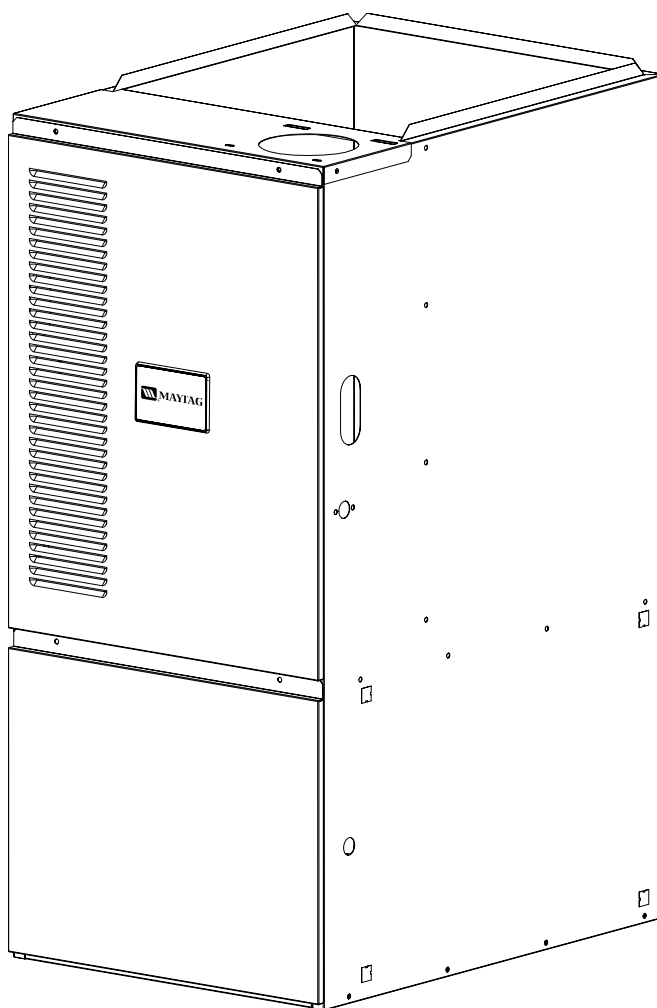




TECHNICAL SPECIFICATIONS

Model MGF1RA Series



M120 Product Line

**High Efficiency Upflow/Horizontal
Gas Furnace Induced Draft - 80+ AFUE**

- **12 YEAR ALL PARTS WARRANTY**
- **This product offers a 10-Year Dependability Promise to replace the unit if the heat exchanger fails within the first 10 years of operation, to the original owner.**
- **Product registration required for 12-year All Parts Warranty and Dependability Promise within a limited period of time after the installation. See current warranty document for details. This can be viewed at www.maytaghvac.com or ask your sales representative.**
- **Also when registered, this furnace upgrades to a limited lifetime heat exchanger warranty.**



The high efficiency upflow/horizontal gas furnace may be installed free standing in a utility room, basement, or enclosed in an alcove or closet. The extended flush jacket provides a pleasing "appliance appearance." Design certified by the Canadian Standards Association (CSA). The product is truly designed with the contractor and the consumer in mind.

