



Air Conditioning & Heating

# GMVC96 (B)

HEATING INPUT: 40,000–120,000 BTU/H

## TWO-STAGE, VARIABLE-SPEED ECM GAS FURNACE UP TO 96% AFUE



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### Standard Features

- Integrated communicating ComfortBridge™ Technology
- Commissioning and diagnostics via on board Bluetooth with the CoolCloud phone and tablet application
- Heavy-duty aluminized-steel tubular heat exchanger
- Stainless-steel secondary heat exchanger
- Two-stage gas valve provides quiet, economical heating
- Durable Silicon Nitride igniter
- Quiet two-speed induced draft blower
- Compatible with any single-stage thermostat
- Self-diagnostic control board with constant memory fault code history output to a triple 7-segment display
- Color-coded low-voltage terminals with provisions for electronic air cleaner
- Efficient and quiet variable-speed airflow system gently ramps up or down according to heating or cooling demand
- Multiple continuous fan speed options offer quiet air circulation
- Auto-Comfort and enhanced dehumidification modes available
- All models comply with California 40 ng/J Low NOx emissions standard
- For installation in California's South Coast Air Quality Management District (SCAQMD) only: This furnace does not meet the SCAQMD Rule 1111 14 ng/J NOx emission limit, and thus is subject to a mitigation fee of up to \$450. This furnace is not eligible for the SCAQMD Clean Air Furnace Rebate Program: [www.CleanAirFurnaceRebate.com](http://www.CleanAirFurnaceRebate.com).

