

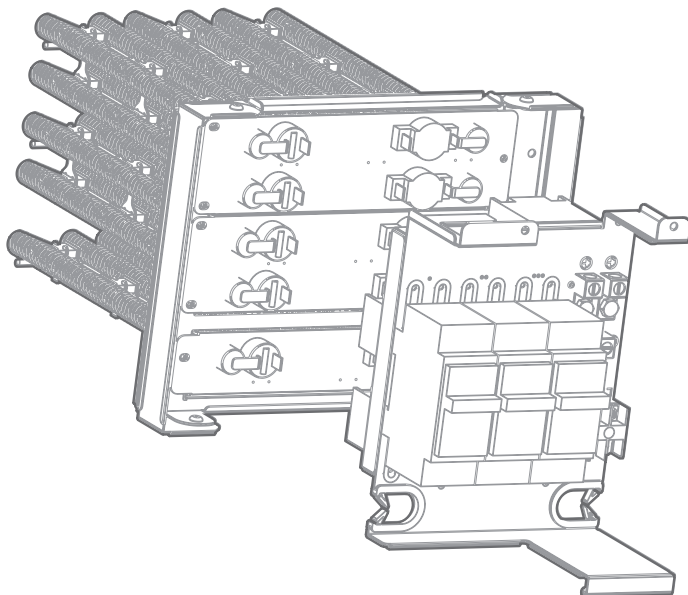
AUXILIARY HEATER

Installation Manual

Safety precautions & Installation



KEENTM



IMPORTANT NOTE:

Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.

INSTALLATION MANUAL

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Read this manual

Inside you'll find many helpful hints on how to use and maintain your auxiliary heater properly. Just a little preventive care on your part can save you a great deal of time and money over the life of your auxiliary heater. 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.
- For all electrical work, follow all local and national wiring standards, regulations, and the 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 must be incorporated in the fixed wiring in accordance with the wiring rules.

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.)
- 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.
- 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 work has been completed.
- When moving or relocating the auxiliary heater, 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.

WARNINGS FOR CLEANING AND MAINTENANCE

- Turn off the device and disconnect the power before cleaning. Failure to do so can cause electrical shock.

INSTALLATION

NOTICE

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

Accessories

Name of Accessories	Q'ty(pc)	Shape
Manual	1	
Foam gasket	1	
Packaged screws	1	
Silicone cover	1	
Electric auxiliary heating wiring diagram	1	
Circuit breaker label	1	
Metal supporter	1	
Metal Plate	1	

Model size selection

For installations requiring supplemental heating, the optional Electric Auxiliary Heat Module is available in sizes from 3kW to 25kW 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 outdoor unit model, being sure to avoid improper matching.

OUTDOOR UNIT MODEL (Btu/h)	3kW	5kW	8kW	10kW	15kW	20kW	25kW
18K	Y	Y	Y	Y	-	-	-
24K	-	Y	Y	Y	Y	-	-
30K	-	Y	Y	Y	Y	-	-
36K	-	Y	Y	Y	Y	Y	-
48K	-	-	Y	Y	Y	Y	-
60K	-	-	-	Y	Y	Y	Y

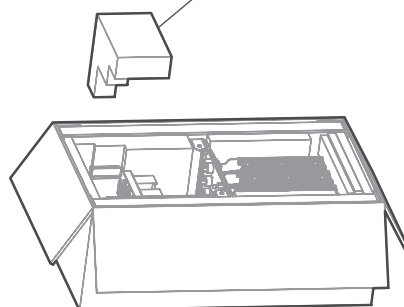
NOTICE

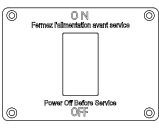
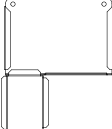
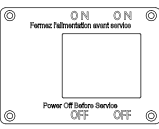
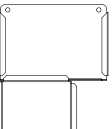
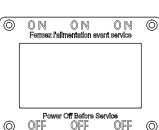
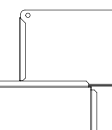
Only use matched modules certified for use with model. Please refer to the Electric Auxiliary Heat Model specification for additional details to ensure proper selection and installation.

Preparations for Installation

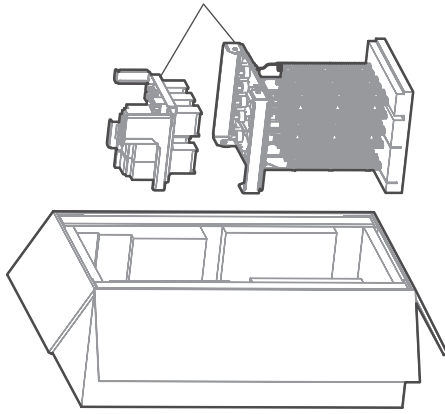
Before installation, please confirm the electric auxiliary heat module and supplied accessories are complete and free of any damage. Do not attempt to install if damage is present.