Features and Benefits

- **100% fired and tested** — All units and each component (both mechanical and electrical) are tested on the manufacturing line.
- **Best packaging in the industry** — Unique design assures product will arrive to the homeowner dent free.
- **Clean and quiet operation** — Due to the unique design of in-shot burners, location of inducer, return air vents, and use of insulation.
- **Fixed 30 second blower delay** at burner start-up assures a warm duct temperature at furnace start-up. Adjustable blower off settings (60, 90, 120 and 180 seconds).
- **Fixed 30 second post purge** increases life of heat exchanger.
- **SmartStart™ Control Board** — Provides extended life to ignitors in furnaces using hot surface ignition technology. Programmed to learn the heat-up characteristics of the ignitor, then adapt the ignition time to the characteristics of the furnace so the ignitor is energized appropriately.
- **Dependable, hot surface ignitor** — Innovative application of an appliance type ignitor with a 20 year history of reliability.
- **Color coded wire harness** — Designed to fit the components, all with quick-connect fittings for ease of service and replacement.
- **Approved for categories I and III venting systems** — May be common, dedicated, or horizontal vented for maximum flexibility in installation.
- **Tubular primary heat exchanger** — Heavy gauge aluminized steel heat exchanger assures a long life.
- **Fixed cooling cycle blower-off delay (TDR)** increases cooling performance when matched with a Maytag coil.
- **Variable speed blower kit** is available to maximize air conditioner and heat pump efficiencies. On selected units, SEER ratings up to 14 and HSPF ratings up to 8.5 are ARI listed.
- **Multi-speed direct drive blower** — Designed to give a wide range of cooling capacities. 40VA transformer included.
- **LP convertible** — Simple burner orifice and regulator spring change for ease of convertibility.
- **Diagnostic lights** flash to identify limit failure, pressure switch failure, improper ground and polarization, and low flame signal — for easy troubleshooting.
- **Incorporates integrated control board** with connections for electronic air cleaner, humidifier and twinning.
- **Two piece door design** enhances furnace appearance and uses screw fasteners for easier accessibility.
- **3 amp fuse** protection against low voltage shorts; protects transformer and control board.
- **Low voltage terminal board** for easy field wiring.
- **Components and Controls** — Designing quality into our products means selecting manufacturers that have a reputation for delivering high quality, dependable products.

Vent switch protects against blocked flue.

Front door screw fasteners ensure tight fit.

Aluminized steel in-shot burners, hot surface ignitor and redundant gas valve provide safe, reliable ignition and efficient combustion for reliable performance.

Remote flame sensor for proof of flame carry-over.

Supply air limit.

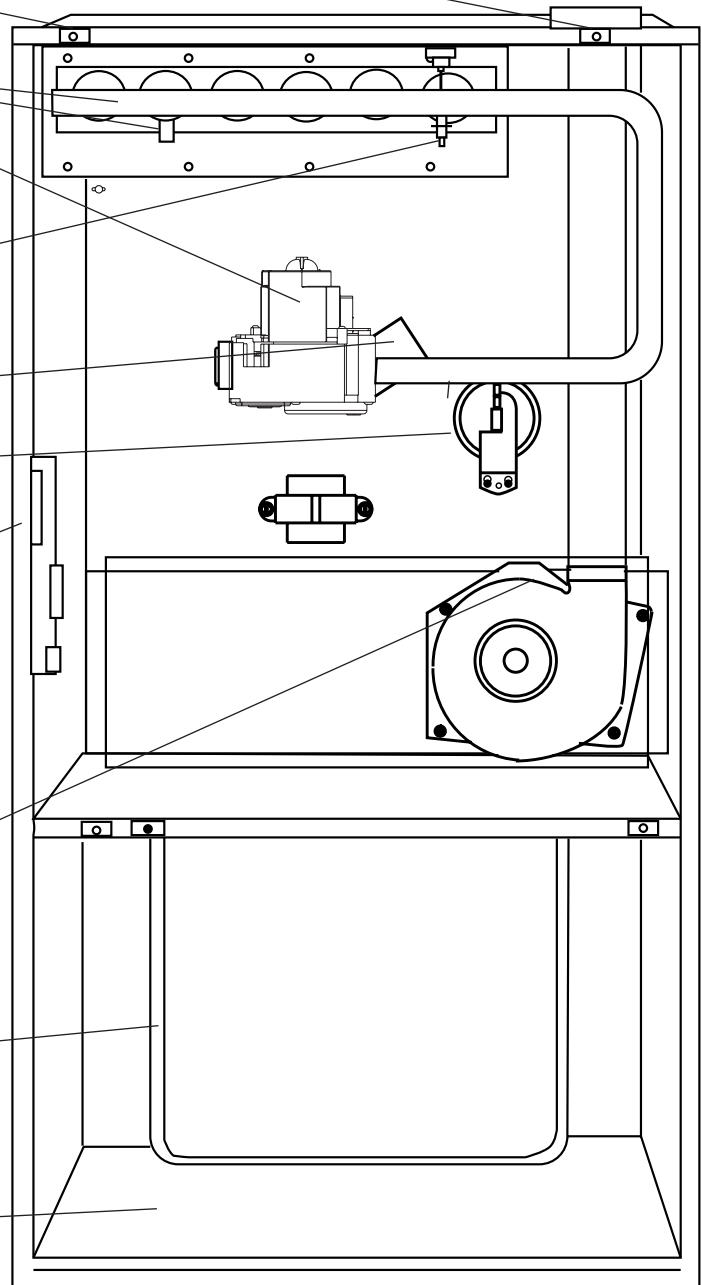
Single pressure switch assures proper operation of the induced draft system up to 10,000 feet.

