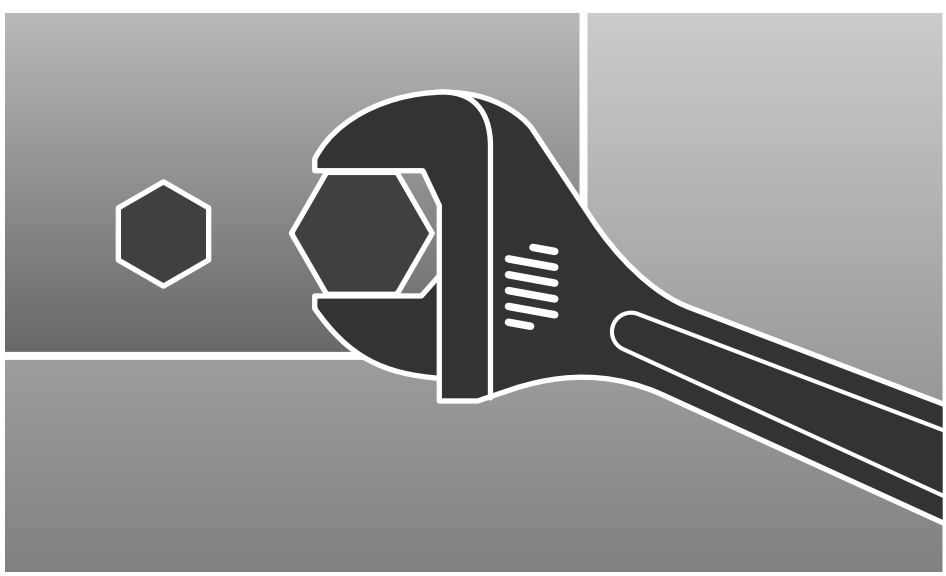
SAMSUNG

INSTALLATION MANUAL
MANUAL DE INSTALACIÓN
MANUALE D'INSTALLZIONE
MANUAL DE INSTALAÇÃO
MANUEL D'INSTALLATION
INSTALLATIONS-HANDBUCH
ΕΓΧΕΙΡΙΔΙΟ ΕΓΚΑΤΑΣΤΑΣΗΣ
ИНСТРУКЦИЯ ПО УСТАНОВКЕ

Type	Indoor Unit	Outdoor Unit
ACH1800E	ICH1800E	UBH1800E
ACH2400E	ICH2400E	UBH2400E
CH18ZA	CH18ZA	CH18ZAX
CH24ZA	CH24ZA	CH24ZAX
CH18CA	CH18CA	CH18CAX
CH24CA	CH24CA	CH24CAX

Cassette-type Air Conditioner (Cool and Heat)
Aire acondicionador Tipo Casete (Refrigeración y Calefacción)
Condizionatore d'aria Tipo Cassetta (Raffreddamento e Riscaldamento)
Ar Condicionado Tipo Cassete (Refrigeração e Aquecimento)
Climatiseur de type Cassette (Refroidissement et Chauffage)
Tonbandkassette Klimaanlage (Kühlen und Wärmen)
Κλιματιστικό Τύπου Αεραγωγού (Ψύξης και Θέρμανσης)
Кондиционер кассетного типа (Охлаждение и обогрев)

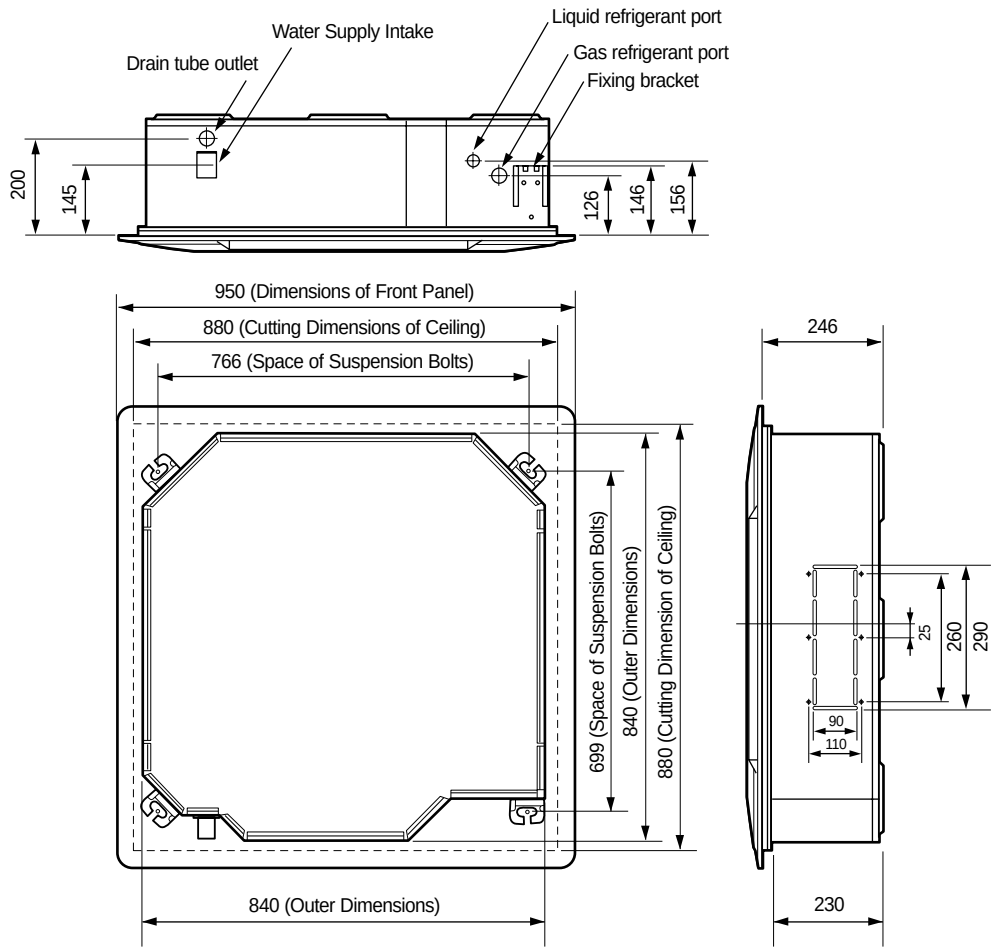


ENGLISH
ESPAÑOL
ITALIANO
PORTUGUÊS
FRANÇAIS
DEUTSCH
ΕΛΛΗΝΙΚΑ
RUSSAIN

ⒺⓈⒾⓅⒻⒹⒼⓇ DB98-04153A(1)

Indoor Unit Dimensions

Unit : mm



Contents

Deciding on Where to Install the Air Conditioner

When deciding on the location of the air conditioner with the owner, the following restrictions must be taken into account.

General

Do NOT install the air conditioner in a location where it will come into contact with the following elements:

- Combustible gases
- Saline air
- Machine oil
- Sulphide gas
- Special environmental conditions

If you must install the unit in such conditions, first consult your dealer.

Indoor Unit

- There must be no obstacles near the air inlet and outlet.
- Choose a space of ceiling that enables the pipes and cables to be easily connected to the outdoor unit and the recommended length of 5 metres to be respected ("L" metres maximum-"L":indicated in the diagram on the page opposite). Proper drain hose passage should also be considered.
- Install the indoor unit on a ceiling that can support its weight.
- Maintain sufficient clearance around the indoor unit, as indicated in the diagram on the page opposite.
- Make sure that the water dripping from the drain hose runs away correctly and safely.

