

# Air conditioner

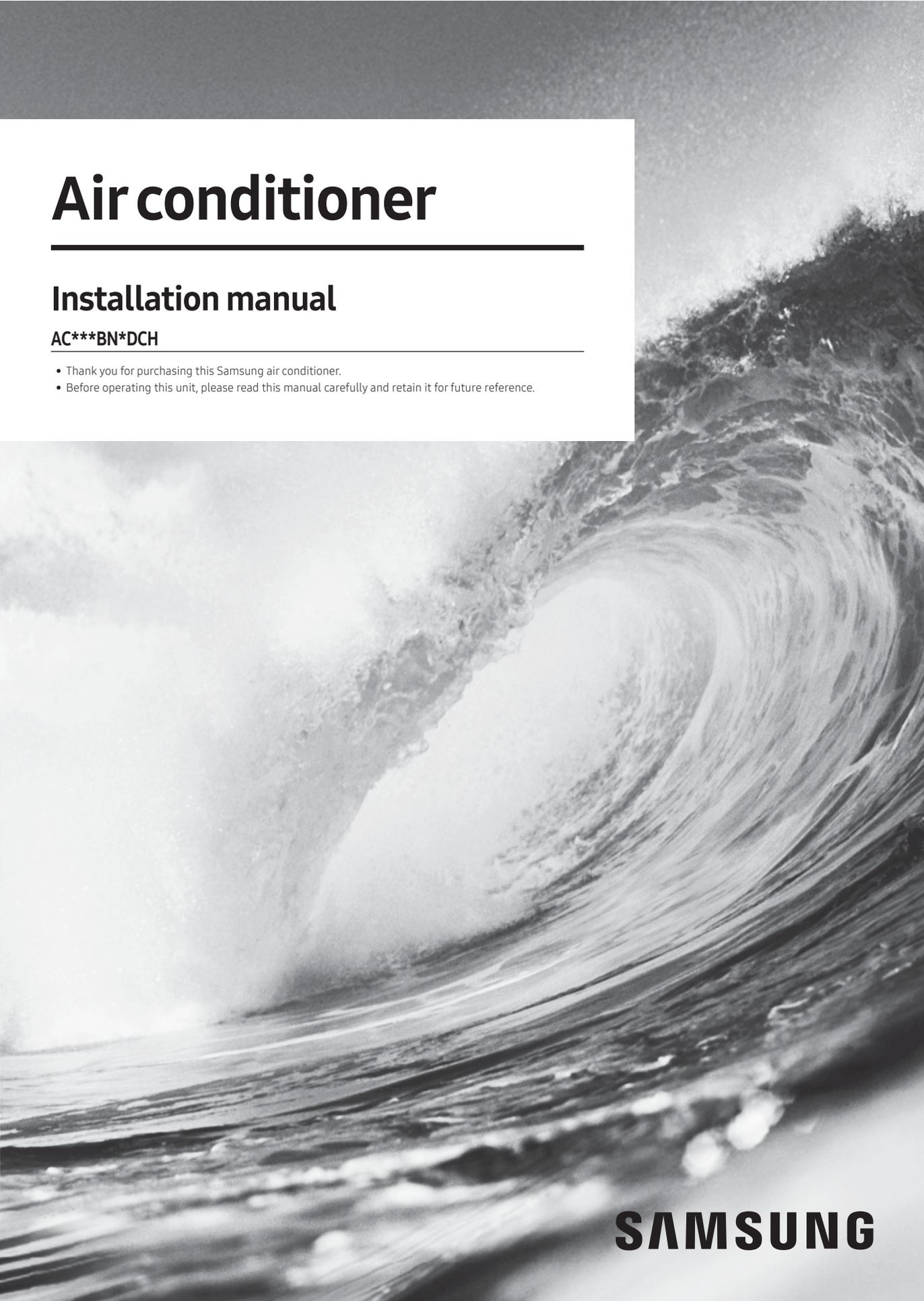
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## Installation manual

AC\*\*\*BN\*DCH

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- Thank you for purchasing this Samsung air conditioner.
- Before operating this unit, please read this manual carefully and retain it for future reference.



**SAMSUNG**

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## IMPORTANT

- This product has been designed and manufactured to meet ENERGY STAR criteria for energy efficiency when matched with appropriate coil components. However, proper refrigerant charge and proper air flow are critical to achieve rated capacity and efficiency. Installation of this product should follow the manufacturer's refrigerant charging and air flow instructions. Failure to confirm proper charge and airflow may reduce energy efficiency and shorten equipment life.

# Safety Information

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California Proposition 65 Warning (US)

## WARNING

Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## WARNING

- Hazards or unsafe practices that may result in severe personal injury or death.

## CAUTION

- Hazards or unsafe practices that may result in minor personal injury or property damage.
- Carefully follow the precautions listed below because they are essential to guarantee the safety of the equipment.

## WARNING

- Always disconnect the air conditioner from the power supply before servicing it or accessing its internal components.
- Verify that installation and testing operations are performed by qualified personnel.
- Verify that the air conditioner is not installed in an easily accessible area.

## General information

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### WARNING

- Carefully read the content of this manual before installing the air conditioner and store the manual in a safe place in order to be able to use it as reference after installation.
- For maximum safety, installers should always carefully read the following warnings.
- Store the operation and installation manual in a safe location and remember to hand it over to the new owner if the air conditioner is sold or transferred.
- This manual explains how to install an indoor unit with a split system with two SAMSUNG units. The use of other types of units with different control systems may damage the units and invalidate the warranty. The manufacturer shall not be responsible for damages arising from the use of non compliant units.
- The manufacturer shall not be responsible for damage originating from unauthorized changes or the improper connection of electric and requirements set forth in the "Operating limits" table, included in the manual, shall immediately invalidate the warranty.

- The air conditioner should be used only for the applications for which it has been designed: the indoor unit is not suitable to be installed in areas used for laundry.
- Do not use the units if damaged. If problems occur, switch the unit off and disconnect it from the power supply.
- In order to prevent electric shocks, fires or injuries, always stop the unit, disable the protection switch and contact SAMSUNG's technical support if the unit produces smoke, if the power cable is hot or damaged or if the unit is very noisy.
- Always remember to inspect the unit, electric connections, refrigerant tubes and protections regularly. These operations should be performed by qualified personnel only.
- The unit contains moving parts, which should always be kept out of the reach of children.
- Do not attempt to repair, move, alter or reinstall the unit. If performed by unauthorized personnel, these operations may cause electric shocks or fires.
- Do not place containers with liquids or other objects on the unit.
- All the materials used for the manufacture and packaging of the air conditioner are recyclable.
- The packing material and exhaust batteries of the remote controller(optional) must be disposed of in accordance with current laws.
- The air conditioner contains a refrigerant that has to be disposed of as special waste. At the end of its life cycle, the air conditioner must be disposed of in authorised centres or returned to the retailer so that it can be disposed of correctly and safely.
- Wear protective equipment (such as safety gloves, goggles, and headgear) during installation and maintenance works. Installation/repair technicians may be injured if protective equipment is not properly equipped.

## Installing the unit

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### WARNING

**IMPORTANT: When installing the unit, always remember to connect first the refrigerant tubes, then the electrical lines.**

- Always disassemble the electric lines before the refrigerant tubes.
- Upon receipt, inspect the product to verify that it has not been damaged during transport. If the product appears damaged, DO NOT INSTALL it and immediately report the damage to the carrier or retailer (if the installer or the authorized technician has collected the material from the retailer.)

# Safety Information

- After completing the installation, always carry out a functional test and provide the instructions on how to operate the air conditioner to the user.
- Do not use the air conditioner in environments with hazardous substances or close to equipment that release free flames to avoid the occurrence of fires, explosions or injuries.
- Excessive indoor humidity or clogged condensate drain lines may cause water to drip from indoor units. Do not install the indoor unit where dripping could result in damage to property, such as above electronic equipment or other sensitive instruments
- Our units should be installed in compliance with the spaces shown in the installation manual, to ensure accessibility from both sides and allow repairs or maintenance operations to be carried out. The unit's components should be accessible and easy to disassemble without endangering people and objects. For this reason, when provisions of the installation manual are not complied with, the cost required to access and repair the units (in SAFETY CONDITIONS, as set out in prevailing regulations) with harnesses, ladders, scaffolding or any other elevation system will NOT be considered part of the warranty and will be charged to the end customer.
- Auxiliary devices which may be a potential ignition source shall not be installed in the duct work.
- The air conditioner contains a refrigerant that has to be disposed of as special waste. At the end of its life cycle, the air conditioner must be disposed of in authorized centers or returned to the retailer so that it can be disposed of correctly and safely.
- AC\*\*\*BNLDCH indoor unit is intended for free-air discharge or for connection to a duct supplying only one room. Improper installation could contribute to the spread of smoke or flame in the event of a fire.
- Verify that the voltage and frequency of the power supply comply with the specifications and that the installed power is sufficient to ensure the operation of any other domestic appliance connected to the same electric lines.
- Always verify that the cut-off and protection switches are suitably dimensioned.
- Verify that the air conditioner is connected to the power supply in accordance with the instructions provided in the wiring diagram included in the manual.
- Always verify that electric connections (cable entry, section of leads, protections...) are compliant with the electric specifications and with the instructions provided in the wiring scheme. Always verify that all connections comply with the standards applicable to the installation of air conditioners.
- Devices disconnected from the power supply should be completely disconnected in the condition of overvoltage category.
- Be sure not to perform power cable modification, extension wiring, and multiple wire connection.
  - It may cause electric shock or fire due to poor connection, poor insulation, or current limit override.
  - When extension wiring is required due to power line damage, refer to "Step 14 Optional: Extending the power cable" in the installation manual.

## Power supply line, fuse or circuit breaker

### WARNING

- Always make sure that the power supply is compliant with current safety standards. Always install the air conditioner in compliance with current local safety standards.
- Always verify that a suitable grounding connection is available.

### CAUTION

**Make sure that you earth the cables.**

- Do not connect the earth wire to the gas pipe, water pipe, lighting rod or telephone wire. If earthing is not complete, electric shock or fire may occur.

**Install the circuit breaker.**

- If the circuit breaker is not installed, electric shock or fire may occur.

**Make sure that the condensed water dripping from the drain hose runs out properly and safely.**

**Install the power cable and communication cable of the indoor and outdoor unit at least 1m away from the electric appliance.**

**Install the indoor unit away from lighting apparatus using the ballast.**

- If you use the wireless remote control, reception error may occur due to the ballast of the lighting apparatus.

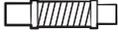
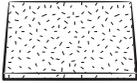
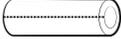
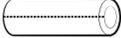
**Do not use the indoor unit for preservation of food items, plants, equipment, and art works. This may cause deterioration of their quality.**

**Do not install the indoor unit if it has any drainage problem.**

# Installation Procedure

## Step 1 Checking and preparing accessories

The following accessories are supplied with the indoor unit. The type and quantity may differ, depending on the specifications.

<b>User manual (1)</b>	<b>Installation manual (1)</b>
	
<b>Clamp hose (1)</b>	<b>Flexible hose (1)</b>
	
<b>Insulation drain (1)</b>	<b>Thermal insulation sponge A (1)</b>
	
<b>Cable-tie (AC***BNLDCH : 4EA, AC***BNHDCH : 8EA)</b>	<b>Thermal insulation sponge B (1)</b>
	
<b>Rubber (4)</b>	<b>Thermal insulation sponge C (1)</b>
	
<b>Reducer(1)</b>	
	

## Step 2 Choosing the installation location

### Installation location requirements

- There must be no obstacles near the air inlet and outlet.
- Install the indoor unit on a ceiling that can support its weight.
- Maintain sufficient clearance around the indoor unit.
- Before installing the indoor unit, be sure to check whether the chosen location is well-drained.
- The indoor unit must be installed such that it is beyond public access and is not touchable by users.

### CAUTION

**Do not install the air conditioner in following places.**

- The place where there is mineral oil or arsenic acid. Resin parts flame and the accessories may drop or water may leak. The capacity of the heat exchanger may reduce or the air conditioner may be out of order.
- The place where corrosive gas such as sulfurous acid gas generates from the vent pipe or air outlet. The copper pipe or connection pipe may corrode and refrigerant may leak.
- The place where there is a machine that generates electromagnetic waves. The air conditioner may not operate normally due to control system.
- The place where there is a danger of existing combustible gas, carbon fiber or flammable dust.
- The place where thinner or gasoline is handled. Gas may leak and it may cause fire.

# Installation Procedure

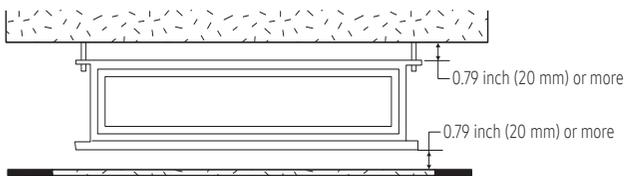
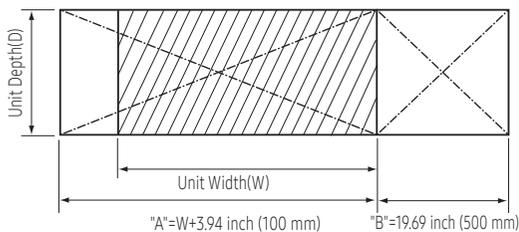
## Spacing requirements

Space requirements for installation & service.

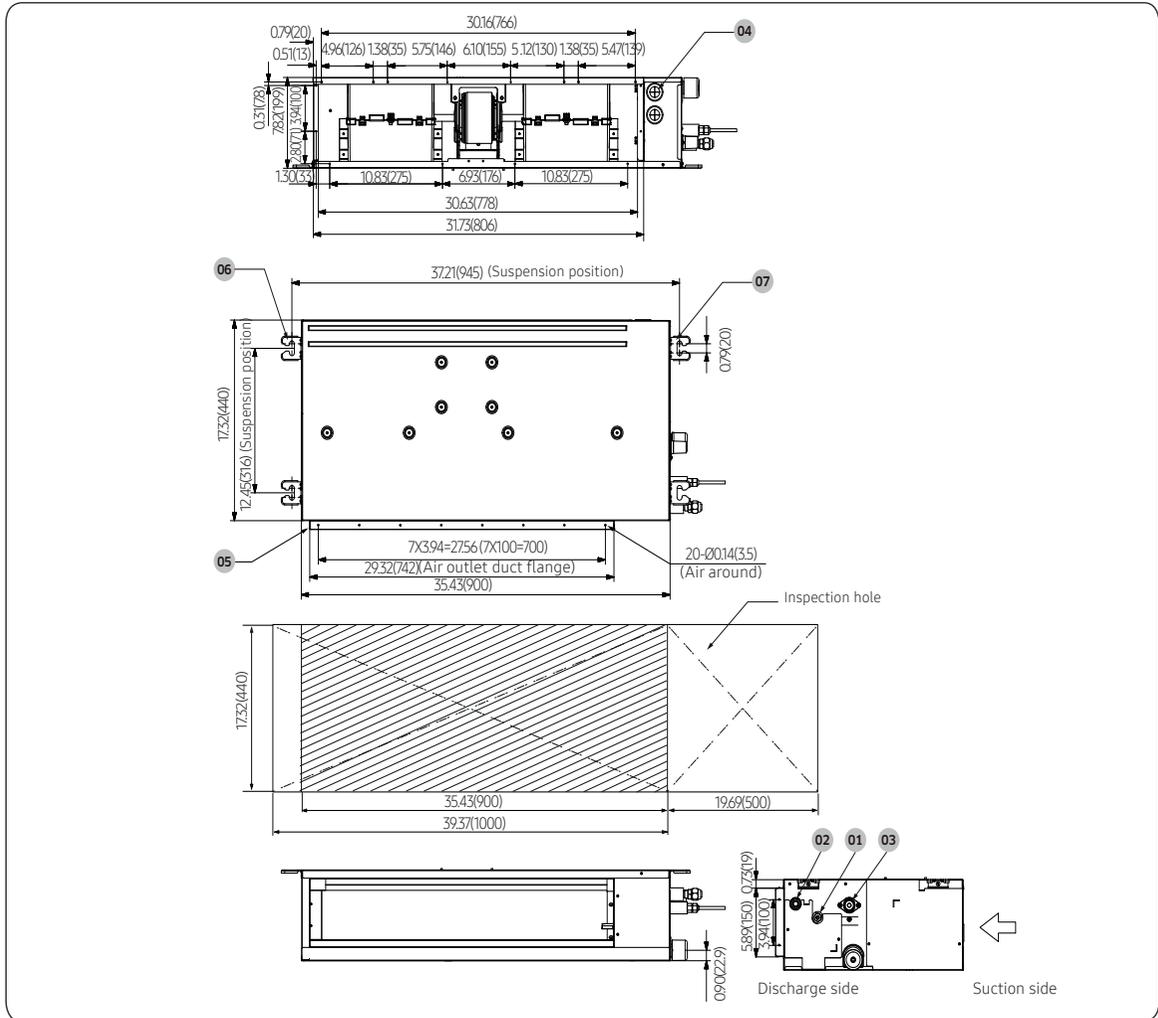
Construction Standard for Inspection opening

An inspection opening is required for service and unit replacement.

