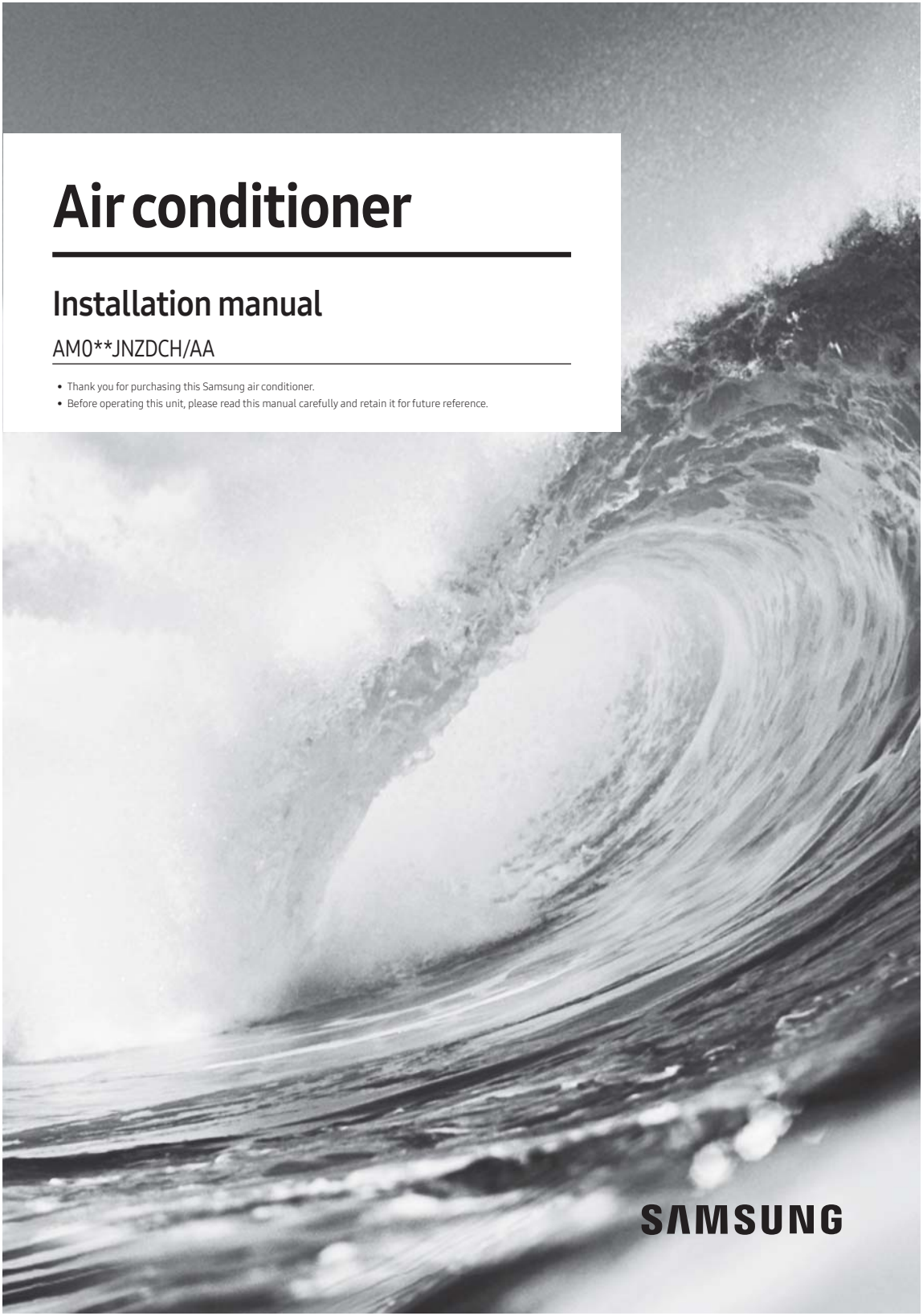
Air conditioner

Installation manual

AM0**JNZDCH/AA

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



Contents

Safety Precautions

WARNING

- Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

(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

- 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 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 hydraulic lines. Failure to comply with these instructions or to comply with the requirements set forth in this 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, fire 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 files.
- 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 control (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 authorized centers or returned to the retailer so that it can be disposed of correctly and safely.

Installing the unit

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 Precautions

- 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.
- 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.
- Our units must be installed in compliance with the spaces indicated in the installation manual to ensure either accessibility from both sides or ability to perform routine maintenance and repairs. The units' components must be accessible and that can be disassembled in conditions of complete safety either for people or things. For this reason, where it is not observed as indicated into the Installation Manual, the cost necessary to reach and repair the unit (in safety, as required by current regulations in force) with slings, trucks, scaffolding or any other means of elevation won't be considered in-warranty and charged to end user.

Power supply line, fuse or circuit breaker

- 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.

⚠ CAUTION

- Make sure that you earth/ground the power 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 (3.28') 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 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.

General Information

The following list includes important facts and information regarding the electric air handler and its inclusions.

1. Air handler is rated at 240 volts AC at 60 Hertz
2. Air handler size varies by model
3. Two-wire, wired controller operation (only Samsung "N" series wired controllers are compatible).
4. Two-wire system communication
5. Samsung wired controller required
6. Air handlers are equipped with blower for A/C or heat pump operation.
7. The air entering the air handler must be filtered.
8. This air handler is designed for multi position, upflow and horizontal application.
9. This air handler must not be operated without the door installed.
10. This air handler will not operate without an outdoor unit connected, completing the system.

NOTE This air handler and its components listed on the A/C and heat pump equipment sticker were listed in combination as a system by ETL for the United States and Canada.

- This single place air handler provides the flexibility for installation in any upflow or horizontal application.
- These models may be used with or without electric heat.
- Only use electric heat that is designed for this unit and provided by Samsung.
- The direct drive, five speed constant torque motors provide a selection of air volume to match the application.
- The unit can be positioned for bottom air return in the upflow position, or air return through the end of the unit in the horizontal position.

Product Inspection

As soon as the air handler is received, it should be inspected for possible damage during transit. If damage is evident, the extent of the damage should be noted on the carrier's freight bill. A separate request for inspection by the carrier's agent should be made in writing. Before installing the air handler you should check the cabinet for screws or bolts which may have loosened in transit. There are no shipping or spacer brackets which need to be removed before startup. See local Distributor for more information. Samsung assumes no liability for freight damage. Also check to be sure all accessories such as heater kits, and coils are available. Installation of these accessories should be accomplished before the air handler is set in place or the connecting of the wiring, electric heat, ducts or piping.

Accessories

The following accessories are supplied with the indoor unit.

Installation manual	Warranty card
	

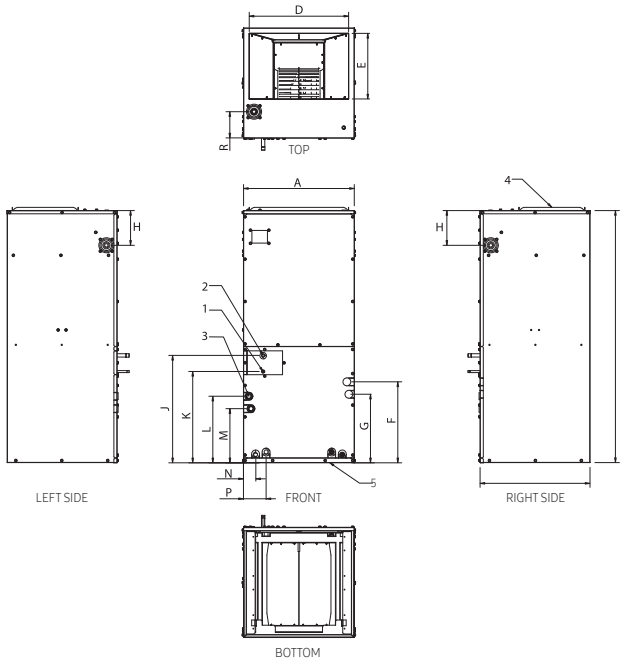
Selecting the installation location

Decide the installation location, with the consideration of the following conditions, under user's approval.

- Place where airflow is not disturbed.
- Place on flat surface where the structure can bear the weight and vibration of the indoor unit. (If the structure is not strong enough, indoor unit may fall and be damaged or cause personal injury.)
- Place where sufficient space can be guaranteed for maintenance and other services.
- Place where condensation can be drained easily.
- Place that allows refrigerant pipe connection within allowable distance.
- Place where indoor unit will not be exposed to direct sunlight.
- Place that can keep the distance of at least 3.28 ft (1 m) between power/communication cable and any electronic devices (depending on the circumstances, problem may occur even if you secure 3.28 ft (1 m) of distance).

Dimensions

Unit : inch



DIMENSIONAL DATA MULTI-POSITION AIR HANDLER															
MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R
AM012/18/24 JNZDCH/AA	17.50	43.00	21.00	15.50	12.50	13.50	11.00	6.75	16.75	14.00	11.00	8.5	2.00	4.00	2.00
AM030/36 JNZDCH/AA	21.00	48.00	21.00	19.00	12.50	15.375	13.00	6.75	20.00	17.00	12.75	10.30	2.30	4.35	2.50
AM048/54/60/72 JNZDCH/AA	24.50	58.75	21.75	19.50	16.25	19.75	17.25	6.75	26.00	23.00	16.75	14.35	2.30	4.35	2.00

NOTE ALL DIMENSION ARE IN INCHES AND ARE APPROXIMATE. ALL DIMENSIONS ARE ROUNDED

No.	Name	Description
1	Liquid pipe connection	**012/018**: ø 1/4” **024/030/036/048/054/060/072**: ø 3/8”
2	Gas pipe connection	**012/018**: ø 1/2” **024/030/036/048**: ø 5/8” **054/060/072**: ø 3/4”
3		3/4" NPT
4		-
5		-

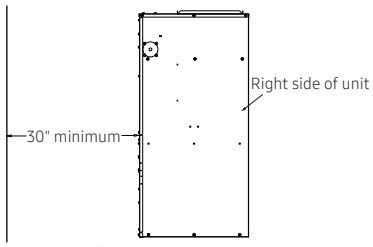
Indoor unit installation

Refrigerant pipe work must be done before installing the indoor unit.

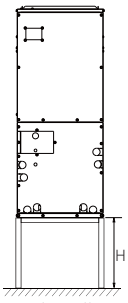
Location

Access for servicing is an important factor in the location of any air handler. Provide a minimum of 30 inches in front of the appliance for access to the control box, heating elements, blower and air filters. This access may be provided by a closet door or by locating the appliance so that a wall or partition is not less than 30 inches from the front access panel. Location is usually predetermined. Refer to figure below. Check with owner's or dealer's installation plans. If location has not been decided, consider the following in choosing a suitable location.

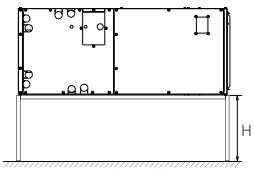
1. Select a location with adequate structural support, space for service access, and clearance for return and supply duct connections.
2. Normal operating sound levels may be objectionable if the air handler is placed directly over or under some rooms such as bedrooms, study, etc.
3. Caution should be taken to locate the unit so that supply and return air ducts are about the same length causing even air distribution of supply and return air to and from the living spaces.
4. Locate appliance where electrical supply wiring can be easily routed to main electrical panel and where electrical wiring will not be damaged.
5. Locate appliance where control wiring can be easily routed to the controller and where the wiring will not be damaged.
6. Locate appliance where refrigerant lines can be easily routed from the evaporator coil to the system.
7. Locate the appliance where condensate lines can be easily routed to an available drain. Be sure to route condensate drain piping so as not to obstruct access to the air filter.
8. The coil is installed in a draw-thru application and will create a negative pressure situation in the condensate drain system. To prevent condensate from being drawn into the blower it is recommended to trap the primary (Main) and secondary (Overflow) drain line. Refer to Drain Pipe and Drain Hose section in these instructions. If the secondary drain is not used, it must be capped. This unit has a connection terminal for drain system monitoring. Refer to Wiring Work section for information regarding connection of field-provided condensate overflow devicesin these instructions.
9. The draw-thru design will cause exterior surface of cabinet to sweat when unit is installed in a non-conditioned space such as an attic or garage. Installer must provide protection such as full size auxiliary drain pan on all units installed in a non-conditioned space to prevent damage from condensation runoff. Some states, cities and counties require additional insulation to be installed on the exterior casing of the air handler to prevent sweating. Refer to the state, city, county or local code for insulation requirement to be sure the installation is in compliance. It is recommended that air handlers installed in non-conditioned spaces be insulated on the exterior of the entire cabinet, including the front access panel with one (1) inch thick fiberglass with the vapor barrier on the outside.
10. Ensure sufficient space for the bottom of the product (H dimension) so that a downward slope of 1/100 can be maintained for drain piping, as described for the intake duct installation and in "**Drain pipe installation**".



