Heating & Air Conditioning
Amana®

# ACNF Series

## Ceiling-Mount Air Handlers
## 1½ to 2½ Tons

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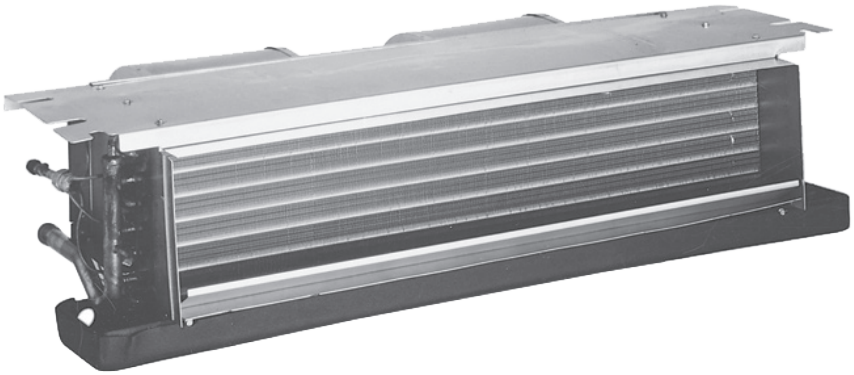

***Features***

- Check flowrater for heat pump and cooling-only applications
- All-Aluminum tube/aluminum fin coil
- Direct-drive, resilient-mount, multi-speed motor
- Available without heat or with sequence-controlled and rust-resistant nickel chromium heating elements of 5, 6, 8 or 10 kW
- High-efficiency evaporator coil
- Quiet operation
- Models with EEM motor: ACNF25 & ACNF31
- Models with PSC motors: ACNF18, ACNF24, & ACNF30
- AHRI Certified; ETL Listed
- Primary/secondary drain connection in a high-temperature plastic drain pan
- Suitable for free-return installation (non-ducted return air)
- Galvanized-steel construction
- Factory-installed pull-type disconnect
- Easy service access

10 YEAR PARTS LIMITED WARRANTY*

ALL ALUMINUM COIL

C ETL LISTED US Intertek

AHRI CERTIFIED® www.ahridirectory.org

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL = ISO 9001 =

COMPANY WITH ENVIRONMENTAL SYSTEM CERTIFIED BY DNV GL = ISO 14001 =

* Complete warranty details available from your local dealer or at www.amana-hac.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 Québec.



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Supersedes 8/21

| A | C | N | F | 24 | 05 | 1 | 6 | AA |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5,6 | 7,8 | 9 | 10 | 11,12 |

**Brand**

A Single-piece Air Handler

**Unit Application**

C Ceiling Mount

R Multi-Position PSC Motor

S Multi-Position EEM Motor

W Wall Mount

**Cabinet Finish**

U Unpainted

N Uncased

P Painted

**Expansion Device**

F Flowrater

T Expansion Valve

**Engineering ***

Major/ Minor Revisions

* Not used for inventory management

**Refrigerant Charge**

6 = R-410 or R-22A

**Electrical**

1 208/240 V, 1 Phase, 60 Hz

**Heater Kits**

00 No Heat

06-- 6 kW

03- 3 kW

08- 8 kW

05- 5 kW

10- 10 kW

**Nominal Capacity Range**

18- 1½ Tons (PSC motor)

24- 2 Tons (PSC motor)

25- 2 Tons (EEM motor)

30 2½ Tons (PSC motor

31 2½ Tons (EEM motor)

