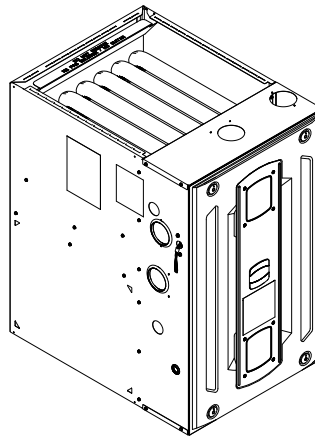


# Submittal

## Upflow/Horizontal Left/Right Two Stage Condensing Gas Fired Furnace 80,000 BTUH

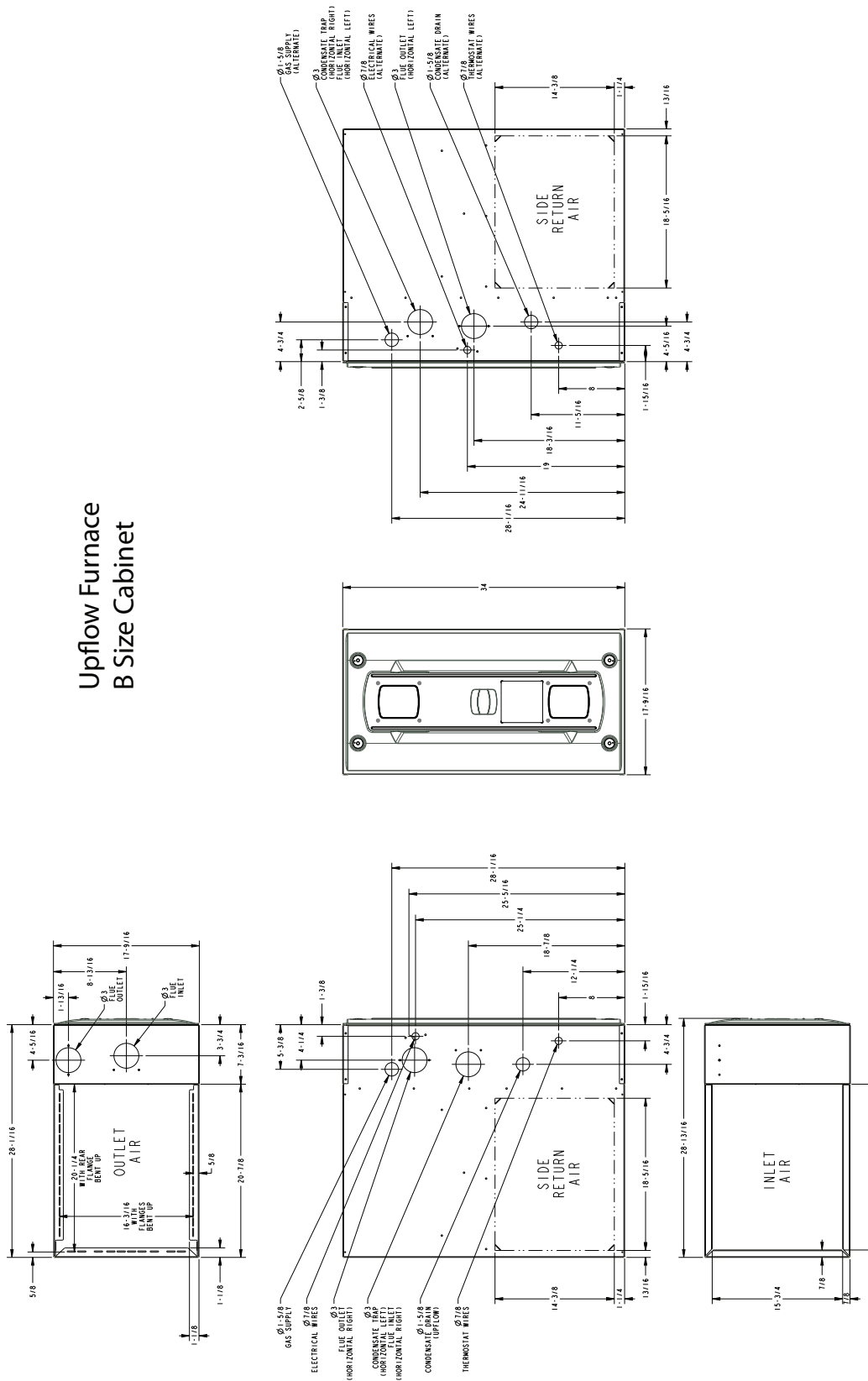
Upflow, Convertible to  
Horizontal Right or  
Horizontal Left  
S9V2B080U4PSBC/D



