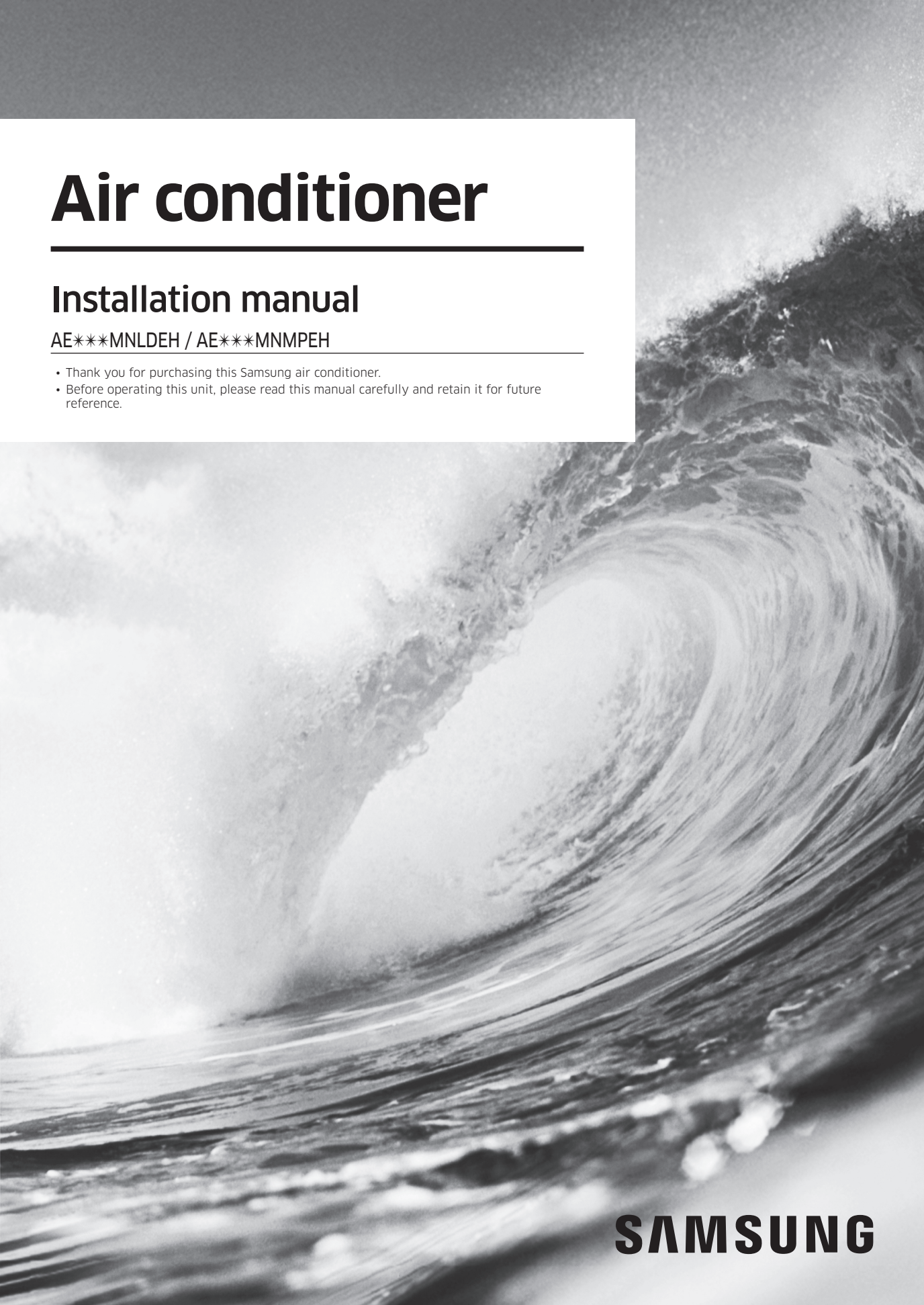
Air conditioner

Installation manual

AE✳✳✳MNLDEH / AE✳✳✳MNMPEH

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



SAMSUNG

Contents

Safety Information

⚠ 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

⚠ 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.

Contents

Installing the unit

⚠ 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.)
- 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.
- 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.

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.
- 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 13 Optional: Extending the power cable" in the installation manual.

⚠ 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 install the air conditioner in following places.

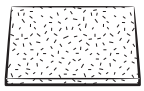
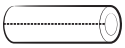
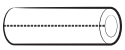
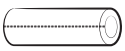
- Place where there is mineral oil or arsenic acid. Resin parts flame and the accessories may drop or water may leak. The capacity of the heat exchanger may reduce or the air conditioner may be out of order.
- The place where corrosive gas such as sulphuric acid gas generates from the vent pipe or air 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 fibre or flammable dust.
- The place where thinner or gasoline is handled. Gas may leak and it may cause fire.

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.

User manual (1)	Installation manual (1)
	
Clamp hose (1)	Flexible hose (1)
	

Insulation drain (1)	Thermal insulation sponge A (1)
	
Cable-tie (8)	Thermal insulation sponge B (1)
	
Rubber (8)	Thermal insulation sponge C (1)
	

Installation Procedure

Step 2 Choosing the installation location

General requirements for installation location

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

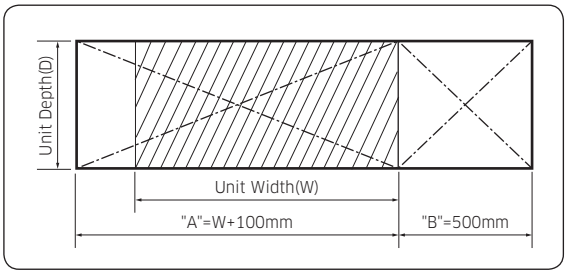
Avoid installing the air conditioner in a location with the following conditions:

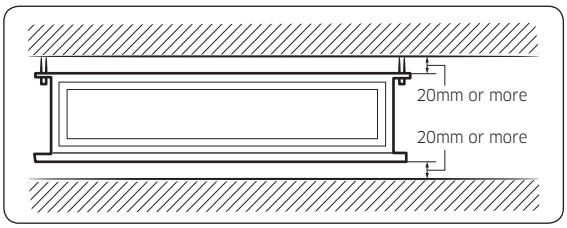
- In areas where it is exposed to direct sunlight. Close to heat sources.
- In damp areas or locations where it could come into contact with water. (for example rooms used for laundry)
- In areas where curtains and furniture could affect the supply and discharge of air.
- Without leaving the required minimum space around the unit. (as shown in the drawing)
- In scarcely ventilated areas.
- On surfaces that are unable to support the weight of the unit without deforming, breaking or causing vibrations during the use of the air conditioner.
- In a position that does not enable the condensate drainage pipe to be correctly installed. (at the end of the installation. It is always essential to check the efficiency of the drainage system)

Space requirements for installation

Construction Standard for Inspection Hole

1. In case, the ceiling is tex tile, Inspection hole dose not need.
2. In case, the ceiling is plaster board, Inspection hole depends on Inside height of the ceiing.
   - **a** Height is more than 0.5m : Only "B" [Inspection for PBA] is applied.
   - **b** Height is less than 0.5m : Both "A"&"B" are applied.
   - **c** "A"&"B" are inspection holes .

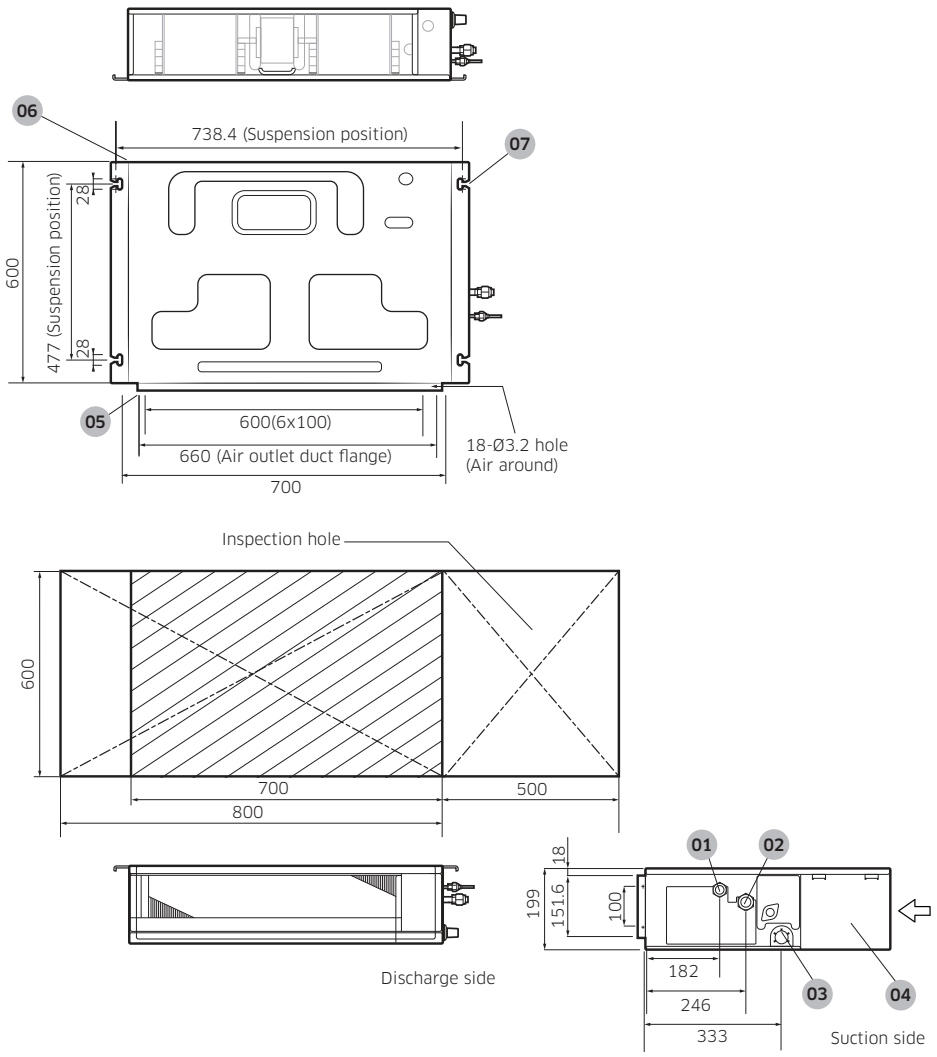




- You must have 20 mm or more space between the ceiling and the bottom of indoor unit. Otherwise, the noise from the vibration of indoor unit may bother the user. When the ceiling is under construction, the hole for check-up must be made to take service, clean and repair the unit.
- It is possible to install the unit at an height of between 2.2~2.5 m from the ground, if the unit has a duct with a well defined lenght (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 10 mm of polyethylene foam or other insulation with similar material on the body of the indoor unit.

