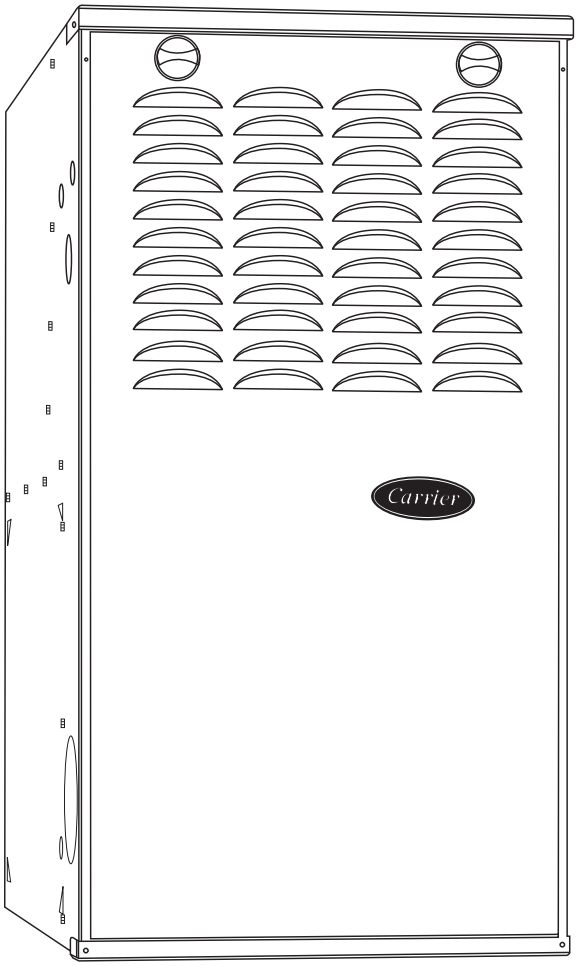
# 58STA/STX
# 4−WAY MULTIPOISE INDUCED−COMBUSTION GAS FURNACE
## Input Capacities: 45,000 thru 155,000 Btuh
## Series 140

Carrier
turn to the experts

# Product Data



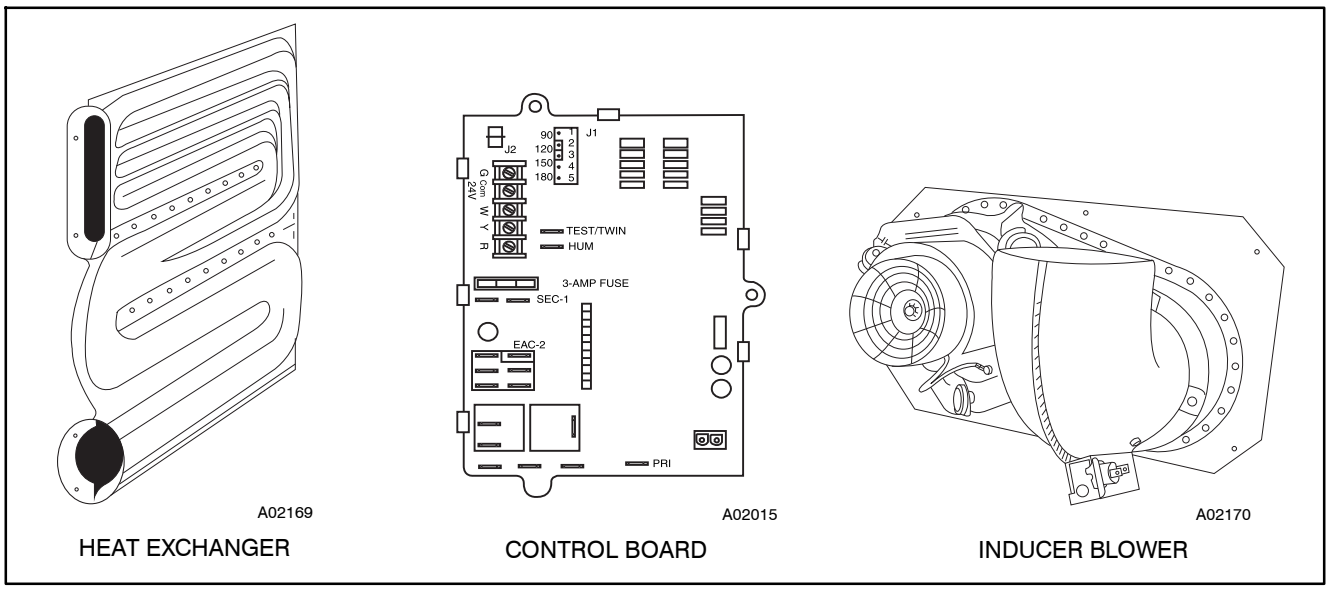

A10247

## THE CARRIER 58STA/STX GAS FURNACE

The 58STA/STX 4-way Multipoise Gas Furnaces feature Carrier's QuieTech™ noise reduction system for incredibly quiet induced draft operation. Applications are easy with 4-way multipoise design, through-the-furnace downflow venting, 13 different venting options, and designed for easy service access. An inner blower door is provided for tighter sealing in sensitive applications. The 58STA/STX furnaces are approved for use with natural or propane gas, and the 58STX is approved for use in Low NOx Air Management Districts.

## STANDARD FEATURES

- **QuieTech™ noise reduction system**
- **Microprocessor based control center**
  Enhanced diagnostics with LED and reflective sight glass.
  Stores fault codes during power outages.
  Adjustable heating air temperature rise
  Adjustable cooling airflow
- **4-way Multipoise furnace, 13 vent applications**
- **Compact design - only 33-1/3 in. (847 mm) tall**
- **Power Heat™ Igniter**
- **Draft safeguard switch to ensure proper furnace venting**
- **Inner door for tighter sealing**
- **Certified to leak 2 percent or less of its nominal air conditioning CFM delivered when pressurized to 1-In. Water Gauge with all present air inlets, air outlets, and condensate drain port(s) sealed.**
- **HYBRID HEAT® Dual Fuel System compatible**
- **All models are chimney friendly when used with accessory vent kit**
- **Twinning in Upflow, Downflow and Horizontal**
- **Residential installations eligible for consumer financing through the Retail Credit Program**




