

HEATING INPUT: 40,000–80,000 BTU/H

## ULTRA LOW NOX, SINGLE-STAGE MULTI-SPEED ECM GAS FURNACE UP TO 97% AFUE



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### Standard Features

- Heavy-duty stainless-steel tubular heat exchanger
- Super-ferritic Stainless-steel secondary heat exchanger
- Single-stage gas valve
- Durable Silicon Nitride igniter
- Quiet multi-speed induced draft blower
- Self-diagnostic control board with constant memory fault code history output to a LED
- Eligible for installation in California's South Coast Air Quality Management District (SCAQMD) and San Joaquin Valley Air Pollution Control District (SJVUAPCD). This furnace complies with the 14 ng/J NOx emission limit in SCAQMD Rule 1111 and SJVUAPCD Rule 4905.
- AHRI Certified; ETL Listed

### Cabinet Features

- Designed for multi-position installation — AR9S96-U: 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 — AR9S96-U: upflow models only
- Convenient left or right connection for gas and electrical service
- Cabinet air leakage ( $Q_{Leak}$ )  $\leq$  1.4%
- Heavy-gauge steel cabinet with durable 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






COMPANY WITH  
 QUALITY SYSTEM  
 CERTIFIED BY DNV GL  
 ■ ISO 9001 ■

COMPANY WITH  
 ENVIRONMENTAL SYSTEM  
 CERTIFIED BY DNV GL  
 ■ ISO 14001 ■

\* Complete warranty details available from your local dealer or at [www.amana-hac.com](http://www.amana-hac.com). To receive the Lifetime Heat Exchanger Limited Warranty, the Lifetime Unit Replacement Limited Warranty (in both cases good for as long as you own your home), and the 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Québec. The duration of warranty coverage in Texas and Florida differs in some cases.



	AR9S96 0403BU	AR9S96 0603BU	AR9S96 0805CU
<b>HEATING DATA</b>			
High Fire Input <sup>1</sup>	40,000	60,000	80,000
High Fire Output <sup>1</sup>	38,800	58,200	77,600
AFUE <sup>2</sup>	97.0	97.0	97.0
Temperature Rise Range (°F)	15 - 45	30 - 60	30 - 60
Vent Diameter <sup>3</sup>	2" - 3"	2" - 3"	2" - 3"
No. of Burners Ports	2	3	4
<b>CIRCULATOR BLOWER</b>			
Available AC @ 0.5" ESP	1.5 - 3	1.5 - 3	2 - 5
Size (D x W)	10" x 8"	11" x 8"	11" x 10"
Horsepower @ 1075 RPM	1/2	1/2	1
Speed	9	9	9
<b>FILTER SIZE (IN<sup>2</sup>) (QTY)</b>	(1) 16 x 25 (side or bottom)	(1) 16 x 25 (side or bottom)	(1) 20 x 25 (bottom) or (2) 16 x 25 (side)
<b>ELECTRICAL DATA</b>			
Min. Circuit Ampacity <sup>4</sup>	8.5	8.5	15.1
Max. Overcurrent Device (amps) <sup>5</sup>	15	15	25
<b>SHIPPING WEIGHT (LBS)</b>	115	120	145
<b>ENERGY STAR CERTIFIED</b>			

<sup>1</sup> Natural Gas BTU/h

<sup>2</sup> DOE AFUE based upon Isolated Combustion System (ICS)

<sup>3</sup> 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.

<sup>4</sup> 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.

