



Air Conditioning & Heating

GCVC96 (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
- Can no longer be installed in California's South Coast Air Quality Management District (SCAQMD) on or after October 1, 2019.
- AHRI Certified; ETL Listed

Cabinet Features

- Designed for multi-position installation — downflow, 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 ≤ 2%
- Heavy-gauge steel cabinet with durable 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

LIFETIME
HEAT EXCHANGER
LIMITED WARRANTY*

10 UNIT
REPLACEMENT
LIMITED WARRANTY*

10 PARTS
LIMITED
WARRANTY*

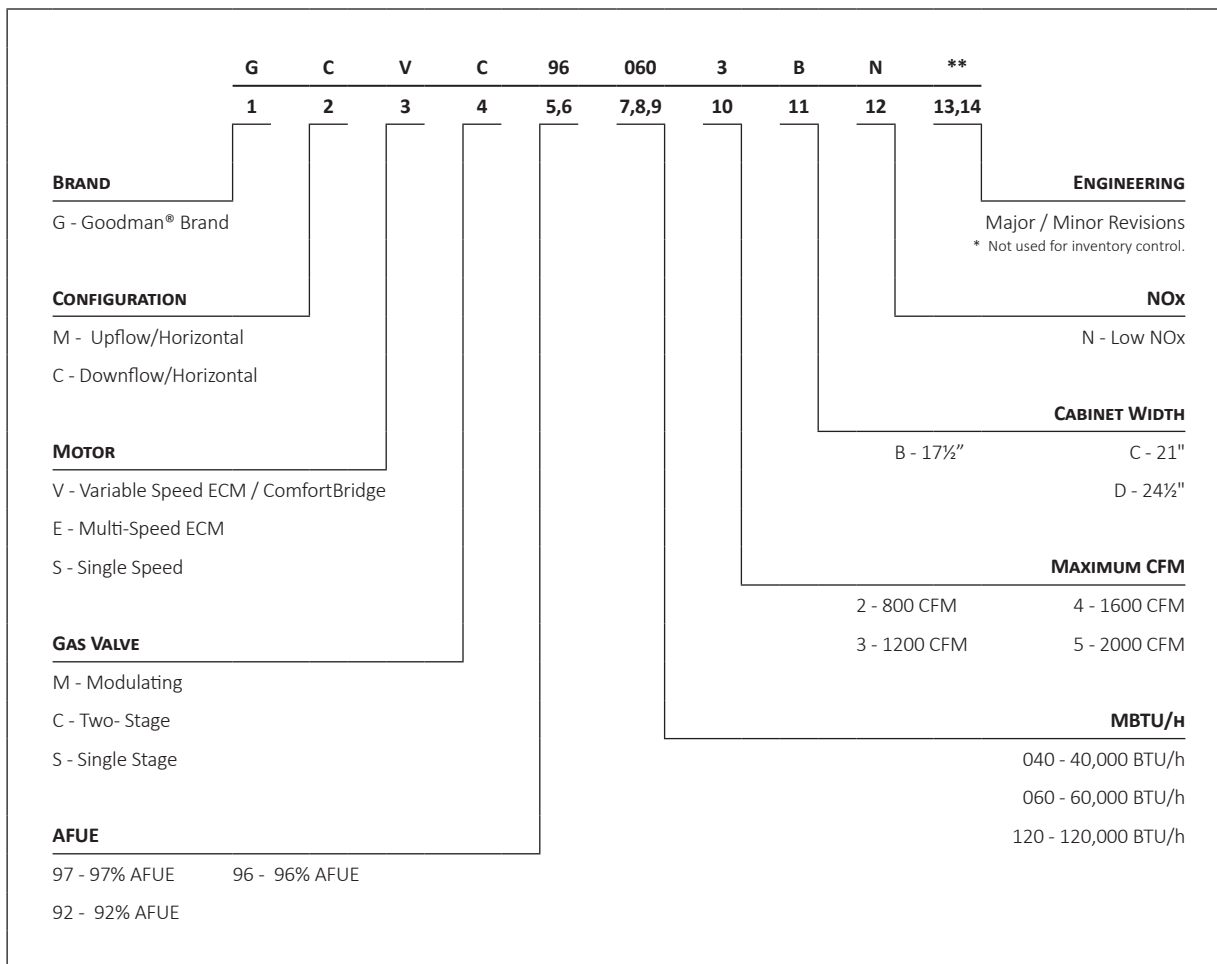


COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =

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

* Complete warranty details available from your local dealer or at www.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. The duration of warranty coverage in Texas and Florida differs in some cases.

