



LG

Ceiling Duct-Type Air Conditioner

OWNER'S MANUAL

LG

IMPORTANT

Please read through this manual. It contains valuable information about your air conditioner. This manual may help save time and money by explaining proper product maintenance and preventing improper use.

PRECAUTIONS

Pay close attention to precautions in order to prevent potential hazards and damage from misuse or improper installation. LG is not responsible for any damages caused by misuse of the product.

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P/No. : MFL37347405

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For Your Records

Write the model and serial numbers here:

Model # _____

Serial # _____

You can find them on a label on the side of each unit.

Dealer's Name _____

Date Purchased _____

Read This Manual

Inside you will find many helpful hints on how to use and maintain your air conditioner properly. Just a little preventive care on your part can save you a great deal of time and money over the life of your air conditioner.

You'll find many answers to common problems in the chart of troubleshooting tips. If you review our chart of Troubleshooting Tips first, you may not need to call for service at all.



CAUTION

- Contact the authorized service technician for repair or maintenance of this unit.
- Contact the installer for installation of this unit.
- The air conditioner is not intended for use by young children or invalids without supervision.
- Young children should be supervised to ensure that they do not play with the air conditioner.
- When the power cord is to be replaced, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.



Safety Precautions

Precautions

To prevent injury and property damage, follow these instructions.

⚠ Incorrect operation due to ignoring instructions will cause harm or damage, the seriousness of which is indicated by the following symbols.



WARNING This symbol shows the possibility of death or serious injury.



CAUTION This symbol indicates the possibility of injury or damage to property.



Never Do This



Always Do This

Installation precautions



WARNING

- Do not install, remove and reinstall the unit by yourself.
 - Improper installation will cause water leakage, electrical shock, or fire. Please consult authorized dealer or specialist for the installation work. Please note fault caused by improper installation is not covered by warranty.
 - Unit must be installed in an easily accessible area. Any additional cost required to hire a special equipment to service the unit will be the responsibility of the customer.

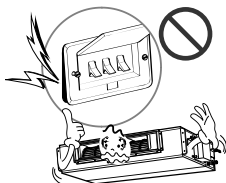


WARNING

■ Installation

Do not use a defective or underrated circuit breaker. Use this appliance on a dedicated circuit.

- There is risk of fire or electric shock.



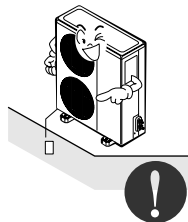
For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center.

- Do not disassemble or repair the product. There is risk of fire or electric shock.



Always ground the product.

- There is risk of fire or electric shock.



Install the panel and the cover of control box securely.

- There is risk of fire or electric shock.



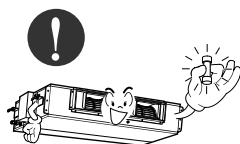
Always install a dedicated circuit and breaker.

- Improper wiring or installation may cause fire or electric shock



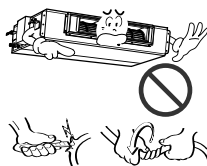
Use the correctly rated breaker or fuse.

- There is risk of fire or electric shock.



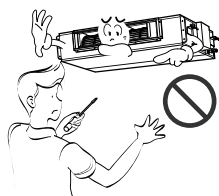
Do not modify or extend the power cable.

- There is risk of fire or electric shock.



Do not install, remove, or re-install the unit by yourself (customer).

- There is risk of fire, electric shock, explosion, or injury.



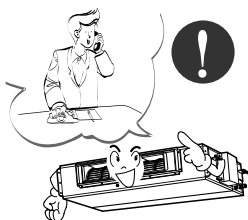
Be cautious when unpacking and installing the product.

- Sharp edges could cause injury. Be especially careful of the case edges and the fins on the condenser and evaporator.



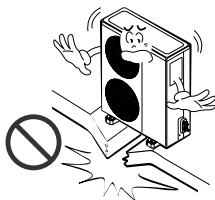
For installation, always contact the dealer or an Authorized Service Center.

- There is risk of fire, electric shock, explosion, or injury.



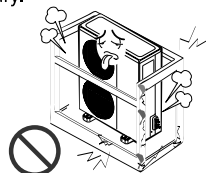
Do not install the product on a defective installation stand.

- It may cause injury, accident, or damage to the product.



Be sure the installation area does not deteriorate with age.

- If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.



Operation

Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open.

- Moisture may condense and wet or damage furniture.



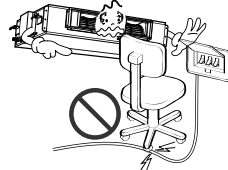
Take care to ensure that power cable could not be pulled out or damaged during operation.

- There is risk of fire or electric shock.



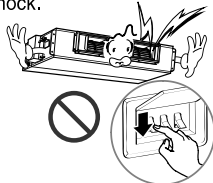
Do not place anything on the power cable.

- There is risk of fire or electric shock.



Do not plug or unplug the power supply plug during operation.

- There is risk of fire or electric shock.



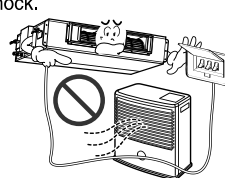
Do not touch (operate) the product with wet hands.

- There is risk of fire or electrical shock.



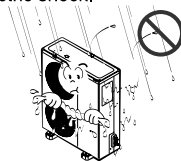
Do not place a heater or other appliances near the power cable.

- There is risk of fire and electric shock.



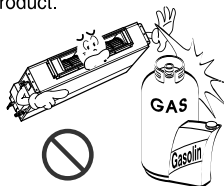
Do not allow water to run into electric parts.

- It may cause There is risk of fire, failure of the product, or electric shock.



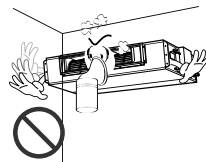
Do not store or use flammable gas or combustibles near the product.

- There is risk of fire or failure of product.



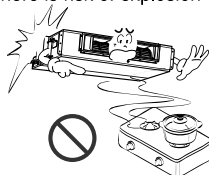
Do not use the product in a tightly closed space for a long time.

- Oxygen deficiency could occur.



When flammable gas leaks, turn off the gas and open a window for ventilation before turn the product on.

- Do not use the telephone or turn switches on or off. There is risk of explosion or fire



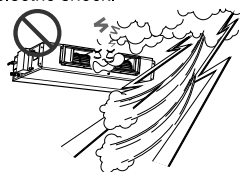
If strange sounds, or small or smoke comes from product. Turn the breaker off or disconnect the power supply cable.

- There is risk of electric shock or fire.



Stop operation and close the window in storm or hurricane. If possible, remove the product from the window before the hurricane arrives.

- There is risk of property damage, failure of product, or electric shock.



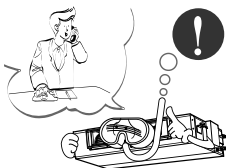
**Do not open the inlet grill of the product during operation.
(Do not touch the electrostatic filter, if the unit is so equipped.)**

- There is risk of physical injury, electric shock, or product failure.



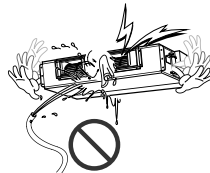
When the product is soaked (flooded or submerged), contact an Authorized Service Center.

- There is risk of fire or electric shock.



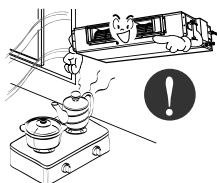
Be cautious that water could not enter the product.

- There is risk of fire, electric shock, or product damage.



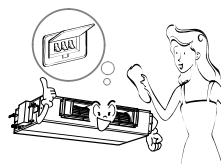
Ventilate the product from time to time when operating it together with a stove, etc.

- There is risk of fire or electric shock.



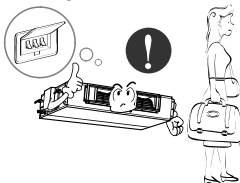
Turn the main power off when cleaning or maintaining the product.

- There is risk of electric shock.



When the product is not be used for a long time, disconnect the power supply plug or turn off the breaker.

- There is risk of product damage or failure, or unintended operation.



Take care to ensure that nobody could step on or fall onto the outdoor unit.

- This could result in personal injury and product damage.

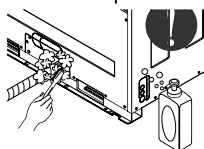


⚠ CAUTION

■ Installation

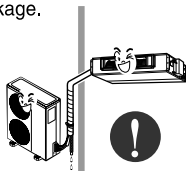
Always check for gas (refrigerant) leakage after installation or repair of product.

- Low refrigerant levels may cause failure of product.



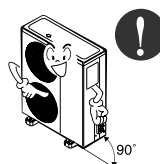
Install the drain hose to ensure that water is drained away properly.

- A bad connection may cause water leakage.



Keep level even when installing the product.

- To avoid vibration or water leakage.



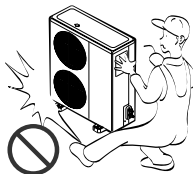
Do not install the product where the noise or hot air from the outdoor unit could damage the neighborhoods.

- It may cause a problem for your neighbors.



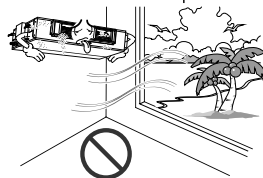
Use two or more people to lift and transport the product.

- Avoid personal injury.



Do not install the product where it will be exposed to sea wind (salt spray) directly.

- It may cause corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.



■ Operation

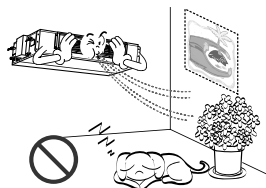
Do not expose the skin directly to cool air for long periods of time. (Don't sit in the draft.)

- This could harm to your health.



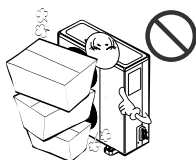
Do not use the product for special purposes, such as preserving foods, works of art, etc. It is a consumer air conditioner, not a precision refrigeration system.

- There is risk of damage or loss of property.



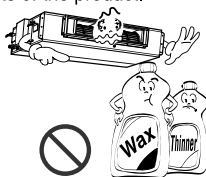
Do not block the inlet or outlet of air flow.

- It may cause product failure.



Use a soft cloth to clean. Do not use harsh detergents, solvents, etc.

- There is risk of fire, electric shock, or damage to the plastic parts of the product.



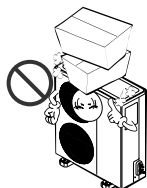
Do not touch the metal parts of the product when removing the air filter. They are very sharp!

- There is risk of personal injury.



Do not step on or put anything on the product. (outdoor units)

- There is risk of personal injury and failure of product.



Always insert the filter securely. Clean the filter every two weeks or more often if necessary.

- A dirty filter reduces the efficiency of the air conditioner and could cause product malfunction or damage.



Do not insert hands or other objects through the air inlet or outlet while the product is operated.

- There are sharp and moving parts that could cause personal injury.



Do not drink the water drained from the product.

- It is not sanitary and could cause serious health issues.



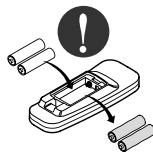
Use a firm stool or ladder when cleaning or maintaining the product.

- Be careful and avoid personal injury.



Replace the all batteries in the remote control with new ones of the same type. Do not mix old and new batteries or different types of batteries.

- There is risk of fire or explosion



Do not recharge or disassemble the batteries. Do not dispose of batteries in a fire.

- They may burn or explode.



If the liquid from the batteries gets onto your skin or clothes, wash it well with clean water. Do not use the remote if the batteries have leaked.

- The chemicals in batteries could cause burns or other health hazards.



Prior to Operation

Preparing for operation

1. Contact an installation specialist for installation.
2. Use a dedicated circuit.

Usage

1. Being exposed to direct airflow for an extended period of time could be hazardous to your health. Do not expose occupants, pets, or plants to direct airflow for extended periods of time.
2. Due to the possibility of oxygen deficiency, ventilate the room when used together with stoves or other heating devices.
3. Do not use this air conditioner for non-specified special purposes (e.g. preserving precision devices, food, pets, plants, and art objects). Such usage could damage the items.

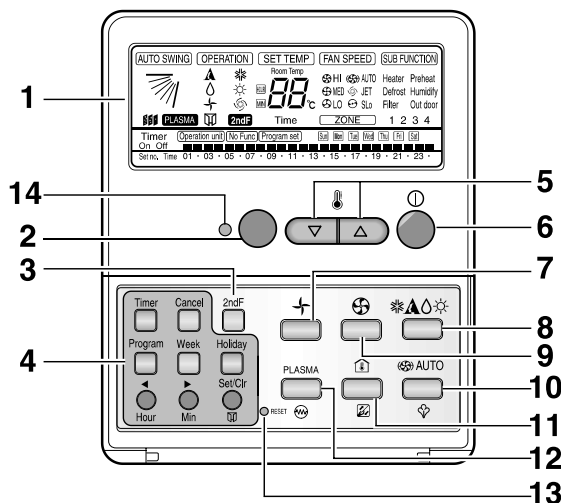
Cleaning and maintenance

1. Do not touch the metal parts of the unit when removing the filter. Injuries can occur when handling sharp metal edges.
2. Do not use water to clean inside the air conditioner. Exposure to water can destroy the insulation, leading to possible electric shock.
3. When cleaning the unit, first make sure that the power and breaker are turned off. The fan rotates at a very high speed during operation. There is a possibility of injury if the unit's power is accidentally triggered on while cleaning inner parts of the unit.

Service

For repair and maintenance, contact your authorized service dealer.

Name and Function of Remote Controller

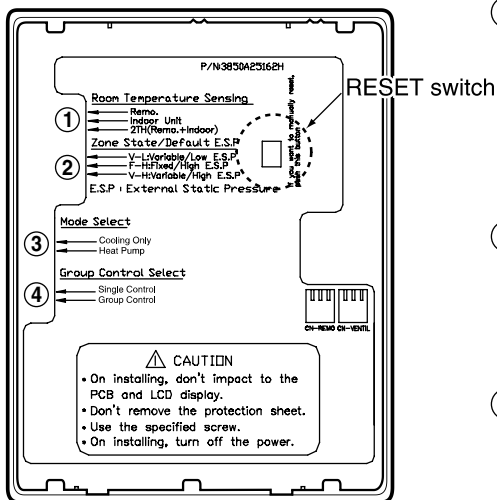


1. Operation indication screen
2. •Wireless remote controller receiver (optional)
3. 2ndF button (For number of COMP selection)
4. Timer set/cancel
Program/Week/Holiday
Hour/Min/SET/Clr/ * Ventilator
5. Set temperature button
6. ON/OFF button
7. Fan operation
8. Operation mode selection button
9. Fan speed button
10. •Fan auto/Humidification button (optional)
11. Room temperatur/filtersign
release button
12. •Plasma/Heater button (optional)
13. Time reset button
14. Operation lamp

* Operation lamp lights on during the indoor operation. If error occurs, the lamp lights on red color.

• Optional feature.

DUCT TYPE



① Room Temperature Sensing select Switch

1. Use Remocon's sensor
2. Use Indoor's sensor
3. Use sensor which has lower temperature between Remocon's and indoor's

② Zone State/Default E.S.P

1. Variable/Low E.S.P
2. Fixed/High E.S.P
3. Variable/High E.S.P

③ Mode select switch

1. Cooling only
2. Heat pump (optional)

④ Group control select switch

1. Case of Single control
2. Case of Group control (optional)

IDU Fan Speed Provision

Capacity	IDU Fan Speed
36K BTU/h	3 Speed (Hi, Low and Medium)
51K BTU/h	3 Speed (Hi, Low and Medium)
66K BTU/h	3 Speed (Hi, Low and Medium)
90K BTU/h	3 Speed (Hi, Low and Medium)
102K BTU/h	3 Speed (Hi, Low and Medium)
132K BTU/h	3 Speed (Hi, Low and Medium)
198K BTU/h	1 Speed (Hi)
264K BTU/h	1 Speed (Hi)

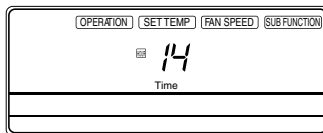
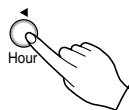
* When changing the product selection switch and group control switch, you must press the reset switch to use the changed selection.

