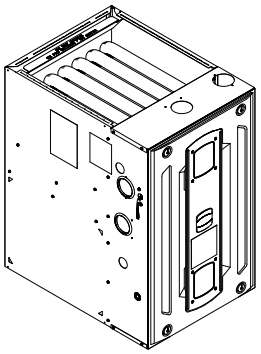
Submittal

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

Upflow, Convertible to Horizontal Right or Horizontal Left
S9V2C080U5VSBB



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

⚠ WARNING

FIRE HAZARD!

Failure to follow this Warning could result in property damage, severe personal injury, or death.
This Warning applies to installations with a flammable refrigeration system. The furnace must be powered except for service. The furnace shall be installed and connected according to installation instructions and wiring diagrams that are provided with the evaporator coil.

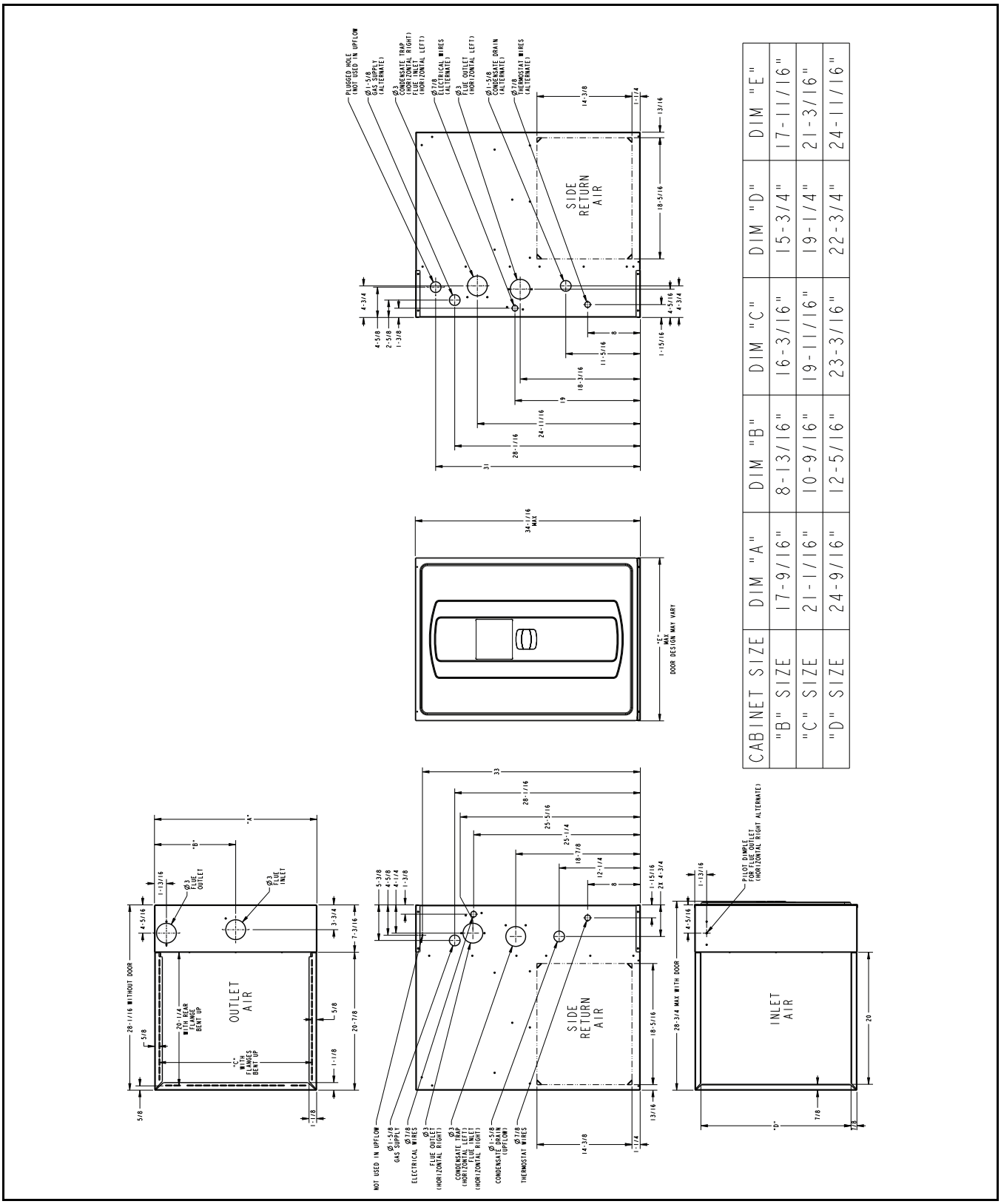
⚠ CAUTION

COIL REQUIREMENT!
Failure to follow this Caution could result in property damage or personal injury. *GXC* and *MXC* coils installed on upflow furnaces in vertical, horizontal left, or horizontal right orientations without a factory installed metal drain pan shield must use a MAY*FERCOLKITAA kit. Coils installed on upflow furnaces must have drain pans that are suitable for 400° F (205°C) or have a metal drain pan shield. Downflow furnaces do not require a metal drain pan shield or the use of the MAY*FERCOLKITAA kit. See Installer's Guide for more information.

September 2024 **S9V2C080U5V-SUB-2A-EN**

Outline Drawings

Table 1. 17.5”, 21” and 24.5” Upflow Cabinets



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"

Product Specification

Model	S9V2C080U5VSBB [a], [b]
Type	Upflow / Horizontal
RATINGS [c]	
1st Stage Input BTUH	52,000
1st Stage Capacity BTUH (ICS)	51,300
2nd Stage Input BTUH	80,000
2nd Stage Capacity BTUH (ICS) [d]	77,450
1st Stage Temp. Rise (Min. - Max.) °F	30 - 60
2nd Stage Temp. Rise (Min. - Max.) °F	35 - 65
AFUE (%)	97.0
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
R.P.M.	Variable
Volts / Ph / Hz	120 / 1 / 60
FLA	10
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	0.88