- 1) If the ceiling is a grid type, an inspection opening is not required.
- 2) If the ceiling is plaster board, an inspection opening is required. The size of the opening will vary based on the height inside the ceiling.
  - a. Height is more than 1.64ft (0.5m): Only "B" [Inspection for PBA] is applied.
  - b. Height is less than 1.64ft (0.5m): Both "A"&"B" are applied.
  - c. "A"&"B" are inspection opening .



- You must have 0.79 inch (20 mm) or more space between the ceiling and the bottom of indoor unit to prevent transmission of noise and vibration from the unit into the space.
- It is possible to install the unit at an height of between 7.2~8.2 ft (2.2~2.5m ) from the ground,if the unit has a duct with a well defined lenght [11.81inch (300 mm) or more], to avoid fan motor blower contact.
- If you install the cassette or duct type indoor unit on the ceiling with humidity over 80%, you must apply extra 0.39 inch (10mm) of polyethylene foam or other insulation with similar material on the body of the indoor unit.

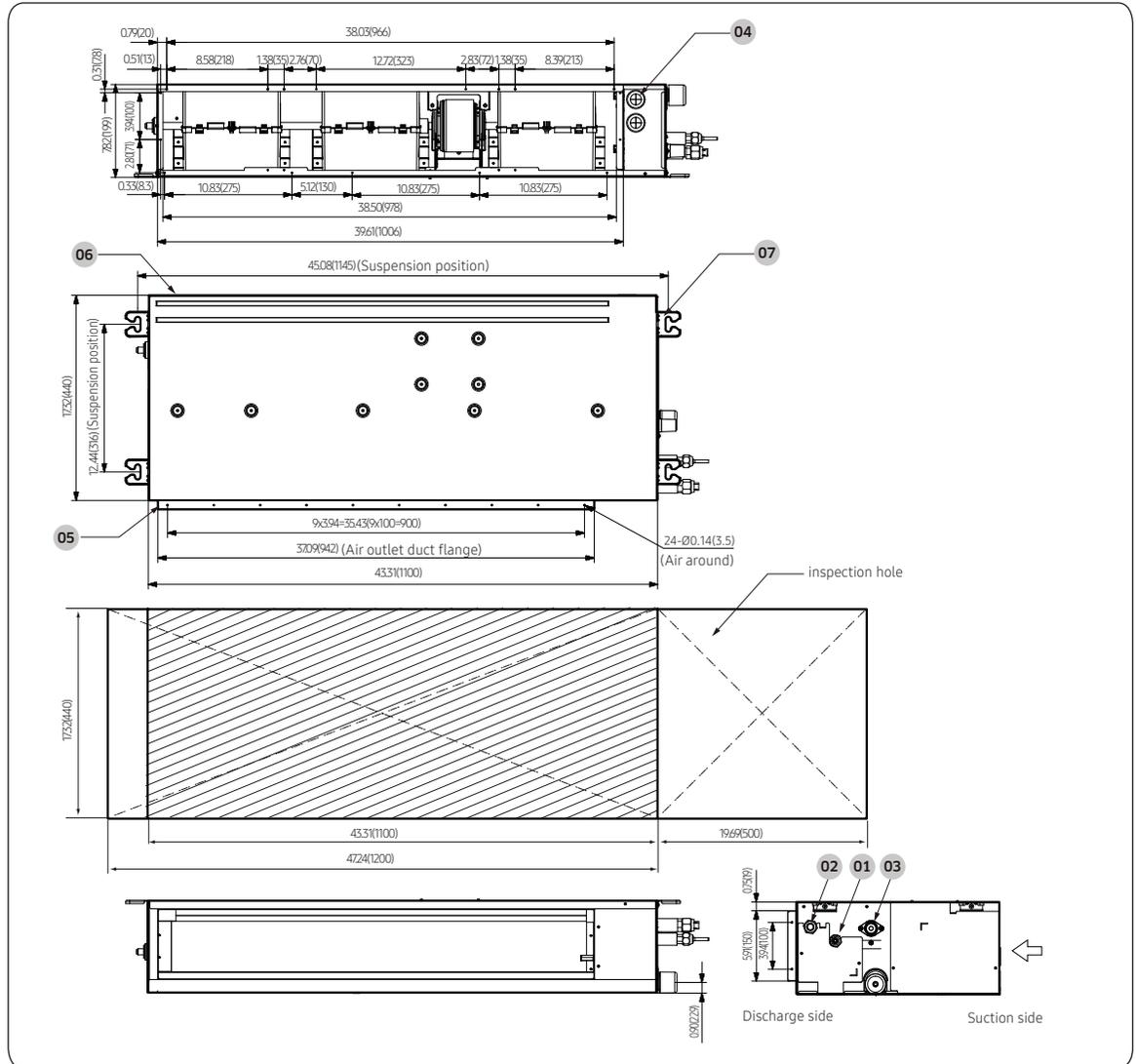


No.	Name	Description
01	Liquid pipe connection	Ø1/4 inch ( 6.35 mm )
02	Gas pipe connection	Ø3/8 inch (9.52mm)
03	Drain pipe connection	3/4 inch (OD 1.05 inch (26.67 mm ))
04	Power supply connection	
05	Air discharge flange	
06	Suction flange	Air filter
07	Hook	M8-M10

# Installation Procedure

AC018BNLDCH

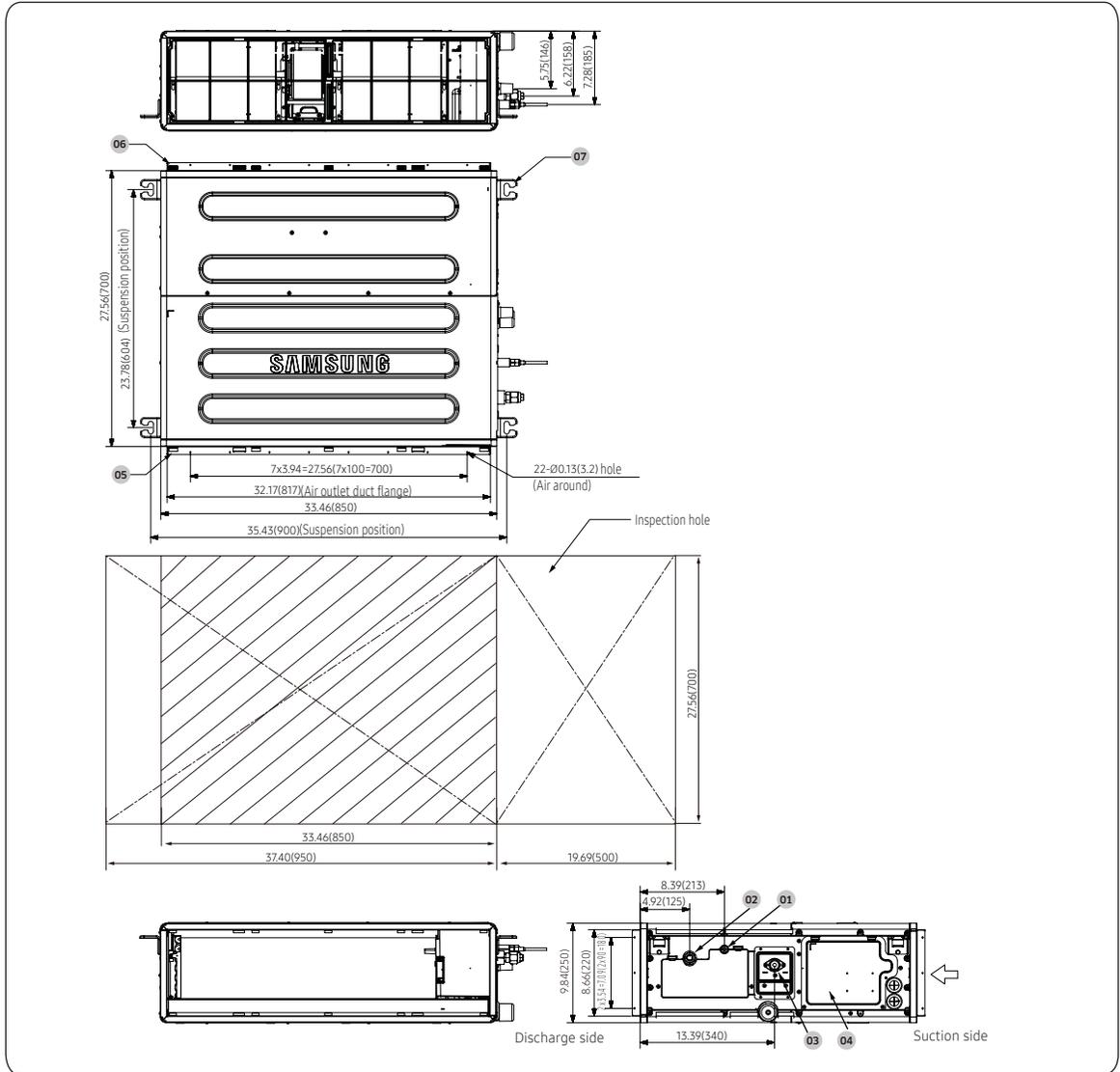
Unit : inch(mm)



No.	Name	Description
01	Liquid pipe connection	Ø1/4 inch (6.35 mm)
02	Gas pipe connection	Ø1/2 inch (12.70 mm)
03	Drain pipe connection	3/4 inch (OD 1.05 inch (26.67 mm))
04	Power supply connection	
05	Air discharge flange	
06	Suction flange	Air filter
07	Hook	M8-M10

AC009BNHDCH/AC012BNHDCH

Unit : inch(mm)



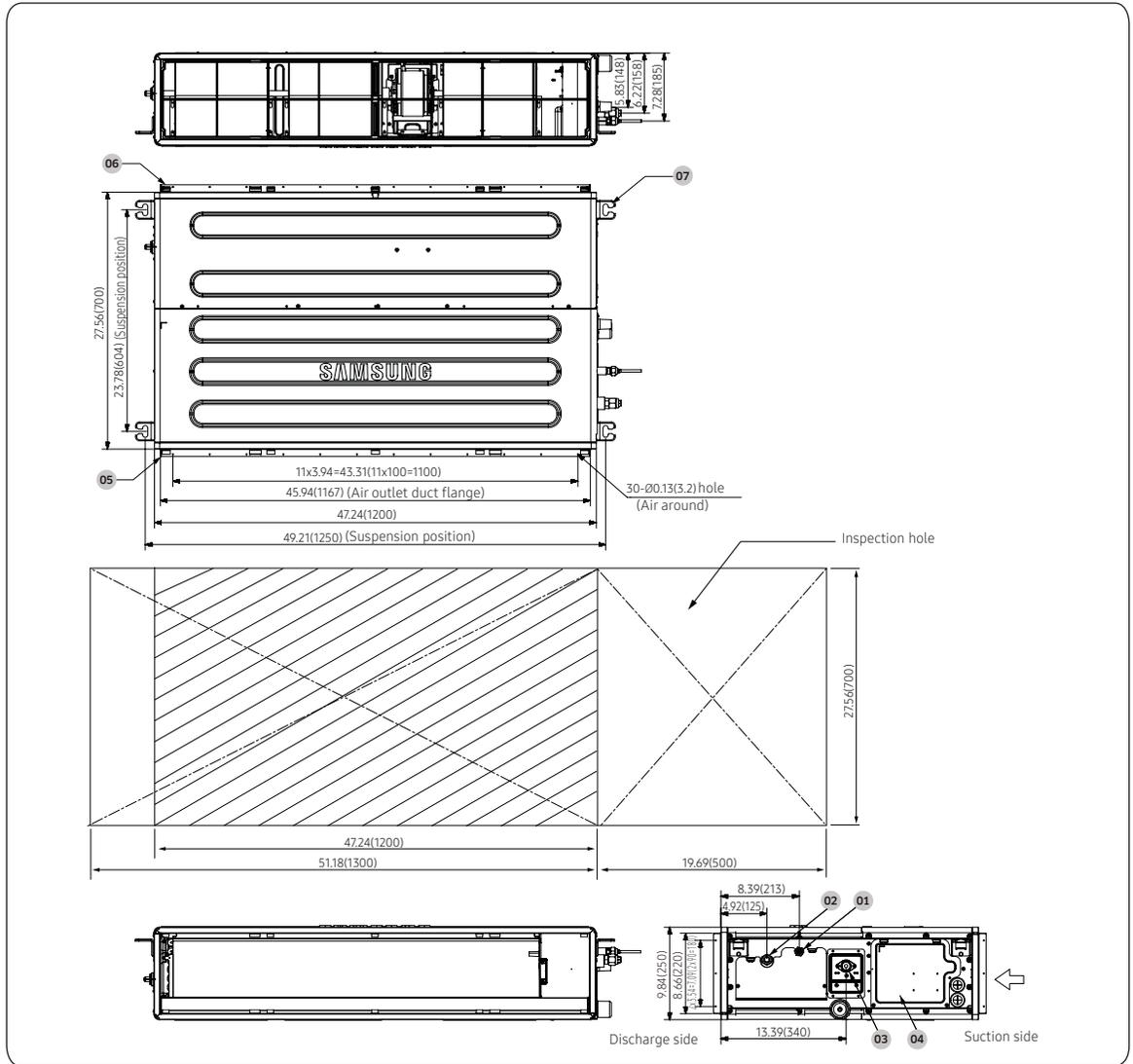
Installation Procedure

No.	Name	Description
01	Liquid pipe connection	Ø1/4 inch (6.35 mm)
02	Gas pipe connection	Ø3/8 inch (9.52 mm)
03	Drain pipe connection	3/4 inch (OD 1.05 inch (26.67 mm ))
04	Power supply connection	
05	Air discharge flange	
06	Suction flange	Air filter
07	Hook	M8-M10

