Heating & Air Conditioning
Amana®
LASTS AND LASTS AND LASTS.®

AMEH96

Two-Stage Convertible Multi-Speed ECM Gas Furnace Up to 96% AFUE

Heating Input: 40,000–100,000 BTU/h

Standard Features

- Energy-efficient multi-speed ECM blower motor
- Heavy-duty Million-Air® stainless-steel dual-diameter, tubular heat exchanger
- Stainless-steel secondary heat exchanger
- Two-stage convertible gas valve automatically adjusts to high or low stage
- Durable SureStart™ Silicon Nitride igniter
- Quiet single-speed draft inducer
- Self-diagnostic control board with constant memory fault code
- Color-coded low-voltage terminals with provisions for electronic air cleaner and humidifier
- Low continuous fan speed options offer quiet air circulation
- All models comply with California Low NOx emissions standards

Cabinet Features

- Multi-position installation: upflow, horizontal left or right
- Certified for direct vent (2-pipe) or non-direct vent (1-pipe)
- Easy-to-install top venting with optional side venting
- Convenient left or right connection for gas and electrical service
- Cabinet air leakage (Q_{Leak}) ≤ 2%
- Heavy-gauge steel cabinet with durable baked-enamel finish
- Fully insulated heat exchanger and blower section
- Airtight solid bottom or side return with easy-cut tabs for effortless removal in bottom air-inlet applications

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LIFETIME UNIT REPLACEMENT LIMITED WARRANTY* 10 YEAR PARTS LIMITED WARRANTY*

* Complete warranty details available from your local dealer or at www.amana-hac.com. To receive the Lifetime Unit Replacement Limited Warranty (good for as long as you own your home) and 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Québec.

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Supercede 9/13

NOMENCLATURE

A	M	E	H	96	060	3	B	N	A	A
1	2	3	4	5,6	7,8,9	10	11	12	13	14

Brand
A- Amana

Configuration
M - Upflow/Horizontal
C - Downflow/Horizontal
K - Dedicated Upflow
D - Dedicated Downflow

Motor
V - Variable Speed/ComfortNet
E - High Efficiency
S - Single Speed

Gas Valuve
M - Modulating
C - 2 Stage
H - Convertible 2 Stage
S - Single Stage

AFUE
97 - 97% AFUE
80 - 80% AFUE

MBTU/h
040 - 40,000 BTU/h
060 - 60,000 BTU/h
140 - 140,000 BTU/h

Minor Revision
A - Initial Release
B - 1st Revision

Major Revision
A - Initial Release
B - 1st Revision

NOx
N - Natural Gas
X - Low NOx

Cabinet Width
A - 14"
B - 17½"
C - 21"
D - 24½"

Maximum CFM
3 - 1200 CFM
4 - 1600 CFM
5 - 2000 CFM

Specifications

	AMEH96 0403BX**	AMEH96 0603BX**	AMEH96 0805CX**	AMEH96 1005DX**
Heating Capacity				
Input[1]	40,000	60,000	80,000	100,000
Natural Gas Output[1]	38,400	57,700	76,900	96,100
LP Gas Output[1]	38,400	57,700	76,900	96,100
AFUE[2]	96.1	96.1	96.1	96.1
Available AC @ 0.5” ESP	3	3	5	5
Temperature Rise Range (°F)	15-45	30-60	30-60	35-65
Circulator Blower				
Size (D x W)	10” x 8”	10” x 8”	10” x 10”	11” x 10”
Horsepower	½	½	1	1
Speed	5	5	5	5
Vent Diameter[3]	2”	2”	3”	3”
No. of Burners	2	3	4	5
Disposable Filter Size (in²)	580	580	960	960
Electrical Data				
Min. Circuit Ampacity[5]	7.9	9.2	10.0	11.1
Max. Overcurrent Device (amps)[6]	15	15	15	15
Ship Weight (lbs)	120	124	144	162

[1] Natural Gas BTU/h. For altitudes above 2,000’, reduce input rating 4% for each 1,000’ above sea level. Low-fire rate is 75% of high-fire rate

[2] DOE AFUE based upon Isolated Combustion System (ICS)

[3] Vent and combustion air diameters may vary depending upon vent length. Refer to the latest editions of the National Fuel Gas Code NFPA 54/ANSI Z223.1 (in the USA) and the Canada National Standard of Canada, CAN/CSA B149.1 and CAN/CSA B142.2 (in Canada).

