



# Product Data

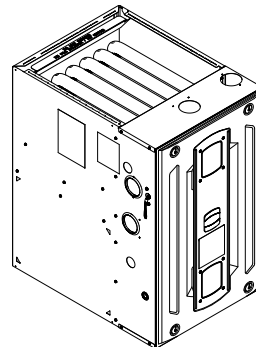
## Upflow/ Horizontal Left/Right, Dedicated Downflow Two Stage Condensing Gas Fired Furnace

Upflow, Convertible to  
Horizontal Right or  
Horizontal Left

S9V2B040U3VSAB  
S9V2B060U3VSAB  
S9V2B080U4VSAB  
S9V2C100U4VSAB  
S9V2D120U5VSAB

Downflow Only

S9V2B080D4VSAB  
S9V2C100D4VSAB



*Note: Graphics in this document are for representation only. Actual model may differ in appearance.*



# General Features

## NATURAL GAS MODELS

Central Heating furnace designs are certified by the American Gas Association for both natural and L.P. gas. Limit setting and rating data were established and approved under standard rating conditions using American National Standards Institute standards.

## SAFE OPERATION

The Integrated System Control is a solid state device which continuously monitors for presence of flame when the system is in the heating mode of operation. Dual solenoid combination gas valve and regulator provide additional safety.

## QUICK HEATING

Durable, cycle tested, heavy gauge **tubular stainless steel primary heat exchanger** quickly transfers heat to provide warm conditioned air to the structure. **Low energy power vent blower**, to increase efficiency and provide a positive discharge of gas fumes to the outside.

## BURNERS

Multiport Inshot burners will give years of quiet and efficient service. All models can be converted to **L.P. gas** with LP conversion kit.

## INTEGRATED SYSTEM CONTROL

Exclusively designed operational program provides total control of furnace limit sensors, blowers, gas valve, flame control and includes self diagnostics for ease of service. Also contains dry contacts for EAC and HUM.

## ENERGY EFFICIENT OPERATION

Furnace is certified by the manufacturer to leak 1% or less of nominal air conditioning CFM delivered when pressurized to .5" water column with all inlets, outlets, and drains sealed.

## AIR DELIVERY

The variable speed blower motor has sufficient airflow for most heating and cooling requirements and will switch from heating to cooling speeds on demand from room thermostat.

## SECONDARY HEAT EXCHANGER

The S-Series furnace has a special type 29- 4C™ stainless steel secondary heat exchanger to reclaim heat from flue gases which would normally be lost.

## STYLING

**Heavy gauge steel and "wrap-around" cabinet construction** is used in the cabinet with baked-on enamel finish for strength and beauty. Every orientation has at least two venting options. There are no knockouts on cabinet.

## FEATURES AND GENERAL OPERATION

The S-Series furnace utilizes a Silicon Nitride Hot Surface Ignition system, which eliminates the waste of a constant burning pilot. The integrated system control lights the main burners upon a demand for heat from the room thermostat. Complete front service access.

- a. Low energy power venter
- b. Vent proving pressure switches.



## Features and Benefits

### **97.0% AFUE ACROSS ALL MODELS**

Meets utility rebates

Lowers utility bills

### **ELECTRICALLY EFFICIENT**

Efficient airflow design reduces electrical energy use

### **34 INCH TALL**

Lighter, easier to move and fit into tight spaces like short basements or tight closets

Works great with larger, high-efficiency coils

No knockouts

### **3-WAY MULTI-POISE / DEDICATED DOWNFLOW**

5 SKU's — Upflow / Horizontal Left / Horizontal Right

2 SKU's — Downflow

Added application flexibility and reduction in specification errors

### **AIRFLOW**

At least 400 CFM/ton at 0.5 in. H<sub>2</sub>O external static pressure; setup airflow options down to 290 CFM/ton

### **REGULATORY**

All models are air tight; 1% or less air leakage as per ASHRAE 193

Open vestibule design provides a full 34" high open vestibule

### **VARIABLE SPEED DRAFT INDUCER MOTOR**

Increased efficiency

### **DIMENSIONS**

Widths are industry standard: 17.5", 21", and 24.5"

Depth remains approximately 28"

Cabinet will be compatible with industry standard coils, as well as, other accessories

### **INTEGRATED FURNACE CONTROL**

Setup / Status / Diagnostics / Digital Display

No dip switches

Last six errors stored

Dry contact EAC and HUM connections

All Molex connections; no spade terminals

Low voltage labeled above and below

Rain shield over IFC keeps condensate off the control

### **TUBULAR STAINLESS STEEL PRIMARY HEAT EXCHANGER**

### **29-4C STAINLESS STEEL SECONDARY HEAT EXCHANGER**

Stainless steel is a more durable, corrosive-resistant material than aluminumized steel

Integrated rail system for easy access if required

Reduces or eliminates need for baffles



## Features and Benefits

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### **VORTICA II BLOWER, DESIGNED EXCLUSIVELY FOR THE S-SERIES FURNACE**

Improved airflow efficiency

Durable, easy to clean, two piece housing

Single piece belly band/ motor arm assembly

Blower deck has full-length rails for easy removal and replacement, regardless of poise

### **THREE-WAY MULTI-POISE (UPFLOW, HORIZONTAL LEFT AND RIGHT) PLUS DEDICATED DOWNFLOW**

Easier to specify

Shipped ready to install (no kits required)

Every model has at least two venting options

When in horizontal, trap extends only about 2"

Barbed fitting on trap at hose connection and on cabinet transition for hose has barbed fitting and clamps at both ends for leak resistance.

Vent table improvements including longer vent lengths; 2" pipe can be used up to 100K



# Accessories

**Table 1. Accessories**

| Model Number               | Description  | Use with                                    |
|----------------------------|--|---|
| BAYHANG                    | Horizontal Hanging Kit   | All Upflow Furnaces                         |
| BAYVENT200B                | Sidewall Vent Termination Kit  | All Furnaces                                |
| BAYVENTCN200B              | Sidewall Vent Termination Kit (Canada —CPVC)                         | All Furnaces                                |
| BAYAIR30AVENTA             | Concentric Vent Kit  | All Furnaces                                |
| BAYAIR30CNVENT             | Concentric Vent Kit (Canada — CPVC)                                  | All Furnaces                                |
| BAYREDUCE                  | Reducing Coupling (CPVC)   | All Furnaces                                |
| BAYLIFTB                   | Dual Return Kit (B size extension)                                   | B Cabinet Upflow Furnaces                   |
| BAYLIFTC                   | Dual Return Kit (C size extension)                                   | C Cabinet Upflow Furnaces                   |
| BAYLIFTD                   | Dual Return Kit (D size extension)                                   | D Cabinet Upflow Furnaces                   |
| BAYBASE205                 | Downflow Subbase   | All Downflow Furnaces                       |
| BAYFLTR206                 | Filter Access Door Kit (Downflow only)                               | All Downflow Furnaces                       |
| BAYSF1165AA <sup>(a)</sup> | 1" SlimFit Box with MERV 4 Filter                                    | All Upflow Furnaces                         |
| BAYLPSS400*                | Propane Conversion Kit with Stainless Steel Burners                  | All Furnaces                                |
| BAYMFGH200B                | Manufactured/Mobile Housing Kit                                      | All Furnaces                                |
| BAYHALT250                 | High Altitude Pressure Switch Kit                                    | S9V2B040U3VSA                               |
| BAYHALT251                 | High Altitude Pressure Switch Kit                                    | S9V2B060U3VSA                               |
| BAYHALT252                 | High Altitude Pressure Switch Kit                                    | S9V2B080U4VSA, S9V2B080D4VSA, S9V2C100D4VSA |
| BAYHALT253                 | High Altitude Pressure Switch Kit                                    | S9V2C100U4VSA                               |
| BAYHALT254                 | High Altitude Pressure Switch Kit                                    | S9V2D120U5VSA                               |
| BAYCNDTRAP2                | Inline Condensate Trap Kit used with Special Venting on 2" Vent Pipe | All Furnaces                                |
| BAYCNDTRAP3                | Inline Condensate Trap Kit used with Special Venting on 3" Vent Pipe | All Furnaces                                |

<sup>(a)</sup> Airflow greater than 1600 CFM requires dual returns



# Product Specification

| MODEL  | S9V2B040U3VSAB (a)        | S9V2B060U3VSAB (a)        | S9V2B080U4VSAB(a)         | S9V2C100U4VSAB (a)        |
|--|---------------------------|---------------------------|---------------------------|---------------------------|
| <b>TYPE</b>                                      | Upflow/Horizontal         | Upflow/Horizontal         | Upflow / Horizontal       | Upflow/Horizontal         |
| <b>RATINGS (b)</b>                               |                           |                           |                           |                           |
| 1st Stage Input BTUH (ICS)                       | 26,000                    | 39,000                    | 52,000                    | 65,000                    |
| 1st Stage Capacity BTUH                          | 25,639                    | 38,271                    | 50,960                    | 64,036                    |
| 2nd Stage Input BTUH                             | 40,000                    | 60,000                    | 80,000                    | 100,000                   |
| 2nd Stage Capacity BTUH (ICS) (c)(d)             | 39,141                    | 57,838                    | 78,400                    | 96,362                    |
| 1st Stage Temp. Rise (Min.-Max.)                 | 25 - 55                   | 25 - 55                   | 30 - 60                   | 25 - 55                   |
| 2nd Stage Temp. Rise (Min.-Max.)                 | 30 - 60                   | 35 - 65                   | 35 - 65                   | 35 - 65                   |
| AFUE (%)   | 97.0                      | 97.0                      | 97.0                      | 97.0                      |
| <b>BLOWER DRIVE</b>                              | DIRECT                    | DIRECT                    | DIRECT                    | DIRECT                    |
| Diameter — Width (In.)                           | 11 X 8                    | 11 X 8                    | 11 X 8                    | 11 X 10                   |
| No. Used   | 1                         | 1                         | 1                         | 1                         |
| Speeds (No.)                                     | Variable                  | Variable                  | Variable                  | Variable                  |
| CFM vs. in. w.g.                                 | See Fan Performance Table | See Fan Performance Table | See Fan Performance Table | See Fan Performance Table |
| Motor HP   | 1/2                       | 1/2                       | 3/4                       | 3/4                       |
| RPM  | Variable                  | Variable                  | Variable                  | Variable                  |
| Volts/Ph/Hz                                      | 120 / 1 / 60              | 120 / 1 / 60              | 120 / 1 / 60              | 120 / 1 / 60              |
| FLA  | 5.7                       | 5.7                       | 8.0                       | 8.0                       |
| <b>COMBUSTION FAN — Type</b>                     | Centrifugal               | Centrifugal               | Centrifugal               | Centrifugal               |
| Drive — No. Speeds                               | Direct - VS               | Direct - VS               | Direct - VS               | Direct - VS               |
| Motor HP — RPM                                   | 1/50 - 5000               | 1/50 - 5000               | 1/50 - 5000               | 1/50 - 5000               |
| Volts/Ph/Hz                                      | 33-110 / 3 / 60-180       | 33-110 / 3 / 60-180       | 33-110 / 3 / 60-180       | 33-110 / 3 / 60-180       |
| FLA  | 1.0                       | 1.0                       | 1.0                       | 1.0                       |
| <b>FILTER — Furnished?</b>                       | No                        | No                        | No                        | No                        |
| Type recommended                                 | High Velocity             | High Velocity             | High Velocity             | High Velocity             |
| Hi Vel. (No.-Size-Thk.)                          | 1 — 16x25 — 1 in.         | 1 — 16x25 — 1 in.         | 1 — 16x25 — 1 in.         | 1 — 20x25 — 1 in.         |
| <b>VENT PIPE DIAMETER — Min (in.)</b><br>(e) (f) | 2 Round                   | 2 Round                   | 2 Round                   | 2 Round                   |
| <b>HEAT EXCHANGER</b>                            |                           |                           |                           |                           |
| Type — Fired                                     | 409 Stainless Steel       | 409 Stainless Steel       | 409 Stainless Steel       | 409 Stainless Steel       |
| — Unfired  | 29-4C Stainless Steel     | 29-4C Stainless Steel     | 29-4C Stainless Steel     | 29-4C Stainless Steel     |
| Gauge (Fired)                                    | 20                        | 20                        | 20                        | 20                        |
| <b>ORIFICES — Main</b>                           |                           |                           |                           |                           |
| Nat. Gas Qty. — Drill Size                       | 2- 45                     | 3 - 45                    | 4 - 45                    | 5 - 45                    |
| LP Gas Qty. — Drill Size                         | 2- 56                     | 3 - 56                    | 4 - 56                    | 5- 56                     |
| <b>GAS VALVE</b>                                 | Redundant - Two Stage     | Redundant - Two Stage     | Redundant - Two Stage     | Redundant - Two Stage     |
| <b>PILOT SAFETY DEVICE</b>                       |                           |                           |                           |                           |
| Type   | 120 V SiNi Igniter        | 120 V SiNi Igniter        | 120 V SiNi Igniter        | 120 V SiNi Igniter        |
| <b>BURNERS — Type</b>                            | Multiport Inshot          | Multiport Inshot          | Multiport Inshot          | Multiport Inshot          |
| Number   | 2                         | 3                         | 4                         | 5                         |
| <b>POWER CONN. — V/Ph/Hz (g)</b>                 | 120 / 1 / 60              | 120 / 1 / 60              | 120 / 1 / 60              | 120 / 1 / 60              |
| Ampacity (In Amps)                               | 7.9                       | 7.9                       | 11.2                      | 10.8                      |



## Product Specification

| MODEL                              | S9V2B040U3VSAB (a)       | S9V2B060U3VSAB (a)       | S9V2B080U4VSAB(a)        | S9V2C100U4VSAB (a)   |
|------------------------------------|--------------------------|--------------------------|--------------------------|----------------------|
| Max. Overcurrent Protection (Amps) | 15                       | 15                       | 15                       | 15                   |
| <b>PIPE CONN. SIZE (in.)</b>       | 1/2                      | 1/2                      | 1/2                      | 1/2                  |
| <b>DIMENSIONS</b>                  | H x W x D                | H x W x D                | H x W x D                | H x W x D            |
| Uncrated (In.)                     | 34 x 17-1/2 x 28-3/4     | 34 x 17-1/2 x 28-3/4     | 34 x 17-1/2 x 28-3/4     | 34 x 21 x 28-3/4     |
| Crated (In.)                       | 35-1/2 x 19-1/2 x 30-7/8 | 35-1/2 x 19-1/2 x 30-7/8 | 35-1/2 x 19-1/2 x 30-7/8 | 35-1/2 x 23 x 30-7/8 |
| <b>WEIGHT</b>                      |                          |                          |                          |                      |
| Shipping (Lbs.)/Net (Lbs.)         | 122/114                  | 127/119                  | 135/127                  | 154/144              |

(a) Meets Energy Star

(b) Use high altitude pressure switch kits above 4000'. For U.S. applications, above input ratings (BTUH) are up to 2,000 feet, derate 4% per 1,000 feet for elevations above 2,000 feet above sea level. For Canadian applications, above input ratings (BTUH) are up to 4,500 feet, derate 4% per 1,000 feet for elevations above 4,500 feet above sea level.

(c) Central Furnace heating designs are certified to ANSI Z21.47 / CSA 2.3 — latest edition.

(d) Based on U.S. government standard tests.

(e) Refer to the Vent Length Table in the Installer's Guide.

(f) All S9V2-VS furnace models have a vent outlet diameter that equals 2 in.

