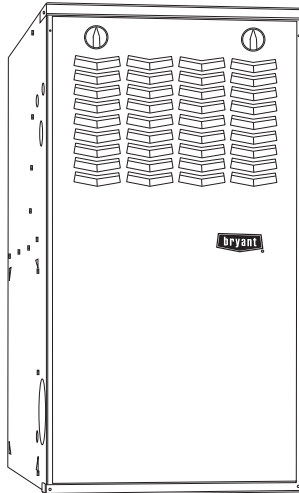


**820SA/821SA
Preferred Series™ 4-Way Multipoise,
Non-Condensing
33-1/3 in. Gas Furnace**



Product Data



A10252

THE 820SA/821SA GAS FURNACE

The 820SA/821SA 4-way Multipoise Gas Furnaces feature Bryant's QuietTech™ noise reduction system for quiet induced draft operation. Applications are easy with 4-way multipoise design, through-the-furnace downflow venting, 13 different venting options, and easy service access. An inner blower door is provided for tighter sealing in sensitive applications. The 820SA/821SA furnaces are factory shipped for use with natural gas and convertible to propane with approved accessory kit. The 821SA - Low NOx units are designed for California installations and meet 40 ng/J NOx emission limits. Can be installed in air quality management districts with a 40 ng/J NOx emissions limit.

PERFORMANCE

- Single-stage gas valve
- Variable-speed, Constant Torque (VCT) ECM blower motor
- QuietTech™ noise reduction system with fully insulated cabinet
- Microprocessor based “smart” control center
Fan on *Plus*™ - Continuous Fan speed adjustable from thermostat
- Enhanced diagnostics with LED and reflective sight glass, non-volatile fault code memory, and self test feature
- Adjustable heating air temperature rise
- Adjustable cooling airflow
- Perfect Light™ Igniter
- Patented blocked vent safeguard to ensure proper furnace venting
- Inner blower door for tighter sealing

INSTALLATION FLEXIBILITY

- 4-way Multipoise furnace, 13 vent applications
- HYBRIDHEAT® Dual Fuel System compatible
- All models are chimney friendly when used with accessory vent kit

APPLICATIONS

- Compact design - only 33-1/3 in. (847 mm) tall
- Propane convertible with gas conversion accessory
- Convenient Air Purifier and Humidifier connections

CERTIFICATION

- 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
- Residential installations eligible for consumer financing through the Retail Credit Program



PREFERRED™
SERIES



ISO 9001
Quality



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



A210064

SPECIFICATIONS

| Unit Size | | 36045V14 | 48045V17 | 48070V17 | 60070V21 | 60090V21 | 60090V24 | 66110V24 |
|---|------------------------------------|----------------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| RATINGS AND PERFORMANCE | | | | | | | | |
| Input Btuh* Nonweatherized ICS | All Standard All Low NOx Upflow | 44,000 | 44,000 | 66,000 | 66,000 | 88,000 | 88,000 | 110,000 |
| | All Low Nox Downflow/Horizontal | 42,000 | 42,000 | 63,000 | 63,000 | 84,000 | 84,000 | 105,000 |
| Output Capacity (Btuh)† Nonweatherized ICS | All Standard All Low NOx Upflow | 35,000 | 35,000 | 54,000 | 53,000 | 71,000 | 72,000 | 90,000 |
| | All Low Nox Downflow/Horizontal | 34,000 | 34,000 | 51,000 | 51,000 | 68,000 | 69,000 | 86,000 |
| AFUE† | | 80.00 | 80.00 | 80.00 | 80.00 | 80.00 | 80.00 | 80.00 |
| Certified Temperature Rise Range - °F (°C) | | 30-60 (17-33) | 30-60 (17-33) | 25-55 (14-30) | 25-55 (14-30) | 25-55 (14-30) | 30-60 (17-33) | 30-60 (17-33) |
| Certified External Static Pressure | Heat/Cool | 0.10/0.50 | 0.10/0.50 | 0.12/0.50 | 0.12/0.50 | 0.15/0.50 | 0.15/0.50 | 0.20/0.50 |
| Airflow CFM‡ | Heating | 870 | 925 | 1385 | 1425 | 1800 | 1710 | 2090 |
| | Cooling | 1310 | 1350 | 1720 | 2045 | 1915 | 1980 | 2280 |
| ELECTRICAL | | | | | | | | |
| Unit Volts-Hertz-Phase | | 115-60-1 | | | | | | |
| Operating Voltage Range | Min-Max | 104-127 | | | | | | |
| Maximum Unit Amps | | 7.9 | 7.9 | 10.8 | 13.2 | 11.1 | 11.1 | 13.9 |
| Unit Ampacity | | 10.7 | 10.7 | 14.3 | 17.3 | 14.6 | 14.6 | 18.1 |
| Maximum Wire Length (Measure 1 Way in Ft (M)) | | 34 (10.6) | 34 (10.6) | 25 (7.9) | 33 (10.1) | 25 (7.7) | 25 (7.7) | 31 (9.7) |
| Minimum Wire Size | | 14 | 14 | 14 | 12 | 14 | 14 | 12 |
| Maximum Fuse or Ckt Bkr Size (Amps)** | | 15 | 15 | 15 | 20 | 15 | 15 | 20 |
| Transformer (24v) | | 40va | | | | | | |
| External Control Power Available | Heating | 12va | | | | | | |
| | Cooling | 35va | | | | | | |
| Air Conditioning Blower Relay | | Standard | | | | | | |
| CONTROLS | | | | | | | | |
| Heating Blower Control | | Solid State Time Operation | | | | | | |
| Burners (Monoport) | | 2 | 2 | 3 | 3 | 4 | 4 | 5 |
| Gas Connection Size | | 1/2in. NPT | | | | | | |
| GAS CONTROLS | | | | | | | | |
| Gas Valve (Redundant) | Mfr. | WhiteRodgers | | | | | | |
| | Min. inlet pressure (In. W.C.) | 4.5 (Natural Gas) | | | | | | |
| | Max. inlet pressure (In. W.C.) | 13.6 (Natural Gas) | | | | | | |
| Ignition Device | | Hot Surface | | | | | | |
| Factory installed orifice | | Size 43 | | | | | | |
| BLOWER DATA | | | | | | | | |
| Direct Drive Motor HP | | 1/2 | 1/2 | 3/4 | 1 | 3/4 | 3/4 | 1 |
| Motor Full Load Amps | | 6.7 | 6.7 | 9.6 | 12.0 | 9.6 | 9.6 | 12.0 |
| RPM (Nominal)Speeds | | 1200 | 1200 | 1200 | 1200 | 1200 | 1200 | 1200 |
| Blower Wheel Diameter x Width - In. (mm) | | 10 x 6 (254x152) | 10 x 8 (254x203) | 11 x 8 (279x203) | 11 x 10 (254x279) | 11 X 11 (279x279) | 11 X 11 (279x279) | 11 X 11 (279x279) |

*. Gas input ratings are certified for elevations to 2000 ft. (610 M). In USA, 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 Table 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 the factory-specified 4-5/16-in. (110 mm) wide, high efficiency media filter.