SmartStart™ integrated control monitors the burner flame and limit circuit continuously. Blower timing has adjustable OFF settings. Provides humidifier and electronic air cleaner connections.

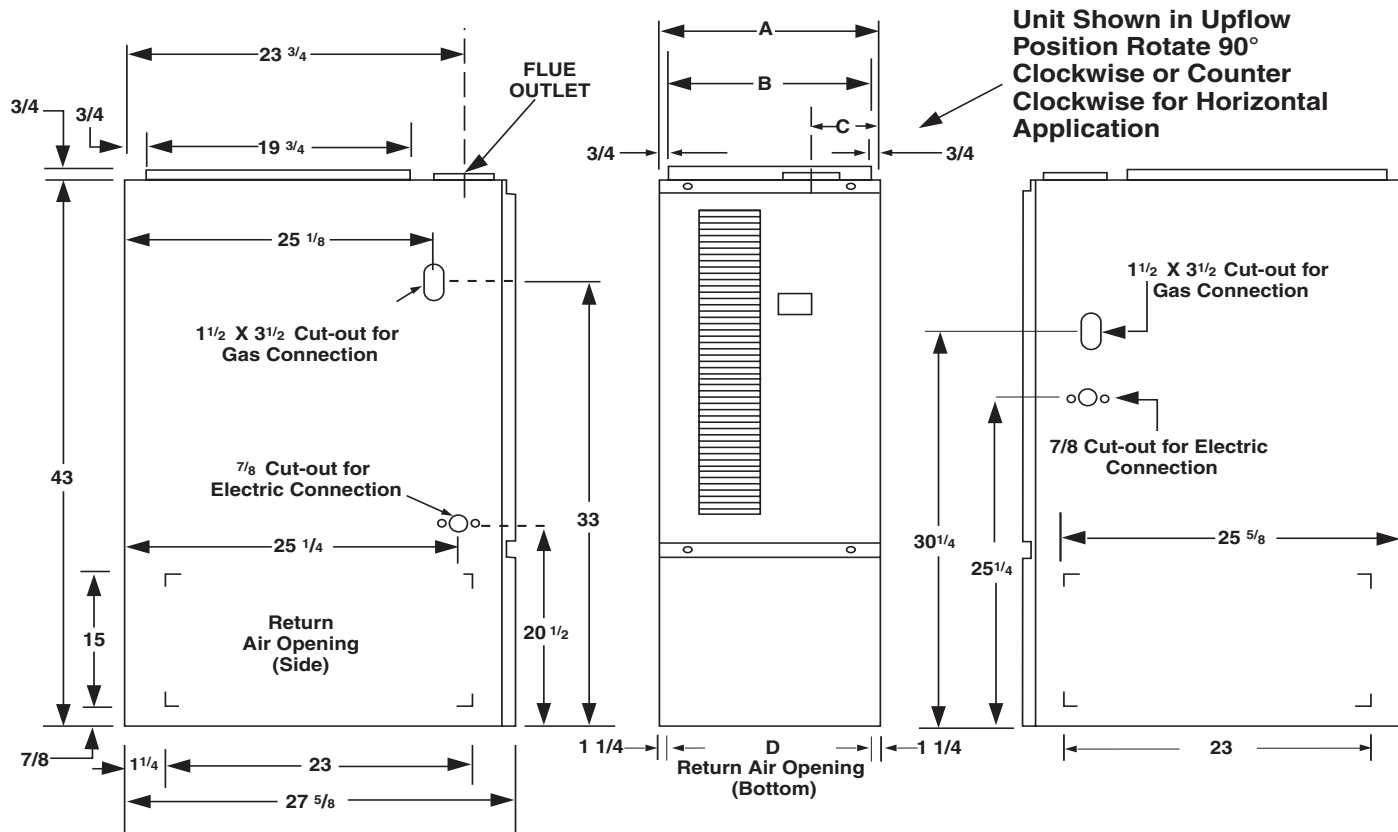
Isolation grommets on the induced draft blower provides quiet and reliable operation.