Clearance - Access for service



Vertical installation



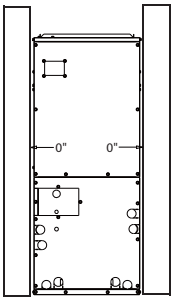
Horizontal installation

This appliance is approved for zero (0) inches clearance to combustible material on any part of the air handler exterior casing and the inlet or outlet ducts providing NO electric heater is being used. There is a one (1) inch clearance on the supply plenum and supply air duct when an electric heater is installed in the appliance. Refer to Table below for clearance to combustibles information.

Top (inches)	Back (inches)	Sides (inches)	Front of unit		Duct (inches)
			Alcove (inches)	Closet (inches)	
0	0	0	30	6	1 *

* when electric heat kit accessory is installed

Return air requirements



Return Air Requirements

In order for the air handler to work properly, a closet or alcove must have a certain total free area opening for the return air.

For A/C and HP Air Handlers 1/3 HP Blower Motor

Minimum 200 in^2 free area opening

- Use Return Grille that can supply sufficient air to ensure proper performance.

For A/C and HP Air Handlers 1/2 HP Blower Motors

- Minimum 250 in^2 free area opening
- Use Return Grille that can supply sufficient air to ensure proper performance.

For A/C and HP Air Handlers with Electric Heat use 3/4 HP Blower Motor

- Minimum 390 in^2 free area opening
- Use Return Grille that can supply sufficient air to ensure proper performance.

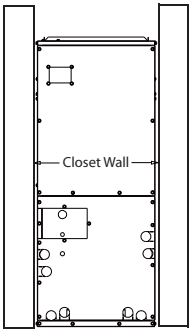
For A/C and HP Air Handlers use 1.0 HP Blower Motor)

- Minimum 430 in^2 free area opening
- Use Return Grille with a minimum 430 in^2 free area opening

The return air opening can be located in the floor, on a closet front door or in a side wall above the air handler casing. If opening for the return air is located in the floor, side walls, or closet door anywhere below the appliance casing, a 6 inch minimum clearance between the appliance and the wall or door must be provided on the side where the return is located to provide for proper air flow. The 6 inch minimum clearance is not required if there is a return grille installed above the appliance casing, providing the grille has a sufficient return air opening.

Indoor unit installation

Return air requirements



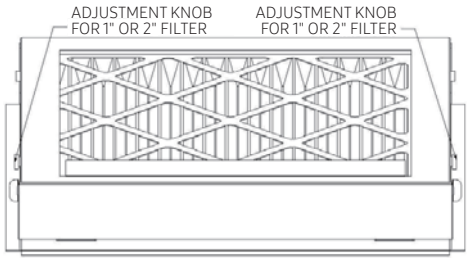
Typical Closet Installations

Provisions shall be made to permit the air in the rooms and the living spaces to return to the air handler. Failure to comply may cause a reduction in the amount of return air available to the blower, causing reduced air flow resulting in improper heating and cooling of the living space. The reduced air may cause the air flow handler to cycle on the limit causing premature heating element failure (if electric heat kits are installed).

Upflow Accessory Filter Box Kit

An accessory filter box kit can be used on the return air end of the air handler when configured in the upflow position. The filter kit is placed over the return plenum in the floor and sealed to the plenum using sealant or caulking material and/or tape. The air handler is placed on top of the return filter box and the return opening sealed to prevent leaks.

NOTE Make sure the flow arrow on the air filter is pointing towards the coil.



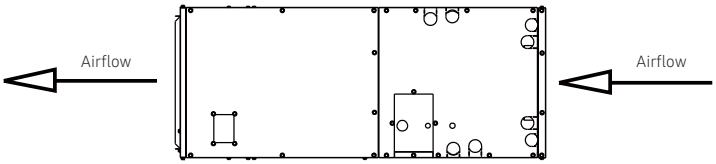
Accessory Air Filter Box for 1" or 2" Air Filters. Filter Size Adjustment knob is on both sides.

FILTER BASE ASSEMBLY KIT MODEL NUMBERS - FIELD INSTALLED, PURCHASED SEPARATELY

VFB-1 – 16" X 20" X 2" Small Cabinet (9/12/18/24K)
VFB-2 – 20" X 20" X 2" Medium Cabinet (30/36K)
VFB-3 – 20" X 24" X 2" Large Cabinet (48/54/60/72K)

Arrangement:

Unit is shipped from the factory arranged to be installed in an upflow or horizontal left (right to left air flow) position. Horizontal left means when the unit is laid on its side and you are facing the unit, the supply air opening is to the left and the return opening is to the right. These models are field convertible to a horizontal right (left to right) air flow position.



Horizontal left arrangement

Upflow application

In an upflow installation the discharge outlet is at the top. Care should be taken to insure unit is level to permit proper condensate drainage. Normal upflow installation will be in a closet or basement. If installed in a closet, it must have a platform framed in. The platform must have an opening centered in the closet that measures at least 12 inches in height from the floor. A filter frame and filter can be used that covers the opening and is sealed to prevent air by-passing the filter. A filter grille can be used that is located as described in RETURN AIR REQUIREMENTS section. The minimum filter size is shown in the table below.

Standard throw away air filter @ 300 ft/min or less	Pleated Air Filter @ 500 ft/min or less
800 CFM = 20 x 20 x 1	800 CFM = 16 x 16 x 1
1000 CFM = 20 x 25 x 1	1000 CFM = 18 x 20 x 1
1200 CFM = 20 x 30 x 1	1200 CFM = 20 x 20 x 1
1400 CFM = 25 x 30 x 1	1400 CFM = 20 x 20 x 1
1600 CFM = 25 x 30 x 1	1600 CFM = 20 x 25 x 1
1800 CFM = 30 x 30 x 1	1800 CFM = 20 x 30 x 1 or two 20 x 15 x 1
2000 CFM = 30 x 40 x 1 or two 30 x 20 x 1	2000 CFM = 20 x 30 x 1 or two 20 x 15 x 1
2400 CFM = 30 x 40 x 1 or two 30 x 20 x 1	2400 CFM = 25 x 30 x 1 or two 14 x 30 x 1

Another option is to use the Filter Base Accessory Kit. This filter base is placed on the closet floor and secured with screws. The unit is placed on top of the filter base and secured to the base with screws. Use seal strip, tape or calking to seal between the unit and the base.

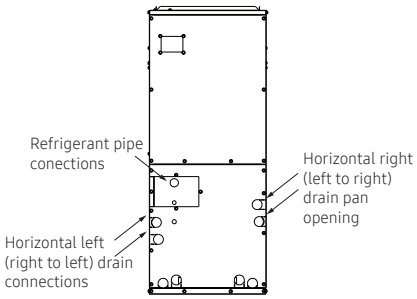
Connect the supply air outlet to a plenum to the top of the unit and secure it with screws. Use a Non-tape sealant such as mastic or an aerosol sealant to seal duct leakage. If installed in a basement, run supply and return duct work in accordance with local codes. Use a Non-tape sealant such as mastic or an aerosol sealant to seal duct leakage.

Indoor unit installation

Horizontal application

Horizontal applications will normally be used in an attic or crawl space. This type of installation requires supply air plenum or duct to be connected to the supply collar and a return air plenum or duct be attached to the unit inlet collar. The supply ducts will be connected to the supply air plenum and routed through the attic to a register in each room. Use a Non-tape sealant such as mastic or an aerosol sealant to prevent leaks in the ducts and the plenum.

The opposite end of the return air duct is attached to a return filter grille housing. The filter grille is usually located in a wall, just below the ceiling or the ceiling in a hallway. Use a Non-tape sealant such as mastic or an aerosol sealant to prevent leaks in the ducts and the plenum.

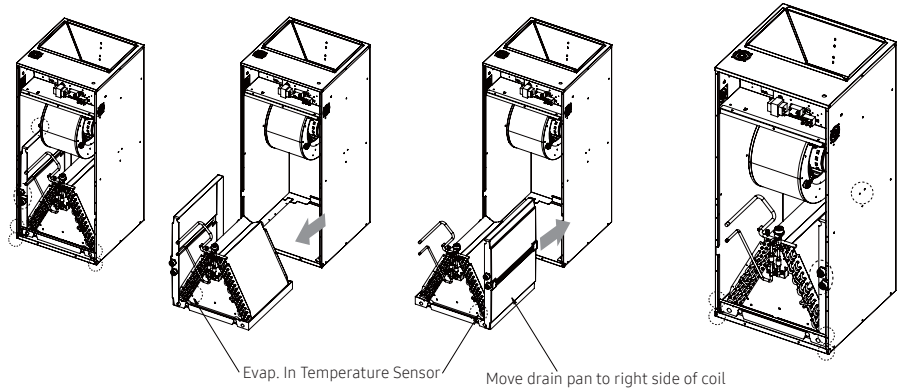


Horizontal right application (left to right)

The unit is shipped to be installed without modification in a right to left configuration. For left to right applications:

1. Remove the unit access panels
2. Remove the cooling coil after disassembling bracket coil and plate.
3. Move the condensate drain pan to the right side of the unit chassis.
4. Move the Evap In temperature sensor to holder of the right side.
5. Reinstall the cooling coil.
6. Connect the condensate drains and refrigerant lines. DRY NITROGEN MUST BE FLOWED THROUGH REFRIGERANT LINES DURING SOLDERING OPERATION.
7. Reinstall unit access panels.

※ In all horizontal applications in which the unit is installed above a finished ceiling and/or living space, it is recommended that a secondary drain pan (field supplied) is installed under the entire unit to avoid damage to the ceiling in the event of condensate overflow.



Closet installation

Prior to installing the air handler make sure holes are cut into the floor for refrigerant tubing, drain line, electrical wiring, and control wiring.

1. Remove the top shipping cover and corner posts.
2. Remove the bottom shipping cover.
3. Remove the blower and control box access panel (door).
4. Remove the coil compartment access panel (door).
5. Place the unit into position by sliding the unit over the duct opening until the opening in the unit lines up with the duct opening in the floor.
6. Secure the unit to the floor by drilling two holes through the air handler base at the left and right front inside corners of the cabinet. Use two screws to secure the unit to the floor.
7. Use calking, sealers, and/or tape to seal between the floor base and the opening on the unit or between the opening on the unit and the duct in the floor.
8. Connect the electrical supply wires and the control wires in the control box.
9. Connect the refrigerant lines to the coil. DRY NITROGEN MUST BE FLOWED THROUGH REFRIGERANT LINES DURING SOLDERING OPERATION.
10. Re-install the coil compartment access panel (door) and secure with the screws that were removed in step 3.
11. Re-install the blower and control box access panel (door) and secure with the screws that were removed in step 2.

Refrigerant piping

Air Handlers with DX type evaporator coils require liquid and suction piping sized in accordance with condensing unit manufacturer's instructions. The evaporator coils have sweat copper connections. Refrigerant lines should be soldered with silver solder or high temperature brazing alloy.

DRY NITROGEN MUST BE FLOWED THROUGH REFRIGERANT LINES DURING SOLDERING OPERATION.

REFER TO OUTDOOR UNIT INSTALLATION MANUALS FOR PRESSURE CHECKING AND VACUUM DRYING PROCEDURES.

There are two refrigerant pipes of differing diameters:

- A smaller one for the liquid refrigerant
- A larger one for the gas refrigerant
- The inside of copper pipe must be clean & have no dust.

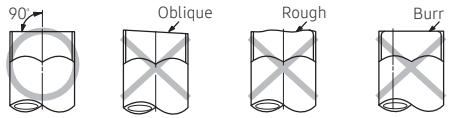
Prepare the connecting pipe referring to the list below.

