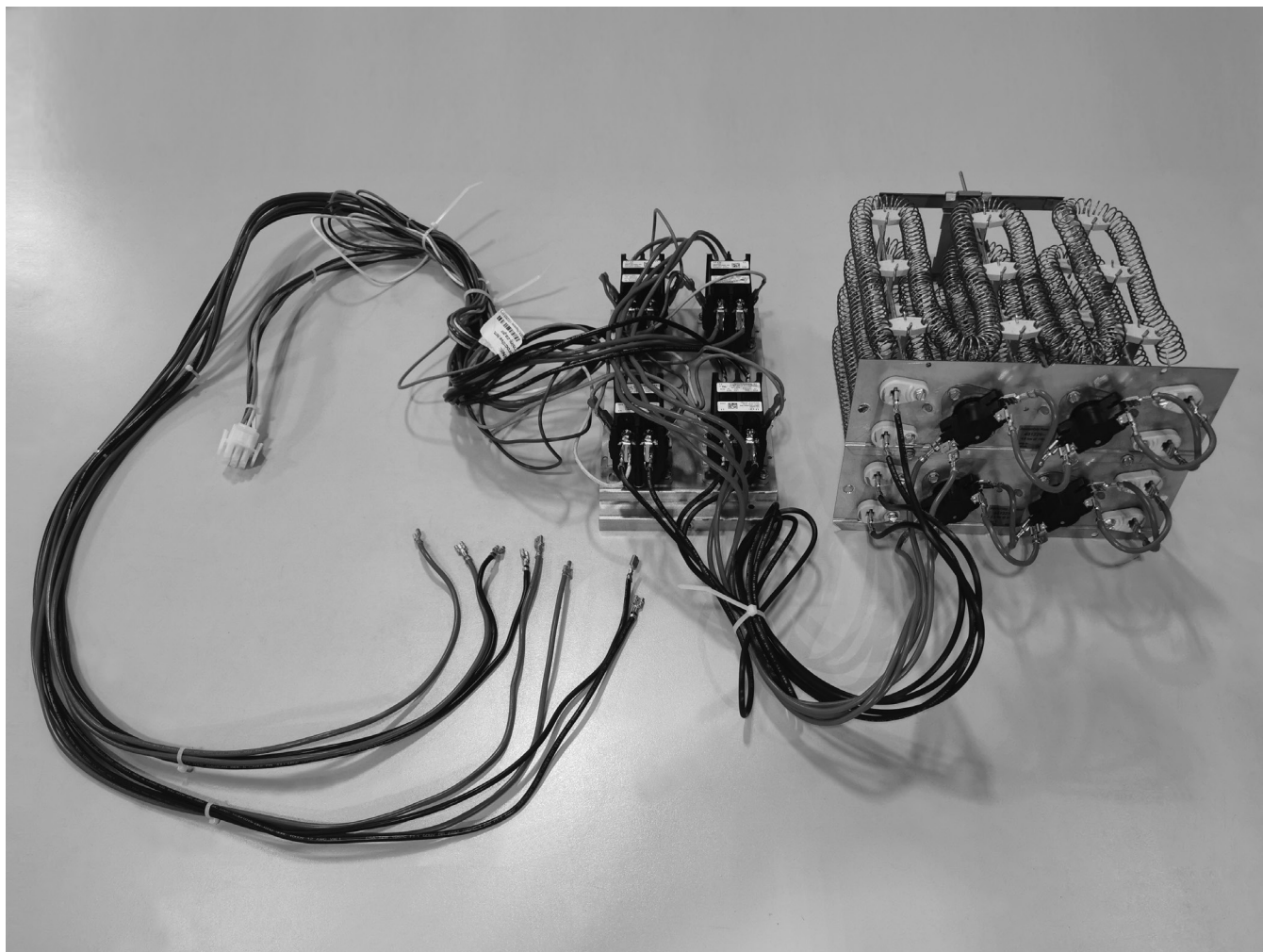


HK1 SERIES - A2L COMPLIANT

INSTALLATION INSTRUCTIONS

PACKAGE ELECTRIC HEATER KITS

Installation of HK1 Heater Kits (208 & 230V) in Packaged Air Conditioners & Packaged Heat Pumps.



IMPORTANT

ATTENTION INSTALLERS:

These instructions are primarily intended to assist qualified and certified individuals experienced in the proper installation of this appliance. Some local codes require licensed installation/service personnel for this type equipment. All installations must be in accordance with these instructions and with all applicable national and local codes and standards.

Read these instructions thoroughly before starting the installation. Return these instructions to the customer's package for future reference.

DO NOT DESTROY. PLEASE READ CAREFULLY & KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

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IMPORTANT SAFETY INFORMATION

INSTALLER: Please read all instructions before servicing this equipment. Pay attention to all safety warnings and any other special NOTES highlighted in the manual. Safety markings are used frequently throughout this manual to designate a degree or level of seriousness and should not be ignored. WARNING indicates a potentially hazardous situation that if not avoided, could result in personal injury or death. CAUTION indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

- 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.

WARNING:

ELECTRICAL SHOCK, FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in serious injury, death or property damage.

Improper servicing could result in dangerous operation, serious injury, death or property damage.

- **Before servicing, disconnect all electrical power to the unit.**
- **When servicing controls, label all wires prior to disconnecting. Reconnect wires correctly.**
- **Verify proper operation after servicing.**

WARNING:

Unless noted otherwise in these instructions, only factory authorized parts or accessory kits may be used with this product. Improper installation, service, adjustment, or maintenance may cause explosion, fire, electrical shock or other hazardous conditions which may result in personal injury or property damage.

- Use caution when removing components or handling this product. Personal injury can occur from sharp metal edges present in all sheet metal constructed equipment.

GENERAL INFORMATION

HK1 heater kits are approved for use in packaged air conditioners and packaged heat pumps when applied and installed according to these instructions. See [Table 5 \(page 8\)](#), [Table 6 \(page 9\)](#) and [Table 7 \(page 10\)](#) for approved HK1 air conditioner and heat pump applications. Refer to the National Electric Code (ANSI/NFPA 70) or in Canada the Canadian Electric Code Part 1 (CSA C.22.1) and applicable local codes for overcurrent protection and disconnect requirements.

A2L Compliance

The HK1 heater kits have A2L approved components and can be used in units with R454B and R410A refrigerant. The H3HK heater kits do not have A2L approved components and cannot be used in units with R454B refrigerant.

Clearances to Combustibles

All units are approved for zero clearance to combustibles when installed according to these instructions and other instructions included with the unit and other approved accessories. See [Table 1, \(page 4\)](#).

ELECTRICAL SUPPLY

- If the unit was previously installed without electric heat, the existing supply wiring may not be sufficient to handle the increased load. See the unit rating label or [Table 8 \(page 11\)](#), [Table 9 \(page 12\)](#) and [Table 11 \(page 14\)](#) for minimum circuit ampacities and maximum overcurrent protection ratings.
- Units with installed electric heat may be supplied by a single circuit or by multiple circuits. Additional accessory kits may be required if single circuit installation and/or circuit breakers are desired. See [Figure 1](#) for kit identification and [Table 1](#) for part numbers and accessory descriptions.

Circuit Options

The units with electric heat may be wired for single or multiple circuits and may have circuit breakers or terminal blocks. **NOTE:** Circuit breakers installed in the unit are for short-circuit protection of the internal wiring and to serve as a unit disconnect. The circuit breakers DO NOT provide overcurrent protection of the supply wiring.

- Overcurrent protection must be provided at the branch circuit distribution panel even if circuit breakers are not used in the units. It must be sized as shown in [Table 8 \(page 11\)](#), [Table 9 \(page 12\)](#) and [Table 10 \(page 13\)](#) or on the unit rating label and according to the National Electric Code, Canadian Electrical Code and applicable local codes. NOTE: In most cases the overcurrent protection specified on the unit rating label is less than the 60 amp rating of the circuit breakers used in the units. This is because the function of the overcurrent protection required at the distribution panel (field supplied) and the unit mounted breakers is different.
- When circuit breakers are used they must be used on all circuits. Refer to [Table 5 \(page 8\)](#), [Table 6 \(page 9\)](#) and [Table 7 \(page 10\)](#) for the correct circuit breaker for the application.