## MODEL NUMBER NOMENCLATURE

**58STA** **045** **100** **08**

**58STA 4--Way Multipoise**
**58STX Low NOx version**

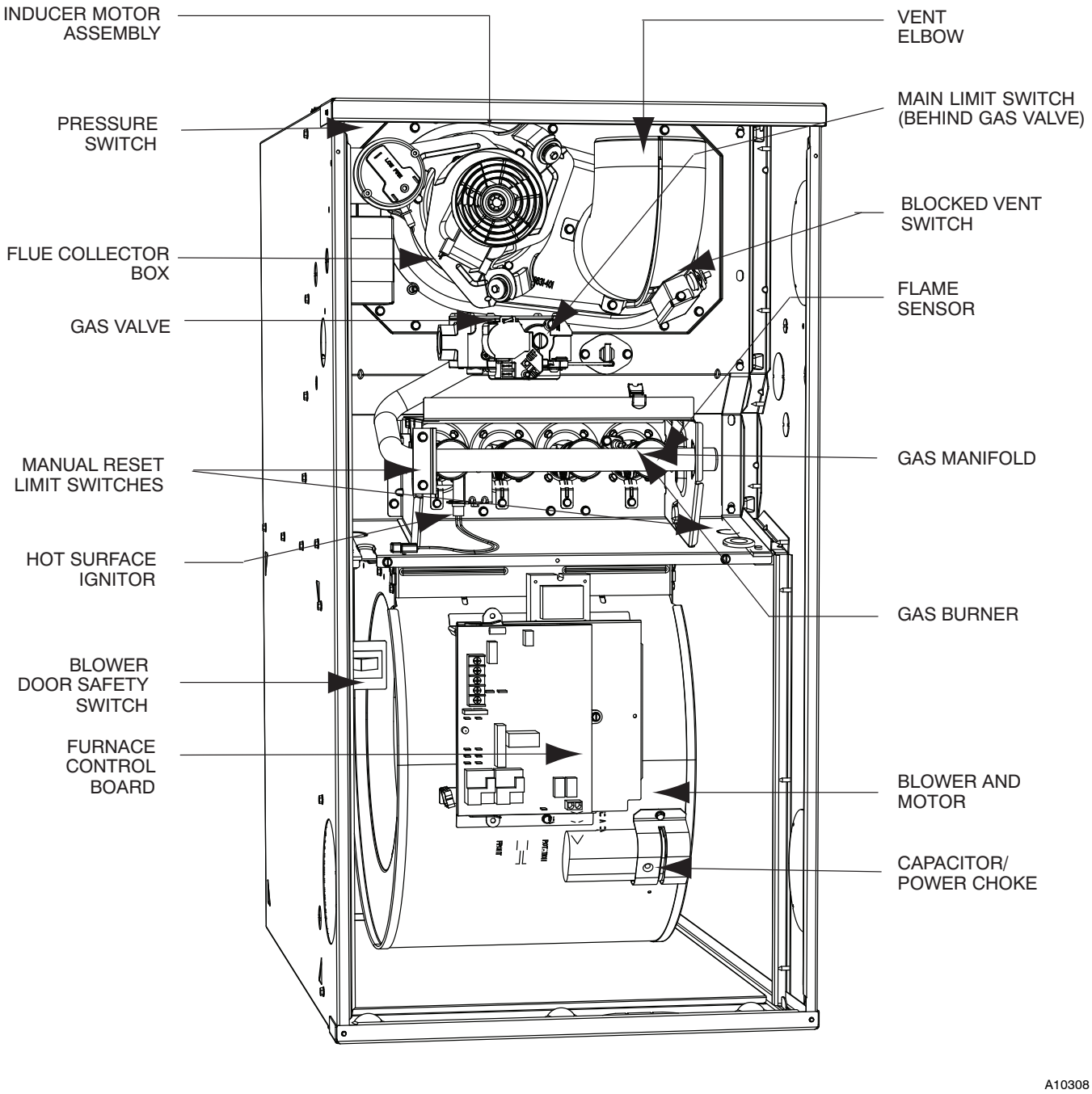
**Input Capacity**

| | |
|---|---|
| 045 – 44,000 Btuh | 110 – 110,000 Btuh |
| 070 – 66,000 Btuh | 135 – 132,000 Btuh |
| 090 – 88,000 Btuh | 155 – 154,000 Btuh |

| | |
|---|---|
| | Nominal Cooling Size |
| | (Airflow at .5 e.s.p.) |
| | (400 CFM per 12,000 Btuh) |
| | 08 – 800 CFM |
| | 12 – 1200 CFM |
| 100 | 14 – 1400 CFM |
| 110 | 16 – 1600 CFM |
| 120 | 20 – 2000 CFM |
| 130 | 22 – 2200 CFM |
| 140 | |

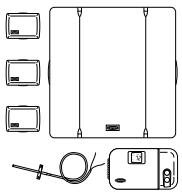
**Series Number**

## FURNACE COMPONENTS




**NOTE**: The 58STA/STX Furnaces are factory shipped for use with natural gas. These furnaces can be field-converted for propane gas with a factory-authorized and listed accessory conversion kit.

# CARRIER ACCESSORIES



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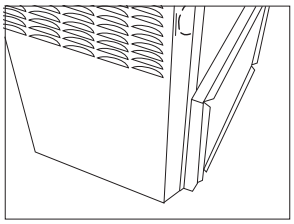
## CONTROLS: THERMOSTATS AND ZONING

Available in programmable and non-programmable models, Carrier thermostats maintain a constant 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.



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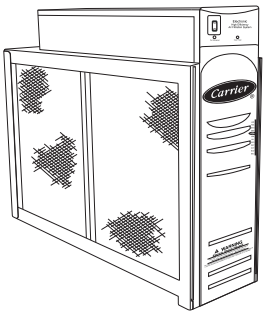
## EXTERNAL FILTER RACK (SIDE OR BOTTOM)

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

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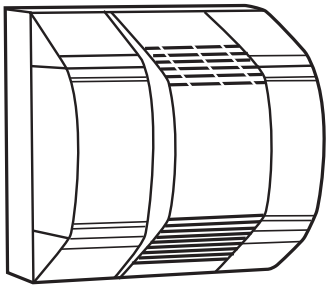
## MECHANICAL OR ELECTRONIC AIR CLEANER

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.



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## MODEL HUMCCLFP HUMIDIFIER

By adding moisture to winter-dry air, a Carrier humidifier can often improve 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.

| Accessories | |
|---|---|
| ELECTRONIC AIR CLEANER (EAC) | Model EACB |
| MECHANICAL AIR CLEANER | Models EZXCAB, FILCAB |
| HUMIDIFIER | Model HUM |
| HEAT RECOVERY VENTILATOR | Model HRV |
| ENERGY RECOVERY VENTILATOR | Model ERV |
| UV LIGHTS | Model UVL |
| THERMOSTAT – NON-PROGRAMMABLE | For use with 1-speed Air Conditioner – deg. F/C, Auto Changeover – TP–NAC, TC–NAC |
| | For use with 1-speed Heat Pump – deg. F/C, Auto Changeover – TP–NHP, TC–NHP* |
| | For use with 2-speed Air Conditioner – deg. F/C, Auto Changeover – TP–NRH* |
| | For use with multi-use / stage configurations – deg. F/C, Auto Changeover/Temperature and Humidity Control – TP–PRH† |
| THERMOSTAT – PROGRAMMABLE | For use with 1-speed Air Conditioner – deg. F/C, Auto Changeover, 7-Day Programmable – TP–PAC |
| | For use with 1-speed Heat Pump – deg. F/C, Auto Changeover, 7-Day Programmable – TP–PHP* |
| | For use with 2-speed Air Conditioner – deg. F/C, Auto Changeover, 7-Day Programmable – TP–PRH* |
| | For use with 1-speed Air Conditioner – deg. F/C, 5–2 Day Programmable – TP–PAC |
| | For use with multi-stage applications – deg. F/C, Auto Changeover, 7-Day Programmable – TC–PHP‡ |
| | For multi-use / stage configurations – deg. F/C, Auto Changeover, 7-Day Programmable/Temperature and Humidity Control –TP–PRH† |
| ZONING CONTROL | Comfort™ Series 3-Zone Kit – ZONECC3ZAC01, ZONECC3ZHP01 |
| | 2 Performance™ Series ComfortZone™ II Zoning/Temperature and Humidity Control – ZONECC2KIT01–B |
| | 4 Performance™ Series ComfortZone™ II Zoning/Temperature and Humidity Control – ZONECC4KIT01–B |
| | 8 Performance™ Series ComfortZone™ II Zoning/Temperature and Humidity Control – ZONECC8KIT01–B |

* Model HP and 2S thermostat must be field converted to air conditioner operation.

† Thermidistat Control can be configured for multiple use and staging, it must be configured for each specific application.

‡ Dual Fuel thermostat is used with furnace and heat pump application.