Indoor unit dimensions

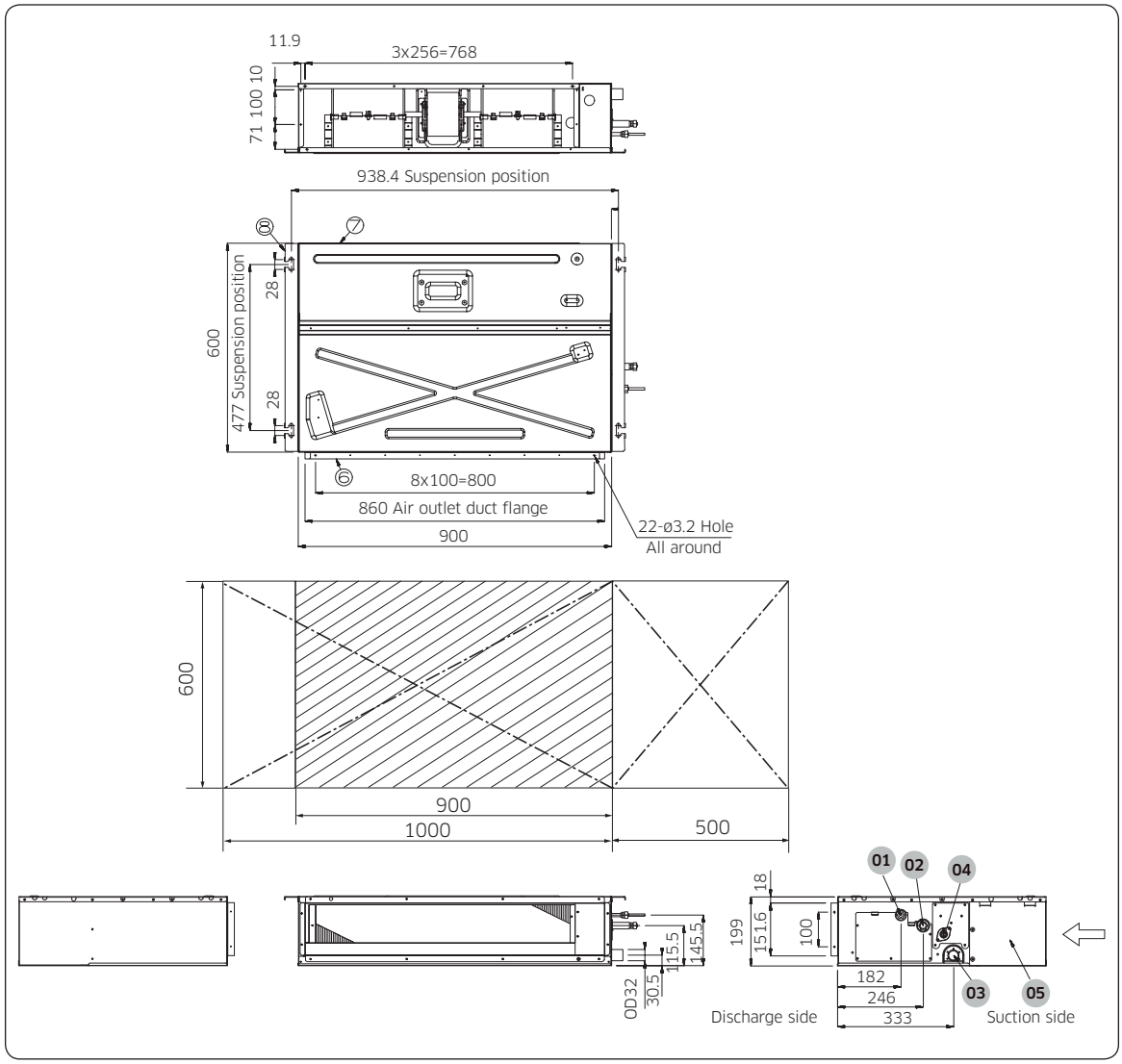
AE022MNLDEH, AE028MNLDEH, AE036MNLDEH (Unit: mm)



No.	Name	Description
01	Liquid pipe connection	ø6.35(1/4")
02	Gas pipe connection	ø9.52(3/8")
03	Drain pipe connection	OD25 ID20(without drain pump)
04	Power supply connection	
05	Air discharge flange	
06	Air filter	
07	Hook	M8~M10

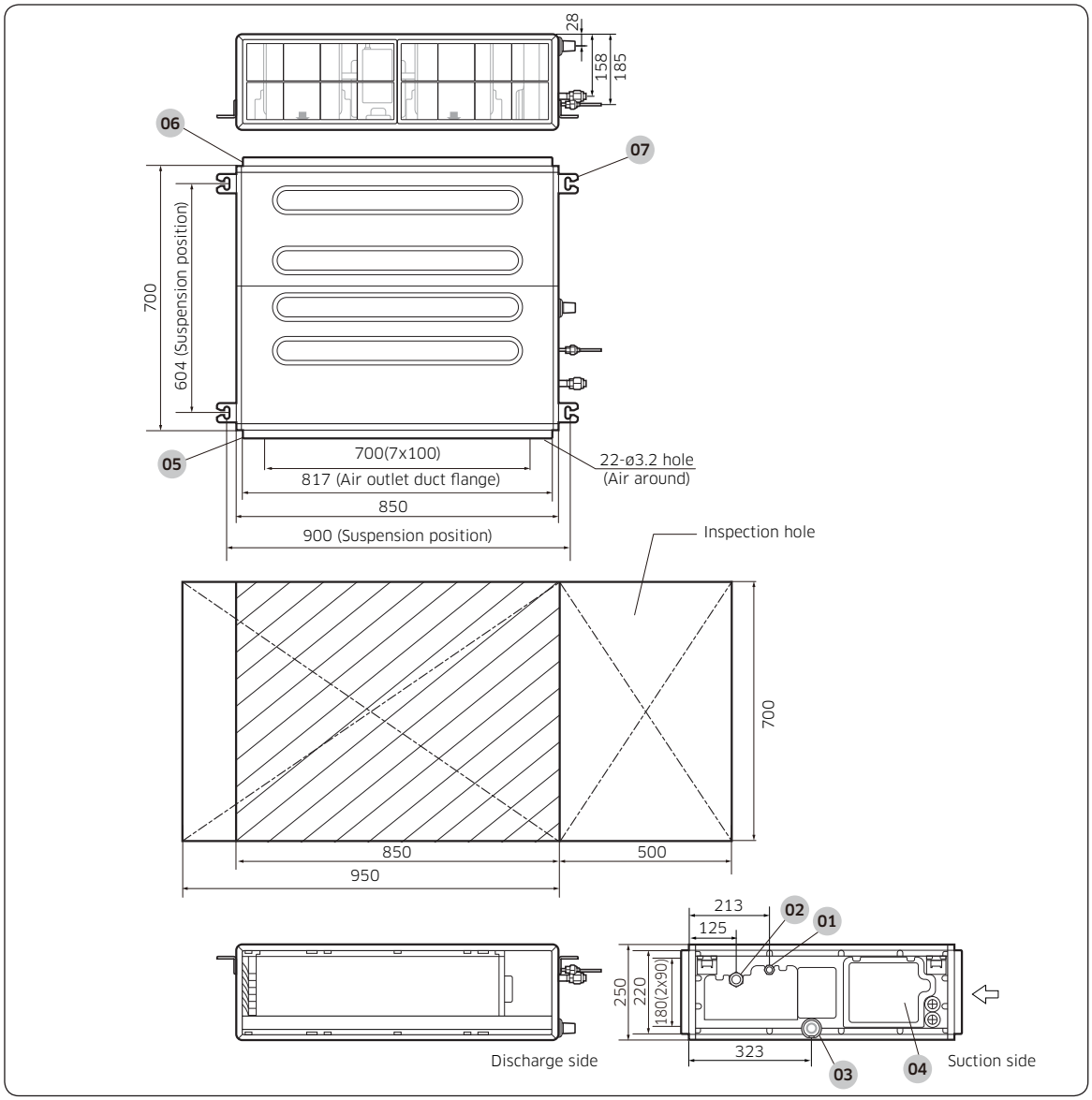
Installation Procedure

AE056MNLDEH (Unit: mm)



No.	Name	Description
01	Liquid pipe connection	ø6.35(1/4")
02	Gas pipe connection	ø12.70(1/2")
03	Drain pipe connection	OD ø25 ID ø20
04	Drain pipe connection (Option drain pump)	OD ø25 ID ø20
05	Power supply/Communication connection	--
06	Power supply connection	--
07	Air discharge grille flange	--
08	Hook	ø9.52 or M10

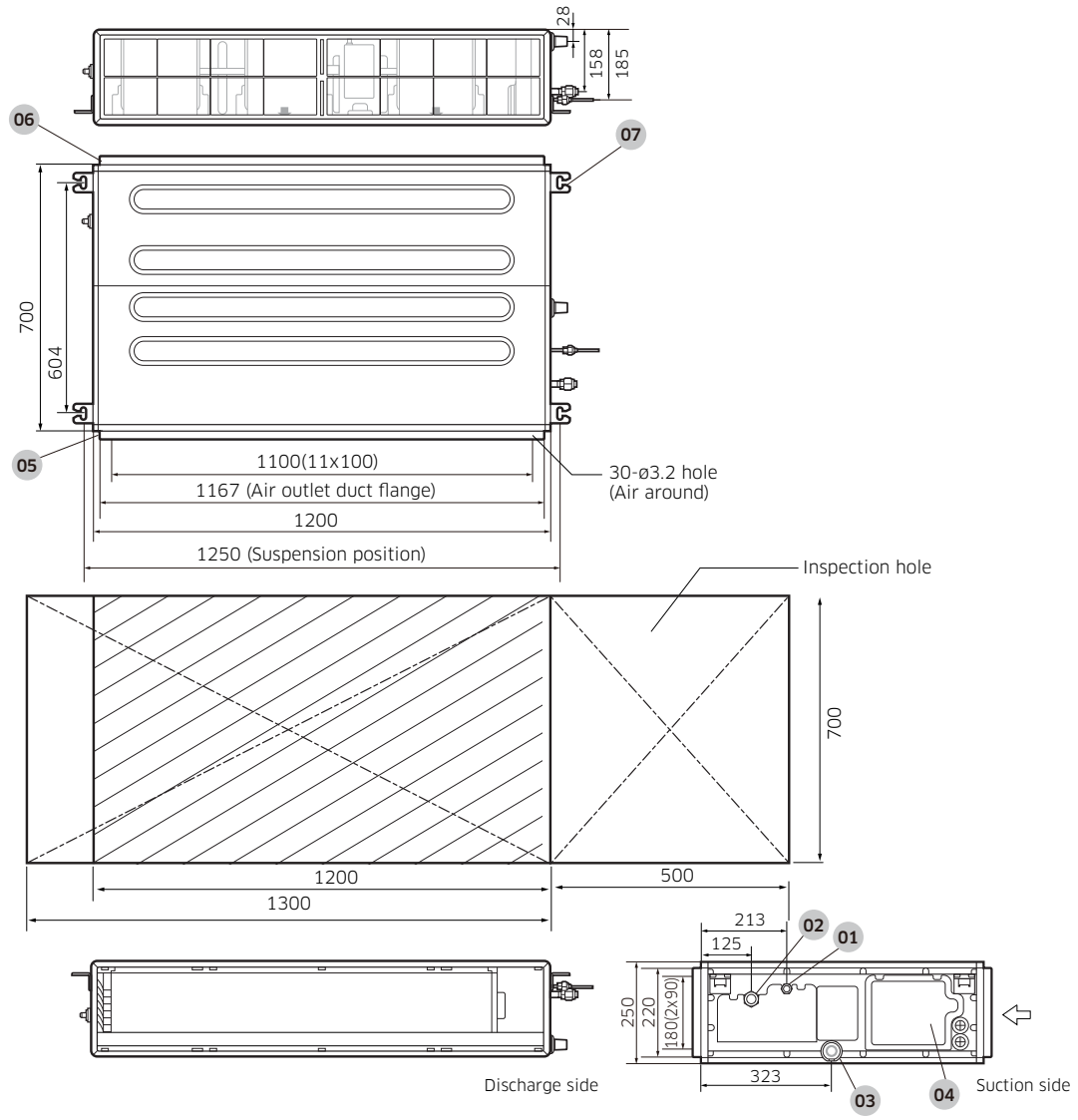
AE071MNMPEH (Unit: mm)



