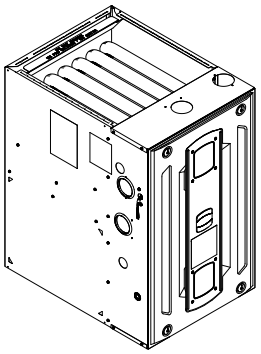
Submittal

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

Upflow, Convertible to Horizontal Right or Horizontal Left
S9V2B040U3VSBB



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.

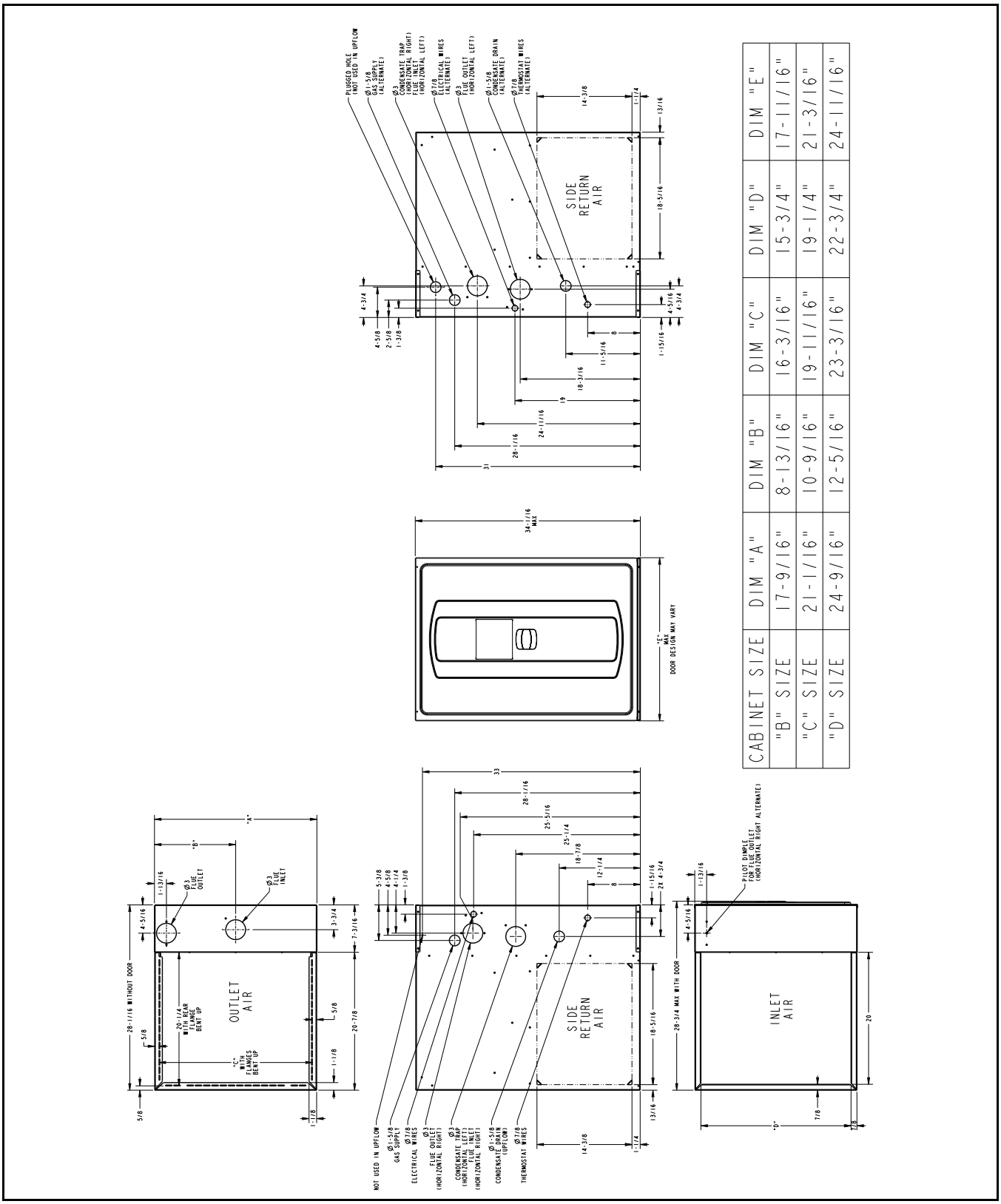
⚠ CAUTION

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 **S9V2B040U3V-SUB-2D-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	S9V2B040U3VSBB [a], [b]
Type	Upflow / Horizontal
RATINGS [c]	
1st Stage Input BTUH	26,000
1st Stage Capacity BTUH (ICS)	25,700
2nd Stage Input BTUH	40,000
2nd Stage Capacity BTUH (ICS) [d]	39,350
1st Stage Temp. Rise (Min. - Max.) °F	25 - 55
2nd Stage Temp. Rise (Min. - Max.) °F	30 - 60
AFUE (%) [d]	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	1/2
R.P.M.	Variable
Volts / Ph / Hz	120 / 1 / 60
FLA	6.4
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	0.61
FILTER - Furnished?	No
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 16 X 25 - 1 in.

