

# **SAMSUNG HEAT KIT (MPAH)**

## **INSTALLATION MANUAL**

---

VHK-1\*\*C

VHK-2\*\*C

VHK-3\*\*C

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

---



- Always disconnect the power supply from the indoor and outdoor unit before servicing it or accessing its internal components.
- Verify that installation and testing operations are performed by qualified personnel.
- Verify that the indoor unit is not installed in an easily accessible area by the general public.

## GENERAL INFORMATION

- Carefully read the content of this manual before installing the air conditioner and store the manual in a safe place in order to use it as reference after installation.
- For maximum safety, installers should always carefully read the following warnings.
- Store the operation and installation manual in a safe location and remember to hand it over to the new owner if the air conditioner is sold or transferred.
- This manual explains how to install an indoor unit with a split system with indoor unit models noted in this document. The use of other types of units with different control systems may damage the unit and invalidate the warranty. The manufacturer shall not be responsible for damages arising from the use of non-compliant units.
- The manufacturer shall not be responsible for damage originating from unauthorized changes or the improper connection of electric lines. Failure to comply with these instructions or to comply with the requirements set forth in this manual, shall immediately invalidate the warranty.
- The air conditioner should only be used for applications for which it has been designed. The indoor unit is not suitable to be installed in areas used for laundry.
- Do not use the unit if damaged. If problems occur, switch the unit off and disconnect it from the power supply.
- In order to prevent electric shock, fire, or injuries, always stop the unit, disable the protection switch and contact technical support if the unit produces smoke, if the power cable is hot or damaged, or if the unit is very noisy.
- Always remember to inspect the unit, electric connections, refrigerant tubes and protections regularly. These operations should be performed by qualified personnel only.
- Do not attempt to repair, move, alter, or reinstall the unit. If performed by unauthorized personnel, these operations may cause electric shocks or fires.
- Do not place containers with liquids or other objects on the unit.



- Make sure that the unit is grounded to earth.
  - Do not connect the earth wire to a gas pipe, water pipe, lighting rod, or telephone wire. If earthing is not complete, electric shock or fire may occur.
- Install a circuit breaker.
  - If a circuit breaker is not installed, electric shock or fire may occur..

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

**MODELS:** VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

---

## PRODUCT INSPECTION

As soon as the air handler and electric heat kits are received, they should be inspected for possible damage during transit. Before installing the air handler and electric heat kit, check the cabinet for screws or bolts which may have loosened in transit. There are no shipping or spacer brackets which need to be removed before startup.

## PARTS INCLUDED

Installation Manual, Cable Ties, Wire Diagram Label

## COMPATIBILITY

This installation manual covers the installation of the following electric heat kits with AM0\*\*FEZDCG/AA, AM0\*\*HEZDCG/AA, AC0\*\*DNZDCG/AA, and AJ0\*\*DNZDCG/AA air handling units.

AHU Model Model	Heat Kit Model Number(s)
AJ012DNZDCG/AA	VHK-103C
AM012FEZDCG/AA	
AJ018DNZDCG/AA	VHK-103C, VHK-105C
AM018FEZDCG/AA	
AJ024DNZDCG/AA	
AM024FEZDCG/AA	
AC018DNZDCG/AA	VHK-203C, VHK-205C
AC024DNZDCG/AA	
AC030DNZDCG/AA	VHK-203C, VHK-205C, VHK-210C
AM030FEZDCG/AA	
AC036DNZDCG/AA	
AM036FEZDCG/AA	
AC048DNZDCG/AA	VHK-305C, VHK-310C, VHK-315C
AM048FEZDCG/AA	
AM054FEZDCG/AA	
AM060FEZDCG/AA	VHK-305C, VHK-310C, VHK-315C, VHK-320C
AM072HEZDCG/AA	

## CODES

The wiring must be installed in accordance with the following codes:

- National Electrical Code (NFPA 70)
- Canadian Electrical Code, Part I (CSA C22.1)
- All local codes (State, City, and Township)

**NOTE:** All applicable codes take precedence over any recommendation made in these instructions.

## INDOOR UNIT INSTALLATION

Install the indoor unit as described in the indoor unit installation manual before installing the accessory electric heat kit.

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

**MODELS:** VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRING REQUIREMENTS

If the air handler has been installed prior to installing the electric heaters or if an older unit is being replaced, the supply power wires must be checked to make sure the wires are the proper sizes to handle the current load for the heaters. Refer to table below for correct wire size. If the supply power wire size is incorrect, new wires will need to be installed. Follow the instructions "Power Supply Wiring" in these instructions for proper installation.

### AC0\*\*DNZDCG/AA and AJ0\*\*DNZDCG/AA MODELS

Small Chassis		Indoor Unit Model				
		AJ012DNZDCG/AA		AJ018DNZDCG/AA		AJ024DNZDCG/AA
VHK-103C	3 kW Heater Amps - 208/230V	10.83 / 11.98		10.83 / 11.98		10.83 / 11.98
VHK-105C	5 kW Heater Amps - 208/230V	-		18.06 / 19.97		18.06 / 19.97
Indoor blower amps		0.65		1.28		1.88
Heater kW		3		3	5	3      5
Minimum wire size (90°C)		#12		#12	#10	#12      #10
Minimum wire size (75°C)		#12		#12	#10	#12      #10
Minimum wire size (60°C)		#12		#12	#10	#12      #10
Max fuse size (amps)		15 / 20		15 / 20	25 / 30	20 / 20      25 / 30

Medium chassis		Indoor Unit Model									
		AC018DNZDCG/AA		AC024DNZDCG/AA		AC030DNZDCG/AA			AC036DNZDCG/AA		
VHK-203C	3 kW Heater Amps - 208/230V	10.83 / 11.98		10.83 / 11.98		10.83 / 11.98			10.83 / 11.98		
VHK-205C	5 kW Heater Amps - 208/230V	18.06 / 19.97		18.06 / 19.97		18.0 / 19.97			18.0 / 19.97		
VHK-210C	10 kW Heater Amps - 208/230V	-		-		36.11 / 39.93			36.11 / 39.93		
Indoor blower amps		1.17		1.27		3.01			4.33		
Heater kW		3	5	3	5	3	5	10	3	5	10
Minimum wire size (90°C)		#12	#10	#12	#10	#12	#10	#6	#10	#10	#6
Minimum wire size (75°C)		#12	#10	#12	#10	#12	#10	#6	#10	#10	#6
Minimum wire size (60°C)		#12	#10	#12	#10	#12	#10	#4	#10	#10	#4
Max fuse size (amps)		20 / 20	25 / 30	20 / 20	25 / 30	20 / 20	25 / 30	50 / 60	20 / 25	30 / 30	50 / 60

Large Chassis		Indoor Unit Model					
		AC048DNZDCG/AA					
VHK-305C	5 kW Heater Amps - 208/230V	18.06 / 19.97					
VHK-310C	10 kW Heater Amps - 208/230V	36.11 / 39.93					
VHK-315C	5 kW Heater Amps - Circuit 1 - 208/230V	18.06 / 19.97					
	10 kW Heater Amps - Circuit 2 - 208/230V	36.11 / 39.93					
Indoor blower amps		4.94					
Heater kW		5		10		15	
Circuit #		1		1		2	
Minimum wire size (90°C)		#10		#6		#10      #6	
Minimum wire size (75°C)		#10		#6		#10      #6	
Minimum wire size (60°C)		#10		#4		#10      #4	
Max fuse size (amps)		25 / 30		50 / 60		25 / 30      50 / 60	

1. Rated Motor Amps (at DOE External Static Rating Point)
2. Nominal Kw At 240V (derate 25% For 208V)
3. Fuse or HACR Breaker
4. Maximum Overcurrent Device, Overcurrent Protection Installed On Breaker Models Are Sized Per MCA

