Product and Submittal Data

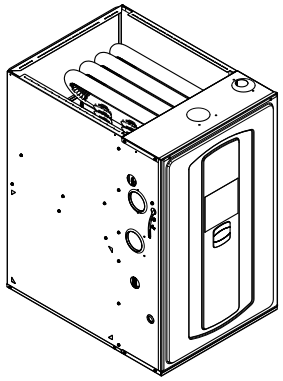
Upflow / Horizontal Left/Right and Dedicated Downflow
Single Stage Condensing
Gas Fired Furnace

S9X1 Upflow/Horizontal models
S9X1B040U3PSBB
S9X1B060U4PSBB
S9X1B080U4PSBB
S9X1C080U5PSBB
S9X1C100U5PSBB
S9X1D120U5PSBB

S9B1 Upflow/Horizontal models
S9B1B040U3PSAB
S9B1B060U4PSAB
S9B1B080U4PSAB
S9B1C080U5PSAB
S9B1C100U5PSAB
S9B1D120U5PSAB

S9X1 Dedicated Downflow models
S9X1B040D3PSBB
S9X1B060D3PSBB
S9X1B080D4PSBB
S9X1C100D5PSBB
S9X1D120D5PSBB

S9B1 Dedicated Downflow models
S9B1B040D3PSAB
S9B1B060D3PSAB
S9B1B080D4PSAB
S9B1C100D5PSAB
S9B1D120D5PSAB



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

February 2026

FNR-PSD007B-EN

Introduction

Copyright

Trademark

Revision History

- Updated the product specifications, 1st/2nd stage heating CFM/temperature rise, dimensional data, and accessories.
- Updated the field wiring images.

Table of Contents

General Features

Natural Gas Models

Central Heating furnace designs are certified by the Intertek/ETL for both natural and Propane gas. Limit setting and rating data were established and approved under standard rating conditions using American National Standards Institute standards.

Safe Operation

The Integrated Furnace 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 Propane with Propane conversion kit.

Integrated Furnace 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. S9X1 also contains dry contacts for EAC and HUM.

Energy Efficient Operation

S9X1 Furnace is certified by the manufacturer to leak 1% (1.4% for S9B1) or less of nominal air conditioning CFM delivered when pressurized to 0.5-inch water column with all inlets, outlets, and drains sealed.

Air Delivery

The 9 tap constant torque ECM 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 furnace control lights the main burners upon a demand for heat from the room thermostat. Complete front service access.

1. Low energy power venter
2. Vent proving pressure switches

Features and Benefits

Up to 96.0% AFUE on S9X1 Furnace 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

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

5 SKU's — Downflow

Added application flexibility and reduction in specification errors

Airflow

At least 400 CFM/ton at 0.5 in. H_20 external static pressure

Regulatory

All models are air tight; 1% or less air leakage as per ASHRAE 193 (1.4% for S9B1)

Open vestibule design provides a full 34-inch high open vestibule

Dimensions

Width is industry standard: 17.5 inch, 21 inch, and 24.5 inch

Depth remains approximately 28-inch

Cabinet is 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 on S9X1 models

All multi-pin polarized terminals connections; no spade terminals

Low voltage labeled above and below

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

Vortica 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 conversion kits required)

Every model has at least two venting options

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.

Accessories

Table 1. Accessories

Model Number	Description	Use with
MAYBFERCOLKITA	Heat Shield Kit for B-sidth 4GXCB or 4MCXB Coils	B width 4GXCB or 4MCXB Coils when installed with Upflow Furnace in all orientations.
MAYCFERCOLKITA	Heat Shield Kit for C-sidth 4GXCC or 4MCXC Coils	C width 4GXCC or 4MCXC Coils when installed with Upflow Furnace in all orientations.
MAYDFERCOLKITA	Heat Shield Kit for D-sidth 4GXCD or 4MCXD Coils	D width 4GXCD or 4MCXD Coils when installed with Upflow Furnace in all orientations.
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 (Canada - CPVC)	All Furnaces
BAYLIFTB[a]	Dual Return Kit (B size extension)	B Cabinet Upflow Furnaces
BAYLIFTC[a]	Dual Return Kit (C size extension)	C Cabinet Upflow Furnaces
BAYLIFTD[a]	Dual Return Kit (D size extension)	D Cabinet Upflow Furnaces
BAYBASE205	Downflow Subbase	All Downflow Furnaces
BAYFLTR203	Horizontal Filter Kit	B Cabinet Furnaces in Downflow/Horizontal
BAYFLTR204	Horizontal Filter Kit	C Cabinet Furnaces in Downflow/Horizontal
BAYFLTR205	Horizontal Filter Kit	D Cabinet Furnaces in Downflow Horizontal
BAYFLTR206	Filter Access Door Kit (Downflow only)	All Downflow Furnaces
BAYSF1165[a] [b]	1-in SlimFit Cabinet with MERV 4 Filter	All Upflow Furnaces
BAYSF1255[b]	1-in SlimFit Rack with MERV 4 Filter	All Furnaces[c]
FLRSF1255	1-in Filter Replacement (Qty 12)	BAYSF1255[b]
BAYLPSS400[b]	Propane Conversion Kit with Stainless Steel Burners	All Furnaces
BAYBURNERSS	All Stainless Steel Natural Gas Burners - Set of Six	All Upflow Furnaces - Special Case
BAYMFGH200B	Manufactured/Mobile Housing Kit	All Furnaces
BAYCNDTRAP2A	Inline Condensate Trap Kit used with Special Venting on 2-in Vent Pipe	All Furnaces
BAYCNDTRAP3A	Inline Condensate Trap Kit used with Special Venting on 3-in Vent Pipe	All Furnaces

[a] Airflow greater than 1600 CFM, Furnace will require air openings and filters on: (1) both sides, (2) one side and the bottom, or (3) just on the bottom.
[b] Latest revision.
[c] Designed to fit all S-Series furnaces with or without transition when used in side return. Fits B width cabinet without a transition in upflow/downflow application.

Product Specifications

Table 2. Models S9X1B040U3PSBB, S9X1B060U4PSBB, S9X1B080U4PSBB, S9X1C080U5PSBB, S9B1B040U3PSAB, S9B1B060U4PSAB, S9B1B080U4PSAB, and S9B1C080U5PSAB

Model Number	S9X1B040-U3PSBB	S9B1B040-U3PSAB	S9X1B060-U4PSBB	S9B1B060-U4PSAB	S9X1B080-U4PSBB	S9B1B080-U4PSAB	S9X1C080-U5PSBB	S9B1C080-U5PSAB
Type	Upflow / Horizontal		Upflow / Horizontal		Upflow / Horizontal		Upflow / Horizontal	
Ratings [a]								
Input BTUH	40,000		60,000		80,000		80,000	
Capacity BTUH (ICS) [b] [c]	39,000		58,300		77,200		77,800	
Temp. Rise (Min. - Max.) °F	30 - 60		30 - 60		45 - 75		40-70	
AFUE (%) [c]	96.0	92.1	96.0	92.1	96.0	92.1	96.0	92.1
Return Air Temp. (Min.-Max.)	45°F - 80°F		45°F - 80°F		45°F - 80°F		45°F - 80°F	
CEE Tier	2	1	2	1	2	1	2	1
Energy Star Rated Region Before July 31, 2026	US - All / Canada	US - South	US - All / Canada	US - South	US - All / Canada	US - South	US - All / Canada	US - South
Energy Star Rated Region On or After July 31, 2026	US - South	N/A	US - South	N/A	US - South	N/A	US - South	N/A
Energy Star Orientation	Upflow / Horizontal		Upflow / Horizontal		Upflow / Horizontal		Upflow / Horizontal	
Integrated Furnace Control								
Input-Communication Protocol	24 Volts		24 Volts		24 Volts		24 Volts	
Blower Drive	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.) [d]	9		9		9		9	
CFM vs. iwc.	See Fan Performance Table		See Fan Performance Table		See Fan Performance Table		See Fan Performance Table	
Motor HP	0.5		0.8		0.8		1.0	
R.P.M.	1075		1075		1075		1075	
Volts / Ph / Hz	120 / 1 / 60		120 / 1 / 60		120 / 1 / 60		120 / 1 / 60	
FLA	6.4		8.4		8.4		10.6	
Combustion Fan - Type	Centrifugal		Centrifugal		Centrifugal		Centrifugal	
Drive - No. Speeds	Direct - 1		Direct - 1		Direct - 1		Direct - 1	
Motor RPM	3300		3300		3300		3300	
Volts/Ph/Hz	120 / 1 / 60		120 / 1 / 60		120 / 1 / 60		120 / 1 / 60	
FLA	2.1		2.1		2.1		0.7	
Filter - Furnished?	No		No		No		No	
Type Recommended	High Velocity		High Velocity		High Velocity		High Velocity	
Hi Vel. (No.-Size-Thk.)	1 - 16 X 25 - 1 in.		1 - 16 X 25 - 1 in.		1 - 16 X 25 - 1 in.		1 - 20 X 25 - 1 in.	

