



Air Conditioning & Heating

# ARUF SERIES

## MULTI-POSITION MULTI-SPEED PSC MOTOR AIR HANDLER

### 1½ TO 5 TONS



#### Product Features

- Check flowrator for cooling and heat pump applications
- Direct drive, multi-speed PSC blower motor
- All-aluminum evaporator coil
- Coil mounting track for quick repositioning
- Optimized for use with R-410A refrigerant
- Cabinet air leakage less than 2.0% at 1.0 inch H2O when tested in accordance with ASHRAE standard 193
- Cabinet air leakage less than 1.4% at 0.5 inch H2O when tested in accordance with ASHRAE standard 193
- 3 kW – 25 kW electric heater kits
- Horizontal or vertical configuration capabilities
- Rigid SmartFrame™ cabinet
- 21" depth for easier attic access
- DecaBDE-free thermoplastic drain pan with secondary drain connections
- Screw-less sides and back helps to reduce condensation when installed in humid locations
- Foil-faced insulation covers the internal casing to reduce cabinet condensation
- Galvanized, leather grain-embossed finish
- Glue-less cabinet insulation retention
- Tool-less filter access
- AHRI certified; ETL listed

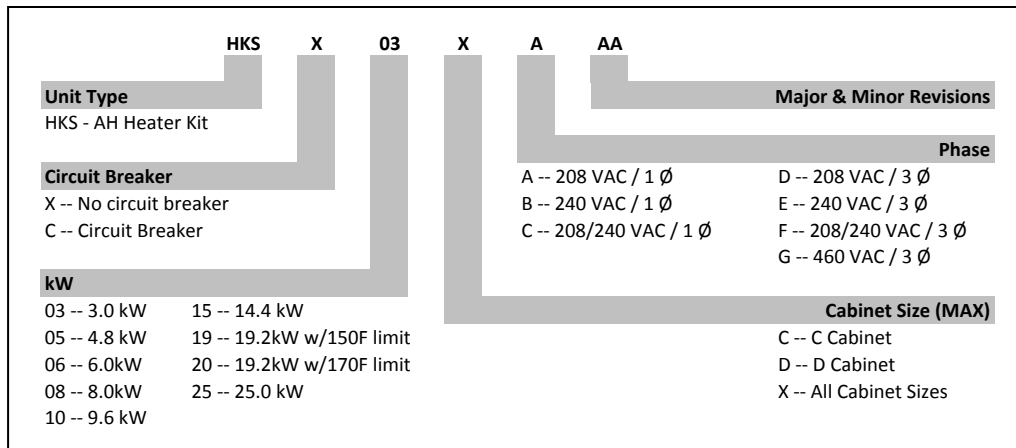
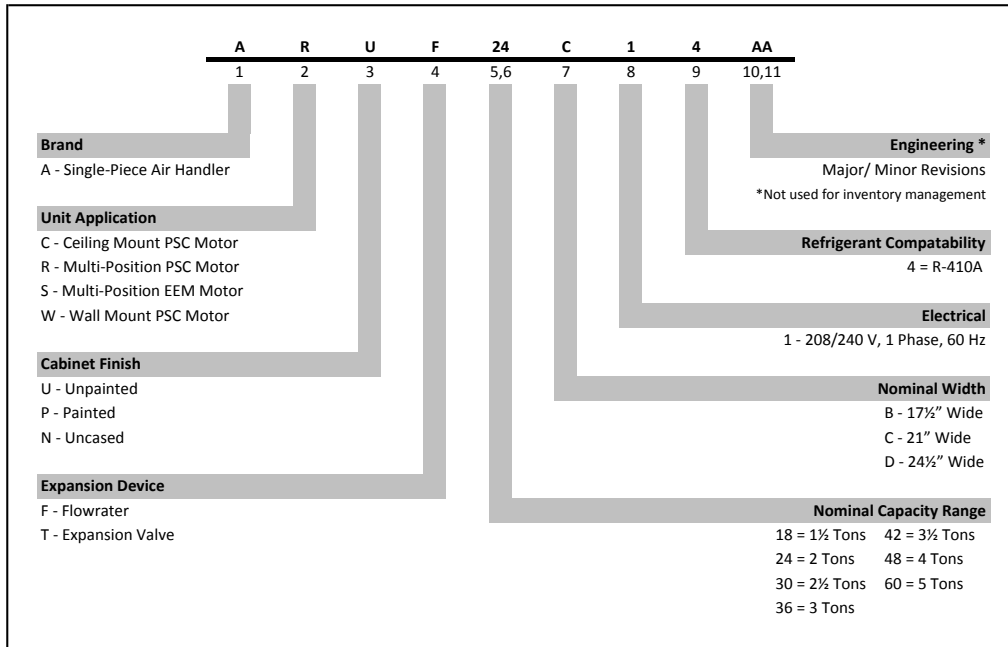
#### Contents

Nomenclature .....	2
Accessories .....	2
Product Specifications .....	3
Dimensions .....	4
Airflow Data .....	5
Heat Kit Data .....	6
Wiring Diagram .....	8



\* Complete warranty details available from your local dealer or at [www.goodmanmfg.com](http://www.goodmanmfg.com). To receive the 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Quebec.