* For 198K BTU/H & 264K BTU/H keep room temperature sensing on Remo.

Set the Current Time and a day of the Week

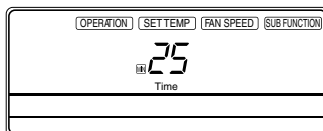
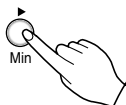
1 Press the 'Hour' button.

Each time the button is pressed, the number is changed from 00 to 23.
You can set the number of the current hour.



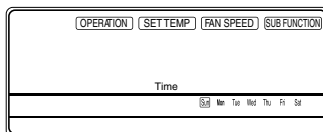
2 Press the 'Min' button.

Each time the button is pressed, the number is increased from 00 to 59.
You can set the number of the current minute.



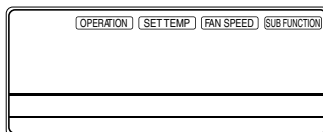
3 Press the 'Week' button.

Each time the button is pressed, a day of the week is shifted from Sunday to Saturday.
You can set the day of the week.



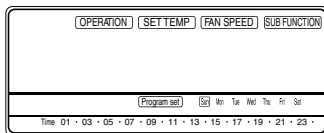
4 Press the 'RESET' button.

If you want to reset the current time and a day of the week, click the Reset button.



1 Press the Program button.

The remote controller is displayed like a picture. Then ' (Program set) ', ' Sun ' and '01' is blinked.



2 Press the ' Week ' button.

Press ' Week ' button repeatedly until desired mode appears.



For example, if you want Thu, press ' Week ' button 4 times.

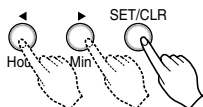
3 Select the time you want.

Press ' Hour ' or ' Min ' button, then blinking letter is shown.

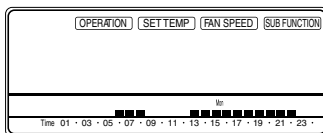
If you press ' SET/CLR ' button, then ' ■ ' shape appears.

' ■ ' shape means that five o'clock is reserved.

Using below buttons, you can reserve time.



* For example, the air-conditioner is on 6,7,8 and 13~22 o'clock.



4 Press the Program button again to finish weekly programming.



Holiday Setting

If Tuesday is a holiday in this week, you may set a holiday.

- 1 Press the Program button.



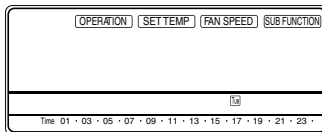
- 2 Press the Week button.
Select the Tuesday.



- 3 Press the Holiday button.



Then the remote controller will be displayed 'Tue'.
The outside rectangular means holiday.



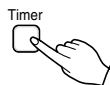
- 4 Press the Program button again to finish holiday setting.



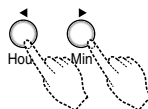
Timer Setting (Delay start/Pre-set stop)

This function is used to turn on or turn off in several hours.

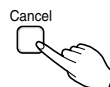
- 1 Press the Timer button
to turn Timer on or off.



- 2 Change the timer setting until the desired time is set.



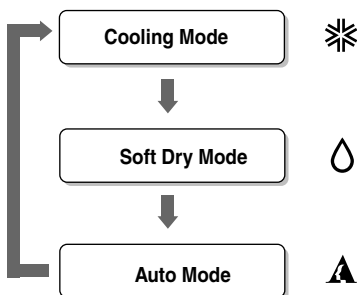
- 3 If you want to cancel the timer setting, press the Cancel button.



Note :-

- ON Timer is available when unit is OFF.
- OFF Timer is available when unit is ON.
- It starts counting time after Timer was set.
- Timer can be set upto 24 hours.

Operation Mode



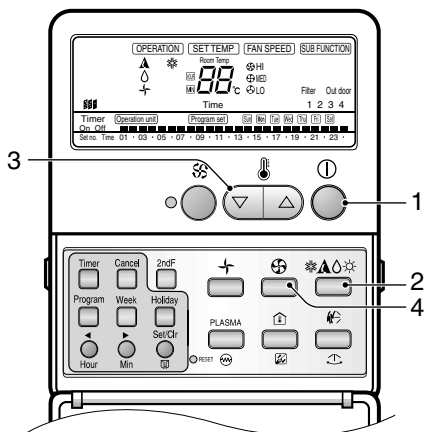
Operation Procedure

1st On/Off Button

2nd Operation Mode Selection Button

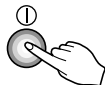
3rd Room Temperature Setting Button

4th Indoor Fan Speed Selection Button



Cooling Operation Mode

- 1** Press the On/Off Button.



- 2** Select Cooling Operation.

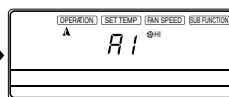
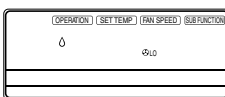
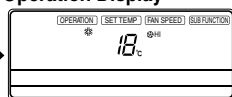
Press the Operation Mode Selection Button.

Each time the button is pressed, the operation mode is shifted in the arrow direction.

COOLING MODEL



Operation Display

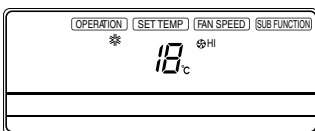


Cooling Operation

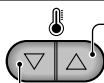
Soft Dry Operation

Auto Operation

- 3** Set the temperature lower than the room temperature.



- The temperature can be set within a range of 18°C ~ 30°C by 1°C.



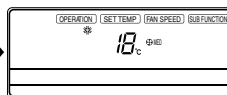
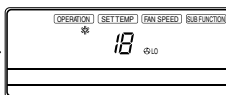
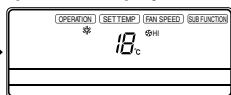
To raise the Temperature.

To lower the Temperature.

- 4** Set the fan speed.



Operation Display



- Select the fan speed in three steps- high, low, medium.
- The display shows high fan speed.
- Each time the button is pressed, the fan speed mode is shifted.

Soft Dry Operation Mode

This mode dehumidifies without overcooling.

1 Press the On/Off Button.

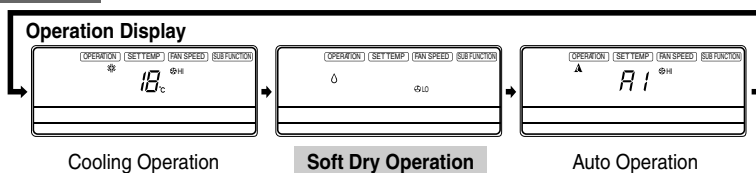


2 Select Soft Dry Operation.

Press the operation Mode Selection Button.

Each time the button is pressed, the operation mode is shifted in the arrow direction.

COOLING MODEL



3 During Soft Dry Operation.

- The indoor fan speed is automatically set to the low, so the shift of the indoor fan speed is impossible because it's already being set to the best speed for Dry Operation by Micom Control.

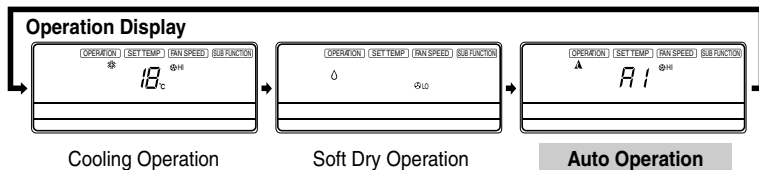
Auto Operation Mode

1 Press the On/Off Button.



2 To select Auto Operation, press the Operation Mode Selection button.
Each time the button is pressed, the operation mode is shifted in the direction of the arrow.

COOLING MODEL



During Auto Operation:

- ☐ You can switch the indoor fan speed.
- ☐ The system will automatically switch from the cooling mode to the heating mode as the room temperature and set temperature.(Heat pump model only)

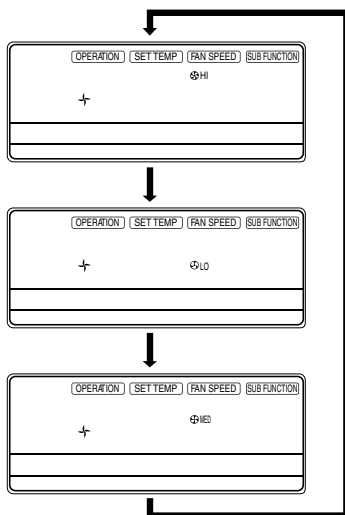
1 Press the On/Off Button.



2 Press FAN Operation Button.



3 Each time Indoor Fan Speed button is pressed, the fan speed mode is shifted in the arrow direction.



- Fan speed is high.

- Fan speed is low.

- Fan speed is medium.

* You can't set the temperature in Fan Operation mode. To exit this mode, press 'Operation Mode' button.

* Only high fan speed is available for 198K BTU/H & 264K BTU/H. Any other speed selection leads to malfunctioning of the unit.

Child Lock Function

This is the Function that any children cannot used to the air-conditioner.

Operation procedure

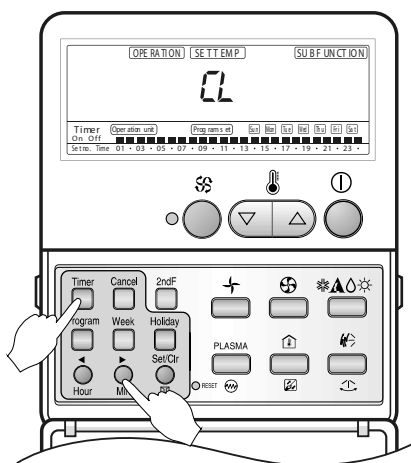
1 To set the Child-Lock Function

Press the Timer button and Minute Set button for three seconds. Then the operation mode shift to child lock mode and it is displayed 'CL' in the operation display.

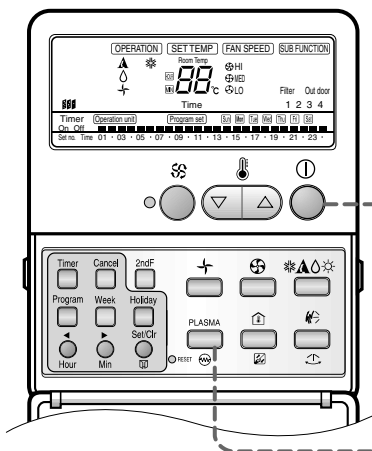
When you press any button in this time, the remote controller is not converted to any selected mode and the 'CL' is displayed in the remote controller for about three seconds. But the Room Temperature function is operated in spite of child lock mode.

2 To cancel the Child-Lock Function

Press the Timer button and Minute Set button for three seconds. Then the child-lock mode is cancelled and the preselected mode is displayed in the remote controller.



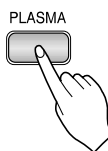
NEO PLASMA Purification Operation (optional)



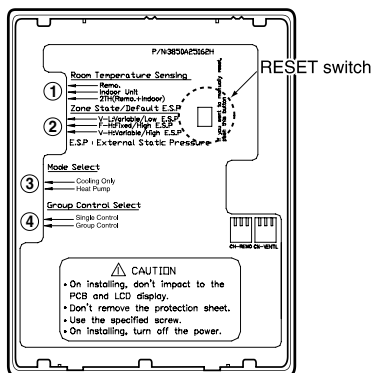
- 1** Press the Start/Stop button.
The unit will respond with a beep.



- 2** Open the door of the remote controller. Press the PLASMA button.
Operation will start when the button is pressed and stop when the button is pressed again.

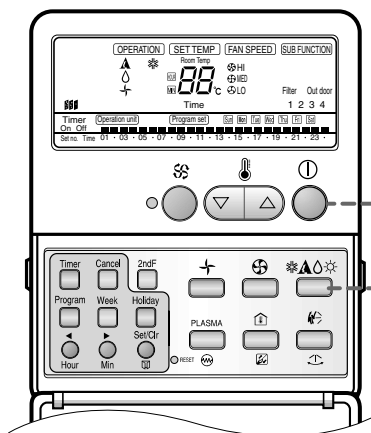


Heating Operation (Heat Pump model only)

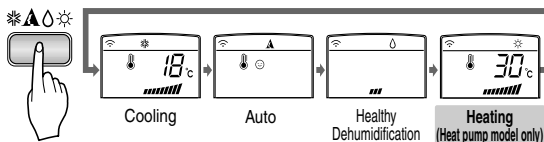


Select Heat mode

- 1 Press the Start/Stop button. The unit will respond with a beep.



- 2 Open the door of the remote controller. To select **Heating Operation**, press the Operation Mode Selection button. Each time the button is pressed, the operation mode is shifted in the direction of the arrow.



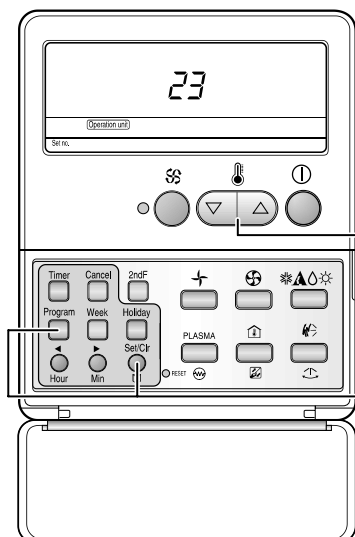
Pressure Function

Sr. No.	KEY & MODE	OPERATION	ERROR	RESET
*	Low Pressure Function (LP Operation)	- When Low Pressure operates, it stops Comp as well as O/D Unit after 10 sec of Comp Operation. - If Comp Off occurs 3 times in 1 hour by L/P operation after the first detection, Comp Off state has been maintained.	Respective Comp No. will blink. Blinking Zone 1 2 3	Manual power reset.
*	High Pressure Function (HP Operation)	- When High Pressure operates, it stops Comp as well as O/D Unit after 10 sec of Comp Operation. - If Comp Off occurs 3 times in 1 hour by H/P operation after the first detection, Comp Off state has been maintained.	Respective Comp No. will blink. Blinking Zone 1 2 3	Manual power reset.
*	Power Failure Compensation (Memory Function)	Micom remembers the previous running condition before power failure, such as On/Off condition, running mode, set temperature, weekly programming etc.		

Error Diagnosis

Sr. No.	ERROR CODE	DIAGNOSIS	DESCRIPTION
1	CH-01	Check room thermistor	Recover after 5 seconds of operation when respective thermistor healthy
2	CH-02	Check pipe thermistor (CN-Pipe/In)	Recover after 3 seconds of operation when respective thermistor healthy
3	CH-06	Check pipe thermistor (CN-Pipe/Out)	Recover after 3 seconds of operation when respective thermistor healthy
4	CH-12	Check pipe thermistor (CN-Pipe/Med)	Recover after 4 seconds of operation when respective thermistor healthy
5	CH-09	Check Option PCB (EPROM)	Check Interconnection of Option PCB and Power Reset
6	CH-04	Check float sensor / Jumper	Recover after 4 minutes of operation when float sensor / Jumper healthy
7	CH-14	Check Sub PCB	Check Interconnection of Sub PCB / Recover after 5 seconds of Healthy Interconnection

Address Setup of Central Control

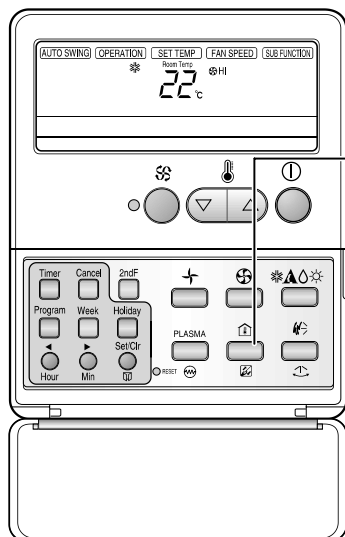


- 1** You can set the address up by pressing the Program button and the Set/Clr button about 3 seconds at the same time.
- 2** The group change uses the temperature control button to change the value possibly. The number of indoor unit uses the temperature control button to change the value possibly.
Ex) Group address: 2
Indoor unit number: 3
- 3** You can complete setting up the address by pressing the Program button and the Set/Clr button about 3 seconds at the same time.