- Refrigerant pipe diameters (inches)

	12	18	24	30	36	48	54	60	72
Liquid pipe	1/4	1/4	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Gas pipe	1/2	1/2	5/8	5/8	5/8	5/8	3/4	3/4	3/4

Cutting the pipes

1. Make sure that you prepared the required tools. (pipe cutter, reamer, aring 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.



Performing leak test & insulation

Leak test

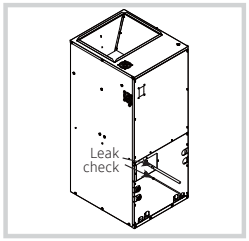
LEAK TEST WITH NITROGEN (before opening valves)

In order to detect basic refrigerant leaks, before recreating the vacuum and recirculating the R-410A, it's responsible of installer to pressurize the whole system with nitrogen (using a pressure regulator) at a pressure above 595 PSI (4.1MPa).

LEAK TEST WITH R-410A (after opening valves)

Before opening valves, discharge all the nitrogen in the system and create vacuum. After opening valves check leaks using a leak detector for refrigerant R-410A.

> **CAUTION** Discharge all the nitrogen to create a vacuum and charge the system



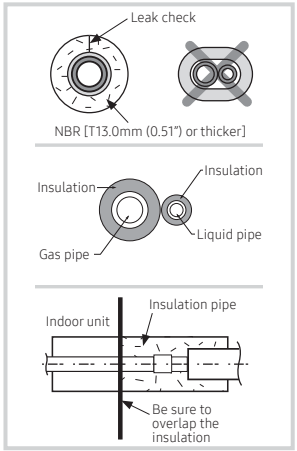
Insulation

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

1. To avoid condensation problems, place **T13.0mm (0.51") or thicker Acrylonitrile Butadien Rubber** separately around each refrigerant pipe.
   - You can contact the gas side and liquid side pipes but the pipes should not be pressed together tightly.
   - When contacting the gas side and liquid side pipe, use 1 grade thicker insulator.

> **NOTE** Always make the seam of pipes face upwards.

2. Wind insulating tape around the pipes and drain hose avoiding to compress the insulation too much.
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/straps.



> **CAUTION** All refrigerant connection must be accessible, in order to permit either unit maintenance or removing it completely.

> **CAUTION** Must fit tightly against body without a gap.

Performing leak test & insulation

5. Select the insulation of the refrigerant pipe.
   - Insulate the gas side and liquid side pipe referring to the thickness according to the pipe size.
   - Indoor temperature of 86 °F(30 °C) and humidity of 85% is the standard condition. If install in a high humidity condition,use one grade thicker insulator by referring to the table below. If installing in an unfavorable conditions, use a thicker wall insulation.
   - Insulator's heat-resistance temperature should be more than 248 °F (120 °C).

Pipe	Outer diameter		Insulation Type (Cooling/Heating)				Remarks
			General [30°C (86°F), 85% or below]		High humidity [30°C (86°F), more than 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	Internal temperature is higher than 248 °F (120 °C)
	12.7~50.8	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 places and conditions below, use the same insulation that is used for high humidity conditions.

  <Geological condition>

  - High humidity places such as shoreline, hot spring, near lake or river, and ridge (when the part of the building is covered by earth and sand.)

  <Operation purpose condition>

  - Restaurant ceiling, sauna, swimming pool etc.

  <Building construction condition>

  - The ceiling frequently exposed to moisture and cooling is not covered.
    e.g. The pipe installed at a corridor of a dormitory and studio or near an exit that opens and closes frequently.
  - The place where the pipe is installed is highly humid due to the lack of ventilation system.

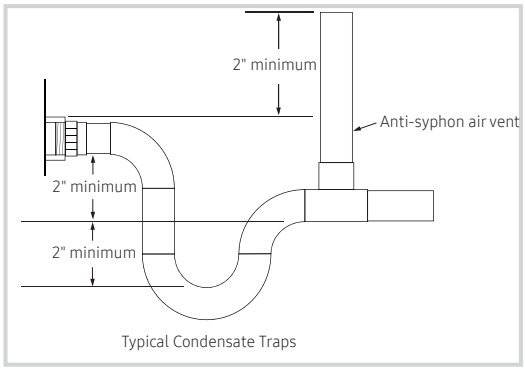
Additional refrigerant

- System refrigerant volume is based on linear feet of liquid line pipe and indoor equipment model/quantity.
- Refer to the outdoor unit installation manuals for information regarding refrigerant volume for system components.
- See table below for additional refrigerant volumes for each air handler.

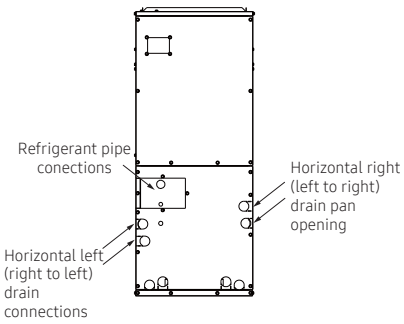
Model	Additional refrigerant per indoor unit (oz.)
AM012JNZDCH/AA	11.6
AM018JNZDCH/AA	17.6
AM024JNZDCH/AA	17.6
AM030JNZDCH/AA	29.3
AM036JNZDCH/AA	31
AM048JNZDCH/AA	41.6
AM054JNZDCH/AA	44.8
AM060JNZDCH/AA	59.6
AM072JNZDCH/AA	59.6

Drain pipe installation

The air handler "A" coil drain pan has two ¾" NPT female primary and two secondary connections (left or right hand). The horizontal pan has two ¾" NPT female, one primary and one secondary. Piping from each fitting used is to have 2 inch minimum trap and each run in such a manner as to provide enough slope for adequate drainage to a visible area. Do not pipe these two fittings together into a common drain. Prime drain with water before operating the unit by pouring water into the condensate pan. Cap unused connections.



Typical Condensate Traps



CAUTION

- Make sure to keep the drain hose from getting tangled or loosened (on the connection part).
- Insulate all condensate pipes connected to the indoor unit to prevent condensation formation. Condensate formation on condensate pipes can lead to property damage and unsafe environment conditions.

When passing the drain hose through the hole drilled in the wall, make sure to avoid following cases.

CAUTION

- Since the draining is of natural drain type, install the drain hose in downward direction.
- If you do not tie the drain hose with a cable tie, leakage may occur
- Drain pipe may get clogged if there is any foreign substances within the drain pan, so you must remove any foreign substances after completing the installation.

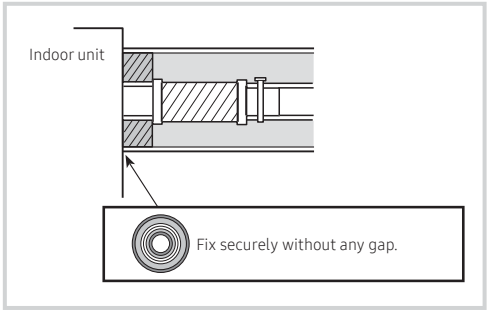
Water leakage test

1. Pour water into the condensate pan.
2. Make sure that draining is done properly by checking end of the drain pipe.
3. If water leakage occurs, make sure the indoor unit is level. Also verify the drain pipe is installed with a downward slope away from the indoor unit.

CAUTION

- After connecting the drain pipe to the indoor unit, you must perform leakage test. If the drain test has not done properly, water may get into the indoor and cause property damage.
- Empty the condensation water in the drain pan before any repair/maintenance service.

Drain pipe insulation



CAUTION

- You must insulate drain pipes.
- Make sure to prevent any gap between the insulation on drain pipe elbows.
- Make sure that insulation is overlapped.

Wiring Work

WARNING

- For personal safety be sure to turn the electrical power "OFF" at the main entrance (Home Circuit Breaker Box) and at the unit control box circuit breakers before attempting any service or maintenance operations. Homeowners should never attempt to perform any maintenance which requires opening the air handler control box door.
- This air handler is not equipped with a shield that covers the line voltage electrical supply wires and the circuit breaker connections. Take precautions to prevent accidental electrical shock. Be sure to turn the electrical power "OFF" at the main entrance (Home Circuit Breaker Box) and at the control box circuit breakers before removing the front panel.

Power supply wiring

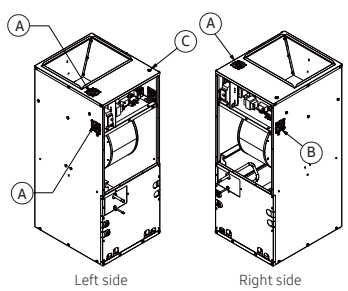
- The unit internal wiring is complete except for the power supply and control wires.
- The use of cable connectors on incoming power supply wires to relieve any strain on wiring is recommended.
- Follow the steps below to connect the power supply wires.
- Supply voltage is 208/230V, 1ø, 60 Hz.
- If you are installing optional heat kits, refer to the heat kit installation instructions for line voltage connection instructions

Single circuit line wiring connections

CAUTION

If an accessory heat kit is installed, power must enter the unit on the top or the top-left side of the unit as shown below (A).

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) separate from the outdoor power.
   ELCB : Earth Leakage Circuit Breaker
   MCCB : Molded Case Circuit Breaker
   ELB : Earth Leakage Breaker
3. Only copper power cables should be used.
4. Remove the blower and control box access panel (door).
5. Install the cable connectors on the 7/8" diameter holes on the right side of the control box.
6. Insert the wires through the holes in the casing and through the cable connectors.
7. Connect the black supply wire to the L1[1(L)] high voltage connection terminal with compressed ring terminals.
8. Connect the white supply wire to the L2[2(N)] high voltage connection terminal with compressed ring terminals.
9. Connect the green wire to the ground lug near the supply wire connections with a compressed ring terminal and tighten the ground screw. Make sure to leave extra slack in the ground wire to allow service to the unit without disconnecting the ground wire.



A - Power conduit connection opening
(must use when installing accessory electric heat kit).

B - Power conduit connection opening
(do not use when installing accessory electric heat kit).

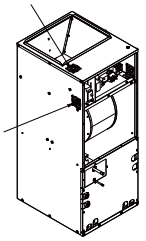
C - Communication wire conduit connection opening

IMPORTANT - All insulation on field wiring must be rated at 140°F (60ºC) or higher. Please refer to the wiring diagrams on the air handler or the tables in this manual for more information.

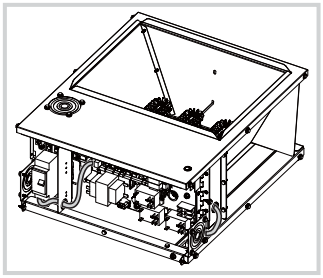
IMPORTANT - Refer to the NEC National Electrical Code (NFPA 70) or the Canadian Electrical Code, Part I (CSA C22.1) and local codes for wiring material requirements.

Power supply wiring with accessory electric heat kit

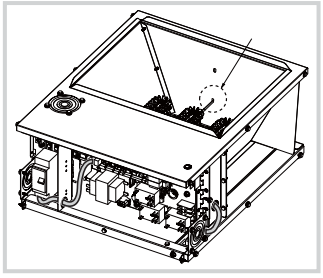
1. Before wiring work, you must turn off all power source.
2. Indoor unit power should be supplied through the breaker (ELCB or MCCB+ELB) separate from the outdoor power.
   ELCB : Earth Leakage Circuit Breaker
   MCCB : Molded Case Circuit Breaker
   ELB : Earth Leakage Breaker
3. Only copper power cables should be used.
4. Remove the blower and control box access panel (door).
5. Install the cable connectors on the 7/8" diameter holes on the left side of the control box.
6. Connect the included power pigtail leads with ring connectors (included with heat kit) to 1(L) and 2(N) terminals located on the right side of the control box.
7. Route the power pigtail leads through the control box opening pictured below and route to the left side of the control box for connection to the heat breakers in a later step.



Power conduit connection openings



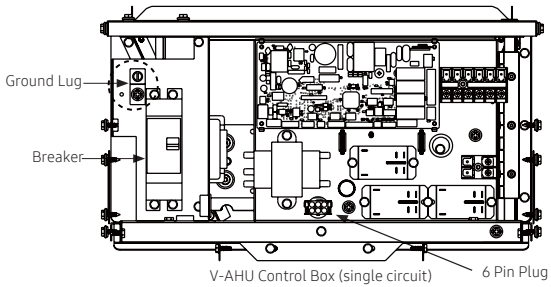
8. Swing the hinged control plate outward exposing the back side of the control box. Remove the screws holding the electric heat kit block off plate. Save the screws.
9. Carefully pass the accessory heating element through the rectangular opening in the discharge of the air handler and secure the heating element with the screws from step 8. Heating element support rod must be seated in the hole on the opposite side of the discharge.