(g) The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

| MODEL  | S9V2D120U5VSAB (a)        | S9V2B080D4VSAB(a)         | S9V2C100D4VSAB (a)        |  |
|--|---------------------------|---------------------------|---------------------------|--|
| <b>TYPE</b>                                      | Upflow/Horizontal         | Downflow                  | Downflow                  |  |
| <b>RATINGS (b)</b>                               |                           |                           |                           |  |
| 1st Stage Input BTUH (ICS)                       | 78,000                    | 52,000                    | 65,000                    |  |
| 1st Stage Capacity BTUH                          | 76,668                    | 50,960                    | 63,950                    |  |
| 2nd Stage Input BTUH                             | 120,000                   | 80,000                    | 100,000                   |  |
| 2nd Stage Capacity BTUH (ICS) (c) (d)            | 113,145                   | 78,400                    | 95,833                    |  |
| 1st Stage Temp. Rise (Min.-Max.)                 | 35-65                     | 30 - 60                   | 25 - 55                   |  |
| 2nd Stage Temp. Rise (Min.-Max.)                 | 40-70                     | 35 - 65                   | 35 - 65                   |  |
| AFUE (%)   | 97.0                      | 97.0                      | 97.0                      |  |
| <b>BLOWER DRIVE</b>                              | DIRECT                    | DIRECT                    | DIRECT                    |  |
| Diameter — Width (In.)                           | 11 X 10                   | 11 X 8                    | 11 X 10                   |  |
| No. Used   | 1                         | 1                         | 1                         |  |
| Speeds (No.)                                     | Variable                  | Variable                  | Variable                  |  |
| CFM vs. in. w.g.                                 | See Fan Performance Table | See Fan Performance Table | See Fan Performance Table |  |
| Motor HP   | 1                         | 3/4                       | 3/4                       |  |
| RPM  | Variable                  | Variable                  | Variable                  |  |
| Volts/Ph/Hz                                      | 120 / 1 / 60              | 120 / 1 / 60              | 120 / 1 / 60              |  |
| FLA  | 10.5                      | 8.0                       | 8.0                       |  |
| <b>COMBUSTION FAN — Type</b>                     | Centrifugal               | Centrifugal               | Centrifugal               |  |
| Drive — No. Speeds                               | Direct - VS               | Direct - VS               | Direct - VS               |  |
| Motor HP — RPM                                   | 1/50 - 5000               | 1/50 - 5000               | 1/50 - 5000               |  |
| Volts/Ph/Hz                                      | 33-110 / 3 / 60-180       | 33-110 / 3 / 60-180       | 33-110 / 3 / 60-180       |  |
| FLA  | 1.0                       | 1.0                       | 1.0                       |  |
| <b>FILTER — Furnished?</b>                       | No                        | No                        | No                        |  |
| Type recommended                                 | High Velocity             | High Velocity             | High Velocity             |  |
| Hi Vel. (No.-Size-Thk.)                          | 1 — 24x25 — 1 in.         | 2 — 14x20 — 1 in.         | 2 — 16x20 — 1 in.         |  |
| <b>VENT PIPE DIAMETER — Min (in.)</b><br>(e) (f) | 3 Round                   | 2 Round                   | 2 Round                   |  |
| <b>HEAT EXCHANGER</b>                            |                           |                           |                           |  |
| Type — Fired                                     | 409 Stainless Steel       | 409 Stainless Steel       | 409 Stainless Steel       |  |



## Product Specification

| MODEL                              | S9V2D120U5VSAB (a)       | S9V2B080D4VSAB(a)        | S9V2C100D4VSAB (a)    |  |
|------------------------------------|--------------------------|--------------------------|-----------------------|--|
| — Unfired                          | 29-4C Stainless Steel    | 29-4C Stainless Steel    | 29-4C Stainless Steel |  |
| Gauge (Fired)                      | 20                       | 20                       | 20                    |  |
| <b>ORIFICES — Main</b>             |                          |                          |                       |  |
| Nat. Gas Qty. — Drill Size         | 6 - 45                   | 4 - 45                   | 5 - 45                |  |
| LP Gas Qty. — Drill Size           | 6- 56                    | 4 - 56                   | 5- 56                 |  |
| <b>GAS VALVE</b>                   | Redundant - Two Stage    | Redundant - Two Stage    | Redundant - Two Stage |  |
| <b>PILOT SAFETY DEVICE</b>         |                          |                          |                       |  |
| Type                               | 120 V SiNi Igniter       | 120 V SiNi Igniter       | 120 V SiNi Igniter    |  |
| <b>BURNERS — Type</b>              |                          |                          |                       |  |
|                                    | Multiport Inshot         | Multiport Inshot         | Multiport Inshot      |  |
| Number                             | 6                        | 4                        | 5                     |  |
| <b>POWER CONN. — V/Ph/Hz (g)</b>   |                          |                          |                       |  |
|                                    | 120 / 1 / 60             | 120 / 1 / 60             | 120 / 1 / 60          |  |
| Ampacity (In Amps)                 | 13.9                     | 11.2                     | 10.8                  |  |
| Max. Overcurrent Protection (Amps) | 15                       | 15                       | 15                    |  |
| <b>PIPE CONN. SIZE (in.)</b>       |                          |                          |                       |  |
|                                    | 1/2                      | 1/2                      | 1/2                   |  |
| <b>DIMENSIONS</b>                  |                          |                          |                       |  |
|                                    | H x W x D                | H x W x D                | H x W x D             |  |
| Uncrated (In.)                     | 34 x 24-1/2 x 28-3/4     | 34 x 17-1/2 x 28-3/4     | 34 x 21 x 28-3/4      |  |
| Crated (In.)                       | 35-1/2 x 26-1/2 x 30-7/8 | 35-1/2 x 19-1/2 x 30-7/8 | 35-1/2 x 23 x 30-7/8  |  |
| <b>WEIGHT</b>                      |                          |                          |                       |  |
| Shipping (Lbs.)/Net (Lbs.)         | 167/156                  | 135/127                  | 154/144               |  |

(a) Meets Energy Star

(b) Use high altitude pressure switch kits above 4000'. For U.S. applications, above input ratings (BTUH) are up to 2,000 feet, derate 4% per 1,000 feet for elevations above 2,000 feet above sea level. For Canadian applications, above input ratings (BTUH) are up to 4,500 feet, derate 4% per 1,000 feet for elevations above 4,500 feet above sea level.

(c) Central Furnace heating designs are certified to ANSI Z21.47 / CSA 2.3 — latest edition.

(d) Based on U.S. government standard tests.

(e) Refer to the Vent Length Table in the Installer's Guide.

(f) All S9V2-VS furnace models have a vent outlet diameter that equals 2 in.

(g) The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.





# Heating and Cooling Airflow Tables

Table 2. S9V2B040U3VSAB Heating Airflow

| S9V2B040U3VSAB Furnace Heating Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter |                 |                |            |                          |      |      |      |      |
|---|-----------------|----------------|------------|--------------------------|------|------|------|------|
| 1st Stage Capacity = 25,639   |                 |                |            |                          |      |      |      |      |
| 2nd Stage Capacity = 39,141   |                 |                |            |                          |      |      |      |      |
| Heating   | Airflow Setting | Target Airflow |            | External Static Pressure |      |      |      |      |
|   |                 |                |            | 0.1                      | 0.3  | 0.5  | 0.7  | 0.9  |
| Heating 1st Stage   | Low             | 468            | CFM        | 468                      | 452  | 437  | 421  | 406  |
|   |                 |                | Temp. Rise | 49                       | 51   | 54   | 56   | 58   |
|   |                 |                | Watts      | 27                       | 58   | 90   | 121  | 152  |
|   | Medium Low      | 598            | CFM        | 552                      | 600  | 647  | 694  | 741  |
|   |                 |                | Temp. Rise | 43                       | 39   | 36   | 32   | 28   |
|   |                 |                | Watts      | 41                       | 76   | 112  | 147  | 183  |
|   | Medium (a)      | 634            | CFM        | 583                      | 635  | 687  | 739  | 791  |
|   |                 |                | Temp. Rise | 39                       | 36   | 33   | 30   | 27   |
|   |                 |                | Watts      | 48                       | 83   | 118  | 153  | 189  |
|   | High            | 1008           | CFM        | 930                      | 905  | 879  | 853  | 828  |
|   |                 |                | Temp. Rise | 25                       | 25   | 26   | 27   | 27   |
|   |                 |                | Watts      | 125                      | 178  | 232  | 285  | 339  |
| Heating 2nd Stage   | Low             | 650            | CFM        | 633                      | 636  | 639  | 643  | 646  |
|   |                 |                | Temp. Rise | 57                       | 57   | 57   | 56   | 56   |
|   |                 |                | Watts      | 48                       | 92   | 135  | 179  | 223  |
|   | Medium Low      | 830            | CFM        | 760                      | 786  | 813  | 840  | 866  |
|   |                 |                | Temp. Rise | 48                       | 46   | 45   | 43   | 41   |
|   |                 |                | Watts      | 82                       | 132  | 182  | 232  | 282  |
|   | Medium (a)      | 880            | CFM        | 792                      | 817  | 842  | 867  | 892  |
|   |                 |                | Temp. Rise | 44                       | 44   | 43   | 43   | 42   |
|   |                 |                | Watts      | 94                       | 142  | 189  | 237  | 284  |
|   | High            | 1400           | CFM        | 1337                     | 1269 | 1200 | 1132 | 1063 |
|   |                 |                | Temp. Rise | 27                       | 29   | 31   | 32   | 34   |
|   |                 |                | Watts      | 335                      | 376  | 417  | 458  | 499  |

(a) Factory Setting.



## Heating and Cooling Airflow Tables

**Table 3. S9V2B040U3VSAB Cooling Airflow**

| S9V2B040U3VSAB Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter |              |                           |                          |             |       |      |      |      |      |      |
|---|--------------|---------------------------|--------------------------|-------------|-------|------|------|------|------|------|
| Cooling   | Unit Outdoor | Airflow Setting (CFM/ton) | External Static Pressure |             |       |      |      |      |      |      |
|   |              |                           |                          | 0.1         | 0.3   | 0.5  | 0.7  | 0.9  |      |      |
| Cooling   | 1.5 Ton      | Cooling 450               | CFM                      | 675         | 675   | 675  | 675  | 675  |      |      |
|   |              | CFM/Ton                   | Watts                    | 47          | 81    | 121  | 166  | 215  |      |      |
|   |              | Cooling 420               | CFM                      | 630         | 630   | 630  | 630  | 630  |      |      |
|   |              | CFM/Ton                   | Watts                    | 40          | 72    | 111  | 154  | 202  |      |      |
|   |              | Cooling 400               | CFM                      | 600         | 600   | 600  | 600  | 600  |      |      |
|   |              | CFM/Ton                   | Watts                    | 36          | 67    | 105  | 147  | 193  |      |      |
|   |              | Cooling 370               | CFM                      | 555         | 555   | 555  | 555  | 555  |      |      |
|   |              | CFM/Ton                   | Watts                    | 30          | 60    | 96   | 136  | 181  |      |      |
|   |              | Cooling 350               | CFM                      | 525         | 525   | 525  | 525  | 525  |      |      |
|   |              | CFM/Ton                   | Watts                    | 27          | 56    | 90   | 130  | 174  |      |      |
|   |              | Cooling 330               | CFM                      | 495         | 495   | 495  | 495  | 495  |      |      |
|   |              | CFM/Ton                   | Watts                    | 24          | 51    | 85   | 124  | 167  |      |      |
|   |              | Cooling 310               | CFM                      | 465         | 465   | 465  | 465  | 465  |      |      |
|   |              | CFM/Ton                   | Watts                    | 21          | 48    | 80   | 118  | 161  |      |      |
|   |              | Cooling 290               | CFM                      | 435         | 435   | 435  | 435  | 435  |      |      |
|   |              | CFM/Ton                   | Watts                    | 19          | 44    | 76   | 113  | 155  |      |      |
|   |              | Cooling                   | 2.0 Ton                  | Cooling 450 | CFM   | 900  | 900  | 900  | 900  | 900  |
|   |              |                           |                          | CFM/Ton     | Watts | 94   | 137  | 186  | 240  | 298  |
| Cooling 420   | CFM          |                           |                          | 840         | 840   | 840  | 840  | 840  |      |      |
| CFM/Ton   | Watts        |                           |                          | 79          | 120   | 166  | 218  | 273  |      |      |
| Cooling 400   | CFM          |                           |                          | 800         | 800   | 800  | 800  | 800  |      |      |
| CFM/Ton   | Watts        |                           |                          | 70          | 109   | 154  | 204  | 258  |      |      |
| Cooling 370   | CFM          |                           |                          | 740         | 740   | 740  | 740  | 740  |      |      |
| CFM/Ton   | Watts        |                           |                          | 58          | 95    | 138  | 185  | 236  |      |      |
| Cooling 350   | CFM          |                           |                          | 700         | 700   | 700  | 700  | 700  |      |      |
| CFM/Ton   | Watts        |                           |                          | 51          | 86    | 127  | 173  | 223  |      |      |
| Cooling 330   | CFM          |                           |                          | 660         | 660   | 660  | 660  | 660  |      |      |
| CFM/Ton   | Watts        |                           |                          | 44          | 78    | 118  | 162  | 211  |      |      |
| Cooling 310   | CFM          |                           |                          | 620         | 620   | 620  | 620  | 620  |      |      |
| CFM/Ton   | Watts        |                           |                          | 38          | 71    | 109  | 152  | 199  |      |      |
| Cooling 290   | CFM          |                           |                          | 580         | 580   | 580  | 580  | 580  |      |      |
| CFM/Ton   | Watts        |                           |                          | 33          | 64    | 101  | 142  | 188  |      |      |
| Cooling   | 2.5 Ton      |                           |                          | Cooling 450 | CFM   | 1125 | 1125 | 1125 | 1125 | 1125 |
|   |              |                           |                          | CFM/Ton     | Watts | 167  | 219  | 278  | 341  | 408  |
|   |              | Cooling 420               | CFM                      | 1050        | 1050  | 1050 | 1050 | 1050 |      |      |
|   |              | CFM/Ton                   | Watts                    | 139         | 188   | 244  | 304  | 368  |      |      |
|   |              | Cooling 400               | CFM                      | 1000        | 1000  | 1000 | 1000 | 1000 |      |      |
|   |              | CFM/Ton                   | Watts                    | 123         | 170   | 223  | 281  | 343  |      |      |
|   |              | Cooling 370               | CFM                      | 925         | 925   | 925  | 925  | 925  |      |      |
|   |              | CFM/Ton                   | Watts                    | 100         | 145   | 195  | 250  | 308  |      |      |
|   |              | Cooling 350               | CFM                      | 875         | 875   | 875  | 875  | 875  |      |      |
|   |              | CFM/Ton                   | Watts                    | 87          | 129   | 178  | 230  | 287  |      |      |
|   |              | Cooling 330               | CFM                      | 825         | 825   | 825  | 825  | 825  |      |      |
|   |              | CFM/Ton                   | Watts                    | 121         | 160   | 205  | 254  | 308  |      |      |
|   |              | Cooling 310               | CFM                      | 775         | 775   | 775  | 775  | 775  |      |      |
|   |              | CFM/Ton                   | Watts                    | 101         | 139   | 182  | 229  | 281  |      |      |
|   |              | Cooling 290               | CFM                      | 725         | 725   | 725  | 725  | 725  |      |      |
|   |              | CFM/Ton                   | Watts                    | 88          | 123   | 164  | 210  | 260  |      |      |
|   |              | Cooling                   | 3.0 Ton <sup>(a)</sup>   | Cooling 450 | CFM   | 1350 | 1350 | 1350 | 1298 | 1198 |
|   |              |                           |                          | CFM/Ton     | Watts | 272  | 334  | 402  | 440  | 450  |
| Cooling 420   | CFM          |                           |                          | 1260        | 1260  | 1260 | 1260 | 1198 |      |      |
| CFM/Ton   | Watts        |                           |                          | 226         | 284   | 348  | 417  | 450  |      |      |
| Cooling 400   | CFM          |                           |                          | 1200        | 1200  | 1200 | 1200 | 1198 |      |      |
| CFM/Ton   | Watts        |                           |                          | 198         | 254   | 315  | 381  | 450  |      |      |
| Cooling 370   | CFM          |                           |                          | 1110        | 1110  | 1110 | 1110 | 1110 |      |      |
| CFM/Ton   | Watts        |                           |                          | 161         | 213   | 271  | 333  | 399  |      |      |
| Cooling 350   | CFM          |                           |                          | 1050        | 1050  | 1050 | 1050 | 1050 |      |      |
| CFM/Ton <sup>(a)</sup>  | Watts        |                           |                          | 139         | 188   | 244  | 304  | 368  |      |      |
| Cooling 330   | CFM          |                           |                          | 990         | 990   | 990  | 990  | 990  |      |      |
| CFM/Ton   | Watts        |                           |                          | 119         | 166   | 219  | 277  | 338  |      |      |
| Cooling 310   | CFM          |                           |                          | 930         | 930   | 930  | 930  | 930  |      |      |
| CFM/Ton   | Watts        |                           |                          | 102         | 146   | 197  | 252  | 311  |      |      |
| Cooling 290   | CFM          |                           |                          | 870         | 870   | 870  | 870  | 870  |      |      |
| CFM/Ton   | Watts        |                           |                          | 86          | 128   | 176  | 229  | 285  |      |      |

