

## GAS FURNACES

### PRODUCT SPECIFICATIONS



**AMV9: UP TO 96% AFUE**

**ACV9: UP TO 93% AFUE**

**HEATING INPUT: 46,000–115,000 BTU/H**

Amana<sup>®</sup> brand AMV9/ACV9 multi-position, two-stage, variable-speed gas furnaces provide exceptional indoor comfort and quiet operation. With their two-stage gas valve, variable-speed circulator blower, these furnaces provide comfort all season long.

#### Standard Features

- Patented MillionAir<sup>™</sup> stainless-steel, dual-diameter tubular heat exchanger with Lifetime Limited Unit Replacement Warranty\* for as long as the original registered homeowner owns their home
- Two-stage gas valve operates on two-stage or single-stage thermostats
- Efficient and quiet variable-speed circulator motor gently ramps up or down according to heating or cooling demand
- SureStart<sup>™</sup> Silicon Nitride igniter designed for long igniter life
- Furnace control board with self-diagnostics, color-coded low-voltage terminals, and provisions for electronic air cleaner and 120-volt or 24-volt humidifiers
- Low constant fan allows homeowner to activate very low speed to efficiently circulate air throughout the home. This setting costs as little as a 100-watt light bulb to operate.
- Dual-certified for sealed combustion direct vent (2-pipe) or non-direct vent (1-pipe) applications
- Easy-to-install top venting is standard; alternate flue/vent locations available
- Quiet, two-speed induced draft blower
- All models comply with California NOx emissions standards

**MILLION-AIR**  
 STAINLESS-STEEL  
 HEAT EXCHANGER

#### Cabinet Features

- Fully insulated, heavy-gauge steel cabinet with durable baked-enamel finish
- Designed for multi-position installation — AMV9: upflow, horizontal left or right ACV9: downflow, horizontal left or right
- Airtight solid bottom for side return applications & easy-cut tabs for effortless removal in bottom air inlet applications
- Convenient left or right connection for gas/electric service
- Coil and furnace fit flush for most installations

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\*To receive the Lifetime Unit Replacement Limited Warranty and 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Québec. Full warranty details available at [www.amana-hac.com](http://www.amana-hac.com).

## NOMENCLATURE

|                            | A | M | V | 9 | 70          | 3            | B | X  | A  |                               |
|----------------------------|---|---|---|---|-------------|--------------|---|----|----|-------------------------------|
|                            | 1 | 2 | 3 | 4 | 5,6,7       | 8            | 9 | 10 | 11 |                               |
| <b>Brand</b>               |   |   |   |   |             |              |   |    |    | <b>Revisions</b>              |
| A Amana® Brand             |   |   |   |   |             |              |   |    |    | A Initial Release             |
|                            |   |   |   |   |             |              |   |    |    | B 1st Revision                |
|                            |   |   |   |   |             |              |   |    |    | C 2nd Revision                |
| <b>Airflow Direction</b>   |   |   |   |   |             |              |   |    |    | <b>NOx</b>                    |
| C Downflow/Horizontal      |   |   |   |   |             |              |   |    |    | N Natural Gas                 |
| D Dedicated Downflow       |   |   |   |   |             |              |   |    |    | X Low NOx                     |
| H High Airflow             |   |   |   |   |             |              |   |    |    |                               |
| K Dedicated Upflow         |   |   |   |   |             |              |   |    |    |                               |
| M Upflow/Horizontal        |   |   |   |   |             |              |   |    |    |                               |
| <b>Description</b>         |   |   |   |   |             |              |   |    |    | <b>Cabinet Width</b>          |
| V Two-Stage/Variable-speed |   |   |   |   |             |              |   |    |    | A 14"                         |
| H Two-Stage/Multi-speed    |   |   |   |   |             |              |   |    |    | B 17½"                        |
| S Single-Stage/Multi-speed |   |   |   |   |             |              |   |    |    | C 21"                         |
|                            |   |   |   |   |             |              |   |    |    | D 24½"                        |
| <b>AFUE</b>                |   |   |   |   |             |              |   |    |    | <b>Maximum CFM @ 0.5" ESP</b> |
| 95 95%                     |   |   |   |   |             |              |   |    |    | 3 1,200                       |
| 9 90%+                     |   |   |   |   |             |              |   |    |    | 4 1,600                       |
| 8 80%                      |   |   |   |   |             |              |   |    |    | 5 2,000                       |
|                            |   |   |   |   |             |              |   |    |    | <b>MBTU/h</b>                 |
|                            |   |   |   |   | 045: 45,000 | 115: 115,000 |   |    |    |                               |
|                            |   |   |   |   | 070: 70,000 | 140: 140,000 |   |    |    |                               |
|                            |   |   |   |   | 090: 90,000 |              |   |    |    |                               |

**Important EnergyStar Notice:** EnergyStar ratings are dependent upon conditions beyond equipment installation. Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet EnergyStar criteria. Ask your contractor for details or visit [www.energystar.gov](http://www.energystar.gov).

# **SPECIFICATIONS**

|                                             | AMV9<br>0453BXB | AMV9<br>0704CXB | AMV9<br>0905DXB | AMV9<br>1155DXB | ACV9<br>0704CXB | ACV9<br>0905DXB |
|---------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Heating Capacity</b>                     |                 |                 |                 |                 |                 |                 |
| High Fire Input (BTU/h) <sup>1</sup>        | 46,000          | 69,000          | 92,000          | 115,000         | 69,000          | 92,000          |
| High Fire Output (BTU/h) <sup>1</sup>       | 45,000          | 67,000          | 90,000          | 109,000         | 65,000          | 87,000          |
| Low Fire Input (BTU/h) <sup>1</sup>         | 32,000          | 48,000          | 64,000          | 80,000          | 48,000          | 64,000          |
| Low Fire Output (BTU/h) <sup>1</sup>        | 30,800          | 46,400          | 61,700          | 77,400          | 45,000          | 60,000          |
| AFUE <sup>2</sup>                           | 96              | 95.5            | 95.7            | 95.8            | 93              | 93              |
| Available AC @ 0.5" ESP                     | 1.5 - 3.0       | 1.5 - 4.0       | 2.0 - 5.0       | 2.0 - 5.0       | 1.5 - 4.0       | 2.0 - 5.0       |
| Temperature Rise Range (° F)                | 30 - 60         | 30 - 60         | 30 - 60         | 35 - 65         | 30 - 60         | 30 - 60         |
| <b>Circulator Blower</b>                    |                 |                 |                 |                 |                 |                 |
| Size (D x W)                                | 10" X 7"        | 10" X 10"       | 11" X 10"       | 11" X 10"       | 10" X 10"       | 11" X 10"       |
| Horsepower @ 1750 RPM                       | ½               | ¾               | 1               | 1               | ¾               | 1               |
| Speed                                       | Variable        | Variable        | Variable        | Variable        | Variable        | Variable        |
| Vent Diameter <sup>3</sup>                  | 2"              | 2"              | 3"              | 3"              | 2"              | 2"              |
| No. of Burners                              | 2               | 3               | 4               | 5               | 3               | 4               |
| <b>Filter Size (in²)</b>                    |                 |                 |                 |                 |                 |                 |
| Permanent                                   | 288             | 384             | 480             | 486             | 320*            | 427*            |
| Disposable                                  | 576             | 768             | 960             | 972             | 641*            | 854*            |
| <b>Electrical Data</b>                      |                 |                 |                 |                 |                 |                 |
| Min. Circuit Ampacity <sup>4</sup>          | 15              | 15              | 15              | 15              | 15              | 15              |
| Max. Overcurrent Device (amps) <sup>5</sup> | 10.4            | 12.8            | 14.6            | 14.6            | 12.8            | 14.6            |
| <b>Ship Weight (lbs)</b>                    | 133             | 135             | 172             | 175             | 135             | 172             |

<sup>1</sup> Natural Gas BTU/h

<sup>2</sup> DOE AFUE based upon Isolated Combustion System (ICS)

<sup>3</sup> Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run and installation (1 or 2 pipes). The optional Combustion Air Pipe is dependent on installation/code requirements and must be 2" or 3" diameter PVC.