# Installation Procedure

AC018BNHDCH/ AC024BNHDCH/ AC030BNHDCH

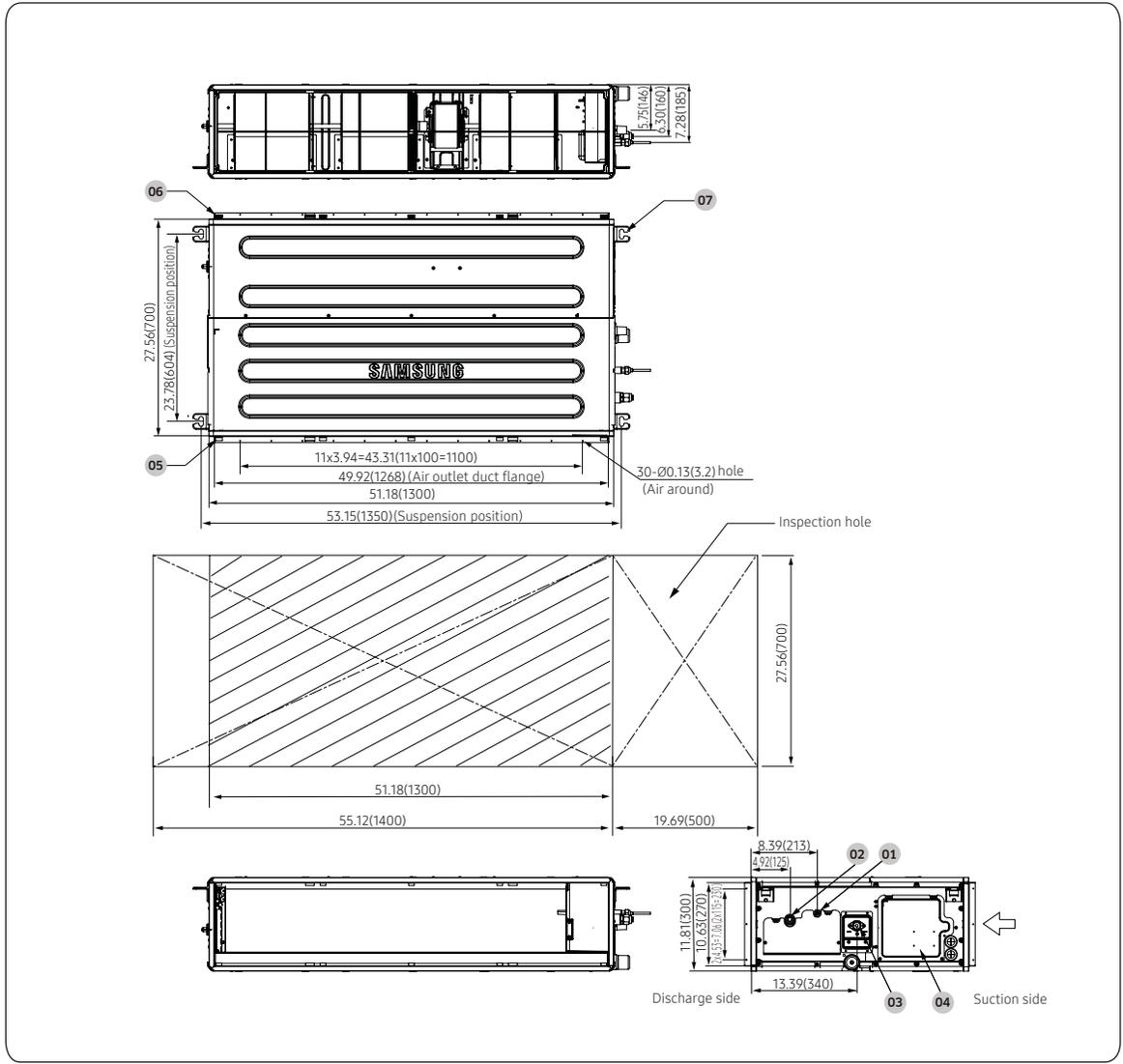
Unit : inch(mm)



No.	Name	Description		
		AC018BNHDCH	AC024BNHDCH	AC030BNHDCH
01	Liquid pipe connection	Ø1/4 inch (6.35 mm)		Ø3/8 inch (9.52 mm)
02	Gas pipe connection	Ø1/2 inch (12.70mm)	Ø5/8 inch (15.88 mm)	
03	Drain pipe connection	3/4 inch (OD 1.05 inch (26.67 mm))		
04	Power supply connection			
05	Air discharge flange			
06	Suction flange			
07	Hook	M8-M10		

AC036BNHDCH/AC042BNHDCH/AC048BNHDCH

Unit : inch(mm)

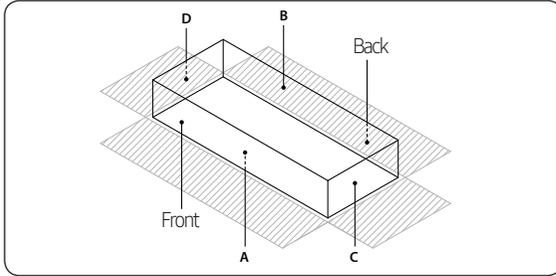


Installation Procedure

No.	Name	Description
01	Liquid pipe connection	Ø3/8 inch (9.52 mm)
02	Gas pipe connection	Ø5/8 inch (15.88 mm)
03	Drain pipe connection	3/4 inch (OD 1.05 inch (26.67 mm ))
04	Power supply connection	
05	Air discharge flange	
06	Suction flange	Air filter
07	Hook	M8-M10

# Installation Procedure

## Step 3 Optional: Insulating the body of the indoor unit



Thickness: more than 0.39 inch(10mm)

Indoor Unit	AC009BNLDCH AC012BNLDCH	AC018BNLDCH
		35.43X17.32X7.83 (900X440X199)
A	35.43X7.83 (900X199)	43.31X7.83 (1100X199)
B	35.43X7.83 (900X199)	43.31X7.83 (1100X199)
C	17.32X7.83 (440X199)	17.32X7.83 (440X199)
D	17.32X7.83 (440X199)	17.32X7.83 (440X199)
Front/ Back	Insulate the front and back side in proper size at the same time when insulating the suction duct and discharge duct.	

Unit: inch(mm)

Indoor Unit	AC009BNHDCH AC012BNHDCH	AC018BNHDCH AC024BNHDCH AC030BNHDCH	AC036BNHDCH AC042BNHDCH AC048BNHDCH
		33.46X27.56X9.84 (850X700X250)	47.24X27.56X9.84 (1200X700X250)
A	33.46X27.56 (850X700)	47.24X27.5 (1200X700)	51.18X27.56 (1300X700)
B	33.46X27.56 (850X700)	47.24X27.5 (1200X700)	51.18X27.56 (1300X700)
C	27.56X9.84 (700X250)	27.56X9.84 (700X250)	27.56X11.81 (700X300)
D	27.56X9.84 (700X250)	27.56X9.84 (700X250)	27.56X11.81 (700X300)
Front/ Back	Insulate the front and back side in proper size at the same time when insulating the suction duct and discharge duct.		

Unit: inch(mm)

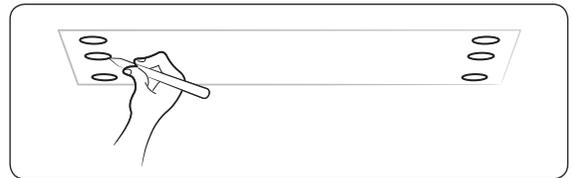
### NOTE

- Insulate the end of the pipe and some curved area by using separate insulator.
- Insulate the discharge and suction part at the same time when you insulate connection duct.

## Step 4 Installing the indoor unit

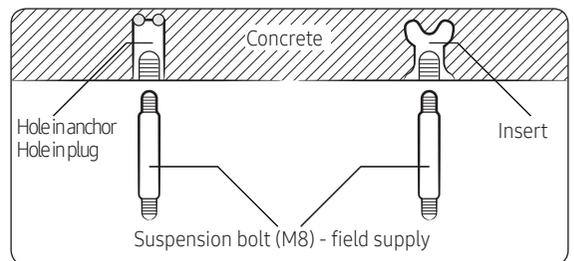
When deciding on the location of the air conditioner with the owner, the following restrictions must be taken into account

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

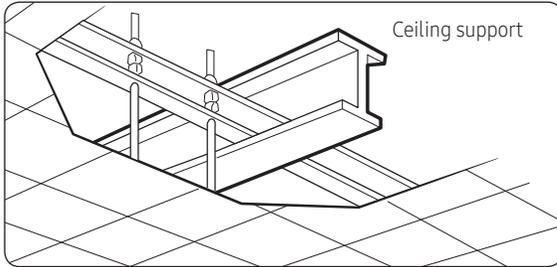


### NOTE

- 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.
- 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.

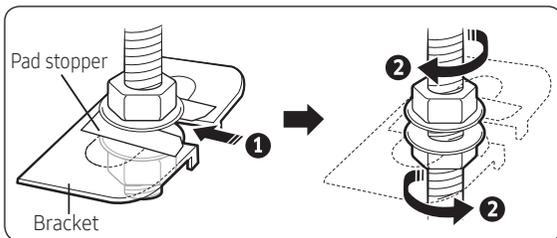


### ⚠ CAUTION

- 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.
  - If the length of suspension bolt is more than 4.92 ft (1.5m), it is required to prevent vibration.
  - If this is not possible, create an opening on the false ceiling in order to be able to use it to perform the required operations on the indoor unit.
- 4 Screw eight nuts to the suspension bolts making space for hanging the indoor unit.

### 📖 NOTE

- You must install all the suspension rods.
- 5 Hang the indoor unit to the suspension bolts between two nuts.

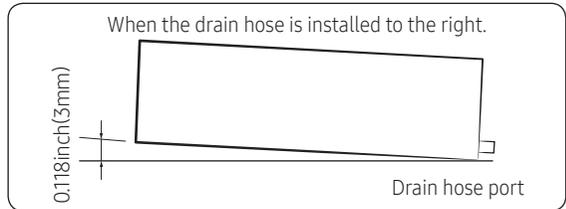


### ⚠ CAUTION

- Piping must be laid and connected inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the piping into position for connection to the unit before placing the unit inside the ceiling.
- 6 Screw the nuts to suspend the unit.
- 7 Adjust level of the unit by using measurement plate for all 4 sides.

### ⚠ CAUTION

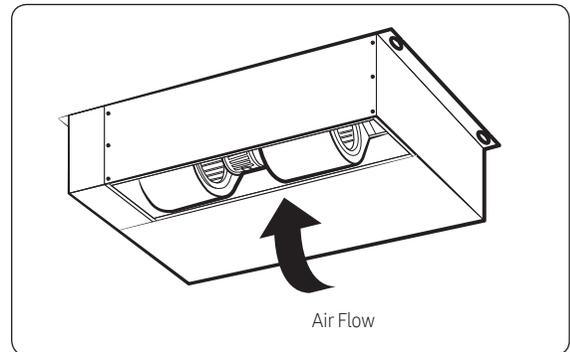
- For proper drainage of condensate, give a 0.118 inch (3mm) slant to the left or right side of the unit which will be connected with the drain hose, as shown in the figure. Make a tilt when you wish to install the drain pump, too.



- When installing the indoor unit, make sure it is not tilted toward front or back side.

### ⚠ CAUTION

- Noise will increase 3~6 dB(A) when the air flow enters from the bottom side (Only for AC\*\*\*BNLDCH indoor unit product).



# Installation Procedure

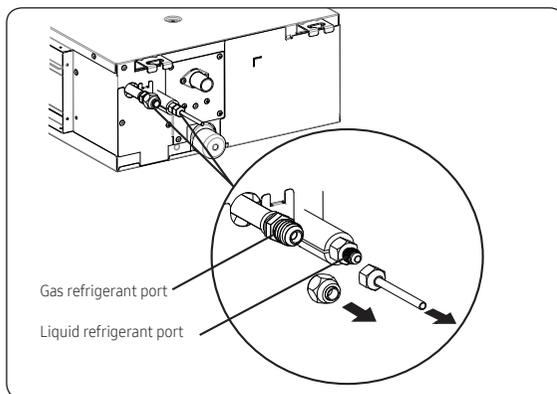
## Step 5 Purging inert gas from the indoor unit

From factory the unit is supplied and set with a pre-charge of nitrogen gas. (inert gas) Therefore, all inert gas must be purged before connecting the assembly piping.

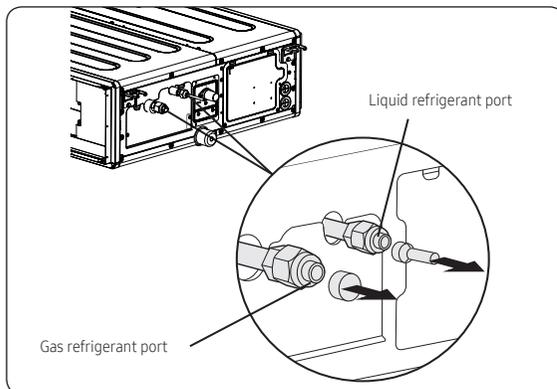
Unscrew the pinch pipe at the end of each refrigerant pipe.

Result : All inert gas escapes from the indoor unit.

### AC\*\*\*BNLDCH



### AC\*\*\*BNHDCH



### NOTE

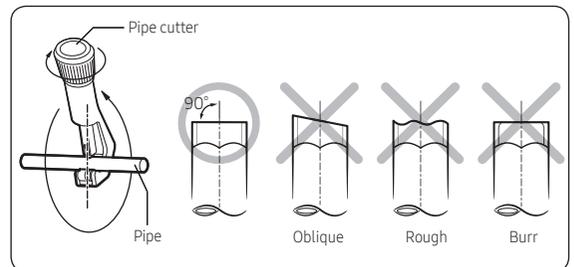
- The designs and shape are subject to change according to the model.
- To prevent dirt or foreign objects from getting into the pipes during installation, do NOT remove the pinch pipe completely until you are ready to connect the piping.

## CAUTION

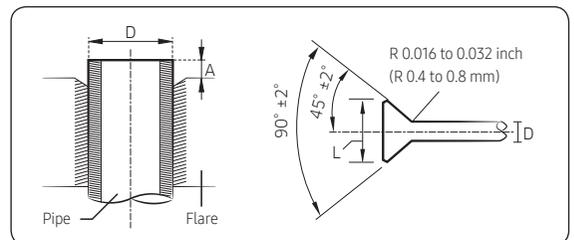
- Connect the indoor and outdoor units using pipes with flared connections(not supplied). For the lines, use insulated, unwelded, degreased and deoxidized copper pipe (Cu DHP type to ISO 1337 or UNI EN 12735-1), suitable for operating pressures of at least 4200kPa and for a burst pressure of at least 20700kPa. Copper pipe for hydro-sanitary applications is completely unsuitable.
- For sizing and limits (height difference, line length, max. bends, refrigerant charge, etc.) see the outdoor unit installation manual.
- All refrigerant connection must be accessible, in order to permit either unit maintenance or removing it completely.