<sup>(a)</sup> Factory Setting

## Heating and Cooling Airflow Tables

**Table 4. S9V2B060U3VSAB Heating Airflow**

| <b>S9V2B060U3VSAB Furnace Heating Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter</b> |                        |                       |            | <b>1st Stage Capacity = 38,220<br/>2nd Stage Capacity = 58,800</b> |            |            |            |            |
|--|------------------------|-----------------------|------------|--|------------|------------|------------|------------|
| <b>Heating</b>   | <b>Airflow Setting</b> | <b>Target Airflow</b> |            | <b>External Static Pressure</b>                                    |            |            |            |            |
|  |                        |                       |            | <b>0.1</b>   | <b>0.3</b> | <b>0.5</b> | <b>0.7</b> | <b>0.9</b> |
| Heating 1st Stage  | Low                    | 632                   | CFM        | 660  | 658        | 656        | 654        | 652        |
|  |                        |                       | Temp. Rise | 53   | 53         | 53         | 53         | 54         |
|  |                        |                       | Watts      | 48   | 85         | 121        | 157        | 193        |
|  | Medium Low<br>(a)      | 814                   | CFM        | 860  | 856        | 852        | 848        | 844        |
|  |                        |                       | Temp. Rise | 41   | 41         | 42         | 42         | 43         |
|  |                        |                       | Watts      | 91   | 128        | 164        | 200        | 236        |
|  | Medium                 | 893                   | CFM        | 900  | 899        | 898        | 897        | 896        |
|  |                        |                       | Temp. Rise | 39   | 39         | 39         | 39         | 39         |
|  |                        |                       | Watts      | 110  | 147        | 183        | 219        | 255        |
|  | High                   | 1027                  | CFM        | 1068   | 1061       | 1054       | 1047       | 1041       |
|  |                        |                       | Temp. Rise | 33   | 33         | 33         | 33         | 33         |
|  |                        |                       | Watts      | 165  | 202        | 239        | 276        | 313        |
| Heating 2nd Stage  | Low                    | 800                   | CFM        | 851  | 843        | 835        | 826        | 818        |
|  |                        |                       | Temp. Rise | 64   | 64         | 64         | 64         | 64         |
|  |                        |                       | Watts      | 81   | 127        | 172        | 218        | 264        |
|  | Medium Low<br>(a)      | 1030                  | CFM        | 1092   | 1075       | 1057       | 1039       | 1022       |
|  |                        |                       | Temp. Rise | 49   | 50         | 50         | 51         | 52         |
|  |                        |                       | Watts      | 157  | 209        | 262        | 314        | 366        |
|  | Medium                 | 1130                  | CFM        | 1132   | 1128       | 1124       | 1119       | 1115       |
|  |                        |                       | Temp. Rise | 47   | 47         | 48         | 48         | 48         |
|  |                        |                       | Watts      | 201  | 255        | 308        | 362        | 416        |
|  | High                   | 1300                  | CFM        | 1280   | 1281       | 1282       | 1283       | 1283       |
|  |                        |                       | Temp. Rise | 42   | 42         | 42         | 42         | 42         |
|  |                        |                       | Watts      | 319  | 365        | 410        | 456        | 502        |

(a) Factory Setting.



# Heating and Cooling Airflow Tables

**Table 5. S9V2B060U3VSAB Cooling Airflow**

| S9V2B060U3VSAB Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter |                        |                           |                          |      |      |      |      |      |
|---|------------------------|---------------------------|--------------------------|------|------|------|------|------|
| Cooling   | Unit Outdoor           | Airflow Setting (CFM/ton) | External Static Pressure |      |      |      |      |      |
|   |                        |                           |                          | 0.1  | 0.3  | 0.5  | 0.7  | 0.9  |
| Cooling   | 1.5 Ton                | Cooling 450               | CFM                      | 675  | 675  | 675  | 675  | 675  |
|   |                        | CFM/Ton                   | Watts                    | 46   | 81   | 121  | 165  | 212  |
|   |                        | Cooling 420               | CFM                      | 630  | 630  | 630  | 630  | 630  |
|   |                        | CFM/Ton                   | Watts                    | 40   | 72   | 111  | 153  | 200  |
|   |                        | Cooling 400               | CFM                      | 600  | 600  | 600  | 600  | 600  |
|   |                        | CFM/Ton                   | Watts                    | 36   | 67   | 105  | 146  | 192  |
|   |                        | Cooling 370               | CFM                      | 555  | 555  | 555  | 555  | 555  |
|   |                        | CFM/Ton                   | Watts                    | 30   | 60   | 96   | 137  | 182  |
|   |                        | Cooling 350               | CFM                      | 525  | 525  | 525  | 525  | 525  |
|   |                        | CFM/Ton                   | Watts                    | 27   | 56   | 91   | 131  | 175  |
|   |                        | Cooling 330               | CFM                      | 495  | 495  | 495  | 495  | 495  |
|   |                        | CFM/Ton                   | Watts                    | 24   | 52   | 86   | 126  | 170  |
|   |                        | Cooling 310               | CFM                      | 465  | 465  | 465  | 465  | 465  |
|   |                        | CFM/Ton                   | Watts                    | 21   | 48   | 82   | 121  | 164  |
|   |                        | Cooling 290               | CFM                      | 435  | 435  | 435  | 435  | 435  |
|   |                        | CFM/Ton                   | Watts                    | 19   | 45   | 78   | 116  | 160  |
| Cooling   | 2.0 Ton                | Cooling 450               | CFM                      | 900  | 900  | 900  | 900  | 900  |
|   |                        | CFM/Ton                   | Watts                    | 92   | 135  | 184  | 236  | 291  |
|   |                        | Cooling 420               | CFM                      | 840  | 840  | 840  | 840  | 840  |
|   |                        | CFM/Ton                   | Watts                    | 78   | 118  | 164  | 214  | 267  |
|   |                        | Cooling 400               | CFM                      | 800  | 800  | 800  | 800  | 800  |
|   |                        | CFM/Ton                   | Watts                    | 69   | 108  | 153  | 201  | 253  |
|   |                        | Cooling 370               | CFM                      | 740  | 740  | 740  | 740  | 740  |
|   |                        | CFM/Ton                   | Watts                    | 57   | 94   | 136  | 183  | 232  |
|   |                        | Cooling 350               | CFM                      | 700  | 700  | 700  | 700  | 700  |
|   |                        | CFM/Ton                   | Watts                    | 50   | 86   | 126  | 171  | 220  |
|   |                        | Cooling 330               | CFM                      | 660  | 660  | 660  | 660  | 660  |
|   |                        | CFM/Ton                   | Watts                    | 44   | 78   | 117  | 161  | 208  |
|   |                        | Cooling 310               | CFM                      | 620  | 620  | 620  | 620  | 620  |
|   |                        | CFM/Ton                   | Watts                    | 38   | 71   | 109  | 151  | 197  |
|   |                        | Cooling 290               | CFM                      | 580  | 580  | 580  | 580  | 580  |
|   |                        | CFM/Ton                   | Watts                    | 33   | 64   | 101  | 142  | 187  |
| Cooling   | 2.5 Ton                | Cooling 450               | CFM                      | 1125 | 1125 | 1125 | 1125 | 1125 |
|   |                        | CFM/Ton                   | Watts                    | 164  | 216  | 273  | 334  | 399  |
|   |                        | Cooling 420               | CFM                      | 1050 | 1050 | 1050 | 1050 | 1050 |
|   |                        | CFM/Ton                   | Watts                    | 137  | 186  | 240  | 298  | 359  |
|   |                        | Cooling 400               | CFM                      | 1000 | 1000 | 1000 | 1000 | 1000 |
|   |                        | CFM/Ton                   | Watts                    | 121  | 168  | 220  | 276  | 335  |
|   |                        | Cooling 370               | CFM                      | 925  | 925  | 925  | 925  | 925  |
|   |                        | CFM/Ton                   | Watts                    | 99   | 143  | 192  | 245  | 302  |
|   |                        | Cooling 350               | CFM                      | 875  | 875  | 875  | 875  | 875  |
|   |                        | CFM/Ton                   | Watts                    | 86   | 128  | 175  | 227  | 281  |
|   |                        | Cooling 330               | CFM                      | 825  | 825  | 825  | 825  | 825  |
|   |                        | CFM/Ton                   | Watts                    | 74   | 115  | 160  | 209  | 262  |
|   |                        | Cooling 310               | CFM                      | 775  | 775  | 775  | 775  | 775  |
|   |                        | CFM/Ton                   | Watts                    | 64   | 102  | 146  | 193  | 244  |
|   |                        | Cooling 290               | CFM                      | 725  | 725  | 725  | 725  | 725  |
|   |                        | CFM/Ton                   | Watts                    | 54   | 91   | 133  | 178  | 228  |
| Cooling   | 3.0 Ton <sup>(a)</sup> | Cooling 450               | CFM                      | 1350 | 1350 | 1350 | 1296 | 1218 |
|   |                        | CFM/Ton                   | Watts                    | 267  | 329  | 395  | 431  | 452  |
|   |                        | Cooling 420               | CFM                      | 1260 | 1260 | 1260 | 1260 | 1218 |
|   |                        | CFM/Ton                   | Watts                    | 222  | 279  | 342  | 409  | 452  |
|   |                        | Cooling 400               | CFM                      | 1200 | 1200 | 1200 | 1200 | 1200 |
|   |                        | CFM/Ton                   | Watts                    | 195  | 250  | 310  | 374  | 441  |
|   |                        | Cooling 370               | CFM                      | 1110 | 1110 | 1110 | 1110 | 1110 |
|   |                        | CFM/Ton                   | Watts                    | 158  | 210  | 266  | 327  | 390  |
|   |                        | Cooling 350               | CFM                      | 1050 | 1050 | 1050 | 1050 | 1050 |
|   |                        | CFM/Ton <sup>(a)</sup>    | Watts                    | 137  | 186  | 240  | 298  | 359  |
|   |                        | Cooling 330               | CFM                      | 990  | 990  | 990  | 990  | 990  |
|   |                        | CFM/Ton                   | Watts                    | 118  | 164  | 216  | 272  | 330  |
|   |                        | Cooling 310               | CFM                      | 930  | 930  | 930  | 930  | 930  |
|   |                        | CFM/Ton                   | Watts                    | 100  | 145  | 194  | 247  | 304  |
|   |                        | Cooling 290               | CFM                      | 870  | 870  | 870  | 870  | 870  |
|   |                        | CFM/Ton                   | Watts                    | 85   | 127  | 174  | 225  | 279  |

<sup>(a)</sup> Factory Setting

## Heating and Cooling Airflow Tables

**Table 6. S9V2B080U4VSAB Heating Airflow**

| <b>S9V2B080U4VSAB Furnace Heating Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter</b> |                        |                       |            |                                    |            |            |            |            |
|--|------------------------|-----------------------|------------|------------------------------------|------------|------------|------------|------------|
|  |                        |                       |            | <b>1st Stage Capacity = 50,960</b> |            |            |            |            |
|  |                        |                       |            | <b>2nd Stage Capacity = 78,400</b> |            |            |            |            |
| <b>Heating</b>   | <b>Airflow Setting</b> | <b>Target Airflow</b> |            | <b>External Static Pressure</b>    |            |            |            |            |
|  |                        |                       |            | <b>0.1</b>                         | <b>0.3</b> | <b>0.5</b> | <b>0.7</b> | <b>0.9</b> |
| Heating 1st Stage  | Low                    | 864                   | CFM        | 860                                | 849        | 838        | 827        | 816        |
|  |                        |                       | Temp. Rise | 54                                 | 55         | 56         | 57         | 58         |
|  |                        |                       | Watts      | 87                                 | 125        | 163        | 200        | 238        |
|  | Medium Low             | 907                   | CFM        | 907                                | 893        | 879        | 865        | 852        |
|  |                        |                       | Temp. Rise | 51                                 | 52         | 53         | 54         | 54         |
|  |                        |                       | Watts      | 97                                 | 135        | 174        | 212        | 251        |
|  | Medium <sup>(a)</sup>  | 958                   | CFM        | 957                                | 930        | 903        | 876        | 849        |
|  |                        |                       | Temp. Rise | 49                                 | 50         | 51         | 52         | 53         |
|  |                        |                       | Watts      | 112                                | 153        | 194        | 234        | 275        |
|  | High                   | 1051                  | CFM        | 1042                               | 1015       | 989        | 962        | 936        |
|  |                        |                       | Temp. Rise | 45                                 | 46         | 47         | 47         | 48         |
|  |                        |                       | Watts      | 140                                | 182        | 225        | 267        | 310        |
| Heating 2nd Stage  | Low                    | 1200                  | CFM        | 1211                               | 1206       | 1201       | 1197       | 1192       |
|  |                        |                       | Temp. Rise | 60                                 | 60         | 60         | 60         | 60         |
|  |                        |                       | Watts      | 196                                | 248        | 300        | 352        | 404        |
|  | Medium Low             | 1260                  | CFM        | 1258                               | 1261       | 1263       | 1265       | 1268       |
|  |                        |                       | Temp. Rise | 58                                 | 57         | 57         | 57         | 57         |
|  |                        |                       | Watts      | 215                                | 271        | 326        | 381        | 436        |
|  | Medium <sup>(a)</sup>  | 1330                  | CFM        | 1307                               | 1303       | 1299       | 1296       | 1292       |
|  |                        |                       | Temp. Rise | 55                                 | 55         | 55         | 55         | 55         |
|  |                        |                       | Watts      | 260                                | 312        | 364        | 416        | 468        |
|  | High                   | 1460                  | CFM        | 1431                               | 1412       | 1393       | 1374       | 1355       |
|  |                        |                       | Temp. Rise | 50                                 | 51         | 52         | 52         | 53         |
|  |                        |                       | Watts      | 334                                | 390        | 445        | 501        | 557        |

<sup>(a)</sup> Factory Setting.

**Table 7. S9V2B080D4VSAB Heating Airflow**

| <b>S9V2B080D4VSAB Furnace Heating Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter</b> |                        |                       |            |                                    |            |            |            |            |
|--|------------------------|-----------------------|------------|------------------------------------|------------|------------|------------|------------|
|  |                        |                       |            | <b>1st Stage Capacity = 50,960</b> |            |            |            |            |
|  |                        |                       |            | <b>2nd Stage Capacity = 78,400</b> |            |            |            |            |
| <b>Heating</b>   | <b>Airflow Setting</b> | <b>Target Airflow</b> |            | <b>External Static Pressure</b>    |            |            |            |            |
|  |                        |                       |            | <b>0.1</b>                         | <b>0.3</b> | <b>0.5</b> | <b>0.7</b> | <b>0.9</b> |
| Heating 1st Stage  | Low                    | 864                   | CFM        | 780                                | 776        | 772        | 768        | 764        |
|  |                        |                       | Temp. Rise | 60                                 | 60         | 61         | 61         | 61         |
|  |                        |                       | Watts      | 94                                 | 135        | 176        | 216        | 257        |
|  | Medium Low             | 907                   | CFM        | 807                                | 811        | 814        | 818        | 822        |
|  |                        |                       | Temp. Rise | 57                                 | 57         | 58         | 58         | 58         |
|  |                        |                       | Watts      | 101                                | 151        | 201        | 252        | 302        |
|  | Medium <sup>(a)</sup>  | 958                   | CFM        | 862                                | 862        | 862        | 861        | 861        |
|  |                        |                       | Temp. Rise | 54                                 | 54         | 54         | 54         | 54         |
|  |                        |                       | Watts      | 117                                | 168        | 219        | 271        | 322        |
|  | High                   | 1051                  | CFM        | 990                                | 987        | 985        | 982        | 979        |
|  |                        |                       | Temp. Rise | 47                                 | 47         | 48         | 48         | 48         |
|  |                        |                       | Watts      | 151                                | 203        | 256        | 308        | 360        |
| Heating 2nd Stage  | Low                    | 1200                  | CFM        | 1111                               | 1104       | 1096       | 1088       | 1081       |
|  |                        |                       | Temp. Rise | 66                                 | 66         | 66         | 66         | 66         |
|  |                        |                       | Watts      | 204                                | 260        | 317        | 373        | 429        |
|  | Medium Low             | 1260                  | CFM        | 1193                               | 1201       | 1209       | 1217       | 1225       |
|  |                        |                       | Temp. Rise | 59                                 | 59         | 59         | 59         | 59         |
|  |                        |                       | Watts      | 232                                | 296        | 360        | 424        | 488        |
|  | Medium <sup>(a)</sup>  | 1330                  | CFM        | 1217                               | 1217       | 1216       | 1215       | 1215       |
|  |                        |                       | Temp. Rise | 58                                 | 58         | 58         | 58         | 59         |
|  |                        |                       | Watts      | 273                                | 335        | 396        | 457        | 518        |
|  | High                   | 1460                  | CFM        | 1239                               | 1235       | 1231       | 1228       | 1224       |
|  |                        |                       | Temp. Rise | 57                                 | 57         | 58         | 58         | 58         |
|  |                        |                       | Watts      | 362                                | 428        | 495        | 562        | 629        |

<sup>(a)</sup> Factory Setting.



