



Air Conditioning & Heating

GR9S80-U

HEATING INPUT: 40,000–80,000 BTU/H

SINGLE-STAGE, MULTI-SPEED ECM,
MULTI-POSITION, ULTRA-LOW NO_X
GAS FURNACE
80% AFUE



R32

Standard Features

- Heavy-duty stainless-steel dual-diameter tubular heat exchanger
- Single-stage gas valve
- Durable Hot-surface igniter
- Quiet, modulating draft inducer
- Self-diagnostic control board
- Multi-speed ECM blower motor
- 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 NO_X emission limit in SCAQMD Rule 1111 and SJVUAPCD Rule 4905.
- AHRI Certified; ETL Listed

Cabinet Features

- Installation: upflow, horizontal left or right
- Convenient left or right connection for gas and electrical service
- Heavy-gauge steel cabinet with durable baked-enamel finish
- Foil faced insulated heat exchanger

LIFETIME
HEAT EXCHANGER
LIMITED WARRANTY*

2
YEAR
UNIT
REPLACEMENT
LIMITED
WARRANTY*

10
YEAR
PARTS
LIMITED
WARRANTY*



AHRI CERTIFIED®
www.goodmanmfg.com

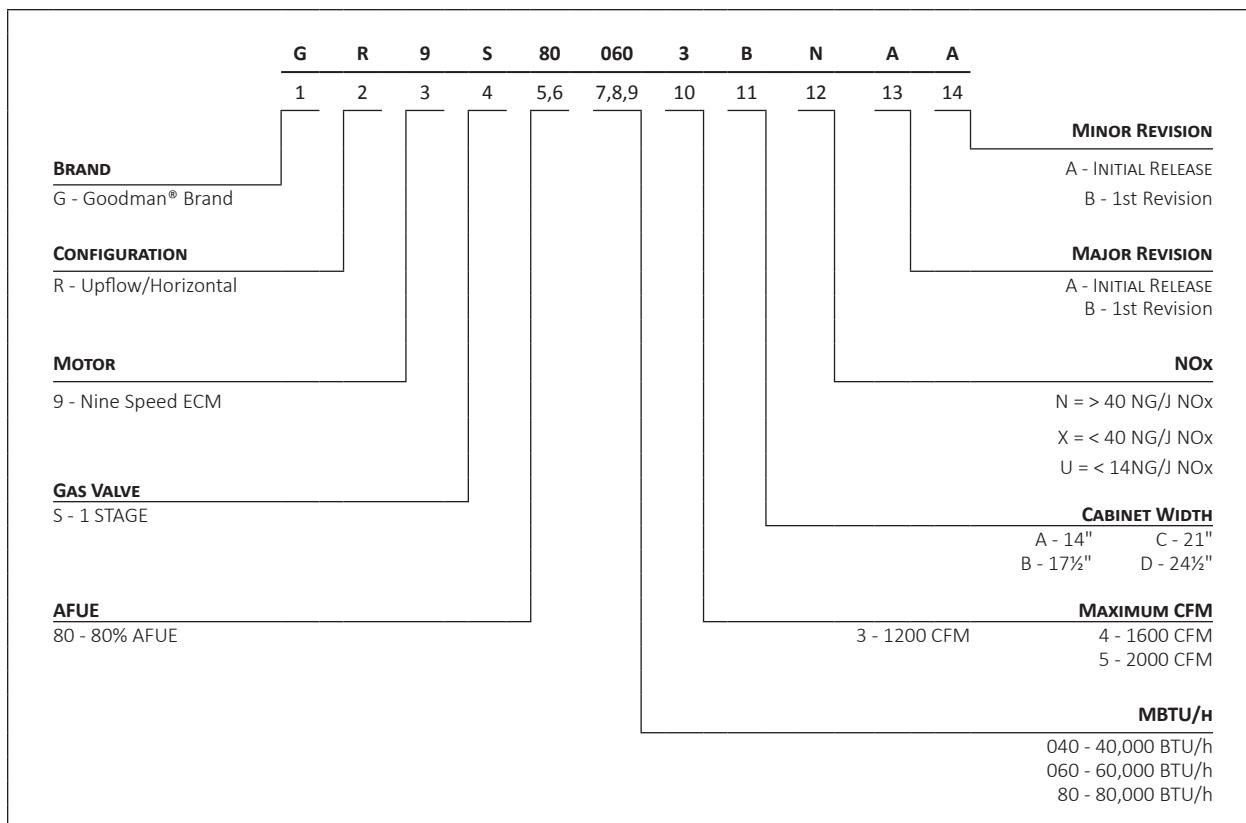
COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =

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



* Complete warranty details available from your local dealer or at www.goodmanmfg.com. To receive the Lifetime Heat Exchanger Limited Warranty (good for as long as you own your home), 2-Year Unit Replacement Limited Warranty 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. The duration of warranty coverage in Texas and Florida differs in some cases.