## Step 6 Cutting and flaring the pipes

- 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.



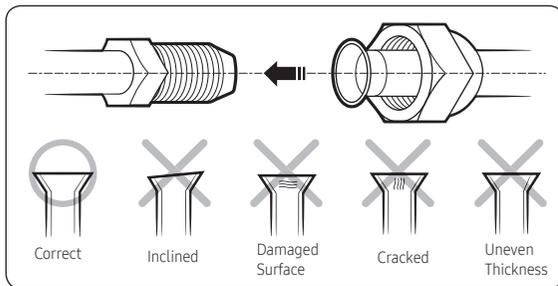
- 3 To prevent any gas from leaking out, remove all burrs at the cut edge of the pipe, using a reamer.
- 4 Slide a flare nut on to the pipe and modify the flare.



Outer Diameter (D)	Depth (A)	Flare dimension (L)
Ø1/4 (6.35)	0.051 (1.3)	0.34~0.36 (8.7~9.1)
Ø3/8 (9.52)	0.071 (1.8)	0.50~0.52 (12.8~13.2)
Ø1/2 (12.70)	0.079 (2.0)	0.64~0.65 (16.2~16.6)
Ø5/8 (15.88)	0.087 (2.2)	0.76~0.78 (19.3~19.7)
Ø3/4(19.05)	0.087 (2.2)	0.93~0.94 (23.6~24.0)

Unit: inch(mm)

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



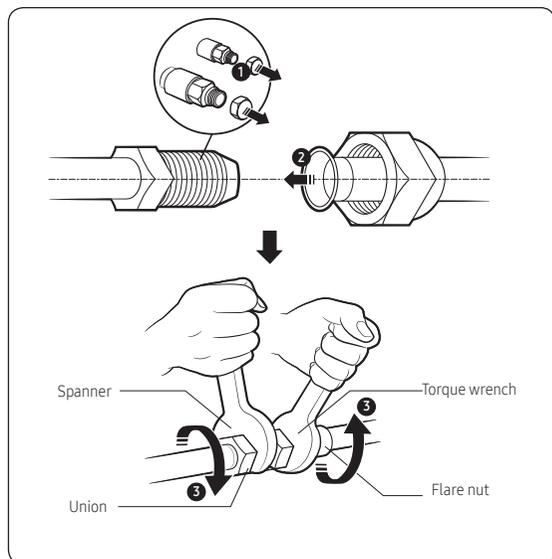
### ⚠ CAUTION

- If the pipes require brazing ensure that OFN (Oxygen Free Nitrogen) is flowing through the system.
- Nitrogen blowing pressure range is 0.02 ~ 0.05MPa.

## Step 7 Connecting the assembly pipes to the refrigerant pipes

There are two refrigerant pipes of different diameters :

- A smaller one for the liquid refrigerant
  - A larger one for the gas refrigerant
  - The inside of copper pipe must be clean & has no dust
- 1 Remove the pinch pipe on the pipes and connect the assembly pipes to each pipe, tightening the nuts, first manually and then with a torque wrench, a spanner applying the following torque.



Outer Diameter		Torque	
mm	inch	N•m	lbf.ft
Ø6.35	1/4	14 to 18	10.3 to 13.3
Ø9.52	3/8	34 to 42	25.1 to 31.0
Ø12.70	1/2	49 to 61	36.1 to 45.0
Ø15.88	5/8	68 to 82	50.2 to 60.5
Ø19.05	3/4	100 to 120	73.8 to 88.5

(1 N•m=10 kgf•cm)

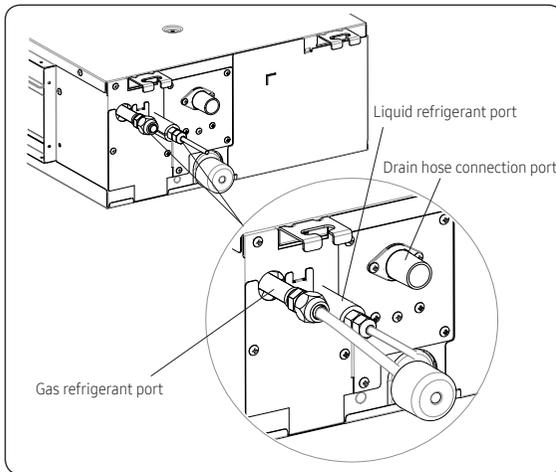
### 📖 NOTE

- If the pipes must be shortened refer to page 14, **Step 6 Cutting and flaring the pipes**
- Tighten the nuts to the specified torques. If overtightened, the nuts could be broken so refrigerant may leak.

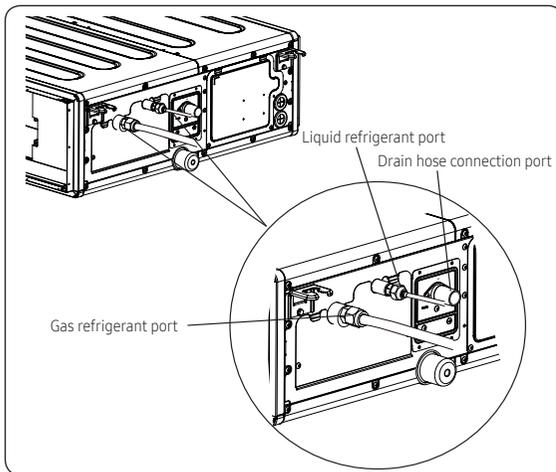
# Installation Procedure

- 2 Be sure to 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[0.39 inch (10mm) or more] to prevent condensation even on the insulator when if the installed area is warm and humid.
- 6 Do not use joints or extensions for the pipes that connect the indoor and outdoor unit. The only permitted connections are those for which the units are designed.

## AC\*\*\*BNLDCH



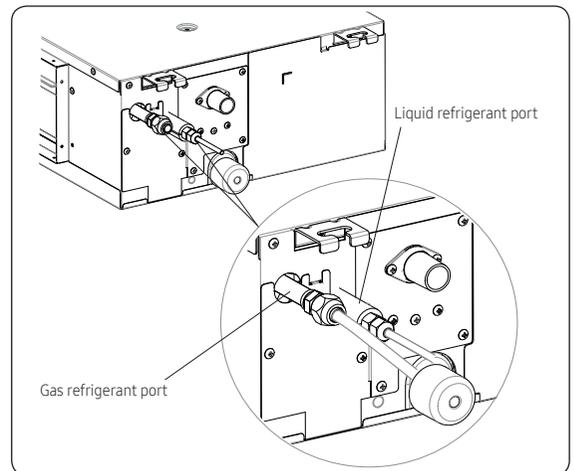
## AC\*\*\*BNHDCH



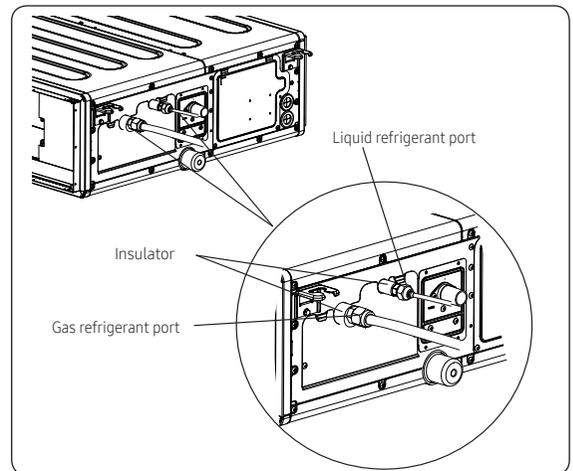
## Step 8 Performing the gas leak test

Pressure check the refrigerant system using high pressure nitrogen in order to detect basic refrigerant leaks. Before performing the vacuum process and releasing the factory R-410A charge into the refrigerant pipes, it is the responsibility of the installer to pressurize the whole system with nitrogen (using a cylinder with pressure reducer) at a pressure above 580.2 psi(4 Mpa) (gauge).

## AC\*\*\*BNLDCH



## AC\*\*\*BNHDCH



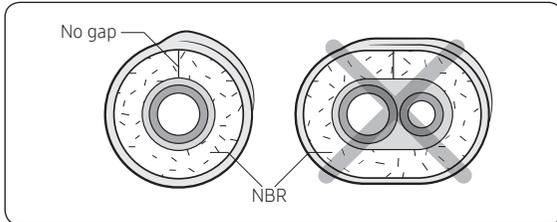
### NOTE

- The designs and shape are subject to change according to the model.

## Step 9 Insulating the refrigerant pipes

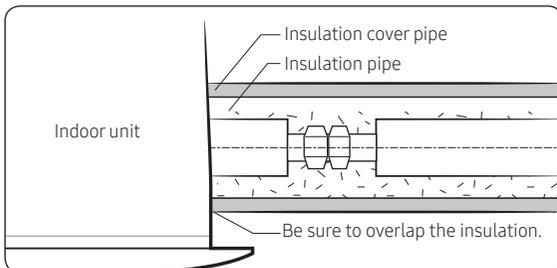
Once you have checked that there are no leaks in the system, you can insulate the piping and hose.

- 1 To avoid condensation problems, place Acrylonitrile Butadien Rubber separately around each refrigerant pipe.



### NOTE

- Always make the seam of pipes face upwards.
- 2 Wind insulating tape around the pipes and drain hose avoiding compressing the insulation too much.

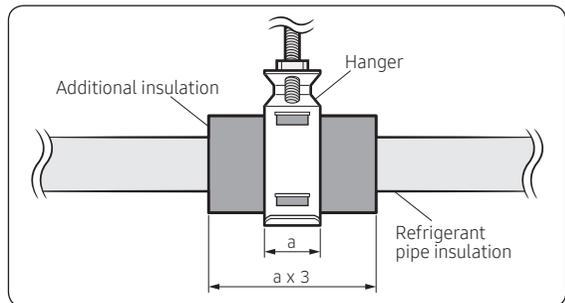


### CAUTION

- Be sure to wrap insulation tightly without any gaps.
- 3 Finish wrapping insulating tape around the rest of the pipes leading to the outdoor unit.
  - 4 The pipes and electrical cables connecting the indoor unit with the outdoor unit must be fixed to the wall with suitable ducts.

### CAUTION

- Make sure that all refrigerant connection must be accessible for easy maintenance and detachment.
- Install the insulation not to get wider and use the adhesives on the connection part of it to prevent moisture from entering.
- Wind the refrigerant pipe with insulation tape if it is exposed to outside sunlight.
- Install the refrigerant pipe respecting that the insulation does not get thinner on the bent part or hanger of pipe.
- Add the additional insulation if the insulation plate gets thinner.



- 5 Select the insulation of the refrigerant pipe.
  - Insulate the gas side and liquid side pipe, noting the insulation thickness that must differ according to the pipe size.
  - Standard: Less than an indoor temperature of 86°F(30°C), with humidity at 85%. If installing in a high humidity environment, use one grade thicker insulator by referring to the table below. If installing in an unfavourable environment, use thicker one.
  - The heat-resistance temperature of the insulator must be more than 248°F(120°C).

# Installation Procedure

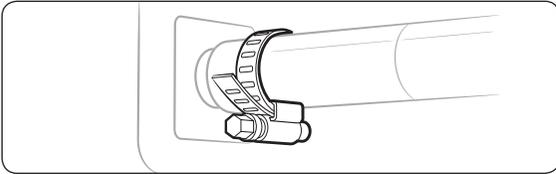
Pipe	Outer diameter		Insulation Type (Cooling, Heating)				Remarks
			General [86°F(30°C), 85%]		High humidity [86°F(30°C), over 85%]		
	EPDM, NBR						
	mm	inch	mm	inch	mm	inch	
Liquid pipe	6.35~9.52	1/4~3/8	9	3/8	9	3/8	The internal temperature is higher than 248°F(120°C)
	12.7~50.80	1/2~2	13	1/2	13	1/2	
Gas pipe	6.35	1/4	13	1/2	19	3/4	
	9.52~25.4	3/8~1	19	3/4	25	1	
	28.58~44.45	1 1/8~1 3/4	19	3/4	32	1 1/4	
	50.8	2	25	1	38	1 1/2	

- When installing insulation in the places and conditions below, use the same insulation that is used for high humidity conditions.

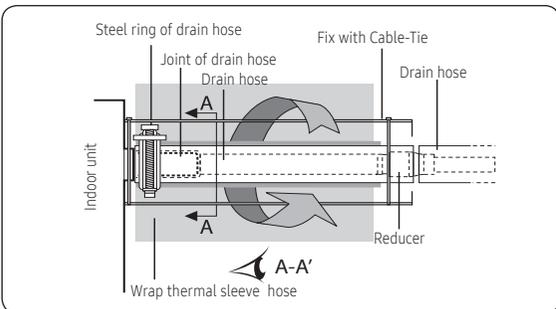
<b>&lt;Geological condition&gt;</b>
High humidity locations such as shorelines, hot springs, lake or riversides, and ridges (when part of the building is covered by earth and sand)
<b>&lt;Operation purpose condition&gt;</b>
Restaurant ceiling, sauna, swimming pool etc.
<b>&lt;Building construction condition&gt;</b>
Ceilings frequently exposed to moisture and cooling are not covered. For example, pipes installed at a corridor of a dormitory and studio or near an exit that opens and closes frequently. Places (where the pipes are installed) that are highly humid due to a lack of ventilation.

## Step 10 Installing the drain hose and drain pipe

- 1 Push the supplied drain hose as far as possible over the drain socket.
- 2 Tighten the metal clamp as shown in the picture.

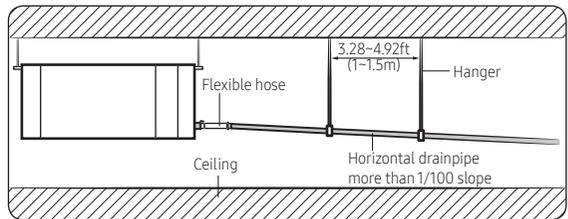


- 3 Wrap the supplied large sealing pad over the metal clamp and drain hose to insulate and fix it with clamps.
- 4 Insulate the complete drain piping inside the building (field supply). If the drain hose cannot be sufficiently set on a slope, fit the hose with drain raising piping (field supply).
- 5 Push the drain hose up to insulation when connecting the drain hose to drain socket.



### Without the drain pump

- 1 Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 3.28~4.92ft(1~1.5m).
- 2 Install U-trap at the end of the drainpipe to prevent a nasty smell to reach the indoor unit.
- 3 Do not install the drainpipe to upward position. It may cause water flow back to the unit.



### With the drain pump

- 1 The drain pipe should be installed within 11.81inch(300mm) to 21.65inch(550mm) from the flexible hose and then lift down 0.79inch(20mm) or more.
- 2 Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 3.28~4.92ft(1~1.5m).
- 3 Install the air vent in the horizontal drainpipe to prevent water flow back to the indoor unit.

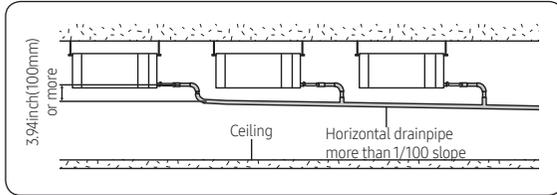
#### NOTE

- You may not need to install it if there were proper slope in the horizontal drainpipe.
- 4 The flexible hose should not be installed upward position, it may cause water flow back to the indoor unit.