** Time-delay type is recommended.

ICS = Isolated Combustion System

MODEL NUMBER NOMENCLATURE

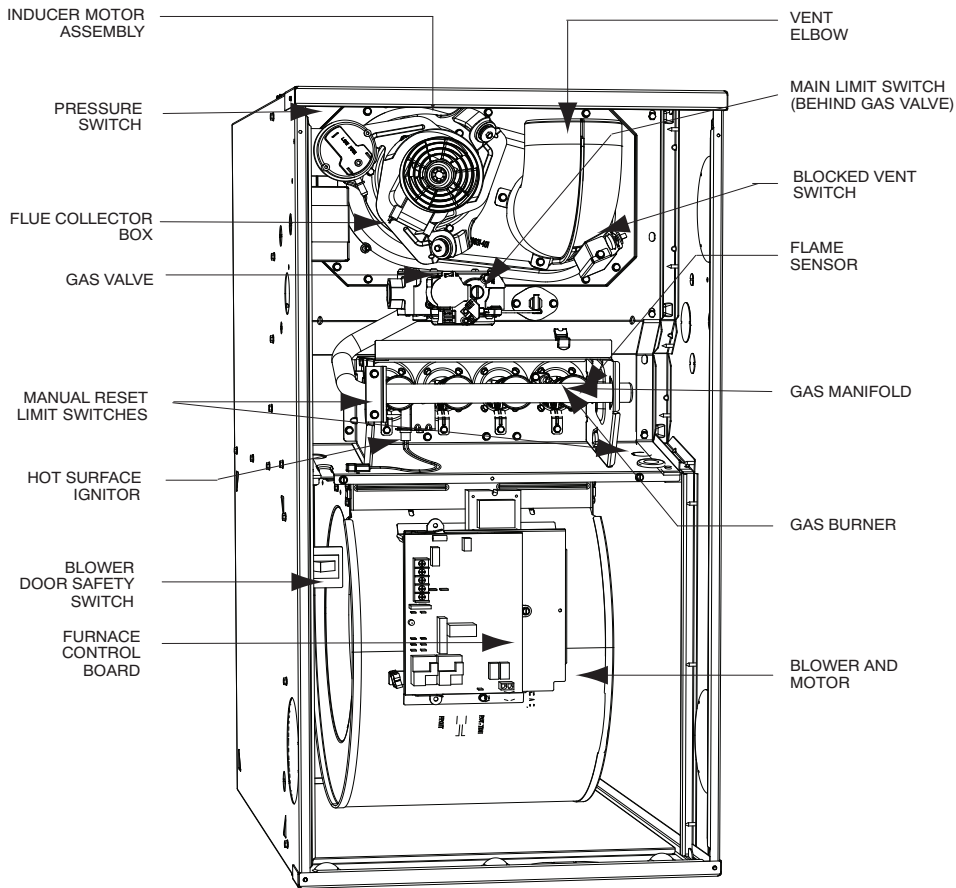
| 1 Heat Exchanger 9 | 2 Tier/NOx 8 | 3 AFUE/NOx 7 | 4 Heating Stages M | 5 Major Series B | 6, 7 Cooling Capacity (CFM) 42 | 8 - 10 Heat Input 060 | 11 Motor Type C | 12 - 13 Width 17 | 14 Voltage (1-phase) A | 15 Un-used - | 16 Minor Series A |
|--------------------------|--|---|---|-------------------------|--|---|--|--|--------------------------------|--------------------|-------------------------|
| 8 = 80% 9 = 90+% | 0 = Base 1 = Legacy Line 2 = Preferred 3 = Ultra Low Nox 8 = Evolution | 0 = 80% 1 = 80% Low Nox ---- 2 = 92% 5 = 95% 6 = 96% 7 = 97% 8 = 98% | M = Modulating S = Single Stage T = Two-Stage | A B C D --- | 24 = 800 CFM 30 = 1000 CFM 36 = 1200 CFM 42 = 1400 CFM 48 = 1600 CFM 60 = 2000 CFM 66 = 2200 CFM | 026 = 26,000 BTU/h 040 = 40,000 BTU/h 060 = 60,000 BTU/h --- | C = Comm. Variable-Speed Constant Airflow (VCA) ECM E = Fixed-Speeds Constant Torque (FCT) ECM V = Variable-Speed Constant Torque (VCT) ECM | 14 = 14.2" 17 = 17.5" 21 = 21.0" 24 = 24.5" | A = 110V/60Hz B = 230V/50Hz | - | A B C --- |

A190404

For California Residents:

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

FURNACE COMPONENTS



A190086

NOTE: The 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.

ACCESSORIES

| DESCRIPTION | PART NO. | 36045V14 | 48045V17 | 48070V17 | 60070V21 | 60090V21 | 60090V24 | 66110V24 |
|---|--------------|----------|----------|----------|----------|----------|----------|----------|
| Bottom Return Filter Rack* | FHG1425-2 | X | | | | | | |
| | FHG1625-2 | | X | X | | | | |
| | FHG2025-2 | | | | X | X | | |
| | FHG2424-2 | | | | | | X | X |
| Unframed Washable Filter 3/4-in. (19 mm)* | 325531-402 | X | X | X | | | | |
| | 325531-403 | | | | X | X | | |
| | 325531-404 | | | | | | X | X |
| Flue Extension | KGAFE0112UPH | X | X | X | X | X | X | X |
| Combustible Floor Base | KGASB0201ALL | X | X | X | X | X | X | X |
| Downflow Vent Guard | KGBVG0101DFG | X | X | X | X | X | X | X |
| Vent Extension Kit | KGAVE0101DNH | X | X | X | X | X | X | X |
| Chimney Adapter Kit | KGACA02014FC | X | X | X | X | X | X | X |
| Natural-to-Propane Conversion Kit† | AGAGC8NPS01A | X | X | X | X | X | X | X |
| Propane-to-Natural Conversion Kit† | AGAGC8PNS01A | X | X | X | X | X | X | X |

* Purchased through Replacement Components

† Factory-authorized and field installed. Fuel conversion kits are CSA (formerly AGA/CGA) recognized

X Accessory available

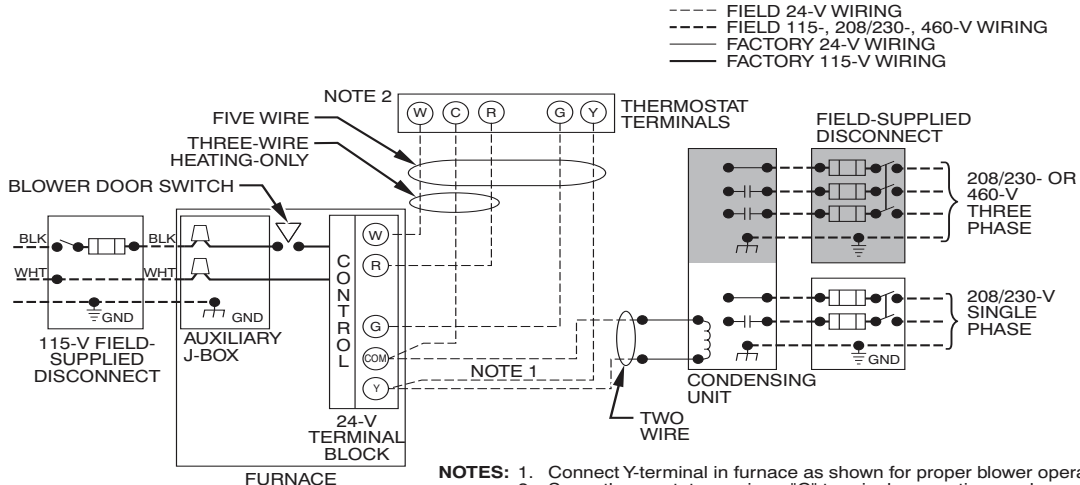
| ORIFICES | | |
|-------------|-----------|---|
| Gas Orifice | LH32DB207 | See Installation Instructions for model, altitude, and heat value usages. |
| | LH32DB202 | |
| | LH32DB200 | |
| | LH32DB205 | |
| | LH32DB208 | |
| | LH32DB078 | |
| | LH32DB076 | |
| | LH32DB203 | |
| | LH32DB201 | |
| | LH32DB206 | |
| | LH32DB209 | |
| | LH32DB210 | |

