

COMMERCIAL SPLIT SYSTEM KITS AND ACCESSORIES

508691-01
3/2025

ELEH SERIES UNITS

INSTALLATION INSTRUCTIONS FOR ELEH SERIES ELECTRIC HEAT SECTIONS USED WITH EL072-240KA SERIES UNITS

Shipping and Packing List

Package 1 of 1 contains:

- 1 – Assembled electric heat section
- 1 – Bag assembly containing 16 sheet-metal screws
- 1 – Plastic bushing
- 1 – Wiring diagram

WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier.

CAUTION

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

WARNING



Electric Shock Hazard! – Disconnect all power supplies before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

WARNING

To prevent serious injury or death:

1. Lock-out/tag-out before performing maintenance.
2. If system power is required (e.g., smoke detector maintenance), disable power to blower, remove fan belt where applicable, and ensure all controllers and thermostats are set to the “OFF” position before performing maintenance.
3. Always keep hands, hair, clothing, jewelry, tools, etc. away from moving parts.

Requirements

Installation of electric heat sections must conform with standard in National Fire Protection Association (NFPA) Standard for Installation of Air Conditioning and Ventilation Systems NFPA No. 90A, Standard for the Installation of Residence Type Warm Air Heating and Air Conditioning System NFPA No. 90B, manufacturer’s installation instructions and local municipal building codes.

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Wiring must conform to the current National Electric Code ANSI/NFPA No. 70, or Canadian Electric Code Part I, CSA Standard C22.1, and local building codes. Refer to following wiring diagrams. See unit nameplate for minimum circuit ampacity and maximum over-current protection size.

Select the proper supply circuit conductors in accordance with tables 310-16 and 310-17 in the National Electric Code, ANSI/NFPA No. 70 or tables 1 through 4 in the Canadian Electric Code, Part I, CSA Standard C22.1.

Application

The ELEH electric heat sections are designed for indoor use only, as partial units, not accessible to the public. ELEH sections are used as primary heaters for ELKA Series air handler units (EL072-240KA).

NOTE – *Appliance intended only for indoor use (excluding laundry rooms).*

NOTE – *For installation only in locations NOT accessible to the general public, such as under a drop ceiling or within a mechanical closet.*

WARNING: ELKA Series air handler units are equipped with R-454B Refrigerant and a Leak Detection System. Read and follow ALL refrigerant safety and application considerations detailed in the installation instructions manual provided with the ELKA units.

ELEH sections can be installed on a ELKA unit in either Upflow or Horizontal Applications as illustrated in figures 1 and 2.

ELEH sections are securely mounted to the ELKA unit at the supply duct connection. ELEH section has built in supply duct flanges at its outlet matching the ELKA unit supply duct flanges.

ELEH section contains the sub-fusing and power wiring harness for powering the ELKA unit. Refer to wiring diagrams in Figures 8 – 15 for wiring and fusing details.

ELEH electric heater section must remain powered, except for servicing, so the Leak Detection System in the ELKA unit always remains powered.

NOTE – If a ELEH section will be installed onto an existing ELKA unit (EL072-240KA), you must verify the power supply wiring is sized to carry both air handler and electric heater load. If it is not properly sized for this load, the supply wiring **MUST** be replaced.

CAUTION

Leak Detection System installed. Unit must be powered except for service.

WARNING

Maximum Altitude of application is 2000m above sea level.

WARNING

For appliances using A2L refrigerants connected via an air duct system to one or more rooms, only auxiliary devices approved by the appliance manufacturer or declared suitable with the refrigerant shall be installed in connecting ductwork.

WARNING

Auxiliary devices which may be a potential ignition source shall not be installed in the duct work. Examples of such potential ignition sources are hot surfaces with a temperature exceeding 700°C and electric switching devices.

CAUTION

Any service personnel installing, decommissioning, or performing maintenance on the unit must be properly trained with A2L refrigerants

CAUTION

Servicing shall be performed only as recommended by the manufacturer.

WARNING

Ducts connected to an appliance shall not contain a potential ignition source

WARNING

Every working procedure that affects safety means shall only be carried out by competent persons. This appliance is not to be used 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 they do not play with the appliance.

IMPORTANT

Verify cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

IMPORTANT

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

Installation

- 1 - If the air handler unit has been previously installed, remove the duct from the supply air side of the blower coil unit. Confirm factory-provided supply duct flanges are installed on air handler before proceeding with ELEH installation. If flanges are missing, please contact Commercial Application department.
- 2 - If the air handler unit has not been installed, carefully read and follow the air handler installation instructions before starting ELEH installation. The ELEH electric heater requires the supply air flanges, provided with air handler, be installed before proceeding with ELEH installation.
- 3 - Remove the air handler blower access panel and the internal control box cover.
- 4 - Remove the air handler knockout located beside the supply air blower opening.
- 5 - Install 7/8" plastic bushing into knockout.

NOTE - The electric heat section flanges will fit inside the air handler supply duct flanges. When properly oriented, the electric heat section and air handler control boxes are accessible from same side of the air handler. The snap bushing in the electric heat section control box will align with snap bushing just installed next to blower opening. See figures 1 and 2.

- 6 - Align the electric heat section flanges just inside the air handler supply duct flanges. Mating holes in both flanges are provided. Secure together using provided screws. Refer to figures 1 and 2.

Unit Dimensions

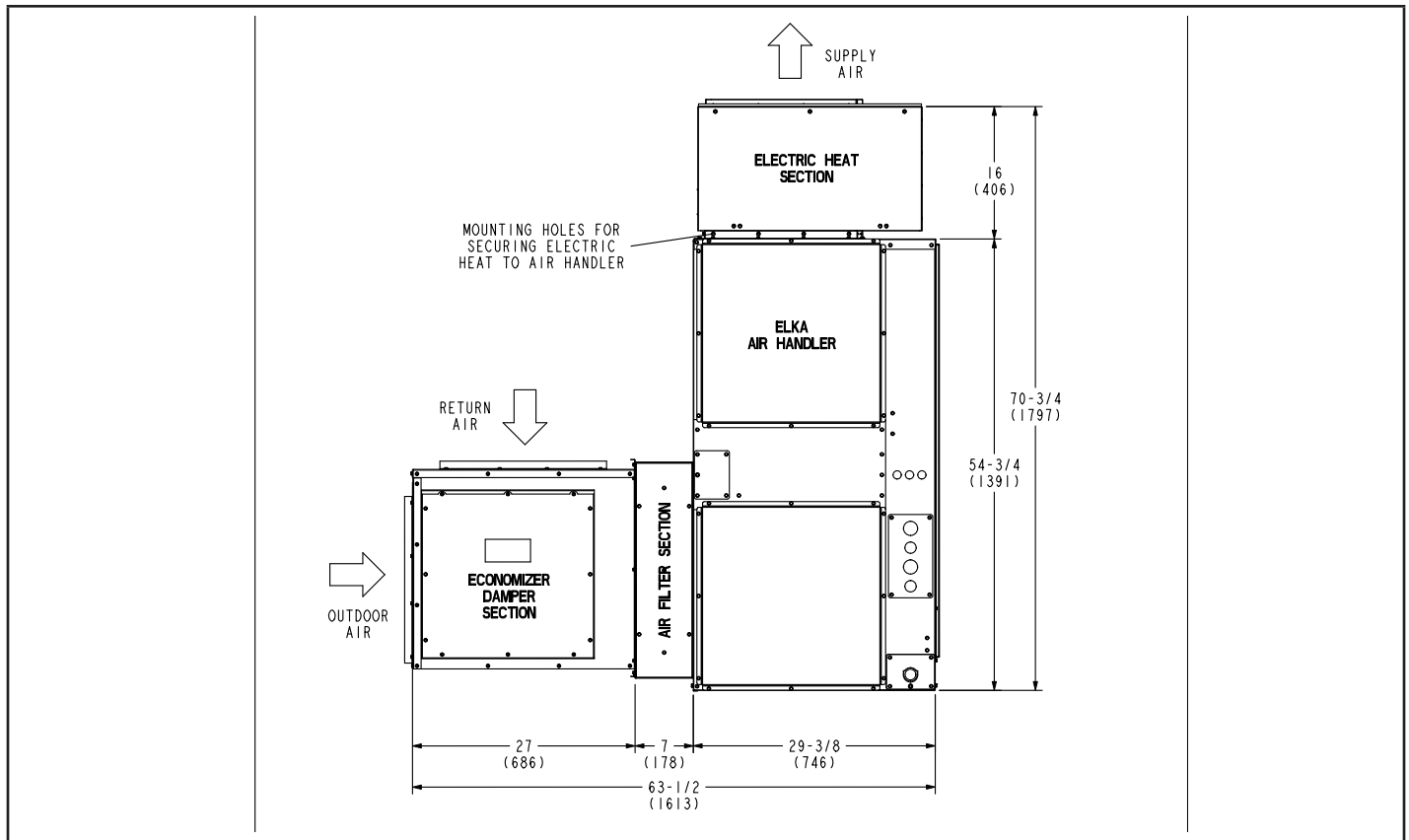


FIGURE 1. ELKA Upflow Application – Dimensions – Inches (mm)