# Installation Procedure

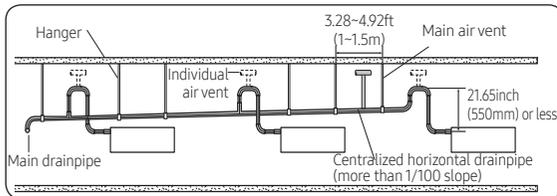
## Centralized drainage without the drain pump

- 1 Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 3.28~4.92ft(1~1.5m).
- 2 Install U-trap at the end of the drainpipe to prevent a nasty smell to reach the indoor unit.



## Centralized drainage with the drain pump

- 1 Install main air vent at the front of the farthest indoor unit from the main drain when installed indoor units are more than 3.
- 2 You may need to install individual air vent to prevent water flow back at the top of each indoor unit drainpipe.



## Step11 Performing the drainage test

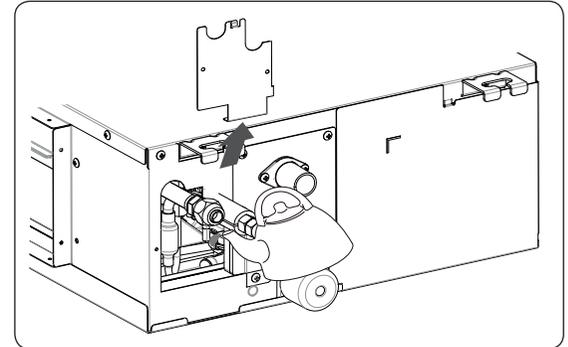
Prepare a little water about 0.53 gallons(2 liters).

- 1 Loosen screws and take out the side cover plate.
- 2 Pour water into the indoor unit as shown in figure.

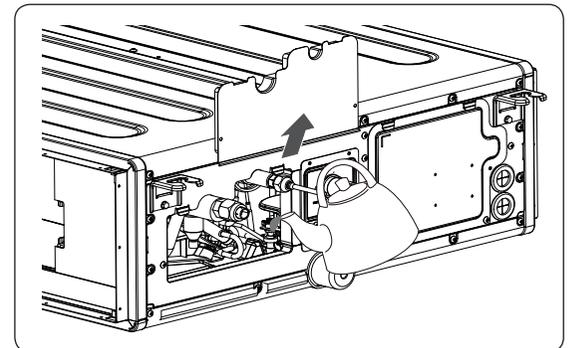
### NOTE

- Drainage test should be done after installation has been finished. To avoid water overflow from the indoor unit because the drain tube is blocked.

### AC\*\*\*BNLDCH



### AC\*\*\*BNHDCH

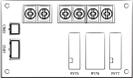
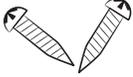


※The designs and shape are subject to change according to the model.

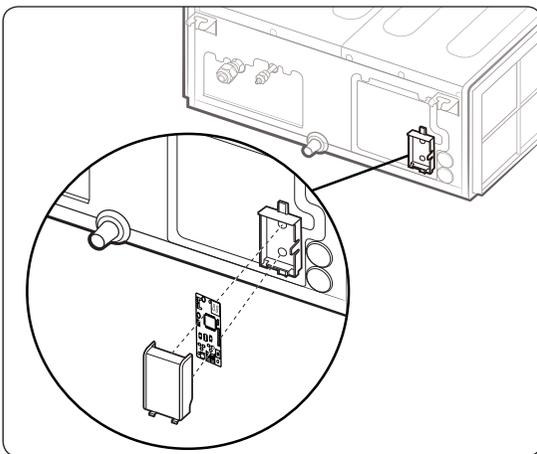
- 3 Confirm that the water flows out through the drain hose.
- 4 When the drain pump is installed, operate the unit as cooling mode and check a drain pump pumping.
- 5 Check drain water drops at the end of the drain pipe.
- 6 Make sure there is no water leak at the drainage.
- 7 Reinstall the side cover plate.

## Step 12 Optional: Installing external controller

Accessories (External controller : MIM-B14)

External Controller	PCB Case
	
Harness Wire	Harness Wire
	
Screw	
	

- 1 Fix the case at with bolts on the side of the control box in the indoor unit.(See the picture).
- 2 Attach the external controller PCB to the case in the control box of the indoor unit.
- 3 Connect the harness wires.



## Step 13 Connecting the power and communication cables

### ⚠ CAUTION

- Always remember to connect the refrigerant pipes before performing the electric connections. When disconnecting the system, always disconnect the electric cables before disconnecting the refrigerant pipes.

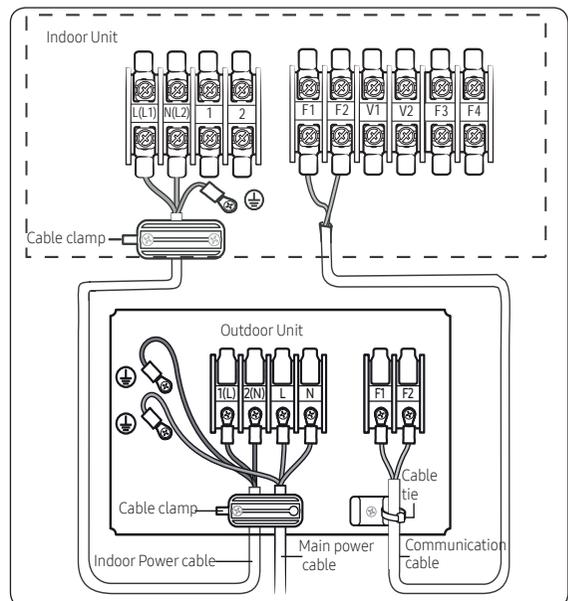
### ⚠ CAUTION

- Always remember to connect the air conditioner to the grounding system before performing the electric connections. Use a crimp ring terminal at the end of each wire.

The indoor unit is powered through the outdoor unit by means of a H05RN-F connection cable (or a more power model), with insulation in synthetic rubber and a jacket in polychloroprene (neoprene), in accordance with the requirements specified in the standard EN 60335-2-40.

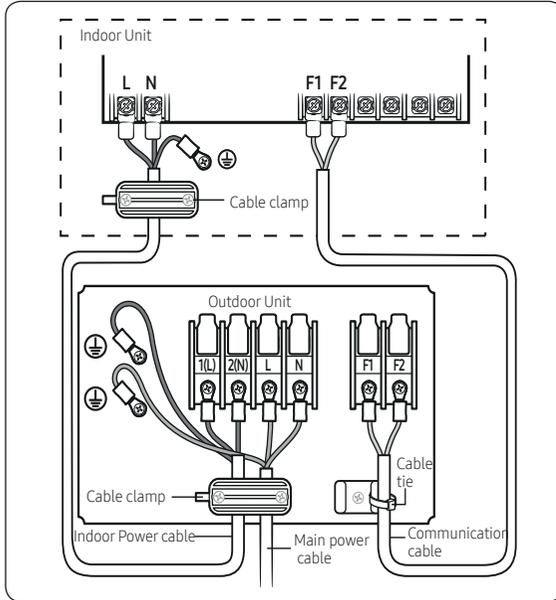
- 1 Remove the screw on the electrical component box and remove the cover plate.
- 2 Route the connection cord through the side of the indoor unit and connect the cable to the terminals refer to the figure below.
- 3 Route the other end of the cable to the outdoor unit through the ceiling & the hole on the wall.
- 4 Reassemble the electrical component box cover, carefully tightening the screw.

### AC\*\*\*BNLDCH



# Installation Procedure

## AC\*\*\*BNHDCH

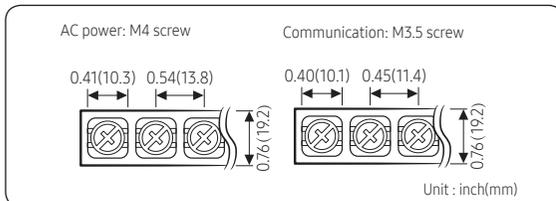


### NOTE

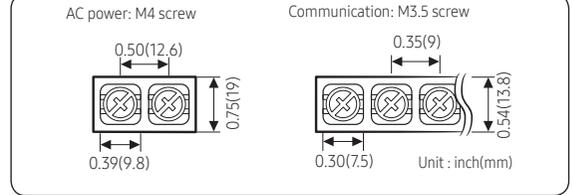
- Terminal Block of the outdoor unit may be different from the diagram depending on the model. Refer to the manual of the outdoor unit for the configuration of the terminal block of the outdoor unit.

Indoor power supply		
Power supply	Max./Min(V)	Indoor power cable
208 to 230V, 60 Hz	±10%	0.0023 inch <sup>2</sup> ↑ (1.5mm <sup>2</sup> ↑), 3 wires
Communication cable		
0.0012 inch <sup>2</sup> ↑ (0.75mm <sup>2</sup> ↑), 2 wires		

## AC\*\*\*BNLDCH



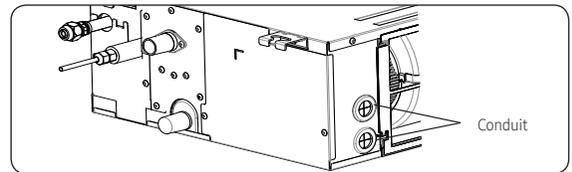
## AC\*\*\*BNHDCH



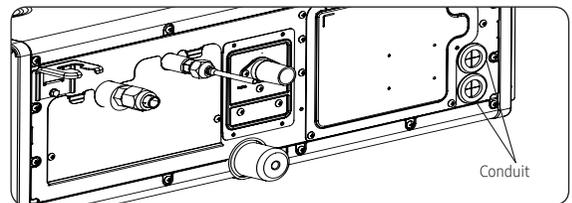
Tightening torque lbf-ft (kgf • cm)	
M3.5	0.58 to 0.87 (8.0 to 12.0)
M4	0.87 to 1.30 (12.0 to 18.0)

- Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord.  
-Code designation  
[1-phase] IEC: 60245 IEC 57 / CENELEC: H05RN-F grade or more
- Be sure to run the power supply cable and the communication cable through electrical conduit as seen in the picture.

## AC\*\*\*BNLDCH

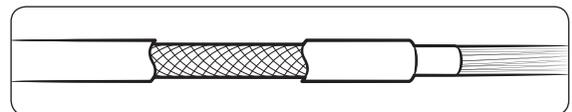


## AC\*\*\*BNHDCH



### CAUTION

- Be sure not to put your finger into the conduit.
- Since it has the external power supply, refer to the outdoor unit installation manual for MAIN POWER.



### CAUTION

- When installing the indoor unit in a computer room or a server room, use the double shielded communication cable (tape aluminum / polyester braid + copper) of FROHH2R type.

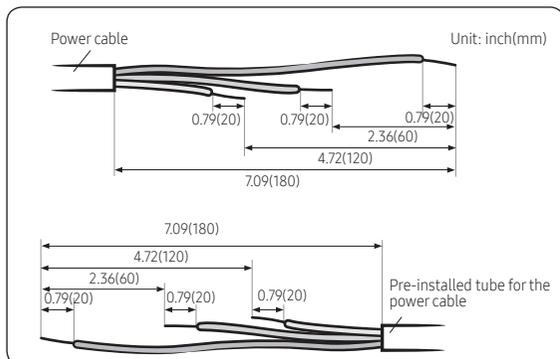
## Step 14 Optional: Extending the power cable

1 Prepare the following tools.

Tools	Spec	Shape
Crimping pliers	MH-14	
Connection sleeve	0.79xØ0.26inch (20xØ6.5mm) (HxOD)	
Insulation tape	Width 0.75inch(19mm)	
Contraction tube	2.76xØ0.31 inch (70xØ8.0mm) (LxOD)	

2 As shown in the figure, peel off the shields from the rubber and wire of the power cable.

- Peel off 0.79 inch (20 mm) of cable shields from the pre-installed tube.

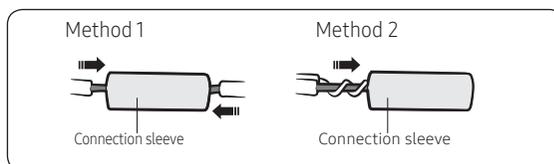


### CAUTION

- For information about the power cable specifications for indoor and outdoor units, refer to the installation manual.
- After peeling off cable wires from the pre-installed tube, insert a contraction tube.

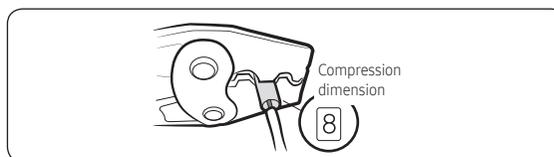
3 Insert both sides of core wire of the power cable into the connection sleeve.

- **Method 1:** Push the core wire into the sleeve from both sides.
- **Method 2:** Twist the wire cores together and push it into the sleeve.

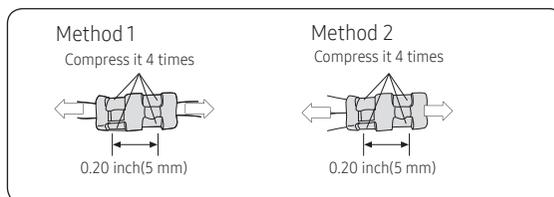


### CAUTION

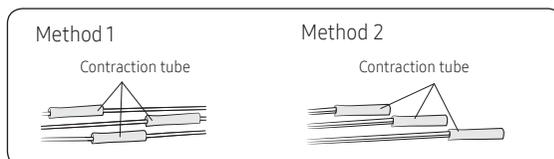
- If cable wires are connected without using connecting sleeves, their contact area becomes reduced, or corrosion develops on the outer surfaces of the wires (copper wires) over a long time. This may cause an increase of resistance (reduction of passing current) and consequently may result in a fire.
- 4 Using a crimping tool, compress the two points and flip it over and compress another two points in the same location.
- The compression dimension should be 0.31 inch (8.0 mm).



- After compressing it, pull both sides of the wire to make sure it is firmly pressed.

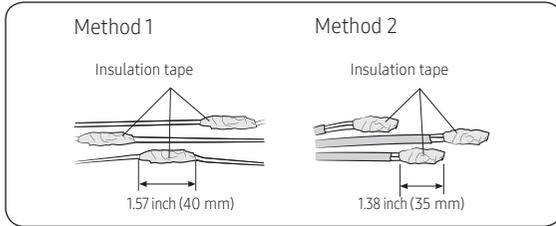


5 Apply heat to the contraction tube to contract it.

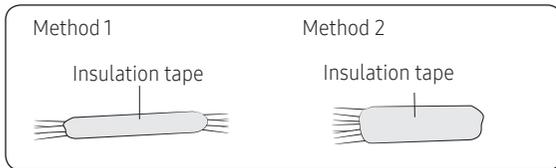


# Installation Procedure

- 6 Wrap it with the insulation tape twice or more and position your contraction tube in the middle of the insulation tape. Three or more layers of insulation are required.



- 7 After tube contraction work is completed, wrap it with the insulation tape to finish.