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRING REQUIREMENTS

### AM0\*\*FEZDCG/AA MODELS

Small Chassis		Indoor Unit Model				
		AM012FEZDCG/AA		AM018FEZDCG/AA		AM024FEZDCG/AA
VHK-103C	3 kW Heater Amps - 208/230V	10.83 / 11.98		10.83 / 11.98		10.83 / 11.98
VHK-105C	5 kW Heater Amps - 208/230V	-		18.06 / 19.97		18.06 / 19.97
Indoor blower amps		2.8		2.8		2.8
Heater kW		3		3	5	3      5
Minimum wire size (90°C)		#12		#12	#10	#12      #10
Minimum wire size (75°C)		#12		#12	#10	#12      #10
Minimum wire size (60°C)		#12		#12	#10	#12      #10
Max fuse size (amps)		20 / 20		20 / 20	30 / 30	20 / 20      30 / 30

Medium chassis		Indoor Unit Model					
		AM030FEZDCG/AA			AM036FEZDCG/AA		
VHK-203C	3 kW Heater Amps - 208/230V	10.83 / 11.98			10.83 / 11.98		
VHK-205C	5 kW Heater Amps - 208/230V	18.06 / 19.97			18.06 / 19.97		
VHK-210C	10 kW Heater Amps - 208/230V	36.11 / 39.93			36.11 / 39.93		
Indoor blower amps		4.1			4.1		
Heater kW		3	5	10	3	5	10
Minimum wire size (90°C)		#10	#10	#6	#10	#10	#6
Minimum wire size (75°C)		#10	#10	#6	#10	#10	#6
Minimum wire size (60°C)		#10	#10	#4	#10	#10	#4
Max fuse size (amps)		20 / 25	30 / 35	50 / 60	20 / 25	30 / 35	50 / 60

Large Chassis		Indoor Unit Model					
		AM048FEZDCG/AA			AM054FEZDCG/AA		
VHK-305C	5 kW Heater Amps - 208/230V	18.06 / 19.97			18.06 / 19.97		
VHK-310C	10 kW Heater Amps - 208/230V	36.11 / 39.93			36.11 / 39.93		
VHK-315C	5 kW Heater Amps - Circuit 1 - 208/230V	18.06 / 19.97			18.06 / 19.97		
	10 kW Heater Amps - Circuit 2 - 208/230V	36.11 / 39.93			36.11 / 39.93		
Indoor blower amps		6			6		
Heater kW		5	10	15	5	10	15
Circuit #		1	1	1	1	1	2
Minimum wire size (90°C)		#10	#6	#10	#10	#6	#10      #6

1. Rated Motor Amps (at DOE External Static Rating Point)
2. Nominal Kw At 240V (derate 25% For 208V)
3. Fuse or HACR Breaker
4. Maximum Overcurrent Device, Overcurrent Protection Installed On Breaker Models Are Sized Per MCA

AM0\*\*FEZDCG/AA Data continued on next page.

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRING REQUIREMENTS

### AM0\*\*FEZDCG/AA and AM072HEZDCG/AA MODELS (CONTINUED)

Large Chassis		Indoor Unit Model					
		AM048FEZDCG/AA			AM054FEZDCG/AA		
VHK-305C	5 kW Heater Amps - 208/230V	18.06 / 19.97			18.06 / 19.97		
VHK-310C	10 kW Heater Amps - 208/230V	36.11 / 39.93			36.11 / 39.93		
VHK-315C	5 kW Heater Amps - Circuit 1 - 208/230V	18.06 / 19.97			18.06 / 19.97		
	10 kW Heater Amps - Circuit 2 - 208/230V	36.11 / 39.93			36.11 / 39.93		
Indoor blower amps		6			6		
Heater kW		5	10	15	5	10	15
Circuit #		1	1	1	1	1	2
Minimum wire size (90°C)		#10	#6	#10	#10	#6	#10 #6
Minimum wire size (75°C)		#10	#6	#10	#10	#6	#10 #6
Minimum wire size (60°C)		#10	#4	#10	#10	#4	#10 #4
Max fuse size (amps)		25 / 30	50 / 60	25 / 30	25 / 30	50 / 60	25 / 30 50 / 60

Large Chassis		Indoor Unit Model										
		AM060FEZDCG/AA					AM072HEZDCG/AA					
VHK-305C	5 kW Heater Amps - 208/230V	18.06 / 19.97					18.06 / 19.97					
VHK-310C	10 kW Heater Amps - 208/230V	36.11 / 39.93					36.11 / 39.93					
VHK-315C	5 kW Heater Amps - Circuit 1 - 208/230V	18.06 / 19.97					18.06 / 19.97					
	10 kW Heater Amps - Circuit 2 - 208/230V	36.11 / 39.93					36.11 / 39.93					
VHK-320C	10 kW Heater Amps - Circuit 1 - 208/230V	36.11 / 39.93					36.11 / 39.93					
	10 kW Heater Amps - Circuit 2 - 208/230V	36.11 / 39.93					36.11 / 39.93					
Indoor blower amps		6					7.6					
Heater kW		5	10	15	20	5	10	15	20			
Circuit #		1	1	1	2	1	1	1	2	1	2	
Minimum wire size (90°C)		#10	#6	#10	#6	#6	#6	#8	#6	#10	#6	#6
Minimum wire size (75°C)		#10	#6	#10	#6	#6	#6	#8	#6	#10	#6	#6
Minimum wire size (60°C)		#10	#4	#10	#4	#4	#4	#8	#4	#10	#4	#4
Max fuse size (amps)		30 / 35	60 / 60	25 / 30	60 / 60	50 / 60	60 / 60	35 / 40	60 / 60	25 / 30	60 / 60	50 / 60 60 / 60

1. Rated Motor Amps (at DOE External Static Rating Point)
2. Nominal Kw At 240V (derate 25% For 208V)
3. Fuse or HACR Breaker
4. Maximum Overcurrent Device, Overcurrent Protection Installed On Breaker Models Are Sized Per MCA

