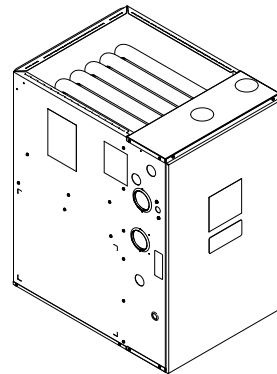


# Submittal

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

Upflow, Convertible to  
Horizontal Right or  
Horizontal Left  
A952V080CU5SAB



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



# Product Specification

MODEL	A952V080CU5SAB <sup>(a)</sup>
<b>TYPE</b>	Upflow/Horizontal
<b>RATINGS</b> <sup>(b)</sup>	
1st Stage Input BTUH (ICS)	52,000
1st Stage Capacity BTUH	50,440
2nd Stage Input BTUH	80,000
2nd Stage Capacity BTUH (ICS) <sup>(c) (d)</sup>	77,600
1st Stage Temp. Rise (Min.-Max.)	30 - 60
2nd Stage Temp. Rise (Min.-Max.)	35 - 65
AFUE (%)	96.0
<b>BLOWER DRIVE</b>	DIRECT
Diameter — Width (In.)	11 X 10
No. Used	1
Speeds (No.)	Variable
CFM vs. in. w.g.	See Fan Performance Table
Motor HP	1
RPM	Variable
Volts/Ph/Hz	120 / 1 / 60
FLA	10.5
<b>COMBUSTION FAN — Type</b>	Centrifugal
Drive — No. Speeds	Direct - 2
Motor HP — RPM	3300/2600
Volts/Ph/Hz	120 / 1 / 60
FLA	0.66
<b>FILTER — Furnished?</b>	No
Type recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 — 20x25 — 1 in.
<b>VENT PIPE DIAMETER — Min (in.)</b> <sup>(e) (f)</sup>	2 Round
<b>HEAT EXCHANGER</b>	
Type — Fired	409 Stainless Steel

MODEL	A952V080CU5SAB <sup>(a)</sup>
— Unfired	29-4C Stainless Steel
Gauge (Fired)	20
<b>ORIFICES — Main</b>	
Nat. Gas Qty. — Drill Size	4 - 45
LP Gas Qty. — Drill Size	4- 56
<b>GAS VALVE</b>	Redundant - Two Stage
<b>PILOT SAFETY DEVICE</b>	
Type	120 V SiNi Igniter
<b>BURNERS — Type</b>	Multiport Inshot
Number	4
<b>POWER CONN. — V/Ph/Hz</b> <sup>(g)</sup>	120 / 1 / 60
Ampacity (In Amps)	13.9
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 21 x 28-3/4
Crated (In.)	35-1/2 x 23 x 30-7/8
<b>WEIGHT</b>	
Shipping (Lbs.)/Net (Lbs.)	149/139

- <sup>(a)</sup> Meets Energy Star
- <sup>(b)</sup> 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.
- <sup>(c)</sup> Central Furnace heating designs are certified to ANSI Z21.47 / CSA 2.3 — latest edition.
- <sup>(d)</sup> Based on U.S. government standard tests.
- <sup>(e)</sup> Refer to the Vent Length Table in the Installer's Guide.
- <sup>(f)</sup> All A952V furnace models have a vent outlet diameter that equals 2 in.
- <sup>(g)</sup> 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. A952V080CU5SAB Heating Airflow

A952V080CU5SAB Furnace Heating Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter								
				1st Stage Capacity = 50,440				
				2nd Stage Capacity = 77,600				
Heating	Airflow Setting	Target Airflow		External Static Pressure				
				0.1	0.3	0.5	0.7	0.9
Heating 1st Stage	Low	857	CFM	837	870	902	934	967
			Temp. Rise	55	53	51	50	48
			Watts	65	112	160	208	256
	Medium Low <sup>(a)</sup>	1044	CFM	997	1015	1033	1050	1068
			Temp. Rise	46	45	45	44	43
			Watts	102	155	209	263	316
	Medium	1123	CFM	1067	1094	1121	1148	1175
			Temp. Rise	43	42	41	40	39
			Watts	123	180	236	293	350
	High	1498	CFM	1420	1416	1411	1407	1402
			Temp. Rise	32	33	33	33	34
			Watts	238	320	402	485	567
Heating 2nd Stage	Low	1190	CFM	1129	1148	1168	1188	1208
			Temp. Rise	63	62	61	60	59
			Watts	127	195	263	331	399
	Medium Low <sup>(a)</sup>	1450	CFM	1387	1395	1404	1412	1420
			Temp. Rise	52	51	51	51	51
			Watts	248	310	372	434	496
	Medium	1560	CFM	1484	1498	1512	1525	1539
			Temp. Rise	48	48	47	47	47
			Watts	281	358	435	512	589
	High	2080	CFM	1954	1956	1959	1961	1964
			Temp. Rise	37	37	37	37	37
			Watts	597	732	866	1001	1135