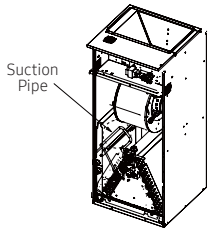
10. Install the breakers at the front-left of the control box.
11. Connect the power pigtail leads that are connected to 1(L) and 2(N) to the bottom of the breakers.
12. Insert the power wires through the holes in the casing and through the cable connectors.

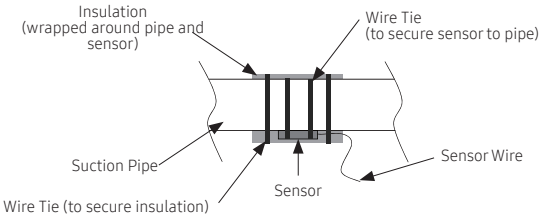
Wiring Work

13. Strip ½" of the insulation on the end of each power wire.
14. Connect the black supply wire to the high voltage connection lug on the accessory heat kit breaker.
15. Connect the white supply wire to the other high voltage connection lug on the accessory heat kit breaker.
16. Connect the green (ground) wire to the ground lug to the left of the accessory heat kit breakers and tighten the ground lug screw. Make sure to leave extra slack in the ground wire to allow service to the unit without disconnecting the ground wire. If the heat kit requires 2 circuits (dual circuit) , both circuit ground wires must be connected to a ground lug (dual circuit kits have two individual ground lugs).



17. Connect the six pin male plug on the electric heater assembly to the six pin female plug mounted at the bottom of the control assembly door.
18. Remove the wiring diagram from the accessory heat kit. Remove the paper that covers the adhesive back and place the electric heat wiring diagram over the wiring diagram located on the blower housing.
    1. Route temperature sensor from the accessory electric heat kit to the lower section of the AHU cabinet. Attach the sensor to the bottom of the suction pipe as shown below with included wire ties.





19. Wrap included insulation around the sensor and secure with included wire ties.
20. Remove the breaker opening cover plate on the AHU door and secure the doors to the unit.

NOTE

The electric heat kits are equipped with either one or two circuit breakers. These circuit breakers protect the wiring inside of the AHU in the event of a short circuit. Additionally, these breakers provide a means of disconnecting the power to the unit. The circuit breakers in the AHU's are not meant to protect the branch circuit wiring between the furnace and the building's breaker panel. If sheathed cable is used, refer to NEC National Electrical Code (NFPA 70) or the Canadian Electrical Code, Part I (CSA C22.1) and local codes for additional requirements concerning supply circuit wiring. Electrical data can be found in Tables 2-5.

IMPORTANT - All installation on field wiring must be rated at 60ºC or higher. Please refer to the wiring diagrams on the furnace or the tables this manual for more information. The 15kW and 20kW models may be connected to a single or dual branch circuit. Refer to the NEC National Electrical Code (NFPA 70) or the Canadian Electrical Code, Part I (CSA C22.1) and local codes for wiring material requirements.

Power supply connections

If the air handler has been installed prior to installing the electric heaters or if an older unit is being replaced, the supply power wires must be checked to make sure the wires are the proper sizes to handle the current load for the heaters. Refer to table below for correct wire size. If the supply power wire size is incorrect, new wires will need to be installed. Follow the instructions "Power Supply Wiring" on page 18 of these instructions for proper installation.

ELECTRICAL DATA																						
Indoor Unit Model	Electric Heater Data						Minimum Circuit Ampacity (MCA)				Maximum Overcurrent Protection (MOCP)				Minimum Wire Size (AWG)				Short-Circuit Current Rating	
	Circuit Qty.	Kw (2)	Amps 208V Circuit 1	Amps 208V Circuit 2	Amps 240V Circuit 1	Amps 240V Circuit 2	208V Circuit 1	208V Circuit 2	240V Circuit 1	240V Circuit 2	208V (3,4) Circuit 1	208V (3,4) Circuit 2	240V (3,4) Circuit 1	240V (3,4) Circuit 2	Circuit 1 75°C / 90°C	Circuit 1 60°C	Circuit 2 75°C / 90°C	Circuit 2 60°C	"SCCR" kA rms symmetrical	"SCCR" V maximum
SMALL CABINET-NOMINAL1.0, 1.5 & 2.0 TONS (0 To 5 Kw)																				
AM012JNZDCH /AA	1	0	0	-	0	-	0.90	-	0.90	-	10.0	-	10.0	-	#14	#14	-	-	n/a	n/a
	1	3	10.90	-	12.50	-	13.63	-	15.63	-	15.0	-	20.0	-	#12	#12	-	-	n/a	n/a
AM018JNZDCH /AA	0	0	0	-	0	-	0.90	-	0.90	-	10.0	-	10.0	-	#14	#14	-	-	n/a	n/a
	1	3	10.90	-	12.50	-	13.63	-	15.63	-	15.0	-	20.0	-	#12	#12	-	-	n/a	n/a
AM024JNZDCH /AA	1	5	18.03	-	20.83	-	23.26	-	26.76	-	30.0	-	30.0	-	#10	#10	-	-	n/a	n/a
MEDIUM CABINET-NOMINAL 2.5, 3.0 TONS (0 To 10 Kw)																				
AM030JNZDCH/ AA	1	0	-	-			2.08	-	2.08	-	10.0	-	10.0	-	#14	#14	-	-	n/a	n/a
	1	5	18.03	-	20.83	-	24.20	-	27.70	-	30.0	-	30.0	-	#10	#10	-	-	n/a	n/a
AM036JNZDCH/ AA	1	10	36.06	-	41.67	-	46.73	-	53.74	-	50.0	-	60.0	-	#6	#4	-	-	n/a	n/a
LARGE CABINET-NOMINAL 4.0, 4.5, 5.0, 6.0 TONS (0 To 20 Kw)																				
AM048JNZDCH/ AA	1	0	-	-			2	-	2.6	-	15.06	-	15.0	-	#14	#14	-	-	n/a	n/a
	1	5	18.0	-	20.8	-	24.6	-	26.0	-	30.0	-	30.0	-	#10	#10	-	-	n/a	n/a
	1	10	36.1	-	41.7	-	45.1	-	52.1	-	50.0	-	60.0	-	#6	#4	-	-	n/a	n/a
AM054JNZDCH/ AA	1	0	-	-			2	-	2.6	-	15.06	-	15.0	-	#14	#14	-	-	n/a	n/a
	1	5	18.0	-	20.8	-	24.6	-	26.0	-	30.0	-	30.0	-	#10	#10	-	-	n/a	n/a
AM060JNZDCH/ AA	1	10	36.1	-	41.7	-	45.1	-	52.1	-	50.0	-	60.0	-	#6	#4	-	-	n/a	n/a
	2	15	18.0	36.1	20.8	41.7	24.6	47.2	28.1	54.2	30.0	50.0	30.0	60.0	#6	#4	#10	#10	5	240
AM072JNZDCH /AA	1	0	-	-			7	-	7.2	-	15.02	-	15.0	-	#14	#14	-	-	n/a	n/a
	1	5	18.0	-	20.8	-	28.3	-	26.0	-	30.0	-	30.0	-	#10	#10	-	-	n/a	n/a
	1	10	36.1	-	41.7	-	45.1	-	52.1	-	50.0	-	60.0	-	#6	#4	-	-	n/a	n/a
	2	15	18.0	36.1	20.8	41.7	28.2	50.8	31.7	57.8	30.0	60.0	35.0	60.0	#6	#4	#10	#10	5	240
	2	20	36.1	36.1	41.7	41.7	50.8	50.8	57.8	57.8	60.0	60.0	60.0	60.0	#6	#4	#6	#4	5	240

1. Rated Motor Amps (at DOE External Static Rating Point)
2. Nominal Kw At 240V (Derate 25% For 208V)
3. Fuse or HACR Breaker
4. Maximum Overcurrent Device, Overcurrent Protection Installed On Breaker Models Are Sized Per MCA

- To prevent damage, carefully insert the electric heating assembly through the rectangular opening in the front of the discharge opening so the heat element support rod is seated into the hole on the back side of the discharge opening.
- After installing the electric heater, a one inch clearance must be maintained on all sides of the supply air duct and/or plenum for a minimum of thirty six inches from the air handler discharge opening.

Wiring Work

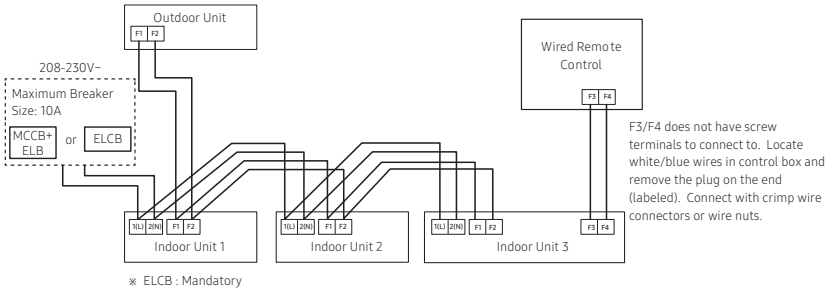
Communication wiring connections

- Communication wires connect through side of air handler and be 2 X 16 AWG shielded.
- Use an approved connector at the cabinet of the unit to prevent pulling or shorting of control wires.
- F1/F2 in the air handler must connect to the F1/F2 communication bus for that system between all indoor units, MCU's, EEV kits, and the outdoor unit.

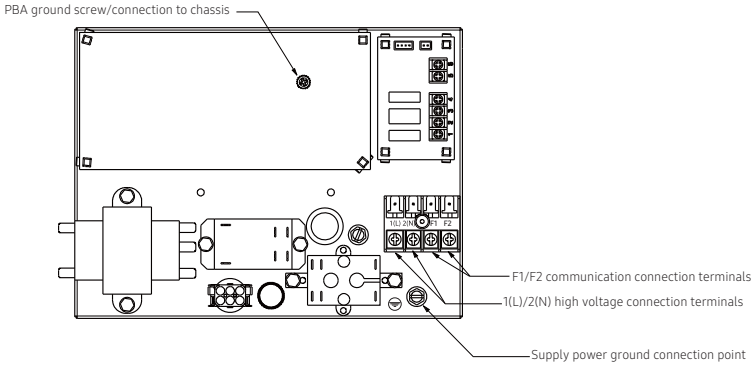
ATTENTION

- Control wire must be rated for 600V minimum.
- Control wire insulation must be rated for temperatures up to 90°C.

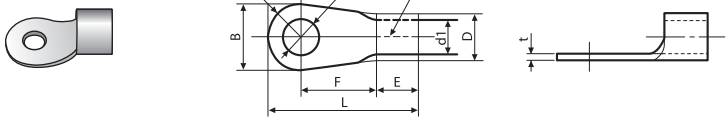
1. Insert the wires through the holes of the right side on the top casing and through the cable connectors.
2. Connect the communication wires to the F1/F2 connection terminal with compressed ring terminals.
3. Connect F3, F4 (for communication) when installing the wired remote control. F3/F4 does not have screw terminals to connect to. Locate white/blue wires in control box and remove the plug on the end (labeled). Connect with crimp wire connectors or wire nuts. Up to 16 indoor units can connect to a single wired controller (group control). Compatible wired controllers: MWR-WE10N, MWR-SH00N.
   - Below is an example how to wire the main system communication wires and wired controller wires.
   - The example below is for indoor units without accessory electric heat kits. If an accessory heat kit is installed in an indoor unit, that unit must be on its own dedicated circuit.
   - The sum of all indoor unit MCA must be below 10A on a single circuit. Refer to "Specification of Electronic Wire" section for information regarding wire size calculation.



※ When Installing ELCB(MCCB + ELB) indoor unit, do not connect with other indoor units attached to other outdoor units.