NOMENCLATURE



HEATING kW CORRECTION FACTOR

SUPPLY VOLTAGE	240	230	220	210	208
CORRECTION FACTOR	1.00	0.92	0.84	0.77	0.75

Multiply the 240-volt heating capacity by correction factors.

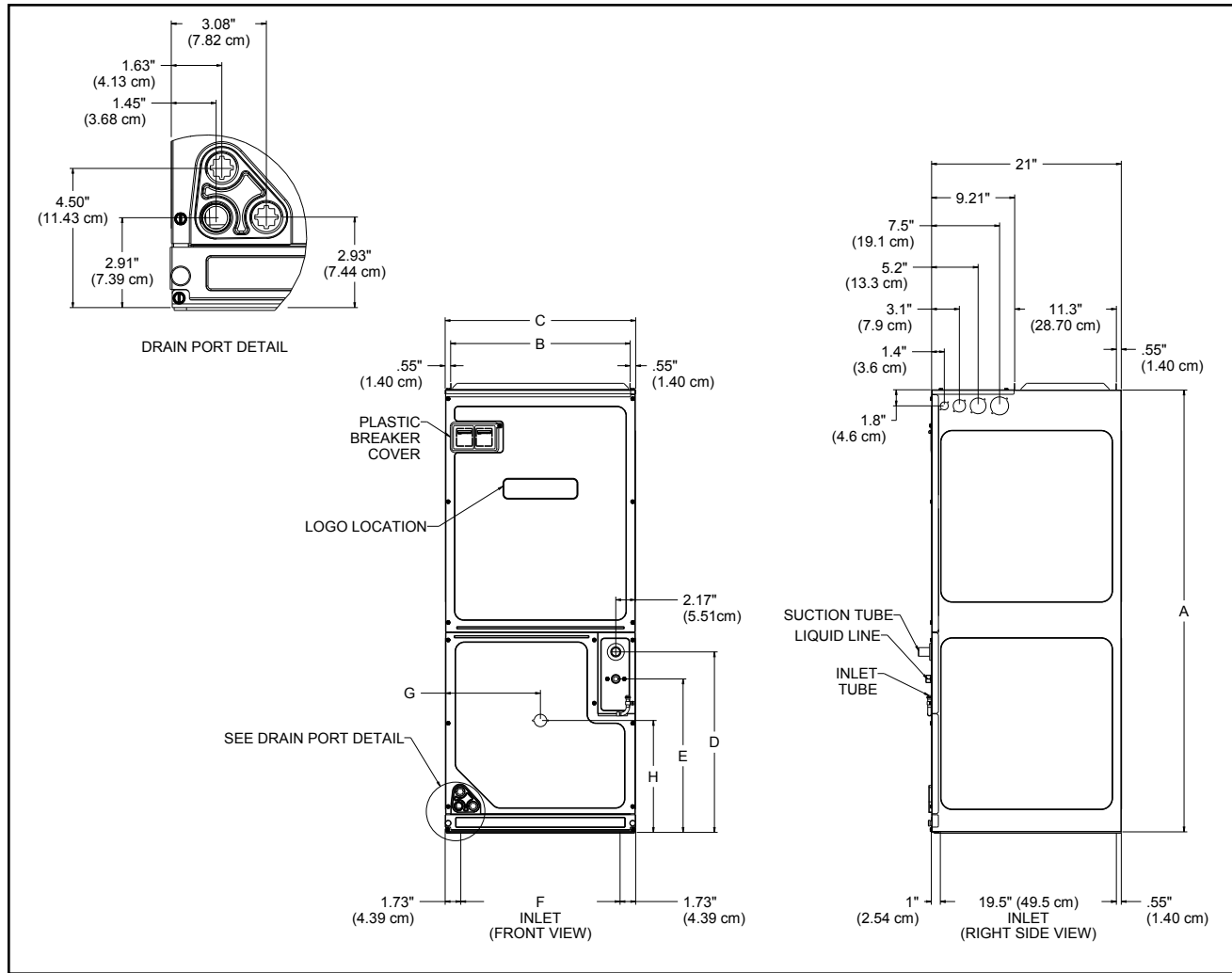
**SPECIFICATIONS**

	ARUF 18B14*	ARUF 24B14*	ARUF 30B14*	ARUF 30C14*	ARUF 36C14*	ARUF 42C14*	ARUF 48D14*	ARUF 60D14*
<b>NOMINAL RATINGS</b>								
Cooling (Btu/h)	18,000	24,000	30,000	36,000	36,000	42,000	48,000	60,000
Piston Size	0.049	0.057	0.065	0.071	0.071	0.074	0.078	0.088
<b>BLOWER</b>								
Diameter	9½"	9½"	9½"	10⅝"	10⅝"	10⅝"	10⅝"	12"
Width	6"	6"	6"	8"	8"	10⅝"	10⅝"	10⅝"
<b>COIL CONNECTIONS</b>								
Liquid	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Suction	3/4"	3/4"	3/4"	3/4"	3/4"	7/8"	7/8"	7/8"
Coil Drain Connect FPT	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
<b>ELECTRICAL DATA</b>								
Voltage	208/230	208/230	208/230	208/230	208/230	208/230	208/230	208/230
Min Circuit Ampacity	3/3	3/3	3/3	4/4	4/4	4/4	5/5	6/6
Max. Overcurrent Device (amps)	15/15	15/15	15/15	15/15	15/15	15/15	15/15	15/15
Minimum VAC	197	197	197	197	197	197	197	197
Maximum VAC	253	253	253	253	253	253	253	253
<b>Blower Motor</b>								
Full Load Amps (FLA)	1.9	1.9	1.9	3.0	3.0	3.1	3.5	4.6
Horsepower (HP)	⅓	⅓	⅓	⅓	⅓	⅓	½	¾
<b>SHIP WEIGHT (LBS)</b>								
	96	96	102	116	116	118	147	151

<sup>1</sup> CFM @.3 static      <sup>2</sup> Shipped with Coil

**Note:** For a properly matched system and piston sizing information, refer to Goodman piston kit chart of the corresponding Goodman outdoor unit.

DIMENSIONS



MODEL	A"	B"	C"	D"	E"	F"	G"	H"
ARUF18B14*	45	16 $\frac{3}{8}$	17 $\frac{1}{2}$	18	15	14 $\frac{1}{4}$	8 $\frac{3}{8}$	12
ARUF24B14*	45	16 $\frac{3}{8}$	17 $\frac{1}{2}$	18	15	14 $\frac{1}{4}$	8 $\frac{3}{8}$	12
ARUF30B14*	45	16 $\frac{3}{8}$	17 $\frac{1}{2}$	18	15	14 $\frac{1}{4}$	8 $\frac{3}{8}$	12
ARUF30C14*	49	20	21	20	17	17 $\frac{1}{4}$	10 $\frac{1}{2}$	12 $\frac{3}{8}$
ARUF36C14*	49	20	21	20	17	17 $\frac{1}{4}$	10 $\frac{1}{2}$	12 $\frac{3}{8}$
