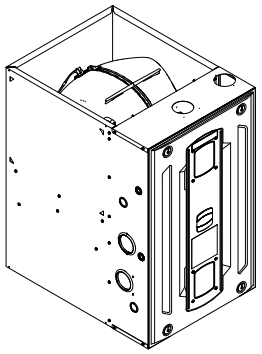
Submittal

Dedicated Downflow
Two Stage Condensing
Gas Fired Furnace
100,000 BTUH

Downflow Only
S9V2C100D4VSAC/D

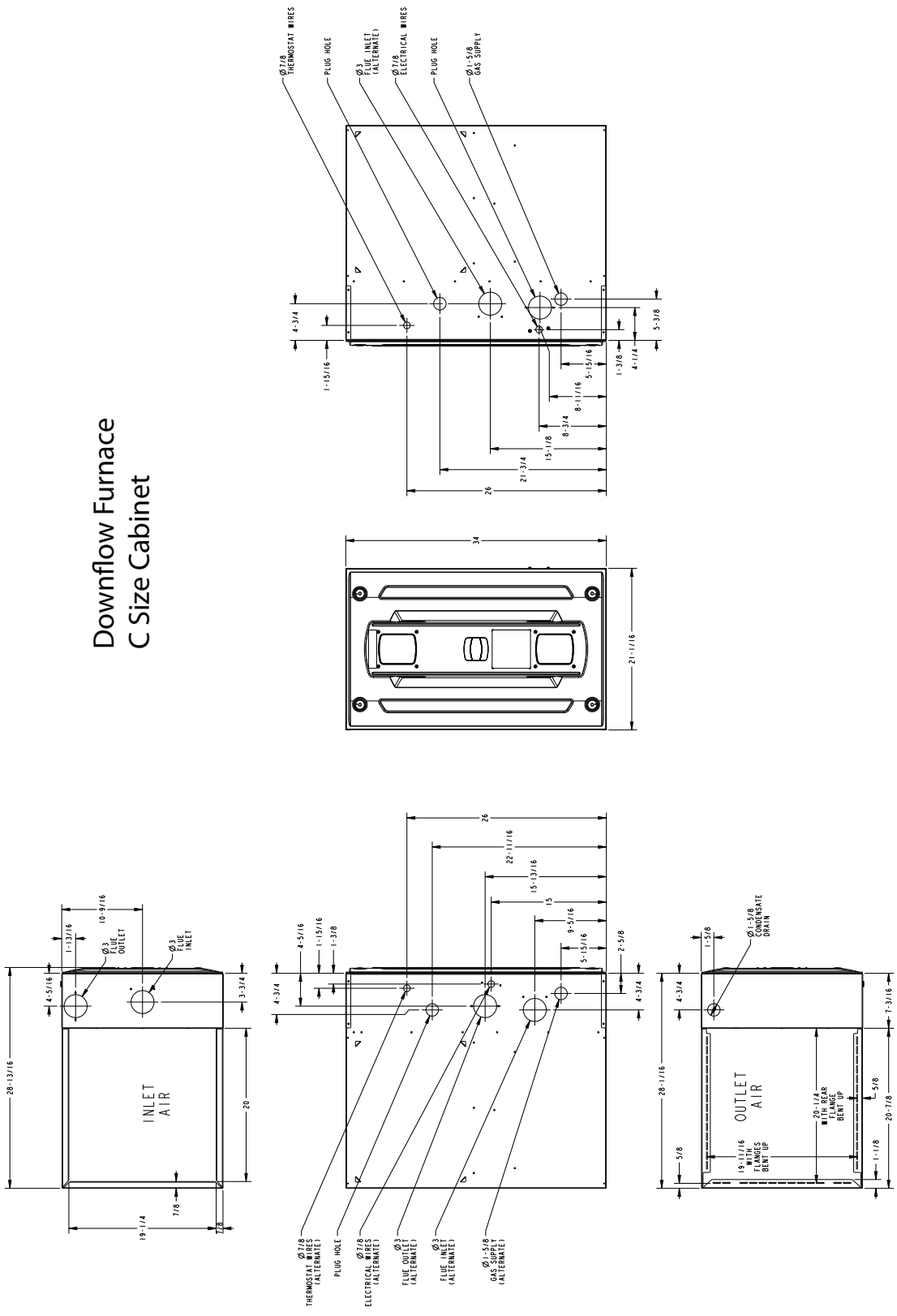


Note: *Graphics in this document are for representation only. Actual model may differ in appearance.*

February 2022

S9V2C100D4V-SUB-2B-EN

Outline Drawing



Product Specification

Model	S9V2C100D4VSAC/D [a], [b]
Type	Downflow
RATINGS [c]	
1st Stage Input BTUH	65,000
1st Stage Capacity BTUH (ICS)	64,300
2nd Stage Input BTUH	100,000
2nd Stage Capacity BTUH (ICS) [d]	97,071
1st Stage Temp. Rise (Min. - Max.) °F	30 - 60
2nd Stage Temp. Rise (Min. - Max.) °F	35 - 65
AFUE (%) [d]	97.0
Return Air Temp. (Min. - Max.) °F	45°F - 80°F
BLOWER DRIVE	DIRECT
Diameter - Width (in.)	11 X 10
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
COMBUSTION FAN - Type	Variable Speed
Drive - No. Speeds	Direct - Variable
Motor RPM	1/50 - 5000
Volts/Ph/Hz	33 - 110 / 3 / 60 - 180
FLA	0.77
Inducer Orifice	1.05
FILTER - Furnished?	No
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 20 X 25 - 1 in.

Model	S9V2C100D4VSAC/D [a], [b]
