

Outdoor Temp °F D.B.	Superheat °F			Subcooling °F		
	Min	Nom	Max	Min	Nom	Max
65	35	40	45	12	14	15
70	31	35	39	12	14	15
75	26	30	34	12	14	15
80	22	25	28	12	14	15
85	17	20	23	12	14	15
90	13	15	17	12	14	15
95	8	10	12	12	14	15
100	4	5	6	12	14	15

Table.2. Superheat and Subcool chart

## Start up

After all connections are made, start-up and check-up must be performed before proper evaluation of the entire system can be made. Make sure that heat anticipator is properly set as noted on thermostat instructions.

Load requirements can vary in each residence and it may be necessary for the installer or homeowner to make slight adjustments to the heat anticipator setting for longer or shorter cycles. It is recommended to change the setting no more than plus or minus 0.05 amps at a time. Greater changes can cause the unit to rapid cycle or remain on excessively. To properly check the unit's operation, the installer should have an electrical current measuring device (0-10 amp Amprobe, Fluke), air pressure measuring device (0-1.0 in slope gauge), and a temperature-measuring device (0-200°F thermometer).

Install the Amprobe to measure blower current, the slope gauge to measure static air pressure at the units and the temperature device to measure unit supply and return air temperature. Before taking measurements, be sure that all registers, grilles and dampers are open or set to their proper positions. Be sure that clean filters are in place. Temperature measuring device must be installed to obtain average temperature at both inlet and outlet. For outlet, measure temperature of each main trunk at a location far enough away to avoid heater radiation and read the average temperatures. Table 3 below shows the CFM that should be achieved at various external static pressures

MODELS	SPEED TAP	230 Volt				
		CFM V. EXTERNAL STATIC				
		0.10	0.20	0.30	0.40	0.50
AEW18-24	Tap 5	909	864	840	800	782
	Tap 4	723	690	652	631	600
	Tap 3	600	565	539	502	480
	Tap 2	909	864	840	800	782
	Tap 1	723	690	652	631	600
AEW30-36	Tap 5	1365	1332	1303	1271	1240
	Tap 4	1174	1132	1106	1078	1047
	Tap 3	898	873	853	827	800
	Tap 2	745	698	668	630	600
	Tap 1	1365	1332	1303	1271	1240

Table 3. CFM delivered at various external statics

## Electrical Heat Controls:

- Turn on power supply. Set thermostat fan switch to on. Set the cooling indicator to maximum, heating to minimum. System switch may be on heat or cool. Check slope gauge measurement against appropriate air flow chart. Make damper, register and motor speed adjustments to obtain required airflow.
- Set thermostat fan switch to auto, system to heat and thermostat heating indicator to maximum heat. Blower should start and all heat be energized.
- Check air flow using temperature rise method.


$$CFM = \frac{OUTPUT (BTUH)}{1.08 \times TEMP RISE}$$

**NOTE:** BTUH output should be computed by VOLT x AMPS x 3.4 = BTUH OUTPUT. Since line volt can vary, do not use nameplate rating to determine output.

