

HEATING INPUT: 40,000–80,000 BTU/H

## ULTRA LOW NOX, SINGLE-STAGE MULTI-SPEED ECM GAS FURNACE UP TO 96% 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 — AM9S96: 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 — AM9S96: 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.

	A	M	9	S	96	060	3	B	U	**	
	1	2	3	4	5,6	7,8,9	10	11	12	13,14	
<b>BRAND</b>	A- Amana® Brand										<b>ENGINEERING</b>
											Major/Minor Revisions A - Initial Release B - 1st Revision
<b>CONFIGURATION</b>	M- Upflow/Horizontal C- Downflow/Horizontal										<b>NOX</b>
											N = > 40 NG/J NOx X = < 40 NG/J NOx U = < 14NG/J NOx
<b>MOTOR</b>	9- Nine Speed ECM										<b>CABINET WIDTH</b>
											A- 14"    C- 21" B- 17½"    D- 24½"
<b>GAS VALVE</b>	C- Two Stage S- Single Stage										<b>MAXIMUM CFM</b>
											3- 1200 CFM    4- 1600 CFM 5- 2000 CFM
<b>AFUE</b>	80- 80% AFUE    92- 92% AFUE 96- 96% AFUE    97- 97% AFUE										<b>MBTU/h</b>
											030- 30,000 BTU/h    80- 80,000 BTU/h 040- 40,000 BTU/h    100- 100,000 BTU/h 060- 60,000 BTU/h    120- 120,000 BTU/h

	AM9S96 0403BU	AM9S96 0603BU	AM9S96 0805CU
<b>HEATING DATA</b>			
High Fire Input <sup>1</sup>	40,000	60,000	80,000
High Fire Output <sup>1</sup>	38,400	57,600	76,800
AFUE <sup>2</sup>	96	96	96
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- 5
Size (D x W)	10" x 8"	11" x 8"	11" x 10"
Horsepower @ 1075 RPM	½	½	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>	10.8	10.8	16.1
Max. Overcurrent Device (amps) <sup>5</sup>	15	15	20
<b>SHIPPING WEIGHT (LBS)</b>	115	120	145

