

Installation Instructions

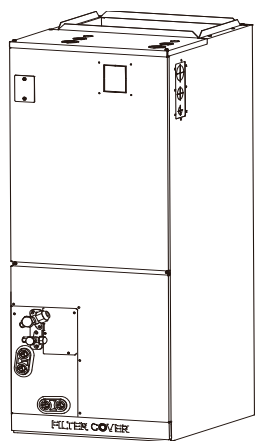


Fig. 1 —Air Handler

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NOTE: Read the entire instruction manual before starting the installation.

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SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing and work gloves. Have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions included in the literature and attached to the unit. Consult the local building codes and the current editions of the National Electrical Code (NEC) NFPA 70.

In Canada, refer to the current editions of the Canadian Electrical Code CSA C22.2 No. 60335-2-40. Recognize safety information.

This is the safety-alert symbol . When you see this symbol on the unit and in instruction manuals, be of the potential for personal injury. Understand the signal words **DANGER**, **WARNING**, and **CAUTION**. These words are used with the safety-alert symbol. **DANGER** identifies the most serious hazards which will result in severe personal injury or death. **WARNING** signifies hazards which could result in personal injury or death. **CAUTION** is used to identify unsafe practices which may result in minor personal injury or product and property damage. **NOTE** is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

 **WARNING**

ELECTRICAL OPERATION HAZARD
Failure to follow this warning could result in personal injury or death. Before installing or servicing the unit, always turn off all power to the unit. There may be more than one disconnect switch. Turn off accessory heater power if applicable. Lock out and tag the switch with a suitable warning label.

 **CAUTION**

CUT HAZARD
Failure to follow this caution may result in personal injury. Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing and gloves when handling parts.

Table 1 — Indoor Unit Model Numbers

kBTUh	V-Ph-Hz	ID Model No.
05	208/230-1-60	EHKMB05KN
08		EHKMB08KN
10		EHKMB10KN
15		EHKMB15KN
20		EHKMB20KN
25		EHKMB25KN

Table 2 — Accessories

Name	Shape	Quantity
Owner's and Installation Manual		1
Seal		1
Screw		7
Resilient Cap		1
Electric Auxiliary Heating Wiring Diagram		1
Circuit Breaker Label		1

NOTE: Installation must be performed by an authorized dealer or specialist. Use recommended PPE when installing the unit.

Specification of electric auxiliary heat modules: 5kW, 8kW, 10kW, 15kW, 20kW, 25kW.

Table 3 — Selection and Matching of Internal Machine and Electric Auxiliary Heating Components

MODEL (Btu/h)	5kW	8kW	10kW	15kW	20kW	25kW
18K	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



CAUTION

This electric auxiliary heat module is internally mounted in the air handler. **DO NOT** mount in the ductwork.

If the unit needs to be equipped with the electric auxiliary heat module, check the electric auxiliary heat module specification that is compatible with the unit to avoid unnecessary consequences caused by improper matching and refer to Product Data Manual.

INSTALLATION REQUIREMENTS

NOTE: Installation of Auxiliary Electric Heat Module should be completed before installing the discharge ductwork to insure proper alignment of the inside support brackets.

Before installation, check the list of electric auxiliary heat modules and physical objects. After transportation, check whether the electric heat module is damaged. If any damage is detected, contact the after-sales personnel immediately.

NOTE: A separate power source is required for an Auxiliary Electric Heater. These units do NOT support a SINGLE POINT electrical connection when utilizing auxiliary heat.