No.	Name	Description
01	Liquid pipe connection	ø6.35(1/4")
02	Gas pipe connection	✶035✶: ø9.52(3/8"); ✶052✶/✶060✶: ø12.70(1/2") ✶071✶: ø15.88(5/8")
03	Drain pipe connection	OD25 ID20(without drain pump)
04	Power supply connection	
05	Air discharge flange	
06	Air filter	
07	Hook	M8~M10

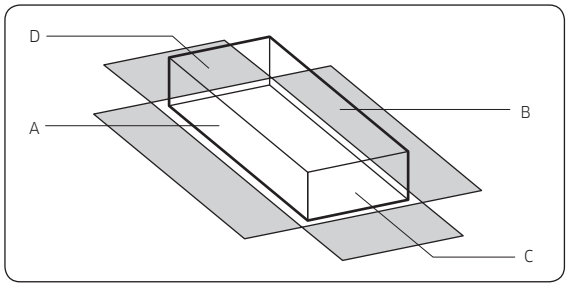
Installation Procedure

AE090MNMPEH (Unit: mm)



No.	Name	Description
01	Liquid pipe connection	ø9.52(3/8")
02	Gas pipe connection	ø15.88(5/8")
03	Drain pipe connection	OD25 ID20(without drain pump)
04	Power supply connection	
05	Air discharge flange	
06	Air filter	
07	Hook	M8~M10

Step 3 Optional: Insulating the body of the indoor unit



Thickness: more than 10mm

Indoor Unit	AE022MNLDEH AE028MNLDEH AE036MNLDEH	AE056MNLDEH
	700 X 600 X 199	900 X 600 X 199
A	700 X 199	900 X 199
B	700 X 199	900 X 199
C	600 X 199	600 X 199
D	600 X 199	600 X 199
Front/ Back	Insulate the front and back side in proper size at the same time when insulating the suction duct and discharge duct.	

(Unit: mm)

Indoor Unit	AE071MNMPEH	AE090MNMPEH
	850 X 700 X 250	1200 X 700 X 250
A	850 X 250	1200 X 250
B	850 X 250	1200 X 250
C	700 X 250	700 X 250
D	700 X 250	700 X 250
Front/ Back	Insulate the front and back side in proper size at the same time when insulating the suction duct and discharge duct.	

(Unit: mm)

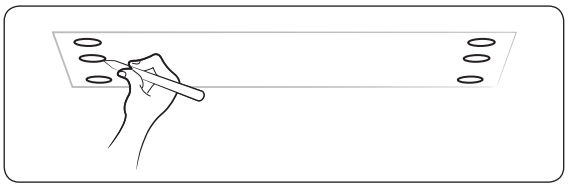
NOTE

- 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

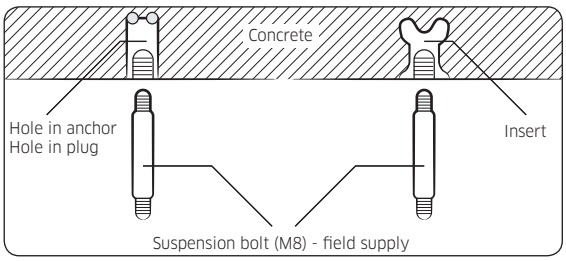
1 Place the pattern sheet on the ceiling at the spot where you want to install the indoor unit.



NOTE

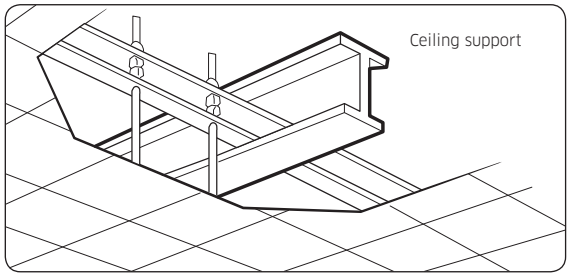
- Since the diagram is made of paper, it may shrink or stretch slightly due to temperature or humidity. For this reason, before drilling the holes maintain the correct dimensions between the markings.

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.

Installation Procedure



⚠ CAUTION

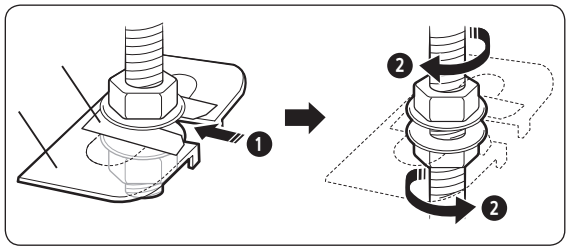
- Ensure that the ceiling is strong enough to support the weight of the indoor unit. Before hanging the unit, test the strength of each attached suspension bolt.
- If the length of suspension bolt is more than 1.5m, it is required to prevent vibration.
- If this is not possible, create an opening on 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

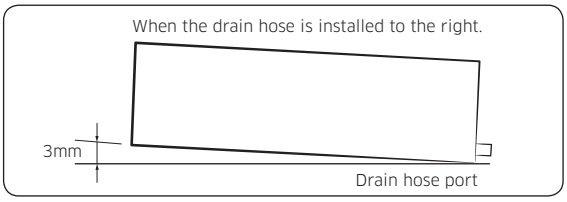
- Piping must be laid and connected inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the piping into position for connection to the unit before placing the unit inside the ceiling.

6 Screw the nuts to suspend the unit.

7 Adjust level of the unit by using measurement plate for all 4 sides.

⚠ CAUTION

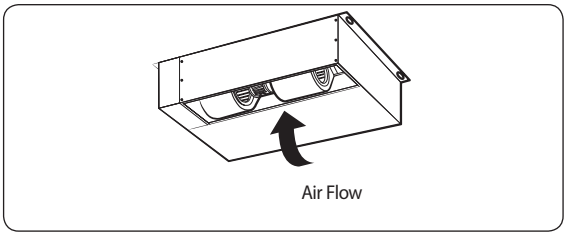
- For proper drainage of condensate, give a 3mm slant to the left or right side of the unit which will be connected with the drain hose, as shown in the figure. Make a tilt when you wish to install the drain pump, too.



- 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 Slim Duct Type product).

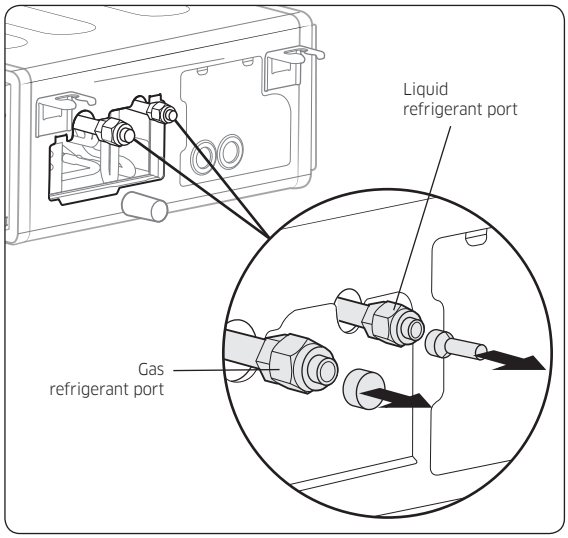


Step 5 Purging inert gas from the indoor unit

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.



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.

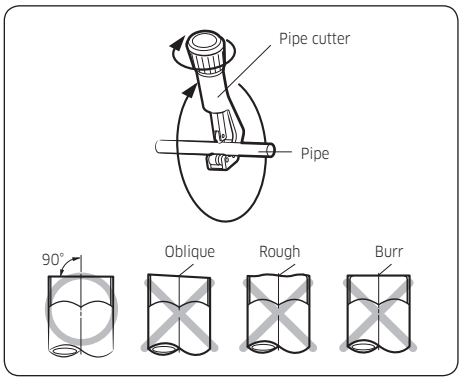
⚠ CAUTION

- 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 or flaring the pipes

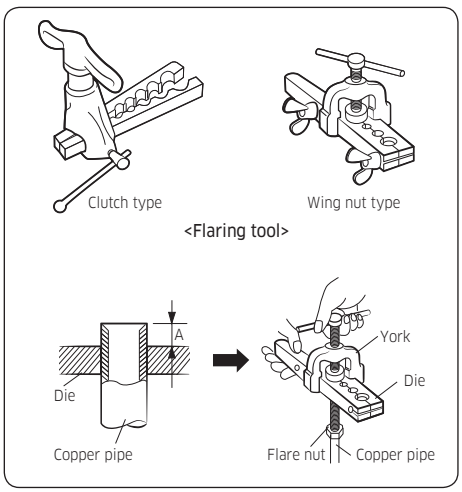
1 Make sure that you prepared the required tools. (pipe cutter, reamer, flaring tool and pipe holder)

2 If you want to shorten the pipe, cut it using a pipe cutter ensuring that the cut edge remains at 90° with the side of the pipe. There are some examples of correctly and incorrectly cut edges below.