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

## 2

## Upflow Furnace B Size Cabinet



# Product Specification

Model	S9V2B080U4PSBC/D (a), (b)
Type	Upflow / Horizontal
<b>RATINGS</b> (c)	
1st Stage Input BTUH	52,000
1st Stage Capacity BTUH (ICS)	50,500
2nd Stage Input BTUH	80,000
2nd Stage Capacity BTUH (ICS) (d)	77,700
1st Stage Temp. Rise (Min. - Max.) °F	30 - 60
2nd Stage Temp. Rise (Min. - Max.) °F	35 - 65
AFUE (%) (d)	96.0
Return Air Temp. (Min. - Max.) °F	45°F - 80°F
<b>BLOWER DRIVE</b>	DIRECT
Diameter - Width (in.)	11 X 8
No. Used	1
Speeds (No.)	Variable
CFM vs. in. w.g.	See Fan Performance Table
Motor HP	3/4
R.P.M.	Variable
Volts / Ph / Hz	120 / 1 / 60
FLA	8 / 9.6
<b>COMBUSTION FAN - Type</b>	PSC
Drive - No. Speeds	Direct - 2
Motor RPM	3300/2600
Volts/Ph/Hz	120 / 1 / 60
FLA	0.66
Inducer Orifice	0.96
<b>FILTER - Furnished?</b>	No
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 16 X 25 - 1 in.
<b>VENT OUTLET DIAMETER - MIN. (in.)</b> (e)	2 Round

Model	S9V2B080U4PSBC/D (a), (b)
<b>INLET AIR DIAMETER - MIN. (in.)</b> (e)	2 Round
<b>HEAT EXCHANGER - Type</b>	
Fired	409 Stainless Steel
Unfired	29-4C Stainless Steel
Gauge (Fired)	20
<b>ORIFICES - Main</b>	
Nat. Gas (Qty. - Drill Size)	4 - 45
Propane Gas (Qty. - Drill Size)	4 - 56
<b>GAS VALVE</b>	Redundant - Two Stage
<b>PILOT SAFETY DEVICE - Type</b>	120 V SiNi Igniter
<b>BURNERS - TYPE - QTY</b>	Inshot - 4
<b>POWER CONN. - V/Ph/HZ</b> (f)	120 / 1 / 60
Ampacity (Amps)	10.8 / 12.8
Max. Overcurrent Protection (Amps)	15
<b>PIPE CONN. SIZE (IN.)</b>	1/2
<b>DIMENSIONS</b>	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
<b>WEIGHT</b>	
Shipping (Lbs.)/Net (Lbs.)	135/127

(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. S9V2B080U4PSBC/D Heating Airflow

S9V2B080U4PSBC/D Furnace Heating Airflow (CFM), Temp. Rise (°F), and Power (Watts) vs. External Static Pressure with Filter (iwc)								
				1st Stage Capacity = 50,500 2nd Stage Capacity = 77,700				
Heating	Airflow Setting	Target Airflow		External Static Pressure				
				0.1	0.3	0.5	0.7	0.9
Heating 1st Stage	Low	864	CFM	914	882	849	816	783
			Temp. Rise	51	53	55	57	59
			Watts	90	131	172	213	255
	Medium Low <sup>(a)</sup>	907	CFM	940	912	885	858	831
			Temp. Rise	50	51	53	54	56
			Watts	104	141	178	215	253
	Medium	958	CFM	983	932	881	830	779
			Temp. Rise	47	50	53	55	58
			Watts	118	151	184	218	251
	High	1051	CFM	1029	1068	1107	1146	1185
			Temp. Rise	45	44	42	40	39
			Watts	155	195	235	275	314
Heating 2nd Stage	Low	1200	CFM	1207	1206	1205	1204	1203
			Temp. Rise	60	60	60	60	60
			Watts	206	258	309	361	412
	Medium Low <sup>(a)</sup>	1260	CFM	1260	1261	1262	1263	1264
			Temp. Rise	57	57	57	57	57
			Watts	232	287	342	397	452
	Medium	1330	CFM	1360	1347	1333	1320	1306
			Temp. Rise	53	53	54	54	55
			Watts	263	322	380	439	497
	High	1460	CFM	1420	1439	1458	1477	1496
			Temp. Rise	51	50	49	49	48
			Watts	377	433	489	546	602

