



Literature Library FG7T Two Stage, Variable Speed, Condensing Upflow and Downflow Gas Furnaces Owner's Manual

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Literature Library

Literature Library FG7T Two Stage, Variable Speed, Condensing Upflow and Downflow Gas Furnaces



Product Information

Technical Specifications

- **Model:** FG7T (E and N Series)
- **Type:** Two Stage, Variable Speed, Condensing Upflow and Downflow Gas Furnaces
- **Efficiency:** 96% AFUE
- **Input:** 60,000 – 115,000 Btuh
- **Location:** Can be installed free standing in a utility room, basement, or enclosed in an alcove or closet
- **Certification:** Design certified by CSA for application in Canada and the United States

Features and Benefits

- Flame Sensor
- Finish Flange
- Roll-Out Switch
- Burner Assembly
- Pressure Switches (Inducer)
- Main Air Limit Switch

- Inducer Limit Switch
- Inducer Assembly
- Blower Door Switch
- Air Flow Igniter
- Gas Valve Furnace Control Board
- Pressure Switches (Condensate)
- Transformer
- Motor Control Box
- Motor Choke (C & D cabinets only)
- Motor Control Board Blower Assembly

Product Usage Instructions

Installation

The high-efficiency upflow gas furnace can be installed free-standing in a utility room, or basement, or enclosed in an alcove or closet. Ensure proper clearance and ventilation according to local building codes. Follow the installation instructions provided in the user manual for a safe and proper installation.

Operation

1. Ensure the gas and electrical connections are properly connected.
2. Set the desired temperature on the furnace control board.
3. Turn on the power to the furnace.
4. The furnace will go through a startup sequence, and the blower will start once the furnace is ready.
5. Observe the flame sensor, igniter, and burner assembly for proper operation.
6. Monitor the temperature rise and adjust settings if necessary.
7. Regularly check and replace the air filters as needed.

Maintenance

To ensure optimal performance and longevity of the gas furnace, regular maintenance is required:

- Clean or replace air filters regularly.
- Inspect and clean the burner assembly.
- Clean the flame sensor.
- Check and clean the blower assembly.
- Inspect and clean the venting system.
- Check for any gas leaks or unusual odors.

Troubleshooting

If you experience any issues with the gas furnace, refer to the troubleshooting section in the user manual. If the issue persists, contact a qualified technician for assistance.

Safety Precautions

When working with or around the gas furnace, always follow these safety precautions:

- Turn off power to the furnace before performing any maintenance or repairs.
- Use caution when handling hot surfaces.
- Ensure proper ventilation during operation.
- Do not attempt to modify or tamper with any components.
- Keep flammable materials away from the furnace.

FAQ

- **Q:** Where can the high efficiency upflow gas furnace be installed?
 - **A:** The furnace can be installed free standing in a utility room, basement, or enclosed in an alcove or closet.
- **Q:** What certifications does the gas furnace have?
 - **A:** The gas furnace is design certified by CSA for application in Canada and the United States.
- **Q:** How often should I clean or replace the air filters?
 - **A:** Air filters should be checked regularly and cleaned or replaced as needed. The frequency may vary depending on usage and environmental conditions.

Induced Draft – 96% AFUE

Input 60,000 – 115,000 Btuh

The high efficiency upflow gas furnace may be installed free standing in a utility room, basement, or enclosed in an alcove or closet. The extended flush jacket provides a pleasing “appliance appearance.” Design certified by CSA for application in Canada and the United States.