[4] Permanent air filter size is based on 600 FPM velocity. Check with filter manufacturer for specific details.

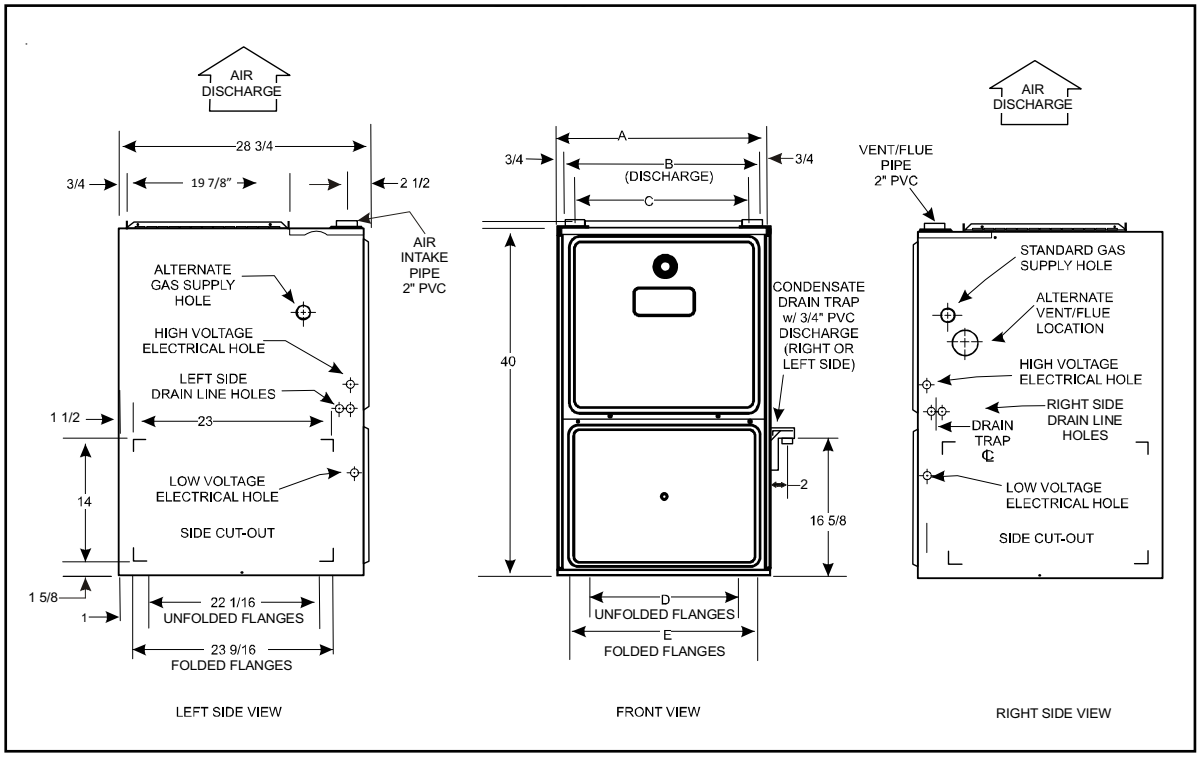
[5] Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

[6] Maximum Overcurrent Protection Device refers to maximum recommended fuse or circuit breaker size. May use fuses or HACR-type circuit breakers of the same size as noted.