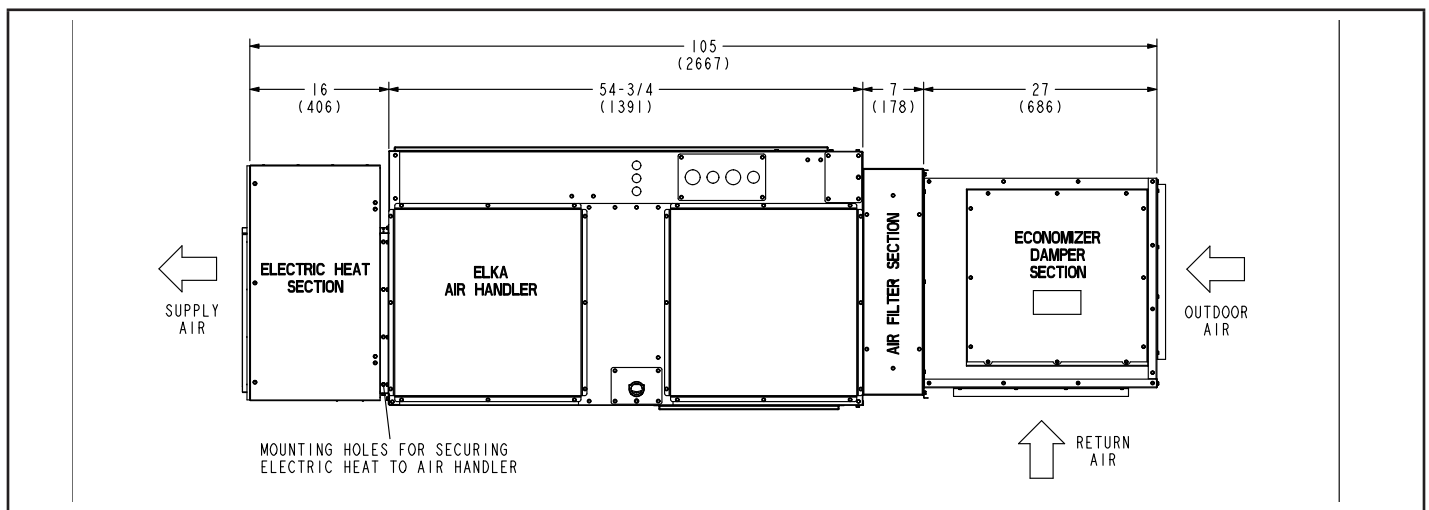


FIGURE 2. ELKA Horizontal Application – Dimensions – Inches (mm)

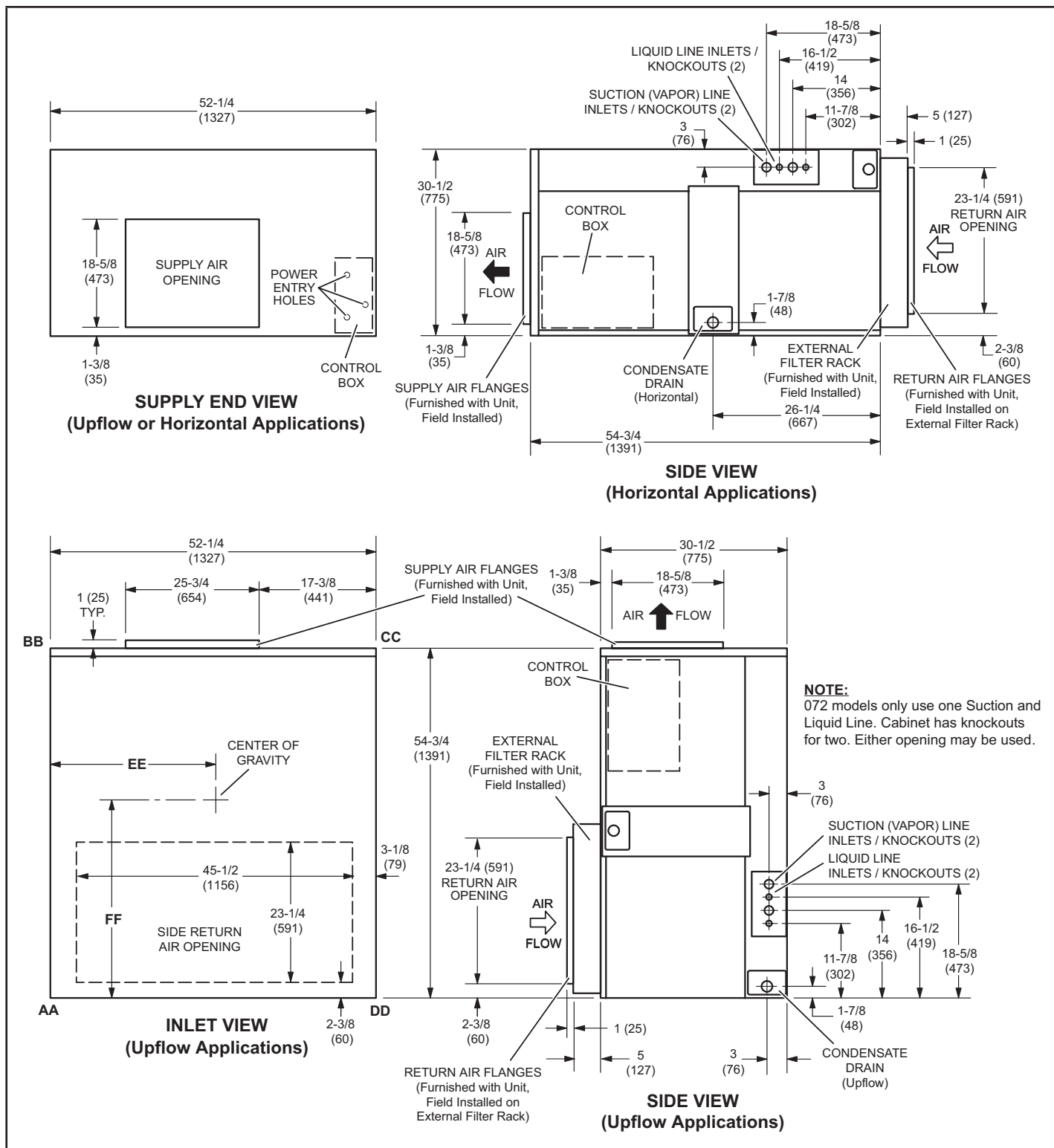


FIGURE 3. EL072-090KA Unit Dimensions – inches (mm)

