



**MULTI-POSITION, VARIABLE-SPEED,
ECM-BASED AIR HANDLER WITH INTER-
NAL EEV, COMFORTBRIDGE™
AND INVERTER COMPATIBLE
2 TO 5 TONS**

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Product Features

- Electronic Expansion Valve (EEV) for cooling and heat pump applications.
- Variable-speed ECM blower motor
- Suitable for operation with inverter-driven products
- Integrated communicating ComfortBridge™ Technology
- Commissioning and diagnostics via on board Bluetooth with the CoolCloud™ phone and tablet application
- Provides constant CFM over a wide range of static pressure conditions independent of duct system
- CFM indicator
- Provides adjustable low CFM for efficient fan-only operation
- All-aluminum evaporator coil
- Fault recall of six most recent faults
- Improved humidity and comfort control
- 3 kW – 25 kW electric heater kits
- AHRI certified; ETL listed

Cabinet Features

- 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
- Horizontal or vertical configuration capabilities
- 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



* Complete warranty details available from your local dealer or at 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. The duration of warranty coverages in Texas differs in some cases.

| | A | M | V | E | 36 | B | P | 1 | 4 | 00 ** | A | A * | |
|--------------------------------|---|---|---|---|-----|---|---|---|----|----------|----|--------|---------------------------|
| | 1 | 2 | 3 | 4 | 5,6 | 7 | 8 | 9 | 10 | 11,12 | 13 | 14 | |
| Brand | | | | | | | | | | | | | Minor Rev |
| A - Corporate Air Handler | | | | | | | | | | | | | A |
| Unit Application | | | | | | | | | | | | | Major Rev |
| C - Ceiling Mounted | | | | | | | | | | | | | A |
| M - Multi-Positional | | | | | | | | | | | | | |
| W - Wall Mounted | | | | | | | | | | | | | |
| Motor | | | | | | | | | | | | | Electric Heat kW |
| S - MS-ECM | | | | | | | | | | | | | |
| V - VS-ECM Communicating | | | | | | | | | | | | | |
| Expansion Device | | | | | | | | | | | | | Refrigerant |
| E - Electronic Expansion Valve | | | | | | | | | | | | | 4 - R410A |
| F - Flowrator | | | | | | | | | | | | | |
| T - Thermal Expansion Valve | | | | | | | | | | | | | |
| Nominal Capacity Range | | | | | | | | | | | | | Electrical |
| 12 - 1 Tons | | | | | | | | | | | | | 1 208/230 V, 1 Phase 60Hz |
| 18 - 1½ Tons | | | | | | | | | | | | | |
| 24 - 2 Tons | | | | | | | | | | | | | |
| 30 - 2½ Tons | | | | | | | | | | | | | |
| 36 - 3 Tons | | | | | | | | | | | | | Cabinet |
| 42 - 3½ Tons | | | | | | | | | | | | | N - Uncased |
| 48 - 4 Tons | | | | | | | | | | | | | P - Painted |
| 60 - 5 Tons | | | | | | | | | | | | | U - Unpainted |
| | | | | | | | | | | | | | Cabinet Width |
| | | | | | | | | | | | | | AC* Series |
| | | | | | | | | | | | | | M - 43.25" |
| | | | | | | | | | | | | | L - 49.25" |
| | | | | | | | | | | | | | AM* Series |
| | | | | | | | | | | | | | B - 17.5" |
| | | | | | | | | | | | | | C - 21.0" |
| | | | | | | | | | | | | | D - 24.5" |
| | | | | | | | | | | | | | AW* Series |
| | | | | | | | | | | | | | S - 20.2" |
| | | | | | | | | | | | | | L - 24.0" |