ELECTRIC AUXILIARY HEAT MODULE INSTALLATION AND WIRING

1. Remove the upper cover and use professional tools to remove the upper cover knock-outs.

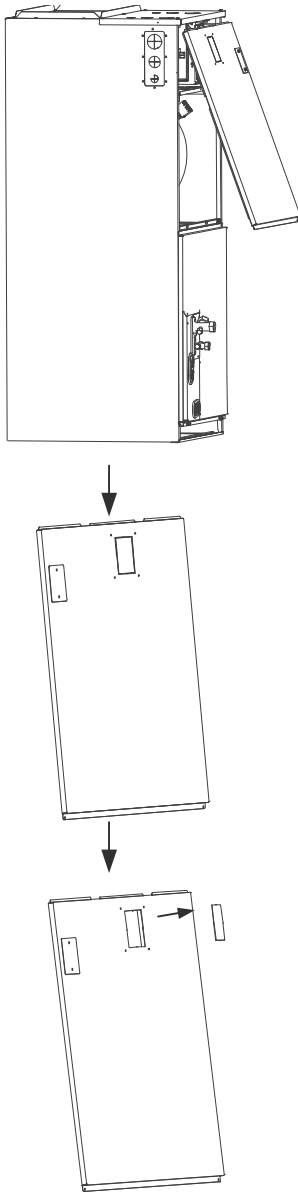


Fig. 2 — Remove the Upper Cover

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2. Remove the terminal block and power cord.
3. Loosen the screws.
4. Remove the electric auxiliary heating cover.

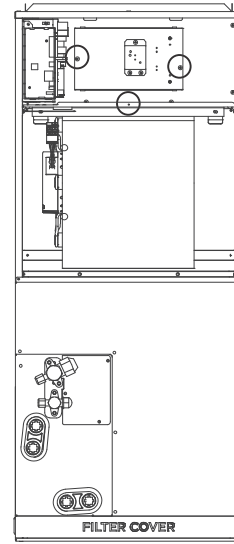


Fig. 3 — Remove the Terminal Block and Power Cord

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5. Install the electric auxiliary heating component into the chassis shell along the front of the unit.

NOTE: Insert the front end into the shell assembly hole.

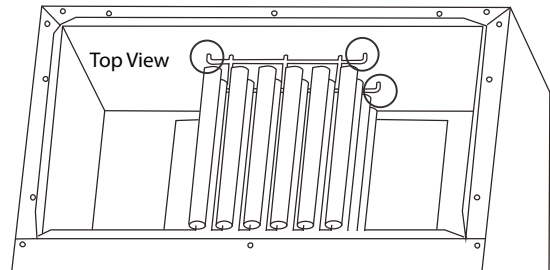
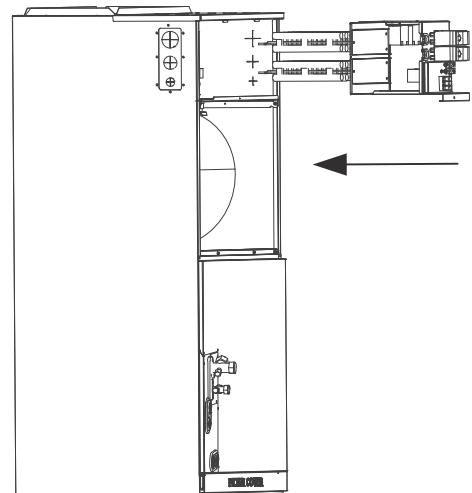


Fig. 4 — Install the Electric Auxiliary Heating Component

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6. Tighten the screws.

