

## TECHNICAL SPECIFICATIONS

# G7SD

## High Efficiency, Single Stage Condensing, Upflow/Horizontal Gas Furnace Models

95.0 AFUE

38,000 - 120,000 Btuh Input

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



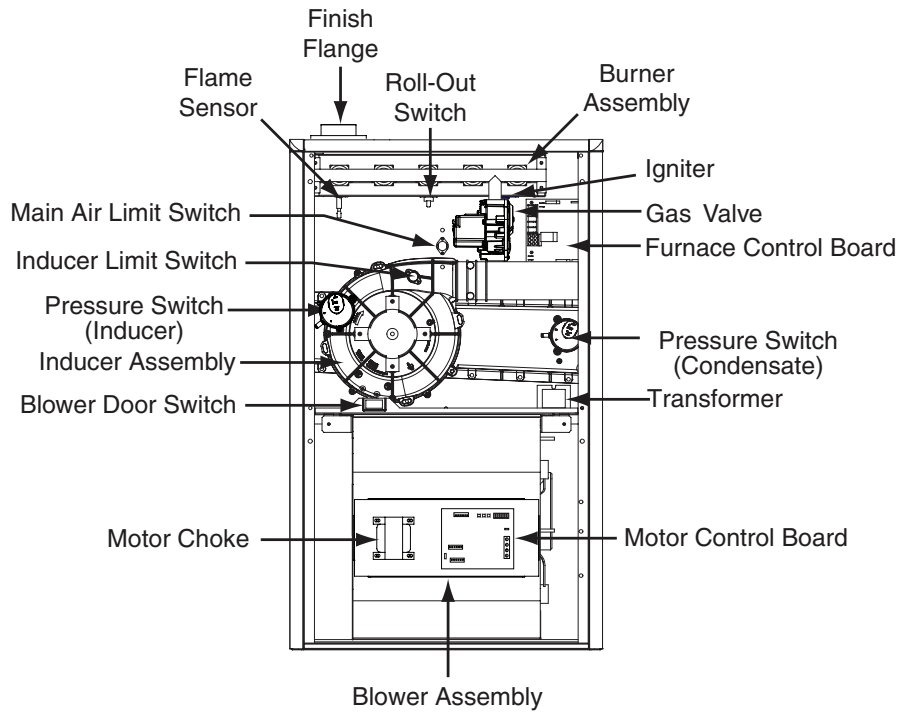
For California installations in SCAQMD only: This furnace does not meet the SCAQMD Rule 1111 NOx emission limit (14 ng/J), and thus is subject to a mitigation fee of up to \$450. This furnace is not eligible for the Clean Air Furnace Rebate Program: [www.CleanAirFurnaceRebate.com](http://www.CleanAirFurnaceRebate.com).

## FEATURES and BENEFITS

- **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 blowers.
- **Low Boy Height:** Easy to apply in low ceiling applications, works well with taller high SEER coils, easier to handle and install.
- **Tubular primary heat exchanger:** Heavy gauge aluminized steel heat exchanger and stainless steel secondary heat exchanger assures a long life.
- **60 second fixed cooling cycle blower-off delay (TDR)** increases cooling performance when matched with a Nortek Global HVAC coil.
- **Multi-speed direct drive blower:** Designed to give a wide range of cooling capacities. Dip switches on PCB provide easy motor speed selection.
- **LP convertible:** Simple burner orifice and regulator spring change for ease of convertibility.
- **Incorporates integrated control board** with connections for electronic air cleaner and humidifier.
- **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.
- **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.
- **PolyPro by DuraVent:** These furnaces have been tested with and are approved to be installed with DuraVent's PolyPro venting system.

