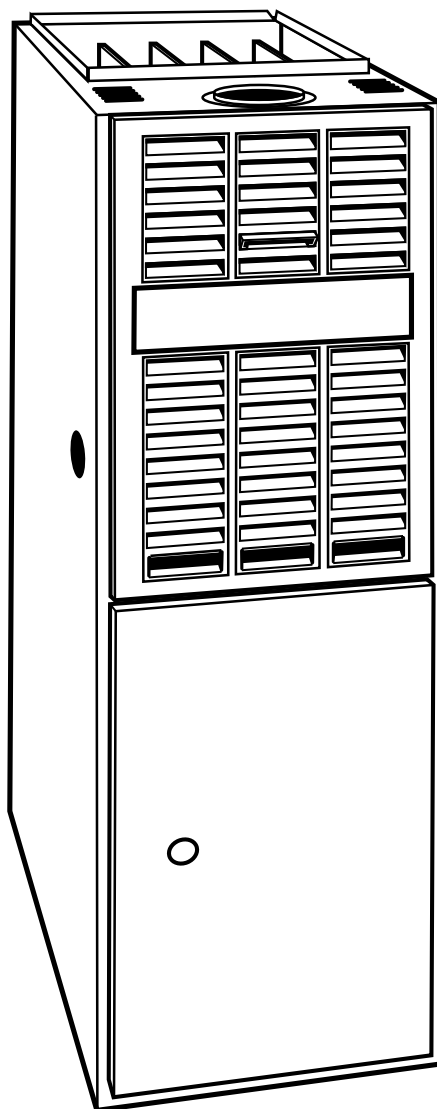




## Product Data

## 58YAV Energy-Efficient Upflow Furnace

Sizes:  
070 thru 155



### Advanced Technology for Energy-Efficient Gas Furnaces

Carrier leads the industry with its new 58YAV Induced-Draft Gas Furnace. This furnace is built for venting into many exterior tile-lined masonry chimneys. It has the most advanced manufacturing equipment, processes, and technology available in order to ensure top quality. Packed into the cabinet are the industry's foremost dealer and homeowner features. The 58YAV Upflow Furnace is the newest addition to Carrier's list of product leadership in the gas furnace industry.

These induced-combustion, gas-fired furnaces offer not only low installation costs, but fuel economy as well — delivering an Annual Fuel Utilization Efficiency (AFUE) rating of 78.0 percent. The Carrier 58YAV utilizes a hot surface, silicon carbide ignition system to save energy and increase reliability.

Our design uses the patented S-shaped 4-pass heat exchanger, our soft mount inducer assembly, and a slow opening gas valve to improve sound level. The heat exchanger is constructed of aluminized steel and is backed by a 20-year Limited Warranty.

The Carrier 58YAV Gas Furnace will meet your home heating requirements.

The superior attention to cabinet detail is obvious. This Carrier furnace features 1-piece, seamless, wrap-around construction. There are no spot welds on the exterior surfaces of the furnace. There is also double protection for the cabinet. First, a galvanized steel substrate provides resistance to rusting. Then the cabinet is constructed of prepainted steel—the

same high-quality finish found on refrigerators and dishwashers.