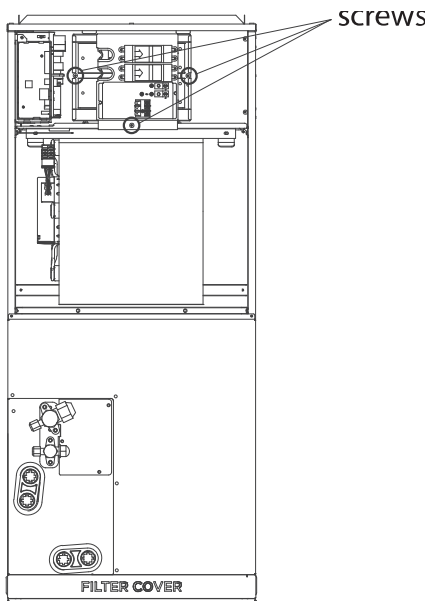


Fig. 5 — Tighten the Screws

7. Wiring according to the wiring template.
8. Install the upper cover.

9. Install the waterproof case.

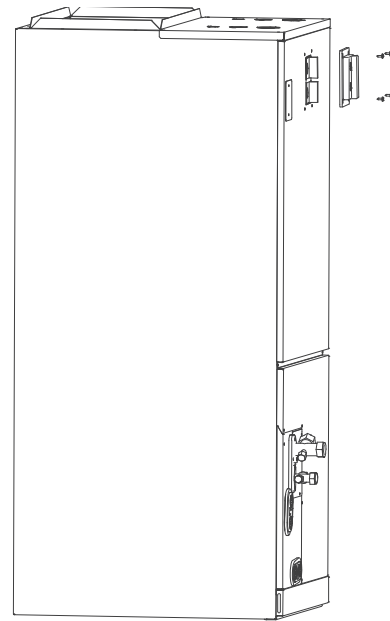


Fig. 6 — Wiring According to the Wiring Template

After the electric heating wiring is connected and before powering on:

- check all wiring and ensure a reliable connection of the wire body
- ensure the electric heating screw is tightened
- ensure the size selection of the power wire meets the power supply requirements.

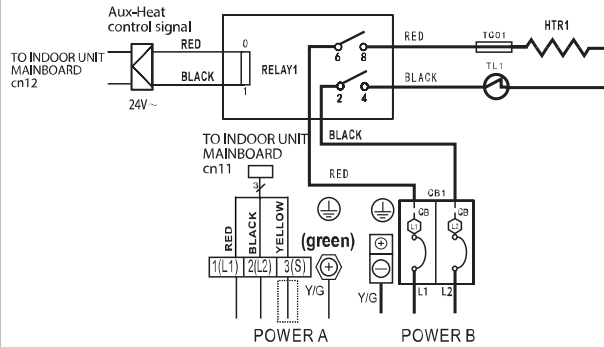
NOTE: An electric auxiliary heating wiring diagram is supplied with the accessories. For maintenance convenience, paste the wiring diagram in the inside cover after the installation of electric auxiliary heating modules is complete.

NOTE: After installing the electric auxiliary heat module, adhere the air switch label near the upper cover air switch.

ELECTRIC AUXILIARY HEATING WIRING DIAGRAM

5KW 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. All the round holes located on the plate represent numbers. Please refer to the Installation Manual for details.

Round hole number	Relay number	Round hole number	Circuit breaker number
0	RELAY1	0	CB1
00		00	
000		000	
0000		0000	

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

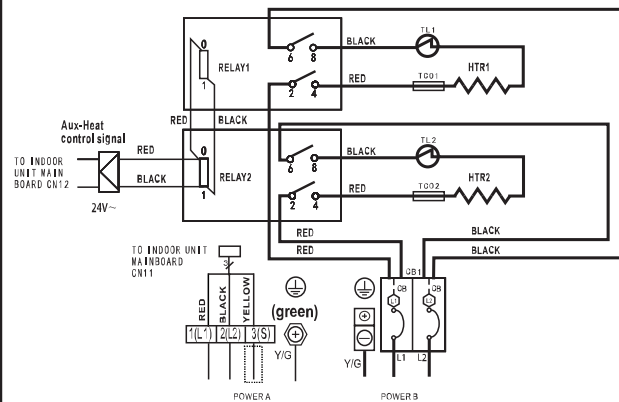
NOTE4: POWER A,B,C,D ARE DIFFERENT POWERS.

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.



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:

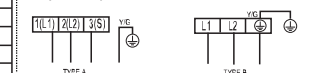
Please attach the nameplate to the cover of the electric control box. All the round holes located on the plate represent numbers. Please refer to the Installation Manual for details.