HEATER KITS	DESCRIPTION	PART NUMBER
1 Phase 208/230v	HK1-05K-01A	1049196A
	HK1-08K-01A	1049197A
	HK1-10K-01A	1049198A
	HK1-15K-01A	1049199A
	HK1-15K-21A	1049200A
	HK1-20K-21A	1049201A
Accessories	4-Pole Single Circuit Adaptor*	913350
	Circuit Breaker, 1 Phase (2-Pole)	913554

* Single phase models only

Table 1. Heater Kits & Accessories

- If the number of circuits listed in [Table 5 \(page 8\)](#), [Table 6 \(page 9\)](#) and [Table 7 \(page 10\)](#) are more than 1, circuit breakers are required. If single circuit supply wiring is desired: Use the 4-pole circuit adaptor kit (P/N 913350) when two 2-pole circuit breakers are used. If 3 circuit breakers are used, a field supplied U.L. Listed 6-pole single circuit adaptor can be used.
- If circuit breakers are not being used, proceed to the Terminal Blocks section.

Circuit Breakers

If circuit breakers are used for any circuit, they must be used for all circuits. Use one breaker for each circuit. See [Table 5 \(page 8\)](#), [Table 6 \(page 9\)](#) and [Table 7 \(page 10\)](#).

Breaker Attachment

Install the circuit breaker mounting rail to the control panel with the 4 blunt tip screws provided.

Attaching to Bracket

Attach the circuit breakers in the unit by hooking the bottom in the base of the circuit breaker onto the left rail of the bracket and rotating to the right. The circuit breaker should snap into place. Install the breakers so that the ON position is to the right. See [Figure 2 \(page 7\)](#) for component location.

Breaker Removal

Insert a screwdriver into the hole in the release tab and pull out while rotating the breaker out and to the left. The white release tab is located at the base of the breaker under the line side (right) terminals.

Single Circuit Kit

Refer to the instructions included with the single circuit adapter kit for details on how to configure the adapter. Install the adapter as shown in the instructions in the line side (right) of the breakers. Proceed to the Element Installation section.

Terminal Blocks

HK1 heater kits are shipped with a terminal block for small package units. For large package units the kit terminal block(s) will not be used. The electric heater kits will be wired to the existing factory installed terminal block. If the number of circuits indicated in [Table 5 \(page 8\)](#), [Table 6 \(page 9\)](#) and [Table 7 \(page 10\)](#) is 2 or 3, then the circuit breakers must be used. See Circuit Options section.

ELEMENT INSTALLATION

The heater will not function properly if the elements are installed incorrectly.

Pre-Installation

Remove the control box access panel. Locate the heater plug assembly (9 pin for single phase kits) and remove the jumper cap. Discard the jumper cap; it will not be used after installing the heater kits. Remove the heater close-off plate(s) in the electric heat panel. When installing single banks of heaters, position them closest to the blower. See [Figure 2 \(page 7\)](#).

Element Power Wiring

- Route the main power leads (heavy black & red wires) and the 9 pin heat plug through the access hole at the top of the control panel to the circuit breaker or terminal block.
- Connect the 9 pin heat kit plug to the heat accessory plug located in the control box. For connections, refer to the detailed wiring diagrams: [Figure 4 \(page 14\)](#), [Figure 5 \(page 15\)](#), [Figure 6 \(page 16\)](#), [Figure 7 \(page 17\)](#), [Figure 8 \(page 18\)](#), [Figure 9 \(page 19\)](#), [Figure 10 \(page 20\)](#) and [Figure 11 \(page 21\)](#). Make sure all connections are secure.
- Select large package units have additional terminal blocks installed. The power leads from the heater kit should be attached to these terminal blocks.
- Wires needed to connect from terminal blocks to circuit breakers should be field supplied. The 6 inch leads are provided with the heater kit to connect the circuit breaker(s) to the compressor contactor. Mark the appropriate box on the unit rating plate with an "X" to indicate which heater kit has been installed. NOTE: Torque the circuit breaker lugs to 45 in-lbs.

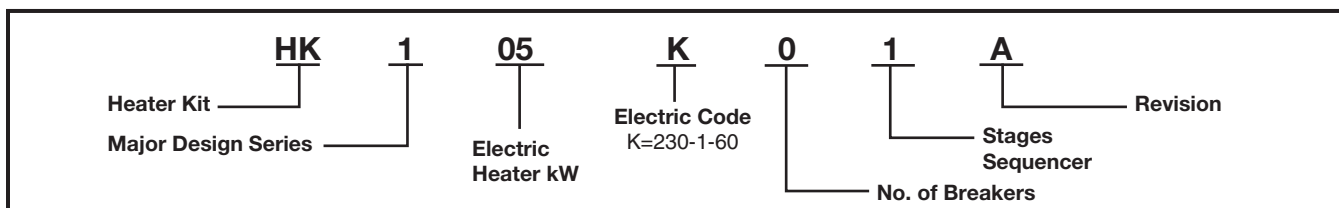


Figure 1. Heater Kit Identification Code

Horizontal Supply & Return

Install the heater kit with the limit control towards the top of the unit when using side supply and return duct openings.

Vertical Supply & Return

Vertical Installation of 8 & 10 kW Heater Kits

Install the heater kit with the limit towards the bottom of the unit. When installing single bank(s) of heater(s), position them closest to the blower.

Rooftop applications with vertical ducts must have an elbow installed in the supply duct so that the elements are not directly over a supply grille.

1. Remove the two screws on the heater kit unit holding both heating element plates together if modifying the location of the element to be closer to the blower.
2. Tilt the heating element plate forward to create clearance of contactor wires. Move it to the other side of the heating element bank and then back down, aligning the edge holes of the heating element plates.

NOTE: This allows the unit to be turned around so that both the element being closest to the blower and limit being towards the bottom of the unit conditions are satisfied. If the low voltage coil wires on the contactor need to be removed mark each wire prior to removal to ensure proper and easier reinstallation.

3. Using the two screws removed in step 1, fasten the element close-off plates together.

Installation of 15 & 20 kW Heater Kits

The 15 & 20 kW heater kit includes a contactor bracket that must be mounted on the blower transition panels of the package equipment. Loosen the screw toward the middle of the transition panel enough so that the open slot on the bracket will slide into this screw. See [Figure 2 \(page 7\)](#).

- If installing in a large package unit, the mounting screw for the front of this bracket will be on the top side of the blower transition panel closest to the supply duct opening.
- If installing in a small package unit, the mounting screw will be on the side of the blower transition. Remove this screw to allow the contactor bracket to slide into the back screw.

Reinstall the front screw and tighten the back screw firmly.

NOTE: Make sure the element support rod is inserted into the support bracket. Fasten the heater with the same screws used to secure the close-off plates. See

kW	BTU/H
5	15,042
8	23,816
10	30,084
15	45,126
20	60,167

Table 2. kW & BTU/h Ratings

[Figure 3 \(page 7\)](#).

Staged Heat

To stage the heat on the 15 kW or 20 kW heater kits, the factory set wiring will need to be modified. The orange wire in Pin 2 on the heat accessory plug will be re-routed. See the installation instructions supplied with the heat pump or air conditioner for typical thermostat connections.

AIRFLOW - TEMP RISE

Use the following steps below to determine the heat rise for your particular heater kit.

1. Determine your airflow in CFM or cubic meters per hour. Find this data by locating your blower tap settings in the data supplied with the installation instructions.
2. Locate your heater kits kW value and Btu/h in [Table 2](#).
3. Input the values into the following equation:

$$\text{TEMP RISE: } \Delta T = (\text{BTU/H}) / (\text{CFM} * 1.08)$$

AIRFLOW SETTINGS

NOTE: Generally the heat rise should be 30-40°F (16-22°C). Anything above 40°F (22°C) should be avoided.

Heater Kit Blower Motor Tap Setting: To determine the airflow motor tap setting needed for the heater kit, the total external static pressure drop (See [Table 4 \(page 6\)](#)) in inches of water column must be measured. Review the installation instructions blower curves to find a tap setting to satisfy the minimum airflow requirements that is the same or lower than the total external static pressure. Adjust the blower motor tap setting by the instructions in the unit installation instructions.

For example, the heater kit being installed is 10kw and your measured static pressure is .5 in w.c. (1.24 kpa). The minimum airflow for a 40°F (22°C) is 700 cfm (1189 cubic m3/hr) See [Table 3](#).

Heater Kit = 10Kw

Min Airflow = 700 cfm (1189 cubic m3/hr)

Total external static(measured) = .5 in w.c. (1.24 kpa)

From the example blower tables, Tap 3 should be selected for 781 cfm(1327 cubic m3/hr) @ .5 in w.c. (1.24 kpa).