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

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

| DESCRIPTION | ACCESSORY | 14" | 17" | 21" | 24" |
|--|------------------|-----|-----|-----|-----|
| Bryant Carbon Monoxide Alarm (10 pack) | COALMBBNRB02-A10 | X | X | X | X |
| Bryant Evolution Air Purifier - 16x25 (407x635 mm) | DGAPAXX1625 | X | X | | |
| Bryant Evolution Air Purifier - 20x25 (508x635 mm) | DGAPAXX2025 | | | X | X |
| Bryant Evolution Air Purifier Repl. Filter- 16x25 (407x635 mm) | GAPBBCAR1625-A05 | X | X | | |
| Bryant Evolution Air Purifier Repl. Filter- 20x25 (508x635 mm) | GAPBBCAR2025-A05 | | | X | X |
| Cartridge Media Filter - 16" (407 mm) (MERV 11) | FILXXCAR0116 | X | X | | |
| Cartridge Media Filter - 16" (407 mm) (MERV 8) | FILXXCAR0016 | X | X | | |
| Cartridge Media Filter - 20" (508 mm) (MERV 8) | FILXXCAR0020 | | | X | |
| Cartridge Media Filter - 20" (508 mm) (MERV11) | FILXXCAR0120 | | | X | |
| Cartridge Media Filter - 24" (610 mm) (MERV 8) | FILXXCAR0024 | | | | X |
| Cartridge Media Filter - 24" (610 mm) (MERV11) | FILXXCAR0124 | | | | X |
| EZ Flex Cabinet Side or Bottom - 16" | EZXCAB--0016 | X | X | | |
| EZ Flex Cabinet Side or Bottom - 20" | EZXCAB--0020 | | | X | 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 Replacement Filters 24" MERV 10 | EXPXXFIL0024 | | | | X |
| EZ Flex Replacement Filters 24" MERV 13 | EXPXXFIL0324 | | | | 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 | |
| EZ-Flex Filter with End Caps - 24" (610 mm) (MERV 10) | EXPXXUNV0024 | | | | X |
| EZ-Flex Filter with End Caps - 24" (610 mm) (MERV 13) | EXPXXUNV0324 | | | | X |
| Media Filter Cabinet - 20" | FILCABXL0020 | | | X | |
| Media Filter Cabinet - 24" | FILCABXL0024 | | | | X |
| Media Filter Cabinet - 16" | FILCABXL0016 | X | X | | |

TYPICAL WIRING SCHEMATIC



A190079

AIR DELIVERY

Air Delivery - CFM (With Filter)*

| COOLING ⁴ AND HEATING AIR DELIVERY - CFM (Bottom Return ⁵ with Filter) | | | | | | | | | | | | | |
|--|---------------------------|-------|-------|--------------------------------|------|------|------|------|------------|------|------|------------|------|
| (SW1-5 and SW2-2 set to OFF, except as indicated. See Notes 1 and 2.) | | | | | | | | | | | | | |
| Unit Size: 36045V14 | Clg/CF Switch settings | | | External Static Pressure (ESP) | | | | | | | | | |
| Clg Switches: | SW2-8 | SW2-7 | SW2-6 | 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 | 1175 | 1140 | 1105 | 1075 | 1040 | 1015 | 980 | 945 | 910 | 875 |
| Cooling (SW2-8,7,6) | OFF | OFF | ON | 610 | 560 | 500 | 440 | 380 | See Note 4 | | | | |
| | OFF | ON | OFF | 805 | 760 | 720 | 670 | 625 | 575 | 530 | 485 | See Note 4 | |
| | OFF | ON | ON | 1010 | 970 | 930 | 895 | 860 | 825 | 785 | 745 | 705 | 665 |
| | ON | OFF | OFF | 1175 | 1140 | 1105 | 1075 | 1040 | 1015 | 980 | 945 | 910 | 875 |
| | ON | OFF | ON | 1345 | 1310 | 1280 | 1250 | 1220 | 1190 | 1165 | 1140 | 1095 | 1015 |
| | ON | ON | OFF | 1480 | 1435 | 1395 | 1350 | 1310 | 1265 | 1220 | 1185 | 1115 | 1015 |
| | ON | ON | ON | 1480 | 1435 | 1395 | 1350 | 1310 | 1265 | 1220 | 1185 | 1115 | 1015 |
| Maximum Clg Airflow ² | | | | 1480 | 1435 | 1395 | 1350 | 1310 | 1265 | 1220 | 1185 | 1115 | 1015 |
| CF Switches | SW2-5 | SW2-4 | SW2-3 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| Low-Clg Default: | OFF | OFF | OFF | 610 | 560 | 500 | 440 | 380 | See Note 4 | | | | |
| Low-Cooling (SW2-5,4,3) | OFF | OFF | ON | 610 | 560 | 500 | 440 | 380 | See Note 4 | | | | |
| | OFF | ON | OFF | 805 | 760 | 720 | 670 | 625 | 575 | 530 | 485 | See Note 4 | |
| | OFF | ON | ON | 1010 | 970 | 930 | 895 | 860 | 825 | 785 | 745 | 705 | 665 |
| | ON | OFF | OFF | 1175 | 1140 | 1105 | 1075 | 1040 | 1015 | 980 | 945 | 910 | 875 |
| | ON | OFF | ON | 1345 | 1310 | 1280 | 1250 | 1220 | 1190 | 1165 | 1140 | 1095 | 1015 |
| | ON | ON | OFF | 1480 | 1435 | 1395 | 1350 | 1310 | 1265 | 1220 | 1185 | 1115 | 1015 |
| | ON | ON | ON | 1480 | 1435 | 1395 | 1350 | 1310 | 1265 | 1220 | 1185 | 1115 | 1015 |
| Cont. Fan Default: | OFF | OFF | OFF | 610 | 560 | 500 | 440 | 380 | See Note 4 | | | | |
| Continuous Fan (SW2-5,4,3) | OFF | OFF | ON | 610 | 560 | 500 | 440 | 380 | See Note 4 | | | | |
| | OFF | ON | OFF | 805 | 760 | 720 | 670 | 625 | 575 | 530 | 485 | See Note 4 | |
| | OFF | ON | ON | 1010 | 970 | 930 | 895 | 860 | 825 | 785 | 745 | 705 | 665 |
| | ON | OFF | OFF | 1010 | 970 | 930 | 895 | 860 | 825 | 785 | 745 | 705 | 665 |
| | ON | OFF | ON | 1010 | 970 | 930 | 895 | 860 | 825 | 785 | 745 | 705 | 665 |
| | ON | ON | OFF | 1010 | 970 | 930 | 895 | 860 | 825 | 785 | 745 | 705 | 665 |
| | ON | ON | ON | 1010 | 970 | 930 | 895 | 860 | 825 | 785 | 745 | 705 | 665 |
| Heating (SW1) | Heat Airflow ³ | | | 870 | 825 | 785 | 745 | 700 | 655 | 615 | 570 | 530 | 480 |