FEATURES AND BENEFITS

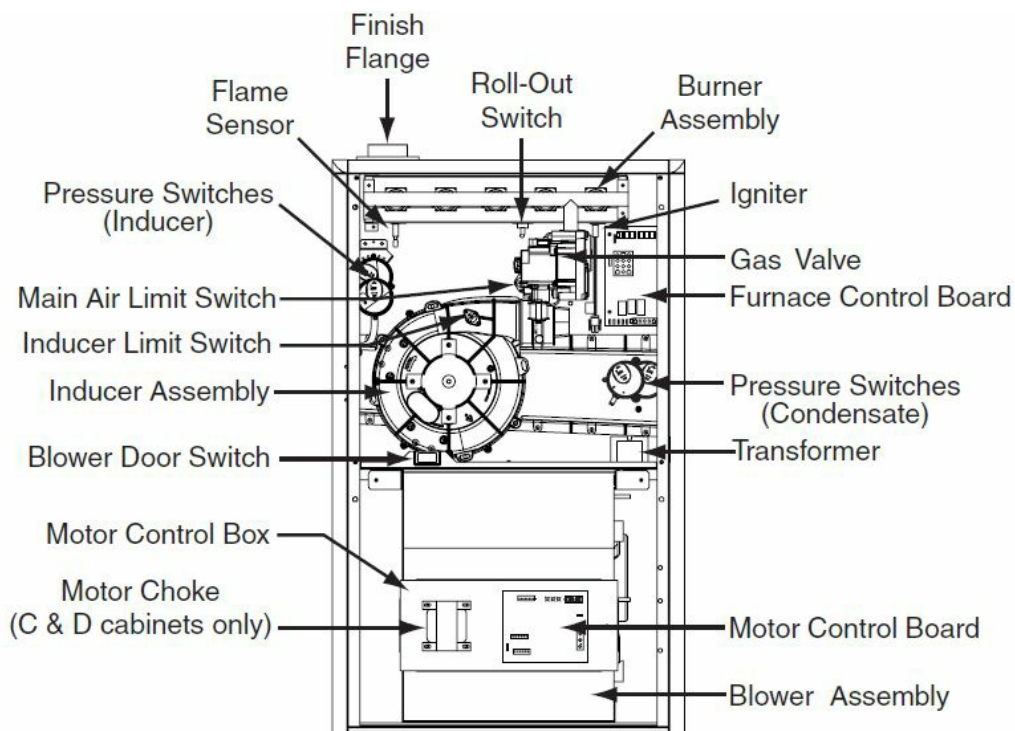
- **iSEERTM:** Energy efficient brushless DC (ECM) motor can give up to 1 SEER point efficiency gain in cooling.
- **100% Fired and Tested:** All units and each component are tested on the manufacturing line.
- **Best Packaging in the Industry:** Unique corner post design assures product will arrive to the homeowner dent free.
- **30 Second Blower Delay:** At start-up assures a warm duct temperature at furnace start-up. Adjustable blower off settings (60, 90, 120 and 180 seconds).
- **30 Second Post Purge:** Increases life of heat exchanger.
- **Hot Surface Igniter:** Innovative application of a silicon nitride type igniter. Utilizes proven Smartlite® technology.
- **Color Coded Wire Harness:** Designed to fit the components, all with quick-connect fittings for ease of service and replacement.
- **Flexible Category IV Venting System:** May be vertically or horizontally vented using either a one-pipe or two-pipe system for maximum flexibility in installation.
- **High Static Blowers:** All models equipped with high static ECM blowers, with 16 speeds for heating & cooling.
- **Low Boy Height:** Easy to apply in low ceiling applications, works well with taller high SEER coils, easier to handle and install.
- **Heat Exchanger:** Heavy gauge aluminized steel primary heat exchanger and stainless steel secondary heat

exchanger assures a long life.

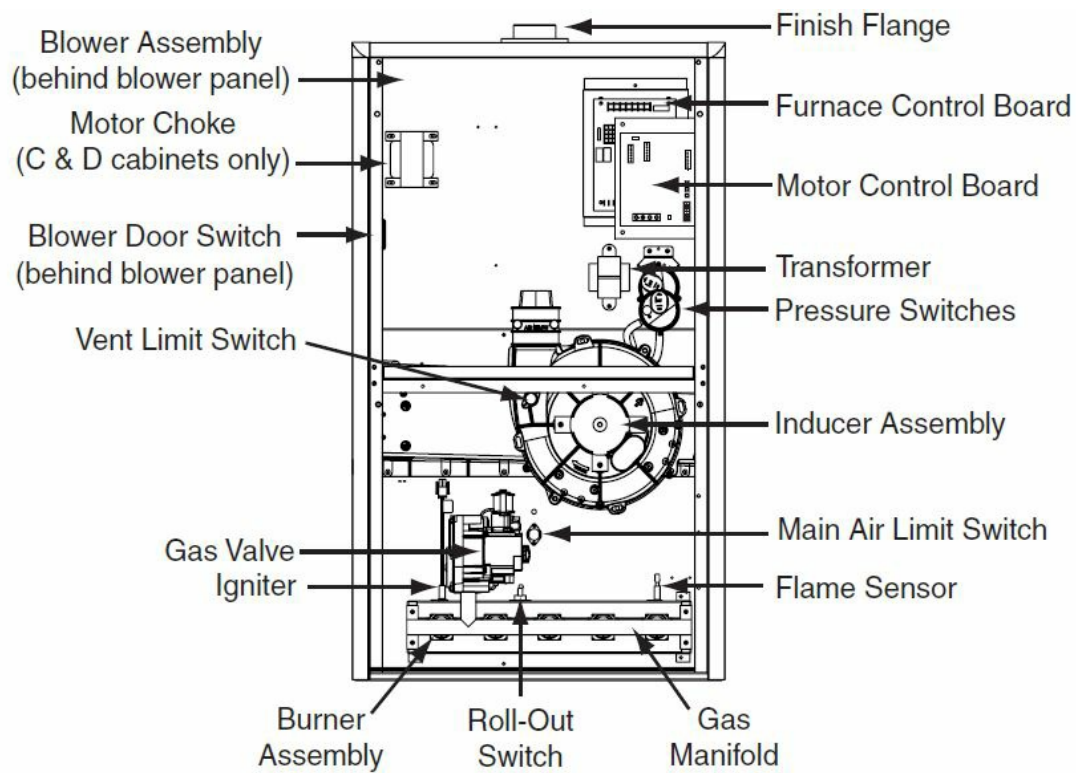
- **90 Second Fixed Cooling Cycle Blower-Off Delay (TDR):** Increases cooling performance when matched with a Nortek Global HVAC coil.
- **LP Convertible:** Simple burner orifice and regulator spring change for ease of convertibility (as an accessory).
- **Diagnostic Lights:** Dedicated light for flame signal strength and 2 lights in combination to indicate all other fault codes with easy to recognize states without counting 0 flashes.
- **Integrated Control Boards:** With connections for electronic air cleaner, humidifier, and dehumidification.
- **Two Piece Door Design:** Enhances furnace appearance and uses captured screws to prevent losing door screws.
- **Blower Compartment:** Sealed door to reduce air leakage and insulated for ultra quiet operation.
- **Sealed Vestibule:** Reduces burner and inducer sound levels.
- **Two Stage Inducer:** Optimizes efficiency on first stage heat and reduces sound levels.
- **Furnace Air Leakage:** These furnaces comply with Energy Star cabinet air leakage requirement of less than or equal to 2%. Keep the conditioned air flowing to where it's needed.