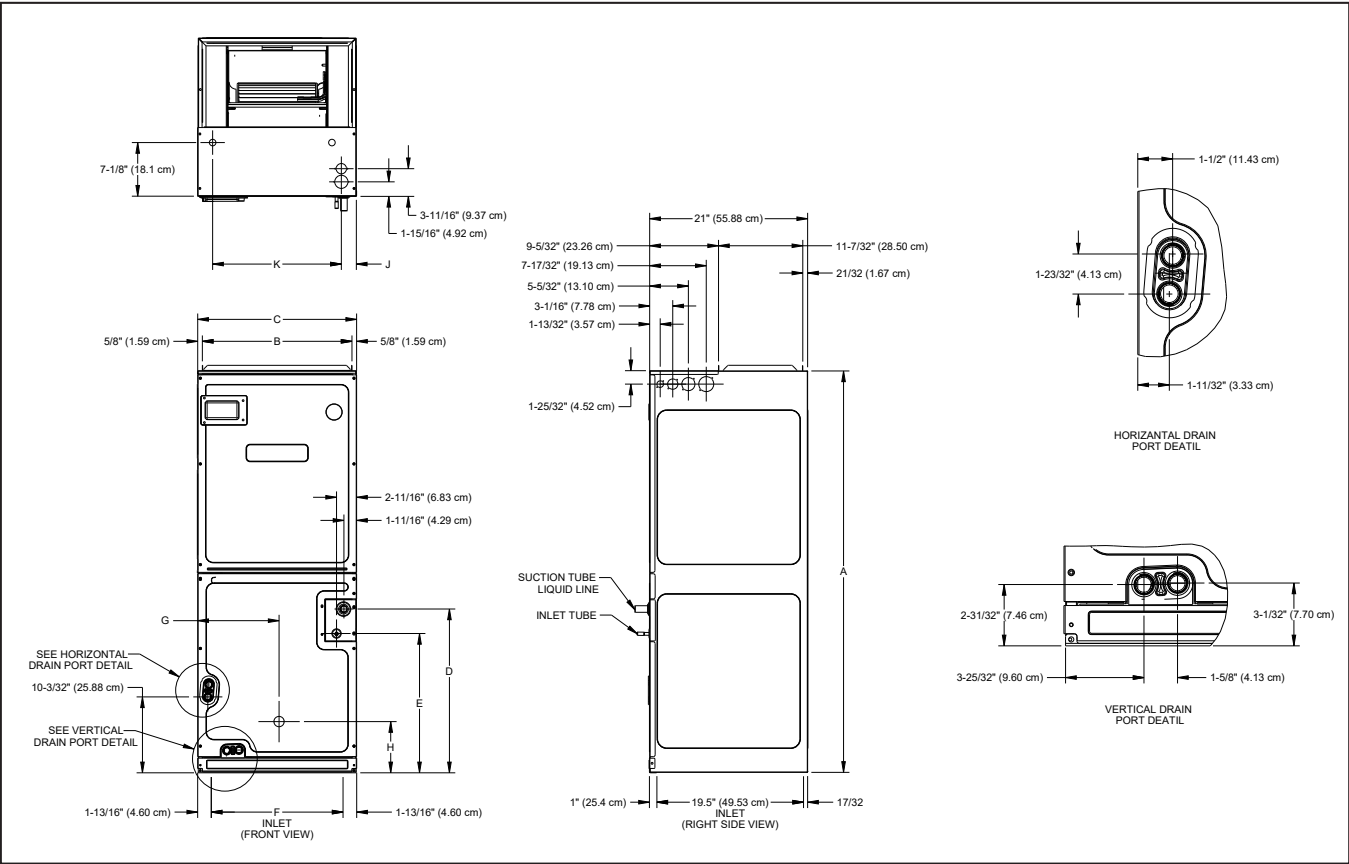
| | HKS | X | 03 | X | A | AA | |
|-------------------------------------|----------------------------|---|----|---|---|-----|---------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6,7 | |
| UNIT TYPE | | | | | | | REVISIONS |
| HKS Heat Kit for Air Handlers | | | | | | | Engineering Revisions |
| CIRCUIT BREAKER | | | | | | | PHASE |
| X No circuit breaker | | | | | | | A Single Phase 208 V |
| C Circuit Breaker | | | | | | | E Three Phase 240 V |
| | | | | | | | B Single Phase 240 V |
| | | | | | | | F Three Phase 208/240 V |
| | | | | | | | C Single Phase 208/240 V |
| | | | | | | | G Three Phase 460 V |
| | | | | | | | D Three Phase 208 V |
| | | | | | | | H Special case 208 V* |
| HEATING CAPACITY @ 240 VOLTS | | | | | | | CABINET SIZE (MAX) |
| 03 3.0 kW | 15 14.4 kW | | | | | | C C Cabinet |
| 05 4.5 kW | 19 19.2 kW with 150F limit | | | | | | D D Cabinet |
| 06 6.0 kW | 20 19.2 kW with 170F limit | | | | | | X All Cabinet Sizes |
| 08 8.0 kW | 25 25.0 kW | | | | | | |
| 10 9.6 kW | | | | | | | |

