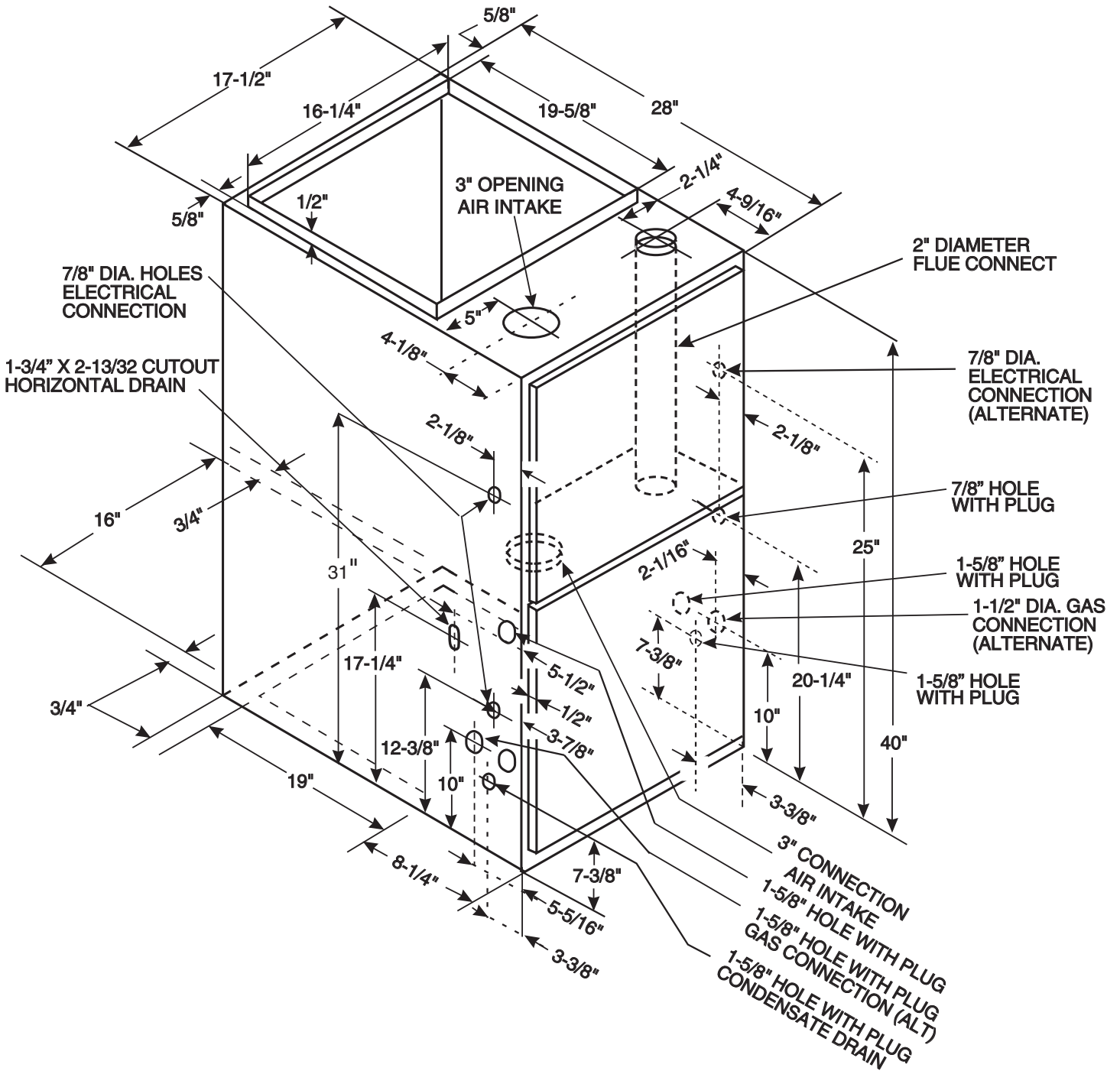


TAG: \_\_\_\_\_

# SUBMITTAL

**TDH2B060A9V3VB**  
**ADH2B060A9V3VB**

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



<b>*DH2B060A9V3V FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER</b>									
1st STAGE CAPACITY = 37,440 2nd STAGE CAPACITY = 57,600									
	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 TEMP. RISE WATTS	600 56 55	600 56 85	600 56 120	600 56 150	600 56 185
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	675 50 65	675 50 105	675 50 140	675 50 175	675 50 205
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	750 45 85	750 45 125	750 45 160	750 45 210	750 45 260
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	850 40 115	850 40 155	850 40 205	850 40 260	850 40 320
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	900 58 125	900 58 165	900 58 220	900 58 270	900 58 315
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1000 52 170	1050 50 230	1050 50 295	1050 50 335	1050 50 370
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	1100 47 215	1150 45 285	1150 45 340	1150 45 395	1100 47 440
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1300 40 330	1325 39 385	1325 39 455	1250 42 465	1200 43 470

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

<b>*DH2B060A9V3V FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER</b>											
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
1.5	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	525 45	525 70	525 100	525 135	525 160
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	600 55	600 85	600 120	600 150	600 185
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	675 65	675 105	625 140	675 175	675 205
2.0	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM WATTS	700 70	700 115	700 145	700 185	700 220
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM WATTS	800 100	800 135	800 175	800 225	800 280
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	900 125	900 165	900 220	900 270	900 330
2.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	875 115	875 160	875 210	875 260	875 310
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	1000 150	1000 207	1000 265	1000 320	1000 380
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1125 215	1125 285	1125 340	1125 395	1125 440
3	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1050 175	1050 240	1050 305	1050 345	1050 380
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1200 240	1200 315	1200 385	1200 440	1100 410
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1350 330	1350 410	1350 500	1275 485	1170 450

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:

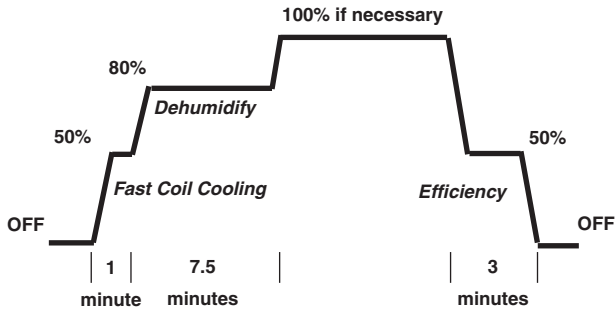
\*\* - This selection provides a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. The graph below shows the ramping process.

### 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>

<b>MODEL</b>	TDH2B060A9V3VB ADH2B060A9V3VB
<b>TYPE</b>	Downflow/Horizontal
<b>RATINGS <sup>②</sup></b>	
1st Stage Input BTUH	39,000
1st Stage Capacity BTUH (ICS) <sup>③</sup>	37,440
2nd Stage Input BTUH	60,000
2nd Stage Capacity BTUH (ICS) <sup>③</sup>	57,600
AFUE	96.0
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.)	2 - 14x20 - 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	3 — 45
L.P. Gas Qty. — Drill Size	3 — 56
<b>GAS VALVE</b>	Redundant - Two Stage
<b>PILOT SAFETY DEVICE</b>	
Type	Hot Surface Igniter
<b>BURNERS — Type</b>	Multiport Inshot
Number	3
<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)	160/146

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 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 furnace 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 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.

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

**Ingersoll Rand**  
6200 Troup Highway  
Tyler, TX 75707-9010