Notes

- All furnaces are manufactured for use on 115 VAC, 60 Hz, single-phase electrical supply.
- Gas Service Connection ½” FPT
- Important: Size fuses and wires properly and make electrical connections in accordance with the National Electrical Code and/or all existing local codes.

Dimensions



Model	A	B	C	D	E
AMEH960403BX**	17½"	16"	13⅛"	12⅛"	13⅜"
AMEH960603BX**	17½"	16"	13⅛"	12⅛"	13⅜"
AMEH960805CX**	21"	19½"	16⅛"	16	17½"
AMEH961005DX**	24½"	23"	20⅝"	19⅜"	20⅞"

Notes:

- Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run, and installation (1 or 2 pipes). The optional combustion air pipe is dependent on installation/code requirements and must be 2" or 3" diameter PVC.
- Line voltage wiring can enter through the right or left side of furnace. Low-voltage wiring can enter through the right or left side of furnace.
- Conversion kits for high-altitude natural gas operation are available. Contact your Goodman distributor or dealer for details.
- Installer must supply the following gas line fittings, according to which entrance is used:
  Left: One 90º street elbow; one 2½" pipe nipple; one 90º elbow; straight pipe; one ground joint union
  Right: Straight pipe to reach gas valve
- Installations using a bottom return: Failure to unfold duct flanges will reduce airflow area by approximately 18%. This could result in performance and noise issues.

Minimum Clearances to Combustible Materials

Position	Sides	Rear	Front	Bottom	Flue	Top
Upflow	0"	0"	1"	C	0"	1"
Horizontal	6"	0"	1"	C	0"	4"

- C = If placed on combustible floor, the floor MUST be wood ONLY.
- For servicing or cleaning, a 24" front clearance is recommended.
- Unit connections (electrical, flue, and drain) may necessitate greater clearances than the minimum clearances listed above.
- **In all cases, accessibility clearance must take precedence over clearances from the enclosure where accessibility clearances are greater.**
- Approved for line contact in the horizontal position

Airflow Data

(CFM & Temperature Rise vs. External Static Pressure)