Table 2. Models S9X1B040U3PSBB, S9X1B060U4PSBB, S9X1B080U4PSBB, S9X1C080U5PSBB, S9B1B040U3PSAB, S9B1B060U4PSAB, S9B1B080U4PSAB, and S9B1C080U5PSAB (continued)

Model Number	S9X1B040-U3PSBB	S9B1B040-U3PSAB	S9X1B060-U4PSBB	S9B1B060-U4PSAB	S9X1B080-U4PSBB	S9B1B080-U4PSAB	S9X1C080-U5PSBB	S9B1C080-U5PSAB
Vent Pipe Diameter - Min. (in.) (e) (f)	2 Round		2 Round		2 Round		2 Round	
Heat Exchanger 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	
Orifices - Main								
Nat. Gas Qty. - Drill Size	2 - 45		3 - 45		4 - 45		4 - 45	
Propane Gas Qty. - Drill Size	2 - 56		3 - 56		4 - 56		4 - 56	
Gas Valve	Redundant - One Stage		Redundant - One Stage		Redundant - One Stage		Redundant - One Stage	
Pilot Safety Device								
Type	120 V SiNi Igniter		120 V SiNi Igniter		120 V SiNi Igniter		120 V SiNi Igniter	
Burners - Type	Multiport Inshot		Multiport Inshot		Multiport Inshot		Multiport Inshot	
Number	2		3		4		4	
Power Conn. - V/Ph/Hz (g)	120 / 1 / 60		120 / 1 / 60		120 / 1 / 60		120 / 1 / 60	
Ampacity (Amps)	10.3		12.8		12.8		14.1	
Max. Overcurrent Protection (Amps)	15		15		15		15	
Pipe Conn. Size (in.)	1/2		1/2		1/2		1/2	
Dimensions	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	
Weight								
Shipping (Lbs.)/Net (Lbs.)	122/114		130/122		135/127		149/139	

(a) 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.
(b) Central Furnace heating designs are certified to ANSI Z21.47 / CSA 2.3 — latest edition.
(c) Based on U.S. government standard tests.
(d) 9 Speed constant torque ECM blower motor.
(e) See the Maximum Vent Length Table, p. 19 in this document.
(f) All furnace models have a vent outlet diameter that equals 2-inch.
(g) The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

Table 3. Models S9X1C100U5PSBB, S9X1D120U5PSBB, S9X1B040D3PSBB, S9X1B060D3PSBB, S9B1C100U5PSAB, S9B1D120U5PSAB, S9B1B040D3PSAB, and S9B1B060D3PSAB

Model Number	S9X1C100-U5PSBB	S9B1C100-U5PSAB	S9X1D120-U5PSBB	S9B1D120-U5PSAB	S9X1B040-D3PSBB	S9B1B040-D3PSAB	S9X1B060-D3PSBB	S9B1B060-D3PSAB
Type	Upflow / Horizontal		Upflow / Horizontal		Downflow		Downflow	
Ratings (a)								
Input BTUH	100,000		120,000		40,000		60,000	
Capacity BTUH (ICS) (b) (c)	97,400		113,400		38,900		57,600	

Table 3. Models S9X1C100U5PSBB, S9X1D120U5PSBB, S9X1B040D3PSBB, S9X1B060D3PSBB, S9B1C100U5PSAB, S9B1D120U5PSAB, S9B1B040D3PSAB, and S9B1B060D3PSAB (continued)

Model Number	S9X1C100-U5PSBB	S9B1C100-U5PSAB	S9X1D120-U5PSBB	S9B1D120-U5PSAB	S9X1B040-D3PSBB	S9B1B040-D3PSAB	S9X1B060-D3PSBB	S9B1B060-D3PSAB
Temp. Rise (Min. - Max.) °F	40 - 70		40 - 70		30 - 60		35 - 65	
AFUE (%) [c]	95.0	92.1	95.0	92.1	96.0	92.1	96.0	92.1
Return Air Temp. (Min.-Max.)	45°F - 80°F		45°F - 80°F		45°F - 80°F		45°F - 80°F	
CEE Tier	2	1	2	1	2	1	2	1
Energy Star Rated Region Before July 31, 2026	US - All / Canada	US - South	US - All / Canada	US - South	US - All / Canada	US - South	US - All / Canada	US - South
Energy Star Rated Region On or After July 31, 2026	US - South	N/A	US - South	N/A	US - South	N/A	US - South	N/A
Energy Star Orientation	Upflow / Horizontal		Upflow / Horizontal		Downflow		Downflow	
Integrated Furnace Control								
Input-Communication Protocol	24 Volts		24 Volts		24 Volts		24 Volts	
Blower Drive	DIRECT		DIRECT		DIRECT		DIRECT	
Diameter - Width (in.)	11 X 10		11 X 10		11 X 8		11 X 8	
No. Used	1		1		1		1	
Speeds (No.) [d]	9		9		9		9	
CFM vs. iwc.	See Fan Performance Table		See Fan Performance Table		See Fan Performance Table		See Fan Performance Table	
Motor HP	1.0		1.0		0.5		0.5	
R.P.M.	1075		1075		1075		1075	
Volts / Ph / Hz	120 / 1 / 60		120 / 1 / 60		120 / 1 / 60		120 / 1 / 60	
FLA	10.6		10.6		6.4		6.4	
Combustion Fan - Type	Centrifugal		Centrifugal		Centrifugal		Centrifugal	
Drive - No. Speeds	Direct - 1		Direct - 1		Direct - 1		Direct - 1	
Motor RPM	3300		3300		3300		3300	
Volts/Ph/Hz	120 / 1 / 60		120 / 1 / 60		120 / 1 / 60		120 / 1 / 60	
FLA	0.7		0.7		2.1		2.1	
Filter - Furnished?	No		No		No		No	
Type Recommended	High Velocity		High Velocity		High Velocity		High Velocity	
Hi Vel. (No.-Size-Thk.)	1 - 20 X 25 - 1 in.		1 - 24 X 25 - 1 in.		1 - 16 X 25 - 1 in.		1 - 16 X 25 - 1 in.	
Vent Pipe Diameter - Min. (in.) [e] [f]	2 Round		3 Round		2 Round		2 Round	
Heat Exchanger 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	
Orifices - Main								

Table 3. Models S9X1C100U5PSBB, S9X1D120U5PSBB, S9X1B040D3PSBB, S9X1B060D3PSBB, S9B1C100U5PSAB, S9B1D120U5PSAB, S9B1B040D3PSAB, and S9B1B060D3PSAB (continued)

Model Number	S9X1C100-U5PSBB	S9B1C100-U5PSAB	S9X1D120-U5PSBB	S9B1D120-U5PSAB	S9X1B040-D3PSBB	S9B1B040-D3PSAB	S9X1B060-D3PSBB	S9B1B060-D3PSAB
Nat. Gas Qty. - Drill Size	5 - 45		6 - 45		2 - 45		3 - 45	
Propane Gas Qty. - Drill Size	5 - 56		6 - 56		2 - 56		3 - 56	
Gas Valve	Redundant - One Stage		Redundant - One Stage		Redundant - One Stage		Redundant - One Stage	
Pilot Safety Device								
Type	120 V SiNi Igniter		120 V SiNi Igniter		120 V SiNi Igniter		120 V SiNi Igniter	
Burners - Type	Multiport Inshot		Multiport Inshot		Multiport Inshot		Multiport Inshot	
Number	5		6		2		3	
Power Conn. - V/Ph/Hz [g]	120 / 1 / 60		120 / 1 / 60		120 / 1 / 60		120 / 1 / 60	
Ampacity (Amps)	14.1		14.1		10.3		10.3	
Max. Overcurrent Protection (Amps)	15		15		15		15	
Pipe Conn. Size (in.)	1/2		1/2		1/2		1/2	
Dimensions	H x W x D		H x W x D		H x W x D		H x W x D	
Uncrated (in.)	34 x 21 x 28-3/4		34 x 24-1/2 x 28-3/4		34 x 17-1/2 x 28-3/4		34 x 17-1/2 x 28-3/4	
Crated (in.)	35-1/2 x 23 x 30-7/8		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 19-1/2 x 30-7/8	
Weight								
Shipping (Lbs.)/Net (Lbs.)	155/145		167/156		122/114		127/119	

[a] 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.
[b] Central Furnace heating designs are certified to ANSI Z21.47 / CSA 2.3.
[c] Based on U.S. government standard tests.
[d] 9 Speed constant torque ECM blower motor
[e] See the Maximum Vent Length Table, p. 19 in this document.
[f] All furnace models have a vent outlet diameter that equals 2-inch.
[g] The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

Table 4. Models S9X1B080D4PSBB, S9X1C100D5PSBB, S9X1D120D5PSBB, S9B1B080D4PSAB, S9B1C100D5PSAB, and S9B1D120D5PSAB

Model Number	S9X1B080D4P-SBB	S9B1B080D4P-SAB	S9X1C100D5P-SBB	S9B1C100D5P-SAB	S9X1D120D5P-SBB	S9B1D120D5P-SAB
Type	Downflow		Downflow		Downflow	
Ratings [a]						
Input BTUH	80,000		100,000		120,000	
Capacity BTUH (ICS) [b] [c]	76,900		96,800		115,500	
Temp. Rise (Min. - Max.) °F	45-75		40-70		45-75	
AFUE (%) [c]	95.0	92.1	96.0	92.1	95.0	92.1
Return Air Temp. (Min.-Max.)	45°F - 80°F		45°F - 80°F		45°F - 80°F	
CEE Tier	2	1	2	1	2	1
Energy Star Rated Region Before July 31, 2026	US - All / Canada	US - South	US - All / Canada	US - South	US - All / Canada	US - South
Energy Star Rated Region On or After July 31, 2026	US - South	N/A	US - South	N/A	US - South	N/A