LOCATION OF FURNACE COMPONENTS

UPFLOW FURNACE (*TE SERIES)

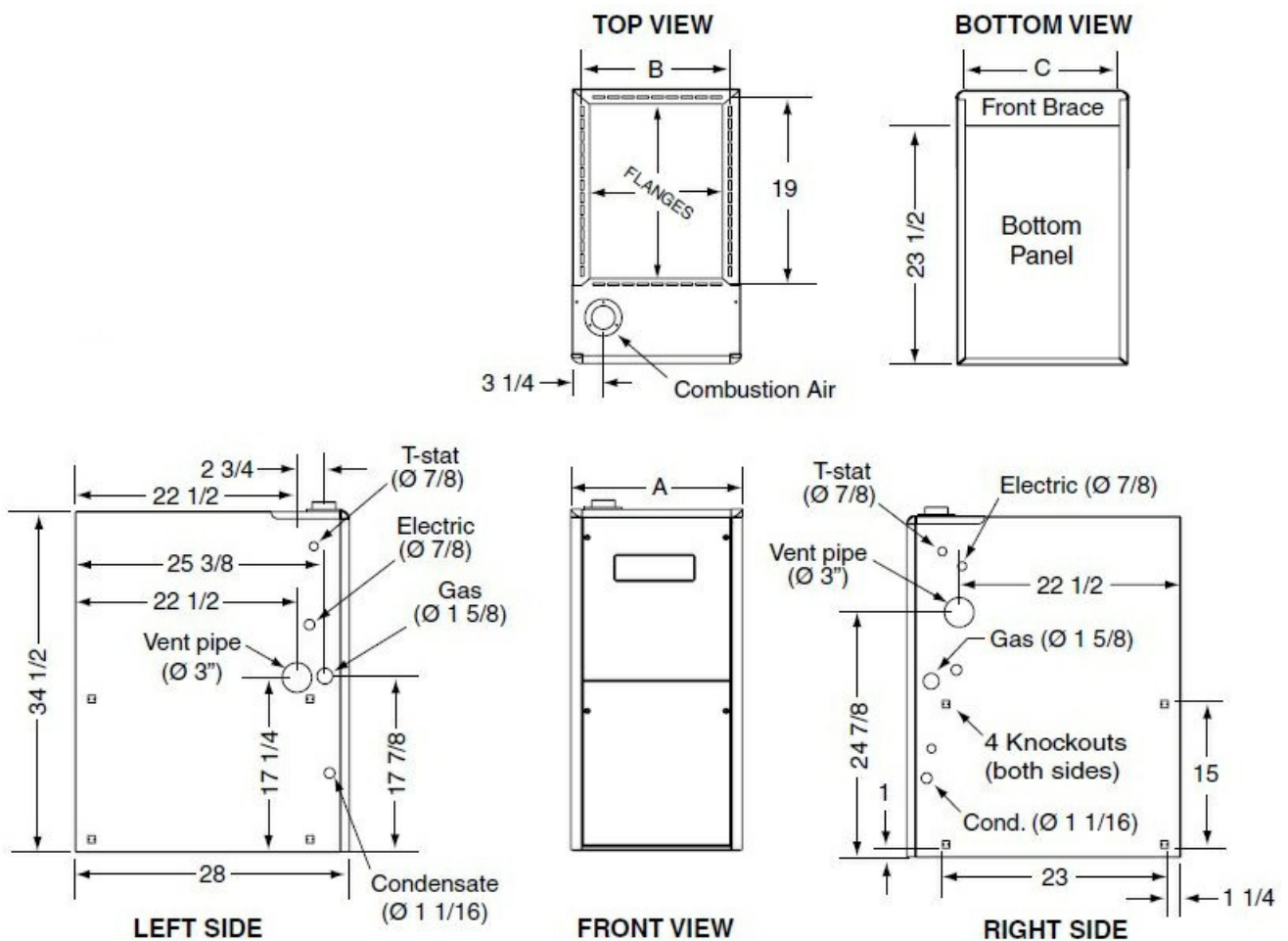


DOWNFLOW FURNACE (*TN SERIES)



