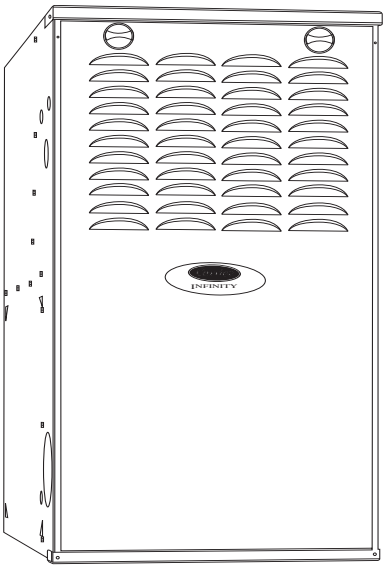
# 58CU0A
# Infinity® 80 Ultra Low NOx, Variable-Speed,Communicating, 4-Way Multipoise Gas Furnace

Carrier
Turn to the experts

# Product Specifications



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## INFINITY® 80 ULTRA LOW NOx GAS FURNACE

The 58CU0 delivers home comfort in an 80% AFUE furnace that meets the nitrogen oxides (NOx) emission limit of 14 nanograms/joule for South Coast Air Quality Management District and San Joaquin Valley Air Pollution Control District in California. It provides warm winter heating with 65% lower NOx emissions than standard models.

The Infinity® 80 Ultra Low NOx Gas Furnaces offers a number of comfort-enhancing features with its variable-speed, fully communicating blower motor. ComfortFan™ technology selectable fan speeds allows control over ventilation. SmartEvapt technology provides humidity control during cooling operation, and with select outdoor units, Ideal Humidity System™ technology provides significantly better dehumidification. And, when paired with a two-speed or variable-speed outdoor unit, homeowners will enjoy consistent summer comfort.

## EFFICIENCY

- 80% AFUE
- 40K, 60K, 80K, 100K Btu/h capacities
- Ultra-low NOx emissions - 58CU0 meets the nitrogen oxides (NOx) emission limit of 14 nanograms/joule for the South Coast Air Quality Management District and San Joaquin Valley Air Pollution Control District in California.

## TECHNOLOGY

- Single-stage gas valve
- Variable speed constant airflow ECM blower motor
- Pre-mix burner with pilot free, hot surface ignition
- Variable speed inducer motor
- Stainless steel, tubular heat exchanger

## PERFORMANCE

- Infinity System-match with the Infinity Control for Infinity System benefits
- Integral part of the Ideal Humidity System™
  Maximum dehumidification selection for summer time cooling
  Full Ideal Humidity System™ benefits including “Super Dehumidify”
  SmartEvap™ - Humidity control when using a Thermidistat™/ Infinity control
- SmartEvap™ can lower the humidity level in the home by nearly 10 percent
- Power Heat™ Igniter
- Microprocessor based control center
  Enhanced diagnostics with LED and reflective sight glass
  Stores fault codes during power outages
  Adjustable heating air temperature rise
  Adjustable heating and cooling airflow
  Dehumidification selection for summer-time cooling
- Draft Safeguard switch designed to ensure proper furnace venting
- Insulated blower compartment
- Inner door for tighter sealing
- HYBRID HEAT® Dual Fuel System compatible

## DESIGN AND INSTALLATION

- Approved for installation up to 5,400 feet
- Versatile venting for tight-fit applications
- Factory shipped for natural gas, not convertible to propane
- Four-position furnace: Upflow, Horizontal Right, Horizontal Left, Downflow (with 6 different vent options)
- Cabinet air leakage less than 2.0% at 1.0 in. W.C. and cabinet air leakage less than 1.4% at 0.5 in. W.C. when tested in accordance with ASHRAE standard 193.

INFINITY SERIES IdealHumidity greenspeed INTELLIGENCE ENERGY STAR

Certified System ISO 9001 Quality

AHRI CERTIFIED www.ahridirectory.org

Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org .

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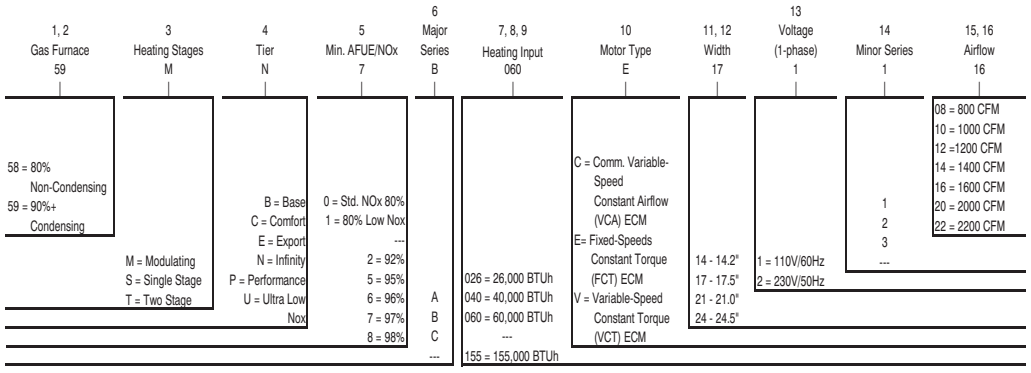
# SPECIFICATIONS