*Refer S&R Plate

| | AMVE24BP1400-A* | AMVE36CP1400-A* | AMVE48DP1400-A* | AMVE60DP1400-A* |
|--------------------------------|--------------------|---------------------|---------------------|-------------------------|
| NOMINAL RATINGS | | | | |
| Cooling (BTU/h) | 24,000 | 36,000 | 48,000 | 60,000 |
| CFM (High range) | 1200/600 | 1700/800 | 1800/1350 | 2000/1600 |
| BLOWER | | | | |
| Diameter | 10 $\frac{5}{8}$ " | 10 $\frac{5}{8}$ " | 11 $\frac{5}{8}$ " | 11 $\frac{5}{8}$ " |
| Width | 6" | 10 $\frac{5}{8}$ " | 10 $\frac{5}{8}$ " | 10 $\frac{5}{8}$ " |
| Coil Drain Connection FPT | $\frac{3}{4}$ " | $\frac{3}{4}$ " | $\frac{3}{4}$ " | $\frac{3}{4}$ " |
| SERVICE VALVE | | | | |
| Liquid | $\frac{3}{8}$ " | $\frac{3}{8}$ " | $\frac{3}{8}$ " | $\frac{3}{8}$ " |
| Suction | $\frac{3}{4}$ " | $\frac{7}{8}$ " | $\frac{7}{8}$ " | $\frac{7}{8}$ " |
| ELECTRICAL DATA | | | | |
| Voltage | 208/240 | 208/240 | 208/240 | 208/240 |
| Electric Heat Capacity (kW) | 3, 5, 6, 8, 10 | 5, 6, 8, 10, 15, 19 | 5, 6, 8, 10, 15, 20 | 5, 6, 8, 10, 15, 20, 25 |
| Min Circuit Ampacity | 4.9/4.9 | 6.5/6.5 | 8.6/8.6 | 8.6/8.6 |
| Max. Overcurrent Device (Amps) | 15/15 | 15/15 | 15/15 | 15/15 |
| Minimum VAC | 197 | 197 | 197 | 197 |
| Maximum VAC | 253 | 253 | 253 | 253 |
| BLOWER MOTOR | | | | |
| Full Load Amps (FLA) | 3.9 | 5.2 | 6.9 | 6.9 |
| Horsepower (HP) | $\frac{1}{2}$ | $\frac{3}{4}$ | 1 | 1 |
| SHIP WEIGHT (LBS.) | 128 | 150 | 160 | 177 |

Note: Minimum Circuit Ampacity (MCA) and Maximum Overcurrent Protection (MOP) for blower without supplemental heat installed. Refer to unit nameplate and/or Heat Kit Data for specification with approved accessory heaters installed.