DIMENSIONS

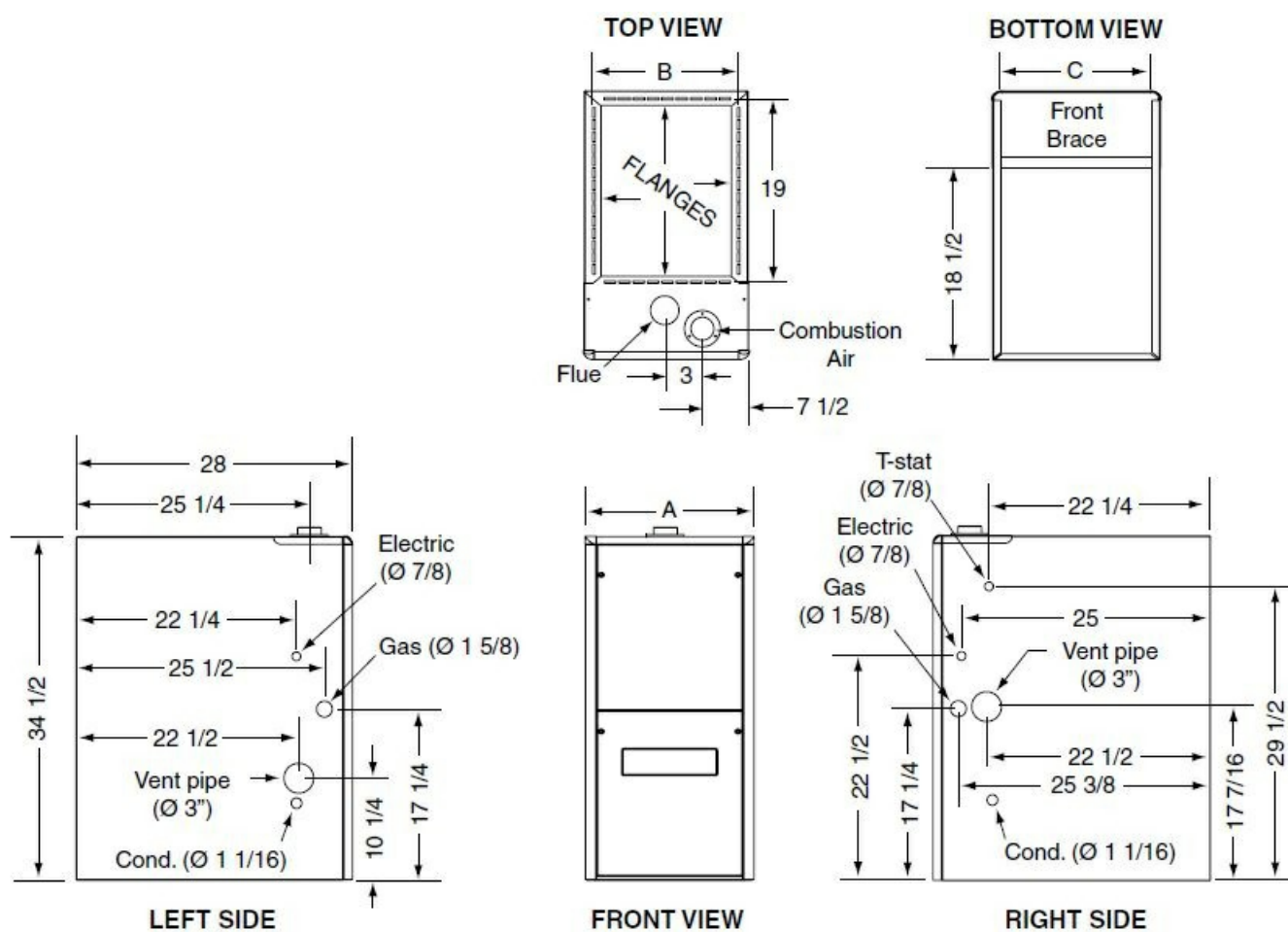
FG7TE 96% High Efficiency Upflow Series



| *TE Model #'s | Dimension "A" | Dimension "B" | Dimension "C" |
|---------------|---------------|---------------|---------------|
| 060D-VB1 | 17 1/2 | 15 7/8 | 16 1/8 |
| 080D-VC1 | 21 | 19 3/8 | 19 5/8 |
| 100D-VC1 | | | |
| 115D-VD1 | 24 1/2 | 22 7/8 | 23 1/8 |

NOTE: Dimensions shown in inches

FG7TN 96% High Efficiency Downflow Series



| *TN Model #'s | Dimension "A" | Dimension "B" | Dimension "C" |
|---------------|---------------|---------------|---------------|
| 060D-VB1 | 17 1/2 | 15 7/8 | 16 1/8 |
| 080D-VC1 | 21 | 19 3/8 | 19 5/8 |
| 100D-VC1 | | | |
| 115D-VD1 | 24 1/2 | 22 7/8 | 23 1/8 |

NOTE: Dimensions shown in inches

BLOWER PERFORMANCE

BLOWER PERFORMANCE – FG7TE/TN

| NOMINAL HEATING AIRFLOWS (CFM) AND TEMPERATURE RISE (°F) | | | | | | |
|--|---|---|---|---|---|-----------------|
| “B” CABINET RISE 30° F TO 60° F | SWITCH SETTINGS FOR HEAT (0 = OFF, 1 = ON) | | | | *TE/*TN – 060D – VB1 INPUT (BTU) 60,000 | |
| | 1 | 2 | 3 | 4 | CFM | TEMP RISE (° F) |
| | 1 | 0 | 0 | 0 | 1,000 | 53 |
| | 1 | 0 | 0 | 1 | 1,100 | 48 |
| | 1 | 0 | 1 | 0 | 1,200 | 44 |
| | 1 | 0 | 1 | 1 | 1,300 | 41 |
| | 1 | 1 | 0 | 0 | 1,400 | 38 |
| | 1 | 1 | 0 | 1 | 1,500 | 35 |
| | 1 | 1 | 1 | 0 | 1,600 | — |
| | 1 | 1 | 1 | 1 | 1,700 | — |

