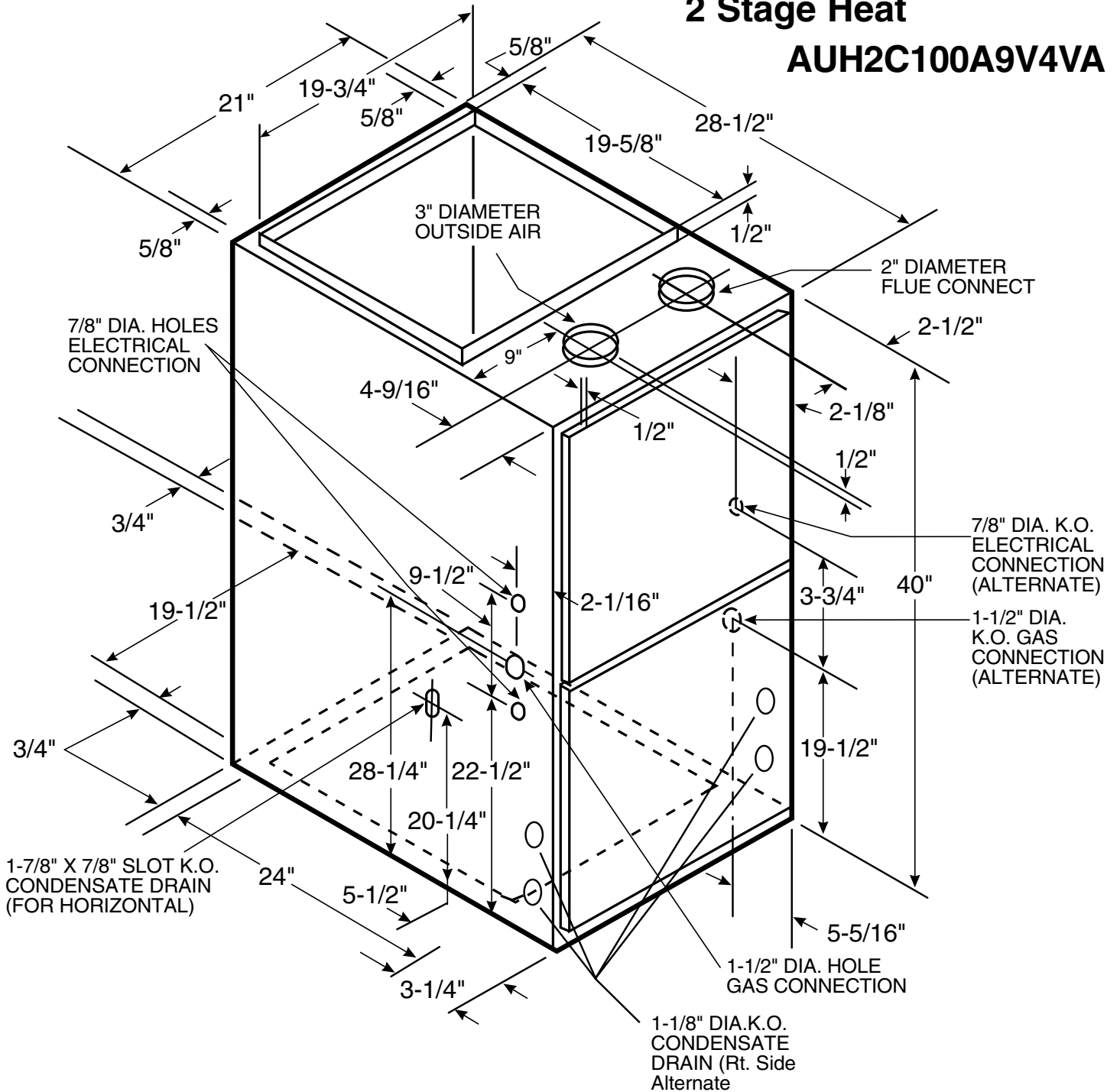


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SPECIFICATION

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

AUH2C100A9V4VA



***UH2C100 FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER**

1st Stage Capacity = 61,750
2nd Stage Capacity = 95,000

	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	873	893	900	899	902
				TEMP. RISE	64	63	62	62	62
				WATTS	100	145	195	240	290
	MEDIUM LOW	OFF	ON	CFM	971	997	1006	1022	1029
MEDIUM **	ON	OFF	TEMP. RISE	58	56	56	55	54	
			WATTS	115	170	220	280	335	
HIGH	OFF	OFF	CFM	1136	1146	1165	1180	1184	
			TEMP. RISE	49	49	48	47	47	
			WATTS	160	230	295	365	425	
HEATING 2ND STAGE	LOW	ON	ON	CFM	1258	1298	1319	1328	1286
				TEMP. RISE	44	43	42	42	44
				WATTS	225	300	390	450	490
	MEDIUM LOW	OFF	ON	CFM	1260	1304	1329	1334	1317
MEDIUM **	ON	OFF	TEMP. RISE	68	66	65	65	65	
			WATTS	213	305	380	460	510	
HIGH	OFF	OFF	CFM	1464	1471	1478	1478	1350	
			TEMP. RISE	59	59	58	58	64	
			WATTS	315	405	485	560	540	
MEDIUM **	ON	OFF	CFM	1631	1678	1690	1579	1419	
			TEMP. RISE	53	51	51	55	61	
			WATTS	450	570	670	645	585	
HIGH	OFF	OFF	CFM	1846	1867	1794	1644	1498	
			TEMP. RISE	47	46	48	52	57	
			WATTS	640	760	770	700	650	