NOMENCLATURE



ACCESSORIES

| MODEL | DESCRIPTION | GVCV96 0403BNB | GVCV96 0603BNB | GVCV96 0804CNB | GVCV96 1005CNB | GVCV96 1005DNB | GVCV96 1205DNB |
|-------------|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 72950 | Concentric Vent Kit (2") | √ | √ | √ | √ | — | — |
| 72951 | Concentric Vent Kit (3") | √ | √ | √ | √ | √ | √ |
| CFSB17 | Downflow Sub-Base 17.5" | √ | √ | — | — | — | — |
| CFSB21 | Downflow Sub-Base 21" | — | — | √ | √ | — | — |
| CFSB24 | Downflow Sub-Base 24" | — | — | — | — | √ | √ |
| RF000142 | Drain Kit Horizontal Left Vertical Flue | √ | √ | √ | √ | √ | √ |
| 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-3 | HASFK-3 | HASFK-3 |
| HASFK | High-Altitude LP Gas Kit | HASFK-1 | HASFK-1 | HASFK-2 | HASFK-2 | HASFK-3 | HASFK-3 |
| 0270F05405 | Horizontal Drain Tubing Kit | √ | √ | √ | √ | √ | √ |
| LPLP03 | Low LP Gas Pressure Switch | √ | √ | √ | √ | √ | √ |
| LPM-08 | LP Conversion Kits | √ | √ | √ | √ | √ | √ |

| | GVCV96 0403BNB | GVCV96 0603BNB | GVCV96 0804CNB | GVCV96 1005CNB | GVCV96 1205DNB |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| HEATING DATA | | | | | |
| High Fire Input ¹ | 40,000 | 60,000 | 80,000 | 100,000 | 120,000 |
| High Fire Output ¹ | 38,440 | 57,660 | 76,880 | 96,100 | 115,320 |
| Low-Fire Steady-State Input ¹ | 28,000 | 42,000 | 56,000 | 70,000 | 84,000 |
| Low-Fire Steady-State Output ¹ | 26,908 | 40,362 | 53,816 | 67,270 | 80,724 |
| AFUE ² | 96 | 96 | 96 | 96 | 96 |
| Temperature Rise Range (°F) High/Low Fire | 35-65/25-55 | 20-50/20-50 | 25-55/25-55 | 35-65/35-65 | 35-65/35-65 |
| Vent Diameter ³ | 2" - 3" | 2" - 3" | 2" - 3" | 2" - 3" | 2" - 3" |
| No. of Burners | 2 | 3 | 4 | 5 | 6 |
| CIRCULATOR BLOWER | | | | | |
| Available AC @ 0.5" ESP | 1.5 - 3 | 1.5 - 3 | 1.5 - 4 | 2 - 5 | 2 - 5 |
| Size (D x W) | 10" x 8" | 11" x 8" | 11" x 10" | 11" x 10" | 11" x 11" |
| Horsepower @ 1075 RPM | ½ | ½ | ¾ | 1 | 1 |
| Speed | VS ECM | VS ECM | VS ECM | VS ECM | VS ECM |
| ELECTRICAL DATA | | | | | |
| Min. Circuit Ampacity ⁴ | 7.8 | 7.8 | 10.6 | 14.4 | 14.4 |
| Max. Overcurrent Device (amps) ⁵ | 15 | 15 | 15 | 20 | 20 |
| SHIPPING WEIGHT (LBS) | 116 | 119 | 143 | 145 | 158 |

¹ Natural Gas BTU/h

² DOE AFUE based upon Isolated Combustion System (ICS)

³ 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.