| “C” CABINET RISE 35° F TO 65° F | SWITCH SETTINGS FOR HEAT (0 = OFF, 1 = ON) | | | | *TE/*TN – 080D – VC1 INPUT (BTU) 80,000 | | *TE/*TN – 100D – VC1 INPUT (BTU) 100,000 | |
|--|---|---|---|---|---|-----------------|--|-----------------|
| | 1 | 2 | 3 | 4 | CFM | TEMP RISE (° F) | CFM | TEMP RISE (° F) |
| | # | 0 | 0 | 0 | 1,000 | — | 1,000 | — |
| | # | 0 | 0 | 1 | 1,115 | 63 | 1,115 | — |
| | # | 0 | 1 | 0 | 1,230 | 57 | 1,230 | — |
| | # | 0 | 1 | 1 | 1,345 | 52 | 1,345 | 65 |
| | # | 1 | 0 | 0 | 1,460 | 48 | 1,460 | 60 |
| | # | 1 | 0 | 1 | 1,575 | 45 | 1,575 | 56 |
| | # | 1 | 1 | 0 | 1,690 | 42 | 1,690 | 52 |
| | # | 1 | 1 | 1 | 1,805 | 39 | 1,805 | 49 |

| “D” CABINET RISE 40° F TO 70° F | SWITCH SETTINGS FOR HEAT (0 = OFF, 1 = ON) | | | | *TE/*TN – 115D – VD1 INPUT (BTU) 115,000 | |
|--|---|----------|----------|----------|---|------------------------|
| | 1 | 2 | 3 | 4 | CFM | TEMP RISE (° F) |
| | # | 0 | 0 | 0 | 1,500 | 68 |
| | # | 0 | 0 | 1 | 1,615 | 63 |
| | # | 0 | 1 | 0 | 1,730 | 59 |
| | # | 0 | 1 | 1 | 1,845 | 55 |
| | # | 1 | 0 | 0 | 1,960 | 52 |
| | # | 1 | 0 | 1 | 2,075 | 49 |
| | # | 1 | 1 | 0 | 2,190 | 46 |
| | # | 1 | 1 | 1 | 2,305 | 44 |

1. Two openings are recommended for airflows above 1,600 CFM if the filter(s) is (are) adjacent to the furnace.
2. Temperature rises in the table are approximate. Actual temperature rises may vary.
3. Temperature rises shaded in grey are for reference only. These conditions are not recommended.
4. Rated static is .5" ESP in W.C.