Table 4. Models S9X1B080D4PSBB, S9X1C100D5PSBB, S9X1D120D5PSBB, S9B1B080D4PSAB, S9B1C100D5PSAB, and S9B1D120D5PSAB (continued)

Model Number	S9X1B080D4P-SBB	S9B1B080D4P-SAB	S9X1C100D5P-SBB	S9B1C100D5P-SAB	S9X1D120D5P-SBB	S9B1D120D5P-SAB
Energy Star Orientation	Downflow		Downflow		Downflow	
Integrated Furnace Control						
Input-Communication Protocol	24 Volts		24 Volts		24 Volts	
Blower Drive	DIRECT		DIRECT		DIRECT	
Diameter - Width (in.)	11 X 8		11 X 10		11 X 10	
No. Used	1		1		1	
Speeds (No.) (d)	9		9		9	
CFM vs. iwc.	See Fan Performance Table		See Fan Performance Table		See Fan Performance Table	
Motor HP	0.8		1.0		1.0	
R.P.M.	1075		1075		1075	
Volts / Ph / Hz	120 / 1 / 60		120 / 1 / 60		120 / 1 / 60	
FLA	9.3		10.6		10.6	
Combustion Fan - Type	Centrifugal		Centrifugal		Centrifugal	
Drive - No. Speeds	Direct - 1		Direct - 1		Direct - 1	
Motor RPM	3300		3300		3300	
Volts/Ph/Hz	120 / 1 / 60		120 / 1 / 60		120 / 1 / 60	
FLA	2.1		0.7		0.7	
Filter - Furnished?	No		No		No	
Type Recommended	High Velocity		High Velocity		High Velocity	
Hi Vel. (No.-Size-Thk.)	1 - 16 X 25 - 1 in.		1 - 20 X 25 - 1 in.		1 - 24 X 25 - 1 in.	
Vent Pipe Diameter - Min. (in.) (e) (f)	2 Round		2 Round		3 Round	
Heat Exchanger Type						
Fired	409 Stainless Steel		409 Stainless Steel		409 Stainless Steel	
Unfired	29-4C Stainless Steel		29-4C Stainless Steel		29-4C Stainless Steel	
Gauge (Fired)	20		20		20	
Orifices - Main						
Nat. Gas Qty. - Drill Size	4 - 45		5 - 45		6 - 45	
Propane Gas Qty. - Drill Size	4 - 56		5 - 56		6 - 56	
Gas Valve	Redundant - One Stage		Redundant - One Stage		Redundant - One Stage	
Pilot Safety Device						
Type	120 V SiNi Igniter		120 V SiNi Igniter		120 V SiNi Igniter	
Burners - Type	Multiport Inshot		Multiport Inshot		Multiport Inshot	
Number	4		5		6	
Power Conn. - V/Ph/Hz (g)	120 / 1 / 60		120 / 1 / 60		120 / 1 / 60	
Ampacity (Amps)	13.9		14.1		14.1	
Max. Overcurrent Protection (Amps)	15		15		15	

Table 4. Models S9X1B080D4PSBB, S9X1C100D5PSBB, S9X1D120D5PSBB, S9B1B080D4PSAB, S9B1C100D5PSAB, and S9B1D120D5PSAB (continued)

Model Number	S9X1B080D4P-SBB	S9B1B080D4P-SAB	S9X1C100D5P-SBB	S9B1C100D5P-SAB	S9X1D120D5P-SBB	S9B1D120D5P-SAB
Pipe Conn. Size (in.)	1/2		1/2		1/2	
Dimensions	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 21 x 28-3/4		34 x 24-1/2 x 28-3/4	
Crated (in.)	35-1/2 x 19-1/2 x 30-7/8		35-1/2 x 23 x 30-7/8		35-1/2 x 26-1/2 x 30-7/8	
Weight						
Shipping (Lbs.)/Net (Lbs.)	135/127		155/145		167/156	

(a) 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.
(b) Central Furnace heating designs are certified to ANSI Z21.47 / CSA 2.3 - Latest Edition
(c) Based on U.S. government standard tests.
(d) 9 Speed constant torque ECM blower motor.
(e) See the Maximum Vent Length Table, p. 19 in this document.
(f) All furnace models have a vent outlet diameter that equals 2-inch.
(g) The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

Airflow Tables

Table 5. Airflow performance - models S9X1B040U3PSBB and S9B1B040U3PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1B040U3PSBB S9B1B040U3PSAB	1	CFM / WATTS	510 / 34	314 / 43	118 / 52	—	—
	2	CFM / WATTS	532 / 36	341 / 45	150 / 54	—	—
	3	CFM / WATTS	877 / 91	748 / 104	620 / 118	491 / 131	362 / 144
	4	CFM / WATTS	933 / 106	813 / 120	693 / 133	573 / 147	452 / 161
	5	CFM / WATTS	1056 / 140	950 / 156	843 / 172	737 / 188	631 / 204
	6	CFM / WATTS	1111 / 157	1009 / 174	908 / 190	806 / 207	705 / 223
	7	CFM / WATTS	1174 / 182	1078 / 199	983 / 216	887 / 233	791 / 251
	8	CFM / WATTS	1376 / 285	1297 / 305	1218 / 325	1140 / 344	1061 / 364
	9	CFM / WATTS	1512 / 382	1445 / 403	1378 / 424	1312 / 445	1245 / 466

Table 6. Airflow performance - models S9X1B060U4PSBB and S9B1B060U4PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1B060U4PSBB S9B1B060U4PSAB	1	CFM / WATTS	840 / 91	702 / 101	565 / 111	427 / 121	290 / 130
	2	CFM / WATTS	1001 / 137	893 / 149	786 / 162	678 / 174	571 / 186
	3	CFM / WATTS	1140 / 193	1051 / 207	963 / 221	875 / 235	786 / 249
	4	CFM / WATTS	1208 / 223	1128 / 238	1048 / 253	969 / 268	889 / 283
	5	CFM / WATTS	1299 / 270	1224 / 284	1148 / 298	1073 / 312	998 / 327
	6	CFM / WATTS	1413 / 343	1348 / 359	1283 / 375	1217 / 391	1152 / 406
	7	CFM / WATTS	1444 / 354	1380 / 370	1315 / 386	1251 / 403	1186 / 419
	8	CFM / WATTS	1727 / 612	1674 / 631	1622 / 650	1570 / 668	1518 / 687
	9	CFM / WATTS	1790 / 694	1741 / 712	1691 / 729	1642 / 747	1593 / 765

Table 7. Airflow performance - models S9X1B080U4PSBB and S9B1B080U4PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1B080U4PSBB S9B1B080U4PSAB	1	CFM / WATTS	911 / 94	766 / 104	622 / 115	477 / 125	332 / 136
	2	CFM / WATTS	1075 / 139	963 / 153	851 / 168	740 / 182	628 / 197
	3	CFM / WATTS	1215 / 185	1121 / 202	1028 / 219	934 / 236	840 / 253
	4	CFM / WATTS	1250 / 203	1164 / 221	1077 / 239	990 / 257	903 / 274
	5	CFM / WATTS	1349 / 251	1272 / 271	1194 / 291	1116 / 310	1039 / 330
	6	CFM / WATTS	1453 / 313	1387 / 335	1321 / 356	1254 / 378	1188 / 400
	7	CFM / WATTS	1505 / 340	1438 / 362	1372 / 384	1305 / 406	1239 / 427
	8	CFM / WATTS	1657 / 453	1597 / 477	1538 / 500	1479 / 524	1419 / 547
	9	CFM / WATTS	1878 / 669	1815 / 686	1752 / 702	1690 / 718	1627 / 735

Table 8. Airflow performance - models S9X1C080U5PSBB and S9B1C080U5PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1C080U5PSBB S9B1C080U5PSAB	1	CFM / WATTS	643 / 45	384 / 53	125 / 62	—	—
	2	CFM / WATTS	1125 / 126	982 / 142	838 / 158	694 / 174	551 / 190
	3	CFM / WATTS	1192 / 140	1038 / 157	884 / 174	730 / 191	576 / 208
	4	CFM / WATTS	1509 / 245	1377 / 268	1246 / 291	1115 / 314	983 / 337
	5	CFM / WATTS	1548 / 257	1428 / 281	1308 / 304	1187 / 328	1067 / 352
	6	CFM / WATTS	1602 / 320	1467 / 345	1331 / 371	1196 / 396	1061 / 421
	7	CFM / WATTS	1640 / 352	1512 / 379	1383 / 406	1255 / 433	1127 / 459
	8	CFM / WATTS	1831 / 521	1778 / 550	1726 / 579	1673 / 608	1621 / 637
	9	CFM / WATTS	2351 / 886	2278 / 918	2204 / 950	2131 / 982	2058 / 1014

