



## Product Data

FILE  
COPY

### **58RAV** **Mid-Efficiency** **Downflow/Horizontal** **Induced-Combustion** **Gas Furnace**

Heating Capacities:  
35,000 — 110,000 Btuh

#### **80% AFUE At Budget Price**

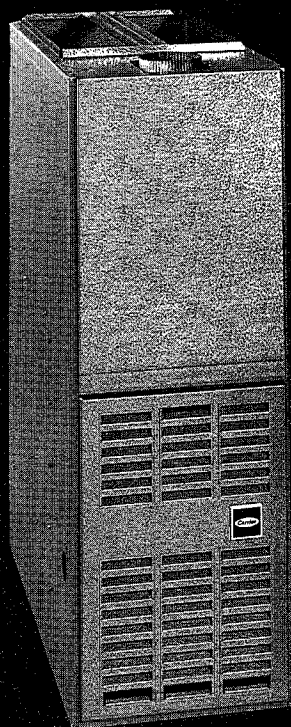
Carrier is the first manufacturer to provide an 80% AFUE gas furnace for the budget conscious consumer and builder. The 58RAV offers the same high quality you demand from Carrier, but with a few less features.

The cabinet is constructed from a specially selected galvanized embossed steel with a clear coating. This material provides the same protection from humidity and rust as our other cabinets.

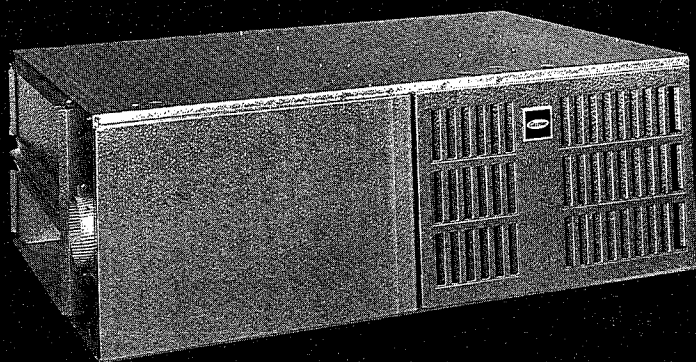
The 58RAV ignition system is the same high quality design found on the Carrier Crusader. The hot surface ignitor provides a superior and more reliable ignition than older spark relight systems.

Although the heat exchanger is the same aluminized steel, this furnace is covered by a 10-year heat exchanger Limited Warranty. This is Carrier's patented Super-S heat exchanger that improved heat transfer and enables downsizing of this furnace to only 40 ins. tall.

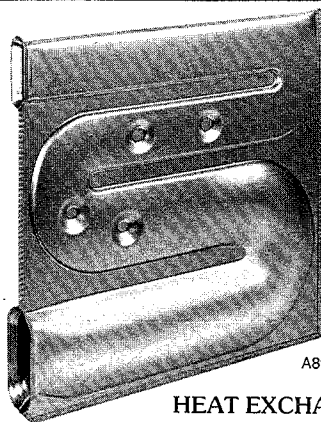
The control board is the brains of this induced-combustion gas furnace. It offers a unique self-test feature that checks all the major functions of the furnace within one minute.