# CARRIER ACCESSORIES

| DESCRIPTION 58STA/STX | PART NO. | 045-08 | 045-12 | 070-08 | 070-12 | 070-16 | 090-14 | 090-16 | 090-20 | 110-12 | 110-16 | 110-22 | 135-16 | 135-22 | 155-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Media Filter Cabinet | FILCABCC0016 | X | X | X | X | X | X | | | X | | | | | |
| | FILCABCC0020 | | | | | | | X | X | | X | X | X | | |
| | FILCABCC0024 | | | | | | | | | | | | | X | X |
| Cartridge Media Filter | FILCCCAR0016 | X | X | X | X | X | X | | | X | | | | | |
| | FILCCCAR0020 | | | | | | | X | X | | X | X | X | | |
| | FILCCCAR0024 | | | | | | | | | | | | | X | X |
| EZ Flex Media Filter with End Caps | EXPXXUNV0016 | X | X | X | X | X | X | | | X | | | | | |
| | EXPXXUNV0020 | | | | | | | X | X | | X | X | X | | |
| | EXPXXUNV0024 | | | | | | | | | | | | | X | X |
| Replacement EZ Flex Filter Media | EXPXXFIL0016 | X | X | X | X | X | X | | | X | | | | | |
| | EXPXXFIL0020 | | | | | | | X | X | | X | X | X | | |
| | EXPXXFIL0024 | | | | | | | | | | | | | X | X |
| External Bottom Return Filter Rack | KGAFR0401B14 | X | X | X | X | | | | | | | | | | |
| | KGAFR0501B17 | | | | | X | X | | | X | | | | | |
| | KGAFR0601B21 | | | | | | | X | X | | X | X | X | | |
| | KGAFR0701B24 | | | | | | | | | | | | | X | X |
| External Side Return Filter Rack | KGAFR0801SRE | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Unframed Filter 3/4-in. (19 mm) | KGAWF1301UFR† | X | X | X | X | X | X | | | X | | | | | |
| | KGAWF1401UFR | | | | | | | X | X | | X | X | X | | |
| | KGAWF1501UFR | | | | | | | | | | | | | X | X |
| | KGAWF1306UFR† | X | X | X | X | X | X | | | X | | | | | |
| | KGAWF1406UFR | | | | | | | X | X | | X | X | X | | |
| | KGAWF1506UFR | | | | | | | | | | | | | X | X |
| Flue Extension | KGAFE0112UPH | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Twinning Kit | KGATW0601HSI | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Combustible Floor Base | KGASB0201ALL | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Downflow Vent Guard | KGBVG0101DFG | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Vent Extension Kit | KGAVE0101DNH | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Chimney Adapter Kit | KGACA02014FC | X | X | X | X | X | X | X | X | X | X | X | | | |
| | KGACA02015FC | | | | | | | | | | | | X | X | X |
| Natural-to-Propane Conversion Kit* | KGANP4601ALL | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Propane-to-Natural Conversion Kit | KGAPN3901ALL | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Label Kit | KGALB0101KIT | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Gas Orifice Kit (Qty 50) | KGAHA0150N42 | See Installation Instructions for model, altitude, and heat value usages. | | | | | | | | | | | | | |
| | KGAHA0250N43 (factory supplied) | | | | | | | | | | | | | | |
| | KGAHA0350N44 | | | | | | | | | | | | | | |
| | KGAHA0450N45 | | | | | | | | | | | | | | |
| | KGAHA0550N46 | | | | | | | | | | | | | | |
| | KGAHA1550N47 | | | | | | | | | | | | | | |
| | KGAHA1650N48 | | | | | | | | | | | | | | |
| | KGAHA0650P54 | | | | | | | | | | | | | | |
| | KGAHA0750P55 | | | | | | | | | | | | | | |
| | KGAHA5750125 | | | | | | | | | | | | | | |
| | KGAHA5750130 | | | | | | | | | | | | | | |
| | KGAHA0850P56 | | | | | | | | | | | | | | |

* Factory-authorized and field installed. Fuel conversion kits are CSA (formerly AGA/CGA) recognized.
† Suitable for Side Return Filter Rack

X = Accessory

S = Standard

# PHYSICAL DATA

| UNIT SIZE | | 045 | | 070 | | | 090 | |
|---|---|---|---|---|---|---|---|---|
| | | 08 | 12 | 08 | 12 | 16 | 14 | 16 |
| OUTPUT CAPACITY BTUH* (Nonweatherized ICS) † | 58STX Upflow; all 58STA | 35,000 | 36,000 | 53,000 | 54,000 | 53,000 | 71,000 | 71,000 |
| | 58STX Downflow/Horizontal | 34,000 | 34,000 | 51,000 | 51,000 | 51,000 | 68,000 | 68,000 |
| INPUT BTUH* | 58STX Upflow; all 58STA | 44,000 | 44,000 | 66,000 | 66,000 | 66,000 | 88,000 | 88,000 |
| | 58STX Downflow/Horizontal | 42,000 | 42,000 | 63,000 | 63,000 | 63,000 | 84,000 | 84,000 |
| AFUE%* | Nonweatherized ICS | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| SHIPPING WEIGHT – LB (KG) | | 107 (49) | 107 (49) | 111 (50) | 115 (52) | 126 (57) | 127 (58) | 140 (64) |
| CERTIFIED TEMP RISE RANGE °F (°C) | | 30–60 (17–33) | 20–50 (11–28) | 40–70 (22–39) | 30–60 (17–33) | 25–55 (14–30) | 40–70 (22–39) | 30–60 (17–33) |
| CERTIFIED EXT STATIC PRESSURE | Heating | 0.10 | 0.10 | 0.12 | 0.12 | 0.12 | 0.15 | 0.15 |
| | Cooling | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| AIRFLOW CFM‡ | Heating | 920 | 1250 | 720 | 1195 | 1450 | 1375 | 1505 |
| | Cooling | 845 | 1160 | 900 | 1200 | 1530 | 1385 | 1720 |
| LIMIT CONTROL | | SPST | | | | | | |
| HEATING BLOWER CONTROL | | Solid-State Time Operation | | | | | | |
| BURNERS (Monoport) | | 2 | 2 | 3 | 3 | 3 | 4 | 4 |
| GAS CONNECTION SIZE | | 1/2–in. NPT | | | | | | |
| GAS VALVE (Redundant) Manufacturer | | White-Rodgers | | | | | | |
| Minimum Inlet Pressure (In. W.C.) | | 4.5 (Natural Gas) | | | | | | |
| Maximum Inlet Pressure (In. W.C.) | | 13.6 (Natural Gas) | | | | | | |
| IGNITION DEVICE | | Hot Surface | | | | | | |

* Gas input ratings are certified for elevations to 2000 ft. (610 M). In U.S., for elevations above 2000 ft. (605 M), reduce ratings 4 percent for each 1000 ft. (305 M) above sea level. Refer to National Fuel Gas Code NFPA 54/ANSI Z223.1–2009 F.4 or furnace Installation Instructions.

† Capacity in accordance with U.S. Government DOE test procedures.

‡ Airflow shown is for bottom only return–air supply. For air delivery above 1800 CFM, see Air Delivery Table for other options. A filter is required for each return-air supply.

ICS — Isolated Combustion System

# BLOWER PERFORMANCE DATA

| UNIT SIZE | 045 | | 070 | | | 090 | |
|---|---|---|---|---|---|---|---|
| | 08 | 12 | 08 | 12 | 16 | 14 | 16 |
| DIRECT–DRIVE MOTOR Hp (PSC) | 1/5 | 1/3 | 1/5 | 1/3 | 1/2 | 1/3 | 1/2 |
| MOTOR FULL LOAD AMPS | 2.9 | 5.2 | 2.9 | 5.2 | 7.9 | 5.2 | 7.9 |
| RPM (Nominal) | 1075–3 | 1075–3 | 1075–3 | 1075–3 | 1075–3 | 1075–3 | 1075–3 |
| BLOWER WHEEL DIAMETER X WIDTHS – IN. (mm) | 10 x 6 (254 x 152) | 10 x 6 (254 x 152) | 10 x 6 (254 x 152) | 10 x 6 (254 x 152) | 11 x 8 (279 x 203) | 10 x 8 (254 x 203) | 10 x 10 (254 x 254) |

# PHYSICAL DATA

| UNIT SIZE | | 090 | 110 | | | 135 | | 155 |
|---|---|---|---|---|---|---|---|---|
| | | 20 | 12 | 16 | 22 | 16 | 22 | 20 |
| OUTPUT CAPACITY BTUH* (Nonweatherized ICS) † | 58STX Upflow; all 58STA | 71,000 | 89,000 | 89,000 | 89,000 | 107,000 | 107,000 | 125,000 |
| | 58STX Downflow/Horizontal | 68,000 | 85,000 | 85,000 | 85,000 | 102,000 | 102,000 | 119,000 |
| INPUT BTUH* | 58STX Upflow; all 58STA | 88,000 | 110,000 | 110,000 | 110,000 | 132,000 | 132,000 | 154,000 |
| | 58STX Downflow/Horizontal | 84,000 | 105,000 | 105,000 | 105,000 | 126,000 | 126,000 | 147,000 |
| AFUE%* | Nonweatherized ICS | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| SHIPPING WEIGHT – LB. (KG) | | 146 (66) | 135 (61) | 146 (66) | 152 (69) | 149 (68) | 163 (74) | 170 (77) |
| CERTIFIED TEMP RISE RANGE – °F (°C) | | 25–55 (14–30) | 50–80 (28–44) | 40–70 (22–39) | 30–60 (17–33) | 50–80 (28–44) | 40–70 (22–39) | 45–75 (25–41) |
| CERTIFIED EXT STATIC PRESSURE | Heating | 0.15 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| | Cooling | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| AIRFLOW CFM‡ | Heating | 1990 | 1335 | 1515 | 1900 | 1525 | 1850 | 1790 |
| | Cooling | 2025 | 1355 | 1680 | 2220 | 1710 | 2110 | 2230 |
| LIMIT CONTROL | | SPST | | | | | | |
| HEATING BLOWER CONTROL | | Solid-State Time Operation | | | | | | |
| BURNERS (Monoport) | | 4 | 5 | 5 | 5 | 6 | 6 | 7 |
| GAS CONNECTION SIZE | | 1/2–in. NPT | | | | | | |
| GAS VALVE (Redundant) Manufacturer | | White-Rodgers | | | | | | |
| Minimum Inlet Pressure (In. W.C.) | | 4.5 (Natural Gas) | | | | | | |
| Maximum Inlet Pressure (In. W.C.) | | 13.6 (Natural Gas) | | | | | | |
| IGNITION DEVICE | | Hot Surface | | | | | | |

* Gas input ratings are certified for elevations to 2000 ft. (610 M). In U.S., for elevations above 2000 ft. (610 M), reduce ratings 4 percent for each 1000 ft. (305 M) above sea level. Refer to National Fuel Gas Code NFPA 54/ANSI Z223.1–2009 F.4 or furnace Installation Instructions.