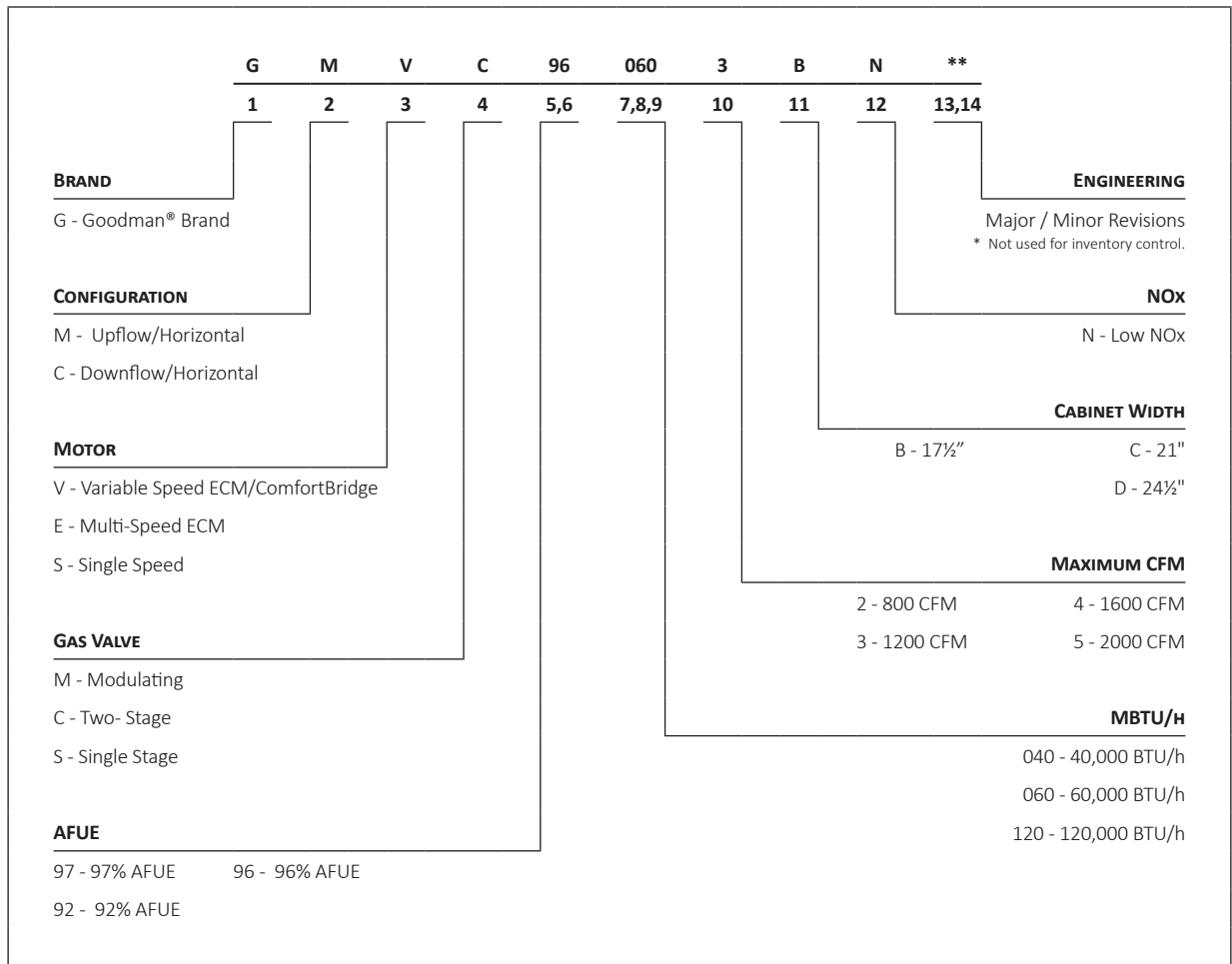
### Cabinet Features

- Designed for multi-position installation — upflow, horizontal left or right
- Certified for direct vent (2-pipe) or non-direct vent (1-pipe)
- Easy to install top venting with optional side venting
- Convenient left or right connection for gas and electrical service
- Cabinet air leakage ( $Q_{Leak} \leq 2\%$ )
- Heavy-gauge steel cabinet with durable baked-enamel finish
- Fully insulated heat exchanger and blower section
- Airtight solid bottom or side-return with easy-cut tabs for effortless removal in bottom air-inlet applications

|  |  |  |
|--|--|--|
| <b>LIFETIME</b><br>HEAT EXCHANGER<br>LIMITED WARRANTY* | <b>10 YEAR</b><br>REPLACEMENT<br>LIMITED WARRANTY* | <b>10 PARTS</b><br>LIMITED<br>YEAR WARRANTY* |
|--|--|--|



\* Complete warranty details available from your local dealer or at [www.goodmanmfg.com](http://www.goodmanmfg.com). To receive the Lifetime Heat Exchanger Limited Warranty (good for as long as you own your home), 10-Year 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.



ACCESSORIES

| MODEL       | DESCRIPTION  | GMVC96<br>0403BNB | GMVC96<br>0603BNB | GMVC96<br>0803BNB | GMVC96<br>0804CNB | GMVC96<br>1005CNB | GMVC96<br>1005DNB | GMVC96<br>1205DNB |
|-------------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| CVENT-2     | Concentric Vent Kit (2")                           | √                 | √                 | √                 | √                 | √                 | √                 | ---               |
| CVENT-3     | Concentric Vent Kit (3")                           | √                 | √                 | √                 | √                 | √                 | √                 | √                 |
| RF000142    | Drain Kit -Horizontal Left Vertical Flue           | √                 | √                 | √                 | √                 | √                 | √                 | √                 |
| EFRO2       | External Filter Rack with 16"x25" Permanent Filter | √                 | √                 | √                 | √                 | √                 | √                 | √                 |
| 0170K00000S | Flush Mount Vent Kit - 3" or 2"                    | √                 | √                 | √                 | √                 | √                 | √                 | √                 |
| 0170K00001S | Flush Mount Vent Kit - 2"                          | √                 | √                 | √                 | √                 | √                 | √                 | ---               |
| HASFK       | High-Altitude Natural Gas Kit                      | HASFK-1           | HASFK-1           | HASFK-2           | HASFK-2           | HASFK-3           | TBD               | HASFK-2           |
| HASFK       | High-Altitude LP Gas Kit                           | HASFK-1           | HASFK-1           | HASFK-1           | HASFK-2           | HASFK-2           | TBD               | HASFK-2           |
| LPLP03      | Low LP Gas Pressure Switch                         | √                 | √                 | √                 | √                 | √                 | √                 | √                 |
| LPM-08      | LP Conversion Kits                                 | √                 | √                 | √                 | √                 | √                 | √                 | √                 |