DOWNFLOW

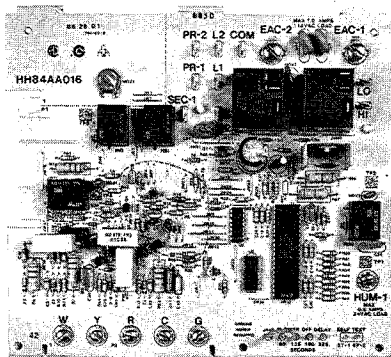


HORIZONTAL



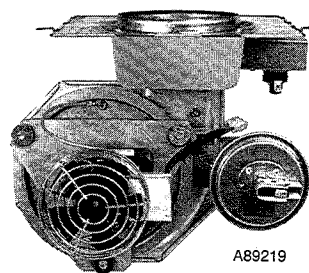
A89217

HEAT EXCHANGER



A89218

PRINTED-CIRCUIT  
BOARD



A89219

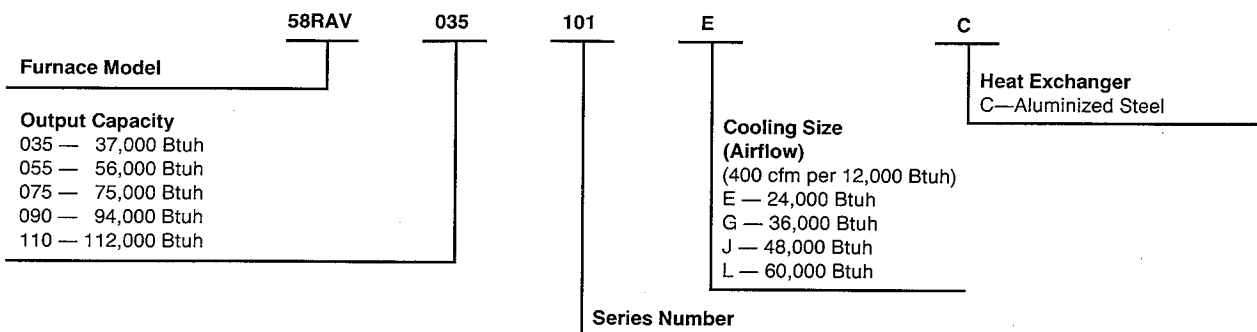
INDUCER BLOWER



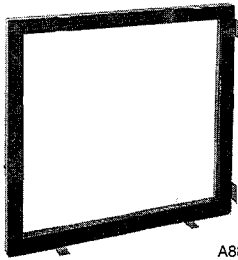
**MEETS DOE RESIDENTIAL CONSERVATION SERVICES  
PROGRAM STANDARDS.**

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

## Model number nomenclature



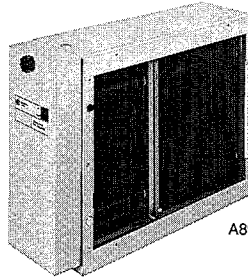
# Carrier Accessories\*



A88202

## DOWNFLOW SUBBASE

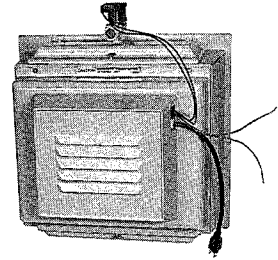
One base fits all furnace sizes. The base is designed to be installed between the furnace or coil box and a combustible floor. It is A.G.A. design certified for use with Carrier 58RAV furnaces.



A89239

## MODEL 31KAX ELECTRONIC AIR CLEANER

Cleans the air of smoke, dirt, and many pollens commonly found in the air. Saves decorating and cleaning expenses.



A89459

## 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.

| MODEL 58RAV                                | 035-EC & GC                | 055-EC & GC | 075-GC & JC | 090-JC & LC | 110-LC |
|--------------------------------------------|----------------------------|-------------|-------------|-------------|--------|
| ELECTRONIC AIR CLEANER                     | Model 31KAX                |             |             |             |        |
| HUMIDIFIER                                 | Model 49FH                 |             |             |             |        |
| THERMOSTAT                                 | See Master Price Page 99TZ |             |             |             |        |
| DOWNFLOW SUBBASE                           | 58DHC900---031             |             |             |             |        |
| DUCT-FLANGE KIT                            | 58DH-900---00110           |             |             |             |        |
| GAS CONVERSION KIT —<br>NATURAL-TO-PROPANE | 58DHC900---011             |             |             |             |        |
| PROPANE-TO-NATURAL                         | 58DHC900---021             |             |             |             |        |