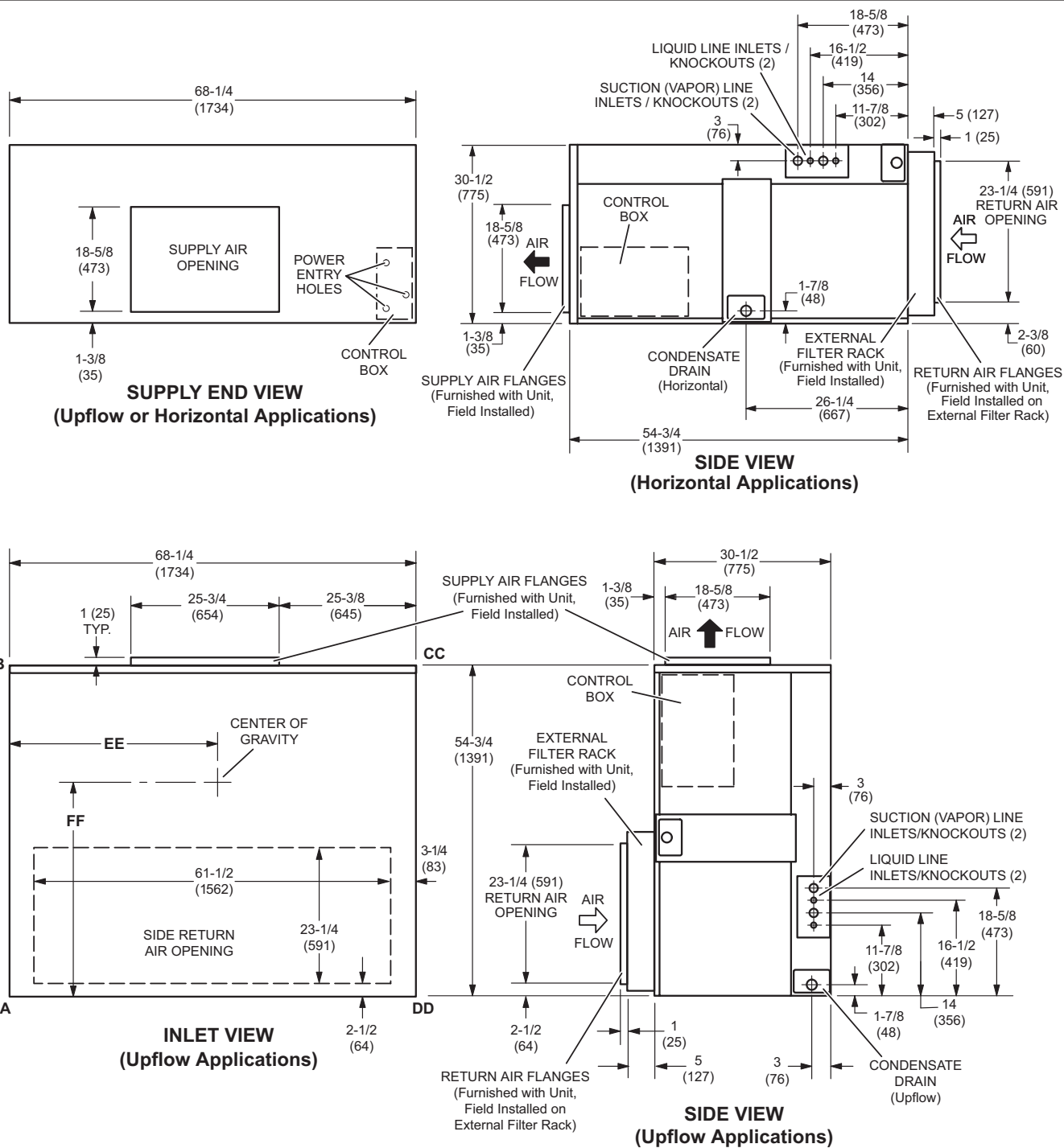


FIGURE 4. EL120-150KA Unit Dimensions – Inches (mm)

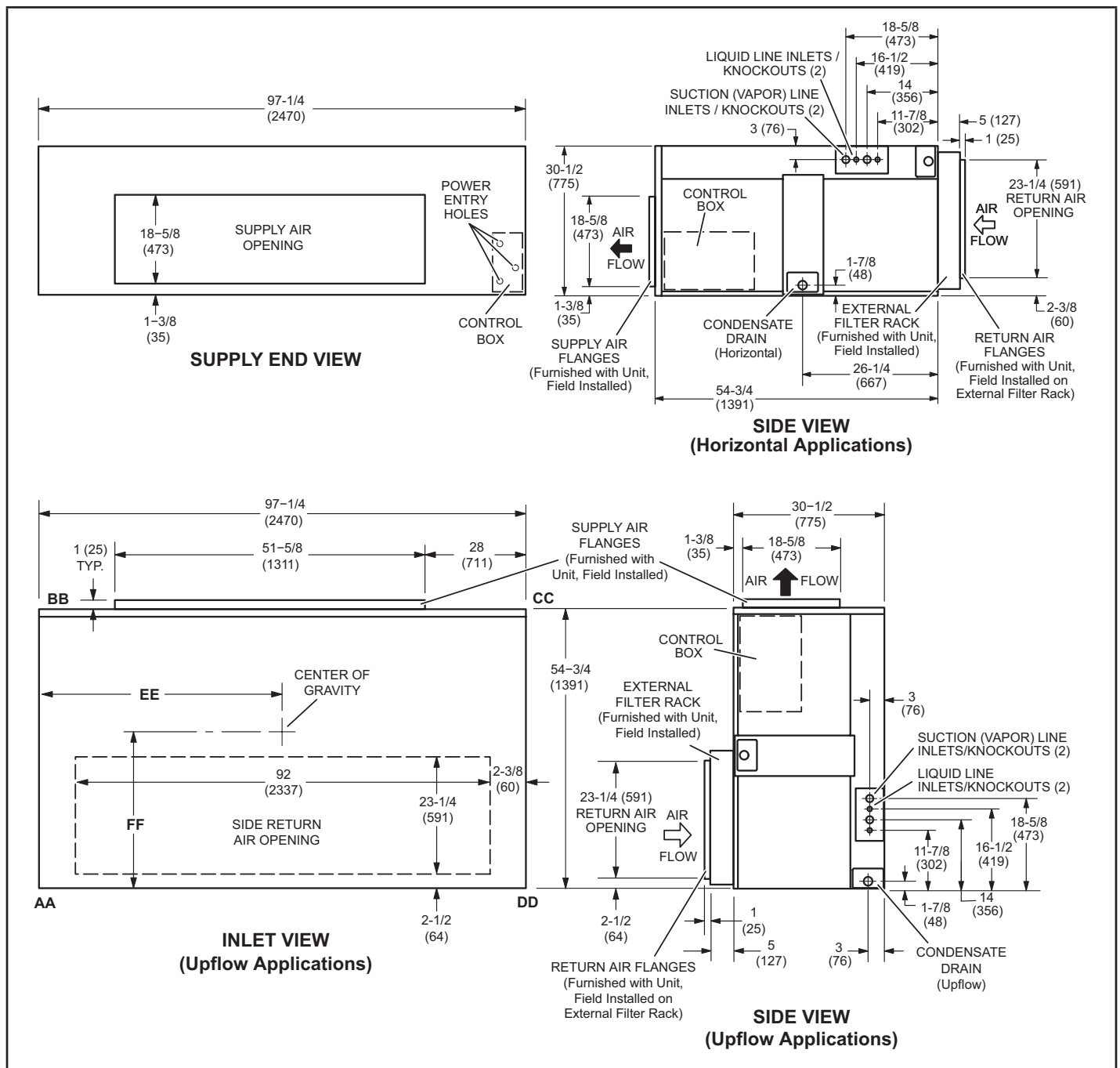


FIGURE 5. EL180-240KA Unit Dimensions – Inches (mm)