† Capacity in accordance with U.S. Government DOE test procedures.

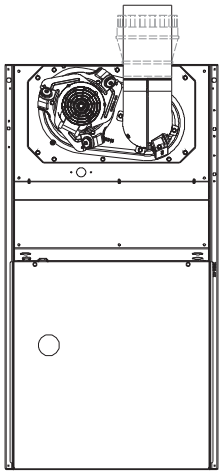
‡ Airflow shown is for bottom only return-air supply. For air delivery above 1800 CFM, see Air Delivery Table for other options. A filter is required for each return-air supply. An airflow reduction of up to 7 percent may occur when using a Carrier 4-5/16 in. (110 mm) high efficiency media filter.

ICS — Isolated Combustion System

# BLOWER PERFORMANCE DATA

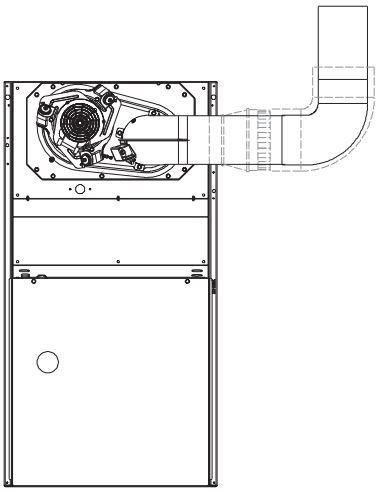
| UNIT SIZE | 090 | 110 | | | 135 | | 155 |
|---|---|---|---|---|---|---|---|
| | 20 | 12 | 16 | 22 | 16 | 22 | 20 |
| DIRECT–DRIVE MOTOR Hp (PSC) | 3/4 | 1/3 | 1/2 | 3/4 | 1/2 | 3/4 | 3/4 |
| MOTOR FULL LOAD AMPS | 11.1 | 5.2 | 7.9 | 11.1 | 7.9 | 11.1 | 11.1 |
| RPM (Nominal)–Speeds | 1075–3 | 1075–3 | 1075–3 | 1075–3 | 1075–3 | 1075–3 | 1075–3 |
| BLOWER WHEEL DIAMETER X WIDTHS – IN. (mm) | 11 x 11 (279 x 279) | 10 x 8 (254 x 203) | 10 x 10 (254 x 254) | 11 x 11 (279 x 279) | 10 x 10 (254 x 254) | 11 x 11 (279 x 279) | 11 x 11 (279 x 279) |

PSC–Permanent Split Capacitor



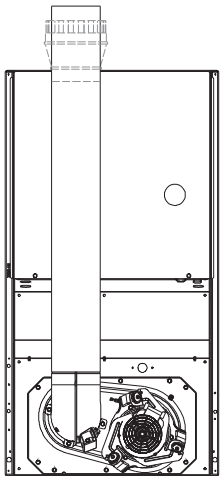
SEE NOTES: 1,2,4,7,8,9
**UPFLOW**

A02058



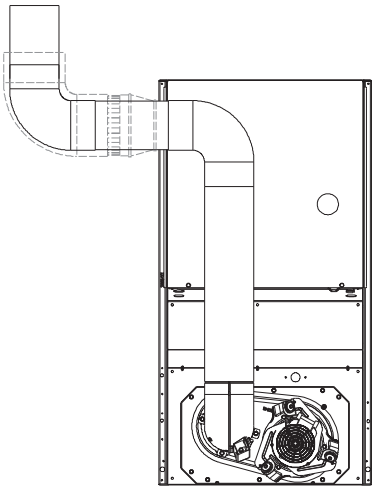
SEE NOTES: 1,2,3,4,7,8,9
**UPFLOW**

A02059



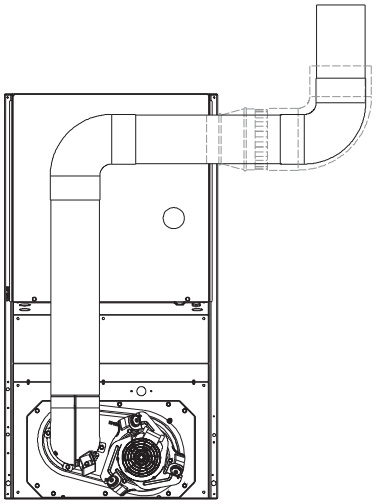
SEE NOTES: 1,2,4,5,7,8,9
**DOWNFLOW**

A02061



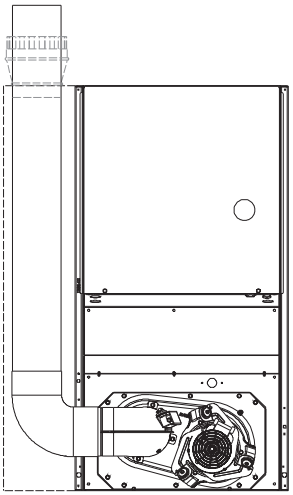
SEE NOTES:1,2,3,4,5,7,8,9
**DOWNFLOW**

A02060



SEE NOTES: 1,2,3,4,5,7,8,9
**DOWNFLOW**

A02063

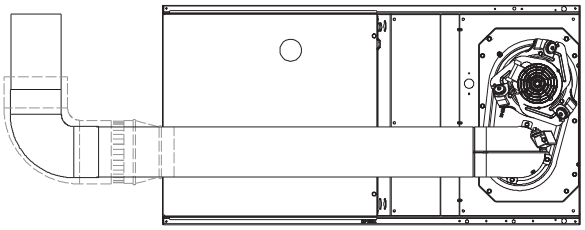


SEE NOTES: 1,2,4,5,6,7,8,9
**DOWNFLOW**

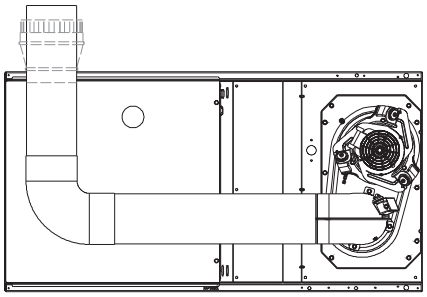
A02062

**Venting Notes**

1. For common vent, vent connector sizing and vent material: United States, latest edition of the National Fuel Gas Code (NFGC), ANSI Z223.1/NFPA 54.
2. Immediately increase to 5-in. (127 mm) vent connector outside furnace casing when 5-in. (127 mm) vent connector required, refer to Note 1.
3. Side outlet vent for upflow and downflow installations must use Type B vent immediately after exiting the furnace, except when Downflow Vent Guard is used in downflow position.
4. Type B vent where required, refer to Note 1.
5. 4 – in. (102 mm) single wall vent must be used inside furnace casing and the Downflow Vent Guard Kit.
6. Accessory Downflow Vent Guard Kit required in downflow installations with bottom vent configuration.
7. Chimney Adapter Kit required for exterior masonry chimney applications. Refer to Chimney Adapter Kits for sizing and complete application details.
8. Secure vent connector to furnace elbow with (2) corrosion-resistant sheet metal screws, space approximately 180° apart.
9. Secure all other single wall vent connector joints with (3) corrosion-resistant screws spaced approximately 120° apart. Secure Type B vent connectors per vent connector manufacturer's recommendations.



