

ACiQ

AIR-HANDLER

PANCAKE-STYLE

Installation Manual

Safety precautions & Installation

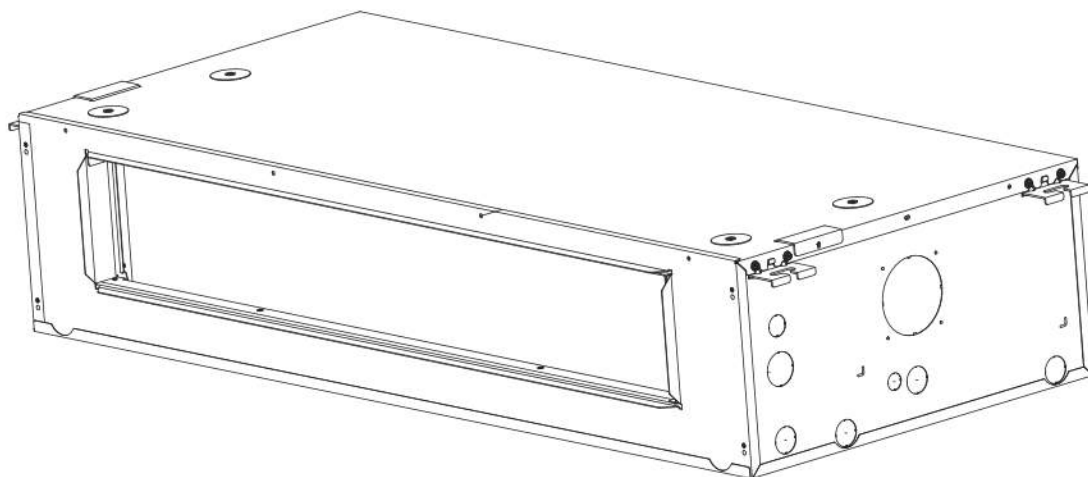
Models Covered:

ACiQ-18W-P

ACiQ-24W-P

ACiQ-30W-P

ACiQ-36W-P



IMPORTANT NOTE:

Read this manual and SAFETY MANUAL(if any) carefully before installing or operating your appliance. Make sure to save this manual for future reference.

VERSION DATE: 05-02-24

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Read this manual

Inside you'll find many helpful hints on how to use and maintain your air conditioner properly. Just a little preventive care on your part can save you a great deal of time and money over the life of your air conditioner. These instructions may not cover every possible condition of use, so common sense and attention to safety is required when installing, operating and maintaining this product.

SAFETY PRECAUTIONS

Intended Use

The following safety guidelines are intended to prevent unforeseen risks or damage from unsafe or incorrect operation of the appliance. Please check the packaging and appliance on arrival to make sure everything is intact to ensure safe operation. If you find any damage, please contact the retailer or dealer. Please note modifications or alterations to the appliance are not allowed for your safety. Unintended use may cause hazards and loss of warranty claims.

Explanation of Symbols



WARNING

The signal word indicates a hazard with a medium level of risk which, if not avoided, may result in death or serious injury.



CAUTION

The signal word indicates a hazard with a low degree of risk which, if not avoided, may result in minor or moderate injury.

Read these operating instructions carefully and attentively before using/commissioning the unit and keep them in the immediate vicinity of the installation site or unit for later use!

WARNING

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

ELECTRICAL WARNINGS

- The product must be properly grounded at the time of installation, or electrical shock may occur.
- Installation Manual. Connect cables tightly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause fire, and may also cause shock. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
- All wiring must be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electrical shock.
- If connecting power to fixed wiring, an all-pole disconnection device which has at least 3mm clearances in all poles, and have a leakage current that may exceed 10mA, the residual current device(RCD) having a rated residual operating current not exceeding 30mA, and disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- If the SUPPLY CORD damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

WARNINGS FOR PRODUCT INSTALLATION

- Installation must be performed by an authorized dealer or specialist. Defective installation can cause water leakage, electrical shock, or fire.
- Installation must be performed according to the installation instructions. Improper installation can cause water leakage, electrical shock, or fire. (In North America, installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.)
- Check the electric wire, water and gas pipeline layout inside the wall, floor and ceiling before installation. Do not implement drilling unless confirm safety with the user, especially for the hidden power wire. An electroprobe can be used to test whether a wire is passing by at the drilling location, to prevent physical injury or death caused by insulation broken cords.
- Check the power supply before installation. Ensure that the power supply must be reliably grounded following local, state and National Electrical Codes. If not, for example, if the ground wire is detected charged, installation is prohibited before it is rectified. Otherwise, there is a risk of fire and electric shock, causing physical injury or death.
- Contact an authorized service provider for repair or maintenance of this unit. This appliance shall be installed in accordance with national wiring regulations.

- Only use the included accessories, parts, and specified parts for installation. Using non-standard parts can cause water leakage, electrical shock, fire, and can cause the unit to fail.
- Install the unit in a firm location that can support the unit's weight. If the chosen location cannot support the unit's weight, or the installation is not done properly, the unit may fall and cause serious injury and damage.
- The first 36 inches of supply air plenum and ductwork must be constructed of sheet metal as required by NFPA 90B. The supply air plenum or duct must have a solid sheet metal bottom directly under the unit with no openings, registers or flexible air ducts located in it. If flexible supply air ducts are used they may be located only in the vertical walls of rectangular plenum, a minimum of 6 inches from the solid bottom. Metal plenum or duct may be connected to the combustible floor base, if not, it must be connected to the unit supply duct exposed to the supply air opening from the downflow unit. Exposing combustible (non-metal) material to the supply opening of a downflow unit can cause a fire resulting in property damage, personal injury or death.

Note: This product currently only supports horizontal ventilation.

Exception warning to downflow:

Installations on concrete floor slab with supply air plenum and ductwork completely encased must be not less than 2 inches of concrete (See NFPA 90A).

When using the unit with electrical heater, the switch is used only for electrical heater on the front of panel.

- Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property.
- Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property.
- For units that have an auxiliary electric heater, do not install the unit within 1 meter (3 feet) of any combustible materials.
- **Do not** install the unit in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the unit, it may cause fire.
- **Do not** turn on the power until all installation work has been completed.
- When moving or relocating the air conditioner, consult experienced service technicians for disconnection and reinstallation of the unit.
- How to install the appliance to its support, please read the information for details in "indoor unit installation" and "outdoor unit installation" sections .
- Excessive Weight Hazard - Use two or more people when moving and installing the unit. Failure to do so can result in back or other type of injury.

NOTE ABOUT FUSE SPECIFICATIONS

- The air conditioner's circuit board (PCB) may be designed with a fuse to provide overcurrent protection. This fuse must be replaced with identical component. This operation needs to be completed by professional maintenance personnel.
- The specifications of the fuse, if equipped, are printed on the circuit board, examples of such are T5A/250VAC and T10A/250VAC.

NOTE ABOUT REFRIGERANT

- Installation, service, maintenance and repair of this unit must be performed by a certified technician.
- Product uninstallation and recycling must be performed by a certified technician.
- When the unit is checked for leaks, proper record-keeping of all checks is strongly recommended.

The allowed static pressure range of the air conditioner on site is 0-0.80 in-H₂O (0-200 Pa).
The data below represents the static pressures at full required air flow used for AHRI testing.

MODEL	18-24K	30-36K
PRESSURE	0.30in-H ₂ O(75Pa)	0.30in-H ₂ O(75Pa)

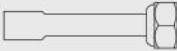
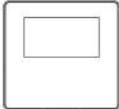
STATIC PRESSURE	≤200Pa/0.8in-H ₂ O	>200Pa/0.8in-H ₂ O
THE STATIC PRESSURE ALLOWED BY THE PRODUCT	OK	NG

NOTE

The maximum functional total external static pressure can not exceed 0.80 in WC or 200 Pa. The airflow reduces significantly while static pressure beyond 0.80 in WC or 200Pa.

PRODUCTION INSTALLATION

Accessories (Packed with the indoor unit)

Name	Picture	Quantity
Manual		2
Foam		1
Flare nut		2
Braze to flare adapter		2
Wired remote controller (optional)		1
Remote controller (optional)		1
Battery (optional)		2

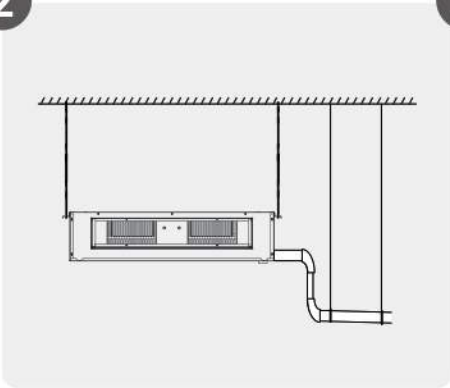
INSTALLATION SUMMARY

1



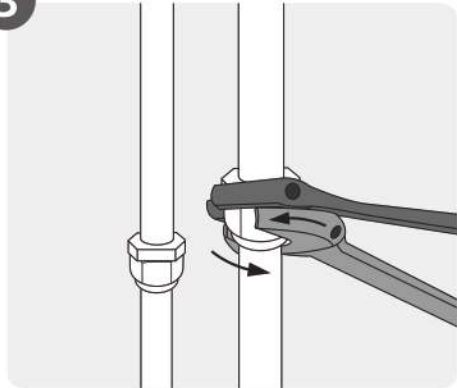
Install the indoor unit

2



Install the drainpipe

3



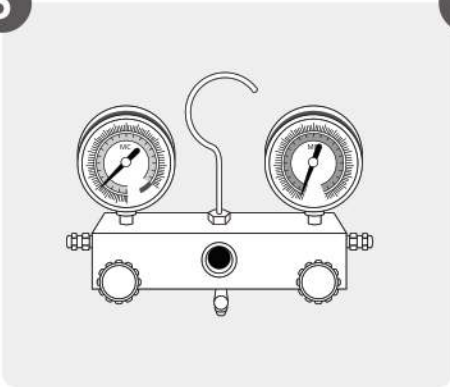
Connect the refrigerant pipes

6



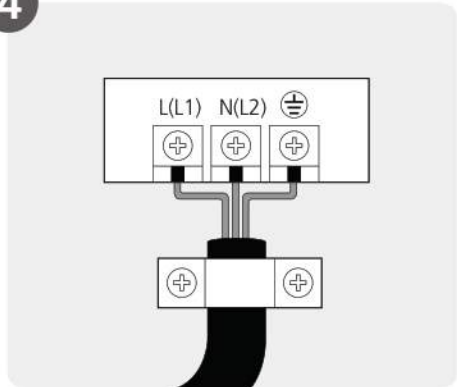
Perform a test run

5



Evacuate the refrigeration system

4



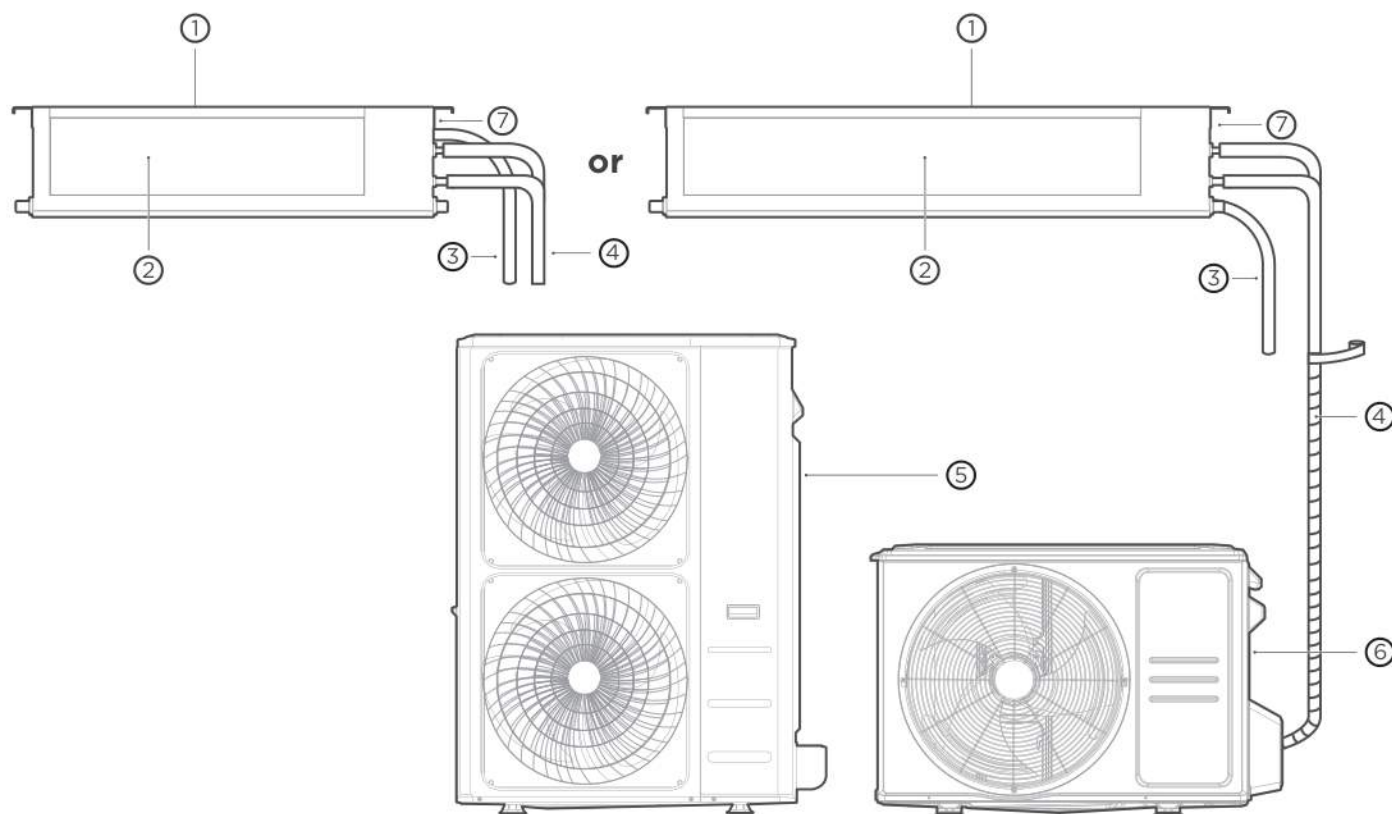
Connect the wires

PRODUCT OVERVIEW

NOTE ON ILLUSTRATIONS:

Illustrations in this manual are for explanatory purposes. The actual shape of your indoor unit may be slightly different. The actual shape shall prevail.