VENT OUTLET DIAMETER - MIN. (in.) [e]	2 Round
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)	5 - 45
Propane Gas (Qty. - Drill Size)	5 - 56
GAS VALVE	Redundant - Two Stage
PILOT SAFETY DEVICE – TYPE	120 V SiNi Igniter
BURNERS - TYPE - QTY	Inshot - 5
POWER CONN. - V/Ph/HZ [f]	120 / 1 / 60
Ampacity (Amps)	10.9 / 12.9
Max. Overcurrent Protection (Amps)	15
PIPE CONN. SIZE (IN.)	1/2
DIMENSIONS	H x W x D
Uncrated (in.)	34 x 21 x 28-3/4
Crated (in.)	35-1/2 x 23 x 30-7/8
WEIGHT	
Shipping (Lbs.)/Net (Lbs.)	154/144

[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. S9V2C100D4VSAC/D Heating Airflow

S9V2C100D4VSAC/D Furnace Heating Airflow (CFM), Temp. Rise (°F), and Power (Watts) vs. External Static Pressure with Filter (iwc)								
				1st Stage Capacity = 64,300 2nd Stage Capacity = 97,071				
Heating	**Airflow Setting**	**Target Airflow**		**External Static Pressure**				
				0.1	**0.3**	**0.5**	**0.7**	**0.9**
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 [a]	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 [a]	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

[a] Factory Setting.