<sup>4</sup> Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

<sup>5</sup> Maximum Overcurrent Protection Device refers to maximum recommended fuse or circuit breaker size. May use fuses or HACR-type circuit breakers of the same size as noted.

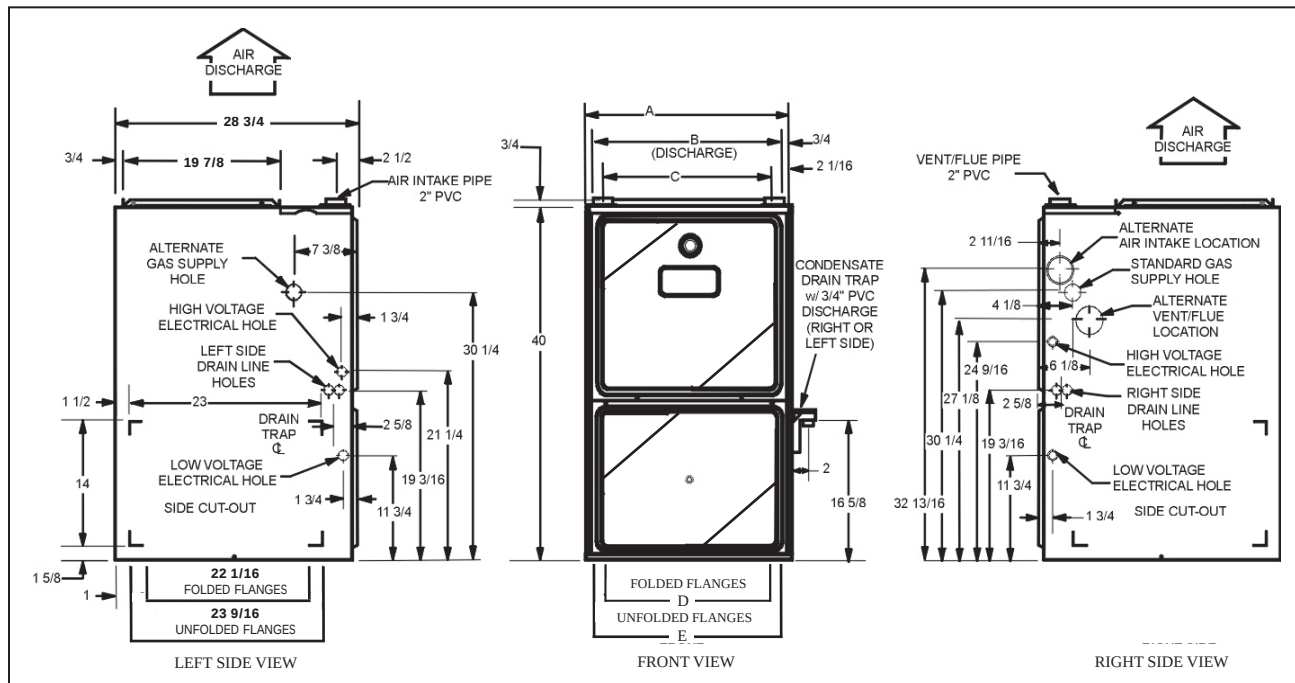
## **Notes:**

1. All furnaces are manufactured for use on 115 VAC, 60 Hz, single-phase electrical supply.

2. Gas Service Connection ½" FPT

3. Important: Size fuses and wires properly and make electrical connections in accordance with the National Electrical Code and/or all existing local codes.

## AMV9 DIMENSIONS



| Model       | A       | B       | C       | D       | E       |
|-------------|---------|---------|---------|---------|---------|
| AMV90453BXB | 17 1/2" | 16"     | 13 1/8" | 12 1/8" | 13 5/8" |
| AMV90704CXB | 21"     | 19 1/2" | 16 1/8" | 16      | 17 1/2" |
| AMV90905DXB | 24 1/2" | 23"     | 20 5/8" | 19 3/8" | 20 7/8" |
| AMV91155DXB | 24 1/2" | 23"     | 20 5/8" | 19 3/8" | 20 7/8" |

### Notes:

- Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run and installation (1 or 2 pipes). The optional Combustion Air Pipe is dependent on installation/code requirements and must be 2" or 3" diameter PVC.
- Line voltage wiring can enter through the right or left side of the furnace. Low-voltage wiring can enter through the right or left side of furnace.
- Conversion kits for high-altitude natural gas operation are available. Contact your Goodman distributor or dealer for details.
- Installer must supply following gas line fittings, according to which entrance is used:  
**Left**—Two 90° elbows, one close nipple, straight pipe  
**Right**—Straight pipe to reach gas valve
- For bottom return: Failure to unfold flanges may reduce airflow by up to 18%. This could result in performance and noise issues.

## MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

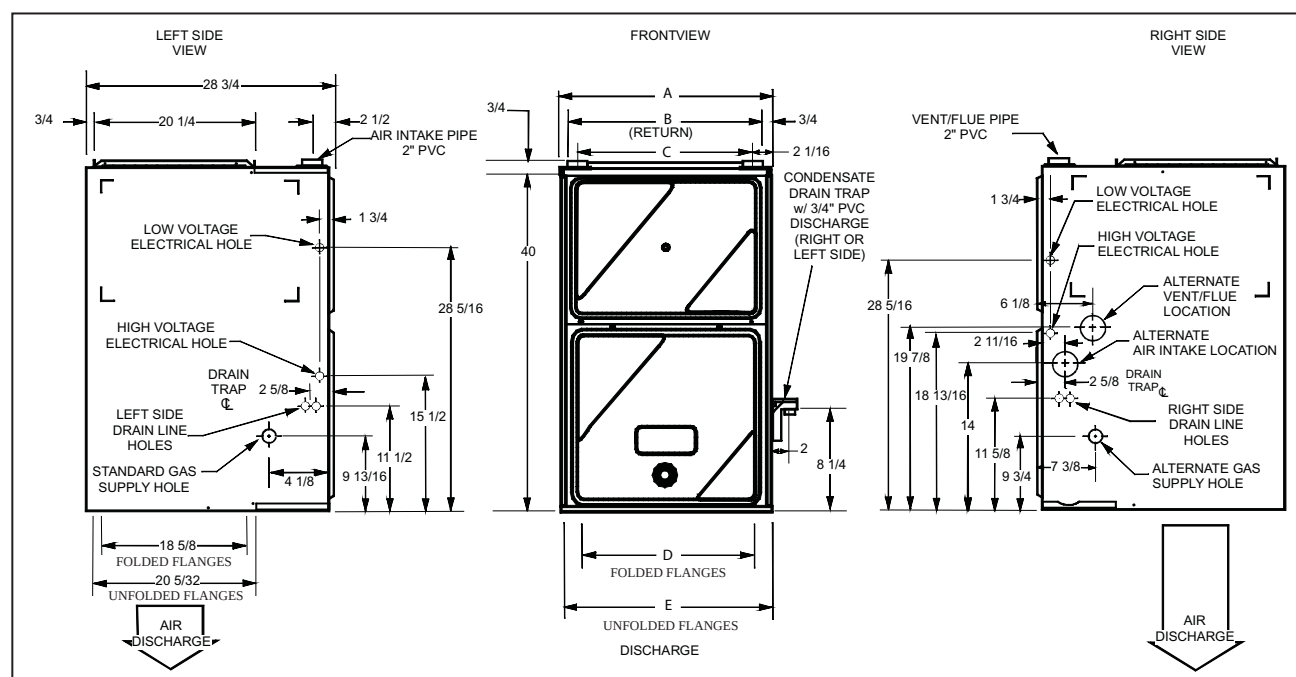
| Position   | Sides | Rear | Front | Bottom | Flue | Top |
|------------|-------|------|-------|--------|------|-----|
| Upflow     | 0"    | 0"   | 3"    | C      | 0"   | 1"  |
| Horizontal | 6"    | 0"   | 3"    | C      | 0"   | 6"  |