| FURNACE SIZE | | | 040C17--12 | 060C17--16 | 080C21--20 | 100C21--20 |
|---|---|---|---|---|---|---|
| **RATINGS AND PERFORMANCE** | | | | | | |
| Input Btuh* | | | 40,000 | 60,000 | 80,000 | 100,000 |
| Output Capacity (Btuh)† | | | 31,000 | 48,000 | 64,000 | 81,000 |
| AFUE† | | | 80.0 | 80.0 | 80.0 | 80.0 |
| Certified Temperature Rise Range - °F (°C) | | | 25 - 55 (14 - 31) | 30 - 60 (17 - 33) | 25 - 55 (14 - 31) | 25 - 55 (14 - 31) |
| External Static Pressure (in. w.c.)‡ | | Heating | .10 | .12 | .15 | .20 |
| | | Cooling | .50 | .50 | .50 | .50 |
| Airflow Delivery @ ESP Listed Above (CFM) | | Heating | 760 | 930 | 1500 | 1750 |
| | | Cooling | 505-1490 | 535-1480 | 990-2390 | 1130-2260 |
| **ELECTRICAL** | | | | | | |
| Unit Volts-Hertz-Phase | | | 115-60-1 | | | |
| Operating Voltage Range | | Min-Max | 104-127 | | | |
| Maximum Unit Amps | | | 11.4 | 11.4 | 17.8 | 17.8 |
| Unit Ampacity | | | 12.6 | 12.6 | 18.9 | 18.9 |
| Maximum Wire Length - Measure one way in Ft | | | 29 | 29 | 30 | 30 |
| Minimum Wire Size | | | 14 | 14 | 12 | 12 |
| Maximum Fuse or Ckt Bkr Size (Amps)** | | | 15 | 15 | 20 | 20 |
| Transformer (24v) | | | 40 VA | | | |
| External Control Power Available | | Heating | 12 VA | | | |
| | | Cooling | 35 VA | | | |
| Air Conditioning Blower Relay | | | Standard | | | |
| **CONTROLS** | | | | | | |
| Limit Control | | | SPST | | | |
| Heating Blower Control | | | Solid-State Time Operation | | | |
| Gas Connection Size | | | 1/2-in. NPT | | | |
| **GAS CONTROLS** | | | | | | |
| Gas Valve (Redundant) | | Mfr. | White Rodgers | | | |
| | | Min. inlet pressure (In. W.C.) | 3.5 Natural Gas | | | |
| | | Max. inlet pressure (In. W.C.) | 13.6 Natural Gas | | | |
| Ignition Device | | | Hot Surface Igniter | | | |
| Factory-installed orifice | | | 3.35mm | #18 | #10 | #6 |
| **BLOWER DATA** | | | | | | |
| Direct-Drive Motor HP | | | 1/2 | 1/2 | 1 | 1 |
| Motor Full Load Amps | | | 7.7 | 7.7 | 12.8 | 12.8 |
| Nominal RPM | | | 1050 | 1050 | 1050 | 1050 |
| Blower Wheel Diameter x Width - In. (mm) | | | 10 x 8 (243 x 203) | 11 x 8 (279 x 203) | 11 x 11 (279 x 279) | 11 x 11 (279 x 279) |

*. Gas input ratings are certified for elevations to 5,400 ft. (1646 M). In USA, for elevations above 2,000 ft. (610 M), reduce ratings 2 percent for each 1,000 ft. (305 M) above sea level. Refer to National Fuel Gas Code NFPA 54/ANSI Z223.1 Table F.4 or furnace installation instructions.
†. Capacity in accordance with U.S. Government DOE test procedures.
‡. DOE Minimum External Static Pressure
**. Time-delay type is recommended.
ICS = Isolated Combustion System