DIMENSIONS



| MODEL | A | B | C | D | E | F | G | H |
|--------------|---------------------------------|---------------------------------|--------------------------------|----------------------------------|---------------------------------|----------------------------------|----------------------------------|---------------------------------|
| AMVE24BP1400 | 53 ⁷ / ₁₆ | 16 ³ / ₈ | 17 ¹ / ₂ | 20 | 21 ¹ / ₂ | 14 ¹ / ₈ | 9 ¹ / ₈ | 7 ⁵ / ₈ |
| AMVE36CP1400 | 53 ⁷ / ₁₆ | 19 ⁷ / ₈ | 21 | 21 ¹³ / ₁₆ | 18 ⁵ / ₈ | 17 ¹¹ / ₁₆ | 10 ¹³ / ₁₆ | 6 ¹³ / ₁₆ |
| AMVE48DP1400 | 53 ⁷ / ₁₆ | 23 ⁵ / ₁₆ | 24 ¹ / ₂ | 21 ¹ / ₂ | 18 ⁵ / ₁₆ | 21 ³ / ₁₆ | 12 ⁵ / ₈ | 6 ⁷ / ₈ |
| AMVE60DP1400 | 58 | 23 ⁵ / ₁₆ | 24 ¹ / ₂ | 26 ⁷ / ₈ | 22 ⁷ / ₈ | 21 ³ / ₁₆ | 12 ⁵ / ₁₆ | 25 ¹ / ₈ |

| MODEL | STAGE | AIRFLOW CFM | | | | | | | | |
|-----------------|-------|-------------|------|------|------|------|------|------|------|------|
| | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 |
| AMVE24BP1400-A* | High | 700 | 690 | 690 | 685 | 680 | 670 | 665 | 660 | 655 |
| | Low | 520 | 505 | 495 | 490 | 470 | 455 | 445 | 435 | 425 |
| AMVE36CP1400-A* | High | 1190 | 1170 | 1165 | 1160 | 1145 | 1130 | 1120 | 1105 | 1100 |
| | Low | 820 | 810 | 795 | 785 | 765 | 740 | 730 | 720 | 710 |
| AMVE48DP1400-A* | High | 1445 | 1440 | 1430 | 1415 | 1405 | 1390 | 1380 | 1375 | 1370 |
| | Low | 880 | 875 | 870 | 870 | 860 | 845 | 840 | 835 | 830 |
| AMVE60DP1400-A* | High | 1645 | 1640 | 1640 | 1635 | 1630 | 1625 | 1620 | 1620 | 1615 |
| | Low | 1080 | 1075 | 1070 | 1070 | 1060 | 1055 | 1050 | 1050 | 1045 |

Note: During cooling operation outdoor will determine the indoor airflow

COOLING/HEAT PUMP AIRFLOW TABLE

| MODEL | AIRFLOW LEVEL | CFM |
|-----------------|---------------|------|
| AMVE24BP1400-A* | High | 690 |
| | Low | 495 |
| AMVE36CP1400-A* | High | 1165 |
| | Low | 795 |
| AMVE48DP1400-A* | High | 1430 |
| | Low | 870 |
| AMVE60DP1400-A* | High | 1640 |
| | Low | 1070 |