3 To prevent a gas leak, remove all burrs at the cut edge of the pipe using a reamer.

4 Carry out flaring work using flaring tool as shown below.

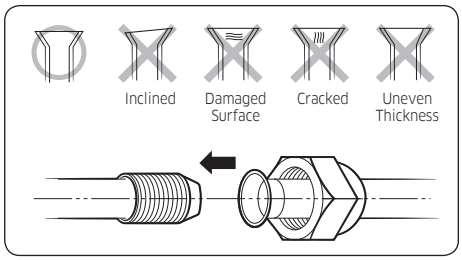


(Unit: mm)

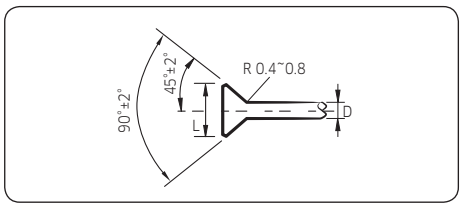
Outer diameter	A		
	Flare tool for R410A clutch type	Conventional flare tool	
		Clutch type	Wing nut type
6.35	0~0.5	1.0~1.5	1.5~2.0
9.52	0~0.5	1.0~1.5	1.5~2.0
12.70	0~0.5	1.0~1.5	1.5~2.0
15.88	0~0.5	1.0~1.5	1.5~2.0

Installation Procedure

5 Check if you flared the pipe correctly. There are some examples of incorrectly flared pipes below.



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



Outer diameter (D, mm)	Connection Torque		Flare dimension (L, mm)
	kgf•cm	N•m	
6.35	140~180	14~18	8.70~9.10
9.52	350~430	34~42	12.80~13.20
2.70	500~620	49~61	16.20~16.60
15.88	690~830	68~82	19.30~19.70

⚠ CAUTION

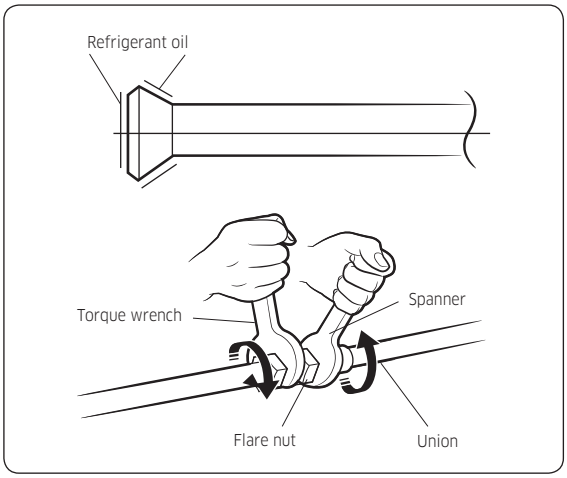
- In case of needing brazing, you must work with nitrogen gas blowing.

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 (D)	Torque (N•m)
Ø6.35 mm	14 ~ 18
Ø9.52 mm	34 ~ 42
Ø12.70 mm	49 ~ 61
Ø15.88 mm	68 ~ 82
Ø19.05 mm	100 ~ 120

NOTE

- If the pipes must be shortened refer to page **13**, **Step 6 Cutting or flaring the pipes**

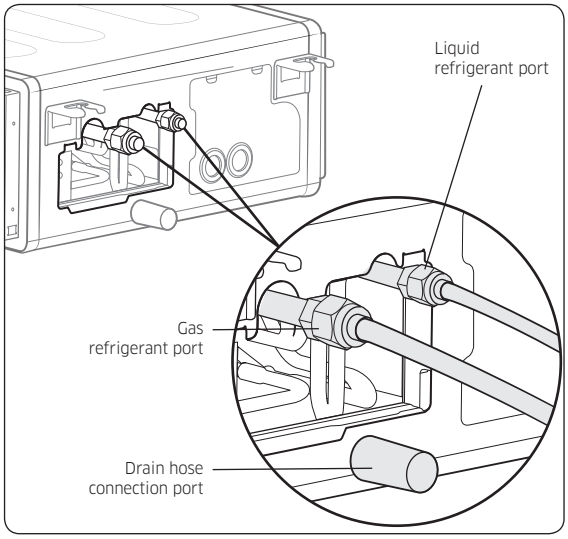
2 Be sure to use insulator which is thick enough to cover the refrigerant tube to protect the condensate water on the outside of pipe falling onto the floor and the efficiency of the unit will be better.

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(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.



NOTE

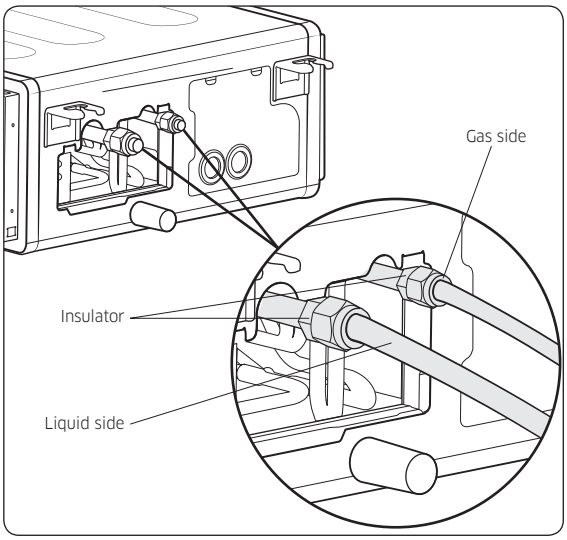
- The designs and shape are subject to change according to the model.

Step 8 Performing the gas leak test

To identify potential gas leaks on the indoor unit, inspect the connection area of each refrigerant pipe using a leak detector for R-410A.

Before recreating the vacuum and recirculating the refrigerant gas, pressurize the whole system with nitrogen (using a cylinder with a pressure reducer) at a pressure above 4 MPa in order to immediately detect leaks on the refrigerant fittings.

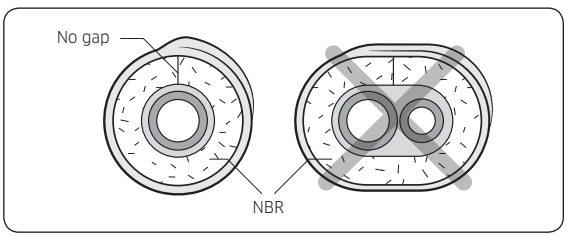
Made vacuum for 15 minutes and pressurizing system with nitrogen.



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.

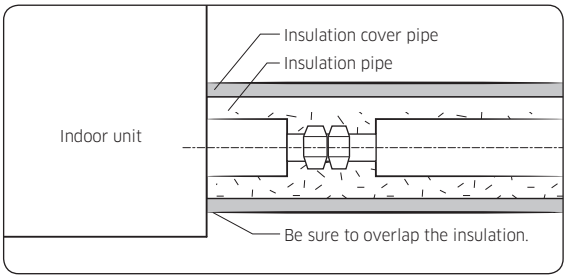


NOTE

- Always make the seam of pipes face upwards.

Installation Procedure

2 Wind insulating tape around the pipes and drain hose avoiding compressing the insulation too much.



⚠ CAUTION

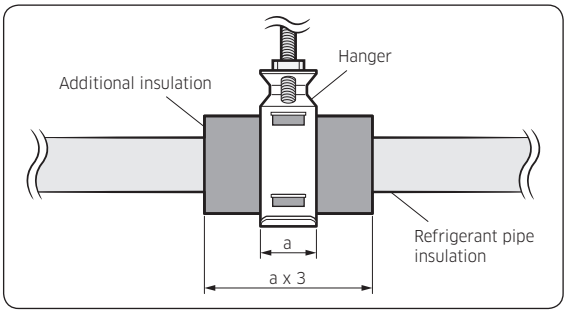
- Be sure to wrap insulation tightly without any gaps.

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 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 120°C.

Pipe	Pipe size	Insulation type (heating/cooling)		Remarks
		Standard (Less than 30°C, 85%)	High humidity (Over 30°C, 85%)	
		EPDM, NBR		
Liquid pipe	Ø6.35 to Ø9.52	9t	9t	The internal temperature is higher than 120°C.
	Ø12.7 to Ø19.05	13t	13t	
Gas pipe	Ø6.35	13t	19t	
	Ø9.52	19t	25t	
	Ø12.70			
	Ø15.88			
	Ø19.05			

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

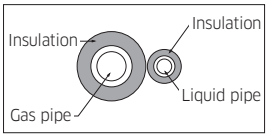
<Geological condition>
High humidity locations such as shorelines, hot springs, lake or riversides, and ridges (when part of the building is covered by earth and sand)
<Operation purpose condition>
Restaurant ceiling, sauna, swimming pool etc.
<Building construction condition>
Ceilings frequently exposed 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.

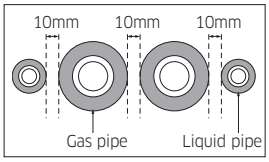
Refrigerant pipe before EEV kit and MCU or without EEV kit and MCU

- You can contact the gas side and liquid side pipes but the pipes should not be pressed.
- When contacting the gas side and gas side pipe, use 1 grade thicker insulator.

Refrigerant pipe after EEV kit and MCU

- Install the gas side and liquid side pipes, leave 10mm of space.
- When contacting the gas side and liquid side pipe, use 1 grade thicker insulator.

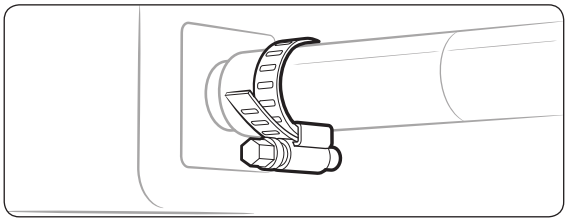




Step 10 Installing the drain hose and drain pipe

1 Push the supplied drain hose as far as possible over the drain socket.

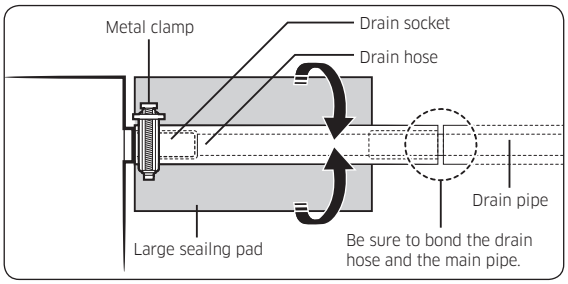
2 Tighten the metal clamp as shown in the picture.

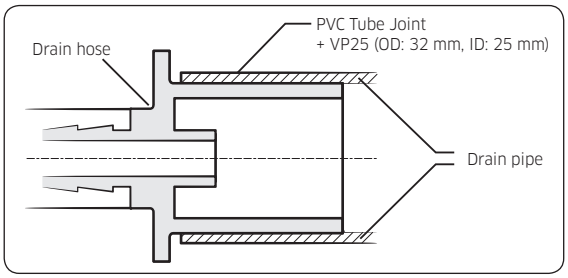


3 Wrap the supplied large sealing pad over the metal clamp and drain hose to insulate and fix it with clamps.

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.





Installation Procedure

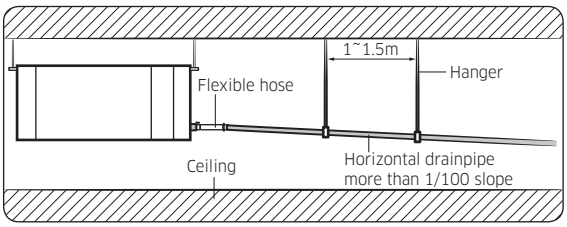
Drain pipe connection

Without the drain pump

1 Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 1.0~1.5m.

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 300mm to 550mm from the flexible hose and then lift down 20mm or more.