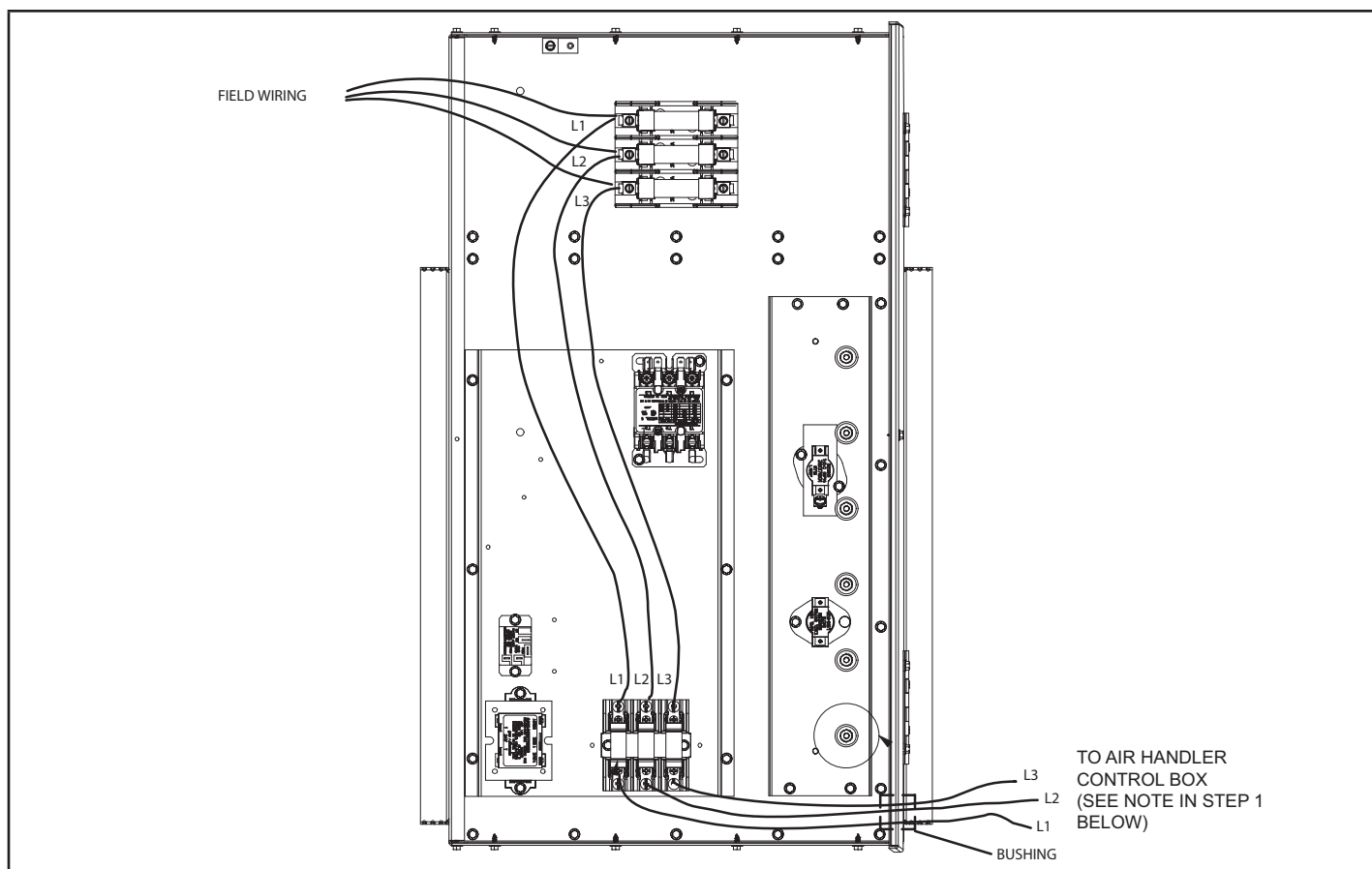


FIGURE 6. Typical Wire Routing

Electrical Connections

⚠ CAUTION

USE COPPER CONDUCTORS ONLY.

⚠ WARNING

Fire Hazard. Use of aluminum wire with this product may result in a fire, causing property damage, severe injury or death. Use copper wire only with this product.

⚠ WARNING

ELECTROSTATIC DISCHARGE (ESD)
Precautions and Procedures

Electrostatic discharge can affect electronic components. Take care during unit installation and service to protect the unit's electronic controls. Precautions will help to avoid control exposure to electrostatic discharge by putting the unit, the control and the technician at the same electrostatic potential. Touch hand and all tools on an unpainted unit surface before performing any service procedure to neutralize electrostatic charge.

⚠ WARNING



Electric Shock Hazard. Can cause injury or death. Unit must be properly grounded in accordance with national and local codes.

Line voltage is present at all components when unit is not in operation on units with single-pole contactors. Disconnect all remote electric power supplies before opening access panel. Unit may have multiple power supplies.

⚠ WARNING

Failure to use properly sized wiring and circuit breaker may result in property damage. Size wiring and circuit breaker(s) per Product Specifications bulletin (EHB) and unit rating plate.

- 1 – Route the provided air handler power wiring through both the grommet and 7/8" bushing into the air handler as illustrated in figure 6.
- 2 – Power wires should enter the air handler control box through the formed hole in the right side of the box. The correct hole will have yellow and blue wires passing through the opening.
- 3 - Run the wires along VFD's right-hand side, next to back wall of control box, and secure in power distribution block lugs (TB13). Refer to figure 7 for control box component details.

Unit Control Box Components Arrangement

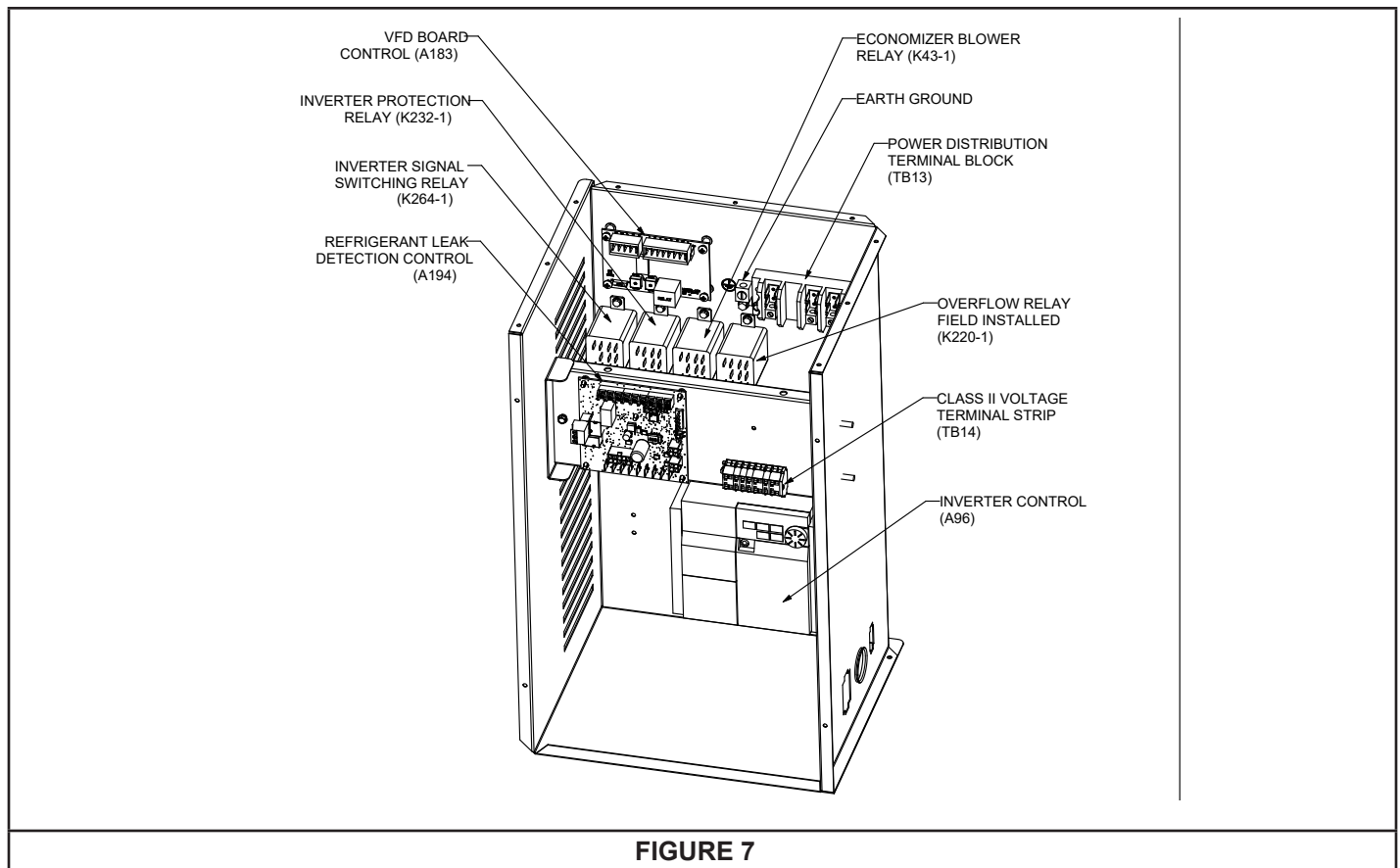


FIGURE 7

4 – Secure the power wires away from any moving parts inside the air handler.

NOTE - The electric heater control box is provided with either 2 or 3 stepped knockout holes. One hole should be used for field power wires and the other for low voltage wires.

5 – Select and remove one knockout for building power and one knockout for control wires. Install into each hole an appropriately sized conduit fitting based upon hole size created.

6 – Insert the field power into control box, securing with conduit fitting, and connect as shown in specific electric heater wiring diagram. Wiring diagrams provided as figures 8 through 15.

7 - Route the low voltage wiring out of control box, securing with conduit fitting.

8 – Connect field provided Class II Low Voltage wiring to the electric heater control wires.

9 - Route field provided wiring into air handler via same opening as main thermostat wires. The field provided Class II Low Voltage wiring should be secured so that no interference exists with opening/closing of the hinged electric heater access panel.

10 - Connect control wiring per specific electric heater wiring diagram.

11 – Reinstall air handler panels, close electric heater access panel and secure.

Blower Speed Requirements

ELEH electric heat applications require minimum specific blower air volumes. The minimum allowable heating air flow by air handler model has been listed in Table 1 below. Refer to the air handler nameplate for maximum allowable static pressure and clearances. To determine and adjust unit CFM, refer to the EL072-240KA series installation instruction manual.

