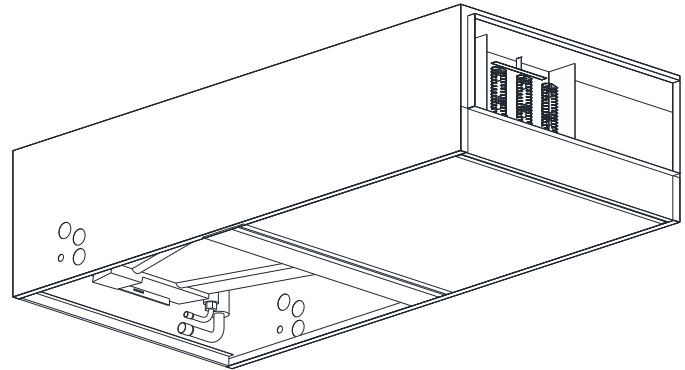


GENERAL

The AHF / AHK / AHSK Series is designed for horizontal recessed installations in a furred down area, above a suspended ceiling or recessed in the ceiling. AHF / AHK / AHSK models are for electric heat, DX cooling, and for heat pump applications. The unit can be configured for return air flow through the integral access panel or at the end of the unit. Installation tabs are built into the cabinet to facilitate mounting the unit. Optional panels are available that allow a wide range of installation options. Electric resistance heaters are available along with optional air conditioning and heat pump indoor coils. Full service of all components is easily accomplished through the access panel.



⚠ WARNING: Due to possible damage to equipment or personal injury, installation, service and maintenance should only be performed by a trained, qualified person. Consumer service is recommended only for filter replacement.

Installation of this unit shall be made in accordance with the National Electric Code, NFPA No. 90A and 90B, and any other local codes or utilities requirements.

⚠ WARNING: HAZARDOUS VOLTAGE – Ensure all power is disconnected before installing or servicing this unit. More than one disconnect device may be required to de-energize the equipment. Hazardous voltage can cause severe personal injury. Make certain all panels are in place before operating this unit.

UNPACKING

Carefully unpack the unit and inspect the contents for damage. If any damage is found at the time of delivery, proper notification and claims should be made with the carrier who delivered the unit.

Check the rating plate to assure model number and voltage, plus any kits agree with what you ordered. The manufacturer should be notified within 5 days of any discrepancy or parts shortage.

LOCATION

The blower coil unit should be centrally located and may be installed above a suspended ceiling with integral return panel, in a furred down area with remote or integral return, or recessed in the ceiling.

This unit is approved for "0" clearance from any side, front, rear or duct work. The unit must be installed in a level position to ensure proper condensation drainage. Make sure the unit is level in both directions within 1/8".

The unit incorporates installation tabs that mount to the framing and provide a 1/2 inch flange to trim to the finished edge of a sheetrock ceiling. The access panel mounts to the cabinet and trims the installation.

INSTALLATION GUIDE

All service entrances and exits on the cabinet are recessed to allow for 2" x 4" framing of the opening the cabinet will be centrally located within. Any modifications to existing framing should be accomplished by the general contractor to ensure structural strength is maintained in the structure. The structural opening in the framing for the AHK series should be 51^{1/4}" long and 22^{3/4}" wide. The structural opening in the framing for the AHF series should be 47^{1/4}" long and 22^{3/4}" wide. The unit should be positioned where the bottom edge of the cabinet is 1/2" below the framing member.

DUCT WORK

The duct work should be installed in accordance with the NFPA No. 90A "Installation of Air Conditioning and Ventilating systems" and No. 90B "Residential Type Warm Air Heating and Air Conditioning Installation."

The duct work should be insulated in accordance with the applicable requirements for the particular type installation as required by HUD, FHA, VA the applicable building code, local utility or other governing body.

CONDENSATE DRAIN

The AH* Series furred down air handlers are now shipped standard with our integral drain trap built into the drain pan. This unique design eliminates the need for exterior condensate traps in the primary drain line. Do not reduce the drain line size less than the connection size on the drain pan. Condensate should be piped to an open drain or to the outside. All drains must pitch downward away from the unit a minimum of 1/8" per foot of line to ensure proper drainage.

REFRIGERANT PIPING

Refrigerant pipe connections are located within the unit cabinet. Holes are provided to route refrigerant pipes from either side of the cabinet. Refrigerant piping external to the unit shall be sized in accordance with the instructions of the manufacturer of the outdoor equipment. When units are recessed mounted in the wall, make certain that piping connections are pressure tested prior to the wall being closed.

Manufacturer does not insulate the expansion valve distributor tubes or liquid lines coming from manifold. It is the sole responsibility of the contractor to properly insulate from condensation.

(YOU MUST INSULATE THE REFRIGERANT LINES AND TXV UP TO WHERE THE PAN CATCHES ALL CONDENSATE DRIPS.)

METERING DEVICE

All units are shipped with a check-flow piston installed which is designed for air conditioning or heat pump operation. If your application requires a thermal expansion valve or check expansion valve then it is necessary to remove the piston from the distributor assembly and install the proper metering device. Be sure to follow the instructions in the kit to ensure proper installation.