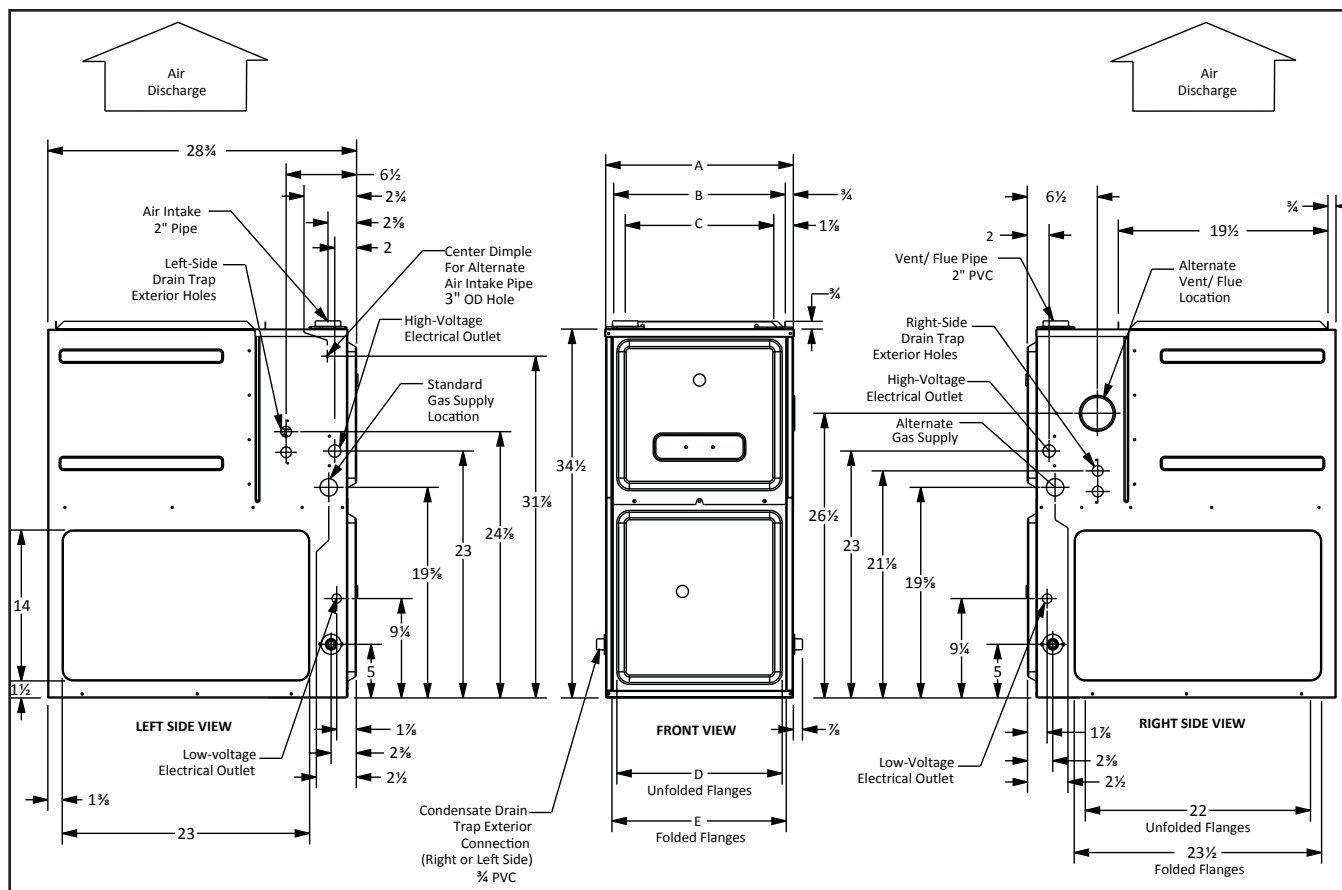
<sup>5</sup> Maximum Overcurrent Protection Device refers to maximum recommended fuse or circuit breaker size. May use fuses or HACR-type circuit breakers of the same size as noted.

#### NOTES

- All furnaces are manufactured for use on 115 VAC, 60 Hz, single-phase electrical supply.
- Gas Service Connection ½" FNPT
- Important: Size fuses and wires properly and make electrical connections in accordance with the National Electrical Code and/or all existing local codes.
- For bottom return: Failure to unfold flanges may reduce airflow by up to 18%. This could result in performance and noise issues.
- For servicing or cleaning, a 24" front clearance is required. 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.

#### ENERGY STAR NOTES

- Proper sizing and installation of equipment is critical to achieving optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet ENERGY STAR® criteria. Ask your contractor for details or visit [www.energystar.gov](http://www.energystar.gov).
- The [www.energystar.gov](http://www.energystar.gov) website provides up-to-date system combinations certified to meet ENERGY STAR® requirements.



MODEL	DIMENSIONS ( IN INCHES )							
	W	D	H	A	B	C	D	E
AR9S960403BU	17 1/2"	28 7/8"	34 1/2"	17 1/2"	16"	13 7/8"	12 1/8"	13 5/8"
AR9S960603BU	17 1/2"	28 7/8"	34 1/2"	17 1/2"	16"	13 7/8"	12 1/8"	13 5/8"
AR9S960805CU	21"	28 7/8"	34 1/2"	21"	19 1/2"	17 7/8"	16"	17 1/2"

**MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS**

POSITION	SIDES	REAR	FRONT	BOTTOM	FLUE	TOP
Upflow	0"	0"	3"	C	0"	1"
Horizontal	6"	0"	3"	C	0"	6"

C = If placed on combustible floor, the floor MUST be wood ONLY.