# GAS FURNACE COMPONENTS

## UPFLOW / HORIZONTAL FURNACE

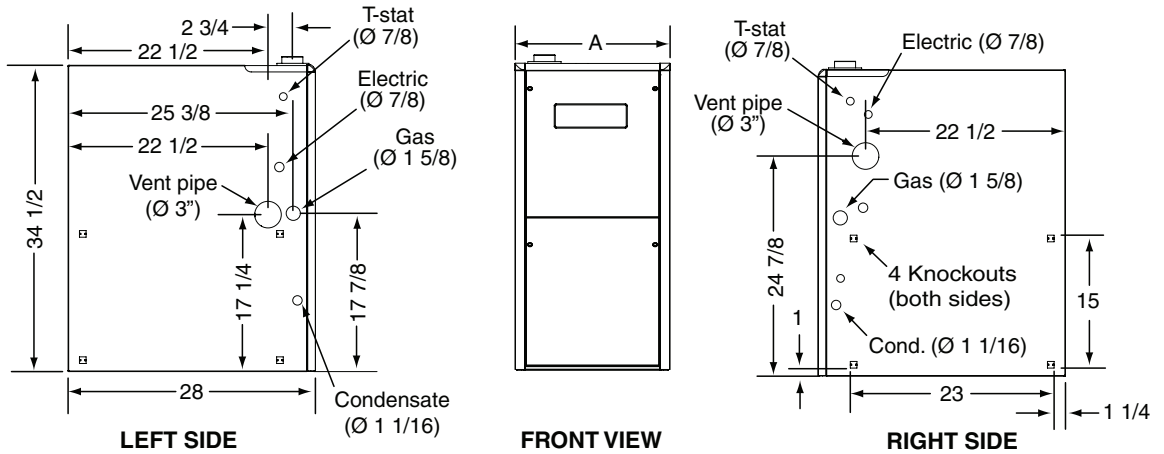
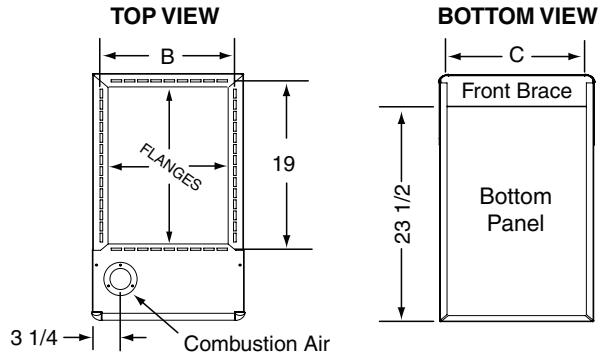


**\*SD Series -Upflow / Horizontal Furnace**

# DIMENSIONS

| <b>*SD Upflow / Horizontal Furnaces</b> |          |         |         |
|---|----------|---------|---------|
| Model #'s                               | Dim. -A- | Dim -B- | Dim -C- |
| 038D-24B                                | 17 1/2   | 15 7/8  | 16 1/8  |
| 054D-24B                                |          |         |         |
| 072D-35C                                | 21       | 19 3/8  | 19 5/8  |
| 090D-35C                                |          |         |         |
| 108D-45D                                | 24 1/2   | 22 7/8  | 23 1/8  |