MINIMUM AIRFLOW FOR A 40°F (22°C) DEGREE MAXIMUM TEMPERATURE RISE		
Heater Kit	Minimum Airflow in cfm	Minimum Airflow in m³/hr
5kw	350	595
8kw	550	934
10kw	700	1189
15kw	1045	1775
20kw	1390	2362

Table 3. Minimum Airflow

MODEL NUMBER		EXTERNAL STATIC PRESSURE DROP - INCHES OF WATER COLUMN							
P9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Unit	Blower Setting	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM
018K	Tap T1	468	455	423	388	325	270	208	147
	Tap T2	789	760	716	647	578	526	463	417
	Tap T3	969	947	899	852	781	715	660	597
	Tap T4	1160	1128	1094	1049	1004	950	877	814
	Tap T5	1292	1258	1216	1178	1124	1077	1077	963

MODEL NUMBER		EXTERNAL STATIC PRESSURE DROP - KPA							
P9		0.025	0.05	0.075	0.1	0.125	0.149	0.174	0.199
Unit	Blower Setting	m ³ /hr	m ³ /hr	m ³ /hr	m ³ /hr	m ³ /hr	m ³ /hr	m ³ /hr	m ³ /hr
018K	Tap T1	795	773	719	659	552	459	353	250
	Tap T2	1341	1291	1216	1099	982	894	787	708
	Tap T3	1646	1609	1527	1448	1327	1215	1121	1014
	Tap T4	1971	1916	1859	1782	1706	1614	1490	1383
	Tap T5	2195	2137	2066	2001	1910	1830	1830	1636

Table 4. External Static Pressure Drop Charts

EQUIPMENT COMPONENTS

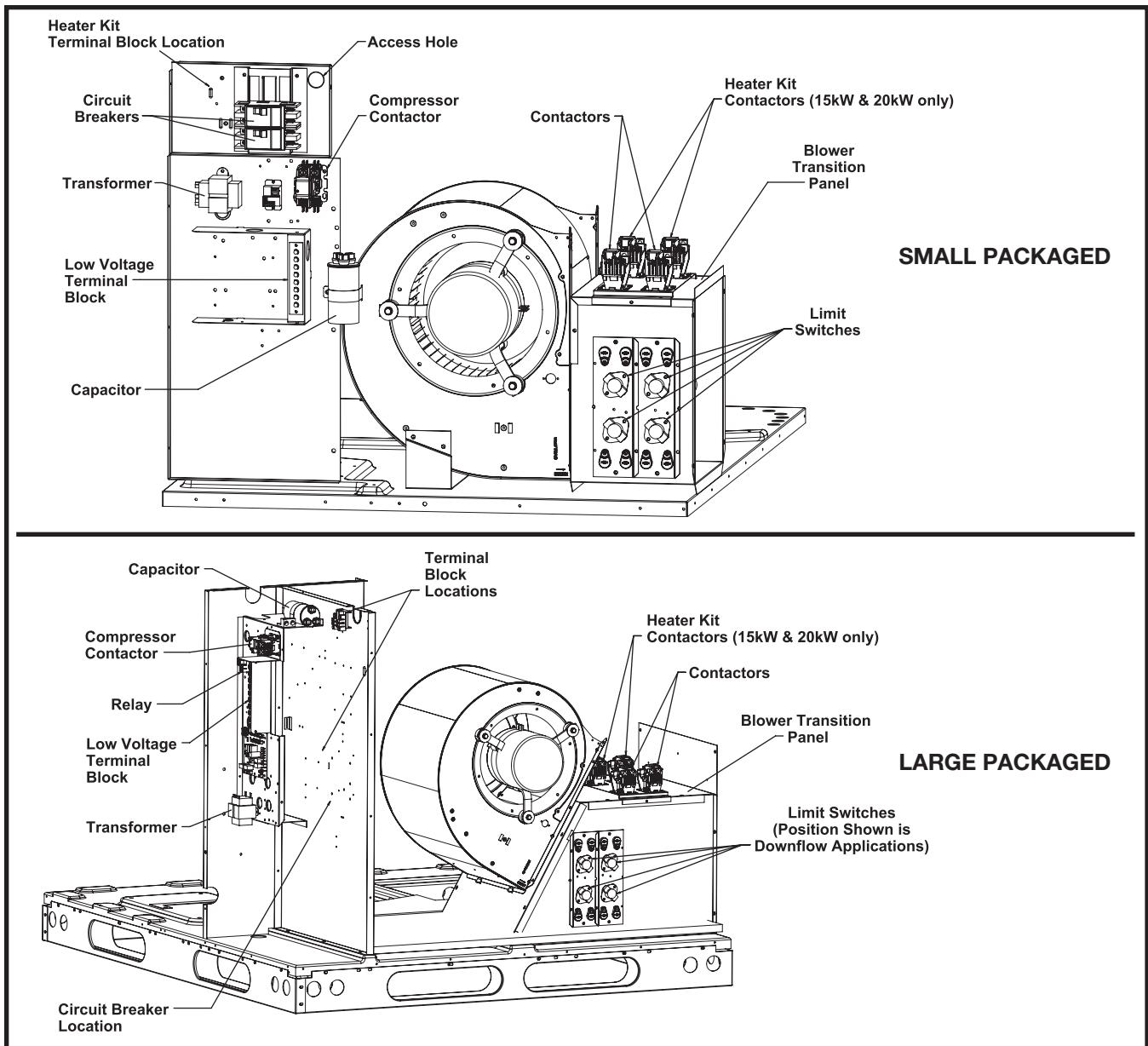


Figure 2. Location of Major Components

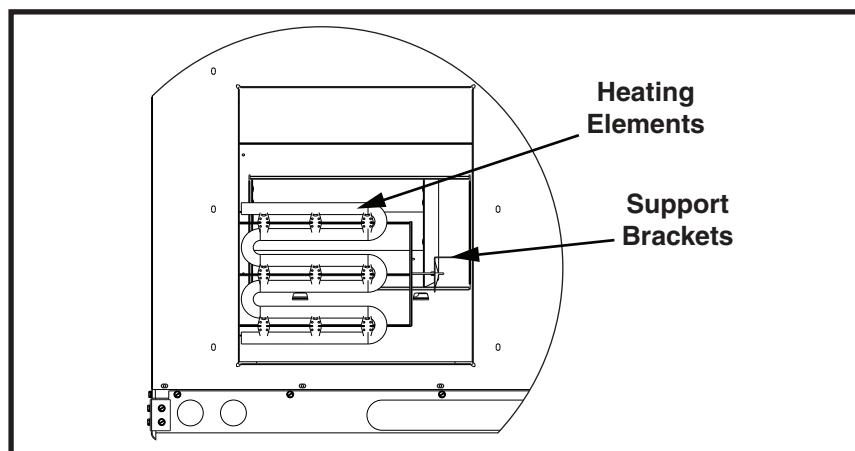


Figure 3. Element Support Bracket

HEATER KIT CROSS REFERENCE TABLES

Heater Kit Cross Reference For Model (*)P94RD and (*)P95RD					
MODEL	TONNAGE & PHASE	NOMINAL kW	HEATER KIT MODEL	HEATER KIT PART NUMBER	FIGURE
(*)P94RD-018K	1.5 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6
		10	HK1-10K-01A	1049198A	6
		15	HK1-15K-01A	1049199A	8
(*)P94RD-024K (*)P95RD-024K	2 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6
		10	HK1-10K-01A	1049198A	6
		15	HK1-15K-01A	1049199A	8
(*)P94RD-030K (*)P95RD-030K	2.5 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6
		10	HK1-10K-01A	1049198A	6
		15	HK1-15K-01A	1049199A	8
(*)P94RD-036K (*)P95RD-036K	3 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6
		10	HK1-10K-01A	1049198A	6
		15	HK1-15K-01A	1049199A	8
(*)P94RD-042K (*)P95RD-042K	3.5 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6
		10	HK1-10K-01A	1049198A	6
		15	HK1-15K-01A	1049199A	8
		20	HK1-20K-21A	1049201A	10
(*)P94RD-048K (*)P95RD-048K	4 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6
		10	HK1-10K-01A	1049198A	6
		15	HK1-15K-01A	1049199A	8
		20	HK1-20K-21A	1049201A	10
(*)P94RD-060K (*)P95RD-060K	5 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6
		10	HK1-10K-01A	1049198A	6
		15	HK1-15K-01A	1049199A	8
		20	HK1-20K-21A	1049201A	10