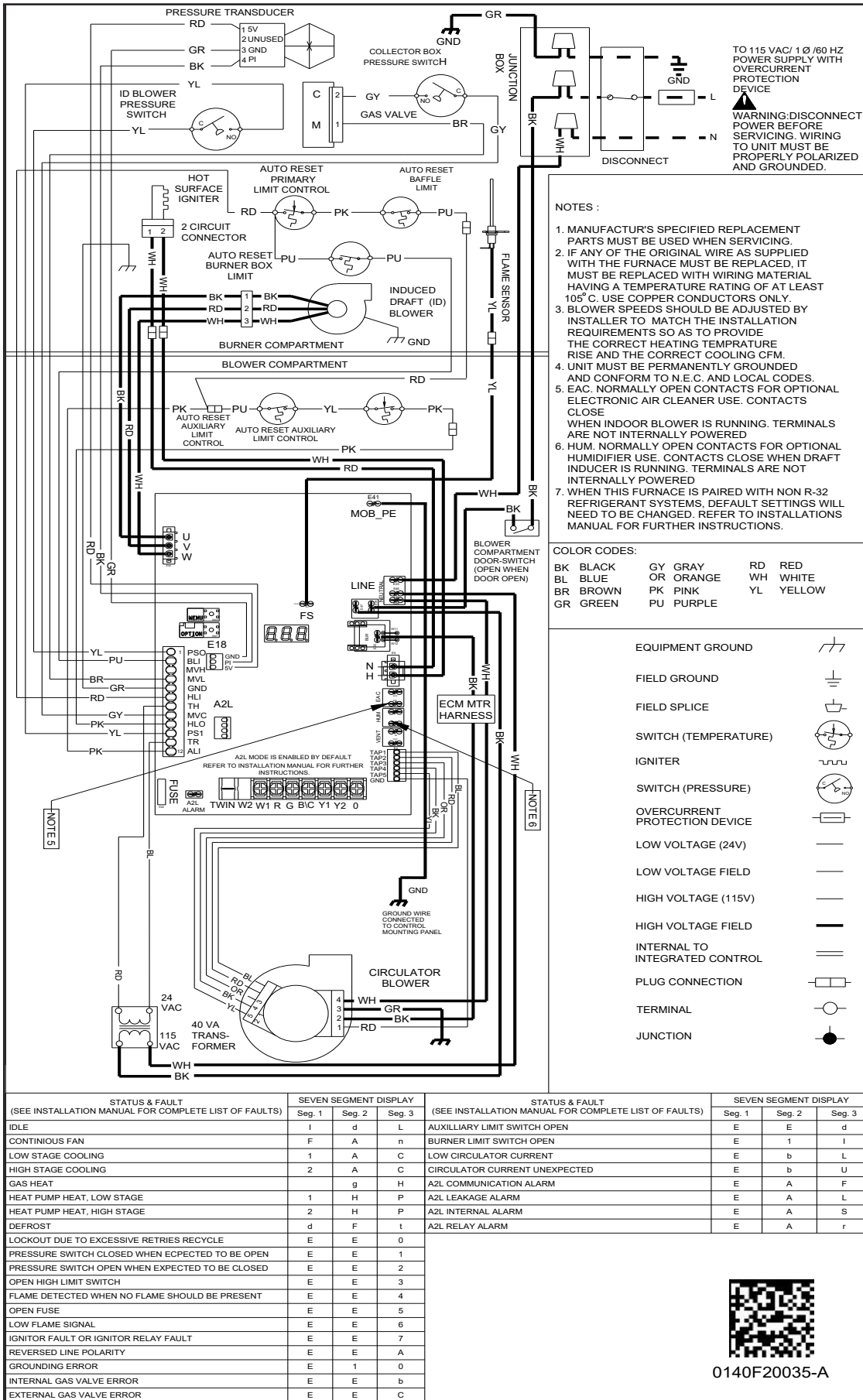
COOLING & CIRCULATION AIRFLOW														
MODEL	THERMOSTAT CALL	TAP #	EXTERNAL STATIC PRESSURE, (INCHES WATER COLUMN)											
			0.10	0.20	0.30	0.40	0.50		0.60		0.70		0.80	
			CFM	CFM	CFM	CFM	CFM	WATTS	CFM	WATTS	CFM	WATTS	CFM	WATTS
AR9S96 0403BU*	Y1 / Y2 / G	F01	714	667	620	573	528	100	483	106	439	111	394	117
		F02	841	803	765	725	686	139	645	145	605	151	565	157
		F03	862	823	784	745	706	144	666	151	626	158	586	165
		F04	1043	1011	976	945	912	219	879	227	845	235	810	243
		F05^	1080	1051	1021	990	961	246	932	255	903	262	867	270
		F06	1182	1155	1129	1102	1075	298	1048	307	1020	316	992	325
		F07	1193	1164	1136	1108	1080	306	1052	315	1025	324	997	334
		F08^^	1280	1256	1231	1206	1183	370	1156	378	1132	388	1107	398
		F09	1333	1306	1280	1255	1231	399	1205	408	1180	417	1155	427
AR9S96 0603BU*	Y1 / Y2 / G	F01	767	712	655	592	528	101	476	107	431	113	388	118
		F02	919	871	824	774	723	149	665	156	612	163	565	170
		F03	925	889	842	797	748	153	693	160	636	169	589	176
		F04^	1099	1060	1018	977	935	222	891	230	848	239	803	248
		F05	1125	1086	1047	1008	970	235	931	244	885	253	844	262
		F06	1239	1200	1163	1127	1095	290	1053	296	1014	305	974	314
		F07^^	1317	1283	1249	1214	1179	350	1146	361	1110	372	1073	383
		F08	1337	1304	1269	1235	1206	353	1167	362	1133	371	1097	382
		F09	1415	1383	1353	1321	1288	387	1256	397	1222	407	1190	418
AR9S96 0805CU*	Y1 / Y2 / G	F01	999	934	877	814	740	143	681	153	615	160	554	167
		F02	1297	1245	1194	1143	1096	238	1044	247	991	257	933	267
		F03	1407	1354	1307	1257	1210	285	1164	297	1118	308	1067	319
		F04^	1532	1488	1440	1396	1352	344	1304	356	1259	367	1210	378
		F05^^	1641	1594	1552	1509	1477	409	1425	418	1388	432	1347	444
		F06	1687	1644	1604	1560	1519	439	1479	453	1441	467	1409	484
		F07	1831	1791	1755	1718	1680	544	1642	558	1607	573	1570	589
		F08	1895	1860	1822	1788	1753	601	1716	616	1684	633	1650	650
		F09	2298	2260	2222	2182	2149	920	2114	934	2087	946	2022	1889