|   | GMVC96<br>0403BNB | GMVC96<br>0603BNB | GMVC96<br>0803BNB | GMVC96<br>0804CNB | GMVC96<br>1005CNB | GMVC96<br>1005DNB | GMVC96<br>1205DNB |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>HEATING DATA</b>                         |                   |                   |                   |                   |                   |                   |                   |
| High Fire Input <sup>1</sup>                | 40,000            | 60,000            | 80,000            | 80,000            | 100,000           | 100,000           | 120,000           |
| High Fire Output <sup>1</sup>               | 38,400            | 57,600            | 76,800            | 76,800            | 96,000            | 96,000            | 115,200           |
| Low-Fire Steady-State Input <sup>1</sup>    | 28,000            | 42,000            | 56,000            | 56,000            | 70,000            | 70,000            | 84,000            |
| Low-Fire Steady-State Output <sup>1</sup>   | 26,880            | 40,320            | 53,760            | 53,760            | 67,200            | 67,200            | 80,640            |
| AFUE <sup>2</sup>                           | 96                | 96                | 96                | 96                | 96                | 96                | 96                |
| Temperature Rise Range (°F)                 | 20 - 50           | 35 - 65           | 35 - 65           | 25 - 55           | 35 - 65           | 30 - 60           | 35 - 65           |
| Vent Diameter <sup>3</sup>                  | 2" - 3"           | 2" - 3"           | 2" - 3"           | 2" - 3"           | 2" - 3"           | 2" - 3"           | 2" - 3"           |
| No. of Burners                              | 2                 | 3                 | 4                 | 4                 | 5                 | 5                 | 6                 |
| <b>CIRCULATOR BLOWER</b>                    |                   |                   |                   |                   |                   |                   |                   |
| Available AC @ 0.5" ESP                     | 1.5 - 3           | 1.5 - 3           | 1.5 - 3           | 1.5 - 4           | 2 - 5             | 2 - 5             | 2 - 5             |
| Size (D x W)                                | 10" x 8"          | 11" x 8"          | 11" x 8"          | 11" x 10"         | 11" x 10"         | 11" x 11"         | 11" x 11"         |
| Horsepower @ 1075 RPM                       | ½                 | ½                 | ½                 | ¾                 | 1                 | 1                 | 1                 |
| Speed                                       | VS ECM            | VS ECM            | VS ECM            | VS ECM            | VS ECM            | VS ECM            | VS ECM            |
| <b>ELECTRICAL DATA</b>                      |                   |                   |                   |                   |                   |                   |                   |
| Min. Circuit Ampacity <sup>4</sup>          | 7.8               | 7.8               | 7.8               | 10.6              | 14.4              | 14.4              | 14.4              |
| Max. Overcurrent Device (amps) <sup>5</sup> | 15                | 15                | 15                | 15                | 20                | 20                | 20                |
| <b>SHIPPING WEIGHT (LBS)</b>                |                   |                   |                   |                   |                   |                   |                   |
|   | 114               | 117               | 120               | 141               | 143               | 153               | 156               |

<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.