HEAT KIT DATA

| MODELS | | CIRCUIT 1 | | | CIRCUIT 2 | | | SINGLE-POINT KIT | |
|---------------------|------------|-----------|------------------|------------------|-----------|------------------|------------------|------------------|------------------|
| | | AMPS | MCA ¹ | MOP ² | AMPS | MCA ¹ | MOP ² | MCA ¹ | MOP ² |
| AMVE24BP1400 | | 0.0/0.0 | 4.9/4.9 | 15/15 | --- | --- | --- | --- | --- |
| HKSX03XC- 208 V | No Breaker | 10.8 | 18 | 20 | --- | --- | --- | --- | --- |
| HKSX05XC- 208 V | | 17.3 | 27 | 30 | --- | --- | --- | --- | --- |
| HKSX06XC- 208 V | | 21.7 | 32 | 35 | --- | --- | --- | --- | --- |
| HKSX08XC- 208 V | | 28.9 | 41 | 45 | --- | --- | --- | --- | --- |
| HKSX10XC- 208 V | | 34.7 | 48 | 50 | --- | --- | --- | --- | --- |
| HKSC05XC- 208 V | Breaker | 17.3 | 27 | 30 | --- | --- | --- | --- | --- |
| HKSC08XC- 208 V | | 28.9 | 41 | 45 | --- | --- | --- | --- | --- |
| HKSC10XC- 208 V | | 34.7 | 48 | 50 | --- | --- | --- | --- | --- |
| HKSX03XC- 240 V | No Breaker | 12.5 | 21 | 25 | --- | --- | --- | --- | --- |
| HKSX05XC- 240 V | | 20 | 30 | 30 | --- | --- | --- | --- | --- |
| HKSX06XC- 240 V | | 25 | 36 | 40 | --- | --- | --- | --- | --- |
| HKSX08XC- 240 V | | 33.3 | 47 | 50 | --- | --- | --- | --- | --- |
| HKSX10XC- 240 V | | 40 | 55 | 60 | --- | --- | --- | --- | --- |
| HKSC05XC- 240 V | Breaker | 20 | 30 | 30 | --- | --- | --- | --- | --- |
| HKSC08XC- 240 V | | 33.3 | 47 | 50 | --- | --- | --- | --- | --- |
| HKSC10XC- 240 V | | 40 | 55 | 60 | --- | --- | --- | --- | --- |
| AMVE36CP1400 | | 0.0/0.0 | 6.5/6.5 | 15/15 | --- | --- | --- | --- | --- |
| HKSX05XC- 208 V | | 17.3 | 28 | 30 | --- | --- | --- | --- | --- |
| HKSX06XC- 208 V | | 21.7 | 34 | 35 | --- | --- | --- | --- | --- |
| HKSX08XC- 208 V | | 28.9 | 43 | 45 | --- | --- | --- | --- | --- |
| HKSX10XC- 208 V | | 34.7 | 50 | 50 | --- | --- | --- | --- | --- |