SEE NOTES 1,2,4,5,7,8,9
**HORIZONTAL RIGHT**
A02068



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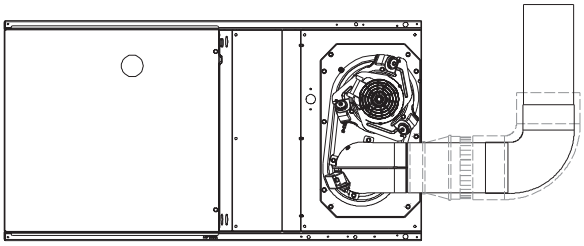

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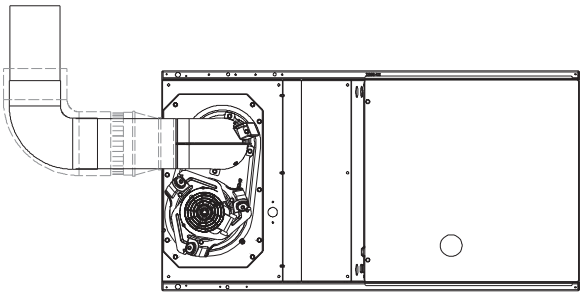

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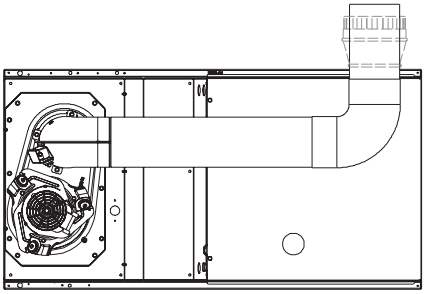
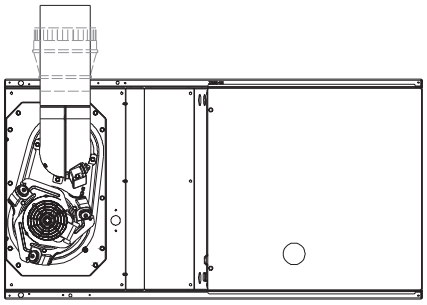
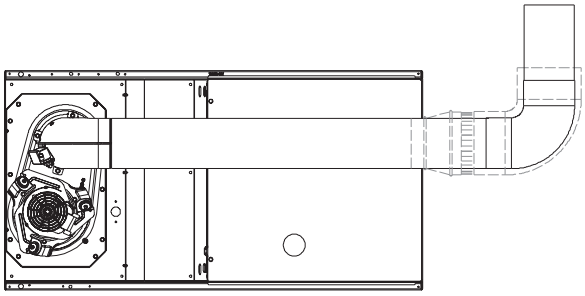
A02064



SEE NOTES 1,2,4,5,7,8,9
**HORIZONTAL LEFT**
A02065



SEE NOTES 1,2,4,5,7,8,9
**HORIZONTAL LEFT**
A02066



SEE NOTES 1,2,4,5,7,8,9
**HORIZONTAL LEFT**
A02067

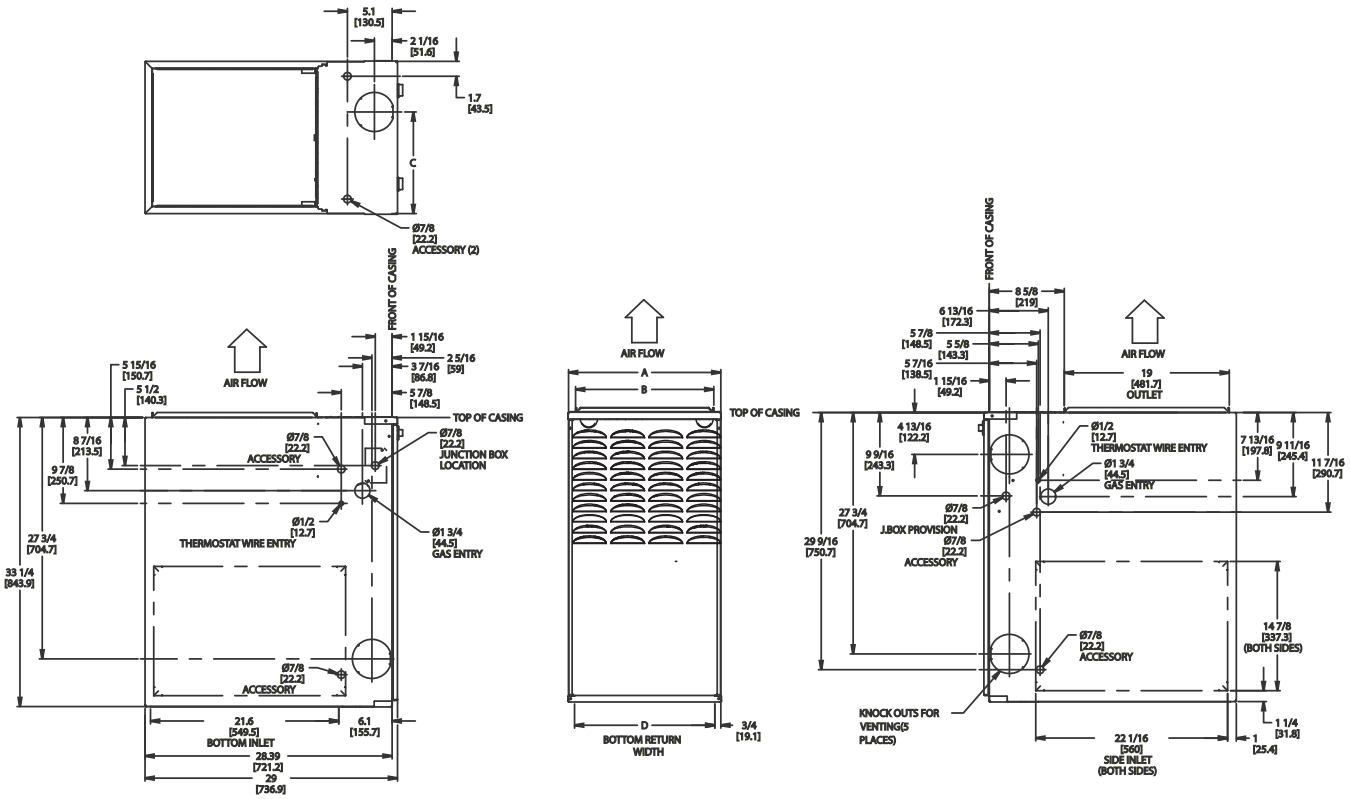
# AIR DELIVERY - CFM (With Filter)