**NOTE:** Dimensions shown in inches.



**\*SD Series -Upflow / Horizontal Furnace**

# BLOWER PERFORMANCE - G7SD

| *SD - UPFLOW / HORIZONTAL FURNACES                    |                |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---|----------------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Model Number<br>&<br>Heating Input<br>(Btuh)          | Motor<br>Speed | External Static Pressure (Inches Water Column) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|   |                | 0.1  |      | 0.2  |      | 0.3  |      | 0.4  |      | 0.5  |      | 0.6  |      | 0.7  |      | 0.8  |      |
|   |                | CFM  | Rise | CFM  | Rise | CFM  | Rise | CFM  | Rise | CFM  | Rise | CFM  | Rise | CFM  | Rise | CFM  | Rise |
| SD038D-24B<br>Bottom Return<br>(38,000)               | HIGH*          | 1519   | 21   | 1483 | 22   | 1433 | 22   | 1397 | 23   | 1335 | 24   | 1272 | 25   | 1214 | 26   | 1130 | 27   |
|   | MED-H**        | 1238   | 28   | 1216 | 28   | 1188 | 28   | 1164 | 29   | 1136 | 30   | 1092 | 31   | 1043 | 32   | 973  | 34   |
|   | MED-L          | 1094   | 31   | 1082 | 32   | 1052 | 32   | 1034 | 33   | 1021 | 34   | 977  | 34   | 928  | 36   | 865  | 37   |
|   | LOW            | 841  | 40   | 817  | 42   | 801  | 43   | 786  | 45   | 750  | 46   | 720  | 48   | 683  | 49   | 639  | 53   |
| SD038D-24B<br>Side Return<br>(38,000)                 | HIGH*          | 1664   | 18   | 1631 | 21   | 1596 | 21   | 1546 | 22   | 1489 | 23   | 1433 | 24   | 1366 | 25   | 1285 | 26   |
|   | MED-H          | 1272   | 26   | 1255 | 27   | 1249 | 27   | 1217 | 28   | 1189 | 29   | 1145 | 30   | 1096 | 31   | 1036 | 33   |
|   | MED-L**        | 1130   | 29   | 1114 | 31   | 1100 | 31   | 1079 | 31   | 1048 | 33   | 1025 | 33   | 987  | 35   | 944  | 36   |
|   | LOW            | 869  | 39   | 839  | 42   | 809  | 42   | 790  | 44   | 764  | 45   | 739  | 47   | 711  | 48   | 664  | 52   |
| SD054D-24B<br>Bottom Return<br>(54,000)               | HIGH*          | 1519   | 33   | 1483 | 34   | 1433 | 35   | 1397 | 36   | 1335 | 37   | 1272 | 39   | 1214 | 41   | 1130 | 44   |
|   | MED-H          | 1238   | 40   | 1216 | 41   | 1188 | 42   | 1164 | 43   | 1136 | 44   | 1092 | 46   | 1043 | 48   | 973  | 51   |
|   | MED-L**        | 1094   | 46   | 1082 | 46   | 1052 | 48   | 1034 | 48   | 1021 | 49   | 977  | 51   | 928  | 54   | 865  | 58   |
|   | LOW            | 841  | 59   | 817  | 61   | 801  | 62   | 786  | 64   | 750  | 67   | 720  | 69   | 683  | 73   | 639  | 78   |
| SD054D-24B<br>Side Return<br>(54,000)                 | HIGH*          | 1664   | 30   | 1631 | 31   | 1596 | 31   | 1546 | 32   | 1489 | 34   | 1433 | 35   | 1366 | 37   | 1285 | 39   |
|   | MED-H          | 1272   | 39   | 1255 | 40   | 1249 | 40   | 1217 | 41   | 1189 | 42   | 1145 | 44   | 1096 | 46   | 1036 | 48   |
|   | MED-L**        | 1130   | 44   | 1114 | 45   | 1100 | 45   | 1079 | 46   | 1048 | 48   | 1025 | 49   | 987  | 51   | 944  | 53   |
|   | LOW            | 869  | 58   | 839  | 60   | 809  | 62   | 790  | 63   | 764  | 65   | 739  | 68   | 711  | 70   | 664  | 75   |
| SD072D-35C<br>Bottom Return<br>(54,000)               | HIGH*          | 1933   | 34   | 1857 | 36   | 1780 | 37   | 1695 | 39   | 1599 | 42   | 1498 | 45   | 1396 | 48   | 1280 | 52   |