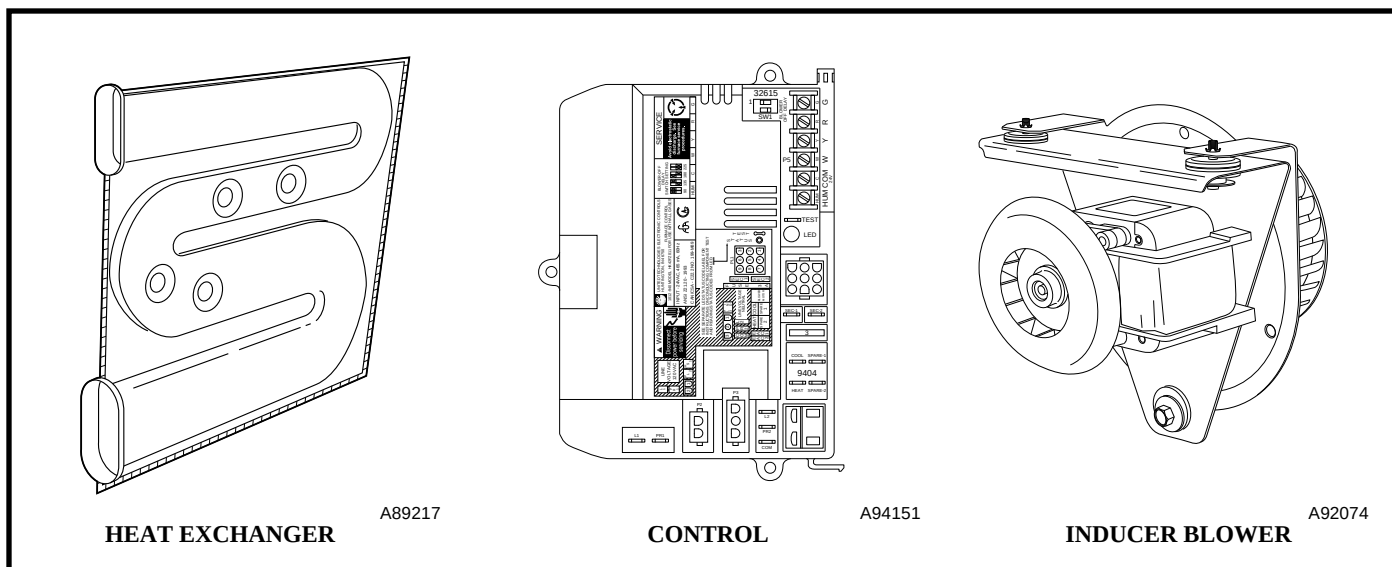
Perhaps the most advanced feature of the 58YAV is the microprocessor control. The simplified electronics in this control provide high reliability while performing many of the functions of older, electro-mechanical devices in other furnaces. Advanced features of the control show true leadership in furnace technology. The control provides blower delay at start-up and shutdown, while monitoring furnace operations and functions. In the unlikely event of a service call, in less

than a minute, the technician can use the self-test feature to determine if a major component has failed. The control will check itself, then the inducer, silicon carbide ignition, heating- and cooling-speed blower, and the electronic air cleaner connections. The control also features a 3-amp fuse that protects the transformer and control. Another feature on the control is an LED status indicator light to ensure top furnace performance.

Our induced-combustion furnace has a patented draft safeguard. The draft safeguard will stop furnace operation if

the vent system becomes blocked or is not operating properly.

Best of all, the Carrier 58YAV is made to be easily installed. Many features make this furnace the easy choice for replacement or new construction markets. Left and right connections are provided for gas and electrical supplies. An easy-to-remove bottom, blower speed selector, cased or uncased cooling coils, low-voltage humidifier, and electronic air cleaner terminal connections are among other features.