Selecting compressed ring terminal



Nominal dimensions for cable [inch²(mm²)]	Nominal dimensions for screw [inch(mm)]	B		D		d1		E	F	L	d2		t
		Standard dimension [inch(mm)]	Allowance [inch(mm)]	Standard dimension [inch(mm)]	Allowance [inch(mm)]	Standard dimension [inch(mm)]	Allowance [inch(mm)]	Min. [inch(mm)]	Min. [inch(mm)]	Max. [inch(mm)]	Standard dimension [inch(mm)]	Allowance [inch(mm)]	Min. [inch(mm)]
0.0023 (1.5)	0.16(4)	0.26(6.6)	±0.0079 (±0.2)	0.13(3.4)	+0.012(+0.3) -0.0079 (-0.2)	0.067(1.7)	±0.0079 (±0.2)	0.16(4.1)	0.24(6.0)	0.63(16.0)	0.17(4.3)	+0.0079 (+0.2) 0(0)	0.028(0.7)
	0.16(4)	0.31(8.0)											
0.0039 (2.5)	0.16(4)	0.26(6.6)	±0.0079 (±0.2)	0.17(4.2)	+0.012(+0.3) -0.0079 (-0.2)	0.091(2.3)	±0.0079 (±0.2)	0.24(6.0)	0.24(6.0)	0.69(17.5)	0.17(4.3)	+0.0079 (+0.2) 0(0)	0.031(0.8)
	0.16(4)	0.33(8.5)											
0.0062 (4.0)	0.16(4.0)	0.37(9.5)	±0.0079 (±0.2)	0.22(5.6)	+0.012(+0.3) -0.0079 (-0.2)	0.134(3.4)	±0.0079 (±0.2)	0.24(6.0)	0.24(6.0)	0.79(20.0)	0.17(4.3)	+0.0079 (+0.2) 0(0)	0.035(0.9)

Specification of electronic wire

Power supply	MCCB	ELB or ELCB	Power cable	Earth cable	Communication cable
Min : 187V Max : 253V	XA	XA, 30 mA 0.1 sec	0.0039 inch2 (2.5 mm2)	0.0039 inch2 (2.5 mm2)	0.0012~0.0023 inch2 (0.75~1.5 mm2)

※ Run transmission wiring between the indoor and outdoor units through a conduit to protect against external forces, and feed the conduit through the wall together with refrigerant piping.

- Decide the capacity of ELCB(or MCCB+ELB) by below formula.

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

※ X : The capacity of ELCB(or MCCB+ELB).

※ ΣAi : 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.

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

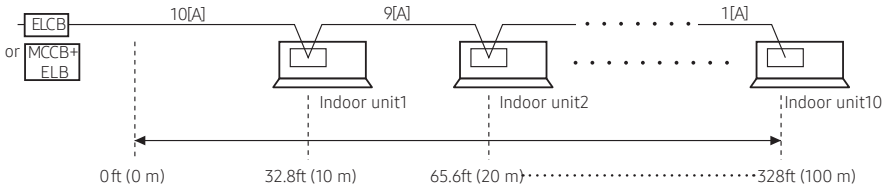
※ Coef: 1.55

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

Wiring Work

Example of Installation

- Total power cable length L = 328 ft(100 m), Running current of each units 1[A]
- Total 10 indoor units were installed

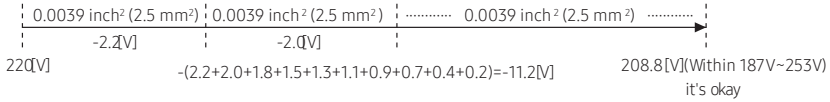


• Apply following equation.

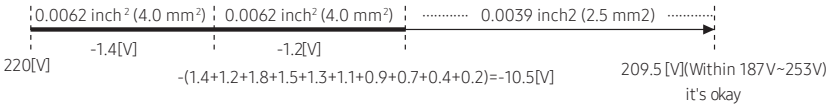
$$\sum_{k=1}^{n} \left(\frac{Coef \times 35.6 \times L_k \times i_k}{1000 \times A_k} \right) < \text{10 \% of input voltage[V]}$$

※ Calculation

• Installing with 1 sort wire.



• Installing with 2 different sort wire.



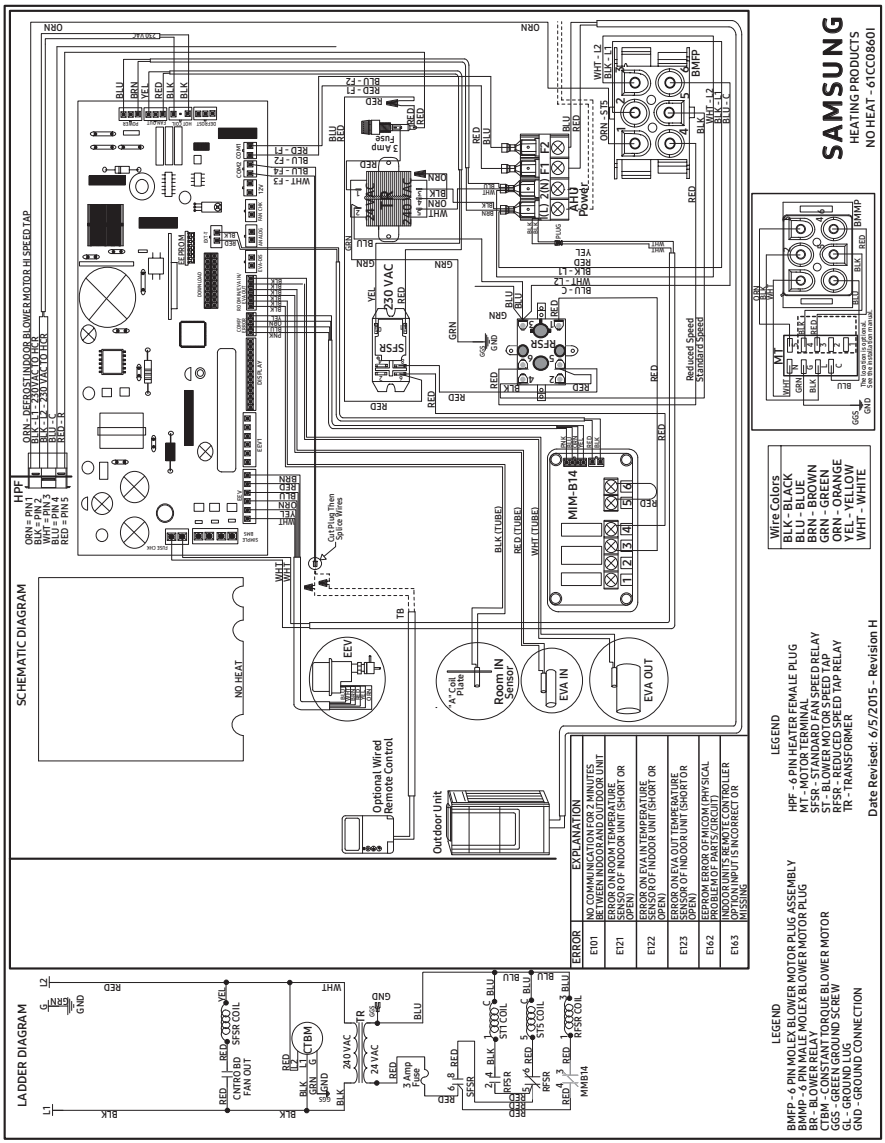
CAUTION

- Select the power cable in accordance with relevant local and national regulations.
- Wire size must comply with local and national code.
- Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flixible cord. (Code designation H07RN-F or H05RN-F)
- 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 over10% 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 conduit.
- Connect the power cable to the auxiliary circuit breaker.
- An all pole disconnection from the power supply must be incorporated in the field wiring[≥1/8" (3 mm)].
- You must keep the cable in a protective conduit.
- Keep distances of 2" (50 mm) 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) capacity should be increased if many indoor units are connected to one breaker.
- Use round pressure/crimp terminal for connections to the power terminal block.
- For wiring, use the designated power cable and connect it firmly, then secure to prevent outside 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.

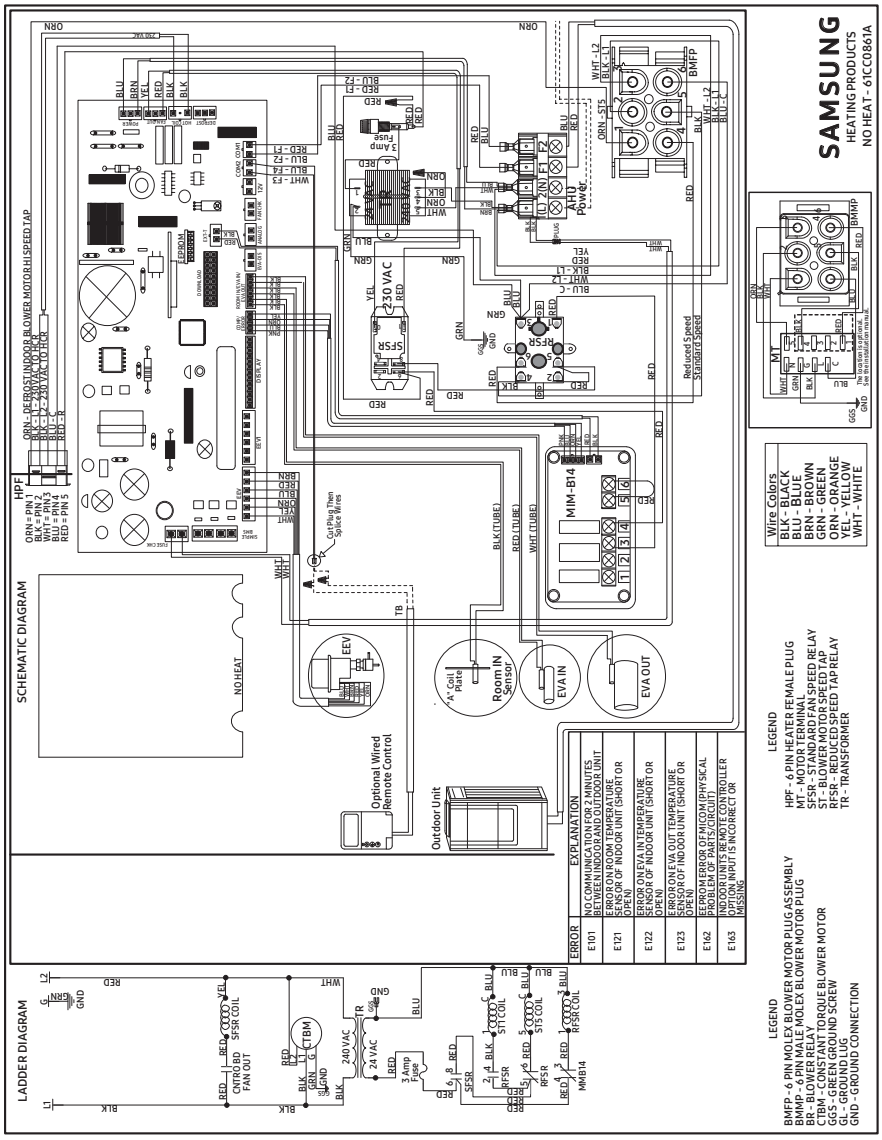
	Tightening torque	
	N•m	lbf•ft
M3.5	0.8~1.2	0.59~0.89
M4	1.2~1.8	0.89~1.33

Wire Diagram

AM012JNZDCH/AA, AM018JNZDCH/AA, AM024JNZDCH/AA, AM030JNZDCH/AA, AM036JNZDCH/AA, AM048JNZDCH/AA, AM060JNZDCH/AA, AM072JNZDCH/AA



AM054JNZDCH/AA



Selecting motor speed

Selecting the Constant Torque Blower Speed

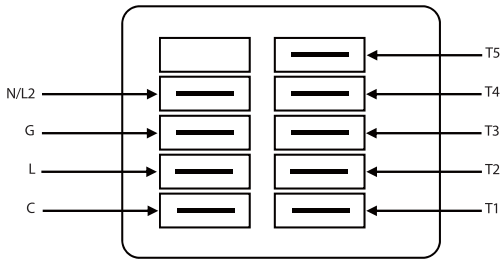
This air handler uses a Constant Torque high efficiency motor. This motor operates on 240 VAC. The motor speed taps are 24 VAC, 0.03 amps, 60 Hz, 1 PH. The speed taps can be adjusted according to installation needs. Table 4 shows the motor lead connection labeling and the connection definitions. See blower tables in later section for airflow data.

