

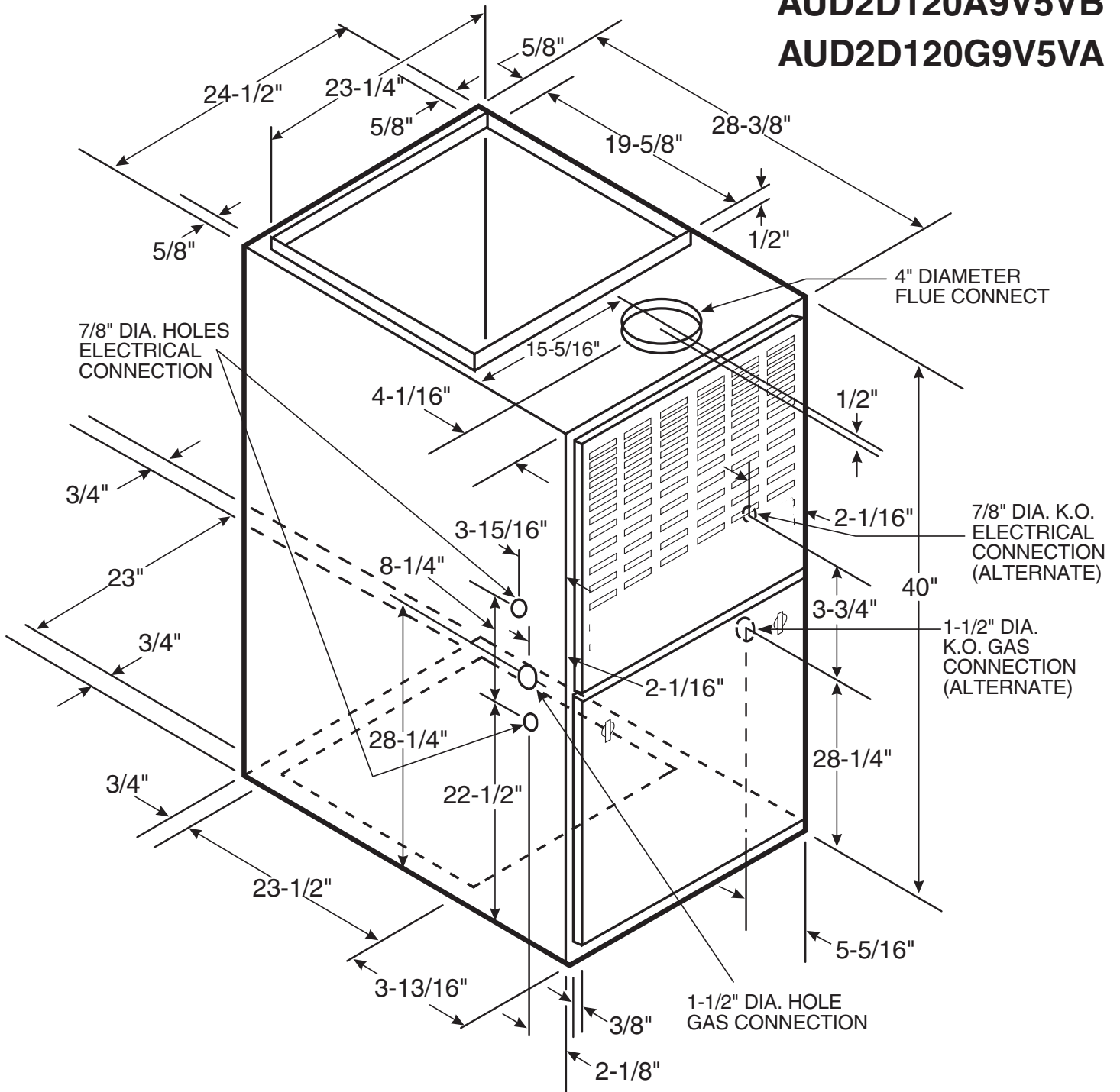
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**SPECIFICATION**

**Upflow/Horizontal  
Gas Furnace - Variable  
Speed - 2 Stage Heat**

**AUD2D120A9V5VB**

**AUD2D120G9V5VA**



<b>*UD2D120A9V5VB, *UD2D120G9V5VA FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER</b>									
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW7	SW8		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1007 57 114	1062 54 177	1084 53 285	1063 54 303	1063 54 350
	MEDIUM **	ON	OFF	CFM TEMP. RISE WATTS	1154 50 167	1211 48 230	1211 48 277	1221 47 344	1212 48 417
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1288 45 208	1319 44 273	1310 44 330	1349 43 410	1358 43 460
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1387 64 250	1421 63 320	1455 61 400	1488 60 460	1495 59 540
	MEDIUM **	ON	OFF	CFM TEMP. RISE WATTS	1589 56 350	1637 54 440	1666 53 535	1678 53 600	1541 58 575
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1771 50 475	1788 50 560	1804 49 650	1751 51 675	1554 57 590