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

## Physical data

| FURNACE MODEL 58RAV                |                     | 035                        |        | 055    |        | 075    |        | 090     |         | 110     |
|------------------------------------|---------------------|----------------------------|--------|--------|--------|--------|--------|---------|---------|---------|
|                                    |                     | EC                         | GC     | EC     | GC     | GC     | JC     | JC      | LC      | LC      |
| OUTPUT CAPACITY†                   | Nonweatherized ICS‡ | 37,000                     | 37,000 | 56,000 | 56,000 | 75,000 | 75,000 | 94,000  | 94,000  | 112,000 |
| INPUT BTUH*                        |                     | 46,000                     | 46,000 | 69,000 | 69,000 | 92,000 | 92,000 | 115,000 | 115,000 | 138,000 |
| SHIPPING WEIGHT(lb)                |                     | 118                        | 121    | 135    | 139    | 146    | 146    | 163     | 171     | 182     |
| CERTIFIED TEMP RISE RANGE (F)      |                     | 35—65                      | 15—45  | 55—85  | 30—60  | 50—80  | 40—70  | 50—80   | 40—70   | 50—80   |
| CERTIFIED EXT STATIC PRESSURE      | Heating             | 0.10                       | 0.10   | 0.12   | 0.12   | 0.15   | 0.15   | 0.20    | 0.20    | 0.20    |
|                                    | Cooling             | 0.50                       | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50    | 0.50    | 0.50    |
| AIRFLOW CFM                        | Heating             | 720                        | 1170   | 660    | 1200   | 1155   | 1350   | 1400    | 1735    | 1690    |
|                                    | Cooling             | 895                        | 1215   | 930    | 1300   | 1395   | 1580   | 1595    | 1950    | 2055    |
| SECONDARY LIMIT CONTROL            |                     | Manual Reset               |        |        |        |        |        |         |         |         |
| LIMIT CONTROL                      |                     | SPST                       |        |        |        |        |        |         |         |         |
| HEATING BLOWER CONTROL             |                     | Solid-State Time Operation |        |        |        |        |        |         |         |         |
| BURNERS (Monoport)                 |                     | 2                          |        | 3      |        | 4      |        | 5       |         | 6       |
| GAS CONNECTION SIZE                |                     | 1/2-inch NPT               |        |        |        |        |        |         |         |         |
| GAS VALVE (Redundant) Manufacturer |                     | White-Rodgers              |        |        |        |        |        |         |         |         |
| Minimum Inlet Pressure (in. wc)    |                     | 4.5 (natural gas)          |        |        |        |        |        |         |         |         |
| Maximum Inlet Pressure (in. wc)    |                     | 13.6                       |        |        |        |        |        |         |         |         |
| MAIN BURNER IGNITOR                |                     | Hot-Surface                |        |        |        |        |        |         |         |         |

\*Gas input ratings are certified for elevations to 2000 ft. For elevations above 2000 ft, reduce ratings 4% for each 1000 ft above sea level.

†Capacity in accordance with U.S. Government DOE test procedures. California Seasonal Efficiencies based on California-specified procedures.

‡ICS — Isolated Combustion System.