|   | MED-H**        | 1872   | 36   | 1804 | 37   | 1731 | 39   | 1639 | 41   | 1551 | 43   | 1458 | 46   | 1353 | 49   | 1237 | 54   |
|   | MED-L          | 1320   | 51   | 1299 | 51   | 1264 | 53   | 1233 | 54   | 1183 | 56   | 1126 | 59   | 1059 | 63   | 963  | 69   |
|   | LOW            | 1185   | 56   | 1170 | 57   | 1132 | 59   | 1102 | 60   | 1067 | 62   | 1015 | 66   | 947  | 70   | 856  | 78   |
| SD072D-35C<br>Side Return<br>(54,000)                 | HIGH*          | 1916   | 35   | 1848 | 36   | 1773 | 38   | 1692 | 39   | 1613 | 41   | 1515 | 44   | 1426 | 47   | 1316 | 51   |
|   | MED-H**        | 1815   | 37   | 1771 | 38   | 1711 | 39   | 1641 | 41   | 1553 | 43   | 1468 | 45   | 1373 | 49   | 1270 | 52   |
|   | MED-L          | 1259   | 53   | 1241 | 54   | 1224 | 54   | 1192 | 56   | 1163 | 57   | 1115 | 60   | 1056 | 63   | 982  | 68   |
|   | LOW            | 1139   | 59   | 1120 | 60   | 1096 | 61   | 1075 | 62   | 1047 | 64   | 1014 | 66   | 959  | 70   | 884  | 75   |
| SCD72D-35C<br>Side + Bottom<br>or 2 Sides<br>(72,000) | HIGH*          | 1954   | 34   | 1890 | 35   | 1824 | 37   | 1741 | 38   | 1656 | 40   | 1564 | 43   | 1470 | 45   | 1352 | 49   |
|   | MED-H**        | 1869   | 36   | 1805 | 37   | 1741 | 38   | 1685 | 40   | 1607 | 41   | 1516 | 44   | 1419 | 47   | 1308 | 51   |
|   | MED-L          | 1287   | 52   | 1262 | 53   | 1231 | 54   | 1197 | 56   | 1166 | 57   | 1117 | 60   | 1061 | 63   | 966  | 69   |
|   | LOW            | 1147   | 58   | 1115 | 60   | 1097 | 61   | 1075 | 62   | 1047 | 64   | 1014 | 66   | 959  | 70   | 884  | 75   |
| SD090D-35C<br>Bottom Return<br>(90,000)               | HIGH*          | 2288   | 36   | 2236 | 37   | 2161 | 39   | 2092 | 40   | 2017 | 41   | 1934 | 43   | 1841 | 45   | 1748 | 48   |
|   | MED-H**        | 2144   | 39   | 2093 | 40   | 2049 | 41   | 1985 | 42   | 1912 | 44   | 1842 | 45   | 1764 | 47   | 1668 | 50   |
|   | MED-L          | 1874   | 44   | 1845 | 45   | 1806 | 46   | 1766 | 47   | 1717 | 49   | 1661 | 50   | 1582 | 53   | 1503 | 55   |
|   | LOW            | 1541   | 54   | 1516 | 55   | 1509 | 55   | 1486 | 56   | 1456 | 57   | 1402 | 59   | 1361 | 61   | 1294 | 64   |
| SD090D-35C<br>Side Return<br>(90,000)                 | HIGH*          | 2273   | 37   | 2222 | 38   | 2164 | 39   | 2098 | 40   | 2025 | 41   | 1947 | 43   | 1864 | 45   | 1780 | 47   |
|   | MED-H**        | 2084   | 40   | 2039 | 41   | 2007 | 42   | 1955 | 43   | 1895 | 44   | 1832 | 45   | 1750 | 48   | 1665 | 50   |
|   | MED-L          | 1784   | 47   | 1777 | 47   | 1749 | 48   | 1725 | 48   | 1679 | 50   | 1629 | 51   | 1576 | 53   | 1501 | 56   |
|   | LOW            | 1482   | 56   | 1470 | 57   | 1444 | 58   | 1432 | 58   | 1405 | 59   | 1375 | 61   | 1339 | 62   | 1286 | 65   |
| SCD90D-35C<br>Side + Bottom<br>or 2 Sides<br>(90,000) | HIGH*          | 2328   | 36   | 2273 | 37   | 2224 | 37   | 2151 | 39   | 2082 | 40   | 2005 | 42   | 1920 | 43   | 1825 | 46   |
|   | MED-H**        | 2124   | 39   | 2108 | 40   | 2052 | 41   | 2018 | 41   | 1954 | 43   | 1884 | 44   | 1813 | 46   | 1725 | 48   |
|   | MED-L          | 1825   | 46   | 1809 | 46   | 1781 | 47   | 1752 | 48   | 1706 | 49   | 1676 | 50   | 1615 | 52   | 1535 | 54   |
|   | LOW            | 1509   | 55   | 1488 | 56   | 1468 | 57   | 1440 | 58   | 1422 | 59   | 1379 | 60   | 1351 | 62   | 1292 | 64   |