When using optional electric heat kits, the heat kits will have a fan speed wire that will be connected to the fan motor on speed tap 5 from the factory. Refer to the heat kit installation manual for minimum CFM for electric heat kit use before adjusting this speed tap wire (speed tap 5 is recommended)

Total 24 VAC circuit amps are 0.14 amps.

Change Motor Speeds

1. Turn off all electrical supply circuits to the air handler at the main service (House Circuit Breaker) panel.
2. Remove the blower door and switch air handler circuit breaker(s) to "OFF".
3. Disconnect the wire from the isolation relay terminal and reconnect the desired wire to the terminal. The BLACK wire is high (standard) speed. The WHITE wire is low (reduced) speed. The ORANGE wire is electric heat high fan speed. The ORANGE wire must be connected to a speed tap that will provide sufficient airflow for the size of the electric heat kit. Refer to the heat kit installation manuals for minimum CFM for electric heat kit activation (usually speed tap 5).
4. Turn the circuit breakers on and reinstall air handler blower door.
5. Turn on all electrical supply circuits to the air handler at the main service (House Circuit Breaker) panel.
6. When black wire(Standard) is required to be connected to tap 5, the orange wire which originally is connected to tap 5 can be connected to any tap except tap 5.



Terminal	Connection	Default speed tap settings	
		AM0 12/18/24/30/36/48/60/72 JNZDCH/AA	AM054JNZDCH/AA
C	Speed tap common - 24 VAC common		
L	Supply voltage - 240 VAC Line 1		
G	Ground connection		
N/L2	Supply voltage - 240 VAC Line 2		
T1	Low speed tap - 24 VAC input		"Reduced" speed
T2	Medium-low speed tap - 24 VAC input		
T3	Medium speed tap - 24 VAC input	"Reduced" speed	
T4	Medium-high speed tap - 24 VAC input	"Standard" speed	"Standard" speed
T5	High speed tap - 24 VAC input	High speed for electric heat	High speed for electric heat

Motor control/voltage taps

Blower CFM tables

AM012JNZDCH/AA, AM018JNZDCH/AA, AM024JNZDCH/AA

AM012JNZDCH/AA
HP: 1/3
Default motor taps:
standard speed = 4, reduced speed = 3

Motor Tap	ESP (inch)	CFM	RPM
5	0.1	545	603
	0.2	496	670
	0.25	492	719
	0.3	475	745
	0.4	423	817
	0.5	382	903
4	0.1	523	590
	0.2	449	647
	0.25	426	681
	0.3	400	717
	0.4	373	796
	0.5	302	882
3	0.1	519	586
	0.2	426	634
	0.25	399	670
	0.3	374	703
	0.4	320	816
	0.5	269	873
2	0.1	512	585
	0.2	399	626
	0.25	374	657
	0.3	346	694
	0.4	280	817
	0.5	234	860
1	0.1	502	578
	0.2	376	609
	0.25	346	646
	0.3	320	684
	0.4	241	819
	0.5	179	894

= Default setting

AM018JNZDCH/AA
HP: 1/3
Default motor taps:
standard speed = 4, reduced speed = 3

Motor Tap	ESP (inch)	CFM	RPM
5	0.1	685	765
	0.2	658	812
	0.25	639	839
	0.3	634	873
	0.4	610	921
	0.5	575	970
	0.6	532	1029
	0.7	495	1080
4	0.1	630	717
	0.2	595	763
	0.25	580	785
	0.3	575	834
	0.4	531	882
	0.5	508	934
	0.6	455	995
	0.7	411	1053
3	0.1	549	642
	0.2	525	718
	0.25	504	748
	0.3	485	780
	0.4	467	846
	0.5	427	901
	0.6	458	996
	0.7	416	1053
2	0.1	528	629
	0.2	485	692
	0.25	488	730
	0.3	463	768
	0.4	423	828
	0.5	405	896
	0.6	288	987
	0.65	271	1008
1	0.1	491	596
	0.2	446	662
	0.25	425	695
	0.3	397	734
	0.4	351	801
	0.5	296	901
	0.55	248	923

AM024JNZDCH/AA
HP: 1/3
Default motor taps:
standard speed = 4, reduced speed = 3

Motor Tap	ESP (inch)	CFM	RPM
5	0.1	874	902
	0.2	856	964
	0.25	846	977
	0.3	835	998
	0.4	806	1,054
	0.5	779	1,094
	0.6	730	1,125
	0.7	670	1,155
4	0.1	794	844
	0.2	764	887
	0.25	760	916
	0.3	748	949
	0.4	706	999
	0.5	689	1,047
	0.6	656	1,075
	0.7	633	1,124
3	0.1	715	768
	0.2	698	836
	0.25	685	858
	0.3	662	890
	0.4	630	958
	0.5	595	1,007
	0.6	570	1,032
	0.7	548	1,088
2	0.1	653	725
	0.2	620	780
	0.25	615	824
	0.3	595	845
	0.4	548	908
	0.5	531	978
	0.6	494	1,011
	0.7	453	1,092
1	0.1	570	655
	0.2	520	729
	0.25	502	752
	0.3	478	788
	0.4	452	859
	0.5	432	898
	0.6	364	1,000
	0.7	314	1,058

Selecting motor speed

AM030JNZDCH/AA, AM036JNZDCH/AA, AM048JNZDCH/AA

AM030JNZDCH/AA
HP: 1/2
Default motor taps:
standard speed = 4, reduced speed = 3

Motor Tap	ESP (inch)	CFM	RPM
5	0.1	1,318	826
	0.2	1,281	864
	0.25	1,270	876
	0.3	1,246	896
	0.4	1,207	938
	0.5	1,183	978
	0.6	1,152	997
	0.7	1,120	1,032
	0.8	1,077	1,061
	0.9	1,043	1,097
	1	994	1,126
4	0.1	1,165	748
	0.2	1,121	786
	0.25	1,110	809
	0.3	1,089	832
	0.4	1,053	877
	0.5	1,021	903
	0.6	982	946
	0.7	941	976
	0.8	906	1,016
	0.9	872	1,042
	1	816	1,108
3	0.1	1,039	684
	0.2	992	743
	0.25	980	752
	0.3	952	780
	0.4	921	828
	0.5	884	860
	0.6	841	903
	0.7	809	929
	0.8	767	984
	0.9	715	1,049
	1	643	1,132
2	0.1	989	670
	0.2	943	711
	0.25	940	737
	0.3	911	762
	0.4	878	810
	0.5	829	851
	0.6	791	881
	0.7	752	933
	0.8	682	1,010
	0.9	635	1,074
	1	568	1,122
1	0.1	888	615
	0.2	850	671
	0.25	826	691
	0.3	800	718
	0.4	762	771
	0.5	714	808
	0.6	663	879
	0.7	605	947
	0.8	524	1,016
	0.9	487	1,059
	1	431	1,105

= Default setting

AM036JNZDCH/AA
HP: 1/2
Default motor taps:
standard speed = 4, reduced speed = 3

Motor Tap	ESP (inch)	CFM	RPM
5	0.1	1,318	826
	0.2	1,281	864
	0.25	1,270	876
	0.3	1,246	896
	0.4	1,207	938
	0.5	1,183	978
	0.6	1,152	997
	0.7	1,120	1,032
	0.8	1,077	1,061
	0.9	1,043	1,097
	1	994	1,126
4	0.1	1,165	748
	0.2	1,121	786
	0.25	1,110	809
	0.3	1,089	832
	0.4	1,053	877
	0.5	1,021	903
	0.6	982	946
	0.7	941	976
	0.8	906	1,016
	0.9	872	1,042
	1	816	1,108
3	0.1	1,039	684
	0.2	992	743
	0.25	980	752
	0.3	952	780
	0.4	921	828
	0.5	884	860
	0.6	841	903
	0.7	809	929
	0.8	767	984
	0.9	715	1,049
	1	643	1,132
2	0.1	989	670
	0.2	943	711
	0.25	940	737
	0.3	911	762
	0.4	878	810
	0.5	829	851
	0.6	791	881
	0.7	752	933
	0.8	682	1,010
	0.9	635	1,074
	1	568	1,122
1	0.1	888	615
	0.2	850	671
	0.25	826	691
	0.3	800	718
	0.4	762	771
	0.5	714	808
	0.6	663	879
	0.7	605	947
	0.8	524	1,016
	0.9	487	1,059
	1	431	1,105

AM048JNZDCH/AA
HP: 3/4
Default motor taps:
standard speed = 4, reduced speed = 3

Motor Tap	ESP (inch)	CFM	RPM
5	0.3	1,671	729
	0.4	1,629	775
	0.5	1,598	811
	0.6	1,558	850
	0.7	1,517	884
	0.8	1,480	923
	0.9	1,463	946
	1	1,401	987
4	0.1	1,550	595
	0.4	1,410	723
	0.5	1,369	762
	0.6	1,323	805
	0.7	1,294	841
	0.8	1,234	886
	0.9	1,182	963
	1	1,052	1,040
3	0.1	1,509	577
	0.2	1,360	599
	0.4	1,264	700
	0.5	1,219	745
	0.6	1,192	777
	0.7	1,110	884
	0.8	1,010	923
	0.9	922	983
	1	836	1,027
2	0.1	1,441	563
	0.2	1,299	585
	0.3	1,166	615
	0.4	1,110	672
	0.5	1,058	723
	0.6	984	796
	0.7	865	879
	0.8	811	922
	0.9	741	965
	1	603	1,032
1	0.1	1,388	544
	0.2	1,239	564
	0.3	1,034	805
	0.5	839	721
	0.6	720	814
	0.7	654	865
	0.8	547	910
	0.9	495	949
	1	431	998

AM054JNZDCH/AA, AM060JNZDCH/AA, AM072JNZDCH/AA

AM054JNZDCH/AA

HP: 3/4

Default motor taps:
standard speed = 4, reduced speed = 1

Motor Tap	ESP (inch)	CFM	RPM
5	0.1	1,951	707
	0.2	1,942	716
	0.25	1,942	717
	0.3	1,942	735
	0.4	1,915	772
	0.5	1,888	801
	0.6	1,790	840
	0.7	1,741	880
	0.8	1,702	910
	0.9	1,666	943
	1	1,630	971
4	0.1	1,687	610
	0.2	1,677	624
	0.4	1,603	703
	0.5	1,560	751
	0.6	1,469	789
	0.7	1,422	824
	0.8	1,385	855
	0.9	1,341	885
	1	1,282	936
3	0.1	1,593	580
	0.2	1,549	589
	0.25	1,493	606
	0.3	1,470	626
	0.5	1,386	723
	0.6	1,289	764
	0.7	1,242	789
	0.8	1,192	832
	0.9	1,126	873
	1	1,055	936
2	0.1	1,538	562
	0.2	1,481	576
	0.25	1,398	585
	0.3	1,322	596
	0.6	1,087	735
	0.7	1,019	788
	0.8	955	837
	0.9	911	876
	1	776	968
1	0.1	1,458	538
	0.2	1,361	555
	0.25	1,309	567
	0.3	1,200	577
	0.4	1,031	611
	0.5	980	649
	0.6	810	728
	0.7	678	816
	0.8	618	855
	0.9	530	908
	1	463	946

= Default setting

AM060JNZDCH/AA

HP: 3/4

Default motor taps:
standard speed = 4, reduced speed = 3

Motor Tap	ESP (inch)	CFM	RPM
5	0.1	2,027	750
	0.2	2,036	757
	0.25	2,027	762
	0.3	2,036	775
	0.4	2,011	810
	0.5	1,976	837
	0.6	1,983	877
	0.7	1,931	906
	0.8	1,895	933
	0.9	1,859	968
	1	1,831	998
4	0.25	1,806	698
	0.3	1,796	708
	0.4	1,768	741
	0.5	1,729	788
	0.6	1,695	839
	0.7	1,665	866
	0.8	1,623	895
	0.9	1,580	929
	1	1,536	958
3	0.1	1,648	611
	0.4	1,564	719
	0.5	1,520	762
	0.6	1,491	795
	0.7	1,445	828
	0.8	1,409	864
	0.9	1,372	885
	1	1,295	946
2	0.1	1,564	580
	0.2	1,474	597
	0.25	1,439	611
	0.5	1,316	728
	0.6	1,285	765
	0.7	1,238	795
	0.8	1,181	834
	0.9	1,113	890
	1	1,025	942
1	0.1	1,486	554
	0.2	1,367	572
	0.25	1,303	583
	0.3	1,166	598
	0.6	970	738
	0.7	903	789
	0.8	808	863
	0.9	747	914
	1	714	971