ARUF42C14*	49	20	21	20	17	17 $\frac{1}{4}$	10 $\frac{1}{2}$	12 $\frac{3}{8}$
ARUF48D14*	58	23 $\frac{3}{8}$	24 $\frac{1}{2}$	28 $\frac{1}{4}$	25 $\frac{1}{4}$	21 $\frac{1}{4}$	12 $\frac{3}{8}$	12 $\frac{3}{8}$
ARUF60D14*	58	23 $\frac{3}{8}$	24 $\frac{1}{2}$	28 $\frac{1}{4}$	25 $\frac{1}{4}$	21 $\frac{1}{4}$	12 $\frac{3}{8}$	12 $\frac{3}{8}$

## AIRFLOW DATA

MODEL	MOTOR SPEED	STATIC PRESSURE (IN W.C) AIRFLOW (CFM)						
		0.1	0.2	0.3	0.4	0.5	0.6	0.7
ARUF18B14	High	1,150	1,095	1,045	1,025	950	865	775
	Medium	890	855	835	775	715	665	605
	Low	640	605	565	530	485	440	360
ARUF24B14	High	1,150	1,095	1,045	1,025	950	865	775
	Medium	890	855	835	775	715	665	605
	Low	640	605	565	530	485	440	360
ARUF30B14	High	1,145	1,085	1,020	950	900	845	765
	Medium	870	820	775	745	705	655	580
	Low	615	585	565	535	490	435	345
ARUF30C14	High	1,485	1,435	1,385	1,345	1,275	1,205	1,125
	Medium	1,300	1,270	1,235	1,195	1,130	1,060	955
	Low	1,040	1,015	980	930	865	790	705
ARUF36C14	High	1,485	1,435	1,385	1,345	1,275	1,205	1,125
	Medium	1,300	1,270	1,235	1,195	1,130	1,060	955
	Low	1,040	1,015	980	930	865	790	705
ARUF42C14	High	1,655	1,590	1,515	1,430	1,340	1,225	1,080
	Medium	1,435	1,370	1,300	1,220	1,150	1,025	925
	Low	1,115	1,040	995	930	845	770	675
ARUF48D14	High	1,990	1,915	1,810	1,765	1,690	1,585	1,435
	Medium	1,655	1,605	1,555	1,480	1,295	1,200	1,060
	Low	1,480	1,420	1,350	1,290	1,185	1,100	1,045
ARUF60D14	High	2,235	2,175	2,125	2,050	1,960	1,825	1,720
	Medium	2,030	1,970	1,885	1,800	1,690	1,600	1,495
	Low	1,615	1,535	1,455	1,355	1,270	1,185	1,090

### NOTES

- The chart is for information only. For satisfactory operation, external static pressure must not exceed value shown on rating plate.
- Use the CFM adjustment factors of 0.98 for horizontal left and 0.96 for horizontal right & downflow orientations
- Airflow data indicated is at 230V without air filter in place.
- Shaded area indicates ranges in excess of maximum recommended design external static pressure.