Air Delivery - CFM (With Filter)* (Continued)

| COOLING⁴ AND HEATING AIR DELIVERY - CFM (Bottom Return⁵ with Filter) | | | | | | | | | | | | | |
|---|-------------------------------|--------------|--------------|---------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| (SW1-5 and SW2-2 set to OFF, except as indicated. See Notes 1 and 2.) | | | | | | | | | | | | | |
| Unit Size: 48045V17 | Clg/CF Switch settings | | | External Static Pressure (ESP) | | | | | | | | | |
| Clg Switches: | SW2-8 | SW2-7 | SW2-6 | 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 | 1525 | 1490 | 1445 | 1400 | 1350 | 1300 | 1250 | 1200 | 1140 | 1035 |
| Cooling (SW2-8,7,6) | OFF | OFF | ON | 655 | 590 | 530 | 465 | 390 | 335 | See Note 4 | | | |
| | OFF | ON | OFF | 825 | 770 | 715 | 665 | 615 | 560 | 495 | 445 | 395 | 350 |
| | OFF | ON | ON | 1025 | 980 | 940 | 895 | 850 | 810 | 765 | 725 | 680 | 630 |
| | ON | OFF | OFF | 1200 | 1160 | 1125 | 1085 | 1050 | 1010 | 975 | 935 | 900 | 860 |
| | ON | OFF | ON | 1385 | 1350 | 1320 | 1285 | 1250 | 1215 | 1180 | 1145 | 1110 | 1030 |
| | ON | ON | OFF | 1525 | 1490 | 1445 | 1400 | 1350 | 1300 | 1250 | 1200 | 1140 | 1035 |
| | ON | ON | ON | 1525 | 1490 | 1445 | 1400 | 1350 | 1300 | 1250 | 1200 | 1140 | 1035 |
| Maximum Clg Airflow ² | | | 1525 | 1490 | 1445 | 1400 | 1350 | 1300 | 1250 | 1200 | 1140 | 1035 | |
| CF Switches | SW2-5 | SW2-4 | SW2-3 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| Low-Clg Default: | OFF | OFF | OFF | 655 | 590 | 530 | 465 | 390 | 335 | See Note 4 | | | |
| Low-Cooling (SW2-5,4,3) | OFF | OFF | ON | 655 | 590 | 530 | 465 | 390 | 335 | See Note 4 | | | |
| | OFF | ON | OFF | 825 | 770 | 715 | 665 | 615 | 560 | 495 | 445 | 395 | 350 |
| | OFF | ON | ON | 1025 | 980 | 940 | 895 | 850 | 810 | 765 | 725 | 680 | 630 |
| | ON | OFF | OFF | 1200 | 1160 | 1125 | 1085 | 1050 | 1010 | 975 | 935 | 900 | 860 |
| | ON | OFF | ON | 1385 | 1350 | 1320 | 1285 | 1250 | 1215 | 1180 | 1145 | 1110 | 1030 |
| | ON | ON | OFF | 1525 | 1490 | 1445 | 1400 | 1350 | 1300 | 1250 | 1200 | 1140 | 1035 |
| | ON | ON | ON | 1525 | 1490 | 1445 | 1400 | 1350 | 1300 | 1250 | 1200 | 1140 | 1035 |
| Cont. Fan Default: | OFF | OFF | OFF | 655 | 590 | 530 | 465 | 390 | 335 | See Note 4 | | | |
| Continuous Fan (SW2-5,4,3) | OFF | OFF | ON | 655 | 590 | 530 | 465 | 390 | 335 | See Note 4 | | | |
| | OFF | ON | OFF | 825 | 770 | 715 | 665 | 615 | 560 | 495 | 445 | 395 | 350 |
| | OFF | ON | ON | 1025 | 980 | 940 | 895 | 850 | 810 | 765 | 725 | 680 | 630 |
| | ON | OFF | OFF | 1025 | 980 | 940 | 895 | 850 | 810 | 765 | 725 | 680 | 630 |
| | ON | OFF | ON | 1025 | 980 | 940 | 895 | 850 | 810 | 765 | 725 | 680 | 630 |
| | ON | ON | OFF | 1025 | 980 | 940 | 895 | 850 | 810 | 765 | 725 | 680 | 630 |
| | ON | ON | ON | 1025 | 980 | 940 | 895 | 850 | 810 | 765 | 725 | 680 | 630 |
| Heating (SW1) | Heat Airflow ³ | | | 925 | 875 | 830 | 780 | 735 | 685 | 635 | 590 | 540 | 490 |
| Unit Size: 48070V17 | Clg/CF Switch settings | | | External Static Pressure (ESP) | | | | | | | | | |
| Clg Switches: | SW2-8 | SW2-7 | SW2-6 | 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 | 1595 | 1560 | 1520 | 1485 | 1445 | 1410 | 1375 | 1335 | 1300 | 1265 |
| Cooling (SW2-8,7,6) | OFF | OFF | ON | 660 | 585 | 515 | 445 | 370 | See Note 4 | | | | |
| | OFF | ON | OFF | 825 | 765 | 705 | 645 | 590 | 530 | 470 | 410 | 365 | 310 |
| | OFF | ON | ON | 1025 | 970 | 915 | 860 | 810 | 760 | 705 | 640 | 585 | 530 |
| | ON | OFF | OFF | 1225 | 1180 | 1135 | 1085 | 1040 | 995 | 950 | 910 | 865 | 820 |
| | ON | OFF | ON | 1390 | 1350 | 1305 | 1265 | 1225 | 1180 | 1140 | 1100 | 1060 | 1020 |
| | ON | ON | OFF | 1595 | 1560 | 1520 | 1485 | 1445 | 1410 | 1375 | 1335 | 1300 | 1265 |
| | ON | ON | ON | 1855 | 1815 | 1785 | 1750 | 1720 | 1675 | 1625 | 1575 | 1525 | 1475 |
| Maximum Clg Airflow ² | | | 1855 | 1815 | 1785 | 1750 | 1720 | 1675 | 1625 | 1575 | 1525 | 1475 | |
| CF Switches | SW2-5 | SW2-4 | SW2-3 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| Low-Clg Default: | OFF | OFF | OFF | 660 | 585 | 515 | 445 | 370 | See Note 4 | | | | |
| Low-Cooling (SW2-5,4,3) | OFF | OFF | ON | 660 | 585 | 515 | 445 | 370 | See Note 4 | | | | |
| | OFF | ON | OFF | 825 | 765 | 705 | 645 | 590 | 530 | 470 | 410 | 365 | 310 |
| | OFF | ON | ON | 1025 | 970 | 915 | 860 | 810 | 760 | 705 | 640 | 585 | 530 |
| | ON | OFF | OFF | 1225 | 1180 | 1135 | 1085 | 1040 | 995 | 950 | 910 | 865 | 820 |
| | ON | OFF | ON | 1390 | 1350 | 1305 | 1265 | 1225 | 1180 | 1140 | 1100 | 1060 | 1020 |
| | ON | ON | OFF | 1595 | 1560 | 1520 | 1485 | 1445 | 1410 | 1375 | 1335 | 1300 | 1265 |
| | ON | ON | ON | 1855 | 1815 | 1785 | 1750 | 1720 | 1675 | 1625 | 1575 | 1525 | 1475 |
| Cont. Fan Default: | OFF | OFF | OFF | 660 | 585 | 515 | 445 | 370 | See Note 4 | | | | |
| Continuous Fan (SW2-5,4,3) | OFF | OFF | ON | 660 | 585 | 515 | 445 | 370 | See Note 4 | | | | |
| | OFF | ON | OFF | 825 | 765 | 705 | 645 | 590 | 530 | 470 | 410 | 365 | 310 |
| | OFF | ON | ON | 1025 | 970 | 915 | 860 | 810 | 760 | 705 | 640 | 585 | 530 |
| | ON | OFF | OFF | 1025 | 970 | 915 | 860 | 810 | 760 | 705 | 640 | 585 | 530 |
| | ON | OFF | ON | 1025 | 970 | 915 | 860 | 810 | 760 | 705 | 640 | 585 | 530 |
| | ON | ON | OFF | 1025 | 970 | 915 | 860 | 810 | 760 | 705 | 640 | 585 | 530 |
| | ON | ON | ON | 1025 | 970 | 915 | 860 | 810 | 760 | 705 | 640 | 585 | 530 |
| Heating (SW1) | Heat Airflow ³ | | | 1395 | 1350 | 1310 | 1270 | 1230 | 1185 | 1145 | 1105 | 1065 | 1025 |

