—	≥100	—	≥1000	—
B,D,E	H _b <H _d	H _b ≤1/2H	—	≥250	—	≥2000	≥1000
		1/2H<H _b ≤H	—	≥250	—	≥2000	≥1000
		H _b >H	Prohibited				
	H _b >H _d	H _d ≤1/2H	—	≥100	—	≥2000	≥1000
		1/2H<H _d ≤H	—	≥200	—	≥2000	≥1000
		H _d >H	Prohibited				

2) When two or more outdoor units are to be installed side by side.

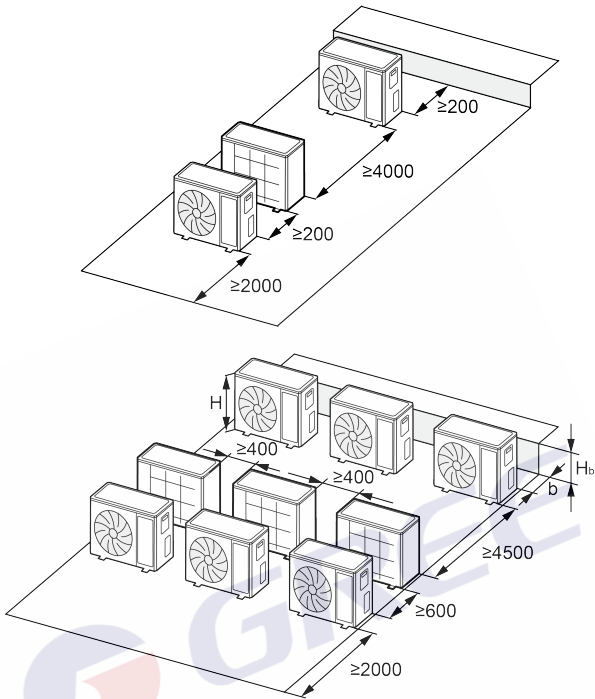
Unit:mm



A~E	H_b H_d H		(mm)				
			a	b	c	d	e
A,B,C	—		≥ 300	≥ 300	≥ 1000	—	—
A,B,C,E	—		≥ 300	≥ 300	≥ 1000	—	≥ 1000
D	—		—	—	—	≥ 2000	—
D,E	—		—	—	—	≥ 2000	≥ 1000
B,D	$H_b < H_d$	$H_d > H$	—	≥ 300	—	≥ 2000	—
	$H_b > H_d$	$H_d \leq 1/2H$	—	≥ 250	—	≥ 2000	—
		$1/2H < H_d \leq H$	—	≥ 300	—	≥ 2500	—
B,D,E	$H_b < H_d$	$H_b \leq 1/2H$	—	≥ 300	—	≥ 2000	≥ 1000
		$1/2H < H_b \leq H$	—	≥ 300	—	≥ 2500	≥ 1000
		$H_b > H$	Prohibited				
	$H_b > H_d$	$H_d \leq 1/2H$	—	≥ 250	—	≥ 2500	≥ 1000
		$1/2H < H_d \leq H$	—	≥ 300	—	≥ 2500	≥ 1000
		$H_d > H$	Prohibited				

3) When outdoor units are installed in rows.

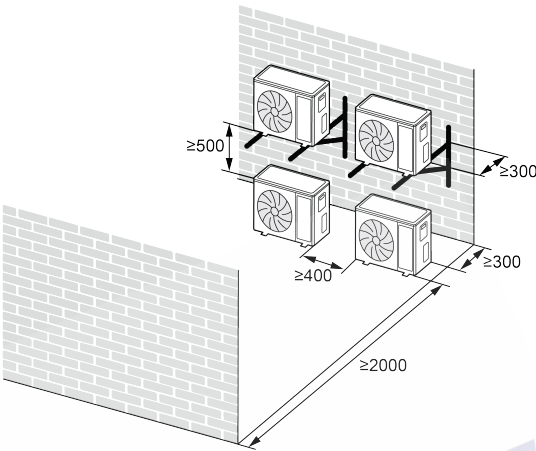
Unit:mm



H_b H	(mm)
$H_b \leq 1/2 H$	$b \geq 250$
$1/2 H < H_b \leq H$	$b \geq 300$
$H_b > H$	Prohibited

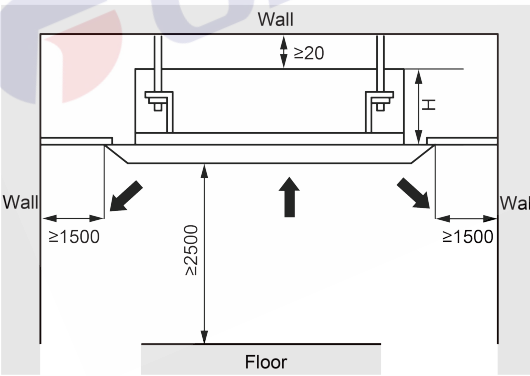
4) When outdoor units are installed one above another.

Unit:mm



(2) Diagram of installation location and space for indoor unit (Notice: for the best performance of indoor unit, make sure its installation space conforms to the following installation dimensions).

Unit:mm



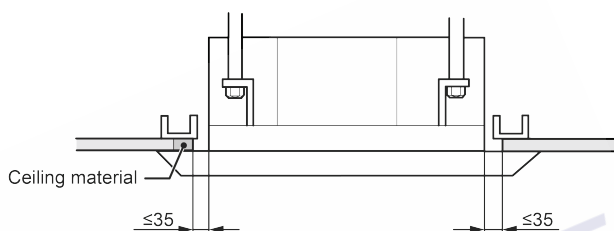
Model	H(mm)
24K	235
36K、42K	275

2.2 Unit Installation

2.2.1 Indoor Unit Installation

In order to make the front panel cover 20mm of the ceiling, the distance between the ceiling and the unit should be 35mm or less. If the distance between the ceiling and the unit is above 35mm, add some ceiling material to shorten the distance. See the following diagram.

Unit:mm



2.2.1.1 Hoisting the Main Body Unit



NOTICE!

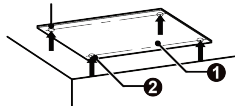
Please tightly screw up the nuts and bolts to prevent the air conditioner from falling.

(1) Installing the Suspension Bolts.

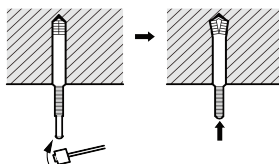
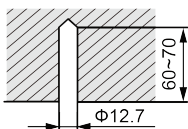
- 1) Using the installation template, drill holes for bolts (four holes).
- 2) Install the bolts to the ceiling at a place strong enough to hang the unit.
Mark the bolt positions from the installation template. With a concrete drill, drill for 12.7 mm diameter holes.
- 3) Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer.

Unit:mm

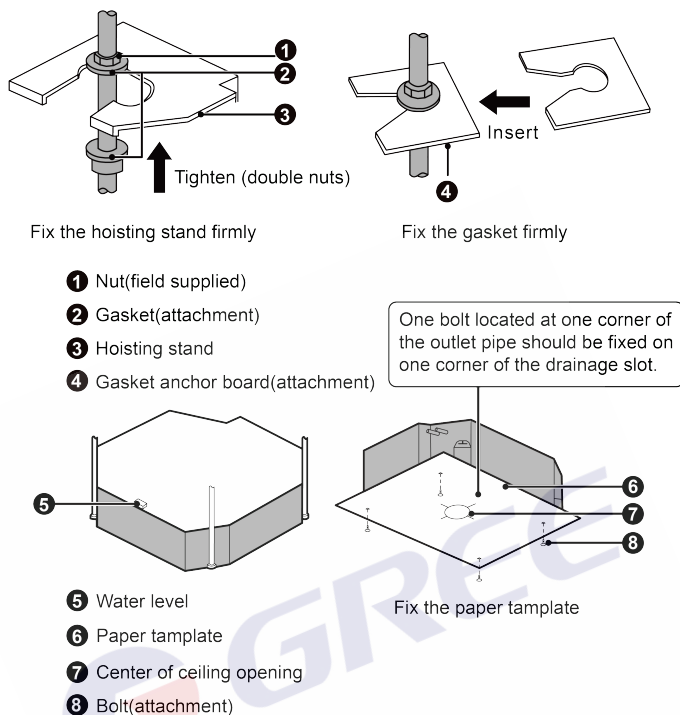
Drill hole according to the hole site



- ① Paper pattern
- ② Installing hole



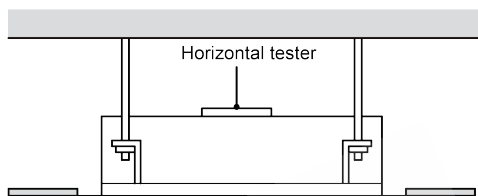
(2) Installing the Main Body Unit.



- 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.

2.2.1.2 Leveling

The water level test must be done after installing the indoor unit to make the unit is horizontal, as shown below.



2.2.2 Outdoor Unit Installation

- (1) If the outdoor unit is installed on a solid ground such as concrete, use M10 screw bolts and nuts to secure the unit and make sure the unit stands erect and level.
- (2) Do not install it on top of the building.
- (3) If it vibrates and causes noise, please add rubber cushion between the outdoor unit and the installation base.