WIRING

Consult all schematic and pictorial wiring diagrams of this unit and the outdoor equipment to determine compatibility of the wiring connections and to determine specific requirements.

All field wiring to the blower coil should be installed in accordance with the latest edition of the National Electric Code NFPA No. 70 and any local codes.

Check rating plates on unit for rated volts, minimum circuit ampacity and maximum over current protection. Supply circuit power wiring must be 75°C (167°F) minimum copper conductors only. Copper supply wires shall be sized to the National Electric Code or local code requirements, whichever is more stringent.

The unit is shipped wired for 230/240 Volt AC, 60 Hz, 1 Phase Operation. If the unit is to be operated at 208 VAC, 60Hz, then follow the instructions on the indoor unit wiring diagram to change the low voltage transformer to 208 VAC operation. Be sure the unit is properly grounded. Class 2 low voltage control wiring should not be run in conduit with power wiring and must be separated from power wiring, unless class 1 wire of proper voltage rating is used. Low voltage control wiring should be 18 awg, color coded (105°C minimum). For lengths longer than 100 ft., 16 awg wire should be used. Make certain that separation of control wiring and power wiring has been maintained.

THERMOSTAT

Select a thermostat that is commonly referred to as a single stage cooling with electric heat sub base. This stat will energize the fan on a demand for heat or cool.

Install the thermostat on an inside wall away from drafts, lights or other heat sources in a location that has good air circulation from the other rooms being controlled by the thermostat. The thermostat should be mounted 4 to 5 feet above the floor.

INSTALLATION GUIDE

SEQUENCE OF OPERATION

Cooling (cooling only or heat pump with reversing valve energized in heat mode): When the thermostat calls for cooling, the blower relay is energized. The N.O. contacts will close after a time delay, and the indoor blower will operate. The circuit between R and Y is complete. Which causes the contactor on the outdoor equipment to close, start the compressor, and the outdoor fan motor.

Cooling (heat pump with reversing valve energized in cooling mode): When the thermostat calls for cooling, the circuit between R and G and R and O is complete. Circuit R and O energizes the reversing valve to the cooling position. Circuit R and G energizes blower relay. The N.O. contacts will close after a time delay, and the indoor blower will operate. The circuit between R and Y is complete. Which causes the contactor on the outdoor equipment to close, and start the compressor and the outdoor fan motor.

Heating (electric heat only): When the thermostat calls for heat, the circuit between R and W is completed, and the heat sequencer is energized. A time delay will occur, which allows the heating element(s) and the indoor blower motor to come on.

Heating (heat pump reversing valve energized in heat mode): When the thermostat calls for heat, the circuits between R and B, R and Y, and R and G are completed. Circuit R and B energize the reversing valve switching it to the heat position. Circuit R and Y energized the outdoor unit contactor starting the compressor and outdoor fan. Circuit R and G energizes the blower relay starting the blower motor.

If the indoor room temperature should continue to fall, circuit R and W2 is by the second-stage heat bulb on the thermostat. Circuit R-W2 energizes the heat sequencer. The completed circuit will energize the supplemental electric heat.

Blower Time Delay: This unit is equipped with timed on and off relay. This relay delays the start and stopping of the indoor fan motor to maximize efficiency of the unit.

Defrost: When the unit starts the defrost cycle, supplemental heat during defrost can be provided by connecting B on the blower coil to the defrost relay on the heat pump. This will complete the circuit between R and B in the blower coil, through a set of contacts in the defrost relay in the outdoor unit. This circuit when connected, will help prevent cold air from being discharged from the indoor unit during the defrost cycle.

BLOWER

Units through three tons are supplied with a multi-speed (high, medium & low) motor with direct drive blower wheel which can obtain various air flows. One and one half ton units are factory wired on low speed, two ton units are factory wired on medium speed and two and one half ton units are factory wired on high speed. If a different motor speed is required, disconnect all power to the unit, remove the factory wired indoor fan motor lead from the fan relay and place an insulated cap on the removed motor lead. Remove the insulated cap from the desired indoor fan motor lead, place a spade connector on the lead and connect it to the fan relay where the original lead was connected. The black motor lead is high speed, the red motor lead is low speed, and the blue motor lead (if available) is medium speed. Be sure to check the air flow and temperature drop across the evaporator coil to ensure that you have sufficient airflow.

START UP

Once all connections are complete the unit should be started up, and a check out of the completed system should be performed. Before performing any system test, make sure that all grilles, registers, and dampers are open and set to the correct position. Also make certain that the air filter is installed in the return air prior to running the air handler.

A performance test should be completed in accordance with the outdoor equipment manufacturer's instructions. Airflow tests should be conducted in the heating and cooling modes to ensure satisfactory operation.

