American Standard
HEATING & AIR CONDITIONING

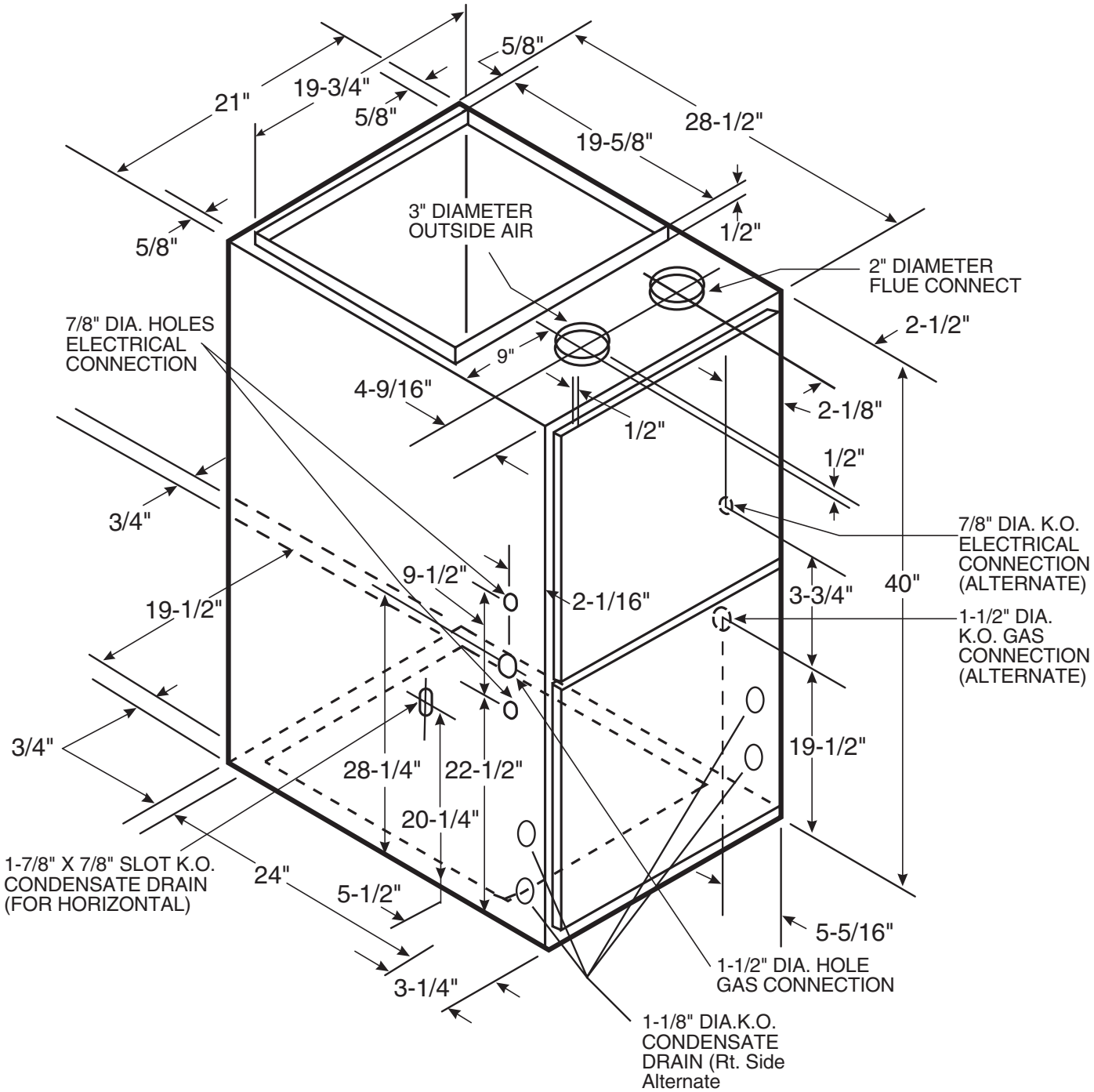
AUHMC100-SPEC-1D

TAG: _____

SPECIFICATION

AUHMC100ACV4VB

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



AUHMC100 Airflow - Heating

Heating

***UHMC100ACV4VB^** 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
40% (low) Heat	Low	606	CFM	592	617	623	617	606
			Temp. Rise	61	59	58	59	60
			Watts	78	109	141	173	233
	Medium Low	639	CFM	626	651	655	649	639
			Temp. Rise	58	56	55	56	57
			Watts	79	110	142	175	236
	Medium**	672	CFM	660	684	688	682	671
			Temp. Rise	55	53	53	53	54
			Watts	81	111	144	177	241
	High	743	CFM	732	755	757	751	739
			Temp. Rise	50	48	48	48	49
			Watts	87	115	149	185	254
65% (medium) Heat	Low	1051	CFM	1048	1065	1060	1052	1038
			Temp. Rise	60	59	59	60	61
			Watts	149	169	208	252	358
	Medium Low	1109	CFM	1107	1123	1116	1108	1094
			Temp. Rise	57	56	56	57	58
			Watts	167	186	226	271	386
	Medium**	1166	CFM	1165	1181	1173	1165	1150
			Temp. Rise	54	53	54	54	55
			Watts	187	204	245	292	417
	High	1289	CFM	1291	1304	1293	1284	1269
			Temp. Rise	49	48	49	49	50
			Watts	236	250	293	343	490
100% (high) Heat	Low	1460	CFM	1466	1476	1461	1451	1435
			Temp. Rise	60	59	60	60	61
			Watts	319	330	374	430	613
	Medium Low	1540	CFM	1548	1556	1540	1529	1512
			Temp. Rise	57	56	57	57	58
			Watts	364	373	419	476	679
	Medium**	1620	CFM	1629	1637	1618	1608	1590
			Temp. Rise	54	54	54	54	55
			Watts	413	419	467	527	750
	High	1790	CFM	1803	1807	1785	1774	1755
			Temp. Rise	49	48	49	49	50
			Watts	529	532	582	646	864

Notes:
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.
5. 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.

AUHMC100 Airflow - Cooling

Cooling

***UHMC100ACV4VB^** 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
2.5	290 CFM/ton	CFM	714	734	739	733	722
		Watts	79	118	157	194	231
	310 CFM/ton	CFM	765	784	789	782	770
		Watts	88	128	168	206	244
	330 CFM/ton	CFM	816	834	838	831	819
		Watts	96	138	179	220	258
	350 CFM/ton	CFM	868	884	887	880	867