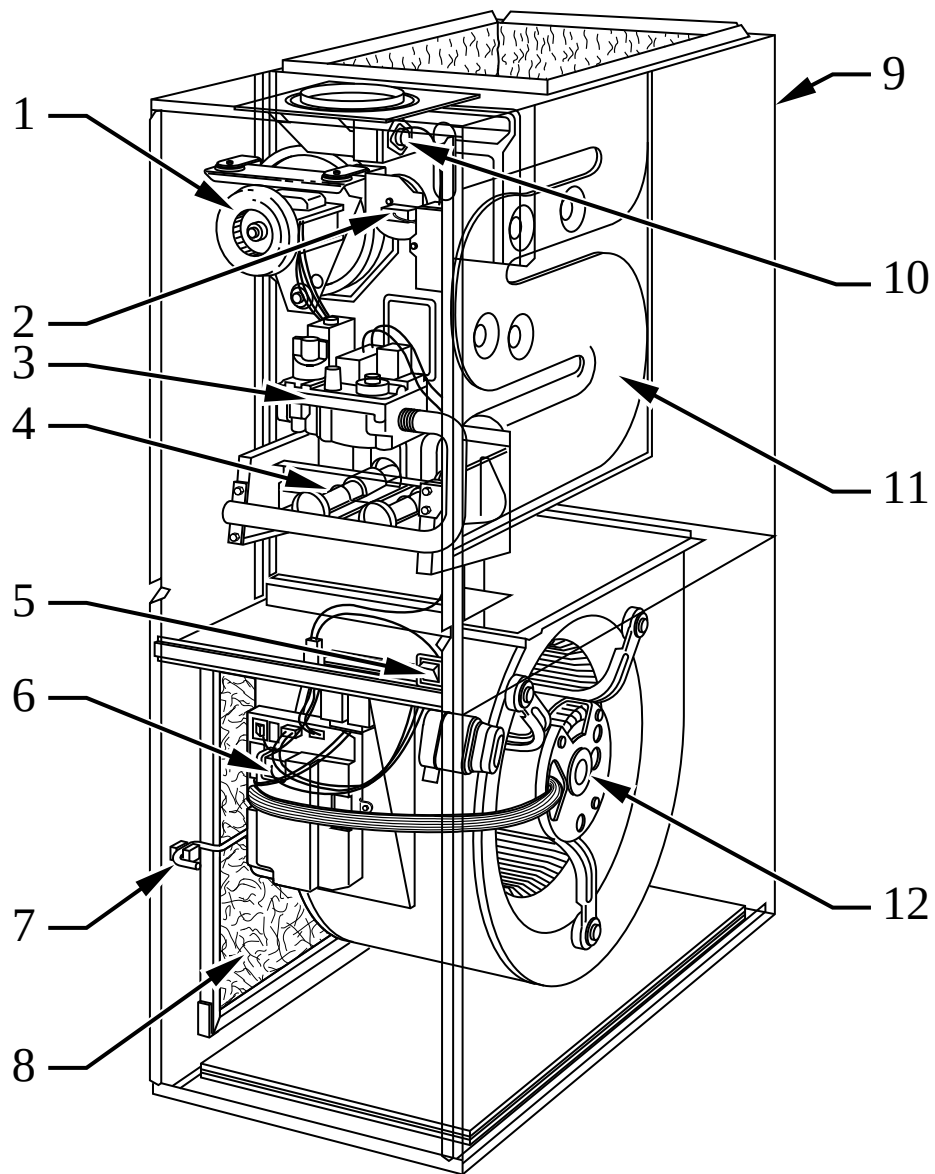


**MEETS DOE RESIDENTIAL CONSERVATION SERVICES PROGRAM STANDARDS.**

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

## Model number nomenclature

| 58YAV                                                                                 | 070                                      | 100 | 12                                                                                                                                             |
|---------------------------------------------------------------------------------------|------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>High-Efficiency Induced-Combustion Upflow Furnace</b>                              |                                          |     | <b>Cooling Size (Airflow)</b><br>(400 CFM per 12,000 Btuh)<br>08 — 800 CFM<br>12 — 1200 CFM<br>14 — 1400 CFM<br>16 — 1600 CFM<br>20 — 2000 CFM |
|                                                                                       |                                          |     | <b>Series Number</b>                                                                                                                           |
| <b>Input Capacity</b><br>070 — 66,000 Btuh<br>091 — 88,000 Btuh<br>111 — 110,000 Btuh | 136 — 132,000 Btuh<br>155 — 154,000 Btuh |     |                                                                                                                                                |



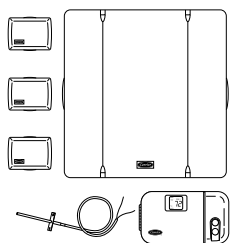
A98062

**NOTES:**

1. The 58YAV Furnaces are for use with natural gas. These furnaces can be field-converted for propane gas with a factory-authorized and A.G.A. and C.G.A. approved accessory conversion kit.
2. Control location and actual control may be different than shown above.

- |                             |                           |
|-----------------------------|---------------------------|
| ❶ Inducer Assembly          | ❷ Air Filter Retainer     |
| ❷ Pressure Switch           | ❸ Air Filter              |
| ❸ Gas Control Valve         | ❹ Wrap-Around Casing      |
| ❹ Burner Assembly           | ❺ Draft Safeguard Switch  |
| ❺ Blower Door Safety Switch | ❻ Heat Exchanger          |
| ❻ Control Box               | ❼ Blower and Blower Motor |

# Carrier accessories\*

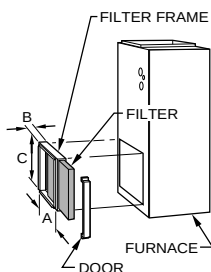


A97432

## CONTROLS THERMOSTATS AND ZONING

Available in programmable and non-programmable models. Carrier thermostats maintain a constant, comfortable temperature level in the home.