MAINTENANCE

The system air filter(s) should be inspected, cleaned, or replaced at least monthly. If the filter is mounted internal to the unit, make sure that electrical power is disconnected before removing the access panels. Make certain that the access panels are replaced and secured properly before placing the unit back in operation. This product is designed for dependable service, however, periodic maintenance should be scheduled to be conducted by trained professional service personnel. This service should be conducted at least annually. It should include testing and inspection of electrical and refrigerant components. The heat transfer surface should be cleaned. The blower motor is permanently lubricated for normal operating conditions.

WIRING DIAGRAM

WARNING
 DISCONNECT POWER BEFORE
 INSTALLATION OR SERVICING.
 MULTIPLE POWER SOURCES
 MAY BE PRESENT.
 FAILURE TO DO SO MAY
 CAUSE PROPERTY DAMAGE,
 PERSONAL INJURY, OR DEATH.

USE COPPER CONNECTORS ONLY.
 Use Conductors Suitable for 167 Deg F.
 208-230VAC / 60Hz / 1Ph

EQUIPMENT GROUND USE COPPER OR
 ALUMINUM WIRE.

Single Speed Fan Control
 Connect Only One Fan Lead
 Not all models have 3 speeds

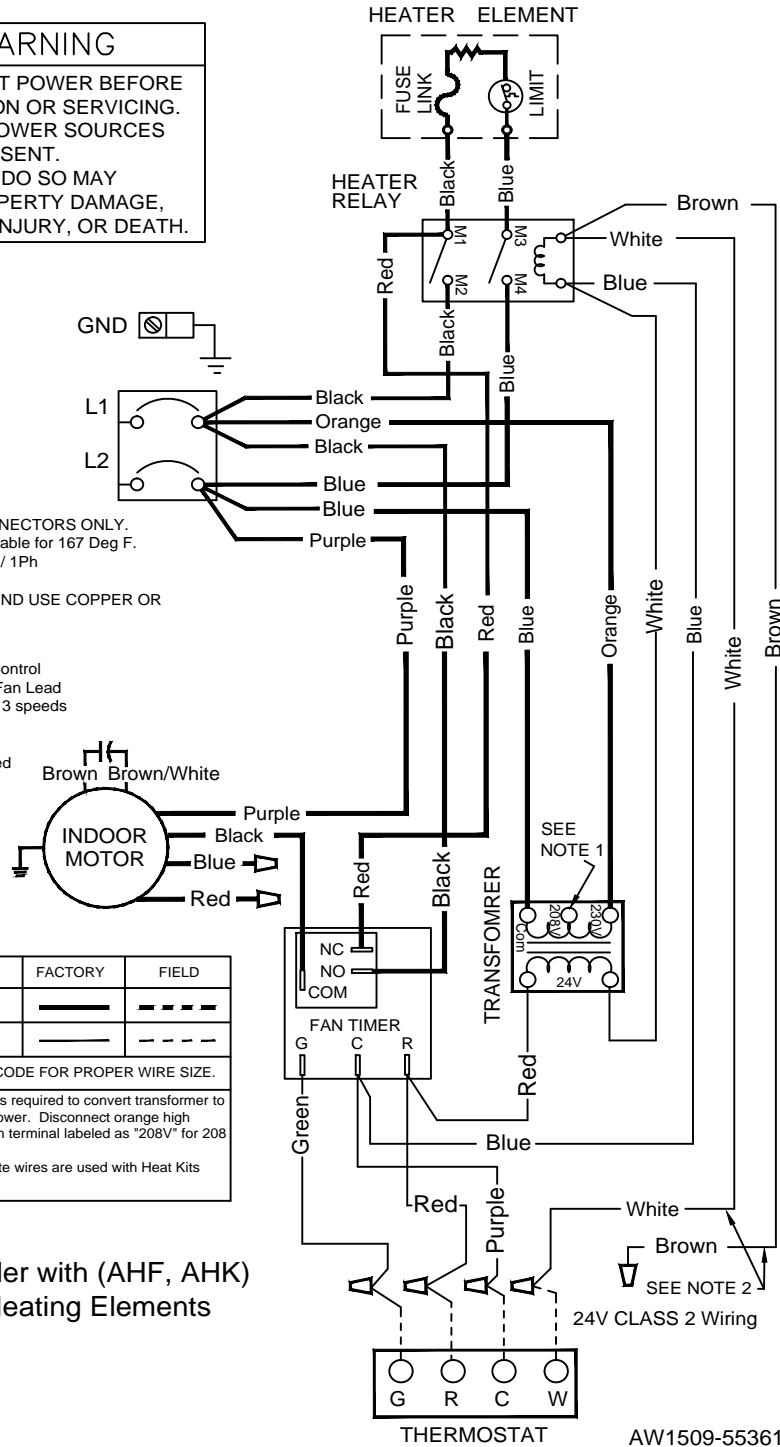
Black - High Speed
 Blue - Medium Speed
 Red - Low Speed

| WIRING TABLE | FACTORY | FIELD |
|---------------------|---------|-------|
| HIGH VOLTAGE WIRING | ———— | ----- |
| LOW VOLTAGE WIRING | ———— | ----- |

CONSULT NATIONAL CODE FOR PROPER WIRE SIZE.

