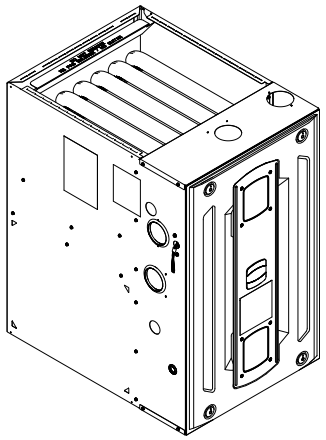
Submittal

Upflow/Horizontal Left/Right
Two Stage Condensing
Gas Fired Furnace
40,000 BTUH

Upflow, Convertible to
Horizontal Right or
Horizontal Left
S9V2B040U3PSBC/D

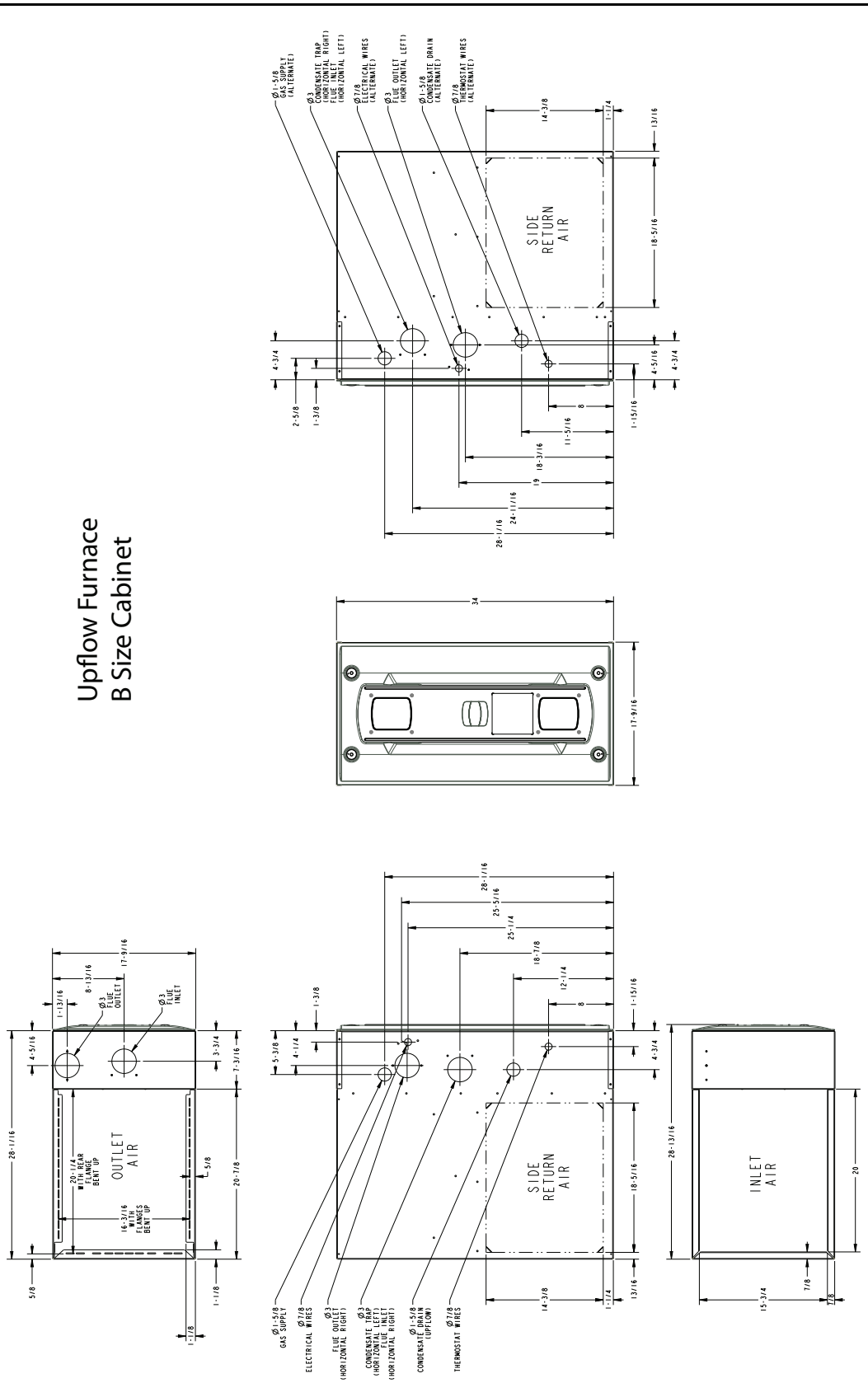


Note: *Graphics in this document are for representation only. Actual model may differ in appearance.*