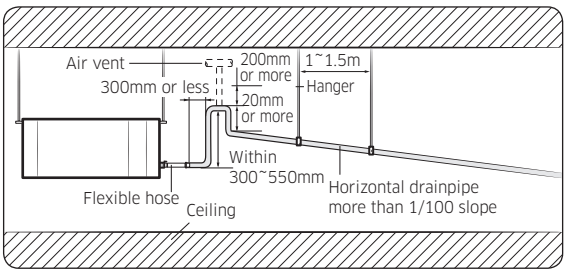
2 Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 1.0~1.5m.

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.

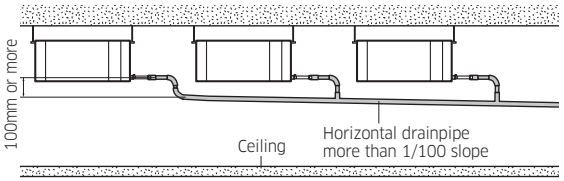


Centralized Drainage

Without the drain pump

1 Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 1.0~1.5m.

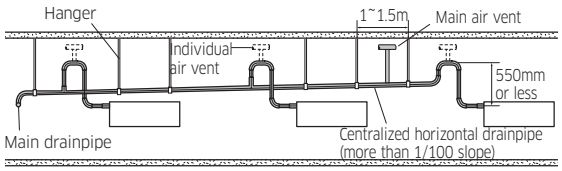
2 Install U-trap at the end of the drainpipe to prevent a nasty smell to reach the indoor unit.



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.

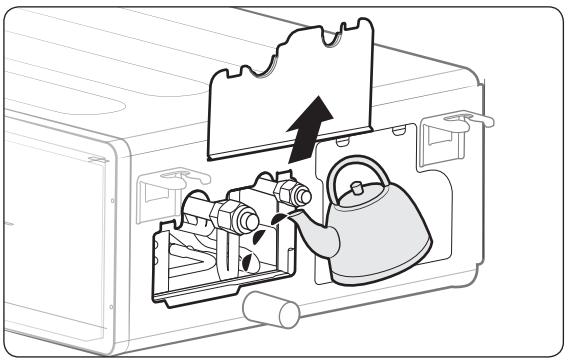


Step 11 Performing the drainage test

Prepare a little water about 2 liter.

1 Pour water into the base pan in the indoor unit as shown in figure.

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



Step 12 Connecting the power and communication cables

1 Before wiring work, you must turn off all power source.

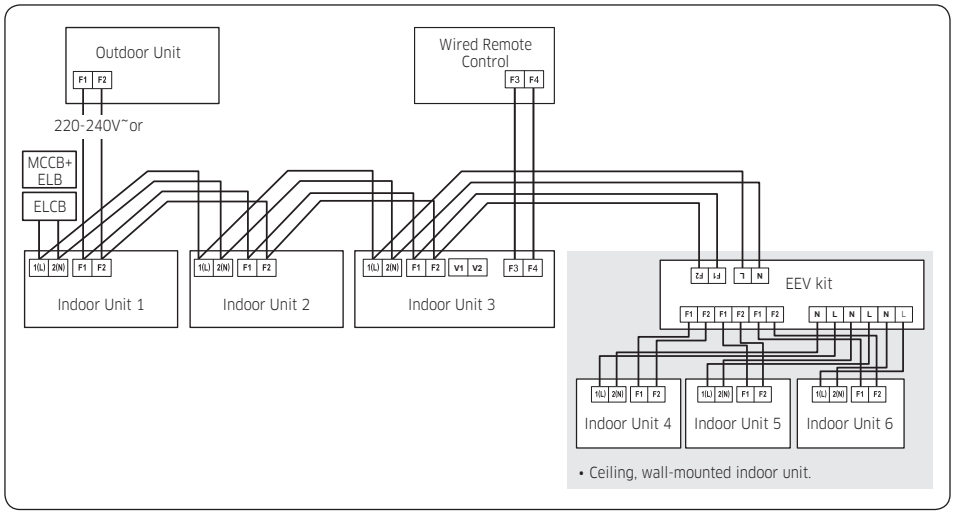
2 Indoor unit power should be supplied through the breaker(ELCB or MCCB+ELB) separated by the outdoor power.

- ELCB:Earth Leakage Circuit Breaker
- MCCB:Molded Case Circuit Breaker
- ELB:Earth Leakage Breaker

3 The power cable should be used only copper wires.

4 Connect the power cable{1(L), 2(N)} among the units within maximum length and communication cable(F1, F2) each.

5 Connect F3, F4(for communication) wires when installing the wired remote control.



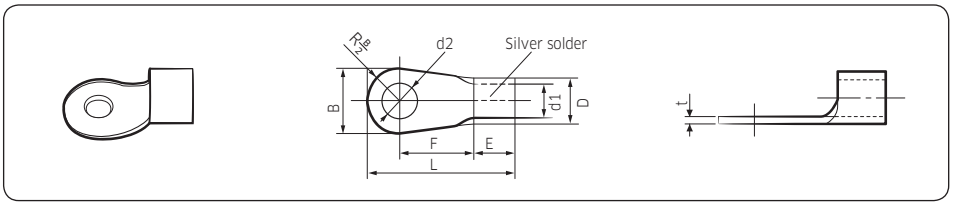
- ELCB : Essential Installation
- The EEV Kit is optional component.

⚠ WARNING

- Power off before connecting any wires;Indoor PBA will be damaged while V1,V2,F3,F4 short each other.
- You must connect the earth cable. If earthing is not complete, electric shock or fire may occur.

Installation Procedure

Ring terminal selection



Norminal dimensions for cable (mm2)	Norminal dimensions for screw (mm)	B		C		d1		E	F	L	d2		t
		Standard dimension (mm)	Allowance (mm)	Standard dimension (mm)	Allowance (mm)	Standard dimension (mm)	Allowance (mm)	Min.	Min.	Max.	Standard dimension (mm)	Allowance (mm)	Min.
1.5	4	6.6	±0.2	3.4	+0.3 -0.2	1.7	±0.2	4.1	6	16	4.3	+0.2 0	0.7
	4	8											
2.5	4	6.6	±0.2	4.2	+0.3 -0.2	2.3	±0.2	6	6	17.5	4.3	+0.2 0	0.8
	4	8.5											
4	4	9.5	±0.2	5.6	+0.3 -0.2	3.4	±0.2	6	5	20	4.3	+0.2 0	0.9

Specification of electronic wire

Power supply	MCCB	ELB or ELCB	Power cable	Earth cable	Communication cable
Max : 242V / Min : 198V	XA	XA, 30 mmA, 0.1 s	2.5 mm²	2.5 mm²	0.75~1.5 mm²

- Refer to the unit nameplate for rating current.
- Decide the capacity of ELCB(or MCCB+ELB) by below formula.
- Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord. (Code designation IEC:60245 IEC 57 / CENELEC: H05RN-F or IEC:60245 IEC 66 / CENELEC: H07RN-F)

The capacity of ELCB(or MCCB+ELB) X[A] = 1.25 X 1.1 X ∑Ai

- X : The capacity of ELCB(or MCCB+ELB).
- ∑Ai : Sum of Rating currents of each indoor unit.
- Refer to each installation manual about the rating current of indoor unit.

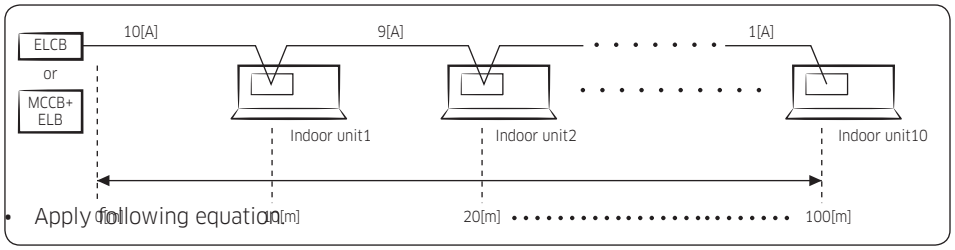
- Decide the power cable specification and maximum length within 10% power drop among indoor units.

$$\sum_{k=1}^{n} \left(\frac{Coef \times 35.6 \times L_k \times i_k}{1000 \times A_k} \right) < \text{10\% of input voltage[V]}$$

- coef: 1.55
- Lk: Distance among each indoor unit[m],
  Ak: Power cable specification[mm²]
  ik: Running current of each unit[A]

Example of Installation

- Total power cable length L = 100(m), Running current of each units 1[A]
- Total 10 indoor units were installed

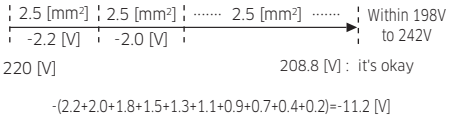


- Apply following equation

$$\sum_{k=1}^{n} \left(\frac{Coef \times 35.6 \times L_k \times i_k}{1000 \times A_k} \right) < \text{10\% of input voltage[V]}$$

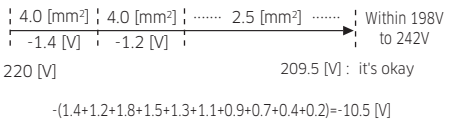
- Calculation

  – Installing with 1 sort wire



-(2.2+2.0+1.8+1.5+1.3+1.1+0.9+0.7+0.4+0.2)=-11.2 [V]

  – Installing with 2 different sort wire.



-(1.4+1.2+1.8+1.5+1.3+1.1+0.9+0.7+0.4+0.2)=-10.5 [V]

⚠ CAUTION

- Select the power cable in accordance with relevant local and national regulations.
- Wire size must comply with local and national code.
- For the power cable, use the grade of H07RN-F or H05RN-F materials.
- You should connect the power cable into the power cable terminal and fasten it with a clamp.
- The unbalanced power must be maintained within 10% of supply rating among whole indoor units.
- If the power is unbalanced greatly, it may shorten the life of the condenser. If the unbalanced power is exceeded over 10% of supply rating, the indoor unit is protected, stopped and the error mode indicates.
- To protect the product from water and possible shock, you should keep the power cable and the connection cord of the indoor and outdoor units in the iron pipe.
- 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).

Installation Procedure

- You must keep the cable in a protection tube.
- Keep distances of 50mm or more between power cable and communication cable.
- Maximum length of power cables are decided within 10% of power drop. If it exceeds, you must consider another power supplying method.
- The circuit breaker(ELCB or MCCB+ELB) should be considered more capacity if many indoor units are connected from one breaker.
- Use round pressure terminal for connections to the power terminal block.
- For wiring, use the designated power cable and connect it firmly, then secure to prevent out-side pressure being exerted on the terminal board.
- Use an appropriate screwdriver for tightening the terminal screws. A screwdriver with a small head will strip the head and make proper tightening impossible.
- Over-tightening the terminal screws may break them.
- See the table below for tightening torque for the terminal screws.