# Dimensions

## CLEARANCES (in.)

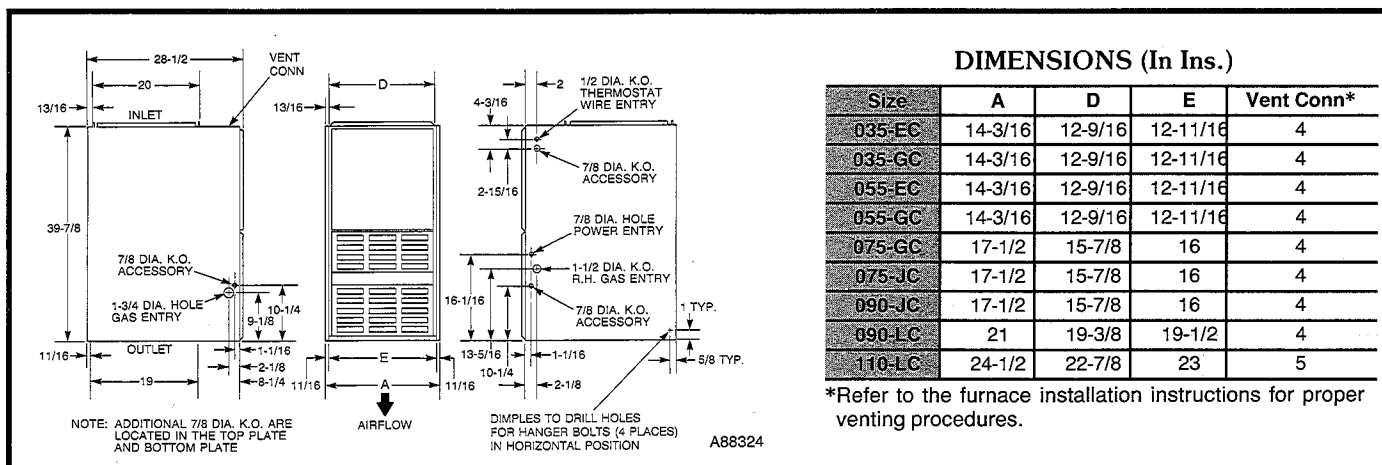
| Sizes                     | 035 and 055 | 075 thru 110 |
|---------------------------|-------------|--------------|
| <b>DOWNFLOW</b>           |             |              |
| Sides—Single-Wall Vent    | 1           | 0            |
| Type B-1 Double-Wall Vent | 0           | 0            |
| Back                      | 0           | 0            |
| Top                       | 1           | 1            |
| Front—Single-Wall Vent    | 6           | 6            |
| Type B-1 Double-Wall Vent | 3           | 3            |
| Vent—Single-Wall          | 6           | 6            |
| Type B-1 Double-Wall      | 1           | 1            |

### NOTES:

1. Provide 30-in. front clearance for servicing. An open door in front of the furnace can meet this requirement.
2. A minimum clearance of 3 ins. must be provided in front of the furnace for combustion air and proper operation.

| Sizes                               | 035 and 055 | 075 thru 110 |
|-------------------------------------|-------------|--------------|
| <b>HORIZONTAL (In Alcove/Attic)</b> |             |              |
| Sides*                              | 1           | 0            |
| Back                                | 0           | 0            |
| Top—Single-Wall                     | 1           | 1            |
| Type B-1 Double-Wall                | 1           | 1            |
| Front                               | 18          | 18           |
| Vent—Single-Wall                    | 6           | 6            |
| Type B-1 Double-Wall                | 1           | 1            |
| <b>HORIZONTAL (In Closet)</b>       |             |              |
| Sides*                              | 1           | 1            |
| Back                                | 3           | 3            |
| Top—Single-Wall Vent                | 2           | 2            |
| Type B-1 Double-Wall Vent           | 2           | 2            |
| Front—Single-Wall Vent              | 6           | 6            |
| Type B-1 Double-Wall Vent           | 3           | 3            |
| Vent—Single-Wall                    | 6           | 6            |
| Type B-1 Double-Wall                | 1           | 1            |

\*Indicates supply or return sides when furnace is in the horizontal position.



## DIMENSIONS (In Ins.)

| Size   | A       | D       | E        | Vent Conn* |
|--------|---------|---------|----------|------------|
| 035-EC | 14-3/16 | 12-9/16 | 12-11/16 | 4          |
| 035-GC | 14-3/16 | 12-9/16 | 12-11/16 | 4          |
| 055-EC | 14-3/16 | 12-9/16 | 12-11/16 | 4          |
| 055-GC | 14-3/16 | 12-9/16 | 12-11/16 | 4          |
| 075-GC | 17-1/2  | 15-7/8  | 16       | 4          |
| 075-JC | 17-1/2  | 15-7/8  | 16       | 4          |
| 090-JC | 17-1/2  | 15-7/8  | 16       | 4          |
| 090-LC | 21      | 19-3/8  | 19-1/2   | 4          |
| 110-LC | 24-1/2  | 22-7/8  | 23       | 5          |