February 2022

S9V2B040U3-SUB-2B-EN

Outline Drawing



Product Specification

Model	S9V2B040U3PSBC/D [a], [b]
Type	Upflow / Horizontal
RATINGS [c]	
1st Stage Input BTUH	26,000
1st Stage Capacity BTUH (ICS)	25,300
2nd Stage Input BTUH	40,000
2nd Stage Capacity BTUH (ICS) [d]	38,950
1st Stage Temp. Rise (Min. - Max.) °F	25 - 55
2nd Stage Temp. Rise (Min. - Max.) °F	30 - 60
AFUE (%) [d]	96.0
Return Air Temp. (Min. - Max.) °F	45°F - 80°F
BLOWER DRIVE	DIRECT
Diameter - Width (in.)	11 X 8
No. Used	1
Speeds (No.)	Variable
CFM vs. in. w.g.	See Fan Performance Table
Motor HP	1/2
R.P.M.	Variable
Volts / Ph / Hz	120 / 1 / 60
FLA	5.7 / 6.4
COMBUSTION FAN - Type	PSC
Drive - No. Speeds	Direct - 2
Motor RPM	3300/2600
Volts/Ph/Hz	120 / 1 / 60
FLA	0.66
Inducer Orifice	0.61
FILTER - Furnished?	No
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 16 X 25 - 1 in.
VENT OUTLET DIAMETER - MIN. (in.) [e]	2 Round

Model	S9V2B040U3PSBC/D [a], [b]
INLET AIR DIAMETER -MIN. (in.) [e]	2 Round
HEAT EXCHANGER – Type	
Fired	409 Stainless Steel
Unfired	29-4C Stainless Steel
Gauge (Fired)	20
ORIFICES - Main	
Nat. Gas (Qty. - Drill Size)	2 - 45
Propane Gas (Qty. - Drill Size)	2 - 56
GAS VALVE	Redundant - Two Stage
PILOT SAFETY DEVICE – Type	120 V SiNi Igniter
BURNERS - TYPE - QTY	Inshot - 2
POWER CONN. - V/Ph/HZ [f]	120 / 1 / 60
Ampacity (Amps)	7.9 / 8.8
Max. Overcurrent Protection (Amps)	15
PIPE CONN. SIZE (IN.)	1/2
DIMENSIONS	H x W x D
Uncrated (in.)	34 x 17-1/2 x 28-3/4
Crated (in.)	35-1/2 x 19-1/2 x 30-7/8
WEIGHT	
Shipping (Lbs.)/Net (Lbs.)	122/114

[a] Meets Energy Star

[b] Central Furnace heating designs are certified to ANSI Z21.47 / CSA 2.3 - latest edition.

[c] 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.

[d] Based on U.S. government standard tests.

[e] Refer to Vent Length Table in the Installer's Guide.

[f] The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

Heating and Cooling Airflow Tables

Table 1. S9V2B040U3PSBC Heating Airflow

S9V2B040U3PSBC Furnace Heating Airflow (CFM), Temp. Rise (°F), and Power (Watts) vs. External Static Pressure with Filter (iwc)								
				1st Stage Capacity = 25,300 2nd Stage Capacity = 38,950				
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.

Table 2. S9V2B040U3PSBD Heating Airflow

S9V2B040U3PSBD Furnace Heating Airflow (CFM), Temp. Rise (°F), and Power (Watts) vs. External Static Pressure with Filter (iwc)								
				1st Stage Capacity = 25,300 2nd Stage Capacity = 38,950				
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	864	CFM	753	786	818	850	883
			Temp. Rise	30	29	28	27	26
			Watts	87	129	171	214	256
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	1200	CFM	1023	1044	1066	1088	1109
			Temp. Rise	34	34	33	33	32
			Watts	192	251	310	369	428

[a] Factory Setting.