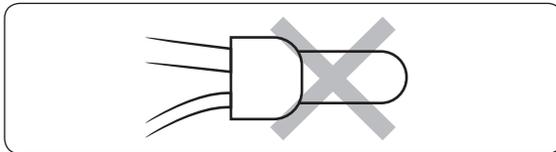


## CAUTION

- Make sure that the connection parts are not exposed to outside.
- Be sure to use insulation tape and a contraction tube made of approved reinforced insulating materials that have the same level of withstand voltage with the power cable. (Comply with the local regulations on extensions.)

## WARNING

- In case of extending the electric wire, please DO NOT use a round-shaped Pressing socket.
  - Incomplete wire connections can cause electric shock or a fire.



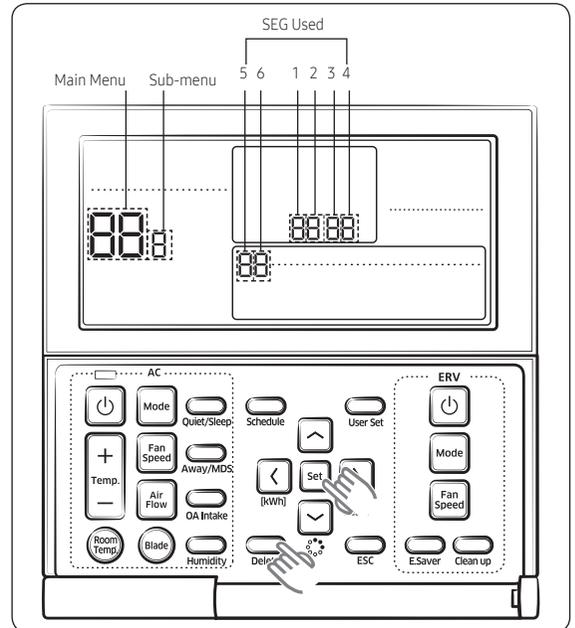
## Step15 Setting additional functions of wired remote control

### Automatic Air-Volume (This function can't be used at AC\*\*\*BNLDCH model)

Automatic Air-Volume function must be performed for each indoor unit with the wired remote control attached.

With its BLDC motor, you can use smart adjust the indoor unit fan speed depending on the installation condition.

If the external static pressure is high so that the duct becomes longer or if the external static pressure is low so that the duct becomes shorter, Using the Automatic Air-Volume function, the volume of exhaust air has been adjusted to the rated volume flow rate automatically.



### Performing the Automatic Air-Volume function.

- Check the air conditioning unit stop.
- Press the Power button to stop the air conditioner
- Go to Service setting mode with remote controller.
- 1 Press the **[Set]** and **[Delete]** buttons at the same time for more than 3 seconds and then a Main menu will be displayed.
  - 2 Press the **[Up/Down]** button to select **8** and then press **[Right]** button to enter a Sub-menu setting screen.
  - 3 Press the **[Up/Down]** button to select **2** and then press **[Right]** button to enter a automatic air-volume setting screen.

- 4 Press the / button to select 1 to enable automatic air-volume operation.
- 5 Select mode No. 8.2 , and set to "1".
- 6 Press the button, then the air conditioning unit will start the fan operation for Automatic Air-Volume adjustment.
  - Do not adjust the dampers during fan operation for Automatic Air-Volume adjustment.
- 7 Press button to escape setting mode.  
(During the automatic air-volume adjustment,[Main Menu] will be displayed → → → repetitively)
- 8 After 1 to 8 minutes, the air conditioning unit stops operating automatically when Automatic Air-Volume adjustment has been carried out (fan operation icon will be off.)
- 9 When the air conditioning unit has stopped, check the Mode No. 8.1 is "1" for completion of Automatic Air-Volume.

If the Mode No. 8.1 is "0", Automatic Air-Volume adjustment is fail. Then adjust the fan speed by referring the E. S. P(External Static Pressure) setting table.

Main menu	Sub menu	Functions	SEG used	Default	Range
8	1	Automatic Air-Volume State Return	1	0	0 - OFF (Fail or Disable) 1 - Completion. 2 - Running Automatic Air-Volume.
	2	Automatic Air-Volume Operation	1	0	0 - Disable 1 - Enable

#### NOTE

- If the coil is not dry, run the unit for 2 hours with fan only to dry the coil.
- The air filter is properly attached into the air passage on the air suction side of the air conditioning unit.
- Adjust the dampers so that each air inlet and outlet exhusts the designed airflow rate.
- If using booster fans(an outdoor air processing unit or ERV via duct), do not use Automatic Air-Volume function.
- If the duct configurations have been changed, automatic air-volume function perform again.

### External Static Pressure (ESP) setting for phase control motor

With its phase control motor, you can adjust the indoor unit fan speed depending on the installation condition. If the external static pressure is high so that the duct becomes longer or if the external static pressure is low so that the duct becomes shorter, adjust the fan speed by referring the following table.

Model	AC009BNLDCH	AC012BNLDCH
Static Pressure	Option Code for Indoor Unit	
0.3≤P≤1.5	01C3FC-1C5407-271A23-370000	01C3FC-1C54BC-272328-370000
1.5<P≤2.6	01C3FC-1C546B-271A23-370000	01C3FC-1C55F0-272328-370000
2.6<P≤4.0	01C3FC-1C55C0-271A23-370000	01C3FC-1C5944-272328-370000
4.0<P≤5.0	01C3FC-1C5903-271A23-370000	01C3FC-1C5986-272328-370000
5.0<P≤6.0	01C3FC-1C5945-271A23-370000	01C3FC-1C59B9-272328-370000

Model	AC018BNLDCH
Static Pressure	Option Code for Indoor Unit
0.3≤P≤1.5	01C3FC-1C54FB-23343C-370000
1.5<P≤2.6	01C3FC-1C583D-23343C-370000
2.6<P≤4.0	01C3FC-1C5980-23343C-370000
4.0<P≤5.0	01C3FC-1C59B2-23343C-370000
5.0<P≤6.0	01C3FC-1C59F5-23343C-370000

Model	AC009BNHDCH	AC012BNHDCH
Static Pressure	Option Code for Indoor Unit	
2.5≤P≤5	01B3FC-1C50D3-271A23-370000	01B3FC-1C5404-272328-370000
5<P≤7.5	01B3FC-1C5466-271A23-370000	01B3FC-1C5477-272328-370000
7.5<P≤10	01B3FC-1C54D9-271A23-370000	01B3FC-1C54EA-272328-370000
10<P≤12.5	01B3FC-1C582C-271A23-370000	01B3FC-1C583D-272328-370000
12.5<P≤15	01B3FC-1C5970-271A23-370000	01B3FC-1C5981-272328-370000

# Installation Procedure

Model	AC018BNHDCH	AC024BNHDCH
Static Pressure	Option Code for Indoor Unit	
2.5≤P≤5	01B3FC-1C5416-2F343C-370020	01B3FC-1C542A-27484F-370020
5<P≤7.5	01B3FC-1C547A-2F343C-370020	01B3FC-1C548E-27484F-370020
7.5<P≤10	01B3FC-1C54DF-2F343C-370020	01B3FC-1C55E1-27484F-370020
10<P≤12.5	01B3FC-1C5933-2F343C-370020	01B3FC-1C5935-27484F-370020
12.5<P≤15	01B3FC-1C5997-2F343C-370020	01B3FC-1C5998-27484F-370020
15<P≤17.5	01B3FC-1C59FB-2F343C-370020	01B3FC-1C59FC-27484F-370020
17.5<P≤20	01B3FC-1C5E50-2F343C-370020	01B3FC-1C5D5F-27484F-370020

Model	AC042BNHDCH	AC048BNHDCH
Static Pressure	Option Code for Indoor Unit	
2.5≤P≤5	01B3FC-1C5449-277D8A-370045	01B3FC-1C545A-278C9B-370045
5<P≤7.5	01B3FC-1C549C-277D8A-370045	01B3FC-1C54AD-278C9B-370045
7.5<P≤10	01B3FC-1C54DE-277D8A-370045	01B3FC-1C54EF-278C9B-370045
10<P≤12.5	01B3FC-1C5901-277D8A-370045	01B3FC-1C5912-278C9B-370045
12.5<P≤15	01B3FC-1C5943-277D8A-370045	01B3FC-1C5954-278C9B-370045
15<P≤17.5	01B3FC-1C5975-277D8A-370045	01B3FC-1C5986-278C9B-370045
17.5<P≤20	01B3FC-1C59B6-277D8A-370045	01B3FC-1C59C7-278C9B-370045

Model	AC030BNHDCH	AC036BNHDCH
Static Pressure	Option Code for Indoor Unit	
2.5≤P≤5	01B3FC-1C547B-275A5E-370020	01B3FC-1C5439-276975-370045
5<P≤7.5	01B3FC-1C54DE-275A5E-370020	01B3FC-1C548C-276975-370045
7.5<P≤10	01B3FC-1C5922-275A5E-370020	01B3FC-1C54CE-276975-370045
10<P≤12.5	01B3FC-1C5967-275A5E-370020	01B3FC-1C55F1-276975-370045
12.5<P≤15	01B3FC-1C59B9-275A5E-370020	01B3FC-1C5933-276975-370045
15<P≤17.5	01B3FC-1C59FC-275A5E-370020	01B3FC-1C5965-276975-370045
17.5<P≤20	01B3FC-1C5D3E-275A5E-370020	01B3FC-1C59A6-276975-370045

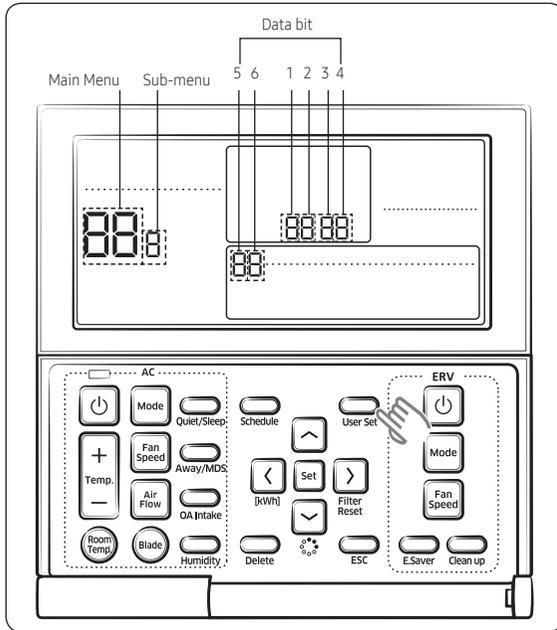
## NOTE

-  represents E. S. P(External Static Pressure) range of factory setting.  
 You don't have to adjust the fan speed separately if the external static pressure of the installation place is in . When it is out of , input the appropriate option code.
- If you input the inappropriate option code, error may occur or the air conditioner is out of order. The option code must be inputted correctly by the installation specialist or service agent.

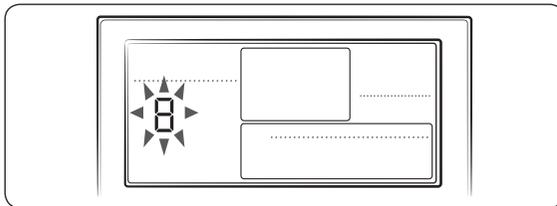
## EASY Tuning

If the more cooling and heating airflow rate which set up when installing is wanted, or if the more Silent operation which sets up when installing is wanted, air conditioner is tuned for comfort.

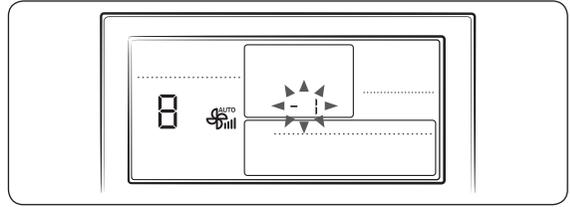
Indoor unit airflow rate for high, mid, low mode increases or decreases for +2 ~ -2 Steps with wired remotecontrol.



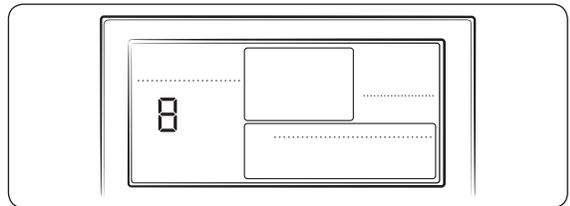
- 1 Press the User Set button.  
(Main Menu) will be displayed, and you can press the [▲]/[▼] buttons to select No. 8, which will set the Easy Tuning.



- 2 Press the [▶] button to select airflow step.  
Press the [▲]/[▼] buttons to select airflow step(-2,-1,0,1,2) tuning (During the Easy Tuning setting, AC Fan Speed icon will be displayed)



- 3 Press the [Set] button to complete the Easy Tuning.  
(When the Easy Tuning setting complete, AC Fan Speed icon will be off)



- 4 Press the [ESC] button to to exit to normal mode.

Main menu	Sub menu	Functions	SEG used	Default	Range
8	-	Easy Tuning	1,2	0	-2 : -2 Step -1 : -1 Step 0 : No Use 1 : +1 Step 2 : +2 Step

### NOTE

- Press the [ESC] button anytime during setup to exit without setting.
- According to airflow changed from the Easy Tuning, Air conditioning performance reducing is possible.

# Installation Procedure

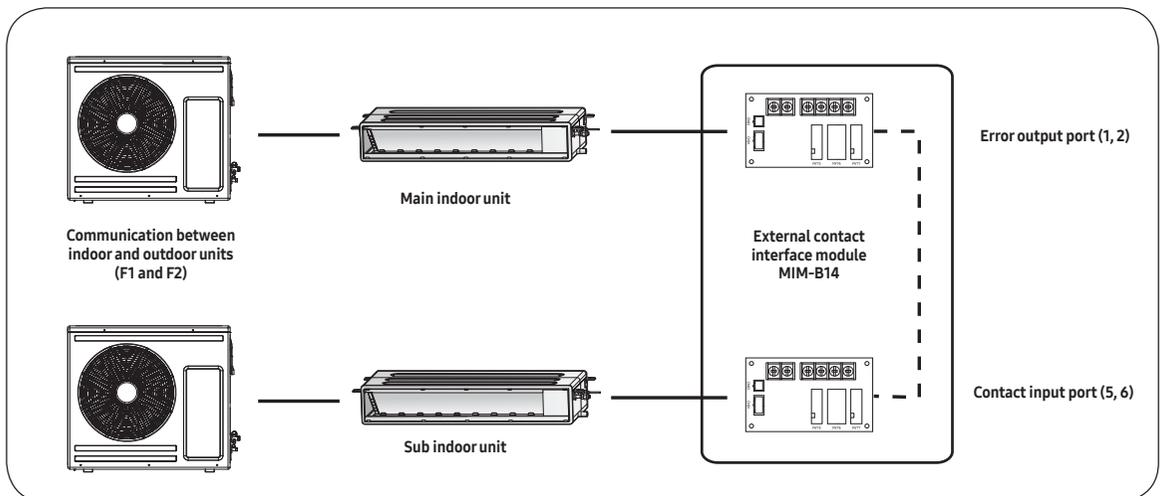
## Step 16 Optional : Setting the Emergency Temperature Output (ETO) function

Emergency Temperature Output (ETO) function (for the multi system, this function is not supported.)