Table 5. (*)P94RD and (*)P95RD Single Phase

HEATER KIT CROSS REFERENCE TABLES continued

Heater Kit Cross Reference For Model (*)Q94RD and (*)Q95RD					
MODEL	TONNAGE & PHASE	NOMINAL kW	HEATER KIT MODEL	HEATER KIT PART NUMBER	FIGURE
(*)Q94RD-024K (*)Q95RD-024K	2 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-01A	1049199A	8
(*)Q94RD-030K (*)Q95RD-030K	2.5 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-01A	1049199A	8
(*)Q94RD-036K (*)Q95RD-036K	3 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6 or 7
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-01A	1049199A	8
(*)Q94RD-042K (*)Q95RD-042K	3.5 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6 or 7
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-01A	1049199A	8
		20	HK1-20K-21A	1049201A	11
(*)Q94RD-048K (*)Q95RD-048K	4 Ton Single Phase	5	HK1-05K-01A	1049196A	4 or 5
		8	HK1-08K-01A	1049197A	6 or 7
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-21A	1049200A	9
		20	HK1-20K-21A	1049201A	11
(*)Q94RD-060K (*)Q95RD-060K	5 Ton Single Phase	5	HK1-05K-01A	1049196A	4 or 5
		8	HK1-08K-01A	1049197A	6 or 7
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-21A	1049200A	9
		20	HK1-20K-21A	1049201A	11

Table 6. (*)Q94RD and (*)Q95RD Single Phase

HEATER KIT CROSS REFERENCE TABLES continued

Heater Kit Cross Reference For Model (*)Q104SD					
MODEL	TONNAGE & PHASE	NOMINAL kW	HEATER KIT MODEL	HEATER KIT PART NUMBER	FIGURE
(*)Q104SD-X24K	2 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-01A	1049199A	8
(*)Q104SD-X30K	2.5 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6 or 7
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-01A	1049199A	8
(*)Q104SD-X36K	3 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6 or 7
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-01A	1049199A	8
(*)Q104SD-X42K	3.5 Ton Single Phase	5	HK1-05K-01A	1049196A	4
		8	HK1-08K-01A	1049197A	6 or 7
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-21A	1049200A	8
		20	HK1-20K-21A	1049201A	11
(*)Q104SD-X48K	4 Ton Single Phase	5	HK1-05K-01A	1049196A	4 or 5
		8	HK1-08K-01A	1049197A	6 or 7
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-21A	1049200A	9
		20	HK1-20K-21A	1049201A	11
(*)Q104SD-X60K	5 Ton Single Phase	5	HK1-05K-01A	1049196A	4 or 5
		8	HK1-08K-01A	1049197A	6 or 7
		10	HK1-10K-01A	1049198A	6 or 7
		15	HK1-15K-21A	1049200A	9
		20	HK1-20K-21A	1049201A	11

Table 7. (*) Q104SD, Single Phase

ELECTRICAL DATA

Model (*)P94RD, Single Phase, 208/230V~							
Model Number	Heater kW	Single Circuit		Multiple Supply Circuit Option			
		MCA	MOP	Circuit A (Compressor, Blower, & Fan)		Circuit B (Heater Only)	
				MCA	MOP	MCA	MOP
(*)P94RD-018K	0	14.3	20	-	-	-	-
	5	26.4/28.7	30/30	-	-	-	-
	8	39.1/42.7	40/45	-	-	-	-
	10	48.1/52.7	50/60	-	-	-	-
	15	69.8/76.6	70/80	48.1/52.7	50/60	21.7/24	25/25
(*)P94RD-024K	0	16.3	25	-	-	-	-
	5	26.4/28.7	30/30	-	-	-	-
	8	39.1/42.7	40/45	-	-	-	-
	10	48.1/52.7	50/60	-	-	-	-
	15	69.8/76.6	70/80	48.1/52.7	50/60	21.7/24	25/25
(*)P94RD-030K	0	18.7	25	-	-	-	-
	5	26.4/28.7	30/30	-	-	-	-
	8	39.1/42.7	40/45	-	-	-	-
	10	48.1/52.7	50/60	-	-	-	-
	15	69.8/76.6	70/80	48.1/52.7	50/60	21.7/24	25/25
(*)P94RD-036K	0	25.5	40	-	-	-	-
	5	26.4/28.7	40/40	-	-	-	-
	8	39.1/42.7	40/45	-	-	-	-
	10	48.1/52.7	50/60	-	-	-	-
	15	69.8/76.6	70/80	48.1/52.7	50/60	21.7/24	25/25
(*)P94RD-042K	0	30.1	45	-	-	-	-
	5	30.1/30.7	45/45	-	-	-	-
	8	41.1/44.7	45/45	-	-	-	-
	10	50.1/54.7	60/60	-	-	-	-
	15	71.8/78.6	80/80	50.1/54.7	60/60	21.7/24	25/25
	20	93.4/102.6	100/110	50.1/54.7	60/60	43.3/47.9	45/50
(*)P94RD-048K	0	38.2	60	-	-	-	-
	5	38.2/38.2	60/60	-	-	-	-
	8	41.1/44.7	60/60	-	-	-	-
	10	50.1/54.7	60/60	-	-	-	-
	15	71.8/78.6	80/80	50.1/54.7	60/60	21.7/24	25/25
	20	93.4/102.6	100/110	50.1/54.7	60/60	43.3/47.9	45/50
(*)P94RD-060K	0	41.4	60	-	-	-	-
	5	41.4/41.4	60/60	-	-	-	-
	8	43.3/46.7	60/60	-	-	-	-
	10	52.1/56.7	60/60	-	-	-	-
	15	73.8/80.6	80/90	52.1/56.7	60/60	21.7/24	25/25
	20	95.4/104.6	100/110	52.1/56.7	60/60	43.3/47.9	45/50

Table 8. (*)P94RD, Single Phase

ELECTRICAL DATA continued

Model (*)P95RD, Single Phase, 208/230V~							
Model Number	Heater kW	Single Circuit		Multiple Supply Circuit Option			
		MCA	MOP	Circuit A (Compressor, Blower, & Fan)		Circuit B (Heater Only)	
				MCA	MOP	MCA	MOP
(*)P95RD-024K	0	16.0	20				
	5	26.4/28.7	30/30				
	8	39.1/42.7	40/45				
	10	48.1/52.7	50/60				
	15	69.8/76.6	70/80	48.1/52.7	50/60	21.7/24	25/25
(*)P95RD-030K	0	20.5	30				
	5	26.4/28.7	30/30				
	8	39.1/42.7	40/45				
	10	48.1/52.7	50/60				
	15	69.8/76.6	70/80	48.1/52.7	50/60	21.7/24	25/25
(*)P95RD-036K	0	25.7	40				
	5	26.4/28.7	40/40				
	8	39.1/42.7	40/45				
	10	48.1/52.7	50/60				
	15	69.8/76.6	70/80	48.1/52.7	50/60	21.7/24	25/25
(*)P95RD-042K	0	28.5	45				
	5	28.5/30.7	45/45				
	8	41.1/44.7	45/45				
	10	50.1/54.7	60/60				
	15	71.8/78.6	80/80	50.1/54.7	60/60	21.7/24	25/25
	20	93.4/102.6	100/110	50.1/54.7	60/60	43.3/47.9	45/50
(*)P95RD-048K	0	36.5	50				
	5	36.5/36.5	50/50				
	8	43.1/46.7	50/50				
	10	52.1/56.7	60/60				
	15	73.8/80.6	80/90	52.1/56.7	60/60	21.7/24	25/25
	20	95.4/104.6	100/110	52.1/56.7	60/60	43.3/47.9	45/50
(*)P95RD-060K	0	38.1	60				
	5	38.1/38.1	60/60				
	8	43.1/46.7	60/60				
	10	52.1/56.7	60/60				
	15	73.8/80.6	80/90	52.1/56.7	60/60	21.7/24	25/25
	20	95.4/104.6	100/110	52.1/56.7	60/60	43.3/47.9	45/50