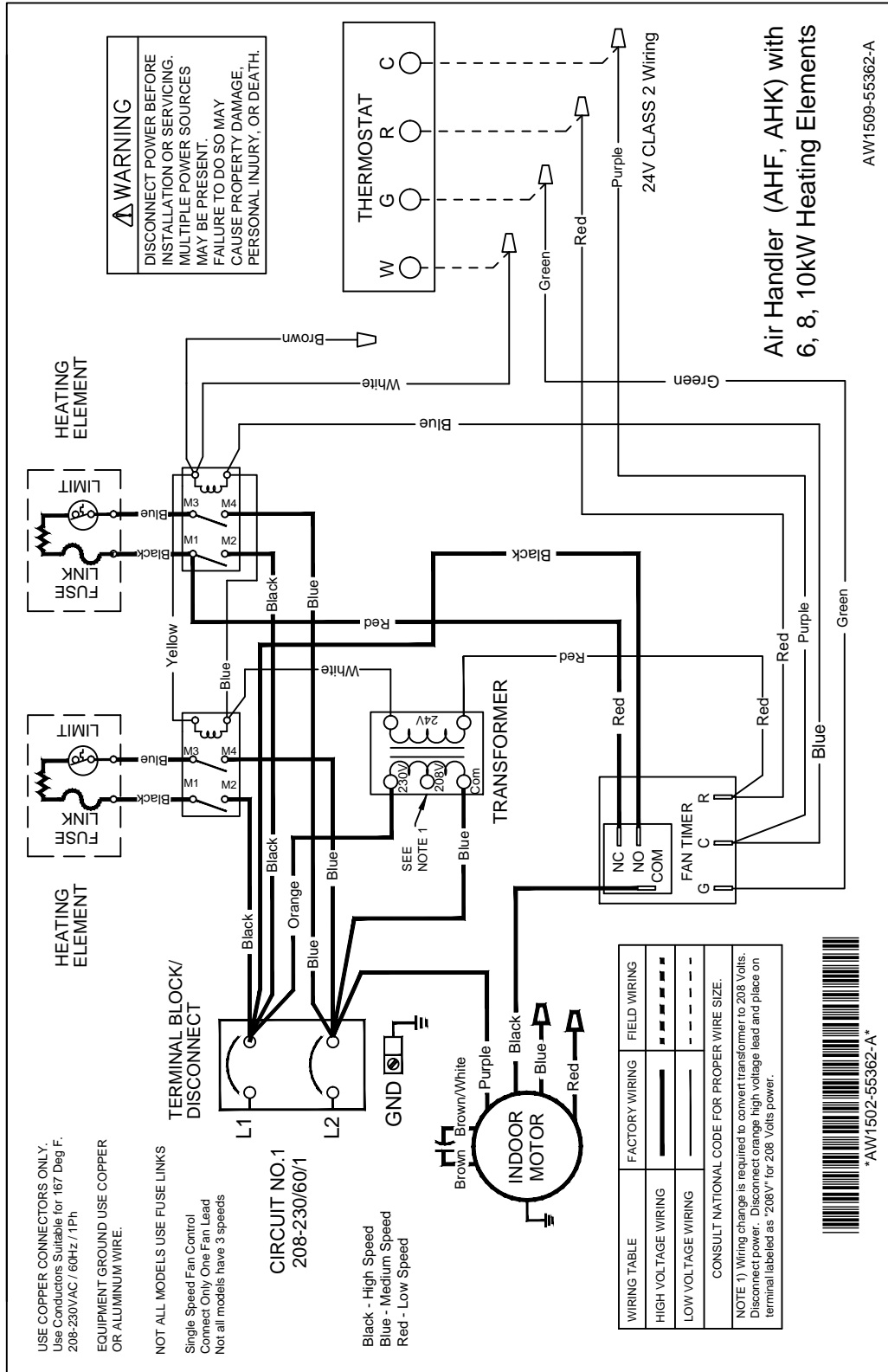
NOTE 1) Wiring change is required to convert transformer to 208 Volts. Disconnect power. Disconnect orange high voltage lead and place on terminal labeled as "208V" for 208 Volts power.
 NOTE 2) Brown and White wires are used with Heat Kits only.