- Multi model: Connect the outdoor unit and P1485 of outdoor unit
- Single model: Connect P1485 of outdoor unit
- When you connect the indoor unit with central control unit, you should setup Network address which is recognized by central control unit inside of indoor unit.
- The address of central control is consisted by group number and number of indoor unit.

Note : The remote controller displays 'HL' if central controller has locked the remote controller.

The Room Temperature Confirmation



1 If you press the room temperature button, room temperature will be indicated about 5 seconds. It will be returned to the desired temperature after 5 seconds.

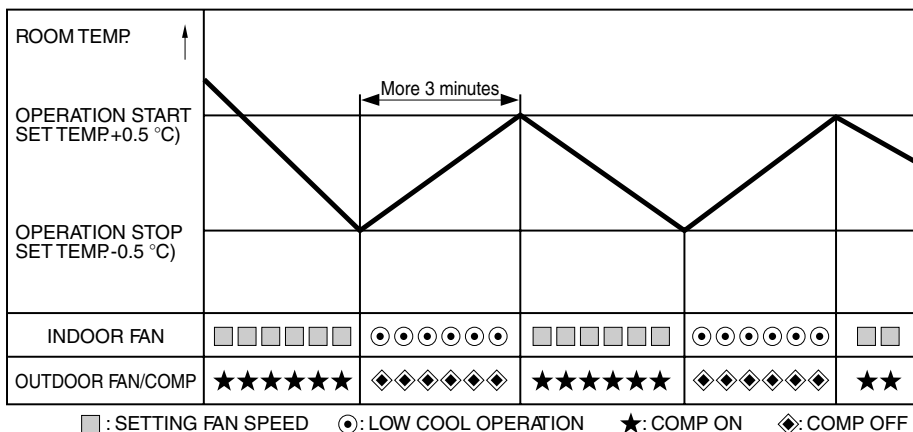
- You can select the desired temperature for cooling operation from 16°C to 37°C and heating operation from 16°C to 30°C.

✦ There would be some difference between actual temperature you feel and room temperature of remote controller, because the temperature of the position is not uniform which the remote controller is located on.

Operation Details

• Cooling Operation Mode

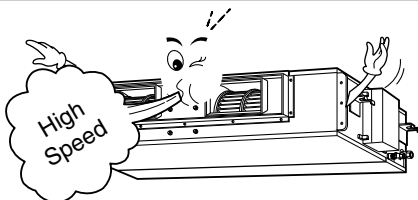
When the room temperature is higher than the set temperature, it operates in cooling mode at the set temperature, the set fan speed, and then it will be in automatically turn off when the room temperature reaches the set temperature +0.5°C.



Helpful information

Airflow speed and cooling capacity.

The cooling capacity indicated in the specification is the value when the fan speed is set to high, and the capacity will be lower at low or medium fan speed. High fan speed is recommended when you wish to cool the room quickly.



Self-Diagnosis Function

Remote Controller display will flash Error Code when a problem occurs, please contact your Dealer.
(for e.g., CH-01)

Caution: Before performing any maintenance, turn off the main power to the system.

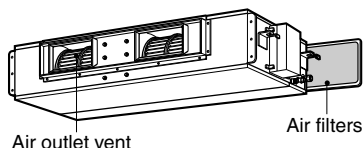
Indoor Unit

Grille, Case, and Remote Control:

- Turn the system off before cleaning. To clean, wipe with a soft, dry cloth. Do not use bleach or abrasives.

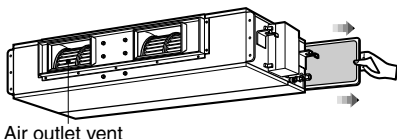
Note:

Supply power must be disconnected before cleaning the indoor unit.



Air Filter:

The air filters behind Indoor unit (the suction side) should be checked and cleaned once every 2 weeks or more often if necessary.



Indoor Unit Dimensions (mm)

Dimension Capacity	A	B	C	D	E	F	G	H	I
36K BTU/H	1240	1180	365	57.5	480	30	290	850	205
51K BTU/H	1291	1230	565	57.5	680	30	294	1025	312
66K BTU/H	1291	1230	485	57.5	600	30	294	1025	312
90K BTU/H	1625	1564	510	65	660	30	294	1220	304
* 90K BTU/H	1625	1562	510	65	688	30	294	1220	304
102K BTU/H	1625	1564	510	65	660	30	294	1220	304
*102K BTU/H	1625	1562	510	65	688	30	294	1220	304
132K BTU/H	1765	1705	597	55	692	30	294	1220	304
198K BTU/H	1987	1930	755	55	865	30	294	1260	422
264K BTU/H	2110	2050	920	55	1080	22	294	1488	494

* is applicable for single piping model only.

- Slope of about 5-8 mm is to be provided at the drain hole side of the indoor unit for proper drainage.
- After installation the slope can be measured using a spirit level.

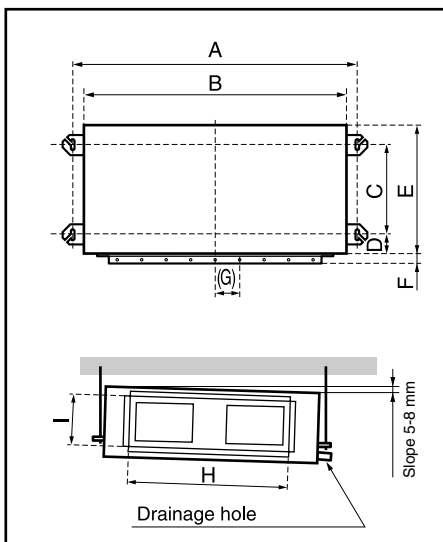
□ Never use any of the followings:

- Water hotter than 40°C
Could cause deformation and/or discoloration.
- Volatile substances
Could damage the surfaces of the air conditioner.



□ Cleaning Tips:

- 1 Clean the filter with a vacuum or warm, soapy water.
 - If very dirty, wash with a solution of detergent in lukewarm water.
 - If hot water (50°C or more) is used, filter may be deformed.
- 2 After washing with water, dry well in the shade.
- 3 Re-install the air filter.



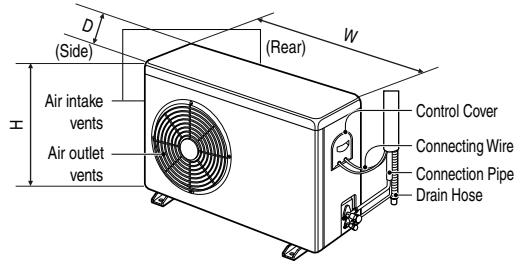
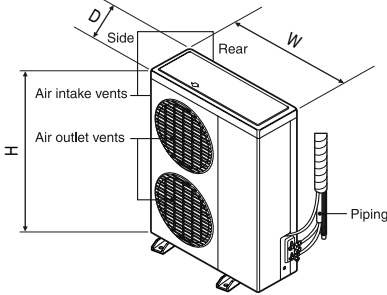
Outdoor Unit

The heat exchanger coils and panel vents of the outdoor unit should be checked regularly. If clogged with dirt or soot, the heat exchanger and panel vents may be professionally steam cleaned.

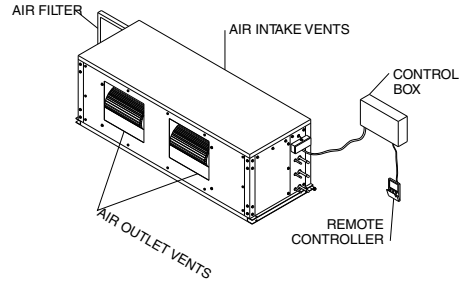
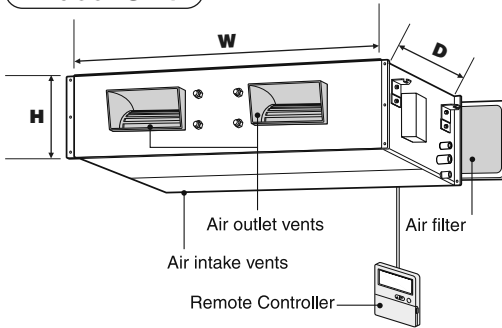
Note:

Dirty or clogged coils will reduce the operating efficiency of the system and cause higher operating costs.

Outdoor Unit



Indoor Unit



(For 198K & 264K Units)

Capacity	Dimension	Indoor Unit (mm)				Outdoor Unit (mm)			
		IDU	W	D	H	ODU	W	D	H
36K BTU/H	1	1180	480	295	1	870	320	655	
51K BTU/H	1	1230	600	370	1	906	406	1135	
66K BTU/H	1	1230	600	370	1	906	406	1135	
90K BTU/H	1	1564	660	460	1	906	600	1135	
*90K BTU/H	1	1562	688	460	1	906	600	1135	
102K BTU/H	1	1564	660	460	1	906	600	1135	
*102K BTU/H	1	1562	688	460	1	906	600	1135	
132K BTU/H	1	1700	690	460	1	970	570	1310	
132K BTU/H	1	1700	690	460	2	906	406	1135	
132K BTU/H	1	1700	690	460	1	970	670	1310	
198K BTU/H	1	1985	865	595	3	906	406	1135	
264K BTU/H	1	2050	1080	640	2	970	570	1310	

* is applicable for single piping model only.

When the air conditioner is not going to be used for a long time.

When it is not going to be used for a long time.

- 1 Operate the air conditioner on Air circulation mode (Refer to page 15) for 2 to 3 hours.

- This will dry out the internal parts.

- 2 Turn off the circuit breaker.

CAUTION

Turn off the circuit breaker when the air conditioner is not going to be used for a long time. Dirt may collect and may cause a fire.

When the air conditioner is to be used again.

- Check that the air inlet and outlet of the indoor/outdoor unit are not blocked.

Helpful information

The air filters and your electric bill.

If the air filters become clogged with dust, the cooling capacity will drop, and 6% of the electricity used to operate the air conditioner will be wasted.

Operation Tips

Do not overcool the room.

This is not good for the health and wastes electricity.

Clean the air filter regularly.

Blockages in the air filter reduce the airflow and lower cooling and dehumidifying effects. Clean at least once every two weeks.

Keep blinds or curtains closed.

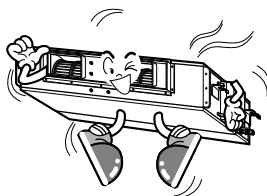
Do not let direct sunshine enter the room when the air conditioner is in operation.

Ventilate the room occasionally.

Since windows are kept closed, it is a good idea to open them and ventilate the room now and then.

Make sure that the doors and windows are shut tight.

Avoid opening doors and windows as much as possible to keep the cool air in the room.



Troubleshooting Tips

Before you call for service...

Troubleshooting Tips! Save time and money!

Check the following points before requesting repairs or service.... If the malfunction persist, please contact your dealer.

Case	Explanation	See page
The air conditioner does not operate.	●Have you made a mistake in timer operation?	8
	●On first starting, the indoor unit operates in fifteen seconds.	
	●Has the fuse blown or has the circuit breaker been tripped?	-
	●Check power supply for single/reverse phase, voltage imbalance.	
The room has a peculiar odor.	●Check that this is not a damp smell exuded by the walls, carpet, furniture or cloth items in the room.	-
It seems that condensate is leaking from the air Conditioner.	●Condensation occurs when the airflow from the air conditioner cools the warm room air.	-
Air conditioner does not operate for about 3 minutes when restart.	●This is the protector of the mechanism.	
	●Wait about three minutes and operation will begin.	-
Does not cool or heat effectively.	●Is the air filter dirty? See air filter cleaning instructions.	16
	●The room may have been very hot when the room air conditioner was first turned on. Allow time for it to cool down.	
	●Has the setting temperature been set incorrectly?	10
	●Are the indoor unit's air inlet or outlet vents obstructed?	-
The air conditioner operation is noisy.	●For a noise that sounds like water flowing. -This is the sound of freon flowing inside the air conditioner unit.	
	●For a noise that sounds like the compressed air releasing into atmosphere. -This is the sound of the dehumidifying water being processed inside the air conditioning unit.	-
Crack sound is heard.	●This sound is generated by the expansion/contraction of the inlet grille, etc. due to changes of temperature.	
Remote control display is faint, or no display at all.	●Has the circuit breaker been tripped?	-

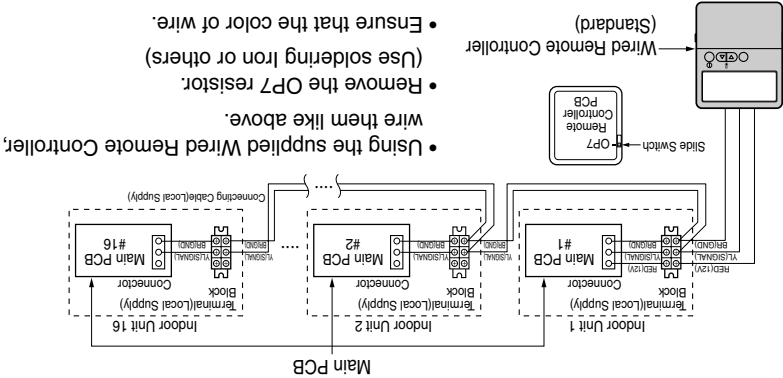
NOTE

WATER RESISTANT: The outdoor side of this appliance is WATER RESISTANT.

The indoor side is not water resistant and should not be exposed to excess water.

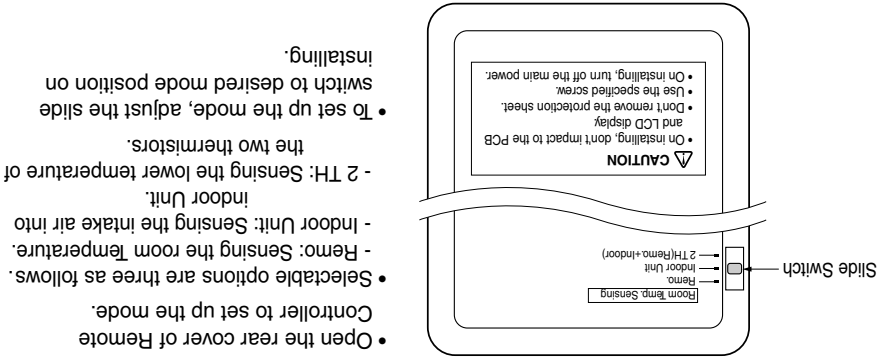
8. Group Control

It operates maximum 16 Units by only one Wired Remote Controller, and each Unit starts sequentially to prevent overcurrent.

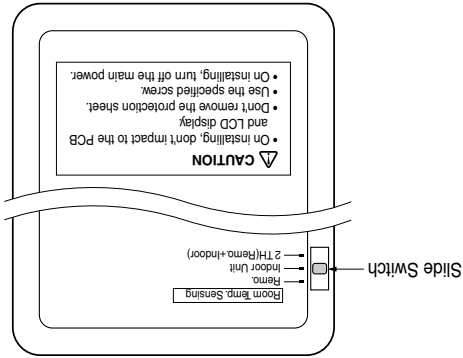


- Using the supplied Wired Remote Controller, wire them like above.
- Remove the OP7 resistor. (Use soldering Iron or others)
- Ensure that the color of wire.