For the ultimate in home comfort, Carrier's 2, 4, and 8-zone systems allow temperature control of individual "zones" of the home. This is accomplished through a series of electronic dampers and remote room sensors. The 4-zone system is shown.

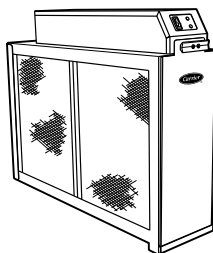


A93068

## SIDE FILTER RACK

Custom made filter rack for easy connection when a return plenum already exists. Provides easy access for cleaning filter.

|          |            |
|----------|------------|
| <b>A</b> | 23-1/8 in. |
| <b>B</b> | 2-3/8 in.  |
| <b>C</b> | 14-1/2 in. |

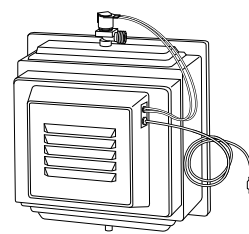


A97380

## MECHANICAL OR ELECTRONIC AIR CLEANER

Cleans the air of smoke, dirt, and many pollens commonly found. Saves decorating and cleaning expenses by keeping carpets, furniture, and drapes cleaner.

Electronic air cleaner is shown.



A91365

## MODEL 49FH HUMIDIFIER

By adding moisture to winter-dry air, a Carrier humidifier can often improve the comfort and keep furniture, rugs, and draperies in better condition. Moisturizing household air also helps to retain normal body heat and provides comfort at lower temperatures.

| UNIT SIZE                                                    |                    | 070-08 & 12                                                                                                                                                                                                                            | 091-14 | 111-16 | 136-20                      | 155-20 |
|--------------------------------------------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|-----------------------------|--------|
| ELECTRONIC AIR CLEANER (EAC)                                 |                    | Model AIRA                                                                                                                                                                                                                             |        |        |                             |        |
| MECHANICAL AIR CLEANER                                       |                    | Model 31MF                                                                                                                                                                                                                             |        |        |                             |        |
| HUMIDIFIER                                                   |                    | Models 49BF, 49BG, 49FH, 49FP, and 49WS                                                                                                                                                                                                |        |        |                             |        |
| HEAT RECOVERY VENTILATOR                                     |                    | Models VA3B, VB5B, or VC5B                                                                                                                                                                                                             |        |        |                             |        |
| ENERGY RECOVERY VENTILATOR                                   |                    | Model VL3A                                                                                                                                                                                                                             |        |        |                             |        |
| THERMOSTAT — NON-PROGRAMMABLE                                |                    | For Use with 1-Speed Air Conditioner — TSTATCCNAC01-A<br>For Use with 2-Speed Air Conditioner — TSTATCCN2S01-A<br>For Use with 2-Speed Heat Pump — TSTATCCN2S01-A                                                                      |        |        |                             |        |
| THERMOSTAT — PROGRAMMABLE                                    |                    | For Use with 1-Speed Air Conditioner — TSTATCCPAC01-A<br>For Use with 2-Speed Air Conditioner — TSTATCCP2S01-A<br>For Use with 1-Speed Heat Pump — TSTATCCPDF01-A<br>For Use with 2-Speed Heat Pump — TSTATCCP2S01-A or TSTATCCPDF01-A |        |        |                             |        |
| THERMIDISTAT — PROGRAMMABLE THERMOSTAT with Humidity Control |                    | TSTATCCPRH01-A                                                                                                                                                                                                                         |        |        |                             |        |
| ZONING — 2 ZONE                                              |                    | ZONECC2KIT01, ZONEKIT2ZCAR                                                                                                                                                                                                             |        |        |                             |        |
| ZONING — 4 ZONE                                              |                    | ZONECC4KIT01                                                                                                                                                                                                                           |        |        |                             |        |
| ZONING — 8 ZONE                                              |                    | ZONECC8KIT01                                                                                                                                                                                                                           |        |        |                             |        |
| SIDE FILTER RACK (With Washable Filter)                      |                    | KGAFR0101ALL                                                                                                                                                                                                                           |        |        |                             |        |
| EXTERIOR CHIMNEY ADAPTER KIT                                 |                    | KGACA01014FC (6-In. Outlet)                                                                                                                                                                                                            |        |        | KGACA01015FC (7-In. Outlet) |        |
| GAS CONVERSION KIT*                                          | Natural-To-Propane | KGANP2001ALL                                                                                                                                                                                                                           |        |        |                             |        |
|                                                              | Propane-To-Natural | KGAPN1601ALL                                                                                                                                                                                                                           |        |        |                             |        |