**HEAT KIT DATA**

Models	Circuit 1			Circuit 2			Single-Point Kit	
	Heater	MCA <sup>1</sup>	MOP <sup>2</sup>	Heater	MCA <sup>1</sup>	MOP <sup>2</sup>	MCA <sup>1</sup>	MOP <sup>2</sup>
<b>ARUF18B14AB</b>	0/0	2.4/2.4	15/15	---	---	---	---	---
HKS*03XC*	10.8/12.5	16/18	20/20	---	---	---	---	---
HKS*05XC*	17.3/20	24/27	25/30	---	---	---	---	---
HKS*06XC*	21.7/25	29/34	30/35	---	---	---	---	---
HKS*08XC*	28.9/33.3	38/44	40/45	---	---	---	---	---
HKS*10XC*	34.7/40	46/52	50/60	---	---	---	---	---
<b>ARUF24B14CA</b>	0/0	2.4/2.4	15/15	---	---	---	---	---
HKS*03XC*	10.8/12.5	16/18	20/20	---	---	---	---	---
HKS*05XC*	17.3/20	24/28	25/30	---	---	---	---	---
HKS*06XC*	21.7/25	29/34	30/35	---	---	---	---	---
HKS*08XC*	28.9/33.3	38/44	40/45	---	---	---	---	---
HKS*10XC*	34.7/40	46/52	50/60	---	---	---	---	---
<b>ARUF30B14AC</b>	0/0	2.4/2.4	15/15	---	---	---	---	---
HKS*03XC*	10.8/12.5	16/18	20/20	---	---	---	---	---
HKS*05XC*	17.3/20	24/27	25/30	---	---	---	---	---
HKS*06XC*	21.7/25	29/34	30/35	---	---	---	---	---
HKS*08XC*	28.9/33.3	38/44	40/45	---	---	---	---	---
HKS*10XC*	34.7/40	46/52	50/60	---	---	---	---	---
HKSC15*##	34.7/40	46/53	50/60	17.3/20	22/25	25/25	67/79	70/80
<b>ARUF30C14BB</b>	0/0	4/4	15/15	---	---	---	---	---
HKS*03XC*	10.8/12.5	17/19	20/20	---	---	---	---	---
HKS*05XC*	17.3/20	25.4/29	30/30	---	---	---	---	---
HKS*06XC*	21.7/25	31/35	35/35	---	---	---	---	---
HKS*08XC*	28.9/33.3	40/45.4	40/50	---	---	---	---	---
HKS*10XC*	34.7/40	47/54	50/60	---	---	---	---	---
HKSX15XF*	0/0	4/4	15/15	30/34.6	38/43	40/45	---	---
HKSX20XF*	0/0	4/4	15/15	38/43	47/54	50/60	---	---
HKSC15*##	34.7/40	47/54	50/60	17.3/20	22/25	25/25	69/79	70/80
HKSC19C#*	34.7/40	47/54	50/60	34.7/40	43/50	45/50	90.4/104	100/110
HKSC15XF*	0/0	4/4	15/15	30/34.6	38/43	40/45	---	---
HKSC20XF*	0/0	4/4	15/15	38/43	47/54	50/60	---	---
<b>ARUF36C14BC</b>	0/0	4/4	15/15	---	---	---	---	---
HKS*03XC*	10.8/12.5	17/19	20/20	---	---	---	---	---
HKS*05XC*	17.3/20	25.4/29	30/30	---	---	---	---	---
HKS*06XC*	21.7/25	31/35	35/35	---	---	---	---	---
HKS*08XC*	28.9/33.3	40/45.4	40/50	---	---	---	---	---
HKS*10XC*	34.7/40	47/54	50/60	---	---	---	---	---
HKSX15XF*	0/0	4/4	15/15	30/34.6	38/43	40/45	---	---
HKSX20XF*	0/0	4/4	15/15	38/43	47/54	50/60	---	---
HKSC15*##	34.7/40	47/54	50/60	17.3/20	22/25	25/25	69/79	70/80
HKSC19C#*	34.7/40	47/54	50/60	34.7/40	43/50	45/50	90.4/104	100/110
HKSC15XF*	0/0	4/4	15/15	30/34.6	38/43	40/45	---	---
HKSC20XF*	0/0	4/4	15/15	38/43	47/54	50/60	---	---