Multi-speed PSC motor/blower provides quiet airflow, reliable operation, and is installed on a slide-out track.

Solid bottom base plate for sturdy construction — with easily removed full bottom knock-out for bottom return applications.



DIMENSIONS



MODEL NUMBER MGF1RA	A (in.)	B (in.)	C (in.)	D (in.)	MODEL NUMBER MGF1RA	A (in.)	B (in.)	C (in.)	D (in.)
045()08A	14 1/4	12 3/4	3 1/4	11 3/4	096()16B	19 3/4	18 1/4	3 3/4	17 1/4
060()12A	14 1/4	12 3/4	3 3/4	11 3/4	096()20B	19 3/4	18 1/4	3 3/4	17 1/4
072()12A	14 1/4	12 3/4	3 3/4	11 3/4	096()20C	22 1/2	21	3 3/4	20
072()16B	19 3/4	18 1/4	3 3/4	17 1/4	120()16B	19 3/4	18 1/4	3 3/4	17 1/4
072()17A	14 1/4	12 3/4	3 3/4	11 3/4	120()20C	22 1/2	21	3 3/4	20
096()12B	19 3/4	18 1/4	3 3/4	17 1/4	144()20C	22 1/2	21	4 1/4	20

() May be "C" or "N"

SPECIFICATIONS

MGF1RA MODEL NUMBERS	-045()08A	-060()12A	-072()12A	-072()16B	-072()17A	-096()12B	-096()16B	-096()20B	-096()20C	-120()16B	-120()20C	-144()20C
Input-Btuh (a)	45,000	60,000	72,000	72,000	72,000	96,000	96,000	96,000	96,000	120,000	120,000	144,000
Heating Capacity - Btuh	36,000	48,000	58,000	58,000	58,000	77,000	77,000	77,000	77,000	96,000	96,000	115,000
AFUE	80+	80+	80+	80+	80+	80+	80+	80+	80+	80+	80+	80+
Max. Htg. Ext. St. Press. In W.C.	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
Blower Wheel D x W	10 x 6	10 x 6	10 x 6	10 x 6	10 x 6	10 x 9	10 x 10	11 x 10	11 x 10	10 x 10	11 x 10	11 x 10
Motor H.P. - Speed - Type	1/5-3-PSC	1/3-3-PSC	1/3-3-PSC	1/2-4-PSC	3/4-4-PSC	1/3-3-PSC	1/2-4-PSC	3/4-4-PSC	3/4-4-PSC	1/2-4-PSC	3/4-4-PSC	3/4-4-PSC
Motor FLA	2.8	6.0	6.0	7.9	14.0	6.0	7.9	11.1	11.1	7.9	11.1	11.1
Temperature Rise Range - °F	45 - 75	45 - 75	45 - 75	40 - 70	45 - 75	50 - 80	50 - 80	50 - 80	40 - 70	50 - 80	45 - 75	45 - 75
Approximate Shipping Wt. - lbs.	123	134	135	152	135	163	163	170	174	174	182	194

All models are 115 V, 60 HZ. Gas connections are 1/2" N.P.T

AFUE= Annual Fuel Utilization Efficiency

(a) Ratings to 2000 ft. Over 2000 ft. reduce 4% for each 1000 ft. above sea level.