Tightening torque		
	N•m	kgf•cm
M3.5	0.8~1.2	8.0~12.0
M4	1.2~1.8	12.0~18.0

Step 13 Optional: Extending the power cable

1 Prepare the following tools.

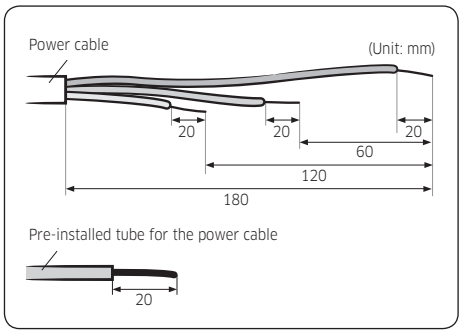
Tools	Spec	Shape
Crimping pliers	MH-14	
Connection sleeve (mm)	20xØ6.5 (HxOD)	
Insulation tape	Width 19 mm	
Contraction tube (mm)	70xØ8.0 (LxOD)	

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

- Peel off 20 mm of cable shields from the pre-installed tube.

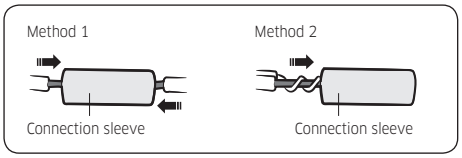
⚠ CAUTION

- 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.



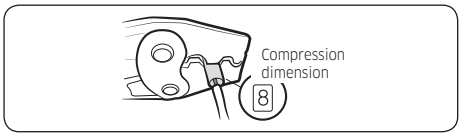
3 Insert both sides of core wire of the power cable into the connection sleeve.

- 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.

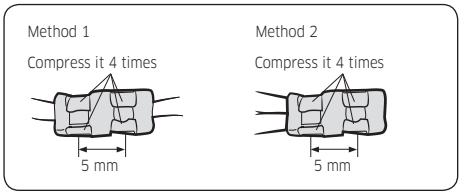


4 Using a crimping tool, compress the two points and flip it over and compress another two points in the same location.

- The compression dimension should be 8.0.

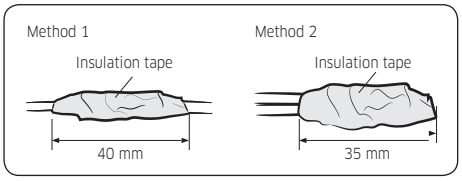


- After compressing it, pull both sides of the wire to make sure it is firmly pressed.

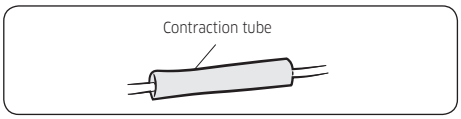


5 Wrap it with the insulation tape twice or more and position your contraction tube in the middle of the insulation tape.

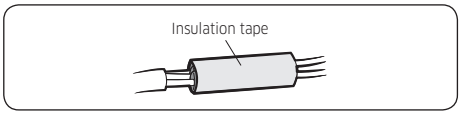
Three or more layers of insulation are required.



6 Apply heat to the contraction tube to contract it.



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

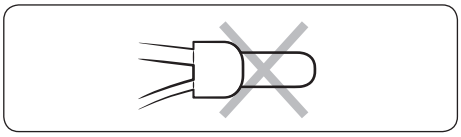


⚠ CAUTION

- 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.

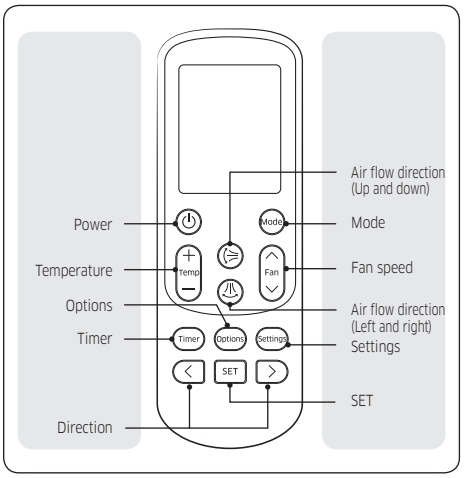


Installation Procedure

Step 14 Setting an indoor unit address and installation option

Set the indoor unit address and installation option with remote control 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.

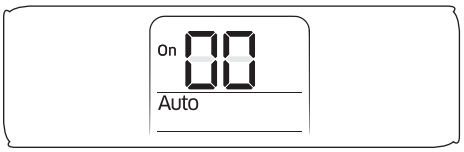
Option setting procedure



1 Remove batteries from the remote control.

2 Insert batteries and enter the option setting mode while pressing (High Temp button) and (Low Temp button).

3 Check if you have entered the option setting status.

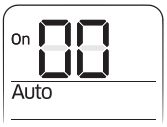


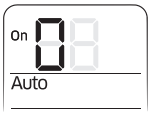
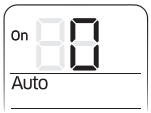
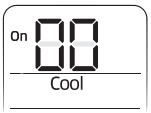
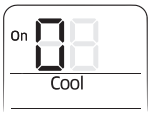
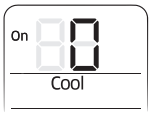
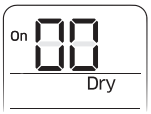
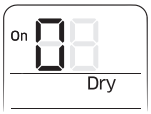
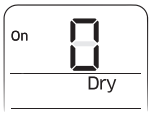
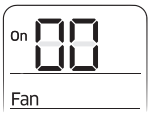
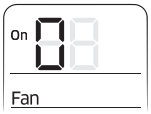
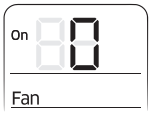
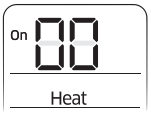
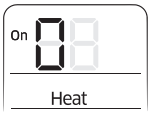
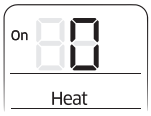
4 After entering the option setting status, select the option.

⚠ CAUTION

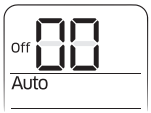
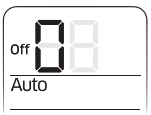
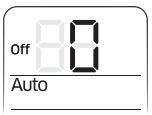
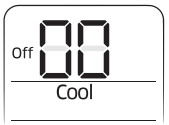
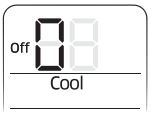
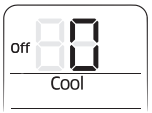
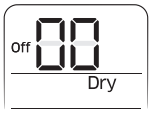
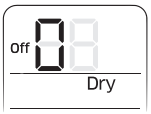
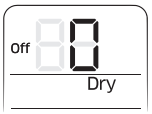
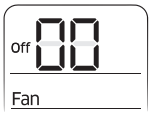
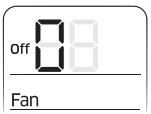
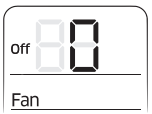
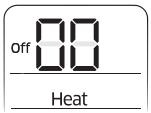
- Option setting is available from SEG1 to SEG 24
- SEG1, SEG7, SEG13, SEG19 are not set as page option.
- Set the SEG2~SEG6, SEG8~SEG12 as ON status and SEG14~18, SEG20~24 as OFF status.

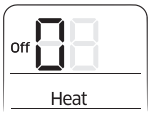
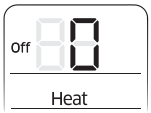
SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	X	X	X	X	X
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	X	X	X	X	X
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	X	X	X	X	X
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	X	X	X	X	X

On (SEG1~12)	Off (SEG13~24)
	

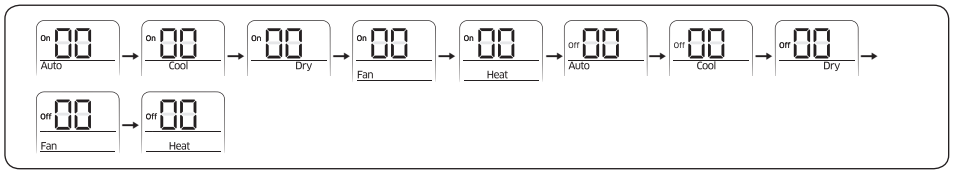
Option setting	Status
1 Setting SEG2, SEG3 option **a** Press Low Fan button(∨) to enter SEG2 value. **b** Press High Fan button(∧) to enter SEG3 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG2  SEG3
2 Setting **Cool** mode Mode Press **Mode** button to be changed to **Cool** mode in the ON status.	
3 Setting SEG4, SEG5 option **a** Press Low Fan button(∨) to enter SEG4 value. **b** Press High Fan button(∧) to enter SEG5 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG4  SEG5
4 Setting **Dry** mode Mode Press **Mode** button to be changed to **Dry** mode in the ON status.	
5 Setting SEG6, SEG8 option **a** Press Low Fan button(∨) to enter SEG6 value. **b** Press High Fan button(∧) to enter SEG8 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG6  SEG8
6 Setting **Fan** mode Mode Press **Mode** button to be changed to **Fan** mode in the ON status.	
7 Setting SEG9, SEG10 option **a** Press Low Fan button(∨) to enter SEG9 value. **b** Press High Fan button(∧) to enter SEG10 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG9  SEG10
8 Setting **Heat** mode Mode Press **Mode** button to be changed to **Heat** mode in the ON status.	
9 Setting SEG11, SEG12 option **a** Press Low Fan button(∨) to enter SEG11 value. **b** Press High Fan button(∧) to enter SEG12 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG11  SEG12

Installation Procedure

Option setting	Status
10 Setting **Auto** mode Mode Press **Mode** button to be changed to **Auto** mode in the OFF status.	
11 Setting SEG14, SEG15 option **a** Press Low Fan button(∨) to enter SEG14 value. **b** Press High Fan button(∧) to enter SEG15 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG14  SEG15
12 Setting **Cool** mode Mode Press **Mode** button to be change to **Cool** mode in the OFF status.	
13 Setting SEG16, SEG17 option **a** Press Low Fan button(∨) to enter SEG16 value. **b** Press High Fan button(∧) to enter SEG17 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG16  SEG17
14 Setting **Dry** mode Mode Press **Mode** button to be change to **Dry** mode in the OFF status.	
15 Setting SEG18, SEG20 option **a** Press Low Fan button(∨) to enter SEG18 value. **b** Press High Fan button(∧) to enter SEG20 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG18  SEG20
16 Setting **Fan** mode Mode Press **Mode** button to be change to **Fan** mode in the OFF status.	
17 Setting SEG21, SEG22 option **a** Press Low Fan button(∨) to enter SEG21 value. **b** Press High Fan button(∧) to enter SEG22 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG21  SEG22
18 Setting **Heat** mode Mode Press **Mode** button to be change to **Heat** mode in the OFF status.	

Option setting	Status
19 Setting SEG23, SEG24 mode **a** Press Low Fan button(∨) to enter SEG23 value. **b** Press High Fan button(∧) to enter SEG24 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG23  SEG24

5 After setting option, press (Mode) button to check whether the option code you input is correct or not.



6 Press operation button (⏻) with the direction of remote control for set. For the correct option setting, you must input the option twice.

7 Check operation.

a Reset the indoor unit by pressing the **RESET** button of indoor unit or outdoor unit.

b Take the batteries out of the remote control and insert them again and then press the operation button.