# HEAT KIT DATA (CONT.)

Models	Circuit 1			Circuit 2			Single-Point Kit	
	Heater	MCA <sup>1</sup>	MOP <sup>2</sup>	Heater	MCA <sup>1</sup>	MOP <sup>2</sup>	MCA <sup>1</sup>	MOP <sup>2</sup>
<b>ARUF42C14AD</b>	0/0	3.8/3.8	15/15	---	---	---	---	---
HKS*03XC*	10.8/12.5	17/20	20/20	---	---	---	---	---
HKS*05XC*	17.3/20	26/29	30/30	---	---	---	---	---
HKS*06XC*	21.7/25	31/35.1	35/40	---	---	---	---	---
HKS*08XC*	28.9/33.3	40/46	40/50	---	---	---	---	---
HKS*10XC*	34.7/40	47/54	50/60	---	---	---	---	---
HKSX15XF*	0/0	4/4	15/15	30/34.6	38/43	40/45	---	---
HKSX20XF*	0/0	4/4	15/15	38/43	47/54	50/60	---	---
HKSC15***	34.7/40	47/54	50/60	17.3/20	22/25	25/25	69/79	70/80
HKSC19C#*	34.7/40	47/54	50/60	34.7/40	43/50	45/50	91/104	100/110
HKSC15XF*	0/0	4/4	15/15	30/34.6	38/43	40/45	---	---
HKSC20XF*	0/0	4/4	15/15	38/43	47/54	50/60	---	---
<b>ARUF48D14AC</b>	0/0	4/4	15/15	---	---	---	---	---
HKS*03XC*	10.8/12.5	18/20	20/20	---	---	---	---	---
HKS*05XC*	17.3/20	26/29	30/30	---	---	---	---	---
HKS*06XC*	21.7/25	31/36	35/40	---	---	---	---	---
HKS*08XC*	28.9/33.3	40/46	45/50	---	---	---	---	---
HKS*10XC*	34.7/40	48/54	50/60	---	---	---	---	---
HKSX15XF*	0/0	4/4	15/15	30/34.6	38/43	40/45	---	---
HKSX20XF*	0/0	4/4	15/15	38/43	47/54	50/60	---	---
HKSC15***	34.7/40	48/54	50/60	17.3/20	22/25	25/25	69/79	70/80
HKSC20D#*	34.7/40	48/54	50/60	34.7/40	43/50	45/50	91/104	100/110
HKSC15XF*	0/0	4/4	15/15	30/34.6	38/43	40/45	---	---
HKSC20XF*	0/0	4/4	15/15	38/43	47/54	50/60	---	---
<b>ARUF60D14AA</b>	0/0	5.8/5.8	15/15	---	---	---	---	---
HKS*03XC*	10.8/12.5	19/21	20/25	---	---	---	---	---
HKS*05XC*	17.3/20	27/31	30/35	---	---	---	---	---
HKS*06XC*	21.7/25	33/37	35/40	---	---	---	---	---
HKS*08XC*	28.9/33.3	42/48	45/50	---	---	---	---	---
HKS*10XC*	34.7/40	49/56	50/60	---	---	---	---	---
HKSX15XF*	0/0	5.8/5.8	15/15	30/34.6	38/43	40/45	---	---
HKSX20XF*	0/0	5.8/5.8	15/15	38/43	47/54	50/60	---	---
HKSC15***	34.7/40	49/56	50/60	17.3/20	22/25	25/25	71/81	80/90
HKSC20D#*	34.7/40	49/56	50/60	34.7/40	44/50	45/50	92/106	100/110
HKSC15XF*	0/0	5.8/5.8	15/15	30/34.6	38/43	40/45	---	---
HKSC20XF*	0/0	5.8/5.8	15/15	38/43	47/54	50/60	---	---
HKSC25DC*	52/60	71/81	80/90	35/40	43/50	45/50	114/131	125/150

All ampacities noted above include air handler motor amps  
 Circuit 1: Single-phase for Air Handlers / Circuit 2: Three-phase for HKR3 Heater Kits