FILTER - Furnished?	No
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 20 X 25 - 1 in.

Model	S9V2C080U5VSBB [a], [b]
VENT OUTLET DIAMETER - MIN. (in.) [e]	2 Round
INLET AIR DIAMETER -MIN. (in.)	2 Round
HEAT EXCHANGER – Type	
Fired	409 Stainless Steel
Unfired	29-4C Stainless Steel
Gauge (Fired)	20
ORIFICES - Main	
Nat. Gas (Qty. - Drill Size)	4 - 45
Propane Gas (Qty. - Drill Size)	4 - 56
GAS VALVE	Redundant - Two Stage
PILOT SAFETY DEVICE – TYPE	120 V SiNi Igniter
BURNERS - TYPE - QTY	Inshot - 4
POWER CONN. - V/Ph/HZ [f]	120 / 1 / 60
Ampacity (Amps)	13.4
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.)	149/139

[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 2. S9V2C080U5VS Heating Airflow

S9V2C80U5VS Furnace Heating Airflow (CFM), Temp. Rise (°F), and Power (Watts) vs. External Static Pressure with Filter (iwc)								
				1st Stage Capacity = 51,300 2nd Stage Capacity = 77,450				
Heating	Airflow Setting	Target Airflow		External Static Pressure				
				0.1	0.3	0.5	0.7	0.9
Heating 1st Stage	Low	857	CFM	800	803	806	810	813
			Temp. Rise	58	59	59	59	59
			Watts	78	118	157	197	237
	Medium Low	1044	CFM	939	944	950	955	961
			Temp. Rise	50	50	50	50	50
			Watts	114	160	207	254	301
	Medium [a]	1145	CFM	1018	1020	1021	1022	1023
			Temp. Rise	46	46	46	46	47
			Watts	139	190	240	291	341
	High	1124	CFM	1083	1086	1089	1093	1096
			Temp. Rise	43	43	43	43	43
			Watts	164	217	271	324	378
Heating 2nd Stage	Low	1190	CFM	1102	1116	1130	1144	1158
			Temp. Rise	65	65	64	63	62
			Watts	153	213	272	332	392
	Medium Low	1450	CFM	443	905	1368	1830	2293
			Temp. Rise	54	54	53	52	51
			Watts	258	333	407	482	557
	Medium [a]	1590	CFM	1461	1478	1495	1513	1530
			Temp. Rise	49	49	48	48	47
			Watts	334	416	498	580	662
	High	1700	CFM	1558	1571	1584	1597	1610
			Temp. Rise	46	46	45	45	45
			Watts	404	496	587	678	770

[a] Factory Setting.

