American Standard
HEATING & AIR CONDITIONING

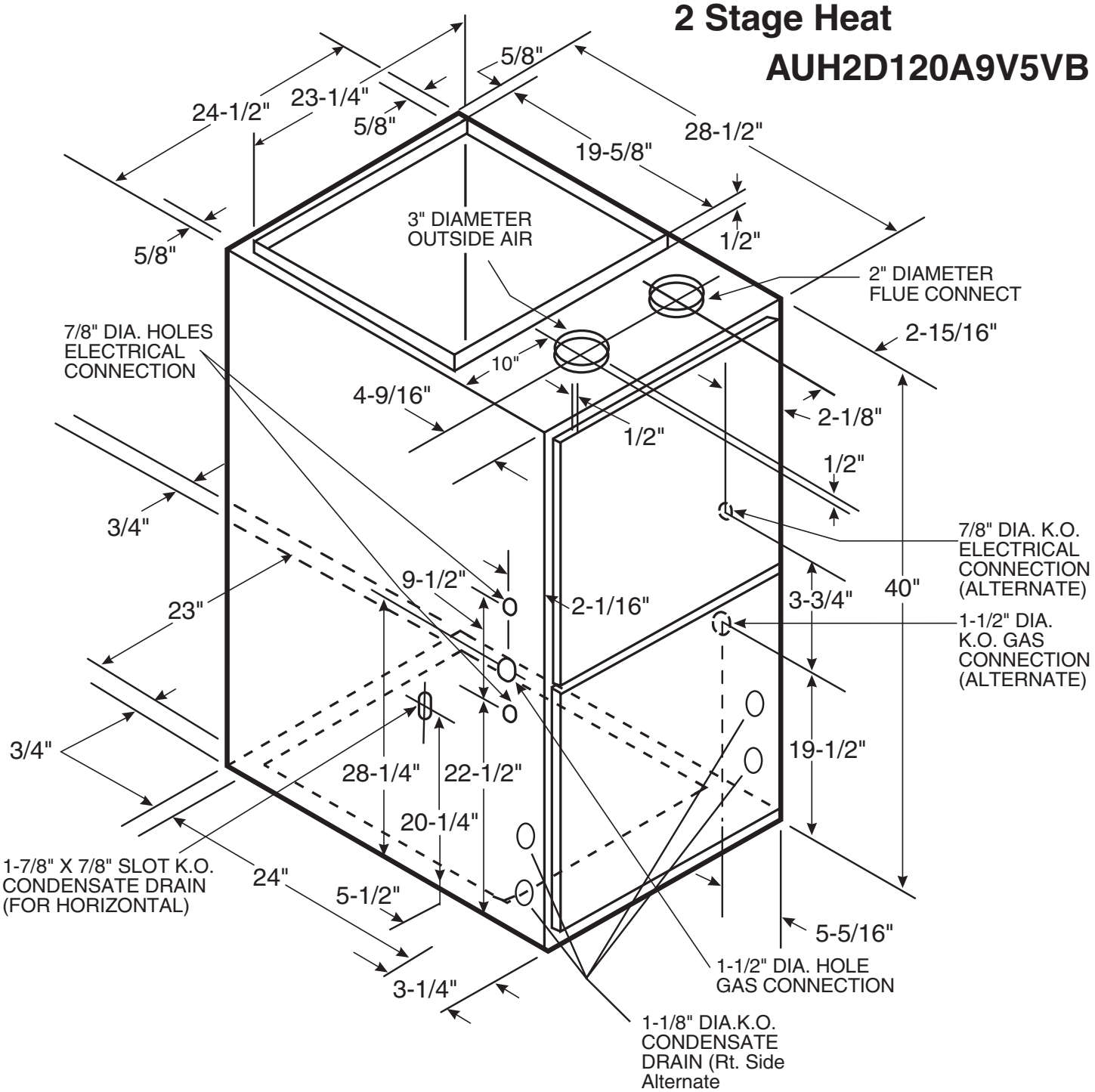
AUH2D120-SPEC-1D

TAG: _____

SPECIFICATION

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

AUH2D120A9V5VB



*UH2D120A9V5V FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
					75,426 116,040				
	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 TEMP. RISE WATTS	1090 62 165	1120 60 225	1080 63 270	1070 63 310	1010 67 380
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1210 56 220	1200 56 280	1200 56 330	1180 57 395	1160 58 455
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	1340 50 295	1360 50 350	1370 49 425	1380 49 495	1330 51 535
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1430 47 390	1570 43 490	1580 43 565	1570 43 625	1390 49 565
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1660 63 485	1690 62 590	1680 62 640	1640 64 675	1460 72 600
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1870 56 675	1870 56 745	1810 58 770	1680 62 715	1490 70 625
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	2060 51 880	1990 53 890	1850 57 810	1710 61 750	1530 68 665
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	2200 48 1030	2090 50 965	1940 54 895	1790 58 830	1640 64 750

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

*UH2D120A9V5V 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
3.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	1210 220	1210 270	1220 325	1230 400	1230 445
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	1400 305	1440 390	1450 465	1450 510	1410 560
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1590 425	1600 520	1610 600	1600 645	1380 575
4.0	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1390 305	1400 375	1430 445	1440 515	1420 565
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1620 420	1650 530	1670 595	1640 660	1480 600
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1840 600	1830 690	1820 765	1670 700	1490 620
5	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	1800 570	1780 630	1780 705	1700 695	1530 615
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	2050 845	2013 875	1860 805	1710 735	1530 655
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	2160 995	2040 935	1920 875	1780 805	1620 730

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:

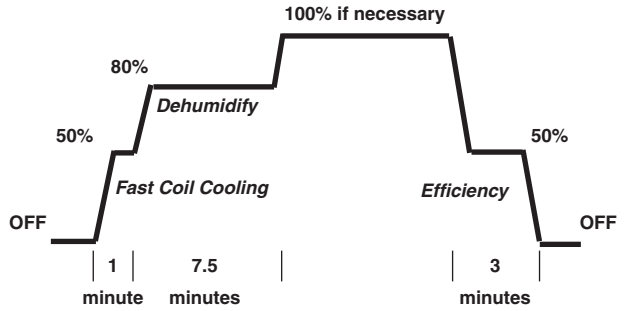
** - This selection provides a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. The graph below shows the ramping process.

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	*UH2D120A9V5VB
TYPE	Upflow / Horizontal
RATINGS ②	
1st Stage Input BTUH	78,000
1st Stage Capacity BTUH (ICS) ③	75,426
2nd Stage Input BTUH	120,000
2nd Stage Capacity BTUH (ICS) ③	116,040
AFUE	96.7
Temp. rise (Min.-Max.) °F.	40 - 70
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	1
R.P.M.	Variable
Volts / Ph / Hz	115/1/60
FLA	12.8
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 - 24x25 - 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	6 — 45
L.P. Gas Qty. — Drill Size	6 — 56
GAS VALVE	Redundant - Two Stage
PILOT SAFETY DEVICE	
Type	Hot Surface Igniter
BURNERS — Type	Multiport Inshot
Number	6
POWER CONN. — V / Ph / Hz ④	115/1/60
Ampacity (In Amps)	17.2
Max. Overcurrent Protection (Amps)	20
PIPE CONN. SIZE (IN.)	1/2
DIMENSIONS	H x W x D
Crated (In.)	41-3/4 x 26-1/2 x 30-1/2
WEIGHT	
Shipping (Lbs.) / Net (Lbs)	206 / 193

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.

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

American Standard
Heating & Air Conditioning
6200 Troup Highway
Tyler, TX 75711-9010
www.americanstandardair.com