| HKSC05XC- 208 V | | 17.3 | 28 | 30 | --- | --- | --- | --- | --- |
| HKSC08XC- 208 V | Breaker | 28.9 | 43 | 45 | --- | --- | --- | --- | --- |
| HKSC10XC- 208 V | | 34.7 | 50 | 50 | --- | --- | --- | --- | --- |
| HKSC15XA- 208 V | | 34.7 | 49.8 | 50 | 17.3 | 21.7 | 25 | 71.5 | 80 |
| HKSC19CA- 208 V | | 34.7 | 49.8 | 50 | 34.7 | 43.3 | 45 | 93.2 | 100 |
| HKSC15XF- 208 V ^ | | 0.0 | 6.5 | 15 | 30 | 38 | 40 | --- | --- |
| HKSX05XC- 240 V | | 20 | 32 | 35 | --- | --- | --- | --- | --- |
| HKSX06XC- 240 V | | 25 | 38 | 40 | --- | --- | --- | --- | --- |
| HKSX08XC- 240 V | | 33.3 | 48 | 50 | --- | --- | --- | --- | --- |
| HKSX10XC- 240 V | | 40 | 57 | 60 | --- | --- | --- | --- | --- |
| HKSC05XC- 240 V | | 20 | 32 | 35 | --- | --- | --- | --- | --- |
| HKSC08XC- 240 V | Breaker | 33.3 | 48 | 50 | --- | --- | --- | --- | --- |
| HKSC10XC- 240 V | | 40 | 57 | 60 | --- | --- | --- | --- | --- |
| HKSC15XB- 240 V | | 40 | 56.5 | 60 | 20 | 25 | 25 | 81.5 | 90 |
| HKSC19CB- 240 V | | 40 | 56.5 | 60 | 40 | 50 | 50 | 107 | 110 |
| HKSC15XF- 240 V ^ | | 0.0 | 6.5 | 15 | 34.6 | 43 | 45 | --- | --- |
| AMVE48DP1400 | | 0.0/0.0 | 8.6/8.6 | 15/15 | --- | --- | --- | --- | --- |
| HKSX05XC- 208 V | | 17.3 | 30.3 | 35 | --- | --- | --- | --- | --- |
| HKSX06XC- 208 V | | 21.7 | 36 | 40 | --- | --- | --- | --- | --- |
| HKSX08XC- 208 V | | 28.9 | 45 | 45 | --- | --- | --- | --- | --- |
| HKSX10XC- 208 V | | 34.7 | 52 | 60 | --- | --- | --- | --- | --- |
| HKSC05XC- 208 V | | 17.3 | 30.3 | 35 | --- | --- | --- | --- | --- |
| HKSC08XC- 208 V | Breaker | 28.9 | 45 | 45 | --- | --- | --- | --- | --- |
| HKSC10XC- 208 V | | 34.7 | 52 | 60 | --- | --- | --- | --- | --- |
| HKSC15XB3- 208 V | | 34.7 | 52 | 60 | 17.3 | 21.7 | 25 | 73.6 | 80 |
| HKSC20DH- 208 V | | 34.7 | 52 | 60 | 34.7 | 43.3 | 45 | 95.3 | 100 |
| HKSC15XF- 208 V ^ | | 0.0 | 8.6 | 15 | 30 | 38 | 40 | --- | --- |