		Watts	103	149	192	234	273
	370 CFM/ton	CFM	919	934	936	929	916
		Watts	117	161	205	249	290
	400 CFM/ton	CFM	995	1009	1009	1002	989
		Watts	135	181	227	274	316
	430 CFM/ton	CFM	1072	1084	1083	1075	1061
		Watts	156	204	253	302	346
	450 CFM/ton	CFM	1123	1134	1132	1124	1110
		Watts	171	220	271	322	368
3	290 CFM/ton	CFM	862	879	882	875	863
		Watts	105	148	190	232	272
	310 CFM/ton	CFM	924	939	941	934	921
		Watts	118	162	207	250	291
	330 CFM/ton	CFM	985	999	1000	992	979
		Watts	133	178	224	270	313
	350 CFM/ton	CFM	1046	1059	1059	1051	1037
		Watts	149	196	244	292	336
	370 CFM/ton	CFM	1108	1119	1117	1109	1095
		Watts	167	215	265	316	362
	400 CFM/ton	CFM	1200	1209	1206	1197	1183
		Watts	197	248	301	355	404
	430 CFM/ton	CFM	1292	1299	1294	1285	1270
		Watts	232	286	343	400	453
	450 CFM/ton	CFM	1353	1359	1353	1344	1328
		Watts	258	314	373	432	488
3.5	290 CFM/ton	CFM	1011	1024	1024	1017	1003
		Watts	139	185	232	279	322
	310 CFM/ton	CFM	1082	1094	1093	1085	1071
		Watts	159	207	256	306	351
	330 CFM/ton	CFM	1154	1164	1162	1153	1139
		Watts	181	231	283	335	382
	350 CFM/ton	CFM	1225	1234	1230	1222	1207
		Watts	206	258	312	367	417
	370 CFM/ton	CFM	1297	1304	1299	1290	1275
		Watts	234	288	345	402	455
	400 CFM/ton	CFM	1404	1409	1402	1393	1377
		Watts	281	340	400	462	520
	430 CFM/ton	CFM	1512	1514	1505	1495	1478
		Watts	336	399	464	530	595
	450 CFM/ton	CFM	1583	1584	1574	1564	1546
		Watts	377	444	512	580	650
4	290 CFM/ton	CFM	1159	1169	1167	1158	1144
		Watts	183	233	285	337	385
	310 CFM/ton	CFM	1241	1249	1245	1236	1221
		Watts	212	264	319	374	425
	330 CFM/ton	CFM	1323	1329	1324	1315	1299
		Watts	244	300	358	416	470
	350 CFM/ton	CFM	1404	1409	1402	1393	1377
		Watts	281	340	400	462	520
	370 CFM/ton	CFM	1486	1489	1481	1471	1454
		Watts	322	384	448	513	576
	400 CFM/ton	CFM	1609	1609	1599	1588	1571
		Watts	393	461	530	599	671
	430 CFM/ton	CFM	1732	1730	1716	1705	1687
		Watts	475	550	624	698	781
	450 CFM/ton	CFM	1813	1810	1795	1783	1765
		Watts	536	617	694	772	864