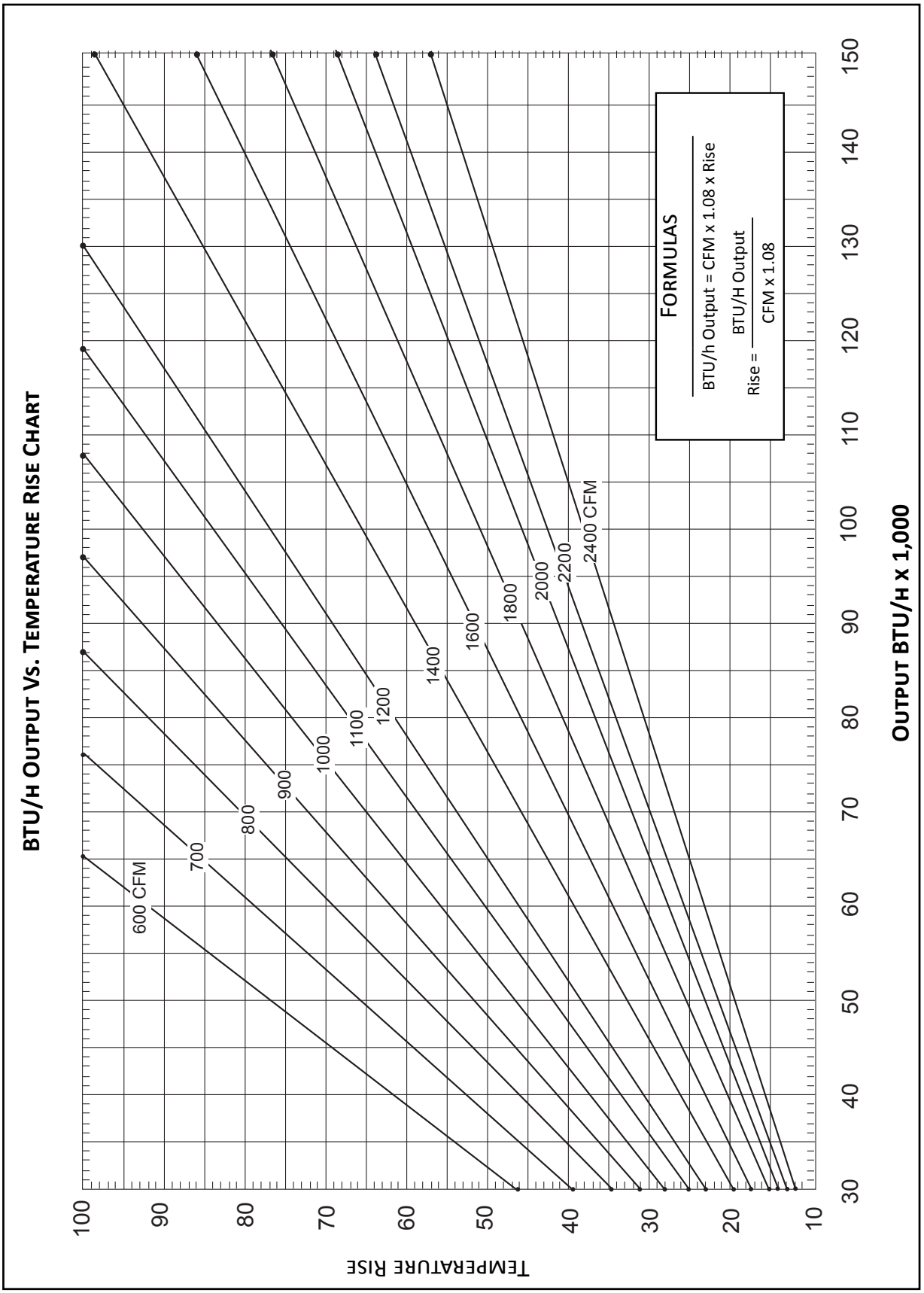
Model	Motor Speed	Tons AC [1]	External Static Pressure, (Inches Water Column)												
			0.1		0.2		0.3		0.4		0.5		0.6	0.7	0.8
			CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	CFM	CFM
AMEH96 0403BX** (MED-HI \ T4)	T1	1.5	726	48	670	53	617	57	553	64	490	72	429	378	336
	T2	2.0	905	39	860	41	812	43	761	46	712	49	663	610	574
	T3	2.5	1,121	31	1,074	33	1,039	34	998	35	959	37	923	882	839
	T4	3.0	1,274	28	1,239	28	1,199	29	1,166	30	1,129	31	1,096	1,059	1,021
	T5	3.0	1,306	27	1,261	28	1,232	29	1,195	29	1,162	30	1,132	1,090	1,057
AMEH96 0603BX** (MED-HI \ T4)	T1	1.5	714	80	667	79	604	87	548	96	484	109	422	367	325
	T2	2.0	904	58	851	62	804	66	761	69	708	75	664	612	572
	T3	2.5	1,125	47	1,075	49	1,045	51	999	53	956	55	921	877	839
	T4	3.0	1,312	40	1,271	42	1,228	43	1,202	44	1,165	45	1,127	1,087	1,044
	T5	3.5	1,423	37	1,386	38	1,354	39	1,321	40	1,278	41	1,210	1,134	1,032
AMEH96 0805CX** (MED-HI \ T4)	T1	3.0	1,297	54	1,253	56	1,209	58	1,161	61	1,111	63	1,067	1,022	974
	T2	3.5	1,507	47	1,455	48	1,422	49	1,377	51	1,334	53	1,296	1,251	1,195
	T3	4.0	1,677	42	1,637	43	1,602	44	1,562	45	1,526	46	1,484	1,441	1,324
	T4	4.0	1,879	37	1,842	38	1,800	39	1,762	40	1,700	41	1,566	1,437	1,319
	T5	5.0	2,044	35	1,967	36	1,894	37	1,795	39	1,702	41	1,578	1,452	1,320
AMEH96 1005DX** (MED-HI \ T4)	T1	3.0	1,331	66	1,275	69	1,206	73	1,145	77	1,080	81	1,021	953	889
	T2	3.5	1,512	58	1,452	60	1,392	63	1,336	66	1,279	69	1,219	1,175	1,115
	T3	4.0	1,713	51	1,666	53	1,614	57	1,569	56	1,513	58	1,468	1,414	1,364
	T4	4.0	1,892	46	1,845	48	1,802	49	1,752	50	1,707	52	1,656	1,614	1,577
	T5	5.0	2,080	42	2,038	43	2,005	44	1,960	45	1,920	46	1,879	1,843	1,791

