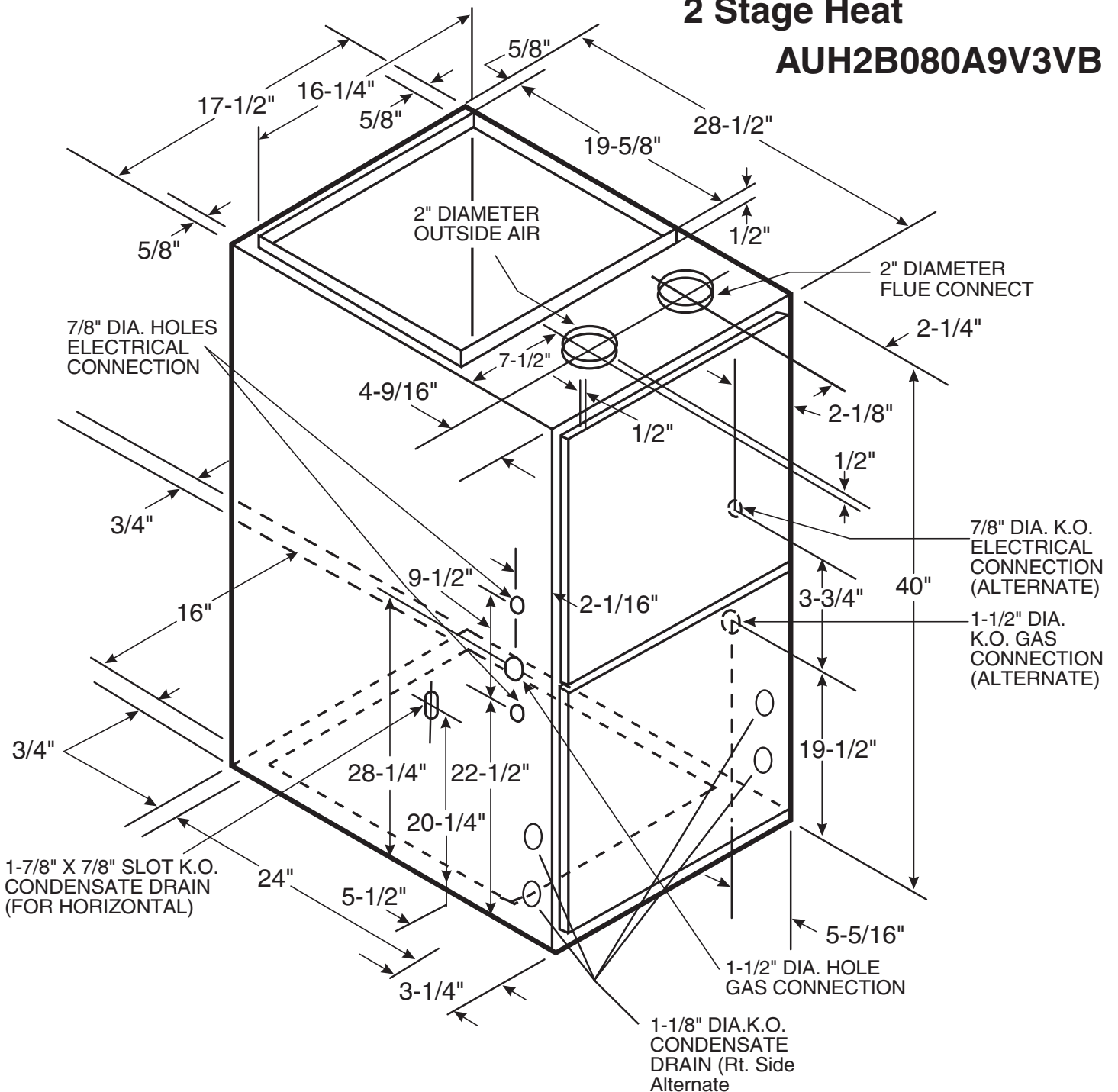


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**SPECIFICATION**

**Upflow/Horizontal  
Direct Vent Gas Furnace  
Variable Speed Inducer  
2 Stage Heat**

**AUH2B080A9V3VB**



*UH2B080A9V3V FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
					50,440 77,600				
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW 7	SW 8		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM	800	800	800	800	800
				TEMP. RISE	56	56	56	56	56
				WATTS	105	140	180	220	265
	MEDIUM LOW	OFF	ON	CFM	860	880	890	920	910
				TEMP. RISE	52	51	50	48	49
				WATTS	115	165	215	265	320
HEATING 2ND STAGE	NORMAL **	ON	OFF	CFM	960	990	1000	1020	1010
				TEMP. RISE	46	45	44	44	44
				WATTS	150	200	230	310	350
	HIGH	OFF	OFF	CFM	1080	1110	1120	1120	1080
				TEMP. RISE	41	40	40	40	41
				WATTS	195	255	315	365	390
HEATING 2ND STAGE	LOW	ON	ON	CFM	1100	1100	1120	1120	1090
				TEMP. RISE	62	62	61	61	63
				WATTS	205	260	320	370	400
	MEDIUM LOW	OFF	ON	CFM	1210	1240	1260	1260	1130
				TEMP. RISE	57	55	54	54	61
				WATTS	265	340	410	470	430
HEATING 2ND STAGE	NORMAL **	ON	OFF	CFM	1360	1390	1400	1360	1210
				TEMP. RISE	50	49	49	50	57
				WATTS	365	445	500	535	475
	HIGH	OFF	OFF	CFM	1360	1390	1400	1350	1180
				TEMP. RISE	50	49	49	51	58
				WATTS	355	450	520	535	465

NOTES:  
\* First letter may be "A" or "T"  
\*\* Factory setting

*UH2B080A9V3V FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
2.0	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM WATTS	750 84	750 122	750 154	720 185	710 221
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM WATTS	840 109	840 146	840 181	840 226	820 264
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	940 136	940 177	940 215	940 274	940 318
2.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	850 113	850 150	870 200	890 250	890 295
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	960 150	990 200	1000 230	1020 305	1010 350