See notes on page 7.

| MODELS | | CIRCUIT 1 | | | CIRCUIT 2 | | | SINGLE-POINT KIT | |
|---------------------|---------|-----------|------------------|------------------|-----------|------------------|------------------|------------------|------------------|
| | | AMPS | MCA ¹ | MOP ² | AMPS | MCA ¹ | MOP ² | MCA ¹ | MOP ² |
| HKSX05XC- 240 V | | 20 | 34 | 35 | --- | --- | --- | --- | --- |
| HKSX06XC- 240 V | | 25 | 40 | 40 | --- | --- | --- | --- | --- |
| HKSX08XC- 240 V | | 33.3 | 50.3 | 60 | --- | --- | --- | --- | --- |
| HKSX10XC- 240 V | | 40 | 59 | 60 | --- | --- | --- | --- | --- |
| HKSC05XC- 240 V | Breaker | 20 | 34 | 35 | --- | --- | --- | --- | --- |
| HKSC08XC- 240 V | | 33.3 | 50.3 | 60 | --- | --- | --- | --- | --- |
| HKSC10XC- 240 V | | 40 | 59 | 60 | --- | --- | --- | --- | --- |
| HKSC15XB- 240 V | | 40 | 58.6 | 60 | 20 | 25 | 25 | 83.6 | 90 |
| HKSC20DB- 240 V | | 40 | 58.6 | 60 | 40 | 50 | 50 | 109 | 110 |
| HKSC15XF- 240 V ^ | | 0.0 | 8.6 | 15 | 34.6 | 43 | 45 | --- | --- |
| AMVE60DP1400 | | 0.0/0.0 | 8.6/8.6 | 15/15 | --- | --- | --- | --- | --- |
| HKSX05XC- 208 V | | 17.3 | 30.3 | 35 | --- | --- | --- | --- | --- |
| HKSX06XC- 208 V | | 21.7 | 36 | 40 | --- | --- | --- | --- | --- |
| HKSX08XC- 208 V | | 28.9 | 45 | 45 | --- | --- | --- | --- | --- |
| HKSX10XC- 208 V | | 34.7 | 52 | 60 | --- | --- | --- | --- | --- |
| HKSC05XC- 208 V | Breaker | 17.3 | 30.3 | 35 | --- | --- | --- | --- | --- |
| HKSC08XC- 208 V | | 28.9 | 45 | 45 | --- | --- | --- | --- | --- |
| HKSC10XC- 208 V | | 34.7 | 52 | 60 | --- | --- | --- | --- | --- |
| HKSC15XB3- 208 V | | 34.7 | 52 | 60 | 17.3 | 21.7 | 25 | 73.6 | 80 |
| HKSC20DH- 208 V | | 34.7 | 52 | 60 | 34.7 | 43.3 | 45 | 95.3 | 100 |
| HKSC25DA- 208 V | | 52 | 73.6 | 80 | 35 | 43.3 | 45 | 117 | 125 |
| HKSC15XF- 208 V ^ | | 0.0 | 8.6 | 15 | 30 | 38 | 40 | --- | --- |
| HKSC20XF- 208 V ^ | | 0.0 | 8.6 | 15 | 38 | 47 | 50 | --- | --- |
| HKSX05XC- 240 V | | 20 | 34 | 35 | --- | --- | --- | --- | --- |
| HKSX06XC- 240 V | | 25 | 40 | 40 | --- | --- | --- | --- | --- |
| HKSX08XC- 240 V | | 33.3 | 50.3 | 60 | --- | --- | --- | --- | --- |
| HKSX10XC- 240 V | | 40 | 59 | 60 | --- | --- | --- | --- | --- |
| HKSC05XC- 240 V | | 20 | 34 | 35 | --- | --- | --- | --- | --- |
| HKSC08XC- 240 V | | 33.3 | 50.3 | 60 | --- | --- | --- | --- | --- |
| HKSC10XC- 240 V | | 40 | 59 | 60 | --- | --- | --- | --- | --- |
| HKSC15XB- 240 V | Breaker | 40 | 58.6 | 60 | 20 | 25 | 25 | 83.6 | 90 |
| HKSC20DB- 240 V | | 40 | 58.6 | 60 | 40 | 50 | 50 | 109 | 110 |
| HKSC25DB- 240 V | | 60 | 83.6 | 90 | 40 | 50 | 50 | 134 | 150 |
| HKSC15XF- 240 V ^ | | 0.0 | 8.6 | 15 | 34.6 | 43 | 45 | --- | --- |
| HKSC20XF- 240 V ^ | | 0.0 | 8.6 | 15 | 43.3 | 54 | 60 | --- | --- |

¹ Minimum Circuit Ampacity (Heater Amps + Motor Amps) X 1.25

--- indicates Not Required

² Maximum Overcurrent Protection = 2.25 X Motor Amps + Heater Amps

³ Notation is correct as XB because technically the 240V heater kit application can be used here without any issues.

^ Three-phase Heater Kits (Circuit 1: Single-phase for Air Handlers Circuit 2: Three-phase for Heater Kits)