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

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

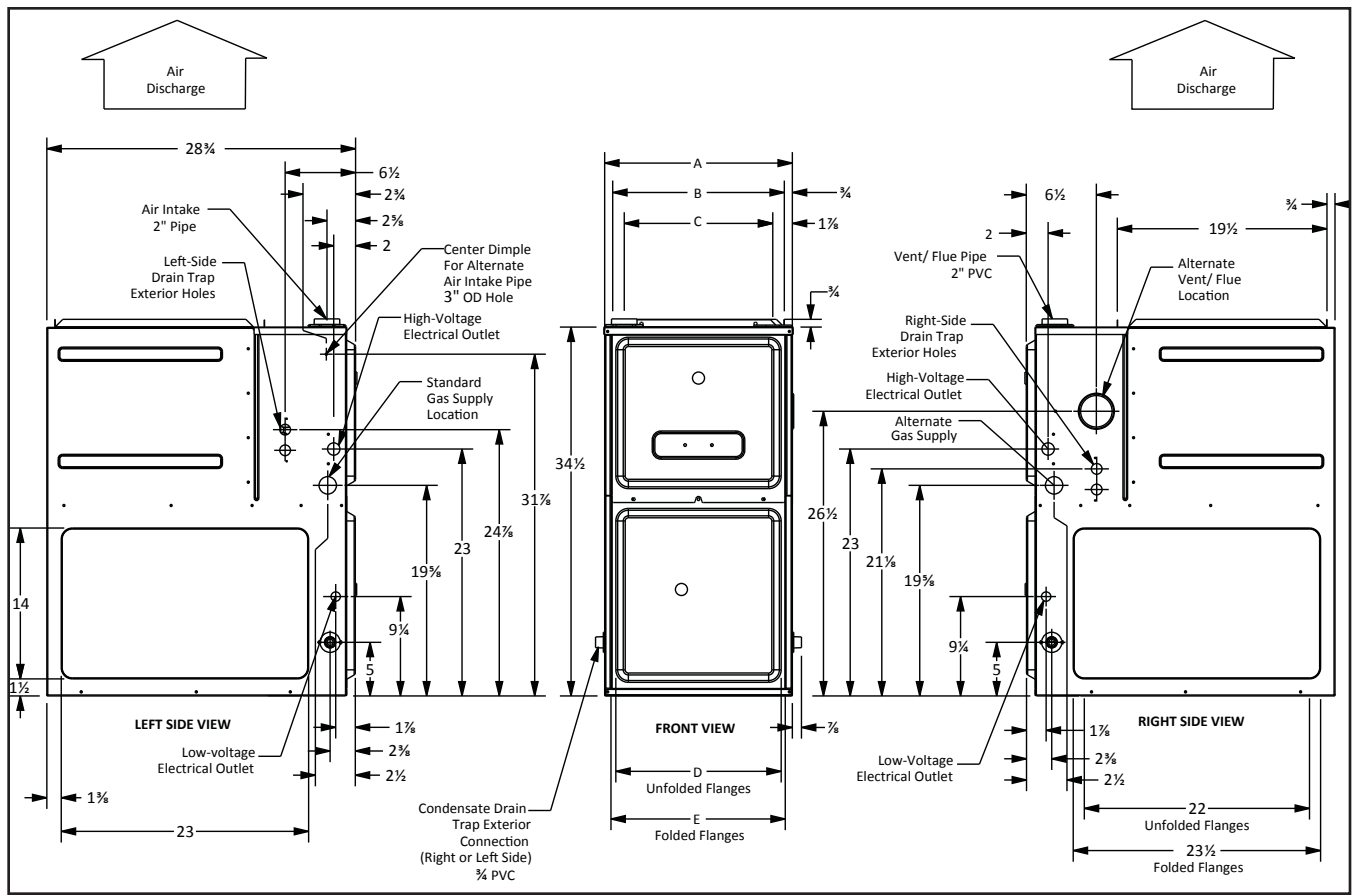
<sup>3</sup> Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run and installation (1 or 2 pipes). The optional Combustion Air 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.



MODEL	W	D	H
AM9S960403BU	17 1/2"	28 7/8"	34 1/2"
AM9S960603BU	17 1/2"	28 7/8"	34 1/2"
AM9S960805CU	21"	28 7/8"	34 1/2"

	AIR DISCHARGE			AIR RETURN	
	A	B	C	D	E
	17 1/2"	16"	13 7/8"	12 1/8"	13 5/8"
	17 1/2"	16"	13 7/8"	12 1/8"	13 5/8"
	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	THERMO-STAT CALL	TAP #	EXTERNAL STATIC PRESSURE, (INCHES WATER COLUMN)							
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
			CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM
AM9S96 0403BU*	Y1 / Y2 / G	F01	714	667	620	573	528	483	439	394
		F02	841	803	765	725	686	645	605	565
		F03	862	823	784	745	706	666	626	586
		F04	1043	1011	976	945	912	879	845	810
		F05^	1080	1051	1021	990	961	932	903	867
		F06	1182	1155	1129	1102	1075	1048	1020	992
		F07	1193	1164	1136	1108	1080	1052	1025	997
		F08^^	1280	1256	1231	1206	1183	1156	1132	1107
		F09	1333	1306	1280	1255	1231	1205	1180	1155
AM9S96 0603BU*	Y1 / Y2 / G	F01	767	712	655	592	528	476	431	388
		F02	919	871	824	774	723	665	612	565
		F03	925	889	842	797	748	693	636	589
		F04^	1099	1060	1018	977	935	891	848	803
		F05	1125	1086	1047	1008	970	931	885	844
		F06	1239	1200	1163	1127	1095	1053	1014	974
		F07^^	1317	1283	1249	1214	1179	1146	1110	1073
		F08	1337	1304	1269	1235	1206	1167	1133	1097
		F09	1415	1383	1353	1321	1288	1256	1222	1190
AM9S96 0805CU*	Y1 / Y2 / G	F01	999	934	877	814	740	681	615	554
		F02	1297	1245	1194	1143	1096	1044	991	933
		F03	1407	1354	1307	1257	1210	1164	1118	1067
		F04^	1532	1488	1440	1396	1352	1304	1259	1210
		F05^^	1641	1594	1552	1509	1477	1425	1388	1347
		F06	1687	1644	1604	1560	1519	1479	1441	1409
		F07	1831	1791	1755	1718	1680	1642	1607	1570
		F08	1895	1860	1822	1788	1753	1716	1684	1650
		F09	2258	2222	2186	2151	2135	2087	2055	2020