| | ACNF18 0016 | ACNF18 0516 | ACNF18 0816 | ACNF24 0016 | ACNF24 0516 | ACNF24 0616 | ACNF24 0816 |
|---|---|---|---|---|---|---|---|
| **Performance Ratings** | | | | | | | |
| Cooling (BTU/h) | 18,000 | 18,000 | 18,000 | 24,000 | 24,000 | 24,000 | 24,000 |
| Piston Size[2] | 0.051 | 0.051 | 0.051 | 0.057 | 0.057 | 0.057 | 0.057 |
| **Blower** | | | | | | | |
| Diameter | 5.75 | 5.75 | 5.75 | 6.31 | 6.31 | 6.31 | 6.31 |
| Width | 6.75 | 6.75 | 6.75 | 8.25 | 8.25 | 8.25 | 8.25 |
| Coil Drain Connect FPT | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" |
| **Blower Motor** | | | | | | | |
| FLA | 0.66 | 0.66 | 0.66 | 1.29 | 1.29 | 1.29 | 1.29 |
| HP | 1/8 | 1/8 | 1/8 | 1/4 | 1/4 | 1/4 | 1/4 |
| **Refrigerant Line Connection Size** | | | | | | | |
| Liquid | ⅜" | ⅜" | ⅜" | ⅜" | ⅜" | ⅜" | ⅜" |
| Suction | ¾" | ¾" | ¾" | ¾" | ¾" | ¾" | ¾" |
| **Electrical Data** | | | | | | | |
| Voltage | 208/230 | 208/230 | 208/230 | 208/230 | 208/230 | 208/230 | 208/230 |
| Min Circuit Ampacity @ 230V | 0.8 | 27 | 40.5 | 1.6 | 28 | 34.2 | 41 |
| Min Circuit Ampacity @ 208V | 0.8 | 24.5 | 37 | 1.6 | 25.3 | 31 | 37.6 |
| Max. Overcurrent Device @ 230V | 15 | 30 | 45 | 15 | 30 | 35 | 45 |
| Max. Overcurrent Device @ 208V | 15 | 25 | 40 | 15 | 30 | 35 | 40 |
| Minimum Voltage VAC | 197 | 197 | 197 | 197 | 197 | 197 | 197 |
| Maximum Voltage VAC | 253 | 253 | 253 | 253 | 253 | 253 | 253 |
| **Electric Heat** | | | | | | | |
| kW @ 230 Volts | 0.0 | 4.8 | 7.3 | 0.0 | 4.8 | 6.0 | 7.3 |
| BTU/h @ 230 Volts | 0 | 16,400 | 24,900 | 0 | 16,400 | 20,500 | 24,900 |
| **Ship Weight (lbs)** | 59 | 59 | 59 | 69 | 69 | 69 | 69 |

[1] CFM @.3 static [2]Shipped with Coil

**Notes**

- For a properly matched system and piston sizing information, refer to Amana piston kit chart of the corresponding Amana® outdoor unit.
- When the room thermostat calls for second stage heat, the first stage (heat pump) operation must be locked out. When matching the "AC" unit that has electric heat with a heat pump, order "HEAT PUMP SHUT OFF KIT HPSK-01." The ACXX-00 units do not require this kit.

| | ACNF25 0016 | ACNF25 0516 | ACNF25 0616 | ACNF25 0816 | ACNF25 1016 | ACNF30 0516 |
|---|---|---|---|---|---|---|
| **Performance Ratings** | | | | | | |
| Cooling (BTU/h) | 24,000 | 24,000 | 24,000 | 24,000 | 24,000 | 30,000 |
| Piston Size[2] | 0.055 | 0.055 | 0.055 | 0.055 | 0.055 | 0.061 |
| **Blower** | | | | | | |
| Diameter | 6.31 | 6.31 | 6.31 | 6.31 | 6.31 | 6.75 |
| Width | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 |
| Coil Drain Connect FPT | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" |
| **Blower Motor** | | | | | | |
| FLA | 2 | 2 | 2 | 2 | 2 | 1.29 |
| HP | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 |
| **Refrigerant Line Connection Size** | | | | | | |
| Liquid | ⅜" | ⅜" | ⅜" | ⅜" | ⅜" | ⅜" |
| Suction | ¾" | ¾" | ¾" | ¾" | ¾" | ¾" |
| **Electrical Data** | | | | | | |
| Voltage | 208/230 | 208/230 | 208/230 | 208/230 | 208/230 | 208/230 |
| Min Circuit Ampacity @ 230V | 2.5 | 28.6 | 35.1 | 42 | 56 | 28 |
| Min Circuit Ampacity @ 208V | 2.5 | 26 | 32 | 38.4 | 50.7 | 25.3 |
| Max. Overcurrent Device @ 230V | 15 | 30 | 40 | 45 | 60 | 30 |
| Max. Overcurrent Device @ 208V | 15 | 30 | 35 | 40 | 60 | 30 |
| Minimum Voltage VAC | 197 | 197 | 197 | 197 | 197 | 197 |
| Maximum Voltage VAC | 253 | 253 | 253 | 253 | 253 | 253 |
| **Electric Heat** | | | | | | |
| kW @ 230 Volts | 0.0 | 4.8 | 6.0 | 7.3 | 9.8 | 4.8 |
| BTU/h @ 230 Volts | 0 | 16,400 | 20,500 | 24,900 | 33,500 | 16,400 |
| **Ship Weight (lbs)** | 69 | 69 | 69 | 69 | 69 | 79 |