\* Factory-authorized and field installed. Gas conversion kits are A.G.A. and C.G.A. approved.

# Physical data

| UNIT SIZE                                  |         | 070                        |        | 091    | 111     | 136     | 155     |
|--------------------------------------------|---------|----------------------------|--------|--------|---------|---------|---------|
|                                            |         | 08                         | 12     | 14     | 16      | 20      | 20      |
| OUTPUT CAPACITY (BTUH)† Nonweatherized ICS |         | 52,000                     | 52,000 | 69,000 | 87,000  | 105,000 | 122,000 |
| INPUT BTUH*                                |         | 66,000                     | 66,000 | 88,000 | 110,000 | 132,000 | 154,000 |
| SHIPPING WEIGHT (Lb)                       |         | 132                        | 134    | 150    | 166     | 194     | 204     |
| CERTIFIED TEMP RISE RANGE (°F)             |         | 40-70                      | 30-60  | 40-70  | 45-75   | 40-70   | 50-80   |
| CERTIFIED EXT STATIC PRESSURE              | Heating | 0.12                       | 0.12   | 0.15   | 0.20    | 0.20    | 0.20    |
|                                            | Cooling | 0.5                        | 0.5    | 0.5    | 0.5     | 0.5     | 0.5     |
| AIRFLOW CFM                                | Heating | 830                        | 1140   | 1170   | 1415    | 1775‡   | 1770‡   |
|                                            | Cooling | 880                        | 1195   | 1360   | 1575    | 2025‡   | 2055‡   |
| LIMIT CONTROL                              |         | SPST                       |        |        |         |         |         |
| HEATING BLOWER CONTROL                     |         | Solid-State Time Operation |        |        |         |         |         |
| BURNERS (Monoport)                         |         | 3                          | 3      | 4      | 5       | 6       | 7       |
| GAS CONNECTION SIZE                        |         | 1/2-in. NPT                |        |        |         |         |         |
| GAS VALVE (Redundant) Manufacturer         |         | White-Rodgers              |        |        |         |         |         |
| Minimum Inlet Pressure (In. wc)            |         | 4.5 (Natural Gas)          |        |        |         |         |         |
| Maximum Inlet Pressure (In. wc)            |         | 13.6 (Natural Gas)         |        |        |         |         |         |
| IGNITION DEVICE                            |         | Hot Surface                |        |        |         |         |         |

\* Gas input ratings are certified for elevations to 2000 ft. For elevations above 2000 ft, reduce ratings 4 percent for each 1000 ft above sea level. Refer to National Fuel Gas Code Table F4 or furnace Installation Instructions. In Canada, derate the unit 10 percent for elevations 2000 ft to 4500 ft above sea level.

† Tentative capacity in accordance with U.S. Government DOE test procedures.

‡ Air delivery above 1800 CFM requires that both sides, or a combination of 1 side and bottom, or bottom only, of the furnace be used for return air. A filter is required for each return-air inlet.