# Heating and Cooling Airflow Tables

**Table 8. S9V2B080U4VSAB / S9V2B080D4VSAB Cooling Airflow**

| S9V2B080U4VSAB / S9V2B080D4VSAB Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter |                        |                                    |       |                          |      |      |      |      |
|--|------------------------|------------------------------------|-------|--------------------------|------|------|------|------|
| Cooling  | Unit Outdoor           | Airflow Setting (CFM/ton)          |       | External Static Pressure |      |      |      |      |
|  |                        |                                    |       | 0.1                      | 0.3  | 0.5  | 0.7  | 0.9  |
| Cooling  | 2.5 Ton                | Cooling 450 CFM/Ton                | CFM   | 1125                     | 1125 | 1125 | 1125 | 1125 |
|  |                        |                                    | Watts | 155                      | 205  | 259  | 316  | 376  |
|  |                        | Cooling 420 CFM/Ton                | CFM   | 1050                     | 1050 | 1050 | 1050 | 1050 |
|  |                        |                                    | Watts | 130                      | 177  | 228  | 282  | 340  |
|  |                        | Cooling 400 CFM/Ton                | CFM   | 1000                     | 1000 | 1000 | 1000 | 1000 |
|  |                        |                                    | Watts | 115                      | 160  | 209  | 262  | 317  |
|  |                        | Cooling 370 CFM/Ton                | CFM   | 925                      | 925  | 925  | 925  | 925  |
|  |                        |                                    | Watts | 94                       | 136  | 183  | 233  | 286  |
|  |                        | Cooling 350 CFM/Ton                | CFM   | 875                      | 875  | 875  | 875  | 875  |
|  |                        |                                    | Watts | 82                       | 122  | 167  | 216  | 267  |
|  |                        | Cooling 330 CFM/Ton                | CFM   | 825                      | 825  | 825  | 825  | 825  |
|  |                        |                                    | Watts | 71                       | 110  | 153  | 199  | 249  |
|  |                        | Cooling 310 CFM/Ton                | CFM   | 775                      | 775  | 775  | 775  | 775  |
|  |                        |                                    | Watts | 61                       | 98   | 139  | 184  | 233  |
| Cooling 290 CFM/Ton  | CFM                    | 725                                | 725   | 725                      | 725  | 725  |      |      |
|  | Watts                  | 52                                 | 87    | 127                      | 171  | 218  |      |      |
| Cooling  | 3.0 Ton                | Cooling 450 CFM/Ton                | CFM   | 1350                     | 1350 | 1350 | 1350 | 1350 |
|  |                        |                                    | Watts | 252                      | 311  | 374  | 440  | 508  |
|  |                        | Cooling 420 CFM/Ton                | CFM   | 1260                     | 1260 | 1260 | 1260 | 1260 |
|  |                        |                                    | Watts | 209                      | 265  | 324  | 386  | 451  |
|  |                        | Cooling 400 CFM/Ton                | CFM   | 1200                     | 1200 | 1200 | 1200 | 1200 |
|  |                        |                                    | Watts | 184                      | 237  | 294  | 354  | 416  |
|  |                        | Cooling 370 CFM/Ton                | CFM   | 1110                     | 1110 | 1110 | 1110 | 1110 |
|  |                        |                                    | Watts | 150                      | 199  | 253  | 309  | 369  |
|  |                        | Cooling 350 CFM/Ton                | CFM   | 1050                     | 1050 | 1050 | 1050 | 1050 |
|  |                        |                                    | Watts | 130                      | 177  | 228  | 282  | 340  |
|  |                        | Cooling 330 CFM/Ton                | CFM   | 990                      | 990  | 990  | 990  | 990  |
|  |                        |                                    | Watts | 112                      | 156  | 205  | 258  | 313  |
|  |                        | Cooling 310 CFM/Ton                | CFM   | 930                      | 930  | 930  | 930  | 930  |
|  |                        |                                    | Watts | 95                       | 138  | 185  | 235  | 288  |
| Cooling 290 CFM/Ton  | CFM                    | 870                                | 870   | 870                      | 870  | 870  |      |      |
|  | Watts                  | 81                                 | 121   | 166                      | 214  | 265  |      |      |
| Cooling  | 3.5 Ton                | Cooling 450 CFM/Ton                | CFM   | 1575                     | 1575 | 1575 | 1575 | 1575 |
|  |                        |                                    | Watts | 383                      | 452  | 524  | 599  | 676  |
|  |                        | Cooling 420 CFM/Ton                | CFM   | 1470                     | 1470 | 1470 | 1470 | 1470 |
|  |                        |                                    | Watts | 317                      | 382  | 449  | 520  | 593  |
|  |                        | Cooling 400 CFM/Ton                | CFM   | 1400                     | 1400 | 1400 | 1400 | 1400 |
|  |                        |                                    | Watts | 278                      | 339  | 404  | 472  | 542  |
|  |                        | Cooling 370 CFM/Ton                | CFM   | 1295                     | 1295 | 1295 | 1295 | 1295 |
|  |                        |                                    | Watts | 225                      | 282  | 343  | 407  | 473  |
|  |                        | Cooling 350 CFM/Ton <sup>(a)</sup> | CFM   | 1225                     | 1225 | 1225 | 1225 | 1225 |
|  |                        |                                    | Watts | 194                      | 248  | 306  | 367  | 431  |
|  |                        | Cooling 330 CFM/Ton                | CFM   | 1155                     | 1155 | 1155 | 1155 | 1155 |
|  |                        |                                    | Watts | 166                      | 218  | 273  | 331  | 392  |
|  |                        | Cooling 310 CFM/Ton                | CFM   | 1085                     | 1085 | 1085 | 1085 | 1085 |
|  |                        |                                    | Watts | 141                      | 190  | 242  | 298  | 356  |
| Cooling 290 CFM/Ton  | CFM                    | 1015                               | 1015  | 1015                     | 1015 | 1015 |      |      |
|  | Watts                  | 119                                | 165   | 215                      | 268  | 324  |      |      |
| Cooling  | 4.0 Ton <sup>(a)</sup> | Cooling 450 CFM/Ton                | CFM   | 1800                     | 1784 | 1746 | 1665 | 1581 |
|  |                        |                                    | Watts | 555                      | 619  | 665  | 674  | 681  |
|  |                        | Cooling 420 CFM/Ton                | CFM   | 1680                     | 1680 | 1680 | 1665 | 1581 |
|  |                        |                                    | Watts | 458                      | 531  | 608  | 674  | 681  |
|  |                        | Cooling 400 CFM/Ton                | CFM   | 1600                     | 1600 | 1600 | 1600 | 1600 |
|  |                        |                                    | Watts | 400                      | 470  | 543  | 619  | 697  |
|  |                        | Cooling 370 CFM/Ton                | CFM   | 1480                     | 1480 | 1480 | 1480 | 1480 |
|  |                        |                                    | Watts | 323                      | 388  | 456  | 527  | 600  |
|  |                        | Cooling 350 CFM/Ton                | CFM   | 1400                     | 1400 | 1400 | 1400 | 1400 |
|  |                        |                                    | Watts | 278                      | 339  | 404  | 472  | 542  |
|  |                        | Cooling 330 CFM/Ton                | CFM   | 1320                     | 1320 | 1320 | 1320 | 1320 |
|  |                        |                                    | Watts | 237                      | 295  | 357  | 421  | 488  |
|  |                        | Cooling 310 CFM/Ton                | CFM   | 1240                     | 1240 | 1240 | 1240 | 1240 |
|  |                        |                                    | Watts | 201                      | 255  | 314  | 375  | 439  |
| Cooling 290 CFM/Ton  | CFM                    | 1160                               | 1160  | 1160                     | 1160 | 1160 |      |      |
|  | Watts                  | 168                                | 220   | 275                      | 334  | 395  |      |      |

<sup>(a)</sup> Factory Setting

## Heating and Cooling Airflow Tables

**Table 9. S9V2C100U4VSAB Heating Airflow**

| <b>S9V2C100U4VSAB Furnace Heating Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter</b> |                        |                       |            |                                    |            |            |            |            |
|--|------------------------|-----------------------|------------|------------------------------------|------------|------------|------------|------------|
|  |                        |                       |            | <b>1st Stage Capacity = 63,700</b> |            |            |            |            |
|  |                        |                       |            | <b>2nd Stage Capacity = 98,000</b> |            |            |            |            |
| <b>Heating</b>   | <b>Airflow Setting</b> | <b>Target Airflow</b> |            | <b>External Static Pressure</b>    |            |            |            |            |
|  |                        |                       |            | <b>0.1</b>                         | <b>0.3</b> | <b>0.5</b> | <b>0.7</b> | <b>0.9</b> |
| Heating 1st Stage  | Low                    | 1146                  | CFM        | 1191                               | 1199       | 1208       | 1216       | 1224       |
|  |                        |                       | Temp. Rise | 50                                 | 49         | 49         | 49         | 49         |
|  |                        |                       | Watts      | 133                                | 192        | 251        | 310        | 369        |
|  | Medium Low             | 1280                  | CFM        | 1314                               | 1304       | 1294       | 1284       | 1274       |
|  |                        |                       | Temp. Rise | 45                                 | 45         | 45         | 46         | 46         |
|  |                        |                       | Watts      | 173                                | 235        | 297        | 359        | 421        |
|  | Medium                 | 1359                  | CFM        | 1478                               | 1466       | 1453       | 1441       | 1428       |
|  |                        |                       | Temp. Rise | 40                                 | 40         | 40         | 40         | 40         |
|  |                        |                       | Watts      | 243                                | 304        | 364        | 425        | 485        |
|  | High <sup>(a)</sup>    | 1446                  | CFM        | 1498                               | 1511       | 1524       | 1537       | 1550       |
|  |                        |                       | Temp. Rise | 39                                 | 39         | 39         | 39         | 38         |
|  |                        |                       | Watts      | 264                                | 330        | 397        | 464        | 531        |
| Heating 2nd Stage  | Low                    | 1450                  | CFM        | 1480                               | 1488       | 1496       | 1503       | 1511       |
|  |                        |                       | Temp. Rise | 60                                 | 60         | 60         | 60         | 60         |
|  |                        |                       | Watts      | 244                                | 312        | 380        | 449        | 517        |
|  | Medium Low             | 1620                  | CFM        | 1658                               | 1656       | 1654       | 1652       | 1650       |
|  |                        |                       | Temp. Rise | 54                                 | 54         | 54         | 54         | 55         |
|  |                        |                       | Watts      | 330                                | 408        | 486        | 564        | 642        |
|  | Medium                 | 1720                  | CFM        | 1869                               | 1857       | 1846       | 1811       | 1714       |
|  |                        |                       | Temp. Rise | 48                                 | 48         | 49         | 49         | 52         |
|  |                        |                       | Watts      | 471                                | 549        | 628        | 677        | 695        |
|  | High <sup>(a)</sup>    | 1830                  | CFM        | 1959                               | 1919       | 1879       | 1811       | 1714       |
|  |                        |                       | Temp. Rise | 46                                 | 47         | 48         | 49         | 52         |
|  |                        |                       | Watts      | 540                                | 600        | 660        | 677        | 695        |

<sup>(a)</sup> Factory Setting.

**Table 10. S9V2C100D4VSAB Heating Airflow**

| <b>S9V2C100D4VSAB Furnace Heating Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter</b> |                        |                       |            |                                    |            |            |            |            |
|--|------------------------|-----------------------|------------|------------------------------------|------------|------------|------------|------------|
|  |                        |                       |            | <b>1st Stage Capacity = 63,950</b> |            |            |            |            |
|  |                        |                       |            | <b>2nd Stage Capacity = 95,833</b> |            |            |            |            |
| <b>Heating</b>   | <b>Airflow Setting</b> | <b>Target Airflow</b> |            | <b>External Static Pressure</b>    |            |            |            |            |
|  |                        |                       |            | <b>0.1</b>                         | <b>0.3</b> | <b>0.5</b> | <b>0.7</b> | <b>0.9</b> |
| Heating 1st Stage  | Low                    | 1080                  | CFM        | 1068                               | 1048       | 1029       | 1009       | 989        |
|  |                        |                       | Temp. Rise | 55                                 | 57         | 60         | 63         | 66         |
|  |                        |                       | Watts      | 101                                | 151        | 201        | 251        | 301        |
|  | Medium Low             | 1166                  | CFM        | 1158                               | 1113       | 1068       | 1023       | 978        |
|  |                        |                       | Temp. Rise | 51                                 | 53         | 55         | 57         | 59         |
|  |                        |                       | Watts      | 115                                | 172        | 229        | 285        | 342        |
|  | Medium <sup>(a)</sup>  | 1318                  | CFM        | 1326                               | 1272       | 1218       | 1164       | 1111       |
|  |                        |                       | Temp. Rise | 46                                 | 48         | 50         | 51         | 53         |
|  |                        |                       | Watts      | 153                                | 206        | 259        | 312        | 365        |
|  | High                   | 1361                  | CFM        | 1312                               | 1270       | 1229       | 1188       | 1147       |
|  |                        |                       | Temp. Rise | 46                                 | 47         | 47         | 48         | 49         |
|  |                        |                       | Watts      | 166                                | 221        | 276        | 331        | 387        |
| Heating 2nd Stage  | Low                    | 1500                  | CFM        | 1514                               | 1478       | 1441       | 1404       | 1367       |
|  |                        |                       | Temp. Rise | 58                                 | 60         | 61         | 63         | 64         |
|  |                        |                       | Watts      | 223                                | 297        | 370        | 443        | 516        |
|  | Medium Low             | 1620                  | CFM        | 1620                               | 1588       | 1556       | 1523       | 1491       |
|  |                        |                       | Temp. Rise | 55                                 | 56         | 57         | 58         | 59         |
|  |                        |                       | Watts      | 276                                | 345        | 415        | 484        | 553        |
|  | Medium <sup>(a)</sup>  | 1830                  | CFM        | 1768                               | 1746       | 1724       | 1702       | 1620       |
|  |                        |                       | Temp. Rise | 50                                 | 51         | 52         | 53         | 53         |
|  |                        |                       | Watts      | 372                                | 446        | 520        | 594        | 668        |
|  | High                   | 1890                  | CFM        | 1810                               | 1783       | 1756       | 1729       | 1702       |
|  |                        |                       | Temp. Rise | 49                                 | 50         | 51         | 52         | 52         |
|  |                        |                       | Watts      | 405                                | 476        | 548        | 677        | 695        |

<sup>(a)</sup> Factory Setting.