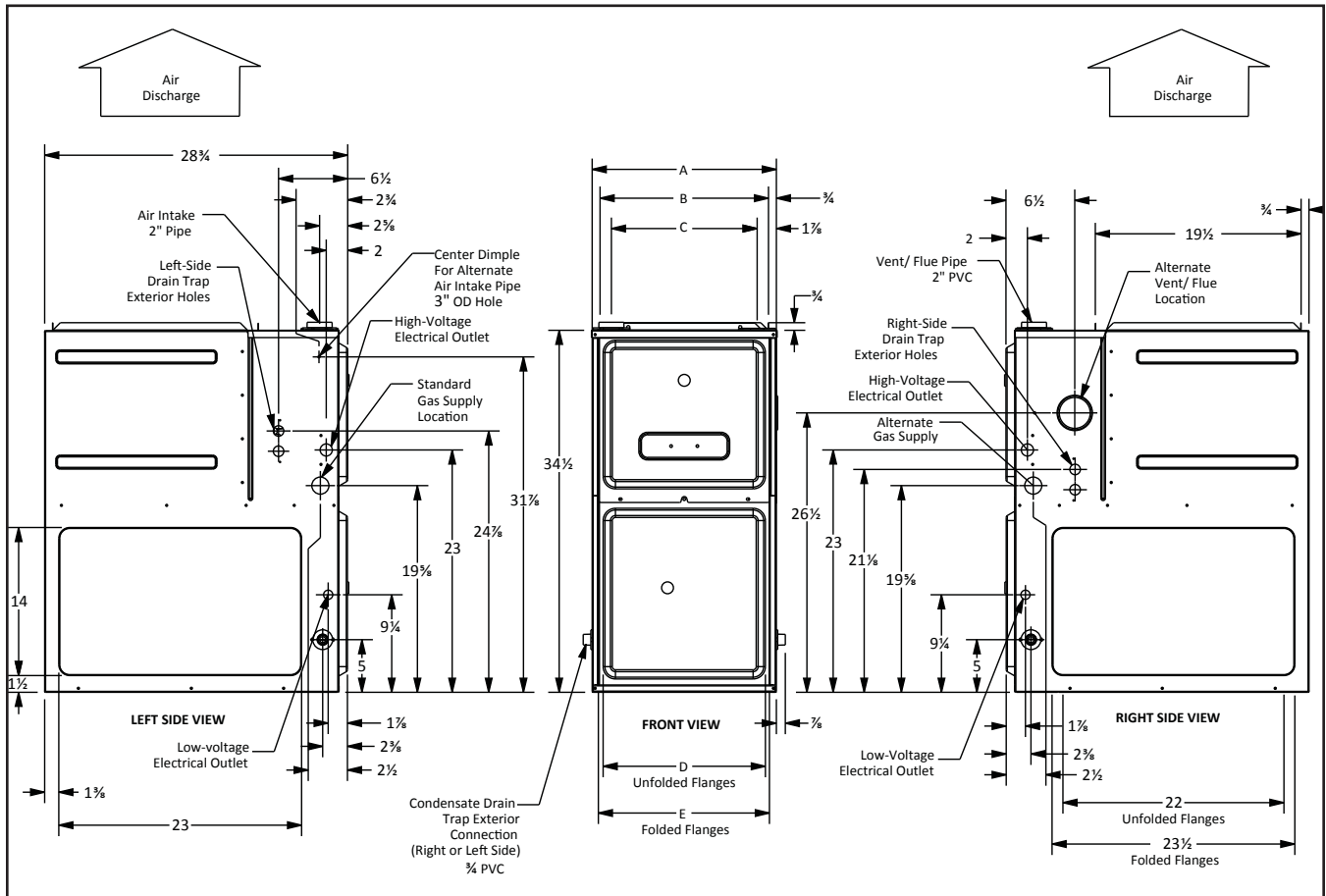
<sup>4</sup> Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

<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**

- All furnaces are manufactured for use on 115 VAC, 60 Hz, single-phase electrical supply.
- Gas Service Connection ½" FPT
- Important: Size fuses and wires properly and make electrical connections in accordance with the National Electrical Code and/or all existing local codes.
- For bottom return: Failure to unfold flanges may reduce airflow by up to 18%. This could result in performance and noise issues.
- 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.

# DIMENSIONS



| MODEL         | W    | D    | H    |
|---------------|------|------|------|
| GMVC960403BNB | 17½" | 28⅞" | 34½" |
| GMVC960603BNB | 17½" | 28⅞" | 34½" |
| GMVC960803BNB | 17½" | 28⅞" | 34½" |
| GMVC960804CNB | 21"  | 28⅞" | 34½" |
| GMVC961005CNB | 21"  | 28⅞" | 34½" |
| GMVC961005DNB | 24½" | 28⅞" | 34½" |
| GMVC961205DNB | 24½" | 28⅞" | 34½" |

| A    | AIR DISCHARGE |      |      | AIR RETURN |
|------|---------------|------|------|------------|
|      | B             | C    | D    | E          |
| 17½" | 16"           | 13⅞" | 12⅞" | 13⅝"       |
| 17½" | 16"           | 13⅞" | 12⅞" | 13⅝"       |
| 17½" | 16"           | 13⅞" | 12⅞" | 13⅝"       |
| 21"  | 19½"          | 17⅞" | 16"  | 17½"       |
| 21"  | 19½"          | 17⅞" | 16"  | 17½"       |
| 24½" | 23"           | 20⅞" | 19⅞" | 20⅞"       |
| 24½" | 23"           | 20⅞" | 19⅞" | 20⅞"       |