2.2.3 Connection Pipe Installation

2.2.3.1 Installation Notice and Requirement on Connection Pipe

Installation method: Connect the connection pipes first to the indoor unit and then to the outdoor unit. When bending a connection pipe, be careful not to damage the pipe. Do not over-tighten the screw nut, otherwise leakage will occur. Besides, the outside of connection pipe should be added with a layer of insulating cotton to protect it from mechanical damage during installation, maintenance and transportation.

Model \ Item	Size of Fitting Pipe(inch)		Maximum pipe length (m)	Biggest drop between indoor and outdoor units (m)
	Liquid pipe	Gas pipe		
24K	Φ1/4	Φ5/8	40	25
36K	Φ1/4	Φ5/8	50	30
42K	Φ1/4	Φ5/8	50	30

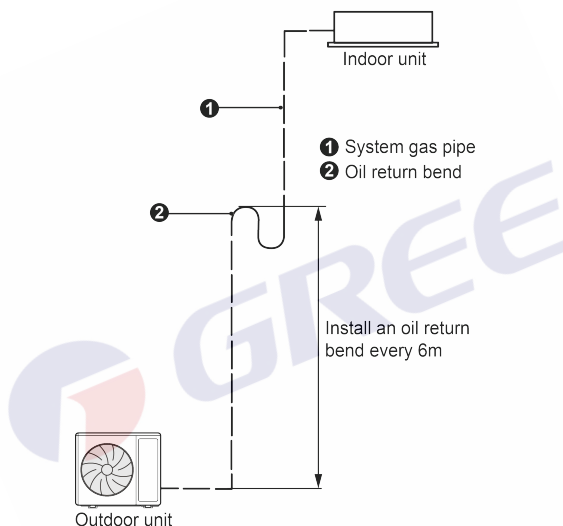
Connection pipe should adopt water-proof insulating material. Its wall thickness should be 0.5-1.0mm and the pipe wall should be able to withstand 6.0MPa. The longer the connection pipe is, the worse cooling performance it has.

When the drop between indoor and outdoor units is larger than 10m, an oil return bend should be added every 6m.

The requirement on the adding of oil return bend is as below:

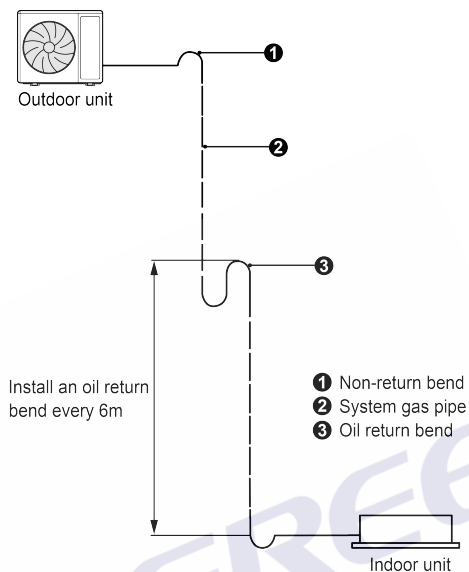
(1) Outdoor unit is beneath the indoor unit.

There's no need to add non-return bend at the lowest or highest position of the vertical pipe, as shown below:



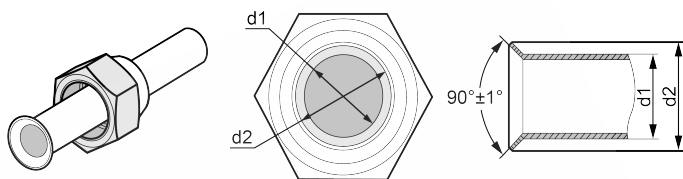
(2) Outdoor unit is above the indoor unit.

It's necessary to add oil return bend and non-return bend at the lowest and highest position of the vertical pipe, as shown below:



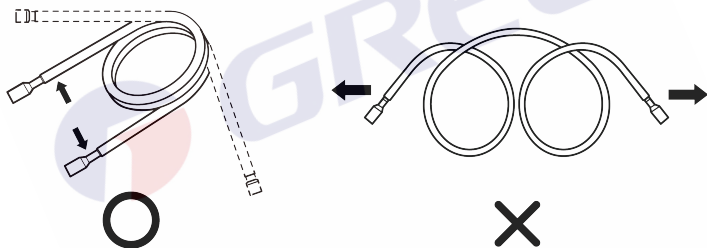
2.2.3.2 Pipe Flaring

- (1) Cut the connection pipe with a pipe cutter.
- (2) The mouth of connection pipe should face downward. Remove burrs with the cut surface so that the chips do not enter the pipe.
- (3) Remove the cut-off valve of outdoor unit and take out the flare nut from the bag of indoor unit accessories. Then fit the flare nut on the pipe and use a flaring tool to flare the mouth of connection pipe.
- (4) Check whether the flaring part has cracked (see the figure below).

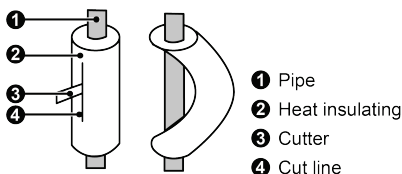


2.2.3.3 Pipe Bending

- (1) The pipes are shaped by your hands. Be careful not to collapse them.



- (2) Do not bend the pipes in an angle more than 90° .
- (3) If the pipe is repeatedly bent or extended, it will become hard and difficult to be bent or extended. So do not bend or extend the pipe for more than 3 times.
- (4) When bending the pipe, do not bend it excessively, otherwise it will get broken. As shown beside, use a sharp cutter to cut the heat insulating pipe and bend it after the pipe is exposed. After bending, place the heat insulating pipe back on the pipeline and fix it with adhesive tape.

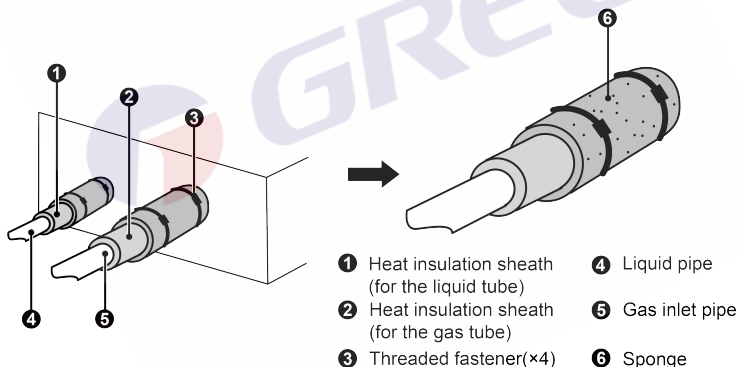


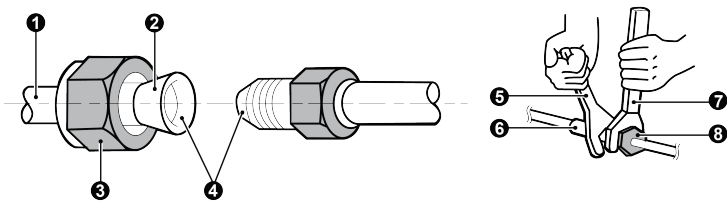
2.2.3.4 Connection Pipe of Indoor and Outdoor Units



NOTES!

- (1) Connect the pipe to the unit. Please follow the instructions stated in the figures below. Use both spanner and torque wrench.
- (2) When connecting the tapered screw nut, first apply chilled machine oil on its inner and outer surface and then screw it up for 3~4 circles.
- (3) Confirm the tightening torque by referring to the following table (If the screw nut is over-twisted, it may be damaged and cause leakage).
- (4) Check whether gas leakage occurs to the connection pipe and then apply thermal insulation, as shown below.
- (5) Wind sponge around the joint of gas pipe and heat insulation sheath of gas collecting pipe.
- (6) Be sure to connect gas pipe after liquid pipe is connected.
- (7) The installation of pipe-work shall be kept to a minimum.
- (8) Pipe-work shall be protected from physical damage and shall not be installed in an unventilated space.





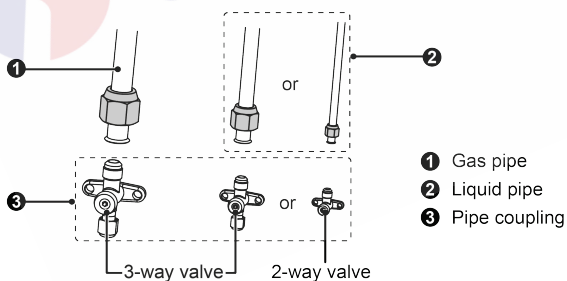
- ❶ Copper piping
- ❷ Oil applied
(To reduce friction with the flare nut)
- ❸ Flare nut
- ❹ Oil applied(Improves seal air-tightness)

- ❺ Spanner
- ❻ Piping union
- ❼ Torque wrench
- ❽ Flare nut

Pipe diameter (inch)	Tightening torque (N·m)
$\Phi 1/4$	15-30
$\Phi 3/8$	35-40
$\Phi 1/2$	45-50
$\Phi 5/8$	60-65
$\Phi 3/4$	70-75
$\Phi 7/8$	80-85

Screw on the flare nut of the flaring connecting pipe on the outdoor unit valve.

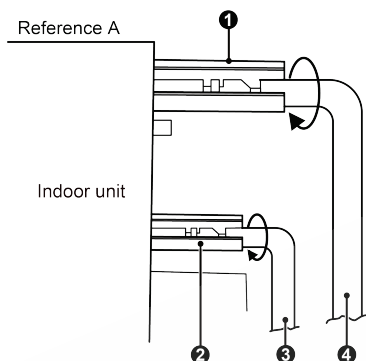
The method of screwing the flare nut is the same with that for indoor unit.