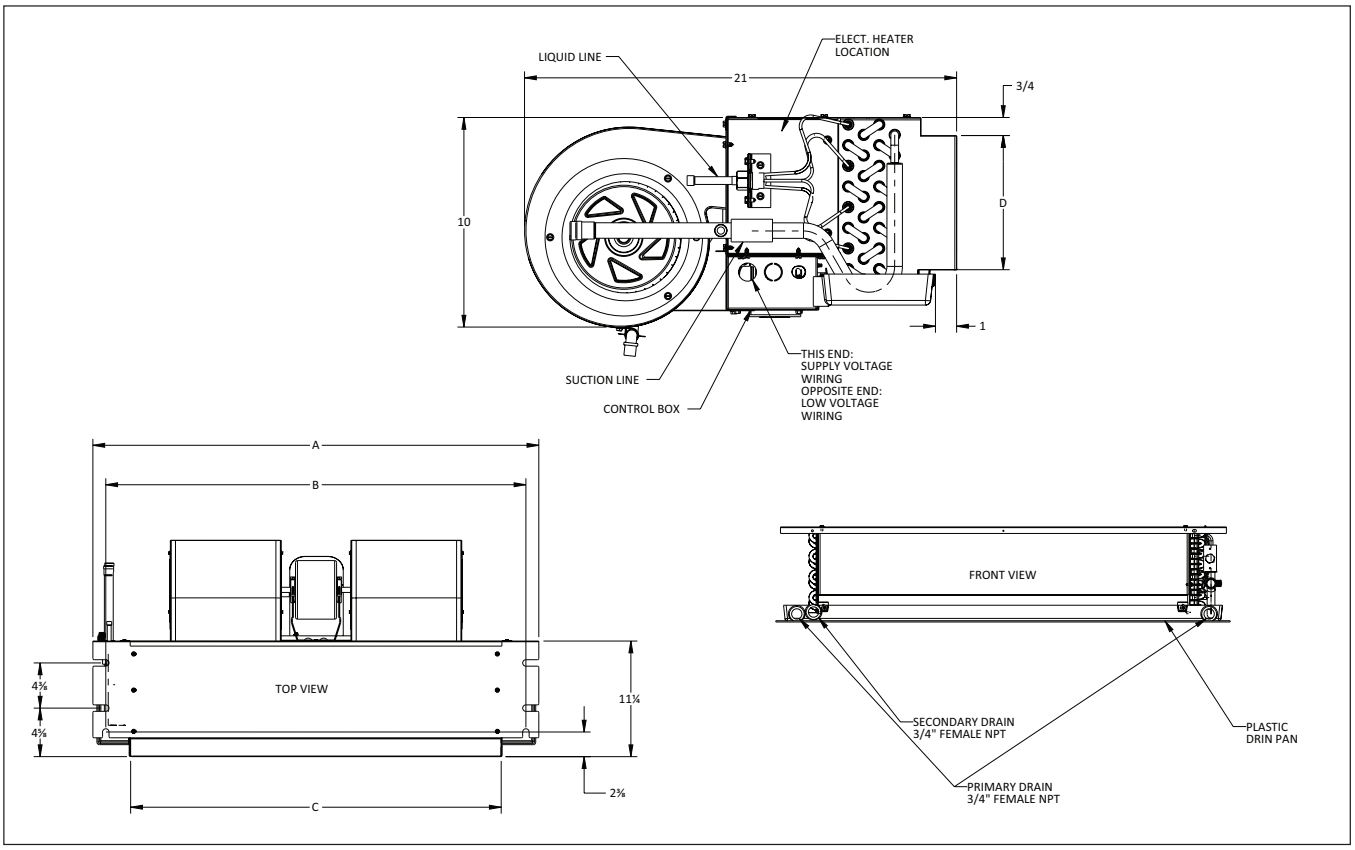
[1] CFM @ .2 static

Note: When the room thermostat calls for second stage heat, the first stage (heat pump) operation must be locked out. When matching the "AC" unit that has electric heat with a heat pump, order "HEAT PUMP SHUT OFF KIT HPSK-01." The ACXX-00 units do not require this kit.

