

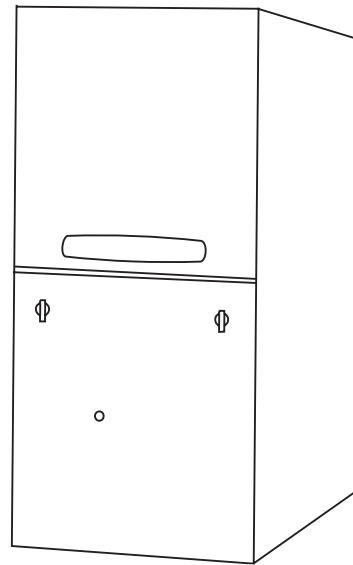
Submittal

Communicating Upflow/Horizontal Left Direct/Non-Direct Vent Modulating Gas Furnace with Variable Speed Inducer

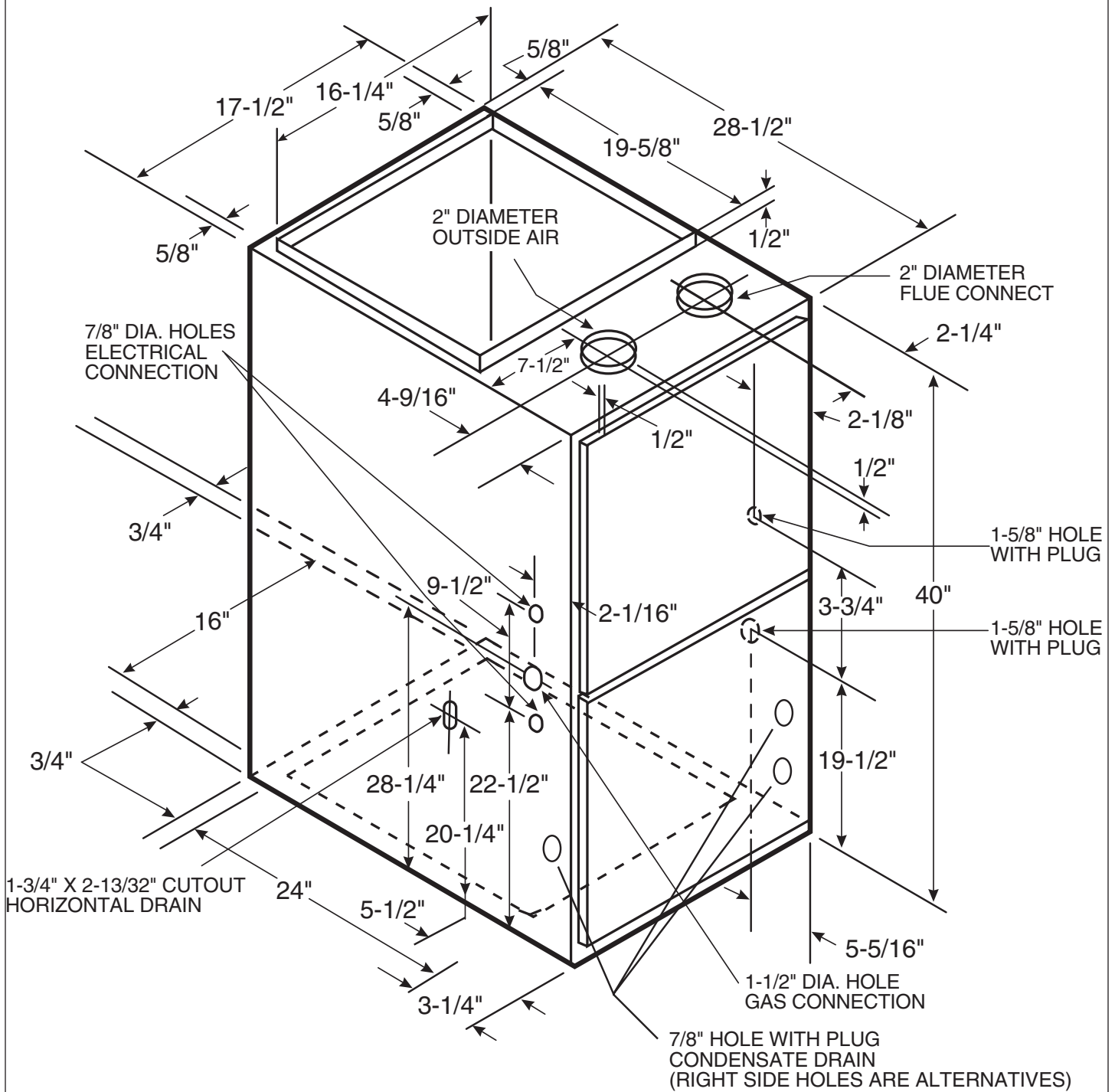
TUHMB080ACV3VB

AUHMB080ACV3VB

*UHM



Note: "Graphics in this document are for representation only.
Actual model may differ in appearance."