The installation must be performed in accordance with the requirement of local and national standards. The installation may be slightly different in different areas.



① Air inlet

② Air outlet

③ Drain pipe

④ Connecting pipe

⑤ Outdoor Unit (A)

⑥ Outdoor Unit (B)

⑦ Electric control cabinet

Install the Indoor Unit

1

Select installation location



NOTE

Before installing the indoor unit, you must choose an appropriate location. The following are standards that will help you choose an appropriate location for the unit.

Proper installation locations meet the following standards:



☒ Enough room exists for installation and maintenance.

☒ Enough room exists for the connecting the pipe and drainpipe.

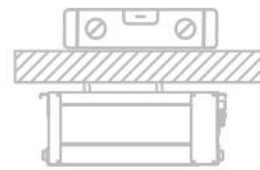


☒ There is no direct radiation from heaters.



☒ The air inlet and outlet are not blocked.

☒ The airflow can fill the entire room.



☒ The ceiling is horizontal and its structure can sustain the weight of the indoor unit.

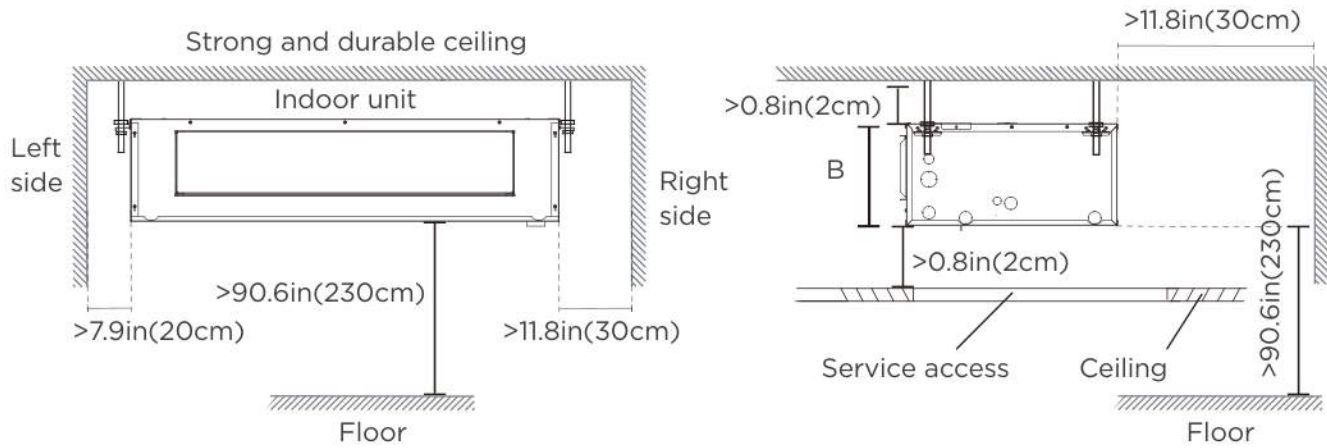
Models with a cooling capacity of 9000Btu to 18000Btu only apply to one room.

DO NOT install unit in the following locations:

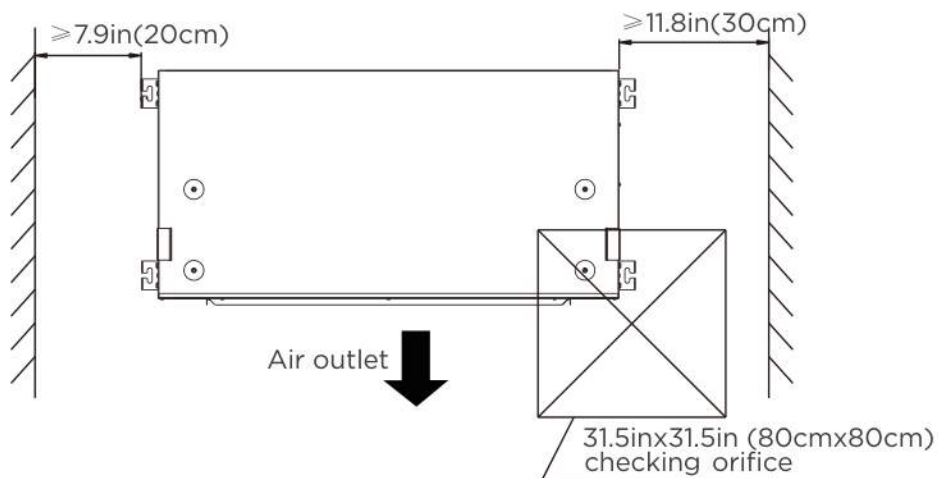
- ⊘ Areas with oil drilling or fracking
- ⊘ Coastal areas with high salt content in the air
- ⊘ Areas with caustic gases in the air, such as hot springs
- ⊘ Areas that experience power fluctuations, such as factories
- ⊘ Enclosed spaces, such as cabinets
- ⊘ Kitchens that use natural gas
- ⊘ Areas with strong electromagnetic waves
- ⊘ Areas that store flammable materials or gas
- ⊘ Rooms with high humidity, such as bathrooms or laundry rooms

Installation place

The distance between the mounted indoor unit should meet the specifications illustrated in the following diagram.



Maintenance space

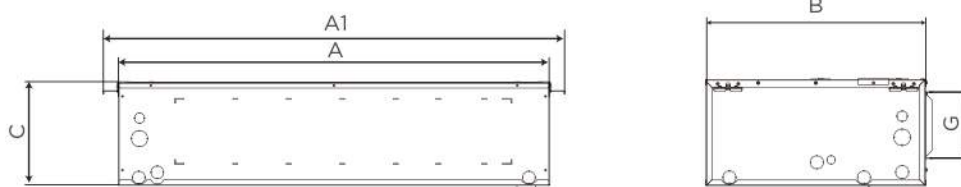


3

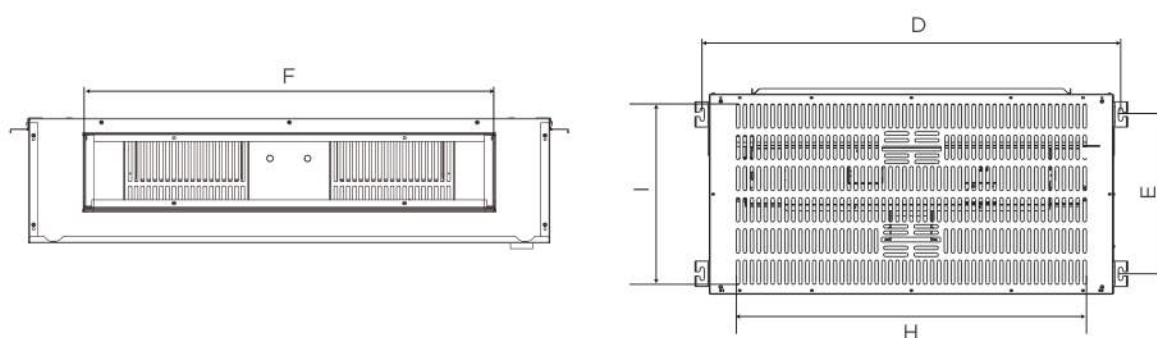
Hang indoor unit

- Please refer to the following diagrams to locate the four positioning screw bolt holes on the ceiling. Be sure to mark the places where you will drill ceiling hook holes.

Air outlet dimensions



Air inlet dimensions

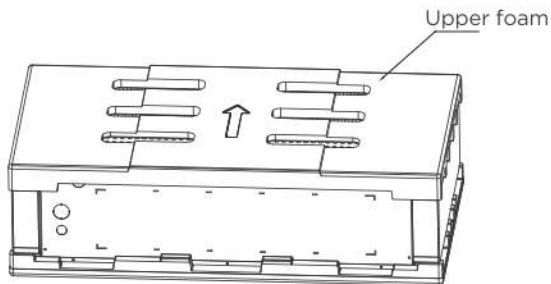


(unit: mm/inch)

MODEL	OUTLINE DEMENSION				SIZE OF MOUNTED LUG		AIR OUTLET OPENING SIZE		AIR RETURN OPENING SIZE	
	A	A1	B	C	D	E	F	G	H	I
18K(53)	39-15/16 (1015)	43-7/32 (1098)	23-5/16 (593)	10-15/16 (278)	41-5/8 (1057)	18-1/8 (460)	30-5/16 (769)	6-7/8 (174)	38-3/8 (975)	21-1/8 (536)
24K(70)	45-7/8 (1165)	46-15/32 (1180)	23-5/16 (593)	10-15/16 (278)	47-1/2 (1207)	18-1/8 (460)	36-3/16 (919)	6-7/8 (174)	44-5/16 (1125)	21-1/8 (536)
30K(88)	51-15/16 (1320)	55-8/32 (1403)	23-5/16 (593)	10-15/16 (278)	53-5/8 (1362)	18-1/8 (460)	42-5/16 (1074)	6-7/8 (174)	50-3/8 (1280)	21-1/8 (536)
36K(105)	58-7/8 (1495)	62-4/32 (1578)	23-5/16 (593)	10-15/16 (278)	60-1/2 (1537)	18-1/8 (460)	49-3/16 (1249)	6-7/8 (174)	57-1/4 (1455)	21-1/8 (536)

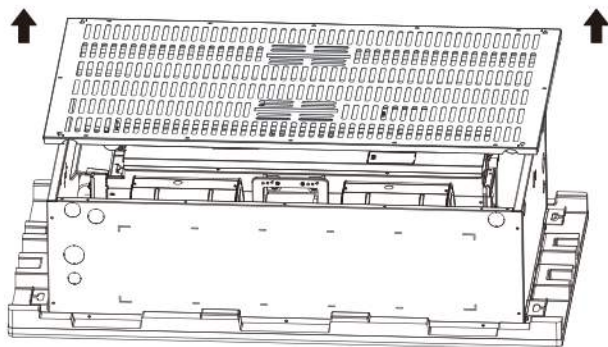
Step 1: Unpacking

Carefully unpack the unit and inspect the contents for damage. If any damage is found at the time of delivery, proper notification and claims should be made with the carrier. Check the rating plate to assure model number and voltage, plus any kits match with what you ordered. The manufacturer should be notified within 5 days of any discrepancy or parts shortage.



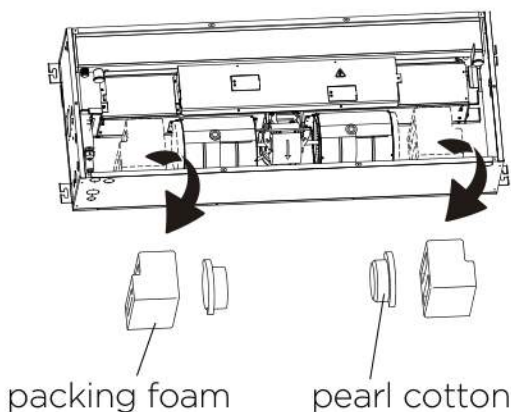
Step 2: Open air inlet channel panel.

Unscrew the 12 screws of the air inlet channel panel.



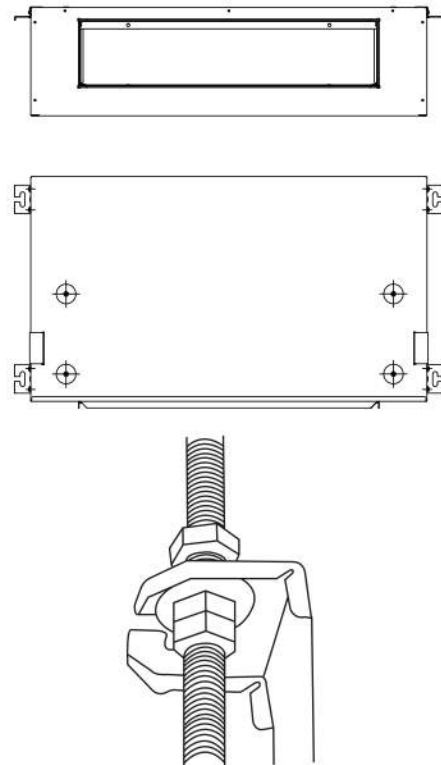
Step 3: Take out two packing foams and two pearl cottons.

For models with packing foams and pearl cottons, the packing foam and pearl cotton need to be removed.

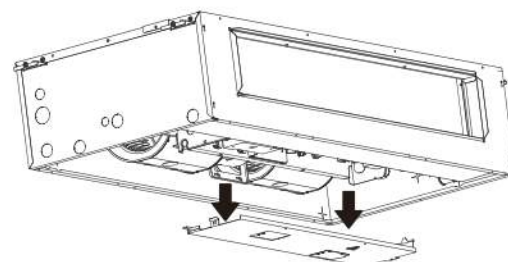


Step 4: Hang indoor unit

Please turn the product face down and lift the mounting bracket onto the 4 pre-assembled screws, locking them with nuts.

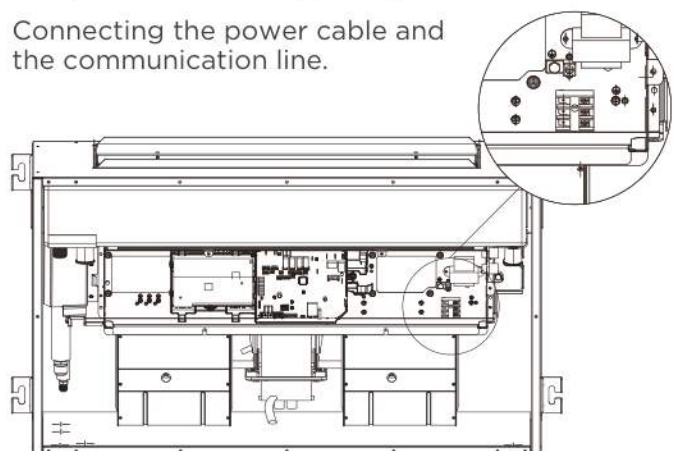


Step 5: Open the control box cover

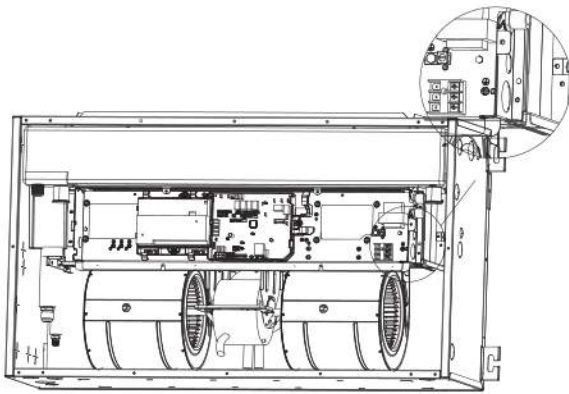


Step 6: Connecting the power cable

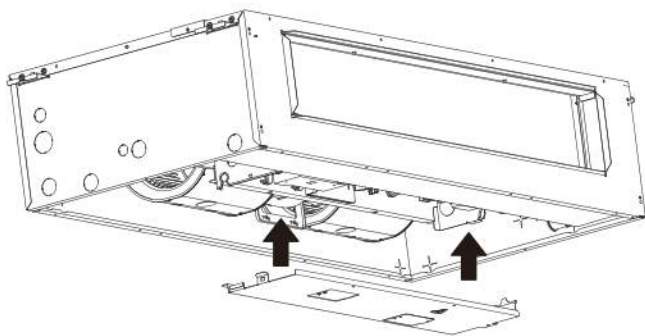
Connecting the power cable and the communication line.