| | ACNF30 0816 | ACNF30 1016 | ACNF31 0016 | ACNF31 0516 | ACNF31 0616 | ACNF31 0816 | ACNF31 1016 |
|---|---|---|---|---|---|---|---|
| **Performance Ratings** | | | | | | | |
| Cooling (BTU/h) | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| Piston Size[2] | 0.061 | 0.061 | 0.059 | 0.059 | 0.059 | 0.059 | 0.059 |
| **Blower** | | | | | | | |
| Diameter | 6.75 | 6.75 | 6.75 | 6.75 | 6.75 | 6.75 | 6.75 |
| Width | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 |
| Coil Drain Connect FPT | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" | 3/4" |
| **Blower Motor** | | | | | | | |
| FLA | 1.29 | 1.29 | 2 | 2 | 2 | 2 | 2 |
| HP | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 |
| **Refrigerant Line Connection Size** | | | | | | | |
| Liquid | ⅜" | ⅜" | ⅜" | ⅜" | ⅜" | ⅜" | ⅜" |
| Suction | ¾" | ¾" | ¾" | ¾" | ¾" | ¾" | ¾" |
| **Electrical Data** | | | | | | | |
| Voltage | 208/230 | 208/230 | 208/230 | 208/230 | 208/230 | 208/230 | 208/230 |
| Min Circuit Ampacity @ 230V | 41 | 55 | 2.5 | 28.6 | 35.1 | 42 | 56 |
| Min Circuit Ampacity @ 208V | 37.6 | 49.8 | 2.5 | 26 | 32 | 38.4 | 50.7 |
| Max. Overcurrent Device @ 230V | 45 | 60 | 15 | 30 | 40 | 45 | 60 |
| Max. Overcurrent Device @ 208V | 40 | 50 | 15 | 30 | 35 | 40 | 60 |
| Minimum Voltage VAC | 197 | 197 | 197 | 197 | 197 | 197 | 197 |
| Maximum Voltage VAC | 253 | 253 | 253 | 253 | 253 | 253 | 253 |
| **Electric Heat** | | | | | | | |
| kW @ 230 Volts | 7.3 | 9.8 | 0.0 | 4.8 | 6.0 | 7.3 | 9.8 |
| BTU/h @ 230 Volts | 24,900 | 33,500 | 0 | 16,400 | 20,500 | 24,900 | 33,500 |
| **Ship Weight (lbs)** | 79 | 79 | 79 | 79 | 79 | 79 | 79 |

[1] CFM @ .2 static

Note: When the room thermostat calls for second stage heat, the first stage (heat pump) operation must be locked out. When matching the "AC" unit that has electric heat with a heat pump, order "HEAT PUMP SHUT OFF KIT HPSK-01." The ACXX-00 units do not require this kit.




| | ACNF18 | ACNF24 | ACNF25 | ACNF30 | ACNF31 |
|---|---|---|---|---|---|
| A | 37¼" | 43¼” | 43¼” | 49¼” | 49¼” |
| B | 34¾” | 40¾” | 40¾” | 46¾” | 46¾” |
| C | 30” | 36” | 36” | 42" | 42" |
| D | 6½” | 6½” | 6½” | 6½” | 6½” |