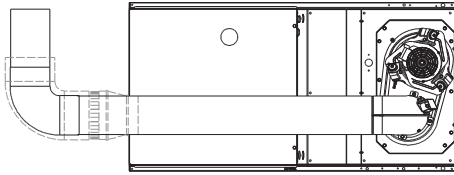
Air Delivery - CFM (With Filter)* (Continued)

| COOLING⁴ AND HEATING AIR DELIVERY - CFM (Bottom Return⁵ with Filter) | | | | | | | | | | | | | |
|---|----------------------------------|--------------|--------------|---------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| (SW1-5 and SW2-2 set to OFF, except as indicated. See Notes 1 and 2.) | | | | | | | | | | | | | |
| Unit Size: 60070V21 | Clg/CF Switch settings | | | External Static Pressure (ESP) | | | | | | | | | |
| Clg Switches: | SW2-8 | SW2-7 | SW2-6 | 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 | 1930 | 1895 | 1855 | 1815 | 1775 | 1740 | 1700 | 1665 | 1630 | 1595 |
| Cooling (SW2-8,7,6) | OFF | OFF | ON | 810 | 735 | 660 | 585 | 505 | See Note 4 | | | | |
| | OFF | ON | OFF | 1010 | 945 | 885 | 820 | 760 | 695 | 625 | 565 | 510 | 455 |
| | OFF | ON | ON | 1205 | 1150 | 1090 | 1040 | 985 | 930 | 875 | 820 | 760 | 705 |
| | ON | OFF | OFF | 1400 | 1345 | 1295 | 1245 | 1200 | 1155 | 1105 | 1060 | 1005 | 960 |
| | ON | OFF | ON | 1580 | 1540 | 1495 | 1445 | 1405 | 1360 | 1320 | 1275 | 1235 | 1190 |
| | ON | ON | OFF | 1930 | 1895 | 1855 | 1815 | 1775 | 1740 | 1700 | 1665 | 1630 | 1595 |
| | ON | ON | ON | 2245 | 2195 | 2145 | 2095 | 2045 | 1995 | 1935 | 1885 | 1835 | 1785 |
| | Maximum Clg Airflow ² | | | 2245 | 2195 | 2145 | 2095 | 2045 | 1995 | 1935 | 1885 | 1835 | 1785 |
| CF Switches | SW2-5 | SW2-4 | SW2-3 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| Low-Clg Default: | OFF | OFF | OFF | 810 | 735 | 660 | 585 | 505 | See Note 4 | | | | |
| Low-Cooling (SW2-5,4,3) | OFF | OFF | ON | 585 | 490 | See Note 4 | | | | | | | |
| | OFF | ON | OFF | 810 | 735 | 660 | 585 | 505 | See Note 4 | | | | |
| | OFF | ON | ON | 1010 | 945 | 885 | 820 | 760 | 695 | 625 | 565 | 510 | 455 |
| | ON | OFF | OFF | 1205 | 1150 | 1090 | 1040 | 985 | 930 | 875 | 820 | 760 | 705 |
| | ON | OFF | ON | 1400 | 1345 | 1295 | 1245 | 1200 | 1155 | 1105 | 1060 | 1005 | 960 |
| | ON | ON | OFF | 1580 | 1540 | 1495 | 1445 | 1405 | 1360 | 1320 | 1275 | 1235 | 1190 |
| | ON | ON | ON | 1930 | 1895 | 1855 | 1815 | 1775 | 1740 | 1700 | 1665 | 1630 | 1595 |
| Cont. Fan Default: | OFF | OFF | OFF | 810 | 735 | 660 | 585 | 505 | See Note 4 | | | | |
| Continuous Fan (SW2-5,4,3) | OFF | OFF | ON | 585 | 490 | See Note 4 | | | | | | | |
| | OFF | ON | OFF | 810 | 735 | 660 | 585 | 505 | See Note 4 | | | | |
| | OFF | ON | ON | 1010 | 945 | 885 | 820 | 760 | 695 | 625 | 565 | 510 | 455 |
| | ON | OFF | OFF | 1205 | 1150 | 1090 | 1040 | 985 | 930 | 875 | 820 | 760 | 705 |
| | ON | OFF | ON | 1400 | 1345 | 1295 | 1245 | 1200 | 1155 | 1105 | 1060 | 1005 | 960 |
| | ON | ON | OFF | 1400 | 1345 | 1295 | 1245 | 1200 | 1155 | 1105 | 1060 | 1005 | 960 |
| | ON | ON | ON | 1400 | 1345 | 1295 | 1245 | 1200 | 1155 | 1105 | 1060 | 1005 | 960 |
| Heating (SW1) | Heat Airflow ³ | | | 1435 | 1385 | 1335 | 1290 | 1245 | 1195 | 1145 | 1100 | 1050 | 1000 |
| Unit Size: 60090V21 | | | | | | | | | | | | | |
| Clg Switches: | SW2-8 | SW2-7 | SW2-6 | 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 | 1985 | 1935 | 1885 | 1835 | 1785 | 1735 | 1685 | 1630 | 1583 | 1532 |
| Cooling (SW2-8,7,6) | OFF | OFF | ON | 860 | 755 | 650 | 545 | 445 | See Note 4 | | | | |
| | OFF | ON | OFF | 1085 | 1000 | 910 | 830 | 735 | 655 | 565 | 485 | 405 | 310 |
| | OFF | ON | ON | 1255 | 1180 | 1105 | 1025 | 950 | 870 | 790 | 715 | 640 | 570 |
| | ON | OFF | OFF | 1425 | 1355 | 1290 | 1220 | 1150 | 1085 | 1015 | 940 | 870 | 800 |
| | ON | OFF | ON | 1630 | 1575 | 1515 | 1455 | 1395 | 1330 | 1270 | 1210 | 1155 | 1090 |
| | ON | ON | OFF | 1985 | 1935 | 1885 | 1835 | 1785 | 1735 | 1685 | 1630 | 1583 | 1532 |
| | ON | ON | ON | 2100 | 2055 | 2010 | 1960 | 1915 | 1870 | 1820 | 1775 | 1715 | 1640 |
| | Maximum Clg Airflow ² | | | 2100 | 2055 | 2010 | 1960 | 1915 | 1870 | 1820 | 1775 | 1715 | 1640 |
| CF Switches | SW2-5 | SW2-4 | SW2-3 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| Low-Cooling (SW2-5,4,3) | OFF | OFF | ON | 700 | 575 | See Note 4 | | | | | | | |
| | OFF | ON | OFF | 860 | 755 | 650 | 545 | 445 | See Note 4 | | | | |
| | OFF | ON | ON | 1085 | 1000 | 910 | 830 | 735 | 655 | 565 | 485 | 405 | 310 |
| | ON | OFF | OFF | 1255 | 1180 | 1105 | 1025 | 950 | 870 | 790 | 715 | 640 | 570 |
| | ON | OFF | ON | 1425 | 1355 | 1290 | 1220 | 1150 | 1085 | 1015 | 940 | 870 | 800 |
| | ON | ON | OFF | 1630 | 1575 | 1515 | 1455 | 1395 | 1330 | 1270 | 1210 | 1155 | 1090 |
| | ON | ON | ON | 1985 | 1935 | 1885 | 1835 | 1785 | 1735 | 1685 | 1630 | 1583 | 1532 |
| Cont. Fan Default: | OFF | OFF | OFF | 860 | 755 | 650 | 545 | 445 | See Note 4 | | | | |
| Continuous Fan (SW2-5,4,3) | OFF | OFF | ON | 700 | 575 | See Note 4 | | | | | | | |
| | OFF | ON | OFF | 860 | 755 | 650 | 545 | 445 | See Note 4 | | | | |
| | OFF | ON | ON | 1085 | 1000 | 910 | 830 | 735 | 655 | 565 | 485 | 405 | 310 |
| | ON | OFF | OFF | 1255 | 1180 | 1105 | 1025 | 950 | 870 | 790 | 715 | 640 | 570 |
| | ON | OFF | ON | 1425 | 1355 | 1290 | 1220 | 1150 | 1085 | 1015 | 940 | 870 | 800 |
| | ON | ON | OFF | 1630 | 1575 | 1515 | 1455 | 1395 | 1330 | 1270 | 1210 | 1155 | 1090 |
| | ON | ON | ON | 1630 | 1575 | 1515 | 1455 | 1395 | 1330 | 1270 | 1210 | 1155 | 1090 |
| Heating (SW1) | Heat Airflow ³ | | | 1830 | 1775 | 1725 | 1675 | 1625 | 1570 | 1520 | 1465 | 1410 | 1360 |