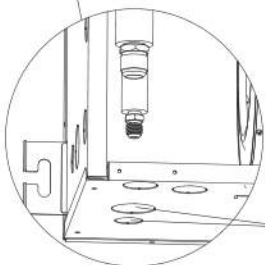
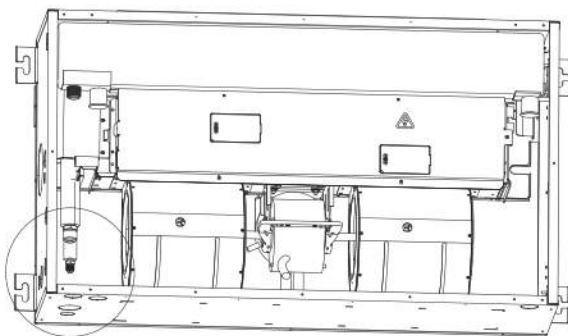
NOTE: The fixing port for the armoured wire needs to be fitted to the knock-out hole on the electrical control box for protection of the leads from scratching.



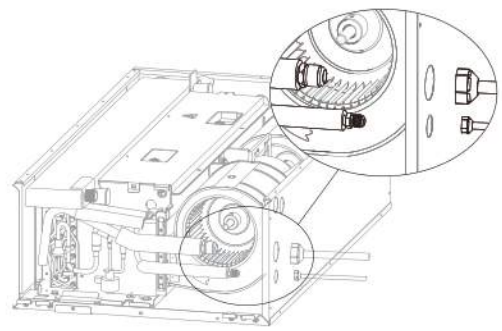
Step 7: Install the control box cover



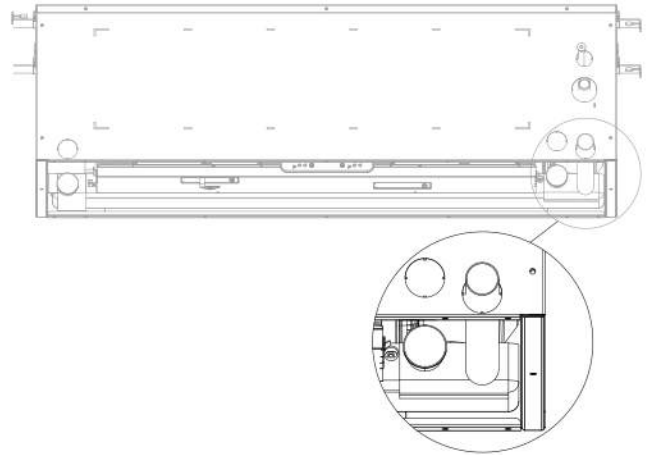
Step 8: Connect the refrigerant pipe



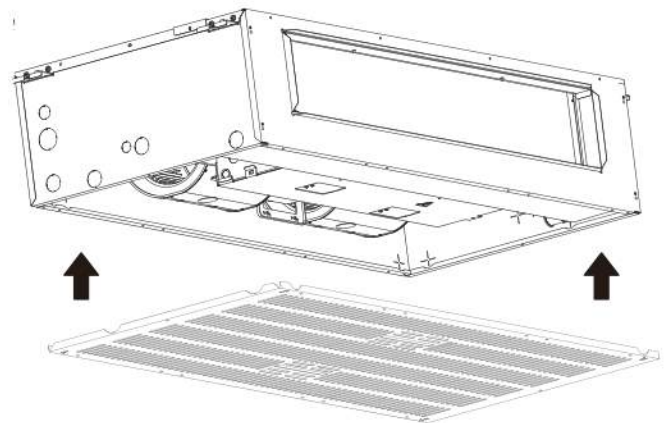
Use tools to remove the knock-out holes



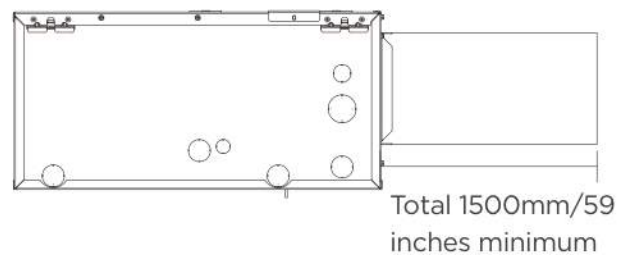
Step 9: Connect the drainpipe



Step 10: Install air inlet channel panel



Step 11: Connect the duct



The drainpipe is used to drain water away from the unit. Improper installation may cause unit and property damage.

⚠ CAUTION

- Insulate all piping to prevent condensation, which could lead to water damage.
- If the drainpipe is bent or installed incorrectly, water may leak and cause a water-level switch malfunction.
- In HEAT mode, the outdoor unit will discharge water. Ensure that the drain hose is placed in an appropriate area to avoid water damage and slippage.
- **DO NOT** pull the drainpipe forcefully. This could disconnect it.

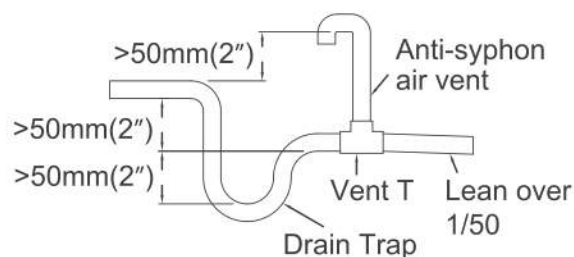
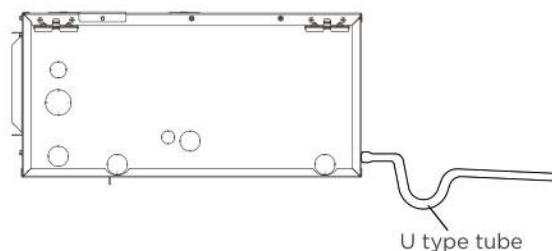
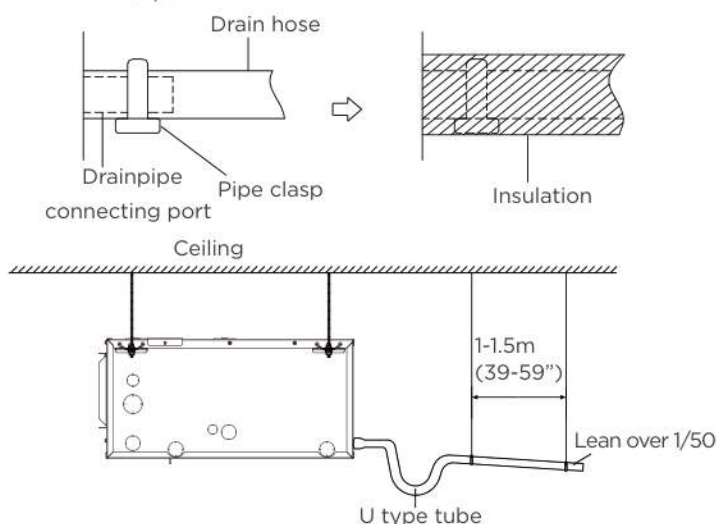
NOTE ON PURCHASING PIPES

Installation requires a polyethylene tube (exterior diameter = 3.7-3.9cm, interior diameter = 3.2cm), which can be obtained at your local hardware store or dealer.

Indoor Drainpipe Installation

Install the drainpipe as illustrated in the following Figure.

1. Cover the drainpipe with heat insulation to prevent condensation and leakage.
2. Attach the mouth of the drain hose to the unit's outlet pipe. Sheath the mouth of the hose and clip it firmly with a pipe clamp.
3. These units operate with a negative pressure at the drain connections and a drain trap is required. The trap needs to be installed as close to the unit as possible. Make sure the top of the trap is below the connection to the drain pan to allow complete drainage of the pan.



NOTE ON DRAINPIPE INSTALLATION

- When using an extended drainpipe, tighten the indoor connection with an additional protection tube. This prevents it from pulling loose.
- The drainpipe should slope downward at a gradient of at least 1/100 to prevent water from flowing back into the air conditioner.
- To prevent the pipe from sagging, space hanging wires every 1-1.5m (39-59").
- If the outlet of the drainpipe is higher than the body's pump joint, use a lift pipe for the indoor unit's exhaust outlet. The lift pipe must be installed no higher than 55cm (21.7") from the ceiling board. The distance between the unit and the lift pipe must be less than 20cm (7.9"). Incorrect installation could cause water to flow back into the unit and flood.
- To prevent air bubbles, keep the drain hose level or slightly tilted up (<75mm / 3").

When electrical wiring is finished already

1. Start cooling operation.
2. Gradually pour approximately 1L of water through the air discharge outlet, and check for leaks.

Airflow performance data is based on cooling performance with a coil and no filter in place. Select performance table for appropriate unit size external static applied to unit allows operation within the minimum and maximum limits shown in table below for both cooling and electric heat operation.

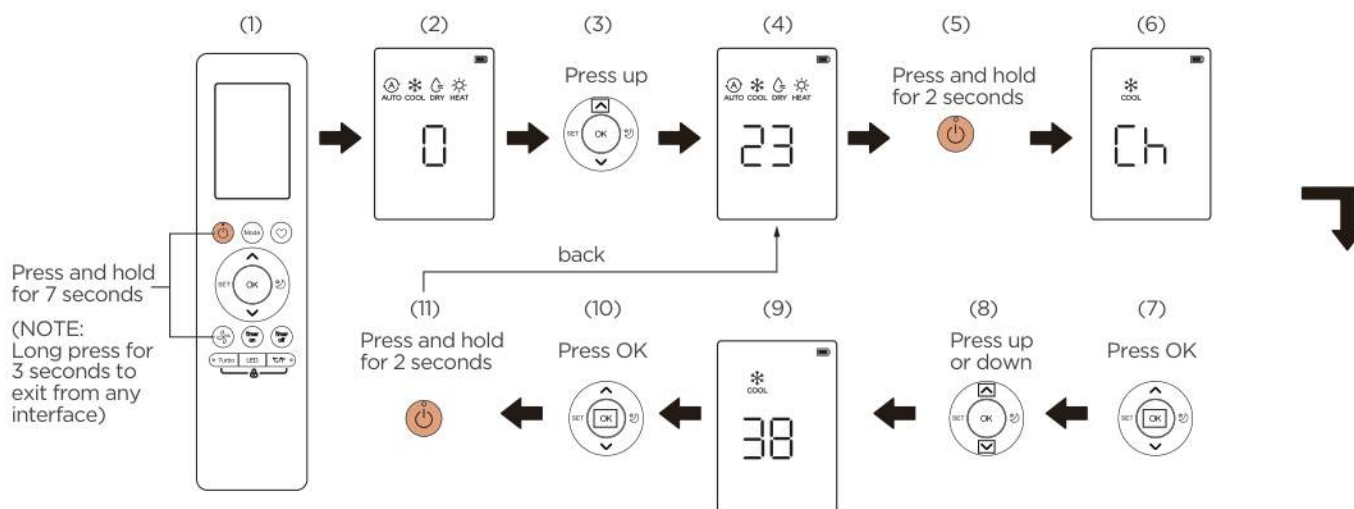
Airflow performance(Standard CFM)

model		External Static Pressure(in.w.c.)				
	Static pressure	0	0.2	0.3	0.5	0.8
18K	Dialling code	-8	-2	0	4	8
	Turbo	602	603	600	594	604
	Watts(W)	96	131	139	195	254
	High	563	556	559	552	563
	Watts(W)	85	116	124	177	231
	Med-Low	451	441	441	437	444
	Watts(W)	51	81	93	135	182
	Low	338	330	324	327	325
	Watts(W)	35	53	74	98	131
24K	Dialling code	-9	-3	0	3	10
	Turbo	808	805	795	796	800
	Watts(W)	169	185	193	214	217
	High	750	706	706	716	762
	Watts(W)	101	147	170	211	312
	Med-Low	626	609	589	593	648
	Watts(W)	69	112	138	165	242
	Low	496	434	383	375	358
	Watts(W)	46.1	74.5	92.5	101.4	165
30K	Dialling code	-8	-2	0	5	11
	Turbo	997	986	989	995	910
	Watts(W)	169	229	276	332	381
	High	919	895	895	901	888
	Watts(W)	139	194	248	289	360
	Med-Low	846	810	795	853	865
	Watts(W)	115	163	203	269	348
	Low	635	554	541	593	663
	Watts(W)	57	85	109	174	265
36K	Dialling code	-8	-3	0	3	9
	Turbo	1216	1229	1234	1206	1035
	Watts(W)	221	291	326	393	413
	High	1052	1042	1016	1018	1006
	Watts(W)	153	197	238	297	398
	Med-Low	875	822	808	771	772
	Watts(W)	96	133	158	202	262
	Low	721	647	634	629	580
	Watts(W)	60	97	117	150	215

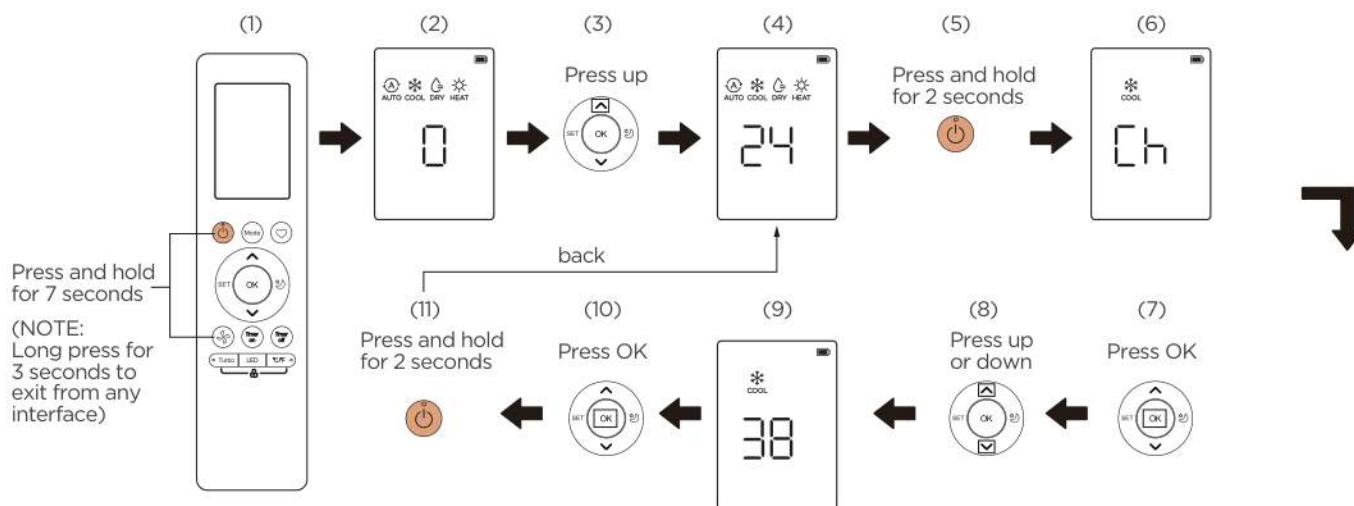
Engineering Mode Access Conditions

When the unit is switched on or in standby mode and not locked, press and hold the key combination "On/Off+Air Speed" for 7 seconds.