Model	S9V2B040U3VSBB [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)	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)	8.9
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 Installation, Operation, and Maintenance.

[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. S9V2B040U3VS Heating Airflow

S9V2B040U3VS Furnace Heating Airflow (CFM), Temp. Rise (°F), and Power (Watts) vs. External Static Pressure with Filter (iwc)								
				1st Stage Capacity = 25,700 2nd Stage Capacity = 39,350				
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. S9V2B040U3VS Cooling Airflow

S9V2B040U3VS 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
1.5	450	CFM / WATTS	675 / 47	675 / 81	675 / 121	675 / 166	675 / 215
	420	CFM / WATTS	630 / 40	630 / 72	630 / 111	630 / 154	630 / 202
	400	CFM / WATTS	600 / 36	600 / 67	600 / 105	600 / 147	600 / 193
	370	CFM / WATTS	555 / 30	555 / 60	555 / 96	555 / 136	555 / 181
	350	CFM / WATTS	525 / 27	525 / 56	525 / 90	525 / 130	525 / 174
	330	CFM / WATTS	495 / 24	495 / 51	495 / 85	495 / 124	495 / 167
	310	CFM / WATTS	465 / 21	465 / 48	465 / 80	465 / 118	465 / 161
	290	CFM / WATTS	435 / 19	435 / 44	435 / 76	435 / 113	435 / 155
2.0	450	CFM / WATTS	900 / 94	900 / 137	900 / 186	900 / 240	900 / 298
	420	CFM / WATTS	840 / 79	840 / 120	840 / 166	840 / 218	840 / 273
	400	CFM / WATTS	800 / 70	800 / 109	800 / 154	800 / 204	800 / 258
	370	CFM / WATTS	740 / 58	740 / 95	740 / 138	740 / 185	740 / 236
	350	CFM / WATTS	700 / 51	700 / 86	700 / 127	700 / 173	700 / 223
	330	CFM / WATTS	660 / 44	660 / 78	660 / 118	660 / 162	660 / 211
	310	CFM / WATTS	620 / 38	620 / 71	620 / 109	620 / 152	620 / 199
	290	CFM / WATTS	580 / 33	580 / 64	580 / 101	580 / 142	580 / 188
2.5	450	CFM / WATTS	1125 / 167	1125 / 219	1125 / 278	1125 / 341	1125 / 408
	420	CFM / WATTS	1050 / 139	1050 / 188	1050 / 244	1050 / 304	1050 / 368
	400	CFM / WATTS	1000 / 123	1000 / 170	1000 / 223	1000 / 281	1000 / 343
	370	CFM / WATTS	925 / 100	925 / 145	925 / 195	925 / 250	925 / 308
	350	CFM / WATTS	875 / 87	875 / 129	875 / 178	875 / 230	875 / 287
	330	CFM / WATTS	825 / 121	825 / 160	825 / 205	825 / 254	825 / 308
	310	CFM / WATTS	775 / 101	775 / 139	775 / 182	775 / 229	775 / 281
	290	CFM / WATTS	725 / 88	725 / 123	725 / 164	725 / 210	725 / 260

Table 3. S9V2B040U3VS Cooling Airflow (continued)

S9V2B040U3VS 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 [a]	450	CFM / WATTS	1350 / 272	1350 / 334	1350 / 402	1298 / 440	1198 / 450
	420	CFM / WATTS	1260 / 226	1260 / 284	1260 / 348	1260 / 417	1198 / 450
	400	CFM / WATTS	1200 / 198	1200 / 254	1200 / 315	1200 / 381	1198 / 450
	370	CFM / WATTS	1110 / 161	1110 / 213	1110 / 271	1110 / 333	1110 / 399
	350[a]	CFM / WATTS	1050 / 139	1050 / 188	1050 / 244	1050 / 304	1050 / 368
	330	CFM / WATTS	990 / 119	990 / 166	990 / 219	990 / 277	990 / 338
	310	CFM / WATTS	930 / 102	930 / 146	930 / 197	930 / 252	930 / 311
	290	CFM / WATTS	870 / 86	870 / 128	870 / 176	870 / 229	870 / 285

[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

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 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.

S9V2B040U3V-SUB-2D-EN 30 Sep 2024
Supersedes S9V2B040U3V-SUB-2C-EN (December 2022)