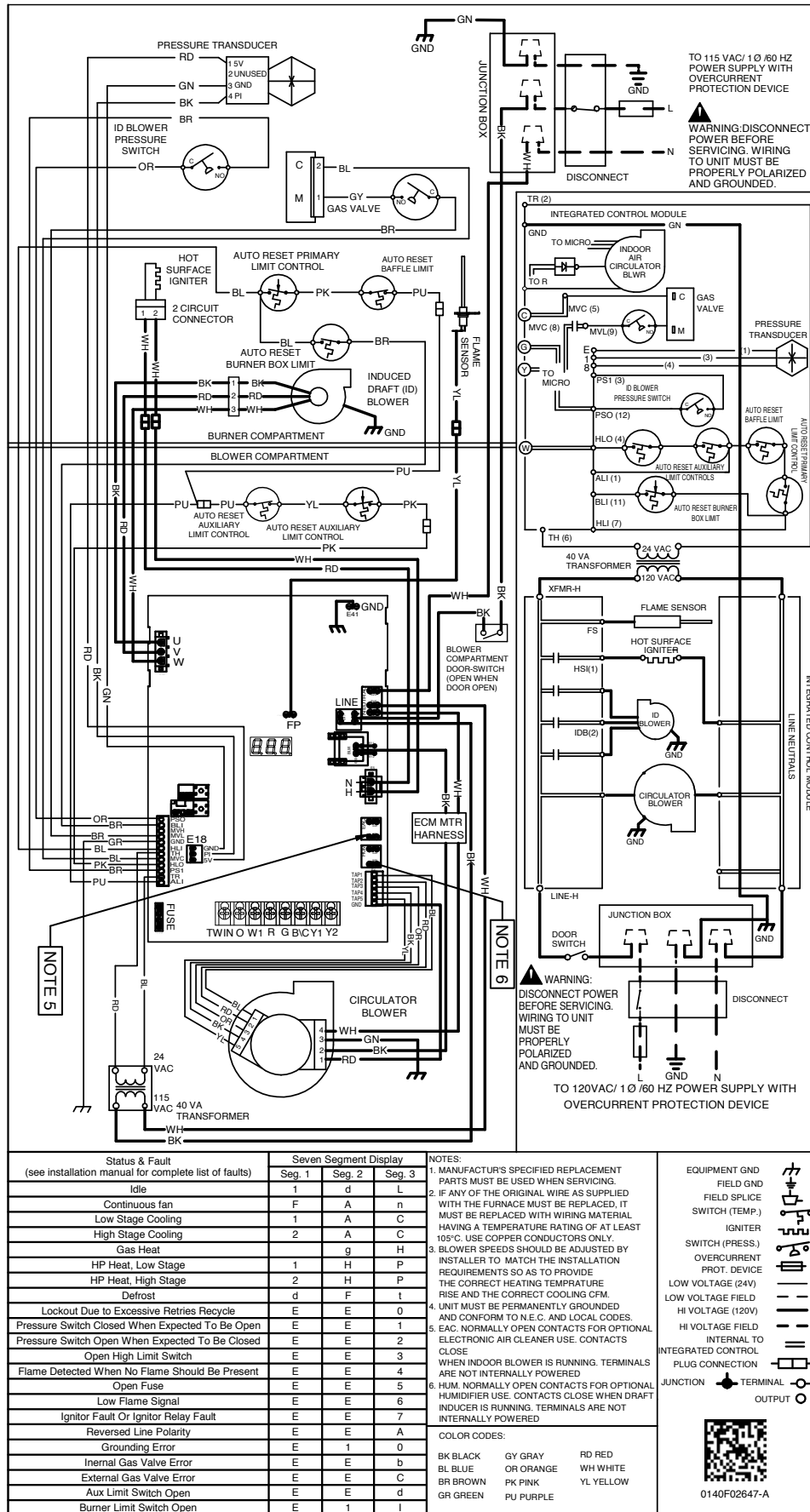
**Notes:**

- Default speed is F01 for circulation for all models
- ^ Default Y1 speed
- ^^ Default Y2 speed