STANDARD EQUIPMENT

Draft inducer; pressure switch; redundant main gas control; hot-surface ignition; timed ON/OFF blower controls (TDR) ; 40VA transformer for air conditioner application; limit controls; solid base plate with knock-out for easy removal; direct drive motor; all models can be converted to use L.P. (propane) gas. Factory approved kits *only* must be used and are available as an optional accessory from your distributor.

VENTING

All models, with the exception of the reduced NOx models, are approved for vertical and horizontal venting applications (see table below). All models may be common vented with a gas water heater. Type B gas vent materials may be used when connected to a vertical vent system. The installation must be in accordance with the venting instructions supplied with the furnace.

Through-the-Wall VENTING Venting Requirements

These furnaces are approved to use with 3" single wall AL29-4C stainless steel vent pipe in horizontal vent applications, and with the required horizontal vent kit 903196. The pipe is available from the following manufacturers:

Z-Flex Inc. - vent brand name (**Z-VENT**)

Heat-fab Inc. - vent brand name (**Saf-T Vent**)

Flex-L International - vent brand name (**STAR-34 Vent**)

When venting horizontal, this is a Category III furnace, the vent pressure is positive, and the venting system must be sealed in both horizontal and vertical runs.

MODEL NUMBER MGF1RA	Min. Pipe Size	Reducer Needed	Flue Outlet (in.)	Max. # Elbows	Max. Ft. Vent Pipe
045()-08A	3"	None	3	4	35
060()-12A	3"	4" to 3"	4	4	35
072()-12A	3"	4" to 3"	4	4	35
072()-16B	3"	4" to 3"	4	4	35
096()-12B	3"	4" to 3"	4	4	35
096()-16B	3"	4" to 3"	4	4	35
096()-20B	3"	4" to 3"	4	4	35
096()-20C	3"	4" to 3"	4	4	35
120()-16B	3"	4" to 3"	4	4	35
120()-20C	3"	4" to 3"	4	4	35
144()-20C*	3"	4" to 3"	5	3	30