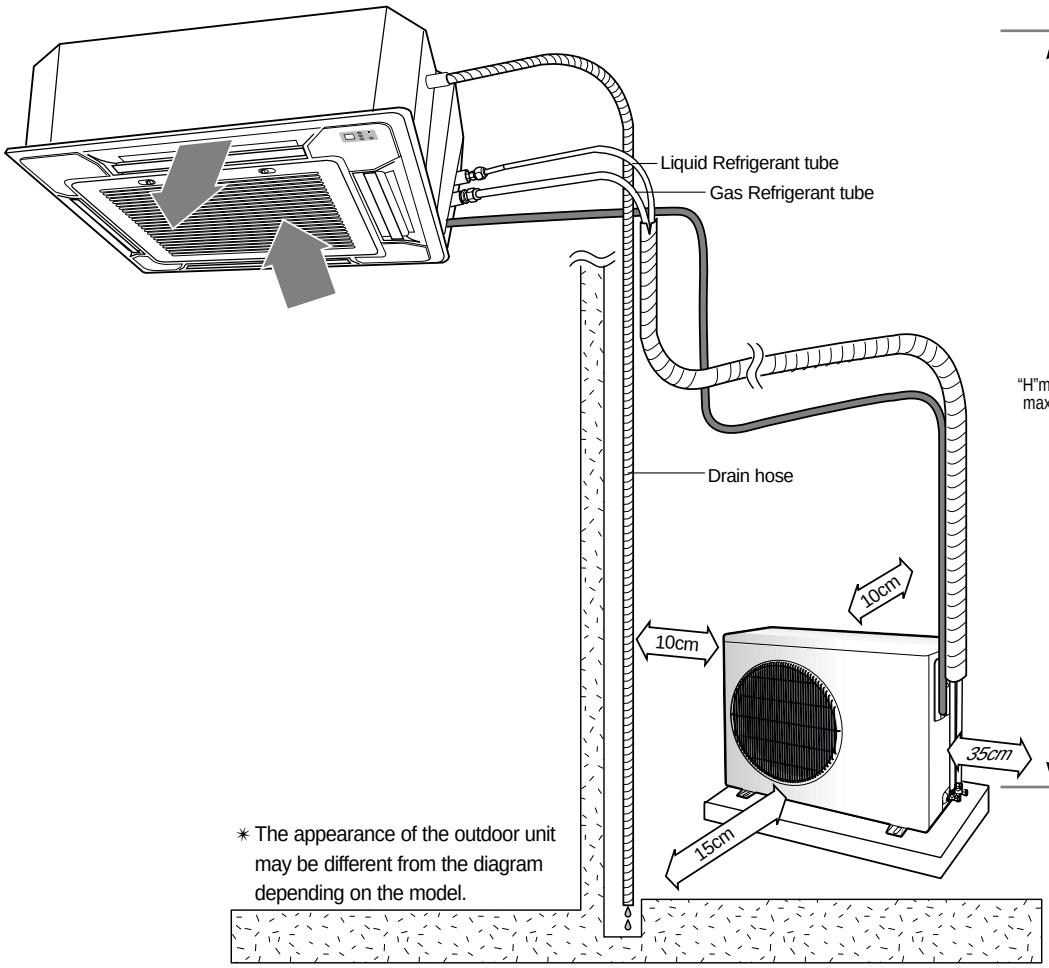
Outdoor Unit

- The outdoor unit must NEVER be placed on its side or upside down, as the compressor lubrication oil will run into the cooling circuit and seriously damage the unit.
- Choose a location that is dry and sunny, but not exposed to direct sunlight or strong winds.
- Do not block any passageways or thoroughfares.
- Choose a location where the noise of the air conditioner when running and the discharged air do not disturb any neighbours.
- Choose a position that enables the pipes and cables to be easily connected to the indoor unit. Recommended length between indoor and outdoor unit is 5 metres.("L" metres maximum)
- Install the outdoor unit on a flat, stable surface that can support its weight and does not generate any unnecessary noise and vibration.
- Position the outdoor unit so that the air flow is directed towards the open area.
- Maintain sufficient clearance around the outdoor unit, as indicated in the diagram on the page opposite.
- If the outdoor unit is installed at a height, ensure that its base is firmly fixed in position; the maximum height difference between indoor and outdoor unit is "H" metres("H" indicated in the diagram on the page opposite.).
- Make sure that the water dripping from the drain hose runs away correctly and safely.

CAUTION

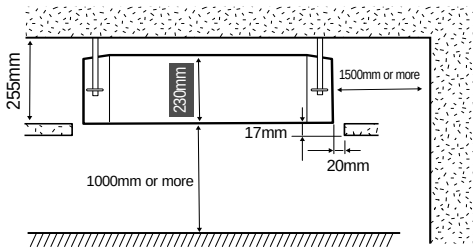
- ***You have just purchased a cassette-type air conditioner and it has to be installed by your installation specialist.***
- ***This device must be installed according to the national electrical rules.***

Respect the clearances and maximum lengths indicated in the diagram below when installing the unit.



Model	L	H
✳✳18✳✳ ✳✳24✳✳	30	15

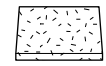
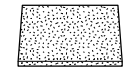
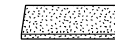
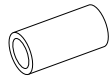
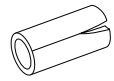
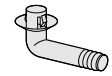
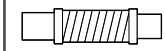
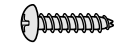
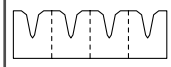
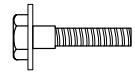
Space requirement when installing the indoor unit



Air Conditioner and Accessories

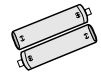
The following accessories are supplied with the air conditioner. The quantities are indicated in parantheses.

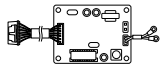
Basic Accessories

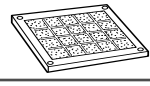
Owner's Instructions(1) 	Installation Manual(1) 	Pattern Sheet(1) 	Insulation Cover Drain(1) 	Insulation Cover Pipe(2) 	Insulation Cover Band(1) 
Insulation Pipe 3/8"(1) Insulation Pipe 5/8"(1) 	Insulation Drain Pipe(1) 	Cable-Tie(5) 	Drain Plug(1) 	Flexible Hose(1) 	M4 X 12 Tapped Screw(4) 
Pad Stopper(1) 	Insulation Drain Sub (1) 	Bolt(4) <Front Panel> 	Flare Nuts 3/8 (1) 	Flare Nuts 5/8 (1) 	Rubber Leg (4) 

Optional Accessories

Wired Remote Controller(1) KR-H50210 	Cable-Tie(2) 	Cable Clamp(5) 	M4 X 16 Tapped Screw(7) 

Wireless Remote Controller(1) KR-H40200 	Battery(2) 	M4 X 16 Tapped Screw(2) 	Remote Controller Holder(1) 	Receiver & Display Unit(1) (KRE-H1000) 

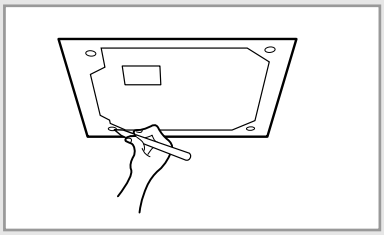
Centralized Controller(1) KR-H60110 	Cable-Tie(2) 	Cable Clamp(5) 	M4 X 16 Tapped Screw(7) 
Transmitter(1) KT-A00 	Spacer Support(4) 	Cable-Tie(2) 	

Bio-Pure Filter(1) KF-C1B0 	M4 X 10 Tapped Screw(4) 	Air blocking Kit(1) KAB-A00 

Note ◆ Refrigeration pipes and their insulating materials, power cables are not supplied.

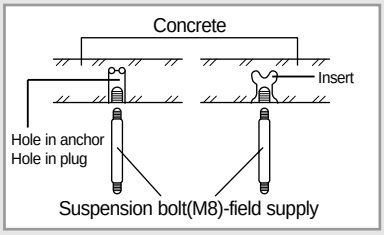
Indoor Unit Installation

1 Place the pattern sheet on the ceiling at the spot where you want to install the indoor unit.



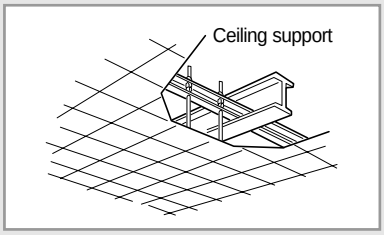
Note ◆ Since the diagram is made of paper, it may shrink or stretch slightly due to temperature or humidity. For this reason, before drilling the holes maintain the correct dimensions between the markings; refer to page 5.

2 Insert bolt anchors, use existing ceiling supports or construct a suitable support as shown in figure.



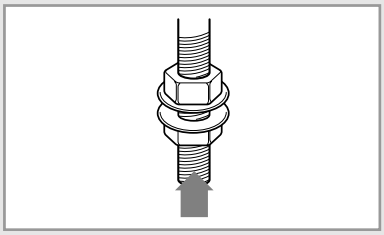
3 Install the suspension bolts depending on the ceiling type.

IMPORTANT **Ensure that the ceiling is strong enough to support the weight of the indoor unit.**
Before hanging the unit, test the strength of each attached suspension bolt.



4 Screw eight nuts to the suspension bolts making space for hanging the indoor unit.

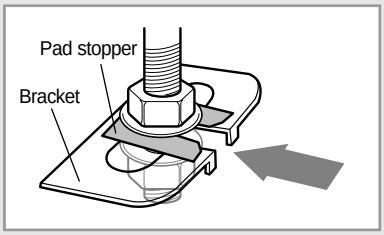
IMPORTANT **You must install the suspension bolts more than four when installing the indoor unit.**



5 Hang the indoor unit to the suspension bolts between two nuts.

Note ◆ Tubing must be laid and connected inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the tubing into position for connection to the unit before placing the unit inside the ceiling.

6 Screw the nuts to suspend the unit. Cut a pad stopper and place it on the bracket at this time.



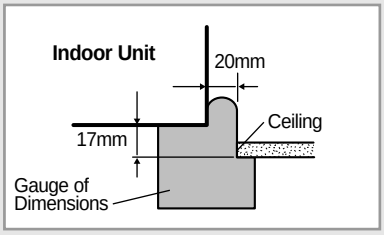
7 Adjust the unit to the appropriate position considering the installation area for the front panel.

7-1 Place the pattern sheet on the indoor unit.

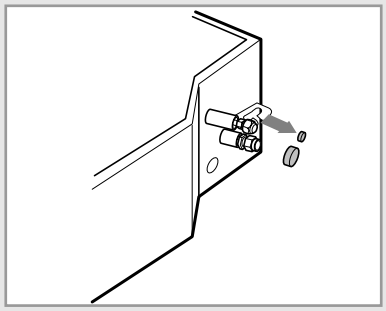
7-2 Adjust a space between the ceiling and the indoor unit by using the gauge of dimensions.

7-3 Fix the indoor unit securely after adjusting level of the unit by using a leveler.

7-4 Remove the pattern sheet, connect the other cables and install the front panel.



Purging the Unit



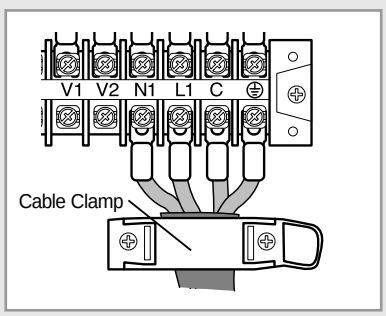
On delivery, the indoor unit is loaded with an inert nitrogen gas. All this gas must therefore be purged before connecting the assembly piping. To purge the inert gas, proceed as follows.

Unscrew the caps at the end of each pipe.

Result: All inert gas escapes from the indoor unit.

Note ◆ To prevent dirt or foreign objects from getting into the pipes during installation, do NOT remove the caps completely until you are ready to connect the piping.

Connecting the Connection Cord



The indoor unit is powered from the outdoor unit via the connection cord.