HEATING AIFLOW															TEMP RANGE				
MODEL	THER-MOSTAT CALL	TAP #	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	RISE		CFM	CFM	CFM	
AM9S96 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				
AM9S96 0603BU*	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				
AM9S96 0805CU*	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



NOTE 5

NOTE 6

Status & Fault (see installation manual for complete list of faults)	Seven Segment Display		
	Seg. 1	Seg. 2	Seg. 3
Idle	1	d	L
Continuous fan	F	A	n
Low Stage Cooling	1	A	C
High Stage Cooling	2	A	C
Gas Heat		g	H
HP Heat, Low Stage	1	H	P
HP Heat, High Stage	2	H	P
Defrost	d	F	1
Lockout Due to Excessive Retries Recycle	E	E	0
Pressure Switch Closed When Expected To Be Open	E	E	1
Pressure Switch Open When Expected To Be Closed	E	E	2
Open High Limit Switch	E	E	3
Flame Detected When No Flame Should Be Present	E	E	4
Open Fuse	E	E	5
Low Flame Signal	E	E	6
Ignitor Fault Or Ignitor Relay Fault	E	E	7
Reversed Line Polarity	E	E	A
Grounding Error	E	1	0
Internal Gas Valve Error	E	E	b
External Gas Valve Error	E	E	C
Aux Limit Switch Open	E	E	d
Burner Limit Switch Open	E	1	I

NOTES:  
 1. MANUFACTURER'S SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.  
 2. 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.  
 3. BLOWER SPEEDS SHOULD BE ADJUSTED BY INSTALLER TO MATCH THE INSTALLATION REQUIREMENTS SO AS TO PROVIDE THE CORRECT HEATING TEMPERATURE RISE AND THE CORRECT COOLING CFM.  
 4. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C. AND LOCAL CODES.  
 5. E.A.C. NORMALLY OPEN CONTACTS FOR OPTIONAL ELECTRONIC AIR CLEANER USE. CONTACTS CLOSE WHEN INDOOR BLOWER IS RUNNING. TERMINALS ARE NOT INTERNALLY POWERED.  
 6. H.U.M. NORMALLY OPEN CONTACTS FOR OPTIONAL HUMIDIFIER USE. CONTACTS CLOSE WHEN DRAFT INDUCER IS RUNNING. TERMINALS ARE NOT INTERNALLY POWERED.