ICS—Isolated Combustion System

# Performance data

| UNIT SIZE                            |     | 070    |        | 091    | 111    | 136     | 155     |
|--------------------------------------|-----|--------|--------|--------|--------|---------|---------|
|                                      |     | 08     | 12     | 14     | 16     | 20      | 20      |
| DIRECT-DRIVE MOTOR Hp (PSC)          |     | 1/5    | 1/3    | 1/3    | 1/2    | 3/4     | 3/4     |
| MOTOR FULL LOAD AMPS                 |     | 2.9    | 5.8    | 5.8    | 7.9    | 11.1    | 11.1    |
| RPM (Nominal) — SPEEDS               |     | 1075-3 | 1075-4 | 1075-4 | 1075-4 | 1075-4  | 1075-4  |
| BLOWER WHEEL DIAMETER x WIDTHS (In.) |     | 10 x 6 | 10 x 6 | 10 x 7 | 10 x 8 | 11 x 10 | 11 x 10 |
| WASHABLE 16 x 25 x 1-In. FILTER      | Qty | 1      | 1      | 1      | —      | —       | —       |
| WASHABLE 20 x 25 x 1-In. FILTER      | Qty | —      | —      | —      | 1      | —       | —       |
| WASHABLE 24 x 29 x 1-In. FILTER      | Qty | —      | —      | —      | —      | 1       | 1       |

PSC—Permanent Split Capacitor

## ENERGY EFFICIENCY

| UNIT SIZE                         |  | 070    |        | 091    | 111    | 136     | 155     |
|-----------------------------------|--|--------|--------|--------|--------|---------|---------|
|                                   |  | 08     | 12     | 14     | 16     | 20      | 20      |
| CAPACITY BTUH* Nonweatherized ICS |  | 52,000 | 52,000 | 69,000 | 87,000 | 105,000 | 122,000 |
| AFUE%* Nonweatherized ICS         |  | 78.0   | 78.0   | 78.0   | 78.0   | 78.0    | 78.0    |

\* Capacity and AFUE in accordance with U.S. Government DOE test procedures.

ICS—Isolated Combustion System

### AIR DELIVERY—CFM (With Filter)\*

| UNIT SIZE | SPEED    | EXTERNAL STATIC PRESSURE (In. wc) |      |      |      |      |      |      |      |
|-----------|----------|-----------------------------------|------|------|------|------|------|------|------|
|           |          | 0.1                               | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  |
| 070-08    | High     | 1040                              | 1010 | 975  | 935  | 880  | 810  | 735  | 640  |
|           | Med-High | 855                               | 830  | 800  | 765  | 715  | 660  | 600  | 490  |
|           | Med-Low  | 745                               | 715  | 690  | 650  | 605  | 550  | 475  | 385  |
| 070-12    | High     | 1430                              | 1380 | 1325 | 1265 | 1195 | 1125 | 1045 | 945  |
|           | Med-High | 1310                              | 1275 | 1235 | 1190 | 1135 | 1065 | 990  | 900  |
|           | Med-Low  | 1140                              | 1130 | 1100 | 1065 | 1000 | 965  | 910  | 815  |
|           | Low      | 990                               | 965  | 960  | 935  | 905  | 855  | 800  | 710  |
| 091-14    | High     | 1570                              | 1535 | 1480 | 1415 | 1360 | 1280 | 1185 | 1070 |
|           | Med-High | 1370                              | 1355 | 1330 | 1290 | 1240 | 1170 | 1080 | 955  |
|           | Med-Low  | 1170                              | 1165 | 1150 | 1115 | 1085 | 1035 | 970  | 880  |
|           | Low      | 1010                              | 1005 | 990  | 965  | 950  | 905  | 845  | 745  |
| 111-16    | High     | 1880                              | 1815 | 1745 | 1690 | 1575 | 1500 | 1400 | 1265 |
|           | Med-High | 1660                              | 1615 | 1570 | 1505 | 1435 | 1355 | 1260 | 1170 |
|           | Med-Low  | 1455                              | 1410 | 1375 | 1350 | 1290 | 1235 | 1145 | 985  |
|           | Low      | 1265                              | 1265 | 1240 | 1210 | 1180 | 1110 | 995  | 855  |
| 136-20    | High     | —                                 | 2260 | 2185 | 2085 | 2025 | 1935 | 1835 | 1730 |
|           | Med-High | 2110                              | 2070 | 2015 | 1960 | 1885 | 1810 | 1715 | 1620 |
|           | Med-Low  | 1790                              | 1775 | 1755 | 1720 | 1670 | 1610 | 1535 | 1455 |
|           | Low      | 1495                              | 1500 | 1515 | 1485 | 1450 | 1400 | 1345 | 1270 |
| 155-20    | High     | —                                 | 2300 | 2235 | 2155 | 2055 | 1980 | 1870 | 1775 |
|           | Med-High | —                                 | 2050 | 2005 | 1945 | 1880 | 1805 | 1720 | 1640 |
|           | Med-Low  | 1790                              | 1770 | 1740 | 1710 | 1635 | 1580 | 1520 | 1440 |
|           | Low      | 1520                              | 1525 | 1505 | 1485 | 1450 | 1410 | 1350 | 1290 |