TUHMB080 Airflow – Heating

TUHMB080ACV3VB Furnace Heating Airflow (CFM) and Power (Watts) vs. External Static Pressure With Filter									
	Airflow Setting	Target Airflow (See Note 5)		External Static Pressure					
				0.1	0.3	0.5	0.7	0.9	
Heating	40% (low) Heat	Low	571	CFM	512	564	581	538	572
				Temp. Rise	70	63	62	66	62
				Watts	45	77	112	109	146
		Medium Low	643	CFM	586	634	649	606	634
				Temp. Rise	61	56	55	59	56
				Watts	57	90	129	127	177
		Medium**	714	CFM	661	704	717	673	696
				Temp. Rise	54	51	50	53	51
				Watts	71	106	148	146	207
		High	821	CFM	772	809	819	774	789
				Temp. Rise	46	44	44	46	45
				Watts	99	136	184	176	253
Heating	65% (medium) Heat	Low	806	CFM	757	794	805	760	776
				Temp. Rise	67	63	63	66	65
				Watts	95	132	179	172	246
		Medium Low	907	CFM	862	893	901	855	864
				Temp. Rise	59	56	56	59	58
				Watts	127	165	217	202	289
		Medium**	1008	CFM	967	992	997	951	951
				Temp. Rise	52	51	51	53	53
				Watts	165	205	262	235	332
		High	1159	CFM	1125	1139	1141	1093	1083
				Temp. Rise	45	44	44	46	47
				Watts	233	276	341	288	395
Heating	100% (high) Heat	Low	1120	CFM	1084	1101	1104	1056	1048
				Temp. Rise	65	64	63	66	67
				Watts	214	256	319	273	379
		Medium Low	1260	CFM	1230	1238	1237	1188	1170
				Temp. Rise	57	57	57	59	60
				Watts	286	331	401	325	437
		Medium**	1400	CFM	1376	1375	1370	1320	1292
				Temp. Rise	51	51	51	53	54
				Watts	369	418	495	381	496
		High	1610	CFM	1595	1580	1570	1519	1474
				Temp. Rise	44	44	45	46	48
				Watts	398	470	522	522	529

Notes:

- * First letter may be "A" or "T".
- ** Factory setting.
- Continuous Fan Setting: Heating or cooling airflow is approximately 50% of selected cooling value.
- 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.
- Target airflow is field selectable for third stage heating. Target airflow for first and second stage heating are percentages of third stage target and are not field selectable.

TUHMB080 Airflow – Cooling

TUHMB080ACV3VB Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure With Filter									
	Unit Outdoor	Airflow Setting		External Static Pressure					
				0.1	0.3	0.5	0.7	0.9	
Cooling	2	290 CFM/ton	CFM	504	565	586	521	540	
			Watts	34	70	104	138	172	
		310 CFM/ton	CFM	547	604	624	559	579	
			Watts	40	77	112	147	182	
		330 CFM/ton	CFM	590	644	663	597	617	
			Watts	47	85	121	157	193	
		350 CFM/ton	CFM	656	695	701	703	694	
			Watts	54	93	130	167	204	
		370 CFM/ton	CFM	676	724	740	674	694	
			Watts	62	102	140	179	217	
		400 CFM/ton	CFM	764	792	801	795	789	
			Watts	75	116	157	197	238	
		430 CFM/ton	CFM	806	844	856	788	810	
			Watts	89	133	175	216	259	
		450 CFM/ton	CFM	877	899	901	895	886	
			Watts	102	145	188	230	275	
	2.5	290 CFM/ton	CFM	660	709	726	659	680	
			Watts	59	99	136	174	212	
		310 CFM/ton	CFM	740	768	772	769	764	
			Watts	70	109	149	189	229	
		330 CFM/ton	CFM	768	809	822	755	776	
			Watts	81	123	164	205	246	
		350 CFM/ton	CFM	848	869	871	868	858	
			Watts	94	138	179	220	265	
		370 CFM/ton	CFM	875	909	918	850	872	
			Watts	107	153	197	240	284	
		400 CFM/ton	CFM	978	994	992	989	980	
			Watts	130	179	224	270	316	
		430 CFM/ton	CFM	1037	1058	1063	994	1017	
			Watts	157	209	258	305	354	
		450 CFM/ton	CFM	1093	1096	1082	1065	1051	
			Watts	174	227	276	324	378	
	3	290 CFM/ton	CFM	816	854	865	798	819	
			Watts	92	136	178	220	262	
		310 CFM/ton	CFM	881	914	923	855	877	
			Watts	108	155	199	242	286	
		330 CFM/ton	CFM	945	974	981	912	935	
			Watts	127	176	222	266	313	
		350 CFM/ton	CFM	1029	1043	1043	1035	1028	
			Watts	148	199	246	292	340	
		370 CFM/ton	CFM	1074	1093	1097	1027	1050	
			Watts	170	224	274	322	372	
		400 CFM/ton	CFM	1170	1181	1184	1180	1174	
			Watts	206	262	317	370	423	
		430 CFM/ton	CFM	1268	1276	1270	1199	1224	
			Watts	254	314	372	430	484	
		450 CFM/ton	CFM	1321	1321	1306	1295	1251	
			Watts	287	351	415	477	518	
	3.5	290 CFM/ton	CFM	972	998	1005	936	959	
			Watts	135	185	232	277	324	
		310 CFM/ton	CFM	1047	1068	1073	1003	1026	
			Watts	161	213	262	310	359	
		330 CFM/ton	CFM	1123	1138	1140	1070	1094	
			Watts	189	244	296	347	398	
		350 CFM/ton	CFM	1195	1204	1208	1205	1195	
			Watts	215	275	329	383	437	
		370 CFM/ton	CFM	1273	1278	1275	1204	1228	
			Watts	257	317	376	433	488	
		400 CFM/ton	CFM	1375	1385	1384	1383	1305	
			Watts	316	383	444	513	513	
		430 CFM/ton	CFM	1499	1487	1491	1392	1303	
			Watts	389	457	513	513	513	
		450 CFM/ton	CFM	1513	1512	1508	1418	1341	
			Watts	398	470	529	524	522	