<sup>1</sup> Minimum Circuit Ampacity (Heater Amps + Motor Amps) X 1.25

<sup>2</sup> Maximum Overcurrent Protection = 2.25 X Motor Amps + Heater Amps

\* Revision level that may or may not be designated

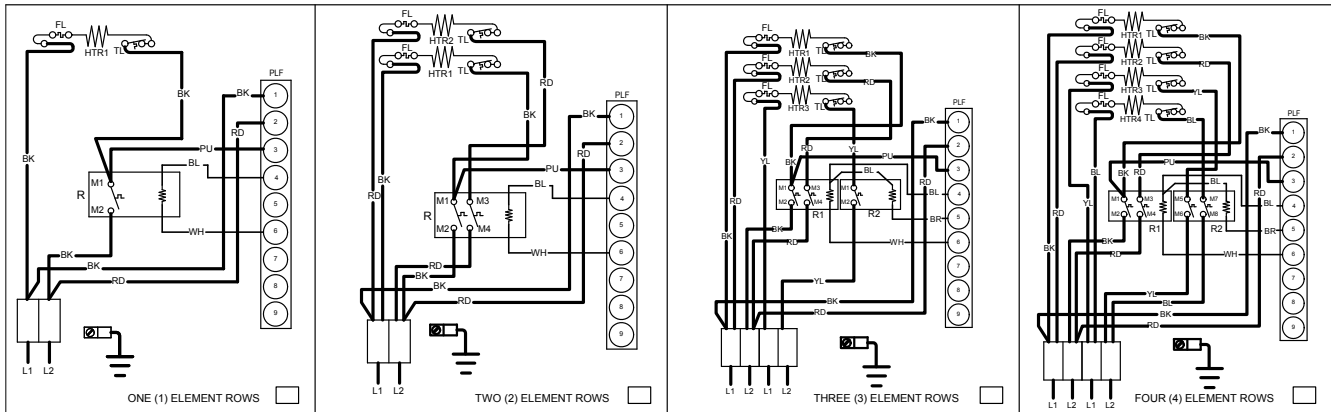
C = Circuit Breaker Option

--- indicates Not Required

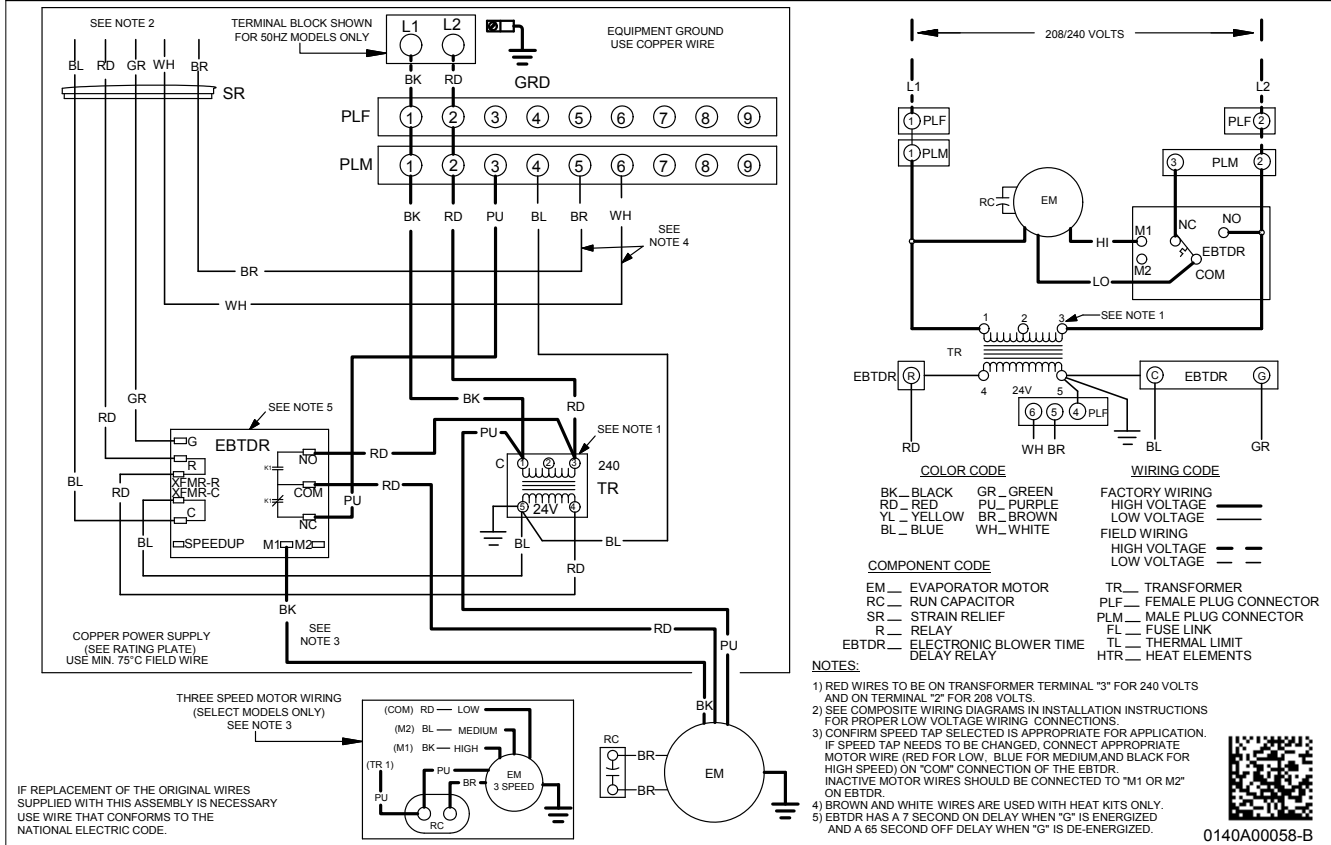
HKA meets the new UL1995 requirements for 15 and 20KW heaters

- Only applicable when HKA kits are included in table
- MBVC and MBR models

# WIRING DIAGRAM – AIR HANDLER



NOTE: WHEN INSTALLING HEATER KIT, ENSURE SPEED TAP IS NOT BELOW MINIMUM BLOWER SPEED (MBS) SPECIFIED FOR THE AIR HANDLER/HEATER KIT COMBINATION ON THIS UNIT'S SERIAL PLATE. AFTER INSTALLING OPTIONAL HEAT KIT, MARK AN "X" IN THE PROVIDED ABOVE. MARK ACCORDING TO THE NUMBER OF HEATER ELEMENT ROWS INSTALLED. NO MARK INDICATES NO HEAT KIT INSTALLED. 5 ELEMENT ROWS DATA SUPPLIED WITH HEATER KIT.