9. Two Thermistor system



- Open the rear cover of Remote Controller to set up the mode.
- Selectable options are three as follows.
 - Remo: Sensing the room temperature.
 - Indoor Unit: Sensing the intake air into indoor Unit.
 - 2 TH: Sensing the lower temperature of the two thermistors.
- To set up the mode, adjust the slide switch to desired position on installing.



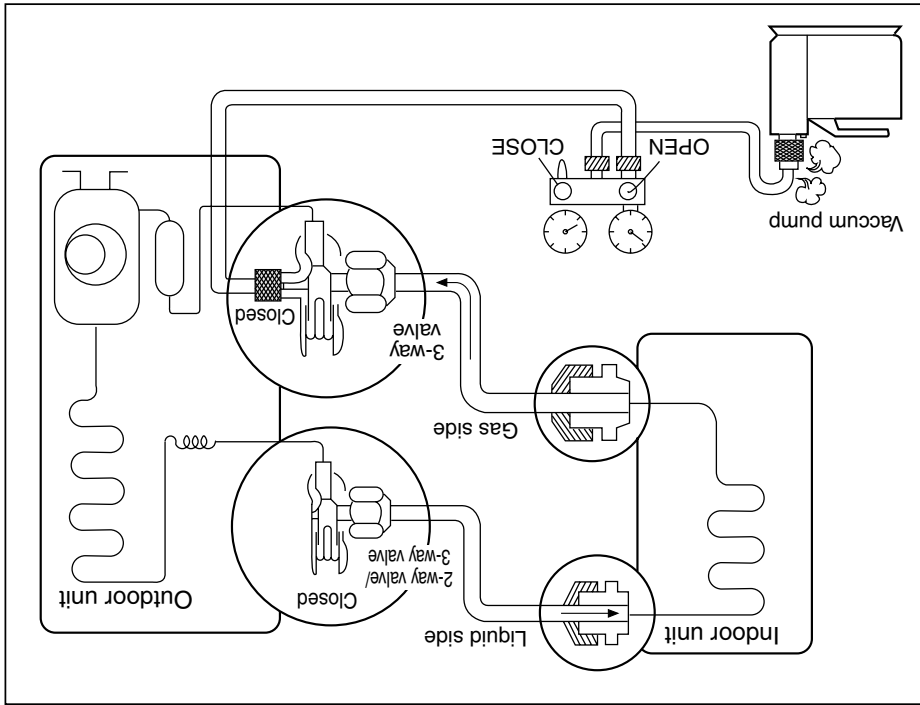
After reading this manual, keep it in a place easily accessible to the user for future reference.

7. Air Purging of the Connecting Pipes and the Indoor Unit

The air which contains moisture remaining in the refrigeration cycle may cause a malfunction on the compressor.

1. Confirm that both the liquid side valve and the gas side valve are set to the closed position.
2. After connecting the piping, check the joints for gas leakage with gas leak detector.
3. Remove the service port nut, and connect the gauge manifold and the vacuum pump to the service port by the charge hose.
4. Vacuum the indoor unit and the connecting pipes until the pressure in them lowers to below -76cmHg.
5. Remove the valve stem nuts, and fully open the stems of the 2-way and 3-way valves with a hexagon wrench.
6. Tighten the valve stem nuts of the 2-way valve and 3-way valve.
7. Disconnect the charge hose and fit the nut to the service port.

(Tightening torque: 1.8kg.m)



4) Form the pipings

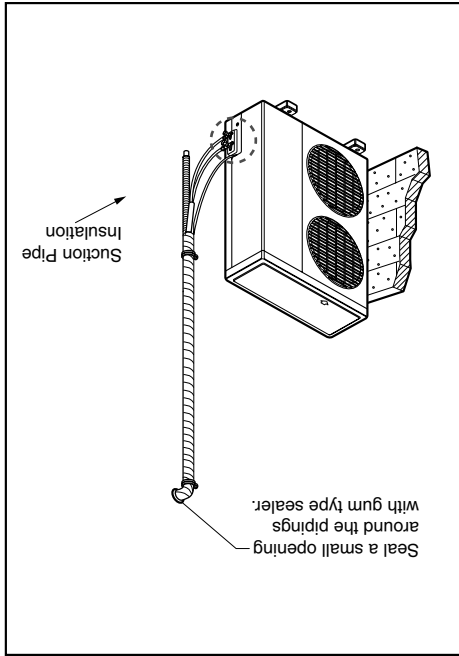
1. Wrap the connecting portion of indoor unit with the insulation material and secure it with two Plastic Bands. (for the right pipings)

- If you want to connect an additional drain hose, the end of the drain-outlet should keep distance from the ground. (Do not dip it into water, and fix it on the wall to avoid swinging in the wind.)

In case of the Outdoor unit being installed below position of the Indoor unit.

2. Tape the Pipings, drain hose and Connecting Cable from bottom to top.

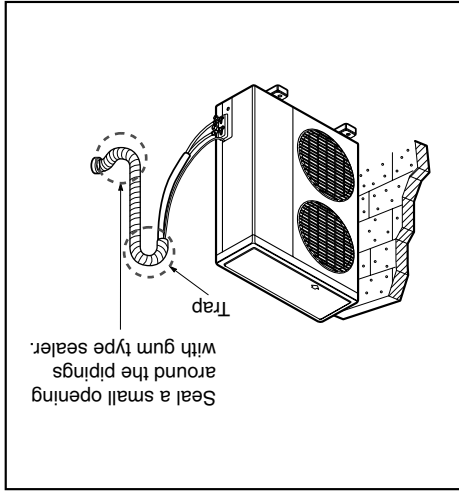
3. Form the pipings gathered by taping along the exterior wall and fix it onto the wall by saddle or equivalent.



1. Tape the Pipings and Connecting cable from bottom to top.

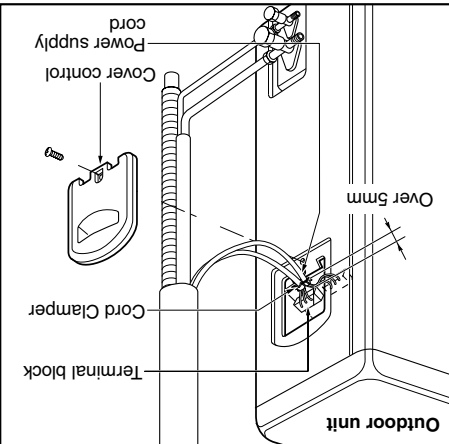
2. Form the pipings gathered by taping along the exterior wall, and make the trap prevent water from entering into the room.

- 3 Fix the pipings onto the wall by saddle or equivalent.



In case of the Outdoor Unit being installed above position of the Indoor Unit.

1. Remove the Cover control from the unit by loosening a screw.
2. Connect the wires to the terminals on the control board individually as following.
3. Secure the cable onto the control board with the holder (clammer).
3. Refix the cover control to the original position with the screw.



Outdoor unit

-Terminal block

Cord Clamper

Cover control

Power supply

1102

CAUTION

After the confirmation of the above conditions, prepare the wiring as follows:

- 1) Never fail to have an individual power specialized for the air conditioner. As for the method of wiring, be guided by the circuit diagram pasted on the inside of control box cover.
- 2) Provide a circuit breaker switch between power source and the unit.
- 3) The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)

10) Appliance must be grounded.

- To minimize the risk of electric shock, you must always plug into a grounded outlet.
- Do not cut or remove the grounding.

6. Connecting Cables between Indoor and Outdoor Unit

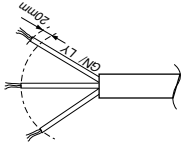
1) Connecting cables to the Indoor Unit

- Connect the wires to the terminals on the control board individually according to the outdoor unit connection.
- Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively.

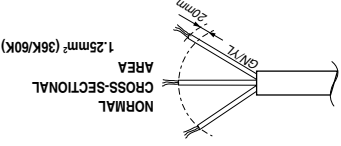
* Please do the interconnection as per Interconnection Table in wiring diagram.

CAUTION

The power cord connected to the outdoor unit should be with the following specifications



NORMAL CROSS-SECTIONAL AREA	
Capacity	3 Phase
36k BTU/h	2.5mm
60k BTU/h	3.5mm



If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.

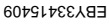
WARNING

Make sure that the screws of the terminal are free from looseness.

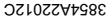
2) Clamping of cables

- 1) Arrange 2 power cables on the control panel.
- 2) First, fasten the steel clamp with a screw to the inner boss of control panel.
- 3) For the cooling model, fix the other side of the clamp with a screw strongly.

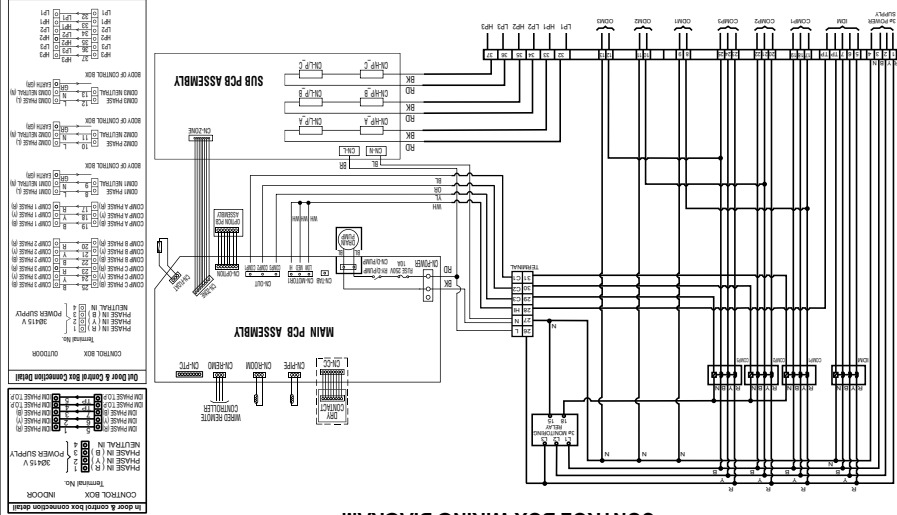
CONTROL BOX WIRING DIAGRAM



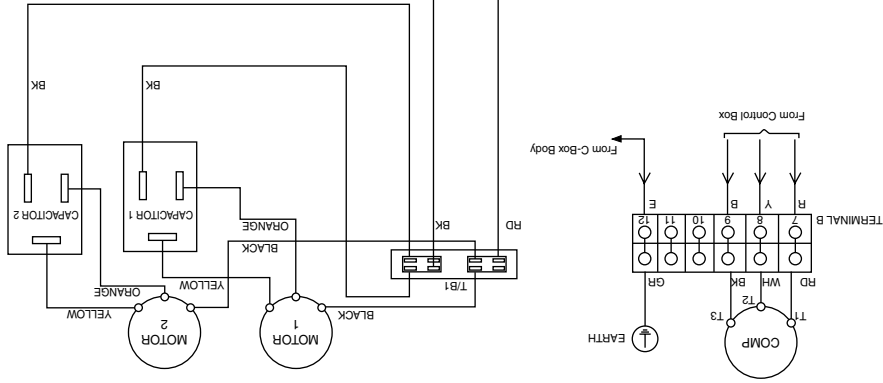
OUTDOOR WIRING DIAGRAM



CONTROL BOX WIRING DIAGRAM



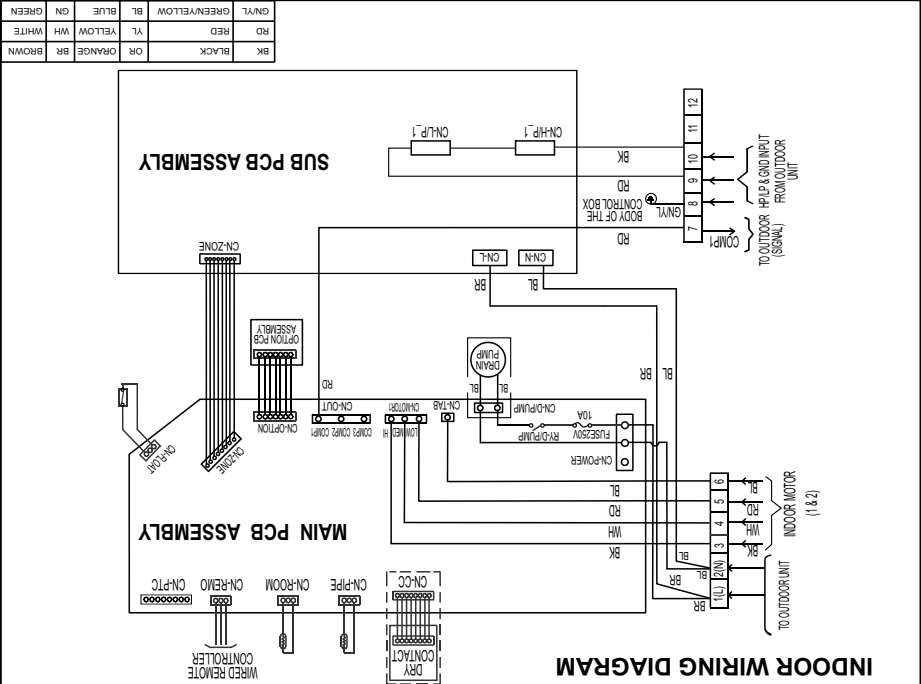
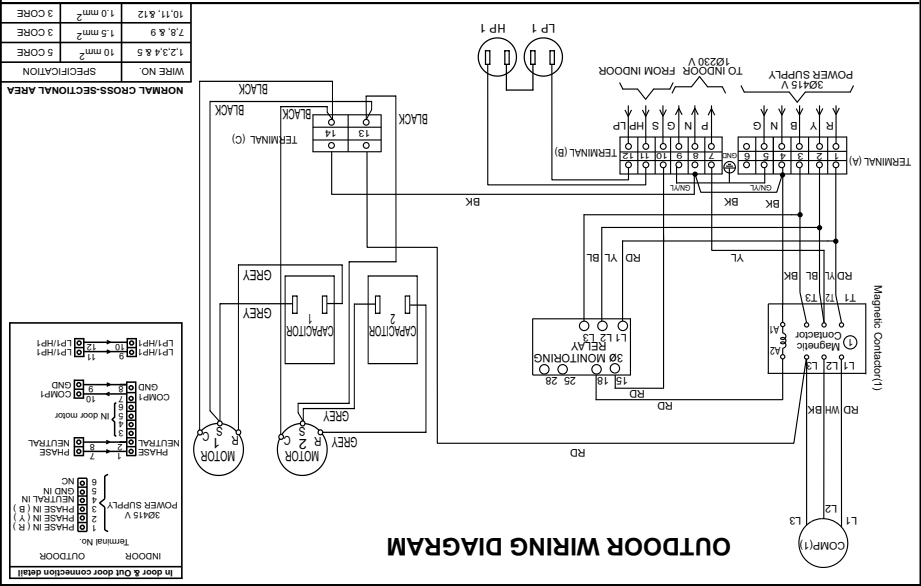
OUTDOOR WIRING DIAGRAM



EBY3415410

3854A2012B

Wiring Diagram
Unit : 132K BTU/H (1 ODU - Single Piping)