Air Handler with (AHF, AHK)
 3, 5kW Heating Elements



AW1509-55361-A

WIRING DIAGRAM



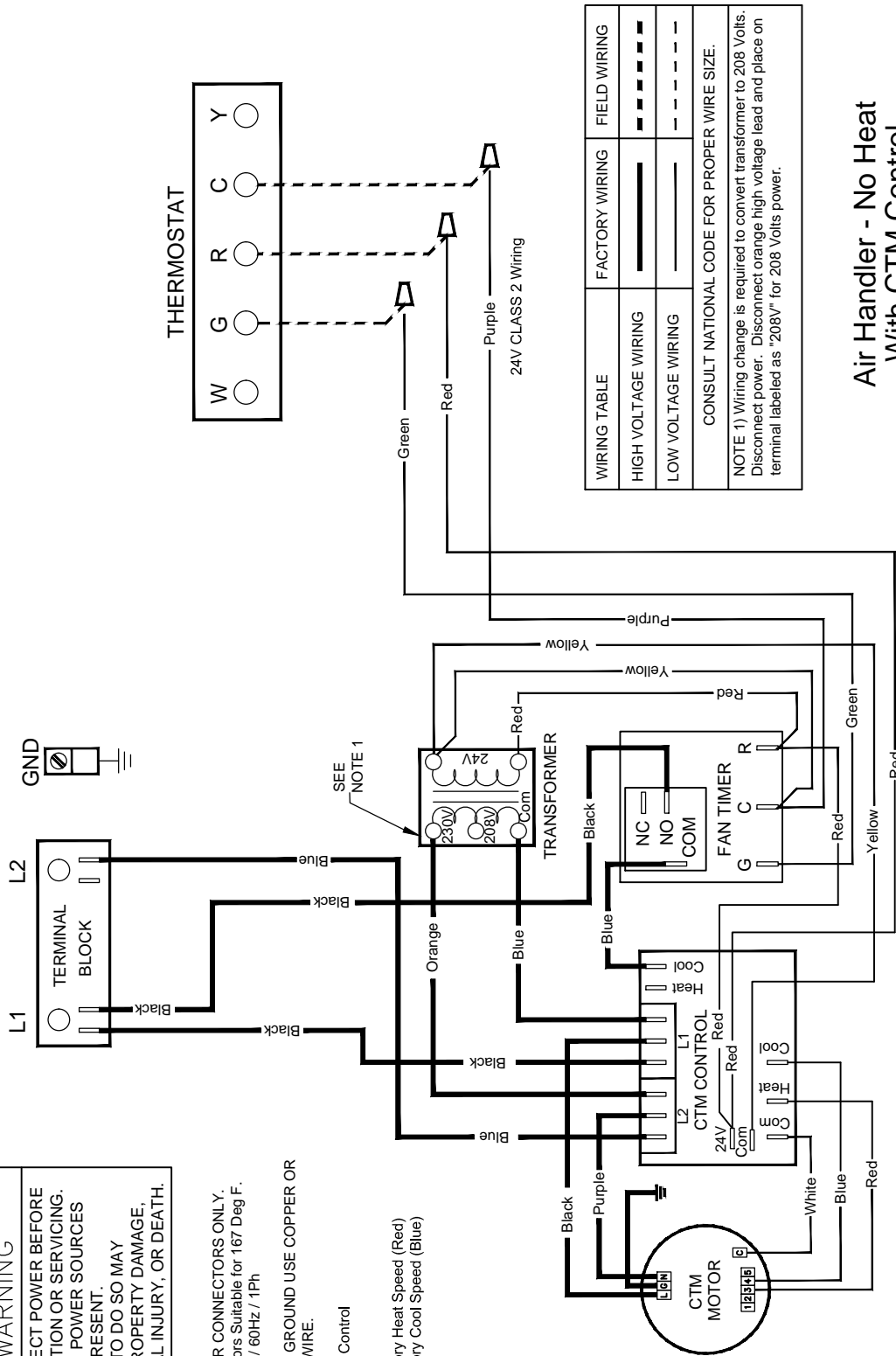
WIRING DIAGRAM

WARNING
 DISCONNECT POWER BEFORE
 INSTALLATION OR SERVICING.
 MULTIPLE POWER SOURCES
 MAY BE PRESENT.
 FAILURE TO DO SO MAY
 CAUSE PROPERTY DAMAGE,
 PERSONAL INJURY, OR DEATH.

USE COPPER CONNECTORS ONLY.
 Use Conductors Suitable for 167 Deg F.
 208-230VAC / 60Hz / 1Ph

EQUIPMENT GROUND USE COPPER OR
 ALUMINUM WIRE.

2 Speed Fan Control
 Tap 1
 Tap 2
 Tap 3 - Factory Heat Speed (Red)
 Tap 4 - Factory Cool Speed (Blue)
 Tap 5



| WIRING TABLE | FACTORY WIRING | FIELD WIRING |
|---------------------|----------------|--------------|
| HIGH VOLTAGE WIRING | ————— | ----- |
| LOW VOLTAGE WIRING | ————— | ----- |

CONSULT NATIONAL CODE FOR PROPER WIRE SIZE.

NOTE 1) Wiring change is required to convert transformer to 208 Volts. Disconnect power. Disconnect orange high voltage lead and place on terminal labeled as "208V" for 208 Volts power.

Air Handler - No Heat With CTM Control

AW1509-55363-B

NOTES

⚠ WARNING: Do not store or use any corrosives or combustibles in the vicinity of this unit. All panels must be in place and properly secured before operating this equipment.

All electrical power servicing this unit must be disconnected prior to removal of any panels. Service of this unit must be accomplished by qualified trained professional personnel only.