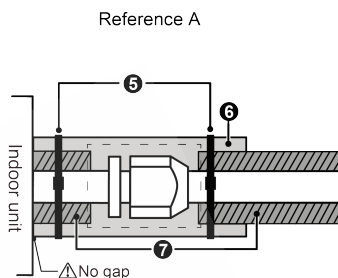
- ❶ Gas pipe
- ❷ Liquid pipe
- ❸ Pipe coupling

2.2.3.5 Thermal Insulation of Pipe Joint (Only for Indoor Unit)

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



- ❶ Coupler heat insulation (large) on the pipe
- ❷ Coupler heat insulation (small) on the pipe
- ❸ Liquid pipe
- ❹ Gas pipe



- ❺ Threaded fastener
- ❻ Cover this portion with heat insulating material also without fail
- ❼ Heat insulation pipe

2.2.4 Connection Pipe Vacuum Pumping and Leak Detection

2.2.4.1 Vacuum Pumping



NOTE!

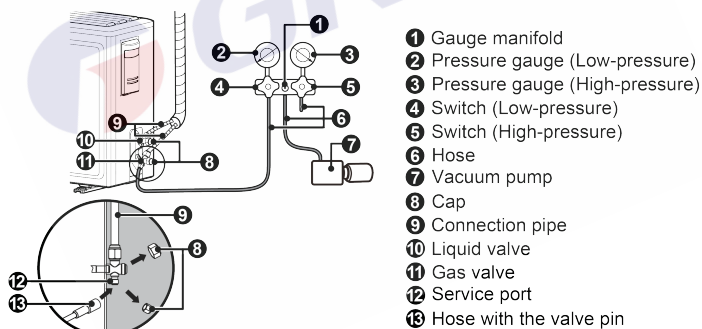
Make sure the outlet of vacuum pump is away from fire source and is well-ventilated.

- (1) Remove the caps of the liquid valve, gas valve and also the service port.
- (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.

Model	Time(min)
24K、36K	30
42K	45

And verify if the pressure gauge at the low pressure side of the manifold valve assembly reads -0.1MPa (-750mmHg), if not, it indicates there is leak somewhere. Then, close the switch fully and then stop the vacuum pump.

- (6) Wait for 10min to see if the system pressure can remain unchanged. If the pressure increase, there may be leakage.
- (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 service port.



NOTE:

For large-size units, there are maintenance ports for liquid valve and gas valve. During evacuation, you may connect the two hoses of the branch valve assembly to the maintenance ports to speed up the evacuation.

2.2.4.2 Leak Detection Methods

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants.

Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area).

Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25% maximum) is confirmed.

Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed / extinguished. If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

2.2.5 Refrigerant Adding



NOTE!

Before and during operation, use an appropriate refrigerant leak detector to monitor the operation area and make sure the technicians can be well aware of any potential or actual leakage of inflammable gas. Make sure the leak detecting device is applicable to inflammable refrigerant. For example, it should be free of sparks, completely sealed and safe in nature.

See the following table for the amount of additional refrigerant.

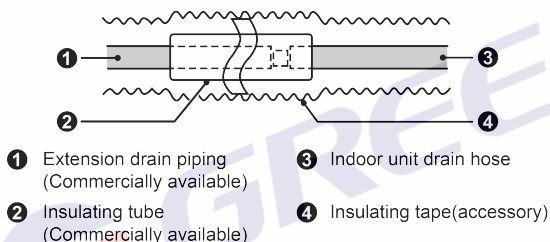
Model \ Item	Standard Pipe Length	Unnecessary Charge Pipe Length	Additional Refrigerant Amount for Extra Pipe
24K	5.0m	≤7.0m	20 g/m
36K			
42K			

2.2.6 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.

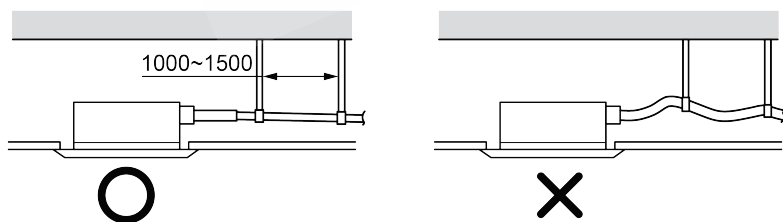
2.2.6.1 Indoor Side Drainage Pipe

- (1) Keep pipe size equal to or greater than that of the connecting pipe.
- (2) Install the drain piping as shown and take measures against condensation.



- (3) 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.
- (4) If the drain pipe can't be installed at a proper inclination, then add drain lift pipe.
- (5) In order to make sure the drain hose is straight, the hangers should keep a distance of 1~1.5m from one another.

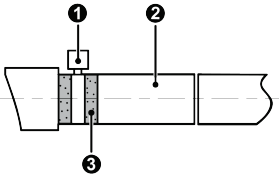
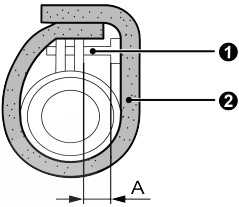
Unit:mm



- (6) Use the drain hose that is delivered together with the unit.
- (7) Insert the drain hose into the drain faucet.

(8) For the purpose of thermal insulation, wind a large piece of sponge around the clamp of drain hose.

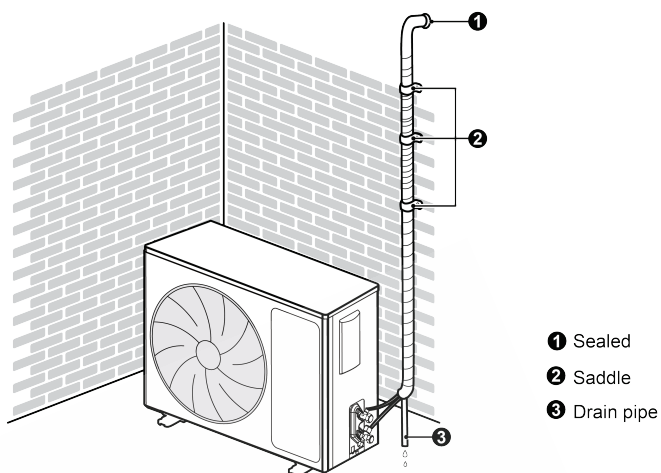
(9) Apply thermal insulation for the indoor drain hose.

	
Insulate the pipe clamp and the drain hose using heat insulation sponge. ① Metal clamp ② Drain hose ③ Grey tape	During the installation, distance from soft drain pipe to the gasket is A mm when the bolt is tightened. It is not allowed to apply PVC or other related glue in the joints of two ends of drain pipe. ① Metal clamp ② Insulation sponge

Indoor Unit	A mm
24K、36K、42K	≤15

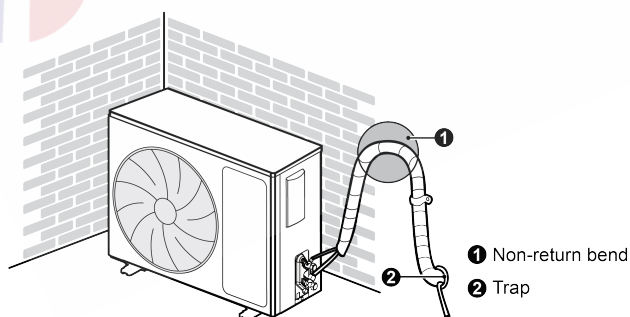
2.2.6.2 Outdoor Side Drain Pipe

- (1) If the outdoor unit is underneath the indoor unit, arrange the pipeline according to the following diagram.
 - 1) Drain hose should be placed on the ground and its end should not be immersed into water. The whole pipeline should be supported and fixed onto the wall.
 - 2) Wind the insulating tape from bottom to top.
 - 3) The whole pipeline should be wound with insulating tape and fixed onto the wall with saddles.



(2) If the outdoor unit is above the indoor unit, arrange the pipeline according to the following diagram.

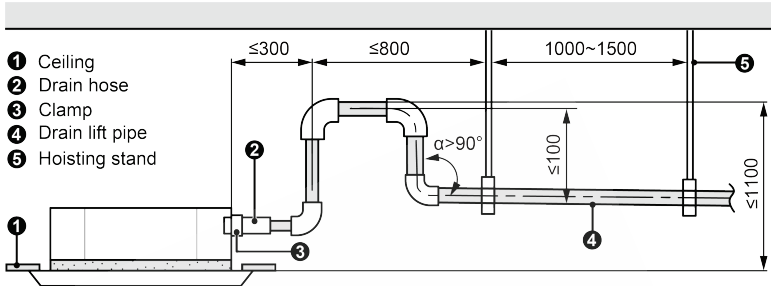
- 1) Wind the insulating tape from bottom to top.
- 2) The whole pipeline should be wound together to avoid water returning to the room.
- 3) Use saddles to fix the whole pipeline onto the wall.