Remove the packing

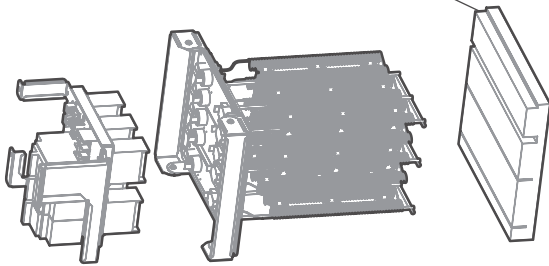


Model	Silicone cover	Metal Plate
3 kW		
5 kW		
8 kW		
10 kW		
15 kW		
20 kW		
25 kW		

Hold the two parts together
and take them out from box.



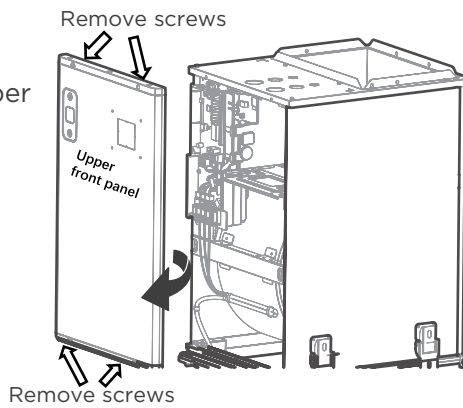
Remove the packing



Electric Auxiliary Heat Module installation and Wiring Operation

Step 1

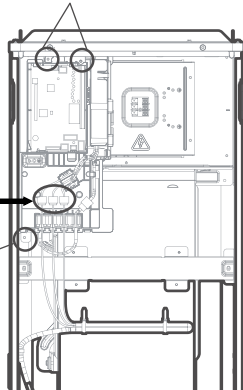
Open the upper
front cover.



Step 2

Remove the two screws

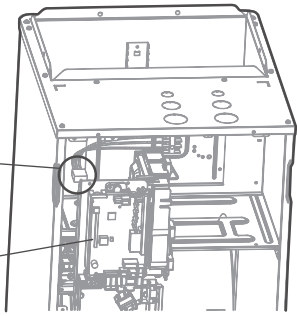
Disconnect
the connectors
Remove
the screw