NOTE:

The condensate drain pan shown in Figure 1, has an adjustment strap to ensure proper condensate removal. The strap is identified by the arrow in the figures. If it is found to be necessary, the strap may be easily loosened and refastened to change the pitch in the drain pan toward the drain outlets. The drain pan pitch should not exceed 1/2 of an inch. For proper drain line connections, follow instructions from "CONDENSATE DRAIN" on Page 2.

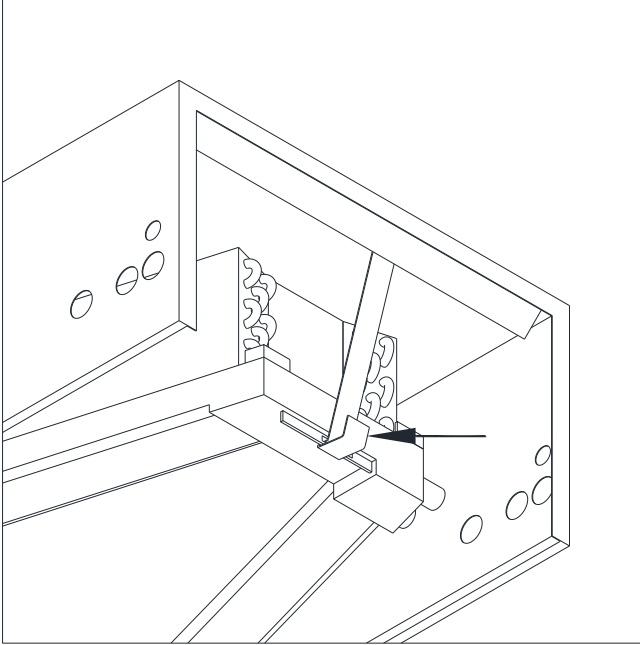
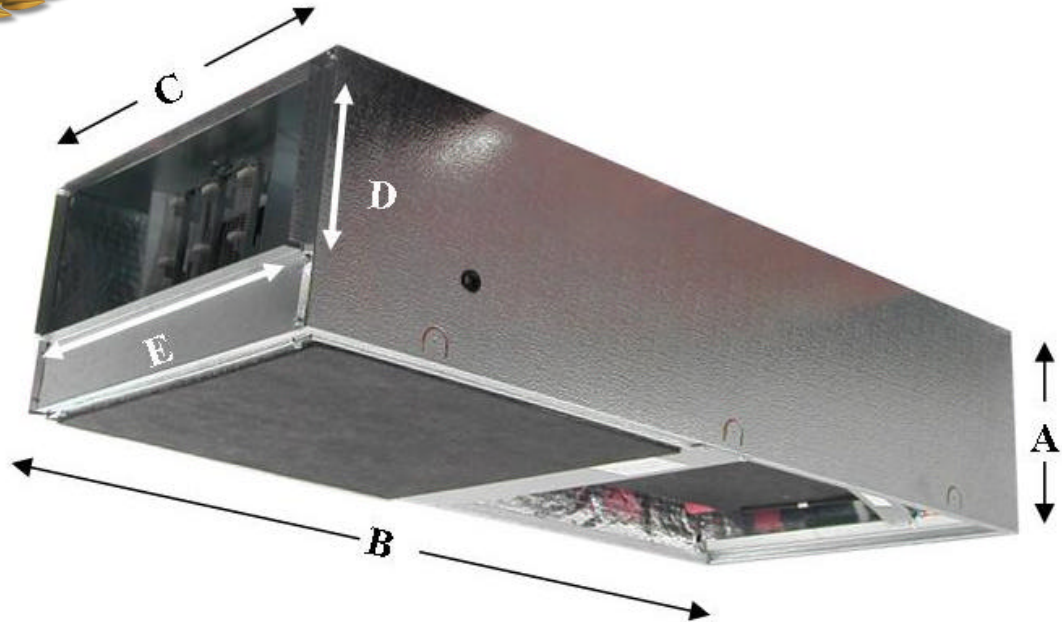


Figure 1. Drain Pan Adjustment Strap



AHF / AHK SERIES FURRED DOWN AHUs



PRODUCT FEATURES

- Designed for installation in a furred down or dropped ceiling area
- Optional DX Coil installed for cooling only, cooling and electric heating, or heat pump with electric back up
- Optional factory installed electric heat of either 3, 5, 6, 8, or 10 Kw
- Cooling capacities of 1, 1.5, 2.0, 2.5, or 3.0 nominal tons
- Standard internal filter rack
- Factory installed time delay relay
- Pre-punched side mounting tabs for easier installation
- Powder coated hinged access panels must be ordered separately
- Fully insulated embossed galvanized steel cabinets