Notes:
1. * First letter may be "A" or "T".
2. ^ Letter may be "A" through "Z"
3. ** Factory setting.
4. Continuous Fan Setting: Heating or cooling airflow is approximately 50% of selected cooling value.
5. 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	**AUHMC100ACV4VB**
TYPE	Upflow/ Horizontal Left
RATINGS ②	
40% (low) heat Input BTUH	40,000
40% (low) heat Capacity BTUH (ICS) ③	38,400
100% (high) heat Input BTUH	100,000
100% (high) heat Capacity BTUH (ICS) ③	96,000
Temp. rise (Min.-Max.) °F.	35 - 65
AFUE	96.0
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	7.4
FLACOMBUSTION FAN - Type	Centrifugal
Drive - No. Speeds	Direct - Variable
Motor HP - RPM	1/50 - 5000
Volts / Ph / Hz	115/3/60
FLA	1.0
FILTER — Furnished?	Yes
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 20x25 - 1 in.
VENT Size Min. (in.)	2.5 Round
HEAT EXCHANGER	
Type -Fired	Aluminized Steel - Type I
-Unfired	
Gauge (Fired)	20
ORIFICES — Main	
Nat. Gas. Qty. — Drill Size	5 — 45
L.P. Gas Qty. — Drill Size ⑤	5 — 56
GAS VALVE	Redundant - Three Stage
PILOT SAFETY DEVICE	
Type	Hot Surface Igniter
BURNERS — Type	Multiport Inshot
Number	5
POWER CONN. — V / Ph / Hz ④	115/1/60
Ampacity (In Amps)	10.4
Max. Overcurrent Protection (Amps)	15
PIPE CONN. SIZE (IN.)	1/2
DIMENSIONS	H x W x D
Crated (In.)	41-3/4 x 23 x 30-1/2
WEIGHT	
Shipping (Lbs.) / Net (Lbs)	197 / 185

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.

Mechanical Specifications

MODULATING OPERATION
The modulating gas valve provides longer heating cycles for more consistent heating comfort. Modulates from 45% to 100% of the normal firing rates 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 ACONT900 comfort control.

ALTERNATE 24V MODE
Furnace is field cofigurable to 24V non-communicating mode.

COMFORT CONTROL
Acculink II™ 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 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
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 FREEDOM 95 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 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.

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