## 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.

## MINIMUM FILTER SIZES

|                                      | GMVC96<br>0403BNB            | GMVC96<br>0603BNB | GMVC96<br>0803BNB | GMVC96<br>0804CNB | GMVC96<br>1005CNB                          | GMVC96<br>1005DNB | GMVC96<br>1205DNB |
|--------------------------------------|------------------------------|-------------------|-------------------|-------------------|--|-------------------|-------------------|
| Filter Size (in <sup>2</sup> ) (Qty) | (1) 16 x 25 (side or bottom) |                   |                   |                   | (1) 20 x 25 (bottom) or (2) 16 x 25 (side) |                   |                   |

Note: Other size filters of equal or greater dimensions may be used. Filters may also be centrally located.

| MODEL/TEMP RISE RANGE<br>(MID RISE)                               | GMVC96<br>0403BNB*<br>20-50 (35) |      | GMVC96<br>0603BNB*<br>35-65 (50) |      | GMVC96<br>0803BNB*<br>35-65 (50) |      | GMVC96<br>0804CNB*<br>25-55 (40) |      | GMVC96<br>1005CNB*<br>35-65 (50) |      | GMVC96<br>1005DNB*<br>30-60 (45) |      | GMVC96<br>1205DNB*<br>35-65 (50) |      |
|---|----------------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|------|
|   | CFM                              | RISE | CFM                              | RISE | CFM                              | RISE | CFM                              | RISE | CFM                              | RISE | CFM                              | RISE | CFM                              | RISE |
| Recommended cfm for high heat /<br>expected temperature rise      | 1010                             | 35   | 1072                             | 50   | 1400                             | 50   | 1760                             | 40   | 1770                             | 50   | 1980                             | 45   | 2150                             | 50   |
| Lowest recommended cfm for hi heat /<br>expected temperature rise | 710                              | 50   | 820                              | 65   | 1090                             | 65   | 1300                             | 55   | 1360                             | 65   | 1480                             | 60   | 1650                             | 65   |
| Maximum cfm for hi heat / expected<br>temperature rise            | 1400                             | 25   | 1400                             | 38   | 1650                             | 43   | 1760                             | 40   | 2200                             | 40   | 2200                             | 40   | 2200                             | 48   |

NOTE: Low Heat CFM = High Heat CFM X .7. Low Heat Temperature Rise Is Expected to Equal High Heat Temperature Rise ± 5%  
0140F02402-A

**GMVC960403BNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

| TONS | HIGH-STAGE | LOW-STAGE<br>CFM |
|------|------------|------------------|
| 1.5  | 600        | 420              |
| 2    | 800        | 560              |
| 2.5  | 1,000      | 700              |
| 3    | 1,200      | 840              |
| MAX  | 1,400      |                  |

**GMVC960603BNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

| TONS | HIGH-STAGE | LOW-STAGE<br>CFM |
|------|------------|------------------|
| 1.5  | 600        | 420              |
| 2    | 800        | 560              |
| 2.5  | 1,000      | 700              |
| 3    | 1,200      | 840              |
| MAX  | 1,400      |                  |

**GMVC960803BNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

| TONS | HIGH-STAGE | LOW-STAGE<br>CFM |
|------|------------|------------------|
| 1.5  | 600        | 420              |
| 2    | 800        | 560              |
| 2.5  | 1,000      | 700              |
| 3    | 1,200      | 840              |
| MAX  | 1,650      |                  |

**GMVC960804CNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

| TONS | HIGH-STAGE | LOW-STAGE<br>CFM |
|------|------------|------------------|
| 2    | 800        | 560              |
| 2.5  | 1,000      | 700              |
| 3    | 1,200      | 840              |
| 4    | 1,600      | 1120             |
| MAX  | 1,760      |                  |

**GMVC961005CNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

| TONS | HIGH-STAGE | LOW-STAGE<br>CFM |
|------|------------|------------------|
| 2    | 800        | 560              |
| 3    | 1,200      | 840              |
| 4    | 1,600      | 1,120            |
| 5    | 2,000      | 1,400            |
| MAX  | 2,200      |                  |

**GMVC961005DNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

| TONS | HIGH-STAGE | LOW-STAGE<br>CFM |
|------|------------|------------------|
| 2    | 800        | 560              |
| 3    | 1,200      | 840              |
| 4    | 1,600      | 1,120            |
| 5    | 2,000      | 1,400            |
| MAX  | 2,200      |                  |