2.2.6.3 Notice on Drain Lift Pipe

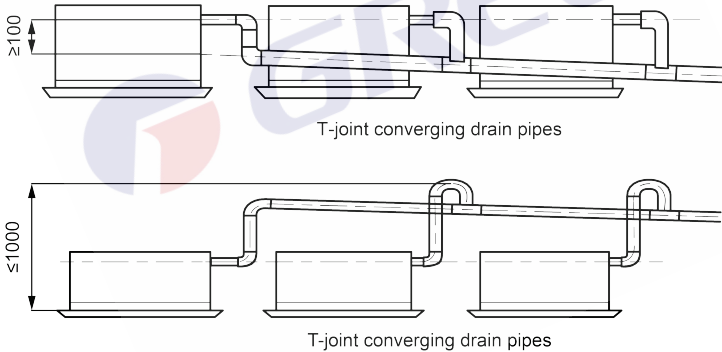
- (1) The drain lift pipe should be 1100mm or less away from ground, as shown below.

Unit:mm



- (2) If multiple drain pipes are to be converged, please install according to the following process. Make sure the main drain pipe is laid downward at a certain angle:

Unit: mm

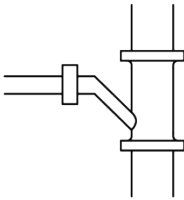


NOTICE:

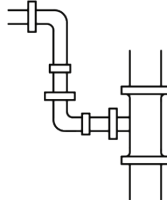
Specifications of the converging drain pipes should be applicable to the operating capacity of the units.

- (3) Drain branch should be connected to the vertical or horizontal part of the main drain pipe.
- (4) Horizontal pipe should not be connected to the vertical pipe that is on the same level. It should be connected in the following way:
 - 1) Install 3-way connector of drainage pipe joint, as shown in the left figure.

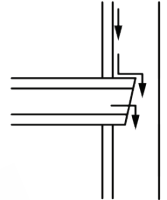
- 2) Install drain elbow as shown in the middle figure.
- 3) Install horizontal pipe as shown in the right figure.



3-way connection of
drainage pipe joint



Connection of drain elbow



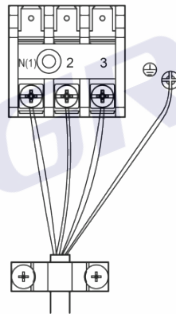
Connection of horizontal pipe

2.2.6.4 Check Drainage

After the pipeline work is finished, check whether the drainage can go smoothly.

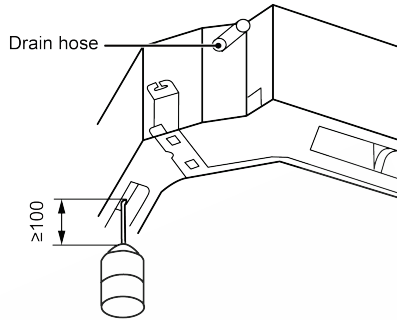
- (1) Add slowly about 1L of water into the water tray. After the electric circuit is completed, check the drainage condition during refrigerating operation.

NOTE: Connect the wires by referring to the circuit diagram.



-
- (2) See the following diagram for the method of water filling.

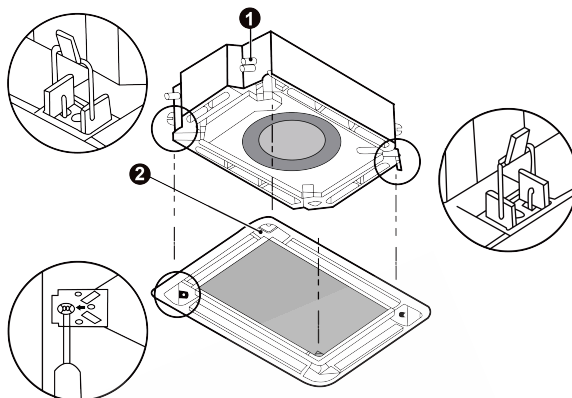
Unit: mm



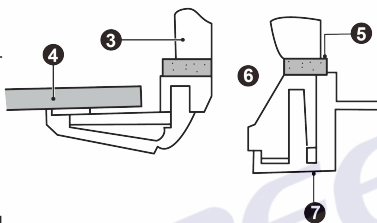
2.2.7 Installing the Front Panel

As shown below, take off the 4 corner covers from the front panel and loose the hexagon screw bolts on the 4 fasteners to the maximum. The position marked with “PIPING SIDE” on the front panel will direct right at the pipe mouth of the indoor unit.

- (1) Temporarily hang the 4 fasteners on the corresponding hooks of the main body of the indoor unit (Do not let the conducting wires get involved into the sealing material).
- (2) Screw in the hexagon screws beneath the 4 fasteners by about 15mm (Front panel will rise).
- (3) As shown below, turn the front panel according to the arrow direction so that the front panel can be well connected with the ceiling.
- (4) Screw up the screws until the thickness of the sealing material between the front panel and the ceiling is 5-8mm.

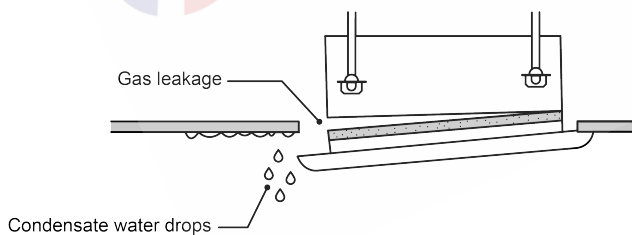


- ❶ Piping position
- ❷ Swing flap motor
- ❸ Indoor unit
- ❹ Ceiling
- ❺ Sealing material
- ❻ Air outlet
- ❼ Decoration panel

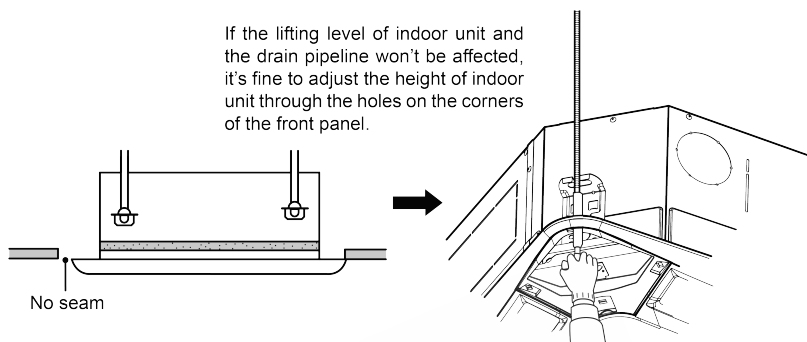


NOTICE:

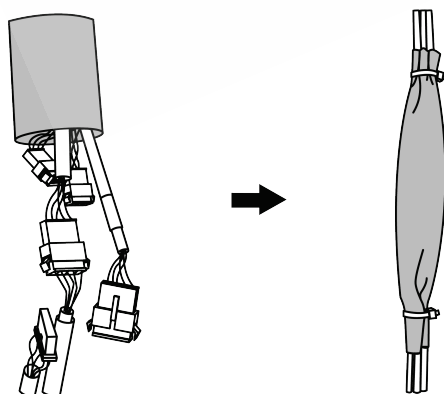
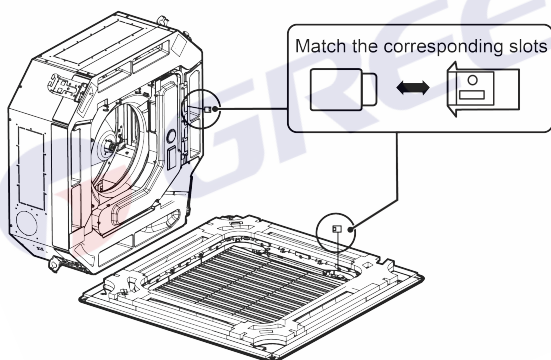
- (1) Improper screw looseness will lead to the following problem.



- (2) After the screws are tightened, if there is still a gap between the ceiling and the decorative front panel, adjust the height of the unit again (as shown below).



- (3) After installing the front panel, make sure there's no gap between the unit and the front panel.
- (4) Circuit of the decorative front panel.
- (5) Connect the front panel to the main body through the corresponding slots. Match the slots according to their different size.





WARNING!

After installing the panel, the insulated protective cover with the thickness of 1mm shall be used to wrap the wiring terminal, Tighten the insulated glue cover on both sides with bonding tie to fix it.

2.3 Electrical Installation

2.3.1 Requirement and Notice on Electrical Installation



WARNING:

- ① The electrical installation for the air conditioner should observe the following requirements:
- ② The electrical installation must be conducted by professionals in compliance with local laws and regulations and the instructions in this manual. Never extend the power cord. The electric circuit must be equipped with a circuit breaker and air switch both with sufficient capacity.
- ③ The unit's operating power must be within the nominal range stated in the instruction manual. Use a specialized power circuit for the air conditioner. Do not draw power from another power circuit.
- ④ The air conditioner circuit should be at least 1.5m away from any inflammable surface.
- ⑤ The external power cord, connection wire of indoor and outdoor units and the communication cords must be effectively fixed.
- ⑥ The external power cord, connection wire of indoor and outdoor units and the communication cords can't directly contact any hot objects. For example: they must not contact chimney pipes, warm gas pipes or other hot objects.
- ⑦ The external power cord, communication cords, and the connection wire of indoor and outdoor units must not be squeezed. Never pull, stretch or bend the wires.
- ⑧ The external power cord, communication cords and the connection wire of indoor and outdoor units must not collide with any metal beam or edge on the ceiling, or touch any metal burrs or sharp metal edge around.