Table 9. (*)P95RD, Single Phase

ELECTRICAL DATA continued

Model (*)Q94RD, Single Phase, 208/230V~									
Model Number	Heater kW	Single Circuit		Multiple Supply Circuit Option					
		MCA	MOP	Circuit A (Compressor, Blower, & Fan)		Circuit B (Heater Only)		Circuit C (Heater Only)	
				MCA	MOP	MCA	MOP	MCA	MOP
(*)Q94RD-024K	0	16.1	25	-	-	-	-	-	-
	5	37.8/40.1	40/45	-	-	-	-	-	-
	8	50.4/54.1	60/60	-	-	-	-	-	-
	10	59.5/64.1	60/70	16.1/16.1	25/25	43.3/47.9	45/50	-	-
	15	81.1/88	90/90	37.8/40.1	40/45	43.3/47.9	45/50	-	-
(*)Q94RD-030K	0	18.7	25	-	-	-	-	-	-
	5	40.4/42.7	45/45	-	-	-	-	-	-
	8	53/56.6	60/60	-	-	-	-	-	-
	10	62/66.6	70/70	18.7/18.7	25/25	43.3/47.9	45/50	-	-
	15	83.7/90.6	90/100	40.4/42.7	45/45	43.3/47.9	45/50	-	-
(*)Q94RD-036K	0	24.6	40	-	-	-	-	-	-
	5	46.3/48.6	50/50	-	-	-	-	-	-
	8	58.9/62.6	70/80	24.6/24.6	40/40	34.3/37.9	35/40	-	-
	10	68/72.5	70/80	24.6/24.6	40/40	43.3/47.9	45/50	-	-
	15	89.6/96.5	90/100	46.3/48.6	50/50	43.3/47.9	45/50	-	-
(*)Q94RD-042K	0	29.3	45	-	-	-	-	-	-
	5	51/53.3	60/60	-	-	-	-	-	-
	8	63.6/67.3	70/70	29.3/29.3	45/45	34.3/37.9	35/40	-	-
	10	72.7/77.3	80/80	29.3/29.3	45/45	43.3/47.9	45/50	-	-
	15	94.3/101.2	100/110	51/53.3	60/60	43.3/47.9	45/50	-	-
	20	116/125.2	125/150	29.3/29.3	45/45	43.3/47.9	45/50	43.3/47.9	45/50
(*)Q94RD-048K	0	31.3	50	-	-	-	-	-	-
	5	53/55.3	60/70	31.3/31.3	50/50	21.7/24	25/25	-	-
	8	65.6/69.3	70/80	31.3/31.3	50/50	34.3/37.9	35/40	-	-
	10	74.7/79.3	80/80	31.3/31.3	50/50	43.3/47.9	45/50	-	-
	15	96.3/103.2	100/110	31.3/31.3	50/50	21.7/24	25/25	43.3/47.9	45/50
	20	118/127.2	125/150	31.3/31.3	50/50	43.3/47.9	45/50	43.3/47.9	45/50
(*)Q94RD-060K	0	44.5	70	-	-	-	-	-	-
	5	66.1/68.4	80/90	44.5/44.5	70/70	21.7/24	25/25	-	-
	8	78.8/82.4	90/100	44.5/44.5	70/70	34.3/37.9	35/40	-	-
	10	87.8/92.4	100/100	44.5/44.5	70/70	43.3/47.9	45/50	-	-
	15	109.5/116.3	110/125	44.5/44.5	70/70	21.7/24	25/25	43.3/47.9	45/50
	20	131.1/140.3	150/150	44.5/44.5	70/70	43.3/47.9	45/50	43.3/47.9	45/50

Table 10. (*)Q94RD, Single Phase

ELECTRICAL DATA continued

Model (*)Q95RD, Single Phase, 208/230V~									
Model Number	Heater kW	Single Circuit		Multiple Supply Circuit Option					
		MCA	MOP	Circuit A (Compressor, Blower, & Fan)		Circuit B (Heater Only)		Circuit C (Heater Only)	
				MCA	MOP	MCA	MOP	MCA	MOP
(*)Q95RD-024K	0	16.1	25						
	5	37.8/40.1	40/45						
	8	50.4/54	60/60						
	10	59.4/64	60/70	16.1/16.1	25/25	43.3/47.9	45/50		
	15	81.1/88	90/90	37.8/40.1	40/45	43.3/47.9	45/50		
(*)Q95RD-030K	0	20.5	30						
	5	42.2/44.5	50/50						
	8	54.8/58.4	60/60						
	10	63.8/68.4	70/70	20.5/20.5	30/30	43.3/47.9	45/50		
	15	85.5/92.4	90/100	42.2/44.5	50/50	43.3/47.9	45/50		
(*)Q95RD-036K	0	23.7	35						
	5	45.3/47.6	50/50						
	8	58/61.6	60/70	23.7/23.7	35/35	34.3/37.9	35/40		
	10	67/71.6	70/80	23.7/23.7	35/35	43.3/47.9	45/50		
	15	88.7/95.5	90/100	45.3/47.6	50/50	43.3/47.9	45/50		
(*)Q95RD-042K	0	29.4	45						
	5	51.1/53.4	60/60						
	8	63.7/67.4	70/70	29.4/29.4	45/45	34.3/37.9	35/40		
	10	72.8/77.3	80/80	29.4/29.4	45/45	43.3/47.9	45/50		
	15	94.4/101.3	100/110	51.1/53.4	60/60	43.3/47.9	45/50		
	20	116.1/125.3	125/150	29.4/29.4	45/45	43.3/47.9	45/50	43.3/47.9	45/50
(*)Q95RD-048K	0	31.0	50						
	5	52.7/55	60/60	31/31	50/50	21.7/24	25/25		
	8	65.3/69	70/80	31/31	50/50	34.3/37.9	35/40		
	10	74.4/78.9	80/80	31/31	50/50	43.3/47.9	45/50		
	15	96/102.9	100/110	31/31	50/50	43.3/47.9	45/50	21.7/24	25/25
	20	117.7/126.9	125/150	31/31	50/50	43.3/47.9	45/50	43.3/47.9	45/50
(*)Q95RD-060K	0	39.0	60						
	5	60.6/62.9	70/80	39/39	60/60	21.7/24	25/25		
	8	73.3/76.9	80/90	39/39	60/60	34.3/37.9	35/40		
	10	82.3/86.9	90/90	39/39	60/60	43.3/47.9	45/50		
	15	104/110.8	110/125	39/39	60/60	43.3/47.9	45/50	21.7/24	25/25
	20	125.6/134.8	150/150	39/39	60/60	43.3/47.9	45/50	43.3/47.9	45/50

Table 11. (*)Q95RD, Single Phase

ELECTRICAL DATA continued

Model (*)Q104SD, Single Phase, 208/230V~									
Model Number	Heater kW	Single Circuit		Multiple Supply Circuit Option					
		MCA	MOP	Circuit A (Compressor, Blower, & Fan)		Circuit B (Heater Only)		Circuit C (Heater Only)	
				MCA	MOP	MCA	MOP	MCA	MOP
(*)Q104SD-X24K	0	19.2	30	-	-	-	-	-	-
	5	40.9/43.2	45/45	-	-	-	-	-	-
	8	53.5/57.2	60/60	-	-	-	-	-	-
	10	62.6/67.1	70/70	19.2/19.2	30/30	43.3/47.9	45/50	-	-
	15	84.2/91.1	90/100	40.9/43.2	45/45	43.3/47.9	45/50	-	-
(*)Q104SD-X30K	0	22.4	35	-	-	-	-	-	-
	5	44.1/46.4	50/50	-	-	-	-	-	-
	8	56.7/60.4	60/70	22.4/22.4	35/35	34.3/37.9	35/40	-	-
	10	65.8/70.3	70/80	22.4/22.4	35/35	43.3/47.9	45/50	-	-
	15	87.4/94.3	90/100	44.1/46.4	50/50	43.3/47.9	45/50	-	-
(*)Q104SD-X36K	0	27.4	45	-	-	-	-	-	-
	5	49/51.3	60/60	-	-	-	-	-	-
	8	61.7/65.3	70/70	27.4/27.4	45/45	34.3/37.9	35/40	-	-
	10	70.7/75.3	80/80	27.4/27.4	45/45	43.3/47.9	45/50	-	-
	15	92.4/99.3	100/100	49/51.3	60/60	43.3/47.9	45/50	-	-
(*)Q104SD-X42K	0	30.1	45	-	-	-	-	-	-
	5	51.8/54.1	60/60	-	-	-	-	-	-
	8	64.4/68	70/80	30.1/30.1	45/45	34.3/37.9	35/40	-	-
	10	73.4/78	80/80	30.1/30.1	45/45	43.3/47.9	45/50	-	-
	15(2 cir)	95.1/102	100/110	51.8/54.1	60/60	43.3/47.9	45/50	-	-
	20(3cir)	116.8/125.9	125/150	30.1/30.1	45/45	43.3/47.9	45/50	43.3/47.9	45/50
(*)Q104SD-X48K	0	34.1	50	-	-	-	-	-	-
	5	55.8/58.1	70/70	34.1/34.1	50/50	21.7/24	25/25	-	-
	8	68.4/72	80/80	34.1/34.1	50/50	34.3/37.9	35/40	-	-
	10	77.4/82	90/90	34.1/34.1	50/50	43.3/47.9	45/50	-	-
	15(3cir)	99.1/106	100/110	34.1/34.1	50/50	43.3/47.9	45/50	21.7/24	25/25
	20(3cir)	120.8/129.9	125/150	34.1/34.1	50/50	43.3/47.9	45/50	43.3/47.9	45/50
(*)Q104SD-X60K	0	38.9	60	-	-	-	-	-	-
	5	60.6/62.9	80/80	38.9/38.9	60/60	21.7/24	25/25	-	-
	8	73.2/76.8	90/90	38.9/38.9	60/60	34.3/37.9	35/40	-	-
	10	82.2/86.8	90/100	38.9/38.9	60/60	43.3/47.9	45/50	-	-
	15	103.9/110.8	110/125	38.9/38.9	60/60	43.3/47.9	45/50	21.7/24	25/25
	20(3cir)	125.6/134.7	150/150	38.9/38.9	60/60	43.3/47.9	45/50	43.3/47.9	45/50