- 1) In engineering mode, when the number code is 23, press and hold the "On/Off" key for 2 seconds to enter the maximum air speed setting (air volume) dialling code, display Ch, press the "OK" key to query the maximum air speed code of refrigeration, and press the up and down keys to select the maximum air speed of refrigeration (air volume) dialling code, then press the "OK" key; press the "On/Off" key for 2 seconds to exit. Press "OK" key again; press "On/Off" key for 2 seconds to exit.



- 2) In engineering mode, when the number code is 24, press and hold the "On/Off" key for 2 seconds to enter the setting of refrigeration minimum air speed, display Ch, press "OK" key to query the code of refrigeration minimum air speed, press the up and down keys to select the refrigeration minimum air speed, then press "OK" key, press and hold the "On/Off" key for 2 seconds to exit. Press up and down key to select the minimum air speed of refrigeration, then press "OK" key; Long press "On/Off" key for 2 seconds to exit.



3) In engineering mode, when the number code is 25, long press "On/Off" key for 2 seconds to enter the maximum air speed (air volume) dialling code setting for heating, display Ch, press "OK" key to query the maximum air speed code for heating, and then press "Up" and "Down" key to select the maximum air speed (air volume) dialling code for heating, and then press "OK" key, long press "On/Off" key for 2 seconds to exit. Then press "OK" key; long press 2 seconds "on/off" key to exit.

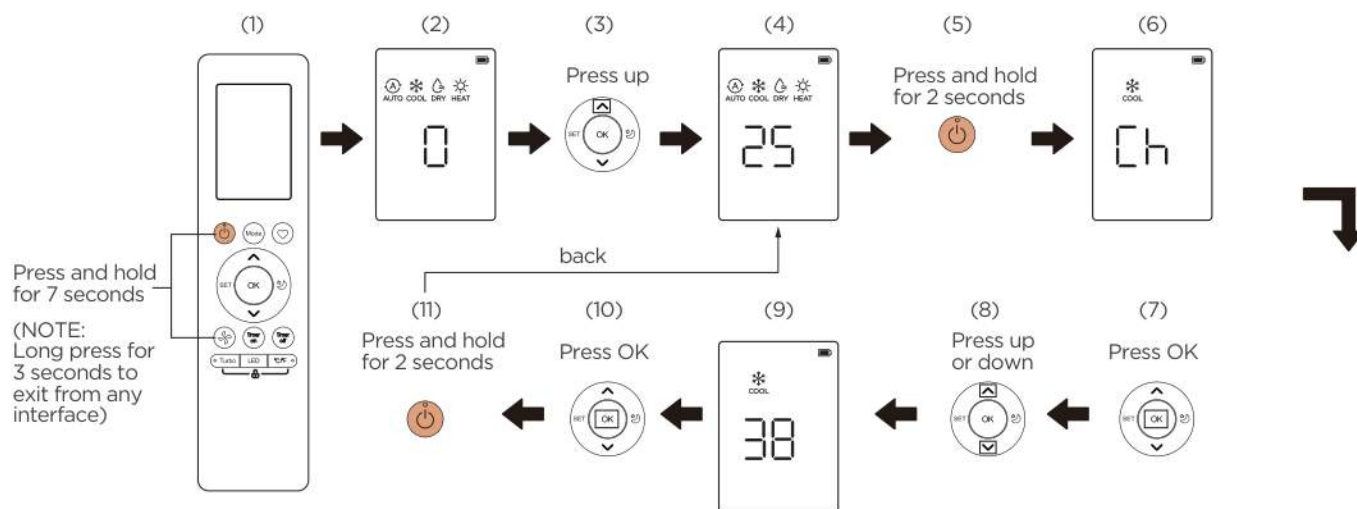


Table. Dialling code

Model	Static pressure	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
18K	Dialling code	-8	-3	-2	0	2	4	6	7	8
	Nominal air volume	602	594	603	600	594	594	609	610	604
24K	Dialling code	-9	-6	-3	0	1	3	4	7	10
	Nominal air volume	808	790	805	795	790	796	778	820	819
30K	Dialling code	-8	-3	-2	0	3	5	7	8	11
	Nominal air volume	997	981	986	989	996	995	992	986	910
36K	Dialling code	-8	-5	-3	0	1	3	5	7	9
	Nominal air volume	1216	1226	1229	1234	1233	1206	1228	1186	1035

NOTICE

Installation must be performed by an licensed contractor. Please make necessary precaution when performing the installation operation.

Accessories

Name	Quantity	Name	Quantity
Manual	1	Air circuit breaker label	1
Wire terminal label	1	supplementary heater kit wiring diagram	1
Air circuit breaker	1		

Model size selection

For installations requiring supplemental heating, the optional supplementary heater kit module is available in sizes from 3kW to 10kW to accommodate appropriate sizing given the specific heat load and electrical requirements of each installation. Please refer to the table below for selection of available sizes of each model, being sure to avoid improper matching.

MODEL (Btu/h)	3kW	5kW	8kW	10kW
18K	Y	Y	Y	Y
24K	Y	Y	Y	Y
30K	Y	Y	Y	Y
36K	Y	Y	Y	Y

NOTICE

Only use matched modules certified for use with model. Please refer to the Electric Auxiliary Heat Model specification for additional details to ensure proper selection and installation.

Preparations for Installation

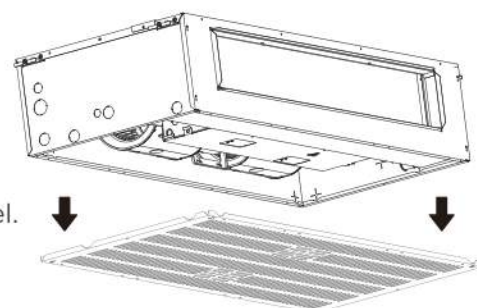
Before installation, please confirm the electric auxiliary heat module and supplied accessories are complete and free of any damage. Do not attempt to install if damage is present.

Specification of connecting wires between protectors and fuses: 12AWG.

Supplementary heater kit Module installation and Wiring Operation

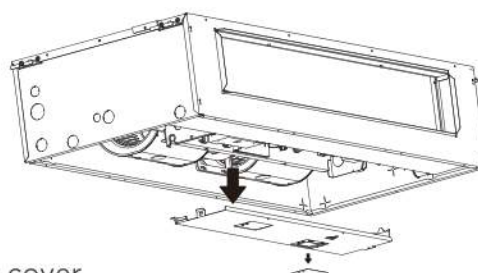
Step 1

Open the air inlet channel panel.



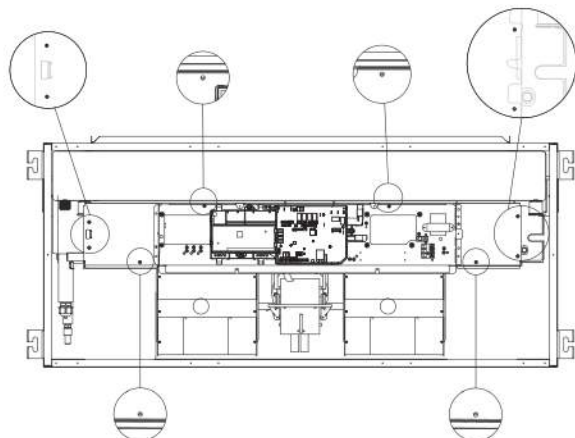
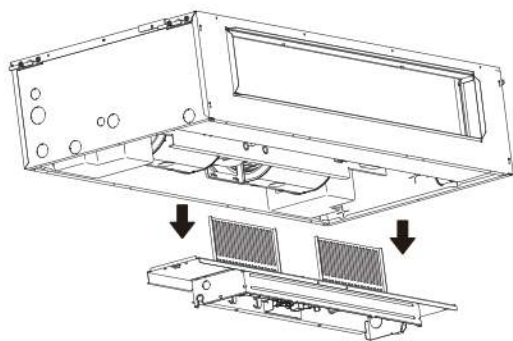
Step 2

Open the control box cover.
(Unplug the wires from the control box so that you can remove the control box cover.)



Step 3

Remove the electronic controller assembly.

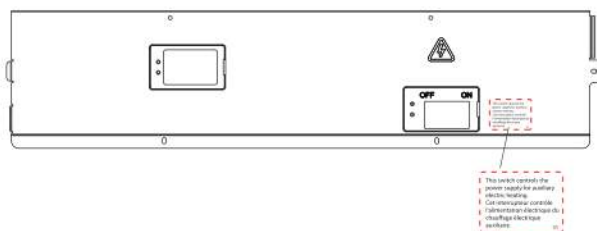


NOTE:
18K/24K/30K: 6 mounting screws need to be unscrewed.
36K: 8 mounting screws need to be unscrewed.

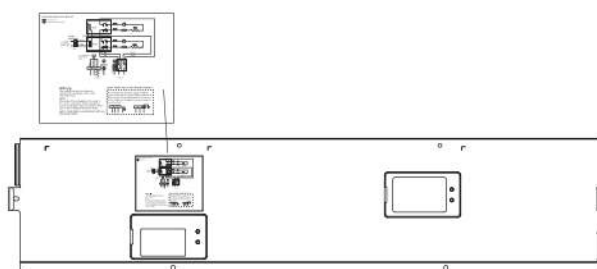
Step 4

Paste label.

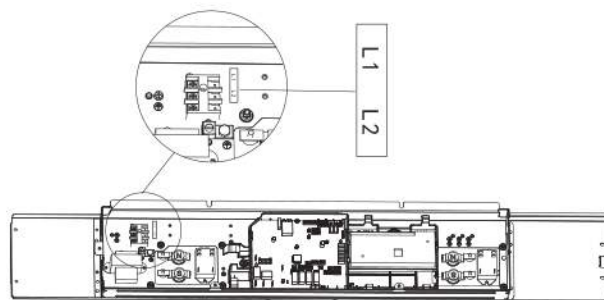
Paste the air circuit breaker label on the control box cover outside.



Paste the supplementary heater kit wiring diagram on the control box cover inside.

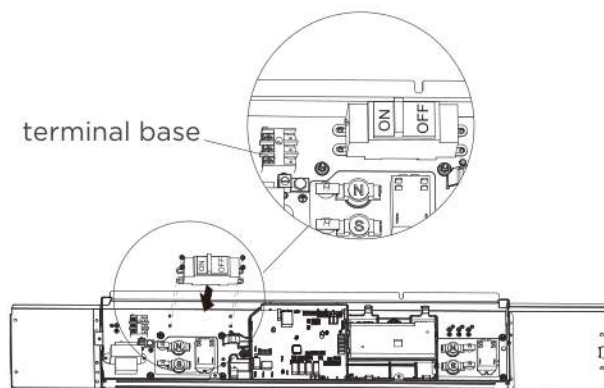


Paste the wire terminal label on the control box.



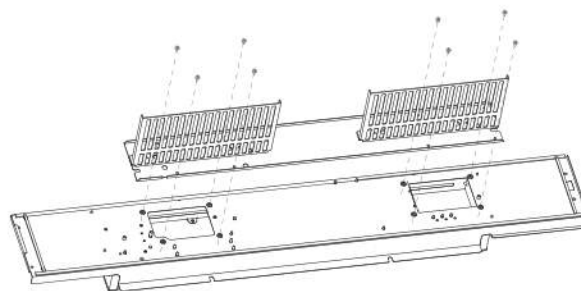
Step 5

Installation of air circuit breaker ('ON' towards the terminal base).



Step 6

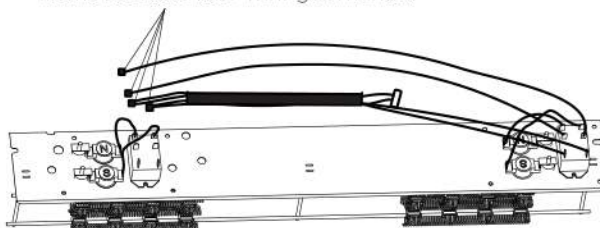
Dismantle the guide plate.

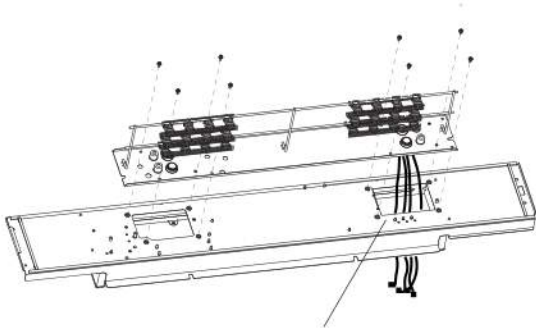


Step 7

Installation of supplementary heater kit.