AM072JNZDCH/AA

HP: 1

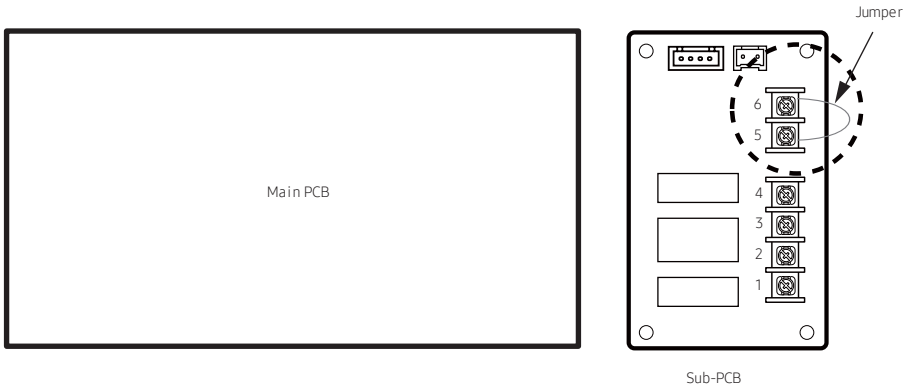
Default motor taps:
standard speed = 4, reduced speed = 3

Motor Tap	ESP (inch)	CFM	RPM
5	0.1	2,548	864
	0.2	2,508	889
	0.25	2,494	905
	0.3	2,474	918
	0.4	2,425	944
	0.5	2,404	970
	0.6	2,378	1,002
	0.7	2,342	1,022
	0.8	2,305	1,044
	0.9	2,276	1,067
	1	2,230	1,091
4	0.1	2,220	772
	0.2	2,174	802
	0.25	2,158	813
	0.3	2,142	832
	0.4	2,110	858
	0.5	2,070	888
	0.6	2,047	919
	0.7	2,022	945
	0.8	1,988	968
	0.9	1,953	1,002
	1	1,927	1,027
3	0.1	1,995	705
	0.2	1,951	739
	0.25	1,934	754
	0.3	1,916	775
	0.4	1,880	803
	0.5	1,853	834
	0.6	1,827	870
	0.7	1,790	890
	0.8	1,761	926
	0.9	1,731	952
	1	1,682	983
2	0.1	1,788	645
	0.2	1,749	686
	0.25	1,730	696
	0.3	1,720	720
	0.4	1,670	752
	0.5	1,629	785
	0.6	1,620	818
	0.7	1,577	850
	0.8	1,544	885
	0.9	1,499	910
	1	1,453	952
1	0.1	1,585	588
	0.2	1,462	608
	0.25	1,439	630
	0.3	1,403	643
	0.4	1,378	685
	0.5	1,328	728
	0.6	1,292	765
	0.7	1,251	807
	0.8	1,202	841
	0.9	1,166	882
	1	1,105	938

External contact control

The air handler has an MIM-B14 external contact control interface module installed by default. The external contact interface card (small PCB to the right of the main PCB) has a jumper installed between terminals 5 and 6. As programmed from the factory, if this jumper is removed, the air handler will turn off and any connected wired controllers will be disabled. Remove this jumper to connect a condensate drain line float switch or auxiliary drain pan float switch. Only connect a 0 volt, normally closed, switch to these terminals. If voltage is connected it will damage the sub PCB and main PCB.

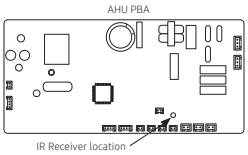
CAUTION Only connect a 0 volt, normally closed, switch to these terminals. If voltage is connected it will damage the sub PCB and main PCB.



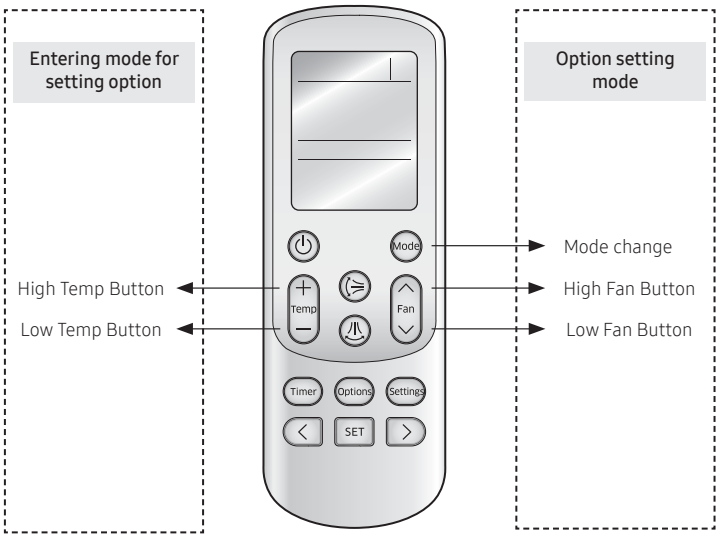
Setting an indoor unit address and installation option

This unit has a wireless signal receiver on the PCB allowing address and option setting programming with a wireless 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 options at the same time. You need to set twice when setting indoor unit address and installation option. Address can also be set with service software or wired controllers.



The procedure of option setting



Step 1. Entering mode to set option

1. Remove batteries from the remote controller.
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.

Step 2. The procedure of option setting

After entering the option setting status, select the option as listed below.

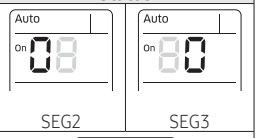
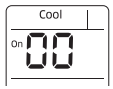
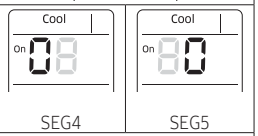
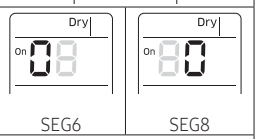
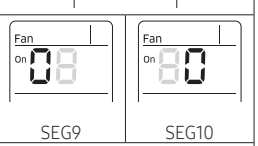
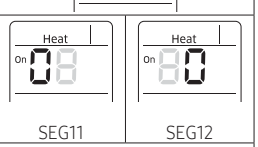
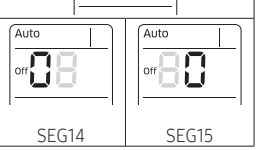
CAUTION

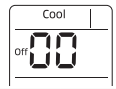
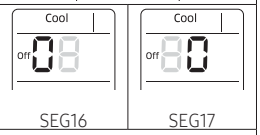
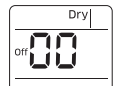
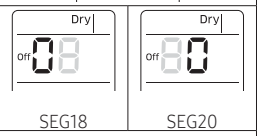
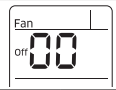
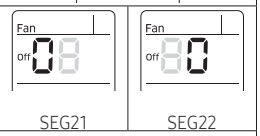
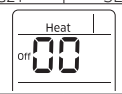
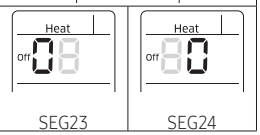
Option setting is available from SEG1 to SEG 24

- 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	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12	On(SEG1~12)	Off(SEG13~24
0	X	X	X	X	X	1	X	X	X	X	X		
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18	SEG19	SEG20	SEG21	SEG22	SEG23	SEG24		
2	X	X	X	X	X	3	X	X	X	X	X		

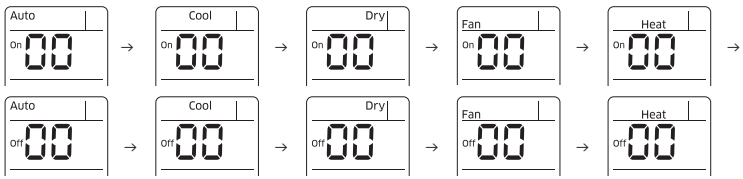
Setting an indoor unit address and installation option

Option setting	Status
1. Setting SEG2, SEG3 option Press Low Fan button (V) to enter SEG2 value. Press High Fan button (Λ) to enter SEG3 value. Each time you press the button, 0 → 1 → ... E → F will be selected in rotation.	
2. Setting Cool mode Mode Press Mode button to be changed to Cool mode in the ON status.	
3. Setting SEG4, SEG5 option Press Low Fan button (V) to enter SEG4 value. Press High Fan button (Λ) to enter SEG5 value. Each time you press the button, 0 → 1 → ... E → F will be selected in rotation.	
4. Setting Dry mode Mode Press Mode button to be changed to DRY mode in the ON status.	
5. Setting SEG6, SEG8 option Press Low Fan button (V) to enter SEG6 value. Press High Fan button (Λ) to enter SEG8 value. Each time you press the button, 0 → 1 → ... E → F will be selected in rotation.	
6. Setting Fan mode Mode Press Mode button to be changed to FAN mode in the ON status.	
7. Setting SEG9, SEG10 option Press Low Fan button (V) to enter SEG9 value. Press High Fan button (Λ) to enter SEG10 value. Each time you press the button, 0 → 1 → ... E → F will be selected in rotation.	
8. Setting Heat mode Mode Press Mode button to be changed to HEAT mode in the ON status.	
9. Setting SEG11, SEG12 option Press Low Fan button (V) to enter SEG11 value. Press High Fan button (Λ) to enter SEG12 value. Each time you press the button, 0 → 1 → ... E → F will be selected in rotation.	
10. Setting Auto mode Mode Press Mode button to be changed to AUTO mode in the OFF status.	
11. Setting SEG14, SEG15 option Press Low Fan button (V) to enter SEG14 value. Press High Fan button (Λ) to enter SEG15 value. Each time you press the button, 0 → 1 → ... E → F will be selected in rotation.	

Option setting	Status
12. Setting Cool mode Mode Press Mode button to be change to Cool mode in the OFF status.	
13. Setting SEG16, SEG17 option Press Low Fan button(∨) to enter SEG16 value. Press High Fan button(∧) to enter SEG17 value. Each time you press the button, 0→1→ ...E→F will be selected in rotation.	
14. Setting Dry mode Mode Press Mode button to be change to Dry mode in the OFF status.	
15. Setting SEG18, SEG20 option Press Low Fan button(∨) to enter SEG18 value. Press High Fan button(∧) to enter SEG20 value. Each time you press the button, 0→1→ ...E→F will be selected in rotation.	
16. Setting Fan mode Mode Press Mode button to be change to Fan mode in the OFF status.	
17. Setting SEG21, SEG22 option Press Low Fan button(∨) to enter SEG21 value. Press High Fan button(∧) to enter SEG22 value. Each time you press the button, 0→1→ ...E→F will be selected in rotation.	
18. Setting Heat mode Mode Press Mode button to be change to HEAT mode in the OFF status.	
19. Setting SEG23, SEG24 mode Press Low Fan button(∨) to enter SEG23 value. Press High Fan button(∧) to enter SEG24 value. Each time you press the button, 0→1→ ...E→F will be selected in rotation.	

Step 3. Check the option you have set

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



Step 4. Input option

Press operation button with the remote control pointed at the AHU PCB (power must be applied to the AHU).
For the correct option setting, you must input the option twice.

Setting an indoor unit address and installation option

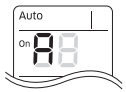
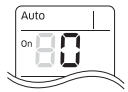
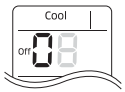
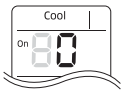
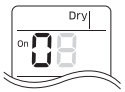
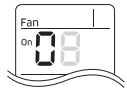
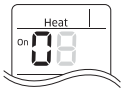
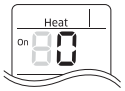
Step 5. Check operation

1. Reset the indoor unit by pressing the RESET button of indoor unit or outdoor unit.
2. Take the batteries out of the remote controller to exit programming mode 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 controller.
   - The initial setting status of indoor unit ADDRESS(MAIN/RMC) is "0A0000-100000-200000-300000" (address: 00, RMC1: 0, RMC2: 0).