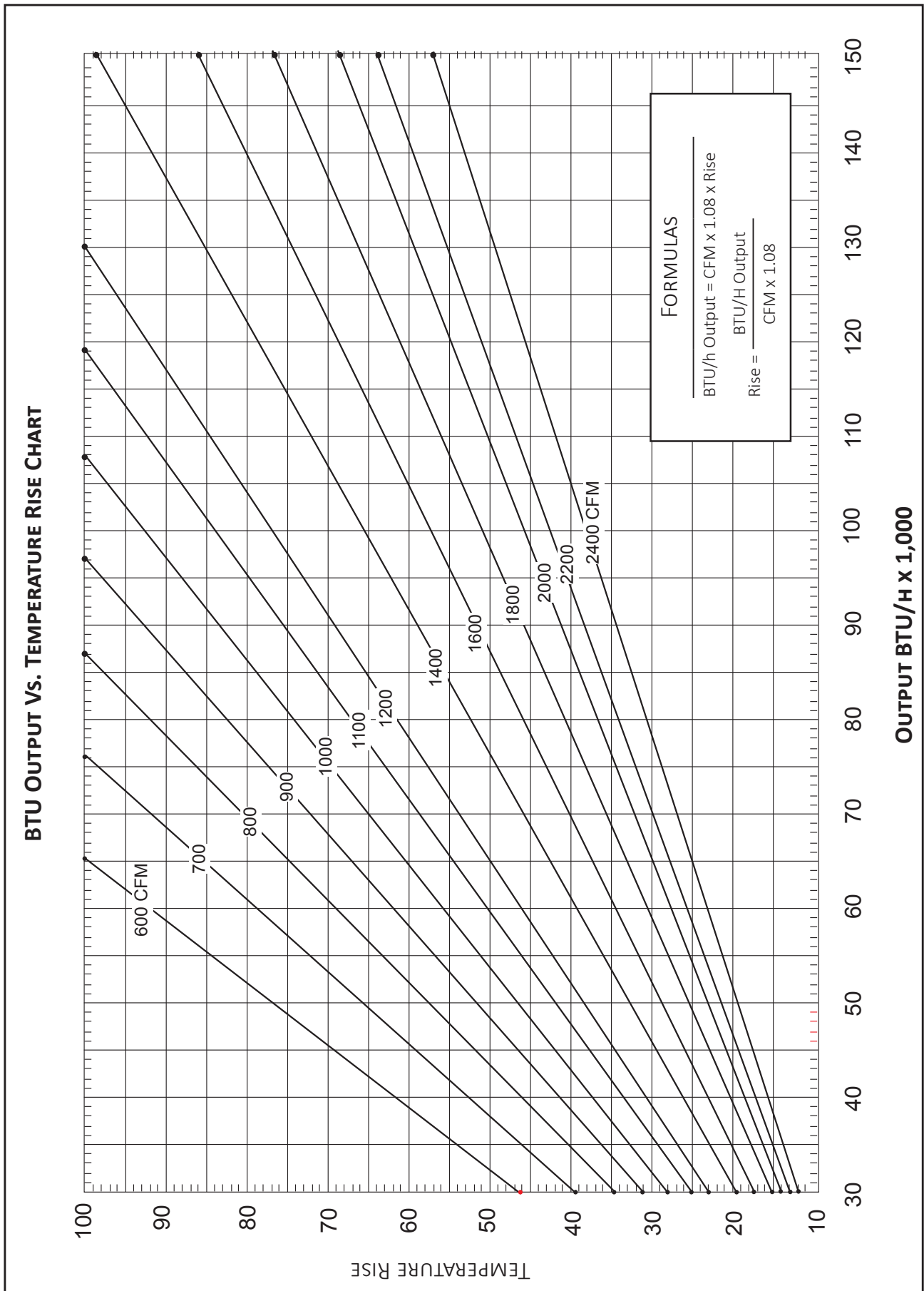
COLOR CODES:  
 BK BLACK      GY GRAY      RD RED  
 BL BLUE      OR ORANGE      WH WHITE  
 BR BROWN      PK PINK      YL YELLOW  
 GR GREEN      PU PURPLE

EQUIPMENT GND  
 FIELD GND  
 FIELD SPICE  
 SWITCH (TEMP.)  
 IGNITER  
 SWITCH (PRESS.)  
 OVERCURRENT PROT. DEVICE  
 LOW VOLTAGE (24V)  
 LOW VOLTAGE FIELD  
 HI VOLTAGE (120V)  
 HI VOLTAGE FIELD  
 INTERNAL TO INTEGRATED CONTROL  
 PLUG CONNECTION  
 JUNCTION      TERMINAL  
 OUTPUT

0140F02647-A

**WARNING**  
 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.

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



**ACCESSORIES**

MODEL	DESCRIPTION	AM9S96 0403BU	AM9S96 0603BU	AM9S96 0805CU
72950	Concentric Vent Kit (2")	√	√	√
72951	Concentric Vent Kit (3")	√	√	√
RF000142	Drain Kit-Horizontal Left Vertical Flue	√	√	√
EFRO2	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**

	AM9S96 0403BU	AM9S96 0603BU	AM9S96 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.