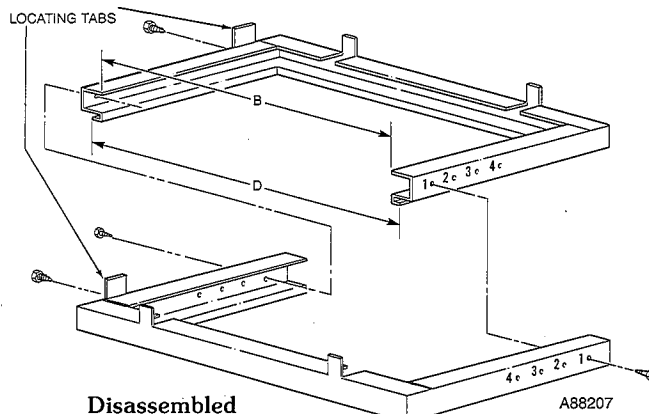
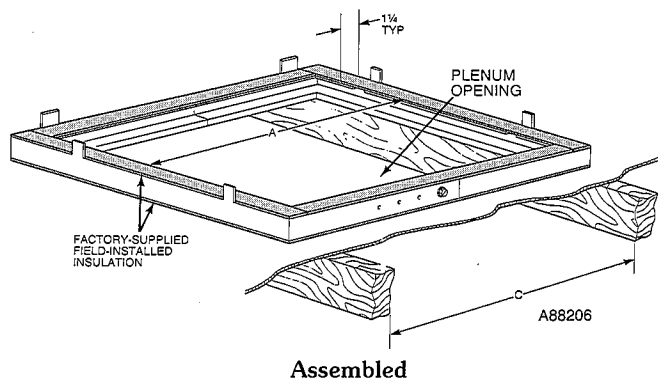
\*Refer to the furnace installation instructions for proper venting procedures.

## Accessory Downflow Subbase

### DIMENSIONAL DATA

| Furnace Width | Plenum Opening* |    | Framed Floor Hole |        | Hole No. for Width Adjustment |
|---------------|-----------------|----|-------------------|--------|-------------------------------|
|               | A               | B  | C                 | D      |                               |
| 14-3/16       | 11-13/16        | 19 | 13-7/16           | 20-3/8 | 4                             |
| 17-1/2        | 15-1/8          | 19 | 16-3/4            | 20-3/8 | 3                             |
| 21            | 18-5/8          | 19 | 20-1/4            | 20-3/8 | 2                             |
| 24-1/2        | 22-1/8          | 19 | 23-3/4            | 20-3/8 | 1                             |

\*The plenum should be constructed 1/4 in. smaller in width and depth than the plenum dimensions shown above.