Table 9. Airflow performance - models S9X1C100U5PSBB and S9B1C100U5PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1C100U5PSBB S9B1C100U5PSAB	1	CFM / WATTS	1013 / 104	847 / 116	680 / 129	514 / 142	348 / 155
	2	CFM / WATTS	1261 / 168	1126 / 185	990 / 202	854 / 219	718 / 236
	3	CFM / WATTS	1519 / 267	1407 / 290	1296 / 313	1184 / 336	1072 / 358
	4	CFM / WATTS	1554 / 283	1446 / 307	1337 / 330	1229 / 353	1120 / 377
	5	CFM / WATTS	1749 / 385	1651 / 411	1554 / 436	1457 / 462	1359 / 488
	6	CFM / WATTS	1868 / 464	1778 / 491	1688 / 519	1599 / 546	1509 / 574
	7	CFM / WATTS	2018 / 573	1936 / 602	1853 / 631	1770 / 660	1688 / 689
	8	CFM / WATTS	2191 / 718	2112 / 750	2033 / 782	1954 / 815	1875 / 847
	9	CFM / WATTS	2395 / 966	2303 / 981	2212 / 996	2120 / 1012	2028 / 1027

Table 10. Airflow performance - models S9X1D120U5PSBB and S9B1D120U5PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1D120U5PSBB S9B1D120U5PSAB	1	CFM / WATTS	707 / 46	443 / 55	179 / 64	—	—
	2	CFM / WATTS	1344 / 163	1218 / 183	1092 / 202	966 / 222	840 / 241
	3	CFM / WATTS	1532 / 225	1419 / 247	1307 / 268	1195 / 290	1083 / 312
	4	CFM / WATTS	1584 / 247	1477 / 270	1370 / 292	1263 / 315	1156 / 338
	5	CFM / WATTS	1915 / 401	1818 / 428	1722 / 454	1625 / 480	1529 / 506
	6	CFM / WATTS	2104 / 525	2016 / 553	1927 / 582	1839 / 610	1750 / 639
	7	CFM / WATTS	2132 / 546	2045 / 575	1958 / 604	1870 / 633	1783 / 662
	8	CFM / WATTS	2410 / 833	2328 / 868	2247 / 903	2165 / 937	2084 / 972
	9	CFM / WATTS	2472 / 909	2401 / 944	2329 / 979	2257 / 1013	2186 / 1048

Airflow Tables

Table 11. Airflow performance - models S9X1B040D3PSBB and S9B1B040D3PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1B040D3PSBB S9B1B040D3PSAB	1	CFM / WATTS	378 / 28	153 / 32	—	—	—
	2	CFM / WATTS	514 / 35	330 / 45	145 / 55	- / 64	- / 74
	3	CFM / WATTS	765 / 69	618 / 81	471 / 93	324 / 105	178 / 116
	4	CFM / WATTS	827 / 81	691 / 94	554 / 106	418 / 119	281 / 132
	5	CFM / WATTS	988 / 124	879 / 140	770 / 156	661 / 171	553 / 187
	6	CFM / WATTS	1085 / 156	986 / 173	887 / 190	787 / 207	688 / 224
	7	CFM / WATTS	1125 / 170	1030 / 188	934 / 205	839 / 222	743 / 239
	8	CFM / WATTS	1129 / 170	1035 / 187	941 / 204	847 / 221	753 / 239
	9	CFM / WATTS	1492 / 369	1419 / 390	1346 / 411	1273 / 431	1200 / 452

Table 12. Airflow performance - models S9X1B060D3PSBB and S9B1B060D3PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1B060D3PSBB S9B1B060D3PSAB	1	CFM / WATTS	624 / 47	451 / 57	277 / 68	104 / 79	—
	2	CFM / WATTS	866 / 89	734 / 102	602 / 116	470 / 129	338 / 142
	3	CFM / WATTS	949 / 113	833 / 128	718 / 142	602 / 156	486 / 171
	4	CFM / WATTS	1122 / 165	1025 / 182	928 / 200	831 / 217	733 / 235
	5	CFM / WATTS	1178 / 191	1087 / 209	996 / 227	905 / 246	814 / 264
	6	CFM / WATTS	1260 / 233	1180 / 252	1100 / 271	1021 / 290	941 / 309
	7	CFM / WATTS	1370 / 296	1299 / 316	1228 / 336	1158 / 355	1087 / 375
	8	CFM / WATTS	1480 / 365	1416 / 387	1352 / 408	1287 / 429	1223 / 450
	9	CFM / WATTS	1504 / 384	1440 / 406	1376 / 427	1312 / 449	1249 / 470

Table 13. Airflow performance - models S9X1B080D4PSBB and S9B1B080D4PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1B080D4PSBB S9B1B080D4PSAB	1	CFM / WATTS	499 / 36	306 / 43	113 / 49	—	—
	2	CFM / WATTS	1017 / 143	922 / 158	828 / 173	734 / 188	640 / 203
	3	CFM / WATTS	1119 / 176	1029 / 192	940 / 207	850 / 223	761 / 239
	4	CFM / WATTS	1205 / 215	1125 / 233	1044 / 250	964 / 268	883 / 285
	5	CFM / WATTS	1237 / 231	1160 / 250	1083 / 268	1006 / 286	928 / 305
	6	CFM / WATTS	1378 / 315	1309 / 334	1240 / 354	1172 / 373	1103 / 393
	7	CFM / WATTS	1453 / 360	1389 / 380	1324 / 399	1260 / 419	1195 / 439
	8	CFM / WATTS	1618 / 496	1562 / 518	1505 / 540	1449 / 561	1392 / 583
	9	CFM / WATTS	1794 / 682	1742 / 704	1691 / 726	1639 / 748	1587 / 770

Table 14. Airflow performance - models S9X1C100D5PSBB and S9B1C100D5PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1C100D5PSBB S9B1C100D5PSAB	1	CFM / WATTS	1002 / 103	823 / 117	644 / 130	465 / 144	285 / 157
	2	CFM / WATTS	1385 / 223	1276 / 243	1167 / 264	1057 / 284	948 / 304
	3	CFM / WATTS	1527 / 286	1430 / 310	1333 / 333	1236 / 357	1139 / 380
	4	CFM / WATTS	1610 / 328	1516 / 352	1421 / 377	1326 / 401	1231 / 425
	5	CFM / WATTS	1761 / 433	1677 / 459	1593 / 486	1509 / 512	1425 / 538
	6	CFM / WATTS	1861 / 492	1783 / 520	1706 / 549	1628 / 577	1551 / 605
	7	CFM / WATTS	1984 / 548	1902 / 577	1820 / 606	1738 / 635	1656 / 663
	8	CFM / WATTS	2173 / 728	2097 / 760	2020 / 792	1944 / 824	1867 / 856
	9	CFM / WATTS	2342 / 945	2269 / 973	2196 / 1002	2123 / 1031	2050 / 1060

Table 15. Airflow performance - models S9X1D120D5PSBB and S9B1D120D5PSAB

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**		**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S9X1D120D5PSBB S9B1D120D5PSAB	1	CFM / WATTS	680 / 47	419 / 56	159 / 66	—	—
	2	CFM / WATTS	1481 / 236	1372 / 259	1264 / 282	1155 / 304	1046 / 327
	3	CFM / WATTS	1566 / 268	1461 / 292	1357 / 316	1253 / 340	1149 / 363
	4	CFM / WATTS	1803 / 393	1711 / 420	1619 / 446	1527 / 472	1435 / 498
	5	CFM / WATTS	1891 / 445	1801 / 472	1711 / 500	1621 / 527	1532 / 555
	6	CFM / WATTS	2132 / 568	2025 / 601	1919 / 633	1812 / 666	1705 / 698
	7	CFM / WATTS	2154 / 644	2068 / 675	1982 / 705	1896 / 736	1810 / 766
	8	CFM / WATTS	2344 / 837	2267 / 870	2190 / 902	2113 / 934	2035 / 967
	9	CFM / WATTS	2414 / 896	2333 / 928	2251 / 961	2170 / 993	2088 / 1026

CFM Versus Temperature Rise

Table 16. Heating table - upflow

CFM VS. Temperature Rise																		
Model	**CFM (Cubic Feet Per Minute)**																	
	600	**700**	**800**	**900**	**1000**	**1100**	**1200**	**1300**	**1400**	**1500**	**1600**	**1700**	**1800**	**1900**	**2000**	**2100**	**2200**	**2300**
S9X1B040U3PSBB S9B1B040U3PSAB	60	51	45	40	36	33	30	—	—	—	—	—	—	—	—	—	—	—
S9X1B060U4PSBB S9B1B060U4PSAB	—	—	—	60	54	49	45	42	39	36	34	32	30	—	—	—	—	—
S9X1B080U4PSBB S9B1B080U4PSAB	—	—	—	—	72	65	60	55	51	48	45	—	—	—	—	—	—	—
S9X1C080U5PSBB S9B1C080U5PSAB	—	—	—	—	—	65	60	55	51	48	45	42	40	—	—	—	—	—
S9X1C100U5PSBB S9B1C100U5PSAB	—	—	—	—	—	—	—	68	63	59	55	52	49	47	44	42	40	—
S9X1D120U5PSBB S9B1D120U5PSAB	—	—	—	—	—	—	—	—	—	—	66	63	59	56	53	51	48	46