## Heating and Cooling Airflow Tables

Table 11. S9V2C100U4VSAB / S9V2C100D4VSAB Cooling Airflow

| S9V2C100U4VSAB / S9V2C100D4VSAB Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter |                        |                                    |       |                          |      |      |      |      |
|--|------------------------|------------------------------------|-------|--------------------------|------|------|------|------|
| Cooling  | Unit Outdoor           | Airflow Setting (CFM/ton)          |       | External Static Pressure |      |      |      |      |
|  |                        |                                    |       | 0.1                      | 0.3  | 0.5  | 0.7  | 0.9  |
| Cooling  | 2.5 Ton                | Cooling 450 CFM/Ton                | CFM   | 1125                     | 1125 | 1125 | 1125 | 1125 |
|  |                        |                                    | Watts | 123                      | 178  | 236  | 296  | 360  |
|  |                        | Cooling 420 CFM/Ton                | CFM   | 1050                     | 1050 | 1050 | 1050 | 1050 |
|  |                        |                                    | Watts | 104                      | 156  | 210  | 268  | 329  |
|  |                        | Cooling 400 CFM/Ton                | CFM   | 1000                     | 1000 | 1000 | 1000 | 1000 |
|  |                        |                                    | Watts | 93                       | 142  | 195  | 251  | 309  |
|  |                        | Cooling 370 CFM/Ton                | CFM   | 925                      | 925  | 925  | 925  | 925  |
|  |                        |                                    | Watts | 77                       | 123  | 173  | 226  | 282  |
|  |                        | Cooling 350 CFM/Ton                | CFM   | 875                      | 875  | 875  | 875  | 875  |
|  |                        |                                    | Watts | 68                       | 112  | 160  | 211  | 265  |
|  |                        | Cooling 330 CFM/Ton                | CFM   | 825                      | 825  | 825  | 825  | 825  |
|  |                        |                                    | Watts | 60                       | 102  | 147  | 196  | 249  |
|  |                        | Cooling 310 CFM/Ton                | CFM   | 775                      | 775  | 775  | 775  | 775  |
|  |                        |                                    | Watts | 52                       | 92   | 135  | 183  | 234  |
| Cooling 290 CFM/Ton  | CFM                    | 725                                | 725   | 725                      | 725  | 725  |      |      |
|  | Watts                  | 45                                 | 83    | 125                      | 170  | 220  |      |      |
| Cooling  | 3.0 Ton                | Cooling 450 CFM/Ton                | CFM   | 1350                     | 1350 | 1350 | 1350 | 1350 |
|  |                        |                                    | Watts | 194                      | 259  | 326  | 396  | 468  |
|  |                        | Cooling 420 CFM/Ton                | CFM   | 1260                     | 1260 | 1260 | 1260 | 1260 |
|  |                        |                                    | Watts | 163                      | 224  | 287  | 353  | 422  |
|  |                        | Cooling 400 CFM/Ton                | CFM   | 1200                     | 1200 | 1200 | 1200 | 1200 |
|  |                        |                                    | Watts | 144                      | 202  | 263  | 327  | 393  |
|  |                        | Cooling 370 CFM/Ton                | CFM   | 1110                     | 1110 | 1110 | 1110 | 1110 |
|  |                        |                                    | Watts | 119                      | 173  | 231  | 291  | 354  |
|  |                        | Cooling 350 CFM/Ton                | CFM   | 1050                     | 1050 | 1050 | 1050 | 1050 |
|  |                        |                                    | Watts | 104                      | 156  | 210  | 268  | 329  |
|  |                        | Cooling 330 CFM/Ton                | CFM   | 990                      | 990  | 990  | 990  | 990  |
|  |                        |                                    | Watts | 91                       | 140  | 192  | 247  | 306  |
|  |                        | Cooling 310 CFM/Ton                | CFM   | 930                      | 930  | 930  | 930  | 930  |
|  |                        |                                    | Watts | 78                       | 125  | 174  | 228  | 284  |
| Cooling 290 CFM/Ton  | CFM                    | 870                                | 870   | 870                      | 870  | 870  |      |      |
|  | Watts                  | 67                                 | 111   | 158                      | 209  | 264  |      |      |
| Cooling  | 3.5 Ton                | Cooling 450 CFM/Ton                | CFM   | 1575                     | 1575 | 1575 | 1575 | 1575 |
|  |                        |                                    | Watts | 289                      | 363  | 440  | 519  | 600  |
|  |                        | Cooling 420 CFM/Ton                | CFM   | 1470                     | 1470 | 1470 | 1470 | 1470 |
|  |                        |                                    | Watts | 241                      | 311  | 383  | 458  | 535  |
|  |                        | Cooling 400 CFM/Ton                | CFM   | 1400                     | 1400 | 1400 | 1400 | 1400 |
|  |                        |                                    | Watts | 213                      | 280  | 349  | 421  | 495  |
|  |                        | Cooling 370 CFM/Ton                | CFM   | 1295                     | 1295 | 1295 | 1295 | 1295 |
|  |                        |                                    | Watts | 175                      | 237  | 302  | 369  | 439  |
|  |                        | Cooling 350 CFM/Ton                | CFM   | 1225                     | 1225 | 1225 | 1225 | 1225 |
|  |                        |                                    | Watts | 152                      | 211  | 273  | 338  | 405  |
|  |                        | Cooling 330 CFM/Ton                | CFM   | 1155                     | 1155 | 1155 | 1155 | 1155 |
|  |                        |                                    | Watts | 131                      | 187  | 247  | 308  | 373  |
|  |                        | Cooling 310 CFM/Ton                | CFM   | 1085                     | 1085 | 1085 | 1085 | 1085 |
|  |                        |                                    | Watts | 113                      | 166  | 222  | 281  | 343  |
| Cooling 290 CFM/Ton  | CFM                    | 1015                               | 1015  | 1015                     | 1015 | 1015 |      |      |
|  | Watts                  | 96                                 | 146   | 199                      | 256  | 315  |      |      |
| Cooling  | 4.0 Ton <sup>(a)</sup> | Cooling 450 CFM/Ton                | CFM   | 1800                     | 1800 | 1800 | 1800 | 1714 |
|  |                        |                                    | Watts | 410                      | 494  | 580  | 669  | 695  |
|  |                        | Cooling 420 CFM/Ton                | CFM   | 1680                     | 1680 | 1680 | 1680 | 1680 |
|  |                        |                                    | Watts | 342                      | 420  | 502  | 585  | 671  |
|  |                        | Cooling 400 CFM/Ton                | CFM   | 1600                     | 1600 | 1600 | 1600 | 1600 |
|  |                        |                                    | Watts | 301                      | 376  | 454  | 534  | 617  |
|  |                        | Cooling 370 CFM/Ton                | CFM   | 1480                     | 1480 | 1480 | 1480 | 1480 |
|  |                        |                                    | Watts | 246                      | 316  | 388  | 464  | 541  |
|  |                        | Cooling 350 CFM/Ton <sup>(a)</sup> | CFM   | 1400                     | 1400 | 1400 | 1400 | 1400 |
|  |                        |                                    | Watts | 213                      | 280  | 349  | 421  | 495  |
|  |                        | Cooling 330 CFM/Ton                | CFM   | 1320                     | 1320 | 1320 | 1320 | 1320 |
|  |                        |                                    | Watts | 183                      | 247  | 313  | 381  | 452  |
|  |                        | Cooling 310 CFM/Ton                | CFM   | 1240                     | 1240 | 1240 | 1240 | 1240 |
|  |                        |                                    | Watts | 157                      | 216  | 279  | 344  | 412  |
| Cooling 290 CFM/Ton  | CFM                    | 1160                               | 1160  | 1160                     | 1160 | 1160 |      |      |
|  | Watts                  | 133                                | 189   | 248                      | 310  | 375  |      |      |

<sup>(a)</sup> Factory Setting



Table 12. S9V2D120U5VSAB Heating Airflow

| S9V2D120U5VSAB Furnace Heating Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter |                 |                |            |                              |      |      |      |      |
|---|-----------------|----------------|------------|------------------------------|------|------|------|------|
|   |                 |                |            | 1st Stage Capacity = 76,668  |      |      |      |      |
|   |                 |                |            | 2nd Stage Capacity = 113,145 |      |      |      |      |
| Heating   | Airflow Setting | Target Airflow |            | External Static Pressure     |      |      |      |      |
|   |                 |                |            | 0.1                          | 0.3  | 0.5  | 0.7  | 0.9  |
| Heating 1st Stage   | Low             | 1123           | CFM        | 1138                         | 1158 | 1178 | 1198 | 1218 |
|   |                 |                | Temp. Rise | 61                           | 60   | 59   | 58   | 57   |
|   |                 |                | Watts      | 115                          | 176  | 236  | 297  | 358  |
|   | Medium Low      | 1332           | CFM        | 1371                         | 1383 | 1394 | 1406 | 1417 |
|   |                 |                | Temp. Rise | 51                           | 50   | 50   | 49   | 49   |
|   |                 |                | Watts      | 182                          | 251  | 320  | 389  | 457  |
|   | Medium (a)      | 1404           | CFM        | 1440                         | 1450 | 1461 | 1471 | 1482 |
|   |                 |                | Temp. Rise | 48                           | 48   | 48   | 47   | 47   |
|   |                 |                | Watts      | 208                          | 283  | 357  | 431  | 505  |
|   | High            | 1620           | CFM        | 1669                         | 1674 | 1680 | 1685 | 1691 |
|   |                 |                | Temp. Rise | 42                           | 42   | 41   | 41   | 41   |
|   |                 |                | Watts      | 315                          | 388  | 460  | 533  | 605  |
| Heating 2nd Stage   | Low             | 1560           | CFM        | 1654                         | 1637 | 1621 | 1604 | 1587 |
|   |                 |                | Temp. Rise | 65                           | 66   | 67   | 67   | 68   |
|   |                 |                | Watts      | 291                          | 360  | 430  | 499  | 568  |
|   | Medium Low      | 1850           | CFM        | 1980                         | 1951 | 1922 | 1893 | 1864 |
|   |                 |                | Temp. Rise | 55                           | 56   | 57   | 58   | 58   |
|   |                 |                | Watts      | 456                          | 539  | 621  | 704  | 787  |
|   | Medium (a)      | 1950           | CFM        | 2075                         | 2037 | 1999 | 1961 | 1923 |
|   |                 |                | Temp. Rise | 52                           | 53   | 54   | 55   | 56   |
|   |                 |                | Watts      | 527                          | 611  | 696  | 781  | 865  |
|   | High            | 2250           | CFM        | 2280                         | 2197 | 2114 | 2032 | 1949 |
|   |                 |                | Temp. Rise | 48                           | 50   | 52   | 54   | 56   |
|   |                 |                | Watts      | 795                          | 819  | 842  | 865  | 888  |

(a) Factory Setting.



# Heating and Cooling Airflow Tables

**Table 13. S9V2D120U5VSAB Cooling Airflow**

| S9V2D120U5VSAB Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter |                        |                                    |                          |      |      |      |      |      |
|---|------------------------|------------------------------------|--------------------------|------|------|------|------|------|
| Cooling   | Unit Outdoor           | Airflow Setting (CFM/ton)          | External Static Pressure |      |      |      |      |      |
|   |                        |                                    |                          | 0.1  | 0.3  | 0.5  | 0.7  | 0.9  |
| Cooling   | 3.5 Ton                | Cooling 450 CFM/Ton                | CFM                      | 1575 | 1575 | 1575 | 1575 | 1575 |
|   |                        |                                    | Watts                    | 248  | 316  | 387  | 461  | 537  |
|   |                        | Cooling 420 CFM/Ton                | CFM                      | 1470 | 1470 | 1470 | 1470 | 1470 |
|   |                        |                                    | Watts                    | 206  | 270  | 337  | 407  | 479  |
|   |                        | Cooling 400 CFM/Ton                | CFM                      | 1400 | 1400 | 1400 | 1400 | 1400 |
|   |                        |                                    | Watts                    | 181  | 243  | 307  | 374  | 443  |
|   |                        | Cooling 370 CFM/Ton                | CFM                      | 1295 | 1295 | 1295 | 1295 | 1295 |
|   |                        |                                    | Watts                    | 148  | 205  | 265  | 328  | 393  |
|   |                        | Cooling 350 CFM/Ton                | CFM                      | 1225 | 1225 | 1225 | 1225 | 1225 |
|   |                        |                                    | Watts                    | 128  | 182  | 240  | 300  | 363  |
|   |                        | Cooling 330 CFM/Ton                | CFM                      | 1155 | 1155 | 1155 | 1155 | 1155 |
|   |                        |                                    | Watts                    | 111  | 162  | 217  | 274  | 335  |
|   |                        | Cooling 310 CFM/Ton                | CFM                      | 1085 | 1085 | 1085 | 1085 | 1085 |
|   |                        |                                    | Watts                    | 95   | 143  | 195  | 250  | 309  |
|   | Cooling 290 CFM/Ton    | CFM                                | 1015                     | 1015 | 1015 | 1015 | 1015 |      |
|   |                        | Watts                              | 80                       | 126  | 176  | 228  | 285  |      |
| Cooling   | 4.0 Ton                | Cooling 450 CFM/Ton                | CFM                      | 1800 | 1800 | 1800 | 1800 | 1800 |
|   |                        |                                    | Watts                    | 356  | 433  | 514  | 597  | 682  |
|   |                        | Cooling 420 CFM/Ton                | CFM                      | 1680 | 1680 | 1680 | 1680 | 1680 |
|   |                        |                                    | Watts                    | 295  | 368  | 443  | 521  | 601  |
|   |                        | Cooling 400 CFM/Ton                | CFM                      | 1600 | 1600 | 1600 | 1600 | 1600 |
|   |                        |                                    | Watts                    | 258  | 328  | 400  | 475  | 552  |
|   |                        | Cooling 370 CFM/Ton                | CFM                      | 1480 | 1480 | 1480 | 1480 | 1480 |
|   |                        |                                    | Watts                    | 210  | 274  | 342  | 412  | 484  |
|   |                        | Cooling 350 CFM/Ton                | CFM                      | 1400 | 1400 | 1400 | 1400 | 1400 |
|   |                        |                                    | Watts                    | 181  | 243  | 307  | 374  | 443  |
|   |                        | Cooling 330 CFM/Ton                | CFM                      | 1320 | 1320 | 1320 | 1320 | 1320 |
|   |                        |                                    | Watts                    | 155  | 213  | 274  | 338  | 405  |
|   |                        | Cooling 310 CFM/Ton                | CFM                      | 1240 | 1240 | 1240 | 1240 | 1240 |
|   |                        |                                    | Watts                    | 132  | 187  | 245  | 306  | 369  |
|   | Cooling 290 CFM/Ton    | CFM                                | 1160                     | 1160 | 1160 | 1160 | 1160 |      |
|   |                        | Watts                              | 112                      | 163  | 218  | 276  | 337  |      |
| Cooling   | 4.5 Ton                | Cooling 450 CFM/Ton                | CFM                      | 2025 | 2025 | 2025 | 2025 | 2025 |
|   |                        |                                    | Watts                    | 492  | 579  | 669  | 761  | 855  |
|   |                        | Cooling 420 CFM/Ton                | CFM                      | 1890 | 1890 | 1890 | 1890 | 1890 |
|   |                        |                                    | Watts                    | 406  | 488  | 572  | 659  | 747  |
|   |                        | Cooling 400 CFM/Ton                | CFM                      | 1800 | 1800 | 1800 | 1800 | 1800 |
|   |                        |                                    | Watts                    | 356  | 433  | 514  | 597  | 682  |
|   |                        | Cooling 370 CFM/Ton                | CFM                      | 1665 | 1665 | 1665 | 1665 | 1665 |
|   |                        |                                    | Watts                    | 288  | 360  | 435  | 512  | 592  |
|   |                        | Cooling 350 CFM/Ton                | CFM                      | 1575 | 1575 | 1575 | 1575 | 1575 |
|   |                        |                                    | Watts                    | 248  | 316  | 387  | 461  | 537  |
|   |                        | Cooling 330 CFM/Ton                | CFM                      | 1485 | 1485 | 1485 | 1485 | 1485 |
|   |                        |                                    | Watts                    | 212  | 277  | 344  | 414  | 487  |
|   |                        | Cooling 310 CFM/Ton                | CFM                      | 1395 | 1395 | 1395 | 1395 | 1395 |
|   |                        |                                    | Watts                    | 180  | 241  | 305  | 371  | 440  |
|   | Cooling 290 CFM/Ton    | CFM                                | 1305                     | 1305 | 1305 | 1305 | 1305 |      |
|   |                        | Watts                              | 151                      | 208  | 269  | 332  | 398  |      |
| Cooling   | 5.0 Ton <sup>(a)</sup> | Cooling 450 CFM/Ton                | CFM                      | 2250 | 2250 | 2250 | 2188 | 2103 |
|   |                        |                                    | Watts                    | 659  | 756  | 856  | 900  | 922  |
|   |                        | Cooling 420 CFM/Ton                | CFM                      | 2100 | 2100 | 2100 | 2100 | 2100 |
|   |                        |                                    | Watts                    | 544  | 634  | 728  | 823  | 920  |
|   |                        | Cooling 400 CFM/Ton                | CFM                      | 2000 | 2000 | 2000 | 2000 | 2000 |
|   |                        |                                    | Watts                    | 475  | 561  | 650  | 741  | 834  |
|   |                        | Cooling 370 CFM/Ton                | CFM                      | 1850 | 1850 | 1850 | 1850 | 1850 |
|   |                        |                                    | Watts                    | 383  | 463  | 546  | 631  | 717  |
|   |                        | Cooling 350 CFM/Ton <sup>(a)</sup> | CFM                      | 1750 | 1750 | 1750 | 1750 | 1750 |
|   |                        |                                    | Watts                    | 329  | 405  | 484  | 564  | 647  |
|   |                        | Cooling 330 CFM/Ton                | CFM                      | 1650 | 1650 | 1650 | 1650 | 1650 |
|   |                        |                                    | Watts                    | 281  | 352  | 427  | 503  | 582  |
|   |                        | Cooling 310 CFM/Ton                | CFM                      | 1550 | 1550 | 1550 | 1550 | 1550 |
|   |                        |                                    | Watts                    | 237  | 305  | 375  | 448  | 523  |
|   | Cooling 290 CFM/Ton    | CFM                                | 1450                     | 1450 | 1450 | 1450 | 1450 |      |
|   |                        | Watts                              | 199                      | 262  | 328  | 397  | 468  |      |