1 Remove the screws on the electrical component box and remove the cover plates.

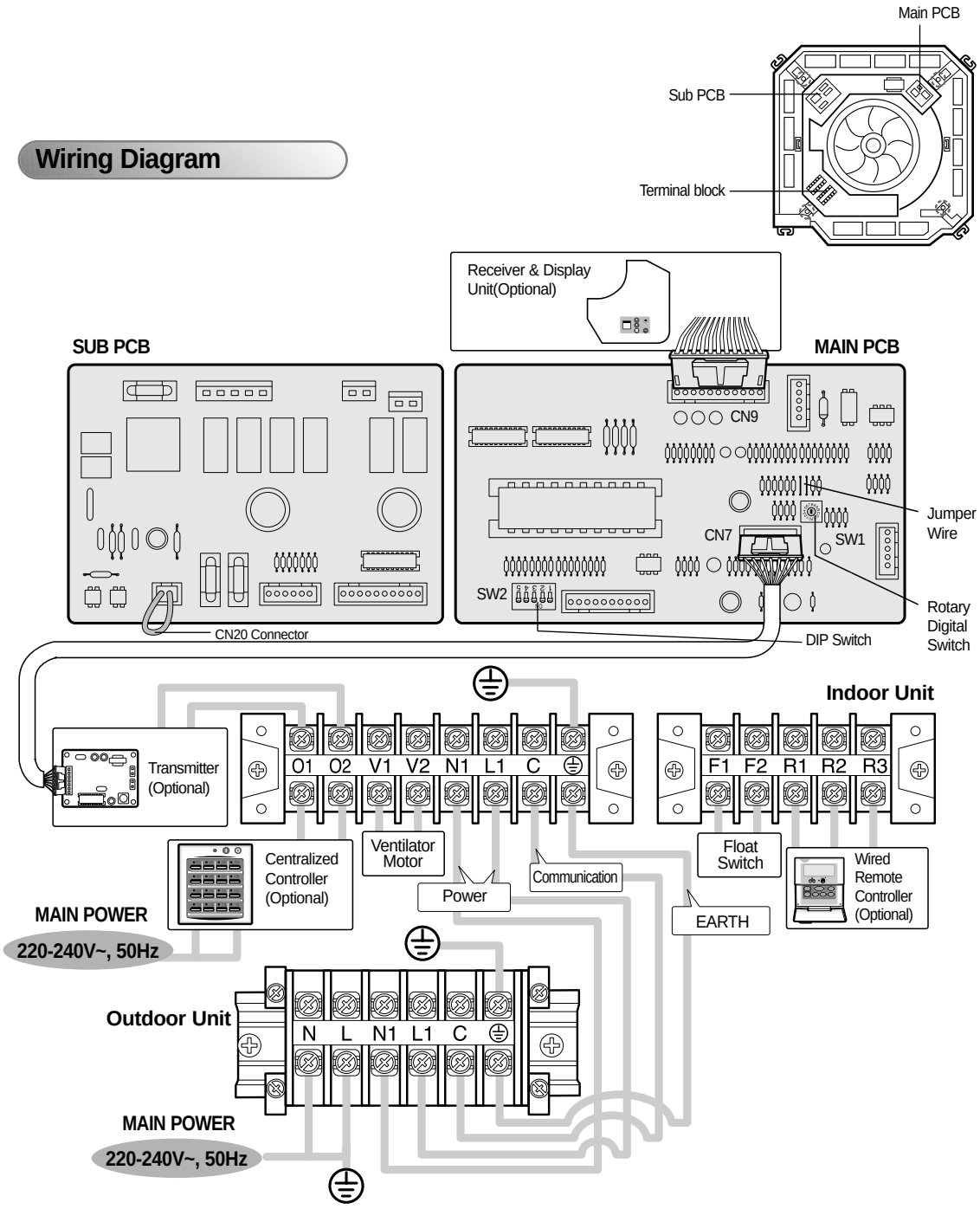
2 Route the connection cord through the side of the indoor unit and connect the cable to terminals as shown in page 9.

3 Route the other end of the cable to the outdoor unit through the ceiling & the hole on the wall.

4 Reassemble the electrical component box cover, carefully tightening the screws.

5 For further details on how to plug the other end of the connection cord into the outdoor unit, refer to page 14.

Wiring Diagram

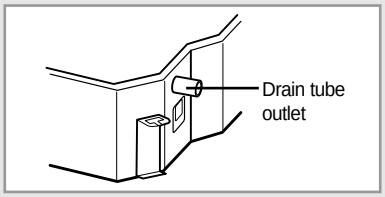


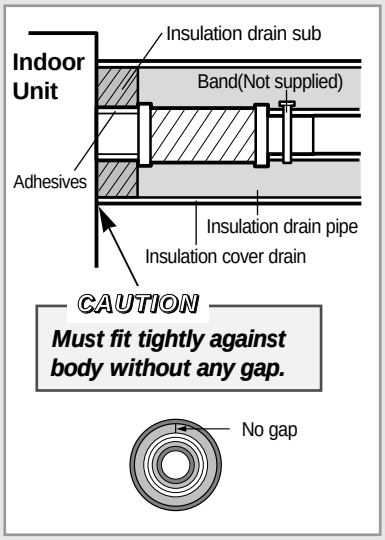
Cable Specifications

The following electrical characteristics must be respected.

MODEL		✻✻18✻✻, ✻✻24✻✻	Note
Power		1Ø - 220V-240V~, 50Hz	The power cables are not supplied with the air conditioner. The user should purchase them separately.
Sub switch		30A	
Fuse		30A	
Min. size of electric Wires from/to the indoor/outdoor unit		H07RN-F, 4G, 1.0mm^2	
Size of electric input wires	20m or less	H07RN-F, 3G, 2.5mm^2	
	50m or less	H07RN-F, 3G, 4.0mm^2	

Drain Hose Installation





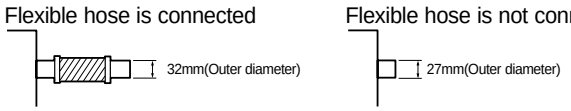
Care must be taken when installing the drain hose for the indoor unit to ensure that any condensate water is correctly drained outside.

1 Insert the flexible hose to the drain tube outlet, if necessary.

Note ◆ Attach the drain hose to the drain tube outlet with the adhesives to prevent water leaks, then secure the hose with a band etc..(The band is not supplied with the air conditioner.)

2 Install the drain hose so that its length can be as short as possible. Internal diameter of the drain hose should be the same or slightly bigger than the external diameter.

◆ **Inner diameter of the drain hose**



Note ◆ Give a slightly slant to the drain hose for proper drainage of condensate.

◆ Secure the drain hose with the band joint and the cable-tie not to be separated from the unit.

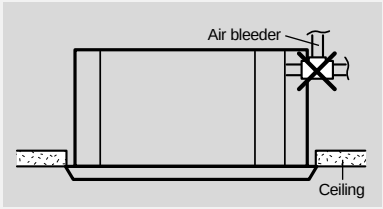
3 Wrap the drain hose with the insulation drain as shown in figure and secure it.

Note ◆ When connecting the drain hose without the flexible hose, you should attach it to the drain tube outlet with adhesives and tapes to prevent water leaks.

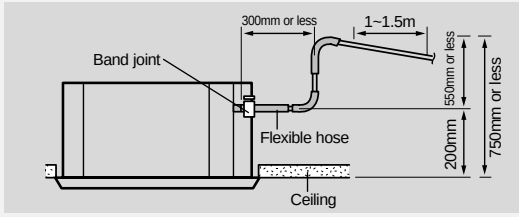
CAUTION

Check that the indoor unit is level with the ceiling by using the leveler.

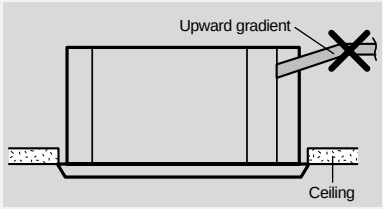
Do not install air bleeding tubes, as this may cause water to spray from the drain tube outlet.



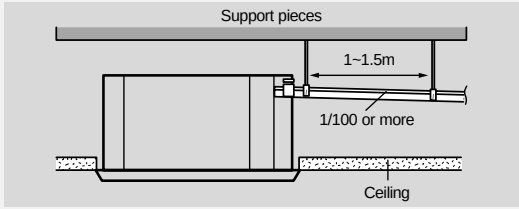
If it is necessary to increase the height of the drain hose somewhat, the portion directly after 30cm. If it is raised higher than 50cm, there can be water leaks.



Do not give the hose and upward gradient after the connection port.
This will cause water to flow backwards when the unit is stopped, resulting in water leaks.



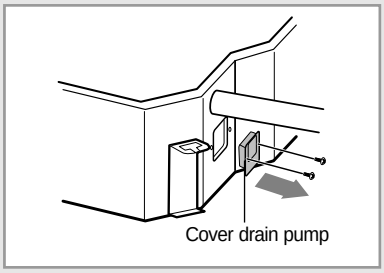
Do not apply force to the piping on the unit side when connecting the drain hose. The hose should not be allowed to hang loose from its connection to the unit. Fasten the hose to a wall, frame or other support as close to the unit as possible.



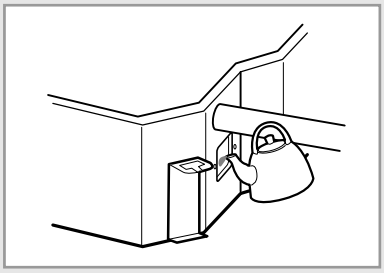
Testing the drainage

You should test the drainage after completing the installation.
Prepare a little water about 2.0 liter.

1 Remove two screws on the cover drain pump and pull out the cover.



2 Pour water into the indoor unit as shown in figure.



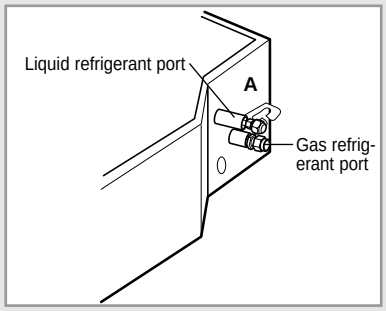
Note ◆ If you do not pour water inside the water supply intake, water may spill from the indoor unit.

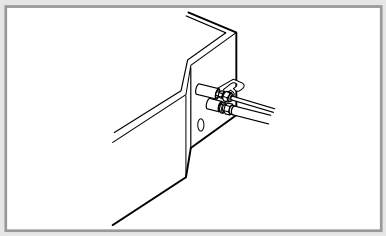
3 Confirm that the water flows out through the drain hose.