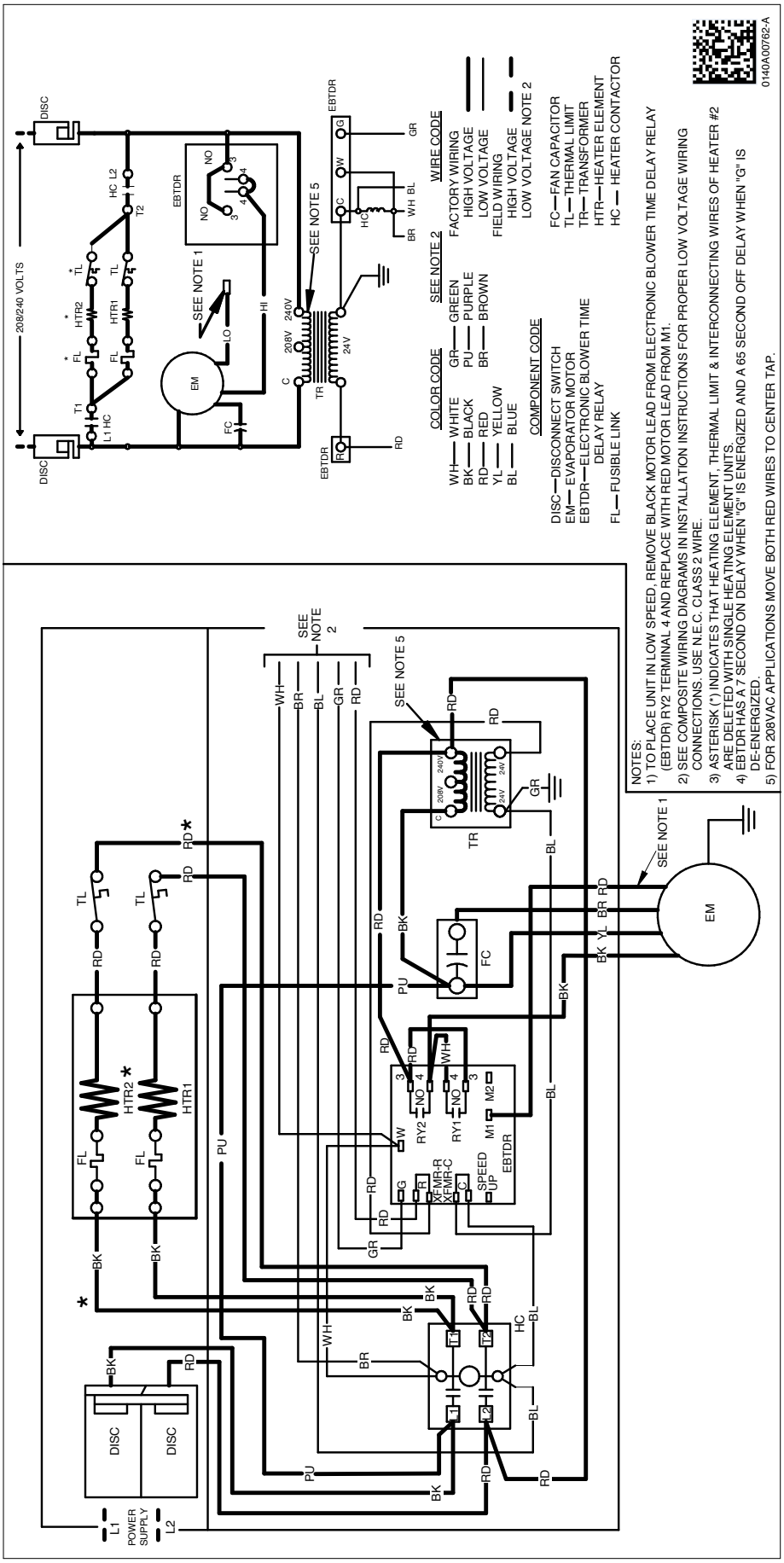
| Model | Motor Speed | CFM delivered against External Static Pressure | | | | |
|---|---|---|---|---|---|---|
| | | 0.1” | 0.2” | 0.3” | 0.4” | 0.5” |
| ACNF18**** | High | 710 | 660 | 590 | 515 | 435 |
| | Low | 650 | 595 | 540 | 480 | 390 |
| ACNF24**** | High | 955 | 880 | 820 | 740 | 675 |
| | Low | 885 | 840 | 775 | 725 | 620 |
| ACNF25**** | T5 | 969 | 912 | 854 | 798 | 778 |
| | T4 | 969 | 912 | 854 | 798 | 778 |
| | T3 | 802 | 776 | 690 | 641 | 584 |
| | T2 | 680 | 610 | 550 | 484 | 431 |
| | T1 | 680 | 610 | 550 | 484 | 431 |
| ACNF30**** | High | 1,075 | 1,005 | 920 | 820 | 730 |
| | Low | 945 | 890 | 835 | 760 | 650 |
| ACNF31**** | T5 | 999 | 928 | 868 | 824 | 764 |
| | T4 | 999 | 928 | 868 | 824 | 764 |
| | T3 | 871 | 798 | 750 | 687 | 614 |
| | T2 | 763 | 695 | 625 | 548 | 478 |
| | T1 | 763 | 695 | 625 | 548 | 478 |

Note: Airflow data for 240 Vac with dry coil and no filter in place.

## *Heating Capacity/kW Correction Factor*

| Supply Voltage | 240 | 230 | 220 | 210 | 208 |
|---|---|---|---|---|---|
| Correction Factor | 1.08 | 1.00 | 0.92 | 0.84 | 0.82 |

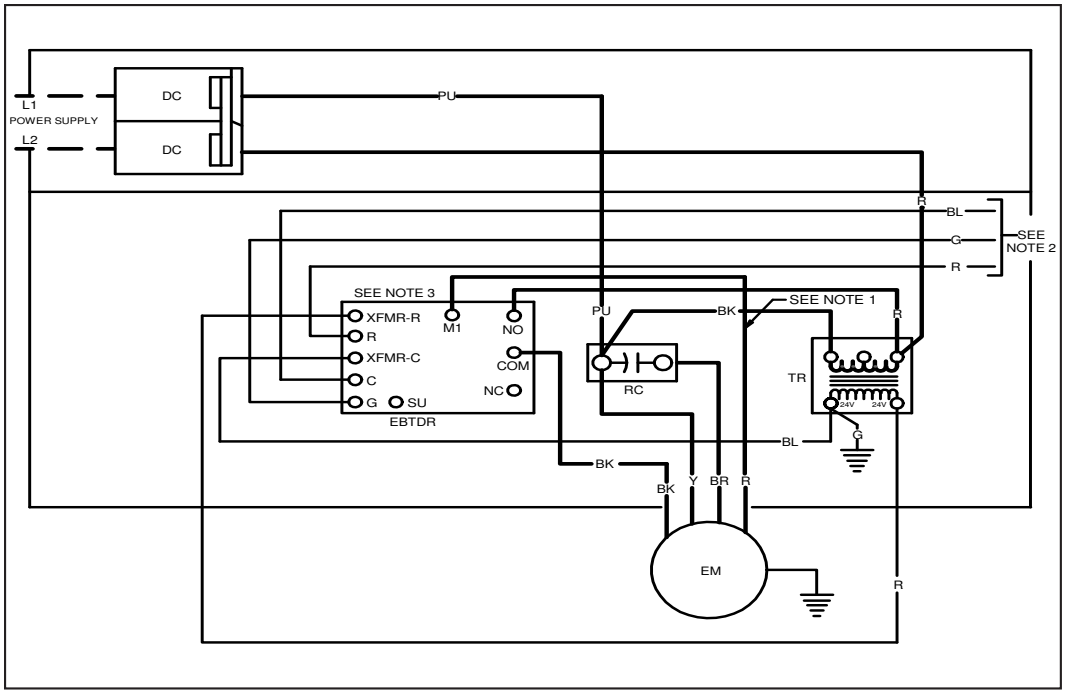
(Multiply the 230-volt capacity by factors)