Round hole number	Relay number	Round hole number	Circuit breaker number
0	RELAY1	0	CB1
00	RELAY2	00	
000		000	
0000		0000	

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

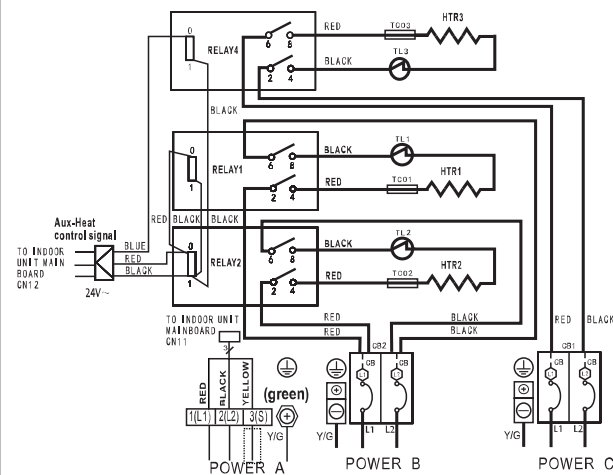
NOTE4: POWER A,B,C,D ARE DIFFERENT POWERS.

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.



15KW 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:

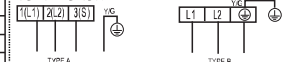
Please attach the nameplate to the cover of the electric control box. All the round holes located on the plate represent numbers. Please refer to the Installation Manual for details.

Round hole number	Relay number	Round hole number	Circuit breaker number
0	RELAY1	0	CB1
00	RELAY2	00	CB2
000	RELAY4	000	
0000		0000	

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

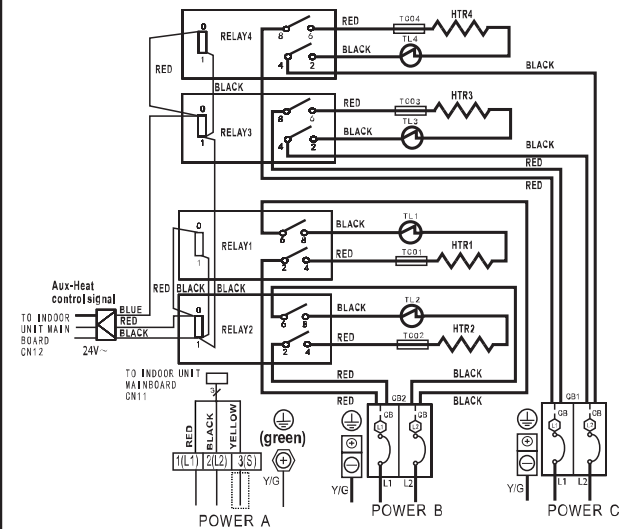
NOTE4: POWER A,B,C,D ARE DIFFERENT POWERS.

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.



20KW 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. All the round holes located on the plate represent numbers. Please refer to the Installation Manual for details.

Round hole number	Relay number	Round hole number	Circuit breaker number
0	RELAY1	0	CB1
00	RELAY2	00	CB2
000	RELAY3	000	
0000	RELAY4	0000	

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.

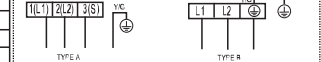


Fig. 7 — Electric Auxiliary Heating Wiring Diagram

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ELECTRIC AUXILIARY HEATING WIRING DIAGRAM (CONT)