[1] @0.5” ESP

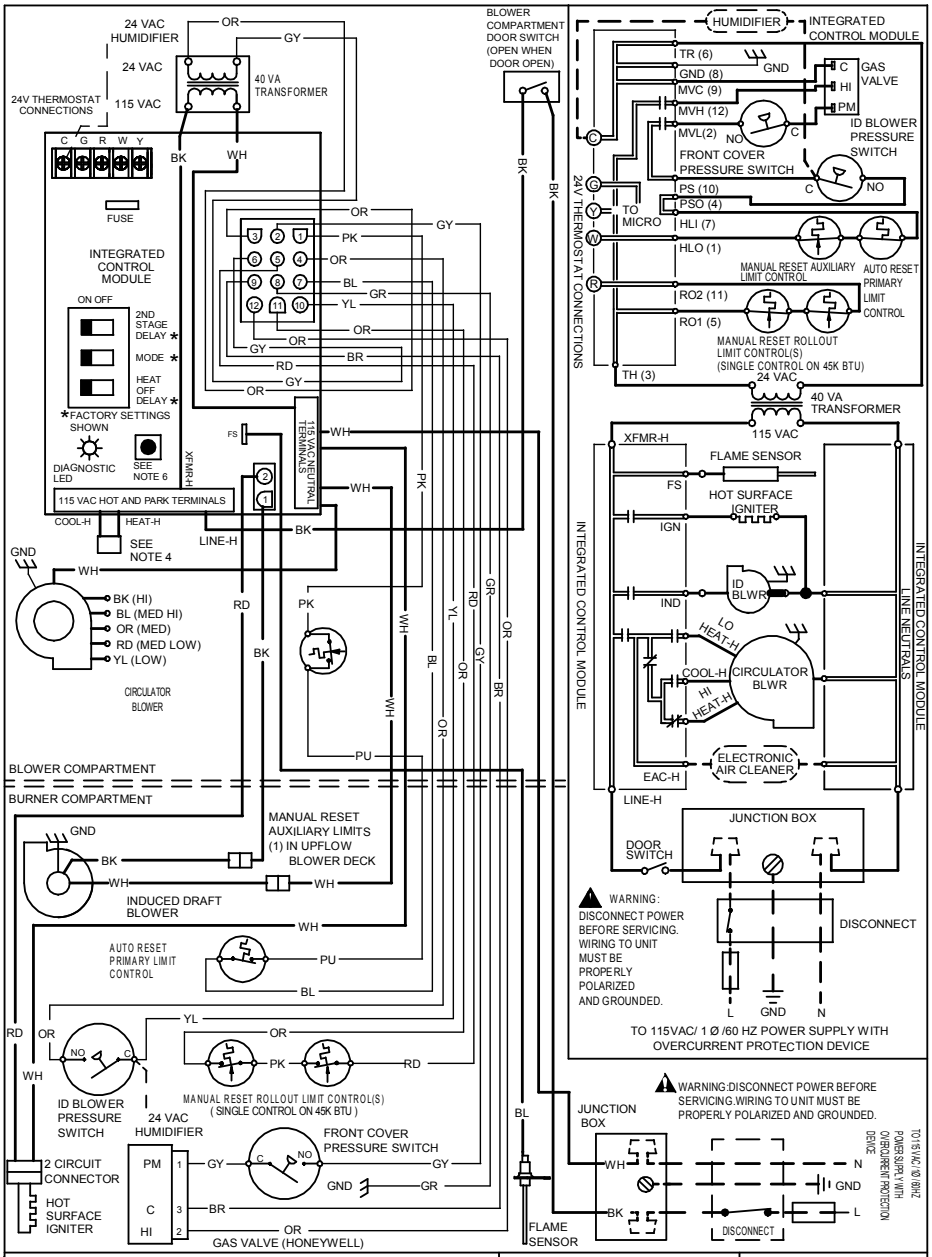
Notes

- CFM in chart is without filter(s). Filters do not ship with this furnace, but must be provided by the installer.
- All furnaces ship as high-speed cooling and medium-speed heating. Installer must adjust blower cooling & heating speed as needed.
- For most applications, about 400 CFM per ton when cooling is desirable.
- INSTALLATION IS TO BE ADJUSTED TO OBTAIN TEMPERATURE RISE WITHIN THE RANGE SPECIFIED ON THE RATING PLATE.
- The chart is for information only. For satisfactory operation, external static pressure should not exceed value shown on the rating plate.
- The above chart is for furnaces installed at 0-2000 feet. At higher altitudes, a properly de-rated unit will have approximately the same temperature rise at a particular CFM, while ESP at the CFM will be lower.

Temperature Rise Chart



WIRING DIAGRAM



COLOR CODES:	
YL YELLOW	PK PINK
OR ORANGE	BR BROWN
PU PURPLE	WH WHITE
GN GREEN	BL BLUE
BK BLACK	GY GRAY
	RD RED

NOTES:
1. SET HEAT ANTICIPATOR ON ROOM THERMOSTAT AT 0.7 AMPS.
2. MANUFACTURERS SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
3. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C. USE COPPER CONDUCTORS ONLY.
4. BLOWER SPEEDS SHOULD BE ADJUSTED BY INSTALLER TO MATCH THE INSTALLATION REQUIREMENTS SO AS TO PROVIDE THE CORRECT HEATING TEMPERATURE RISE AND THE CORRECT CFM (SEE SPEC SHEET FOR AIR FLOW CHART).
5. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C. AND LOCAL CODES.
6. TO RECALL THE LAST 5 FAULTS, MOST RECENT TO LEAST RECENT, DEPRESS SWITCH FOR MORE THAN 2 SECONDS WHILE IN STANDBY (NO THERMOSTAT INPUTS)

0140F01115-A

High Voltage: Disconnect all power before servicing or installing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury, or death.

WARNING

Wiring is subject to change. Always refer to the wiring diagram or the unit for the most up-to-date wiring.

Accessories

Accessory	Description	AMEH96 0403BX*	AMEH96 0603BX*	AMEH96 0805CX*	AMEH96 1005DX*
LPM-06	LP Conversion Kit (Springs & Orifice) [1]	√	√	√	√
LPLP03	LP Gas Low-Pressure Kit	√	√	√	√
GSAS	Electronic Air Cleaners (-10, -11, -12, -18)	√	√	√	√
GMU	Media Air Cleaners (1620, 2020, 1625, 2025)	√	√	√	√
EFR01	External Filter Rack	√	√	√	√
DCVK-20	Horizontal/Vertical Concentric Vent Kit (2”)	√	√	---	---
DCVK-30	Horizontal/Vertical Concentric Vent Kit (3”)	√	√	√	√
0170K00000S	Flush-mount Vent Kit	√	√	√	√

[1] White-Rodgers and Honeywell valves
√ Indicates accessories available for this model

Note: All installations above 7,000’ require a pressure switch change. For installation in Canada, furnaces are certified only to 4,500’.

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