Table 17. Heating table - downflow

CFM VS. Temperature Rise																		
MODEL	**CFM (Cubic Feet Per Minute)**																	
	600	**700**	**800**	**900**	**1000**	**1100**	**1200**	**1300**	**1400**	**1500**	**1600**	**1700**	**1800**	**1900**	**2000**	**2100**	**2200**	**2300**
S9X1B040D3PSBB S9B1B040D3PSAB	60	51	45	40	36	33	30	—	—	—	—	—	—	—	—	—	—	—
S9X1B060D3PSBB S9B1B060D3PSAB	—	—	—	60	54	49	45	42	39	36	—	—	—	—	—	—	—	—
S9X1B080D4PSBB S9B1B080D4PSAB	—	—	—	—	71	64	59	55	51	47	—	—	—	—	—	—	—	—
S9X1C100D5PSBB S9B1C100D5PSAB	—	—	—	—	—	—	—	69	64	60	56	53	50	47	45	43	41	—
S9X1D120D5PSBB S9B1D120D5PSAB	—	—	—	—	—	—	—	—	—	71	66	63	59	56	53	51	48	46

Maximum Vent Length Table

Table 18. Maximum vent length table

Model	2-Inch or 2.5-Inch Pipe	3-Inch or 4-Inch Pipe
Altitude 0-2,000 ft.		
S9*1B040U3, S9*1B040D3, S9*1B060D3, S9*1B060U4	200	200
S9*1B080U4, S9*1B080D4, S9*1C080U5	100	200
S9*1C100U5, S9*1C100D5	50	200
S9*1D120U5, S9*1D120D5	[a]	200
Altitude 2,001- 5400 ft.		
S9*1B040U3, S9*1B040D3, S9*1B060D3, S9*1B060U4	200	200
S9*1B080U4, S9*1B080D4, S9*1C080U5	80	120
S9*1C100U5, S9*1C100D5	50	150
S9*1D120U5, S9*1D120D5	[a]	200
Altitude 5,401-7,800 ft.		
S9*1B040U3, S9*1B040D3, S9*1B060D3, S9*1B060U4	100	150
S9*1B080U4, S9*1B080D4, S9*1C080U5	50	70
S9*1C100U5, S9*1C100D5	[a]	100
S9*1D120U5, S9*1D120D5	[a]	100
Altitude 7,801-10,100 ft.		
S9*1B040U3, S9*1B040D3, S9*1B060D3, S9*1B060U4	50	90
S9*1B080U4, S9*1B080D4, S9*1C080U5	[a]	50
S9*1C100U5, S9*1C100D5	[a]	50
S9*1D120U5, S9*1D120D5	[a]	50

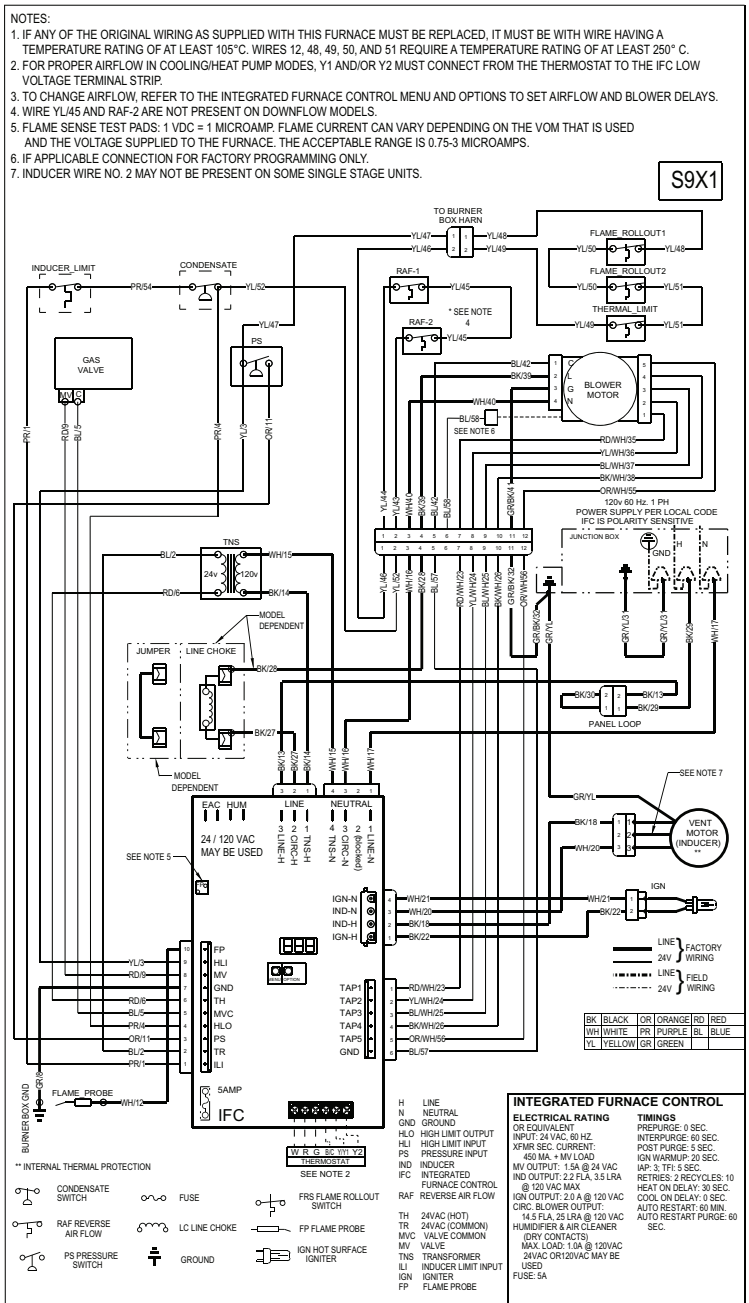
Notes:

1. *For PolyPro® by Duravent, Z-DENS by Novaflex Group, InnoFlue® by Centrotherm, ECCO ™ polypropylene venting system, 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 5. Refer to the venting system manufacturer's installation instruction for appropriate venting diameters and equivalent lengths.*
2. *Minimum vent length for all models: 15ft equivalent.*
3. *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 6 below for exception). The inlet pipe can be of a larger diameter, but never smaller than the vent pipe.*
4. *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).*
5. *One short radius 90° elbow is equivalent to 10ft of 4-inch pipe, 10ft of 3-inch pipe, or 8ft of 2-inch pipe. One long radius elbow is equivalent to 6ft of 4-inch pipe, 7ft of 3-inch pipe, or 5ft of 2-inch pipe. Two 45° elbows equal one 90° long elbow. One mitered elbow is equivalent to 12ft of 3-inch pipe or 12ft of 2-inch pipe.*
6. *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.*
7. *For Canadian applications, venting systems must meet ULC-S636 requirements.*
8. *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).*
9. ** represents X or B*

[a] Not allowed

Wiring Diagrams

Figure 1. S9X1 wiring diagram



1 Stage Inducer with CTM Blower Motor

	Status Codes						
idL	Idle	HOd		Heat Off Delay (sec)	E31	Shorted Pressure Switch
HE	Heating	COF		Blower Tap for Continuous Fan	E32	Open Pressure Switch
tP	Blower Tap Number	COP	C1	Blower Tap for 1st Stage Compressor Mode	E04	Open Thermal Limit, Rollout Switch, or Reverse Airflow Switch
COF	Continuous Fan				E05	Flame detected, should not be present
CP1	1st Stage Cooling/ 1st Stage Heat Pump		C2	Blower Tap for 2nd Stage Compressor Mode	E61	Voltage reversed polarity
					E62	Bad Grounding
CP2	2nd Stage Cooling/ 2nd Stage Heat Pump	HEP	H1	Blower Tap for Heating Mode	E63	(1) Igniter relay fails (2) Igniter open
		rUn		Run Test Mode		
dFt	Defrost Mode				E71	Gas valve is energized when it should be off
	Menu Options			Error Codes	E08	Flame current is low, but still strong enough to allow operation
Err	Active Alarm Menu	E01		Loss of the IRQ/other internal failures	E09	Open Inducer Limit Switch or Condensate Switch
LGF	Last 6 Faults (To Clear, Hold Option Button 5 sec)	E21		Retry exceeded (Failed to est flame)		
		E22		Recycles exceeded (loss of established flame) 10X or PS open	E11	(1) Gas valve not energized (2) Gas valve relay stuck closed
Cr	Code Release Number					
CUd	Cooling Off Delay (sec)	E23		Gas Valve not energized when it should be exceeded after 10 times	E12	Open fuse
OdU	Outdoor Unit					