Note ◆ You can check the drainage only when the air conditioner is turned on.

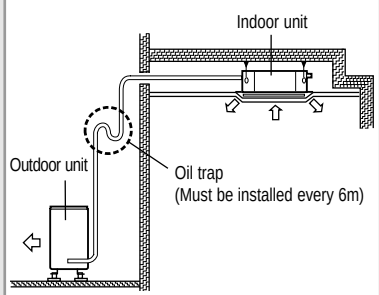
4 Reassemble the cover drain pump and the screws.

Connecting the Indoor Unit Assembly Piping

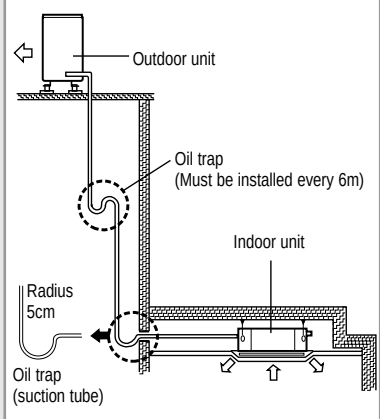




a. When the indoor unit is above the outdoor unit



b. When the outdoor unit is above the indoor unit



There are two refrigerant pipes of differing diameters:

- A smaller one(9.52mm, 3/8") for the liquid refrigerant
- A larger one(15.88mm, 5/8") for the gas refrigerant
- The thickness of tube should not less than 1.0mm.
- The inside of copper tube must be clean & has no dust.

The connection procedure for the refrigerant pipes varies according to the exit position of the pipes from the indoor unit, as seen when facing the indoor in the "A" side.

- Liquid refrigerant port
- Gas refrigerant port

1 Remove the protection caps on the pipes and connect the assembly pipes to each pipe, tightening the nuts, first manually and then with a wrench, a spaner applying the following torque.

Outer Diameter	Torque (kgf•cm)
9.52 mm (3/8")	300
15.88 mm (5/8")	750

Note ◆ If the pipes must be shortened refer to page 13.

2 Must use insulator which is thick enough to cover the refrigerant tube to protect the condensate water on the outside of pipe falling onto the floor and the efficiency of the unit will be better.

3 Cut off any excess foam insulation.

4 Be sure that there must be no crack or wave on the bended area.

5 It would be necessary to double the insulation thickness (10mm or more)to prevent condensation even on the insulator when if the installed area is warm and humid.

6 Shape an oil trap as shown in figure. The oil trap must be formed every level difference of 6m.

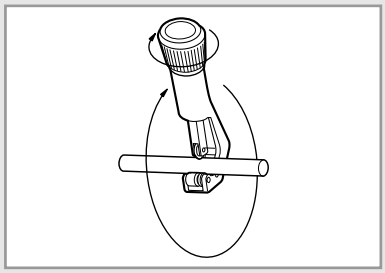
7 For further details on connecting up to the outdoor unit and purging the refrigerant circuit, refer to page 17.

Note ◆ The pipes will be insulated and fixed permanantly into position once the whole installation has been tested for gas leaks; refer to page 18 for further details.

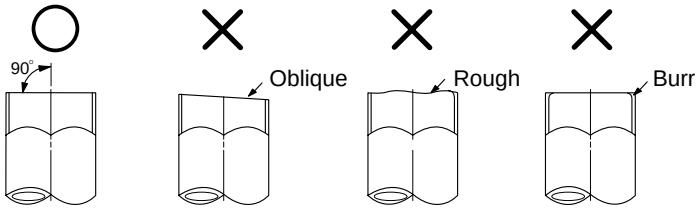
Cutting/Flaring the Pipes

Connect the pipe within 30m and cutting pieces will not be gone into the pipe as being clean to pipe section.

1 Make sure that you have the required tools available (pipe cutter, reamer, flaring tool and pipe holder).



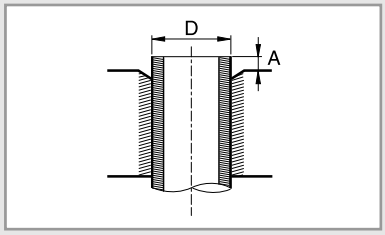
2 If you wish to shorten the pipes, cut it with a pipe cutter, taking care to ensure that the cut edge remains at a 90° angle with the side of the pipe. Refer to the illustrations below for examples of edges cut correctly and incorrectly.



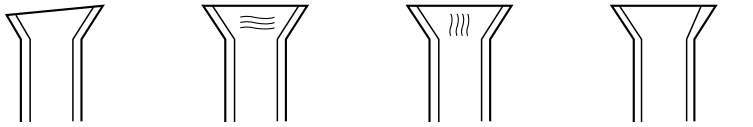
3 To prevent any gas from leaking out, remove all burrs at the cut edge of the pipe, using a reamer.

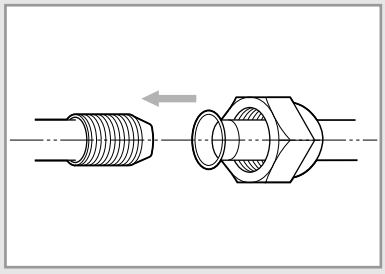
4 Slide a flare nut on to the pipe and modify the flare.

Outer Diameter(D)	Depth (A)
9.52 mm (3/8")	1.8 mm
15.88 mm (5/8")	2.2 mm



5 Check that the flaring is correct, referring to the illustrations below for examples of incorrect flaring.





6 Align the pipes and tighten the flare nuts first manually and then with a wrench, applying the following torque.

Outer Diameter(D)	Torque(kgf•cm)
9.52 mm (3/8")	300
15.88 mm (5/8")	750

7 For further details on how to connect up to the outdoor unit and purge the circuit, refer to page 17.

CAUTION

- ***In case of welding the pipe, you must weld with nitrogen gas blowing.***

Connecting the Cables to the Outdoor Unit

Two electric cables must be connected to the outdoor unit.

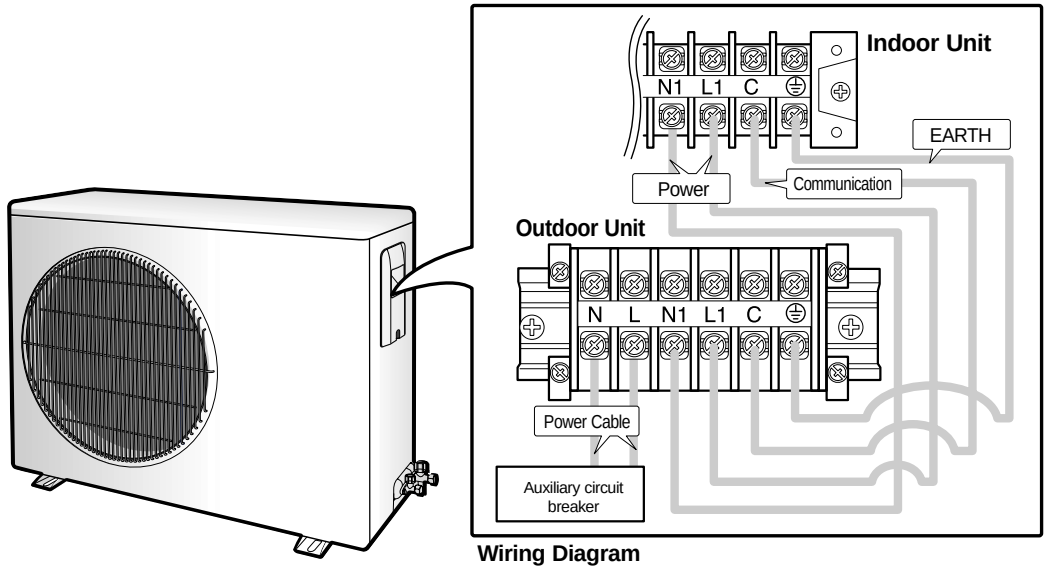
- ◆*The connection cord connecting the indoor unit to the outdoor unit*
- ◆*The power cable connecting the auxiliary circuit breaker to the outdoor unit*

1 Remove the terminal board cover on the side of the outdoor unit.

2 Connect the connection cord(N1, L1, C, ⏚) and power cable(N, L) to terminals as shown in the diagram.

3 Connect the power cable to the auxiliary circuit breaker.
An all pole disconnection from the power supply must be incorporated in the fixed wiring(≥3mm).

4 Replace the terminal board cover, carefully tightening the screw.



Wiring Diagram

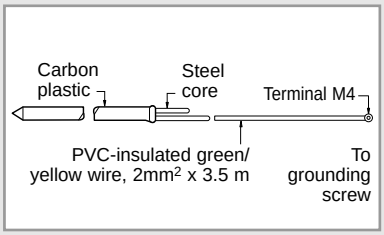
CAUTION

- ◆ ***Keep the power cable and the connection cord in a steel pipe to protect them against liquids, outside impacts and so on.***

Checking Correct Grounding

If the power distribution circuit does not have an earth or the ground does not comply with specifications, an grounding electrode must be installed.

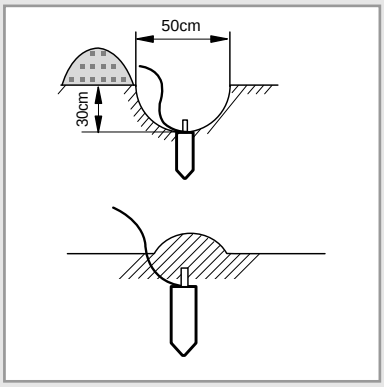
The corresponding accessories are NOT supplied with the air conditioner.



1 Select an grounding electrode that complies with the specifications given in the illustration.

2 Determine a suitable location for the grounding electrode:
- ◆ In damp hard soil rather than loose sandy or gravel soil that has a higher grounding resistance
- ◆ Away from underground structures or facilities, such as gas pipes, water pipes, telephone lines and underground cables
- ◆ At least two metres away from a lightening concassetteor grounding electrode and its cable

Note ◆ The grounding wire for the telephone line cannot be used to ground the air conditioner.