- Notes:**
- Default speed is F01 for circulation for all models
  - ^ Default Y1 speed
  - ^^ Default Y2 speed
- NOTE:** Watts provided are blower motor watts. Undersized duct size may affect the blower watts performance

HEATING AIFLOW																
MODEL	THERMO-STAT CALL	TAP #	EXTERNAL STATIC PRESSURE, (INCHES WATER COLUMN)												TEMP RANGE	
			0.10		0.20		0.30		0.40		0.50		0.60	0.70		0.8
			CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	CFM		CFM
AR9S96 0403BU*	W/W1	F04^	1043	34	1011	35	976	36	945	38	912	39	879	845	810	15-45
		F05	1080	33	1051	34	1021	35	990	36	961	37	932	903	867	
AR9S960 603BU*	W/W1	F04	1099	49	1060	50	1018	52	977	55	935	57	891	848	803	30-60
		F05	1125	47	1086	49	1047	51	1008	53	970	55	931	885	844	
		F06^	1239	43	1200	44	1163	46	1127	47	1095	49	1053	1014	974	
AR9S960 805CU*	W/W1	F03	1407	51	1354	53	1307	54	1257	57	1210	59	1164	1118	1067	30-60
		F04^	1532	46	1488	48	1440	49	1396	51	1352	53	1304	1259	1210	