\* Air delivery above 1800 CFM requires that both sides, or a combination of 1 side and bottom, or bottom only of the furnace be used for return air. A filter is required for each return-air inlet.

—Indicates unstable operating conditions.

#### MINIMUM INCHES CLEARANCE TO COMBUSTIBLE CONSTRUCTION

This forced air furnace is equipped for use with natural gas at altitudes 0-10,000 ft (0-3,050m).

An accessory kit, supplied by the manufacturer, shall be used to convert to propane gas use or may be required for some natural gas applications.

This furnace is for indoor installation in a building constructed on site.

This furnace may be installed on combustible flooring in alcove or closet at minimum clearance from combustible material.

This furnace may be used with a Type B-1 Vent and may be vented in common with other gas-fired appliances.

# For furnaces wider than 14.25 inches (362mm) may be 0 inches.  
 ### For single wall vent type 6 inches. For Type B-1 vent type 3 inches.

**INSTALLATION WITH CHIMNEY ADAPTER KIT**

Chimney Adapter Kits: No. KGACA01014FC or No. KGACA01015FC may be required for some exterior masonry chimney applications. See Installation Instructions.

This furnace is approved for UPFLOW installations only.

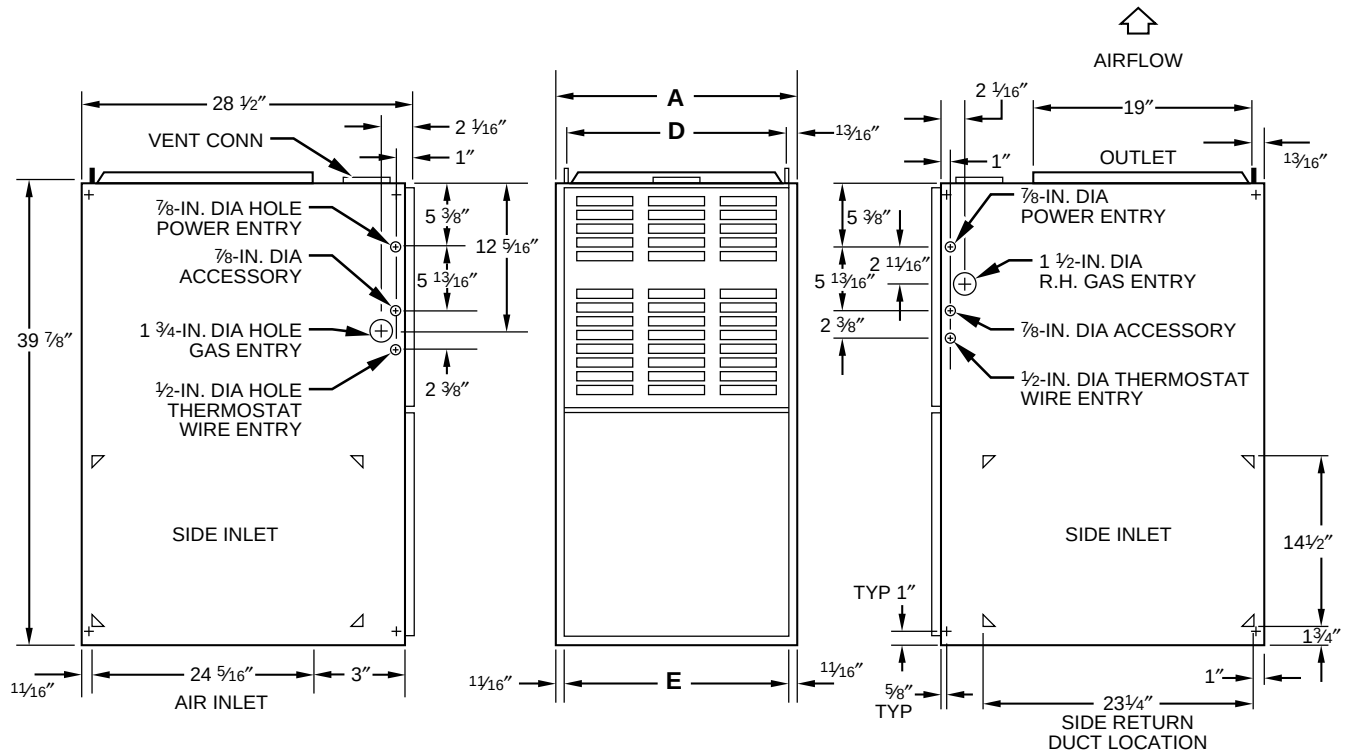
Clearance in inches

**Vent Clearance to combustibles:**  
 For Single Wall vents 6 inches (6 po).  
 For Type B-1 vent type 1 inch (1 po).

323653-101 REV. D (if)

A98046E

# Dimensions



- NOTES:**
- Two additional  $\frac{7}{8}$ -in. dia holes are located in the top plate.
  - Minimum return-air opening at furnace:
    - For 800 CFM—16-in. round or  $14 \frac{1}{2} \times 12$ -in. rectangle.
    - For 1200 CFM—20-in. round or  $14 \frac{1}{2} \times 19 \frac{1}{2}$ -in. rectangle.
    - For 1600 CFM—22-in. round or  $14 \frac{1}{2} \times 23 \frac{3}{4}$ -in. rectangle.
    - For airflow requirements above 1800 CFM, use both side inlets, a combination of 1 side inlet and the bottom, or the bottom only.

A98025

## DIMENSIONS (In.)

| UNIT SIZE | A       | D       | E        | VENT CONN* (Dia) |