# MODEL NUMBER NOMENCLATURE

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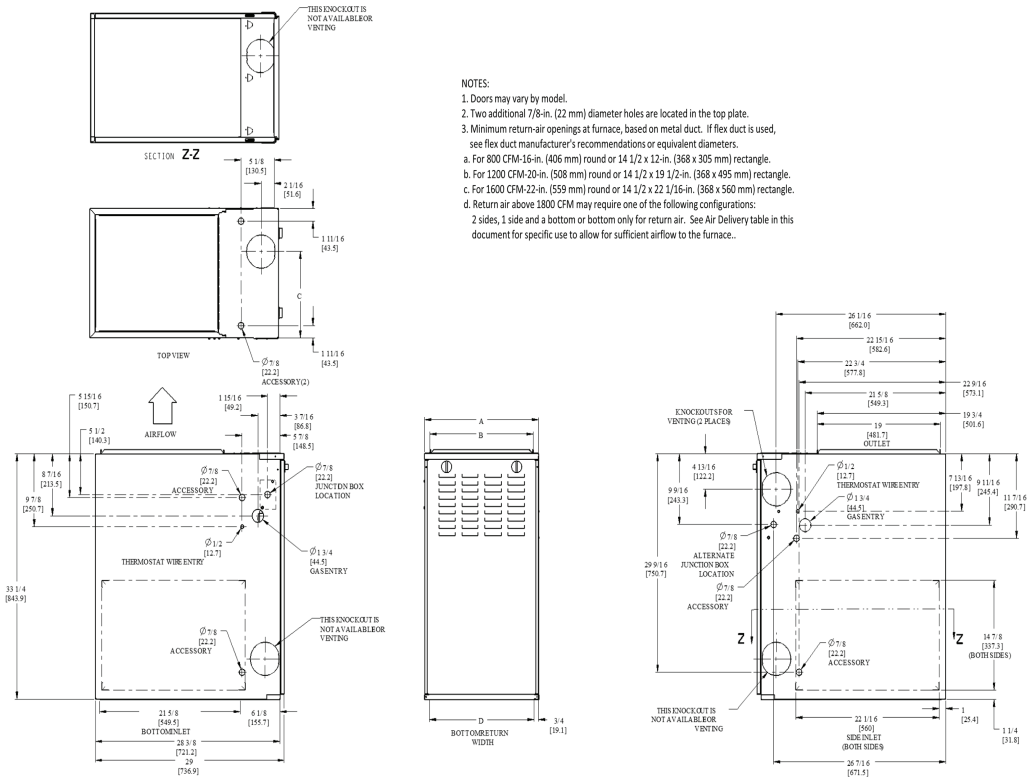
# DIMENSIONS




NOTES:
1. Doors may vary by model.
2. Two additional 7/8-in. (22 mm) diameter holes are located in the top plate.
3. Minimum return-air openings at furnace, based on metal duct. If flex duct is used, see flex duct manufacturer's recommendations or 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 560 mm) rectangle.
   d. Return air above 1800 CFM may require one of the following configurations:
   2 sides, 1 side and a bottom or bottom only for return air. See Air Delivery table in this document for specific use to allow for sufficient airflow to the furnace..

NOTE: ALL DIMENSIONS IN INCH (MM) U.S. ECCN: Not Subject to Regulation (N.S.R.) SD5507- 4 ULN 80 REV. B

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| FURNACE SIZE | A CABINET WIDTH | B OUTLET WIDTH | C TOP FLUE COLLAR | D BOTTOM INLET WIDTH | VENT CONNECTION SIZE | SHIP WT. LB. (KG) |
|---|---|---|---|---|---|---|
| 58CU0A040C17--12 | 17-1/2 (445) | 15-7/8 (403) | 11-9/16 (294) | 16 (406) | 4 (102) | 119 (54) |
| 58CU0A060C17--16 | 17-1/2 (445) | 15-7/8 (403) | 11-9/16 (294) | 16 (406) | 4 (102) | 124 (56) |
| 58CU0A080C21--20 | 21 (533) | 19-3/8 (492) | 13-5/16 (338) | 19-1/2 (495) | 4 (102) | 144 (65) |
| 58CU0A100C21--20 | 21 (533) | 19-3/8 (492) | 13-5/16 (338) | 19-1/2 (495) | 4 (102) | 154 (70) |

# CLEARANCES

**⚠ 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 qualified serviceman to correct the condition and reset limit switch.

**INSTALLATION**

**MINIMUM INCHES CLEARANCE TO COMBUSTIBLE CONSTRUCTION**

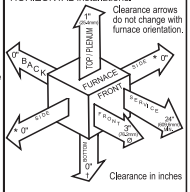
This forced air furnace is equipped for use with natural gas at altitudes 0 - 5,400 ft (0 - 1646m).

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 a manufacture approved special base kit or manufacturer recommended coil assembly.

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.

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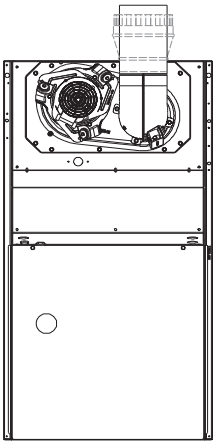
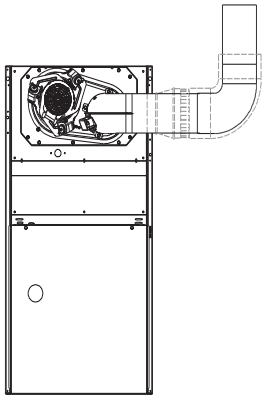
# VENTING CONFIGURATIONS