COOLING AIRFLOW

| “B” CABINET | | | | | | | | | | | |
|-----------------------------------|------|---|---|---|------|------|---------------------------|--|--|-------|--|
| SWITCH SETTINGS (0 = OFF, 1 = ON) | | | | | CFM | | NOMINAL A/C & HP CAPACITY | | | | |
| HEAT | COOL | | | | | | | | | | |
| 1-4 | 5 | 6 | 7 | 8 | LOW | HIGH | | | | | |
| 1 | 0 | 0 | 0 | 0 | 470 | 700 | | | | 2 TON | |
| 1 | 0 | 0 | 0 | 1 | 510 | 760 | | | | | |
| 1 | 0 | 0 | 1 | 0 | 550 | 820 | | | | | |
| 1 | 0 | 0 | 1 | 1 | 590 | 880 | | | | | |
| 1 | 0 | 1 | 0 | 0 | 630 | 940 | | | | | |
| 1 | 0 | 1 | 0 | 1 | 670 | 1000 | | | | | |
| 1 | 0 | 1 | 1 | 0 | 710 | 1060 | | | | | |
| 1 | 0 | 1 | 1 | 1 | 750 | 1120 | | | | | |
| 1 | 1 | 0 | 0 | 0 | 790 | 1180 | | | | | |
| 1 | 1 | 0 | 0 | 1 | 830 | 1240 | | | | | |
| 1 | 1 | 0 | 1 | 0 | 870 | 1300 | | | | | |
| 1 | 1 | 0 | 1 | 1 | 910 | 1360 | | | | | |
| 1 | 1 | 1 | 0 | 0 | 950 | 1420 | | | | | |
| 1 | 1 | 1 | 0 | 1 | 990 | 1480 | | | | | |
| 1 | 1 | 1 | 1 | 0 | 1030 | 1540 | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1070 | 1600 | | | | | |

| “C” CABINET | | | | | | | | | | | | | |
|-----------------------------------|------|---|---|---|------|------|---------------------------|---------|--|--|---------|--|--|
| SWITCH SETTINGS (0 = OFF, 1 = ON) | | | | | CFM | | NOMINAL A/C & HP CAPACITY | | | | | | |
| HEAT | COOL | | | | | | | | | | | | |
| 1-4 | 5 | 6 | 7 | 8 | LOW | HIGH | | | | | | | |
| # | 0 | 0 | 0 | 0 | 685 | 1025 | | | | | 2.5 TON | | |
| # | 0 | 0 | 0 | 1 | 730 | 1090 | | | | | | | |
| # | 0 | 0 | 1 | 0 | 775 | 1155 | | 3 TON | | | | | |
| # | 0 | 0 | 1 | 1 | 815 | 1220 | | | | | | | |
| # | 0 | 1 | 0 | 0 | 860 | 1285 | | 3.5 TON | | | | | |
| # | 0 | 1 | 0 | 1 | 905 | 1350 | | | | | | | |
| # | 0 | 1 | 1 | 0 | 950 | 1415 | | 4 TON | | | | | |
| # | 0 | 1 | 1 | 1 | 990 | 1480 | | | | | | | |
| # | 1 | 0 | 0 | 0 | 1035 | 1545 | | 5 TON | | | | | |
| # | 1 | 0 | 0 | 1 | 1080 | 1610 | | | | | | | |
| # | 1 | 0 | 1 | 0 | 1120 | 1675 | | | | | | | |
| # | 1 | 0 | 1 | 1 | 1165 | 1740 | | | | | | | |
| # | 1 | 1 | 0 | 0 | 1210 | 1805 | | | | | | | |
| # | 1 | 1 | 0 | 1 | 1255 | 1870 | | | | | | | |
| # | 1 | 1 | 1 | 0 | 1295 | 1935 | | | | | | | |
| # | 1 | 1 | 1 | 1 | 1340 | 2000 | | | | | | | |