3 Finish wrapping insulating tape around the rest of the pipes leading to the outdoor unit.

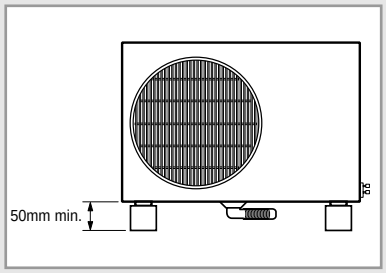
4 Install a green/yellow coloured grounding wire (Ø1.6 mm, section 2 mm^2 or greater):
- ◆ If the grounding wire is too short, connect an extension lead, in a mechanical way and wrapping it with insulating tape (do not bury the connection)
- ◆ Secure the grounding wire in position with staples

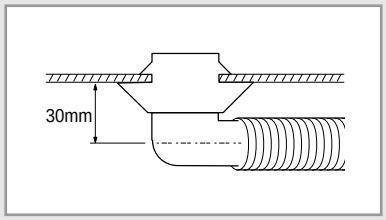
Note ◆ If the grounding electrode is installed in an area of heavy traffic, its wire must be connected securely.

5 Carefully check the installation, by measuring the grounding resistance with an ground resistance tester. If the resistance is above required level, drive the electrode deeper into the ground or increase the number of grounding electrodes.

6 Connect the grounding wire to the electrical component box inside of the outdoor unit.

Connecting the Drain Hose to the Outdoor Unit





When using the air conditioner in the heating mode, ice may accumulate. During de-icing, the condensed water must be drained off safely. Consequently, you must install a drain hose on the outdoor unit, following the instructions below.

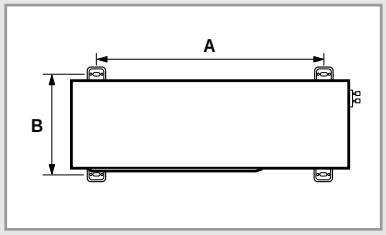
1 Make space more than 50mm between the bottom of the outdoor unit and the ground for installation of the drain hose, as shown in figure.

2 Insert the drain plug into the hole on the underside of the outdoor unit.

3 Connect the drain hose to the drain plug.

4 Ensure that the drained water runs off correctly and safely.

Fixing the Unit in Position



The outdoor unit must be installed on a rigid and stable base to avoid any increase in the noise level and vibration, particularly if the outdoor unit is to be installed close to a neighbour. If it is to be installed in a location exposed to strong winds or at a height, the unit must be fixed to an appropriate support (wall or ground).

1 Position the outdoor unit so that the air flow is directed towards the outside.

2 Attach the outdoor unit to the appropriate support using anchor bolts.

MODEL	A	B
UBH1800E, CH18ZAX, CH18CAX	582mm	340mm
UBH2400E, CH24ZAX, CH24CAX	660mm	340mm

3 If the outdoor unit is exposed to strong winds, install shield plates around the outdoor unit, so that the fan can operate correctly.

Connecting Up and Removing Air In the Circuit

The outdoor units is loaded with sufficient "C" refrigerant for 5 metres of piping. The air in the indoor unit and in the pipe must be purged. If air remains in the refrigeration pipes, it will affect the compressor, reduce to cooling/heating capacity and could lead to a malfunction. Refrigerant for air purging is not charged in the outdoor unit. Use Vacuum Pump as shown at the figure.

Adding Refrigerant

Refrigerant must be added if the piping measures more than 5 metres in length (maximum of "A" metres). The quantity of additional refrigerant is variable according to the installation situation. Thus, make sure the outdoor unit situation before adding refrigerant. This operation can only be performed by a qualified refrigeration specialist.

☛	If you have used...	Then...
	More than 5 metres of the pipes	"B"g of refrigerant ("C") must be added for each extra metre.
	Less than 5 metres of piping	The purge time is normal

The CH18CA and CH24CA models need a new refrigerant, R407C.
Thus, when refrigerant leakage occurs in use, you must purge and make vacuous with a vacuum pump before adding the refrigerant.
Then put the optimal quantity of refrigerant newly.
(CH18CA:1800g+"a" or "b"g, CH24CA:2000g+"a" or "b"g)
In addition, the refrigerant must be added in liquid phase.

Caution
You must not add the R407C refrigerant without purging and vacuum procedure.

1 Connect each assembly pipe to the appropriate valve on the outdoor unit and tighten the flare nut.

2 Referring to the illustration opposite, tighten the flare nut on section B first manually and then with a wrench, applying the following torque.

Outer Diameter	Torque (kgf•cm)
9.52 mm (3/8")	300
15.88 mm (5/8")	750

3 Connect the charging hose of low pressure side of manifold gauge to the packed valve having a service port as shown at the figure.

4 Open the valve of the low pressure side of manifold gauge counter clockwise.

5 Purge the air from the system using vacuum pump for about 10 minutes.
- ◆ Close the valve of the low pressure side of manifold gauge clockwise.
- ◆ Make sure that pressure gauge show -0.1MPa(-76cmHg) after about 10 minutes. This procedure is very important in order to avoid gas leak.
- ◆ Turn off the vacuum pump.
- ◆ Remove the hose of the low pressure side of manifold gauge maintaning a vacuum.

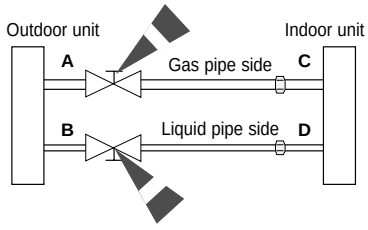
6 Set valve cork of both liquid side and gas side of packed valve to the open position.

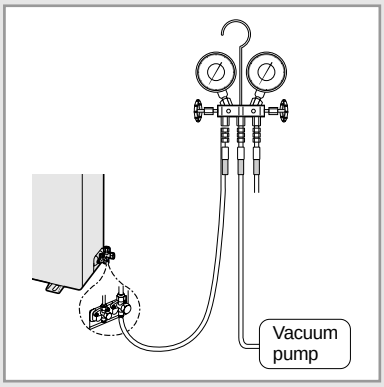
7 Mount the valve stem nuts and the service port cap to the valve, and tighten them at the torque of 18N•m with a torque wrench.

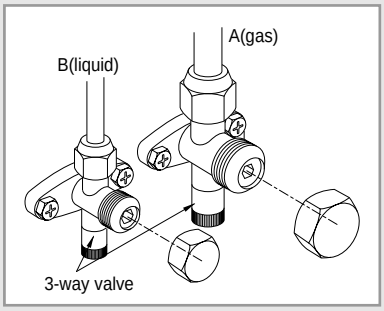
8 Check for gas leakage.
- ◆ At this time, especially check for gas leakage from the 3-way valve's stem nuts(A port), and from the service port cap.

Model	A	B		C
		a	b	
ACH1800E, CH18ZA	30	40	50	R-22
ACH2400E, CH24ZA	30	40	50	
CH18CA	30	50	50	R407C
CH24CA	30	40	50	

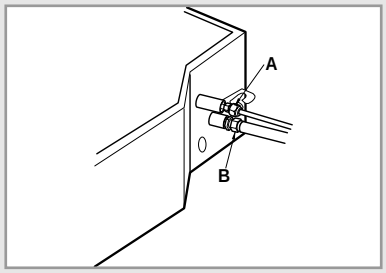
For details about the installation situation(a or b), refer to page 12.

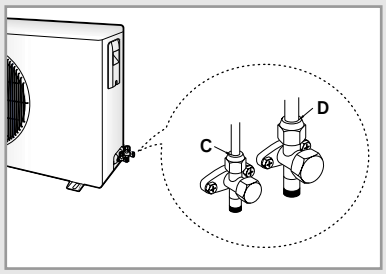






Performing Leak Tests





Before completing the installation (insulation of the hose and piping), you must check that there are no gas leaks.

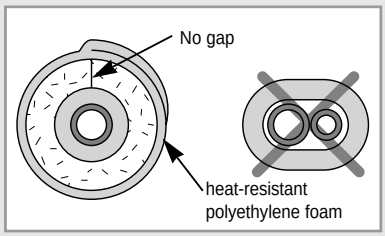
To check for gas leaks on the...	**Then, using a leak detector, check the...**
Indoor unit	Flare nuts at the end of sections A and B.
Outdoor unit	Valves on sections C and D.

Insulation

Once you have checked that there are no leaks in the system, you can insulate the piping and hose.

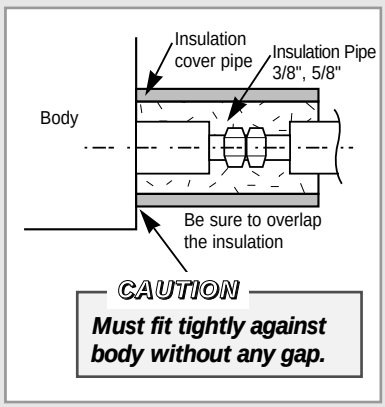
1 To avoid condensation problems, place **heat-resistant polyethylene foam** separately around each refrigent pipe.

Note ◆ Always make the seam of pipes face upwards.



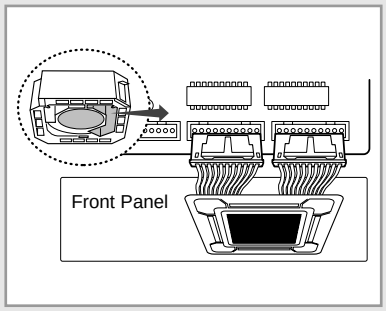
2 Wind insulating tape around the pipes and drain hose.