SEE NOTES: 1,2,4,7,8,9 on the page following these figures

A03208

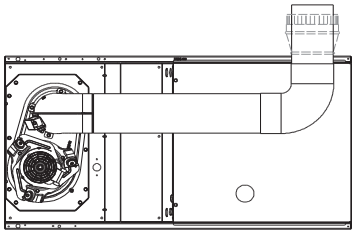
Upflow Application-Vent Elbow Up



SEE NOTES: 1,2,3,4,7,8,9 on the pages following these figures

A03209

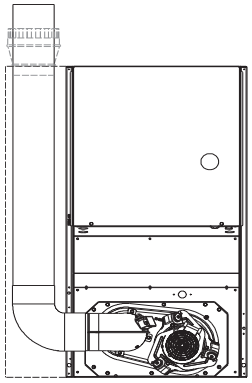
Upflow Application-Vent Elbow Right



SEE NOTES: 1,2,4,5,7,8,9 on the page following these figures

A03214

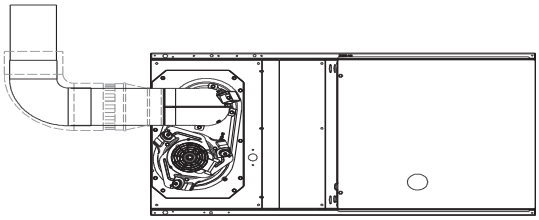
Horizontal Right Application-Vent Elbow Right



SEE NOTES: 1,2,4,5,6,7,8,9 on the page following these figures

A03207

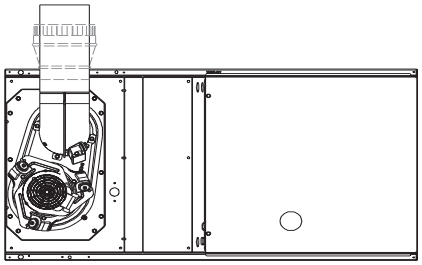
Downflow Application-Vent Elbow Left then Up



SEE NOTES: 1,2,4,7,8,9 on the page following these figures

A03213

Horizontal Left Application-Vent Elbow Left



SEE NOTES: 1,2,4,5,7,8,9 on the page following these figures

A03215

Horizontal Left Application-Vent Elbow Up

## Venting Notes

1. For common vent, vent connector sizing and vent material: United States, latest edition of the National Fuel Gas Code (NFGC), NFPA54/ANSI Z223.1.
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 accessory 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. Secure vent connector to furnace elbow with (2) corrosion-resistant sheet metal screws, space approximately 180° apart.
8. Secure all other single wall vent connector joints with (3) corrosion-resistant screws spaced approximately 120° apart.
9. Secure Type B vent connectors per vent connector manufacturer's recommendations.

# ACCESSORIES

| DESCRIPTION | PART NO. | 040C17--12 | 060C17--16 | 080C21--20 | 100C21--20 |
|---|---|---|---|---|---|
| Infinity® System Control Wi-Fi | SYSTXCCITC01 | X | X | X | X |
| Evolution® System Control Wi-Fi | SYSTXBBECC01 | X | X | X | X |
| Flue Extension | KGAFE0112UPH | X | X | X | X |
| Combustible Floor Base | KGASB0201ALL | X | X | X | X |
| Downflow Vent Guard | KGBVG0101DFG | X | X | X | X |
| ECM Motor Simulator Kit | KGBSD0301FMS | X | X | X | X |
| External Bottom Return Filter Rack* | FHG1625-2 | X | X | - | - |
| | FHG2025-2 | - | - | X | X |
| Unframed Filter 3/4-in. (19 mm)* | 325531-402 | X | X | - | - |
| | 325531-403 | - | - | X | X |
| Coil Adapter Kits (see Installation Instructions for coil requirements) | | | | | |
| Coil Adapter Kits - No Offset | KGADA0101ALL | X | X | X | X |
| Coil Adapter Kits - Single Offset | KGADA0201ALL | X | X | X | X |
| Coil Adapter Kits - Double Offset | KGADA0301ALL | X | X | X | X |

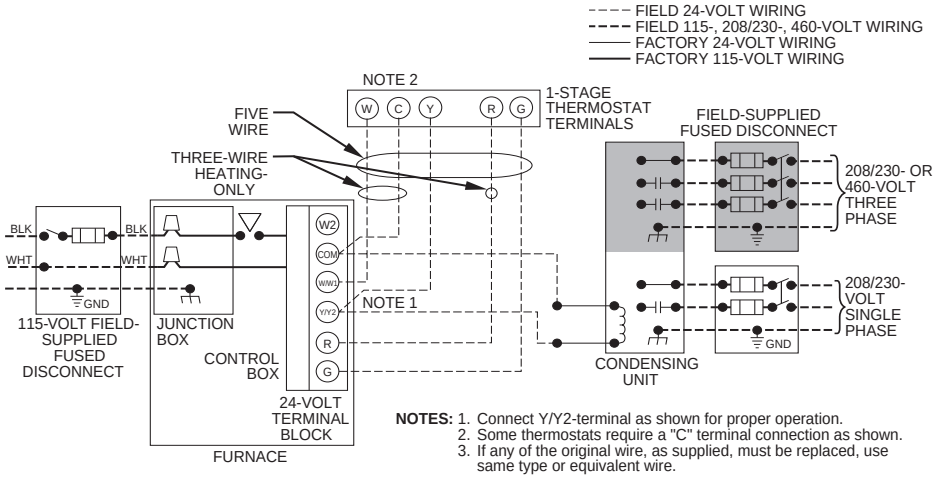
*. Purchased through Replacement Components