Remove these four wiring terminals



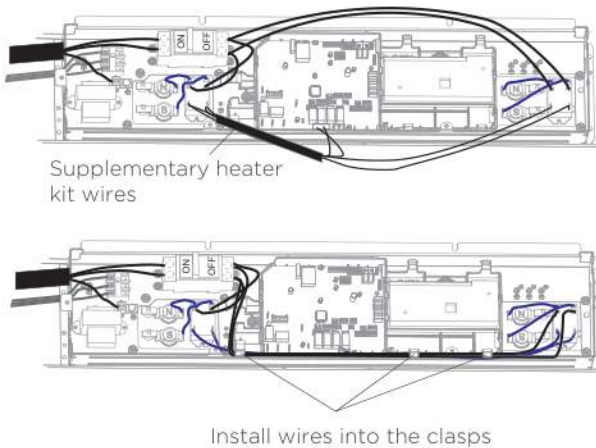


Thread wires through this hole, then install the electric heating assembly to the electric control box.

Step 8

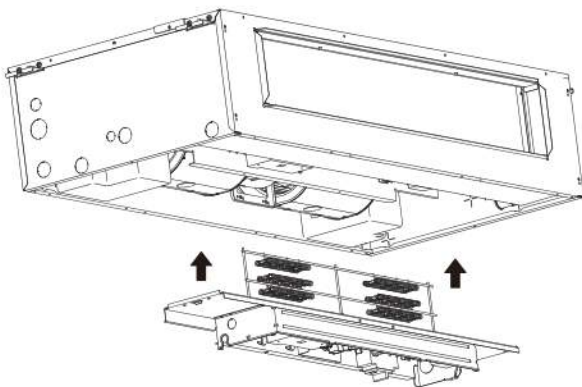
Connect supplementary heater kit wires to the terminals respectively

Screw each wire into position refer to the supplementary heater kit wiring diagram.

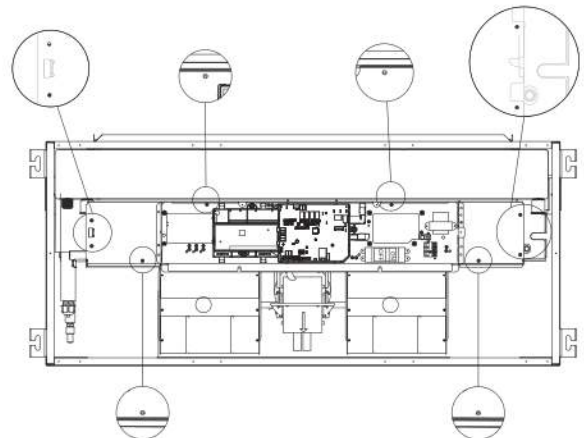


Step 9

Install the electronic controller assembly.

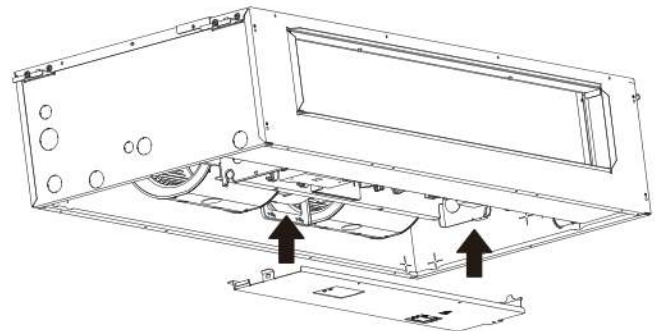


NOTE:
18K/24K/30K: 6 mounting screws need to be secured.
36K: 8 mounting screws need to be secured.



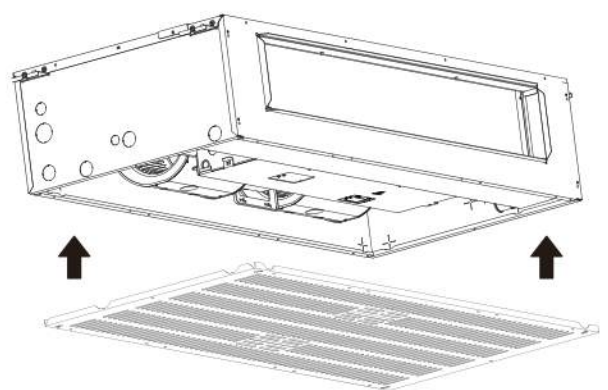
Step 10

Install the control box cover.



Step 11

Install the air inlet channel panel.



confirmation of indoor unit

NOTICE

Supplementary heater kit wiring diagram packed with the accessories.
If branch circuit wire length exceeds 100 ft, consult NEC 210-19a to determine maximum wire length.
Use 2% voltage drop.

After the supplementary heater kit wiring is connected, please confirm before power on:

- Check all wiring and ensure secure connection of all wiring.
- Ensure that wire size is properly selected per NEC or local codes.

Specifications	Number of circuit breakers	Number of relays	Number of power cord groups	Number of power cord grounding screws
3kW	1	2	1	1
5kW	1	2	1	1
8kW	1	2	1	1
10kW	1	2	1	1

Units without supplementary heater kit

UNIT SIZE	VOITS-PHASE	Rated current(A)	MIN CIRCUIT AMPS	BRANCH CIRCUIT	
				MIN WIRE SIZE AWG*	FUSE/CKT BKR AMPS
18K	208/230	3.8	5.0	14#	15.0
24K	208/230	3.8	5.0	14#	15.0
30K	208/230	4.0	5.0	14#	15.0
36K	208/230	4.0	5.0	14#	15.0

Use copper wire only to connect unit. If other than uncoated (non-plated) 75°C copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used consult applicable tables of the National Electric Code (ANSI/NFPA 70).

NOTICE

The specification may be different between different models ,please refer to indoor unit ' s nameplate. Choose the cable type according to the local electrical codes and regulations. Please choose the right cable size according to the Minimum Circuit Ampacity indicated on the nameplate of the unit.

Supplementary Heater Kit Data (Optional)

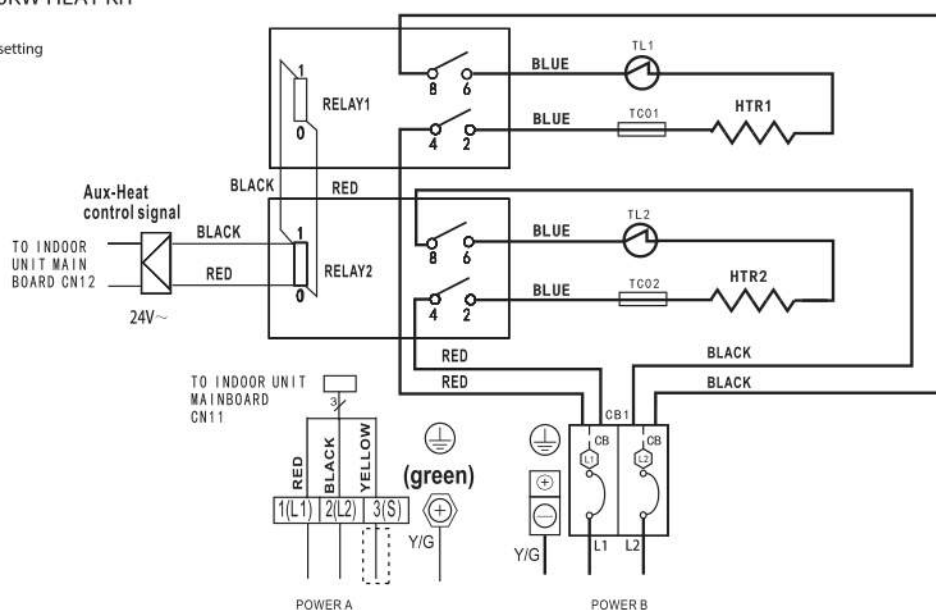
Heater Part No.	Heater KW	Internal Circuit Protection	CIRCUIT 1 208/230V		
			Heater Amps	MCA (1)	MOP (2)
EAH-03D(UL)	2.26/2.75	Ckt Bkr	11.0/12.5	14.0/16.0	15.0/20.0
EAH-05D(UL)	3.76/4.54	Ckt Bkr	18.5/20.0	23.5/25.0	25.0/30.0
EAH-08D(UL)	5.90/7.10	Ckt Bkr	29.0/31.5	36.5/40.0	40.0/45.0
EAH-10D(UL)	7.40/9.00	Ckt Bkr	36.5/40.0	46.0/50.0	50.0/50.0

Supplementary heater kit wiring diagram

3KW/5KW/8KW/10KW HEAT KIT

—: thermal cut-out

—: thermal link, self-resetting



NOTE1:

This symbol indicates the element is optional, The wiring type of the actual unit shall prevail.

NOTE2:

Please attach the nameplate to the cover of the electric control box.
Please refer to the Installation Manual for details.

NOTE3: TO BE WIRED IN ACCORDANCE WITH NEC AND LOCAL CODES.

NOTE4: POWER A,B,C,D ARE DIFFERENT POWERS.

The wiring mode of power supply A shall be based on the type of original wiring terminal of AHU; for type A, S position must be connected to the outdoor S; for type B, S position shall not be connected.



Connection Instructions—Refrigerant Piping

⚠ CAUTION

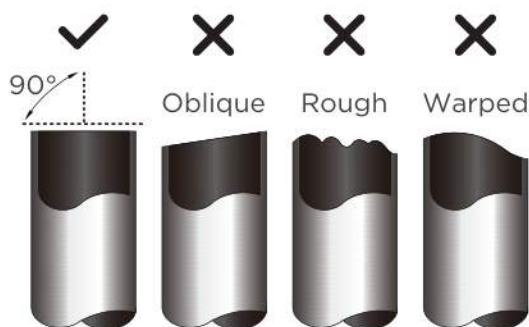
- Insulate both the gas and liquid piping to prevent condensation.

Air Handler Unit Model	Air Handler Unit Connection(in.flare)		Adapter Required at Air Handler Unit(in.flare to braze)	Outdoor Model	Outdoor Unit Connection (in.flare)		Adapter Required at Outdoor Unit(in.flare to flare or braze)
18K/24K	Liquid	3/8	3/8flare→3/8braze	18K/24K	Liquid	3/8	3/8flare→3/8braze
	Gas	3/4	3/4flare→3/4braze		Gas	5/8	5/8flare→3/4flare 5/8flare→3/4braze
30K/36K	Liquid	3/8	3/8flare→3/8braze	24K(Hyper Heat)/30K/36K/48K	Liquid	3/8	3/8flare→3/8braze
	Gas	3/4	3/4flare→3/4braze		Gas	3/4	3/4flare→3/4braze

Step 1: Cut pipes

When preparing refrigerant pipes, take extra care to cut and flare them properly. This will ensure efficient operation and minimize the need for future maintenance.

- Measure the distance between the indoor and outdoor units.
- Using a pipe cutter, cut the pipe a little longer than the measured distance.
- Make sure that the pipe is cut at a perfect 90° angle.



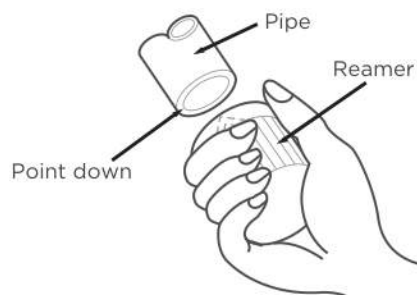
💡 DO NOT DEFORM PIPE WHILE CUTTING

Be extra careful not to damage, kink, or deform the pipe while cutting. This will drastically reduce the heating performance.

Step 2: Remove burrs

Burrs can affect the air-tight seal of refrigerant piping connection. They must be completely removed.

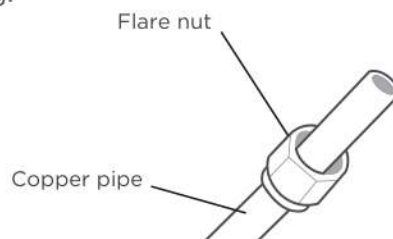
- Hold the pipe at a downward angle to prevent burrs from falling into the pipe.
- Using a reamer or deburring tool, remove all burrs from the cut section of the pipe.



Step 3: Flare pipe ends

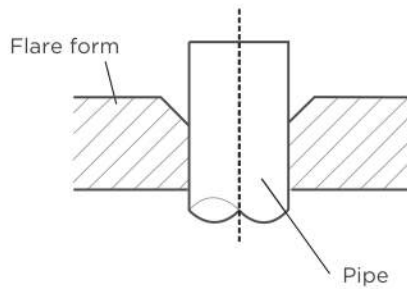
Proper flaring is essential to achieve an airtight seal.

- After removing burrs from cut pipe, seal the ends with PVC tape to prevent foreign materials from entering the pipe.
- Sheath the pipe with insulating material.
- Place flare nuts on both ends of pipe. Make sure they are facing in the right direction, because you can't put them on or change their direction after flaring.

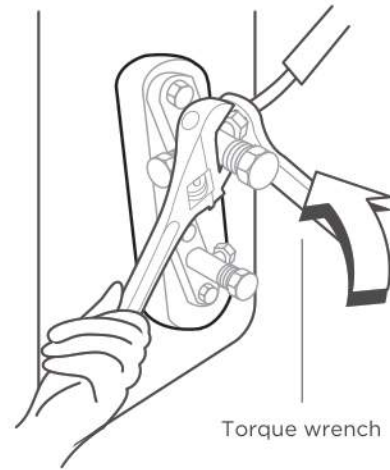


- Remove PVC tape from ends of pipe when ready to perform flaring work.

- Clamp flare form on the end of the pipe. The end of the pipe must extend beyond the flare form.



- Place flaring tool onto the form.
- Turn the handle of the flaring tool clockwise until the pipe is fully flared.



PIPING EXTENSION BEYOND FLARE FORM

Pipe gauge	Tightening torque	Flare dimension(A) (Unit:mm/Inch)		Flare shape
		Min.	Max.	
Ø 6.35 (Ø 1/4")	18-20 N.m (180-200kgf.cm)	8.4/0.33	8.7/0.34	
Ø 9.52 (Ø 3/8")	32-39 N.m (320-390kgf.cm)	13.2/0.52	13.5/0.53	
Ø 12.7 (Ø 1/2")	49-59 N.m (490-590kgf.cm)	16.2/0.64	16.5/0.65	
Ø 16 (Ø 5/8")	57-71 N.m (570-710kgf.cm)	19.2/0.76	19.7/0.78	
Ø 19 (Ø 3/4")	67-101 N.m (670-1010kgf.cm)	23.2/0.91	23.7/0.93	
Ø 22 (Ø 7/8")	85-110 N.m (850-1100kgf.cm)	26.4/1.04	26.9/1.06	

- Remove the flaring tool and flare form, then inspect the end of the pipe for cracks and even flaring.