Table 3. S9V2B040U3PSBC/D / S9V2B040D3PSBC/D Cooling Airflow

S9V2B040U3PSBC/D / S9V2B040D3PSBC/D Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter (iwc)								
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/Ton	CFM	675	675	675	675	675
			Watts	47	81	121	166	215
		Cooling 420 CFM/Ton	CFM	630	630	630	630	630
			Watts	40	72	111	154	202
		Cooling 400 CFM/Ton	CFM	600	600	600	600	600
			Watts	36	67	105	147	193
		Cooling 370 CFM/Ton	CFM	555	555	555	555	555
			Watts	30	60	96	136	181
		Cooling 350 CFM/Ton	CFM	525	525	525	525	525
			Watts	27	56	90	130	174
		Cooling 330 CFM/Ton	CFM	495	495	495	495	495
			Watts	24	51	85	124	167
		Cooling 310 CFM/Ton	CFM	465	465	465	465	465
			Watts	21	48	80	118	161
		Cooling 290 CFM/Ton	CFM	435	435	435	435	435
			Watts	19	44	76	113	155
Cooling	2.0 Ton	Cooling 450 CFM/Ton	CFM	900	900	900	900	900
			Watts	94	137	186	240	298
		Cooling 420 CFM/Ton	CFM	840	840	840	840	840
			Watts	79	120	166	218	273
		Cooling 400 CFM/Ton	CFM	800	800	800	800	800
			Watts	70	109	154	204	258
		Cooling 370 CFM/Ton	CFM	740	740	740	740	740
			Watts	58	95	138	185	236
		Cooling 350 CFM/Ton	CFM	700	700	700	700	700
			Watts	51	86	127	173	223
		Cooling 330 CFM/Ton	CFM	660	660	660	660	660
			Watts	44	78	118	162	211
		Cooling 310 CFM/Ton	CFM	620	620	620	620	620
			Watts	38	71	109	152	199
		Cooling 290 CFM/Ton	CFM	580	580	580	580	580
			Watts	33	64	101	142	188
Cooling	2.5 Ton	Cooling 450 CFM/Ton	CFM	1125	1125	1125	1125	1125
			Watts	167	219	278	341	408
		Cooling 420 CFM/Ton	CFM	1050	1050	1050	1050	1050
			Watts	139	188	244	304	368
		Cooling 400 CFM/Ton	CFM	1000	1000	1000	1000	1000
			Watts	123	170	223	281	343
		Cooling 370 CFM/Ton	CFM	925	925	925	925	925
			Watts	100	145	195	250	308
		Cooling 350 CFM/Ton	CFM	875	875	875	875	875
			Watts	87	129	178	230	287
		Cooling 330 CFM/Ton	CFM	825	825	825	825	825
			Watts	121	160	205	254	308
		Cooling 310 CFM/Ton	CFM	775	775	775	775	775
			Watts	101	139	182	229	281
		Cooling 290 CFM/Ton	CFM	725	725	725	725	725
			Watts	88	123	164	210	260
Cooling	3.0 Ton [a]	Cooling 450 CFM/Ton	CFM	1350	1350	1350	1298	1198
			Watts	272	334	402	440	450
		Cooling 420 CFM/Ton	CFM	1260	1260	1260	1260	1198
			Watts	226	284	348	417	450
		Cooling 400 CFM/Ton	CFM	1200	1200	1200	1200	1198
			Watts	198	254	315	381	450
		Cooling 370 CFM/Ton	CFM	1110	1110	1110	1110	1110
			Watts	161	213	271	333	399
		Cooling 350 CFM/Ton [a]	CFM	1050	1050	1050	1050	1050
			Watts	139	188	244	304	368
		Cooling 330 CFM/Ton	CFM	990	990	990	990	990
			Watts	119	166	219	277	338
		Cooling 310 CFM/Ton	CFM	930	930	930	930	930
			Watts	102	146	197	252	311
		Cooling 290 CFM/Ton	CFM	870	870	870	870	870
			Watts	86	128	176	229	285

[a] Factory Setting.

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

96.0% 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

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; 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

DIMENSIONS

Width is industry standard: 17.5"

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

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

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.

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.

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