NOMENCLATURE



	GR9S80 0403AU*	GR9S80 0603AU*	GR9S80 0604BU*	GR9S80 0804BU*	GR9S80 0805CU*
HEATING CAPACITY					
Input ¹	40,000	60,000	60,000	80,000	80,000
Natural Gas Output ¹	32,000	48,000	48,000	64,000	64,000
AFUE ²	80	80	80	80	80
Available AC @ 0.5" ESP	1 - 3	1 - 3	1.5 - 4	1.5 - 4	2.5 - 5
Temperature Rise Range (°F)	25 - 55	20 - 50	20 - 50	35 - 65	35 - 65
CIRCULATOR BLOWER					
Size (D x W)	10" x 6"	10" x 6"	10" x 8"	10" x 8"	10" x 10"
Horsepower	1/2	1/2	3/4	3/4	1
No. of Speeds	9	9	9	9	9
Vent Diameter ³	4"	4"	4"	4"	4"
No. of Burners	2	3	3	4	4
ELECTRICAL DATA					
Min. Circuit Ampacity ⁴	9.1	9.1	12.7	12.7	15.7
Max. Overcurrent Device (amps) ⁵	15	15	20	20	25
SHIP WEIGHT (LBS)	86	90	100	108	116

¹ Natural Gas BTU/h; for altitudes 0-4500' Only

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).

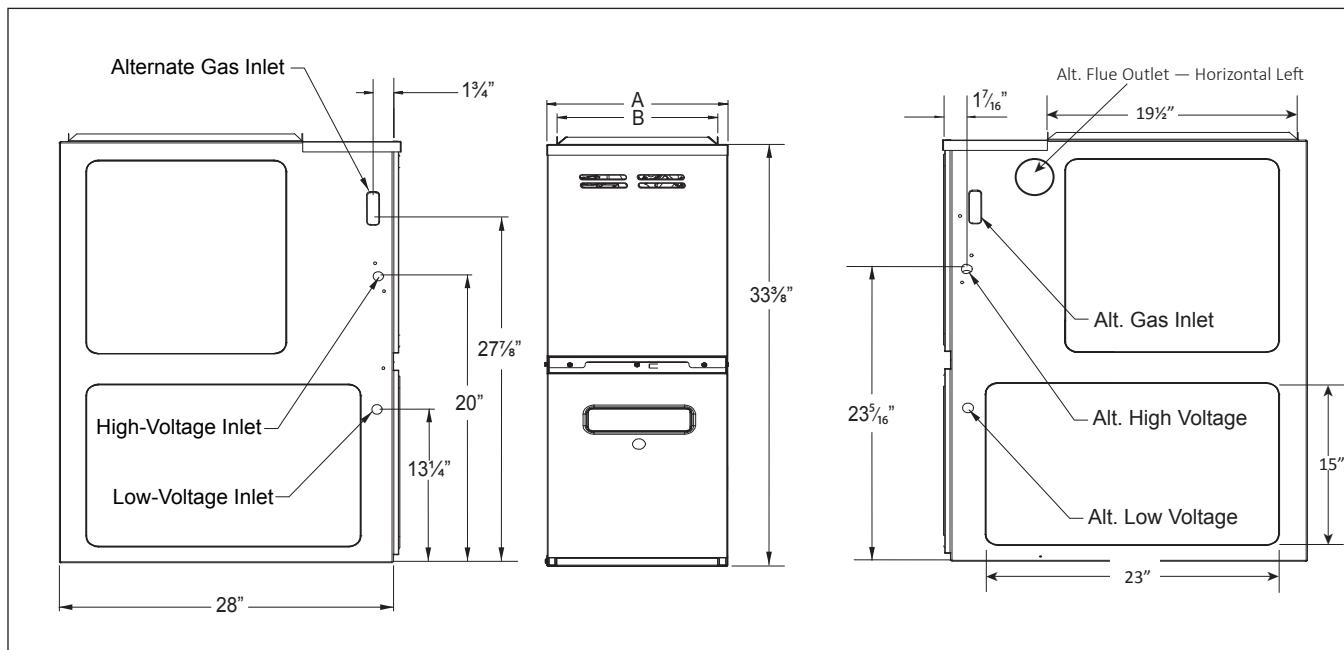
⁴ Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

⁵ 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.