PHYSICAL DIMENSIONS

| Nominal Capacity In Tons | Model | Height A | Length B | Cabinet Width C | Plenum Height D | Plenum Width E | Optional Return Opening | Access Grille Width | Access Grille Length | Filter Size |
|---|-------|----------|----------|-----------------|-----------------|----------------|-------------------------|---------------------|----------------------|-------------|
| 1.0,1.5, 2.0, 2.5 | AHF | 12" | 47" | 22.5" | 8" | 21.5" | 21" x 7.5" | 27.25" | 51.25" | 20" x 20" |
| 2.0, 2.5, 3.0 | AHK | 12" | 51" | 22.5" | 8" | 21.5" | 21" x 7.5" | 27.25" | 55.25" | 20" x 20" |
| Refrigerant Connections: Suction Lines are 3/4" and Liquid Lines are 3/8" on all models | | | | | | | | | | |
| Unit may be ordered for either rear return or for return through louvered access panel | | | | | | | | | | |

AllStyle Coil Co., L.P.





AHF & AHK SERIES FURRED DOWN AHUs

** Nominal KW

| ECM X-13 Electrical Specifications | | | | | | |
|------------------------------------|------------------|------------|------------|------|-----|--------|
| Model | Electric Heat KW | Motor Amps | Total Amps | MCA | MOP | BTUH |
| AHF 12 | 0 | 2.8 | 2.8 | 3.2 | 15 | 0 |
| | 3 | 2.8 | 15.3 | 17.9 | 20 | 10,257 |
| | ** 5 | 2.8 | 22.8 | 26.5 | 30 | 16,411 |
| | 6 | 2.8 | 27.8 | 32.3 | 35 | 20,512 |
| | 8 | 2.8 | 34.1 | 39.4 | 45 | 27,304 |
| | **10 | 2.8 | 44.5 | 49.5 | 60 | 32,764 |
| AHF/K 18&24 | 0 | 2.8 | 2.8 | 3.2 | 15 | 0 |
| | 3 | 2.8 | 15.3 | 17.6 | 20 | 10,257 |
| | ** 5 | 2.8 | 22.8 | 27.2 | 30 | 16,411 |
| | 6 | 2.8 | 27.8 | 32.0 | 35 | 20,512 |
| | 8 | 2.8 | 34.1 | 39.4 | 45 | 27,304 |
| | **10 | 2.8 | 44.5 | 51.1 | 60 | 32,764 |
| AHF/K 30 | 0 | 4 | 4.0 | 4.6 | 15 | 0 |
| | 3 | 4 | 16.5 | 19.4 | 20 | 10,257 |
| | ** 5 | 4 | 24.0 | 28.0 | 30 | 16,411 |
| | 6 | 4 | 29.0 | 33.8 | 35 | 20,512 |
| | 8 | 4 | 35.3 | 40.9 | 50 | 27,304 |
| | **10 | 4 | 44.0 | 51.0 | 60 | 32,764 |
| AHF/K 36 | 0 | 4 | 4.0 | 0.0 | 15 | 0 |
| | 3 | 4 | 16.5 | 19.4 | 20 | 10,257 |
| | ** 5 | 4 | 24.0 | 28.0 | 30 | 16,411 |
| | 6 | 4 | 29.0 | 33.8 | 40 | 20,512 |
| | 8 | 4 | 35.3 | 40.9 | 50 | 27,304 |
| | **10 | 4 | 44.0 | 51.0 | 60 | 32,764 |

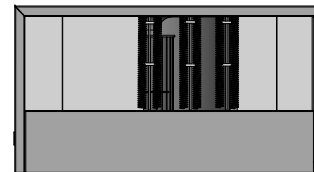
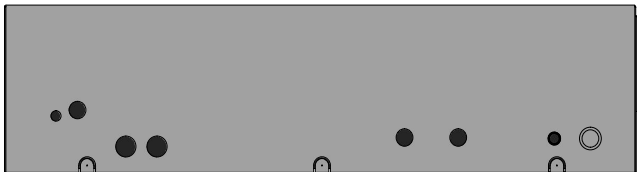
| ECM Blower Performance | | | | | | |
|------------------------|------------|-----------------|-----|-----|-----|-----|
| Model | Speed Tap | Static Pressure | | | | |
| | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 |
| AHF/K 18&24 | 1 | | | | | 0 |
| | Low (2) | 650 | 640 | | | |
| | Med (3) | 760 | 720 | 690 | 650 | 610 |
| | Med Hi (4) | 860 | 840 | 790 | 740 | 680 |
| | High (5) | 900 | 890 | 840 | 800 | 750 |