C = If placed on combustible floor, the floor MUST be wood ONLY.

### Notes:

- For servicing or cleaning, a 24" front clearance is required.
- Unit connections (electrical, flue and drain) may necessitate greater clearances than the minimum clearances listed above.
- In all cases, accessibility clearance must take precedence over clearances from the enclosure where accessibility clearances are greater.

# ACV9 DIMENSIONS



| Model       | A       | B       | C       | D       | E       |
|-------------|---------|---------|---------|---------|---------|
| ACV90704CXB | 21"     | 19 1/2" | 16 3/8" | 18"     | 19 1/2" |
| ACV90905DXB | 24 1/2" | 23"     | 20 3/8" | 21 1/2" | 23"     |

## Notes:

- Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run and installation (1 or 2 pipes). The optional Combustion Air Pipe is dependent on installation/code requirements and must be 2" or 3" diameter PVC.
- Line voltage wiring can enter through the right or left side of the furnace. Low-voltage wiring can enter through the right or left side of furnace.
- Conversion kits for high-altitude natural gas operation are available. Contact your Amana distributor or dealer for details.
- Installer must supply following gas line fittings, according to which entrance is used:  
**Left**—Two 90° Elbows, one close nipple, straight pipe  
**Right**—Straight pipe to reach gas valve

## MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

| Position   | Sides | Rear | Front | Bottom | Flue | Top |
|------------|-------|------|-------|--------|------|-----|
| Downflow   | 0"    | 0"   | 3"    | NC     | 0"   | 1"  |
| Horizontal | 6"    | 0"   | 3"    | C      | 0"   | 6"  |

C = If placed on combustible floor, the floor MUST be wood ONLY.

NC = For installation on non-combustible floors only. A combustible floor sub-base must be used for installations on combustible flooring.

## Notes:

- For servicing or cleaning, a 24" front clearance is required.
- Unit connections (electrical, flue and drain) may necessitate greater clearances than the minimum clearances listed above.
- In all cases, accessibility clearance must take precedence over clearances from the enclosure where accessibility clearances are greater.

# AMV9 AIRFLOW SPECIFICATIONS

## HIGH- OR SINGLE-STAGE COOLING SPEEDS

| AMV90453BXB       |            |                  | AMV90704CXB       |            |                  | AMV90905DXB       |            |                  | AMV91155DXB       |            |                  |
|-------------------|------------|------------------|-------------------|------------|------------------|-------------------|------------|------------------|-------------------|------------|------------------|
| Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> | Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> | Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> | Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> |
| A                 | Minus (-)  | 540              | A                 | Minus (-)  | 540              | A                 | Minus (-)  | 720              | A                 | Minus (-)  | 720              |
|                   | Normal     | 600              |                   | Normal     | 600              |                   | Normal     | 800              |                   | Normal     | 800              |
|                   | Plus (+)   | 660              |                   | Plus (+)   | 660              |                   | Plus (+)   | 880              |                   | Plus (+)   | 880              |
| B                 | Minus (-)  | 720              | B                 | Minus (-)  | 720              | B                 | Minus (-)  | 990              | B                 | Minus (-)  | 990              |
|                   | Normal     | 800              |                   | Normal     | 800              |                   | Normal     | 1,100            |                   | Normal     | 1,100            |
|                   | Plus (+)   | 880              |                   | Plus (+)   | 880              |                   | Plus (+)   | 1,210            |                   | Plus (+)   | 1,210            |
| C                 | Minus (-)  | 900              | C                 | Minus (-)  | 990              | C                 | Minus (-)  | 1,260            | C                 | Minus (-)  | 1,260            |
|                   | Normal     | 1,000            |                   | Normal     | 1,100            |                   | Normal     | 1,400            |                   | Normal     | 1,400            |
|                   | Plus (+)   | 1,100            |                   | Plus (+)   | 1,210            |                   | Plus (+)   | 1,540            |                   | Plus (+)   | 1,540            |
| D                 | Minus (-)  | 1,080            | D                 | Minus (-)  | 1,286            | D                 | Minus (-)  | 1,620            | D                 | Minus (-)  | 1,620            |
|                   | Normal     | 1,200            |                   | Normal     | 1,429            |                   | Normal     | 1,800            |                   | Normal     | 1,800            |
|                   | Plus (+)   | 1,320            |                   | Plus (+)   | 1,572            |                   | Plus (+)   | 1,980            |                   | Plus (+)   | 1,980            |

<sup>1</sup> @ .1" to .8" W.C. ESP

### Notes:

- All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.
- For most jobs, about 400 CFM per ton when cooling is desirable.
- Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.

## LOW-STAGE COOLING SPEEDS

| AMV90453BXB       |            |                  | AMV90704CXB       |            |                  | AMV90905DXB       |            |                  | AMV91155DXB       |            |                  |
|-------------------|------------|------------------|-------------------|------------|------------------|-------------------|------------|------------------|-------------------|------------|------------------|
| Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> | Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> | Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> | Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> |
| A                 | Minus (-)  | 380*             | A                 | Minus (-)  | 378*             | A                 | Minus (-)  | 513*             | A                 | Minus (-)  | 514*             |
|                   | Normal     | 390              |                   | Normal     | 390              |                   | Normal     | 520              |                   | Normal     | 520              |
|                   | Plus (+)   | 429              |                   | Plus (+)   | 429              |                   | Plus (+)   | 572              |                   | Plus (+)   | 572              |
| B                 | Minus (-)  | 468              | B                 | Minus (-)  | 468              | B                 | Minus (-)  | 644              | B                 | Minus (-)  | 644              |
|                   | Normal     | 520              |                   | Normal     | 520              |                   | Normal     | 715              |                   | Normal     | 715              |
|                   | Plus (+)   | 572              |                   | Plus (+)   | 572              |                   | Plus (+)   | 787              |                   | Plus (+)   | 787              |
| C                 | Minus (-)  | 585              | C                 | Minus (-)  | 644              | C                 | Minus (-)  | 819              | C                 | Minus (-)  | 819              |
|                   | Normal     | 650              |                   | Normal     | 715              |                   | Normal     | 910              |                   | Normal     | 910              |
|                   | Plus (+)   | 715              |                   | Plus (+)   | 787              |                   | Plus (+)   | 1,001            |                   | Plus (+)   | 1,001            |
| D                 | Minus (-)  | 702              | D                 | Minus (-)  | 836              | D                 | Minus (-)  | 1,053            | D                 | Minus (-)  | 1,053            |
|                   | Normal     | 780              |                   | Normal     | 929              |                   | Normal     | 1,170            |                   | Normal     | 1,170            |
|                   | Plus (+)   | 858              |                   | Plus (+)   | 1,022            |                   | Plus (+)   | 1,287            |                   | Plus (+)   | 1,287            |

<sup>1</sup> @ .1" to .8" W.C. ESP

### Notes:

- All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.
- For most jobs, about 400 CFM per ton when cooling is desirable.
- Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.