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

Table 2. A952V080CU5SAB Cooling Airflow

A952V080CU5SAB 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	3.5 Ton	Cooling 450 CFM/Ton	CFM	1575	1575	1575	1575	1575
			Watts	279	351	426	504	584
		Cooling 420 CFM/Ton	CFM	1470	1470	1470	1470	1470
			Watts	233	300	370	443	519
		Cooling 400 CFM/Ton	CFM	1400	1400	1400	1400	1400
			Watts	205	269	336	406	478
		Cooling 370 CFM/Ton	CFM	1295	1295	1295	1295	1295
			Watts	168	227	289	355	423
		Cooling 350 CFM/Ton	CFM	1225	1225	1225	1225	1225
			Watts	145	201	261	324	389
		Cooling 330 CFM/Ton	CFM	1155	1155	1155	1155	1155
			Watts	125	178	235	295	358
		Cooling 310 CFM/Ton	CFM	1085	1085	1085	1085	1085
			Watts	107	157	211	269	329
	Cooling 290 CFM/Ton	CFM	1015	1015	1015	1015	1015	
		Watts	91	138	189	244	302	
Cooling	4.0 Ton	Cooling 450 CFM/Ton	CFM	1800	1800	1800	1800	1800
			Watts	399	482	567	655	745
		Cooling 420 CFM/Ton	CFM	1680	1680	1680	1680	1680
			Watts	332	409	488	571	655
		Cooling 400 CFM/Ton	CFM	1600	1600	1600	1600	1600
			Watts	291	364	441	519	600
		Cooling 370 CFM/Ton	CFM	1480	1480	1480	1480	1480
			Watts	237	305	375	449	524
		Cooling 350 CFM/Ton	CFM	1400	1400	1400	1400	1400
			Watts	205	269	336	406	478
		Cooling 330 CFM/Ton	CFM	1320	1320	1320	1320	1320
			Watts	176	236	300	367	436
		Cooling 310 CFM/Ton	CFM	1240	1240	1240	1240	1240
			Watts	150	207	267	330	396
	Cooling 290 CFM/Ton	CFM	1160	1160	1160	1160	1160	
		Watts	127	180	237	297	360	
Cooling	4.5 Ton	Cooling 450 CFM/Ton	CFM	2025	2025	2025	2025	2020
			Watts	550	643	740	838	934
		Cooling 420 CFM/Ton	CFM	1890	1890	1890	1890	1890
			Watts	456	543	632	725	819
		Cooling 400 CFM/Ton	CFM	1800	1800	1800	1800	1800
			Watts	399	482	567	655	745
		Cooling 370 CFM/Ton	CFM	1665	1665	1665	1665	1665
			Watts	324	400	479	561	645
		Cooling 350 CFM/Ton	CFM	1575	1575	1575	1575	1575
			Watts	279	351	426	504	584
		Cooling 330 CFM/Ton	CFM	1485	1485	1485	1485	1485
			Watts	239	307	378	451	527
		Cooling 310 CFM/Ton	CFM	1395	1395	1395	1395	1395
			Watts	203	267	334	403	476
	Cooling 290 CFM/Ton	CFM	1305	1305	1305	1305	1305	
		Watts	171	231	294	360	428	
Cooling	5.0 Ton (a)	Cooling 450 CFM/Ton	CFM	2250	2250	2250	2150	2020
			Watts	734	839	947	955	934
		Cooling 420 CFM/Ton	CFM	2100	2100	2100	2100	2020
			Watts	607	705	805	907	934
		Cooling 400 CFM/Ton	CFM	2000	2000	2000	2000	2000
			Watts	531	624	719	816	916
		Cooling 370 CFM/Ton	CFM	1850	1850	1850	1850	1850
			Watts	430	515	603	693	785
		Cooling 350 CFM/Ton	CFM	1750	1750	1750	1750	1750
			Watts	370	450	533	619	707
		Cooling 330 CFM/Ton	CFM	1650	1650	1650	1650	1650
			Watts	316	392	470	551	634
		Cooling 310 CFM/Ton	CFM	1550	1550	1550	1550	1550
			Watts	268	339	412	489	568
	Cooling 290 CFM/Ton	CFM	1450	1450	1450	1450	1450	
		Watts	225	291	360	432	507	

(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

Multipoint 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 1.4% 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 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 for strength. Every orientation has at least two venting options. There are no knockouts on cabinet.

## FEATURES AND GENERAL OPERATION

The 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**

8 SKU's — Upflow / Horizontal Left / Horizontal Right

6 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; 1.4% or less air leakage as per ASHRAE 193

Open vestibule design provides a full 34" high open vestibule

## **DIMENSIONS**

Widths are industry standard: 17.5", 21", and 24.5"

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

## **VARIABLE SPEED BLOWER MOTOR**

Increased efficiency

Improved home comfort

## **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).



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