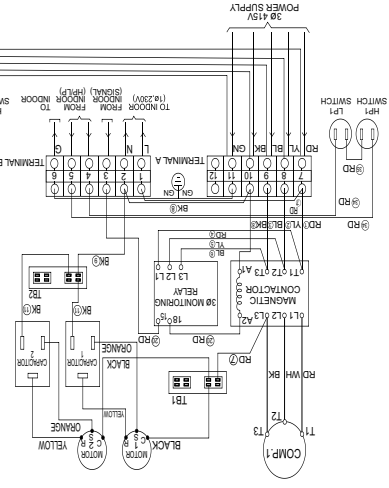


EBY43304431

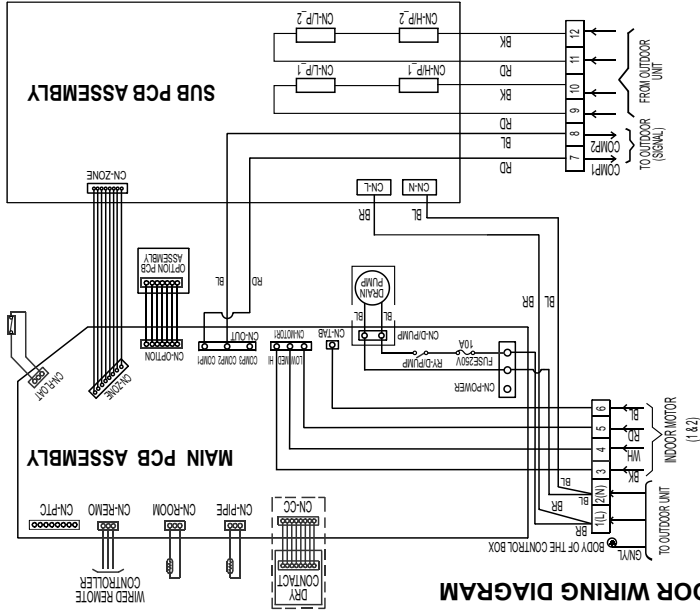
GNVL	GREEN/YELLOW	BL	BLUE	GN	GREEN
RD	RED	YL	YELLOW	WH	WHITE
BK	BLACK	OR	ORANGE	BR	BROWN

Wiring Diagram Unit :132K BTU/H (2 ODU)

OUTDOOR WIRING DIAGRAM

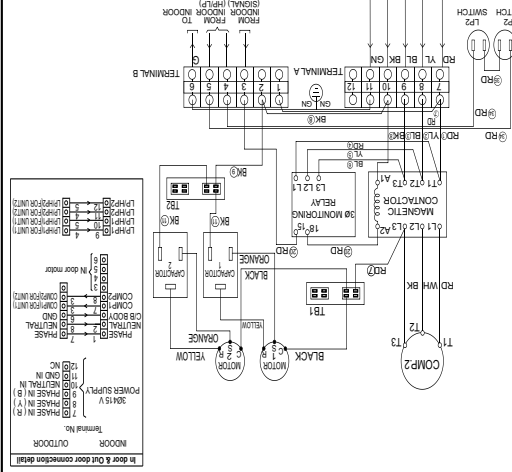


INDOOR WIRING DIAGRAM



WIRE NO.	SPECIFICATION	3 CORE	1.0 mm ²	3 CORE
1, 2, 6	1.5 mm ²	3 CORE	1.5 mm ²	3 CORE
7, 8, 9, 10, 11	10 mm ²	5 CORE	10 mm ²	5 CORE

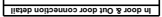
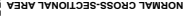
NORMAL CROSS-SECTIONAL AREA



BK	BLACK	OR	BROWN
RD	RED	YL	YELLOW
GN	GREEN	BL	BLUE
GN/YL	GREEN/YELLOW	BL	BLUE

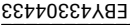
EBY43304424

Wiring Diagram
Unit : 132K BTU/H

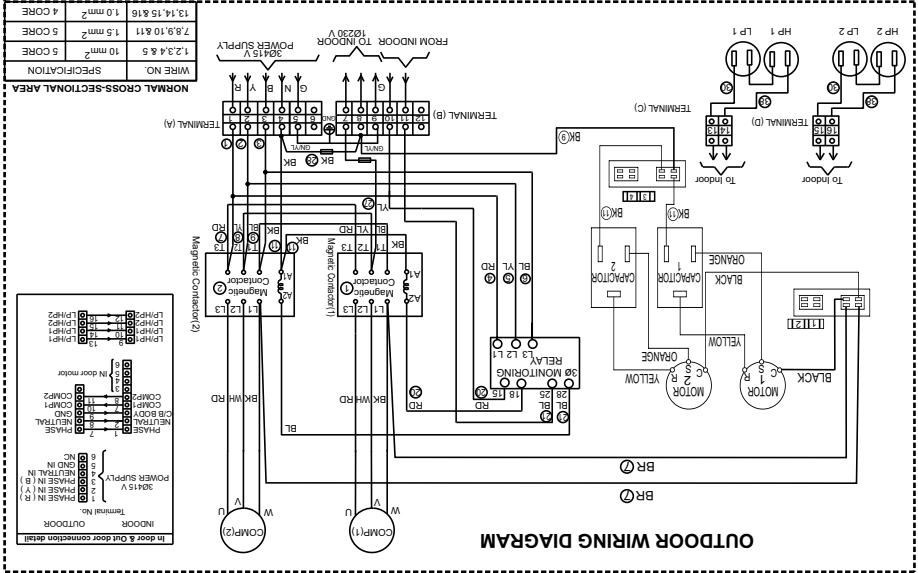


BK	BLACK	OR	ORANGE	BR	BROWN
RD	RED	YL	YELLOW	WH	WHITE
GN/YL	GREEN/YELLOW	BL	BLUE	GN	GREEN

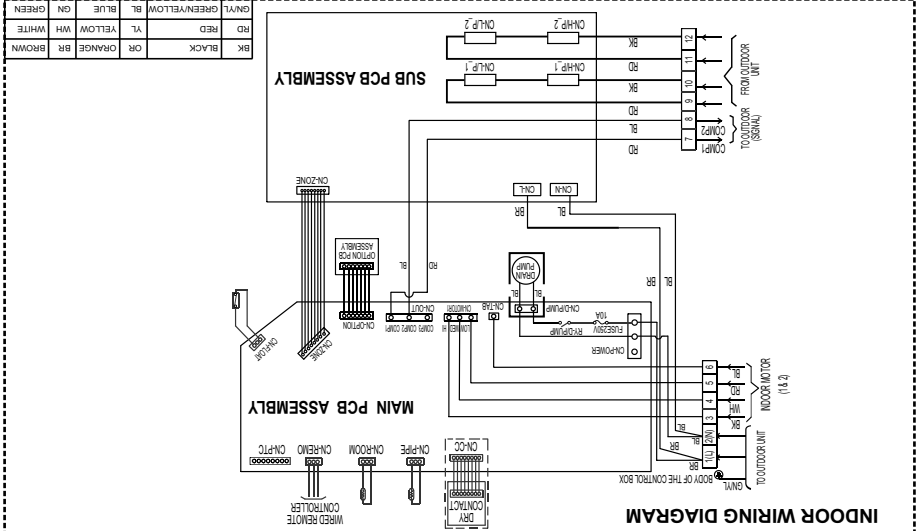
ENGLISH



OUTDOOR WIRING DIAGRAM



INDOOR WIRING DIAGRAM

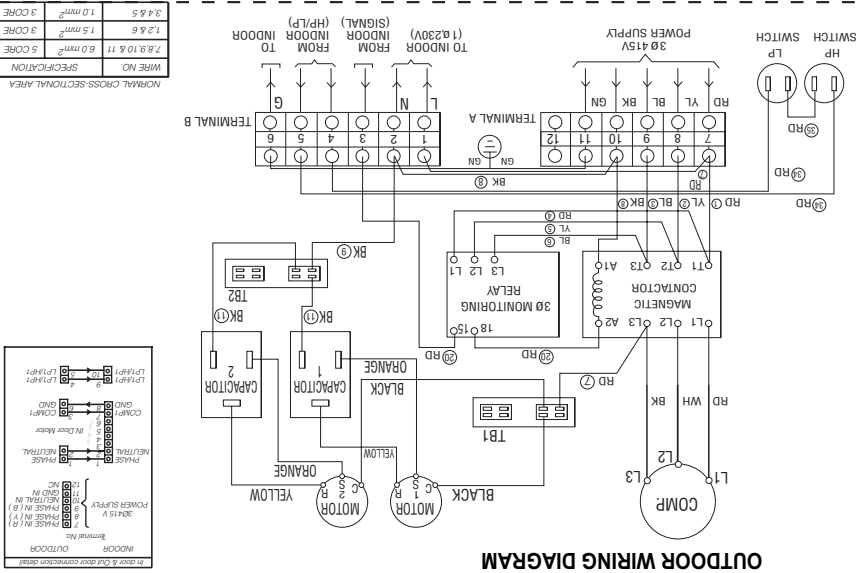


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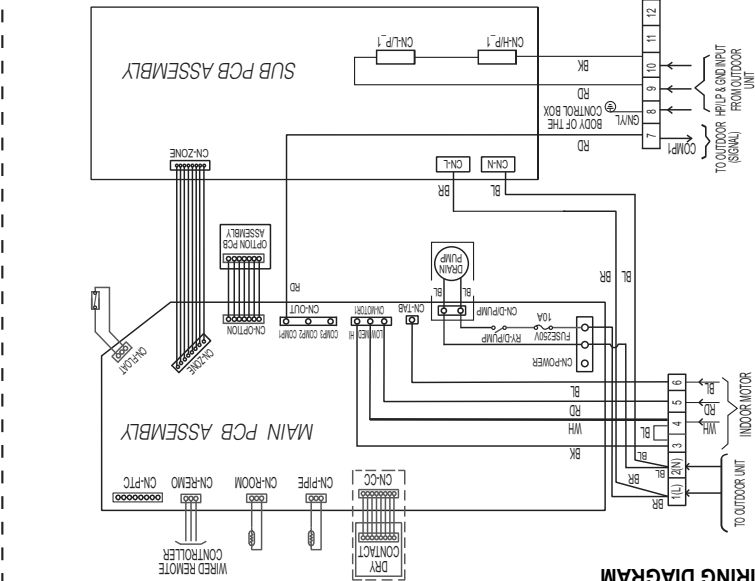
BK	BLACK	OR	ORANGE	BR	BROWN
RD	RED	YL	YELLOW	WH	WHITE
GNVL	GREEN/YELLOW	BL	BLUE	GN	GREEN

Wiring Diagram Unit : 90K BTU/H (1 ODU - Single Piping)

OUTDOOR WIRING DIAGRAM



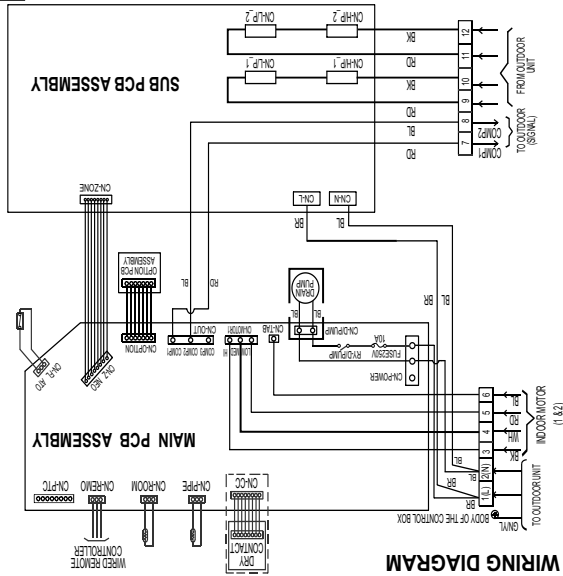
INDOOR WIRING DIAGRAM



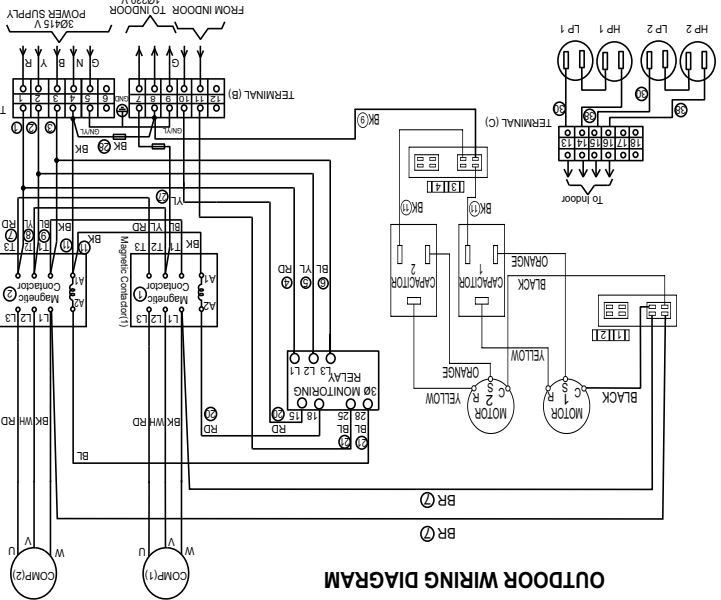
BK	BLACK	OR	ORANGE	BR	BROWN
RD	RED	YL	YELLOW	WH	WHITE
GN/YL	GREEN/YELLOW	BL	BLUE	GN	GREEN

EBY43304432

BK	BLACK	OR	ORANGE	BR	BROWN
RD	RED	YL	YELLOW	WH	WHITE
GN/YL	GREEN/YELLOW	BL	BLUE	GN	GREEN



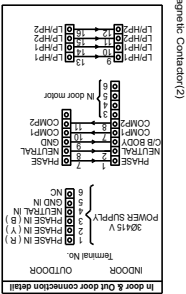
INDOOR WIRING DIAGRAM



OUTDOOR WIRING DIAGRAM

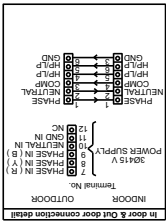
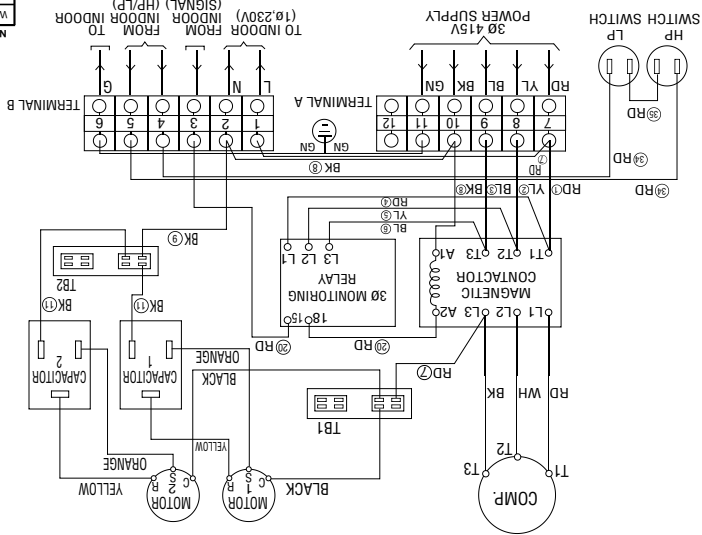
WIRE NO.	SPECIFICATION	
1,2,3,4 & 5	5 CORE	10 mm ²
7,8,9,10 & 11	5 CORE	15 mm ²
13,14,15 & 16	4 CORE	10 mm ²

NORMAL CROSS-SECTIONAL AREA



In door & Out door connection detail	INDOOR	OUTDOOR	Terminal No.
--------------------------------------	--------	---------	--------------