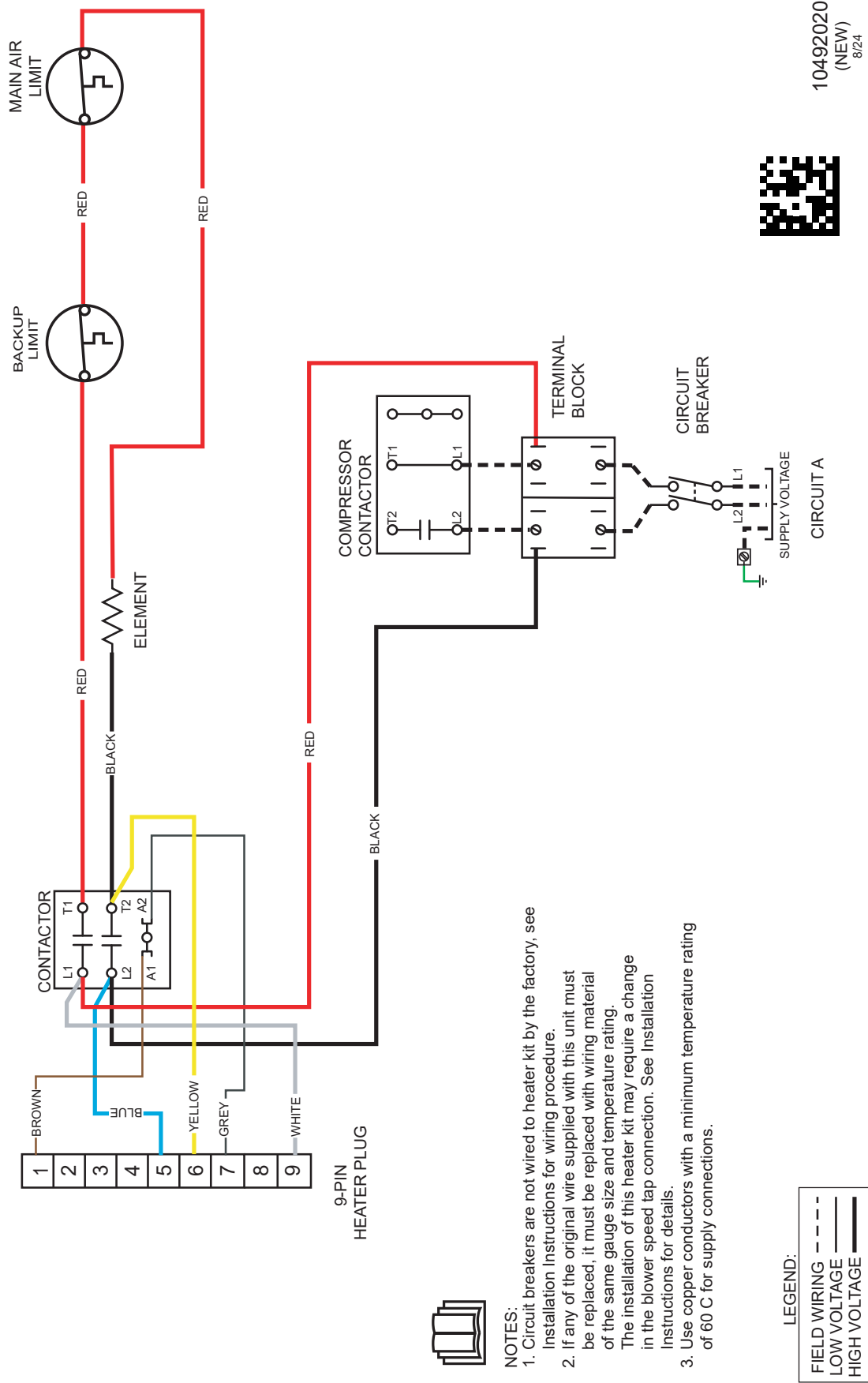
Table 12. (*)Q104SD, Single Phase

WIRING DIAGRAM

208/230VAC

1Ph 60 Hz

5 kW, 1-Circuit, 1-Phase Electric Heater Kit



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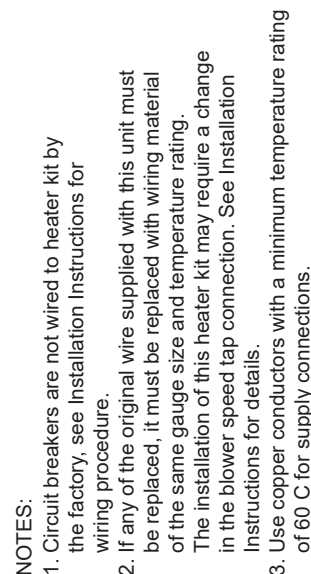
5 KW, 2-Circuit, 1-Phase Electric Heater Kit