Air Delivery - CFM (With Filter)* (Continued)

| COOLING⁴ AND HEATING AIR DELIVERY - CFM (Bottom Return⁵ with Filter) | | | | | | | | | | | | | |
|---|-------------------------------|--------------|--------------|---------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| (SW1-5 and SW2-2 set to OFF, except as indicated. See Notes 1 and 2.) | | | | | | | | | | | | | |
| Unit Size: 60090V24 | Clg/CF Switch settings | | | External Static Pressure (ESP) | | | | | | | | | |
| Clg Switches: | SW2-8 | SW2-7 | SW2-6 | 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 | 1970 | 1915 | 1865 | 1815 | 1765 | 1715 | 1660 | 1605 | 1545 | 1485 |
| Cooling (SW2-8,7,6) | OFF | OFF | ON | 980 | 885 | 770 | 675 | 585 | See Note 4 | | | | |
| | OFF | ON | OFF | 1115 | 1030 | 930 | 840 | 755 | 670 | 575 | 510 | 415 | 330 |
| | OFF | ON | ON | 1280 | 1205 | 1130 | 1045 | 960 | 885 | 810 | 740 | 670 | 595 |
| | ON | OFF | OFF | 1450 | 1380 | 1315 | 1250 | 1165 | 1090 | 1020 | 955 | 890 | 825 |
| | ON | OFF | ON | 1630 | 1570 | 1510 | 1450 | 1385 | 1320 | 1250 | 1185 | 1125 | 1070 |
| | ON | ON | OFF | 1970 | 1915 | 1865 | 1815 | 1765 | 1715 | 1660 | 1605 | 1545 | 1485 |
| | ON | ON | ON | 2135 | 2090 | 2035 | 1990 | 1940 | 1895 | 1850 | 1795 | 1745 | 1690 |
| Maximum Clg Airflow ² | | | 2175 | 2125 | 2080 | 2030 | 1980 | 1935 | 1890 | 1840 | 1795 | 1735 | |
| CF Switches | SW2-5 | SW2-4 | SW2-3 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| Low-Clg Default: | OFF | OFF | OFF | 980 | 885 | 770 | 675 | 585 | See Note 4 | | | | |
| Low-Cooling (SW2-5,4,3) | OFF | OFF | ON | 790 | 670 | See Note 4 | | | | | | | |
| | OFF | ON | OFF | 980 | 885 | 770 | 675 | 585 | See Note 4 | | | | |
| | OFF | ON | ON | 1115 | 1030 | 930 | 840 | 755 | 670 | 575 | 510 | 415 | 330 |
| | ON | OFF | OFF | 1280 | 1205 | 1130 | 1045 | 960 | 885 | 810 | 740 | 670 | 595 |
| | ON | OFF | ON | 1450 | 1380 | 1315 | 1250 | 1165 | 1090 | 1020 | 955 | 890 | 825 |
| | ON | ON | OFF | 1630 | 1570 | 1510 | 1450 | 1385 | 1320 | 1250 | 1185 | 1125 | 1070 |
| | ON | ON | ON | 1970 | 1915 | 1865 | 1815 | 1765 | 1715 | 1660 | 1605 | 1545 | 1485 |
| Cont. Fan Default: | OFF | OFF | OFF | 980 | 885 | 770 | 675 | 585 | See Note 4 | | | | |
| Continuous Fan (SW2-5,4,3) | OFF | OFF | ON | 790 | 670 | See Note 4 | | | | | | | |
| | OFF | ON | OFF | 980 | 885 | 770 | 675 | 585 | See Note 4 | | | | |
| | OFF | ON | ON | 1115 | 1030 | 930 | 840 | 755 | 670 | 575 | 510 | 415 | 330 |
| | ON | OFF | OFF | 1280 | 1205 | 1130 | 1045 | 960 | 885 | 810 | 740 | 670 | 595 |
| | ON | OFF | ON | 1450 | 1380 | 1315 | 1250 | 1165 | 1090 | 1020 | 955 | 890 | 825 |
| | ON | ON | OFF | 1630 | 1570 | 1510 | 1450 | 1385 | 1320 | 1250 | 1185 | 1125 | 1070 |
| | ON | ON | ON | 1630 | 1570 | 1510 | 1450 | 1385 | 1320 | 1250 | 1185 | 1125 | 1070 |
| Heating (SW1) | Heat Airflow ³ | | | 1740 | 1680 | 1625 | 1570 | 1510 | 1445 | 1385 | 1325 | 1265 | 1205 |
| Unit Size: 66110V24 | | | | | | | | | | | | | |
| Clg Switches: | SW2-8 | SW2-7 | SW2-6 | 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 | 2040 | 1980 | 1920 | 1865 | 1805 | 1750 | 1700 | 1640 | 1575 | 1525 |
| Cooling (SW2-8,7,6) | OFF | OFF | ON | 910 | 795 | 690 | 580 | 495 | See Note 4 | | | | |
| | OFF | ON | OFF | 1140 | 1050 | 955 | 865 | 775 | See Note 4 | | | | |
| | OFF | ON | ON | 1305 | 1220 | 1140 | 1055 | 975 | 895 | 815 | 745 | 680 | 605 |
| | ON | OFF | OFF | 1480 | 1405 | 1325 | 1255 | 1180 | 1105 | 1035 | 975 | 895 | 830 |
| | ON | OFF | ON | 1680 | 1610 | 1540 | 1475 | 1415 | 1345 | 1275 | 1215 | 1150 | 1095 |
| | ON | ON | OFF | 2040 | 1980 | 1920 | 1865 | 1805 | 1750 | 1700 | 1640 | 1575 | 1525 |
| | ON | ON | ON | 2280 | 2230 | 2175 | 2125 | 2075 | 2025 | 1980 | 1930 | 1880 | 1830 |
| Maximum Clg Airflow ² | | | 2485 | 2430 | 2380 | 2330 | 2280 | 2230 | 2185 | 2140 | 2090 | 2030 | |
| CF Switches | SW2-5 | SW2-4 | SW2-3 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| Low-Clg Default: | OFF | OFF | OFF | 910 | 795 | 690 | 580 | 495 | See Note 4 | | | | |
| Low-Cooling (SW2-5,4,3) | OFF | OFF | ON | 730 | 665 | See Note 4 | | | | | | | |
| | OFF | ON | OFF | 910 | 795 | 690 | 580 | 495 | See Note 4 | | | | |
| | OFF | ON | ON | 1140 | 1050 | 955 | 865 | 775 | See Note 4 | | | | |
| | ON | OFF | OFF | 1305 | 1220 | 1140 | 1055 | 975 | 895 | 815 | 745 | 680 | 605 |
| | ON | OFF | ON | 1480 | 1405 | 1325 | 1255 | 1180 | 1105 | 1035 | 975 | 895 | 830 |
| | ON | ON | OFF | 1680 | 1610 | 1540 | 1475 | 1415 | 1345 | 1275 | 1215 | 1150 | 1095 |
| | ON | ON | ON | 2040 | 1980 | 1920 | 1865 | 1805 | 1750 | 1700 | 1640 | 1575 | 1525 |
| Cont. Fan Default: | OFF | OFF | OFF | 910 | 795 | 690 | 580 | 495 | See Note 4 | | | | |
| Continuous Fan (SW2-5,4,3) | OFF | OFF | ON | 730 | 665 | See Note 4 | | | | | | | |
| | OFF | ON | OFF | 910 | 795 | 690 | 580 | 495 | See Note 4 | | | | |
| | OFF | ON | ON | 1140 | 1050 | 955 | 865 | 775 | See Note 4 | | | | |
| | ON | OFF | OFF | 1305 | 1220 | 1140 | 1055 | 975 | 895 | 815 | 745 | 680 | 605 |
| | ON | OFF | ON | 1480 | 1405 | 1325 | 1255 | 1180 | 1105 | 1035 | 975 | 895 | 830 |
| | ON | ON | OFF | 1480 | 1405 | 1325 | 1255 | 1180 | 1105 | 1035 | 975 | 895 | 830 |
| | ON | ON | ON | 1480 | 1405 | 1325 | 1255 | 1180 | 1105 | 1035 | 975 | 895 | 830 |
| Heating (SW1) | Heat Airflow ³ | | | 2120 | 2065 | 2005 | 1950 | 1895 | 1845 | 1790 | 1735 | 1680 | 1625 |