TABLE 1

Air Handler Model	Minimum Allowable CFM (in Heating)
EL072KA	1920
EL090KA	2400
EL120KA	3200
EL150KA	4000
EL180KA	4800
EL240KA	6400

Duct Connections

For electric heater supply duct sizing, refer to Electric Heat Section Dimensions in this document for duct connection sizes. The service access and installation clearances are listed in the EL072-240KA series installation instructions.

Unit Start-Up (Heating Cycle)

- 1 - Set the room thermostat operation mode to induce a HEATING demand to the air handler.
- 2 - Verify proper electric heater operation.
- 3 - Once operation verified, return thermostat to original operation mode and setpoints.
- 4 - Using a permanent marker, indicate the heater installed on the air handler nameplate.
- 5 - Install the wiring diagram provided EITHER on the ELEH heat section access cover OR next to the wiring diagram on the Air Handler.

Preventative Maintenance / Repair

Preventative maintenance of the ELEH series heat sections should be performed in conjunction with preventative maintenance on ELKA Series Air Handler unit. Read and follow the IMPORTANT MAINTENANCE / REPAIR SAFETY INSTRUCTIONS located in the ELKA Series Installation Instructions prior to any preventative maintenance or repairs on the ELEH heat section.

CAUTION

Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch.

At the beginning of each heating season, the heat section should be checked as follows:

- 1 – Open ELEH access panel by removing 3 securing screws; retain screws.
- 2 – Check wiring for loose connections and correct if found.
- 3 – Visually inspect wiring and components for damage or wear and correct if found.
- 4 – Close ELEH access panel and secure with 3 retained screws.

TABLE 2. Fuse Replacement Label – Small Cabinet

FUSE REPLACEMENT LABEL ²					
MODEL NO.	KEY NUMBER ¹	QUANTITY	CLASS	AMPS	VAC
ELEH0010LM1Y	F3	3	RK5	35	250
	F4	3	J	30	600
ELEH0015LM1Y	F3	3	RK5	50	250
	F4	3	J	30	600
ELEH0025LM1Y	F3	6	RK5	40	250
	F4	3	J	30	600
ELEH0035LM1Y	F3	6	RK5	60	250
	F4	3	J	30	600
ELEH0010LM1G	F3	3	J	20	600
	F4	3	J	15	600
ELEH0015LM1G	F3	3	J	25	600
	F4	3	J	15	600
ELEH0025LM1G	F3	3	T	40	600
	F4	3	J	15	600
ELEH0035LM1G	F3	3	T	50	600
	F4	3	J	15	600
ELEH0010LM1J	F3	3	J	15	600
	F4	3	J	15	600
ELEH0015LM1J	F3	3	J	20	600
	F4	3	J	15	600
ELEH0025LM1J	F3	3	T	35	600
	F4	3	J	15	600
ELEH0035LM1J	F3	3	T	40	600
	F4	3	J	15	600

¹REFER TO ELEH WIRING DIAGRAM²USE TIME-DELAY TYPE

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TABLE 3. Fuse Replacement Label – Large Cabinet

FUSE REPLACEMENT LABEL ²					
MODEL NO.	KEY NUMBER ¹	QUANTITY	CLASS	AMPS	VAC
ELEH0020N-1Y	F3	3	RK5	60	250
	F4	3	J	30	600
ELEH0030N-1Y	F3	6	RK5	50	250
	F4	3	J	30	600
ELEH0040N-1Y	F3	6	RK5	60	250
	F4	3	J	30	600
ELEH0050N-1Y	F3	9	RK5	60	250
	F4	3	J	30	600
ELEH0020N-1G	F3	3	T	35	600
	F4	3	J	15	600
ELEH0030N-1G	F3	3	T	50	600
	F4	3	J	15	600
ELEH0040N-1G	F3	3	T	60	600
	F4	3	J	15	600
ELEH0050N-1G	F3	6	T	40	600
	F4	3	J	15	600
ELEH0020N-1J	F3	3	J	25	600
	F4	3	J	15	600
ELEH0030N-1J	F3	3	T	40	600
	F4	3	J	15	600
ELEH0040N-1J	F3	3	T	50	600
	F4	3	J	15	600
ELEH0050N-1J	F3	6	T	35	600
	F4	3	J	15	600

¹REFER TO ELEH WIRING DIAGRAM²USE TIME-DELAY TYPE

1224

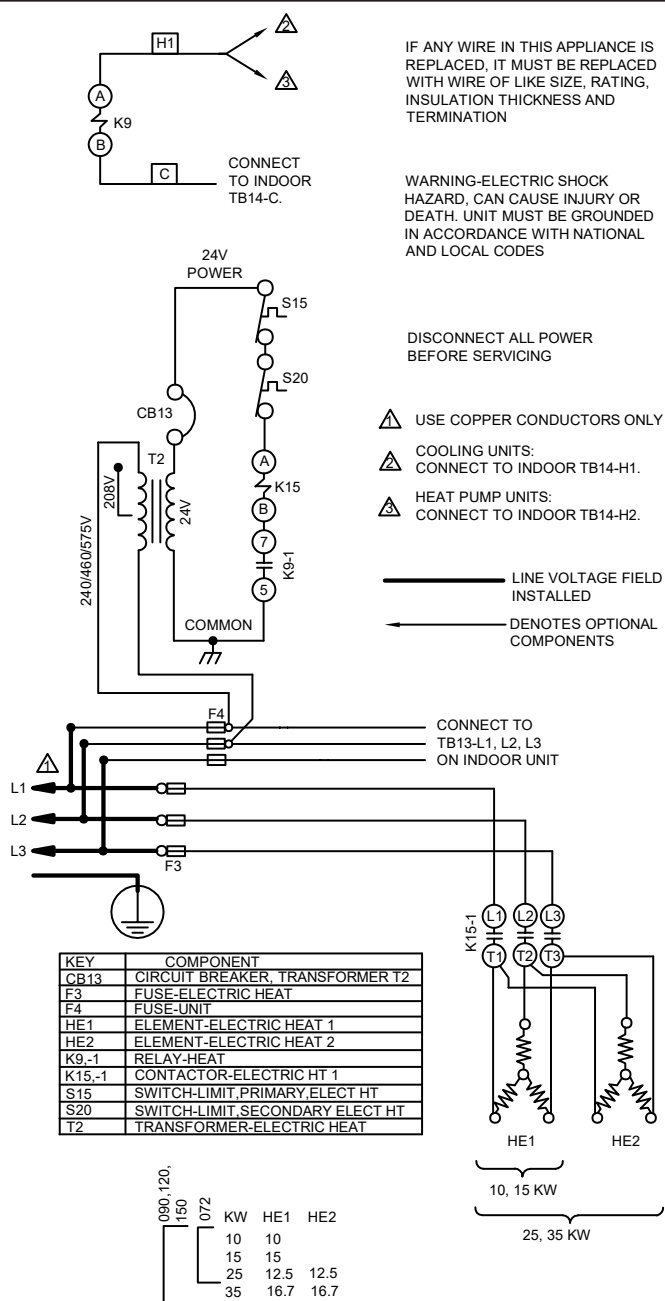



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Decommissioning

When the matched set (ELKA Series Air Handler and ELEH heat section) is to be decommissioned, read and follow the decommissioning instructions located in ELKA Series Installation Instructions.