## AIR DELIVERY (cfm)

| FURNACE SIZE | SPEED    | EXTERNAL STATIC PRESSURE (in. wc) |      |      |      |      |      |      |      |
|--------------|----------|-----------------------------------|------|------|------|------|------|------|------|
|              |          | 0.1                               | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  |
| 035-EC       | High     | 1100                              | 1050 | 1000 | 950  | 895  | 840  | 760  | 650  |
|              | Med-High | 860                               | 820  | 790  | 760  | 710  | 655  | 580  | 480  |
|              | Med-Low  | 720                               | 685  | 650  | 615  | 560  | 505  | 440  | 360  |
|              | Low      | 615                               | 585  | 555  | 510  | 460  | 400  | 340  | 250  |
| 035-GC       | High     | —                                 | 1400 | 1355 | 1300 | 1215 | 1130 | 1050 | 960  |
|              | Med-High | —                                 | 1295 | 1255 | 1190 | 1115 | 1045 | 975  | 890  |
|              | Med-Low  | 1170                              | 1150 | 1115 | 1060 | 1005 | 950  | 880  | 800  |
|              | Low      | 1020                              | 1010 | 980  | 945  | 985  | 850  | 785  | 715  |
| 055-EC       | High     | —                                 | —    | 1010 | 975  | 930  | 885  | 825  | 745  |
|              | Med-High | —                                 | 815  | 800  | 765  | 725  | 685  | 620  | 550  |
|              | Med-Low  | —                                 | 660  | 645  | 620  | 590  | 545  | 480  | 415  |
|              | Low      | 590                               | 570  | 545  | 510  | 470  | 405  | 360  | 295  |
| 055-GC       | High     | —                                 | 1490 | 1425 | 1365 | 1300 | 1240 | 1175 | 1100 |
|              | Med-High | —                                 | 1345 | 1300 | 1255 | 1200 | 1140 | 1075 | 1000 |
|              | Med-Low  | 1200                              | 1180 | 1140 | 1100 | 1060 | 1015 | 960  | 895  |
|              | Low      | 1020                              | 1000 | 985  | 950  | 915  | 880  | 835  | 780  |
| 075-GC       | High     | —                                 | 1575 | 1515 | 1455 | 1395 | 1325 | 1230 | 1120 |
|              | Med-High | —                                 | 1380 | 1340 | 1285 | 1230 | 1165 | 1095 | 1005 |
|              | Med-Low  | 1165                              | 1145 | 1130 | 1090 | 1055 | 1005 | 940  | 870  |
|              | Low      | 965                               | 955  | 940  | 910  | 885  | 840  | 785  | 705  |
| 075-JC       | High     | 1855                              | 1765 | 1710 | 1665 | 1580 | 1570 | 1410 | 1310 |
|              | Med-High | 1595                              | 1570 | 1530 | 1485 | 1410 | 1355 | 1280 | 1200 |
|              | Med-Low  | 1355                              | 1345 | 1305 | 1270 | 1220 | 1170 | 1110 | 1025 |
|              | Low      | 1170                              | 1170 | 1140 | 1110 | 1075 | 1025 | 965  | 890  |
| 090-JC       | High     | 1930                              | 1850 | 1770 | 1685 | 1595 | 1505 | 1405 | 1305 |
|              | Med-High | 1685                              | 1630 | 1580 | 1525 | 1445 | 1370 | 1285 | 1195 |
|              | Med-Low  | 1425                              | 1400 | 1370 | 1325 | 1280 | 1225 | 1155 | 1070 |
|              | Low      | 1250                              | 1240 | 1210 | 1170 | 1150 | 1095 | 1035 | 950  |
| 090-LC       | High     | 2235                              | 2185 | 2110 | 2030 | 1950 | 1835 | 1700 | 1540 |
|              | Med-High | 1995                              | 1970 | 1915 | 1845 | 1765 | 1680 | 1545 | 1415 |
|              | Med-Low  | 1735                              | 1735 | 1675 | 1625 | 1565 | 1480 | 1370 | 1265 |
|              | Low      | 1510                              | 1500 | 1485 | 1455 | 1400 | 1320 | 1230 | 1130 |
| 110-LC       | High     | —                                 | 2250 | 2190 | 2130 | 2055 | 1960 | 1875 | 1760 |
|              | Med-High | —                                 | 2000 | 1960 | 1910 | 1850 | 1785 | 1710 | 1615 |
|              | Med-Low  | 1700                              | 1690 | 1670 | 1650 | 1610 | 1560 | 1490 | 1435 |
|              | Low      | 1480                              | 1480 | 1480 | 1460 | 1430 | 1380 | 1320 | 1255 |

— Indicates unstable operating conditions.