| UNIT SIZE | RETURN-AIR SUPPLY | SPEED | EXTERNAL STATIC PRESSURE (In. W.C.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| 045-08 | Bottom or Side(s) | High | 1085 | 1035 | 975 | 915 | 845 | 770 | 675 | 565 | 390 | 195 |
| | | Med-High | 920 | 875 | 830 | 770 | 710 | 640 | 555 | 440 | 250 | — |
| | | Med-Low | 820 | 775 | 730 | 680 | 620 | 555 | 470 | 360 | 190 | — |
| 045-12 | Bottom or Side(s) Low | High | 1450 | 1375 | 1305 | 1225 | 1145 | 1050 | 955 | 845 | 705 | 510 |
| | | Med-High | 1360 | 1300 | 1240 | 1175 | 1115 | 1040 | 950 | 850 | 725 | 575 |
| | | Med-Low | 1250 | 1210 | 1160 | 1100 | 1040 | 965 | 885 | 790 | 670 | 520 |
| 070-08 | Bottom or Side(s) | High | 1030 | 1010 | 980 | 945 | 900 | 845 | 775 | 680 | 490 | 335 |
| | | Med-High | 835 | 815 | 790 | 760 | 720 | 675 | 610 | 490 | 375 | 265 |
| | | Med-Low | 725 | 700 | 675 | 645 | 600 | 555 | 475 | 390 | 300 | — |
| 070-12 | Bottom or Side(s) | High | 1425 | 1375 | 1320 | 1265 | 1200 | 1125 | 1035 | 940 | 830 | 655 |
| | | Med-High | 1320 | 1280 | 1240 | 1205 | 1140 | 1075 | 995 | 905 | 790 | 620 |
| | | Med-Low | 1200 | 1175 | 1145 | 1105 | 1050 | 990 | 920 | 840 | 725 | 555 |
| 070-16 | Bottom or Side(s) | High | 1805 | 1740 | 1670 | 1600 | 1530 | 1445 | 1360 | 1280 | 1180 | 1075 |
| | | Med-High | 1630 | 1585 | 1530 | 1470 | 1405 | 1330 | 1255 | 1170 | 1080 | 990 |
| | | Med-Low | 1460 | 1420 | 1385 | 1325 | 1280 | 1220 | 1155 | 1080 | 995 | 910 |
| 090-14 | Bottom or Side(s) | High | 1650 | 1600 | 1535 | 1465 | 1385 | 1285 | 1175 | 1055 | 895 | 645 |
| | | Med-High | 1515 | 1485 | 1440 | 1380 | 1300 | 1220 | 1115 | 990 | 830 | 600 |
| | | Med-Low | 1385 | 1360 | 1320 | 1260 | 1195 | 1120 | 1025 | 915 | 710 | 565 |
| 090-16 | Bottom or Side(s) | High | 2060 | 1985 | 1915 | 1820 | 1720 | 1610 | 1490 | 1340 | 1135 | 925 |
| | | Med-High | 1790 | 1765 | 1715 | 1645 | 1560 | 1470 | 1345 | 1195 | 1010 | 820 |
| | | Med-Low | 1505 | 1505 | 1480 | 1440 | 1375 | 1300 | 1190 | 1045 | 890 | 740 |
| 090-20 | Bottom Only | High | 2405 | 2310 | 2220 | 2130 | 2025 | 1920 | 1790 | 1660 | 1530 | 1350 |
| | | Med-High | 2225 | 2155 | 2080 | 1995 | 1895 | 1785 | 1675 | 1565 | 1420 | 1260 |
| | | Med-Low | 2020 | 1955 | 1880 | 1805 | 1730 | 1630 | 1535 | 1420 | 1275 | 1135 |
| | Both Sides or 1 Side & Bottom | High | 2530 | 2450 | 2365 | 2270 | 2165 | 2065 | 1940 | 1805 | 1670 | 1505 |
| | | Med-High | 2285 | 2215 | 2150 | 2075 | 1985 | 1890 | 1780 | 1660 | 1525 | 1360 |
| | | Med-Low | 1995 | 1945 | 1900 | 1840 | 1770 | 1685 | 1600 | 1480 | 1350 | 1180 |
| | 1 Side Only | High | 2475 | 2395 | 2300 | 2200 | 2090 | 1985 | 1865 | 1730 | 1585 | 1425 |
| | | Med-High | 2260 | 2190 | 2110 | 2035 | 1940 | 1845 | 1735 | 1620 | 1475 | 1325 |
| | | Med-Low | 1950 | 1910 | 1855 | 1795 | 1730 | 1650 | 1555 | 1445 | 1310 | 1150 |
| 110–12 | Bottom or 1 Side(s) | High | 1625 | 1575 | 1515 | 1445 | 1355 | 1260 | 1165 | 990 | 785 | — |
| | | Med-High | 1510 | 1470 | 1415 | 1355 | 1285 | 1185 | 1070 | 890 | 725 | — |
| | | Med-Low | 1360 | 1335 | 1295 | 1250 | 1180 | 1100 | 985 | 810 | — | — |
| 110–16 | Bottom or 1 Side | High | 2035 | 1965 | 1880 | 1790 | 1680 | 1495 | 1365 | 1215 | 1075 | 875 |
| | | Med-High | 1745 | 1710 | 1650 | 1560 | 1450 | 1340 | 1205 | 1090 | 955 | 750 |
| | | Med-Low | 1530 | 1515 | 1470 | 1400 | 1310 | 1215 | 1095 | 990 | 830 | 670 |
| 110–22 | Bottom Only | High | 2530 | 2470 | 2400 | 2320 | 2220 | 2115 | 2000 | 1865 | 1730 | 1590 |
| | | Med-High | 2230 | 2205 | 2165 | 2110 | 2035 | 1950 | 1855 | 1740 | 1615 | 1485 |
| | | Med-Low | 1920 | 1900 | 1880 | 1845 | 1795 | 1730 | 1650 | 1555 | 1460 | 1340 |
| | Both Sides or 1 Side & Bottom | High | — | — | 2415 | 2350 | 2250 | 2145 | 2015 | 1875 | 1715 | 1560 |
| | | Med–High | 2235 | 2200 | 2155 | 2100 | 2040 | 1955 | 1850 | 1740 | 1595 | 1470 |
| | 1 Side Only | High | 2540 | 2495 | 2430 | 2355 | 2265 | 2175 | 2065 | 1935 | 1785 | 1650 |
| | | Med-High | 2125 | 2120 | 2105 | 2060 | 2010 | 1940 | 1840 | 1730 | 1615 | 1485 |
| | | Med-Low | 1790 | 1795 | 1790 | 1765 | 1720 | 1650 | 1585 | 1500 | 1390 | 1280 |
| 135–16 | Bottom or 1 Side | High | 2090 | 2010 | 1930 | 1835 | 1710 | 1590 | 1470 | 1335 | 1025 | 835 |
| | | Med-High | 1790 | 1755 | 1705 | 1640 | 1550 | 1465 | 1360 | 1210 | 945 | 785 |
| | | Med-Low | 1545 | 1525 | 1500 | 1450 | 1380 | 1315 | 1215 | 1005 | 855 | 670 |
| 135–22 | Bottom Only | High | 2485 | 2400 | 2310 | 2215 | 2110 | 2000 | 1880 | 1725 | 1535 | 1355 |
| | | Med-High | 2195 | 2150 | 2090 | 2000 | 1920 | 1825 | 1720 | 1565 | 1405 | 1255 |
| | | Med-Low | 1880 | 1850 | 1820 | 1780 | 1715 | 1635 | 1540 | 1415 | 1290 | 1160 |
| | Both Sides or 1 Side & Bottom | High | — | — | 2385 | 2305 | 2195 | 2085 | 1960 | 1825 | 1670 | 1465 |
| | | Med–High | 2180 | 2145 | 2060 | 2010 | 1945 | 1865 | 1765 | 1660 | 1515 | 1325 |
| | 1 Side Only | High | — | — | 2245 | 2155 | 2055 | 1940 | 1825 | 1695 | 1555 | 1385 |
| | | Med-High | 2135 | 2085 | 2035 | 1975 | 1895 | 1795 | 1685 | 1565 | 1445 | 1265 |
| | | Med-Low | 1880 | 1850 | 1820 | 1780 | 1715 | 1635 | 1540 | 1415 | 1290 | 1160 |
| 155–20 | Bottom Only | High | 2465 | 2430 | 2375 | 2305 | 2230 | 2110 | 2000 | 1865 | 1725 | 1545 |
| | | Med-High | 2115 | 2105 | 2075 | 2030 | 1980 | 1910 | 1830 | 1725 | 1590 | 1425 |
| | | Med-Low | 1800 | 1790 | 1770 | 1735 | 1695 | 1640 | 1570 | 1465 | 1345 | 1225 |
| | Both Sides or 1 Side & Bottom | High | — | — | 2375 | 2285 | 2200 | 2105 | 1995 | 1870 | 1730 | 1570 |
| | | Med–High | 2155 | 2135 | 2095 | 2040 | 1975 | 1895 | 1790 | 1685 | 1550 | 1400 |
| | 1 Side Only | High | — | — | 2260 | 2180 | 2085 | 1975 | 1865 | 1740 | 1605 | 1455 |
| | | Med-High | 2140 | 2095 | 2040 | 1975 | 1890 | 1810 | 1705 | 1595 | 1480 | 1325 |
| | | Med-Low | 1800 | 1790 | 1770 | 1735 | 1695 | 1640 | 1570 | 1465 | 1345 | 1225 |

* A filter is required for each return–air supply. Airflow performance includes 3/4–in. (19 mm) washable filter media such as contained in factory–authorized accessory filter rack. To determine airflow performance without this filter, assume an additional .1 available external static pressure.

— Indicates unstable operating conditions.