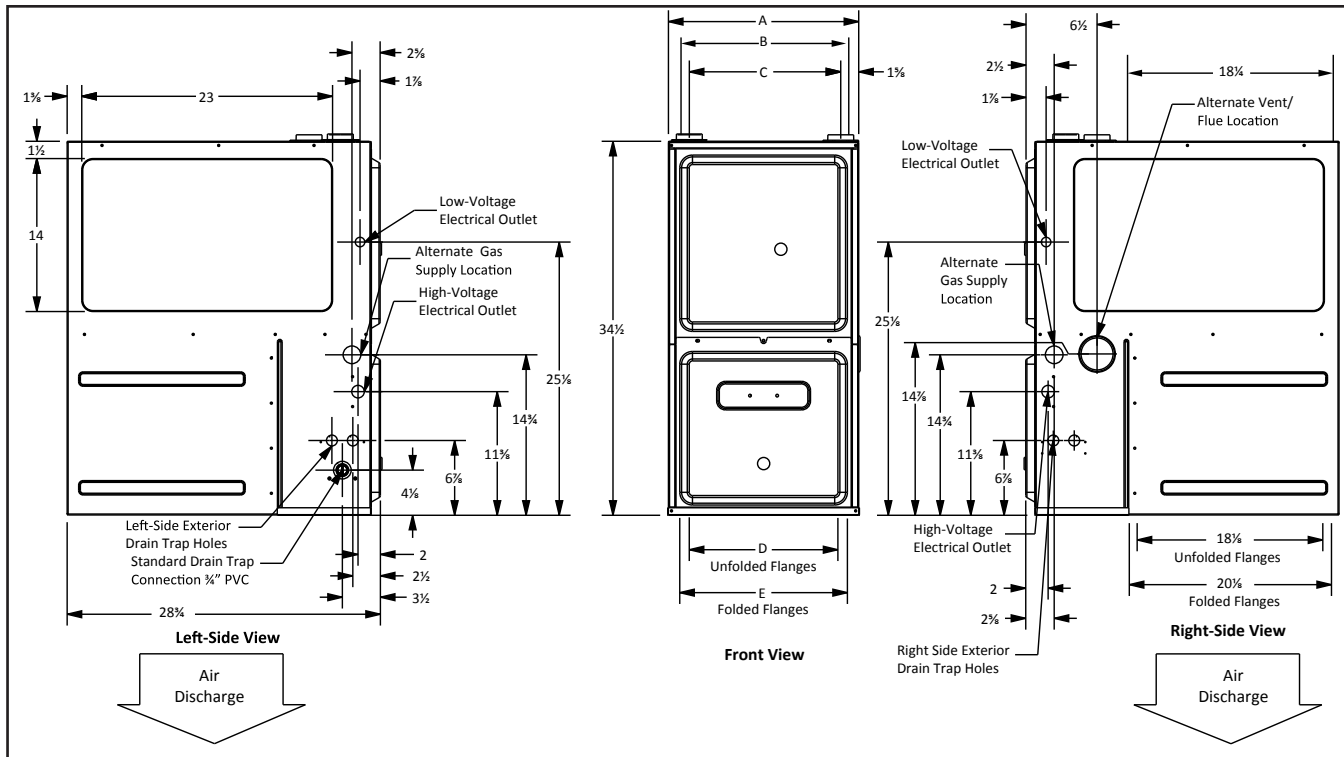
⁴ Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

⁵ 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 | AIR RETURN | | | AIR DISCHARGE | |
|---------------|------------|---------|---------|---------------|---------|
| | A | B | C | D | E |
| GCVC960403BNB | 17 1/2" | 14 5/8" | 14" | 14 1/2" | 16" |
| GCVC960603BNB | 17 1/2" | 14 5/8" | 14" | 14 1/2" | 16" |
| GCVC960804CNB | 21" | 18 3/8" | 17 1/2" | 18" | 19 1/2" |
| GCVC961005CNB | 21" | 18 3/8" | 17 1/2" | 18" | 19 1/2" |
| GCVC961205DNB | 24 1/2" | 21 1/8" | 21" | 21 1/2" | 23" |

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.

MINIMUM FILTER SIZES

| | GCVC96 0403BNB | GCVC96 0603BNB | GCVC96 0804CNB | GCVC96 1005CNB | GCVC96 1205DNB |
|--------------------------------------|---|-------------------|-------------------|---|-------------------|
| Filter Size (in ²) (Qty) | (2) 10 x 20 or (1) 16 x 25 (top return) | | | (1) 14 x 20 (bottom) or (1) 20 x 25 (top return) | |

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

| MODEL/TEMP RISE RANGE (MID RISE) | GVCV960403BNB* 35-65 (50) | | GVCV960603BNB* 20-50 (35) | | GVCV960804CNB* 25-55 (40) | | GVCV961005CNB* 35-65 (50) | | GVCV961205DNB* 35-65 (50) | |
|---|------------------------------|------|------------------------------|------|------------------------------|------|------------------------------|------|------------------------------|------|
| | CFM | RISE | CFM | RISE | CFM | RISE | CFM | RISE | CFM | RISE |
| Recommended cfm for high heat / expected temperature rise | 710 | 50 | 1400 | 38 | 1760 | 40 | 1770 | 50 | 2150 | 50 |
| Lowest recommended cfm for hi heat / expected temperature rise | 548 | 65 | 1072 | 50 | 1290 | 55 | 1360 | 65 | 1650 | 65 |
| Maximum cfm for hi heat / expected temperature rise | 1010 | 35 | 1400 | 38 | 1760 | 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%