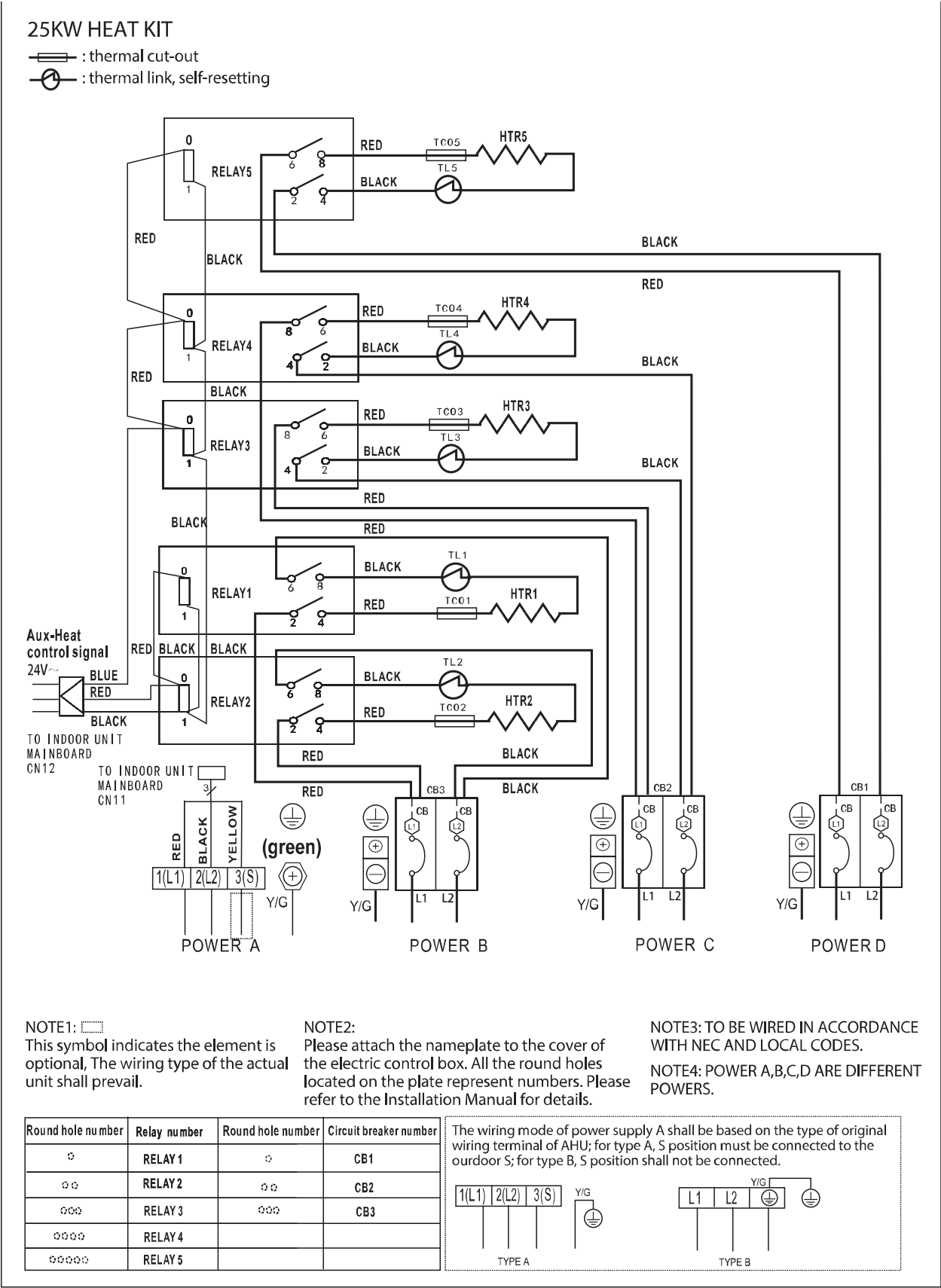
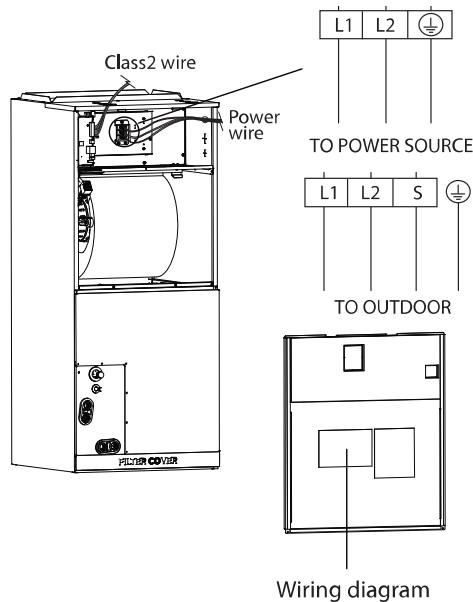