Wiring Diagrams

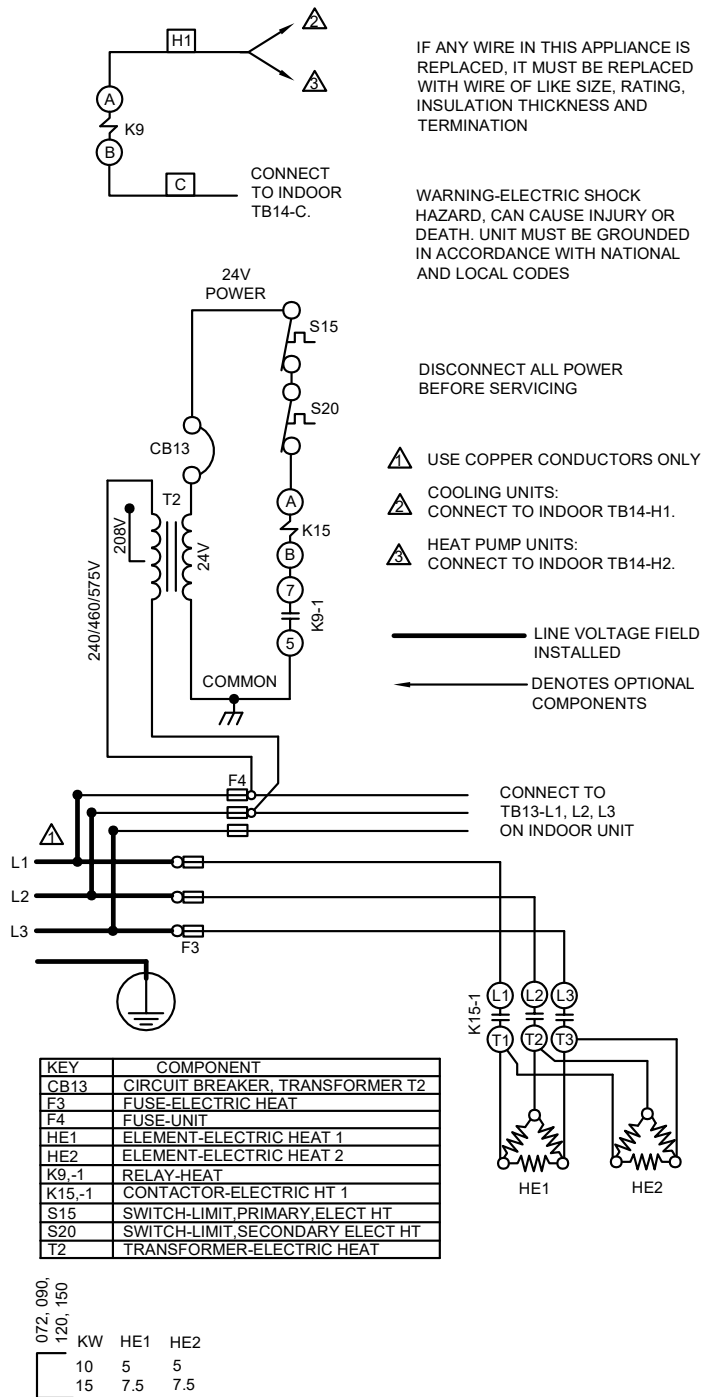



2025/01		WIRING DIAGRAM	01/25
		538597-01	
HEATING - ELECTRIC			
ELEH - ELITE 072 - 150 UNITS - G,J 10, 15, 25, 35 kW			
SECTION B3			REV 0
Supersedes		New Form No. 538597-01	
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FIGURE 8. ELEH-10, 15, 25, 35kW (G and J Voltages) - for use with ELITE 072 - 150 UNITS

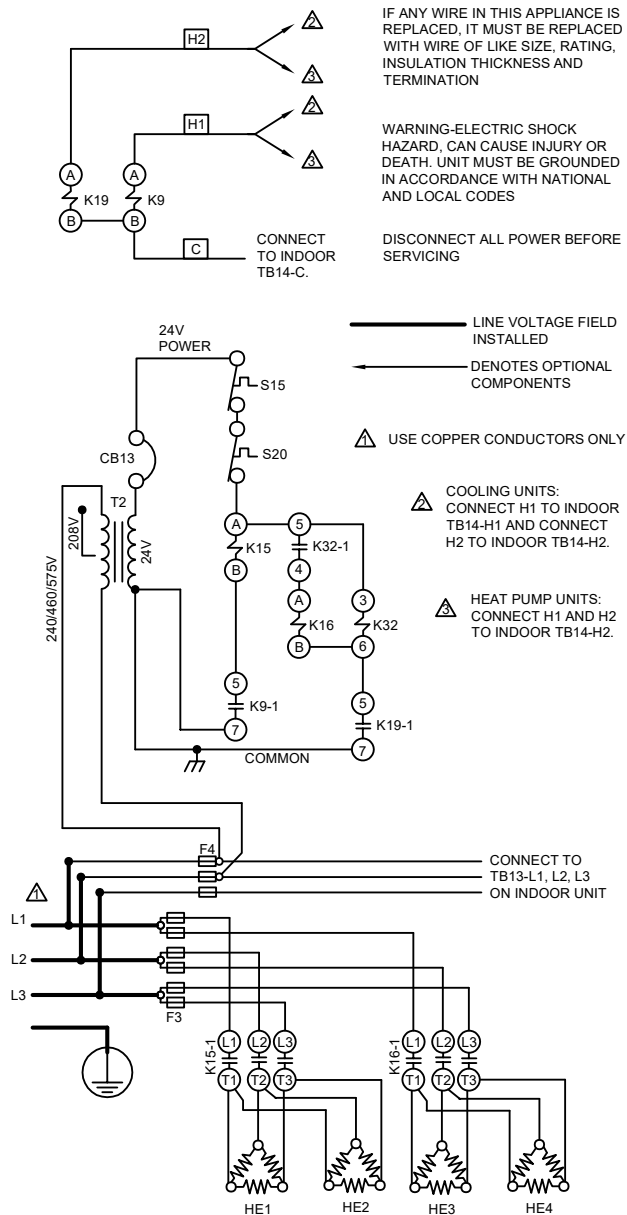


2025/01		WIRING DIAGRAM	01/25
		538600-01	
HEATING - ELECTRIC			
ELEH - ELITE 072 - 150 UNITS - Y			
10,15 kW			
SECTION B3			REV 0
Supersedes		New Form No.	
		538600-01	


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FIGURE 9. ELEH-10, 15kW (Y Voltage) for use with ELITE 072 - 150 UNITS



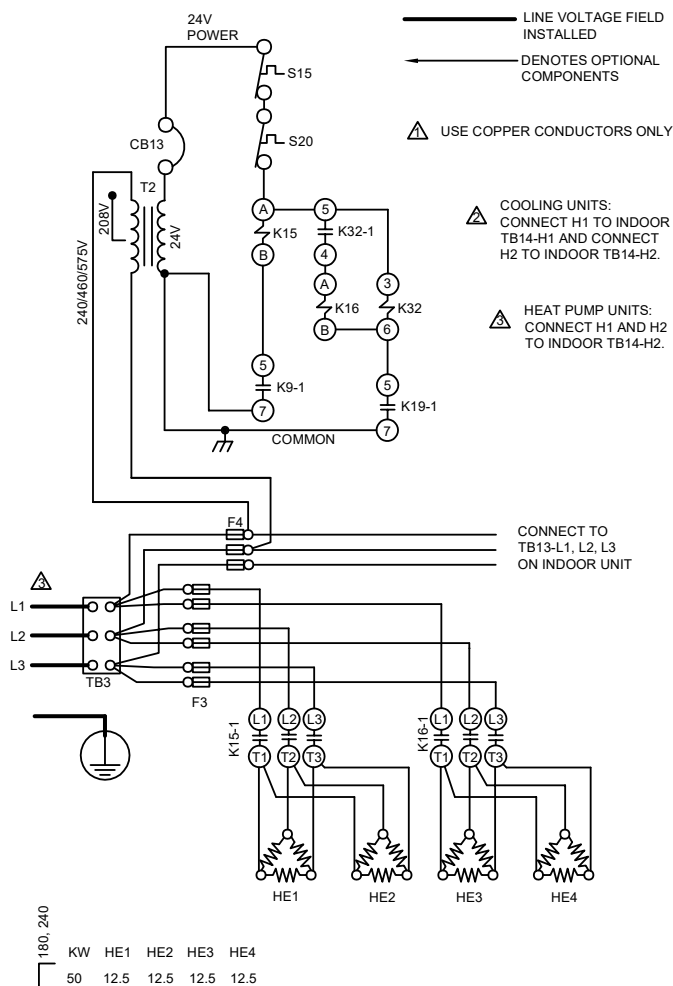
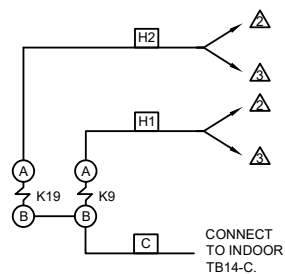
KEY	COMPONENT
CB13	CIRCUIT BREAKER, TRANSFORMER T2
F3	FUSE-ELECTRIC HEAT
F4	FUSE-UNIT
HE1	ELEMENT-ELECTRIC HEAT 1
HE2	ELEMENT-ELECTRIC HEAT 2
HE3	ELEMENT-ELECTRIC HEAT 3
HE4	ELEMENT-ELECTRIC HEAT 4
K9-1	RELAY-HEAT
K15-1	CONTACTOR-ELECTRIC HEAT 1
K16-1	CONTACTOR-ELECTRIC HEAT 2
K19-1	RELAY-STAGE TWO HEAT
K32-1	RELAY-SEQUENCER ELECT HT 2
S15	SWITCH-LIMIT PRIMARY,ELECT HT
S20	SWITCH-LIMIT SECONDARY ELECT HT
T2	TRANSFORMER-ELECTRIC HEAT