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## POWER SUPPLY CONNECTION

### POWER SUPPLY CONNECTIONS to AC0\*\*DNZDCG/AA and AJ0\*\*DNZDCG/AA MODELS

Indoor Unit Model					Electric Heater Data								UNIT MCA (UL 60335-2-40 101.DVB.2.1) Condition C		UNIT MOP (UL 60335-2-40 101.DVB.3.1)		Breaker Size		Short-Circuit Current Rating	
	Volts (1ph)	Motor HP	Motor Amps (FLA)		Heat Kit Model	Circuit Qty.	kW		Amps		MCA (AMPS)		MOP (AMPS)		Fuse Size (AMPS)		"SCCR"			
			208V	230V			208V	230V	208V	230V	208V	230V	208V	230V	208V	230V	kA rms symmetrical	V maximum		
<b>SMALL CABINET</b>																				
AJ012DNZDCG/AA	208/230	1/3	0.59	0.65	No Heat - Blower Only	1	0	0	0	0	0.73	0.81	1.32	1.46	15	15	N/A	N/A		
					VHK-103C	1	2.25	2.76	10.83	11.98	14.27	15.78	12.15	13.44	15	20	N/A	N/A		
AJ018DNZDCG/AA	208/230	1/3	1.16	1.28	No Heat - Blower Only	1	0	0	0	0	1.45	1.61	2.61	2.89	15	15	N/A	N/A		
					VHK-103C	1	2.25	2.76	10.83	11.98	14.99	16.58	13.45	14.87	15	20	N/A	N/A		
					VHK-105C	1	3.76	4.59	18.06	19.97	24.02	26.56	20.67	22.86	25	30	N/A	N/A		
AJ024DNZDCG/AA	208/230	1/3	1.70	1.88	No Heat - Blower Only	1	0	0	0	0	2.12	2.35	3.82	4.22	15	15	N/A	N/A		
					VHK-103C	1	2.25	2.76	10.83	11.98	15.66	17.32	14.65	16.20	20	20	N/A	N/A		
					VHK-105C	1	3.76	4.59	18.06	19.97	24.69	27.30	21.88	24.19	25	30	N/A	N/A		
<b>MEDIUM CABINET</b>																				
AC018DNZDCG/AA	208/230	1/2	1.06	1.17	No Heat - Blower Only	1	0	0	0	0	1.32	1.46	2.38	2.63	15	15	N/A	N/A		
					VHK-203C	1	2.25	2.76	10.83	11.98	14.87	16.44	13.22	14.61	20	20	N/A	N/A		
					VHK-205C	1	3.76	4.59	18.06	19.97	23.89	26.42	20.43	22.60	25	30	N/A	N/A		
AC024DNZDCG/AA	208/230	1/2	1.15	1.27	No Heat - Blower Only	1	0	0	0	0	1.44	1.59	2.59	2.87	15	15	N/A	N/A		
					VHK-203C	1	2.25	2.76	10.83	11.98	14.98	16.56	13.42	14.84	20	20	N/A	N/A		
					VHK-205C	1	3.76	4.59	18.06	19.97	24.01	26.55	20.65	22.83	25	30	N/A	N/A		
AC030DNZDCG/AA	208/230	1/2	2.61	3.01	No Heat - Blower Only	1	0	0	0	0	3.26	3.76	5.87	6.77	15	15	N/A	N/A		
					VHK-203C	1	2.25	2.76	10.83	11.98	16.80	18.74	16.71	18.75	20	20	N/A	N/A		
					VHK-205C	1	3.76	4.59	18.06	19.97	25.83	28.72	23.93	26.74	30	30	N/A	N/A		
					VHK-210C	1	7.51	9.18	36.11	39.93	48.40	53.68	41.98	46.70	50	60	N/A	N/A		
AC036DNZDCG/AA	208/230	1/2	3.75	4.33	No Heat - Blower Only	1	0	0	0	0	4.69	5.41	8.44	9.74	15	15	N/A	N/A		
					VHK-203C	1	2.25	2.76	10.83	11.98	18.23	20.39	19.27	21.72	20	20	N/A	N/A		
					VHK-205C	1	3.76	4.59	18.06	19.97	27.26	30.37	26.50	29.71	30	35	N/A	N/A		
					VHK-210C	1	7.51	9.18	36.11	39.93	49.83	55.33	44.55	49.67	50	60	N/A	N/A		
<b>LARGE CABINET</b>																				
AC048DNZDCG/AA	208/230	3/4	4.28	4.94	No Heat - Blower Only	1	0	0	0	0	5.35	6.18	9.63	11.12	15	15	N/A	N/A		
					VHK-305C	1	3.76	4.59	18.06	19.97	27.92	31.13	27.69	31.08	30	35	N/A	N/A		
					VHK-310C	1	7.51	9.18	36.11	39.93	50.49	56.09	45.74	51.05	60	60	N/A	N/A		
					VHK-315C	1	7.51	9.18	36.11	39.93	50.49	56.09	45.74	51.05	60	60	5	240		
						2	3.76	4.59	18.06	19.97	22.57	24.96	18.06	19.97	25	30				

1. Rated Motor Amps (at DOE External Static Rating Point)
2. Nominal Kw At 240V (derate 25% For 208V)
3. Fuse or HACR Breaker
4. Maximum Overcurrent Device, Overcurrent Protection Installed On Breaker Models Are Sized Per MCA

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## POWER SUPPLY CONNECTION

### POWER SUPPLY CONNECTIONS to AM0\*\*FEZDCG/AA and AM072HEZDCG/AA MODELS

Indoor Unit Model	Volts (1ph)	Motor Amps (FLA)		Electric Heater Data						UNIT MCA (UL 60335 2-40 101.DVB.2.1) Condition C		UNIT MOP (UL 60335 2-40 101.DVB.3.1)		Breaker Size		Short-Circuit Current Rating			
		208V	230V	Heat Kit Model	Circuit Qty.	kW		Amps		MCA (Amps)		MOP (Amps)		Fuse Size (Amps)		"SCCR"			
						208V	230V	208V	230V	208V	230V	208V	230V	208V	230V	208V	230V	kA rms symmetrical	V maximum
SMALL CABINET																			
AM012FEZDCG/AA	208/230	2.53	2.80	VHK-103C	1	2.25	2.76	10.83	11.98	16.71	18.47	16.53	18.28	20	20	N/A	N/A		
AM018FEZDCG/AA	208/230	2.53	2.80	VHK-103C	1	2.25	2.76	10.83	11.98	16.71	18.47	16.53	18.28	20	20	N/A	N/A		
				VHK-105C	1	3.76	4.59	18.06	19.97	25.73	28.46	23.75	26.27	30	30				
AM024FEZDCG/AA	208/230	2.53	2.80	VHK-103C	1	2.25	2.76	10.83	11.98	16.71	18.47	16.53	18.28	20	20	N/A	N/A		
				VHK-105C	1	3.76	4.59	18.06	19.97	25.73	28.46	23.75	26.27	30	30				
MEDIUM CABINET																			
AM030FEZDCG/AA	208/230	3.71	4.10	VHK-203C	1	2.25	2.76	10.83	11.98	18.18	20.10	19.18	21.20	20	20	N/A	N/A		
				VHK-205C	1	3.76	4.59	18.06	19.97	27.20	30.08	26.40	29.19	30	35				
				VHK-210C	1	7.51	9.18	36.11	39.93	49.77	55.04	44.45	49.16	50	60				
AM036FEZDCG/AA	208/230	3.71	4.10	VHK-203C	1	2.25	2.76	10.83	11.98	18.18	20.10	19.18	21.20	20	20	N/A	N/A		
				VHK-205C	1	3.76	4.59	18.06	19.97	27.20	30.08	26.40	29.19	30	35				
				VHK-210C	1	7.51	9.18	36.11	39.93	49.77	55.04	44.45	49.16	50	60				
LARGE CABINET																			
AM048FEZDCG/AA	208/230	5.43	6.00	VHK-305C	1	3.76	4.59	18.06	19.97	29.35	32.46	30.26	33.47	30	35	N/A	N/A		
				VHK-310C	1	7.51	9.18	36.11	39.93	51.92	57.41	48.32	53.43	60	60				
				VHK-315C	1	7.51	9.18	36.11	39.93	51.92	57.41	48.32	53.43	60	60			5	240
2	3.76	4.59	18.06		19.97	22.57	24.96	18.06	19.97	25	30	5	240						
AM054FEZDCG/AA	208/230	5.43	6.00	VHK-305C	1	3.76	4.59	18.06	19.97	29.35	32.46	30.26	33.47	30	35	N/A	N/A		
				VHK-310C	1	7.51	9.18	36.11	39.93	51.92	57.41	48.32	53.43	60	60				
				VHK-315C	1	7.51	9.18	36.11	39.93	51.92	57.41	48.32	53.43	60	60			5	240
2	3.76	4.59	18.06		19.97	22.57	24.96	18.06	19.97	25	30	5	240						
AM060FEZDCG/AA	208/230	5.43	6.00	VHK-305C	1	3.76	4.59	18.06	19.97	29.35	32.46	30.26	33.47	30	35	N/A	N/A		
				VHK-310C	1	7.51	9.18	36.11	39.93	51.92	57.41	48.32	53.43	60	60				
				VHK-315C	1	7.51	9.18	36.11	39.93	51.92	57.41	48.32	53.43	60	60			5	240
					2	3.76	4.59	18.06	19.97	22.57	24.96	18.06	19.97	25	30			5	240
				VHK-320C	1	7.51	9.18	36.11	39.93	51.92	57.41	48.32	53.43	60	60			5	240
2	7.51	9.18	36.11		39.93	45.14	49.91	36.11	39.93	50	50	5	240						
AM072FEZDCG/AA	208/230	6.87	7.60	VHK-305C	1	3.76	4.59	18.06	19.97	31.16	34.46	33.52	37.07	35	40	N/A	N/A		
				VHK-310C	1	7.51	9.18	36.11	39.93	53.73	59.41	51.58	57.03	60	60				
				VHK-315C	1	7.51	9.18	36.11	39.93	53.73	59.41	51.58	57.03	60	60			5	240
					2	3.76	4.59	18.06	19.97	22.57	24.96	18.06	19.97	25	30			5	240
				VHK-320C	1	7.51	9.18	36.11	39.93	53.73	59.41	51.58	57.03	60	60			5	240
2	7.51	9.18	36.11		39.93	45.14	49.91	36.11	39.93	50	50	5	240						