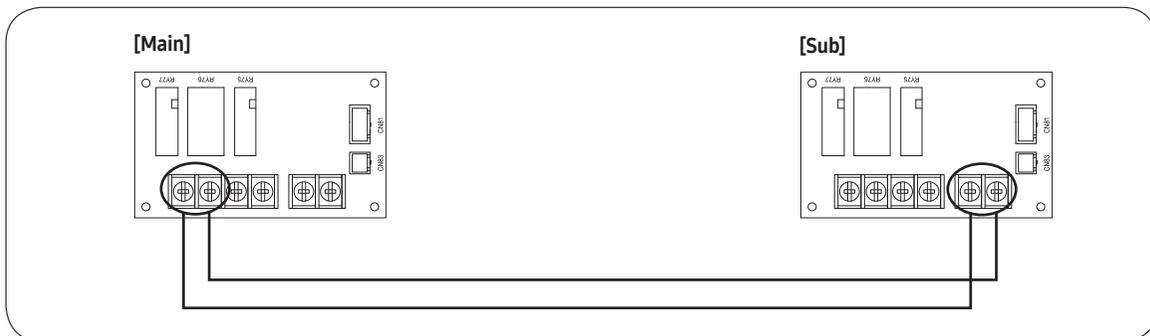
### CAUTION

- In order to deploy the ETO function, the MIM-B14, an external contact interface module, must be installed in each indoor unit.
- The ETO is a concept of emergency operation of indoor units. If the indoor unit 1 (main indoor unit) stops because of an error, the indoor unit 2 (sub indoor unit) starts to operate.
- Basically, the indoor unit 2 operates in the previous mode. [For the first time operation, it starts in 24 °C (75 °F) Auto mode.]
- To set more detailed operation conditions for the indoor unit 2, use the S-net Pro.

### Setting up the ETO



- 1 Main indoor unit
  - Disable the external contact control (Default).
  - Connect the S-net pro2 to F1 and F2.
  - Enable the ETO function and set the temperature and time.
- 2 Sub indoor unit
  - (Required) Enable the external contact control (with the installation option SEG14 - Reverse Control).
  - Connect the S-net pro2 to F1 and F2.
  - Enable the entrance control and set the mode, set temperature, and fan speed.



### ETO operation specifications

- 1 Main indoor unit
  - Based on the external contact control settings, the main indoor unit decides whether to generate output when an error (indoor unit stop) occurs.
  - Based on the ETO settings, the main indoor unit decides whether to generate output according to the temperature and time conditions.
- 2 Sub indoor unit
  - Based on the entrance control settings, the sub indoor unit decides the mode, set temperature, and fan speed when contact inputs are given.

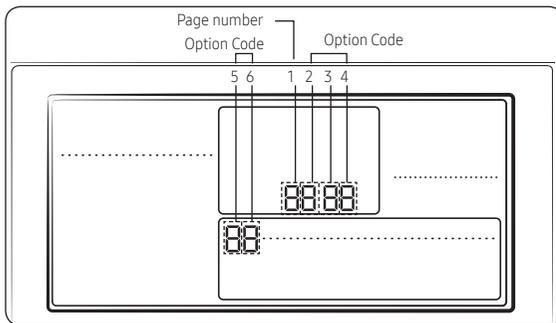
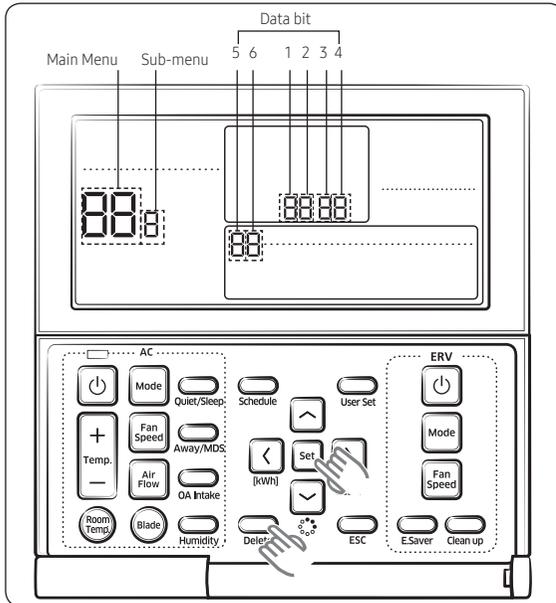
	Enable of ETO	Enable of external contact	Error port output
Main indoor unit	X	X	N/A
	X	O	Output due to an error
	O	X	Output by ETO entrance conditions (temperature / time / error occurrence)
	O	O	Output by ETO entrance conditions (temperature / time / error occurrence) * Ready to control the main contact input

	Enable of entrance control	Enable of external contact	Operation when outputting Main
Sub indoor unit	X	X	N/A
	X	O	On with the previous operation conditions
	O	O	On with the entrance control enabled

# Installation Procedure

## Step 17 Setting the indoor unit option code with wired remote controller

In order to set the indoor unit option code use the wired remote controller and follow the directions below.



SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	*	*	*	*	*
Page number					
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	*	*	*	*	*
Page number					
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	*	*	*	*	*
Page number					
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	*	*	*	*	*

Page number

- 1 Press the **Set** and **Delete** buttons at the same time for more than 3 seconds and then a Main menu will be displayed.
- 2 Press the **Up/Down** button to select **4** and then press **Right** button to enter a Sub-menu setting screen.
- 3 Press the **Up/Down** button to select **2** and then press **Right** button to enter a Indoor unit option code setting screen.

### NOTE

- The first digit represents the page number and the remaining five digits are option codes.
- The option code which is currently setting will flicker.

- 4 Press the **Up/Down** button to set the option code in order. Press **Right** button to go to the next page.
- 5 Press the **Set** button to save and complete the option setting.
- 6 Press the **ESC** button to exit to normal mode.

### NOTE

- Press the **ESC** button anytime during setup to exit without setting.

## CAUTION

- Option code will not be applied if you don't press the **Set**
- Setting indoor unit option code is only possible in Main wired remote controller. You can only check the indoor unit option code in Sub wired remote controller.
- Setting indoor unit option code is possible when one indoor unit is connected. If more than 2 indoor units are connected, you can only check the Main indoor unit option code.

## Step 18 Setting indoor unit addresses and installation options with wired remote controller

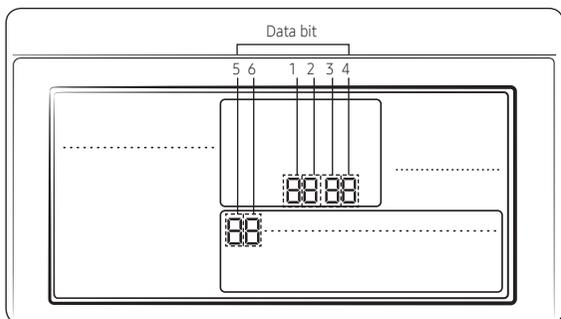
Set the indoor unit address and installation option with remote controller option. Set the each option separately since you cannot set the ADDRESS setting and indoor unit installation setting option at the same time. You need to set twice when setting indoor unit address and installation option.

### Setting an indoor unit address

- 1 Press the **Set** and **Delete** buttons at the same time for more than 3

seconds and then a Main menu will be displayed.

- Press the / button to select **4** and then press button to enter a Sub-menu setting screen.
- Press the / button to select **!** and then press button to enter a Indoor Address setting screen.



#### NOTE

- The Main/RMC Address which is currently setting will flicker.
  - Data bit 1 and 2 present Indoor unit main address checking
  - Data bit 3 and 4 present Indoor unit main address setting(outdoor unit reset is needed to set).
  - Data bit 5 and 6 present Indoor unit RMC address setting/ checking.
- Press the / button to set the Indoor unit Main/RMC Address.(Refer to the Indoor Unit Address Options table on page 38)
  - Press the button to save and complete the option setting.
  - Press the button to exit to normal mode.

#### NOTE

- Press the button anytime during setup to exit without setting.
- Address will not be applied if you don't press .
- Setting Main/RMC Address of an Indoor unit is available only with a Main wired remote controller.

### Setting an indoor unit installation option

In order to check and set the indoor unit installation option code use the wired remote controller and follow the directions below.

- Press the and buttons at the same time for more than

3 seconds and then a Main menu will be displayed.

- Press the / button to select **4** and then press button to enter a Sub-menu setting screen.
- Press the / button to select **3** and then press button to enter a Indoor unit installation option code setting screen.

#### NOTE

- The first digit represents the page number and the remaining five digits are installation option.
  - The total option codes are 24 digits. You can set six digits at a time and it is distinguished by page number (0, 1, 2, 3).
- Press the / button to set the installation option code in order. Press button to go to the next page.(Refer to the Indoor Unit Install Options table on page 39)

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	2	RESERVED	Exterior temperature sensor	Central control	RESERVED
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	Drain pump	Hot Coil	Auxiliary heater	Controller variables for auxiliary heater	RESERVED
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	External control	External control output	RESERVED	Buzzer	Maximum filter usage time
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	Individual control of a remote controller	Heating setting compensation	RESERVED	Away Set OFF Timer	RESERVED

- Press the button to save and complete the option setting.
- Press the button to exit to normal mode.

#### NOTE

- Press the button anytime during setup to exit without setting.
- Option code will not be applied if you don't press .
- Setting Installation option code is available only with a Main wired remote controller.
- Setting Installation option code is available when there is one on one connection between a wired remote controller and an indoor unit.

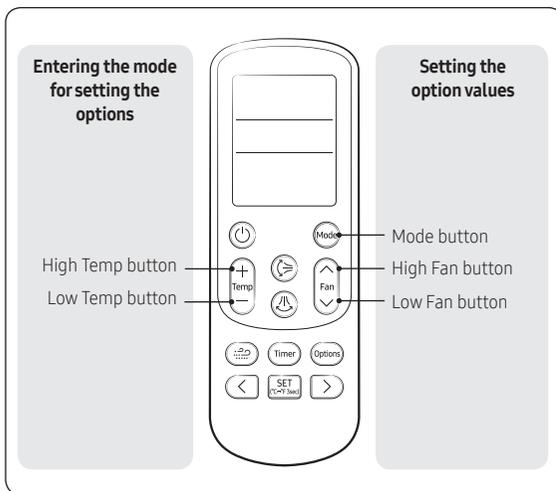
# Installation Procedure

## Step 19 Optional : Setting the indoor unit addresses and the installation options with wireless remote controller

You cannot set both the indoor unit addresses and the installation options at the same time.

Receiver & display unit must be connected to the indoor unit to set options with the wireless remote control.

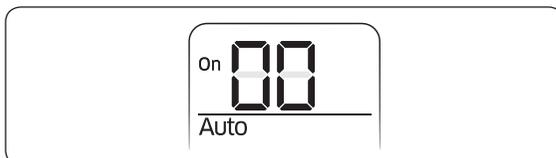
### Common steps for setting the addresses and options



### NOTE

- The remote control display and buttons may vary depending on the model.

- Enter the mode for setting the options:
  - Remove the batteries from the remote control, and then insert them again.
  - While holding down the (High Temp) and (Low Temp) buttons simultaneously, insert the batteries into the remote control.
  - Make sure that you are entered to the mode for setting the options:



- Set the option values.

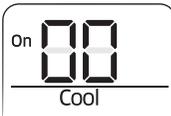
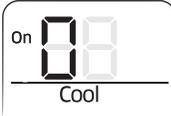
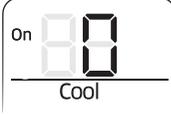
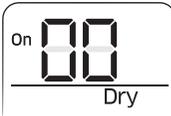
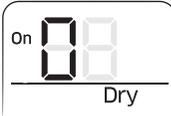
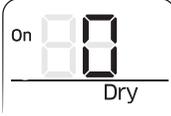
### CAUTION

- The total number of available options are 24: SEG1 to SEG24.
- Because SEG1, SEG7, SEG13, and SEG19 are the page options used by the previous remote control models, the modes to set values for these options are skipped automatically.
- Set a 2-digit value for each option pair in the following order: SEG2 and SEG3 → SEG4 and SEG5 → SEG6 and SEG8 → SEG9 and SEG10 → SEG11 and SEG12 → SEG14 and SEG15 → SEG16 and SEG17 → SEG18 and SEG20 → SEG21 and SEG22 → SEG23 and SEG24

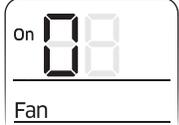
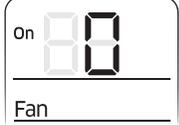
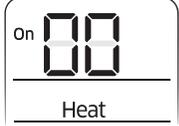
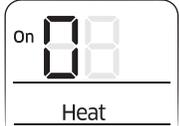
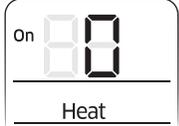
SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	X	X	X	X	X
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	X	X	X	X	X
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	X	X	X	X	X
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	X	X	X	X	X

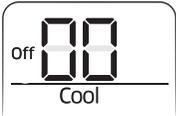
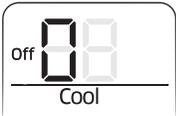
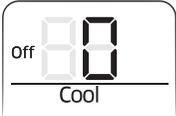
On (SEG1 to SEG12)	Off (SEG13 to SEG24)

Take the steps presented in the following table:

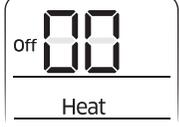
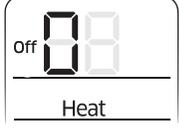
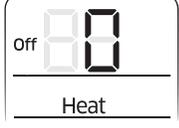
Steps	Remote control display
<p>1 Set the SEG2 and SEG3 values:</p> <p>a Set the SEG2 value by pressing the  (Low Fan) button repeatedly until the value you want to set appears on the remote control display.</p> <p>b Set the SEG3 value by pressing the  (High Fan) button repeatedly until the value you want to set appears on the remote control display.</p> <p>When you press the  (Low Fan) or  (High Fan) button, values appear in the following order: <math>\square \rightarrow \updownarrow \rightarrow \dots \rightarrow \text{E} \rightarrow \text{F}</math></p>	 <p style="text-align: center;">SEG2</p>  <p style="text-align: center;">SEG3</p>
<p>2 Press the  (Mode) button. <b>Cool</b> and <b>On</b> appear on the remote control display.</p>	
<p>3 Set the SEG4 and SEG5 values:</p> <p>a Set the SEG4 value by pressing the  (Low Fan) button repeatedly until the value you want to set appears on the remote control display.</p> <p>b Set the SEG5 value by pressing the  (High Fan) button repeatedly until the value you want to set appears on the remote control display.</p> <p>When you press the  (Low Fan) or  (High Fan) button, values appear in the following order: <math>\square \rightarrow \updownarrow \rightarrow \dots \rightarrow \text{E} \rightarrow \text{F}</math></p>	 <p style="text-align: center;">SEG4</p>  <p style="text-align: center;">SEG5</p>
<p>4 Press the  (Mode) button. <b>Dry</b> and <b>On</b> appear on the remote control display.</p>	
<p>5 Set the SEG6 and SEG8 values:</p> <p>a Set the SEG6 value by pressing the  (Low Fan) button repeatedly until the value you want to set appears on the remote control display.</p> <p>b Set the SEG8 value by pressing the  (High Fan) button repeatedly until the value you want to set appears on the remote control display.</p> <p>When you press the  (Low Fan) or  (High Fan) button, values appear in the following order: <math>\square \rightarrow \updownarrow \rightarrow \dots \rightarrow \text{E} \rightarrow \text{F}</math></p>	 <p style="text-align: center;">SEG6</p>  <p style="text-align: center;">SEG8</p>

# Installation Procedure

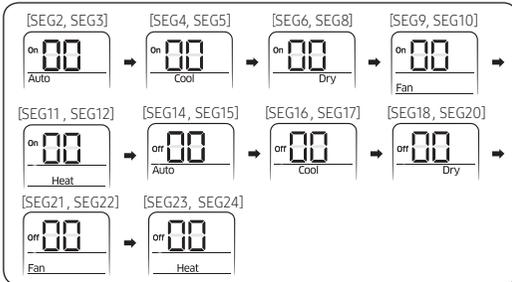
Steps	Remote control display
6 Press the  (Mode) button. <b>Fan</b> and <b>On</b> appear on the remote control display.	
7 Set the SEG9 and SEG10 values: a Set the SEG9 value by pressing the  (Low Fan) button repeatedly until the value you want to set appears on the remote control display.	 SEG9
b Set the SEG10 value by pressing the  (High Fan) button repeatedly until the value you want to set appears on the remote control display.  When you press the  (Low Fan) or  (High Fan) button, values appear in the following order: 0 → 1 → ... → E → F	 SEG10
8 Press the  (Mode) button. <b>Heat</b> and <b>On</b> appear on the remote control display.	
9 Set the SEG11 and SEG12 values: a Set the SEG11 value by pressing the  (Low Fan) button repeatedly until the value you want to set appears on the remote control display.	 SEG11
b Set the SEG12 value by pressing the  (High Fan) button repeatedly until the value you want to set appears on the remote control display.  When you press the  (Low Fan) or  (High Fan) button, values appear in the following order: 0 → 1 → ... → E → F	 SEG12
10 Press the  (Mode) button. <b>Auto</b> and <b>Off</b> appear on the remote control display.	