Notes:

- * First letter may be "A" or "T".
- ^ Letter may be "A" through "Z"
- ** Factory setting.
- Continuous Fan Setting: Heating or cooling airflow is approximately 50% of selected cooling value.
- 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.

NOTE:

CONTINUOUS fan mode during COOLING operation may not be appropriate in humid climates. If the indoor air exceeds 60% relative humidity or simply feels uncomfortably humid, it is recommended that the fan only be used in the AUTO mode.

Airflow Adjustment

Check inlet and outlet air temperatures to make sure they are within the range specified on the Furnace rating nameplate. If the airflow needs to be increased or decreased, see the Airflow Label on the Furnace or the unit's Service Facts for information on changing the speed of the Blower Motor for your specific model. Blower speed changes are made on the User Interface.

INDOOR BLOWER TIMING

Heating: The Integrated Furnace Control module controls the Indoor Blower. The Blower start is fixed at 45 seconds after ignition. The FAN-OFF period is field selectable by the User Interface at 60, 100, 140, or 180 seconds. The factory setting is 100 seconds.

MODEL	TUHMB080ACV3VB ⑥ AUHMB080ACV3VB
TYPE	Upflow/Horizontal Left
RATINGS ②	
40% (low) heat Input BTUH	32,000
40% (low) heat Capacity BTUH (ICS) ③	31,000
100% (high) heat Input BTUH	80,000
100% (high) heat Capacity BTUH (ICS) ③	76,000
Temp. rise (Min.-Max.) °F	35 - 65
AFUE (Upflow / Horizontal)	97.0 / 96.2
BLOWER DRIVE	
Diameter - Width (In.)	DIRECT 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	6.4 ⑦
COMBUSTION FAN - Type	
Drive - No. Speeds	Centrifugal Direct - Variable
Motor HP - RPM	1/50 - 5000
Volts/Ph/Hz	115/3/60
FLA	1.0
FILTER — Furnished?	
Type Recommended	Yes High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 17x25 - 1 in.
VENT — Size (in.)	
2 Round	
HEAT EXCHANGER	
Type	-Fired -Unfired Aluminized Steel - Type I
Gauge (Fired)	20
ORIFICES — Main	
Nat. Gas. Qty. — Drill Size	4 — 45
L.P. Gas Qty. — Drill Size ⑤	4 — 56
GAS VALVE	
Redundant - Three Stage	
PILOT SAFETY DEVICE	
Type	Hot Surface Igniter
BURNERS — Type	
Number	Multiport Inshot 4
POWER CONN. — V/Ph/Hz ④	
Ampacity (In Amps)	115/1/60 9.2
Max. Overcurrent Protection (Amps)	15
PIPE CONN. SIZE (IN.)	
1/2	
DIMENSIONS	
Crated (In.)	H x W x D 41-3/4 x 19-1/2 x 30-1/2
WEIGHT	
Shipping (Lbs.)/Net (Lbs)	168 / 156

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.

⑤ Furnace ships in natural gas configuration. The LP conversion kit used with the modulating furnace is BAYLPSS220B or BAYLPKT220B.

⑥ Energy Star

⑦ Check motor nameplate for actual FLA

Mechanical Specifications

MODULATING OPERATION

The modulating gas valve provides longer heating cycles for more consistent heating comfort. Modulates from 40% to 100% in less than 1% increments of the furnace's heating capacity saving energy, while at the same time providing maximum homeowner comfort.

COMMUNICATING MODE

Furnace is shipped ready to be connected in communicating mode using three wire hook-up using A/TCNT900 comfort control.

ALTERNATE 24V MODE

Furnace is field configurable to 24V non-communicating mode.

COMFORT CONTROL

Communicating furnace design, offers plug and play – walk away installation. Assures the entire heating and air conditioning system is set up in the proper modes to optimize the engineered performance of the matched system installed. The furnace can also be connected in 24V mode.

NATURAL GAS MODELS

Central Heating furnace designs are certified by the American Gas Association 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.

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.

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 aluminumized 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

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. Also contains connection points for EAC and Humidifier.

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.

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.

About Trane and American Standard Heating and Air Conditioning

Trane and American Standard create comfortable, energy efficient indoor environments for residential applications. For more information, please visit www.trane.com or www.americanstandardair.com



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