|-----------|---------|---------|----------|------------------|
| 070-08    | 14-3/16 | 12-9/16 | 11-11/16 | 4                |
| 070-12    | 14-3/16 | 12-9/16 | 11-11/16 | 4                |
| 091-14    | 17-1/2  | 15-7/8  | 16       | 4                |
| 111-16    | 21      | 19-3/8  | 18-1/2   | 4                |
| 136-20    | 24-1/2  | 22-7/8  | 22       | 5                |
| 155-20    | 24-1/2  | 22-7/8  | 22       | 5†               |

\* Refer to the furnace Installation Instructions for proper venting procedures.

† Oval collar

# Electrical data

| UNIT SIZE                          | 070-08       | 070-12 | 091-14 | 111-16 | 136-20 | 155-20 |
|------------------------------------|--------------|--------|--------|--------|--------|--------|
| UNIT VOLTS — HERTZ — PHASE         | 115 — 60 — 1 |        |        |        |        |        |
| MINIMUM WIRE SIZE (AWG)            | 14           | 14     | 14     | 14     | 12     | 12     |
| MAXIMUM WIRE LENGTH (Ft)*          | 47           | 32     | 31     | 28     | 33     | 31     |
| MAXIMUM UNIT AMPS                  | 5.9          | 8.7    | 9.0    | 10.1   | 13.3   | 14.0   |
| OPERATING VOLTAGE RANGE (Min—Max)† | 104—127      |        |        |        |        |        |
| MAX FUSE SIZE OR Ckt Bkr (Amps)‡   | 15           | 15     | 15     | 15     | 20     | 20     |
| TRANSFORMER (24v)                  | 40va         |        |        |        |        |        |
| EXTERNAL CONTROL POWER AVAILABLE   | Heating      | 12va   |        |        |        |        |
|                                    | Cooling      | 35va   |        |        |        |        |
| AIR CONDITIONING BLOWER RELAY      | Standard     |        |        |        |        |        |

\* Length shown is as measured 1 way along wire path between unit and service panel for maximum 2 percent voltage drop.

† Permissible limits of the voltage range at which the unit will operate satisfactorily.

‡ Time-delay fuse is recommended.

## Typical wiring schematic