Steps	Remote control display
11 Set the SEG14 and SEG15 values: <ol style="list-style-type: none"> <li data-bbox="148 401 923 465">Set the SEG14 value by pressing the  (Low Fan) button repeatedly until the value you want to set appears on the remote control display.</li> </ol>	 SEG14
<ol style="list-style-type: none"> <li data-bbox="148 556 930 620">Set the SEG15 value by pressing the  (High Fan) button repeatedly until the value you want to set appears on the remote control display.</li> </ol> <p data-bbox="141 653 902 716">When you press the  (Low Fan) or  (High Fan) button, values appear in the following order: 0 → 1 → ... E → F</p>	 SEG15
12 Press the  (Mode) button. <b>Cool</b> and <b>Off</b> appear on the remote control display.	
13 Set the SEG16 and SEG17 values: <ol style="list-style-type: none"> <li data-bbox="148 923 923 987">Set the SEG16 value by pressing the  (Low Fan) button repeatedly until the value you want to set appears on the remote control display.</li> </ol>	 SEG16
<ol style="list-style-type: none"> <li data-bbox="148 1078 930 1141">Set the SEG17 value by pressing the  (High Fan) button repeatedly until the value you want to set appears on the remote control display.</li> </ol> <p data-bbox="141 1174 902 1238">When you press the  (Low Fan) or  (High Fan) button, values appear in the following order: 0 → 1 → ... E → F</p>	 SEG17
14 Press the  (Mode) button. <b>Dry</b> and <b>Off</b> appear on the remote control display.	
15 Set the SEG18 and SEG20 values: <ol style="list-style-type: none"> <li data-bbox="148 1445 923 1508">Set the SEG18 value by pressing the  (Low Fan) button repeatedly until the value you want to set appears on the remote control display.</li> </ol>	 SEG18
<ol style="list-style-type: none"> <li data-bbox="148 1599 930 1663">Set the SEG20 value by pressing the  (High Fan) button repeatedly until the value you want to set appears on the remote control display.</li> </ol> <p data-bbox="141 1696 902 1760">When you press the  (Low Fan) or  (High Fan) button, values appear in the following order: 0 → 1 → ... E → F</p>	 SEG20

# Installation Procedure

Steps	Remote control display
16 Press the  (Mode) button. <b>Fan</b> and <b>Off</b> appear on the remote control display.	
17 Set the SEG21 and SEG22 values: <ul style="list-style-type: none"> <li>a Set the SEG21 value by pressing the  (Low Fan) button repeatedly until the value you want to set appears on the remote control display.</li> </ul>	 SEG21
<ul style="list-style-type: none"> <li>b Set the SEG22 value by pressing the  (High Fan) button repeatedly until the value you want to set appears on the remote control display.</li> </ul> <p>When you press the  (Low Fan) or  (High Fan) button, values appear in the following order:  →  → ... →  → </p>	 SEG22
18 Press the  (Mode) button. <b>Heat</b> and <b>Off</b> appear on the remote control display.	
19 Set the SEG23 and SEG24 values: <ul style="list-style-type: none"> <li>a Set the SEG23 value by pressing the  (Low Fan) button repeatedly until the value you want to set appears on the remote control display.</li> </ul>	 SEG23
<ul style="list-style-type: none"> <li>b Set the SEG24 value by pressing the  (High Fan) button repeatedly until the value you want to set appears on the remote control display.</li> </ul> <p>When you press the  (Low Fan) or  (High Fan) button, values appear in the following order:  →  → ... →  → </p>	 SEG24

- 3 Check whether the option values that you have set are correct by pressing the  (Mode) button repeatedly



- 4 Save the option values into the indoor unit:  
Point the remote control to the remote control sensor on the indoor unit and then press the  (Power) button on the remote control twice. Make sure that this command is received by the indoor unit. When it is successfully received, you can hear a short sound from the indoor unit. If the command is not received, press the  (Power) button again.
- 5 Check whether the air conditioner operates in accordance with the option values you have set:
- Reset the indoor unit by disconnecting and then reconnecting the power cable of the indoor unit or by pressing the RESET button on the outdoor unit.
  - Remove the batteries from the remote control, insert them again, and then press the  (Power) button on the remote control. Setting the indoor unit address and installation option

# Installation Procedure

## Setting the indoor unit address and installation option

- 1 Make sure that the power is supplied to the indoor unit.
  - If the indoor unit is not plugged in, it must include a power supply.
- 2 Set an address and installation option for each indoor unit using the remote control, according to your air conditioning system plan.

### Setting an indoor unit address (MAIN/RMC)

- The indoor unit address are set to 0A0000-100000-200000-300000 by default.

Option No. : 0AXXXX-1XXXXX-2XXXXX-3XXXXX

Option	SEG1		SEG2		SEG3		SEG4	SEG5		SEG6	
Explanation	Page		Mode		Setting main address		Reserved	10-digit of indoor unit		A single digit of indoor unit	
Indication and details	Indication	Details	Indication	Details	Indication	Details		Indication	Details	Indication	Details
	0		A		0	No main address		0~9	10-digit	0~9	A single digit
					1	Main address setting mode					
Option	SEG7		SEG8		SEG9		SEG10	SEG11		SEG12	
Explanation	Page		Reserved		Setting RMC address		Reserved	Group channel(*16)		Group address	
Indication and details	Indication	Details			Indication	Details		Indication	Details	Indication	Details
	1				0	No RMC address		RMC1	1~F	RMC2	1~F
			1	RMC address setting mode							

※ You must set RMC address setting mode when using the centralized Control.

## CAUTION

- When "A"~"F" is entered to SEG4~6, the indoor unit MAIN ADDRESS is not changed.
- If you set the SEG 3 as 0, the indoor unit will maintain the previous MAIN ADDRESS even if you input the option value of SEG4~6.
- If you set the SEG 9 as 0, the indoor unit will maintain previous RMC ADDRESS even if you input the option value of SEG11~12.

**Setting the installation options**

- The installation options of indoor units are set to 020010-120000-200000-300000 by default.

**Option No. : 02XXXX-1XXXXX-2XXXXX-3XXXXX**

Option	SEG1		SEG2		SEG3	SEG4		
Explanation	PAGE		MODE		RESERVED	Use of external room temperature sensor / Minimizing fan operation when thermostat is off		
Indication and Details	Indication	Details	Indication	Details		Indication	Details	
	0		2				Use of external room temperature sensor	Minimizing fan operation when thermostat is off <sup>1)</sup>
						0	Disuse	Disuse
						1	Use	Disuse
						2	Disuse	Use(Heating)
						3	Use	Use(Heating)
						4	Disuse	Use(Cooling)
						5	Use	Use(Cooling)
						6	Disuse	Use (Cooling/Heating)
					7	Use	Use (Cooling/Heating)	
				8	Disuse	Use (Cooling Ultra low speed)		
				9	Use	Use (Cooling Ultra low speed)		
				A	Disuse	Use (Heating/Cooling Ultra low speed)		
				B	Use	Use (Heating/Cooling Ultra low speed)		
Option	SEG5		SEG6		SEG7		SEG8	
Explanation	Use of central control		RESERVED		PAGE		Use of drain pump	
Indication and Details	Indication	Details			Indication	Details	Indication	Details
	0	Disuse			1		0	Disuse
	1	Use	1	Use				
					2	Use + 3minute delay		

# Installation Procedure

Option	SEG9		SEG10		SEG11			SEG12
Explanation	Use of Hot Coil		Use of auxiliary heater		Controller variables for auxiliary heater			RESERVED
Indication and Details	Indication	Details	Indication	Details	Indication	Details		
	0	Disuse	0	Disuse		0	Set temperature for auxiliary heat on No temperature offset	
	1	Use	1	Use	1	No temperature offset	10 minutes	
					2	No temperature offset	20 minutes	
					3	2.7°F(1.5°C)	No delay	
					4	2.7°F(1.5°C)	10 minutes	
					5	2.7°F(1.5°C)	20 minutes	
					6	5.4°F(3°C)	No delay	
					7	5.4°F(3°C)	10 minutes	
					8	5.4°F(3°C)	20 minutes	
-	-	2	Use (Heater time delay)	9	8.1°F(4.5°C)	No delay		
				A	8.1°F(4.5°C)	10 minutes		
				B	8.1°F(4.5°C)	20 minutes		
				C	10.8°F(6°C)	No delay		
				D	10.8°F(6°C)	10 minutes		
				E	10.8°F(6°C)	20 minutes		

Installation Procedure

Option	SEG13		SEG14			SEG15		SEG16				
Explanation	PAGE		Use of external control			Setting the output of external control		RESERVED				
Indication and Details	Indication	Details	Indication	Details		Indication	Details					
	2	0	Thermo on	0	Disuse	Sub, Existing Control	0			Thermo on		
				1	On/Off							
				2	Off							
				3	Window							
				4	Disuse	Main, Existing Control						
				5	On/Off							
				6	Off							
				7	Window	Sub, Reverse Control					1	Operation on
				8	Disuse							
				9	On/Off							
				A	Off							
				B	Window							
C				Disuse								
D	On/Off	Main, Reverse Control										
E	Off											
F	Window											
Option	SEG17		SEG18		SEG19		SEG20					
Explanation	Buzzer control		Maximum filter usage time <sup>2)</sup>		PAGE		Individual control with remote control <sup>3)</sup>					
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details				
	0	Use of buzzer	2	1000 Hour	3	0 or 1	0 or 1	Indoor 1				
							2	Indoor 2				
							3	Indoor 3				
4							Indoor 4					
1	Disuse	6	2000 Hour	3	0 or 1	0 or 1	Indoor 1					
						2	Indoor 2					
						3	Indoor 3					
						4	Indoor 4					
Option	SEG21		SEG22		SEG23		SEG24					
Explanation	Heating setting compensation <sup>4)</sup>		RESERVED		Away Set OFF Timer		RESERVED					
Indication and Details	Indication	Details			Indication	Details						
	0	Disuse			0 or 1	0 or 1			Auto Set OFF 30Min.			
						2			Auto Set OFF 60Min.			
						3			Auto Set OFF 120Min.			
4			Auto Set OFF 180Min.									
1	3.6°F(2°C)	0 or 1	0 or 1	Auto Set OFF 30Min.								
			2	Auto Set OFF 60Min.								
			3	Auto Set OFF 120Min.								
			4	Auto Set OFF 180Min.								
2	9°F(5°C)	0 or 1	0 or 1	Auto Set OFF 30Min.								
			2	Auto Set OFF 60Min.								
			3	Auto Set OFF 120Min.								
			4	Auto Set OFF 180Min.								

- 1) SEG4
  - By SEG4 setting, Minimizing fan operation when thermostat is off.
    - Fan operates for 20 seconds at an interval of 5 minutes in heat mode.
    - Fan stops or operates Ultra low in Cooling when thermostat is off.
- 2) SEG18
  - If you set the Maximum filter usage time option to a value other than 2 and 6, it is automatically set to 2 (1000 hours).
- 3) SEG20
  - If you set the Individual control with remote control option to a value other than 0 to 4, it is automatically set to 0 (Indoor 1)
- 4) SEG21
  - Default value of Heating setting compensation is 3.6°F(2°C).

# Troubleshooting

- If an error occurs during the operation, one or more LED flickers and the operation is stopped except the LED.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.

Abnormal conditions	Indicators					Remarks
	Concealed Type					
	Green	Red				
	Standard Type					
						
Power reset		X	X	X	X	
Error of Room sensor in the indoor unit(Open/Short)	X	X		X	X	
Error of EVA-IN,EVA-OUT sensor in the indoor unit(Open/Short)		X		X	X	
Error of Fan motor in the indoor unit	X	X	X		X	
Error of Outdoor or Terminal Block Thermal Fuse(Open)	X	X				
Clogging of outdoor's service valve		X	X			
Detection of the float switch	X	X	X			
Error of EEPROM or OPTION SETTING						
1. No communication for 2 minutes between indoor units (Communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from the outdoor unit, the mismatching of the communication numbers and installed numbers after completion of tracking. (Communication error for more than 2 minutes)	X	X			X	1. Indoor unit error (Display is unrelated with operation) 2. Outdoor unit error (Display is unrelated with operation)

 On 
  Flickering 
 **X** Off

If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

- If an error occurs,  is displayed on the wired remote controller. If you would like to see an error code, press the Test button.

Display	Explanation	Remark
<i>808</i>	Communication Error between indoor and outdoor unit	
<i>828</i>	Error of Room sensor in the indoor unit(Open/Short)	
<i>822</i>	Error of Eva In sensor in the indoor unit(Open/Short)	
<i>823</i>	Error of Eva Out sensor in the indoor unit(Open/Short)	
<i>853</i>	2nd Detection of the float switch	
<i>854</i>	Error of Fan motor in the indoor unit	
<i>862</i>	EEPROM error	
<i>863</i>	EEPROM option setting error	
<i>898</i>	Error of Terminal Block's Thermal Fuse(Open)	
<i>202</i>	No communication for 2minutes between indoor units(Communication error for more than 2minutes)	
<i>422</i>	Clogging of outdoor's service valve	
<i>558</i>	Option code miss matching among the indoors (only for DPM)	Check indoor option code
<i>608</i>	Error of communication down between the indoor unit and wired remote controller after 3minutes.	Wired remote controller error
<i>604</i>	Error of communication down between the indoor unit and wired remote controller after completion of 10 times tracking.	
<i>606</i>	COM1/COM2 Cross-installed error	
<i>608</i>	Error of Main wired remote controller and Sub wired remote controller setting	

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