GR9S80-U DIMENSIONS



MODEL	A	B
GR9S800403AU*	14"	12 1/2"
GR9S800603AU*	14"	12 1/2"
GR9S800604BU*	17 1/2"	16"
GR9S800804BU*	17 1/2"	16"
GR9S800805CU*	21"	19 1/2"

NOTES

- 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.
- Installer must supply the following gas line fittings, according to which entrance is used:
Left: One 2" pipe nipple; one 90° elbow; straight pipe; one ground joint union
Right: Five 90° elbow; one ground joint union; various pipe nipples

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

SIDES	REAR	FRONT ¹	VENT ²		TOP
			SW	B	
1"	0"	3"	6"	1"	1"

¹ 24" clearance for serviceability recommended.

² Single Wall Vent (SW) to be used only as a connector. 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).

Note: AMES80 approved for line contact in the horizontal position.

MODEL	THERMOSTAT CALL	TAP #	EXTERNAL STATIC PRESSURE (INCHES OF WATER COLUMN)															
			0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
			CFM	CFM	CFM	CFM	CFM	WATTS										
GR9S80 0403AU*	Y1/Y2/G	F01	590	540	483	429	369	72	311	78	247	84	203	89				
		F02	690	643	597	547	498	90	443	96	389	102	343	109				
		F03	750	702	660	618	572	104	525	110	477	116	421	124				
		F04	876	832	794	758	716	138	678	146	641	152	598	157				
		F05^	927	881	841	806	771	155	734	161	698	168	662	174				
		F06	1058	1015	976	945	915	202	881	210	849	218	818	226				
		F07	1116	1071	1036	1003	975	230	943	236	919	245	884	252				
		F08^^	1238	1192	1158	1124	1098	291	1070	299	1044	308	1016	318				
		F09	1398	1357	1320	1293	1269	396	1239	405	1216	411	1194	416				
GR9S80 0603AU*	Y1/Y2/G	F01	587	542	490	437	382	75	318	82	266	88	207	93				
		F02	685	638	590	543	498	92	448	98	392	105	339	112				
		F03	856	814	774	732	693	136	657	142	622	148	581	154				
		F04^	937	892	855	819	786	163	752	170	715	177	684	184				
		F05	1060	1017	981	950	921	212	886	219	856	227	828	234				
		F06^^	1108	1068	1033	1003	972	234	942	243	914	250	882	259				
		F07	1274	1233	1203	1174	1146	327	1118	337	1089	345	1065	353				
		F08	1374	1340	1306	1278	1254	399	1227	411	1201	414	1179	421				
		F09	1437	1395	1362	1332	1305	473	1278	482	1253	492	1228	502				
GR9S80 0604BU*	Y1/Y2/G	F01	836	774	711	655	596	108	523	116	456	124	397	130				
		F02	1274	1228	1188	1147	1107	248	1064	256	1027	266	990	276				
		F03	1295	1256	1214	1181	1140	260	1100	269	1062	279	1024	287				
		F04	1385	1337	1301	1260	1222	298	1186	308	1149	315	1114	326				
		F05	1454	1407	1372	1353	1325	349	1291	360	1255	370	1219	379				
		F06^	1528	1485	1438	1409	1383	382	1349	391	1317	402	1285	412				
		F07	1619	1579	1551	1523	1495	444	1463	454	1430	464	1402	476				
		F08^^	1746	1697	1667	1642	1617	534	1593	545	1570	559	1540	571				
		F09	1772	1735	1698	1674	1645	559	1622	571	1598	584	1574	597				
GR9S80 0804BU*	Y1/Y2/G	F01	722	658	599	534	458	88	386	94	330	99	268	105				
		F02	1270	1223	1179	1139	1105	250	1066	259	1029	267	996	277				
		F03	1304	1254	1212	1173	1135	264	1104	273	1069	282	1032	290				
		F04	1367	1318	1277	1236	1199	296	1169	306	1135	315	1102	327				
		F05^	1473	1429	1386	1355	1320	354	1289	365	1258	372	1224	383				
		F06	1560	1518	1476	1441	1409	409	1382	422	1350	429	1321	439				
		F07	1647	1605	1562	1531	1497	460	1467	471	1440	481	1408	492				
		F08^^	1720	1710	1674	1642	1611	544	1581	558	1553	565	1527	579				
		F09	1796	1759	1721	1687	1655	582	1628	595	1604	607	1578	619				
GR9S80 0805CU*	Y1/Y2/G	F01	1280	1228	1178	1134	1086	204	1036	214	986	226	936	236				
		F02	1401	1356	1313	1273	1234	252	1190	262	1145	270	1099	282				
		F03	1593	1550	1512	1475	1436	332	1399	341	1360	354	1319	364				
		F04	1706	1662	1621	1586	1550	383	1515	395	1479	407	1444	414				
		F05^	1821	1775	1736	1703	1669	443	1636	455	1605	468	1576	480				
		F06	1836	1793	1757	1721	1689	459	1659	472	1628	486	1592	497				
		F07	1932	1888	1855	1825	1794	517	1762	532	1733	545	1701	560				
		F08^^	2184	2143	2110	2072	2048	706	2017	724	1989	741	1959	756				
		F09	2221	2178	2145	2109	2082	731	2053	747	2025	764	1992	780				