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WIRING DIAGRAM

8 KW, 10 KW, 1-Circuit, 1-Phase Electric Heater Kit



FIELD WIRING
LOW VOLTAGE
HIGH VOLTAGE

10492030
(NEW)
8/24



HK1-08K-01A
HK1-10K-01A

208/230 VAC

8 KW,10 KW, 2-Circuit, 1-Phase Electric Heater Kit

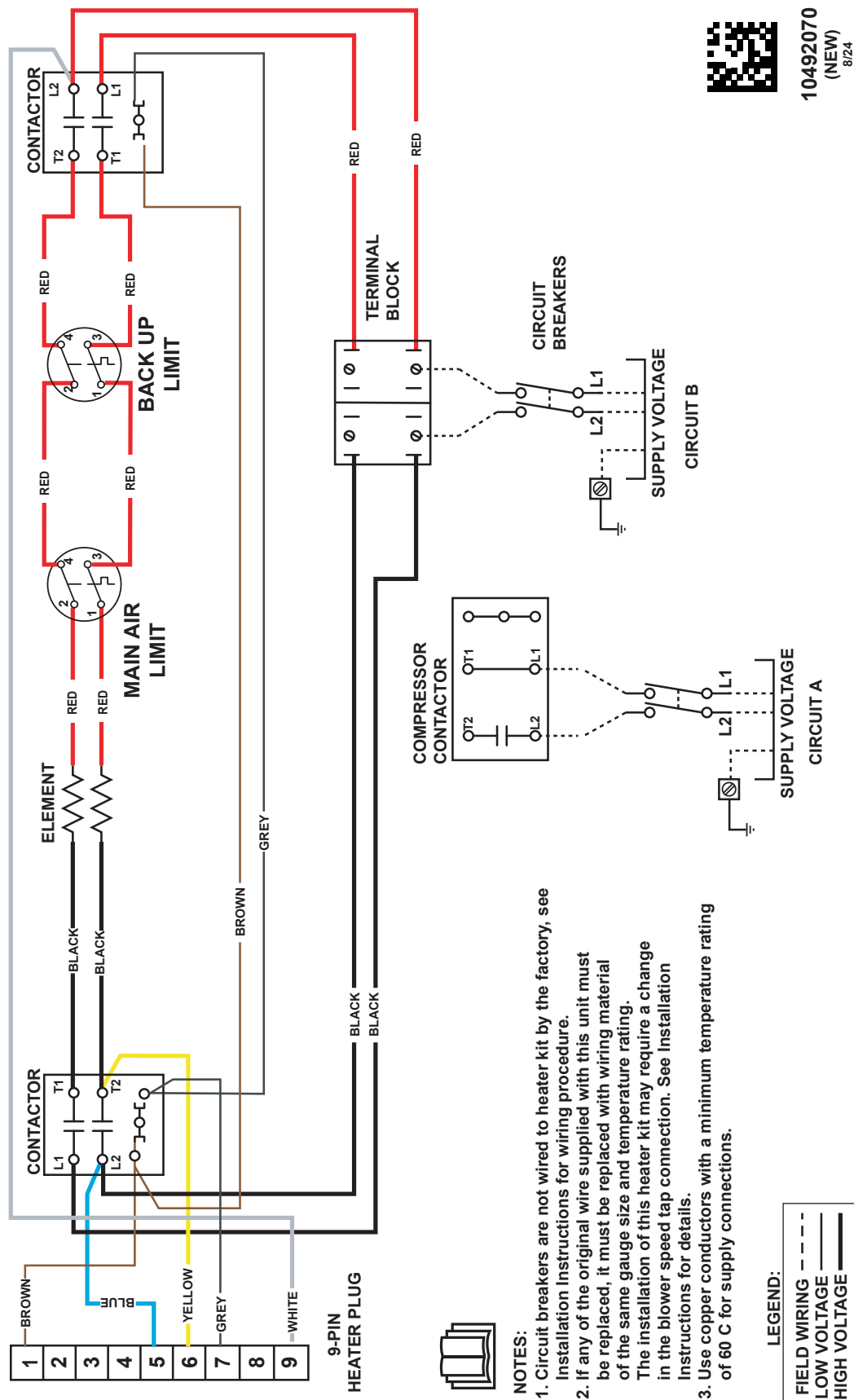


Figure 7. Single Phase, 8 kW & 10 kW, 2 Circuit

WIRING DIAGRAM

HK1-15K-01A
HK1-15K-21A

208/230VAC 1Ph 60Hz

15 kW, 2-Circuit, AC, 1-Phase Electric Heater Kit

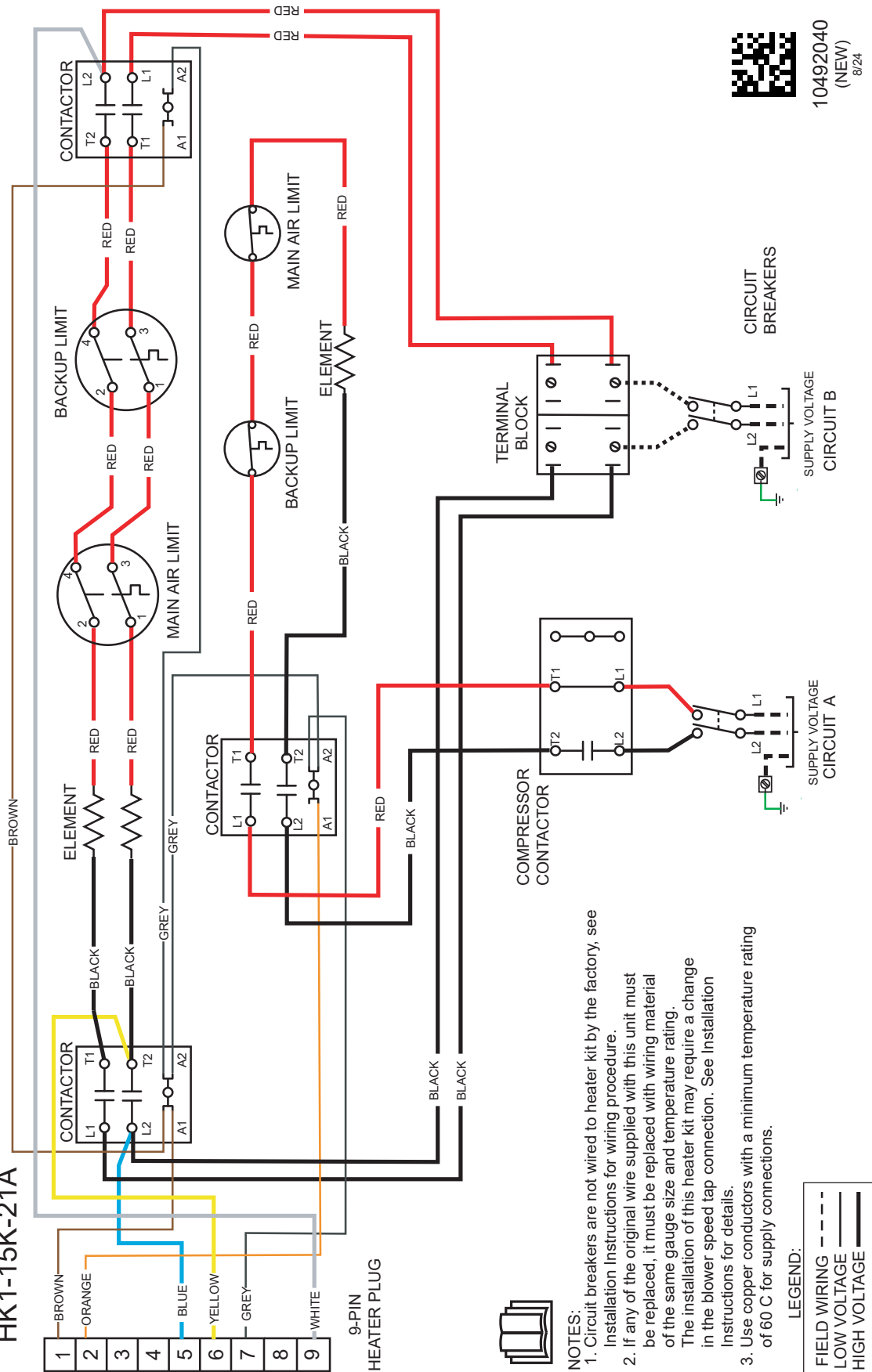


Figure 8. Single Phase, 15 kW, 2 Circuit

WIRING DIAGRAM

HK1-15K-01A