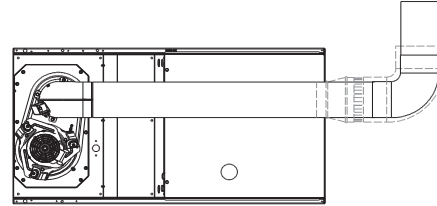
- Nominal 350 CFM/ton cooling airflow is delivered with SW1-5 and SW2-2 set to OFF.
Set both SW1-5 and SW2-2 to ON for +7% airflow (nominal 370 CFM/ton).
Set SW1-5 to ON and SW2-2 to OFF for +15% airflow (nominal 400 CFM/ton).
Set SW2-2 to ON and SW1-5 to OFF for -7% airflow (nominal 325 CFM/ton).
The above adjustments in airflow are subject to motor horsepower range/capacity.
This applies to Cooling and Low-Cooling airflow, but does not affect continuous fan airflow.
- Maximum cooling airflow is achieved when switches SW2-6, SW2-7, SW2-8 and SW1-5 are set to ON, and SW2-2 is set to OFF.
- All heating CFM's are when comfort/efficiency adjustment switch (SW1-4) is set to OFF
- Ductwork must be sized for heating CFM within the operational range of ESP. Operation within blank areas of the chart is not recommended because heat operation will be above 1.0 ESP.
- All airflows on 21" casing size furnaces are 5% less on side return only installations.
- Side returns for 24.5" casing sizes require two sides, or side and bottom, to allow sufficient airflow at the return of the furnace.
- Airflows over 1800 CFM require bottom return, two-side return, or bottom and side return or excessive watt draw may result. A minimum filter size of 20x25" (508 x 635 mm) is required.



