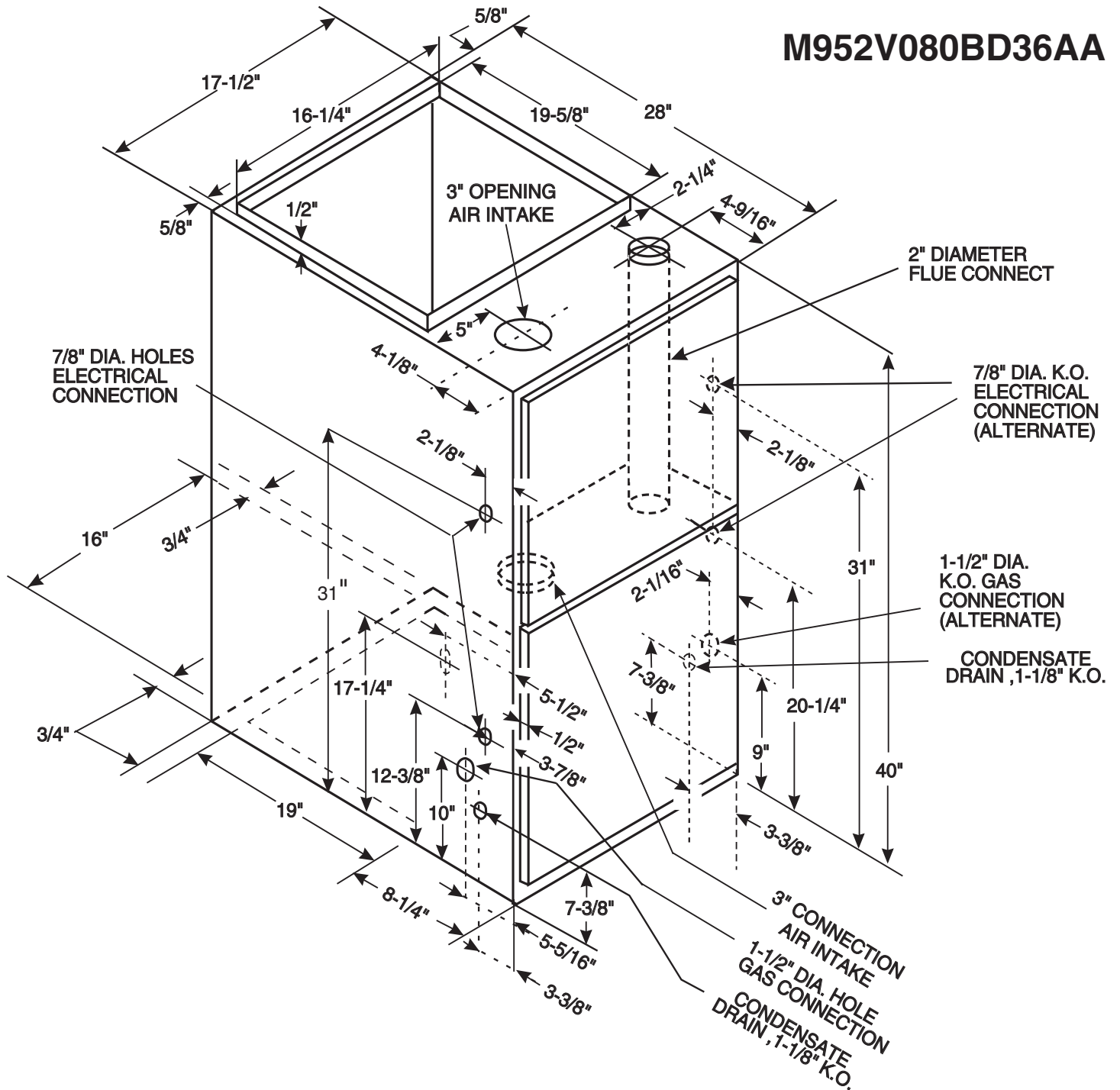


TAG: _____

SUBMITTAL

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

M952V080BD36AA



M952V080BD36AA FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
1st STAGE CAPACITY = 49,400 2nd STAGE CAPACITY = 76,000									
	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 TEMP. RISE WATTS	800 56 130	800 56 170	800 56 210	790 56 245	-
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	900 49 162	900 49 210	900 49 260	900 49 295	-
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	1000 44 205	1000 44 265	1000 44 310	1000 44 345	800 56 295
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1170 38 305	1170 38 350	1170 38 400	1020 44 360	830 54 310
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1150 60 285	1150 60 345	1150 60 385	1020 67*** 360	830 83*** 305
	MEDIUM LOW	OFF	ON	CFM TEMP. RISE WATTS	1275 54 380	1275 54 445	1200 57 425	1040 66*** 380	900 76*** 350
	NORMAL **	ON	OFF	CFM TEMP. RISE WATTS	1430 48 515	1340 51 490	1220 56 455	1090 63 410	930 74*** 380
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1430 48 515	1340 51 490	1220 56 455	1090 63 410	930 74*** 380
** Factory setting *** Above MAX Temperature change value									

M952V080BD36AA - 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	700 95	700 105	700 115	680 200	670 235
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM WATTS	800 130	800 160	800 205	790 245	740 265
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	900 160	900 215	900 255	900 300	750 270
2.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	875 145	875 185	875 240	875 280	760 270
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	1000 205	1000 265	1000 310	1000 340	800 295
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM WATTS	1150 295	1150 340	1150 385	1020 350	800 300