Notes:

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

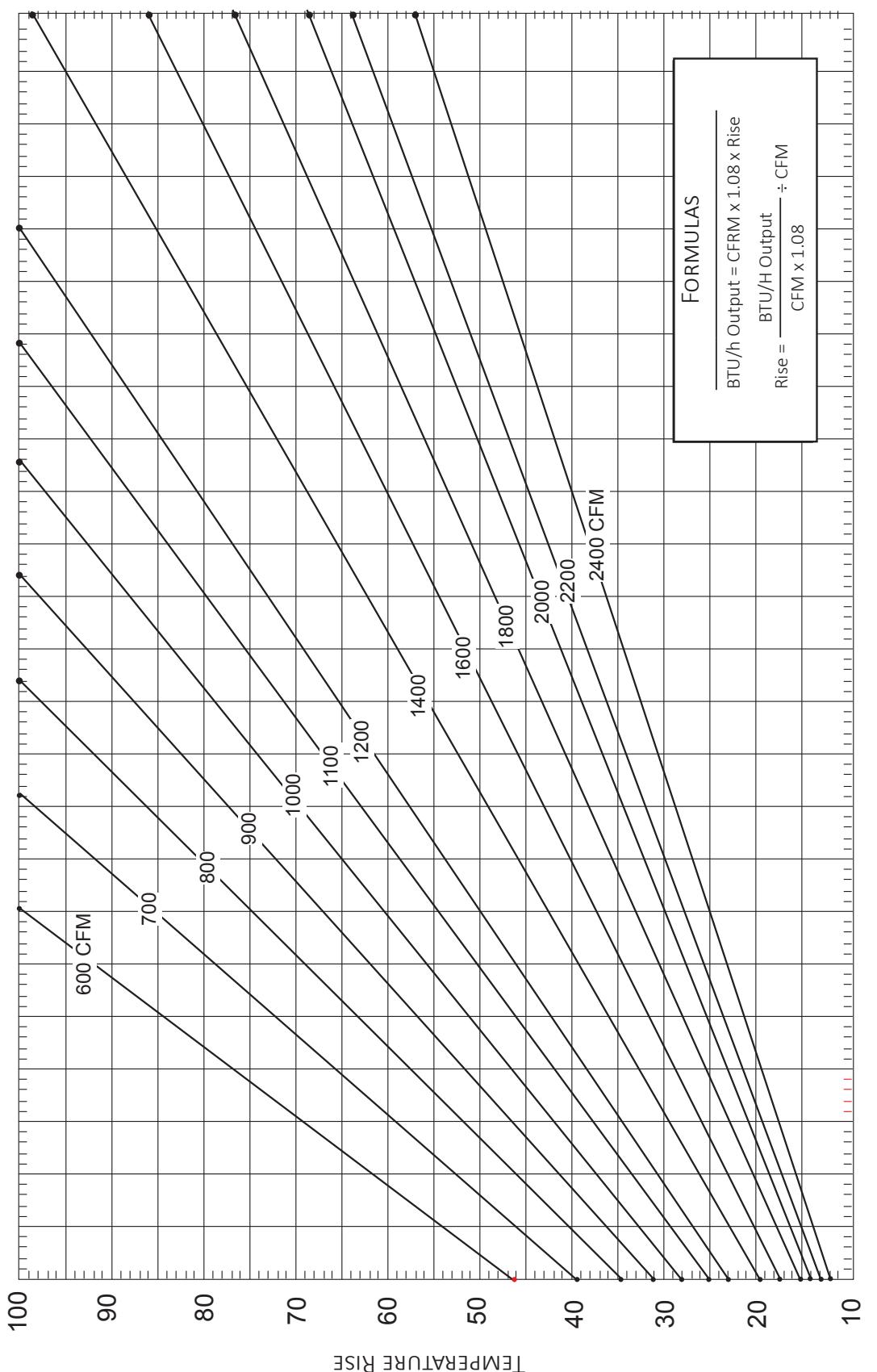
GM9S80-U HEATING AIRFLOW DATA

MODEL	THERMOSTAT CALL	TAP #	HEATING AIRFLOW												TEMP RANGE	
			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	CFM
GR9S80 0403AU*	W/W1	F02	690	42	643	46	597	49	547	53	498	55	443	389	343	25 - 55
		F03^	750	39	702	42	660	45	618	48	572	52	525	477	421	
		F04	876	34	832	36	794	37	758	39	716	41	678	641	598	
		F05	927	32	881	34	841	35	806	37	771	38	734	698	662	
		F06	1058	28	1015	29	976	30	945	31	915	32	881	849	818	
		F07	1116	27	1071	28	1036	29	1003	30	975	30	943	919	884	
GR9S80 0603AU*	W/W1	F05	1060	42	1017	44	981	45	950	47	921	48	886	856	828	20 - 50
		F06	1108	40	1068	42	1033	43	1003	44	972	46	942	914	882	
		F07^	1274	35	1233	36	1203	37	1174	38	1146	39	1118	1089	1065	
GR9S80 0604BU*	W/W1	F02	1274	35	1228	36	1188	37	1147	39	1107	40	1064	1027	990	20 - 50
		F03	1295	34	1256	35	1214	37	1181	38	1140	39	1100	1062	1024	
		F04^	1385	32	1337	33	1301	34	1260	35	1222	36	1186	1149	1114	
		F05	1454	31	1407	32	1372	32	1353	33	1325	34	1291	1255	1219	
GR9S80 0804BU*	W/W1	F02^	1270	47	1223	48	1179	50	1139	52	1105	54	1066	1029	996	35 - 65
		F03	1304	45	1254	47	1212	49	1173	51	1135	52	1104	1069	1032	
		F04	1367	43	1318	45	1277	46	1236	48	1199	49	1169	1135	1102	
GR9S80 0805CU*	W/W1	F01	1280	46	1228	48	1178	50	1134	52	1086	55	1036	986	936	35 - 65
		F02^	1401	42	1356	44	1313	45	1273	47	1234	48	1190	1145	1099	

Notes:

- ^ Default Heat Speed

BTU/H OUTPUT Vs. TEMPERATURE RISE CHART



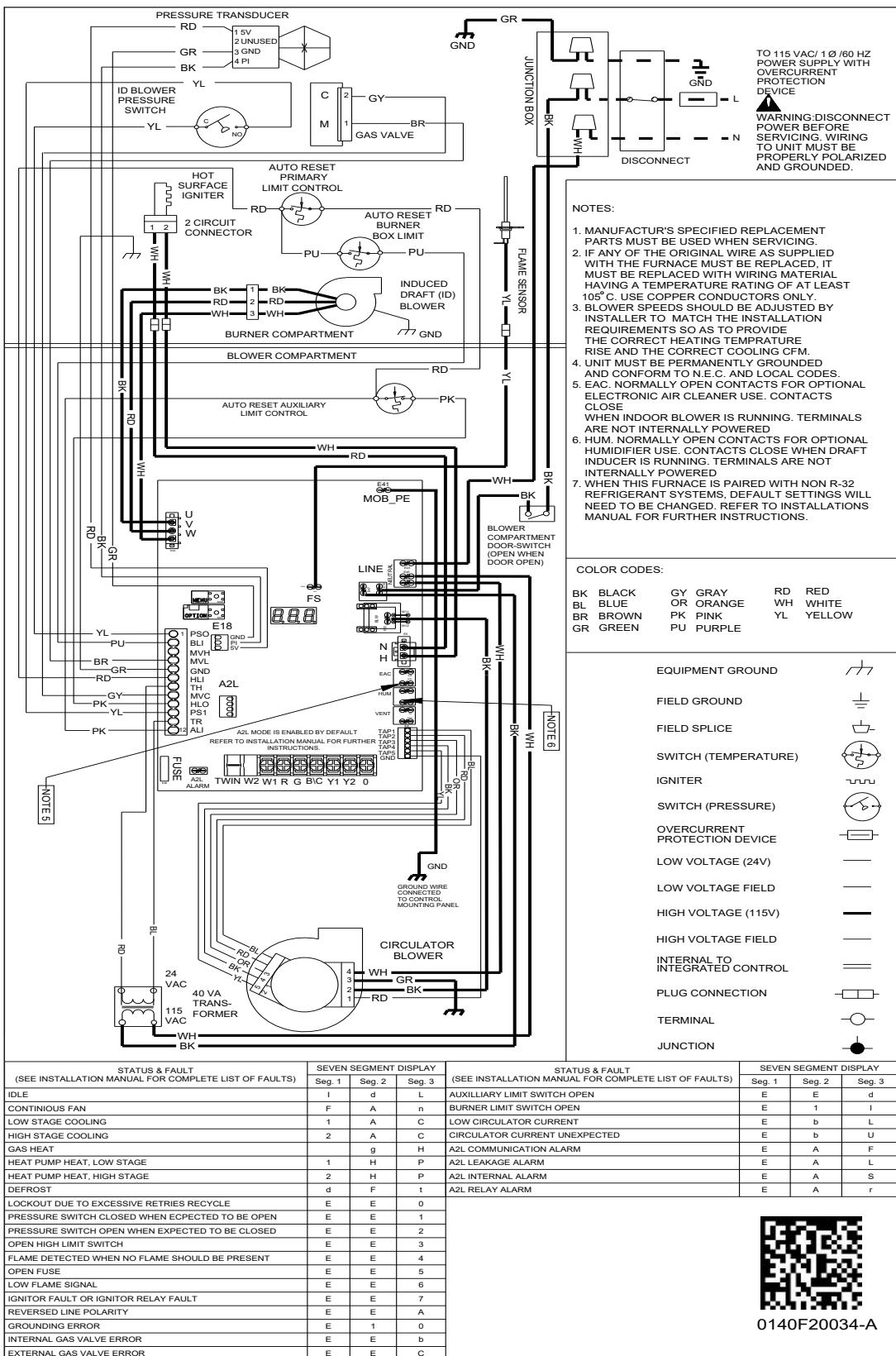
FORMULAS

$$\text{BTU/h Output} = \text{CFRM} \times 1.08 \times \text{Rise}$$

$$\text{Rise} = \frac{\text{BTU/H Output}}{\text{CFM} \times 1.08} \div \text{CFM}$$

OUTPUT BTU/H x 1,000

WIRING DIAGRAM



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



0140F20034-A



MODEL	DESCRIPTION	GR9S80 0403AU*	GR9S80 0603AU*	GR9S80 0604BU*	GR9S80 0804BU*	GR9S80 0805CU*
AFE18-60A	Fossil Fuel (Dual Fuel) Kit	✓	✓	✓	✓	✓
MVK-01 ¹	Masonry Vent Kit	✓	✓	✓	✓	✓

¹ Upflow applications only

MINIMUM FILTER SIZES

MODEL #	GR9S80 0403AU*	GR9S80 0603AU*	GR9S80 0604BU*	GR9S80 0804BU*	GR9S80 0805CU*
Filter Size (in ²)	(1) 16 x 25 (Side) or (1) 14 x 24 (Bottom)		(1) 16 x 25 (Side or Bottom)		(2) 16 x 25 (Side) or (1) 20 x 25 (Bottom) ¹

Note: Larger filters may be used; filters may also be centrally located.

¹ Use 2 - 16 x 25 filters on side returns or 20 x 25 filter on bottom return if furnace is connected to a cooling unit over 4 tons nominal capacity.

NOTES

NOTES

Our continuing commitment to quality products may mean a change in specifications without notice.
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