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1080 195	1110 255	1120 315	1120 365	1080 390
3.0	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1020 175	1020 225	1040 280	1050 330	1050 375
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1170 240	1180 300	1200 365	1200 415	1130 420
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1290 310	1320 410	1350 470	1340 520	1150 440
3.5	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	1170 250	1190 315	1210 370	1210 435	1100 405
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	1360 365	1390 445	1400 500	1360 535	1210 475
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	1360 355	1390 450	1400 520	1350 535	1180 460

NOTES: \* First letter may be "A" or "T"  
1. At continuous fan setting: Heating or Cooling airflows are approximately 50% of selected cooling value.  
2. LOW airflow (350 cfm/ton) is COMFORT & HUMID CLIMATE setting;  
NORMAL airflow (400 cfm/ton) is typical setting;  
HIGH airflow (450 cfm/ton) is DRY CLIMATE setting.

## INDOOR BLOWER TIMING

**Heating:** The ICM Fan Control controls the variable speed indoor blower. The blower "on" time is fixed at 45 seconds after ignition. The FAN-OFF period is field selectable by dip switches #2 and #3 on the Integrated Furnace Control at 60, 100, 140, or 180 seconds. The factory setting is 100 seconds, (See unit wiring diagram).

**Cooling:** The fan delay-off period is set by dip switches on the ICM Fan Control board connected to the Integrated Furnace Control. The options for cooling delay off is field selectable by dip switches #5 and #6. However, dip switch #1 on the Integrated Furnace Control must be set to "ON" for cooling mode to function properly.

The following table and graph explain the delay-off settings:

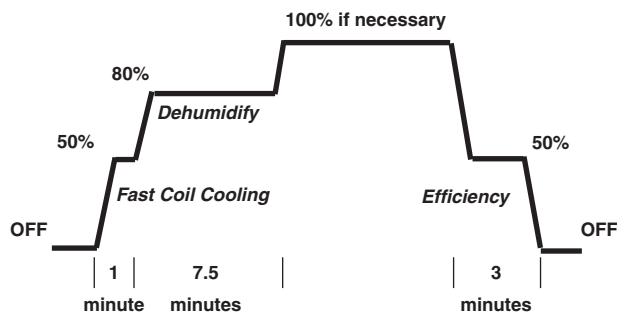
\*\* - This selection provides a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. The graph below shows the ramping process.