# DIMENSIONS




NOTES:
1. Two additional 7/8–in. (22 mm) diameter holes are located in the top plate.
2. Minimum return–air openings at furnace, based on metal duct. If flex duct is used, see flex duct manufacturer's recommendations for equivalent diameters.
   a. For 800 CFM–16–in. (406 mm) round or 14 1/2 x 12–in. (368 x 305 mm) rectangle.
   b. For 1200 CFM–20–in. (508 mm) round or 14 1/2 x 19 1/2–in. (368 x 495 mm) rectangle.
   c. For 1600 CFM–22–in. (559 mm) round or 14 1/2 x 22 1/16–in. (368 x 560mm) rectangle.
   d. For airflow requirements above 1800 CFM, see Air Delivery table in Product Data literature for specific use of single side inlets. The use of both side inlets, a combination of 1 side and the bottom, or the bottom only will ensure adequate return air openings for airflow requirements above 1800 CFM.

| FURNACE SIZE | A CABINET WIDTH IN (mm) | B OUTLET WIDTH IN (mm) | C TOP AND BOTTOM FLUE COLLAR | D BOTTOM INLET WIDTH | VENT CONNECTION SIZE | SHIP WEIGHT LB (KG) |
|---|---|---|---|---|---|---|
| **045–08** | 14–3/16 (360) | 12–9/16 (319) | 9–5/16 (237) | 12–11/16 (322) | 4 (102) | 104 (47) |
| **045–12** | 14–3/16 (360) | 12–9/16 (319) | 9–5/16 (237) | 12–11/16 (322) | 4 (102) | 107 (49) |
| **070–08** | 14–3/16 (360) | 12–9/16 (319) | 9–5/16 (237) | 12–11/16 (322) | 4 (102) | 111 (50) |
| **070–12** | 14–3/16 (360) | 12–9/16 (319) | 9–5/16 (237) | 12–11/16 (322) | 4 (102) | 115 (52) |
| **070–16** | 17–1/2 (445) | 15–7/8 (403) | 11–9/16 (294) | 16–1/8 (410) | 4 (102) | 126 (57) |
| **090–14** | 17–1/2 (445) | 15–7/8 (403) | 11–9/16 (294) | 16–1/8 (410) | 4 (102) | 127 (58) |
| **090–16** | 21 (533) | 19–3/8 (492) | 13–5/16 (338) | 19–1/2 (495) | 4 (102) | 140 (64) |
| **090–20** | 21 (533) | 19–3/8 (492) | 13–5/16 (338) | 19–1/2 (495) | 4 (102) | 146 (66) |
| **110–12** | 17–1/2 (445) | 15–7/8 (403) | 11–9/16 (294) | 16–1/8 (410) | 4 (102) | 135 (61) |
| **110–16** | 21 (533) | 19–3/8 (492) | 13–5/16 (338) | 19–1/2 (495) | 4 (102) | 146 (66) |
| **110–22** | 21 (533) | 19–3/8 (492) | 13–5/16 (338) | 19–1/2 (495) | 4 (102) | 152 (69) |
| **135–16** | 21 (533) | 19–3/8 (492) | 13–5/16 (338) | 19–1/2 (495) | 4 (102)* | 149 (68) |
| **135–22** | 24–1/2 (622) | 22–7/8 (581) | 15–1/16 (383) | 23 (584) | 4 (102)* | 163 (74) |
| **155–20** | 24–1/2 (622) | 22–7/8 (581) | 15–1/16 (383) | 23 (584) | 4 (102)* | 170 (77) |

*135 and 155 size furnaces require a 5 or 6–in. (127 or 152 mm) vent. Use a vent adapter between furnace and vent stack. See Installation Instructions for complete installation requirements.

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## ⚠ WARNING

### FIRE, EXPLOSION, ASPHYXIATION HAZARD

**Improper adjustment, alteration, service, maintenance, or installation can cause serious injury or death.**

**Read and follow instructions and precautions in User's Information Manual provided with this furnace. Installation and service must be performed by a qualified service agency or the gas supplier.**

## ⚠ CAUTION

**Check entire gas assembly for leaks after lighting this appliance.**

## INSTALLATION

1. This furnace must be installed in accordance with the manufacturer's instructions and local codes. In the absence of local codes, follow the National Fuel Gas Code ANSI Z223.1 / NFPA54 or CSA B-149. 1 Gas Installation Code.
2. This furnace must be installed so there are provisions for combustion and ventilation air. See manufacturer's installation information provided with this appliance.

## OPERATION

This furnace is equipped with manual reset limit switch(es) in burner compartment to protect against overheat conditions that can result from inadequate combustion air supply or blocked vent conditions.

1. Do not bypass limit switches.
2. If a limit opens, call a quallified serviceman to correct the condition and reset limit switch.

## INSTALLATION

### 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).

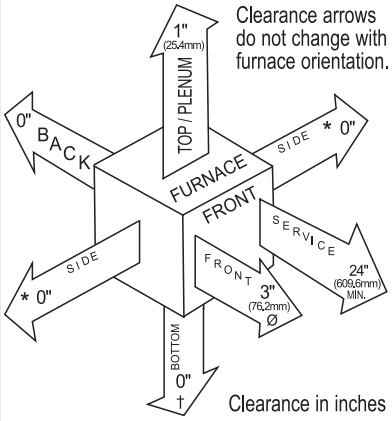
An accessory kit, supplied by the manufacturer, shall be used to convert to propane gas use or may be required for some natural gas applications.

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 as indicated by the diagram 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.

This furnace is approved for UPFLOW, DOWNFLOW, and HORIZONTAL installations.




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

### MINIMUM INCHES CLEARANCE TO COMBUSTIBLE CONSTRUCTION

**DOWNFLOW POSITIONS:**

† Installation on non-combustible floors only.

For Installation on combustible flooring only when installed on special base, Part No. KGASB0201ALL or NAHA01101SB, Coil Assembly, Part No. CAR, CAP, CNPV, CNRV, END4X, ENW4X, WENC, WTNC, WENW OR WTNW.

Ø 18 inches front clearance required for alcove.

* Indicates supply or return sides when furnace is in the horizontal position. Line contact only permissible between lines formed by intersections of the Top and two Sides of the furnace jacket, and building joists, studs or framing.

336996-101 REV. C

A10269

Certified System ISO 9001 QMI-SAI Global

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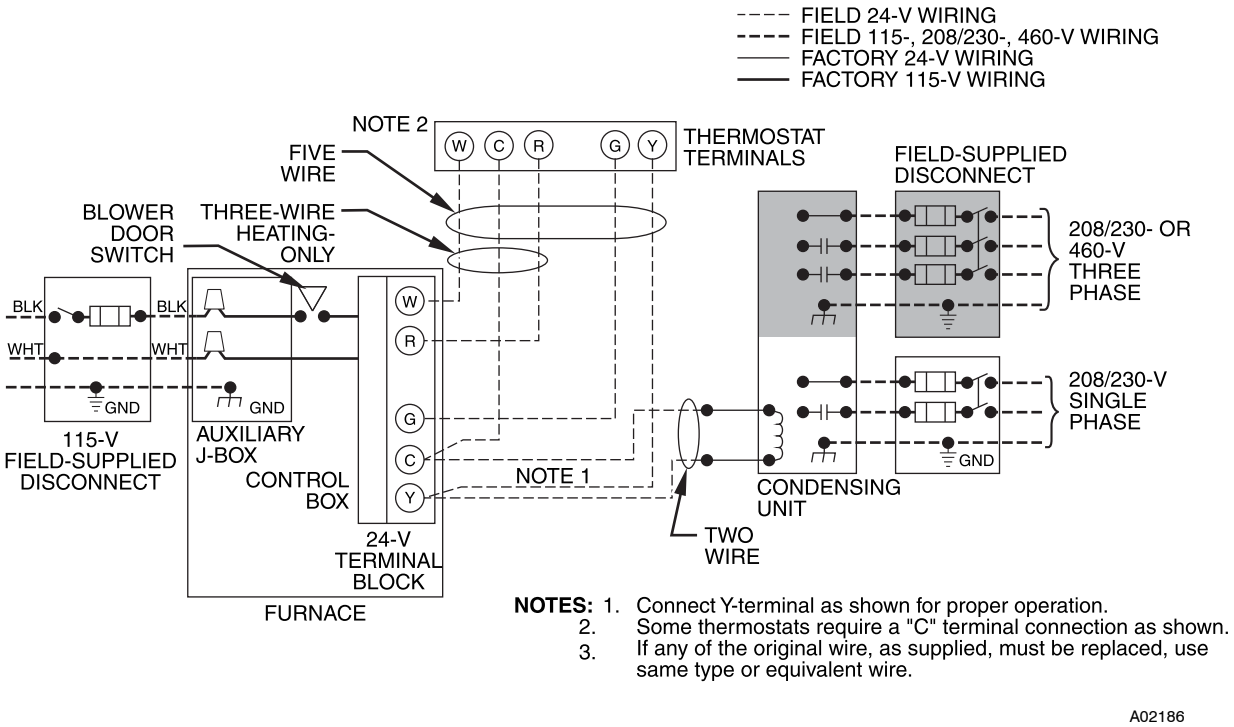
DESIGN CERTIFIED

Always Ask For FACTORY AUTHORIZED PARTS

# TYPICAL WIRING SCHEMATIC




**NOTES:** 1. Connect Y-terminal as shown for proper operation.
2. Some thermostats require a "C" terminal connection as shown.
3. If any of the original wire, as supplied, must be replaced, use same type or equivalent wire.