| DESCRIPTION | ACCESSORIES |
|---|---|
| HUMIDIFIER | Model HUM |
| HEAT RECOVERY VENTILATOR | Model HRV |
| ENERGY RECOVERY VENTILATOR | Model ERV |
| UV LIGHTS | Model UVL |

| DESCRIPTION | ACCESSORY | 14” | 17” | 21” |
|---|---|---|---|---|
| Carrier Carbon Monoxide Alarm (10 pack) | COALMCCNRB02-A10 | X | X | X |
| Carrier Infinity Air Purifier - 16x25 (407x635 mm) | DGAPAXX1625 | X | X | - |
| Carrier Infinity Air Purifier - 20x25 (508x635 mm) | DGAPAXX2025 | - | - | X |
| Carrier Infinity Air Purifier Repl. Filter- 16x25 (407x635 mm) | PGAPXCAR1625-A02 | X | X | - |
| Carrier Infinity Air Purifier Repl. Filter- 20x25 (508x635 mm) | PGAPXCAR2025-A02 | - | - | X |
| Media Filter Cartridge - 16” (407 mm) (MERV 11) | FILXXCAR0116 | X | X | - |
| Media Filter Cartridge - 16” (407 mm) (MERV 8) | FILXXCAR0016 | X | X | - |
| Media Filter Cartridge - 20” (508 mm) (MERV 8) | FILXXCAR0020 | - | - | X |
| Media Filter Cartridge - 20” (508 mm) (MERV11) | FILXXCAR0120 | - | - | X |
| Media Filter Cabinet -16” | FILCABXL0016 | X | X | - |
| Media Filter Cabinet - 20” | FILCABXL0020 | - | - | X |
| EZ Flex Cabinet Side or Bottom - 16” | EZXCAB--1016 | X | X | - |
| EZ Flex Cabinet Side or Bottom - 20” | EZXCAB--1020 | - | - | X |
| EZ Flex Replacement Filters 16” MERV 10 | EXPXXFIL0016 | X | X | - |
| EZ Flex Replacement Filters 16” MERV 13 | EXPXXFIL0316 | X | X | - |
| EZ Flex Replacement Filters 20” MERV 10 | EXPXXFIL0020 | - | - | X |
| EZ Flex Replacement Filters 20” MERV 13 | EXPXXFIL0320 | - | - | X |
| EZ-Flex Filter with End Caps - 16” (407 mm) (MERV 10) | EXPXXUNV0016 | X | X | - |
| EZ-Flex Filter with End Caps - 16” (407 mm) (MERV 13) | EXPXXUNV0316 | X | X | - |
| EZ-Flex Filter with End Caps - 20” (508 mm) (MERV 10) | EXPXXUNV0020 | - | - | X |
| EZ-Flex Filter with End Caps - 20” (508 mm) (MERV 13) | EXPXXUNV0320 | - | - | X |

Carrier has a wide variety of thermostats for your system, please visit www.Carrier.com to see all thermostat and IAQ products.