### COOLING OFF - DELAY OPTIONS

SWITCH SETTINGS		SELECTION	NOMINAL AIRFLOW
5 - OFF	6 - OFF	NONE	SAME
5 - ON	6 - OFF	1.5 MINUTES	100% *
5 - OFF	6 - ON	3 MINUTES	50%
5 - ON	6 - ON	**	50 - 100%

\* - This setting is equivalent to BAY24X045 relay benefit

\*\* - This selection provides **ENHANCED MODE**, which is a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. See Wiring Diagram notes on the unit or in the Service Facts for complete wiring setup for **ENHANCED MODE**. The graph which follows, shows the ramping process.



## GENERAL DATA <sup>①</sup>

MODEL	*UH2B080A9V3VB
<b>TYPE</b>	Upflow / Horizontal
<b>RATINGS <sup>②</sup></b>	
1st Stage Input BTUH	52,000
1st Stage Capacity BTUH (ICS) <sup>③</sup>	50,440
2nd Stage Input BTUH	80,000
2nd Stage Capacity BTUH (ICS) <sup>③</sup>	77,600
AFUE	97
Temp. rise (Min.-Max.) °F.	35 - 65
<b>BLOWER DRIVE</b>	DIRECT
Diameter - Width (In.)	10 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	115/1/60
FLA	7.7
<b>COMBUSTION FAN - Type</b>	Centrifugal
Drive - No. Speeds	Direct - Variable
Motor HP - RPM	1/50 - 5000
Volts / Ph / Hz	33 - 110/3/60 - 180
FLA	1.0
<b>FILTER — Furnished?</b>	Yes
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 17x25 - 1 in.
<b>VENT — Size (in.)</b>	2 Round
<b>HEAT EXCHANGER</b>	
Type - Fired	Aluminized Steel - Type I
-Unfired	
Gauge (Fired)	20
<b>ORIFICES — Main</b>	
Nat. Gas Qty. — Drill Size	4 — 45
L.P. Gas Qty. — Drill Size	4 — 56
<b>GAS VALVE</b>	Redundant - Two Stage
<b>PILOT SAFETY DEVICE</b>	
Type	Hot Surface Igniter
<b>BURNERS — Type</b>	Multiport Inshot
Number	4
<b>POWER CONN. — V/Ph/Hz <sup>④</sup></b>	115/1/60
Ampacity (In Amps)	10.8
Max. Overcurrent Protection (Amps)	15
<b>PIPE CONN. SIZE (IN.)</b>	1/2
<b>DIMENSIONS</b>	H x W x D
Crated (In.)	41-3/4 x 19-1/2 x 30-1/2
<b>WEIGHT</b>	
Shipping (Lbs.)/Net (Lbs)	168 / 156

① Central Furnace heating designs are certified to ANSI Z21.47 / CSA 2.3

② 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.

③ Based on U.S. government standard tests.

④ The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

# Mechanical Specifications

## NATURAL GAS MODELS

Central Heating furnace designs are certified by to ANSI Z21.47 / CSA 2.3 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 has solid state devices, which continuously monitor 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 **aluminized steel 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** without changing burners.

## 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 connection points for E.A.C./Humidifier.

## ENERGY EFFICIENT OPERATION

Furnace is certified to leak 2% 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. The blower door safety switch will prevent or terminate furnace operation when the blower door is removed.

## SECONDARY HEAT EXCHANGER

The FREEDOM 95 has a special type 29-4C™ stainless steel secondary heat exchanger to reclaim heat from flue gases which would normally be lost instead.

## STYLING

**Heavy gauge steel and “wrap-around” cabinet construction** is used in the cabinet with baked-on enamel finish for strength and beauty. The heat exchanger section of the cabinet is completely lined with foil faced fiberglass insulation. This results in quiet and efficient operation due to the excellent acoustical and insulating qualities of fiberglass. Built-in bottom pan and alternate bottom, left or right side return air connection provision.

## FEATURES AND GENERAL OPERATION

The FREEDOM 95 High Efficiency Gas Furnaces utilize an Adaptive Heat Up 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.

- Low energy power venter
- Vent proving pressure switch.

The manufacturer has a policy of continuous product and product data improvement and reserves the right to change specifications and design without notice.

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