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	
Remote Controller Display												
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						
Option	SEG7		SEG8		SEG9		SEG10		SEG11		SEG12	
Explanation	PAGE				Setting RMC address				Group channel(*16)		Group address	
Remote Controller Display												
Indication and Details	Indication	Details	-		Indication	Details	-		Indication	Details	Indication	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 "020010-101000-220010-300000".
3. Set the indoor unit option by wireless remote controller.

02 series installation option

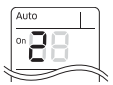
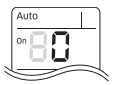
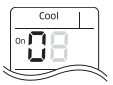
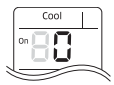
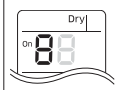
SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	2	-	External room temperature sensor / Minimizing fan operation when thermostat is off	Central control	-
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	-	Heater output	-	EEV Step when heating stops	-
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	External control	-	-	-	-
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	-	Heating setting compensation	EEV Step of stopped unit during oil return/defrost mode	-	-

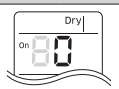
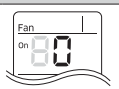
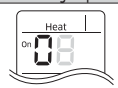
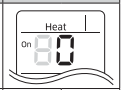
- Number of hours using filter(SEG18) will be set to '1000hour' if SEG18 is set to any value other than 2 or 6.
- When setting the option other than above SEG values, the option will be set as "0".
- SEG5 central control option is set as 1 (Use) by default, so you don't need to set the central control 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 heater output in SEG9 is generated from the hot coil part of the terminal board and is connected to the aux. heat output harness for Samsung, internal electric heat options.

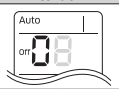
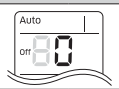
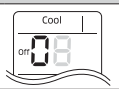
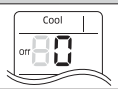
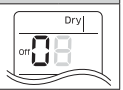
Setting an indoor unit address and installation option

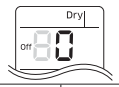
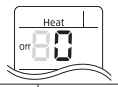
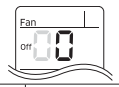
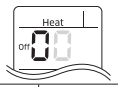
02 series installation option(Detailed)

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

Option	SEG1		SEG2		SEG3		SEG4 (*1)			SEG5		SEG6	
Explanation	PAGE		MOD				Use of external room temperature sensor / Minimizing fan operation when thermostat is off			Use of central control			
Remote Controller Display													
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details: Use of External room temperature sensor	Details: Minimizing fan operation when thermostat is off	Indication	Details	Indication	Details
	0		2				0	Disuse	Disuse	0	Disuse		
							1	Use	Disuse				
							2	Disuse	Heating Use				
							3	Use	Heating Use				
							4	Disuse	Cooling Use	1	Use		
							5	Use	Cooling Use				
							6	Disuse	All Use				
							7	Use	All Use				

Option	SEG7		SEG8		SEG9		SEG10		SEG11		SEG12	
Explanation	PAGE				Use of heater				EEV Step when heating stops			
Remote Controller Display												
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	1				0	Disuse			0	Default value		
					1	Use (*2)			1	Noise decreasing setting		
					2	-						

Option	SEG13		SEG14		SEG15		SEG16			SEG17		SEG18	
Explanation	PAGE		Use of external control										
Remote Controller Display													
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Indication	Details	Indication	Details	Indication	Details
	2		0	Disuse									
			1	ON/OFF control									
			2	OFF control									
			3	Window ON/OFF control									

Option	SEG19		SEG20		SEG21		SEG22		SEG23		SEG24
Explanation	PAGE				Heating setting compensation		EEV Step of stopped unit during oil return/ defrost mode				-
Remote Controller Display											
Indication and Details	Indication	Details	Indication	Details	Indication	Details Heating Setting Compensation	Indication	Details	Indication	Details	
	3				0	Default (*3)	0	Default value			
					1	2 °C (3.6 °F)	1	Oil return or Noise decreasing in defrost mode			
					2	5 °C (9 °F)					

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

(*1) Minimizing fan operation when thermostat is off

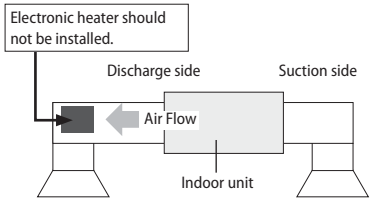
- Fan operates for 20 seconds at an interval of 5 minutes in heat mode.
- Fan stops when thermostat is off in cooling mode
- Make sure to connect the wired remote controller or the external room temperature sensor if you use the function of external room temperature sensor or minimizing fan operation (in order to implement the functions the option of using temperature sensor inside the wired remote controller must be set. Refer to the install manual of the wired remote controller.

(*2) 1: Fan is turned on continually when the heater is turned on

(*3) Default setting value - 2 °C (3.6 °F)

CAUTION

Do not install the electronic heater in the external supply duct connected to the AHU.



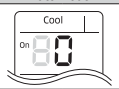
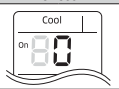
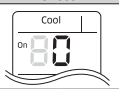
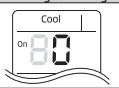
Setting an indoor unit address and installation option

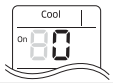
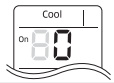
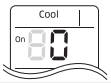
05 series installation option

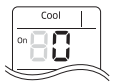
SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	5	Use of Auto Change Over for HR only in Auto mode	(When setting SEG3) Standard heating temp. Offset	(When setting SEG3) Standard cooling temp. Offset	(When setting SEG3) Standard for mode change Heating → Cooling
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	(When setting SEG3) 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	-	-
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	-	-	-	-	Control variables when using heater
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	-	-	-	-	-

05 series installation option(Detailed)

Option No. : 05XXXX-1XXXXX-2XXXXX-3XXXXX

Option	SEG1		SEG2		SEG3		SEG4 (*1)		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	
Remote Controller Display												
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	0		5		0	Follow product option	0	0 °F (0 °C)	0	0 °F (0 °C)	0	1.8 °F (1 °C)
					1	Use Auto Change Over for HR only	1	0.9 °F (0.5 °C)	1	0.9 °F (0.5 °C)	1	2.7 °F (1.5 °C)
							2	1.8 °F (1 °C)	2	1.8 °F (1 °C)	2	3.6 °F (2 °C)
							3	2.7 °F (1.5 °C)	3	2.7 °F (1.5 °C)	3	4.5 °F (2.5 °C)
							4	3.6 °F (2 °C)	4	3.6 °F (2 °C)	4	5.4 °F (3 °C)
							5	4.5 °F (2.5 °C)	5	4.5 °F (2.5 °C)	5	6.3 °F (3.5 °C)
							6	5.4 °F (3 °C)	6	5.4 °F (3 °C)	6	7.2 °F (4 °C)
							7	6.3 °F (3.5 °C)	7	6.3 °F (3.5 °C)	7	8.1 °F (4.5 °C)

Option	SEG7	SEG8		SEG9		SEG10		SEG11	SEG12
Explanation	PAGE	(When setting SEG3) Standard for mode change Heating → Cooling		(When setting SEG3) Time required for mode change		Compensation option for Long pipe or height diff erence between indoor units			
Remote Controller Display									
Indication and Details	Indication / Details	Indication	Details	Indication	Details	Indication	Details		
	1	0	1.8 °F (1 °C)	0	5 min.	0	Use default value		
		1	2.7 °F (1.5 °C)	1	7 min.	1	1) Height difference(*1) is more than 30 m or 2) Distance(*2) is longer than 110 m		
		2	3.6 °F (2 °C)	2	9 min.				
		3	4.5 °F (2.5 °C)	3	11 min.				
		4	5.4 °F (3 °C)	4	13 min.	2	1) Height difference(*1) is 15 ~ 30 m or 2) Distance(*2) is 50 ~ 110 m		
		5	6.3 °F (3.5 °C)	5	15 min.				
		6	7.2 °F (4 °C)	6	20 min.				
		7	8.1 °F (4.5 °C)	7	30 min.				

Option	SEG13	SEG14	SEG15	SEG16	SEG17	SEG18		
Explanation						Control variables when using heater		
Remote Controller Display								
Indication and Details						Indication	Details	
							Set temp. for heater On/Off	Delay time for heater On
						0	At the same time as thermo on	No delay
						1	At the same time as thermo on	10 minutes
						2	At the same time as thermo on	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	DEFAULT - 5.4 °F (3 °C)	10 minutes
						8	5.4 °F (3 °C)	20 minutes
						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 (6.0 °C)	No delay
						D	10.8 °F (6.0 °C)	10 minutes
						E	10.8 °F (6.0 °C)	20 minutes

(*1) Height difference : The difference of the height between the corresponding indoor unit and the indoor unit installed at the lowest place.
For example, When the indoor unit is installed 131.2 ft (40 m) 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 328 ft (100 m) and the corresponding indoor unit is 131.2 ft (40 m) away from an outdoor unit, select the option "2".
[328-131.2=196.8 ft(100 - 40 = 60 m)]

Setting an indoor unit address and installation option

(*3) Heater operation when the SEG9 of 02 series installation option is set to using heater

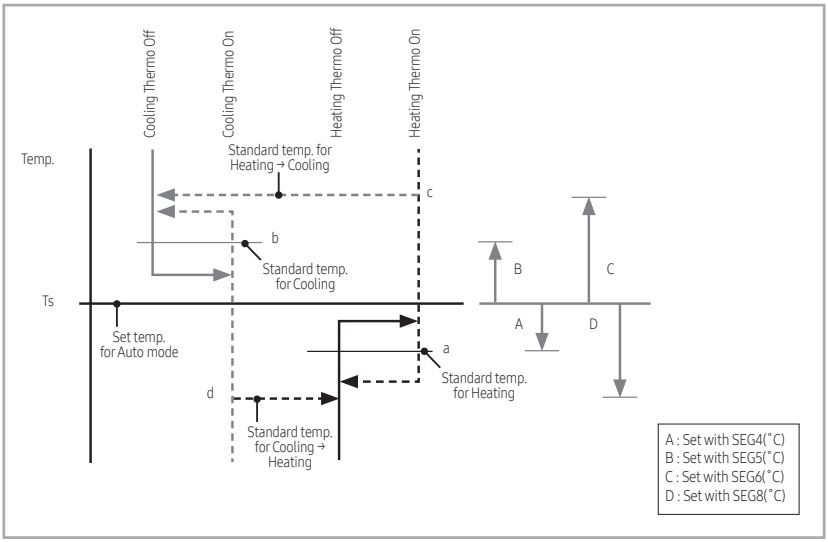
e.g. 1) Setting 02 series SEG9 ="1" / Setting 05 series SEG18 = "0": heater is turned on at the same time as the heating thermostat is on, and turned off when the heating thermostat is off.

e.g. 2) Setting 02 series SEG15 ="2" / Setting 05 series SEG18 ="A": Room temp. ≤ set temp. + f (heating compensation temp.)

- Heater is turned on when the temperature is maintained as 8.1 °F (4.5 °C) for 10 minutes. Room temp. > set temp. + f (heating compensation temp.)
- Heater is turned off when the temperature is maintained as 8.1 °F(4.5 °C)+1.8 °F(1 °C) [1.8 °F(1 °C) is the Hysteresis for On/Off selection.]

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

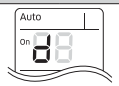
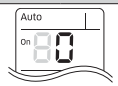
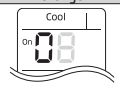
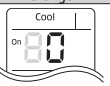
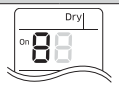
When the SEG 3 is set as "1" and follow Auto Change Over for HR only operation, it will operate as follows.



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		The changed value	
Remote Controller Display												
Indication and Details	Indication	Details	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 'external contact control' (segment 14) to 'ON/OFF Control'.

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	The changed value
Indication	0	D	2	1	4	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 controller, outdoor unit will operate in the mode which was set in the master indoor unit.

Final Checks and User Tips

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

- Strength of the installation site
- Tightness of pipe connection to detect a gas leak
- Electric wiring connections
- Heat-resistant insulation of the pipe
- Drainage
- Earth conductor connection

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's 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 set the timers
5. How to clean and replace the filters

NOTE

When you complete the installation successfully, hand over the this Installation Manual and the wired controller installation and user manuals to the user for storage in a handy and safe place.

Memo

SAMSUNG