# BLOWER PERFORMANCE - G7SD Continued

| *SD - UPFLOW / HORIZONTAL FURNACES           |                |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--|----------------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Model Number<br>&<br>Heating Input<br>(Btuh) | Motor<br>Speed | External Static Pressure (Inches Water Column) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|  |                | 0.1  |      | 0.2  |      | 0.3  |      | 0.4  |      | 0.5  |      | 0.6  |      | 0.7  |      | 0.8  |      |
|  |                | CFM  | Rise | CFM  | Rise | CFM  | Rise | CFM  | Rise | CFM  | Rise | CFM  | Rise | CFM  | Rise | CFM  | Rise |
| SD108D-45D<br>Bottom Return<br>(108,000)     | HIGH*          | 2276   | 44   | 2228 | 45   | 2173 | 46   | 2108 | 47   | 2035 | 49   | 1961 | 51   | 1876 | 53   | 1778 | 56   |
|  | MED-H**        | 2113   | 47   | 2078 | 48   | 2019 | 50   | 1970 | 51   | 1904 | 53   | 1840 | 54   | 1768 | 57   | 1677 | 60   |
|  | MED-L          | 1819   | 55   | 1789 | 56   | 1757 | 57   | 1706 | 59   | 1666 | 60   | 1610 | 62   | 1551 | 64   | 1486 | 67   |
|  | LOW            | 1496   | 67   | 1484 | 67   | 1459 | 69   | 1430 | 70   | 1402 | 71   | 1363 | 73   | 1330 | 75   | 1262 | 79   |
| SD108D-45D<br>Side Return<br>(108,000)       | HIGH*          | 2306   | 43   | 2247 | 45   | 2192 | 46   | 2121 | 47   | 2044 | 49   | 1979 | 51   | 1892 | 53   | 1787 | 56   |
|  | MED-H**        | 2135   | 47   | 2103 | 50   | 2050 | 51   | 1995 | 53   | 1935 | 54   | 1858 | 57   | 1778 | 59   | 1690 | 62   |
|  | MED-L          | 1845   | 54   | 1834 | 57   | 1805 | 58   | 1776 | 59   | 1719 | 61   | 1663 | 63   | 1605 | 66   | 1533 | 69   |
|  | LOW            | 1543   | 65   | 1521 | 69   | 1502 | 70   | 1477 | 71   | 1452 | 73   | 1412 | 75   | 1368 | 77   | 1314 | 80   |