3.0	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1050 235	1050 295	1050 340	1010 350	800 290
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1200 335	1200 385	1200 410	1040 365	840 310
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1350 455	1350 480	1210 435	1070 390	900 345

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:

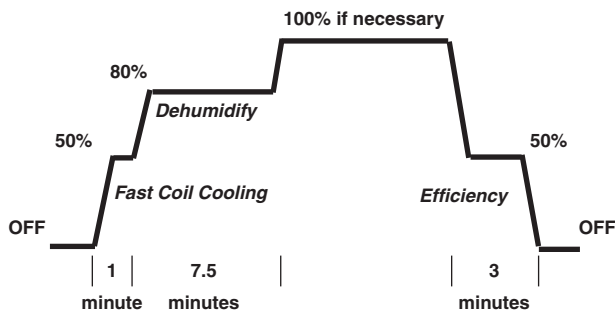
** - This selection provides a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. The graph below shows the ramping process.

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	M952V080BD36AA
TYPE	Downflow / Horizontal
RATINGS ^②	
1st Stage Input BTUH	52,000
1st Stage Capacity BTUH (ICS) ^③	49,400
2nd Stage Input BTUH	80,000
2nd Stage Capacity BTUH (ICS) ^③	76,000
AFUE	95.0
Temp. rise (Min.-Max.) °F.	35 - 65
BLOWER DRIVE	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
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.)	2 - 14x20 - 1 in.
VENT — Size (in.)	2 Round
HEAT EXCHANGER	
Type -Fired	Aluminized Steel - Type I
-Unfired	
Gauge (Fired)	20
ORIFICES — Main	
Nat. Gas Qty. — Drill Size	4 — 45
L.P. Gas Qty. — Drill Size	4 — 56
GAS VALVE	Redundant - Two Stage
PILOT SAFETY DEVICE	
Type	Hot Surface Igniter
BURNERS — Type	Multipoint Inshot
Number	4
POWER CONN. — V/Ph/Hz ^④	115/1/60
Ampacity (In Amps)	10.8
Max. Overcurrent Protection (Amps)	15
PIPE CONN. SIZE (IN.)	1/2
DIMENSIONS	H x W x D
Crated (In.)	41-3/4 x 19-1/2 x 30-1/2
WEIGHT	
Shipping (Lbs.) / Net (Lbs)	168 / 158

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 Company

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Library	Ameristar
Product Section	Furnaces
Product	Furnace
Model	M952V
Literature Type	Submittal
Sequence	-
Date	04/14
File No.	M952V080BD-SUB-1
Supersedes	New