2025/01		WIRING DIAGRAM	01/25
	538601-01		
	HEATING - ELECTRIC		
	ELEH - ELITE 072 - 150 UNITS - Y		
	25,35 kW		
	SECTION B3		REV 0
	Supersedes	New Form No.	
		538601-01	
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FIGURE 10. ELEH-25, 35kW (Y Voltage) for use with ELITE 072 - 150 UNITS



KEY	COMPONENT
CB13	CIRCUIT BREAKER, TRANSFORMER T2
F3	FUSE-ELECTRIC HEAT
F4	FUSE-UNIT
HE1	ELEMENT-ELECTRIC HEAT 1
HE2	ELEMENT-ELECTRIC HEAT 2
HE3	ELEMENT-ELECTRIC HEAT 3
HE4	ELEMENT-ELECTRIC HEAT 4
K9,-1	RELAY-HEAT
K15,-1	CONTACTOR-ELECTRIC HEAT 1

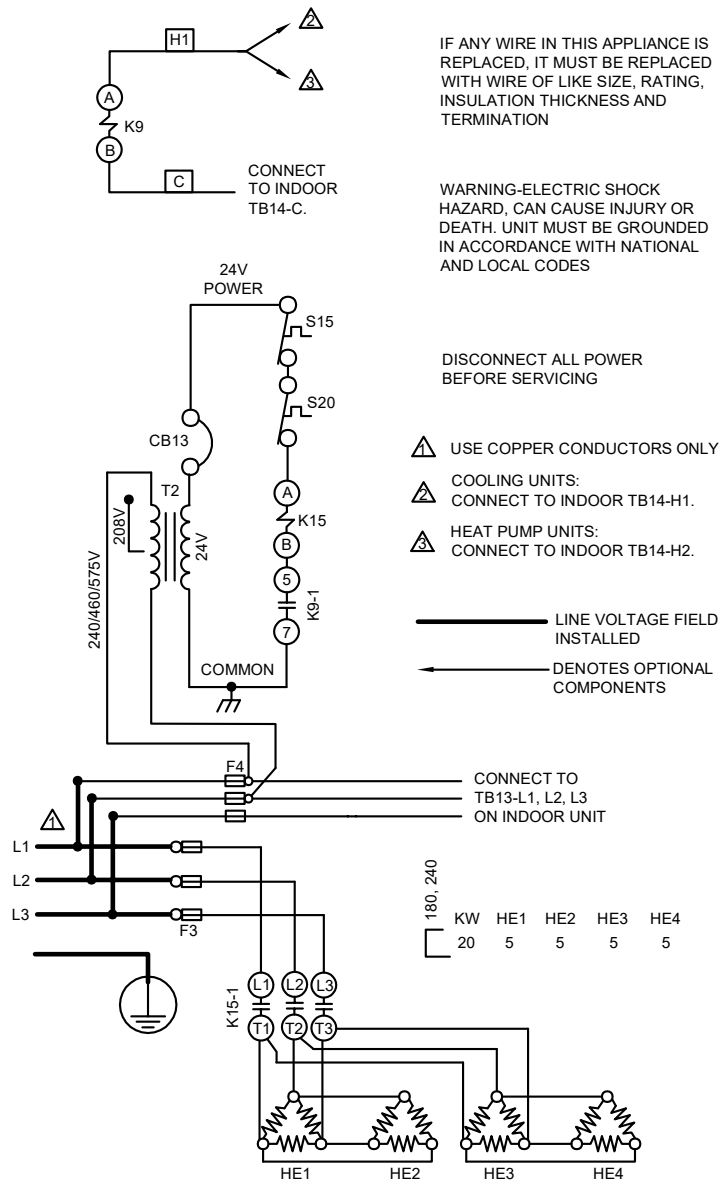
KEY	COMPONENT
K16,-1	CONTACTOR-ELECTRIC HEAT 2
K17,-1	CONTACTOR-ELECTRIC HEAT 3
K19,-1	RELAY-STAGE TWO HEAT
K32,-1	RELAY-SEQUENCER ELECT HT 2
S15	SWITCH-LIMIT, PRIMARY, ELECT HT
S20	SWITCH-LIMIT, SECONDARY ELECT HT
T2	TRANSFORMER-ELECTRIC HEAT
TB3	TERMINAL STRIP-ELECTRIC HEAT

2025/01 	WIRING DIAGRAM	01/25
	538598-01	
	HEATING - ELECTRIC	
	ELEH - ELITE 180, 240 UNITS - G,J 50KW	
SECTION B3		REV 0
Supersedes	New Form No. 538598-01	


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FIGURE 12. ELEH-50kW (G and J Voltages) for use with ELITE 180 - 240 UNITS



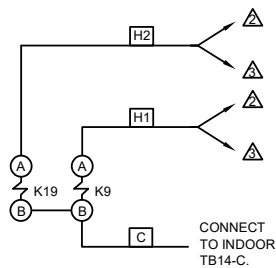
KEY	COMPONENT
CB13	CIRCUIT BREAKER, TRANSFORMER T2
F3	FUSE-ELECTRIC HEAT
F4	FUSE-UNIT
HE1	ELEMENT-ELECTRIC HEAT 1
HE2	ELEMENT-ELECTRIC HEAT 2
HE3	ELEMENT-ELECTRIC HEAT 3
HE4	ELEMENT-ELECTRIC HEAT 4
K9-1	RELAY-HEAT
K15-1	CONTACTOR-ELECTRIC HT 1
S15	SWITCH-LIMIT, PRIMARY, ELECT HT
S20	SWITCH-LIMIT, SECONDARY ELECT HT
T2	TRANSFORMER-ELECTRIC HEAT

2025/01		WIRING DIAGRAM	01/25
		538602-01	
HEATING - ELECTRIC			
ELEH - ELITE 180,240 UNITS - Y 20 kW			
SECTION B3			REV 0
Supersedes		New Form No. 538602-01	

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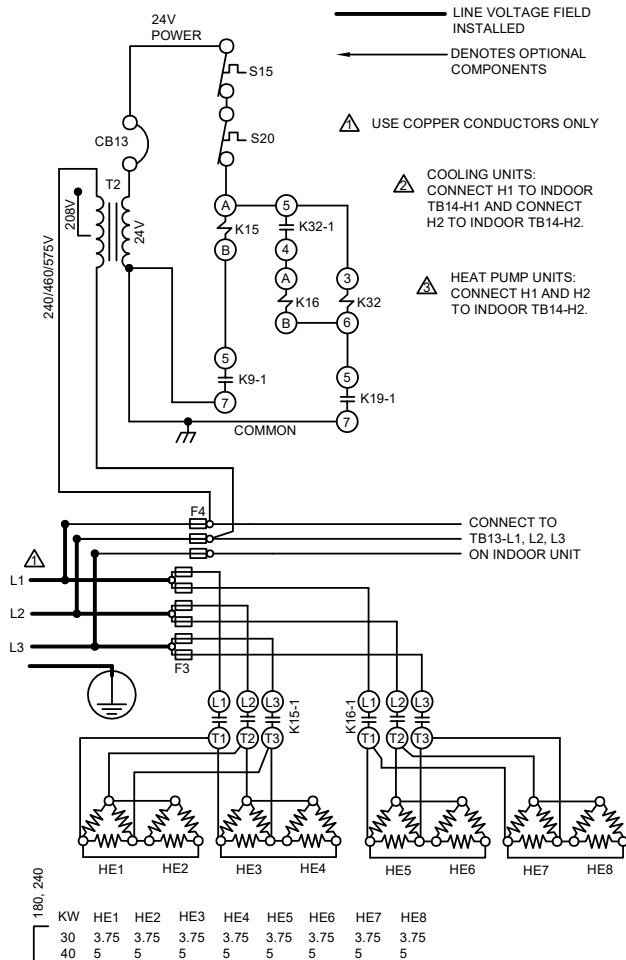
FIGURE 13. ELEH-20kW (Y Voltage) for use with ELITE 180 - 240 UNITS



IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING, INSULATION THICKNESS AND TERMINATION

WARNING-ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES

DISCONNECT ALL POWER BEFORE SERVICING



KW	HE1	HE2	HE3	HE4	HE5	HE6	HE7	HE8
30	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
40	5	5	5	5	5	5	5	5