NOTES:

- * First letter may be "A" or "T"
- ** Factory setting

***UH2C100 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
2.5	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM	808	824	840	835	830
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	WATTS	75	125	170	210	250
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM	938	963	959	964	975
3.0	LOW (350 CFM/TON)	OFF	ON	OFF	ON	WATTS	100	160	205	255	310
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM	1058	1100	1121	1136	1142
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	WATTS	150	200	265	330	395
3.5	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM	1004	1010	1027	1044	1050
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	WATTS	120	175	230	285	345
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM	1141	1190	1214	1229	1234
4.0	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	WATTS	170	245	310	380	450
	NORMAL (400 CFM/TON)	OFF	ON	ON	OFF	CFM	1336	1375	1387	1388	1384
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	WATTS	250	330	410	480	545
3.5	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM	1153	1206	1230	1239	1244
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	WATTS	180	250	320	395	460
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM	1390	1418	1439	1441	1373
4.0	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	WATTS	285	465	445	515	540
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM	1575	1606	1632	1596	1445
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	WATTS	400	495	590	645	590
4.0	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM	1388	1423	1444	1444	1390
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	WATTS	290	360	440	515	540
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM	1610	1641	1666	1607	1449
4.0	LOW (350 CFM/TON)	OFF	OFF	ON	OFF	WATTS	415	515	635	650	595
	NORMAL (400 CFM/TON)	OFF	OFF	ON	OFF	CFM	1847	1863	1816	1687	1532
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	WATTS	630	735	780	720	665

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:

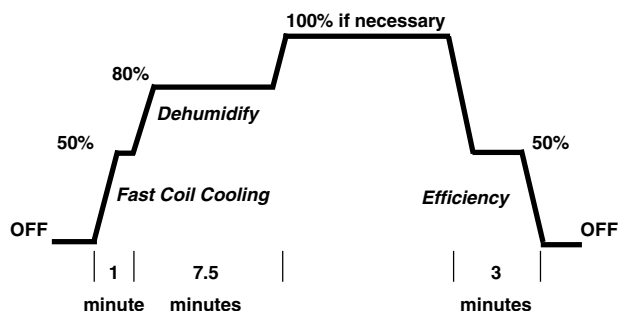
** - This selection provides a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. The graph below shows the ramping process.

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 ①

MODEL	*UH2C100A9V4VA
TYPE	Upflow / Horizontal
RATINGS ②	
1st Stage Input BTUH	65,000
1st Stage Capacity BTUH (ICS) ③	61,750
2nd Stage Input BTUH	100,000
2nd Stage Capacity BTUH (ICS) ③	95,000
AFUE	95
Temp. rise (Min.-Max.) °F.	35 - 65
BLOWER DRIVE	DIRECT
Diameter - Width (In.)	10 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	115/1/60
COMBUSTION FAN - Type	Centrifugal
Drive - No. Speeds	Direct - Variable
Motor HP - RPM	1/50 - 5000
Volts / Ph / Hz	33 - 110/3/60 - 180
FLA	1.0
FILTER — Furnished?	Yes
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 20x25 - 1 in.
VENT — Size (in.)	3 Round
HEAT EXCHANGER	
Type - Fired	Aluminized Steel - Type I
-Unfired	
Gauge (Fired)	20
ORIFICES — Main	
Nat. Gas Qty. — Drill Size	5 — 45
L.P. Gas Qty. — Drill Size	5 — 56
GAS VALVE	Redundant - Two Stage
PILOT SAFETY DEVICE	
Type	Hot Surface Igniter
BURNERS — Type	Multiport Inshot
Number	5
POWER CONN. — V / Ph / Hz ④	115/1/60
Ampacity (In Amps)	13.5
Max. Overcurrent Protection (Amps)	20
PIPE CONN. SIZE (IN.)	1/2
DIMENSIONS	H x W x D
Crated (In.)	41-3/4 x 23 x 30-1/2
WEIGHT	
Shipping (Lbs.) / Net (Lbs)	197 / 185

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 to ANSI Z21.47 / CSA 2.3 for both natural and LP. 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 extra 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 **LP. 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.

AIR DELIVERY

The variable speed blower motor, has sufficient airflow for most heating and cooling requirements, 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 employ 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.

- a. Low energy power venter
- b. Vent proving pressure switch.

American Standard Heating & Air Conditioning has a policy of continuous product and product data improvement and it reserves the right to change specifications and design without notice.

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