- ⑨ Connect wires correspondingly by referring to the circuit diagram labeled on the unit or electric box. Screws must be tightened up. Slipped screws must be replaced by specialized flat-head screws.
- ⑩ Please use the power cables that are delivered along with the air conditioner. Do not change the power cables arbitrarily. Do not change the length and terminals of the power cables. If you want to change the power cables, please contact Gree's local service center.
- ⑪ Wiring terminals should be connected firmly to the terminal board. Loose connection is forbidden.
- ⑫ After the electrical installation is finished, please use wire clamps to secure the power cord, connection wire of indoor and outdoor units and the communication cords. Make sure the wires are not clamped too tight.
- ⑬ The wire gauge of power cord should be large enough. Damaged power cord or other wires must be replaced by specialized wires. Wiring work must be done according to national wiring rules and regulations.

2.3.2 Wire Specifications and Fuse Capacity

Model	Power supply	Fuse capacity	Min. sectional area of power cord
	V/Ph/Hz	A	mm ²
Indoor unit	220-240V ~50/60Hz	3.15	1.0

Model	Power supply	Circuit breaker capacity	Min. sectional area of power cord
	V/Ph/Hz	A	mm ²
24K	220-240V ~50/60Hz	16	1.5
36K		25	2.5
42K		25	2.5

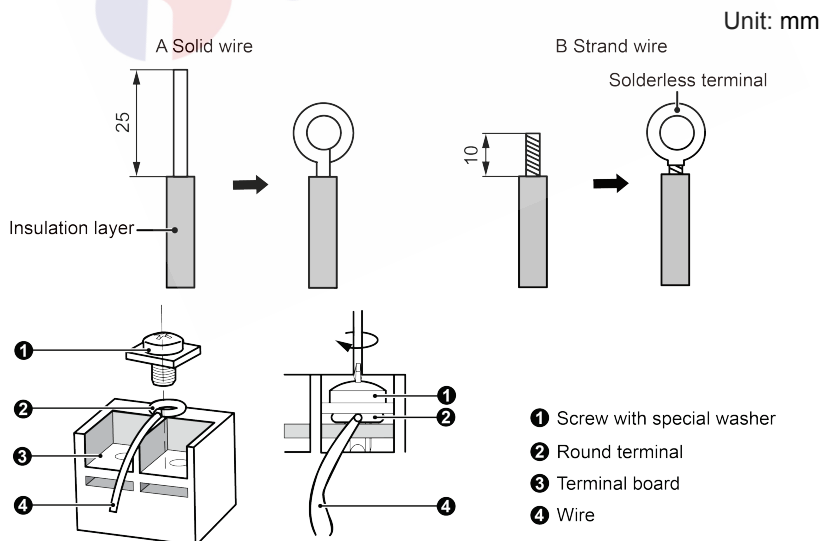


NOTES:

- ① Fuse is located on the main board.
- ② Install a circuit breaker near the outdoor units with at least 3mm contact gap. The units must be able to be plugged or unplugged.
- ③ Circuit breaker and power cord specifications listed in the above table are determined based on the maximum power input of the units.
- ④ Supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord (code designation 60245 IEC 57).
- ⑤ Specifications of circuit breaker are based on a working condition where the working temperature is 40°C. If working condition changes, please adjust the specifications according to national standards.
- ⑥ Adopt 1.0mm² power cords between indoor and outdoor units. The maximum length of 50-100 units is 30m and the maximum length of 125-160 units is 75m. Please select a proper length according to local conditions. To be in compliance EN 55014, it is necessary to use 8 meters long wire.
- ⑦ Adopt 2pc of 0.75mm² power cords to be the communication cords between wired controller and indoor unit. The maximum length is 30m. Please select a proper length according to local conditions. Communication cords must not be twisted together. To be in compliance EN 55014, it is necessary to use 8 meters long wire.
- ⑧ The wire gauge of communication cord should not be less than 0.75mm². It's recommended to use 0.75mm² power cords as the communication cords.
- ⑨ It's required to adopt the shielded wire for the communication cable between the indoor unit and the centralized controller; when connection is finished, the shielding layer should be reliably grounded.

2.3.3 Connection of Power Cord and Communication Cord

- (1) For solid wires (as shown below):
 - 1) Use wire cutters to cut off the wire end and then peel away about 25mm of the insulation layer.
 - 2) Use a screwdriver to unscrew the terminal screw on the terminal board.
 - 3) Use nippers to bend the solid wire into a ring that fits the terminal screw.
 - 4) Form a proper ring and then put it on the terminal board. Use a screwdriver to tighten up the terminal screw.
- (2) For strand wires (as shown below):
 - 1) Use wire cutters to cut off the wire end and then peel away about 10mm of the insulation layer.
 - 2) Use a screwdriver to unscrew the terminal screw on the terminal board.
 - 3) Use a round terminal fastener or clamp to fix the round terminal firmly on the peeled wire end.
 - 4) Locate the round terminal conduit. Use a screwdriver to replace it and tighten up the terminal screw (as shown below).





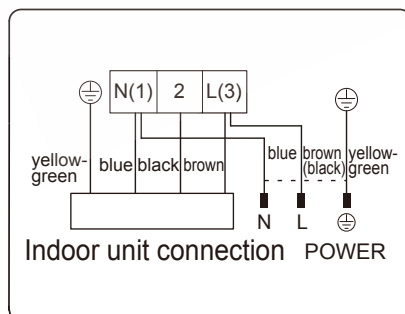
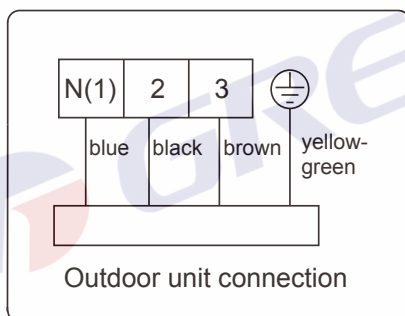
WARNING!

- (1) Before working, please check whether the indoor and outdoor units are powered on.
- (2) Match the terminal numbers and wire colors with the colors indicated in the indoor unit.
- (3) Wrong wire connection may burn the electrical components.
- (4) Connect the wires firmly to the wiring box. Incomplete installation may lead to fire hazard.
- (5) Please use wire clamps to secure the external covers of connecting wires. (Insulators must be clamped securely; otherwise, electric leakage may occur).
- (6) Ground wire should be connected.

(4) Wire between indoor and outdoor units.

Single-phase unit:

24K、36K、42K





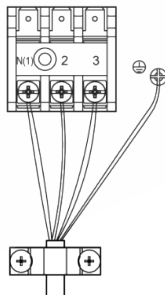
WARNING!

- (1) High and low voltage wires should be led through different rubber rings of the electric box cover.
- (2) Do not bundle up the connection wire and communication wire of wired controller or lay them side by side, otherwise errors will occur.
- (3) High and low voltage wires should be secured separately. Secure the former ones with big clamps and the latter ones with small clamps.
- (4) Use screws to tighten up the connection wires and power cords of indoor and outdoor units on the terminal board. Wrong connection may lead to fire hazard.
- (5) If the connection wires of indoor unit (outdoor unit) and power cords are not correctly connected, the air conditioner may get damaged.
- (6) Ground the indoor and outdoor units through connecting the ground wire.
- (7) The units should comply with applicable local and national rules and regulations on power consumption.
- (8) When connecting the power cord, make sure the phase sequence of the power supply matches with the corresponding terminals, otherwise the compressor will get reversed and operate abnormally.

1) Indoor side

Take off the electric box cover from the sub-assembly of electric box. Then connect the wires. Connect the connection wires of indoor unit according to the corresponding marks.

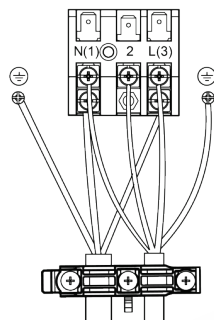
NOTE: Connect the wires by referring to the circuit diagram.



2) Outdoor side

Remove the big handle/front panel of the outdoor unit and insert one end of the communication cord and the power cord to the terminal board.

Wire routing of outdoor unit:



2.4 Check after Installation

Check Items after Installation

Check items	Possible events due to improper installation
Is the main body installed securely?	The unit may fall down, vibrate or produce noise.
Did you do water leakage test?	Cooling capacity may become unsatisfactory.
Is the unit well insulated from heat?	Condensate, water drops may occur.
Does water drainage go well?	Condensate, water drops may occur.
Is the voltage consistent with that stated on the nameplate?	The unit may fail or its components may get burned.
Are the wires and pipes installed correctly?	The unit may fail or its components may get burned.
Has the unit been safely grounded?	Risk of electric leakage.
Do the specifications of wires comply with the requirement?	The unit may fail or its components may get burned.
Is there any obstacle blocking the air inlet and outlet of the indoor or outdoor units?	Cooling capacity may become unsatisfactory.
Have you recorded the length of refrigerant pipe and the refrigerant charging amount?	The refrigerant charging amount can't be controlled.

2.5 Product Operating Range

—	Cooling
Outdoor temperature DB(°C)	21~48
Indoor temperature DB/WB(°C) (Maximum)	32/23

2.6 Test Running

Preparation before connecting the power.