Setting an indoor unit address (MAIN/RMC)

1 Check whether power is supplied or not.

– When the indoor unit is not plugged in, there should be additional power supply in the indoor unit.

2 Before installing the indoor unit, assign an address to the indoor unit according to the air conditioning system plan.

3 Assign an indoor unit address by wireless remote control.

The initial setting status of indoor unit ADDRESS(MAIN/RMC) is "0A0000-100000-200000-300000".

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

Option	SEG1		SEG2		SEG3		SEG4		SEG5		SEG6	
Explanation	PAGE		Mode		Setting Main address		100-digit of indoor unit address		10-digit of indoor unit		The unit digit of an indoor unit	
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	0		A		0	No Main address	0~9	100-digit	0~9	10-digit	0~9	A unit digit
					1	Main address setting mode						

Installation Procedure

Option	SEG7		SEG8	SEG9		SEG10	SEG11		SEG12	
Explanation	PAGE			Setting RMC address			Group channel(*16)		Group address	
	Indication	Details		Indication	Details		Indication	Details	Indication	Details
Indication and Details	1		-	0	No RMC address	-	RMC1	0~F	RMC2	0~F
				1	RMC address setting mode					

⚠ CAUTION

- When A~F is entered to SEG5~6, 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 SEG5~6.
- 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.
- You cannot set SEG11 and SEG12 as F value at the same time.

Setting an indoor unit installation option (suitable for the condition of each installation location)

1 Check whether power is supplied or not.
  - When the indoor unit is not plugged in, there should be additional power supply in the indoor unit.

2 Set the installation option according to the installation condition of an air conditioner.
  - The default setting of an indoor unit installation option is 020010-100000- 200000-300000.
  - Individual control of a remote control(SEG20) is the function that controls an indoor unit individually when there is more than one indoor unit.

3 Set the indoor unit option by wireless remote control.

02 series installation option

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	2	-	External room temperature sensor / Minimizing fan operation when thermostat is off	Central control	FAN RPM compensation
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	-	-	-	EEV Step when heating stops	-
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	External control	External control output / External heater On or Off signal	S-Plasma ion	Buzzer	Number of hours using filter

SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	Individual control of a remote control	Heating setting compensation / Removing condensated water in heating mode	EEV Step of stopped unit during oil return/defrost mode	-	-

- When setting the option other than above SEG values, the option will be set as “0”.
- SEG5 central control option is basically set as 1 (Use), so you don’t need to set the central control option additionally.

  However, if the central control is not connected but it doesn’t indicate an error message, you need to set the central control option as 0 (Disuse) to exclude the indoor unit from the central control.
- The external output of SEG15 is generated by MIM-B14 connection. (Refer to the manual of MIM-B14.)

02 series installation option(Detailed)

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

Option	SEG1		SEG2		SEG3		SEG4			SEG5		SEG6	
Explanation	PAGE		Mode		Use of robot cleaning		Use of external room temperature sensor / Minimizing fan operation when thermostat is off			Use of central control		FAN RPM compensation	
Indication and Details	Indication	Detailsl	Indication	Details	Indication	Details	Indication	Details		Indication	Details	Indication	Details
								Use of External room temperature sensor	Minimizing fan operation when thermostat is off				
	0		2		0	Disuse	0	Disuse	Disuse	0	Disuse	0	Disuse
							1	Use	Disuse			1	RPM compensation
					1	Use	2	Disuse	Use (*1)	1	Use	2	High ceiling KIT
							3	Use	Use (*1)				
Option	SEG7		SEG8		SEG9		SEG10			SEG11		SEG12	
Explanation	PAGE									EEV Step when heating stops			
Indication and Details	Indication	Details					Indication	Details		Indication	Details	Indication	Details
	1									0	Default value		
										1	Stopped Unit’s Noise Decreasing Setting		
										2~B	Running Unit’s Noise Decreasing Setting(*3)		

Installation Procedure

Option	SEG13		SEG14		SEG15			SEG16		SEG17		SEG18	
Explanation	PAGE		Use of external control		Setting the output of external control / External heater On/Off signal			S-Plasma ion		Buzzer control		Hours of filter usage	
Indication and Details	Indication	Details	Indication	Details	Indication	Details: Setting the output of external control	Details: External heater On/Off signal	Indication	Details	Indication	Details	Indication	Details
	2		0	Disuse	0	Thermo on	-	0	Disuse	0	Use buzzer	2	1000 Hour
			1	ON/OFF control	1	Operation on	-	1	Use	1	Disuse buzzer	6	2000 Hour
			2	OFF control	2	-	Use (*4)						
			3	Window ON/OFF control	3	-	Use (*4)						

Option	SEG19		SEG20		SEG21			SEG22		SEG23		SEG24	
Explanation	PAGE		Individual control of a remote control		Heating setting compensation / Removing condensated water in heating mode			EEV Step of stopped unit during oil return/defrost mode				-	
Indication and Details	Indication	Details	Indication	Details	Indication	Details: Heating Setting Compensation	Details: Removing Condensated Water in Heating Mode	Indication	Details				
	3		0 or 1	channel 1	0	Default (*5)	Disuse	0	Default value				
			2	channel 2	1	2 ℃	Disuse	1	Oil return or Noise decreasing in defrost mode				
			3	channel 3	2	5 ℃	Disuse						
			4	channel 4	3	Default (*5)	Use (*6)						
					4	2 ℃	Use (*6)						
					5	5 ℃	Use (*6)						

(*) Advanced function: Controlling cooling/heating current or power saving with motion detect.

(*1) Minimizing fan operation when thermostat is off

- Fan operates for 20 seconds at an interval of 5 minutes in **Heat** mode.

(*2) 1: Fan is turned on continually when the hot water heater is turned on, 3: Fan is turned off when the hot water heater is turned on with cooling only indoor unit

Cooling only indoor unit: To use this option,install the **Mode Select switch**(MCM-C200) on the outdoor unit and fix it as **Cool** mode.

(*3) It is only for wall-mounted indoor unit with EEV Integrated. If any design condition meets either of the following below, please set SEG11 to "7".

a The total number of wall-mounted indoor units with EEV Integrated in one (modular) system is more than 20.

b The total number of wall-mounted indoor units with EEV Integrated in one (modular) system is more than "the total of one(modular) system's capacity(kW) / 2" ("the total of one(modular) system's capacity(BTU/h) / 6800"). ex) Outdoor capacity 28kW → 28 /2 = 14. The total number of wall-mounted indoor units with EEV Integrated in one (modular) system is more than 14.

Please refer to the EEV step table below for the system (for heating) at stop.

Indication			0	2	3	4	5	6	7	8	9	A	B
Stopped Unit's EEV step	Wall MountedWith EEV	A Step	100	90	100	110	120	130	160	200	250	300	400
		B Step	125	160	160	160	160	160	160	200	250	300	400
	Other Indoor Units except for wall mounted with EEV		Default	No Function									

(*4) When the following 2 or 3 is used as external heater On/Off signal, the signal for monitoring external contact control will not be output.

2: Fan is turned on continually when the external heater is turned on,

3: Fan is turned off when the external heater is turned on with cooling only indoor unit
Cooling only indoor unit: To use this option,install the **Mode Select switch**(MCM-C200) on the outdoor unit and fix it as **Cool** mode.·

- If Fan is set to off for cooling only indoor unit by setting the SEG9=3 or SEG15=3, you need to use an external sensor or wired remote control sensor to detect indoor temperature exactly.

(*5) Default setting value

- 4Way Cassette, Mini 4Way Cassette: 5 ℃
- Other indoor units: 2 ℃

(*6) This function can be applied to 4 Way Cassette and Mini 4 Way Cassette only. If the air conditioner operates the heating mode immediately after finishing the cooling mode, the condensated water in the drain pan becomes water vapor by the heat of the indoor unit heat exchanger. Since the water vapor might be condensed on the indoor unit, which may fall into a living space, use this function to get rid of the water vapor out of the indoor unit by operating the fan (for maximum 20 minutes) even when the indoor unit is turned off after cooling mode is turned to heating mode.

Installation Procedure

05 series installation option

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	5	Use of Auto Change Over for HR only in **Auto** mode	(When setting SEG3) Standard heating temp.Offset	(When setting SEG3) Standard cooling temp. Offset	(When setting SEG3) Standard for mode change Heating → Cooling
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	(When setting SEG3) Standard for mode change Cooling → Heating	(When setting SEG3) Time required for mode change	Compensation option for Long pipe or height difference between indoor units	MTFC	-
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	Set to variable breeze	-	-	-	Control variables when using hot water / external heater
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	-	-	-	-	-

05 series installation option(Detailed)

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

Option	SEG1		SEG2		SEG3		SEG4		SEG5		SEG6	
Explanation	PAGE		MODE		Use of Auto Change Over for HR only in **Auto** mode		(When setting SEG3)Standard heating temp. Offset		(When setting SEG3) Standard cooling temp. Offset		(When setting SEG3)Standard for mode change Heating → Cooling	
Indication and Details	Indication	Detailsl	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	0		5		0	Follow product option	0	0	0	0	0	1
							1	0.5	1	0.5	1	1.5
					1	Use Auto Change Over for HR only	2	1	2	1	2	2
							3	1.5	3	1.5	3	2.5
							4	2.	4	2	4	3
							5	2.5	5	2.5	5	3.5
							6	3.	6	3	6	4
							7	3.5	7	3.5	7	4.5
Option	SEG7		SEG8		SEG9		SEG10		SEG11		SEG12	
Explanation	PAGE		(When setting SEG3) Standard for mode changing Cooling → Heating mode		(When setting SEG3) Time required for mode change		Compensation option for Long pipe or height diffference between indoor units		MTFC			

Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details		
	1		0	1	0	5 min.	0	Use default value	0	Disuse		
			1	1.5	1	7 min.	1	1) Height difference1) is more than 30m or 2) Distance2) is longer than 110m	1	Use (1 sec)		
			2	2	2	9 min.			2	Use (2 sec)		
			3	2.5	3	11 min.			3	Use (3 sec)		
									4	Use (4 sec)		
									5	Use (5 sec)		
			4	3	4	13 min.	2	1) Height difference1) is 15~30m or 2) Distance2) is 50~110m	6	Use (6 sec)		
			5	3.5	5	15 min.			7	Use (7 sec)		
			6	4	6 7	20 min.			8	Use (8 sec)		
			7	4.5		30 min.			9	Use (9 sec)		
									A	Use (10 sec)		
									B			
									C			
									D			
									E			
									F			

Option	SEG13	SEG14		SEG15		SEG16		SEG17		SEG18		
Explanation		Set to variable breeze								Control variables when using hot water / external heater		
Indication and Details		Indication	Details							Indication	Details	
											Set temp. for heater On/Off	Delay time for heater On
	2	0	0							0	At the same time as thermo on	No delay
		1	1							1	At the same time as thermo on	10 minutes
		2	2							2	At the same time as thermo on	20 minutes
		3	3							3	1.5 ℃	No delay
		4	4							4	1.5 ℃	10 minutes
		5	5							5	1.5 ℃	20 minutes
		6	6							6	3.0 ℃	No delay
		7	7							7	3.0 ℃	10 minutes
		8	8							8	3.0 ℃	20 minutes
		9	9							9	4.5 ℃	No delay
		A	10							A	4.5 ℃	10 minutes
		B	11							B	4.5 ℃	20 minutes
		C	12							C	6.0 ℃	No delay
		D	13							D	6.0 ℃	10 minutes
		E	14							E	6.0 ℃	20 minutes
		F	Unavailable									

Installation Procedure

(*1) Height difference : The difference of the height between the corresponding indoor uint and the indoor unit installed at the lowest place. For example, When the indoor unit is installed 40m higher than the indoor unit installed at the lowest place, select the option "1".