Fig. 8 —Electric Auxiliary Heating Wiring Diagram

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Table 4 — Specifications

Specifications	No. of Circuit Breakers	No. of Relays	No. of Power Cord Groups	No. of Power Cord Grounding Screws
5kW	1	1	2	2
8kW	1	2	2	2
10kW	1	2	2	2
15kW	2	3	2	2
20kW	2	4	3	3
25kW	3	5	4	4

**Fig. 9 —Indoor Unit Wiring Diagram**

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NOTE: The electric auxiliary heat wiring diagram is supplied with the accessories. Paste the wiring diagram in the designated position after installing the heat modules.

INSTALLING DUCTWORK

Connect the supply-air duct over the outside of the 3/4in (19 mm) flanges provided on the supply-air opening. Secure the duct to the flange, using proper fasteners for the type of duct used, and seal duct-to-unit joint. If the return-air flanges are required, install the factory-authorized accessory kit.

Use flexible connectors between the ductwork and unit to prevent transmission of vibration. When the electric heater is installed, use heat-resistant material for the flexible connector between the ductwork and the unit at the discharge connection. Ductwork passing through the unconditioned space must be insulated and covered with a vapor barrier.

Units equipped with 20kW or greater electric heaters require a 1in (25mm) clearance to combustible materials for the first 36in (914mm) of supply duct. Follow the local codes.

DUCTWORK ACOUSTICAL TREATMENT

Metal duct systems that do not have a 90 degree elbow and 10ft (3m) of main duct to first branch takeoff may require internal acoustical insulation lining. As an alternative, fibrous ductwork may be used if constructed and installed in accordance with the latest edition of the SMACNA construction standard on fibrous glass ducts. Both acoustical lining and fibrous ductwork shall comply with the National Fire Protection Association as tested by UL Standard 181 for Class 1 air ducts.

A large number of issues encountered with split-system installations can be linked to improperly designed or installed duct systems. It is therefore very important that the duct system be properly designed and installed.

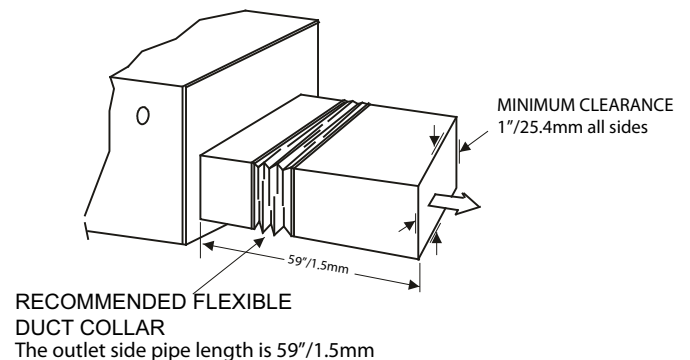
Use of flexible duct collars is recommended to minimize the transmission of vibration/noise into the conditioned space. Where the return air duct is short, or where sound is liable to be a problem, sound absorbing glass fiber should be used inside the duct.

Insulation of duct work must be installed according to local codes and best practices. The supply air duct should be properly sized by use of a transition to match unit opening.

This unit is not designed for non-ducted (freeblow) applications.

NOTE: Duct work should be fabricated and installed in accordance with local and/or national codes.

Plenum Clearances



A220799

Fig. 10 — Flexible Duct Collar Connection