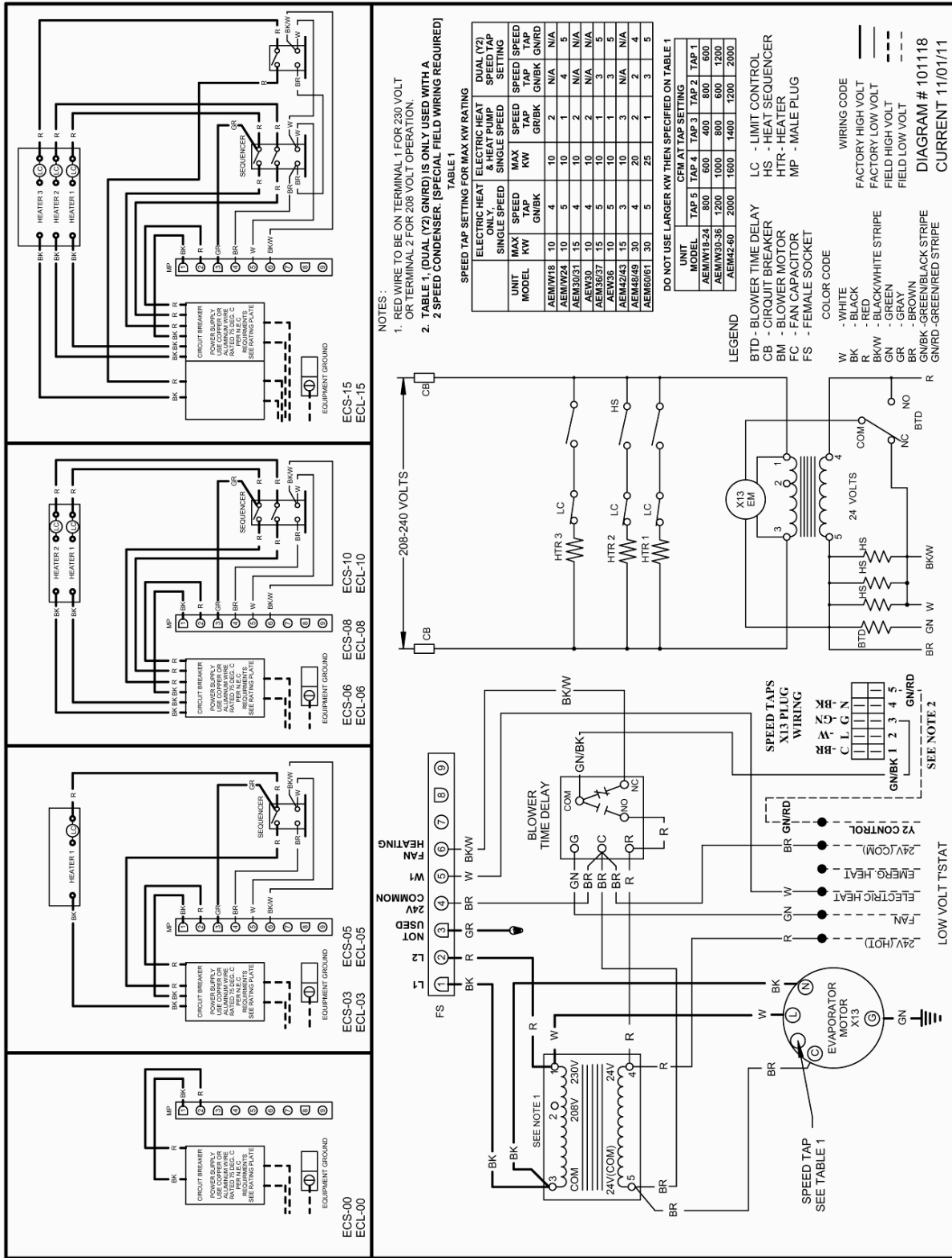
## OPERATION AND MAINTENANCE

Below are brief descriptions of the key components of the unit and installation. This manual only provides a general idea of the components and recommended practices. The installer should use best judgement to ensure safe installation and operation of the unit.

- 1) Room Thermostat- This is the device that controls that operation of your heating and/or cooling unit. It senses the indoor temperature and signals the equipment to start or stop maintaining the temperature you have selected for your comfort. The room thermostat should be in a central, draft free inside wall location for best operation. Do not place any heat producing apparatus such as lights, radio, etc., near the thermostat as this will cause erratic operation of the comfort system. The thermostat can accumulate dust or lint which can affect its accuracy. It should be cleaned annually.

- 2) Air Filter(s) - All central air moving comfort systems must include air filter(s). These filters will be located either in the equipment or in the return air duct system upstream of the equipment. The filter(s) removes dust and debris from the air thus helping to keep your air-conditioned space clean. More important, the filter keeps dust and debris from collecting on the heat transfer surfaces thus maintaining optimum equipment efficiency and performance. Inspect and clean or replace filters every month. This routine maintenance procedure will pay big dividends in reduced operating cost and reduced service expense. Never operate comfort equipment without filter(s).
- 3) Fuses and/or Circuit Breakers- This comfort equipment should be connected to the building electric service in accordance with local and National Electric codes. This electrical connection will include over-current protection in the form of circuit breakers. Have your contractor identify the circuits and the location of over-current protection so that you will be in a position to make inspections or replacements in the event the equipment fails to operate.
- 4)  **WARNING**
  - a) Do not store combustible materials or use gasoline or other flammable liquids or vapors in the vicinity of this appliance.
  - b) Do not operate the comfort equipment with panels removed.
  - c) Have your contractor point out and identify the various cut-off devices, switches, etc., that serve your comfort equipment. There is a main switch that will cut off energy to your heating system. Know where they are so that you may cut off the flow of energy in the event of overheating.
- 5) Periodic Checkup and Service- This product is designed to provide many years of dependable, trouble-free comfort when properly maintained. Proper maintenance will consist of annual check-ups and cleaning of the internal electrical and heat transfer components by a qualified service technician. Failure to provide periodic checkup and cleaning can result in excessive operating cost and/or equipment malfunction.
- 6) Lubrication- Direct drive blower motors are equipped with permanently lubricated bearings and do not require further lubrication.
- 7) Air filter replacement: An air filter can restrict the airflow to the fan coil if it is not cleaned or replaced periodically. When replacing the air filter, always replace with the same type and size as originally furnished with the unit.

# Wiring diagram for AEW models



**HIGH VOLTAGE** disconnect all power sources prior to servicing. Failure might lead to safety hazard