BLOWER PERFORMANCE

Model Number *RA-	Heating Input (Btuh)	External Static Pressure (Inches Water Column)																	
		Motor Speed	Motor HP	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	Rise	CFM	Rise
045(t)-08A	45,000	High * Medium** Low	1/5	1000 760 630	33 44 53	970 740 620	34 45 54	950 730 610	35 46 55	920 720 600	36 46 56	870 690 570	38 48 58	820 670 540	41 50 62	770 640 510	43 52 65	700 620 470	48 54 71
060(t)-12A	60,000	High * Medium** Low	1/3	1380 1220 820	32 36 54	1350 1190 800	33 37 56	1310 1160 780	34 38 57	1260 1120 760	35 40 58	1210 1070 730	37 42 61	1150 1020 700	39 44 63	1080 950 670	41 47 66	1000 880 640	44 51 69
072(t)-12A	72,000	High * Medium** Low	1/3	1380 1220 820	39 44 65	1350 1190 800	40 45 67	1310 1160 780	41 46 68	1260 1120 760	42 48 70	1210 1070 730	44 50 73	1150 1020 700	46 52 76	1080 950 670	49 56 80	1000 880 640	53 61 83
072(t)-16B	72,000	High * Med-High Med-Low** Low	1/2	1980 1710 1490 1270	27 31 36 42	1910 1660 1470 1250	28 32 36 43	1830 1610 1420 1230	29 33 38 43	1760 1540 1380 1190	30 35 39 45	1660 1470 1320 1140	32 36 40 47	1570 1390 1250 1080	34 38 43 49	1460 1300 1170 1010	37 41 46 53	1350 1200 1090 920	40 44 49 58
072(t)-17A	72,000	High * Med-High Med-Low** Low	3/4	1950 1500 1160 910	27 36 46 59	1900 1450 1130 870	28 37 47 61	1810 1420 1090 840	29 38 49 63	1810 1380 1060 810	29 39 50 66	1770 1340 1030 770	30 40 52 69	1730 1310 980 740	31 41 54 72	1700 1280 940 710	31 42 57 75	1670 1250 900 680	32 43 59 78
096(t)-12B	96,000	High * Medium** Low	1/3	1530 1380 930	46 52 76	1450 1320 900	49 54 79	1390 1250 870	51 57 82	1300 1190 820	55 60 87	1220 1100 750	58 65 95	1130 1020 670	63 70 106	1040 920 580	68 77 123	940 820 470	76 87 151
096(t)-16B	96,000	High * Med-High** Med-Low Low	1/2	1980 1720 1470 1270	36 41 48 56	1910 1670 1440 1240	37 43 49 57	1840 1610 1410 1220	39 44 50 58	1760 1560 1370 1190	40 46 52 60	1680 1480 1320 1140	42 48 54 62	1590 1410 1270 1090	45 50 56 65	1500 1320 1200 1040	47 54 59 68	1410 1230 1130 970	50 58 63 73
096(t)-20B	96,000	High * Med-High** Med-Low Low	3/4	2435 2015 1698 1450	29 35 42 49	2410 2015 1695 1440	30 35 42 49	2375 2005 1680 1420	30 35 42 50	2335 1975 1660 1400	30 36 43 51	2290 1945 1645 1375	31 37 43 52	2215 1905 1600 1360	32 37 44 52	2135 1895 1555 1340	33 38 46 53	2035 1865 1495 1315	35 38 48 54
096(t)-20C	96,000	High * Med-High Med-Low** Low	3/4	2340 1910 1520 1370	30 37 47 52	2290 1880 1510 1350	31 38 47 53	2280 1860 1490 1340	31 38 48 53	2180 1830 1480 1320	33 39 48 54	2150 1810 1460 1300	33 39 49 55	2080 1790 1440 1280	34 40 49 56	2000 1770 1420 1260	36 40 50 56	1920 1750 1400 1230	37 41 51 58
120(t)-16B	120,00	High * Med-High** Med-Low Low	1/2	1900 1720 1450 1260	47 52 61 71	1830 1670 1420 1230	49 53 63 72	1750 1610 1380 1200	51 55 64 74	1630 1560 1340 1170	55 57 66 76	1580 1480 1280 1120	56 60 69 79	1490 1410 1220 1070	60 63 73 83	1400 1320 1150 1020	63 67 77 87	1320 1230 1070 960	67 72 83 93
120(t)-20C	120,000	High * Med-High** Med-Low Low	3/4	2300 1910 1540 1320	39 47 58 67	2250 1880 1530 1310	40 47 58 68	2190 1860 1520 1300	41 48 58 68	2130 1830 1500 1280	42 49 59 69	2090 1800 1480 1260	43 49 60 71	2040 1770 1450 1230	44 50 61 72	2000 1740 1420 1200	44 51 63 74	1950 1700 1390 1170	46 52 64 76
144(t)-20C	144,000	High * Med-High** Med-Low Low	3/4	2240 1900 1520 1330	48 56 70 80	2190 1860 1510 1310	49 57 71 81	2130 1820 1490 1290	50 59 72 83	2070 1780 1480 1280	52 60 72 83	2020 1740 1450 1250	53 61 74 85	1960 1700 1420 1230	54 63 75 87	1910 1660 1390 1210	56 64 77 88	1850 1620 1360 1180	58 66 78 90

† Can be C or N

** Factory Set Cooling Speed

** Factory Set Heating Speed

- Not Recommended

Notes: 1. Airflow rates of 1800 CFM or more require two return air connections. Data is for operation with filter(s).

2. Temperature rises in the table are approximate. Actual temperature rises may vary.

3. Temperature rises and airflows for external static pressures greater than 0.5 are for reference only. These conditions are not recommended.