3 Finish wrapping insulating tape around the rest of the pipes leading to the outdoor unit.

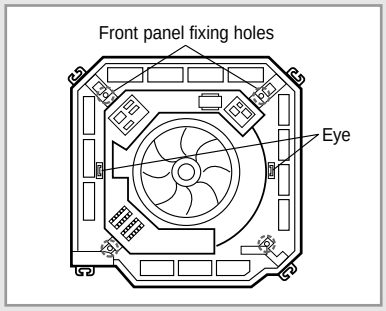


Installing the Front Panel

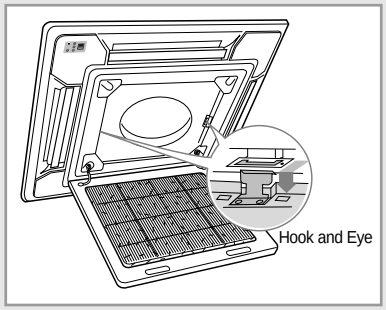
1 Open the electrical component box cover removing the screws.



2 Connect the cables of the front panel to the PCB as shown in figure.

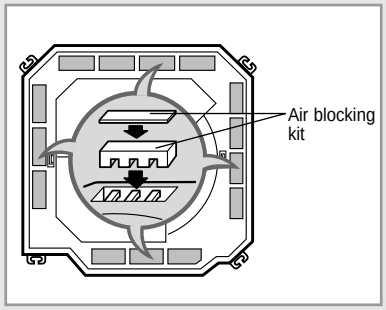


3 Close the electrical component box cover and secure the screws.



4 Install the front panel using two hooks on the both sides of the indoor unit.

5 Secure the front panel to the indoor unit using the bolts(4EA).



Note

- ◆ When user's optional accessory is a wireless remote controller, you have to install the receiver & display unit; refer to page 28.
- ◆ There are four kinds of air blocking kits. Fill up the air outlet(s) with one or more kits depending on the situation, then install the insulation to block air completely.

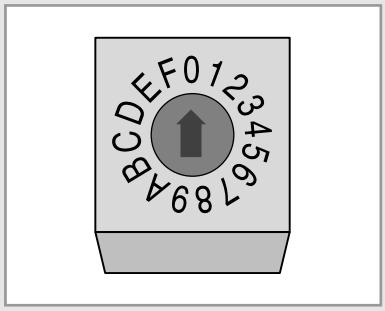
Setting Up Option Switches

IMPORTANT : Before setting up the option switches, always make sure that you have turned off the main power.

Main PCB in the Indoor Unit

Rotary Digital Switch(SW1)

A user can operate up to sixteen air conditioners by using the wired remote controller. Before controlling more than one air conditioner, you should connect the air conditioner each other. And you must assign addresses to the air conditioners. For further details on connecting air conditioners, refer to page 30. If the user would like to controller only one air conditioner, make sure that the arrow is at “0” position.



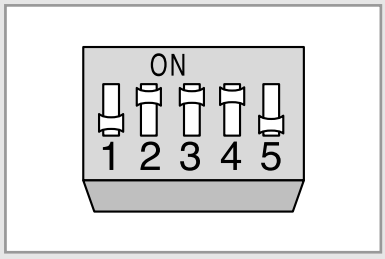
Turn the arrow to the desired position referring to the table below.

Switch No.	Number of indoor unit(s)	Switch No.	Number of indoor unit(s)
0	One	8	Nine
1	Two	9	Ten
2	Three	A	Eleven
3	Four	B	Twelve
4	Five	C	Thirteen
5	Six	D	Fourteen
6	Seven	E	Fifteen
7	Eight	F	Sixteen

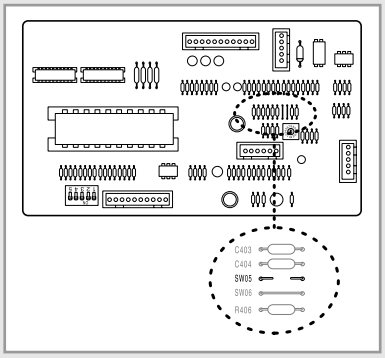
DIP Switch(SW2)

Adjust the switch to the desired position referring to the table below.

Switch No.	Option Item	Switch Position		Note
		ON	OFF	
1	Ventilator Fan	Not installed	Installed	Not supplied
2	Drain Pump	Installed	Not installed	
3	Float Switch	Installed	Not installed	
4	Filter Cleaning Cycle	1,000 hours	2,000 hours	
5	Indoor Fan Motor Speed	Normal	High speed	



Note ◆ Make sure that the No.2 and No.3 switches are at “ON” position.

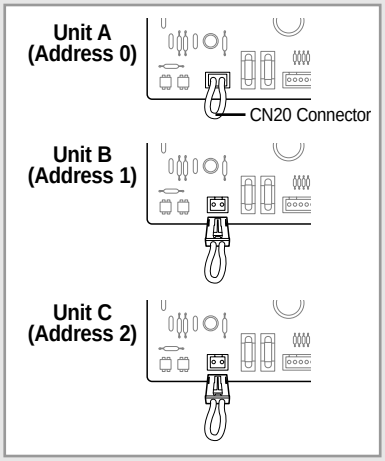


Jumper Wire(SW05)

You can adjust the setting temperature for heating. Cut off the SW05, depending on the situation.

Option Item	Situation of the Switch	Note
Setting temperature +2°C	Short	Preset Position
Setting temperature +5°C	Open	

Sub PCB in the Indoor Unit



CN20 Connector

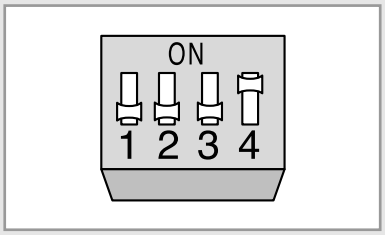
Remove the CN20 connector in the sub PCB, if necessary, referring to the table below. (This procedure is needed only when the user would like to control a group by using the wired remote controller.)

Address	Situation of the CN20 Connector
0	Connected
1 - F	Removed

Note

- ◆ Up to 16 air conditioners can be controlled with one wired remote controller.
- ◆ If the user does not want to control a group, do not remove the CN20 Connector.

PCB in the Wired Remote Controller



Dip Switch(DS01)

Adjust the DIP switch No.2 and/or No.4 to the desired position referring to the table below. You must not adjust the switch 1 and 3. They should be in "OFF" position at all times.

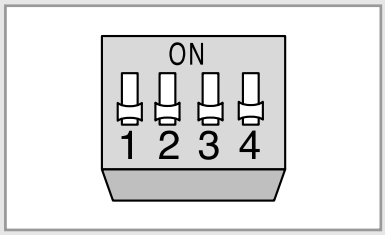
Switch No.	Option Item	Switch Position	
		ON	OFF
2	Number of air conditioner(s) controlled by the wired remote controller	Group controlling	One indoor unit controlling
4	Using wireless remote controller	Can be used	Cannot be used

Centralized Controller

DIP Switch(DS01)

Adjust the DIP switch to the desired position referring to the table below.

Switch No.	1	2	3	4	Meaning
Switch Position	OFF	OFF	OFF	OFF	The air conditioner is operated by the controller adjusted last among the wired remote controller, wireless remote controller and centralized controller.
	OFF	OFF	OFF	ON	A user can use wired/wireless remote controller when the centralized controller is switched on. And he/she cannot use the remote controller(s) when the centralized controller is switched off.
	OFF	OFF	ON	OFF	The air conditioner(s) can be controlled by only the centralized controller. The user cannot use the wired/wireless remote controller in this case.



Note ◆ You cannot install the centralized controller when the wired remote controller for a group has already been installed.

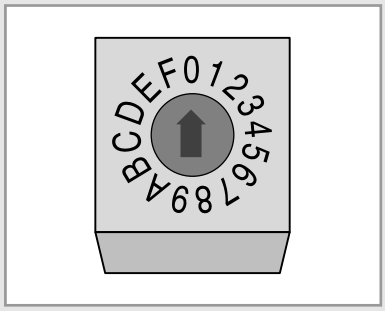
Transmitter

Rotary Digital Switch(DS01)

A user can turn on/off up to sixteen air conditioners by using the centralized controller. To use the controller, you must assign addresses to the air conditioners. For further details on connecting air conditioners, refer to page 31.
If the user would like to controller only one air conditioner, make sure that the arrow is at “0” position.

Turn the arrow to the desired position referring to the table below.

Switch No.	Number of indoor unit(s)	Switch No.	Number of indoor unit(s)
0	One	8	Nine
1	Two	9	Ten
2	Three	A	Eleven
3	Four	B	Twelve
4	Five	C	Thirteen
5	Six	D	Fourteen
6	Seven	E	Fifteen
7	Eight	F	Sixteen



Original Position of Option Switches

The option switches are preset by the manufacturer. Refer to the table below, if necessary.

Option Place	Component No.	State
Main PCB in the indoor unit	Rotary Digital Switch(SW1)	0
	DIP Switch(SW2)	ON
	Jumper Wire(SW05)	SHORT
Sub PCB in the indoor unit	CN20 Connector	Connected
Wired Remote Controller	DIP Switch(DS01)	OFF
Centralized Controller	DIP Switch(DS01)	OFF
Transmitter	Rotary Digital Switch(DS01)	0

Note

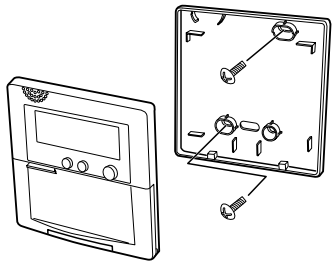
- Before setting up the options, always make sure that you have switched off the main power.
- After adjusting the options, you should supply the power. Otherwise, the options will not be applied.