## Performance data

| FURNACE MODEL 58RAV                 | 035-EC          | 035-GC | 055-EC | 055-GC | 075-GC | 075-JC | 090-JC | 090-LC  | 110-LC  |
|-------------------------------------|-----------------|--------|--------|--------|--------|--------|--------|---------|---------|
| DIRECT-DRIVE MOTOR<br>Hp (PSC)      | 1/5             | 1/3    | 1/5    | 1/3    | 1/3    | 1/2    | 1/2    | 3/4     | 3/4     |
| MOTOR FULL LOAD AMPS                | 3.4             | 5.8    | 3.4    | 5.8    | 5.8    | 7.9    | 7.9    | 11.1    | 11.1    |
| RPM (Nominal)—SPEEDS                | 1075—4          | 1075—4 | 1075—4 | 1075—4 | 1075—4 | 1075—4 | 1075—4 | 1075—4  | 1075—4  |
| BLOWER WHEEL DIAMETER x WIDTH (in.) | 10 x 6          | 10 x 6 | 10 x 6 | 10 x 6 | 10 x 7 | 10 x 8 | 10 x 8 | 11 x 10 | 11 x 10 |
| FILTER SIZE (in.)—(WASHABLE)        | (2) 16 x 20 x 1 |        |        |        |        |        |        |         |         |

PSC — Permanent Split Capacitor

## ENERGY EFFICIENCY

| FURNACE MODEL 58RAV                    |                     | 035    |        | 055    |        | 075    |        | 090    |        | 110     |
|----------------------------------------|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
|                                        |                     | EC     | GC     | EC     | GC     | GC     | JC     | JC     | LC     | LC      |
| CAPACITY BTUH*                         | Nonweatherized ICS† | 37,000 | 37,000 | 56,000 | 56,000 | 75,000 | 75,000 | 94,000 | 94,000 | 112,000 |
| AFUE %*                                | Nonweatherized ICS† | 80.2   | 80.2   | 80.2   | 80.2   | 80.2   | 80.2   | 80.2   | 80.2   | 80.2    |
| CALIFORNIA SEASONAL EFFICIENCIES (CSE) |                     | 75.2   | 73.0   | 76.6   | 74.9   | 76.0   | 75.5   | 76.5   | 75.0   | 75.6    |

\*Capacity and AFUE in accordance with U.S. Government DOE test procedures. California Seasonal Efficiencies based on California-specified procedures.

