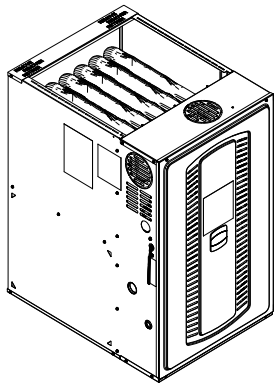
Submittal

Upflow / Downflow / Horizontal Left/Right
Single Stage Non-condensing
Gas Fired Furnace
120,000 BTUH

S8B1D120M5PSCA/C



Note: *Models may have a "T" in the 12th digit designating they meet California less than 40 ng/J (NOx) emissions requirements.*

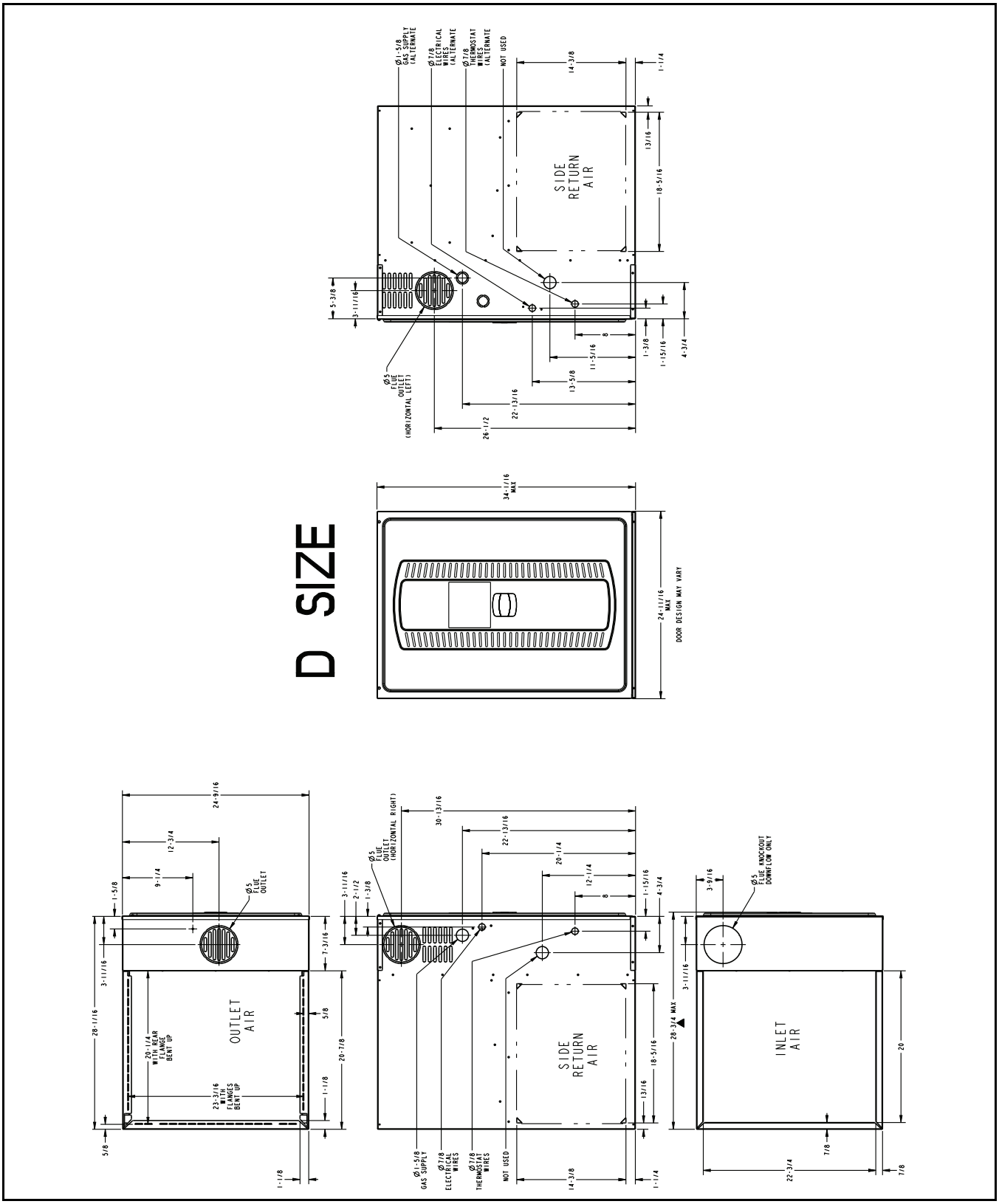
Note: *Graphics in this document are for representation only. Actual model may differ in appearance.*

April 2024

S8B1D120M5-SUB-2F-EN

Outline Drawing

Table 1. 24.5″ Width Cabinet



Product Specifications

MODEL	S8B1D120M5PSCA/C [a]
Type	Upflow / Horizontal / Downflow
RATINGS [b]	
Input BTUH	120,000
Capacity BTUH (ICS) [c]	98,000
Temp. Rise (Min. - Max.) °F	35 - 65
AFUE - Rating [c]	80
Return Air Temp. (Min. - Max.) °F	55°F - 80°F
BLOWER DRIVE	DIRECT
Diameter - Width (in.)	11 X 11
No. Used	1
Speeds (No.) [d]	CTM - 9
CFM vs. in. w.g.	See Fan Performance Table
Motor HP	1
R.P.M.	1050
Volts / Ph / Hz	120 / 1 / 60
FLA	10.9
COMBUSTION FAN - Type	PSC
Drive - No. Speeds	Direct - 1
Motor RPM	3300 / 3025
Volts/Ph/Hz	120 / 1 / 60
FLA	0.33 / 0.57
Inducer Orifice	2.15
FILTER - Furnished?	No
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 24 X 25 - 1 in.