Wired Remote Controller Installation (Optional)

Accessories

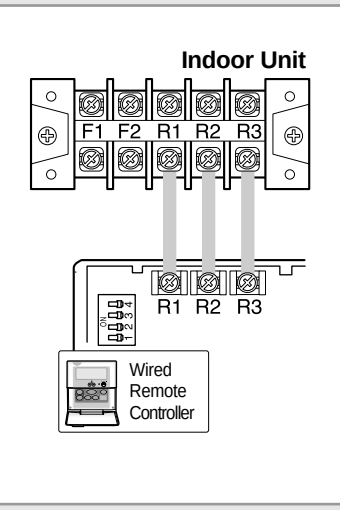
Wired Remote Controller(1) KR-H50210	Cable-Tie(2)	Cable Clamp(5)	M4 X 16 Tapped Screw(7)
			

1 Disassemble the wired remote controller by using two grooves on the top of it.



2 Secure the rear cover of the wired remote controller on the wall with two screws.

3 Connect the R1, R2 and R3 terminals in the wired remote controller to the R1, R2 and R3 terminals on the electrical component box each.



CAUTION

- ***Do NOT keep the wired remote controller cables with a 220V cable because the remote controller cables have low voltage.***
- ***Do NOT input 220V power to the R1, R2 and R3 in the wired remote controller.***

Note **Cable Specifications**

Cable type	Double-insulation, 3G
Size of cables	0.3mm²~0.75mm²
Max. length of electric wires from the indoor unit to the wired remote controller	100m

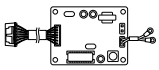
4 Reassemble the wired remote controller.

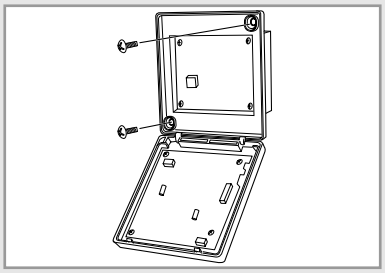
CAUTION

- ***The optional kits must be installed by an installation specialist.***
- ***Before installing the optional kits, ensure that you have turned off the main power.***
- ***All optional kits cables should be installed according to the national wiring rules and you must install them in the wall not to be touched by users.***

Centralized Controller Installation (Optional)

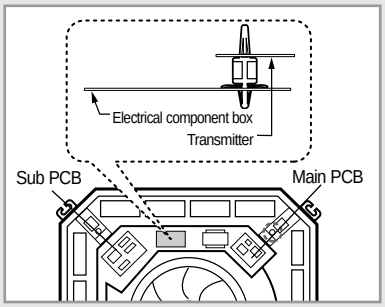
Accessories

Centralized Controller(1) KR-H60110 	Cable-Tie(2) 	Cable Clamp(5) 	M4 X 16 Tapped Screw(7) 
Transmitter(1) KT-A00 	Spacer Support(4) 	Cable-Tie(2) 	

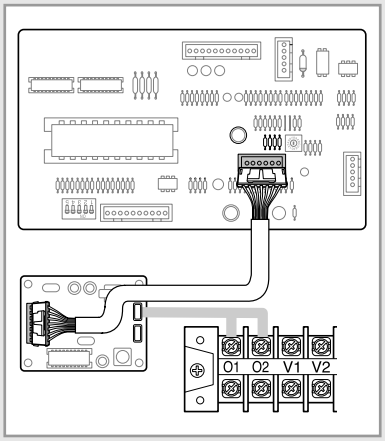


1 Open the centralized controller cover by using two grooves on the top of it.

2 Secure the rear cover of the centralized controller on the wall with two screws.

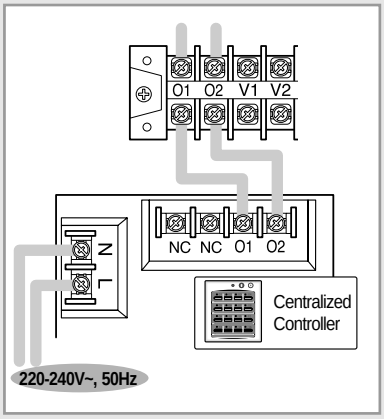


3 Secure the transmitter with four spacer supports into the electrical component box.



4 Connect the cable from the PCB to the transmitter.
And connect another cable from the O1, O2 terminals to the transmitter as shown in figure.

5 Connect the O1 and O2 terminals of the centralized controller to the O1 and O2 terminals on the electrical component box as shown in figure.



CAUTION

- ***Do NOT keep the centralized controller cables with a 220V cable because the centralized controller cables have low voltage.***

Note **Cable Specifications**

Cable type	Double-insulation, 2G(Shield Cable)
Size of cables	0.75mm^2~1.25mm^2
Max. length of electric wires from the indoor unit to the centralized controller	1km

6 Connect the power cables.

Note **Cable Specifications**

Cable type	Double-insulation, 2G	Power Supply
Size of cables	0.75mm^2~1.25mm^2	220V-240V~, 50Hz

7 Reassemble the centralized controller.

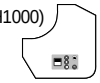
CAUTION

- ***The optional kits must be installed by an installation specialist.***
- ***Before installing the optional kits, ensure that you have turned off the main power.***
- ***All optional kits cables should be installed according to the national wiring rules and you must install them in the wall not to be touched by users.***

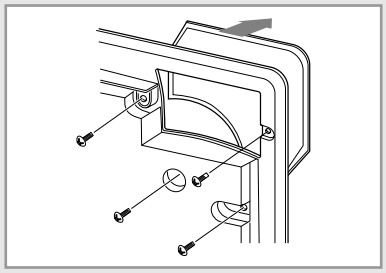
Receiver & Display Unit Installation (Optional)

Accessories

Wireless Remote Controller(1) KR-H40200	Battery(2)	M4 X 16 Tapped Screw(2)	Remote Controller Holder(1)
			

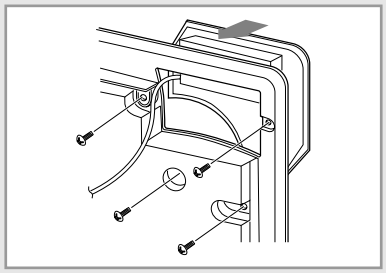
Receiver & Display Unit(1) (KRE-H1000)


In case of using the wireless remote controller, you must install the receiver & display unit to the front panel before fixng the panel.

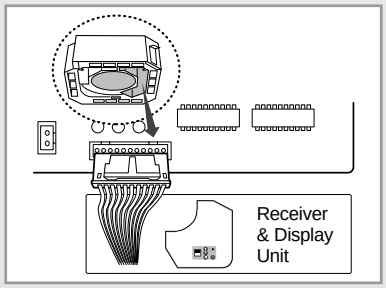


1 Disassemble four screws on the place where you would like to install the receiver & display unit, inside the front panel.

2 Remove the part of the front panel.



3 Secure the receiver & display unit with the screws, then install the insulation.



4 Connect the end of the connector wire to the receiver & display unit and connect the other end of the wire to the electrical component box as shown in figure.

CAUTION

- ***Do NOT keep the wired remote controller cables with a 220V cable because the remote controller cables have low voltage.***

CAUTION

- ***Optional kits must be installed by an air conditioner specialist.***
- ***Before installing the optional kits, ensure that you have turned off the main power.***

Bio-Pure Filter Installation (Optional)

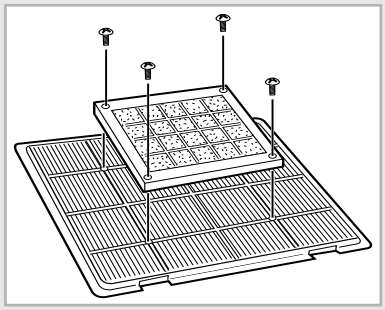
The air conditioner can be fitted with a Bio-Pure filter to remove minute dust particles. The service life of the filter is approximately three months depending on the time during which the air conditioner is used.

1 Remove the vinyl packing from the filter.

Note Do not remove the packing from a bio-pure filter until you wish to use the filter, as it will lose its properties.

2 Open the front grille by pulling the tabs on the grille.

3 Remove the safety clips to open the grille completely.



4 Pull out the air filter.

5 Locate the bio-pure filter on the center of the air filter.

6 Secure the bio-pure filter with four screws.

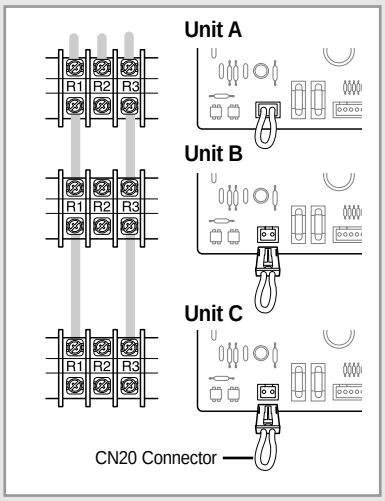
7 Reinstall the filter and the front grille.

Controlling a Group

* You should adjust the option switches in the electrical component box or on the PCB of the wired remote controller.
* **Before setting up the option switches, always make sure that you have turned off the main power.**
* After adjusting the options, you should supply the power. Otherwise, the options will not be applied.

With Wired Remote Controller

A user can operate up to sixteen air conditioners by using the wired remote controller. In this case, the air conditioner can be controlled by only one wired remote controller connected to the indoor unit and cannot be controlled by the others.



1 Connect the R1, R2 and R3 terminals in the wired remote controller to the R1, R2 and R3 terminals in any indoor unit “A” each.

2 Connect the R1 and R3 terminals in the indoor unit “A” to the R1 and R3 terminals in another indoor unit “B”.

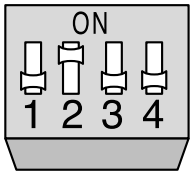
CAUTION

When connecting the cables, you must keep these :
- ***The R1 terminals must be connected to the R1s.***
- ***The R3 terminals must be connected to the R3s.***
- ***Do not connect the R2 terminals to anywhere.***
  If you connect R2 terminals, the PCB will be damaged.