<sup>(a)</sup> Factory Setting



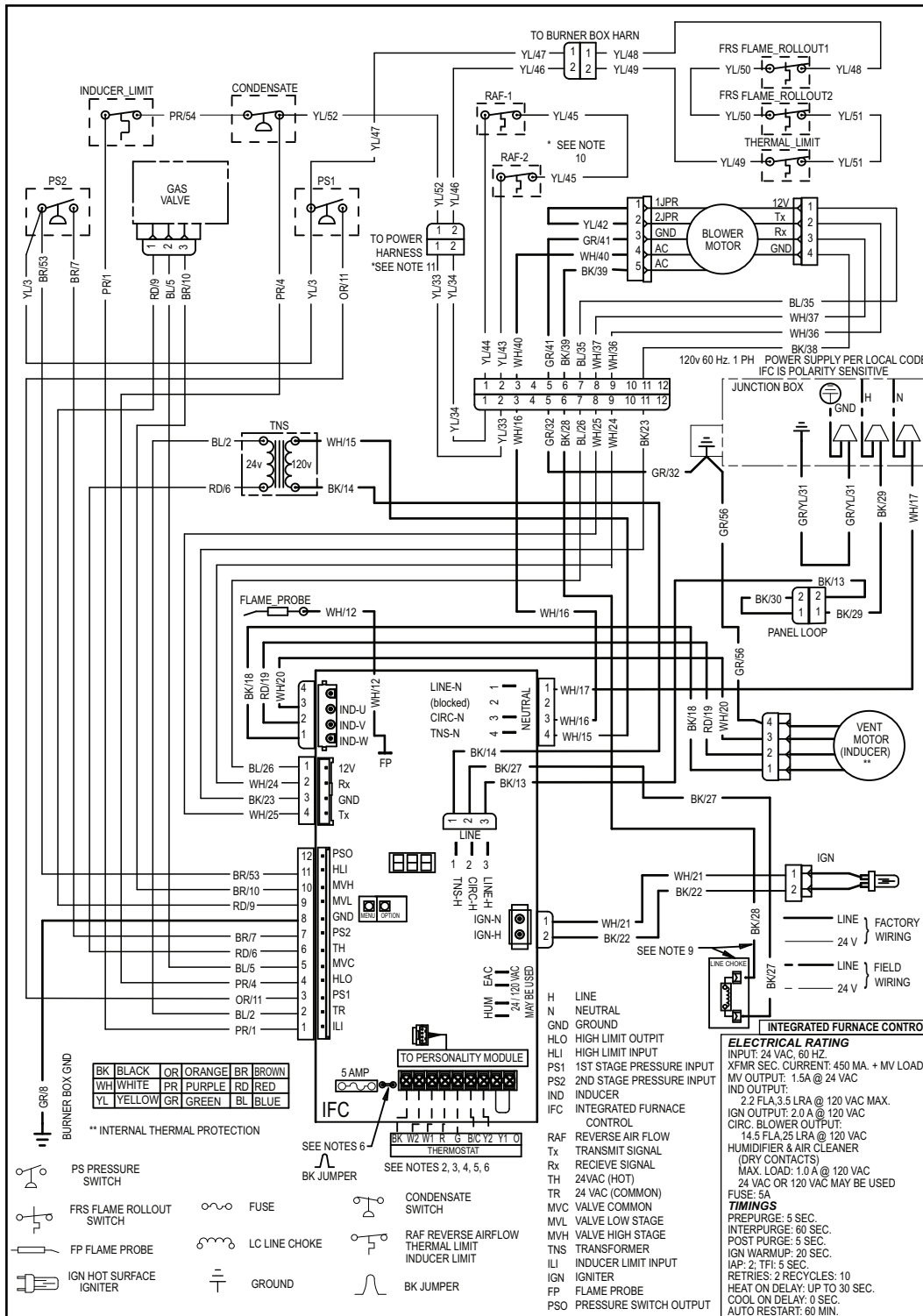
# Maximum Vent Length Table

| Model                      | Maximum Total Equivalent Length in Feet<br>for Vent and Inlet Air (See Notes) |                       |
|----------------------------|---|-----------------------|
|                            | 2 inch or 2.5 inch Pipe   | 3 inch or 4 inch Pipe |
| Altitude 0–2,000 Feet      |   |                       |
| S9V2B040U3VS, S9V2B060U3VS | 200   | 200                   |
| S9V2B080U4VS, S9V2B080D4VS | 100   | 200                   |
| S9V2C100U4VS, S9V2C100D4VS | 50  | 200                   |
| S9V2D120U5VS               | Note 1  | 200                   |
| Altitude 2,001–5,400 Feet  |   |                       |
| S9V2B040U3VS, S9V2B060U3VS | 200   | 200                   |
| S9V2B080U4VS, S9V2B080D4VS | 80  | 120                   |
| S9V2C100U4VS, S9V2C100D4VS | 50  | 150                   |
| S9V2D120U5VS               | Note 1  | 200                   |
| Altitude 5,401–7,800 Feet  |   |                       |
| S9V2B040U3VS, S9V2B060U3VS | 100   | 150                   |
| S9V2B080U4VS, S9V2B080D4VS | 50  | 70                    |
| S9V2C100U4VS, S9V2C100D4VS | Note 1  | 100                   |
| S9V2D120U5VS               | Note 1  | 100                   |
| Altitude 7,801–10,100 Feet |   |                       |
| S9V2B040U3VS, S9V2B060U3VS | 50  | 90                    |
| S9V2B080U4VS, S9V2B080D4VS | Note 1  | 50                    |
| S9V2C100U4VS, S9V2C100D4VS | Note 1  | 50                    |
| S9V2D120U5VS               | Note 1  | 50                    |

**Notes:**

1. Not allowed
2. For PolyPro® by Duravent, Z-DENS by Novaflex Group, InnoFlue® by Centrotherm, and Polyflue™ manufactured modular venting systems that are in the approved vent pipe material table, fitting equivalent vent lengths may be different from what is shown in Note 6. Refer to the venting system manufacturer’s installation instruction for appropriate venting diameters and equivalent lengths.
3. Minimum vent length for all models: 15' equivalent.
4. DO NOT MIX PIPE DIAMETERS IN THE SAME LENGTH OF PIPE OUTSIDE THE FURNACE CABINET (Except adapters at the top of the furnace). If different inlet and vent pipe sizes are used, the vent pipe must adhere to the maximum length limit shown in the table above (See note 7 below for exception). The inlet pipe can be of a larger diameter, but never smaller than the vent pipe.
5. MAXIMUM PIPE LENGTHS MUST NOT BE EXCEEDED! THE LENGTH SHOWN IS NOT A COMBINED TOTAL, IT IS THE MAXIMUM LENGTH OF EACH (Vent or Inlet air pipes).
6. One SHORT radius 90° elbow is equivalent to 10' of 4" pipe, 10' of 3" pipe, or 8' of 2" pipe. One LONG radius elbow is equivalent to 6' of 4" pipe, 7' of 3" pipe, or 5' of 2" pipe. Two 45° elbows equal one 90° LONG elbow. One MITERED elbow is equivalent to 12' of 3" pipe or 12' of 2" pipe.
7. The termination tee or bend must be included in the total number of elbows. If the BAYAIR30AVENTA or BAYAIR30CNVENT termination kit is used, the equivalent length of pipe is 5 feet. For BAYVENT200B and BAYVENTCN200B the equivalent length is 0 feet.
8. For Canadian applications, venting systems must meet ULC-S636 requirements.
9. The INLET AIR of one pipe systems require the installation of a minimum of one 90° elbow (to prevent dust and debris from falling straight into the furnace).

# S9V2-VS Wiring Diagram



**NOTES:**

1. IF ANY OF THE ORIGINAL WIRING AS SUPPLIED WITH THIS FURNACE MUST BE REPLACED, IT MUST BE WITH WIRE HAVING A TEMPERATURE RATING OF AT LEAST 105°C. WIRES 12, 48, 49, 50, AND 51 REQUIRE A TEMPERATURE RATING OF AT LEAST 250°C.
2. FOR PROPER AIRFLOW IN COOLING/HEAT PUMP MODE, "Y1" MUST BE CONNECTED TO THE THERMOSTAT FOR SINGLE STAGE UNITS. FOR TWO STAGE UNITS, "Y1" AND "Y2" MUST BE CONNECTED TO THE THERMOSTAT.
3. FOR SINGLE STAGE THERMOSTATS, JUMPER "W1" AND "W2" TERMINALS. SECOND STAGE HEATING WILL BE ENERGIZED ONCE THE INTER-STAGE DELAY HAS EXPIRED. "HT2" WILL BE SHOWN ON SEVEN SEGMENT DISPLAY AT ALL TIMES.
4. FOR HEAT PUMP SYSTEMS, "Y1" AND "O" TERMINALS MUST BE CONNECTED TO THE ROOM THERMOSTAT. FOR TWO STAGE UNITS, "Y1", "Y2", AND "O" TERMINALS MUST ALL BE CONNECTED TO THE ROOM THERMOSTAT.
5. FOR TWO STAGE SYSTEMS, USE "Y1" FOR LOW SPEED AND "Y2" FOR HIGH SPEED CONNECTION TO THE LOW-VOLTAGE TERMINAL BLOCK. SINGLE STAGE SYSTEMS USE "Y1" FOR THE CONNECTION TO THE LOW-VOLTAGE TERMINAL BLOCK.
6. THE "BK" JUMPER MUST BE CUT WHEN APPLYING AN AIRFLOW COMMAND TO THE "BK" TERMINAL SUCH AS PULSE WIDTH MODULATION.
7. SEE INDOOR MOTOR AIRFLOW SELECTION CHART, LOCATED IN THE INTEGRATED FURNACE CONTROL MENU & OPTIONS SETTINGS TO SET AIRFLOW AND COOLING OFF DELAYS.
8. CORRECT PERSONALITY MODULE IS REQUIRED FOR PROPER FURNACE OPERATION. PERSONALITY MODULE IS SPECIFIC TO EACH MODEL & SERIAL NUMBER, AND IS TO REMAIN WITHIN ITS ORIGINAL UNIT.
9. LINE CHOKE AND WIRE BK/28 ONLY USED ON MODELS WITH 3/4 AND 1 HP MOTORS.
10. DOWNFLOW MODELS USE ONLY ONE REVERSE AIRFLOW SWITCH.
11. CONNECTION MAY OR MAY NOT BE PRESENT.