1. Rated Motor Amps (at DOE External Static Rating Point)
2. Nominal Kw At 240V (derate 25% For 208V)
3. Fuse or HACR Breaker
4. Maximum Overcurrent Device, Overcurrent Protection Installed On Breaker Models Are Sized Per MCA

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

---

## WIRING WORK

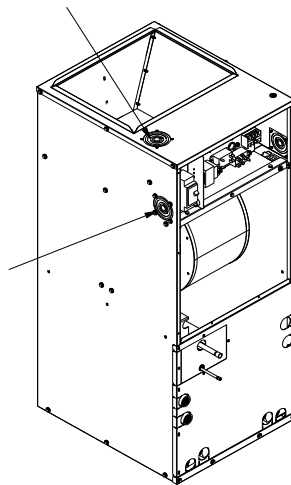


### WARNING

- For personal safety be sure to turn the electrical power “OFF” at the main entrance (Home Circuit Breaker Box) and at the unit control box circuit breakers before attempting any service or maintenance operations. Homeowners should never attempt to perform any maintenance which requires opening the air handler control box door.
  - This air handler is not equipped with a shield that covers the line voltage electrical supply wires and the circuit breaker connections. Take precautions to prevent accidental electrical shock. Be sure to turn the electrical power “OFF” at the main entrance (Home Circuit Breaker Box) and at the control box circuit breakers before removing the front panel.
- 
- The unit internal wiring is complete except for the power supply and control wires.
  - The use of cable connectors on incoming power supply wires to relieve any strain on wiring is required.
  - Follow the steps below to connect the power supply wires.
  - Supply voltage is 208/230V, 1 $\phi$ , 60 Hz

## POWER SUPPLY WIRING WITH ACCESSORY ELECTRIC HEAT KIT

1. Before wiring work, you must turn off all power sources.
2. The indoor unit and heat kit power should be supplied through the breaker (ELCB or MCCB+ELB ) separate from the outdoor power.  
ELCB : Earth Leakage Circuit Breaker  
MCCB : Molded Case Circuit Breaker  
ELB : Earth Leakage Breaker
3. Only copper power cables should be used.
4. Remove the blower and control box access panel (door).
5. Install the cable connectors on the 7/8” diameter holes on the left side of the control box.



**POWER CONDUIT CONNECTION OPENINGS**

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

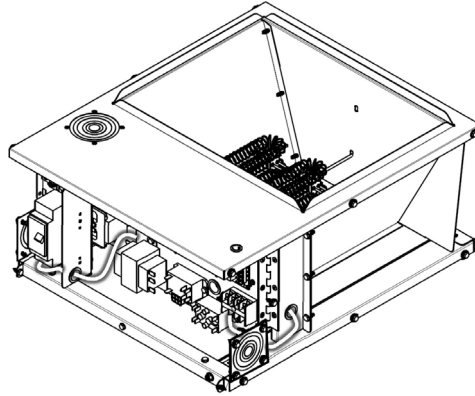
MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

---

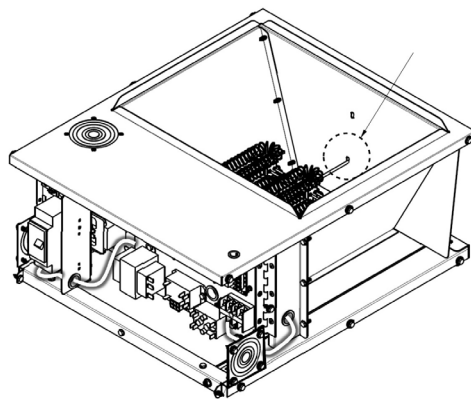
## WIRING WORK

### POWER SUPPLY WIRING WITH ACCESSORY ELECTRIC HEAT KIT (CONTINUED)

6. Connect a wire (minimum 14 AWG) with ring connectors to 1(L) and 2(N) terminals located on the right side of the control box that is long enough to reach the other side of the control box as pictured below.
7. Route the power pigtail leads through the control box opening pictured below and route to the left side of the control box for connection to the heat breakers in a later step.



8. Swing the hinged control plate outward exposing the back side of the control box. Remove the screws holding the electric heat kit block off plate. Save the screws.
9. Carefully pass the accessory heating element through the rectangular opening in the discharge of the air handler and secure the heating element with the screws from step 8. Heating element support rod must be seated in the hole on the opposite side of the discharge.



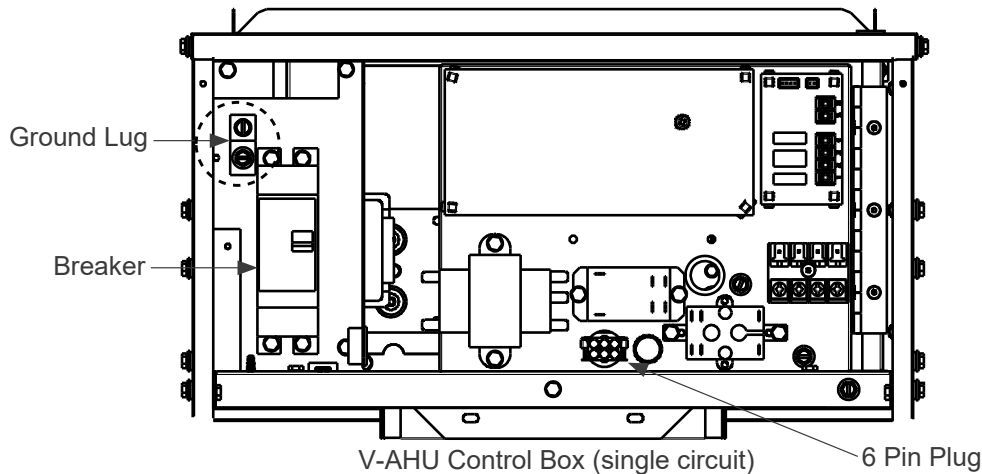
10. Install the breakers at the front-left of the control box.
11. Connect the power pigtail leads that are connected to 1(L) and 2(N) to the bottom of the breakers.
12. Insert the power wires through the holes in the casing and through the cable connectors.
13. Strip 1/2" of the insulation on the end of each power wire.
14. Connect the black supply wire to the high voltage connection lug on the accessory heat kit breaker.
15. Connect the white supply wire to the other high voltage connection lug on the accessory heat kit breaker.