3 Connect the R1 and R3 terminals of “B” to any indoor unit “C” and connect the others as the same way.

4 Adjust the rotary digital switch in the main PCB to the desired position referring to the table below.

Switch No.	Number of indoor unit(s)	Switch No.	Number of indoor unit(s)
0	One	8	Nine
1	Two	9	Ten
2	Three	A	Eleven
3	Four	B	Twelve
4	Five	C	Thirteen
5	Six	D	Fourteen
6	Seven	E	Fifteen
7	Eight	F	Sixteen



5 Remove the CN20 connectors on the sub PCBs except the unit connected with remote controller(Address 0).

6 Adjust the DIP switch No. 2 in the wired remote controller to “ON” position.

Note **You cannot install the centralized controller when the wired remote controller for a group has already been installed.**

With Centralized Controller

A user can turn on/off up to sixteen air conditioners by using the centralized controller. In this case, the user can turn on/off all air conditioners or a specific air conditioner connected with the centralized controller. And each air conditioner can be controlled by its own remote controller(s) depending on the setting.

1 Connect the O1 and O2 terminals in the centralized controller to the O1 and O2 terminals in the indoor unit “A”.

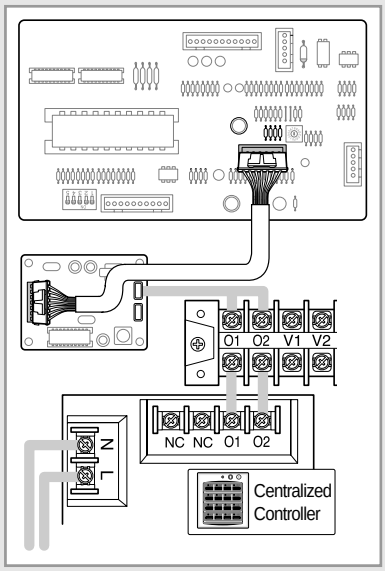
2 Connect the O1 and O2 terminals in the indoor unit “A” to the O1 and O2 terminals in another indoor unit “B”.

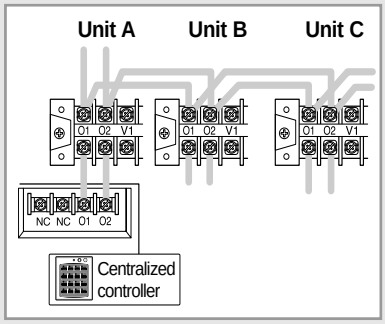
3 Connect the O1 and O2 terminals of “B” to any indoor unit “C” and connect the others as the same way.

4 Adjust the DIP switch(DS01) in the centralized controller to the desired position referring to the table below.

Switch No.	1	2	3	4	Meaning
Switch Position	OFF	OFF	OFF	OFF	The air conditioner is operated by the controller adjusted last among the wired remote controller, wireless remote controller and centralized controller.
	OFF	OFF	OFF	ON	A user can use wired/wireless remote controller when the centralized controller is switched on. And he/she cannot use the remote controller(s) when the centralized controller is switched off.
	OFF	OFF	ON	OFF	The air conditioner(s) can be controlled by only the centralized controller. The user cannot use the wired/wireless remote controller in this case.

5 Adjust the rotary digital switch on the transmitter to the desired position referring to the table on page 23.



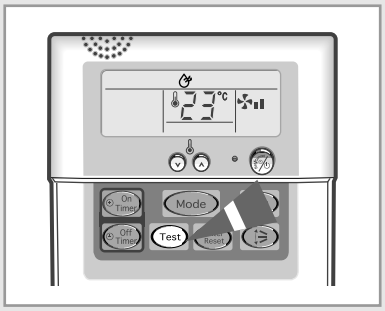


Note **You cannot install the centralized controller when the wired remote controller for a group has already been installed.**

Checking and Testing Operations

To complete the installation, perform the following checks and tests to ensure that the air conditioner is operating correctly.
Review all the following elements in the installation:
- ◆ ***Piping connection tightness to detect any gas leakages***
- ◆ ***Connecting wiring***
- ◆ ***Heat-resistant insulation of the piping***
- ◆ ***Drainage***
- ◆ ***Earthing wire connection***
- ◆ ***Correct operations(follow the steps below)***

Wired Remote Controller



1 Supply the power and switch on the air conditioner.

2 Press Test button more than 3 seconds without selecting any mode.
Result: The air conditioner runs in COOL mode for 3 minutes.

Note **If the error code is displayed, fix the error referring to page 34. And supply the power, restart testing.**

3 Check that user's option(s) and the outdoor unit operate properly.

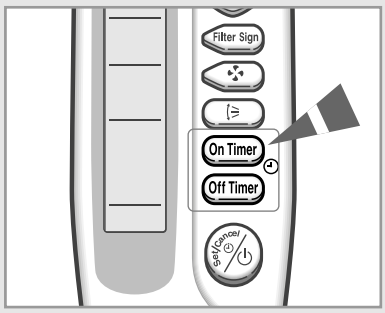
Note **Do not attempt to select the operating mode or to adjust the temperature. It may switch the outdoor unit off.**

4 Press the Swing( ) button and check that the air flow blades work properly.

5 The air conditioner will switch it off automatically after 3 minutes.

Note **If the air conditioner does not work because of switching off the thermistor sensor caused by the room temperature, you can operate the air conditioner by using Test button.**

Wireless Remote Controller



1 Supply the power and switch on the air conditioner.

2 Remove the remote controller batteries.

3 Insert the batteries pressing the On Timer and Off Timer buttons at the same time.

4 Stop pressing the buttons after inserting the batteries.

5 Press the (ON/OFF) button.
Result: The air conditioner runs in COOL mode for 3 minutes.

Note **If the error code is displayed, fix the error referring to page 35. And supply the power, restart testing.**

6 Check that user's option(s) and the outdoor unit operate properly.

Note **Do not attempt to select the operating mode or to adjust the temperature. It may switch the outdoor unit off.**

7 Press the Swing() button and check that the air flow blades work properly.

8 The air conditioner will switch it off automatically after 3 minutes.

Wired Remote Controller

If the error occurs, and the error code are displayed on the wired remote controller. The error code blinks for 5 seconds and it disappears. If you would like to see the error code after disappearing it, press the Test button.

Meaning of Error Code

The error code is composed of two-digit figures or letters. The first means an indoor unit address and the second means an error code.

Error Code	Meaning	Checking area
∗ 1	Indoor unit thermistor sensor error	◆ Indoor unit thermistor sensor ◆ PCB of the indoor unit
∗ 5	Indoor unit pipe thermistor sensor error	◆ Indoor unit pipe thermistor sensor ◆ PCB of the indoor unit
∗ 6	Outdoor unit thermistor sensor error	◆ Outdoor unit thermistor sensor ◆ PCB of the outdoor unit
∗ 9	Float switch error	◆ Drain pump, Float switch ◆ Drain system ◆ DIP switch(SW2) of the indoor unit (The No.2 and No.4 switches must be at “ON” postion.)
∗ A	A Indoor and Outdoor communication error	◆ Communication cables of indoor and outdoor units ◆ PCB of indoor and outdoor units
∗ C	Wired remote controller communication error	◆ Wired remote controller cables, Wired remote controller ◆ Main/Sub PCB of the indoor unit
∗ D	Outdoor pipe thermistor sensor error	◆ Outdoor pipe thermistor sensor ◆ PCB of the outdoor unit
∗ L	Three phase power incorrect connecting error(In case of three phase power models)	◆ Three phase power connecting ◆ PCB of the outdoor unit

Example “39” means the address “3” indoor unit has a trouble with a float switch.

Wireless Remote Controller

If the error occurs, the indicators on the receiver & display unit displays the error.

Meaning of Error Code

Indicators			Meaning	Checking area
Timer	Operating	Filter		
◗	○	○	Indoor unit thermistor sensor error	◆ Indoor unit thermistor sensor ◆ PCB of the indoor unit
▲	▲	○	Indoor unit pipe thermistor sensor error	◆ Indoor unit pipe thermistor sensor ◆ PCB of the indoor unit
○	▲	▲	Outdoor unit thermistor sensor error	◆ Outdoor unit thermistor sensor ◆ PCB of the outdoor unit
■	○	■	Float switch error	◆ Drain pump, Float switch ◆ Drain system
▲	○	▲	Indoor and Outdoor communication error	◆ Communication cables of indoor and outdoor units ◆ PCB of indoor and outdoor units
■	■	○	Wired remote controller communication error	◆ Wired remote controller cables, Wired remote controller ◆ Main/Sub PCB of the indoor unit
○	○	◗	Outdoor pipe thermistor sensor error	◆ Outdoor thermistor pipe sensor ◆ PCB of the outdoor unit
○	■	■	Three phase power incorrect connecting error(In case of three phase power models)	◆ Three phase power connecting ◆ PCB of the outdoor unit

○ : OFF ◗: Blinking ▲▲: Blinking at once ■■: Blinking alternately

Explaining Operations to the Owner

Before leaving the premises on which you have installed the air conditioner, you should explain the following operations to the owner, making reference to the appropriate pages in the owner's instruction booklet.

1 How to start and stop the air conditioner.

2 How to select the operating mode and adjust the temperature and fan settings.

3 How to set the timers.

4 How to remove and clean the air filter.

Once the owner is happy with the basic operations, hand over the owner's instruction booklet and this installation manual for storage in a handy and safe place.

Technical Specifications

Model	Power Supply
ACH1800E ACH2400E CH18ZA CH24ZA CH18CA CH24CA	1Ø, 220-240V~, 50Hz

THIS AIR CONDITIONER IS MANUFACTURED BY:
ESTE AIRE ACONDICIONADO HA SIDO FABRICADO POR:
QUESTO CONDIZIONATORE D'ARIA È PRODOTTO DA:
ESTE APARELHO DE AR CONDICIONADO É FABRICADO POR:
CE CLIMATISEUR EST FABRIQUE PAR:
DIESE KLIMAANLAGE IST FABRIZIERT VON:
ΑΥΤΗ Η ΣΥΣΚΕΥΗ ΚΑΤΑΣΚΕΥΑΣΤΗΚΕ ΑΠΟ :
ЭТОТ КОНДИЦИОНЕР ИЗГОТОВЛЕН ФИРМОЙ:

SAMSUNG ELECTRONICS

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