MODEL	S8B1D120M5PSCA/C [a]
VENT PIPE DIAMETER - Min. (in.) [e]	4 Round
HEAT EXCHANGER - Type	Aluminized Steel
Gauge (Fired)	20 - 19
ORIFICES - Main	
Nat. Gas Qty. - Drill Size	6 - 45
L.P. Gas Qty. - Drill Size	6 - 56
GAS VALVE	Redundant - Single Stage
PILOT SAFETY DEVICE - Type	120 V SiNi Igniter
BURNERS - QTY	6
POWER CONN. - V/Ph/HZ [f]	120 / 1 / 60
Ampacity (Amps)	14.1 / 14.4
Max. Overcurrent Protection (Amps)	15
PIPE CONN. SIZE (IN.)	1/2
DIMENSIONS	H x W x D
Uncrated (in.)	34 x 24.5 x 28.75
Crated (in.)	35.5 x 26.5 x 30.87
WEIGHT	
Shipping (Lbs.)/Net (Lbs.)	160 / 152

[a] Central Furnace heating designs are certified to ANSI Z21.47 - latest edition.
[b] 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.
[c] Based on U.S. government standard tests.
[d] 9 Speed constant torque ECM Blower Motor.
[e] Refer to the Installer's Guide.
[f] The above wiring specifications are in accordance with National Electric Code, however, installations must comply with local codes.

Airflow Table

Furnace Airflow (CFM) Vs. External Static Pressure (in. W.C.)							
Model	**Tap**	**Static**	**0.1**	**0.3**	**0.5**	**0.7**	**0.9**
S8B1D120M5PSC	**1**	**SCFM**	1469	912	355		
		Watts	184	126	68		
	2	**SCFM**	1429	1165	900	636	371
		Watts	175	171	168	164	160
	3	**SCFM**	1567	1401	1235	1069	903
		Watts	215	232	248	264	280
	4	**SCFM**	1858	1731	1605	1478	1351
		Watts	334	361	388	415	441
	5	**SCFM**	2004	1890	1776	1662	1548
		Watts	418	447	476	505	534
	6	**SCFM**	2110	2004	1898	1792	1686
		Watts	488	518	549	580	611
	7	**SCFM**	2245	2148	2052	1956	1860
		Watts	596	629	662	695	729
	8	**SCFM**	2440	2345	2250	2155	2060
		Watts	765	794	824	854	884
	9	**SCFM**	2536	2431	2325	2220	2114
		Watts	882	904	927	949	972

CFM Versus Temperature Rise

S8B1 Furnaces have one stage heating

Table 2. S8B1

Model	CFM Versus Temperature Rise																				
	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
S8B1D120M5PSC												59	56	52	49	47	44	42	40	39	37

General Features

NATURAL GAS MODELS

Central Heating furnace designs are certified by Intertek 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 aluminized steel heat exchanger** quickly transfers heat to provide warm conditioned air to the structure. **Low energy power vent blower,** to increase efficiency and provide a 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.

ENERGY EFFICIENT OPERATION

Air-Tite™ cabinet design is certified to <1% air leakage per ASHRAE 193 “Method of Test for Determining the Airtightness of HVAC Equipment.”

AIR DELIVERY

The 9 speed constant torque blower motor has sufficient airflow for most heating and cooling requirements and will switch from heating to cooling speeds on demand from room thermostat.

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

80% AFUE on S8B1 FURNACE MODELS

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

4–WAY MULTI-POISE

8 SKU's — Upflow / Downflow / Horizontal Left / Horizontal Right

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

Open vestibule design provides a full 34" high open vestibule for ease of installation and service

DIMENSIONS

Width is industry standard: 24.5"

Depth remains approximately 28"

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

All Molex connections; no spade terminals

Low voltage labeled above and below

Rain shield over IFC keeps condensate off the control

TUBULAR ALUMINIZED STEEL HEAT EXCHANGER

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

Improved airflow efficiency

Durable, easy to clean, housing

Single piece belly band/ motor arm assembly

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

FOUR–WAY MULTI-POISE (UPFLOW, DOWNFLOW, HORIZONTAL LEFT AND RIGHT)

Easier to specify

Shipped ready to install (no conversion kits required)

Every model has at least two venting options

About Trane and American Standard Heating and Air Conditioning

Trane and American Standard create comfortable, energy efficient indoor environments for residential applications. For more information, please visit www.trane.com or www.americanstandardair.com.



Intertek

The manufacturer has a policy of continuous data improvement and it reserves the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.

S8B1D120M5-SUB-2F-EN 08 Apr 2024

Supersedes S8B1D120M5-SUB-2E-EN (March 2023)

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