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRING WORK

### POWER SUPPLY WIRING WITH ACCESSORY ELECTRIC HEAT KIT (CONTINUED)



16. Connect the green (ground) wire to the ground lug to the left of the accessory heat kit breakers and tighten the ground lug screw. Make sure to leave extra slack in the ground wire to allow service to the unit without disconnecting the ground wire. If the heat kit requires 2 circuits (dual circuit), both circuit ground wires must be connected to a ground lug (dual circuit kits have two individual ground lugs).
17. Connect the six pin male plug on the electric heater assembly to the six pin female plug mounted at the bottom of the control assembly door.
18. Remove the wiring diagram from the accessory heat kit. Remove the paper that covers the adhesive back and place the electric heat wiring diagram over the wiring diagram located on the blower housing.
19. Remove the breaker opening cover plate on the AHU door and secure the doors to the unit.

#### NOTE

After installing the electric heater, a one inch clearance must be maintained on all sides of the supply air duct and/or plenum for a minimum of thirty six inches from the air handler discharge opening.

The electric heat kits are equipped with either one or two circuit breakers. These circuit breakers protect the wiring inside of the AHU in the event of a short circuit. Additionally, these breakers provide a means of disconnecting the power to the unit. The circuit breakers in the AHU's are not meant to protect the branch circuit wiring between the AHU and the building's breaker panel. If sheathed cable is used, refer to NEC National Electrical Code (NFPA 70) or the Canadian Electrical Code, Part I (CSA C22.1) and local codes for additional requirements concerning supply circuit wiring.

#### IMPORTANT

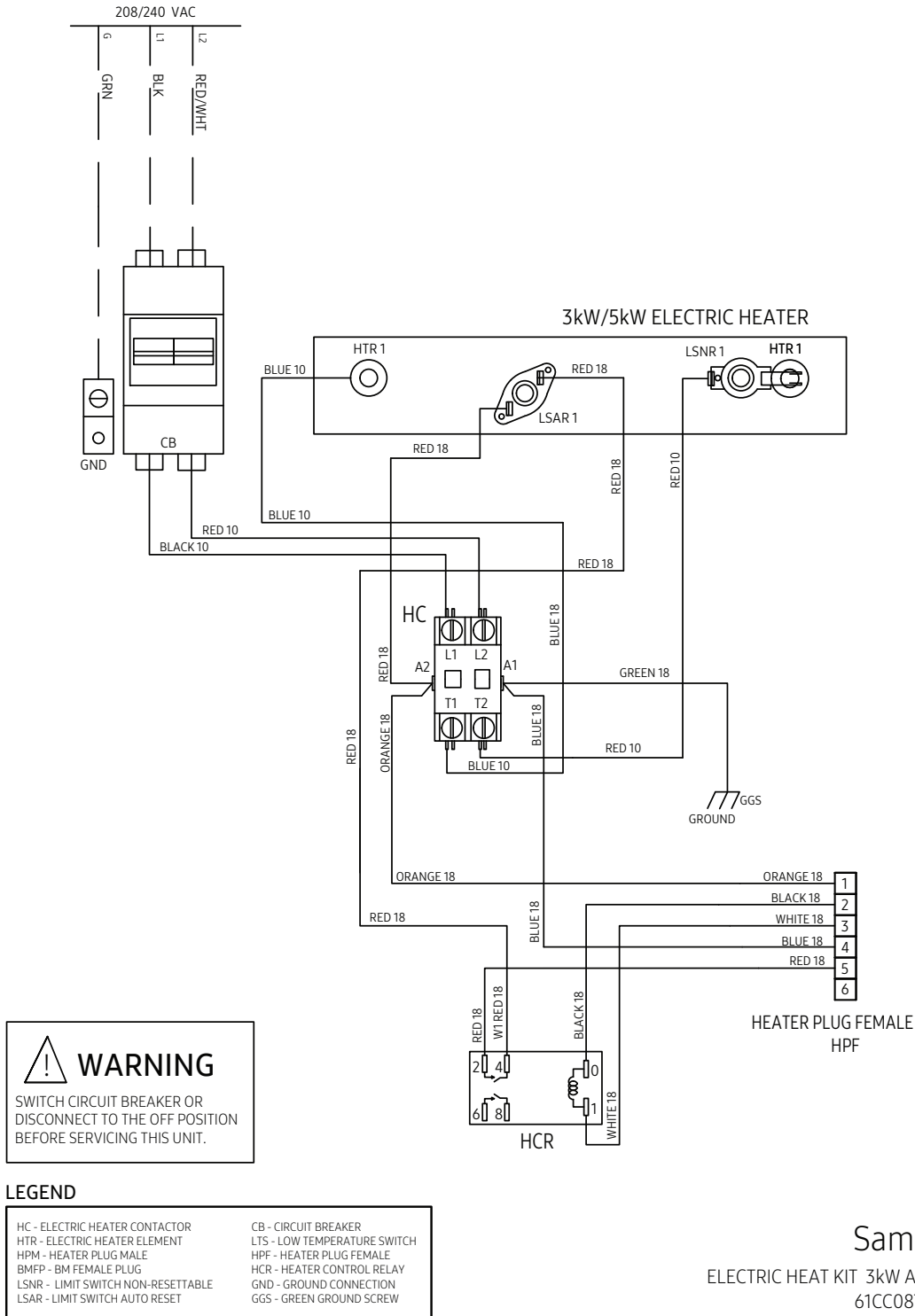
All installation of field wiring must be rated at 60°C or higher. Please refer to the wiring diagrams on the AHU or the tables in this manual for more information. The 15kW and 20kW models may be connected to a single or dual branch circuit. Refer to the NEC National Electrical Code (NFPA 70) or the Canadian Electrical Code, Part I (CSA C22.1) and local codes for wiring material requirements.

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRE DIAGRAM

VHK-103C, VHK-105C, VHK-203C, VHK-205C, VHK-305C



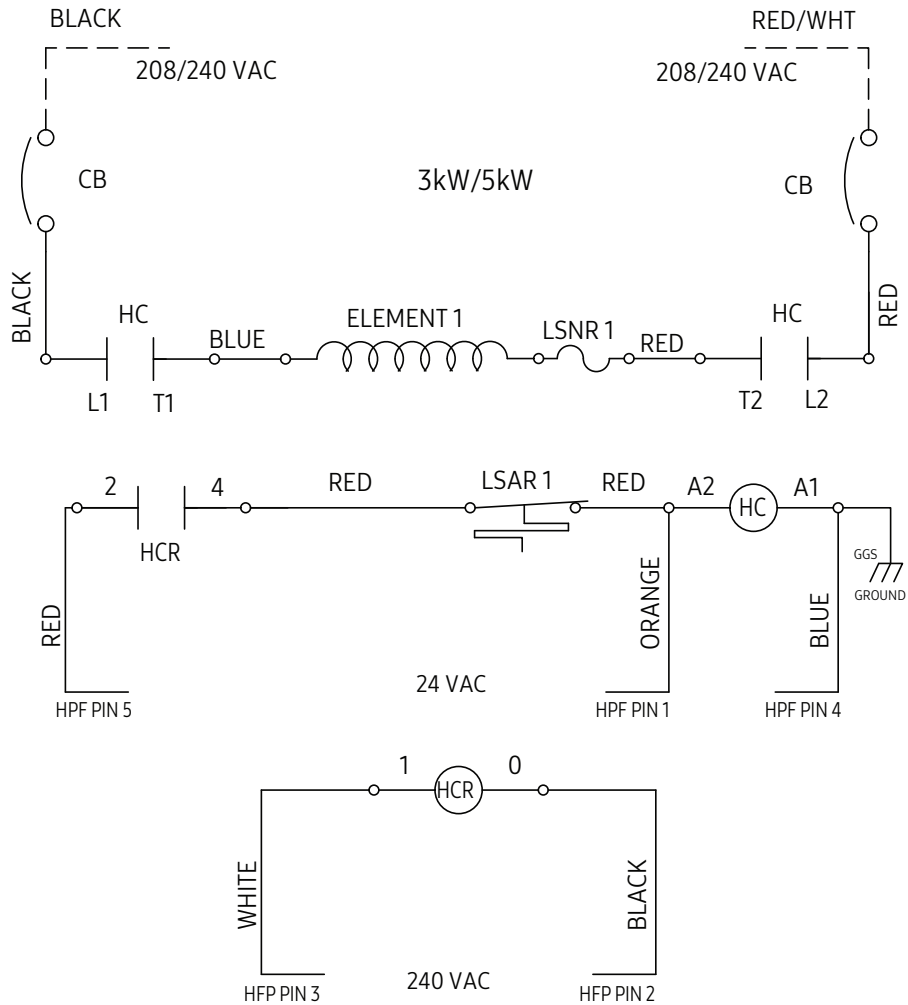
Samsung  
 ELECTRIC HEAT KIT 3kW AND 5kW  
 61CC0870 Rev C