KEY	COMPONENT
CB13	CIRCUIT BREAKER, TRANSFORMER T2
F3	FUSE-ELECTRIC HEAT
F4	FUSE-UNIT
HE1	ELEMENT-ELECTRIC HEAT 1
HE2	ELEMENT-ELECTRIC HEAT 2
HE3	ELEMENT-ELECTRIC HEAT 3
HE4	ELEMENT-ELECTRIC HEAT 4
HE5	ELEMENT-ELECTRIC HEAT 5
HE6	ELEMENT-ELECTRIC HEAT 6
HE7	ELEMENT-ELECTRIC HEAT 7

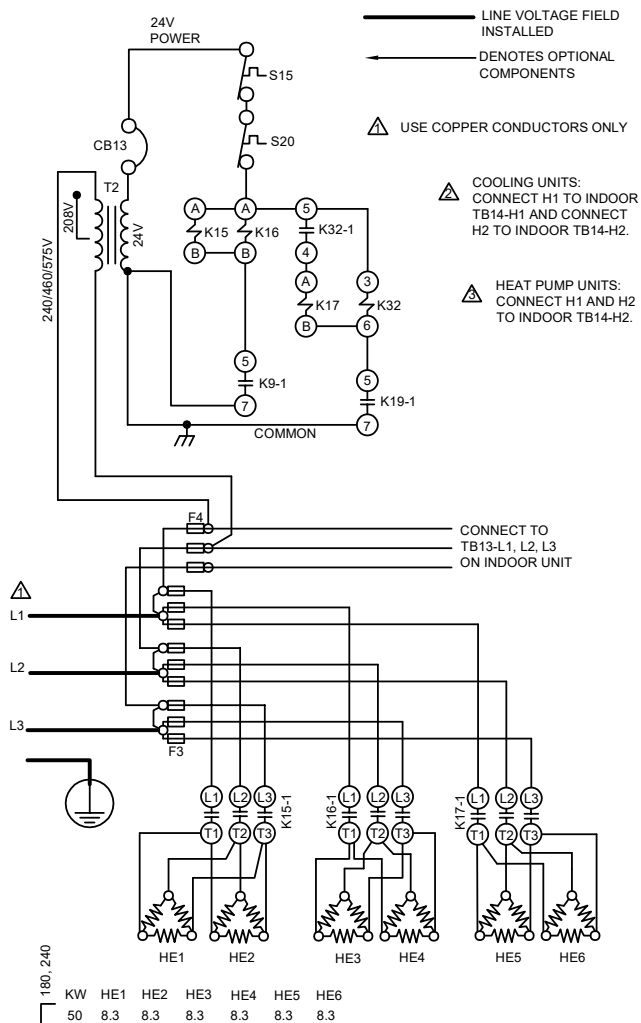
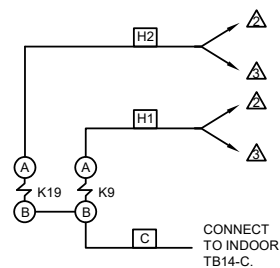
KEY	COMPONENT
HE8	ELEMENT-ELECTRIC HEAT 8
K9-1	RELAY-HEAT
K15-1	CONTACTOR-ELECTRIC HEAT 1
K16-1	CONTACTOR-ELECTRIC HEAT 2
K19-1	RELAY-STAGE TWO HEAT
K32-1	RELAY-SEQUENCER ELECT HT 2
S15	SWITCH-LIMIT PRIMARY ELECT HT
S20	SWITCH-LIMIT SECONDARY ELECT HT
T2	TRANSFORMER-ELECTRIC HEAT

2025/01	WIRING DIAGRAM	01/25
	538603-01	
	HEATING - ELECTRIC	
	ELEH - ELITE 180,240 UNITS - Y 30,40 kW	
SECTION B3		REV 0
Supersedes		New Form No. 538603-01

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FIGURE 14. ELEH-30, 40kW (Y Voltage) for use with ELITE 180 - 240 UNITS



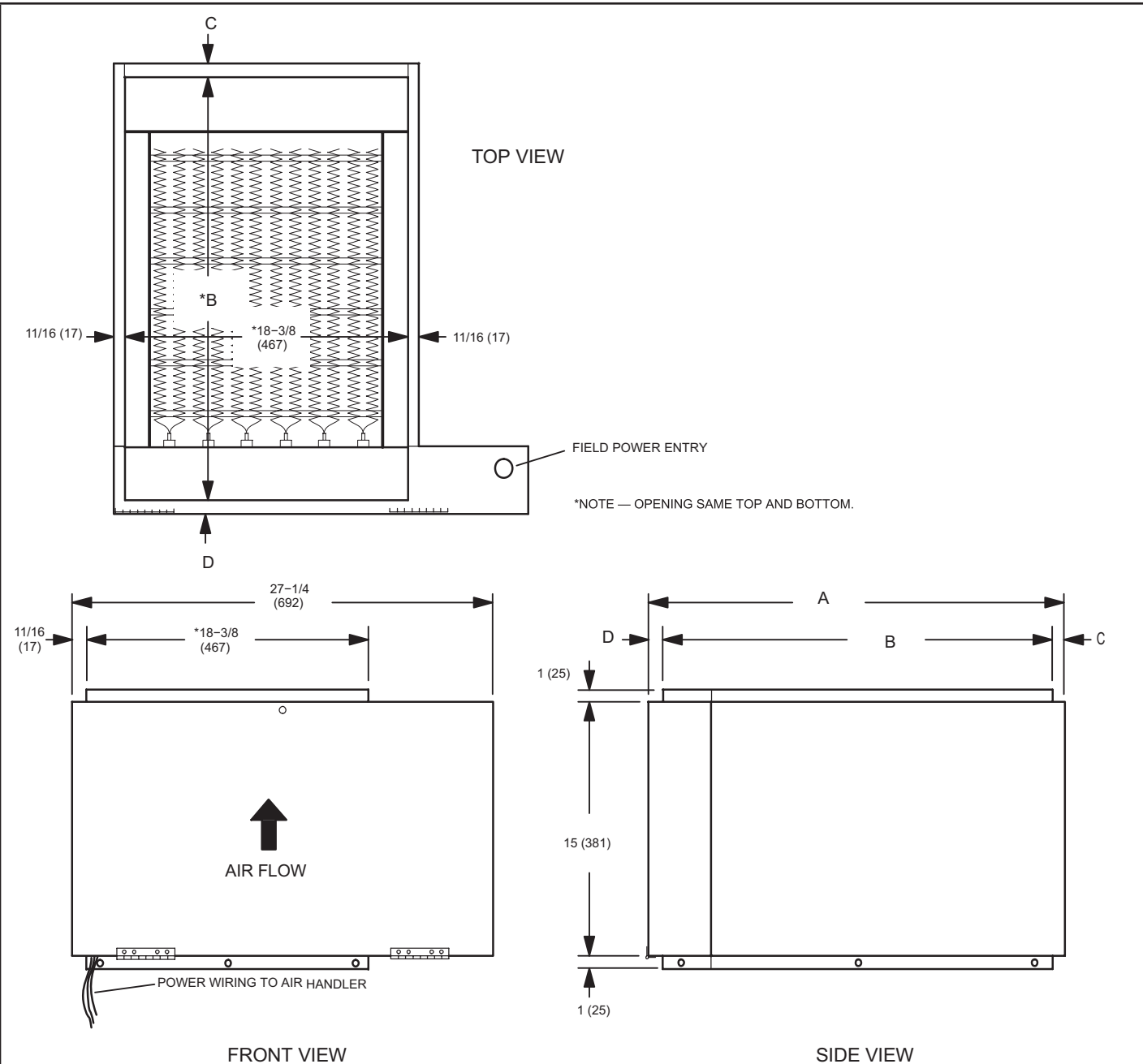
2025/01	WIRING DIAGRAM		01/25
	538604-01		
	HEATING - ELECTRIC		
	ELEH - ELITE 180,240 UNITS - Y 50 kW		
SECTION B3		REV 0	
Supersedes		New Form No. 538604-01	

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FIGURE 15. ELEH-50kW (Y Voltage) for use with ELITE 180 - 240 UNITS

Electric Heat Section Dimensions – inches (mm)



Air Handler Usage	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
EL072KA through EL150KA	27-1/8	689	25-1/2	648	13/16	21	13/16	21
EL180KA through EL240KA	56-3/4	1441	51-1/4	1302	1-1/2	38	4	102