Step 4: Connect pipes

Connect the copper pipes to the indoor unit first, then connect it to the outdoor unit. You should first connect the low-pressure pipe, then the high-pressure pipe.

- When connecting the flare nuts, apply a thin coat of refrigeration oil to the flared ends of the pipes.
- Align the center of the two pipes that you will connect.
- Tighten the flare nut snugly by hand.
- Using a wrench, grip the nut on the unit tubing.
- While firmly gripping the nut, use a torque wrench to tighten the flare nut according to the torque values in above table.

● NOTICE

Use both a spanner and a torque wrench when connecting or disconnecting pipes to/from the unit.

⚠ CAUTION

Ensure to wrap insulation around the piping. Direct contact with the bare piping may result in burns or frostbite.

- Make sure the pipe is properly connected. Over tightening may damage the bell mouth and under tightening may lead to leakage.

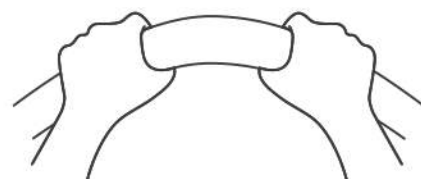
● NOTICE

MINIMUM BEND RADIUS

Carefully bend the tubing in the middle according to the diagram below.

DO NOT bend the tubing more than 90° or more than 3 times.

Use appropriate tool



min-radius 10cm(3.9")

- After connecting the copper pipes to the indoor unit, wrap the power cable, signal cable and the piping together with binding tape.

● NOTICE

DO NOT intertwine or cross the signal cable with any other wiring.

- Thread this pipeline through the wall and connect it to the outdoor unit.
- Insulate all the piping, including the valves of the outdoor unit.
- Open the stop valves of the outdoor unit to start the flow of the refrigerant between the indoor and outdoor unit.

CAUTION

Check to make sure there is no refrigerant leak after completing the installation work. If there is a refrigerant leak, ventilate the area immediately and evacuate the system (refer to the Air Evacuation section of this manual).

WIRING PRECAUTIONS

⚠ WARNING

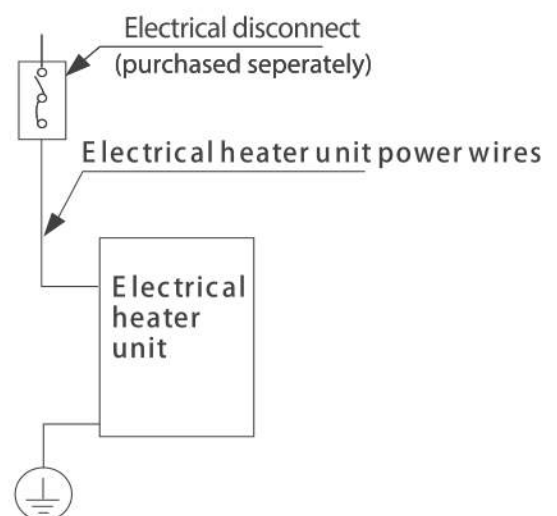
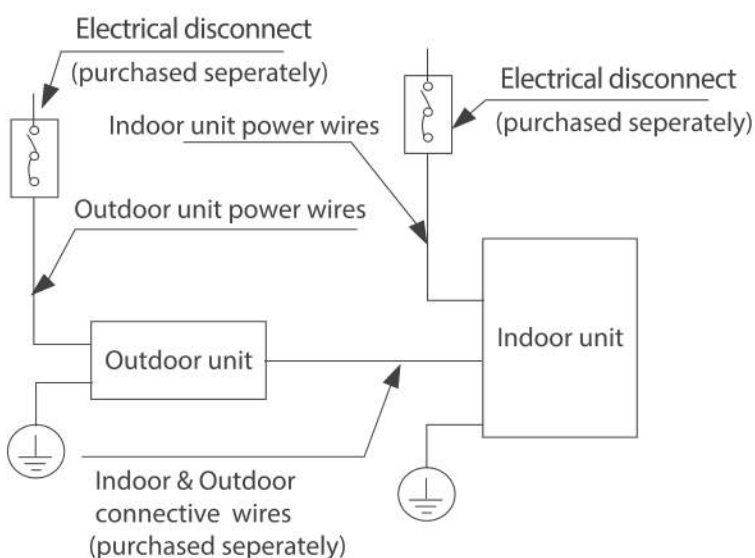
BEFORE PERFORMING ANY ELECTRICAL WORK, READ THESE WARNINGS.

- All wiring must comply with local and national electrical codes, regulations and must be installed by a licensed electrician.
- All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
- If there is a serious safety issue with the power supply, stop work immediately. Explain your reasoning to the client, and refuse to install the unit until the safety issue is properly resolved.
- Power voltage should be within 90-110% of rated voltage. Insufficient power supply can cause malfunction, electrical shock, or fire.
- Installation of an external surge suppressor at the outdoor disconnect is recommended.
- If connecting power to fixed wiring, a switch or circuit breaker that disconnects all poles and has a contact separation of at least 1/8in (3mm) must be incorporated in the fixed wiring. The qualified technician must use an approved circuit breaker or switch.
- Only connect the unit to an individual branch circuit. Do not connect another appliance to that Circuit.
- Make sure to properly ground the air conditioner.
- Every wire must be firmly connected. Loose wiring can cause the terminal to overheat, resulting in product malfunction and possible fire.
- Do not let wires touch or rest against refrigerant tubing, the compressor, or any moving parts within the unit.
- To avoid getting an electric shock, never touch the electrical components soon after the power supply has been turned off. After turning off the power, always wait 10 minutes or more before you touch the electrical components.
- Make sure that you do not cross your electrical wiring with your signal wiring. This may cause distortion, interference or possibly damage to circuit boards.
- No other equipment should be connected to the same power circuit.
- Connect the outdoor wires before connecting the indoor wires.

⚠ WARNING

BEFORE PERFORMING ANY ELECTRICAL OR WIRING WORK, TURN OFF THE MAIN POWER TO THE SYSTEM.

Wiring overview



● NOTICE

The diagrams are for explanation purpose only. Your machine may be slightly different. The actual diagram shall prevail.

INDOOR UNIT WIRING

CAUTION

- While connecting the wires, please strictly follow the wiring diagram.
- The refrigerant circuit can become very hot. Keep the interconnection cable away from the copper tube.

Step 1: Prepare the cable for connection.

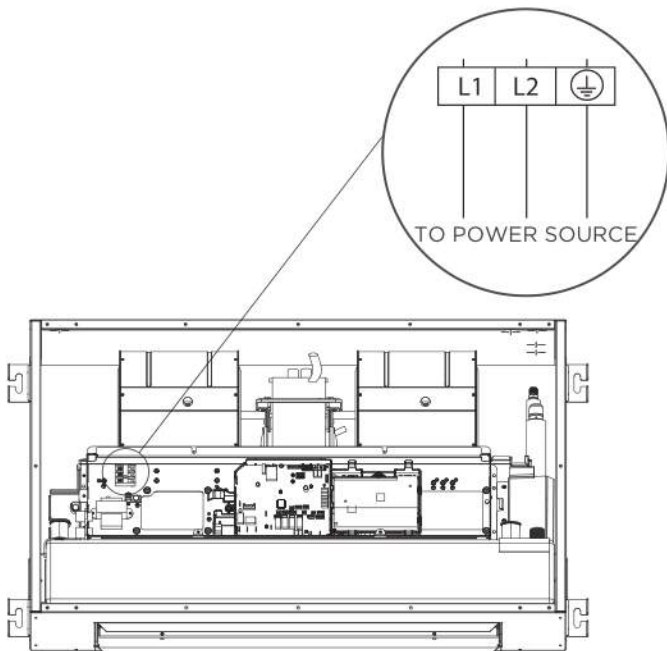
1. Using wire strippers, strip the insulating jacket from both ends of the signal cable to reveal about 15cm (5.9") of the wire.
2. Strip the insulation from the ends of the wires.

Step 2: Open the front panel of the indoor unit.

Using a screwdriver, remove the cover of the electric control box on your indoor unit.

Step 3: Connect the wires to the terminals.

1. Thread the power cable and the signal cable through the wire outlet
2. Match the wire colors/labels with the labels on the terminal block. Firmly screw the wires of each wire to its corresponding terminal. Refer to the Serial Number and Wiring Diagram located on the cover of the electric control box.



WARNING

ISOLATE THE POWER SUPPLY LEADS AND COMMUNICATION LEADS BY THE STRAIN RELIF AND KEEP POWER SUPPLY LEADS AWAY FROM COMMUNICATION LEADS.

3. Clamp down the cable with the cable clamp. The cable must not be loose or pull on the u-lugs.
4. Reattach the electric box cover.
5. Clamp down the cable with the cable clamp. The cable must not be loose or pull on the u-lugs.
6. Reattach the electric box cover

CAUTION

- While connecting the wires, please strictly follow the wiring diagram.
- The refrigerant circuit can become very hot. Keep the interconnection cable away from the copper tube.

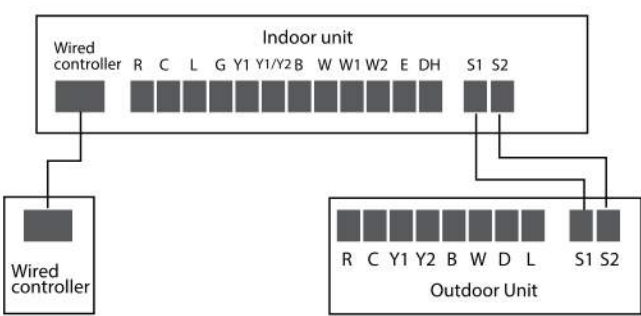
SPECIFIC WIRING METHODS

⚠ WARNING

Please refer to the wiring nameplate for the wiring method. Do not connect the power cord to the communication line, as this may damage the system.

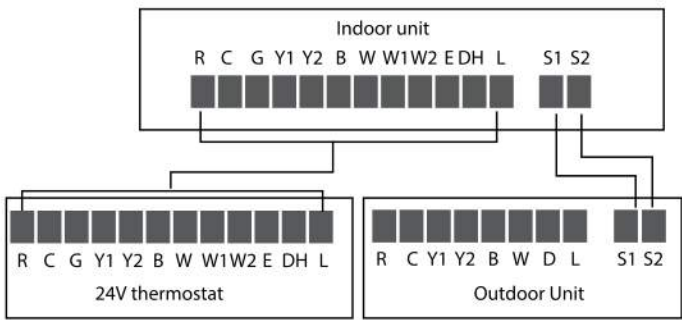
Connection method A:

Refer to the wiring method of internal and external machine communication and wired controller as follows:



Connection method B:

To use a 24V thermostat, you need to refer to the following wiring:



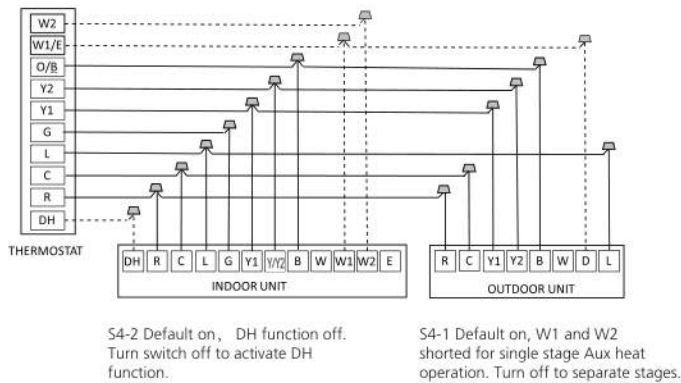
When using a 24v thermostat, please refer to the non-communicating wiring diagrams that follow:

Connection method C:

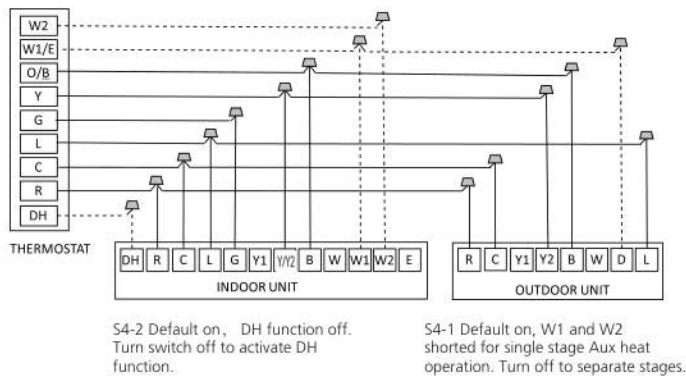
The following wiring diagram are suitable for the AHU and ODU with 24V thermostat.