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRE DIAGRAM

VHK-103C, VHK-105C, VHK-203C, VHK-205C, VHK-305C (CONTINUED)



**WARNING**  
 SWITCH CIRCUIT BREAKER OR DISCONNECT TO THE OFF POSITION BEFORE SERVICING THIS UNIT.

### LEGEND

HC - ELECTRIC HEATER CONTACTOR	CB - CIRCUIT BREAKER
HTR - ELECTRIC HEATER ELEMENT	LTS - LOW TEMPERATURE SWITCH
HPM - HEATER PLUG MALE	HPF - HEATER PLUG FEMALE
BMFP - BM FEMALE PLUG	HCR - HEATER CONTROL RELAY
LSNR - LIMIT SWITCH NON-RESETTABLE	GND - GROUND CONNECTION
LSAR - LIMIT SWITCH AUTO RESET	GGS - GREEN GROUND SCREW

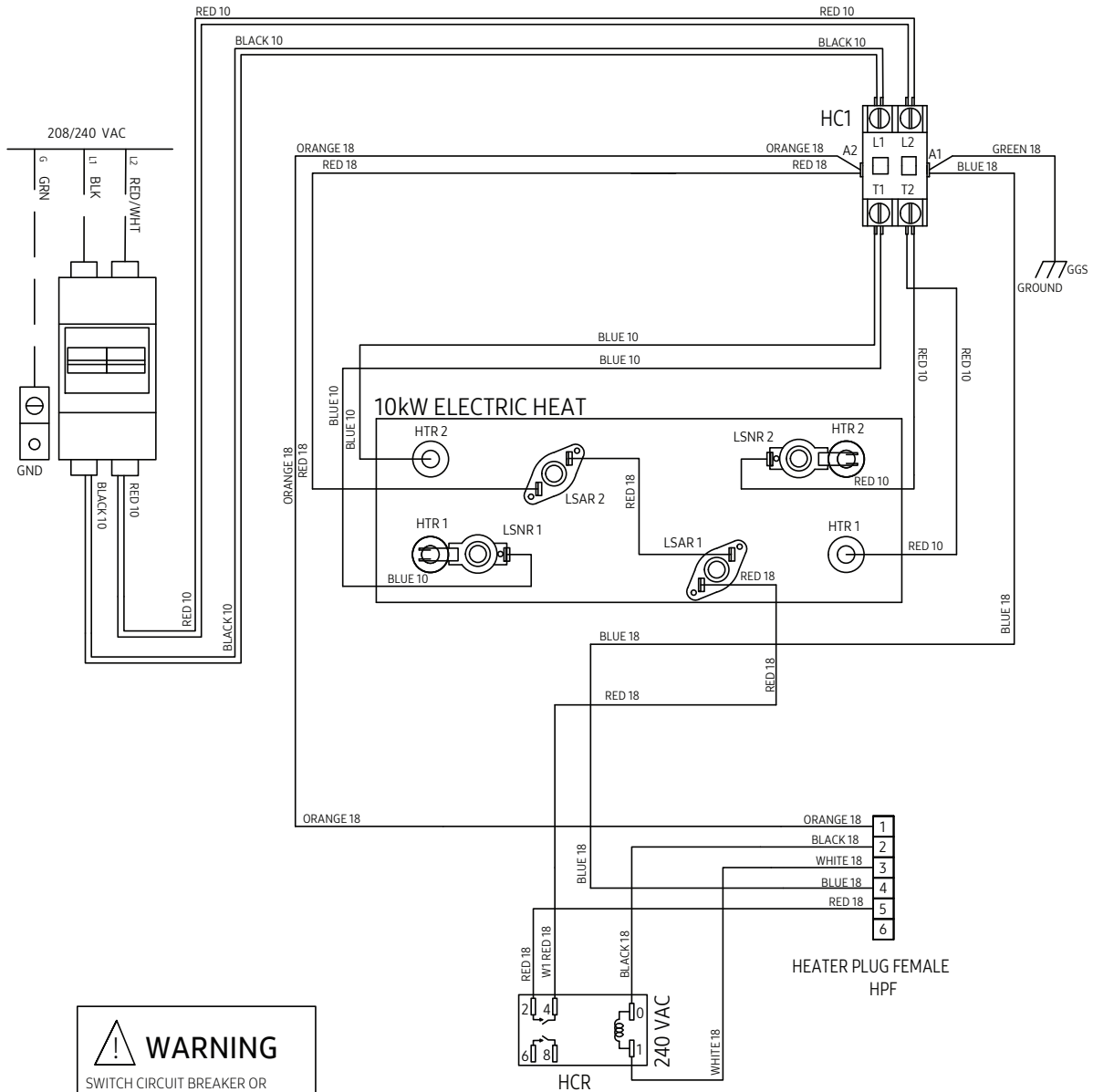
Samsung  
 ELECTRIC HEAT KIT 3kW AND 5kW  
 61CC0870 Rev C

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRE DIAGRAM

VHK-210C, VHK-310C



**WARNING**  
 SWITCH CIRCUIT BREAKER OR DISCONNECT TO THE OFF POSITION BEFORE SERVICING THIS UNIT.

**LEGEND**

HC - ELECTRIC HEATER CONTACTOR	CB - CIRCUIT BREAKER
HTR - ELECTRIC HEATER ELEMENT	LTS - LOW TEMPERATURE SWITCH
HPM - HEATER PLUG MALE	HPF - HEATER PLUG FEMALE
BMFP - BM FEMALE PLUG	HCR - HEATER CONTROL RELAY
LSNR - LIMIT SWITCH NON-RESETTABLE	GND - GROUND CONNECTION
LSAR - LIMIT SWITCH AUTO RESET	GGS - GREEN GROUND SCREW