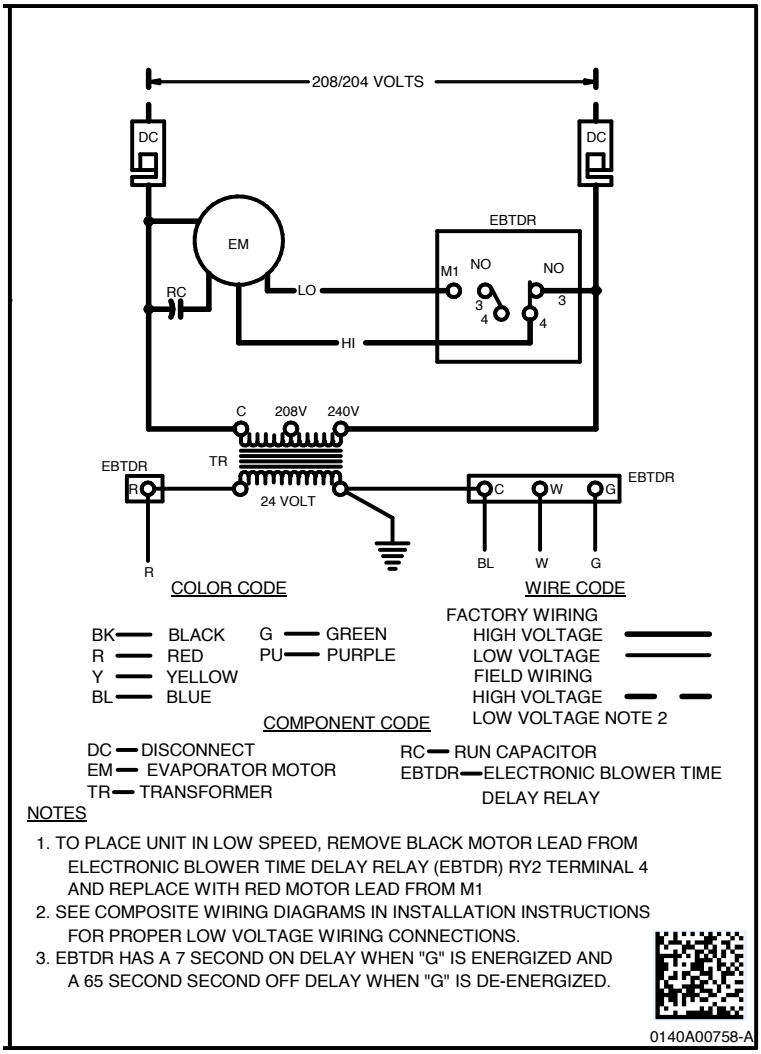



**WARNING**

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

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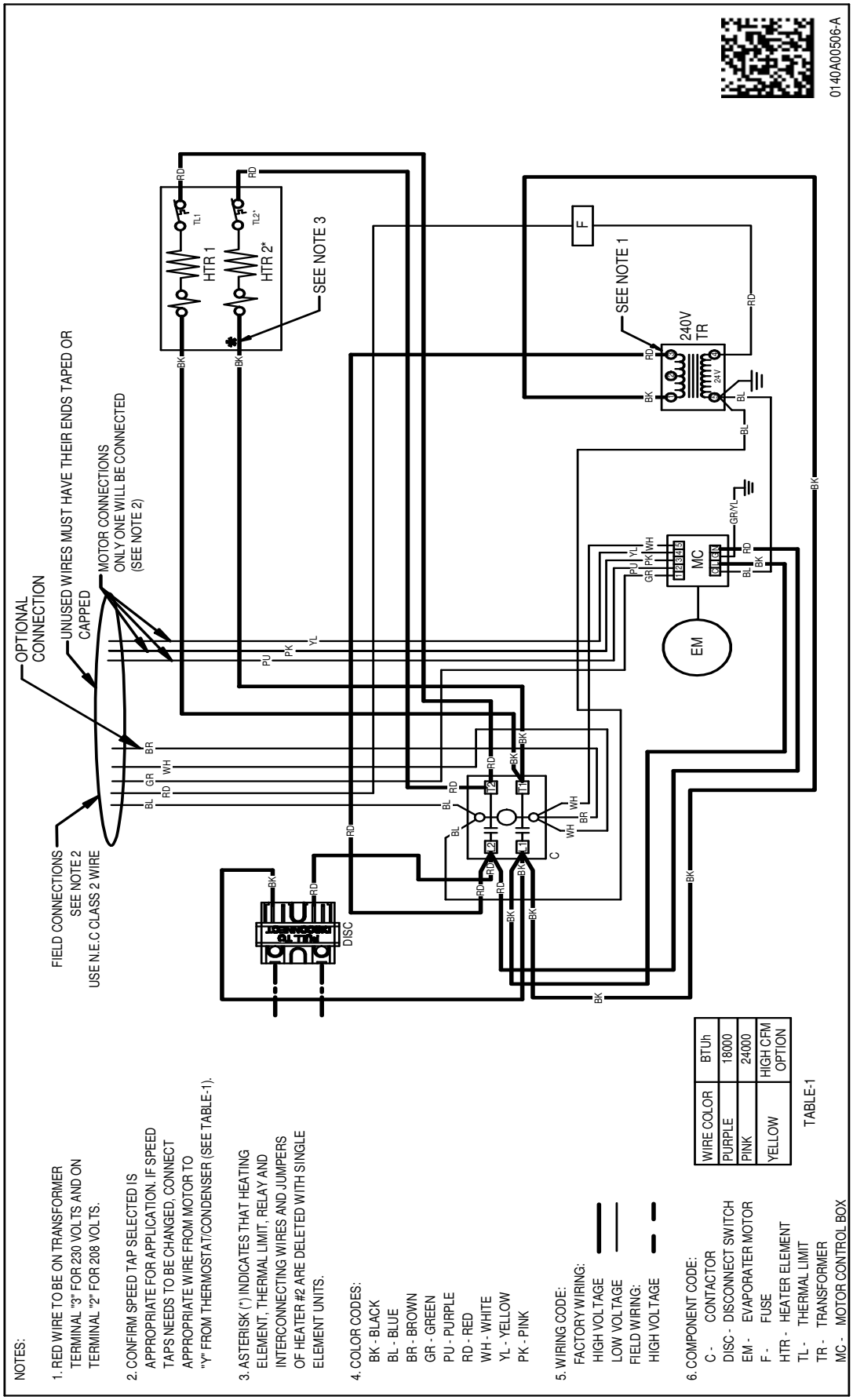



NOTES:

1. RED WIRE TO BE ON TRANSFORMER TERMINAL "3" FOR 230 VOLTS AND ON TERMINAL "2" FOR 208 VOLTS.
2. CONFIRM SPEED TAP SELECTED IS APPROPRIATE FOR APPLICATION. IF SPEED TAPS NEEDS TO BE CHANGED, CONNECT APPROPRIATE WIRE FROM MOTOR TO "Y" FROM THERMOSTAT/CONDENSER (SEE TABLE-1).
3. ASTERISK (*) INDICATES THAT HEATING ELEMENT, THERMAL LIMIT, RELAY AND INTERCONNECTING WIRES AND JUMPERS OF HEATER #2 ARE DELETED WITH SINGLE ELEMENT UNITS.
4. COLOR CODES:
   - BK - BLACK
   - BL - BLUE
   - BR - BROWN
   - GR - GREEN
   - PU - PURPLE
   - RD - RED
   - WH - WHITE
   - YL - YELLOW
   - PK - PINK
5. WIRING CODE:
   - FACTORY WIRING: ▬▬
   - HIGH VOLTAGE ▬▬
   - LOW VOLTAGE ▬▬
   - FIELD WIRING: ▬▬
   - HIGH VOLTAGE ▬▬
6. COMPONENT CODE:
   - C - CONTACTOR
   - DISC - DISCONNECT SWITCH
   - EM - EVAPORATER MOTOR
   - F - FUSE
   - HTR - HEATER ELEMENT
   - TL - THERMAL LIMIT
   - TR - TRANSFORMER
   - MC - MOTOR CONTROL BOX