Figure 2. S9X1 ladder diagram

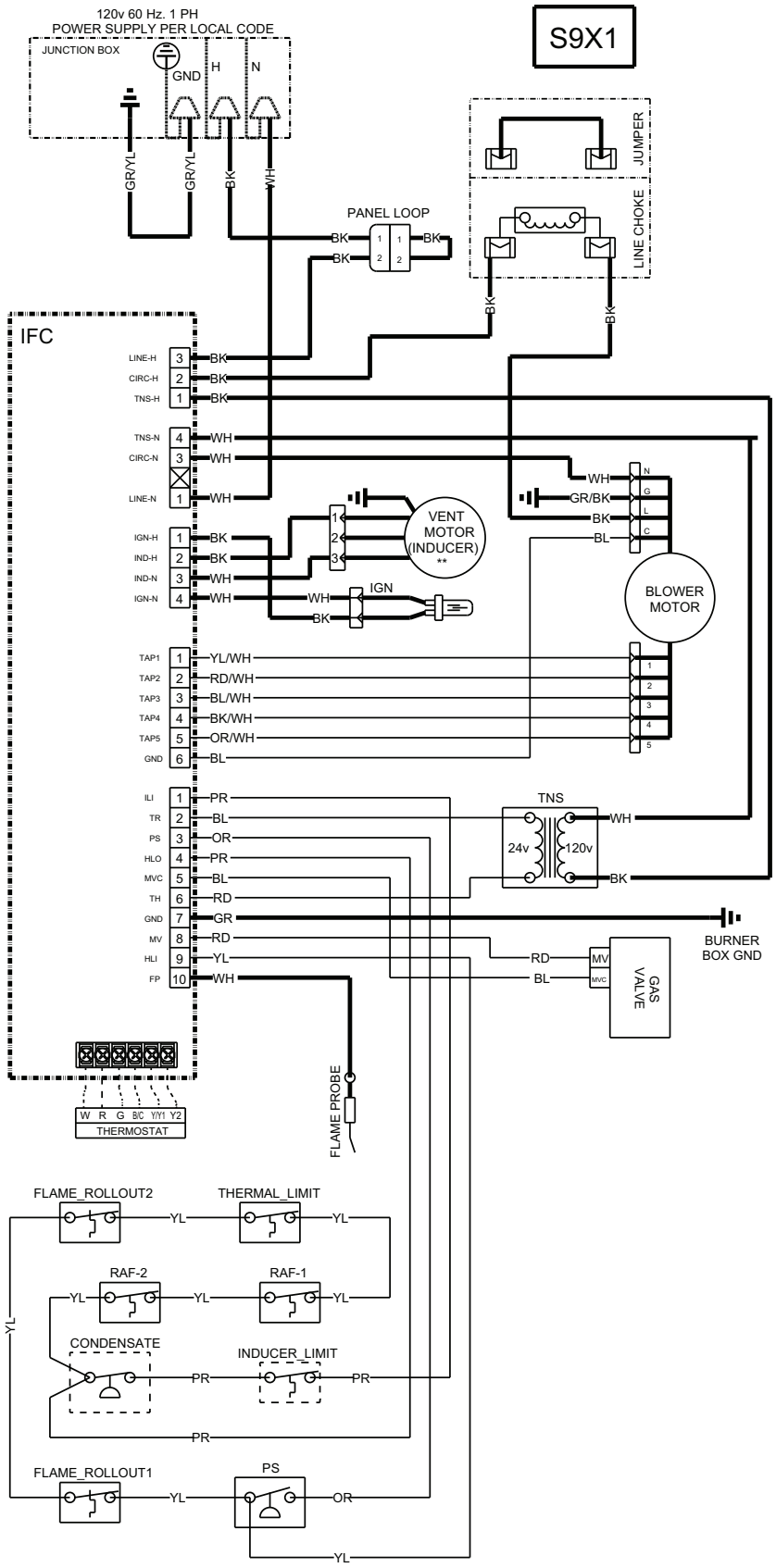
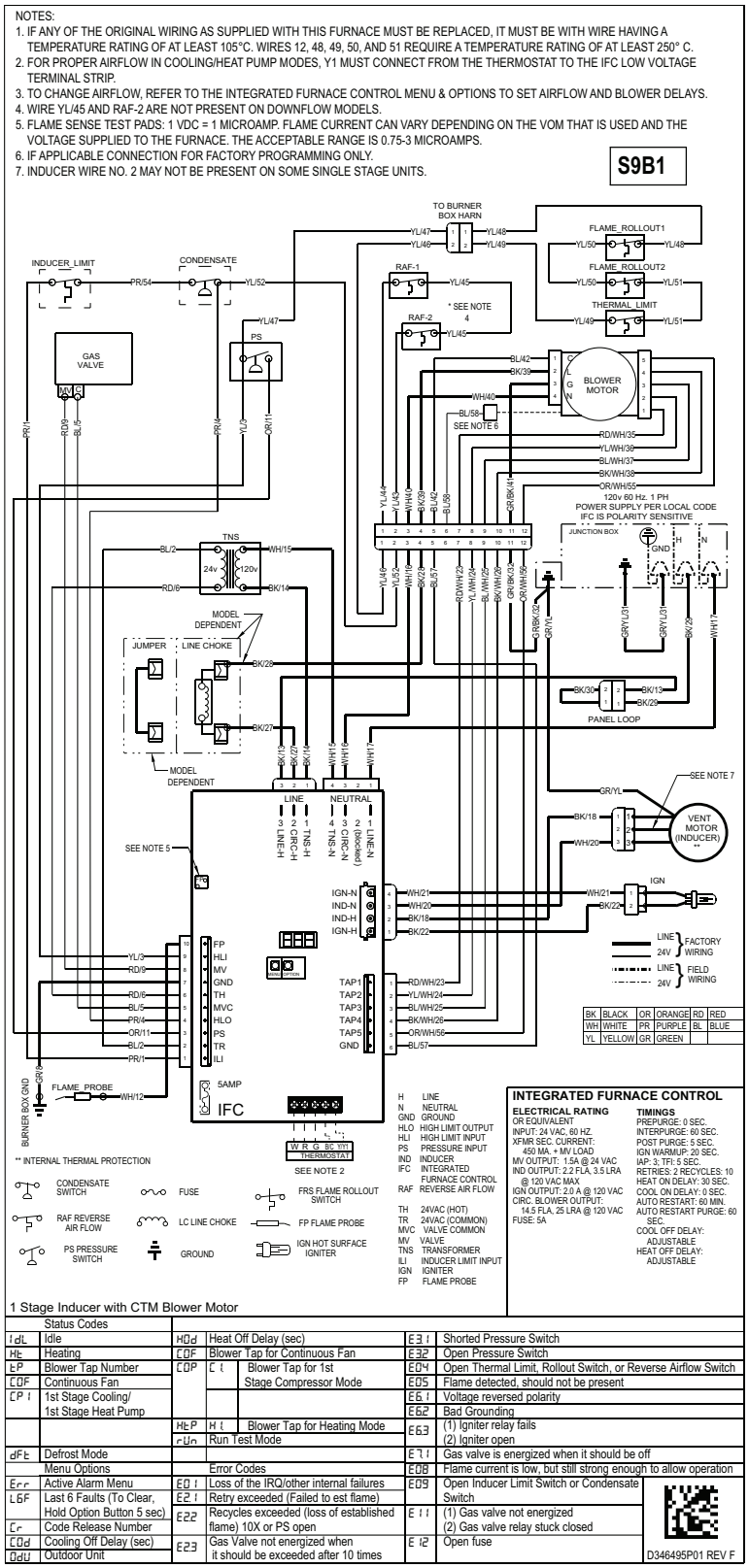
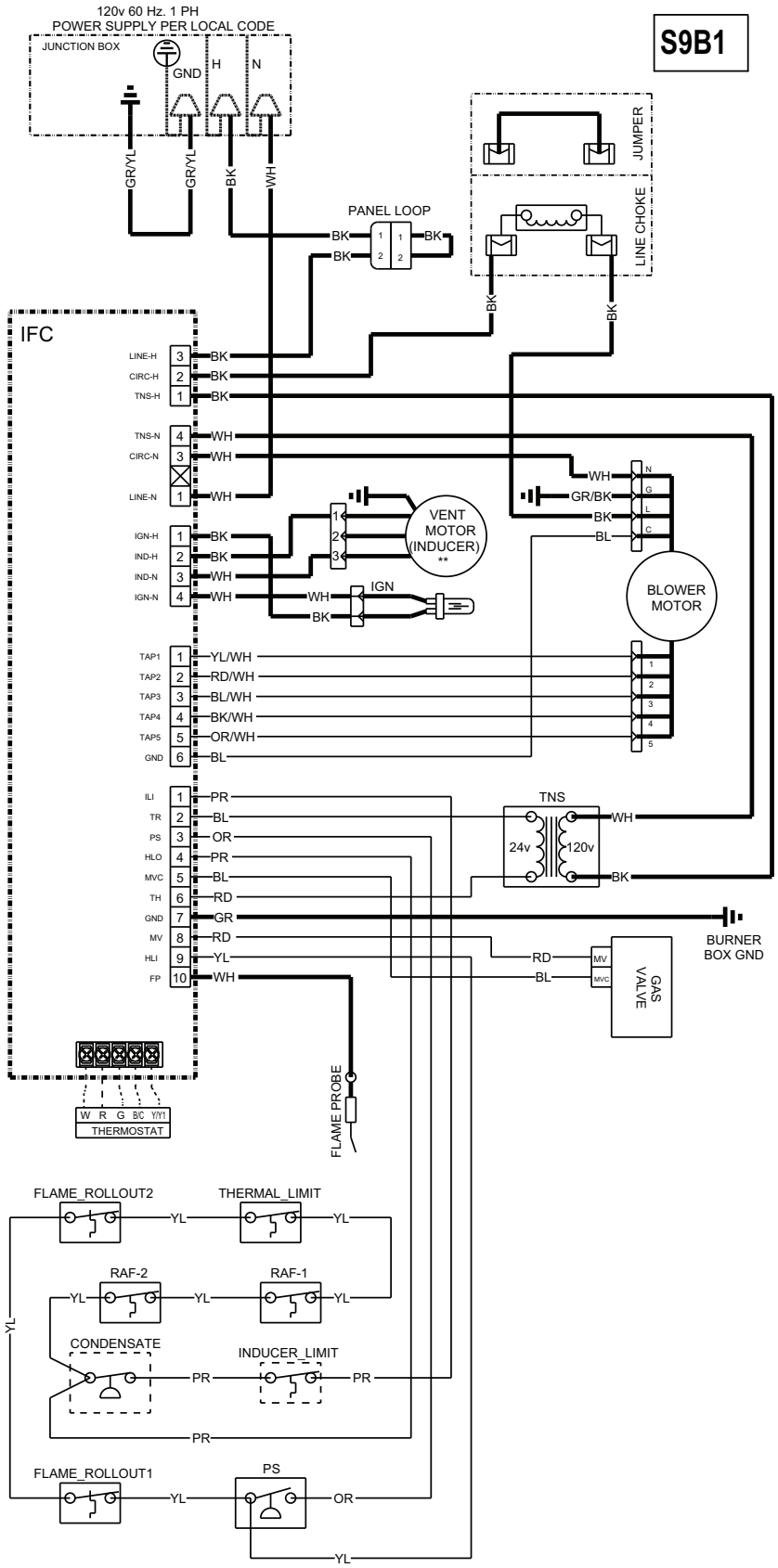