**GMVC961205DNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

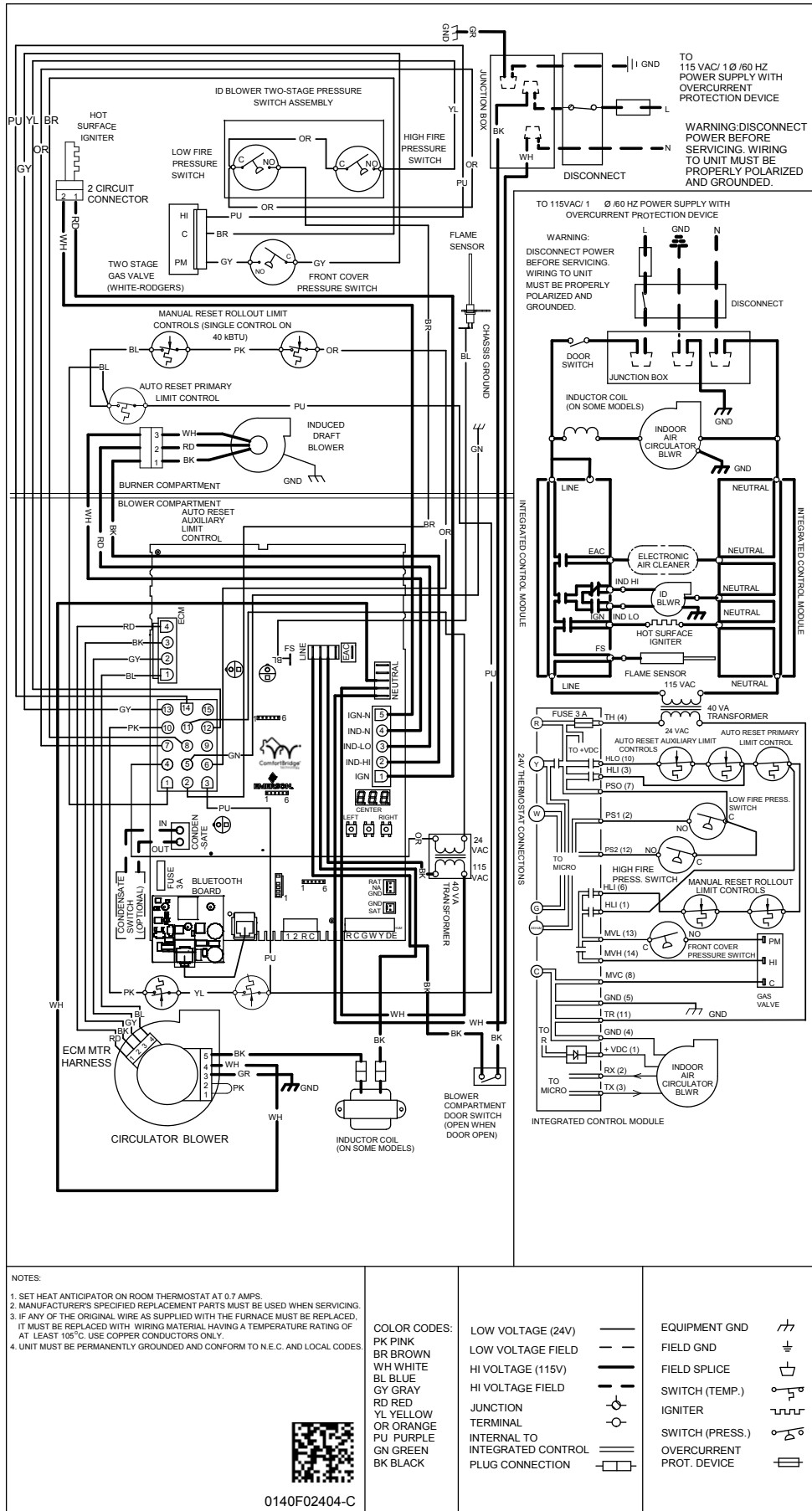
| TONS | HIGH-STAGE | LOW-STAGE<br>CFM |
|------|------------|------------------|
| 2    | 800        | 560              |
| 3    | 1,200      | 840              |
| 4    | 1,600      | 1,120            |
| 5    | 2,000      | 1,400            |
| MAX  | 2,200      |                  |

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.

# 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.