- (1) Power must not be connected if the installation work is not completed.
- (2) Control circuit is correct and all the wires are firmly connected.
- (3) Cut-off valves of the gas pipe and liquid pipe are open.
- (4) The inside of the unit should be clean. Take irrelevant objects out if there is any.
- (5) After checking, re-install the front side plate.

Operation after connecting the power.

- (1) If all the above works are finished, power on the unit.
- (2) Make sure the indoor and outdoor units can run normally.
- (3) Feel the air flow of the indoor unit to see if it is normal.
- (4) Press the swing button or speed control button on remote controller or wired controller to see if the fan can run normally.

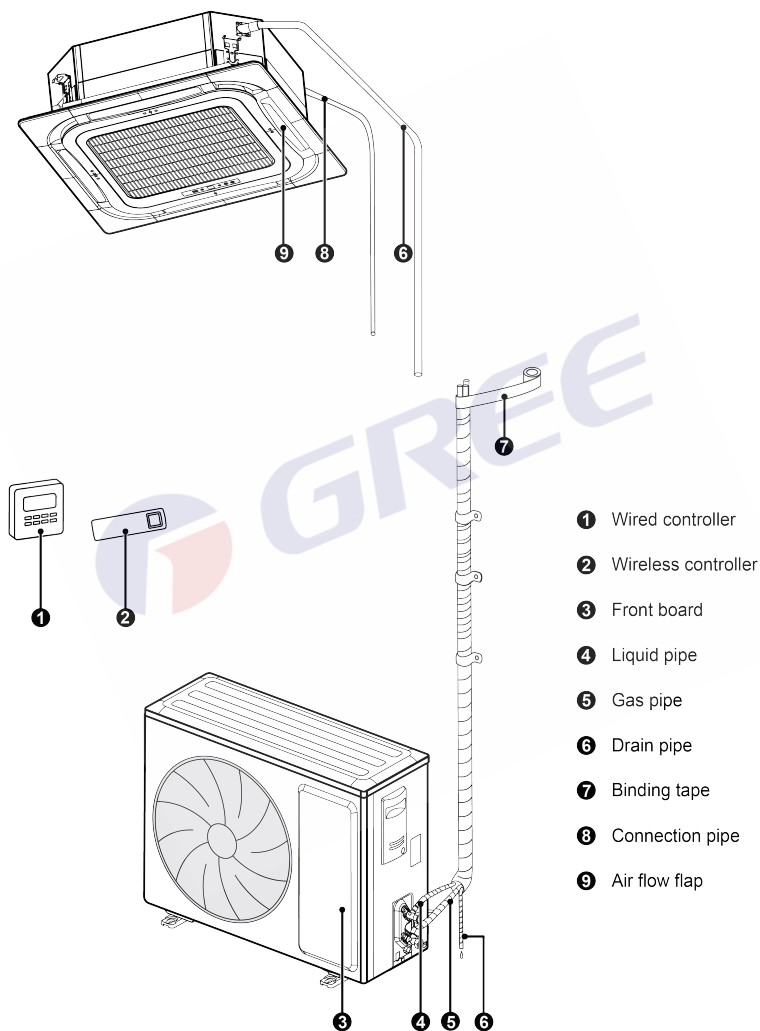


NOTES:

- ① If you use remote controller to turn off the unit and then immediately turn the unit on again, compressor will need 3min to restart. Even if you press "ON/OFF" button on the remote controller, it won't be started up right away.
- ② If there's no display on the wired controller, it's probably because the connection wire between the indoor unit and wired controller is not connected. Please check again.

3 Product Introduction

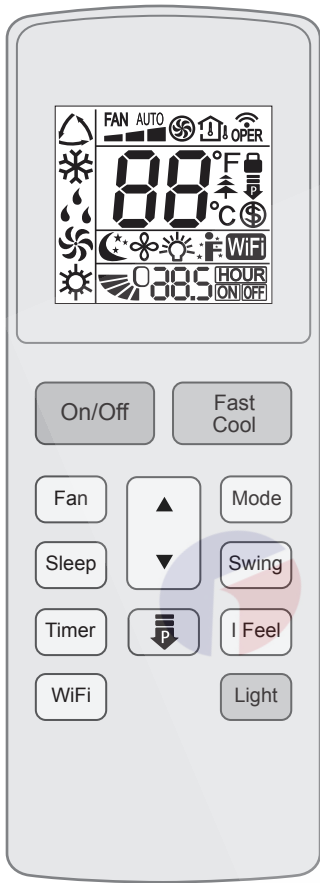
3.1 Overall Layout



3.1.1 Operation and introduction of remote controller

Buttons on remote controller

Introduction for icons on display screen



	I feel
	Set fan speed
	Turbo mode
	Send signal
	Auto mode
	Cool mode
	Dry mode
	Fan mode
	Heat mode
	Sleep mode
	8°C heating function
	Health mode
	Power limiting operation
	X-FAN function
	Set temp.
	Indoor ambient temp.
	Outdoor ambient temp.
	Clock
	Set temperature
	WiFi function
	Set time
	TIMER ON / TIMER OFF
	Light
	Up & down swing
	Child lock

Introduction for buttons on remote controller

NOTE

- This is a general use remote controller. It could be used for the air conditioner with multifunction. For the functions which the model doesn't have, if press the corresponding button on the remote controller, the unit will keep the original running status.
- After putting through the power, the air conditioner will give out a sound. Power indicator "⏻" is ON. After that, you can operate the air conditioner by using remote controller.
- Under on status, pressing the button on the remote controller, the signal icon "📶" on the display of remote controller will blink once and the air conditioner will give out a "di" sound, which means the signal has been sent to the air conditioner.

On/Off

button

Press this button to turn on the unit. Press this button again to turn off the unit.

NOTE

- Press this button to turn on air conditioner, the unit will operate in Cool mode.

Fast
Cool

button

Press this button under cooling mode can select 25°C fast cooling mode, 16°C fast cooling mode and normal cooling mode circularly.

Once it enters into fast cooling mode, the fan speed is auto fan and the set temperature is 25°C or 16°C. At this time, the set temperature flashes to display for 5s. In the flashing period, press "▲" or "▼" button to adjust the set temperature. Press "FAN" button to adjust the fan speed. If the set temperature and the fan speed haven't been adjusted during that time, the remote controller and the indoor unit will operate under current set temperature and fan speed for 20 minutes. 20 minutes later, the set temperature and the fan speed for the remote controller and the indoor unit will turn to the status before quick cooling.

NOTE

- If the set temperature and the fan speed have been adjusted during the operation under fast cooling mode, the unit will exit from the fast cooling mode. Then the indoor unit operates continuously under the adjusted status.
- Fast cooling function is only applicable for some

models. If this function is unavailable for this indoor unit, 20 minutes later, the remote controller will turn back to the status before fast cooling. Indoor unit operates continuously according to current status. At this time, status of indoor unit and the display status on the remote controller may be different.

Fan

button

This button is used for setting Fan Speed in the sequence that goes from AUTO, , ,  to  then back to AUTO.

NOTE

-  is unavailable to setting under FAN mode.
- Fan speed under dry mode is low speed.
- X-FAN function Hold fan speed button for 2s in COOL or DRY mode, the icon "🌀" is displayed and the indoor fan will continue operation for a few minutes in order to dry the indoor unit even though you have turned off the unit. After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN or HEAT mode.
This function indicates that moisture on evaporator of indoor unit will be blown after the unit is stopped to avoid mould.
- Having set X-FAN function on: After turning off the unit by pressing On/Off button indoor fan will continue running for a few minutes, at low speed. In this period, Hold fan speed button for 2s to stop indoor fan directly.
- Having set X-FAN function off: After turning off the unit by pressing On/Off button, the complete unit will be off directly.



button

Press ▲ / ▼ button to increase or decrease set temperature. When setting Timer On or Timer Off, press "▲" or "▼" button to adjust the time.

Mode

button

Each time you press this button, a mode is selected in a sequence that goes from Cool, Dry and Fan, as the following:



Sleep

button

Under Cool mode, press this button to turn on Sleep function. Press this button again to cancel Sleep function. Under Fan and Dry modes, this function is unavailable.

Swing

button

Activate the automatic air swing function.

Timer

button

- Under ON status, press this button to set timer OFF; Under OFF status, press this button to set timer ON.
- Press this button once and the characters of HOUR ON (OFF) will flash to be displayed. Meanwhile, press "▲" button or "▼" button to adjust timer setting (time will change quickly if holding "▲" or "▼" button). Time setting range is 0.5~24 hours. Press this button again to confirm timer setting and the characters of HOUR ON (OFF) will stop flashing.
If the characters are flashing but you haven't press timer button, timer setting status will be quit after 5s. If timer is confirmed, press this button again to cancel timer.

I Feel

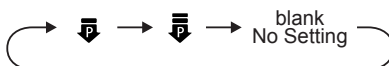
button

Press this button to start I FEEL function and "i" will be displayed on the remote controller. After this function is set, the remote controller will send the detected ambient temperature to the controller and the unit will automatically adjust the indoor temperature according to the detected temperature. Press this button again to close I FEEL function and "i" will disappear.
Please put the remote controller near user when this function is set. Do not put the remote controller near the object of high temperature or low temperature in order to avoid detecting inaccurate ambient temperature. When I FEEL function is turned on, the remote controller should be put within the area where indoor unit can receive the signal sent by the remote controller.



button

⏏ function is for limiting power of the whole unit. Press this button, the remote controller will circularly display as the following:



- Maximum power limited under the ⏏ mode is lower than that of P mode.
- If you want to cancel the power limiting function, press the button ⏏ till the icon in remote controller is not displayed.
- When the remote controller is turned off, power limiting function is cancelled. If you want to activate the function, please repress this button.
- If the current power is lower than the maximum power of ⏏ mode, then the power will not be limited after entering into such mode.
- For the model with one outdoor unit and two indoor units, if any one of indoor units enters into power limiting function, the outdoor unit will enter into the set limiting power mode of indoor unit; when two indoor units enter into power limiting mode, then the power of outdoor unit will be limited according to the lower power of the two indoor units.
- This button is only available for the model with such function.