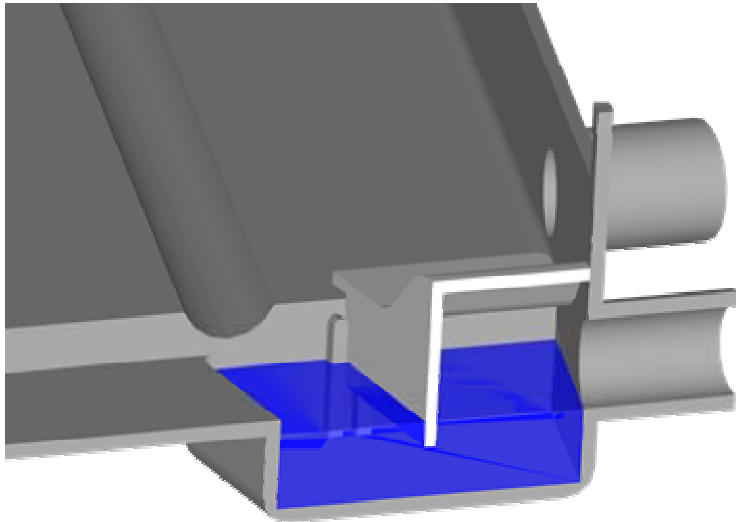
AHF & AHK SERIES FURRED DOWN AHUs

| PSC Electrical Specifications | | | | | | |
|-------------------------------|------------------|------------|------------|------|-----|--------|
| Model | Electric Heat KW | Motor Amps | Total Amps | MCA | MOP | BTUH |
| AHF 12 | 0 | 1.5 | 1.5 | 1.7 | 15 | 0 |
| | 3 | 1.5 | 14.0 | 16.3 | 20 | 10,257 |
| | ** 5 | 1.5 | 21.5 | 24.9 | 30 | 16,411 |
| | 6 | 1.5 | 26.5 | 30.6 | 30 | 20,512 |
| | 8 | 1.5 | 32.8 | 37.8 | 40 | 27,304 |
| | **10 | 1.5 | 41.5 | 47.9 | 50 | 32,764 |
| AHF/K 18&24 | 0 | 1.5 | 1.5 | 1.7 | 15 | 0 |
| | 3 | 1.5 | 14.0 | 16.3 | 20 | 10,257 |
| | ** 5 | 1.5 | 21.5 | 24.9 | 30 | 16,411 |
| | 6 | 1.5 | 26.5 | 30.6 | 30 | 20,512 |
| | 8 | 1.5 | 32.8 | 37.8 | 40 | 27,304 |
| | **10 | 1.5 | 41.5 | 47.9 | 50 | 32,764 |
| AHF/K 30 | 0 | 1.5 | 1.5 | 1.7 | 15 | 0 |
| | 3 | 1.5 | 14.0 | 16.3 | 20 | 10,257 |
| | ** 5 | 1.5 | 21.5 | 24.9 | 30 | 16,411 |
| | 6 | 1.5 | 26.5 | 30.6 | 30 | 20,512 |
| | 8 | 1.5 | 32.8 | 37.8 | 40 | 27,304 |
| | **10 | 1.5 | 41.5 | 47.9 | 50 | 32,764 |
| AHF/K 36 | 0 | 4 | 4.0 | 19.4 | 15 | 0 |
| | 3 | 4 | 16.5 | 28.0 | 20 | 10,257 |
| | ** 5 | 4 | 24.8 | 33.8 | 30 | 16,411 |
| | 6 | 4 | 29.0 | 43.3 | 35 | 20,512 |
| | 8 | 4 | 35.3 | 40.9 | 45 | 27,304 |
| | **10 | 4 | 45.7 | 52.5 | 60 | 32,764 |





AHF / AHK SERIES FURRED DOWN AHUs



NEW INTEGRAL DRAIN TRAP

The AHF/AHK Series furred down air handlers are now standard with our integral drain trap. This unique design eliminates the need for exterior condensate traps in the primary drain line. No more hassles trying to find room above a dropped ceiling for a condensate trap. This feature will save you time and money.

ACCESS PANEL OPTIONS



Two options are available, either solid for ducted return, or louvered for return directly into the air handler. Both are constructed of heavy galvanized steel with a glossy powder paint finish. The doors are hinged with the frame mounting to the wall.



Access Panel Dimensional Data

| Model | Used on Air Handler Models | Part No. | Description | Frame O.D. Dimensions | Opening Dimensions | Access Panel Dimensions |
|-----------|----------------------------|----------|----------------|-----------------------|---------------------|-------------------------|
| ACP-51S | AHF/AHL 18-30 | RP21038 | Solid Panel | 27.25" W x 51.25" L | 23.50" W x 47.50" L | 25.00" W x 49.00" L |
| ACP-51L** | AHF/AHL 18-30 | RP21039 | Louvered Panel | 27.25" W x 51.25" L | 23.50" W x 47.50" L | 25.00" W x 49.00" L |
| ACP-55S | AHK/AHL 30-36 | RP21040 | Solid Panel | 27.25" W x 55.25" L | 23.50" W x 51.5" L | 25.00" W x 53.00" L |
| ACP-55L** | AHK/AHL 30-36 | RP21041 | Louvered Panel | 27.25" W x 55.25" L | 23.50" W x 51.50" L | 25.00" W x 53.00" L |

** Louvered panel includes a filter rack.



AllStyle Coil Company, L.P.
7037 Brittmoore Rd.
Houston, TX 77041

Since the manufacturer has a policy of continuous product and product data improvement, it reserves the right to change design and specification without notice.