Switch not used – can be 0 or 1

| “D” CABINET | | | | | | | | | |
|-----------------------------------|------|---|---|---|------|------|---------------------------|-------|---------|
| SWITCH SETTINGS (0 = OFF, 1 = ON) | | | | | CFM | | NOMINAL A/C & HP CAPACITy | | |
| HEAT | COOL | | | | | | | | |
| 1-4 | 5 | 6 | 7 | 8 | LOW | HIGH | | | |
| # | 0 | 0 | 0 | 0 | 940 | 1400 | | | 3.5 TON |
| # | 0 | 0 | 0 | 1 | 965 | 1440 | | 4 TON | |
| # | 0 | 0 | 1 | 0 | 990 | 1480 | | | |
| # | 0 | 0 | 1 | 1 | 1020 | 1520 | | | |
| # | 0 | 1 | 0 | 0 | 1045 | 1560 | | | |
| # | 0 | 1 | 0 | 1 | 1070 | 1600 | | | |
| # | 0 | 1 | 1 | 0 | 1100 | 1640 | | | |
| # | 0 | 1 | 1 | 1 | 1125 | 1680 | | | |
| # | 1 | 0 | 0 | 0 | 1150 | 1720 | | | |
| # | 1 | 0 | 0 | 1 | 1180 | 1760 | | | |
| # | 1 | 0 | 1 | 0 | 1205 | 1800 | | | |
| # | 1 | 0 | 1 | 1 | 1235 | 1840 | | | |
| # | 1 | 1 | 0 | 0 | 1260 | 1880 | | | |
| # | 1 | 1 | 0 | 1 | 1285 | 1920 | | | |
| # | 1 | 1 | 1 | 0 | 1315 | 1960 | | | |
| # | 1 | 1 | 1 | 1 | 1340 | 2000 | | | |

Switch not used – can be 0 or 1

VENTING

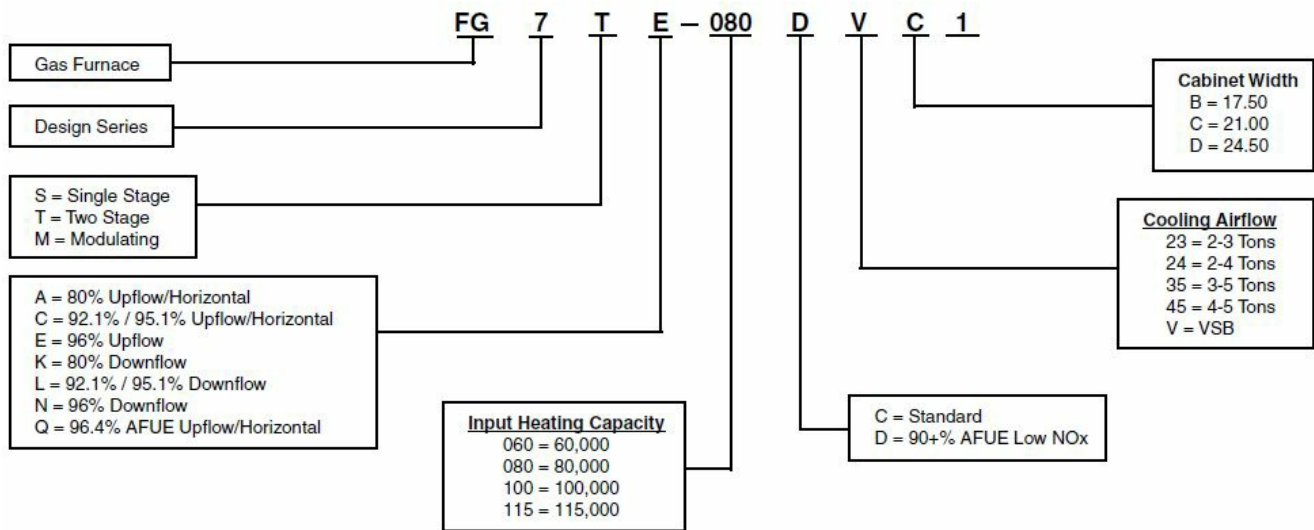
All models are approved for vertical non direct (1 pipe) and direct (2 pipe) venting applications. See Vent Table below for specified sizes and allowable lengths.