NOTE

- Above function can be used at any time. However, when the room temperature is too high and the user feels very hot, this function is suggested not to be used immediately. You are suggested to use this function when room temperature is decreased a little. In this case, the comfort can be ensured.

WiFi

button

Press "WiFi" button to turn on WiFi function, "WiFi" icon will be displayed on the remote controller.

Hold "WiFi" button for 5s to turn off WiFi function and "WiFi" icon will disappear.

Under off status, press "MODE" and "WiFi" buttons simultaneously for 1s, WiFi module will restore factory settings.

NOTE

- This function is only available for some models.

Light

button

Press this button to turn on the display's light and press this button again to turn off the display's light.

Function introduction for combination buttons

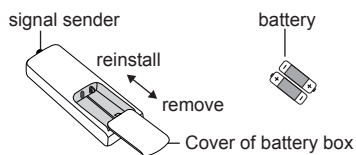
Combination of "▲" and "▼" buttons:
About child lock

Press "▲" and "▼" buttons simultaneously 3s to lock or unlock the keypad. If the remote controller is locked,  is displayed. In this case, pressing any button,  blinks three times.

Combination of "Mode" and "▼" buttons:
About switch between Fahrenheit and centigrade

At unit OFF, press "Mode" and "▼" buttons simultaneously to switch between °C and °F.

Replacement of batteries in remote controller



1. Press the back side of remote controller marked with "OPEN", as shown in the fig, and then push out the cover of battery box along the arrow direction.
2. Replace two 7# (AAA 1.5V) dry batteries, and make sure the position of "+" polar and "-" polar are correct.
3. Reinstall the cover of battery box.

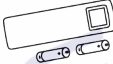
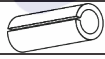
NOTICE

- During operation, point the remote control signal sender at the receiving window on indoor unit.
- The distance between signal sender and receiving window should be no more than 8m, and there should be no obstacles between them.
- Signal may be interfered easily in the room where there is fluorescent lamp or wireless telephone; remote controller should be close to indoor unit during operation.
- Replace new batteries of the same model when replacement is required.
- When you don't use remote controller for a long time, please take out the batteries.
- If the display on remote controller is fuzzy or there's no display, please replace batteries.

**NOTE:**

The connection pipe, drain pipe, power cord for this unit should be prepared by the user.

3.2 Standard Accessories

Indoor Unit Accessories				
No.	Name	Appearance	Q'ty	Usage
1	Drain Hose		1	To connect with the hard PVC drain pipe
2	Bolt with Washer		4	To fix the installation paperboard on the unit
3	Installation Paperboard		1	Used for ceiling drilling
4	Gasket Mounting Board		4	Used to prevent gasket from falling off
5	Wireless Controller+Battery		1+2	To control the indoor unit
6	Insulation		1	To insulate the gas pipe
7	Insulation		1	To insulate the liquid pipe
8	Ordinary Nut		1	To prevent the removal of the gas pipe connecting nut
9	Ordinary Nut		1	To prevent the removal of the liquid pipe connecting nut
10	Heat-Shrinkable Bushing		1	Connect the front panel to the main body
11	Flannelette		1	To prevent the communication wire from reaching out the electric raceway(only for some models)

Outdoor Unit Accessories				
No.	Name	Appearance	Q'ty	Usage
1	Drain Plug		0 or 3	To plug the unused drain hole
2	Drainage Connector	 or 	0 or 1	To connect with the hard PVC drain pipe

4 Installation of Controller

Refer to the wired controller or remote controller manual.

5 Maintenance

5.1 Failures Not Caused by Faults of the AC

- (1) If your air conditioner fails to function normally, please first check the following items before maintenance:

Problem	Cause	Corrective measure
The air conditioner can't run.	If you turn off the unit and then immediately turn it on, in order to protect the compressor and avoid system overload, compressor will delay running for 3min.	Please wait for a while.
	Wire connection is wrong.	Connect wires according to the wiring diagram.
	Fuse or circuit breaker is broken.	Replace the fuse or switch on the circuit breaker.
	Power failure.	Restart after power is resumed.
	Power plug is loose.	Re-insert the power plug.
	Remote controller has low battery.	Replace the batteries.
Bad cooling effect.	Air inlet and outlet of indoor or outdoor units have been blocked.	Clear the obstacles and keep the room for indoor and outdoor units well ventilated.
	Improper temperature setting	Reset a proper temperature.
	Fan speed is too low.	Reset a proper fan speed.

Problem	Cause	Corrective measure
Bad cooling effect.	Air flow direction is not right.	Change the direction of air louvers.
	Doors or windows are open.	Close them.
	Exposed under direct sunshine	Put on curtains or louvers in front of the windows.
	Too many heat sources in the room.	Remove unnecessary heat sources.
	Filter is blocked or dirty.	Send for a professional to clean the filter.
	Air inlets or outlets of the units are blocked.	Clear away obstacles that are blocking the air inlets and outlets of indoor and outdoor units.

(2) The following situations are not operation failures.

Problem	Time of occurrence	Cause
Mist comes from the air conditioner.	During operation.	If the unit is running under high humidity, the wet air in the room will be quickly cooled down.
The air conditioner generates some noise.	The air conditioner is buzzing at the beginning of operation.	Some components will be buzzing when it starts working. The noise will become weak 1min later.
	When the unit is turned on, it purrs.	When the system is just started, the refrigerant is not stable. About 30s later, the purr of the unit becomes low.
	There is hissing sound when the unit is started or stopped and a slight hissing sound during and after operation.	It's the sound of gaseous refrigerant that stops flowing and the sound of drainage system.
	There is a sound of crunching during and after operation.	Because of temperature change, front panel and other components may be swelled up and cause abrasion sound.
Dust comes from the air conditioner.	The unit starts operation after being unused for a long time.	Dust inside the indoor unit comes out together with the air.

Problem	Time of occurrence	Cause
The air conditioner generates some smell.	During operation.	The room smell or the smell of cigarette comes out through the indoor unit.



NOTE: Check the above items and adopt the corresponding corrective measures. If the air conditioner continues to function poorly, please stop the air conditioner immediately and contact Gree's authorized local service center. Ask our professional service staff to check and repair the unit.

5.2 Error Code

 WARNING!	
(1)	If abnormal things (for example, awful smell) occur, please stop the unit immediately and disconnect power. Then contact Gree's authorized service center. If the unit continues to run in abnormal situations, it may get damaged and cause electric shock or fire hazard.
(2)	Do not repair the air conditioner by yourself. Improper maintenance will cause electric shock or fire hazard. Please contact Gree's authorized service center and send for professional service staff to repair.

If the display panel or wired controller displays an error code, please refer to the error code meaning stated in the following table.

Number	Error code	Error
1	E1	high pressure protection
2	E2	Indoor anti-freeze protection
3	E3	low pressure protection, refrigerant lack protection and refrigerant collecting mode
4	E4	discharge high-temperature protection
5	E6	Communication error
6	E8	Indoor fan error
7	E9	Water-full protection
8	F0	Indoor ambient temperature sensor error
9	F1	Evaporator temperature sensor error
10	F2	Condenser temperature sensor error
11	F3	Outdoor ambient temperature sensor error
12	F4	Outdoor condenser temperature sensor error
13	F5	Outdoor discharge temperature sensor error
14	C5	IDU jumper cap error
15	EE	ODU memory chip error
16	H3	Compressor overload protection
17	H4	Overload
18	H5	IPM protection
19	H6	DC fan error
20	H7	Driver out-of-step protection
21	HC	Pfc protection
22	Lc	Startup failure
23	Ld	Compressor phase-sequence protection
24	LF	Power protection
25	Lp	IDU and ODU unmatched
26	U7	4-way valve switch-over error
27	P0	Driver reset protection
28	P5	Over-current protection

Number	Error code	Error
29	P6	Master control and driver communication error
30	P7	Driver module sensor error
31	P8	Driver module high temperature protection
32	PL	Bus low-voltage protection
33	PH	Bus high-voltage protection
34	PU	Charge loop error
35	oE	ODU error, for specific error please see the status of ODU indicator



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



5.3 Unit Maintenance



NOTES!