Figure 3. S9B1 wiring diagram



	Status Codes						
idL	Idle	HOd	Heat Off Delay (sec)		E31	Shorted Pressure Switch
HE	Heating	COF	Blower Tap for Continuous Fan		E32	Open Pressure Switch
tP	Blower Tap Number	COP	C1 Blower Tap for 1st Stage Compressor Mode		E04	Open Thermal Limit, Rollout Switch, or Reverse Airflow Switch
COF	Continuous Fan				E05	Flame detected, should not be present
CP1	1st Stage Cooling/ 1st Stage Heat Pump				E61	Voltage reversed polarity
					E62	Bad Grounding
		HtP	H1 Blower Tap for Heating Mode		E63	(1) Igniter relay fails (2) Igniter open
		rUn	Run Test Mode			
dFt	Defrost Mode				E71	Gas valve is energized when it should be off
	Menu Options		Error Codes		E08	Flame current is low, but still strong enough to allow operation
Err	Active Alarm Menu	E01	Loss of the IRQ/other internal failures		E09	Open Inducer Limit Switch or Condensate Switch
L6F	Last 6 Faults (To Clear, Hold Option Button 5 sec)	E21	Retry exceeded (Failed to est flame)			
		E22	Recycles exceeded (loss of established flame) 10X or PS open		E11	(1) Gas valve not energized (2) Gas valve relay stuck closed
Cr	Code Release Number					
COd	Cooling Off Delay (sec)	E23	Gas Valve not energized when it should be exceeded after 10 times		E12	Open fuse
Odu	Outdoor Unit					

Figure 4. S9B1 ladder diagram



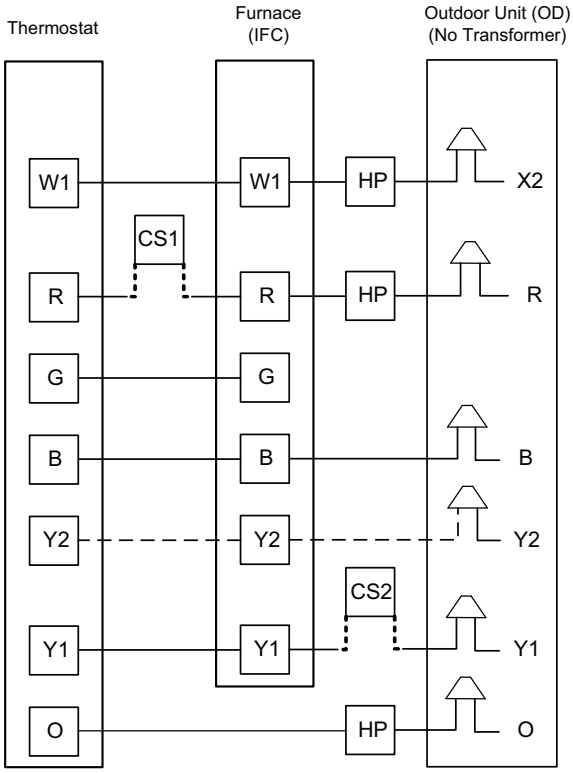
Electrical Connections

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, 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.

See the “,” section in this document and unit wiring diagram attached to furnace.

Field Wiring

Figure 5. S9B1/S9X1 with one or two stage AC or HP



Notes:
1) HP = Wiring used for Heat Pump System.
2) CS = wiring used for Condensate Switch (2 Options).
3) Y1 and/or Y2 must be connected from the thermostat to the IFC for proper airflow.
4) A/TCONT824 thermostats do not require the use of X2.
5) Recommended 1st stage airflow is 75% of total airflow.
6) Y2 and EAC/HUM terminals not available on S9B1.

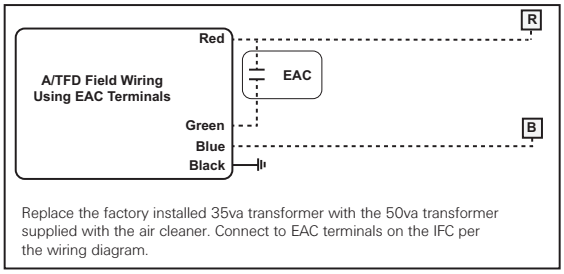
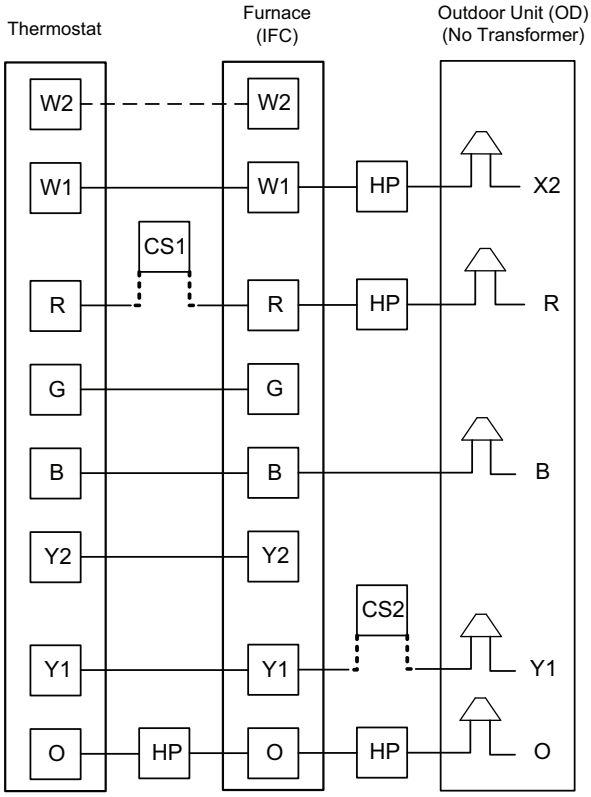
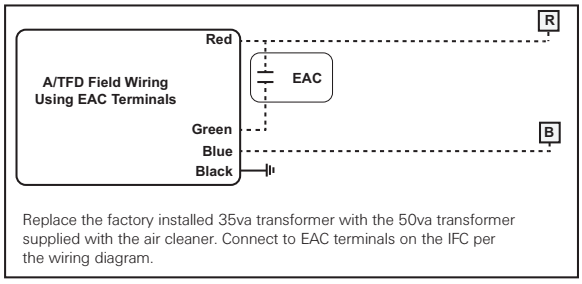


Figure 6. S9X1 with single stage AC or HP with two stage airflow



Notes:
1) HP = Wiring used for Heat Pump System.
2) CS = wiring used for Condensate Switch (2 Options).
3) Y1 and Y2 must be connected from the thermostat to the IFC for proper airflow.
4) Thermostat must be setup for 2 stage OD.
5) IFC Must be setup for 2 stage OD using the Menu/Option Buttons.
6) For S9X2, remove Y1-O jumper for HP systems. O terminal must be connected as shown for gas heating operation during defrost.
7) Recommended 1st stage airflow is 75% of total airflow.
8) A/TCONT824 thermostats do not require the use of X2.
9) W2 and O not available for S9B1 or S9X1.
10) EAC/HUM terminals not available on S9B1.