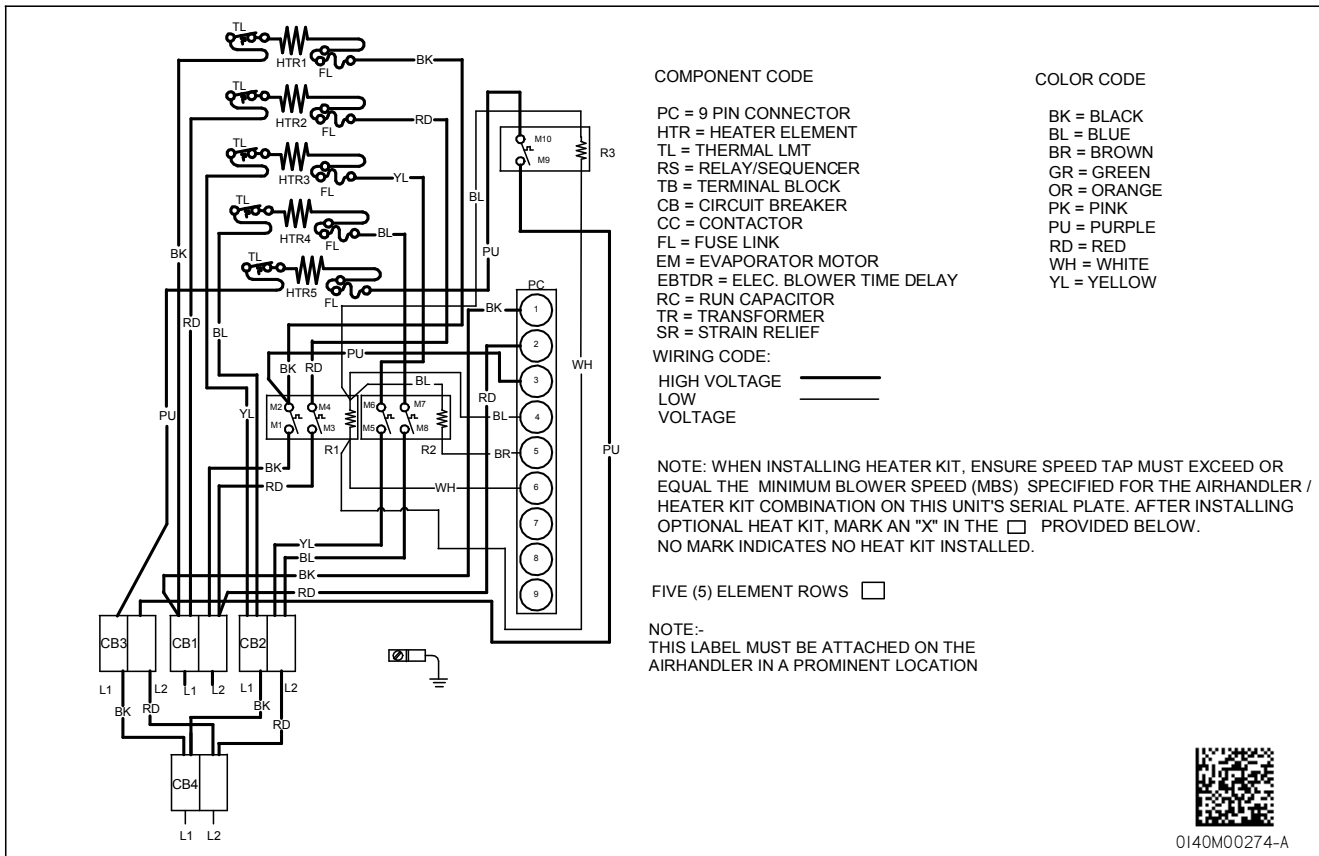
Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

**WARNING**

**High Voltage:** Disconnect all power before servicing or installing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury, or death.