Step 3

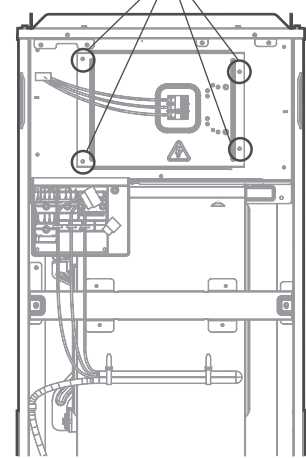
Disconnect
the
connector

Take off
the PCB
assembly

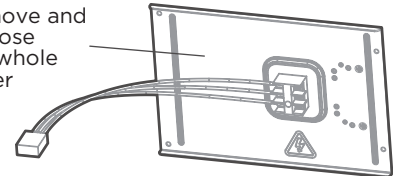


Step 4

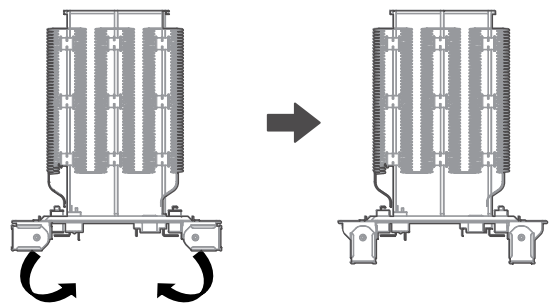
Remove 4 screws



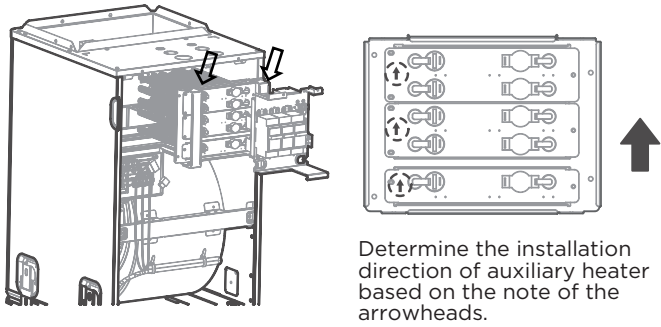
Remove and
dispose
the whole
cover



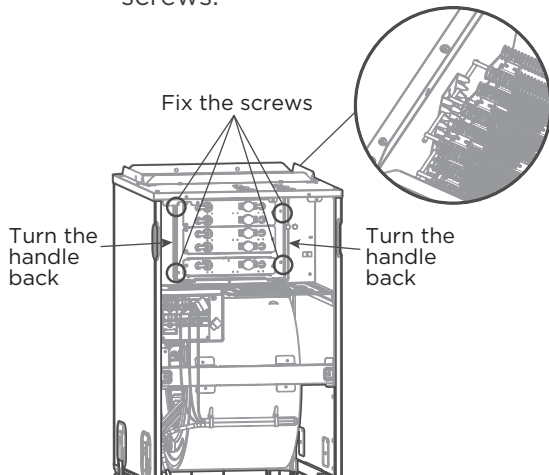
Step 5 Turn the handles in the auxiliary Heater.



Step 6 Hold the two handles together and push the Auxiliary heater Horizontally into the AHU.

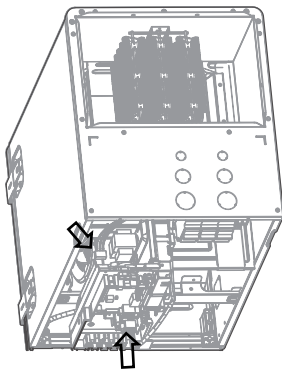


Step 7 Turn the handles back and fix the screws.

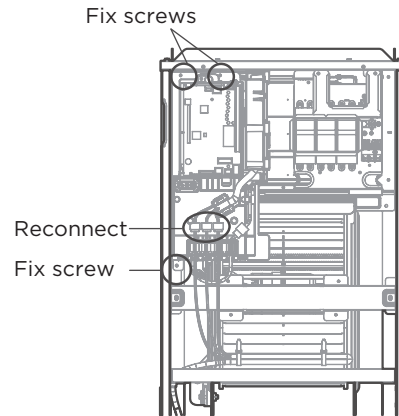


Step 8 Wire according to the wiring diagram. Apply the wiring diagram on the inside cover after wiring is completed for future reference and maintenance.

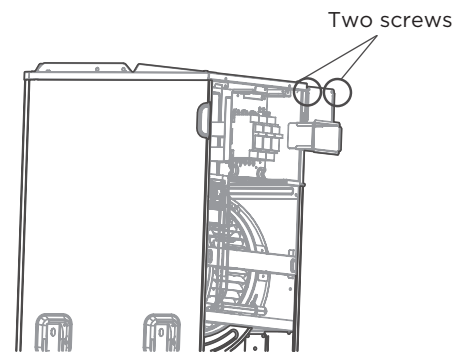
Step 9 Connect the connector from auxiliary heater onto the board assembly according to the wiring diagram.



Step 10 Install the PCB back and reconnect the connector. Fix 3 screws.

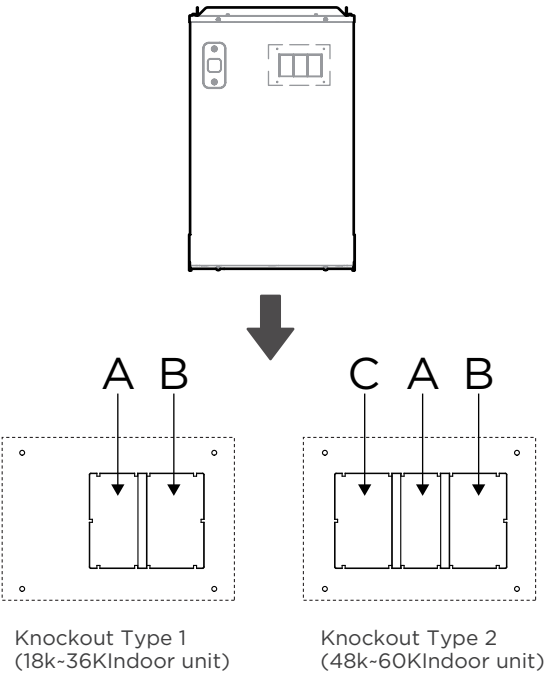


Step 11 Turn the handles back. Fix the Metal supporter and auxiliary heater with two screws.



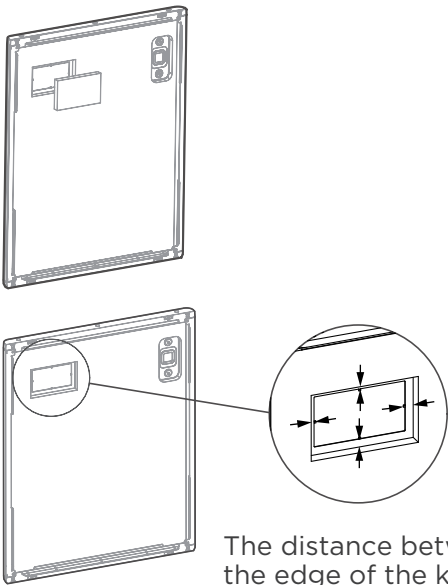
3 kW	
5 kW	
8 kW	
10 kW	
15 kW	
20 kW	
25 kW	

Step 12 Remove the knockout basing the different heater model.