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

HORIZONTAL RIGHT

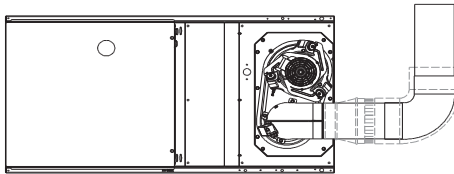
A02068



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

HORIZONTAL LEFT

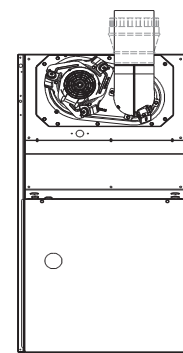
A02067



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

HORIZONTAL RIGHT

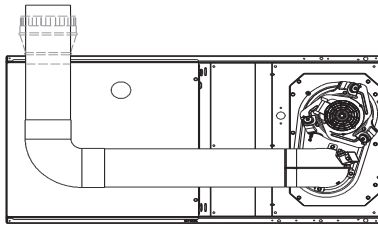
A02069



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

UPFLOW

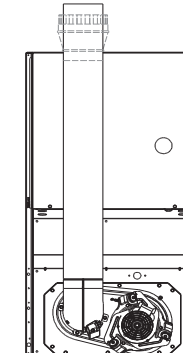
A02058



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

HORIZONTAL RIGHT

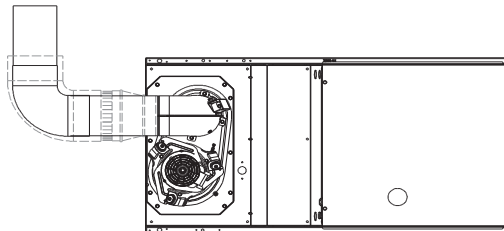
A02070



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

DOWNFLOW

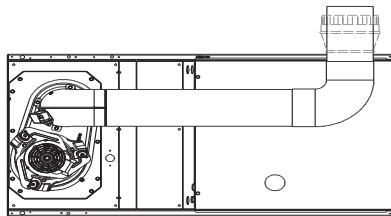
A02061



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

HORIZONTAL LEFT

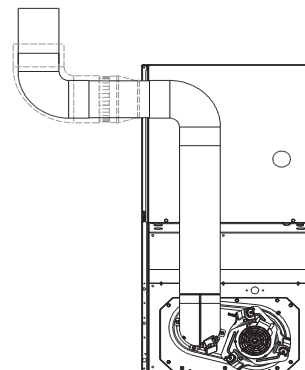
A02064



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

HORIZONTAL LEFT

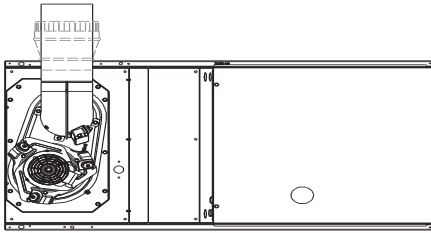
A02065



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

DOWNFLOW

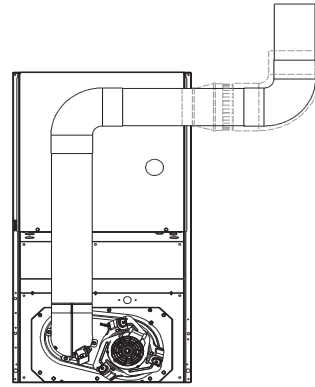
A02060



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

HORIZONTAL LEFT

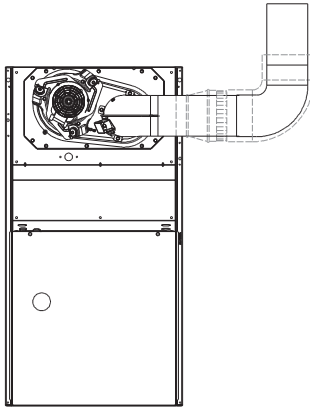
A02066



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

DOWNFLOW

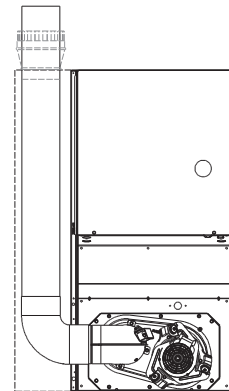
A02063



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

UPFLOW

A02059



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

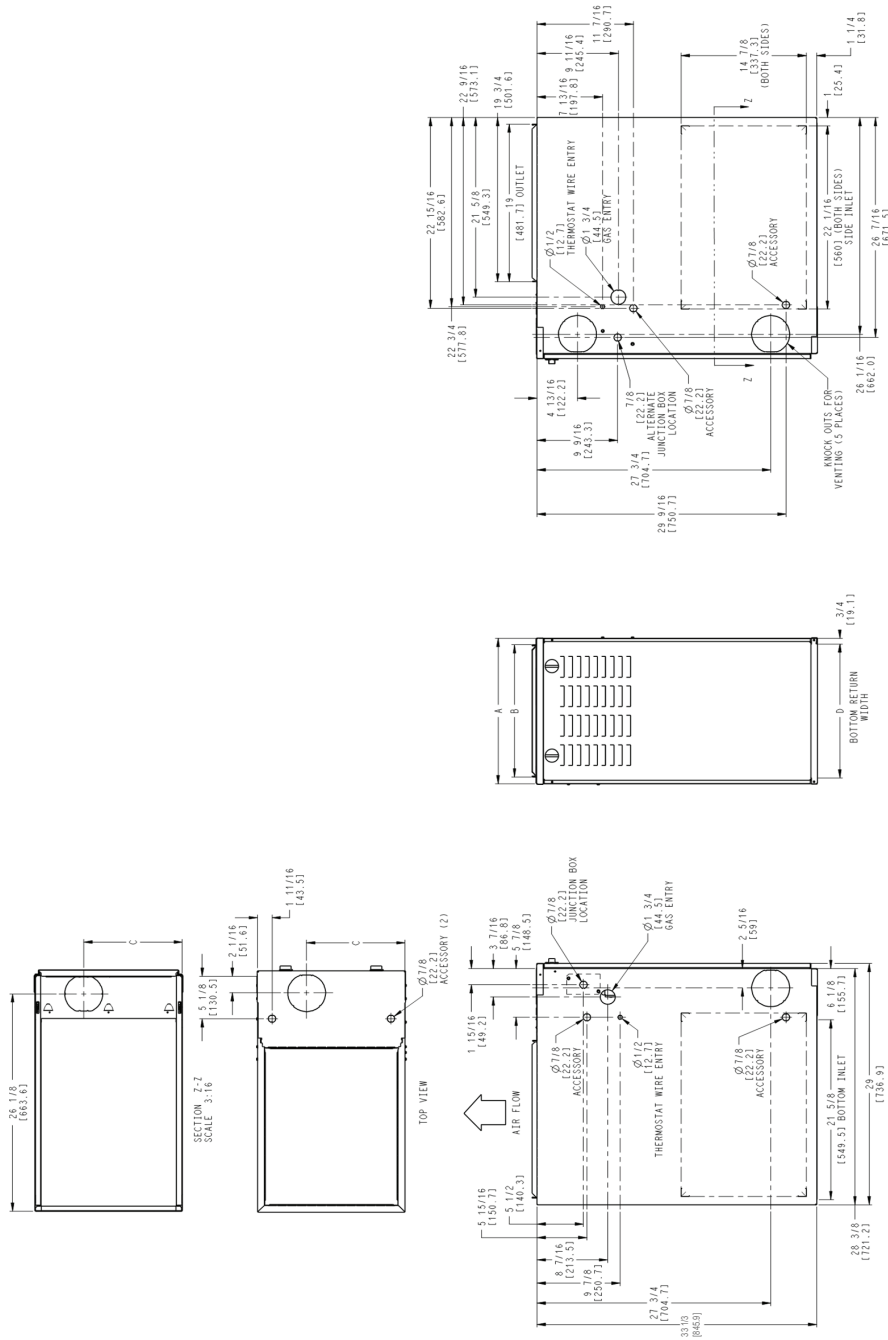
DOWNFLOW

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.

DIMENSIONS



A190084

| FURNACE SIZE | A | B | C | D | VENT CONNECTION SIZE | SHIP WT. LB (KG) | ACCESSORY FILTER MEDIA CABINET SIZE |
|--------------|---------------|---------------|----------------------------|--------------------|----------------------|------------------|-------------------------------------|
| | CABINET WIDTH | OUTLET WIDTH | TOP AND BOTTOM FLUE COLLAR | BOTTOM INLET WIDTH | | | |
| 36045V14 | 14-3/16 (306) | 12-9/16 (237) | 9-5/16 (237) | 12-11/19 (322) | 4 (102) | 112 (50.8) | 16 (406) |
| 48045V17 | 17-1/2 (445) | 15-7/8 (403) | 11-9/16 (294) | 16 (406) | 4 (102) | 120 (54) | 16 (406) |
| 48070V17 | 17-1/2 (445) | 15-7/8 (403) | 11-9/16 (294) | 16 (406) | 4 (102) | 129 (59) | 16 (406) |
| 60070V21 | 21 (533) | 19-3/8 (492) | 13-5/16 (338) | 19-1/2 (495) | 4 (102) | 141 (63) | 20 (506) |
| 60090V21 | 21 (533) | 19-3/8 (492) | 13-5/16 (338) | 19-1/2 (495) | 4 (102) | 143 (65) | 20 (506) |
| 60090V24 | 24-1/2 (622) | 22-7/8 (581) | 15-1/16 (383) | 23 (584) | 4 (102) | 150 (68) | 24 (610) |
| 66110V24 | 24-1/2 (622) | 22-7/8 (581) | 15-1/16 (383) | 23 (584) | 4 (102) | 153.5 (70) | 24 (610) |

GUIDE SPECIFICATIONS

Gas Furnace

820SA/821SA

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.

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 ECM type shall be permanently lubricated with sealed bearings, of _____ hp, and have variable speed from 600-1200 RPM operating only when motor inputs are provided. Blower motor shall be direct drive and soft mounted to the blower housing 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 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.