Table 3. S9V2C80U5VS Cooling Airflow

S9V2C080U5VS Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter (iwc)							
Outdoor Tonnage - "Odt" (tons)	Airflow Setting - (CFM/ton)		EXTERNAL STATIC PRESSURE (IN. W. C.)				
			0.1	0.3	0.5	0.7	0.9
3.0	450	CFM / WATTS	1335 / 182	1347 / 241	1356 / 303	1362 / 366	1366 / 431
	420	CFM / WATTS	1246 / 152	1259 / 208	1267 / 266	1273 / 326	1277 / 387
	400	CFM / WATTS	1188 / 134	1200 / 188	1208 / 243	1214 / 301	1217 / 360
	370	CFM / WATTS	1100 / 110	1111 / 160	1118 / 212	1123 / 266	1125 / 322
	350	CFM / WATTS	1041 / 96	1052 / 143	1058 / 193	1061 / 245	1063 / 299
	330	CFM / WATTS	983 / 83	993 / 128	997 / 176	999 / 225	1000 / 277
	310	CFM / WATTS	925 / 72	933 / 114	936 / 159	937 / 207	936 / 257
	290	CFM / WATTS	867 / 61	873 / 101	874 / 144	873 / 190	871 / 239
3.5	450	CFM / WATTS	1557 / 273	1568 / 342	1576 / 413	1581 / 486	1585 / 559
	420	CFM / WATTS	1453 / 228	1465 / 292	1473 / 359	1480 / 427	1483 / 496
	400	CFM / WATTS	1384 / 200	1396 / 262	1405 / 325	1411 / 391	1415 / 457
	370	CFM / WATTS	1281 / 163	1293 / 221	1302 / 280	1308 / 341	1312 / 404
	350	CFM / WATTS	1212 / 142	1224 / 196	1233 / 253	1239 / 311	1242 / 371
	330	CFM / WATTS	1144 / 122	1155 / 173	1163 / 227	1168 / 283	1171 / 341
	310	CFM / WATTS	1076 / 104	1086 / 153	1093 / 204	1097 / 257	1099 / 312
	290	CFM / WATTS	1007 / 88	1017 / 134	1023 / 183	1025 / 233	1026 / 286
4.0	450	CFM / WATTS	1782 / 392	1789 / 471	1794 / 551	1797 / 632	1798 / 715
	420	CFM / WATTS	1662 / 325	1671 / 399	1678 / 474	1682 / 550	1685 / 628
	400	CFM / WATTS	1582 / 285	1592 / 355	1600 / 427	1606 / 500	1609 / 575
	370	CFM / WATTS	1463 / 232	1474 / 297	1483 / 364	1489 / 432	1493 / 502
	350	CFM / WATTS	1384 / 200	1396 / 262	1405 / 325	1411 / 391	1415 / 457
	330	CFM / WATTS	1305 / 172	1317 / 230	1327 / 290	1333 / 352	1337 / 416
	310	CFM / WATTS	1227 / 146	1239 / 201	1248 / 258	1254 / 317	1257 / 378
	290	CFM / WATTS	1149 / 123	1160 / 175	1168 / 229	1173 / 285	1176 / 343

Table 3. S9V2C80U5VS Cooling Airflow (continued)

S9V2C080U5VS Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter (iwc)							
Outdoor Tonnage - "Odt" (tons)	**Airflow Setting - (CFM/ton)**		**EXTERNAL STATIC PRESSURE (IN. W. C.)**				
			0.1	**0.3**	**0.5**	**0.7**	**0.9**
5.0 [a]	450	CFM / WATTS	2235 / 726	2233 / 824	2230 / 923	2224 / 1023	2216 / 1125
	420	CFM / WATTS	2084 / 599	2085 / 690	2084 / 783	2082 / 877	2078 / 973
	400	CFM / WATTS	1983 / 524	1986 / 611	1988 / 699	1988 / 789	1985 / 880
	370	CFM / WATTS	1832 / 423	1838 / 503	1843 / 586	1845 / 669	1845 / 754
	350[a]	CFM / WATTS	1732 / 363	1740 / 440	1746 / 518	1749 / 597	1751 / 678
	330	CFM / WATTS	1632 / 310	1641 / 382	1649 / 456	1654 / 531	1656 / 608
	310	CFM / WATTS	1533 / 262	1543 / 330	1551 / 400	1557 / 471	1561 / 544
	290	CFM / WATTS	1434 / 219	1445 / 283	1454 / 349	1460 / 416	1464 / 485

[a] Factory Setting.

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. 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 0.5 inch 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 furnace 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

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 inch water column 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

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 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 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; 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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Supersedes (New)