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

Table 2. S9V2B080U4PSBC/D / S9V2B080D4PSBC/D Cooling Airflow

S9V2B080U4PSBC/D / S9V2B080D4PSBC/D 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	2.0 Ton	Cooling 450	CFM	892	899	893	872	838
		CFM/Ton	Watts	91	136	180	222	265
		Cooling 420	CFM	834	841	834	813	777
		CFM/Ton	Watts	77	120	161	202	243
		Cooling 400	CFM	785	785	781	754	737
		CFM/Ton	Watts	67	106	146	183	229
		Cooling 370	CFM	738	744	736	714	677
		CFM/Ton	Watts	58	97	134	172	210
		Cooling 350	CFM	700	705	697	675	638
		CFM/Ton	Watts	52	89	125	161	198
		Cooling 330	CFM	662	666	658	635	598
		CFM/Ton	Watts	46	81	116	151	187
Cooling	2.5 Ton	Cooling 310	CFM	624	627	619	596	558
		CFM/Ton	Watts	40	74	107	142	177
		Cooling 290	CFM	585	588	580	557	518
		CFM/Ton	Watts	35	67	100	133	168
		Cooling 450	CFM	1108	1120	1116	1098	1065
		CFM/Ton	Watts	159	213	265	315	365
		Cooling 420	CFM	1035	1046	1041	1022	989
		CFM/Ton	Watts	133	184	233	281	328
		Cooling 400	CFM	988	997	992	972	938
		CFM/Ton	Watts	118	167	214	260	306
		Cooling 370	CFM	916	924	918	897	863
		CFM/Ton	Watts	97	143	188	231	275
Cooling	3.0 Ton	Cooling 350	CFM	868	875	868	848	813
		CFM/Ton	Watts	85	129	172	213	255
		Cooling 330	CFM	820	826	819	798	762
		CFM/Ton	Watts	74	116	157	197	237
		Cooling 310	CFM	772	778	770	749	712
		CFM/Ton	Watts	64	104	143	182	221
		Cooling 290	CFM	724	729	721	699	663
		CFM/Ton	Watts	56	94	131	168	205
		Cooling 450	CFM	1326	1341	1341	1325	1296
		CFM/Ton	Watts	257	320	380	439	497
		Cooling 420	CFM	1239	1252	1250	1234	1203
		CFM/Ton	Watts	214	273	330	385	440
Cooling	3.5 Ton	Cooling 400	CFM	1181	1193	1191	1173	1142
		CFM/Ton	Watts	188	245	299	353	405
		Cooling 370	CFM	1094	1105	1101	1083	1050
		CFM/Ton	Watts	153	207	258	308	358
		Cooling 350	CFM	1036	1046	1041	1022	989
		CFM/Ton	Watts	133	184	233	281	329
		Cooling 330	CFM	978	987	982	962	928
		CFM/Ton	Watts	115	164	210	256	302
		Cooling 310	CFM	920	929	923	902	868
		CFM/Ton	Watts	99	145	189	233	277
		Cooling 290	CFM	863	870	863	843	807
		CFM/Ton	Watts	84	128	170	212	253
Cooling	3.5 Ton	Cooling 450	CFM	1547	1565	1568	1556	1529
		CFM/Ton	Watts	392	463	531	598	664
		Cooling 420	CFM	1443	1460	1462	1448	1420
		CFM/Ton	Watts	324	391	456	519	581
		Cooling 400	CFM	1375	1391	1391	1376	1347
		CFM/Ton	Watts	284	348	410	471	530
		Cooling 370	CFM	1273	1287	1286	1269	1239
		CFM/Ton	Watts	230	290	349	405	461
		Cooling 350	CFM	1205	1218	1215	1199	1167
		CFM/Ton	Watts	198	256	312	366	420
		Cooling 330	CFM	1137	1149	1146	1128	1096
		CFM/Ton	Watts	170	225	278	330	381
Cooling	3.5 Ton	Cooling 310	CFM	1069	1080	1076	1057	1024
		CFM/Ton	Watts	145	197	248	297	345
		Cooling 290	CFM	1002	1012	1007	987	954
		CFM/Ton	Watts	122	172	220	266	313

## Heating and Cooling Airflow Tables

**Table 2. S9V2B080U4PSBC/D / S9V2B080D4PSBC/D Cooling Airflow (continued)**

<b>S9V2B080U4PSBC/D / S9V2B080D4PSBC/D Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter</b>								
<b>Cooling</b>	<b>Unit Outdoor</b>	<b>Airflow Setting (CFM/ton)</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>
Cooling	4.0 Ton <sup>(a)</sup>	Cooling 450	CFM	1769	1791	1797	1789	1766
		CFM/Ton	Watts	570	648	725	799	873
		Cooling 420	CFM	1650	1670	1675	1664	1639
		CFM/Ton	Watts	469	544	616	686	756
		Cooling 400	CFM	1571	1590	1593	1582	1555
		CFM/Ton	Watts	410	481	550	618	685
		Cooling 370	CFM	1453	1470	1472	1458	1430
		CFM/Ton	Watts	330	397	462	526	588
		Cooling 350	CFM	1375	1391	1391	1376	1347
		CFM/Ton <sup>(a)</sup>	Watts	284	348	410	471	530
		Cooling 330	CFM	1297	1312	1311	1295	1265
		CFM/Ton	Watts	242	303	363	420	477
		Cooling 310	CFM	1219	1233	1230	1214	1183
		CFM/Ton	Watts	205	263	319	374	428
		Cooling 290	CFM	1142	1154	1151	1133	1101
		CFM/Ton	Watts	172	227	280	332	384

<sup>(a)</sup> 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<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

## **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 aluminized 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](http://www.trane.com) or [www.americanstandardair.com](http://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.