# TYPICAL WIRING SCHEMATIC

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# AIR DELIVERY

| Air Delivery - CFM (with filter) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (SW1-5 and SW4-3 set to OFF, except as indicated. See notes 1 and 2) | | | | | | | | | | | | | |
| **Size: 040C17--12** | **Clg/CF Switch settings** | | | **External Static Pressure (ESP)** | | | | | | | | | |
| **Clg Switches** | **SW2-3** | **SW2-2** | **SW2-1** | **0.1** | **0.2** | **0.3** | **0.4** | **0.5** | **0.6** | **0.7** | **0.8** | **0.9** | **1.0** |
| Clg Default: | OFF | OFF | OFF | 1275 | 1310 | 1305 | 1315 | 1310 | 1305 | 1305 | 1295 | 1290 | 1270 |
| **CF Switches** | **SW3-3** | **SW3-2** | **SW3-1** | | | | | | | | | | |
| Low-Clg Default: | OFF | OFF | OFF | 1275 | 1310 | 1305 | 1315 | 1310 | 1305 | 1305 | 1295 | 1290 | 1270 |
| | | | | | | | | | | | | | |
| Cooling Airflow (SW2)<br>Low-Cooling Airflow (SW3) | OFF | OFF | ON | 530 | 545 | 545 | 535 | 505 | 495 | 485 | See Note 4 | | |
| | OFF | ON | OFF | 715 | 705 | 730 | 730 | 735 | 735 | 740 | 725 | 720 | 695 |
| | OFF | ON | ON | 870 | 910 | 925 | 925 | 935 | 935 | 925 | 915 | 910 | 900 |
| | ON | OFF | OFF | 1100 | 1090 | 1080 | 1110 | 1120 | 1120 | 1110 | 1110 | 1100 | 1095 |
| | ON | OFF | ON | 1275 | 1310 | 1305 | 1315 | 1310 | 1305 | 1305 | 1295 | 1290 | 1270 |
| | ON | ON | OFF | 1445 | 1480 | 1480 | 1480 | 1475 | 1455 | 1415 | 1375 | 1335 | 1295 |
| | ON | ON | ON | 1445 | 1480 | 1480 | 1480 | 1475 | 1455 | 1415 | 1375 | 1335 | 1295 |
| | Maximum Clg Airflow[2] | | | 1635 | 1605 | 1565 | 1525 | 1490 | 1455 | 1415 | 1375 | 1335 | 1295 |
| **CF Switches** | **SW3-3** | **SW3-2** | **SW3-1** | | | | | | | | | | |
| Cont. Fan Default: | OFF | OFF | OFF | 530 | 545 | 545 | 535 | 505 | 495 | 485 | See Note 4 | | |
| | | | | | | | | | | | | | |
| Continuous Fan Airflow (SW3) | OFF | OFF | ON | 530 | 545 | 545 | 535 | 505 | 495 | 485 | See Note 4 | | |
| | OFF | ON | OFF | 715 | 705 | 730 | 730 | 735 | 735 | 740 | 725 | 720 | 695 |
| | OFF | ON | ON | 870 | 910 | 925 | 925 | 935 | 935 | 925 | 915 | 910 | 900 |
| | ON | OFF | OFF | 1100 | 1090 | 1080 | 1110 | 1120 | 1120 | 1110 | 1110 | 1100 | 1095 |
| | ON | OFF | ON | 1100 | 1090 | 1080 | 1110 | 1120 | 1120 | 1110 | 1110 | 1100 | 1095 |
| | ON | ON | OFF | 1100 | 1090 | 1080 | 1110 | 1120 | 1120 | 1110 | 1110 | 1100 | 1095 |
| | ON | ON | ON | 1100 | 1090 | 1080 | 1110 | 1120 | 1120 | 1110 | 1110 | 1100 | 1095 |
| | | | | | | | | | | | | | |
| Heating (SW1) | Heating Airflow[3] | | | 760 | 765 | 790 | 790 | 800 | 800 | 800 | 790 | 775 | 755 |
| | | | | | | | | | | | | | |
| **Size: 060C17--16** | **Clg/CF Switch settings** | | | **External Static Pressure (ESP)** | | | | | | | | | |
| **Clg Switches** | **SW2-3** | **SW2-2** | **SW2-1** | **0.1** | **0.2** | **0.3** | **0.4** | **0.5** | **0.6** | **0.7** | **0.8** | **0.9** | **1.0** |
| Clg Default: | OFF | OFF | OFF | 1460 | 1475 | 1500 | 1500 | 1480 | 1440 | 1395 | 1355 | 1310 | 1255 |
| **CF Switches** | **SW3-3** | **SW3-2** | **SW3-1** | | | | | | | | | | |
| Low-Clg Default: | OFF | OFF | OFF | 540 | 565 | 555 | 555 | 535 | See Note 4 | | | | |
| | | | | | | | | | | | | | |
| Cooling Airflow (SW2)<br>Low-Cooling Airflow (SW3) | OFF | OFF | ON | 540 | 565 | 555 | 555 | 535 | See Note 4 | | | | |
| | OFF | ON | OFF | 715 | 735 | 745 | 760 | 765 | See Note 4 | | | | |
| | OFF | ON | ON | 865 | 910 | 935 | 950 | 965 | 955 | 950 | 955 | 955 | 945 |
| | ON | OFF | OFF | 1120 | 1125 | 1130 | 1145 | 1160 | 1165 | 1165 | 1160 | 1150 | 1150 |
| | ON | OFF | ON | 1275 | 1295 | 1315 | 1335 | 1340 | 1345 | 1340 | 1335 | 1310 | 1255 |
| | ON | ON | OFF | 1460 | 1475 | 1500 | 1500 | 1480 | 1440 | 1395 | 1355 | 1310 | 1255 |
| | ON | ON | ON | 1460 | 1475 | 1500 | 1500 | 1480 | 1440 | 1395 | 1355 | 1310 | 1255 |
| | Maximum Clg Airflow2 | | | 1620 | 1595 | 1565 | 1525 | 1480 | 1440 | 1395 | 1355 | 1310 | 1255 |
| **CF Switches** | **SW3-3** | **SW3-2** | **SW3-1** | | | | | | | | | | |
| Cont. Fan Default: | OFF | OFF | OFF | 540 | 565 | 555 | 555 | 535 | See Note 4 | | | | |
| | | | | | | | | | | | | | |
| Continuous Fan Airflow (SW3) | OFF | OFF | ON | 540 | 565 | 555 | 555 | 535 | See Note 4 | | | | |
| | OFF | ON | OFF | 715 | 735 | 745 | 760 | 765 | See Note 4 | | | | |
| | OFF | ON | ON | 865 | 910 | 935 | 950 | 965 | 955 | 950 | 955 | 955 | 945 |
| | ON | OFF | OFF | 1120 | 1125 | 1130 | 1145 | 1160 | 1165 | 1165 | 1160 | 1150 | 1150 |
| | ON | OFF | ON | 1275 | 1295 | 1315 | 1335 | 1340 | 1345 | 1340 | 1335 | 1310 | 1255 |
| | ON | ON | OFF | 1460 | 1475 | 1500 | 1500 | 1480 | 1440 | 1395 | 1355 | 1310 | 1255 |
| | ON | ON | ON | 1460 | 1475 | 1500 | 1500 | 1480 | 1440 | 1395 | 1355 | 1310 | 1255 |
| | | | | | | | | | | | | | |
| Heating (SW1) | Heating Airflow[3] | | | 960 | 995 | 1015 | 1020 | 1030 | 1050 | 1055 | 1060 | 1055 | 1045 |