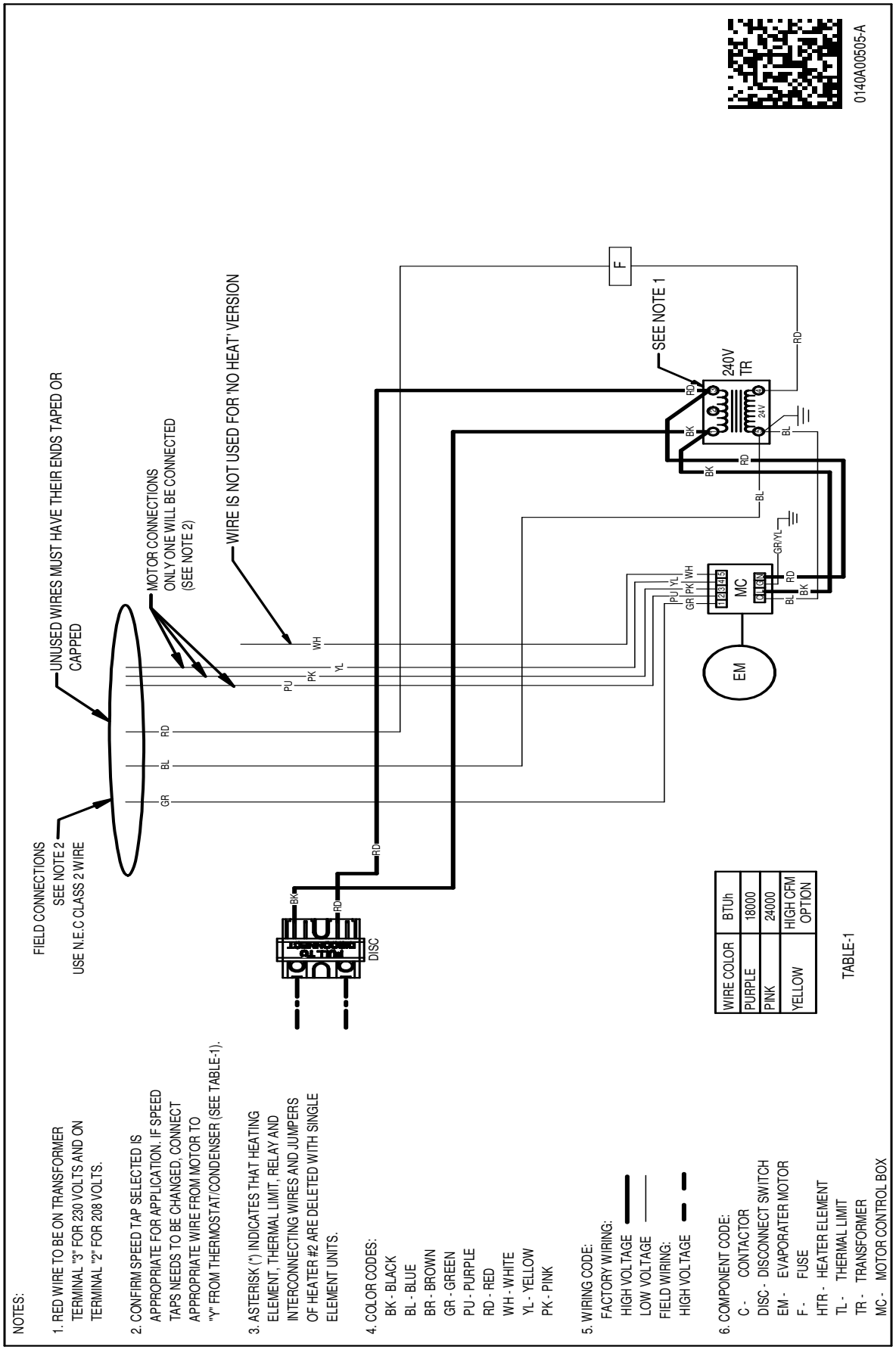
| WIRE COLOR | BTUh |
|---|---|
| PURPLE | 18000 |
| PINK | 24000 |
| YELLOW | HIGH CFM OPTION |

TABLE-1

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

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| Model | Description |
|---|---|
| HPSK-01 | Heat Pump Shut-off Relay Kit |

| Part Number | Ceiling Access Panel Description | Use With |
|---|---|---|
| CAP-1-AM | Ceiling Access Panel- Small- No Louvers | ACNF18 |
| CAP-1L-AM | Ceiling Access Panel- Small- Louvers | ACNF18 |
| CAP-2-AM | Ceiling Access Panel- Medium- No Louvers | ACNF24/25 |
| CAP-2L-AM | Ceiling Access Panel- Medium- Louvers | ACNF24/25 |
| CAP-3-AM | Ceiling Access Panel- Large- No Louvers | ACNF30/31 |
| CAP-3L-AM | Ceiling Access Panel- Large- Louvers | ACNF30/31 |

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