ACCESSORIES

High Efficiency 80+ with Honeywell VR Gas Valve		
Kit	Order Number	
U.S. LP Conversion Kit (0 to 10,000 ft.)	904090A	
Canadian LP Gas Conversion Kit (0 to 4,500 ft.)	904091A	
Fossil Fuel Kit	914762	
Side Return Filter Kit	541036	
Bottom Return Filter (20/Box)	A Cabinet	903088
	B Cabinet	903089
	C Cabinet	903090
Horizontal Vent Kit	903196	
Internal Side Return Filter Wire	903152	
Variable Speed Blower Kit for "A" Cabinets	904231	
Variable Speed Blower Kit for "B" & "C" Cabinets	903756A	

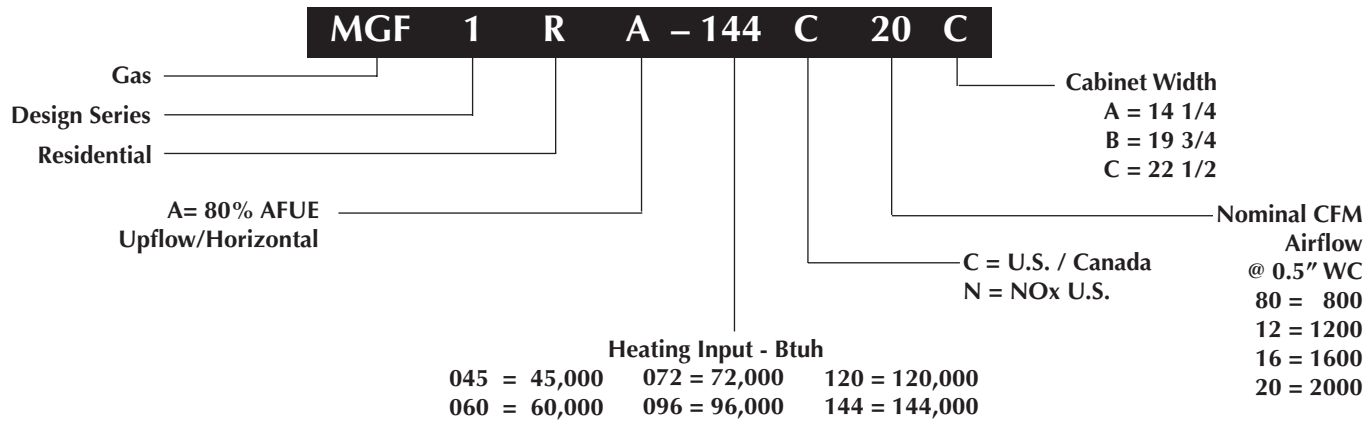
Furnace Model Number *RA,*RK	Furnace Input (Btu/hr)	Cabinet Width (in.)	Nominal Electrical Supply	Maximum Operating Voltage	Minimum Operating Voltage	Maximum Furnace Amperes	Minimum Wire Gauge	Maximum Fuse or Circuit Breaker Amps**
045(t)-08	45,000	14.25	115-60-1	127	103	5.6	14	15
060(t)-12	60,000	14.25	115-60-1	127	103	7.1	14	15
072(t)-12	72,000	14.25	115-60-1	127	103	7.1	14	15
072(t)-16	72,000	19.75	115-60-1	127	103	9.0	14	15
072(t)-17	72,000	14.25	115-60-1	127	103	21.0	10	35
096(t)-12	96,000	19.75	115-60-1	127	103	7.1	14	15
096(t)-16	96,000	19.75	115-60-1	127	103	9.0	14	15
096(t)-20	96,000	22.50	115-60-1	127	103	12.2	12	20
120(t)-16	120,000	19.75	115-60-1	127	103	9.0	14	15
120(t)-20	120,000	22.50	115-60-1	127	103	12.2	12	20
135(t)-20	135,000	22.50	115-60-1	127	103	12.2	12	20
144(t)-20	144,000	22.50	115-60-1	127	103	12.2	12	20

Note: (t) can be C or N.

**Time-delay fuses or HACR-type circuit breakers are required.

Thermostat Wire Gauge	Recommended Thermostat Wire Length	
	2-wire (heating)	4 or 5-wire (cooling)
24	55 ft.	25 ft.
22	90 ft.	45 ft.
20	140 ft.	70 ft.
18	225 ft.	110 ft.

IDENTIFICATION CODE



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