Non-communication scheme wiring reference

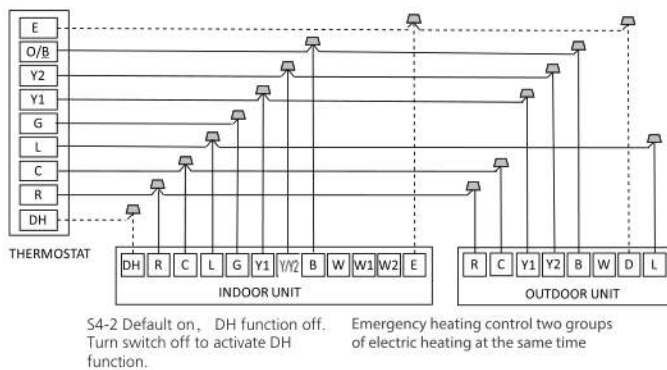
• Wiring for 4H and 2C thermostat



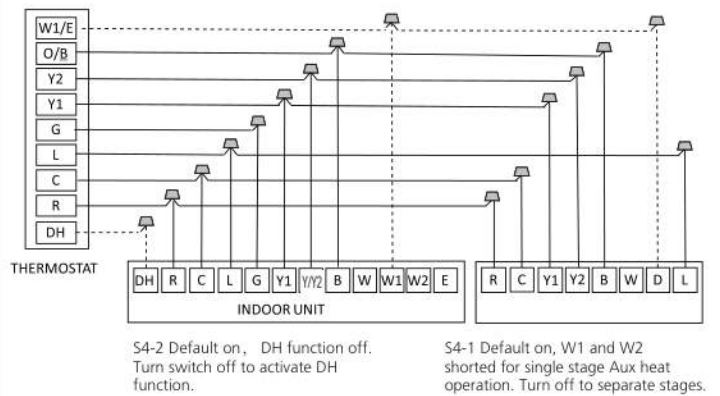
• Wiring for 3H and 1C thermostat



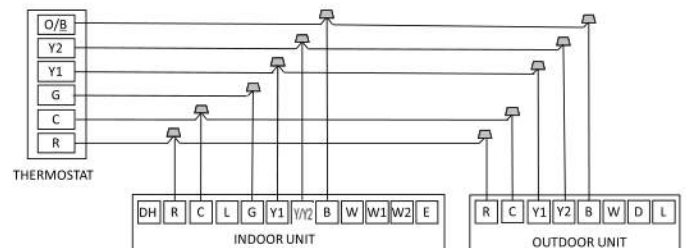
• Wiring for 3H and 2C thermostat



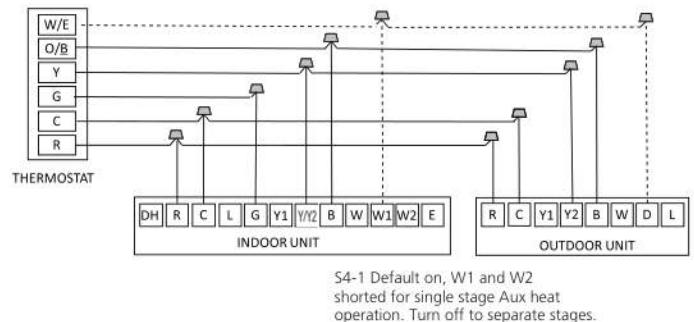
• Wiring for 3H and 2C thermostat



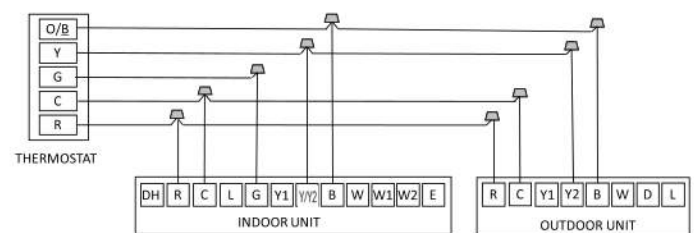
• Wiring for 2H and 2C thermostat



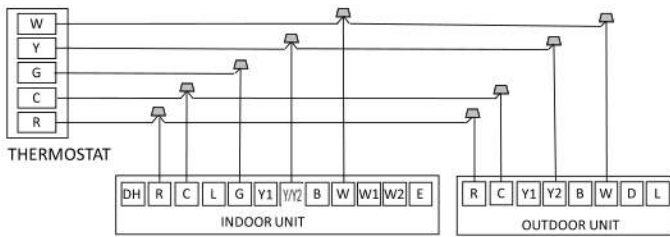
• Wiring for 2H and 1C thermostat



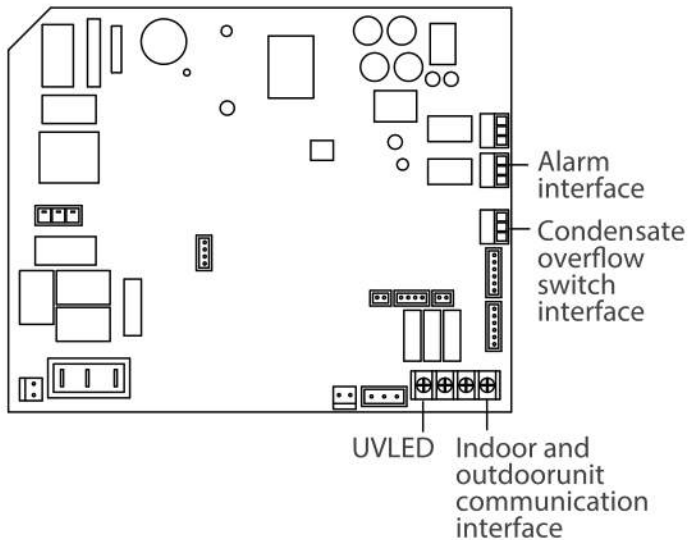
• Wiring for 1H and 1C thermostat



• Wiring for 1H and 1C thermostat

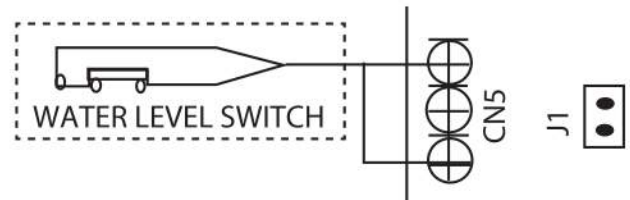


Optional function wiring:

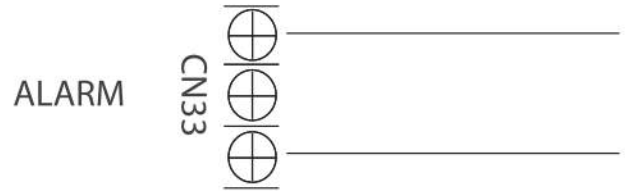


Condensate overflow switch:

The unit will accommodate a remote condensate overflow switch. To enable, remove jumper J1, and connect the installer provided condensate overflow device to CN5 per below. When an overflow condition is present, the device should open connection signaling the unit to turn off the system.



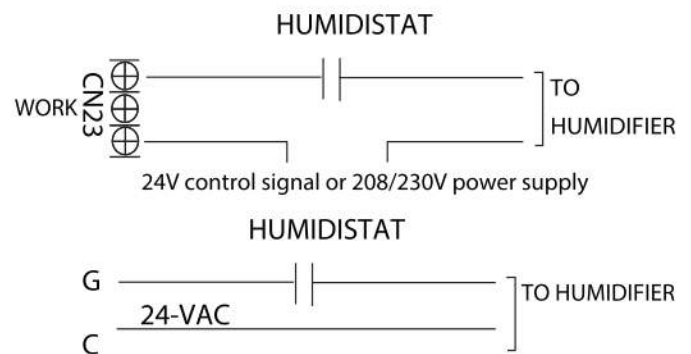
The fault warning:



Alarm output:

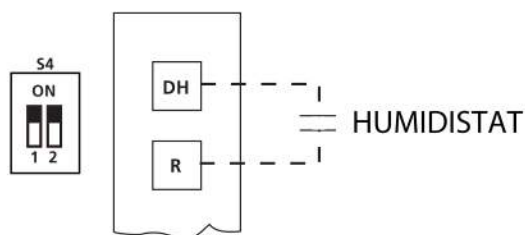
An alarm output (CN33) can be utilized if actions are required when a fault is present. This is a passive outlet port, so you will need to input a voltage signal. The relay is normally-open for normal operation, and closed when a fault condition is active.

Humidifier control:



To connect a humidifier, utilize the passive signal "WORK" output (CN23) port as well as the G and C wires on the controller, and wire the humidistat and humidifier per above wiring diagram. When the fan is running, the CN23 relay will be closed, which will allow power to the humidifier when the humidistat is below humidity setpoint. If the thermostat or zone controller has an HUM interface, connect the humidifier directly to the HUM and C ports.

Dehumidification control wiring



Dehumidification control requires external Humidistat at DH and R. Set S4-2 as OFF. When the humidity rises and exceeds the set value of the Humidistat, the 24V signal of DH changes to 0V, the cooling system starts the dehumidification operation, and the air volume drops to 80% of the nominal cooling air volume.

The WORK port is linked with the fan. When the fan is running, the relay is closed; if an active 24V signal is required, it can be directly connected to the G and C ports.

Control logic

Indoor unit connector

Connector	Purpose
R	24V Power Connection
C	Common
G	Fan Control
Y1	Low Cooling
Y/Y2	High Cooling
B	Heating Reversing Valve
W	Heating control
W1	Stage 1 Electric Heating
W2	Stage 2 Electric Heating
E/AUX	Emergency Heating
DH/DS/BK	Dehumidification/Zoning control
L	System Fault Signal

Outdoor unit connector

Connector	Purpose
R	24V Power Connection
C	Common
Y1	Low Cooling
Y2	High Cooling
B	Heating Reversing Valve
W	Heating control
D	Defrost control
L	System Fault Signal

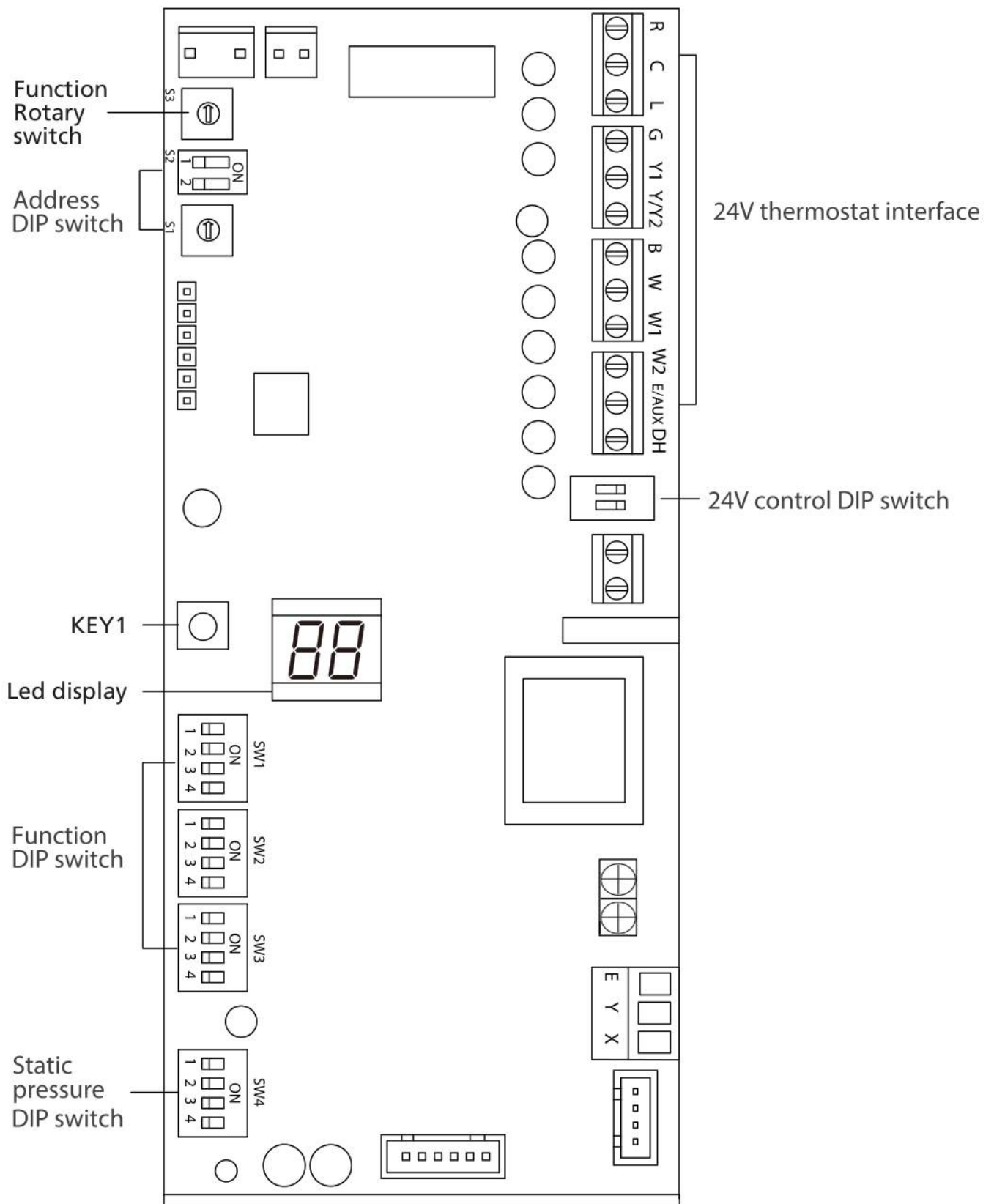
LED display

The control displays unit status as well as any active fault codes on the LED display. If the unit is functioning normally, the LED will display current temperature setpoint. When a fault code is active, the display will flash quickly the active fault code. Please refer to the fault code table located in the troubleshooting section of the manual for detailed fault code information.

KEY1 Instructions (For Wired Controller only)

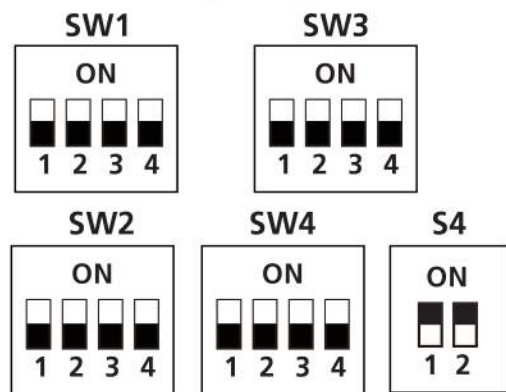
- Press KEY1 to enter the forced automatic mode, press KEY1 again to enter the forced cooling mode (LED display FC), and press KEY1 again to shut down.
- Keep pressing KEY1 under forced cooling mode (LED display FC) 5s to enter forced defrost mode.

DIP switch definitions



Function DIP switch settings:

The 24V thermostat mode needs to refer to the following settings:



SW4-1	000 is the default 000/001/010/011/100/101/110/111, internal
SW4-2	machines with different abilities, electric heating and PSC
SW4-3	classification for use.