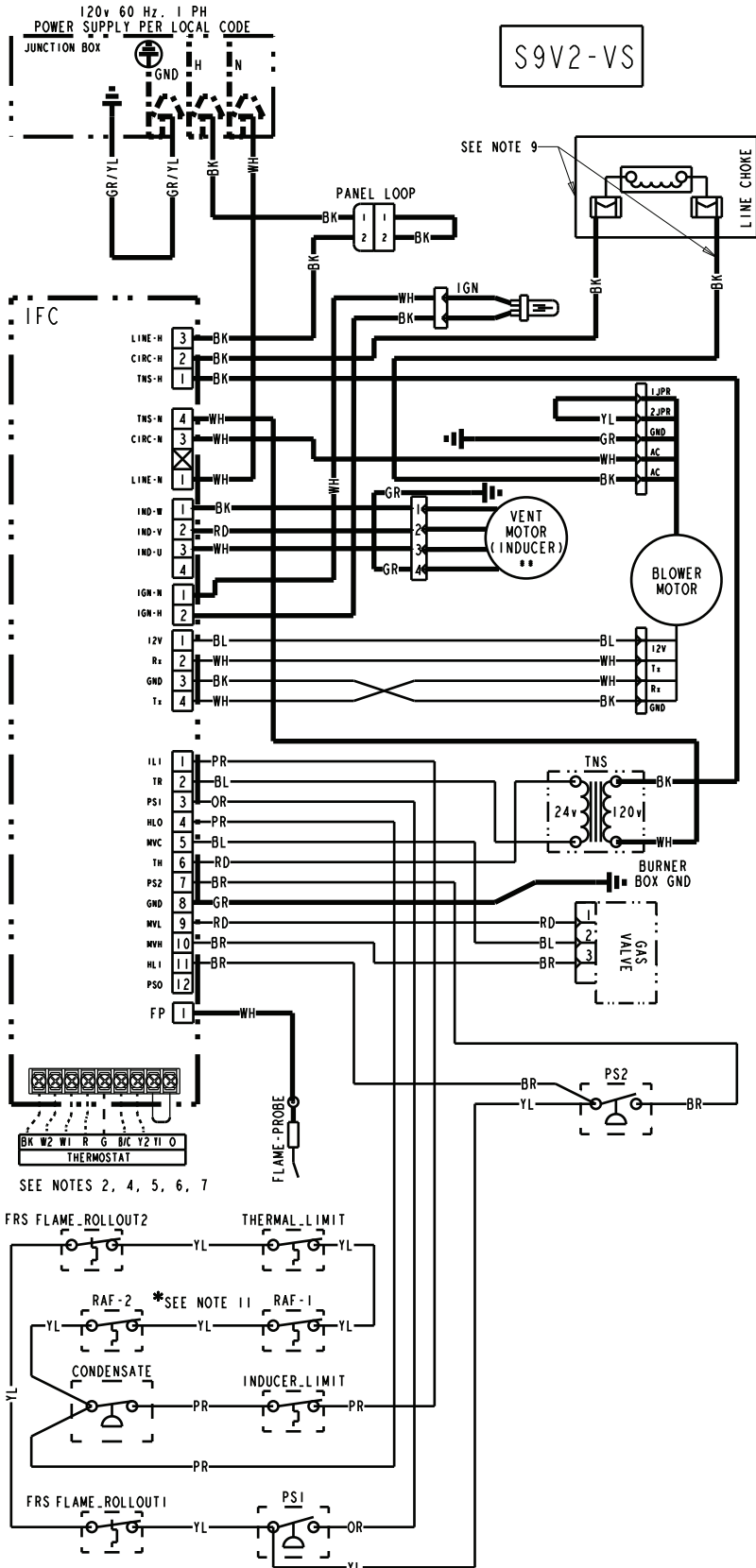
**S9V2-VS**

| Variable Speed (3-Phase) Inducer w/ ECM Blower Motor |            |  |   |
|--|------------|--|---|
| Status Codes   | Code       | Description  | Notes   |
| <b>IdU</b>   | <b>IdU</b> | Outdoor Unit   | <b>E04</b> Open Thermal Limit, Rollout Switch, or Reverse Airflow Switch  |
| <b>IdL</b>   | <b>IdL</b> | Blower Constant Fan Airflow Multiplier %   | <b>E05</b> Flame detected, should not be present  |
| <b>HL1</b>   | <b>CP</b>  | Cooling (CFM/Ton)  | <b>E06</b> Voltage reversed polarity or Bad Grounding   |
| <b>Lr1</b>   | <b>CPH</b> | Heat Pump Heating (CFM/Ton)  | <b>E63</b> (1) Igniter relay fails, (2) Igniter open  |
| <b>HL2</b>   | <b>HOd</b> | Heat Off Delay (sec)   | <b>E71</b> 1st stage gas valve (MVL) is energized when it should be off   |
| <b>Lr2</b>   | <b>ISd</b> | Inter-Stage Delay (sec)  | <b>E72</b> Redundant Relay (HLO output) Energized when it should NOT be   |
| <b>Lr2</b>   | <b>9HC</b> | Gas Heating CFM 2nd Stage (1st Stage is not adjustable) (Airflow x10)                | <b>E08</b> Flame current is low, but still strong enough to allow operation.                                      |
| <b>RrF</b>   | <b>rUn</b> | Run Test Mode  | <b>E09</b> Open Inducer Limit Switch or Condensate Switch   |
| <b>RrF</b>   | <b>rUn</b> | Run Test Mode  | <b>E10</b> Inducer Motor no communication response, could be communication failure between two micro-controllers. |
| <b>COF</b>   | <b>E01</b> | Loss of the IRQ/other internal failures  |   |
| <b>CL1</b>   | <b>E21</b> | Retry exceeded (Failed to est flame)   | <b>E11</b> (1) 2nd stage gas valve energized when it should NOT be  |
| <b>CL2</b>   | <b>E22</b> | Recycles exceeded (loss of established flame) or 10X PS1 open                        | (2) 2nd stage gas valve not energized when it should be   |
| <b>HP1</b>   | <b>E23</b> | 1st Stage Gas Valve not energized when it should be exceeded after 10 times          | (3) 1st stage gas valve not energized when it should be   |
| <b>HP2</b>   | <b>E23</b> | 1st Stage Gas Valve not energized when it should be exceeded after 10 times          | (4) Redundant relay (HLO output) not energized when it should be  |
| <b>dFt</b>   | <b>E24</b> | Redundant Relay (HLO output) Not Energized when it should be exceeded after 10 times | <b>E12</b> Open fuse  |
| <b>Menu Options</b>                                  | <b>E24</b> | Redundant Relay (HLO output) Not Energized when it should be exceeded after 10 times | <b>E13</b> Blower HP/OEM ID   |
| <b>Err</b>   | <b>E31</b> | Shorted Pressure Switch, 1st Stage   | <b>E14</b> No PM and local copy bad   |
| <b>L6F</b>   | <b>E32</b> | Open Pressure Switch, 1st Stage  | <b>E15</b> Both of Unit Data File in PM and local Unit Data File are Corrupt                                      |
| <b>Cr</b>  | <b>E33</b> | Shorted Pressure Switch, 2nd Stage   | <b>E17</b> Blower motor no communication response   |
| <b>COd</b>   | <b>E34</b> | Open Pressure Switch, 2nd Stage  | <b>E18</b> Blower communication failure on the control  |
| <b>OdL</b>   | <b>E34</b> | Open Pressure Switch, 2nd Stage  | <b>E18</b> Blower communication failure on the control  |



D346055P01

# S9V2-VS Wiring Diagram



- PS PRESSURE SWITCH
- FRS FLAME ROLLOUT SWITCH
- FP FLAME PROBE
- IGN HOT SURFACE IGNITER
- FUSE
- LC LINE CHOKE
- GROUND
- CONDENSATE SWITCH
- RAF REVERSE AIR FLOW, THERMAL INDUCER LIMIT, LIMIT
- BK JUMPER
- \*\* INTERNAL THERMAL PROTECTION**

- LINE } FACTORY WIRING
- 24 V } WIRING
- LINE } FIELD WIRING
- 24 V } WIRING

|    |        |       |                           |
|----|--------|-------|---------------------------|
| BK | BLACK  | GR    | GREEN                     |
| WH | WHITE  | BR    | BROWN                     |
| YL | YELLOW | RD    | RED                       |
| OR | ORANGE | BL    | BLUE                      |
| PR | PURPLE | GR/YL | GREEN W/<br>YELLOW STRIPE |

- H LINE
- N NEUTRAL
- GND GROUND
- HLO HIGH LIMIT OUTPUT
- HLI HIGH LIMIT INPUT
- PS1 1ST STAGE PRESSURE INPUT
- PS2 2ND STAGE PRESSURE INPUT
- IND INDUCER
- IFC INTEGRATED FURNACE CONTROL
- RAF REVERSE AIR FLOW
- Tx TRANSMIT SIGNAL
- Rx RECEIVE SIGNAL
- TH 24VAC (HOT)
- TR 24VAC (COMMON)
- MVC VALVE COMMON
- MVL VALVE LOW STAGE
- MVH VALVE HIGH STAGE
- ILI INDUCER LIMIT INPUT
- IGN IGNITER
- FP FLAME PROBE
- PSO PRESSURE SWITCH OUTPUT

## INTEGRATED FURNACE CONTROL

**ELECTRICAL RATING**  
 INPUT: 24 VAC, 60 HZ.  
 XFMR SEC. CURRENT: 450 MA. + MV LOAD  
 MV OUTPUT: 1.5A @ 24 VAC  
 IND OUTPUT: 2.2 FLA, 3.5 LRA @ 120 VAC MAX.  
 IGN OUTPUT: 2.0 A @ 120 VAC  
 CIRC. BLOWER OUTPUT: 14.5 FLA, 25 LRA @ 120 VAC  
 HUMIDIFIER & AIR CLEANER  
 MAX. LOAD: 1.0 A @ 120 VAC  
 FUSE: 5A

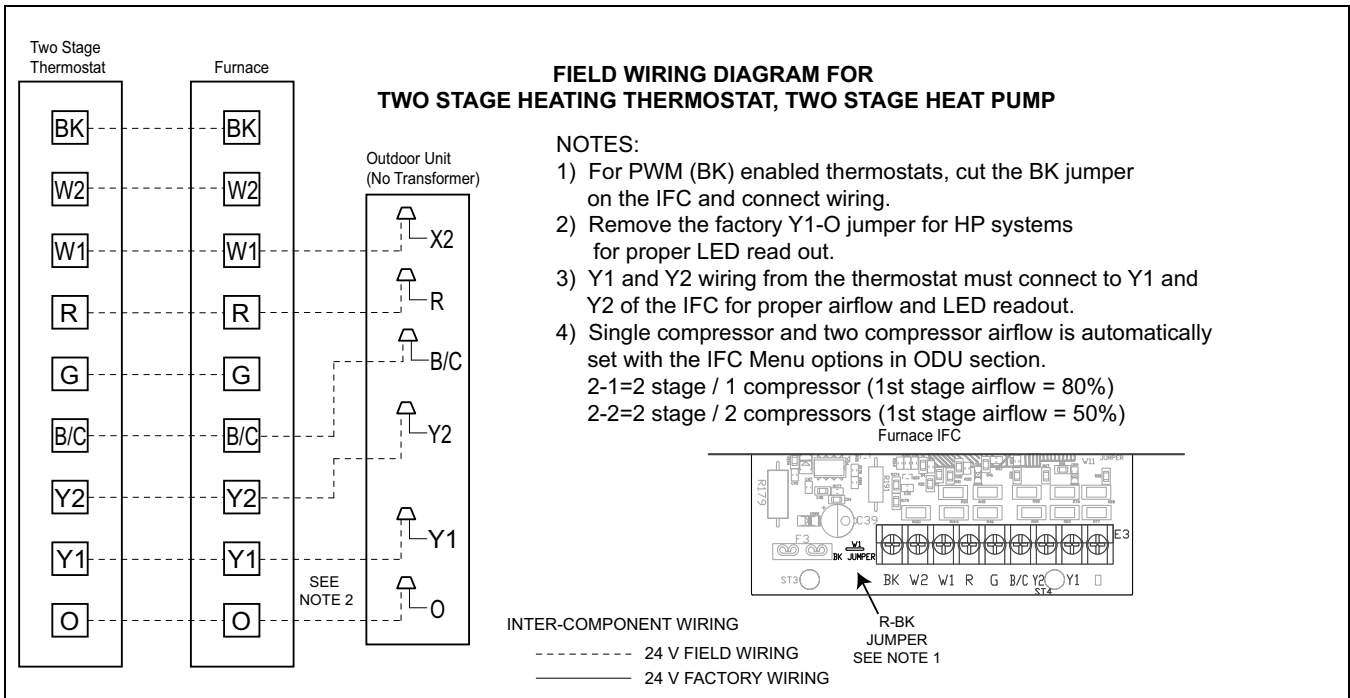
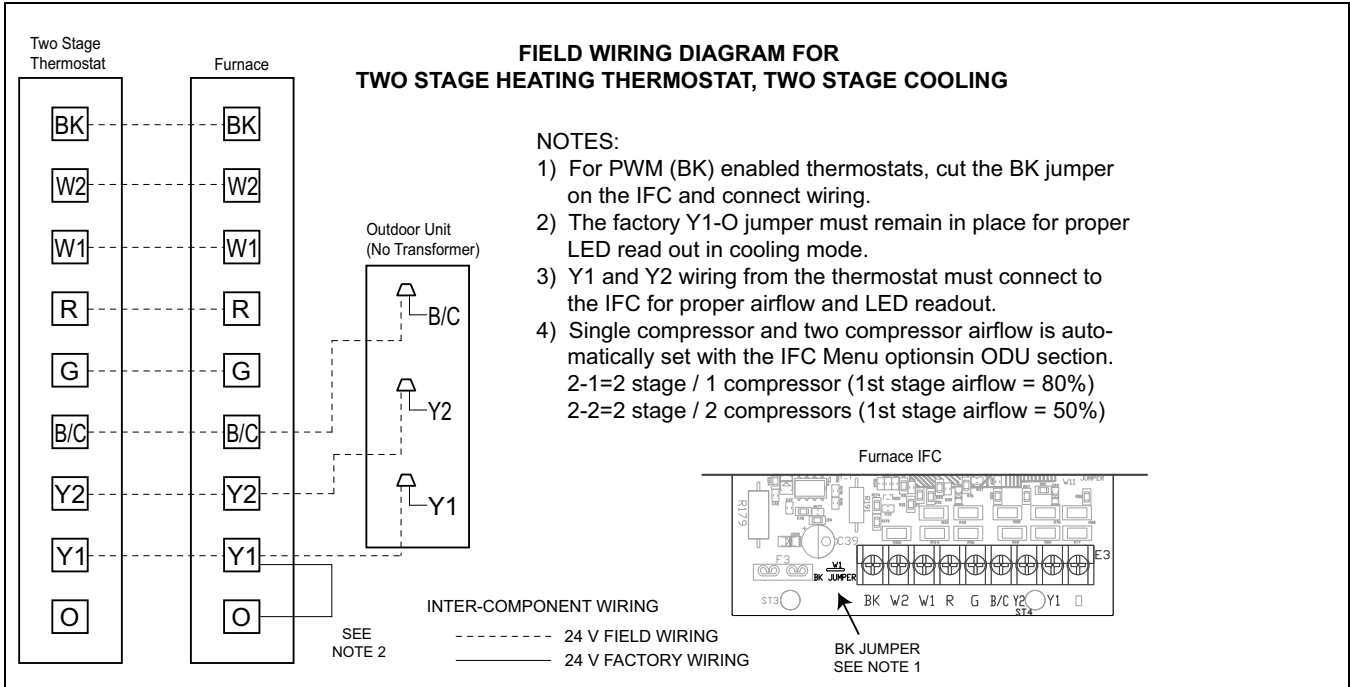
**TIMINGS**  
 PREPURGE: 0 SEC.  
 INTERPURGE: 60 SEC.  
 POST PURGE: 5 SEC.  
 IGN WARMUP: 20 SEC.  
 IAP: 2; TFI: 5 SEC.  
 RETRIES: 2 RECYCLES: 10  
 HEAT ON DELAY: UP TO 30 SEC.  
 COOL ON DELAY: 0 SEC.  
 AUTO RESTART: 60 MIN.  
 AUTO RESTART PURGE: 60 SEC.

SEE NOTES 2, 4, 5, 6, 7

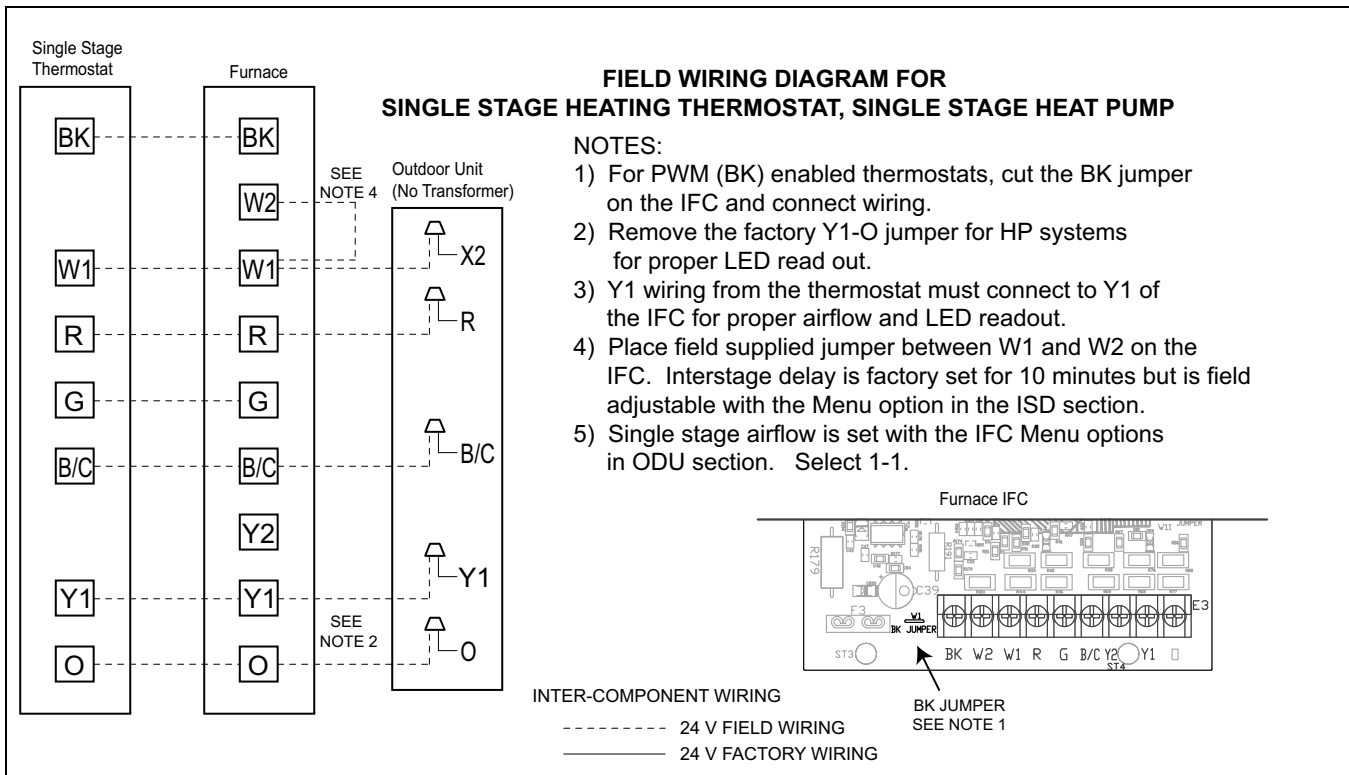
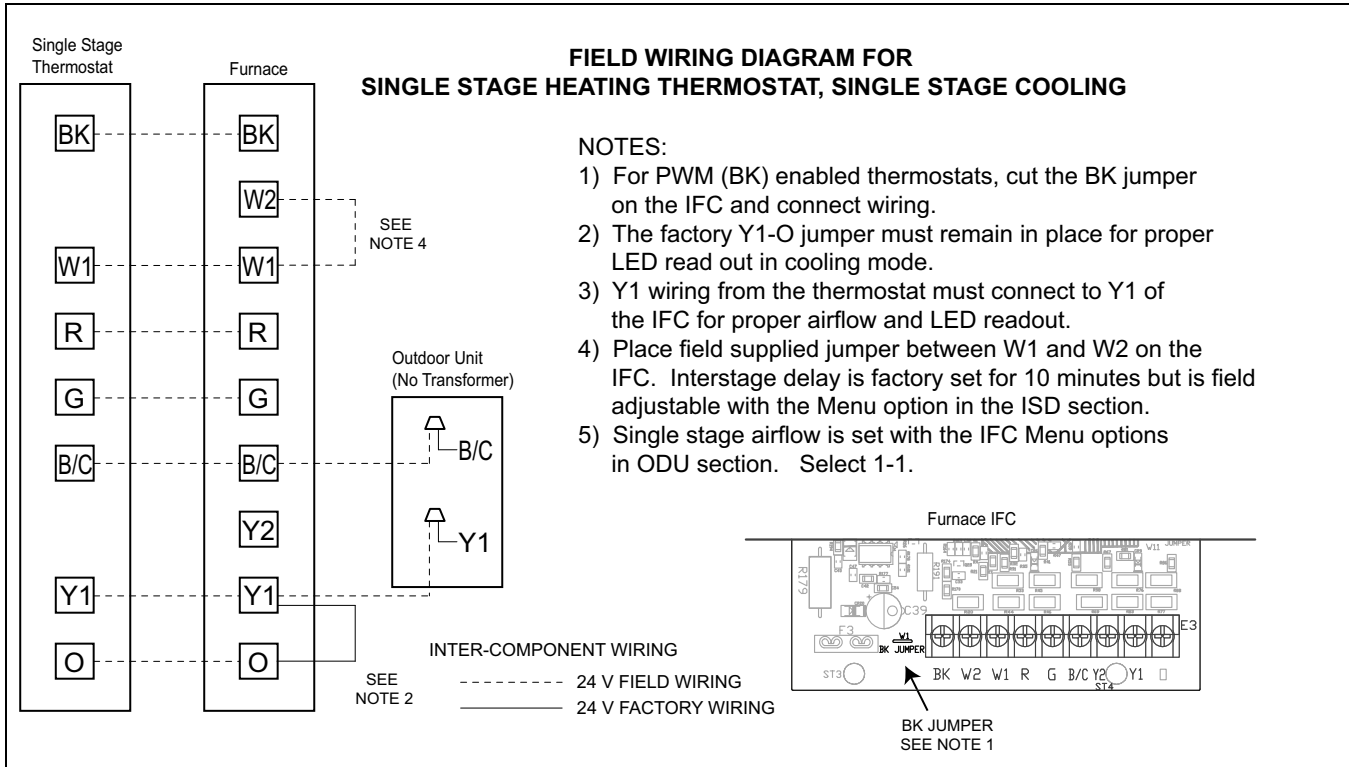
# Electrical Connections