Replace the factory installed 35va transformer with the 50va transformer supplied with the air cleaner. Connect to EAC terminals on the IFC per the wiring diagram.

Dimensional Data

Figure 7. 17.5-inch, 21.0-inch, and 24.5-inch upflow cabinet

CABINET SIZE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"
"B" SIZE	17-9/16"	8-13/16"	16-3/16"	15-3/4"	17-11/16"
"C" SIZE	21-1/16"	10-9/16"	19-11/16"	19-1/4"	21-3/16"
"D" SIZE	24-9/16"	12-5/16"	23-3/16"	22-3/4"	24-11/16"

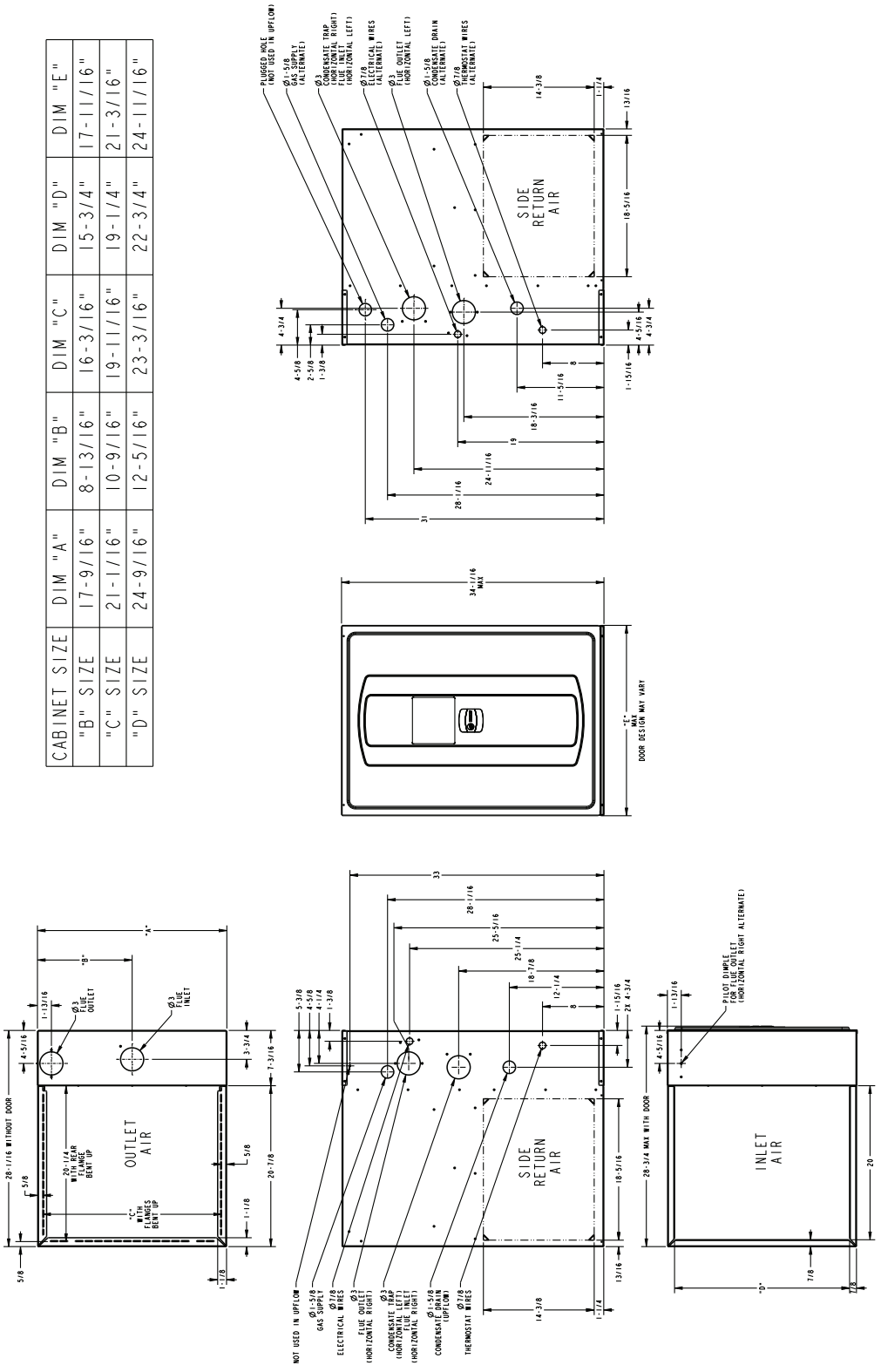
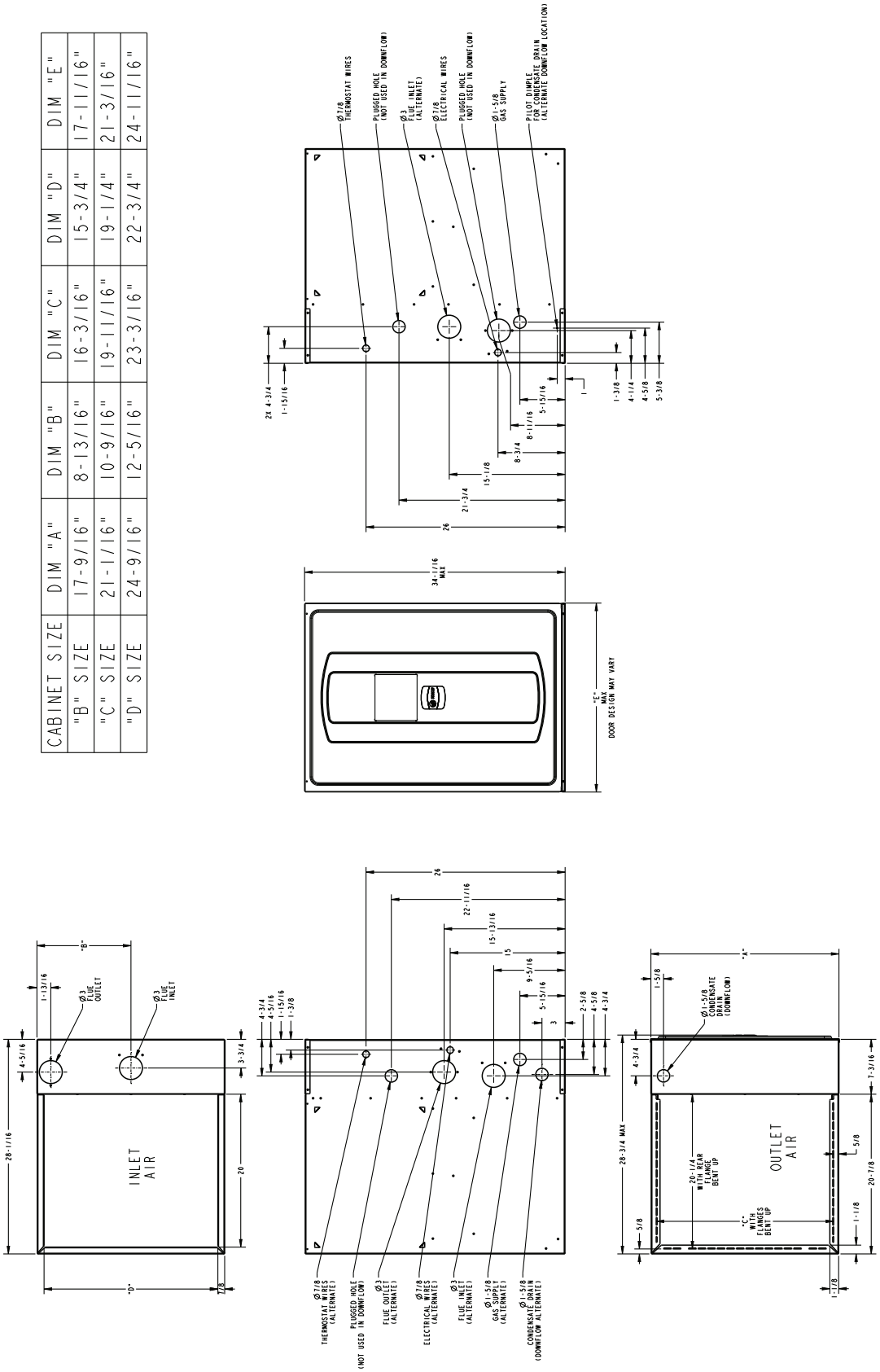


Figure 8. 17.5-inch, 21.0-inch, and 24.5-inch downflow cabinet

CABINET SIZE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"
"B" SIZE	17-9/16"	8-13/16"	16-3/16"	15-3/4"	17-11/16"
"C" SIZE	21-1/16"	10-9/16"	19-11/16"	19-1/4"	21-3/16"
"D" SIZE	24-9/16"	12-5/16"	23-3/16"	22-3/4"	24-11/16"



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