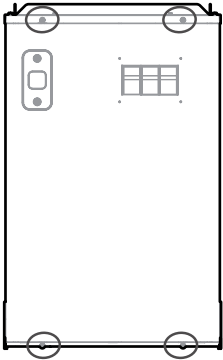


Model	Knockout which needs be removed
3kw	A
5kw	
8kw	
10kw	
15kw	A+B
20kw	
25kw	A+B+C

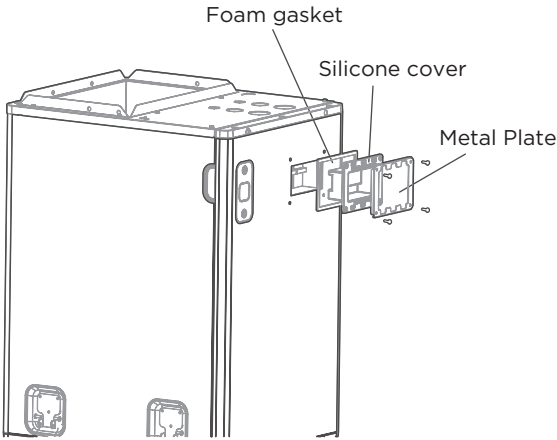
Step 13 Remove some glass fiber insulator off the upper front panel.



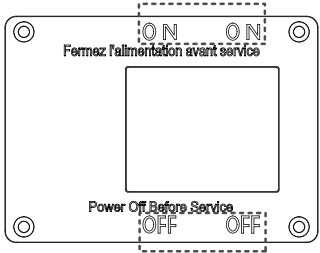
Step 14 Install upper front panel with 4 screws.



Step 15 Install foam gasket, silicone cover and metal plate. Fix them with screws.



Note: There are several installation directions at AHU. Caution that the “ON” and “OFF” on silicone cover shall correspond with “ON” and “OFF” on circuit breaker.



Step 16 After installing the auxiliary heater, apply the circuit breaker label near the silicone cover that was just applied.

CAUTION

Disconnect all supply circuits before service.

ELECTRICAL SPECIFICATIONS

NOTICE

Electric auxiliary heating wiring diagram packed with the accessories.

If branch circuit wire length exceeds 100ft, consult the local code to determine maximum wire length. Use 2% voltage drop.

After the electric heating 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 the local code.

Specifications	Number of circuit breakers	Number of relays	Number of power cord groups	Number of power cord grounding screws
3kW	1	1	2	2
5kW	1	1	2	2
8kW	1	2	2	2
10kW	1	2	2	2
15kW	2	3	3	3
20kW	2	4	3	3
25kW	3	5	4	4

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.

Auxiliary Heater Electrical Data

Heater Part No.	Heater KW	Internal Circuit Protection	CIRCUIT 1 208/230V			CIRCUIT 2			CIRCUIT 3		
			Heater Amps	MCA (1)	MOP (1)	Heater Amps	MCA (2)	MOP (2)	Heater Amps	MCA (3)	MOP (3)
EAH-03F(UL)	3	Ckt Bkr	10.8/12.0	14.0/16.0	15.0/20.0	/	/	/	/	/	/
EAH-05F(UL)	5	Ckt Bkr	18.0/20.0	23.0/27.0	25.0/30.0	/	/	/	/	/	/
EAH-08F(UL)	8	Ckt Bkr	28.8/32.0	37.0/42.0	40.0/45.0	/	/	/	/	/	/
EAH-10F(UL)	10	Ckt Bkr	36.0/40.0	46.0/53.0	50.0/60.0	/	/	/	/	/	/
EAH-15F(UL)	15	Ckt Bkr	18.0/20.0	23.0/27.0	25.0/30.0	36.0/40.0	46.0/53.0	50.0/60.0	/	/	/
EAH-20F(UL)	20	Ckt Bkr	36.0/40	46.0/53.0	50.0/60.0	36.0/40.0	46.0/53.0	50.0/60.0	/	/	/
EAH-25F(UL)	25	Ckt Bkr	18.0/20.0	23.0/27.0	25.0/30.0	36.0/40.0	46.0/53.0	50.0/60.0	36.0/40.0	46.0/53.0	50.0/60.0

The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for details. Any updates to the manual will be uploaded to the service website, please check for the latest version.

QS003I-3Gen AHU(AUXILIARY HEATER)