Indoor unit dial code

Function combination table of SW1-1 and SW1-4:

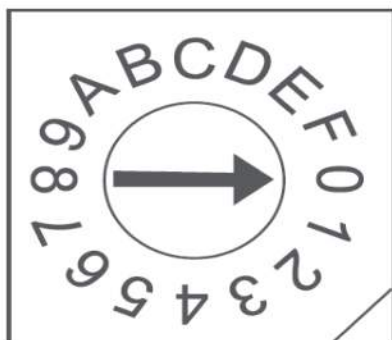
SW1	Control type	Stand alone or full system
	Free match	Free match
	Wired controller	Full system
	24V Thermostat	Full system
	24V Thermostat	Stand alone

No.	Dial Code	Control Scenario	Function	ON	OFF	Note
1	SW1-2	1,2,3	Anti-cold blow protection option	NO	[Default] YES	
2	SW1-3	1,2,3	Single cooling / heating and and cooling options	Cooling	[Default] Cooling & Heating	
3	SW2-1	1	Compressor Running (demand working with heat pump+ Electric heat)	Compressor slower speed	[Default] Faster Compressor	
4	SW2-1	2	Temperature differential to activate first stage auxiliary heat(the GAP of T1 and Ts),Wire controller demand with heat pump+Electric heat working together	2°F (1°C)	[Default] 4°F (2°C)	Only affects compressor and W1
5	SW2-2	2	Electric heat on delay	YES	[Default]NO	
6	SW2-3	2	Supplementary heater kit delay to start time	30 minutes	[Default] 15 minutes	Based on SW2-2 is ON
7	SW2-4	1	Compressor	The operation of heat pump is limited by the outdoor temperature, and the operation of auxiliary heat is not limited.The system makes judgments according to the following rules: 1) The compressor can be operated when the outdoor temperature is ≥S3 DIP switch temperature +2 °C. 2) The compressor cannot be operated when the outdoor temperature is lower than the S3 DIP switch temperature.	[Default]The operation of heat pump is limited by the outdoor temperature, and the operation of auxiliary heat is not limited. The system makes judgments based on the following rules: 1) The compressor cannot be operated when the outdoor temperature is lower than the S3 DIP switch. 2) The compressor can be operated when the outdoor temperature is ≥S3 DIP switch temperature +2 °C.	SW2-4 and S3 need to working together
8	SW2-4	2	Compressor/Auxiliary heat outdoor ambient lockout	The operation of heat pump is limited by the outdoor temperature, and the operation of auxiliary heat is not limited.The system makes judgments according to the following rules: 1) The compressor can be operated when the outdoor temperature is ≥S3 DIP switch temperature +2 °C. 2) The compressor cannot be operated when the outdoor temperature is lower than the S3 DIP switch temperature.	[Default]Only one heat pump or auxiliary heat can be operated .The system makes judgments according to the following rules: 1) When the outdoor temperature is lower than the S3 DIP switch temperature,the compressor is not allowed to operated, but auxiliary heat is allowed to operated ; 2) When the outdoor temperature is ≥ S3 DIP switch temperature +2(°C), the compressor can be operated, but auxiliary heat cannot be operated.	
9	Rotary Switch S3	1,2	Set outdoor temperature Limitation (for auxiliary heating or compressor)	Table A		
10	SW3-1	1	Maximum continuous runtime allowed before system automatically stages up capacity to satisfy set point. This adds 1 to 5°F to the user set point in the calculated control point to increase capacity and satisfy user set point	30 minutes	[Default] 90 minutes	
11	SW3-2	1	Cooling and heating Y/Y2 temperature differential adjustment.	Compressor slower speed	[Default] Faster Compressor	Only affects compressor
12	SW3-3	1	Compressor Running (demand working with heat pump+ Electric heat)	Compressor slower speed	[Default] Faster Compressor	Only affects compressor and W2
13	SW3-3	2	Temperature differential to activate second stage auxiliary heating(the GAP of T1 and Ts)Wire controller demand with heat pump+Electric heat working together	4°F (2°C)	[Default] 6°F (3°C)	
14	SW3-4	1,3	Fan speed of cooling mode when 24V Thermostat is applied for.	Turbo	High	

15	SW4	1,2,3	Electric heat nominal CFM adjustment	Available settings are 000/001/010/011. Each digit corresponds an individual switch position. For example [SW4-1 OFF, SW4-2 ON, SW4 -3 OFF] = 010 See table 11 for the corresponding CFM adjustment	
16	S4-1	1,3	Default ON	[Default] For single stage supplemental heat, W1 and W2 are connected	For dual stage supplemental heat, W1 and W2 are controlled independently.
17	S4-2	1,3	DH function selection	[Default] Dehumidification control not available	Dehumidification feature is enabled through thermostat

Table A

Control Scenario	24V Tstat, S1+S2	1
	Wired Controller S1+S2	2
	Full 24V	3



S3	S3 (°F)	S3 (°C)
0	OFF	OFF
1	-22	-30
2	-18	-28
3	-15	-26
4	-11	-24
5	-8	-22
6	-4	-20
7	3	-16
8	10	-12
9	18	-8
A	25	-4
B	32	0
C	36	2
D	39	4
E	43	6
F	46	8

Address DIP switch:

Address dialing S1+S2: When the user uses the centralized controller, the address dialing is required.

Network address: The address silkscreen is NET address, which is composed of a 16-bit address rotary code S2 plus a two-digit DIP switch S1 [Set during engineering installation, no network function does not need to be set]

When S2 is 00 (the dialing code is not connected), the network address value is the value of S2;

When S2 is 10 (corresponding to the switch of the hardware connected to the 10K resistor), the network address value is S2 plus 32;

Determined by dial code S2 1-10K 2-5.1K

When S2 is 01 (corresponding to the dial code of the 5.1K resistor connected to the hardware is turned on), the network address value is the value of S2 plus 16;

When S2 is 11 (all dialing codes are on), the network address value is the value of S2 plus 48.

Determined by dial code S2 1-10K 2-5.1K

Dial code selection	Website address
	S2 + 48
	S2 + 32
	S2 + 16
	S2

Air volume table

Capacity	External Static Pressure Range	Fan speed	Electric heater kit	24V thermostat		Wired controller		Airflow volume (CFM)
				DIP Switch	24V terminal engaged	DIP Switch	Mode	
18K (1.5 Ton)	0 - 0.80 in. w.g.	Cooling Turbo	—	SW3-4=ON	Y2/Y	—	Cool	600
		Cooling High	—	SW3-4=OFF	Y2/Y	—	Cool	559
		Cooling Medium	—	—	Y1	—	Cool	441
		Cooling Low	—	—	—	—	Cool	324
		Heat Pump Turbo	—	—	—	—	Heat	600
		Heat Pump High	—	—	B+Y2/Y, W	—	Heat	559
		Heat Pump Medium	—	—	Y1	—	Heat	441
		Heat Pump Low	—	—	—	—	Heat	324
		Emergency heat	10KW	—	W1, W2, AUX	—	AUX	653
		Emergency heat	8KW	—	W1, W2, AUX	—	AUX	624
		Emergency heat	5KW	—	W1, W2, AUX	—	AUX	594
		Emergency heat	3KW	—	W1, W2, AUX	—	AUX	565
24K (2 Ton)	0 - 0.80 in. w.g.	Cooling Turbo	—	SW3-4=ON	Y2/Y	—	Cool	794
		Cooling High	—	SW3-4=OFF	Y2/Y	—	Cool	706
		Cooling Medium	—	—	Y1	—	Cool	588
		Cooling Low	—	—	—	—	Cool	382
		Heat Pump Turbo	—	—	—	—	Heat	794
		Heat Pump High	—	—	B+Y2/Y, W	—	Heat	706
		Heat Pump Medium	—	—	Y1	—	Heat	588
		Heat Pump Low	—	—	—	—	Heat	382
		Emergency heat	10KW	—	W1, W2, AUX	—	AUX	871
		Emergency heat	8KW	—	W1, W2, AUX	—	AUX	841
		Emergency heat	5KW	—	W1, W2, AUX	—	AUX	818
		Emergency heat	3KW	—	W1, W2, AUX	—	AUX	788
30K (2.5 Ton)	0 - 0.80 in. w.g.	Cooling Turbo	—	SW3-4=ON	Y2/Y	—	Cool	988
		Cooling High	—	SW3-4=OFF	Y2/Y	—	Cool	894
		Cooling Medium	—	—	Y1	—	Cool	806
		Cooling Low	—	—	—	—	Cool	541
		Heat Pump Turbo	—	—	—	—	Heat	971
		Heat Pump High	—	—	B+Y2/Y, W	—	Heat	853
		Heat Pump Medium	—	—	Y1	—	Heat	676
		Heat Pump Low	—	—	—	—	Heat	471
		Emergency heat	10KW	—	W1, W2, AUX	—	AUX	1088
		Emergency heat	8KW	—	W1, W2, AUX	—	AUX	1029
		Emergency heat	5KW	—	W1, W2, AUX	—	AUX	976
		Emergency heat	3KW	—	W1, W2, AUX	—	AUX	918

Air volume table

Capacity	External Static Pressure Range	Fan Speed	Electric heater kit	24V thermostat		Wired controller		Airflow volume (CFM)
				DIP Switch	24V terminal engaged	DIP Switch	Mode	
36K (3 Ton)	0 - 0.80 in. w.g.	Cooling Turbo	—	SW3-4=ON	Y2/Y	—	Cool	1188
		Cooling High	—	SW3-4=OFF	Y2/Y	—	Cool	1082
		Cooling Medium	—	—	Y1	—	Cool	971
		Cooling Low	—	—	—	—	Cool	865
		Heat Pump Turbo	—	—	—	—	Heat	1112
		Heat Pump High	—	—	B+Y2/Y, W	—	Heat	1059
		Heat Pump Medium	—	—	Y1	—	Heat	794
		Heat Pump Low	—	—	—	—	Heat	582
		Emergency heat	10KW	—	W1, W2, AUX	—	AUX	1306
		Emergency heat	8KW	—	W1, W2, AUX	—	AUX	1241
		Emergency heat	5KW	—	W1, W2, AUX	—	AUX	1176
		Emergency heat	3KW	—	W1, W2, AUX	—	AUX	1112



NOTICE

The constant airflow volume motor is applied. So the airflow volume is constant at all ESP within stated range.

NOTE ON ADDING REFRIGERANT

CAUTION

DO NOT mix refrigerant types.

Some systems require additional charging depending on pipe lengths. The standard pipe length varies according to local regulations. For example, in North America, the standard pipe length is 7.5m (25'). In other areas, the standard pipe length is 5m (16'). The refrigerant should be charged from the service port on the outdoor unit's low pressure valve. The additional refrigerant to be charged can be calculated using the following formula:

	Liquid Side Diameter		
	φ6.35(1/4")	φ9.52(3/8")	φ12.7(1/2")
R410A: (metering device in the indoor unit)	(Total pipe length - standard pipe length) x30g(0.32oz)/m(ft)	(Total pipe length - standard pipe length) x65g(0.69oz)/m(ft)	(Total pipe length - standard pipe length) x115g(1.23oz)/m(ft)
R410A: (metering device in the outdoor unit)	(Total pipe length - standard pipe length) x15g(0.16oz)/m(ft)	(Total pipe length - standard pipe length) x30g(0.32oz)/m(ft)	(Total pipe length - standard pipe length) x65g(0.69oz)/m(ft)

TEST RUN

CAUTION

Failure to perform the test run may result in unit damage, property damage, or personal injury.

Before test run

A test run must be performed after the entire system has been completely installed. Confirm the following points before performing the test:

- a) Indoor and outdoor units are properly installed.
- b) Piping and wiring are properly connected.
- c) No obstacles near the inlet and outlet of the unit that might cause poor performance or product malfunction.
- d) Refrigeration system does not leak.
- e) Drainage system is unimpeded and draining to a safe location.
- f) Insulation of piping and duct is properly installed.
- g) Grounding wires are properly connected.
- h) Length of the piping and additional refrigerant capacity have been recorded.
- i) Power voltage is the correct voltage for the air conditioner

Test run instruction

1. Open both the liquid and gas service valves.
2. Turn on the main power switch and allow the unit to warm up.
3. Set the air conditioner to COOL mode.
4. For the Indoor Unit
 - a. Double check to see if the room temperature is being registered correctly.
 - b. Ensure the manual buttons on the indoor unit works properly.
 - c. Check to see that the drainage system is unimpeded and draining smoothly.
 - d. Ensure there is no vibration or abnormal noise during operation.

5. For the Outdoor Unit
 - a. Check to see if the refrigeration system is leaking.
 - b. Make sure there is no vibration or abnormal noise during operation.
 - c. Ensure the wind, noise, and water generated by the unit do not disturb your neighbors or pose a safety hazard.
6. Drainage Test
 - a. Ensure the drainpipe flows smoothly. New buildings should perform this test before finishing the ceiling.
 - b. Turn on the main power switch and run the air conditioner in COOL mode.
 - c. Check to see that the water is discharged. It may take up to one minute before the unit begins to drain depending on the drainpipe.
 - d. Make sure that there are no leaks in any of the piping.
 - e. Stop the air conditioner. Turn off the main power switch and reinstall the test cover.

NOTICE

If the unit malfunctions or does not operate according to your expectations, please refer to the Troubleshooting section of Service Manual before calling customer service.

24V SIGNAL CHART

Mode	Priority	24V input terminal									Fan speed	Display
		G	Y1	Y/Y2	B	W	W1	W2	E/AUX	DH/DS/BK		
OFF	/	0	0	0	0	0	0	0	0	*	OFF	0
FAN	7	1	0	0	*	0	0	0	0	*	Low	1
Cooling stage 1	6	*	1	0	0	0	0	0	0	1	Mid	2
Cooling stage 2		*	*	1	0	0	0	0	0	1	High	3
Dehumidification		*	1	0	0	0	0	0	0	0	Low	4
Dehumidification		*	*	1	0	0	0	0	0	0	Low	5
Heat pump stage 1	5	*	1	0	1	0	0	0	0	1	Mid	6
Heat pump stage 2		*	*	1	1	0	0	0	0	1	High	7
Heat pump stage 2		*	*	*	*	1	0	0	0	1	High	
Emergency heat	3	*	0	0	*	0	1	0	0	*	Turbo	8
Emergency heat		*	0	0	*	0	0	1	0	*	Turbo	
Emergency heat		*	0	0	*	0	1	1	0	*	Turbo	9
Emergency heat	4	*	1	0	1	0	1	0	0	1	Turbo	10
Emergency heat		*	1	0	1	0	0	1	0	1	Turbo	
Emergency heat		*	*	1	1	0	1	0	0	1	Turbo	
Emergency heat		*	*	*	*	1	1	0	0	1	Turbo	
Emergency heat		*	*	1	1	0	0	1	0	1	Turbo	
Emergency heat		*	*	*	*	1	0	1	0	1	Turbo	11
Emergency heat		*	1	0	1	0	1	1	0	1	Turbo	
Emergency heat		*	*	1	1	0	1	1	0	1	Turbo	
Emergency heat		*	*	*	*	1	1	1	0	1	Turbo	
Emergency heat	1	*	*	*	*	*	*	*	1	*	Turbo	12
Heating zone control	2	*	1	0	1	0	*	*	0	0	Low	13
Heating zone control		*	*	1	1	0	*	*	0	0	Low	
Heating zone control		*	*	*	*	1	*	*	0	0	Low	
Heating zone control		*	0	0	*	0	1	0	0	0	Low	
Heating zone control		*	0	0	*	0	0	1	0	0	Low	
Heating zone control		*	0	0	*	0	1	1	0	0	Low	

Note:

1: 24V signal

0: No 24V signal

*: 1 or 0.

The AUU will turn off if the 24V input cannot meet the table.