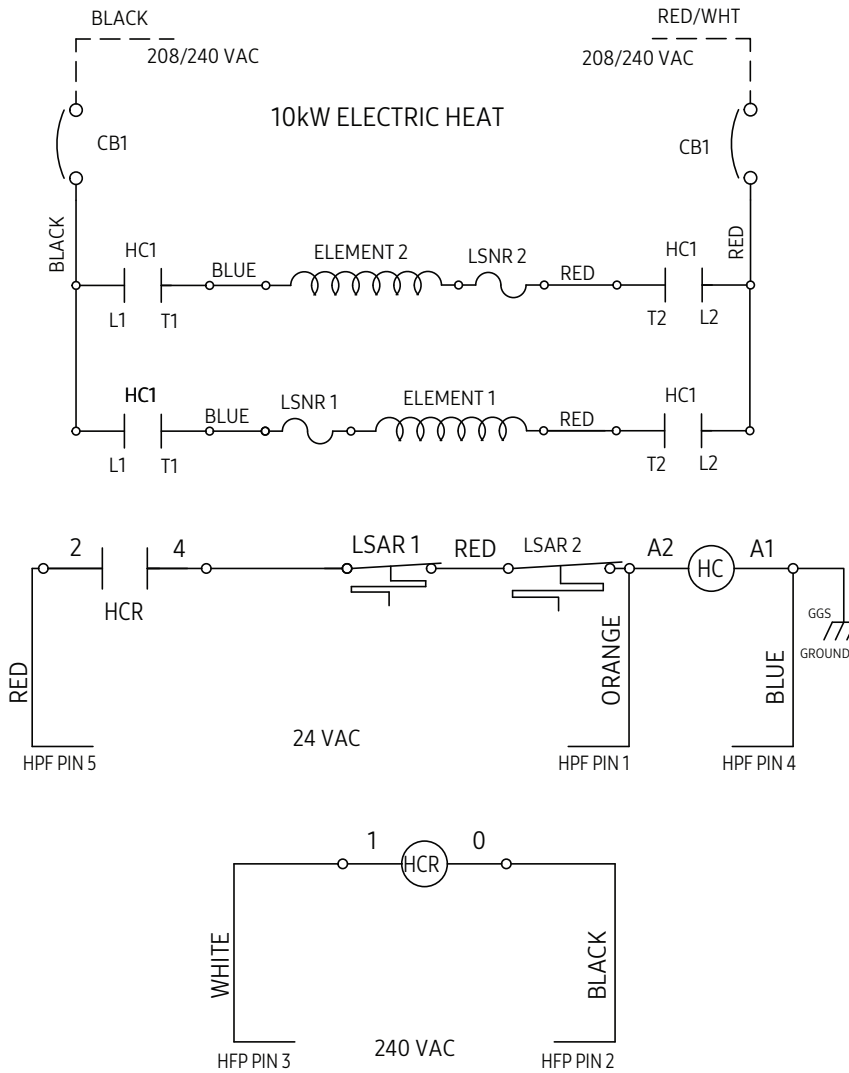
Samsung  
 ELECTRIC HEAT KIT 10KW  
 61CC0871 Rev C

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRE DIAGRAM

VHK-210C, VHK-310C (CONTINUED)



**⚠ WARNING**  
 SWITCH CIRCUIT BREAKER OR DISCONNECT TO THE OFF POSITION BEFORE SERVICING THIS UNIT.

**LEGEND**

HC - ELECTRIC HEATER CONTACTOR	CB - CIRCUIT BREAKER
HTR - ELECTRIC HEATER ELEMENT	LTS - LOW TEMPERATURE SWITCH
HPM - HEATER PLUG MALE	HPF - HEATER PLUG FEMALE
BMFP - BM FEMALE PLUG	HCR - HEATER CONTROL RELAY
LSNR - LIMIT SWITCH NON-RESETTABLE	GND - GROUND CONNECTION
LSAR - LIMIT SWITCH AUTO RESET	GGS - GREEN GROUND SCREW

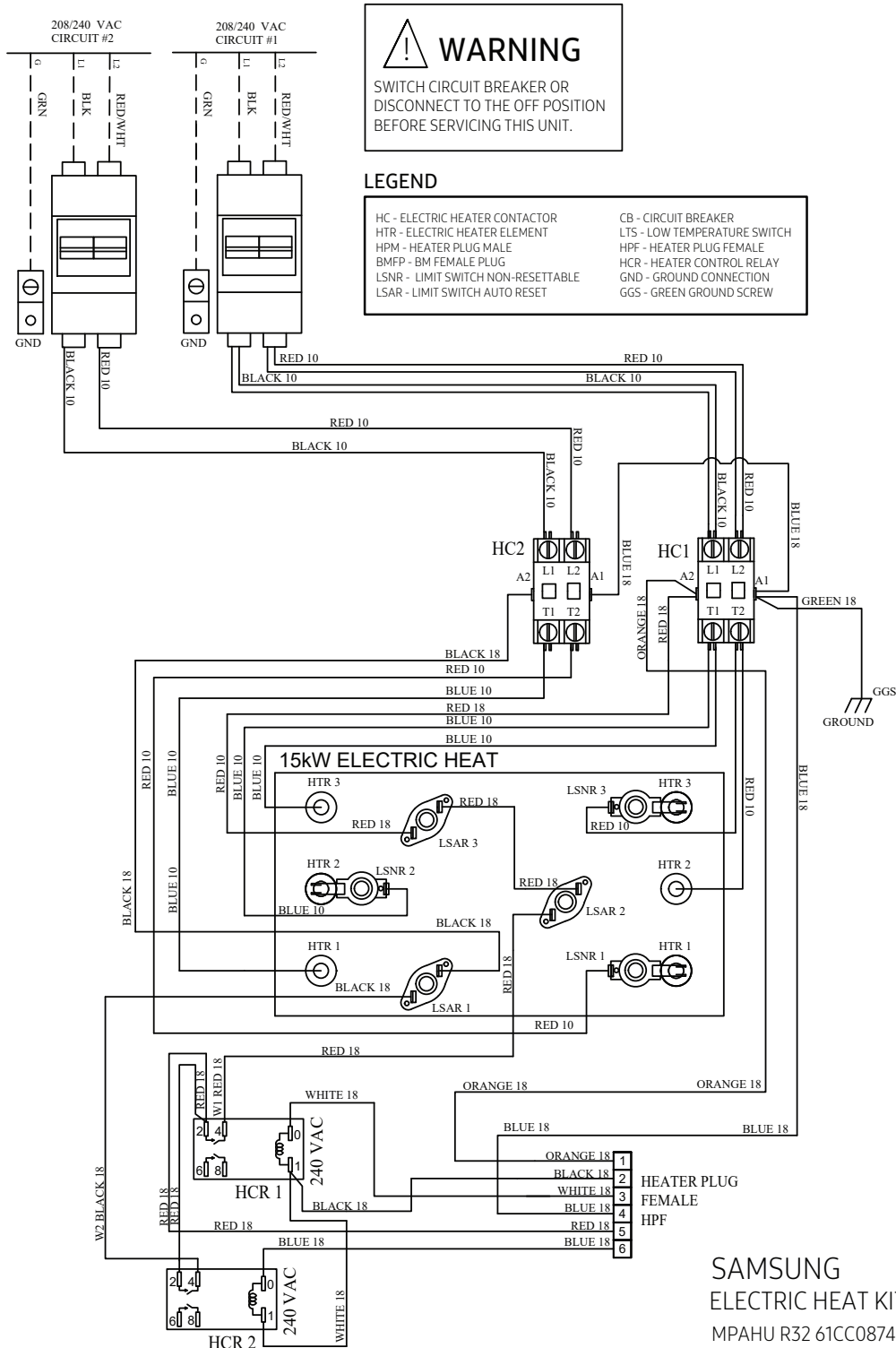
Samsung  
 ELECTRIC HEAT KIT 10kW  
 61CC0871 Rev C

# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRE DIAGRAM

### VHK-315C

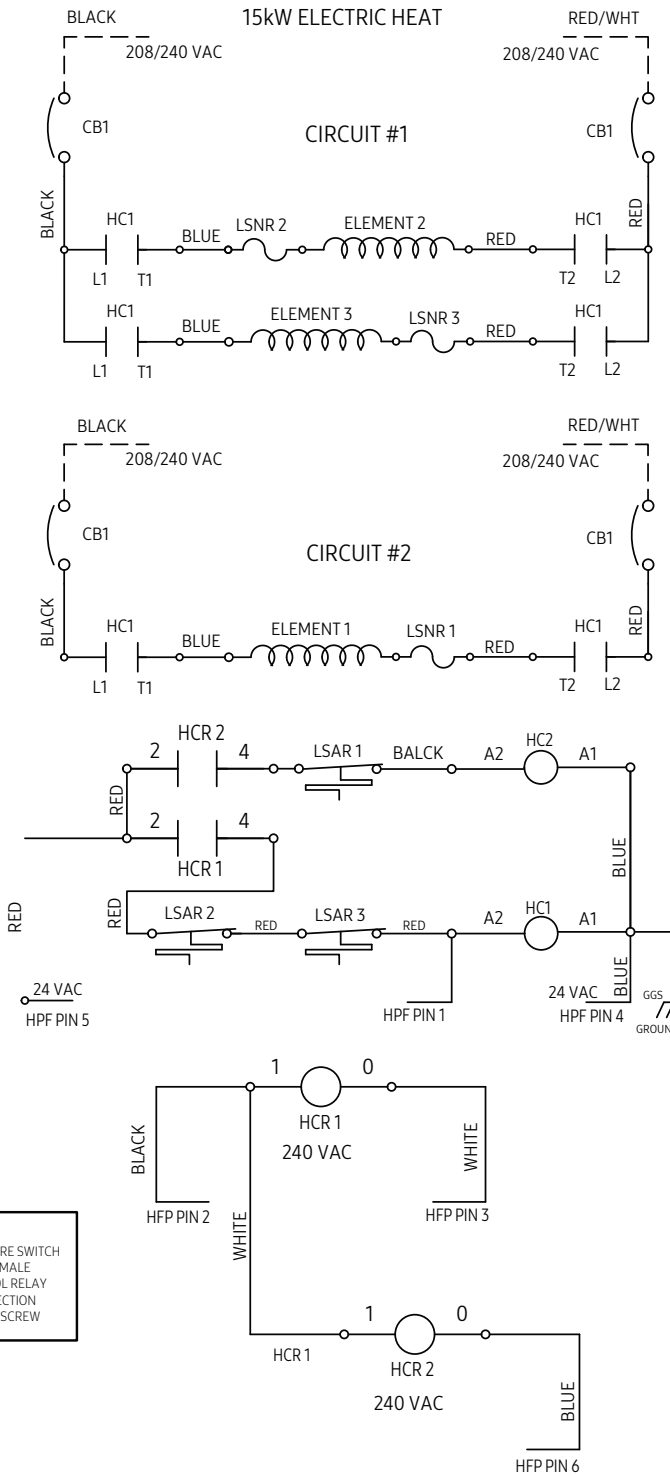


# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRE DIAGRAM

VHK-315C (CONTINUED)



**WARNING**

SWITCH CIRCUIT BREAKER OR DISCONNECT TO THE OFF POSITION BEFORE SERVICING THIS UNIT.

**LEGEND**

HC - ELECTRIC HEATER CONTACTOR	CB - CIRCUIT BREAKER
HTR - ELECTRIC HEATER ELEMENT	LTS - LOW TEMPERATURE SWITCH
HPM - HEATER PLUG MALE	HPF - HEATER PLUG FEMALE
BMFP - BM FEMALE PLUG	HCR - HEATER CONTROL RELAY
LSNR - LIMIT SWITCH NON-RESETTABLE	GND - GROUND CONNECTION
LSAR - LIMIT SWITCH AUTO RESET	GGS - GREEN GROUND SCREW

SAMSUNG  
ELECTRIC HEAT KIT 15kW  
MPAHU R32 61CC0874 Rev C

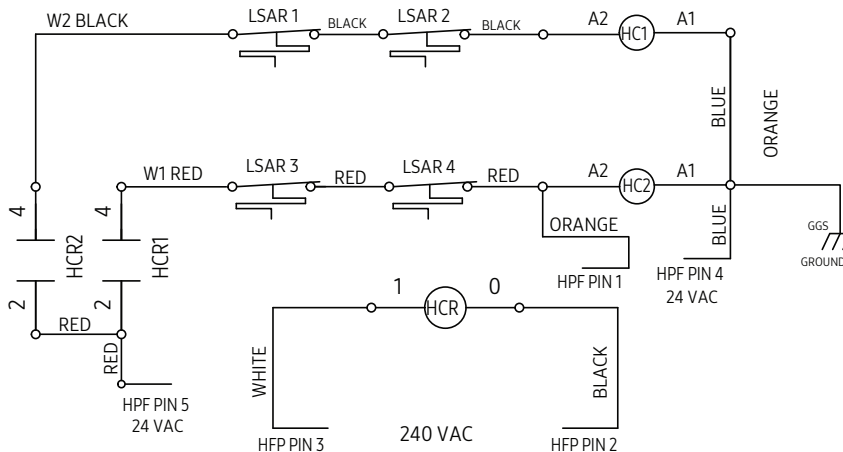
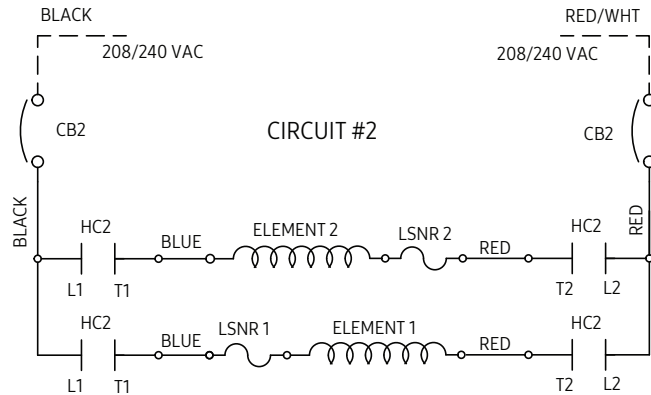
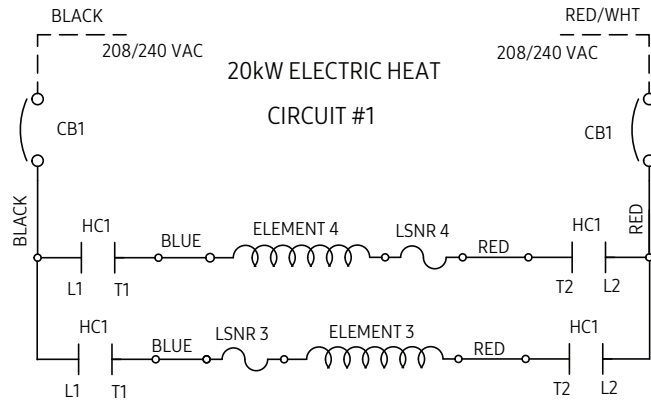


# HEAT KIT INSTALLATION INSTRUCTIONS (MPAH)

MODELS: VHK-1\*\*C, VHK-2\*\*C, VHK-3\*\*C

## WIRE DIAGRAM

VHK-320C (CONTINUED)



**WARNING**  
SWITCH CIRCUIT BREAKER OR DISCONNECT TO THE OFF POSITION BEFORE SERVICING THIS UNIT.

**LEGEND**

HC - ELECTRIC HEATER CONTACTOR	CB - CIRCUIT BREAKER
HTR - ELECTRIC HEATER ELEMENT	LTS - LOW TEMPERATURE SWITCH
HPM - HEATER PLUG MALE	HPF - HEATER PLUG FEMALE
BMFP - BM FEMALE PLUG	HCR - HEATER CONTROL RELAY
LSNR - LIMIT SWITCH NON-RESETTABLE	GND - GROUND CONNECTION
LSAR - LIMIT SWITCH AUTO RESET	GGS - GREEN GROUND SCREW

**SAMSUNG**  
ELECTRIC HEAT KIT 20kW  
61CC0876 Rev C