<b>*UD2D120A9V5VB, *UD2D120G9V5VA FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER</b>											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING (See Notes)	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW1	SW2	SW3	SW4		0.1	0.3	0.5	0.7	0.9
3.5	LOW (350 CFM/ TON)	OFF	ON	OFF	ON	CFM WATTS	1195 150	1243 225	1235 275	1251 325	1251 410
	NORMAL (400 CFM/ TON)	OFF	ON	OFF	OFF	CFM WATTS	1353 210	1403 290	1417 370	1437 425	1458 485
	HIGH (450 CFM/ TON)	OFF	ON	ON	OFF	CFM WATTS	1554 315	1572 410	1615 480	1634 570	1567 575
4	LOW (350 CFM/ TON)	ON	OFF	OFF	ON	CFM WATTS	1356 200	1391 280	1399 370	1433 420	1454 510
	NORMAL (400 CFM/ TON)	ON	OFF	OFF	OFF	CFM WATTS	1565 320	1584 410	1633 475	1639 560	1554 575
	HIGH (450 CFM/ TON)	ON	OFF	ON	OFF	CFM WATTS	1766 450	1799 550	1810 650	1784 685	1590 600
5 **	LOW (350 CFM/ TON)	OFF	OFF	OFF	ON	CFM WATTS	1708 420	1758 530	1759 585	1775 675	1575 585
	NORMAL ** (400 CFM/ TON)	OFF	OFF	OFF	OFF	CFM WATTS	1994 665	2018 775	1971 785	1814 725	1618 625
	HIGH (450 CFM/ TON)	OFF	OFF	ON	OFF	CFM WATTS	2247 975	2152 925	2019 860	1861 765	1693 680

NOTES: "CONTINUOUS FAN SETTING" IS THERMOSTAT FAN SWITCH "ON" AND DIP SWITCHES 5 AND 6 "ON".

1. \*FIRST LETTER MAY BE "A" OR "T"

2. \*\*FACTORY SETTING.

3. CONTINUOUS FAN SETTING: HEATING OR COOLING AIRFLOW IS APPROXIMATELY 50% OF SELECTED COOLING VALUE.

4. LOW 350 CFM/TON IS RECOMMENDED FOR VARIABLE SPEED APPLICATION FOR COMFORT & HUMID CLIMATE SETTING: NORMAL IS 400 CFM/TON: HIGH 450 CFM/TON IS FOR DRY CLIMATE SETTING.

## INDOOR BLOWER TIMING

**Heating:** The ECM 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 ECM 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:

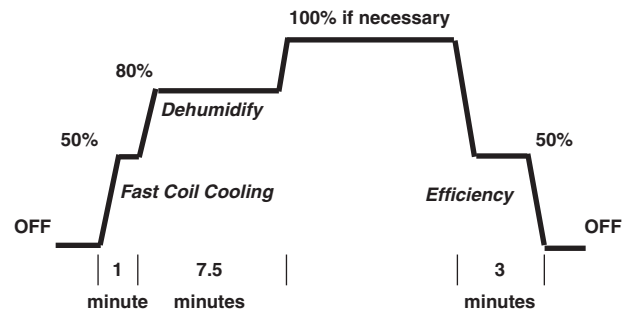
\*\* - This selection provides a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. The graph below shows the ramping process.

## 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

TYPE	Upflow/Horizontal
<b>RATINGS 2</b>	
1st Stage Input BTUH	78,000
1st Stage Capacity BTUH (ICS) 3	62,400
2nd Stage Input BTUH	120,000
2nd Stage Capacity BTUH (ICS) 3	97,000
Temp. rise (Min.-Max.) °F.	35 - 65
<b>BLOWER DRIVE</b>	
	DIRECT
Diameter-Width (In.)	10 x 10
No. Used	1
Speeds (No.)	VARIABLE SPEED
CFM vs. in. w.g.	See Fan Performance
Motor HP	1
R.P.M.	VARIABLE
Volts/Ph/Hz	115/1/60
FLA	12.8
<b>COMBUSTION FAN - Type</b>	
	Centrifugal
Drive - No. Speeds	Direct - 2
Motor HP - RPM	1/60 - 3090 / 2225
Volts/Ph/Hz	115/1/60
F.L. Amps	1.14 / 0.51
<b>FILTER — Furnished?</b>	
	Yes
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.) Shipped	1 - 24 x 25 - 1in.

<b>VENT COLLAR — Size (in.)</b>	4 Round
<b>HEAT EXCHANGER</b>	
Type-Fired	Alum. Steel
-Unfired	
Gauge (Fired)	20
<b>ORIFICES — Main</b>	
Nat. Gas. Qty. — Drill Size	6 — 45
L.P. Gas Qty. — Drill Size	6 — 56
<b>GAS VALVE</b>	
	Redundant - Two Stage
<b>PILOT SAFETY DEVICE</b>	
Type	Hot Surface Ignition
<b>BURNERS — Type</b>	
	Multiport Inshot
Number	6
<b>POWER CONN. — V/Ph/Hz ④</b>	
	115/1/60
Ampacity (In Amps)	15.3
Max. Overcurrent Protection (amps)	20
<b>PIPE CONN. SIZE (IN.)</b>	
	1/2
<b>DIMENSIONS</b>	
	H x W x D
Crated (In.)	41 - 3/4 x 26-1/2 x 30-1/2
Uncrated (In.)	40 x 24-1/2 x 28-1/2
<b>WEIGHT</b>	
Shipping (Lbs.)/Net (Lbs)	193 / 181

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

② Ratings shown are for elevations up to 2000 feet. For elevations above 2000 feet; Ratings should be reduced at the rate of 4% for each 1000 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 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 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 discharge of gas fumes to the outside, allows common venting with hot water heater.

**BURNERS** — Multi-port, in-shot 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.

**AIR DELIVERY** —The variable speed, direct-drive blower motor, with sufficient airflow range 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. (Fan relay and 35VA control transformer is standard).

**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.

**FEATURES AND GENERAL OPERATION** — These High Efficiency Gas Furnaces employ a Hot Surface Ignition system, which eliminates the waste of a constantly 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 differential switch.

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

Technical Literature - Printed in U.S.A.

American Standard  
Heating & Air Conditioning  
6200 Troup Highway  
Tyler, TX 75707  
www.americanstandardair.com



Library	-
Product Section	Furnaces
Product	Furnace
Model	AUD2-9V
Literature Type	Submittal
Sequence	-
Date	08/13
File No.	AUD2D120A9V-SPEC-1B
Supersedes	AUD2D120A9V-SPEC-1A