| FURNACE MODELS (BTU) | FURNACE INSTALLATION | SINGLE PIPE LENGTH (FT.) with 1 long radius elbow** | | DIRECT VENT, DUAL PIPE LENGTH (ft.) WITH 1 long radius elbow on each pipe** | |
|-----------------------|----------------------|--|-------------|---|--------------|
| | | OUTLET | OUTLET | INLET/OUTLET | INLET/OUTLET |
| | | 2" Diameter | 3" Diameter | 2" Diameter | 3" Diameter |
| 60,000 | Upflow | 90 | 90 | 60 | 90 |
| | Downflow | 30 | 90 | 30 | 90 |
| | | | | | |
| 80,000 | Upflow | 40 | 90 | 40 | 90 |
| | Downflow | 30 | 90 | 30 | 90 |
| | | | | | |
| 100,000 | Upflow | 30 | 90 | 30 | 90 |
| | Downflow | 30 | 90 | 25 | 90 |
| | | | | | |
| 115,000 | Upflow | N/A | 90 | N/A | 90 |
| | Downflow | N/A | 90 | N/A | 90 |

*NOTES

1. Subtract 2.5 ft. for each additional 2 inch long radius elbow, 5 ft. for each additional 2 inch short radius elbow, 3.5 ft. for each additional 3 inch long radius elbow, and 7 ft. for each additional 3 inch short radius elbow.
Subtract 5ft for each 2" tee and 8ft for each 3" tee.
2. Two 45 degree elbows are equivalent to one 90 degree elbow.
3. This table applies for elevations from sea level to 2,000 ft. For higher elevations, decrease pipe lengths by 8% per 1,000 ft of altitude.

MODEL IDENTIFICATION CODE



SPECIFICATIONS

| FG7TE/TN MODELS NUMBERS: | -060D-VB1 | -080D-VC1 | -100D-VC1 | -115D-VD1 |
|-----------------------------|-----------------|-----------------|------------------|------------------|
| Input – Btuh (a) | 60,000 / 39,000 | 80,000 / 52,000 | 100,000 / 65,000 | 115,000 / 74,750 |
| Heating Capacity – Btuh | 57,600 / 37,440 | 76,800 / 49,920 | 96,000 / 62,400 | 110,400 / 71,760 |
| AFUE | 96 | 96 | 96 | 96 |
| Motor FLA | 6.2 | 8.7 | 8.7 | 11.70 |
| Rated Ext. SP – In. W.C. | 0.5 | 0.5 | 0.5 | 0.5 |
| Temperature Rise Range – °F | 30-60 | 35-65 | 35-65 | 40-70 |
| Shipping Weights | 125lbs | 135lbs | 145lbs | 160lbs |

Note: All models are 115V, 60 Hz. Gas Connections are 1/2" N.P.T. AFUE = Annual Fuel Utilization Efficiency (a) Ratings to 2,000 ft. Over 2,000 ft. reduce 4% for each 1,000 ft. above sea level.

ACCESSORIES

| FG7TE/TN KITS | |
|--|------------|
| Description | SKU |
| 2" Concentric Vent Kit | 904177 |
| 3" Concentric Vent Kit | 904176 |
| 2" Concentric Vent Kit (Canadian Approved) | 904952 |
| 3" Concentric Vent Kit (Canadian Approved) | 904953 |
| "A" Cabinet Downflow Sub Base Kit | 902974 |
| "B", "C", "D" Cabinet Downflow Sub Base Kit | 904911 |
| 2" Side Wall Vent Kit | 904617 |
| 3" Side Wall Vent Kit | 904347 |
| U.S. LP Conversion Kit (0 to 10,000 ft.) | 905028 |
| Canada LP Conversion Kit (0 to 4,500 ft.) | 905029 |
| Bottom Return Filter 20 per Box, "B" Cabinet | 904916 |
| Bottom Return Filter 20 per Box, "D" Cabinet | 904918 |
| Side Return Filter Kit | 541036 |
| Neutralizer Kit | 902377 |

LIMITED WARRANTY


GENERAL TERMS OF LIMITED WARRANTY

- Nortek Global HVAC, LLC will furnish a replacement for any part of this product which fails in normal use and service within the terms and conditions of the warranty.
- For complete details of the Limited Warranty, including applicable terms and conditions, see your local installer or contact the Nortek Global HVAC, LLC warranty department for a copy.

Before purchasing this appliance, read important energy cost and efficiency information available from your



Documents / Resources

| | |
|---|---|
|  | <p>Literature Library FG7T Two Stage, Variable Speed, Condensing Upflow and Downflow Gas Furnaces [pdf] Owner's Manual</p> <p>FG7T Two Stage Variable Speed Condensing Upflow and Downflow Gas Furnaces, FG7T, Two Stage Variable Speed Condensing Upflow and Downflow Gas Furnaces, Condensing Upflow and Downflow Gas Furnaces, Upflow and Downflow Gas Furnaces, Downflow Gas Furnaces</p> |
|---|---|

References

-  [TCPDF](#)
- [User Manual](#)