†ICS—Isolated Combustion System

# Electrical data

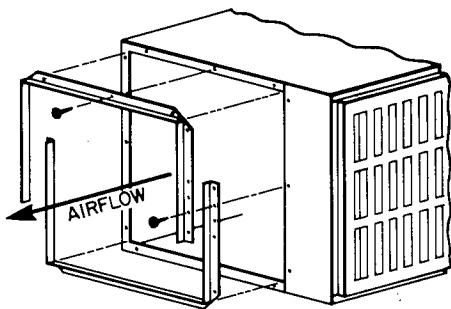
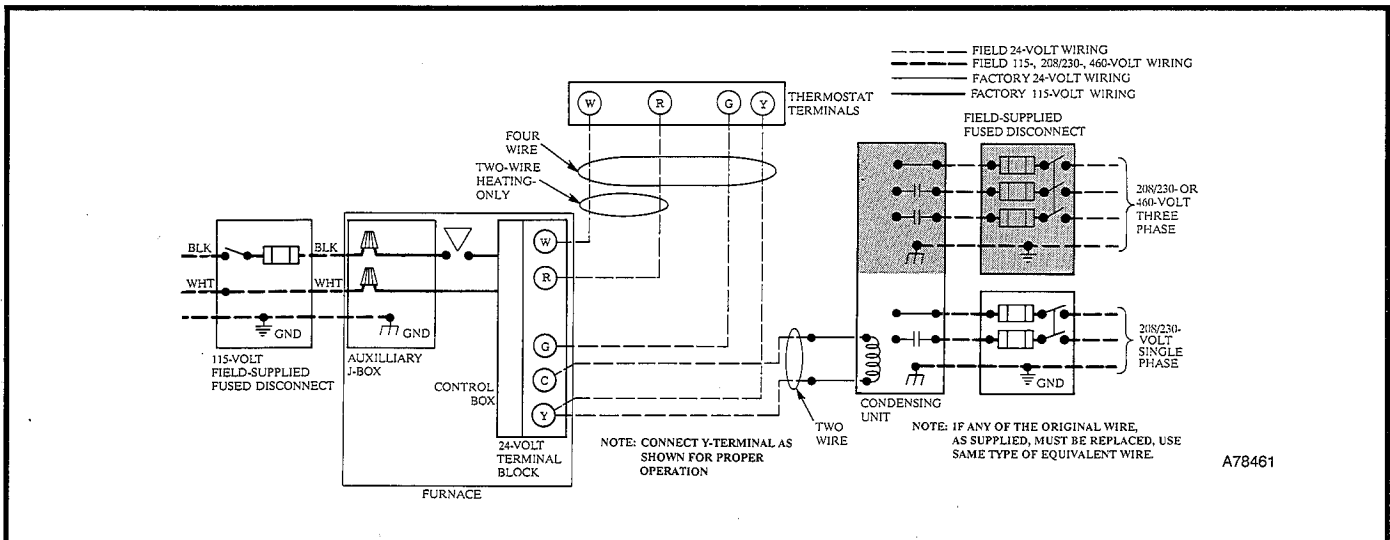
| FURNACE MODEL 58RAV                            |         | 035-EC   | 035-GC | 055-EC | 055-GC | 075-GC | 075-JC | 090-JC | 090-LC | 110-LC |
|------------------------------------------------|---------|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| UNIT VOLTS—HERTZ—PHASE                         |         | 115—60—1 |        |        |        |        |        |        |        |        |
| MINIMUM WIRE SIZE                              |         | 14       | 14     | 14     | 14     | 14     | 14     | 14     | 12     | 12     |
| MAXIMUM WIRE LENGTH* (Ft)                      |         | 53       | 44     | 53     | 43     | 40     | 35     | 36     | 44     | 40     |
| MAXIMUM UNIT AMPS                              |         | 6.6      | 8.1    | 6.7    | 8.4    | 9.2    | 10.2   | 10.0   | 13.1   | 14.3   |
| OPERATING VOLTAGE RANGE† (Min—Max)             |         | 104—127  |        |        |        |        |        |        |        |        |
| MAXIMUM FUSE SIZE OR HACR-TYPE CKT BKR‡ (Amps) |         | 15       | 15     | 15     | 15     | 15     | 15     | 15     | 20     | 20     |
| TRANSFORMER (24v)                              |         | 40 VA    |        |        |        |        |        |        |        |        |
| EXTERNAL CONTROL POWER AVAILABLE—              | Heating | 12 VA    |        |        |        |        |        |        |        |        |
|                                                | Cooling | 35 VA    |        |        |        |        |        |        |        |        |
| AIR CONDITIONING BLOWER RELAY                  |         | Standard |        |        |        |        |        |        |        |        |

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

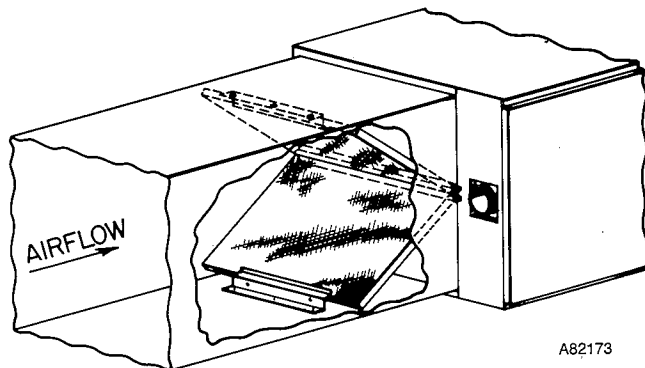
†Permissible limits of the voltage range at which the unit will operate satisfactorily.

‡Time-delay fuse is recommended.

## Typical wiring schematic



Duct Flanges  
(Accessory)



Filter Retainers  
(Field Supplied)

# Typical installation