# **AMV9 AIRFLOW SPECIFICATIONS (CONT.)**

## **HEATING SPEEDS**

| AMV90453BXB<br>(Rise Range: 30° - 60°F) |            |                            |                             |           |
|-----------------------------------------|------------|----------------------------|-----------------------------|-----------|
| Heating Speed Tap                       | Adjust Tap | Low-Stage CFM <sup>1</sup> | High-Stage CFM <sup>1</sup> | Rise (°F) |
| A                                       | Minus (-)  | 495                        | 713                         | 57        |
|                                         | Normal     | 550                        | 792                         | 51        |
|                                         | Plus (+)   | 605                        | 871                         | 46        |
| B                                       | Minus (-)  | 540                        | 778                         | 52        |
|                                         | Normal     | 600                        | 864                         | 47        |
|                                         | Plus (+)   | 660                        | 950                         | 43        |
| C                                       | Minus (-)  | 585                        | 842                         | 48        |
|                                         | Normal     | 650                        | 936                         | 43        |
|                                         | Plus (+)   | 715                        | 1,030                       | 39        |
| D                                       | Minus (-)  | 630                        | 907                         | 45        |
|                                         | Normal     | 700                        | 1,008                       | 40        |
|                                         | Plus (+)   | 770                        | 1,109                       | 36        |

| AMV90704CXB<br>(Rise Range: 30° - 60°F) |            |                            |                             |           |
|-----------------------------------------|------------|----------------------------|-----------------------------|-----------|
| Heating Speed Tap                       | Adjust Tap | Low-Stage CFM <sup>1</sup> | High-Stage CFM <sup>1</sup> | Rise (°F) |
| A                                       | Minus (-)  | 756                        | 1,089                       | 56        |
|                                         | Normal     | 840                        | 1,210                       | 50        |
|                                         | Plus (+)   | 924                        | 1,331                       | 46        |
| B                                       | Minus (-)  | 828                        | 1,192                       | 51        |
|                                         | Normal     | 920                        | 1,325                       | 46        |
|                                         | Plus (+)   | 1,012                      | 1,457                       | 42        |
| C                                       | Minus (-)  | 900                        | 1,296                       | 47        |
|                                         | Normal     | 1,000                      | 1,440                       | 42        |
|                                         | Plus (+)   | 1,100                      | 1,584                       | 38        |
| D                                       | Minus (-)  | 972                        | 1,400                       | 43        |
|                                         | Normal     | 1,080                      | 1,555                       | 39        |
|                                         | Plus (+)   | 1,188                      | 1,711                       | 35        |

<sup>1</sup> @ .1" to .5" W.C. ESP

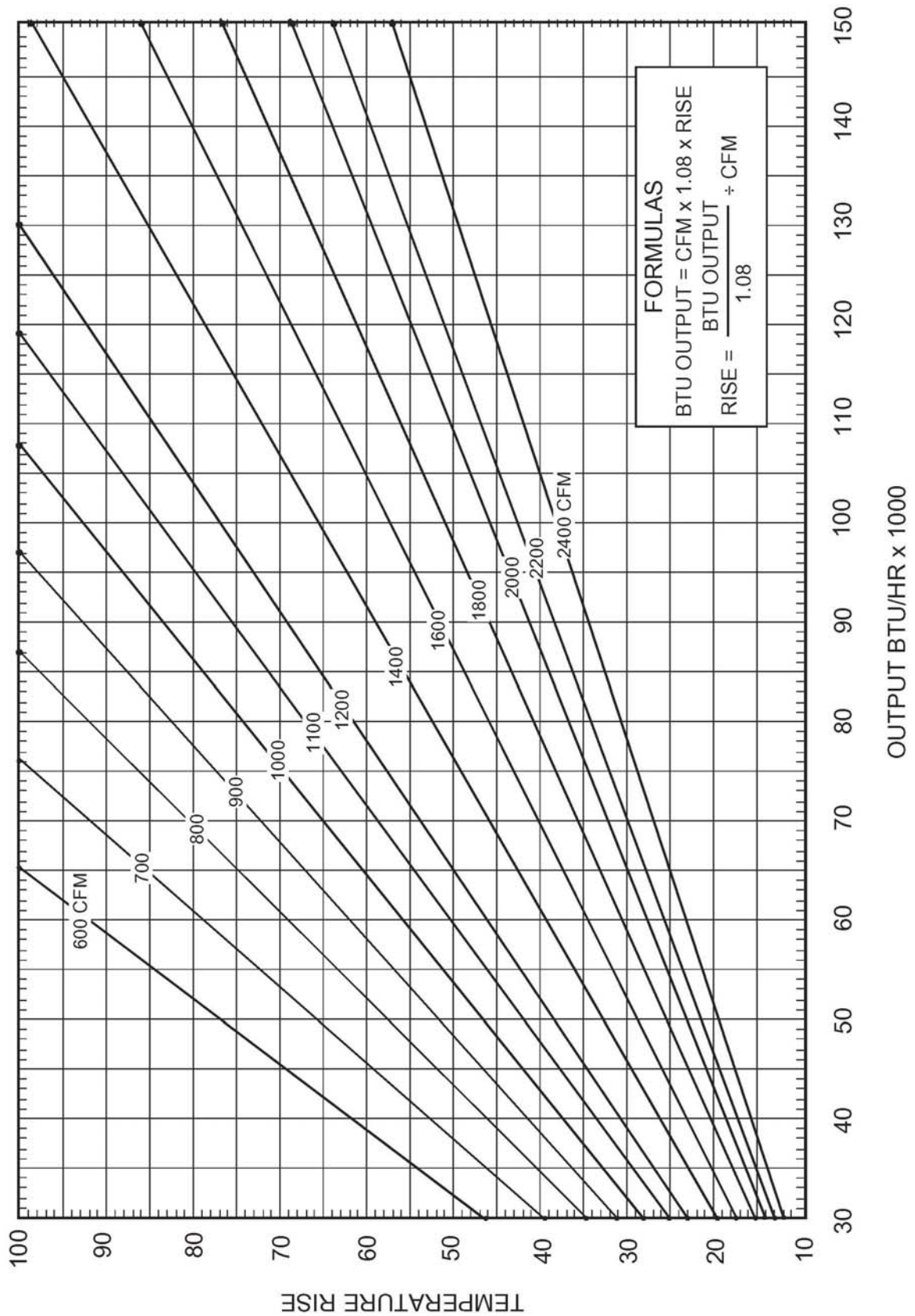
| AMV90905DXB<br>(Rise Range: 30° - 60°F) |            |                            |                             |           |
|-----------------------------------------|------------|----------------------------|-----------------------------|-----------|
| Heating Speed Tap                       | Adjust Tap | Low-Stage CFM <sup>1</sup> | High-Stage CFM <sup>1</sup> | Rise (°F) |
| A                                       | Minus (-)  | 1,013                      | 1,458                       | 56        |
|                                         | Normal     | 1,125                      | 1,620                       | 50        |
|                                         | Plus (+)   | 1,238                      | 1,782                       | 45        |
| B                                       | Minus (-)  | 1,076                      | 1,549                       | 52        |
|                                         | Normal     | 1,195                      | 1,721                       | 47        |
|                                         | Plus (+)   | 1,315                      | 1,893                       | 43        |
| C                                       | Minus (-)  | 1,139                      | 1,639                       | 49        |
|                                         | Normal     | 1,265                      | 1,822                       | 44        |
|                                         | Plus (+)   | 1,392                      | 2,004                       | 40        |
| D                                       | Minus (-)  | 1,202                      | 1,730                       | 47        |
|                                         | Normal     | 1,335                      | 1,922                       | 42        |
|                                         | Plus (+)   | 1,469                      | 2,115                       | 38        |