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GVCV960403BNB*

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

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

GVCV960603BNB*

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

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

GVCV960804CNB*

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

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

GVCV961005CNB*

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

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

GVCV961205DNB*

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

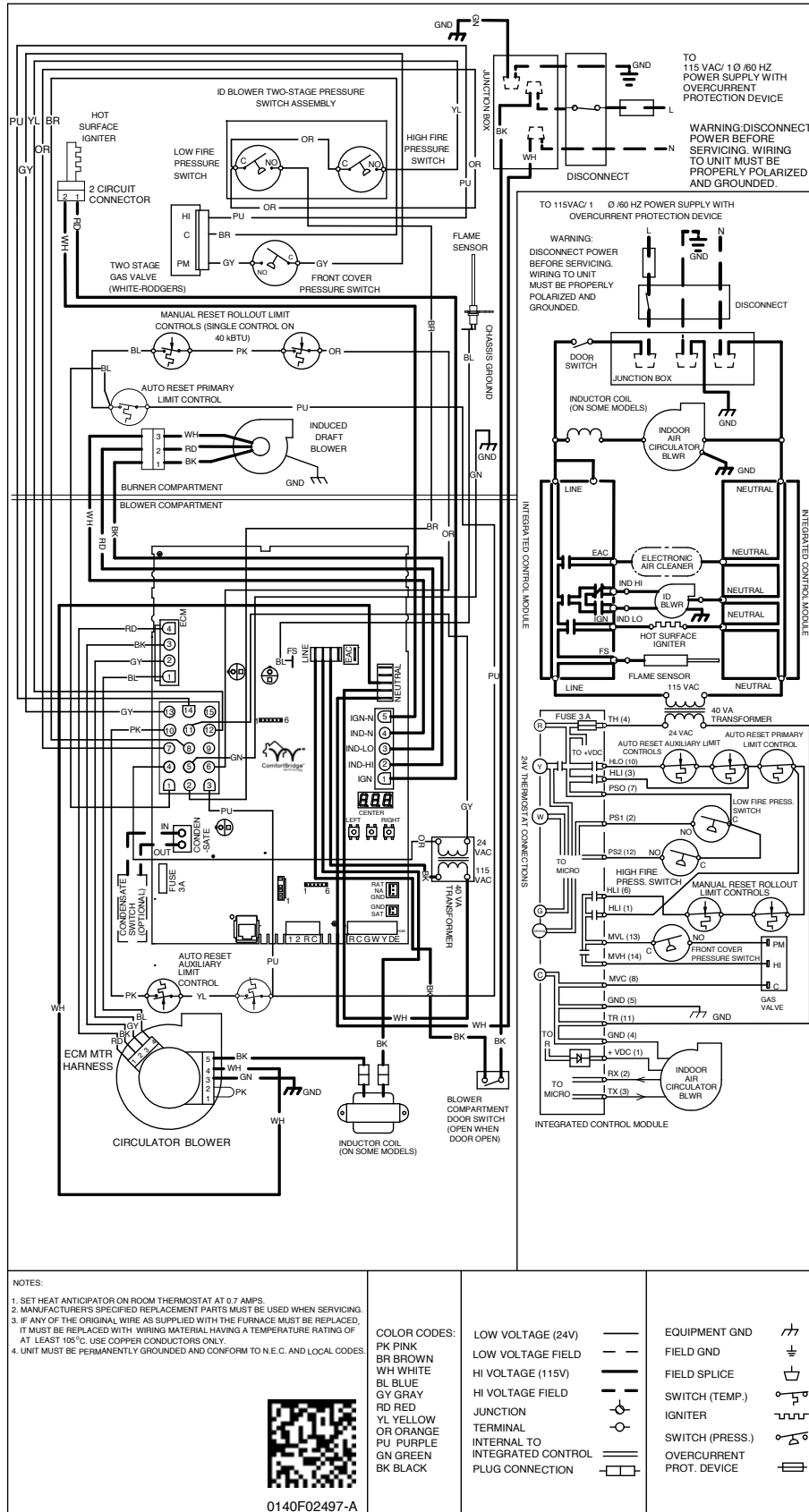
| TONS | HIGH-STAGE | LOW-STAGE CFM |
|------|------------|------------------|
| 2 | 800 | 560 |
| 3 | 1,200 | 840 |
| 4 | 1,600 | 1,120 |
| 5 | 2,000 | 1,400 |
| MAX | 2,200 | |

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



- NOTES:
1. SET HEAT ANTICIPATOR ON ROOM THERMOSTAT AT 0.7 AMPS.
 2. MANUFACTURERS SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
 3. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C. USE COPPER CONDUCTORS ONLY.
 4. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C. AND LOCAL CODES.

COLOR CODES:
 PK PINK
 BR BROWN
 WH WHITE
 BL BLUE
 GY GRAY
 RD RED
 YL YELLOW
 OR ORANGE
 PU PURPLE
 GN GREEN
 BK BLACK

LOW VOLTAGE (24V) ———
LOW VOLTAGE FIELD - - -
HI VOLTAGE (115V) ———
HI VOLTAGE FIELD - - -
JUNCTION ○
TERMINAL ○
INTERNAL TO INTEGRATED CONTROL ———
PLUG CONNECTION ———

EQUIPMENT GND ⚡
FIELD GND ⊥
FIELD SPLICE ⊏
SWITCH (TEMP.) ⚡
IGNITER ⚡
SWITCH (PRESS.) ⚡
OVERCURRENT PROT. DEVICE ⚡



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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.

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