HK1-15K-21A

208/230 VAC

15 kW, 3-Circuit, 1-Phase Electric Heater Kit

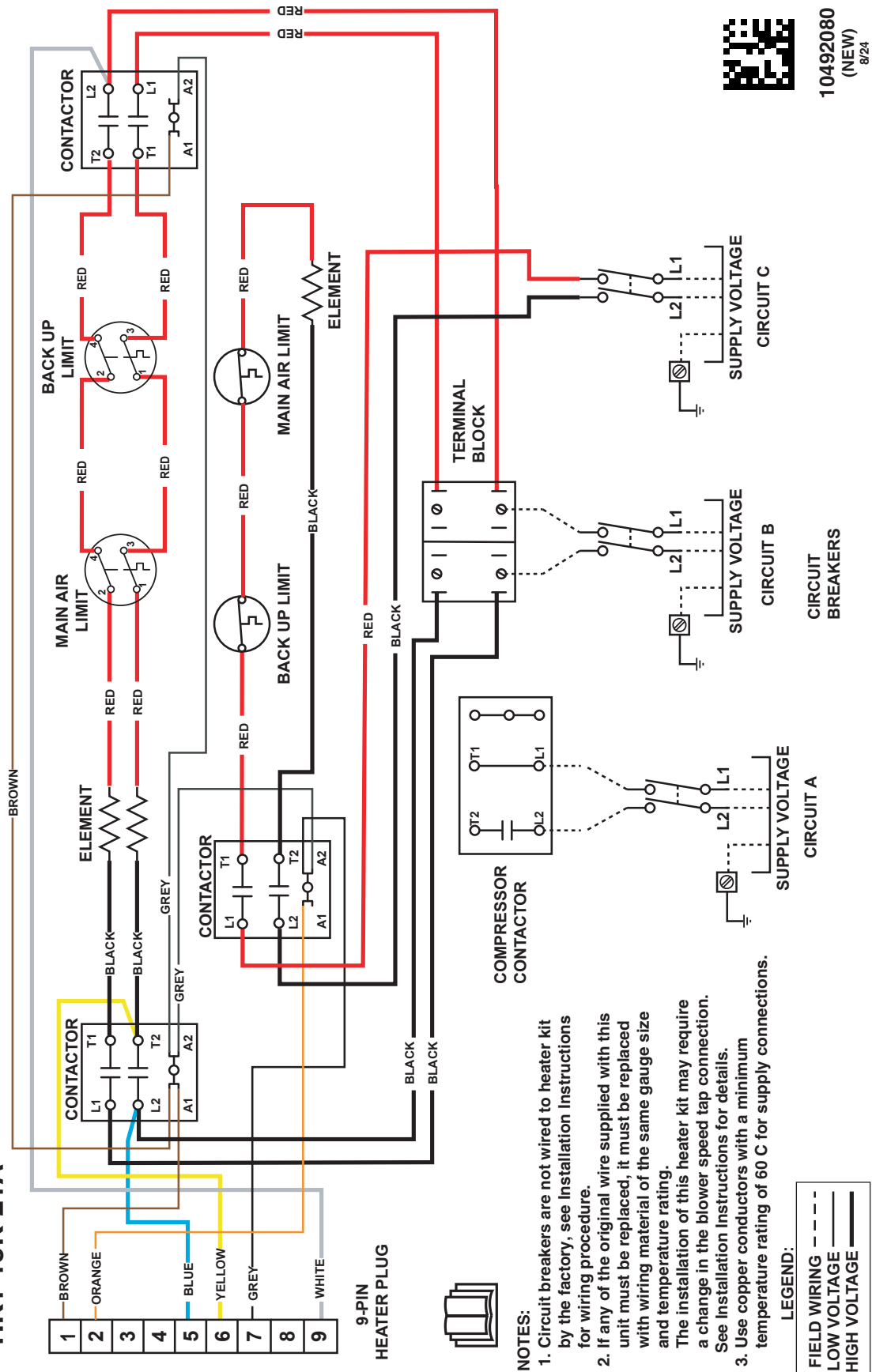


Figure 9. Single Phase, 15 kW, 3 Circuit

WIRING DIAGRAM

HK1-20K-21A

208/230VAC

1Ph 60Hz

20 kW, 2-Circuit, 1-Phase Electric Heater Kit

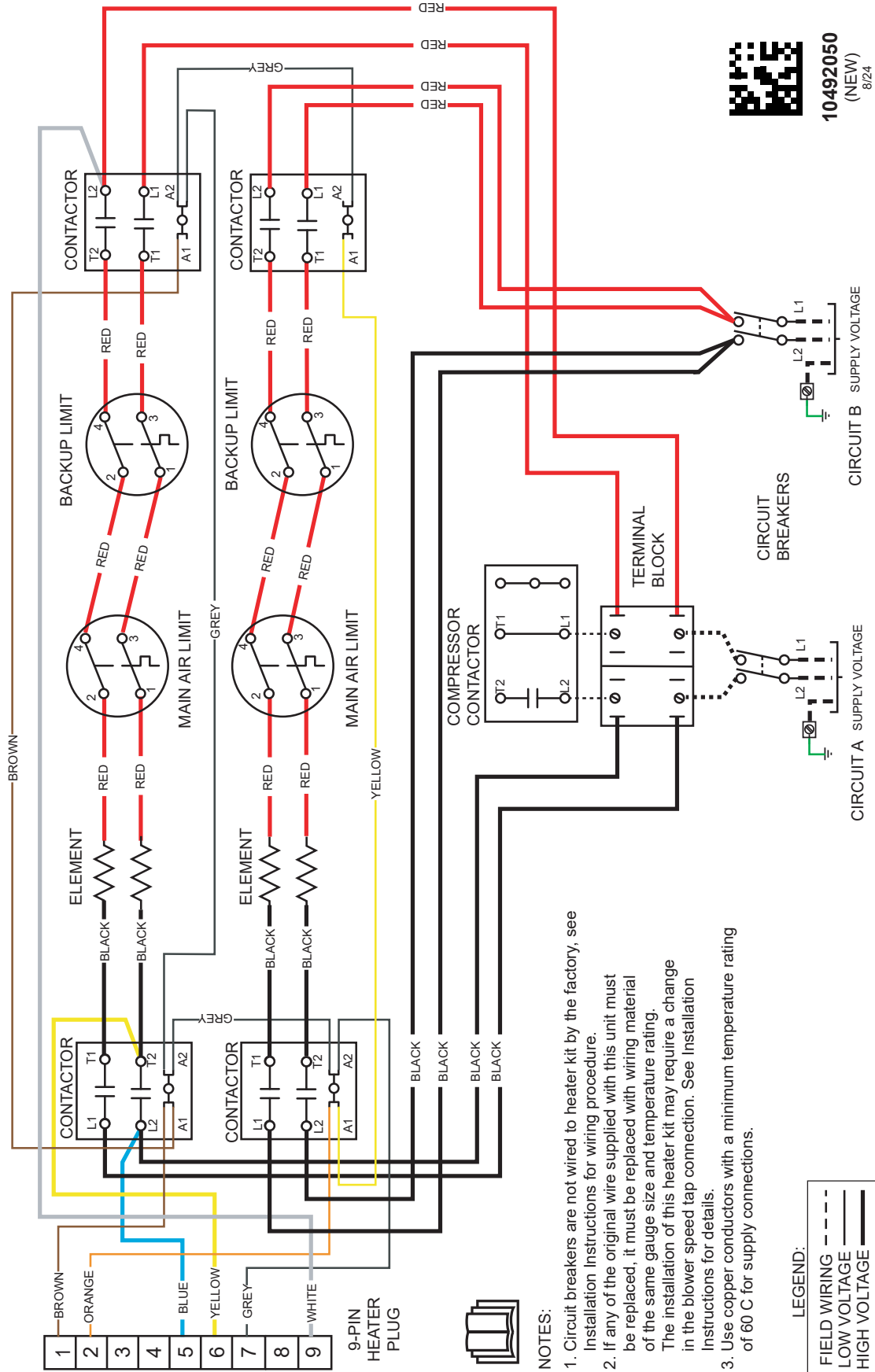


Figure 10. Single Phase, 20 kW, 2 Circuit

WIRING DIAGRAM

HK1-20K-21A

208/230 VAC

20 kW, 3-Circuit, 1-Phase Electric Heater Kit

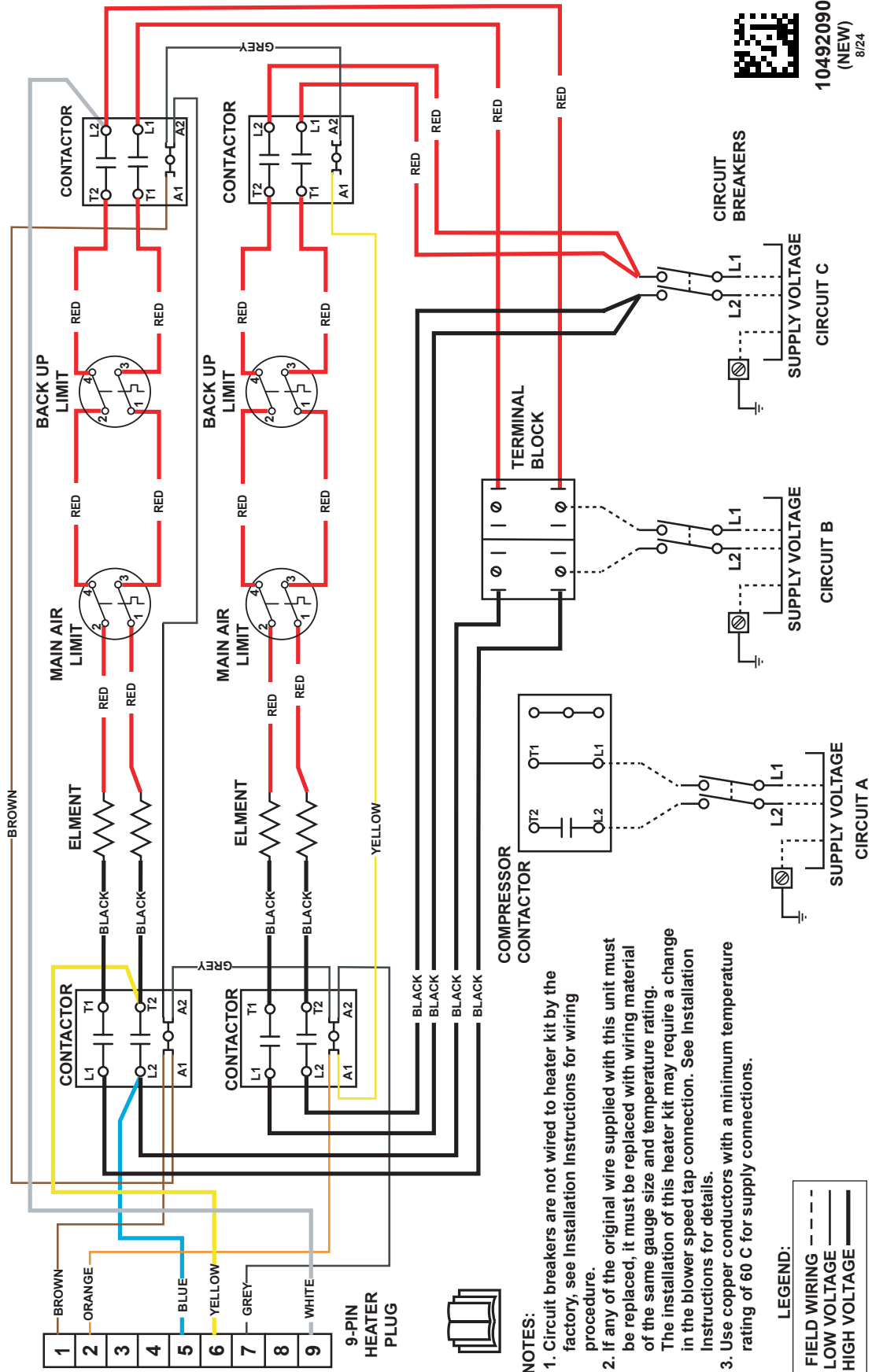


Figure 11. Single Phase, 20 kW, 3 Circuit



INSTALLER: PLEASE LEAVE THESE INSTALLATION INSTRUCTIONS WITH THE HOMEOWNER