| AMV91155DXB<br>(Rise Range: 30° - 60°F) |            |                            |                             |           |
|-----------------------------------------|------------|----------------------------|-----------------------------|-----------|
| Heating Speed Tap                       | Adjust Tap | Low-Stage CFM <sup>1</sup> | High-Stage CFM <sup>1</sup> | Rise (°F) |
| A                                       | Minus (-)  | 1,107                      | 1,594                       | 63        |
|                                         | Normal     | 1,230                      | 1,771                       | 57        |
|                                         | Plus (+)   | 1,353                      | 1,948                       | 52        |
| B                                       | Minus (-)  | 1,139                      | 1,639                       | 62        |
|                                         | Normal     | 1,265                      | 1,822                       | 56        |
|                                         | Plus (+)   | 1,392                      | 2,004                       | 50        |
| C                                       | Minus (-)  | 1,170                      | 1,685                       | 60        |
|                                         | Normal     | 1,300                      | 1,872                       | 54        |
|                                         | Plus (+)   | 1,430                      | 2,059                       | 49        |
| D                                       | Minus (-)  | 1,202                      | 1,730                       | 58        |
|                                         | Normal     | 1,335                      | 1,922                       | 53        |
|                                         | Plus (+)   | 1,469                      | 2,115                       | 48        |

<sup>1</sup> @ .1" to .5" W.C. ESP

# AMV9 AIRFLOW SPECIFICATIONS (CONT.)

BTU OUTPUT vs TEMPERATURE RISE CHART



# ACV9 AIRFLOW SPECIFICATIONS

## HIGH- OR SINGLE-STAGE COOLING SPEEDS

| ACV90704CXB       |            |                  |
|-------------------|------------|------------------|
| Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> |
| A                 | Minus (-)  | 540              |
|                   | Normal     | 600              |
|                   | Plus (+)   | 660              |
| B                 | Minus (-)  | 720              |
|                   | Normal     | 800              |
|                   | Plus (+)   | 880              |
| C                 | Minus (-)  | 990              |
|                   | Normal     | 1,100            |
|                   | Plus (+)   | 1,210            |
| D                 | Minus (-)  | 1,286            |
|                   | Normal     | 1,429            |
|                   | Plus (+)   | 1,572            |

| ACV90905DXB       |            |                  |
|-------------------|------------|------------------|
| Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> |
| A                 | Minus (-)  | 720              |
|                   | Normal     | 800              |
|                   | Plus (+)   | 880              |
| B                 | Minus (-)  | 990              |
|                   | Normal     | 1,100            |
|                   | Plus (+)   | 1,210            |
| C                 | Minus (-)  | 1,260            |
|                   | Normal     | 1,400            |
|                   | Plus (+)   | 1,540            |
| D                 | Minus (-)  | 1,620            |
|                   | Normal     | 1,800            |
|                   | Plus (+)   | 1,980            |

<sup>1</sup> @ .1" to .8" W.C. ESP

### Notes:

- All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.
- For most jobs, about 400 CFM per ton when cooling is desirable.
- Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.

## LOW-STAGE COOLING SPEEDS

| ACV90704CXB       |            |                  |
|-------------------|------------|------------------|
| Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> |
| A                 | Minus (-)  | 378*             |
|                   | Normal     | 390              |
|                   | Plus (+)   | 429              |
| B                 | Minus (-)  | 468              |
|                   | Normal     | 520              |
|                   | Plus (+)   | 572              |
| C                 | Minus (-)  | 644              |
|                   | Normal     | 715              |
|                   | Plus (+)   | 787              |
| D                 | Minus (-)  | 836              |
|                   | Normal     | 929              |
|                   | Plus (+)   | 1,022            |

| ACV90905DXB       |            |                  |
|-------------------|------------|------------------|
| Cooling Speed Tap | Adjust Tap | CFM <sup>1</sup> |
| A                 | Minus (-)  | 513*             |
|                   | Normal     | 520              |
|                   | Plus (+)   | 572              |
| B                 | Minus (-)  | 644              |
|                   | Normal     | 715              |
|                   | Plus (+)   | 787              |
| C                 | Minus (-)  | 819              |
|                   | Normal     | 910              |
|                   | Plus (+)   | 1,001            |
| D                 | Minus (-)  | 1,053            |
|                   | Normal     | 1,170            |
|                   | Plus (+)   | 1,287            |

<sup>1</sup> @ .1" to .8" W.C. ESP

### Notes:

- All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.
- For most jobs, about 400 CFM per ton when cooling is desirable.
- Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.

## PRODUCT SPECIFICATIONS

### ACV9 AIRFLOW SPECIFICATIONS (CONT.)

#### ACV9 HEATING SPEEDS

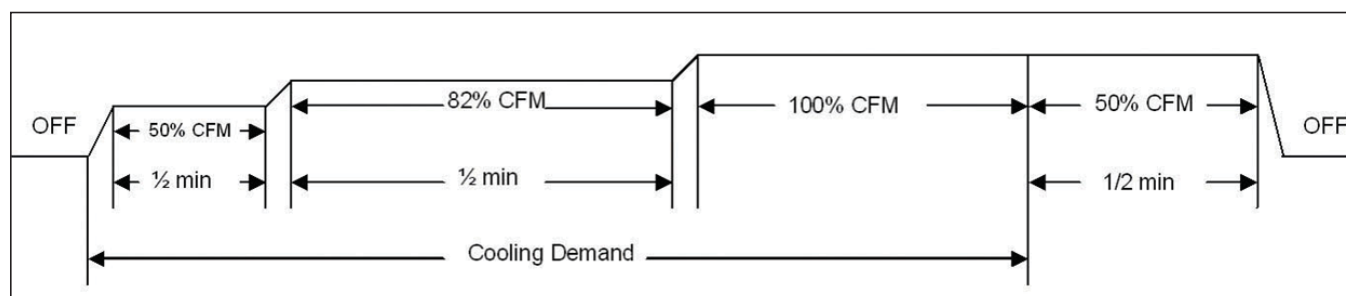
| ACV90704CXB<br>(Rise Range: 30° - 60°F) |            |                            |                             |           |
|-----------------------------------------|------------|----------------------------|-----------------------------|-----------|
| Heating Speed Tap                       | Adjust Tap | Low-Stage CFM <sup>1</sup> | High-Stage CFM <sup>1</sup> | Rise (°F) |
| A                                       | Minus (-)  | 747                        | 1,076                       | 56        |
|                                         | Normal     | 830                        | 1,195                       | 50        |
|                                         | Plus (+)   | 913                        | 1,315                       | 46        |
| B                                       | Minus (-)  | 824                        | 1,186                       | 51        |
|                                         | Normal     | 915                        | 1,318                       | 46        |
|                                         | Plus (+)   | 1,007                      | 1,449                       | 42        |
| C                                       | Minus (-)  | 900                        | 1,296                       | 47        |
|                                         | Normal     | 1,000                      | 1,440                       | 42        |
|                                         | Plus (+)   | 1,100                      | 1,584                       | 38        |
| D                                       | Minus (-)  | 978                        | 1,408                       | 43        |
|                                         | Normal     | 1,085                      | 1,562                       | 39        |
|                                         | Plus (+)   | 1,194                      | 1,719                       | 35        |