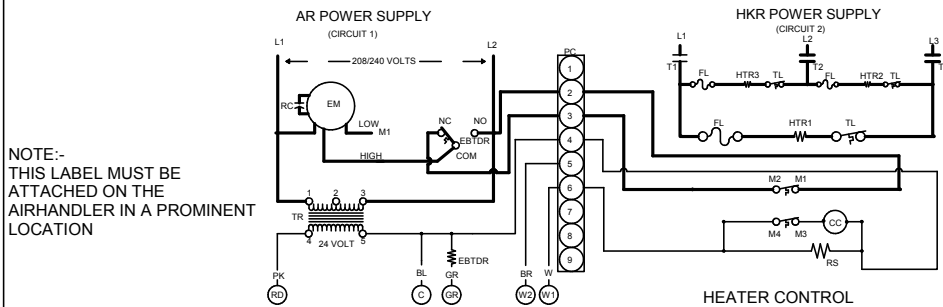
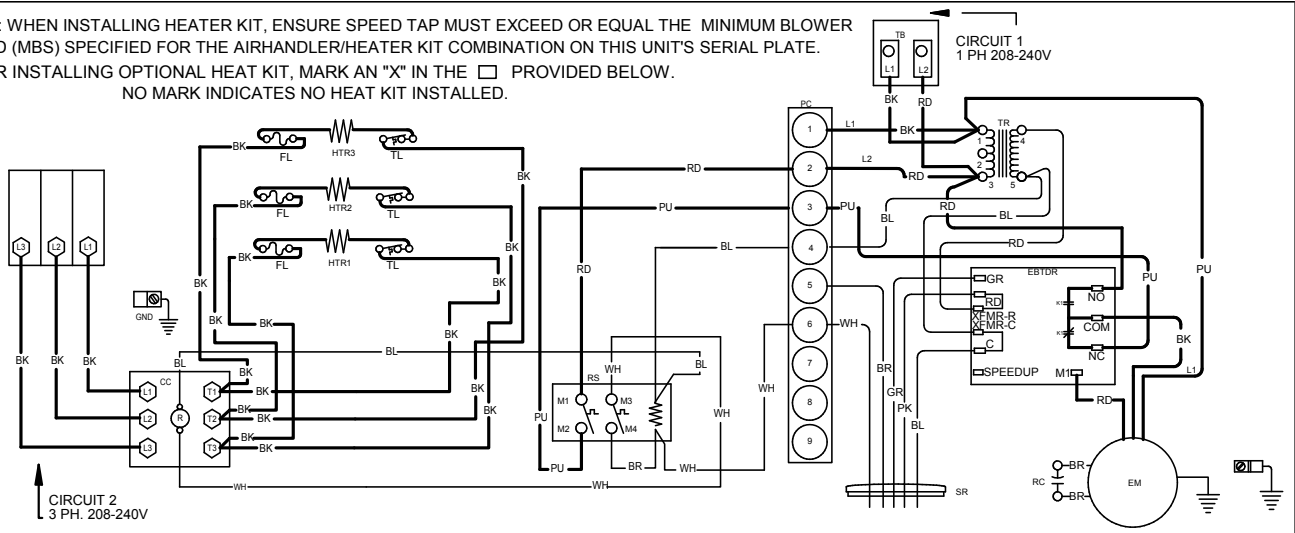
# WIRING DIAGRAM – 5 ELEMENT HEATER KIT



0140M00274-A

# WIRING DIAGRAM – 3 PHASE HEATER KIT

NOTE: WHEN INSTALLING HEATER KIT, ENSURE SPEED TAP MUST EXCEED OR EQUAL THE MINIMUM BLOWER SPEED (MBS) SPECIFIED FOR THE AIRHANDLER/HEATER KIT COMBINATION ON THIS UNIT'S SERIAL PLATE. AFTER INSTALLING OPTIONAL HEAT KIT, MARK AN "X" IN THE  PROVIDED BELOW. NO MARK INDICATES NO HEAT KIT INSTALLED.



NOTE:- THIS LABEL MUST BE ATTACHED ON THE AIRHANDLER IN A PROMINENT LOCATION

- COMPONENT CODE**
- HTR — HEAT ELEMENT
  - EM — EVAPORATOR MOTOR
  - EBTDR — ELEC. BLOWER TIME DELAY RELAY
  - RS — RELAY/SEQUENCER
  - RC — RUN CAPACITOR
  - TL — THERMAL LIMIT
  - TR — TRANSFORMER
  - TB — TERMINAL BLOCK
  - CC — CONTACTOR
  - PC — 9-PIN CONNECTOR
  - SR — STRAIN RELIEF
  - FL — FUSE LINK
  - CB — CIRCUIT BREAKER
- WIRING CODE**
- HIGH VOLTAGE ————
  - LOW VOLTAGE ————

- COLOR CODE**
- BK BLACK
  - BL BLUE
  - BR BROWN
  - GR GREEN
  - OR ORANGE
  - PK PINK
  - PU PURPLE
  - RD RED
  - WH WHITE
  - YL YELLOW



0140M00273-A

## ACCESSORIES

### EXPANSION VALVE KITS FOR AIR CONDITIONING AND HEAT PUMP APPLICATIONS

KIT NUMBER	DESCRIPTION	APPLICATION	REFRIGERANT	TONNAGE: OUTDOOR UNIT
TX2N4A	Non-bleed Valve	AC or HP	R-410A	1½ - 2 Ton
TX3N4	Non-bleed Valve	AC or HP	R-410A	2½ - 3 Ton
TX5N4	Non-bleed Valve	AC or HP	R-410A	3½ - 5 Ton

### DOWNFLOW INSULATION KIT

DFK-B	DFK-C	DFK-D
ARUF18B14**	ARUF30C14BA	ARUF48D14**
ARUF24B14**	ARUF36C14**	ARUF60D14**
ARUF30B14**	ARUF42C14**	

### FILTERS

CHASSIS	PART #	SIZE
B	ALFH16201E	16.0" x 20.0"
C	ALFH1912201E	19.5" x 20.0"
D	ALFH20231E	23.0" x 20.0"

**NOTES**