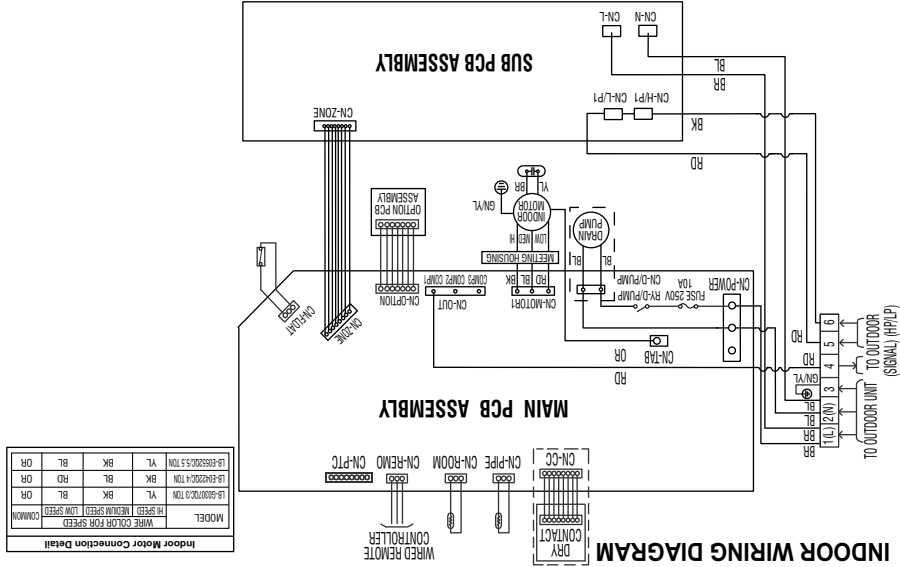
OUTDOOR WIRING DIAGRAM



NORMAL CROSS-SECTIONAL AREA

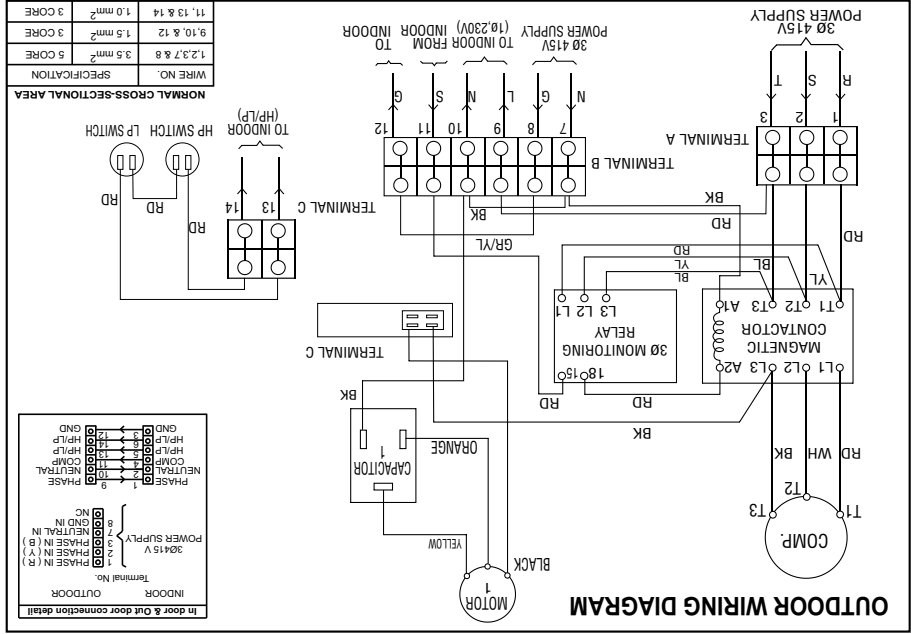
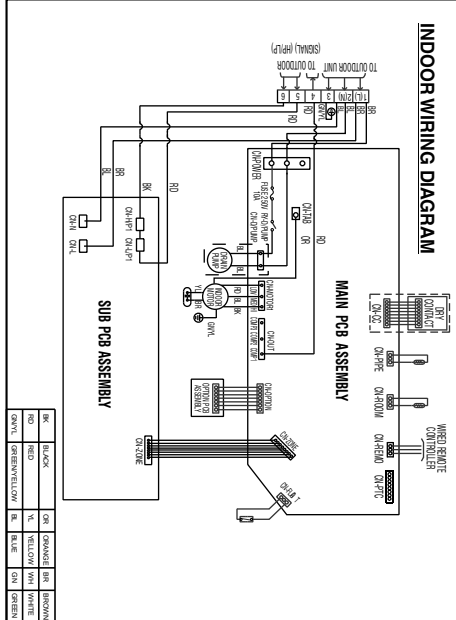
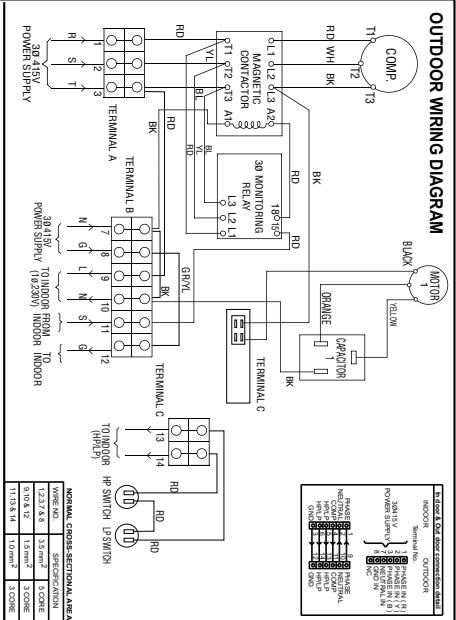
WIRE NO.	SPECIFICATION	7, 8, 9, 10 & 11	3.5 mm ²	5 CORE
WIRE NO.	SPECIFICATION	1, 2 & 6	1.5 mm ²	3 CORE
WIRE NO.	SPECIFICATION	3, 4 & 5	1.0 mm ²	3 CORE

INDOOR WIRING DIAGRAM



Indoor Motor Connection Detail						
MODEL	WIRE COLOR FOR SPEED	COMMON				
		HI SPEED	MEDIUM SPEED	LOW SPEED		
		LB-6080/70C.3 TON	YL	BK	BL	OR
		LB-60420C.4 TON	BK	BL	RD	OR
LB-603520C.5 TON	YL	BK	BL	OR	OR	

BK	BLACK	OR	ORANGE	BR	BROWN
RD	RED	YL	YELLOW	WH	WHITE
GN/YL	GREEN/YELLOW	BL	BLUE	GN	GREEN



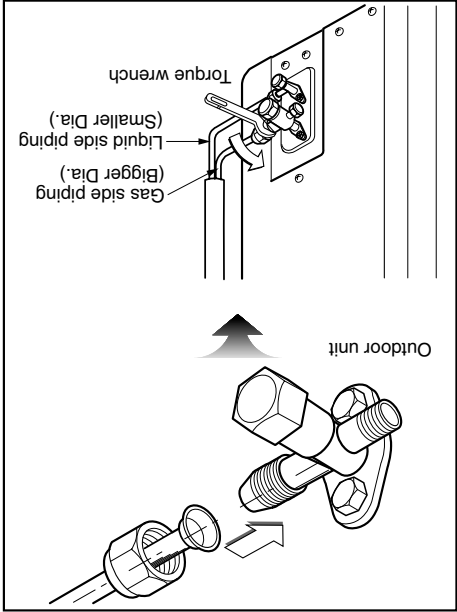
4. Connecting Pipes to the Outdoor Unit

1) Connecting the pipes to the Outdoor unit

1. Align the center of the piping and sufficiently tighten the flare nut with fingers.

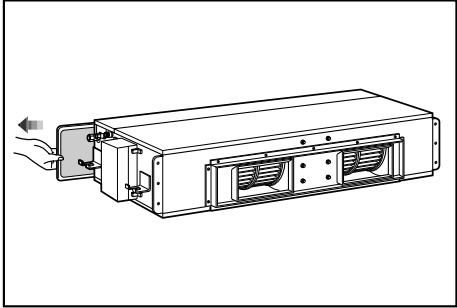
2. Finally tighten the flare nut with torque wrench. When tightening the flare nut with torque wrench, ensure the direction for tightening follows the arrow on the wrench.

Pipe size	Torque
1/4"	1.8kg.m
3/8"	4.2kg.m
1/2"	5.5kg.m
5/8"	6.6kg.m
3/4"	6.6kg.m



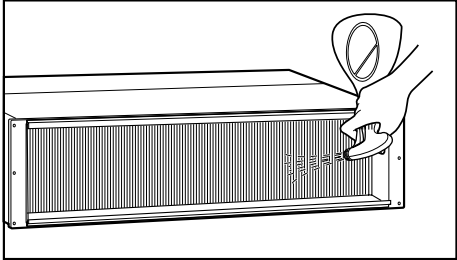
1) Checking the Drainage

1. Remove the Air Filter



2. Check the drainage.

- Spray one or two glasses of water upon the evaporator.
- Ensure that water flows drain hose of indoor unit without any leakage.



5. Checking the Drainage

6) Pipe bending

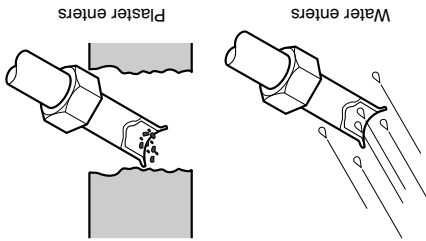
Annealed copper pipe with small diameter ($\phi 6.35$ or $\phi 9.52$) can be easily bent manually. In this case, secure large R (radius) for the bend section and gradually bend pipe. If annealed copper pipe is large in diameter ($\phi 12.7$, $\phi 15.88$ or $\phi 19.05$), bend pipe with bender. Use bender appropriate for the pipe diameter.

7) Brazing

In refrigerant piping, bending (in particular, acute bending) must be minimized to reduce piping resistance. Bending is, however, necessary in some places by virtue of the installation position of devices or of the building structure, piping distance or finishing appearance. Perform brazing using ready-made elbow. Aside from this function, brazing perform brazing using ready-made elbow. Aside from this function, brazing also serves to connect straight pipes, generally using ready-made sockets. While brazing, protect piping against heat with wet cloth to avoid damaging valve packing or burning thermal insulator with burner heat. While brazing, blow inert gas (nitrogen gas or carbonic gas) to prevent formation of oxidation film in copper piping; otherwise, the refrigerant circuit will clog. The blowing of nitrogen gas (or carbonic gas) through 3-way valves is described in the following:

8) Refrigerant piping(Flare piping)

When connecting piping, be sure to keep piping dry(keep piping away from water), clean (keep piping away from dust) and airtight (avoid refrigerant leakage). When connecting piping on rainy days or making a through-hole in wall, take due care to prevent water or plaster from entering piping.



CAUTION

- a. This procedure is designed to prevent formation of oxidation film by filling piping with inert gas. Note that excessive gas pressure will generate pinholes at brazed points.
(Nitrogen gas: Supply pressure
 $0.05 \sim 0.1 \text{ kg/cm}^2\text{G}$)
- b. When supplying inert gas, be sure to open one end of piping.

3. Connecting Pipes to the Indoor Unit

3-1. Preparation of Piping

Main cause of gas leakage is defect in flaring work. Carry out correct flaring work in the following procedure.

1) Cut the pipes and the cable.

■ Use the accessory piping kit or the pipes

■ Measure the distance between the

indoor and the outdoor unit.

■ Cut the pipes a little longer than

measured distance.
■ Cut the cable 1.5m longer than the pipe

2) Burrs removal

■ Completely remove all burrs from the cut

cross section of pipe/tube.

■ Put the end of the copper tube/pipe to

downward direction as you remove burrs in order to avoid to let burrs drop in the

tubing.

3) Putting nut on

■ Remove flare nuts attached to indoor

and outdoor units, then put them on

pipe/tube having completed burr

removal.

(Not possible to put them on after flaring

work)

4) Flaring work

■ Carry out flaring work using flaring tool

as shown below.

Outside Diameter	"A"
1/4"	0~0.5
3/8"	0.5~0.8
1/2"	0.5~0.8
5/8"	0.8~1.0
3/4"	1.0~1.3

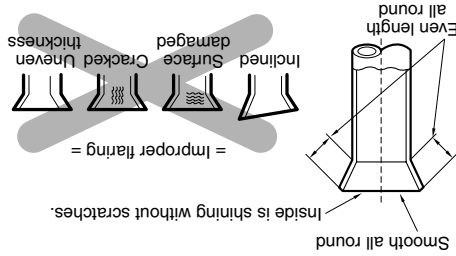
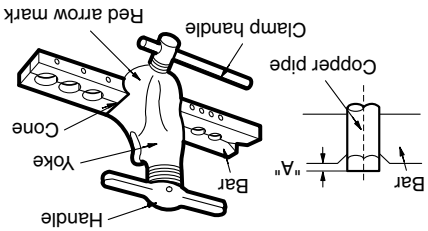
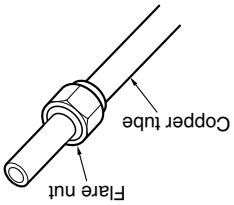
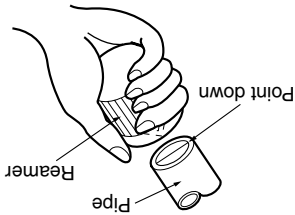
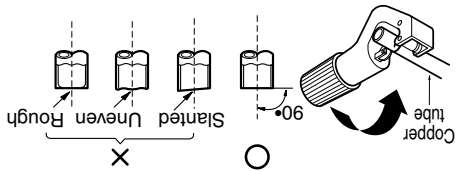
Firmly hold copper tube in a bar(die) as indicated dimension in the table above.

5) Check

□ Compare the flared work with figure.

If flare is noted to be defective, cut off the flared section and do flaring work

again.



ELECTRICAL WIRING

Perform the electrical wiring work according to the electrical wiring connection.

- All wiring must comply with local requirements.
- Select a power source that is capable of supplying the current required by the air conditioner.
- Use a recognized circuit breaker between the power source and the unit. A disconnection device to adequately disconnect all supply lines must be fitted.
- Capacity of circuit breaker

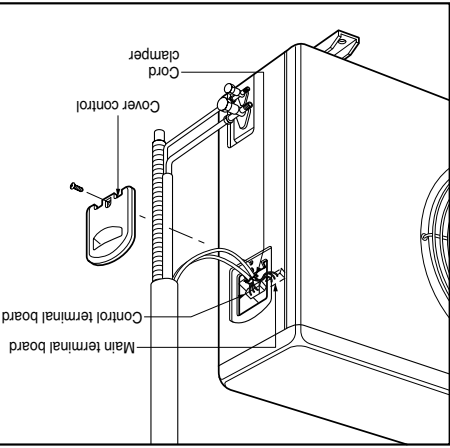
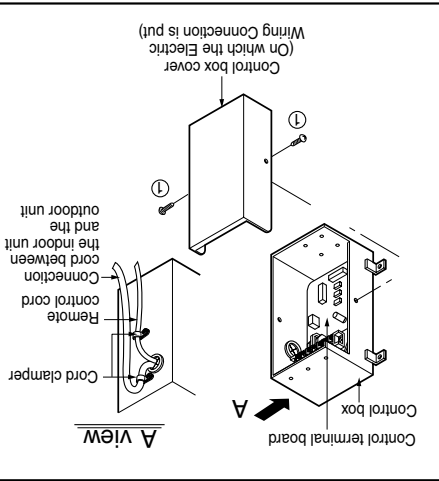
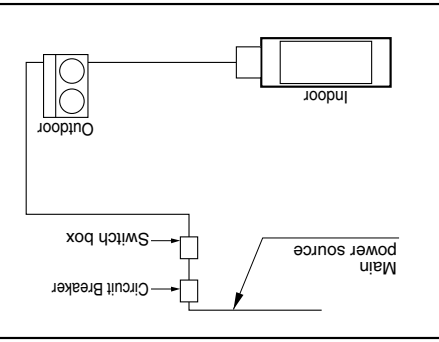
Capacity	MCB Rating (3 Phase)
36K BTU/h	25A
51K BTU/h	32A
66K BTU/h	32A
90K BTU/h	40A
102K BTU/h	50A
132K BTU/h	63A
198K BTU/h	80A
264K BTU/h	125A

WIRING CONNECTION

- Remove the control box cover for indoor and outdoor unit.
(Remove crews) □
- Use the cord clamp to fix the cord.