| ACV90905DXB<br>(Rise Range: 30° - 60°F) |            |                            |                             |           |
|-----------------------------------------|------------|----------------------------|-----------------------------|-----------|
| Heating Speed Tap                       | Adjust Tap | Low-Stage CFM <sup>1</sup> | High-Stage CFM <sup>1</sup> | Rise (°F) |
| A                                       | Minus (-)  | 999                        | 1,439                       | 56        |
|                                         | Normal     | 1,110                      | 1,598                       | 50        |
|                                         | Plus (+)   | 1,221                      | 1,758                       | 46        |
| B                                       | Minus (-)  | 1,067                      | 1,536                       | 52        |
|                                         | Normal     | 1,185                      | 1,706                       | 47        |
|                                         | Plus (+)   | 1,303                      | 1,876                       | 43        |
| C                                       | Minus (-)  | 1,134                      | 1,633                       | 49        |
|                                         | Normal     | 1,260                      | 1,814                       | 44        |
|                                         | Plus (+)   | 1,386                      | 1,996                       | 40        |
| D                                       | Minus (-)  | 1,202                      | 1,730                       | 46        |
|                                         | Normal     | 1,335                      | 1,922                       | 42        |
|                                         | Plus (+)   | 1,469                      | 2,115                       | 38        |