Table 2. S9V2C100U4VSAC/D / S9V2C100D4VSAC/D Cooling Airflow

S9V2C100U4VSAC/D / S9V2C100D4VSAC/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	2.5 Ton	Cooling 450 CFM/Ton	CFM	1153	1149	1147	1145	1141
			Watts	111	159	208	260	314
		Cooling 420 CFM/Ton	CFM	1077	1073	1071	1068	1064
			Watts	94	138	185	235	287
		Cooling 400 CFM/Ton	CFM	1061	1057	1054	1044	1021
			Watts	90	134	180	227	273
		Cooling 370 CFM/Ton	CFM	950	945	942	939	935
			Watts	69	109	151	197	246
		Cooling 350 CFM/Ton	CFM	899	893	890	887	882
			Watts	60	98	140	184	232
		Cooling 330 CFM/Ton	CFM	848	841	838	835	830
			Watts	53	89	129	172	219
		Cooling 310 CFM/Ton	CFM	796	789	786	782	777
			Watts	46	80	119	161	208
		Cooling 290 CFM/Ton	CFM	745	737	733	729	724
			Watts	39	72	110	151	198
Cooling	3.0 Ton	Cooling 450 CFM/Ton	CFM	1378	1376	1374	1372	1368
			Watts	178	234	292	352	413
		Cooling 420 CFM/Ton	CFM	1289	1286	1284	1282	1277
			Watts	149	201	256	312	371
		Cooling 400 CFM/Ton	CFM	1228	1225	1223	1221	1217
			Watts	131	181	234	288	345
		Cooling 370 CFM/Ton	CFM	1138	1134	1132	1130	1125
			Watts	108	154	203	255	309
		Cooling 350 CFM/Ton	CFM	1077	1073	1071	1068	1064
			Watts	94	138	185	235	287
		Cooling 330 CFM/Ton	CFM	1016	1011	1009	1006	1002
			Watts	81	123	168	216	266
		Cooling 310 CFM/Ton	CFM	955	950	947	944	940
			Watts	70	110	153	199	248
		Cooling 290 CFM/Ton	CFM	894	888	885	882	877
			Watts	59	97	138	183	231
Cooling	3.5 Ton	Cooling 450 CFM/Ton	CFM	1601	1599	1597	1594	1590
			Watts	269	334	401	469	539
		Cooling 420 CFM/Ton	CFM	1498	1496	1494	1491	1487
			Watts	224	284	347	411	477
		Cooling 400 CFM/Ton	CFM	1428	1426	1424	1422	1417
			Watts	196	254	314	376	439
		Cooling 370 CFM/Ton	CFM	1324	1321	1319	1317	1313
			Watts	160	214	270	327	387
		Cooling 350 CFM/Ton	CFM	1253	1251	1249	1246	1242
			Watts	138	190	243	298	355
		Cooling 330 CFM/Ton	CFM	1183	1180	1178	1175	1171
			Watts	119	167	218	271	326
		Cooling 310 CFM/Ton	CFM	1112	1109	1107	1104	1100
			Watts	102	147	196	246	299
		Cooling 290 CFM/Ton	CFM	1041	1037	1035	1032	1028
			Watts	86	129	175	223	275
Cooling	4.0 Ton [a]	Cooling 450 CFM/Ton	CFM	1820	1819	1816	1812	1807
			Watts	388	462	538	615	693
		Cooling 420 CFM/Ton	CFM	1704	1702	1700	1697	1692
			Watts	321	390	461	533	607
		Cooling 400 CFM/Ton	CFM	1626	1624	1622	1619	1614
			Watts	281	347	415	484	554
		Cooling 370 CFM/Ton	CFM	1507	1505	1504	1501	1497
			Watts	228	289	352	417	482
		Cooling 350 CFM/Ton [a]	CFM	1428	1426	1424	1422	1417
			Watts	196	254	314	376	439
		Cooling 330 CFM/Ton	CFM	1348	1346	1344	1342	1338
			Watts	168	223	280	338	399
		Cooling 310 CFM/Ton	CFM	1268	1266	1264	1261	1257
			Watts	143	195	248	304	362
		Cooling 290 CFM/Ton	CFM	1188	1185	1183	1180	1176
			Watts	120	169	220	273	328

[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

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_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

VARIABLE SPEED DRAFT INDUCER MOTOR

Increased efficiency

DIMENSIONS

Width is industry standard: 21"

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.

S9V2C100D4V-SUB-2B-EN 18 Feb 2022
Supersedes S9V2C100D4V-SUB-2A-EN (May 2021)