(*2) Distance : The difference between the pipe length of the indoor unit istalled at farthest place from an outdoor unit and the pipe length of the corresponding indoor unit from an outdoor unit. For example, when the farthest pipe length is 100 m and the corresponding indoor unit is 40 m away from an outdoor unit, select the option "2". (100 - 40 = 60m)

(*3) Heater operation when the SEG9 of 02 series installation option is set to using hot water heater or when SEG15 is set to using external heater

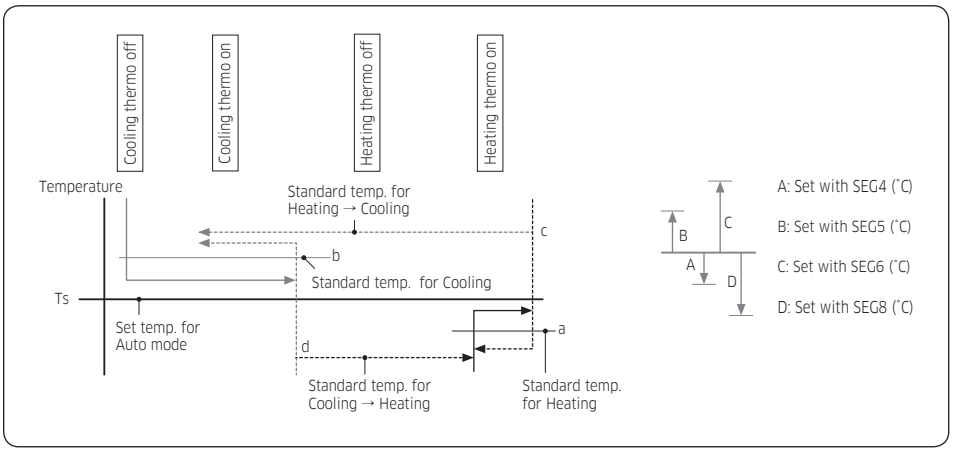
e.g. 1) Setting 02 series SEG9 ="1" / Setting 05 series SEG18 = "0": Hot water heater is turned on at the same time as the heating thermostat is on, and turned off when the heating thermostat is off.

e.g. 2) Setting 02 series SEG15 ="2" / Setting 05 series SEG18 ="A":

- Room temp. ≤ set temp. + f(heating compensation temp.)
  External heater is turned on when the temperature is maintained as 4.5 ℃ for 10 minutes.
- Room temp. > set temp. + f(heating compensation temp.)
  External heater is turned off when the temperature is maintained as 4.5 ℃ + 1 ℃ (1 ℃ is the Hysteresis for On/Off selection.)

SEG 3, 4, 5, 6, 8, 9 additional information

When the SEG 3 is set as "1" and follow Auto Change Over for HR only operation, it will operate as follows.



Cooling/Heating mode can be changed when Thermo Off status is maintained during the time with SEG9.

Changing a particular option

You can change each digit of set option.

Option	SEG1		SEG2		SEG3		SEG4		SEG5		SEG6	
Explanation	PAGE		MODE		The option mode you want to change		The tens' digit of an option SEG you will change		The unit digit of an option SEG you will change		Changed value	
Indication and Details	Indication	DetailsI	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	0		D		Option mode	1~6	Tens' digit of SEG	0~9	Unit digit of SEG	0~9	The changed value	0~F

NOTE

- When changing a digit of an indoor unit address setting option, set the SEG3 as 'A'.
- When changing a digit of indoor unit installation option, set the SEG3 as '2'.

Ex) When setting the 'buzzer control' into disuse status.

Option	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
Explanation	PAGE	MODE	The option mode you want to change	The tens' digit of an option SEG you will change	The unit digit of an option SEG you will change	Changed value
Indication	0	D	2	1	7	1

⚠ CAUTION

- If you are using heat pump model, mixed operation mode (two or more indoor units operating in different operation mode simultaneously) is not available when the indoor units are connected to same outdoor unit. If you set the master indoor unit with a remote control, outdoor unit will operate in the mode which was set in the master indoor unit.

Installation Procedure

Step 15 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	AE022MNLDEH	AE028MNLDEH	AE036MNLDEH	AE056MNLDEH
Static Pressure(mmAq)	Option code for indoor unit			
0	010054-125A80-201616-331110	010054-125AE2-201C1C-331110	010054-125E35-202424-331110	010054-125AC1-203838-331110
1	010054-125AC3-201616-331110	010054-125E15-201C1C-331110	010054-125E68-202424-331110	-
2	-	-	-	010054-125E34-203838-331110
3	010054-125E08-201616-331110	010054-125E7A-201C1C-331110	010054-125ECD-202424-331110	-
4	-	-	-	010054-125EF9-203838-331110

Model	AM045HNMPKH	AM056HNMPKH	AM071HNMPKH
Static Pressure(mmAq)	Option code for indoor unit		
0≤ SP ≤3	010054-1C50D1-202D2D-331204	010054-1C50F1-203838-331203	010054-1C548D-204747-331201
3< SP ≤6	010054-1C5453-202D2D-331204	010054-1C5447-203838-331203	010054-1C55E1-204747-331201
6< SP ≤9	010054-1C54C7-202D2D-331204	010054-1C54AB-203838-331203	010054-1C5935-204747-331201
9< SP ≤12	010054-1C583B-202D2D-331204	010054-1C581F-203838-331203	010054-1C5989-204747-331201
12< SP ≤15	010054-1C58AF-202D2D-331204	010054-1C5973-203838-331203	010054-1C59DF-204747-331201

Model	AM090HNMPKH
Static Pressure(mmAq)	Option code for indoor unit
0≤SP≤4	010054-1C546D-205A5A-331212
4<SP≤8	010054-1C55E3-205A5A-331212
8<SP≤12	010054-1C5969-205A5A-331212
12<SP≤15	010054-1C59CD-205A5A-331212

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.

Step 16 Setting temperature control of discharge air

1) Use of “Temperature control of discharge air” or target temperature of discharge air in cooling/ heating can be set with the service mode of a wired remote controller. (Refer to the installation manual of a wired remote controller.)
2) When using temperature control of discharge air, thermo on/off of Indoor unit is decided by set room temperature and room temperature, and the temperature of discharge air is adjusted to meet the target temperature of discharge air in thermostat On section.
3) When using temperature control of discharge air, the temperature of discharge air cannot always be adjusted to the target temperature due to external conditions or protective control of the outdoor unit.

❋ Temperature control of discharge air can be set with DMS as well.

Step 17 Performing the final check

To complete the installation, perform the following checks and tests to ensure that the air conditioner operates correctly.

1 Check the following:
- Strength of the installation site
- Tightness of pipe connection to detect gas leak
- Electric wiring connection
- Heat-resistant insulation of the pipe
- Drainage
- Grounding conductor connection
- Correct operation (follow the steps below)

2 Press the ⏻ button and check the following:
- The indicator on the indoor unit lights up.
- The airflow blade opens and the fan gears up for operation.

3 Press any button and check the following:
- The appropriate indicator lights up and the air conditioner operates according to the selected mode or function.

4 Press the button and check the following:
- The airflow blades work properly.

Step 18 Providing information for user

After finishing the installation of the air conditioner, you should explain the following to the user. Refer to appropriate pages in the user & installation manual.

1 How to start and stop the air conditioner
2 How to select the modes and functions
3 How to adjust the temperature and fan speed
4 How to adjust the airflow direction
5 How to set the timers
6 How to clean and replace the filters

NOTE

- When you complete the installation successfully, hand over the user & installation manual to the user for storage in a handy and safe place.

Troubleshooting

Detection of errors

- If an error occurs during the operation, an 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.

LED Display

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- When E108 error occurs, change the address and reset the system.Ex.) When address of the indoor unit #1 and #2 are set as 5, address of the indoor unit #1 will become 5 and indoor unit #2 will display E108, A002.

Abnormal condition	Error code	LED Display		
		≋	🕘	TURBO
• Error on indoor temperature sensor (Short or Open)	E121	X	◑	X
• Error on Eva-in sensor (Short or Open) • Error on Eva-out sensor (Short or Open) • Discharge sensor error (Short or Open)	E122 E123 E126	◑	◑	X
• Indoor fan error	E154	X	X	◑
• Error on outdoor temperature sensor (Short or Open) • Error on cond sensor • Error on discharge sensor Other outdoor unit sensor error that is not on the above list	E221 E237 E251	◑	X	◑
• When there is no communication between the indoor•outdoor units for 2 minutes • Communication error received from the outdoor unit • 3 miniute tracking error on outdoor unit • Communication error after tracking due to unmatching number of installed units • Error due to repeated communication address • Communication address not confirmed Other outdoor unit communication error that is not on the above list	E101 E102 E202 E201 E108 E109	X	◑	◑
Self diagnosis error display • Error due to opened EEV (2nd detection) • Error due to closed EEV (2nd detection) • Eva in sensor is detached • Eva out sensor is detached • Thermal fuse error (Open)	E151 E152 E128 E129 E198	●	◑	◑

Appendix

Abnormal condition	Error code	LED Display		
		≋	◷	ZONE
• COND mid sensor is detached • Refrigerant leakage (2nd detection) • Abnomally high temperature on Cond (2nd detection) • Low pressure s/w (2nd detection) • Abnomally high temperature on discharged air on outdoor unit (2nd detection) • Indoor operation stop due to unconfirmed error on outdoor unit • Error due to reverse phase detection • Comp stop due to freeze detection (6th detection) • High pressure sensor is detached • Low pressure sensor is detached • Outdoor unit copression ration error • Outdoor sump down_1 prevetion control • Compressor down due to low pressure sensor prevention control_1 • Simultaneous opening of cooling/heating MCU SOL valve (1st detection) • Simultaneous opening of cooling/heating MCU SOL valve (2nd detection) Other outdoor unit self-diagnosis error that is not on the above list	E241 E554 E450 E451 E416 E559 E425 E403 E301 E306 E428 E413 E410 E180 E181	●	◑	◑
EEPROM error	E162	◑	◑	◑
EEPROM option error	E163	◑	◑	◑
Error due to incompatible indoor unit	E164	◑	●	◑

❉ ● : On, ◑ : Flickering, X: Off

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