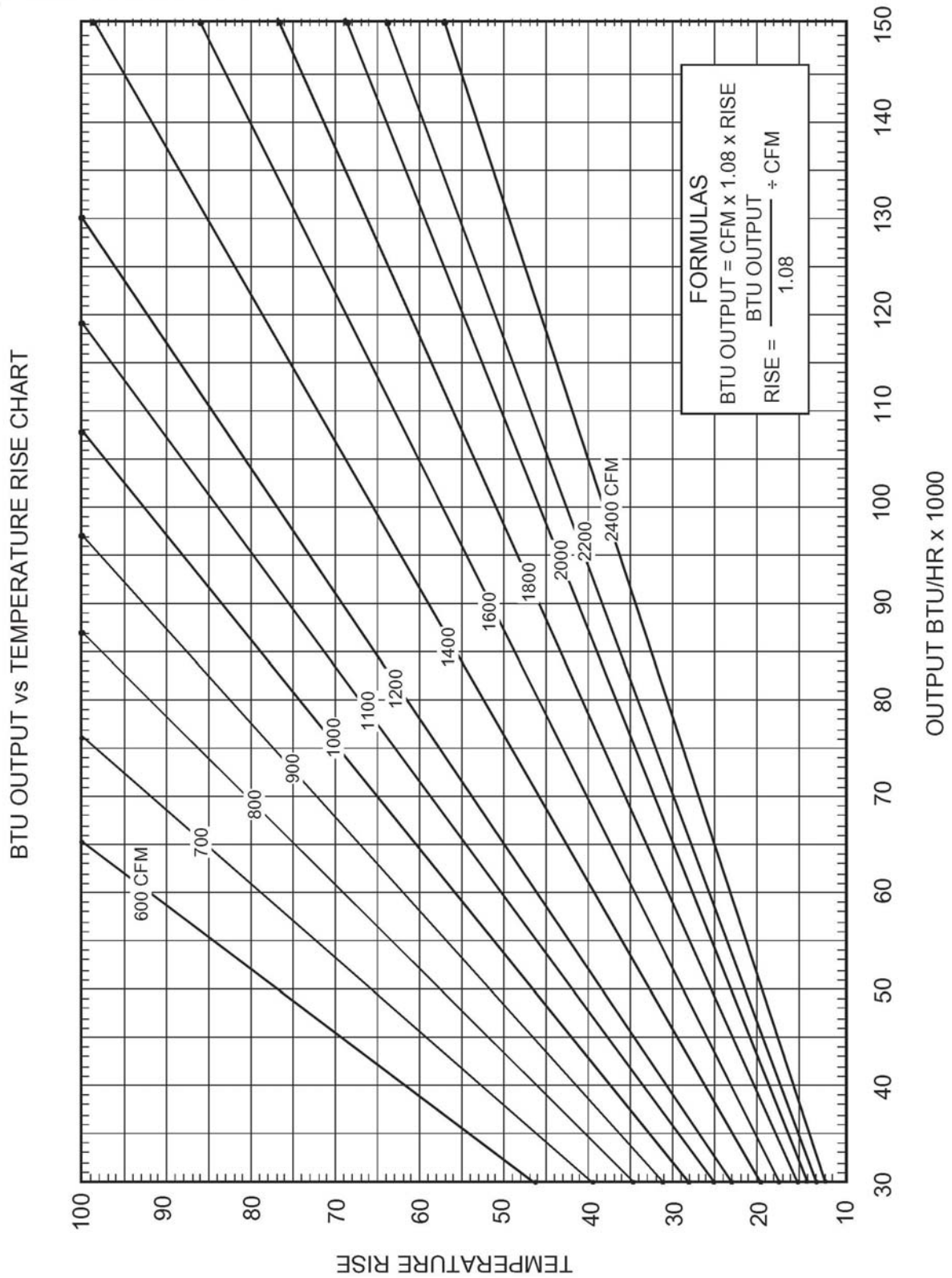
<sup>1</sup> @ .1" to .5" W.C. ESP

### AUTO-COMFORT MODE

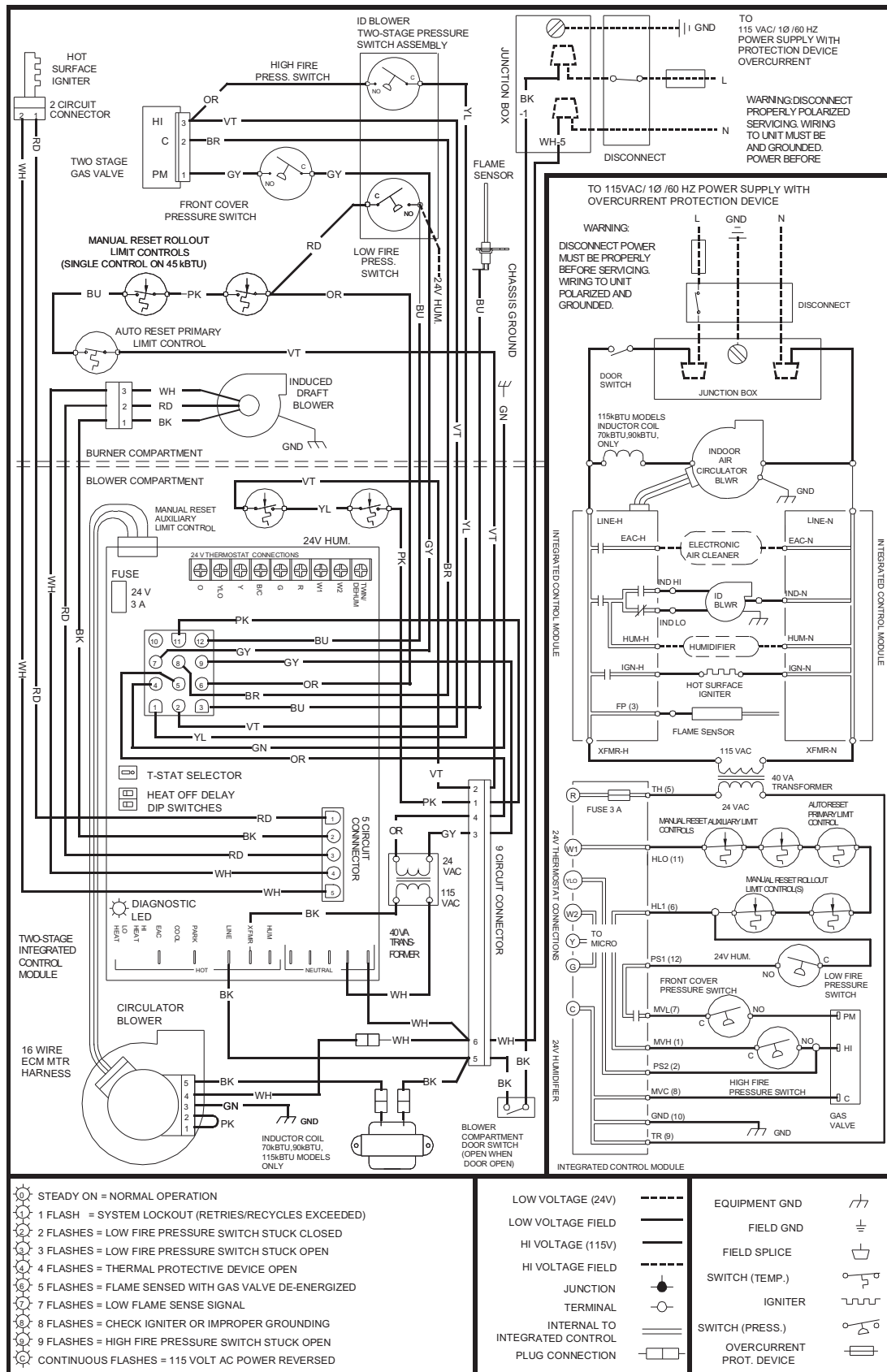
During Auto-Comfort mode, the furnace ramps up to 50% of the demand for half a minute. It then ramps to 82% of the full cooling demand airflow and operates there for approximately 7½ minutes. The motor then steps up to the full demand airflow. This mode spends a half minute at 50% airflow OFF delay.