58STA/STX

# ELECTRICAL DATA

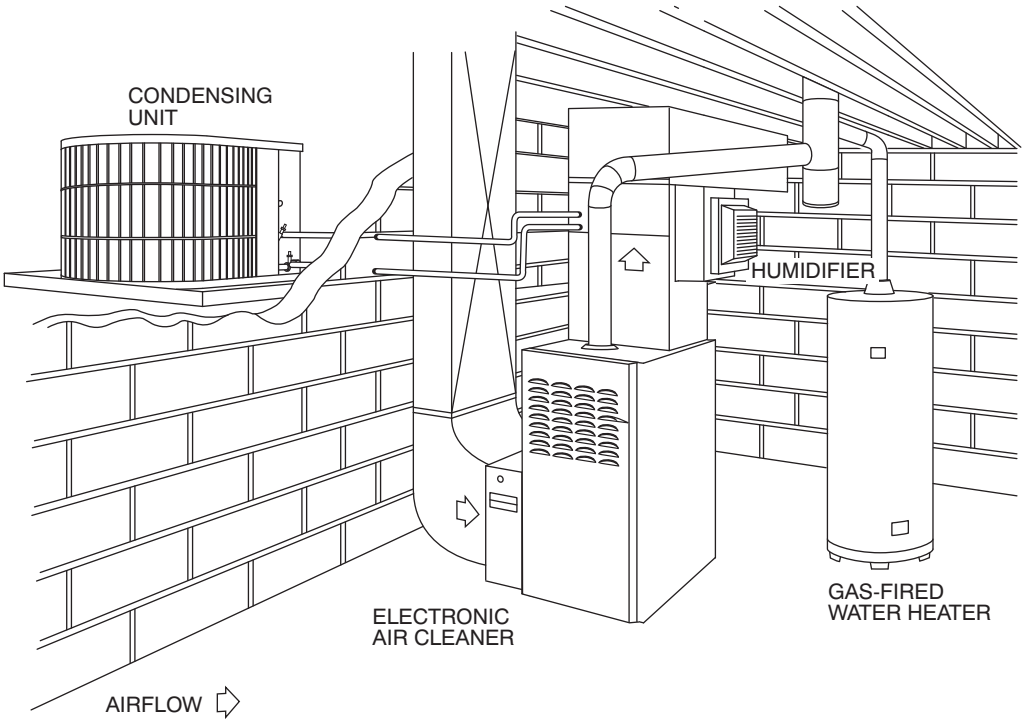
| 58STA/STX UNIT SIZE | VOLTS HERTZ PHASE | OPERATING VOLTAGE RANGE | | MAXIMUM UNIT AMPS | MAXIMUM WIRE LENGTH FT (M)‡ | MAXIMUM FUSE OR CKT BKR AMPS† | MINIMUM WIRE GAGE |
|---|---|---|---|---|---|---|---|
| | | Maximum* | Minimum* | | | | |
| 045-08 | 115-60-1 | 127 | 104 | 5.4 | 49 (14.9) | 15 | 14 |
| 045-12 | 115-60-1 | 127 | 104 | 7.0 | 39 (11.8) | 15 | 14 |
| 070-08 | 115-60-1 | 127 | 104 | 5.0 | 52 (15.8) | 15 | 14 |
| 070-12 | 115-60-1 | 127 | 104 | 6.8 | 40 (12.1) | 15 | 14 |
| 070-16 | 115-60-1 | 127 | 104 | 9.5 | 29 (8.8) | 15 | 14 |
| 090-14 | 115-60-1 | 127 | 104 | 8.2 | 34 (10.3) | 15 | 14 |
| 090-16 | 115-60-1 | 127 | 104 | 10.0 | 28 (8.5) | 15 | 14 |
| 090-20 | 115-60-1 | 127 | 104 | 13.6 | 32 (9.7) | 20 | 12 |
| 110-12 | 115-60-1 | 127 | 104 | 8.2 | 34 (10.3) | 15 | 14 |
| 110-16 | 115-60-1 | 127 | 104 | 10.1 | 28 (8.5) | 15 | 14 |
| 110-22 | 115-60-1 | 127 | 104 | 14.8 | 30 (9.1) | 20 | 12 |
| 135-16 | 115-60-1 | 127 | 104 | 10.2 | 27 (8.2) | 15 | 14 |
| 135-22 | 115-60-1 | 127 | 104 | 14.4 | 30 (9.1) | 20 | 12 |
| 155-20 | 115-60-1 | 127 | 104 | 15.0 | 29 (8.8) | 20 | 12 |

* Permissible limits of the voltage range at which unit operates satisfactorily.

† Time–delay type is recommended.

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

## TYPICAL INSTALLATION




A10211

58STA/STX

# GUIDE SPECIFICATIONS

## Gas Furnace

## 58STA/STX

## General

**SYSTEM DESCRIPTION**

Furnish a _____ fixed capacity gas-fired furnace for use with natural gas or propane (factory authorized conversion kit required for propane); furnish cold air return plenum.

**QUALITY ASSURANCE**

Unit will be designed, tested and constructed to the current ANSI Z 21.47/CSA 2.3 design standard for gas-fired central furnaces.

Unit will be 3rd party certified by CSA to the current ANSI Z 21.47/CSA 2.3 design standard for gas-fired central furnaces.

Unit will carry the CSA Blue Star® label.

Unit efficiency testing will be performed per the current DOE test procedure as listed in the Federal Register.

Unit will be certified for capacity and efficiency and listed in the latest AHRI Consumer's Directory of Certified Efficiency Ratings.

Unit shall carry the current Federal Trade Commission Energy Guide efficiency label.

**DELIVERY, STORAGE AND HANDLING**

Unit shall be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

**WARRANTY (for inclusion by specifying engineer)**

Warranty certificate available upon request.

## Products

**EQUIPMENT**

Components shall include: slow-opening gas valve to reduce ignition noise, regulate gas flow, with electric switch gas shut-off; flame proving sensor, hot surface igniter, pressure switch assembly, flame rollout switch, blower and inducer assembly, 40va transformer; low-voltage (heating) (heating/cooling) thermostat.

**Blower Wheel and Blower Motor**

Galvanized blower wheel shall be centrifugal type, statically and dynamically balanced. Blower motor of PSC type shall be permanently lubricated with sealed bearings, of _____hp, and shall be multiple-speed direct drive. Blower motor shall be soft mounted to the blower scroll to reduce vibration transmission.

**Filters**

Furnace may have reusable-type filters. Filter shall be _____ in. (mm) (x) _____in. (mm). An accessory high efficiency Media Filter is available as an option. _____ Media Filter.

**Casing**

Casing shall be of .030 in. (.76) thickness minimum, pre-painted galvanized steel.

**Inducer Motor**

Inducer motor shall be soft mounted to reduce vibration transmission.

**Draft Safeguard Switch**

Draft Safeguard Switch (blocked vent safeguard) shall be factory installed to reduce the possibility of vent gas infiltration due to a blocked or restricted vent pipe.

**Heat Exchangers**

Heat exchangers shall be a 4-Pass 20 gage aluminized steel of fold-and-crimp sectional design when applied operating under negative pressure.

**Controls**

Control shall include a micro-processor based integrated electronic control board with at least 11 service troubleshooting codes displayed via enhanced flashing LED diagnostic light on the control, a self-test feature that checks all major functions of the furnace within one minute, and a non-volatile memory replaceable automotive-type circuit protection fuse. Multiple operational settings available including, separate blower speeds for heating, cooling and continuous fan. Continuous fan speed may be adjusted from the thermostat. Cooling airflow will be selectable between 350 or 400 CFM per ton of air conditioning.

**OPERATING CHARACTERISTICS**

Heating Capacity shall be _____ Btuh input; _____ Btuh output capacity.

Fuel Gas Efficiency shall be 80% AFUE. Air delivery shall be _____ CFM minimum at 0.50 In. W.C. external static pressure.

Dimensions shall be: depth _____ in. (mm); width _____ in. (mm); height_____in. (mm) (casing only). Height shall be_____in. (mm) with A/C coil and _____in. (mm) overall with plenum.

**ELECTRICAL REQUIREMENTS**

Electrical supply shall be 115 volts, 60 Hz, single-phase (nominal). Minimum wire size shall be_____AWG; maximum fuse size or circuit breaker shall be _____Amps.

**SPECIAL FEATURES**

Refer to section of the product data sheet identifying accessories and descriptions for specific features and available enhancements.

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**Catalog No: 58ST−7PD**

**Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.**

Replaces: 58ST−6PD