Make wiring connections to the unit as indicated on enclosed wiring diagram. As with all gas appliances using electrical power, this furnace shall be connected into a permanently live electric circuit. It is recommended that furnace be provided with a separate "circuit protection device" electric circuit. The furnace must be electrically grounded in accordance with local codes or in the absence of local codes with the National Electrical Code, ANSI/NFPA 70 or CSA C22.1 Electrical Code, if an external electrical source is utilized. **The integrated furnace control is polarity sensitive.** The hot leg of the 120V power supply must be connected to the black power lead as indicated on the wiring diagram. Refer to the SERVICE FACTS literature and unit wiring diagram attached to furnace.

## Field Wiring

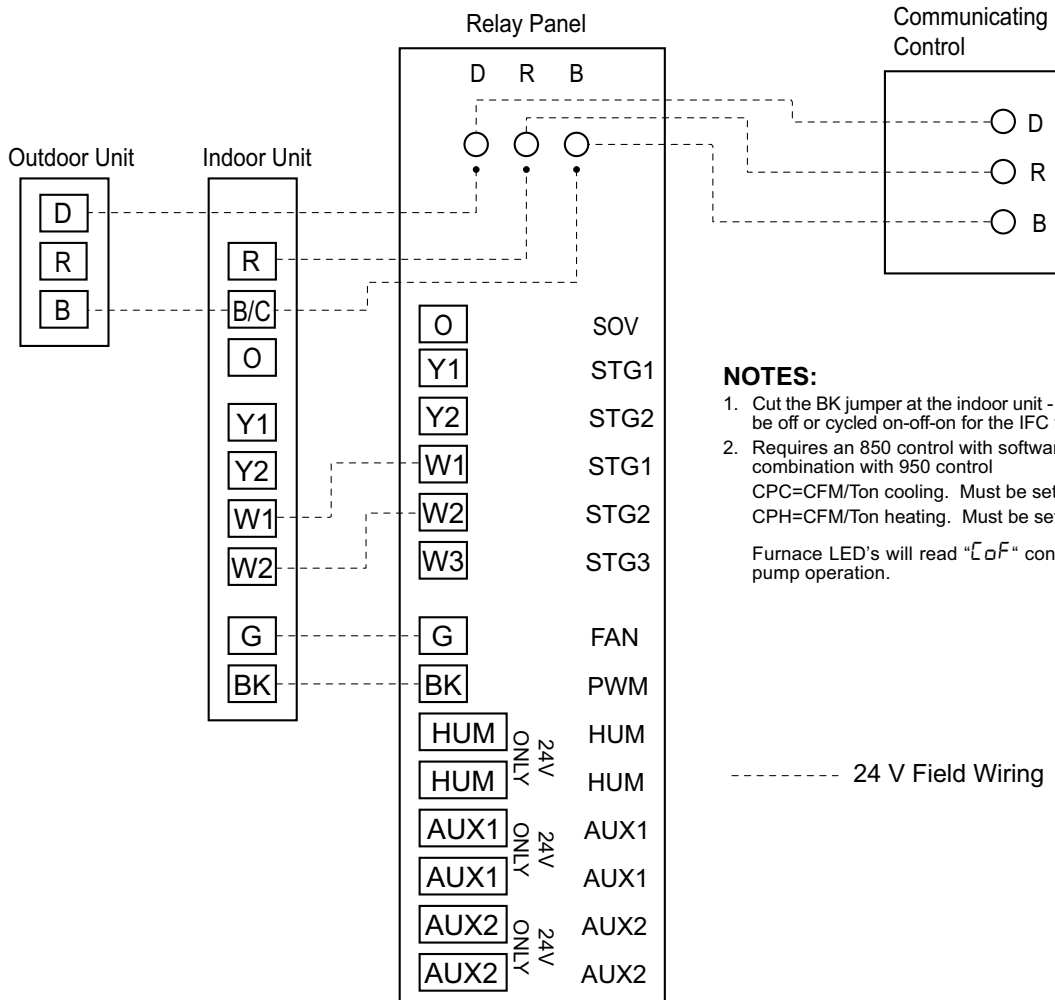


# Electrical Connections





**COMMUNICATING CONTROLS WITH NON-COMMUNICATING S9V2 FURNACE AND COMMUNICATING VS COOLING/HP**



**NOTES:**

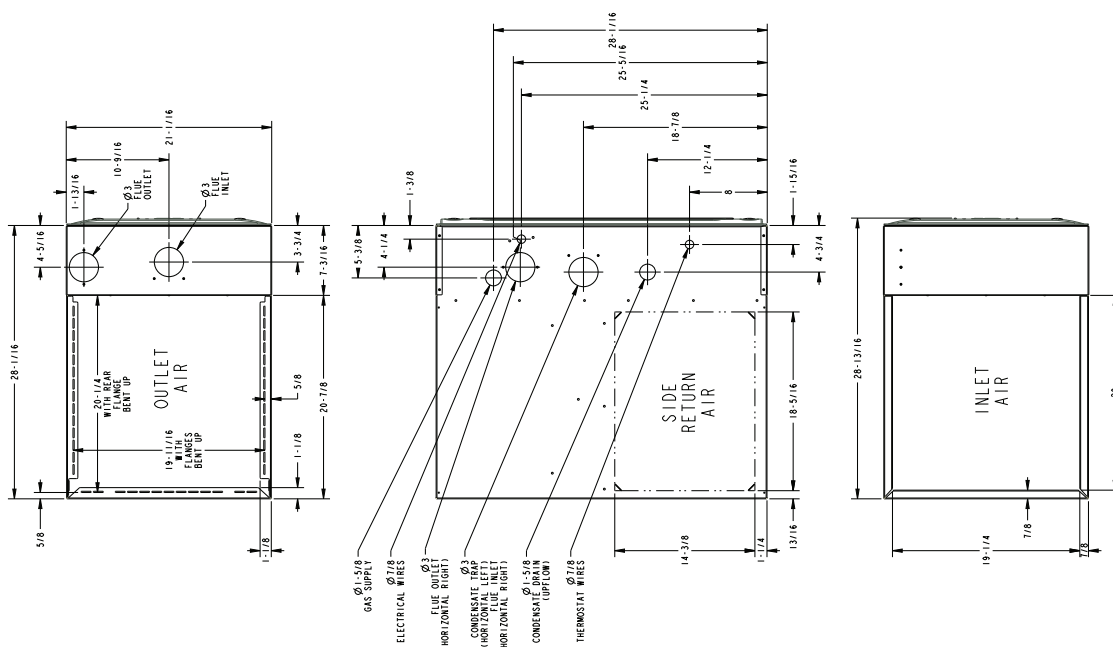
1. Cut the BK jumper at the indoor unit - After cutting the jumper, power must be off or cycled on-off-on for the IFC to work properly
2. Requires an 850 control with software version 3.0+ or 1050. Not a valid combination with 950 control  
CPC=CFM/Ton cooling. Must be set to 400.  
CPH=CFM/Ton heating. Must be set to 400.

Furnace LED's will read "□ F" continuous fan during cooling and heat pump operation.

----- 24 V Field Wiring

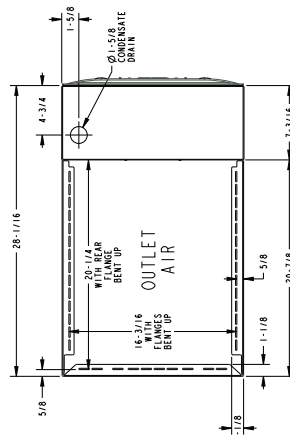
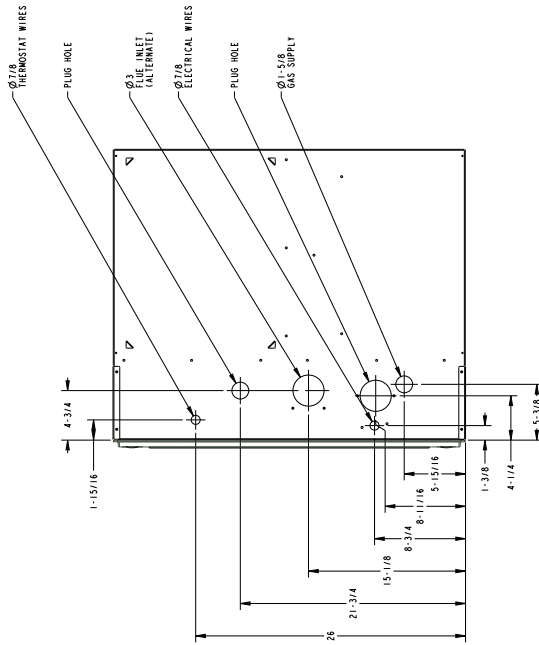
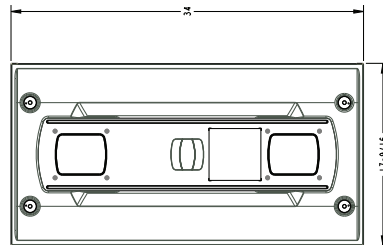
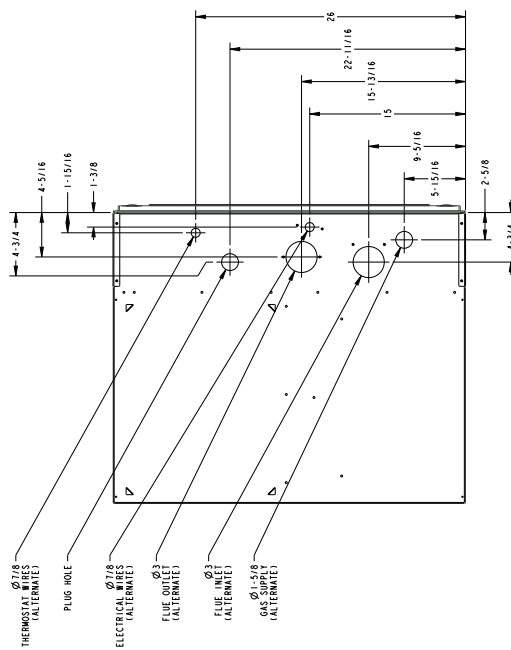
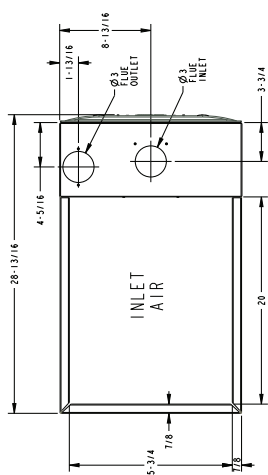


# Upflow Furnace C Size Cabinet

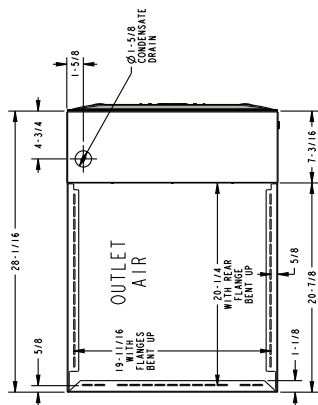
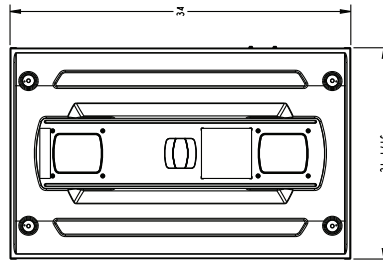
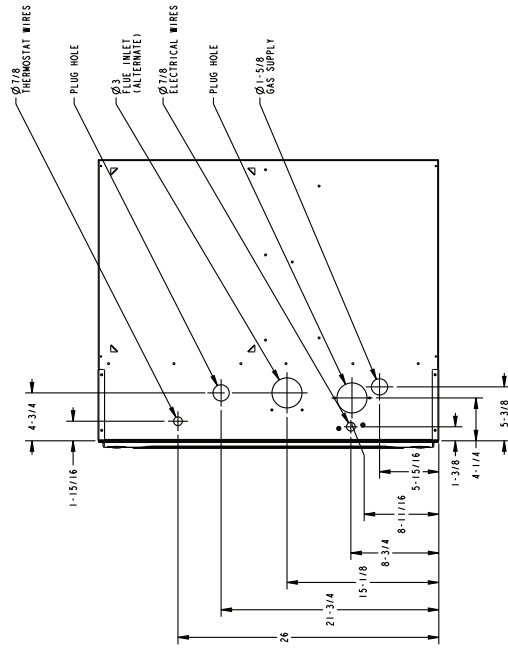
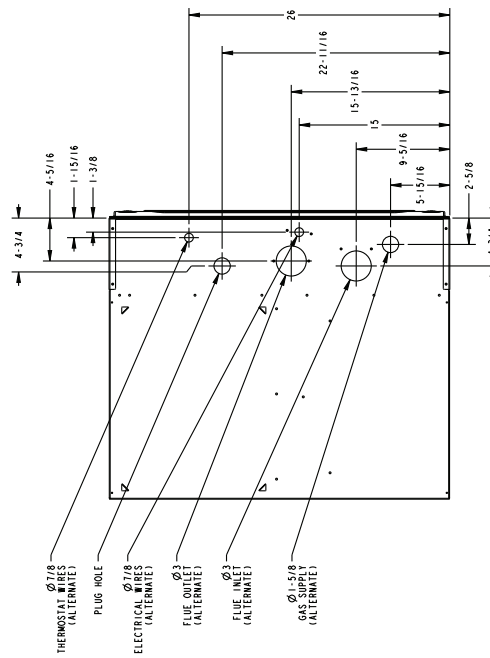
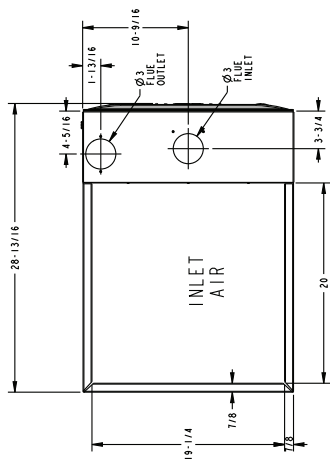




# Downflow Furnace B Size Cabinet



# Downflow Furnace C Size Cabinet







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