# ACV9 AIRFLOW SPECIFICATIONS (CONT.)



# WIRING DIAGRAM

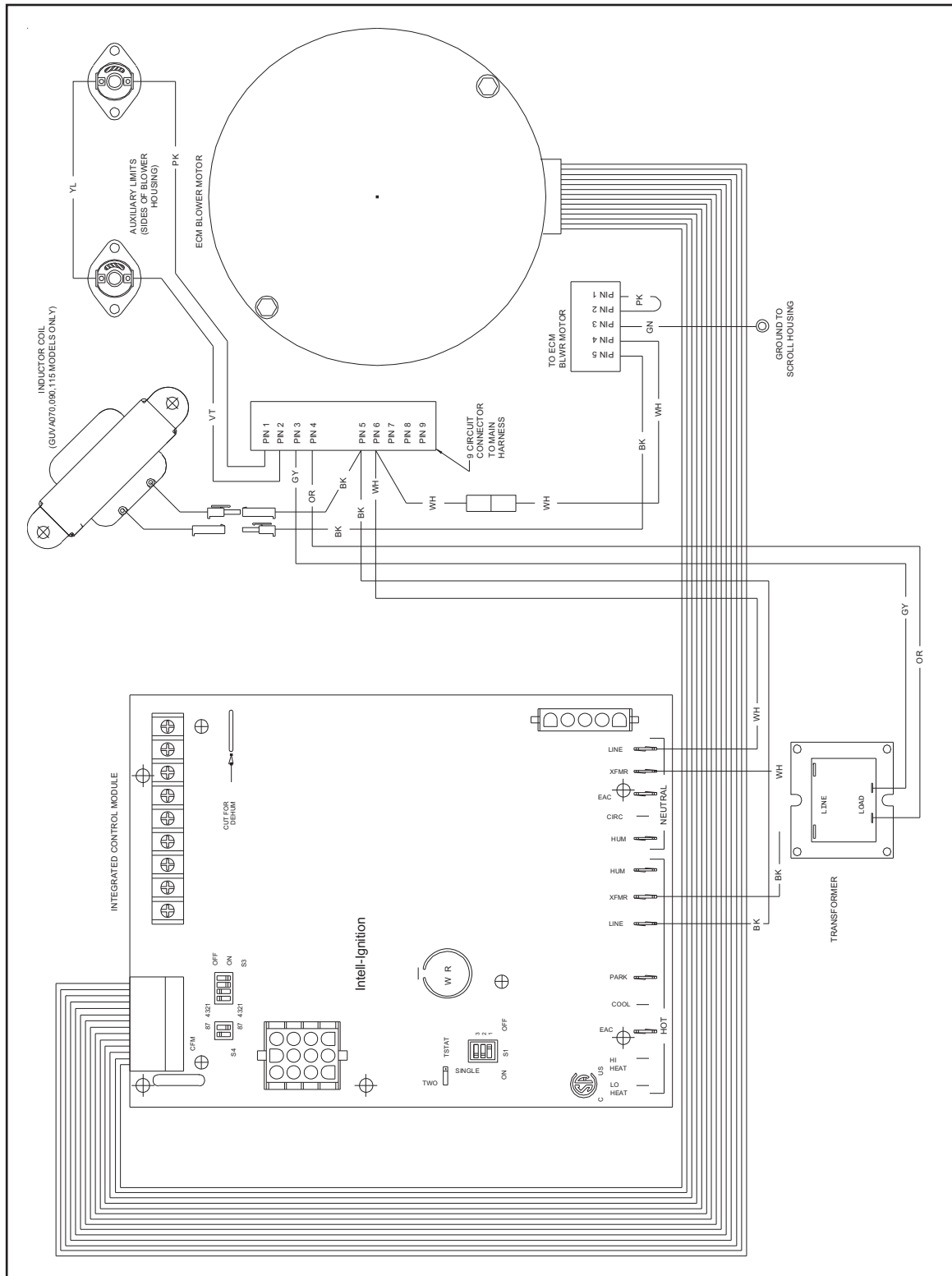


**WARNING**

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

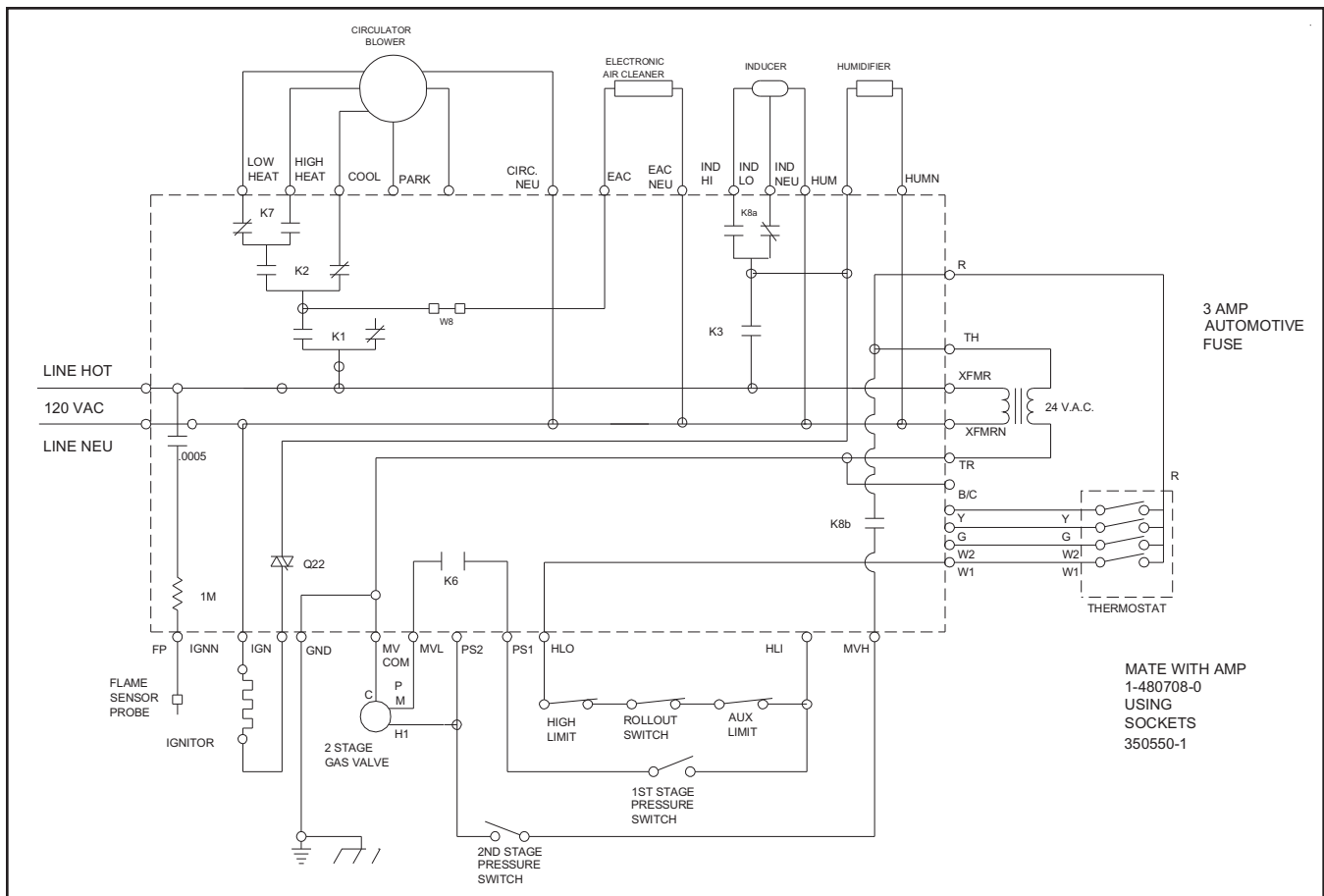
# SCHEMATICS



Blower Assembly Schematic  
AMV9\*\*\*/ ACV9\*\*\* Model Furnaces

This schematic is for reference only. Not all wiring is as shown above.  
Refer to the appropriate wiring diagram for the unit being serviced.

## SCHEMATICS (CONT.)



## STANDARD ALTITUDE INSTALLATIONS

| Gas     | Altitude          | Kit              | Orifice | Manifold Pressure |           | Pressure Switch Change |
|---------|-------------------|------------------|---------|-------------------|-----------|------------------------|
|         |                   |                  |         | High Stage        | Low Stage |                        |
| Natural | 0-7000 Changeover | None             | #43     | 3.5" W.C.         | 1.9" W.C. | None                   |
| Propane | 0-7000            | LPM-03B & LPM-05 | #55     | 10.0" W.C.        | 6.0" W.C. | None                   |

**Notes:**

- For installation in Canada, gas furnaces are certified only to 4,500 ft.
- For ACVA installations above 7,000 ft., please refer to your Amana distributor for required kit(s).

## THERMOSTATS

A two-stage thermostat should be used with the AMV8 furnace. Two-stage thermostats control which firing rate is used depending on the temperature difference between the set point and the room temperature. A properly used two-stage thermostat and furnace will maintain a much tighter control of temperature than a conventional single-stage thermostat and furnace. Two-stage furnaces have "W1" and "W2" terminals. If the thermostat has "Y1" and "Y2" cooling connections and a single-stage cooling system is used, connect "Y" on the furnace control to "Y1" on the thermostat. The table below describes two-stage thermostats that have been configured for use with this furnace.

| Model    | Two-Stage Thermostat Description                      | Color |
|----------|-------------------------------------------------------|-------|
| 1213411  | Digital, Non-Programmable, 2-stage, 2 Heat/2 Cool     | White |
| 1213407  | Digital, Programmable, 2-stage, 2 Heat/1 Cool         | White |
| 1213406* | Programmable, 3-stage, Manual or Automatic Changeover | Beige |

\* For use in dual fuel applications with a heat pump in a fossil-fuel application. It is not for use with the GMV8 as a sole heating source.

## ACCESSORIES

| Model      | Description                                    | AMV90453BxB | AMV90704CXB | AMV90905DxB | AMV91155DxB | ACV90704CXB | ACV90905DxB |
|------------|------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| LPB-03B    | LP Conversion Kit (gas valve)                  | 1           | 1           | 1           | 1           | 1           | 1           |
| LPM-05     | LP Conversion Kit (springs & orifice)          | 1           | 1           | 1           | 1           | 1           | 1           |
| ASAS       | Electronic Air Cleaners (-10, -11, -12 or -18) | /           | /           | /           | /           | /           | /           |
| AMU        | Media Air Cleaners (1620, 2020, 1625 or 2025)  | /           | /           | /           | /           | /           | /           |
| DEHUM1     | Dehumidistat                                   | /           | /           | /           | /           | /           | /           |
| HAPS28     | High-Altitude Pressure Switch Kit              | 2           | 2           |             |             |             |             |
| HAPS29     | High-Altitude Pressure Switch Kit              |             |             | 2           | 2           |             |             |
| HAPS 31    | High-Altitude Pressure Switch Kit              |             |             |             |             | 2           | 2           |
| HALP11     | High-Altitude Propane Gas Kit                  | 2           | 2           | 2           | 2           |             |             |
| HALP 13    | High-Altitude Propane Gas Kit                  |             |             |             |             | 2           | 2           |
| HANG 13    | High-Altitude Natural Gas Kit                  | 3           | 3           | 3           | 3           |             |             |
| HANG 14    | High-Altitude Natural Gas Kit                  | 4           | 4           | 4           | 4           |             |             |
| HANG 16    | High-Altitude Natural Gas Kit                  |             |             |             |             | 2           | 2           |
| EFR01      | External Filter Rack                           | /           | /           | /           | /           | /           | /           |
| DCVK-20    | Horizontal/Vertical Concentric Vent Kit (2")   | /           | /           | /           |             | /           |             |
| DCVK-30    | Horizontal/Vertical Concentric Vent Kit (3")   | /           | /           | /           | /           | /           | /           |
| CFB21      | Downflow Floor Base                            |             |             |             |             | /           |             |
| CFB24      | Downflow Floor Base                            |             |             |             |             |             | /           |
| 017K00000S | Flush-mount vent kit                           | /           | /           | /           | /           | /           | /           |

1— All Models up to 7,000'

2— 7,001' to 11,000'

3— 7,001' to 9,000'

4— 9,001' to 11,000'

**Note:**

All installations above 7,000' require a pressure switch change.

For installation in Canada, gas furnaces are certified only to 4,500'.