OUTDOOR UNIT

- Remove the control cover for wiring connection.
- Use the cord clamp to fix the cord.
- Earthing work
- Connect the cable of diameter $\phi 1.6\text{mm}^2$ or more to the earthing terminal provided in the control box and do earthing.
- ※ Please check !!



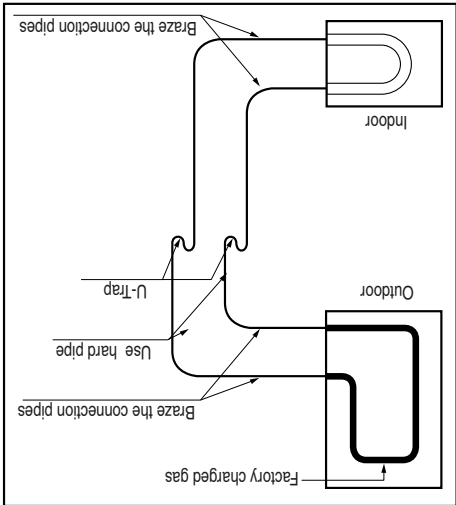
REFRIGERANT PIPING

Perform the work according to the Service Manual or Installation Guide.

- Braze the joints
- Perform air purge with R-22 or vacuum drying.
- When piping work is finished, check all joints.

- Add refrigerant if piping is over 7.5m. (See page 4 for details)

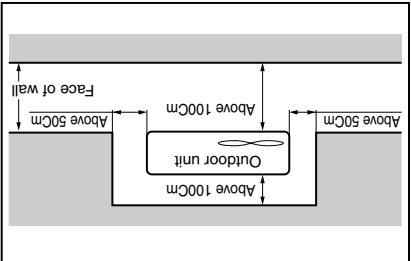
- U-trap is to be provided for every 5 mtr. increase in the vertical length of the pipe.



INSTALLATION OF OUT DOOR UNIT

Select a location that satisfies the following conditions. Install the unit firmly in place.

- Select the following location
 - A place where the air conditioner can get good ventilation.
 - A place where it shall not annoy the neighbors.
 - A place where the unit shall be leveled and that can support the weight of unit and withstand its vibrations.
- Keep a maintenance space



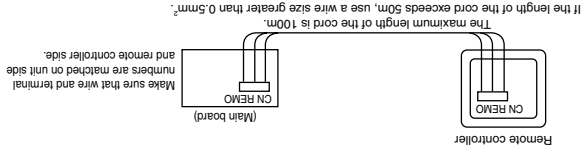
INSTALLATION OF REMOTE CONTROL BOX

Install the remote control box and cord correctly.

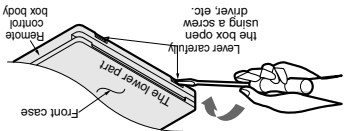
POINT OF REMOTE CONTROLLER INSTALLATION

- Although the room temperature sensor is in the indoor unit, the remote control box should be installed in such places away from direct sunlight and high humidity.
- **ROUTING OF THE REMOTE CONTROL CORD**
 - Keep the remote control cord away from the refrigerant piping and the drain piping.
 - To protect the remote control cord from electrical noise, place the cord at least 5cm away from other power cables.
 - If the remote control cord is secured to a wall, provide a trap at the top of the cord to prevent water droplets from running.
- **INSTALLATION OF THE REMOTE CONTROL BOX**
 - Select places that is not splashed by water.
 - Select control position after receiving customer approval.
 - The room temperature sensor of the thermostat for temperature control is built in the indoor unit.
 - This remote controller equipped with liquid crystal display. If this position is higher or lower, display is difficult to see. (The standard height is 1.2~1.5m high)

ELECTRICAL WIRING TO THE INDOOR UNIT

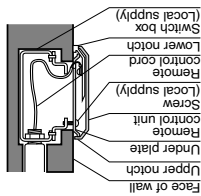


DISASSEMBLING OF THE REMOTE CONTROLLER



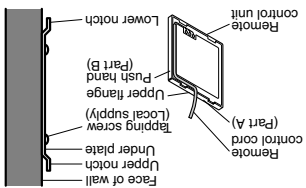
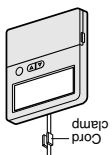
WHEN THE REMOTE CONTROL BOX IS INSTALLED WITH THE CORD BURIED.

- PROCEDURE OF INSTALLATION**
1. Fix the under plate on the switch box by screws(Local supply). In this case, fit the under plate on the wall, and be careful of deformation.
 2. Receive the remote control cord in the switch box.
 3. Hook the remote control unit on the under plate.



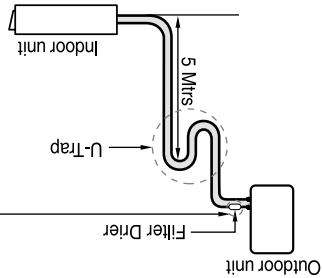
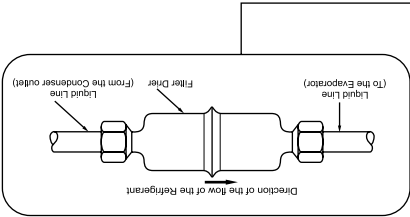
FIXING OF REMOTE CONTROL CORD

1. Fix the cord clamps on the wall by $\phi 3$ tapping screws(Local supply).
2. Fix the remote control cord.

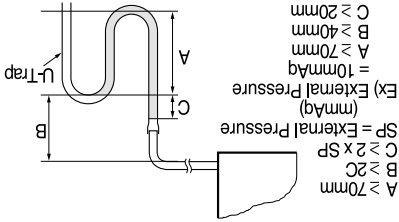


- PROCEDURE OF INSTALLATION**
1. Fix the under plate on the wall by self tapping screws (accessory).
 2. Make a slit (Part A) at the top side of the remote control box by nipper.
 3. Rout the cord as shown in the following figure. In this case, push the cord into the around of case(Part B).
 4. Hook the remote control unit on the under plate.

WHEN THE REMOTE CONTROL BOX IS INSTALLED WITH THE CORD EXPOSED.



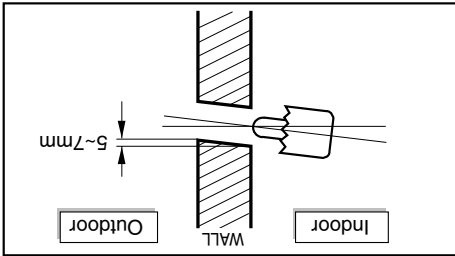
Applied U-Trap Dimension



SP = External Pressure
C $\geq$ 2 x SP
B $\geq$ 2C
A $\geq$ 70mm
A $\geq$ 70mm
A $\geq$ 70mm
B $\geq$ 40mm
C $\geq$ 20mm
Ex) External Pressure
= 10mmHg

• For every 5 mtrs. increase in vertical length of the piping, U-Trap is to be provided.

- Drill the piping hole with 70mm dia, hole core drill.
- Piping hole should be slightly slant to the outdoor side.



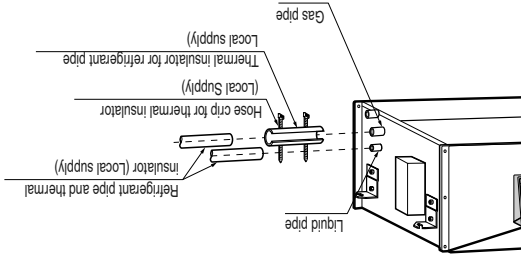
INSULATION, OTHERS

Insulate the joint and tubes completely.

THERMAL INSULATION

All thermal insulation must comply with local requirement.

INDOOR UNIT

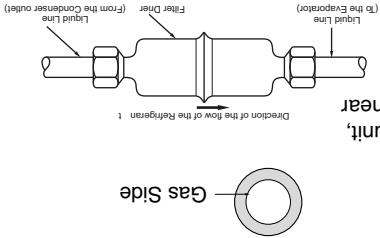


REFRIGERANT PIPE

- Insulate gas side pipe
- No insulation of liquid pipe

Note :

- Filter Driers, recommended to be used with the unit, are to be fitted in the liquid line using flare nuts, near the respective indoor units at a position where they are accessible for servicing.
- The direction of flow of the refrigerant must match the flow direction indicator on the filter driers.



TEST AND CHECK

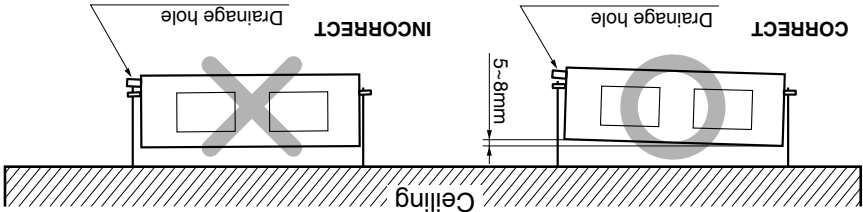
- After all workings are finished, check the working and operation.**
- Air distribution _____ Is the air circulation good?
 - Drain _____ Is the drainage smoothly and no sweating?
 - Gas leakage _____ Is the piping connection correctly?
 - Wiring _____ Is the wiring connection correctly?

CAUTION

1. **Install declination** of the indoor unit is very **important for the drain** of the duct type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe shall be 5mm.

Front of view

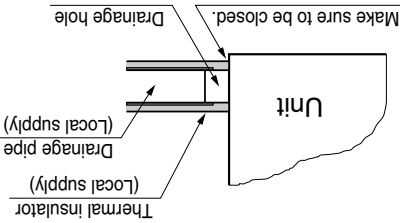
- The unit must be horizontal or declined to the drain hose connected when finished installation.



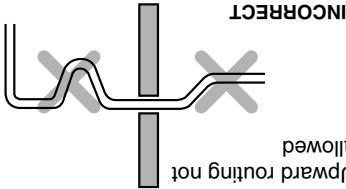
CAUTION FOR GRADIENT OF UNIT AND DRAIN PIPING

Lay the drain hose with a downward inclination so water will drain out.

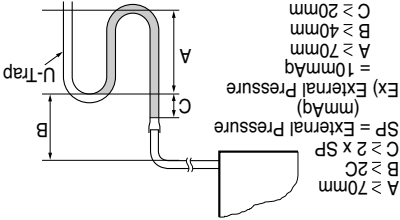
- Always lay the drain with downward inclination (1/50 to 1/100).
- Prevent any upward flow or reverse flow in any part.
- 5mm or thicker formed thermal insulator shall always be provided for the drain pipe.



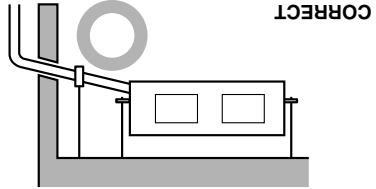
- Upward routing not allowed



Applied U-Trap Dimension



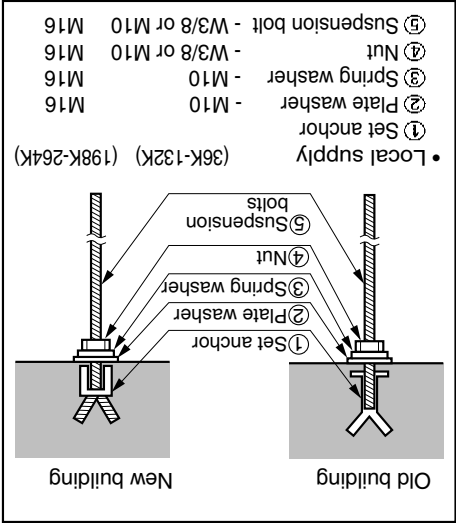
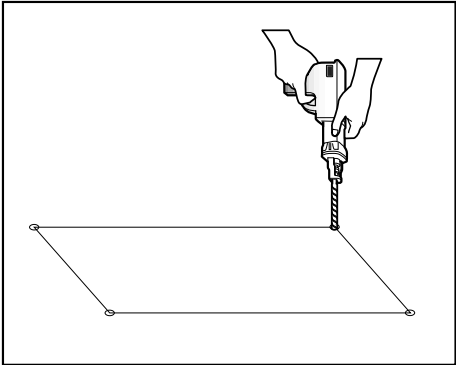
- Install the P-Trap (or U-Trap) to prevent a water leakage caused by the blocking of intake air filter.



CORRECT

INCORRECT

- Select and mark the position for fixing bolts.
- Drill the hole for set anchor on the face of ceiling.
- Insert the set anchor and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- Mount the suspension bolts to the set anchor firmly.
- Secure the installation plates onto the suspension bolts (adjust level roughly) using nuts, washers and spring washers.



CAUTION

Tighten the nut and bolt to prevent unit falling.

2. Indoor unit installation

■ Installation of Unit

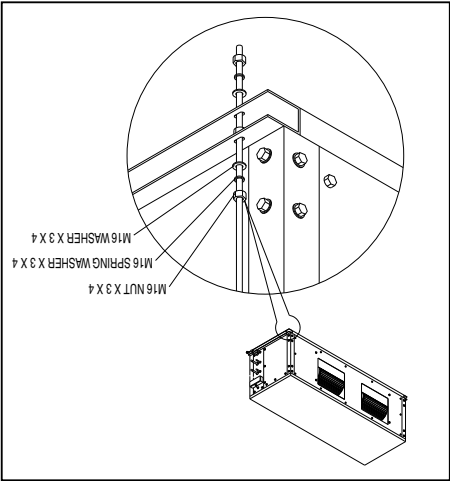
Install the unit above the ceiling correctly

POSITION OF SUSPENSION BOLT

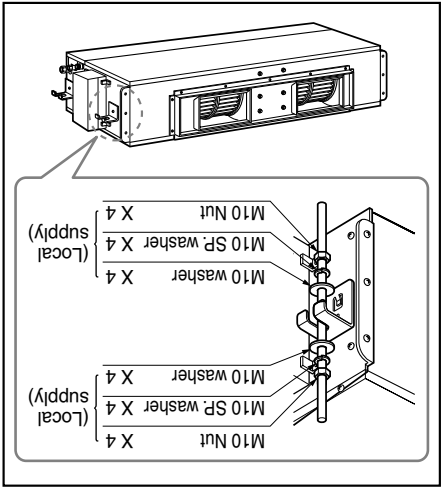
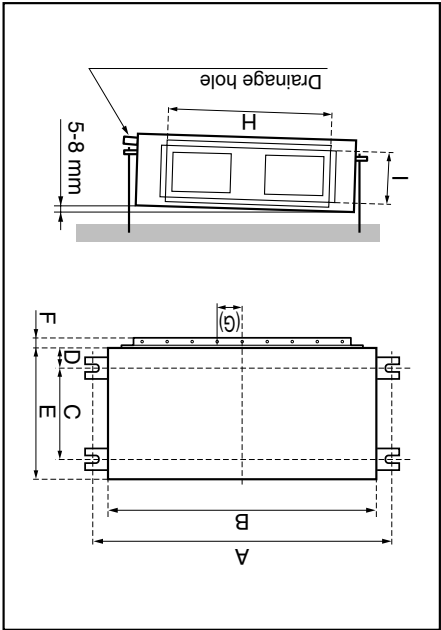
- Apply a joint-canvas between the unit and duct to absorb unnecessary vibration.
- Apply a filter Accessory at air return hole.
- Install the unit leaning to a drainage hole side as a figure for easy water drainage.