# AIR DELIVERY - CONTINUED

| Air Delivery - CFM (with filter) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (SW1-5 and SW4-3 set to OFF, except as indicated. See notes 1 and 2) | | | | | | | | | | | | | |
| **Size: 080C21--20** | **Clg/CF Switch settings** | | | **External Static Pressure (ESP)** | | | | | | | | | |
| **Clg Switches** | **SW2-3** | **SW2-2** | **SW2-1** | **0.1** | **0.2** | **0.3** | **0.4** | **0.5** | **0.6** | **0.7** | **0.8** | **0.9** | **1.0** |
| Clg Default: | OFF | OFF | OFF | 1905 | 1920 | 1935 | 1945 | 1950 | 1945 | 1935 | 1930 | 1920 | 1905 |
| **CF Switches** | **SW3-3** | **SW3-2** | **SW3-1** | | | | | | | | | | |
| Low-Clg Default: | OFF | OFF | OFF | 1905 | 1920 | 1935 | 1945 | 1950 | 1945 | 1935 | 1930 | 1920 | 1905 |
| | | | | | | | | | | | | | |
| Cooling Airflow (SW2)<br>Low-Cooling Airflow (SW3) | OFF | OFF | ON | 785 | 765 | 775 | See Note 4 | | | | | | |
| | OFF | ON | OFF | 930 | 975 | 990 | 985 | 990 | 1000 | 985 | See Note 4 | | |
| | OFF | ON | ON | 1130 | 1155 | 1150 | 1175 | 1190 | 1195 | 1215 | 1215 | 1215 | 1215 |
| | ON | OFF | OFF | 1345 | 1345 | 1350 | 1370 | 1370 | 1365 | 1365 | 1355 | 1345 | 1335 |
| | ON | OFF | ON | 1550 | 1560 | 1580 | 1575 | 1580 | 1565 | 1555 | 1540 | 1535 | 1525 |
| | ON | ON | OFF | 1905 | 1920 | 1935 | 1945 | 1950 | 1945 | 1935 | 1930 | 1920 | 1905 |
| | ON | ON | ON | 2300 | 2315 | 2320 | 2325 | 2315 | 2305 | 2280 | 2240 | 2245 | 2215 |
| | Maximum Clg Airflow[2] | | | 2405 | 2410 | 2415 | 2400 | 2390 | 2360 | 2305 | 2275 | 2255 | 2215 |
| **CF Switches** | **SW3-3** | **SW3-2** | **SW3-1** | | | | | | | | | | |
| Cont. Fan Default: | OFF | OFF | OFF | 785 | 765 | 775 | See Note 4 | | | | | | |
| | | | | | | | | | | | | | |
| Continuous Fan Airflow (SW3) | OFF | OFF | ON | 785 | 765 | 775 | See Note 4 | | | | | | |
| | OFF | ON | OFF | 930 | 975 | 990 | 985 | 990 | 1000 | 985 | See Note 4 | | |
| | OFF | ON | ON | 1130 | 1155 | 1150 | 1175 | 1190 | 1195 | 1215 | 1215 | 1215 | 1215 |
| | ON | OFF | OFF | 1130 | 1155 | 1150 | 1175 | 1190 | 1195 | 1215 | 1215 | 1215 | 1215 |
| | ON | OFF | ON | 1130 | 1155 | 1150 | 1175 | 1190 | 1195 | 1215 | 1215 | 1215 | 1215 |
| | ON | ON | OFF | 1130 | 1155 | 1150 | 1175 | 1190 | 1195 | 1215 | 1215 | 1215 | 1215 |
| | ON | ON | ON | 1130 | 1155 | 1150 | 1175 | 1190 | 1195 | 1215 | 1215 | 1215 | 1215 |
| | | | | | | | | | | | | | |
| Heating (SW1) | Heating Airflow[3] | | | 1550 | 1570 | 1585 | 1580 | 1565 | 1555 | 1550 | 1545 | 1545 | 1535 |
| | | | | | | | | | | | | | |
| **Size: 100C21--20** | **Clg/CF Switch settings** | | | **External Static Pressure (ESP)** | | | | | | | | | |
| **Clg Switches** | **SW2-3** | **SW2-2** | **SW2-1** | **0.1** | **0.2** | **0.3** | **0.4** | **0.5** | **0.6** | **0.7** | **0.8** | **0.9** | **1.0** |
| Clg Default: | OFF | OFF | OFF | 1785 | 1800 | 1805 | 1830 | 1830 | 1845 | 1855 | 1860 | 1850 | 1840 |
| **CF Switches** | **SW3-3** | **SW3-2** | **SW3-1** | | | | | | | | | | |
| Low-Clg Default: | OFF | OFF | OFF | 1785 | 1800 | 1805 | 1830 | 1830 | 1845 | 1855 | 1860 | 1850 | 1840 |
| | | | | | | | | | | | | | |
| Cooling Airflow (SW2)<br>Low-Cooling Airflow (SW3) | OFF | OFF | ON | 635 | 630 | See Note 4 | | | | | | | |
| | OFF | ON | OFF | 785 | 820 | 865 | See Note 4 | | | | | | |
| | OFF | ON | ON | 1040 | 1045 | 1070 | 1085 | 1130 | See Note 4 | | | | |
| | ON | OFF | OFF | 1205 | 1220 | 1245 | 1280 | 1290 | 1295 | 1290 | 1280 | See Note 4 | |
| | ON | OFF | ON | 1380 | 1425 | 1445 | 1465 | 1480 | 1475 | 1490 | 1485 | 1455 | 1460 |
| | ON | ON | OFF | 1785 | 1800 | 1805 | 1830 | 1830 | 1845 | 1855 | 1860 | 1850 | 1840 |
| | ON | ON | ON | 2170 | 2155 | 2175 | 2195 | 2185 | 2195 | 2190 | 2180 | 2160 | 2100 |
| | Maximum Clg Airflow[2] | | | 2200 | 2220 | 2245 | 2260 | 2260 | 2260 | 2255 | 2225 | 2170 | 2100 |
| **CF Switches** | **SW3-3** | **SW3-2** | **SW3-1** | | | | | | | | | | |
| Cont. Fan Default: | OFF | OFF | OFF | 635 | 630 | See Note 4 | | | | | | | |
| | | | | | | | | | | | | | |
| Continuous Fan Airflow (SW3) | OFF | OFF | ON | 635 | 630 | See Note 4 | | | | | | | |
| | OFF | ON | OFF | 785 | 820 | 865 | See Note 4 | | | | | | |
| | OFF | ON | ON | 1040 | 1045 | 1070 | 1085 | 1130 | See Note 4 | | | | |
| | ON | OFF | OFF | 1205 | 1220 | 1245 | 1280 | 1290 | 1295 | 1290 | 1280 | See Note 4 | |
| | ON | OFF | ON | 1380 | 1425 | 1445 | 1465 | 1480 | 1475 | 1490 | 1485 | 1455 | 1460 |
| | ON | ON | OFF | 1380 | 1425 | 1445 | 1465 | 1480 | 1475 | 1490 | 1485 | 1455 | 1460 |
| | ON | ON | ON | 1380 | 1425 | 1445 | 1465 | 1480 | 1475 | 1490 | 1485 | 1455 | 1460 |
| | | | | | | | | | | | | | |
| Heating (SW1) | Heating Airflow[3] | | | 1785 | 1800 | 1765 | 1785 | 1800 | 1820 | 1830 | 1835 | 1825 | 1810 |