# 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.

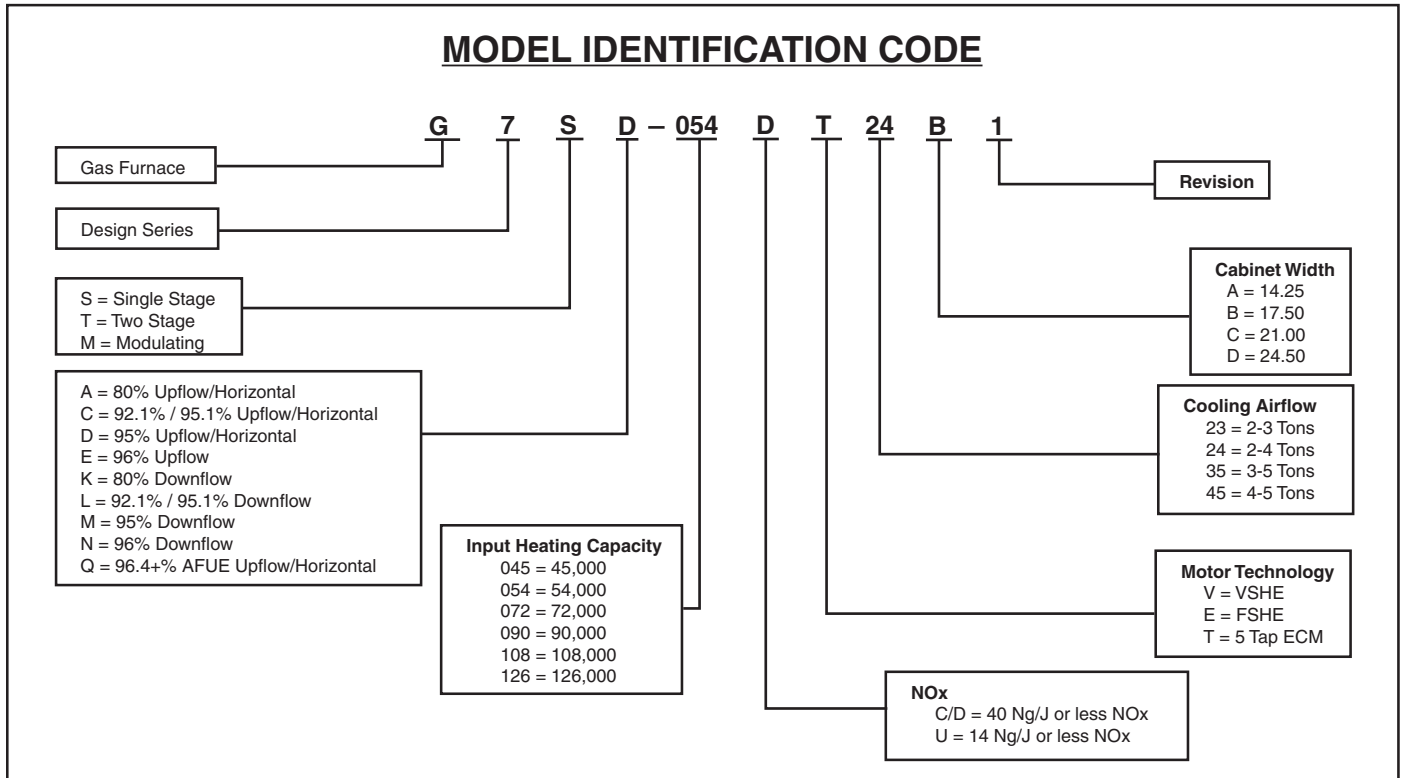
## VENT TABLE

| MODELS | SINGLE PIPE LENGTH (FT.)<br>with 1 long radius elbow* |        | DIRECT VENT,<br>DUEL PIPE LENGTH (ft.) WITH<br>1 long radius elbow on each pipe* |              |
|--------|---|--------|--|--------------|
|        | OUTLET  | OUTLET | INLET/OUTLET   | INLET/OUTLET |
|        | 2"  | 3"     | 2"   | 3"           |
| SD038  | 50  | 70     | 50   | 70           |
| SD054  | 70  | 90     | 70   | 90           |
| SD072  | 50  | 90     | 50   | 90           |
| SD090  | 60  | 90     | 60   | 90           |
| SD108  | N/A   | 90     | N/A  | 90           |

\* NOTE:

1. Subtract 2.5 ft. for each additional 2" elbow and 3.5 ft. for each additional 3" elbow.
2. Two 45 degree elbows are equivalent to one 90 degree elbow.
3. One short radius elbow is equivalent to two long radius elbows.
4. Do not include termination elbows in calculation of vent length.
5. This table is applicable for elevations from sea level to 2000 ft. For higher elevations decrease vent pipe lengths by 8% per 1000 ft. of altitude.
6. Only the listed pipe materials are approved for use with FG7 Condensing Furnaces.

## MODEL IDENTIFICATION CODE



## SPECIFICATIONS

| <b>G7SD MODEL NUMBERS:</b>  | <b>-038D-T24B1</b> | <b>-054D-T24B1</b> | <b>-072D-T35C1</b> | <b>-090D-T35C1</b> | <b>-108D-T45D1</b> |
|-----------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Input - Btuh (a)            | 38,000             | 54,000             | 72,000             | 85,000             | 108,000            |
| Heating Capacity - Btuh     | 36,000             | 51,000             | 68,000             | 81,000             | 103,000            |
| <b>AFUE (b)</b>             | 95.0 / 94.0        | 95.0 / 90.0        | 95.0 / 90.0        | 95.0 / 94.0        | 95.0 / 90.0        |
| Blower D x W                | 10 x 8             | 11 x 8             | 10 x 10            | 11 x 10            | 11 x 10            |
| Motor H.P. - Speed - Type   | 3/4 - 5 - ECM      | 3/4 - 5 - ECM      | 3/4 - 5 - ECM      | 1 - 5 - ECM        | 1 - 5 - ECM        |
| Motor FLA                   | 8.8                | 8.8                | 8.8                | 11.5               | 11.5               |
| Rated Ext. SP - In. W.C.    | 0.5                | 0.5                | 0.5                | 0.5                | 0.5                |
| Temperature Rise Range - °F | 25-55              | 30-60              | 35-65              | 35-65              | 35-65              |
| Shipping Weights            | 100lbs             | 120lbs             | 130lbs             | 135lbs             | 155lbs             |

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.  
 (b) AFUE for Upflow/Horizontal application.

# ACCESSORIES

| G7SD KITS  |         |
|--|---------|
| Description                                      | SKU     |
| 2" Concentric vent kit, Canadian and US approved | 904952  |
| 3" Concentric vent kit, Canadian and US approved | 904953  |
| 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, "C" cabinet     | 904917  |
| Bottom return filter 20 per box, "D" cabinet     | 904918  |
| Side return filter kit                           | 541036  |
| Neutralizer kit                                  | 902377  |
| Furnace Twinning Kit                             | 1010035 |



## 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 retailer. Specifications and illustrations subject to change without notice and without incurring obligations. Printed in U.S.A (04/2022)