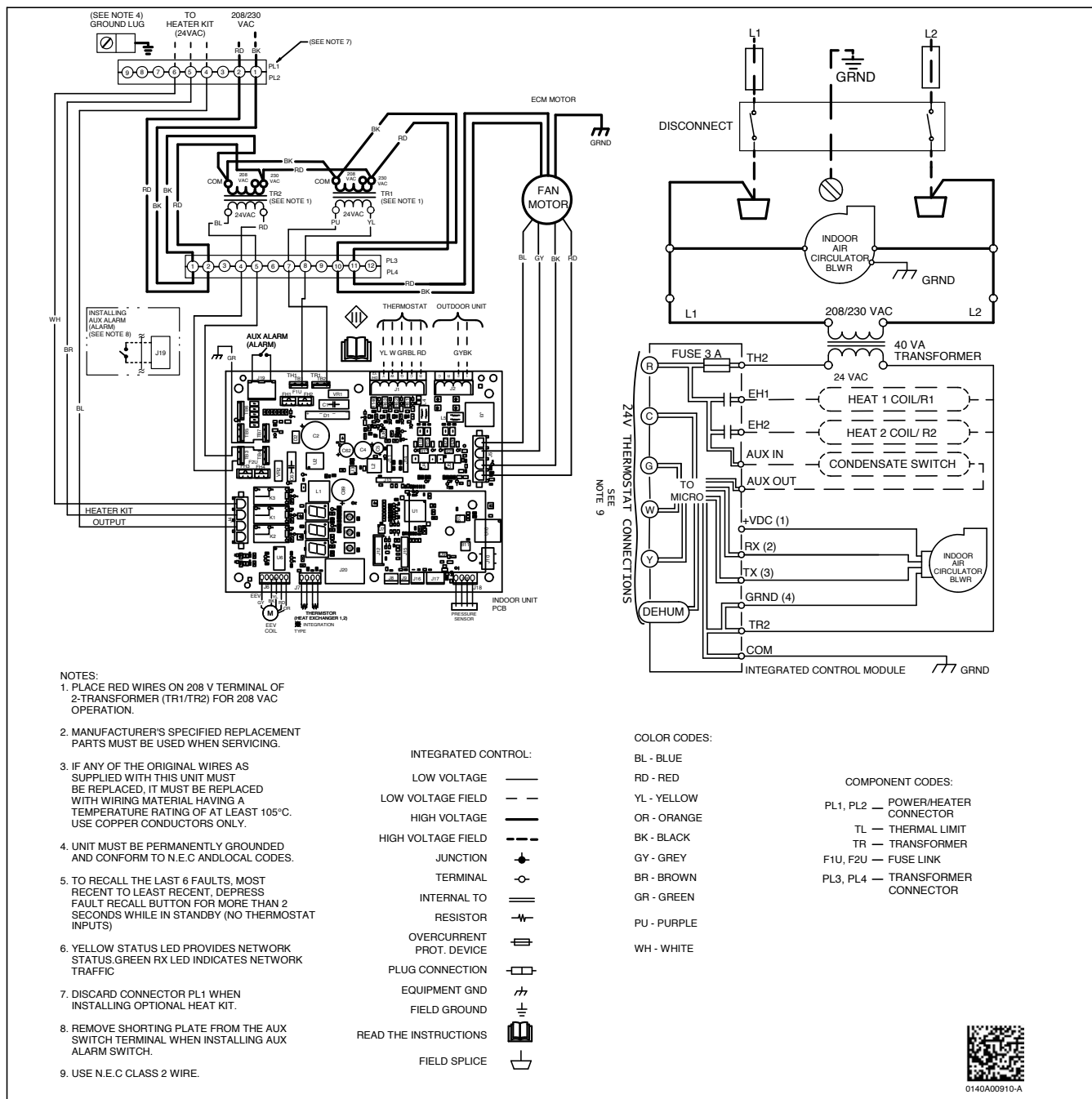
Note: The 208 or 240 in the heat kit part number field is for clarification of the nominal voltage for this model.

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.

WIRING DIAGRAM



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.



DOWNFLOW KITS

| DFK-B | DFK-C | DFK-D |
|-----------------|-----------------|-----------------|
| AMVE24BP1400-A* | AMVE36CP1400-A* | AMVE48DP1400-A* |
| | | AMVE60DP1400-A* |

** (DFK-B, DFK-C, DFK-D) kits need to be broken up by cabinet size

DRAIN PORT PLUG

| KIT NUMBER | DESCRIPTION | APPLICATION |
|------------|----------------------|-------------|
| DPK1 | Side Drain Port Plug | All Models |

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" |

SINGLE POINT KIT **

| MODEL | HKR-15C | HKR-20C | HKR-21C |
|--------|---------|---------|---------|
| SPW-01 | X | X | X |

** Must be installed along with any of the above compatible heat kits. This kit will fit any AVPEC air handler as long as a compatible heat kit is installed in the unit.

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Our continuing commitment to quality products may mean a change in specifications without notice.

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