- Notes:**
- ^ Default Heating speed

# WIRING DIAGRAM



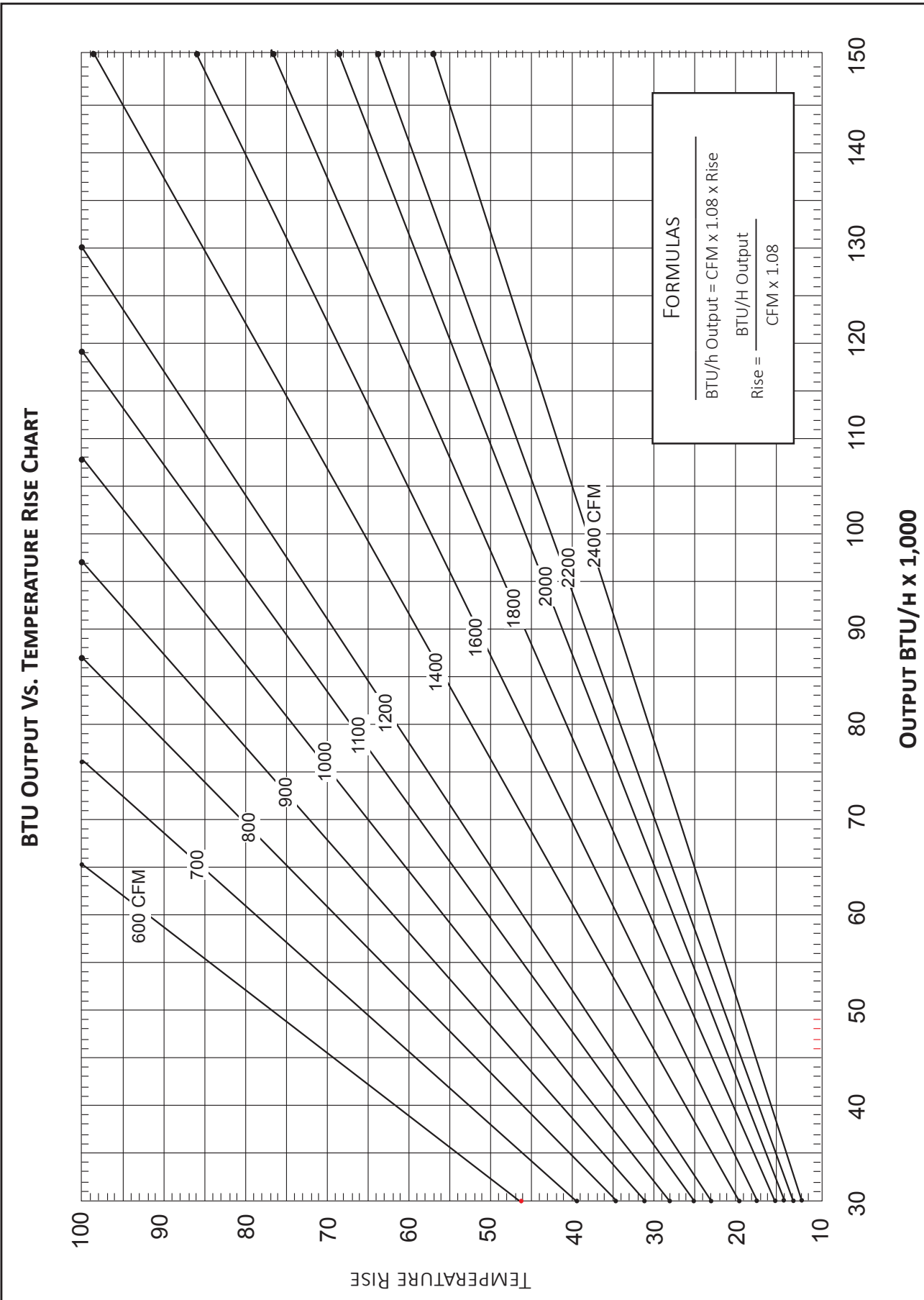
**High Voltage:** Disconnect all power before servicing or installing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury, or death.

**WARNING**

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



0140F20035-A



ACCESSORIES

MODEL	DESCRIPTION	AR9S96 0403BU	AR9S96 0603BU	AR9S96 0805CU
72950	Concentric Vent Kit (2")	√	√	√
72951	Concentric Vent Kit (3")	√	√	√
RF000142	Drain Kit -Horizontal Left Vertical Flue	√	√	√
EFR02	External Filter Rack with 16"x25" Permanent Filter	√	√	---
0170K00000S	Flush Mount Vent Kit - 3" or 2"	√	√	√
0170K00001S	Flush Mount Vent Kit - 2"	√	√	√
0270F05404	Horizontal Drain Tubing Kit	√	√	√

MINIMUM FILTER SIZES

	AR9S96 0403BU	AR9S96 0603BU	AR9S96 0805CU
Filter Size (in <sup>2</sup> ) (Qty)	(1) 16 x 25 (side or bottom)		(1) 20 x 25 (bottom) or (2) 16 x 25 (side)

Note: Other size filters of equal or greater dimensions may be used. Filters may also be centrally located.