1. Nominal 350 CFM/ton cooling airflow is delivered with SW1-5 and SW4-3 set to OFF.
   Set SW1-5 to ON for nominal 400 CFM/ton (+15% airflow).
   Set SW4-3 to ON for nominal 325 CFM/ton (-7% airflow).
   Set both SW1-5 and SW4-3 to ON for nominal 370 CFM/ton (+7% airflow).
   This applies to Cooling and Low-Cooling airflow, but does not affect continuous fan airflow.

The above adjustments in airflow are subject to motor horsepower range/capacity.

2. Maximum cooling airflow is achieved when switches SW2-1, SW2-2, SW2-3 and SW1-5 are set to ON, and SW4-3 is set to OFF.
3. All heating CFM's are when comfort/efficiency adjustment switch (SW1-4) is set to OFF
4. Ductwork must be sized for heating CFM within the operational range of ESP. Operation within the blank areas of the chart is not recommended because heat operation will be above 1.0 ESP.
5. All airflows on 21" casing size furnaces are 5% less on side return only installations.

## GUIDE SPECIFICATIONS

## Gas Furnace

# General

### System Description

Furnish a _____ variable speed gas-fired furnace for use with natural gas; 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 will 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)

# 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, transducer, burner thermal switch, blower and inducer assembly, 40va transformer; low-voltage (heating) (heating/ cooling) thermostat.

### Blower Wheel and ECM Blower Motor

Galvanized blower wheel shall be centrifugal type, statically and dynamically balanced. Blower motor of ECM type shall be permanently lubricated with sealed bearings, of _____hp, and delivers requested airflow CFM as defined by direct drive and signals received from furnace control. 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 (x) _____in. (mm). An accessory high-efficiency media filter is available as an option. _____ Media Filter.

### Casing

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

### 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.

### Controls

Control shall include a micro-processor based integrated electronic control board with troubleshooting codes displayed via enhanced flashing LED diagnostic light on the control, a self-test feature that checks all major functions of the furnace, and a replaceable automotive-type circuit protection fuse. Multiple operational settings available including separate blower speeds for heating and cooling.

### 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.; width _____ in; 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.