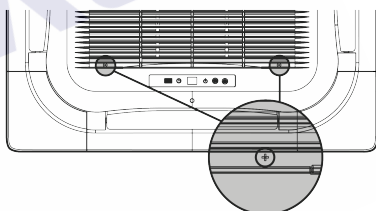
- | | |
|-----|--|
| (1) | Before cleaning, please make sure the unit is stopped. Cut the circuit breaker and remove the power socket, otherwise, electric shock may occur. |
| (2) | Do not wash the air conditioner with water, otherwise fire hazard or electric shock may occur. |
| (3) | When cleaning the filter, please be careful of your steps. If you need to work high above the ground, please be extremely careful. |
| (4) | Only professionals are allowed to carry on daily maintenance. |

5.3.1 Clean Air Filter

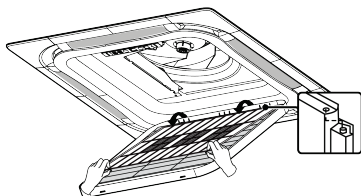
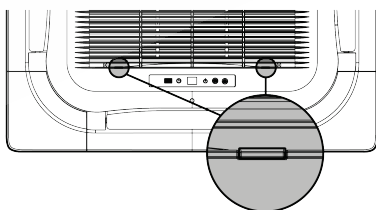
If the air conditioner is used at a dusty place, clean the air filter regularly. (Once every half a year)

How to clean the air filter

- | | |
|-----|---|
| (1) | Open the air intake grill.
Push the clasps outward and then open the air intake grill. |
|-----|---|

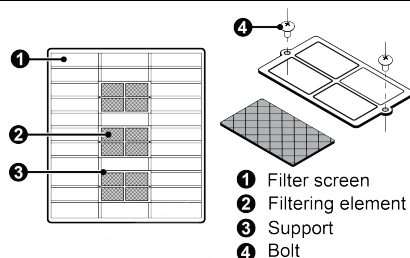


- | | |
|-----|---|
| (2) | Remove the air filter.
1) Remove the screws by a screwdriver as shown in the picture.
2) Push those two fasteners and open the panel grille.
3) Open the air inlet grille at 45°, raise it and remove the grille.
4) Disassemble the filter screen. Draw out the filter screen and remove it. |
|-----|---|



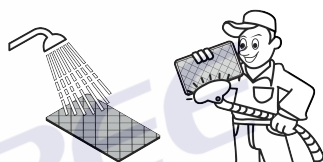
How to clean the air filter

- (3) Disassemble the air purifier
Remove the air purifier after removing the fixed screws on it.



- (4) Cleaning the filter screen
Use vacuum cleaner to remove dust or rinse the filter. If the filter is very dirty (greasy), use warm water (below 45°C) with neutral detergent to clean it. Then dry the filter at a cool place.

NOTICE: do not use hot water (above 45°C) to clean, otherwise the filter may be discolored or out of shape. Do not dry it with fire, otherwise the filter will catch fire or become out of shape.



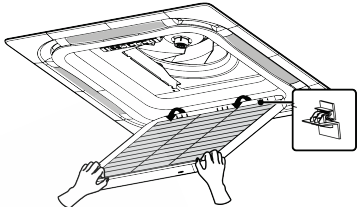
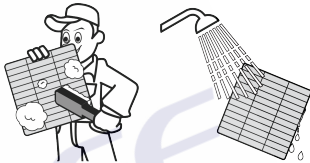
- (5) Fix the 3 cleaners on the filter and then re-install the filter by fitting it into the protruding parts on top of the air intake grill. Pull the handle at the back of the air intake grill to secure the filter.

—

- (6) Close the air intake grill.
Push the clasps outward and then match the air intake grill with the main body. Loose the clasps and then close it.

—

5.3.2 Clean Air Intake Grill

How to clean the air intake grill	
(1) Open the air intake grill.	Same with step 1 in “Clean Air Filter”.
(2) Take out the air filter.	Same with step 2 in “Clean Air Filter”.
(3) Take out the air intake grill. (Open the air intake grill at an angle of 45 degrees, and then lift it up).	
(4) Cleaning Use soft brush, water, neutral detergent to clean. After cleaning, shake off the water or let it dry. NOTICE: do not use hot water (above 45°C) to clean, otherwise the filter may be discolored or out of shape.	
(5) Install the air intake grill.	Refer to step 3.
(6) Install the air filter.	Same with step 4 in “Clean Air Filter”.
(7) Close the air intake grill.	Refer to step 1.

5.3.3 Heat Exchanger of Outdoor Unit

Conduct cleaning for the heat exchanger of outdoor unit periodically, clean it once at least in every two months. Clean the dust and sundries on the surface of the heat exchanger with dust collector and nylon brush, if there's compressed air source; Use the compressed air to blow the dust on the surface of the heat exchanger. Don't use tap water for cleaning.

5.3.4 Drainage Pipe

Periodically check if the drainage pipe is blocked to smooth the condensate water.

5.3.5 Notices at the Beginning of the Using Season

- (1) Check if the air inlet/outlet of indoor/outdoor unit is blocked.
- (2) Check if the ground connection is reliable.
- (3) Check if the battery of remote controller is replaced.

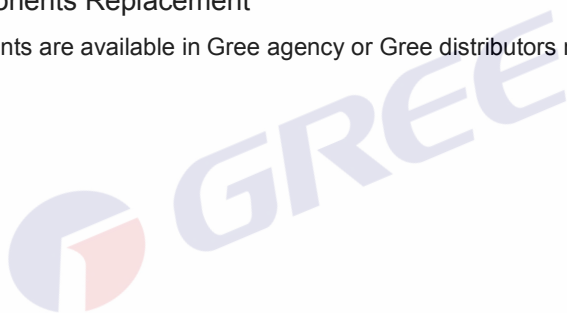
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- (4) Check if the air filter screen is properly installed.
 - (5) If starting up again after long-term shut down, preset the power switch of air conditioner to “ON” status before 8h of operation, to preheat the crankcase of outdoor compressor.
 - (6) Check if the installation of outdoor unit is firm, if not, please contact with Gree appointed maintenance center.

5.3.6 Maintenance at the end of the Using Season

- (1) Cut off the main power of air conditioner.
- (2) Clean the filter screen, indoor and outdoor unit.
- (3) Clean the dust and sundries in indoor and outdoor unit.
- (4) If the outdoor unit is rusty, coat the rusty location with paint to prevent it from expanding.

5.3.7 Components Replacement

Components are available in Gree agency or Gree distributors nearby.



6 Specialist's Manual

- The following checks shall be applied to installations using flammable refrigerants:
 - the charge size is in accordance with the room size within which the refrigerant containing parts are installed;
 - the ventilation machinery and outlets are operating adequately and are not obstructed;
 - if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
 - marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
 - refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.
- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.
- Initial safety checks shall include:
 - that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
 - that no live electrical components and wiring are exposed while charging, recovering or purging the system;
 - that there is continuity of earth bonding.
- Checks to the area
 - Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, DD.4.3 to DD.4.7 shall be completed prior to conducting work on the system.
- Work procedure
 - Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.
- General work area
 - All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.
- Checking for presence of refrigerant
 - The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
- Presence of fire extinguisher
 - If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.
- Ventilated area
 - Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
- Checks to the refrigerating equipment
 - Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.
 - The following checks shall be applied to installations using flammable refrigerants:
 - the actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed;
 - the ventilation machinery and outlets are operating adequately and are not obstructed;
 - if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
 - marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
 - refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components

are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

- **Checks to electrical devices**

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- that no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.

- **No ignition sources**

No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space.

Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

- **Repairs to sealed components**

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals,

incorrect fitting of glands, etc.

- Ensure that the apparatus is mounted securely.
- Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

NOTE: The use of silicon sealant can inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

- **Repair to intrinsically safe components**

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.

Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.

Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

- **Cabling**

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

- **Leak detection methods**

Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

- **Detection of flammable refrigerants**

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the **LFL** of the

refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25% maximum) is confirmed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

NOTE: Examples of leak detection fluids are

- bubble method,
- fluorescent method agents.

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Removal of refrigerant shall be according to clause DD.9.

• Removal and evacuation

When breaking into the refrigerant circuit to make repairs - or for any other purpose - conventional procedures shall be used. However, for flammable refrigerants it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:

- remove refrigerant;
- purge the circuit with inert gas (optional for A2L);
- evacuate (optional for A2L);
- purge with inert gas (optional for A2L);
- open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct recovery cylinders. For appliances containing flammable refrigerants other than A2L refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process may need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing flammable refrigerants, other than A2L refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and that ventilation is available.

• Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.

- Cylinders shall be kept in an appropriate position according to the instructions.

- Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.

- Label the system when charging is complete (if not already).

- Extreme care shall be taken not to overfill the refrigerating system.

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

• Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

a) Become familiar with the equipment and its operation.

b) Isolate system electrically.

c) Before attempting the procedure, ensure that:

- mechanical handling equipment is available, if required, for handling refrigerant cylinders;
- all personal protective equipment is available and being used correctly;
- the recovery process is supervised at all times by a competent person;
- recovery equipment and cylinders conform to the appropriate standards.

d) Pump down refrigerant system, if possible.

e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.

f) Make sure that cylinder is situated on the scales before recovery takes place.

g) Start the recovery machine and operate in accordance with manufacturer's instructions.

h) Do not overfill cylinders. (No more than 80% volume liquid charge).

i) Do not exceed the maximum working pressure of the cylinder, even temporarily.

j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.

k) Recovered refrigerant shall not be charged into another refrigerant system unless it has been cleaned and checked.

- **Labelling**

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

- **Recovery**

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants including, when applicable, flammable refrigerants. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associ-

ated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

- **General**

That the installation of pipe-work shall be kept to a minimum.

That compliance with national gas regulations shall be observed.

That mechanical connections made in accordance with 22.118 shall be accessible for maintenance purposes.



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