POSITION OF CONSOLE BOLT

- A place where the unit will be leveled and that can support the weight of the unit.
- A place where the unit can withstand its vibration.
- A place where service can be easily performed.



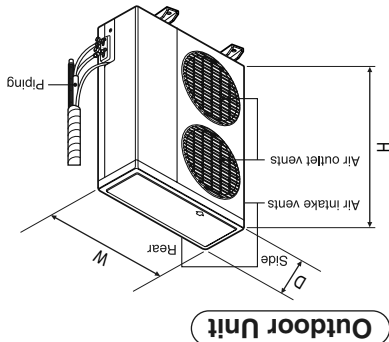
For 198K-264K



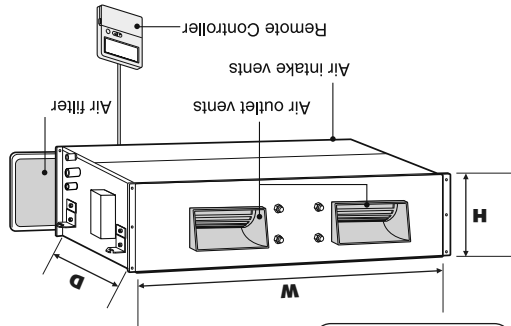
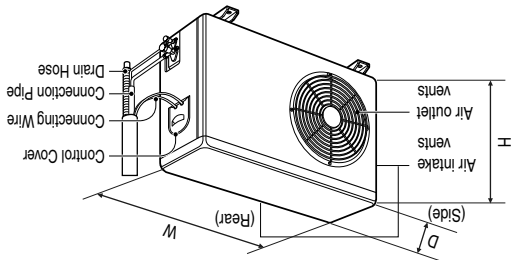
Outdoor Unit

The heat exchanger coils and panel vents of the outdoor unit should be checked regularly. If clogged with dirt or soot, the heat exchanger and panel vents may be professionally steam cleaned.

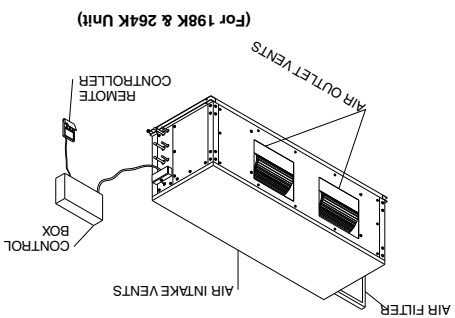
Note: Dirty or clogged coils will reduce the operating efficiency of the system and cause higher operating costs.



Outdoor Unit



Indoor Unit



Capacity		IDU		W		D		H		ODU		W		D		H	
Dimension		IDU		W		D		H		ODU		W		D		H	
36K BTU/H		1		1180		480		295		1		870		320		655	
51K BTU/H		1		1230		600		370		1		906		406		1135	
66K BTU/H		1		1230		600		370		1		906		406		1135	
90K BTU/H		1		1564		660		460		1		906		600		1135	
* 90K BTU/H		1		1562		688		460		1		906		600		1135	
102K BTU/H		1		1564		660		460		1		906		600		1135	
* 102K BTU/H		1		1562		688		460		1		906		600		1135	
132K BTU/H		1		1700		690		460		1		970		570		1310	
132K BTU/H		1		1700		690		460		2		906		406		1135	
132K BTU/H		1		1700		690		460		1		970		670		1310	
198K BTU/H		1		1985		865		595		3		906		406		1135	
264K BTU/H		1		2050		1080		640		2		970		570		1310	

* is applicable for single piping model only.

Caution: Before performing any maintenance, turn off the main power to the system.

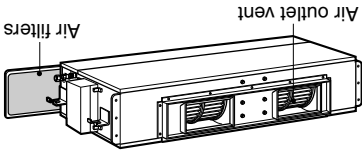
Indoor Unit

Grille, Case, and Remote Control:

- Turn the system off before cleaning. To clean, wipe with a soft, dry cloth. Do not use bleach or abrasives.

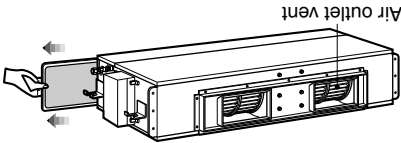
Note:

Supply power must be disconnected before cleaning the indoor unit.



Air Filter:

The air filters behind indoor unit (the suction side) should be checked and cleaned once every 2 weeks or more often if necessary.

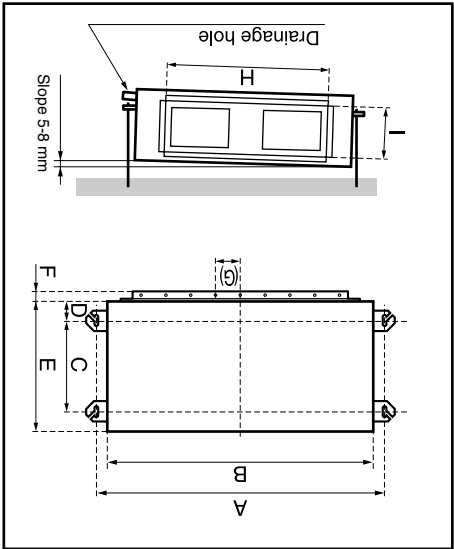


Indoor Unit Dimensions (mm)

Capacity		Dimension		A	B	C	D	E	F	G	H	I
36K BTU/H	1240	1180	365	57.5	480	30	290	850	205			
51K BTU/H	1291	1230	565	57.5	680	30	294	1025	312			
66K BTU/H	1291	1230	485	57.5	600	30	294	1025	312			
90K BTU/H	1625	1564	510	65	660	30	294	1220	304			
* 90K BTU/H	1625	1562	510	65	688	30	294	1220	304			
102K BTU/H	1625	1564	510	65	660	30	294	1220	304			
*102K BTU/H	1625	1562	510	65	688	30	294	1220	304			
132K BTU/H	1765	1705	597	55	692	30	294	1220	304			
198K BTU/H	1987	1930	755	55	865	30	294	1260	422			
264K BTU/H	2110	2050	920	55	1080	22	294	1488	494			

* is applicable for single piping model only.

- Slope of about 5-8 mm is to be provided at the drain hole side of the indoor unit for proper drainage.
- After installation the slope can be measured using a spirit level.



□ Cleaning Tips:

- 1 Clean the filter with a vacuum or warm, soapy water.
- If very dirty, wash with a solution of detergent in lukewarm water.
- If hot water (50°C or more) is used, filter may be deformed.
- 2 After washing with water, dry well in the shade.
- 3 Re-install the air filter.



- Never use any of the followings:
 - Water hotter than 40°C
 - Could cause deformation and/or discoloration.
 - Volatile substances
 - Could damage the surfaces of the air conditioner.

2. Installation of Indoor, Outdoor Unit

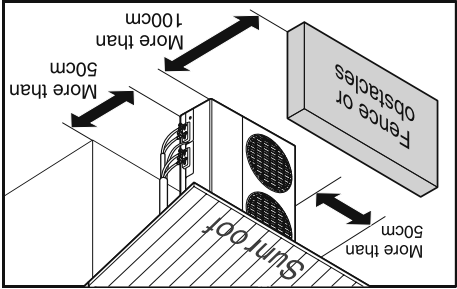
1. Selection of the best location

1) Indoor unit

- Select location
- Install the air conditioner in the location that satisfies the following conditions:
 - The place shall easily bear a load exceeding four times the indoor unit's weight.
 - The place shall be able to inspect the unit as the figure.
 - The place where the unit shall be leveled.
 - The place shall allow easy water drainage.(Suitable dimension "H" is necessary to get a slope to drain as figure.)
 - The place shall easily connect with the outdoor unit.
 - The place where the unit is not affected by an electrical noise.
 - The place where air circulation in the room will be good .
 - There should not be any heat source or steam near the unit

2) Outdoor unit

- If an awning is built over the unit to prevent direct sunlight or rain exposure, be careful that heat radiation from the condenser is not restricted.
- There should not be any animals or plants which could be affected by hot air discharged.
- Ensure the spaces indicated by arrows from the wall, ceiling, fence or other obstacles.



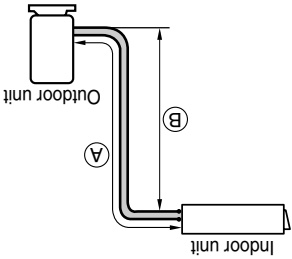
3) Piping length and the elevation

Capacity	Indoor Unit (nos)	Outdoor Unit (nos)	Pipe Size		Length A(m)	Elevation B(m)	Additional refrigerant (g/m)
			Gas	Liquid			
36K BTU/h	1	1	5/8"	3/8"	7.5	30	5
51K BTU/h	1	1	3/4"	1/2"	7.5	30	5
66K BTU/h	1	1	7/8"	1/2"	7.5	30	5
90K BTU/h	1	1	3/4"	1/2"	7.5	30	5
90K BTU/h	1	1	1-1/8"	5/8"	7.5	30	5
102K BTU/h	1	1	1-1/8"	5/8"	7.5	30	5
102K BTU/h	1	1	1-1/8"	5/8"	7.5	30	5
132K BTU/h	1	1	1-1/8"	5/8"	7.5	30	5
132K BTU/h	1	2	7/8"	1/2"	7.5	30	5
132K BTU/h	1	1	7/8"	1/2"	7.5	30	5
198K BTU/h	1	3	7/8"	1/2"	7.5	30	5
264K BTU/h	1	2	1-1/8"	5/8"	7.5	30	5

* is applicable for single piping model only.

- Capacity is based on standard length and maximum allowance
- length is on the basis of reliability

- 36K BTU/h model indoor liquid line 1/4" to be swaged to 3/8" liquid line of ODU.



1. The following should be always observed for safety

- Please report to or take consent by the supply authority before connecting to the system.
- Be sure to read "THE FOLLOWING SHOULD BE ALWAYS OBSERVED FOR SAFETY" before installing the air conditioner.
- Be sure to observe the cautions specified here as they include important items related to safety.
- The indications and meanings are as follows.

	WARNING	Could lead to death, serious injury, etc.
	CAUTION	Could lead to serious injury in particular environments when operated incorrectly.

- After reading this manual, be sure to keep it together with the owner's manual in an accessible place.

WARNING



Do not install it yourself (customer).

- Incomplete installation could cause injury due to fire, electric shock, the unit falling or a leakage of water. Consult the dealer from whom you purchased the unit or special installer.

Install the unit securely in a place which can bear the weight of the unit.

- When installed in an insufficient strong place, the unit could fall causing injured.

Use the specified wires to connect the indoor and the outdoor units securely and attach the wires firmly to the terminal board connecting sections so the stress of the wires is not applied to the sections.

- Incomplete connecting and fixing could cause fire.

Check that the refrigerant gas do not leak after installation is completed.

Attach the electrical part cover to the indoor unit and the service panel to the outdoor unit securely.

- If the electrical part cover of the indoor unit and/or the service panel of the outdoor unit are not attached securely, it could result in a fire or electric shock due to dust, water, etc.

Perform electrical work according to the installation manual and be sure to use an exclusive circuit.

- If the capacity of the power circuit is insufficient or there is incomplete electrical work, it could result in a fire or an electric shock.

Perform the installation securely referring to the installation manual.

- Incomplete installation could cause a personal injury due to fire, electric shock, the unit falling or a leakage of water.

Be sure to use the part provided or specified parts for the installation work.

- The use of defective parts could cause an injury or leakage of water due to a fire, electric shock, the unit falling, etc.

CAUTION



Perform the drainage/piping work securely according to the installation manual.

- If there is a defect in the drainage/piping work, water could drop from the unit and household goods could be wet and damaged.

Do not install the unit in a place where an inflammable gas leaks.

- If gas leaks and accumulates in the area surrounding the unit, it could cause an explosion.

OUT-LINE OF INSTALLATION

1. The following should be always observed for safety..... 3

Installation works	Installation Parts	Required tools
--------------------	--------------------	----------------

2. Installation of Indoor, Outdoor Unit..... 4

- 1) Selection of the best location.....4

2) Indoor unit installation.... 5
- Four Type "A" screws
 - Connecting cable
 - Screw driver
 - Electric drill
 - Hole core drill (ø70mm)

3. Connecting Pipes to the Indoor Unit.....15

- 1) Preparation of Piping...15
- Pipes: Gas side 3/4", 5/8", 7/8", 1-1/8" • Flaring Tools set
 - Liquid side 1/4", 1/2", 5/8", 3/4" • Pipe is to be used for
 - Insulated drain hose
 - Insulation materials installing 5.5 TR

4. Connecting Pipes to the Outdoor Unit.....17

- 1) Connecting the pipes to the Outdoor Unit.....17
- Additional Drain hose (inner Dia.....25mm)

5. Checking the Drainage.....17

6. Connecting Cables between Indoor Unit and Outdoor Unit..... 27

- Screw driver

- 1) Connecting cables to the Indoor Unit.....27

2) Connecting cables to the Outdoor Unit 28

3) Form the pipings.....29

7. Air Purging of the Connecting Pipes and the Indoor Unit..... 30

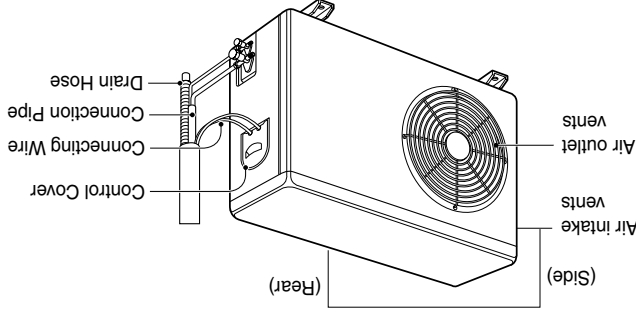
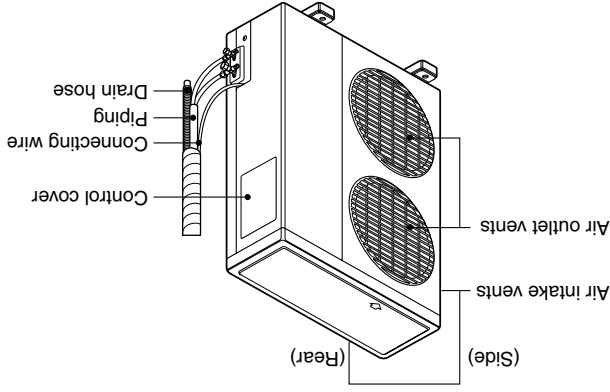
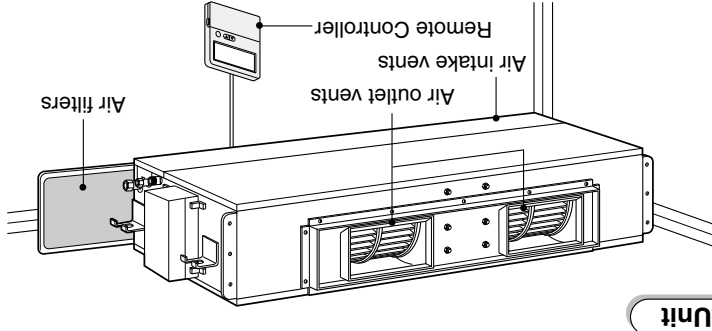
- Hexagonal Wrench (4mm/5mm)
- Gas-leak Detector

8. Group Control 31

9. Two Thermistor System 31

CEILING DUCT TYPE AIR CONDITIONERS INSTALLATION INSTRUCTIONS

- Please read this instruction sheet completely before installing the product.
- When the power cord is wanted to replace, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with national wiring standards by authorized personnel only.



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