

GMH8/GDH8 MULTI-POSITION, MULTI-SPEED GAS FURNACE

80% AFUE

**HEATING INPUT:
40,000–140,000 BTU/H**

Standard Features

- Dual-diameter tubular heat exchanger
- Two-stage gas valve with TwinComfort™ control technology that allows installer to turn on the two-stage valve with the flip of a dipswitch
- 110V Silicon Nitride igniter designed for long igniter life
- Quiet four-speed direct-drive circulating blower motor
- Integrated electronic furnace control board with self-diagnostics, low-voltage terminal block, and separate terminals for electronic air cleaner and 24-volt humidifiers
- Control board stores the last five diagnostic codes in memory; simple push-button activation outputs the fault history to a flashing red LED
- Low constant fan mode allows the homeowner to activate the lowest available heating speed to circulate air quietly and efficiently throughout the home during the off cycle
- Self-adjusting feature automatically adjusts furnace to high- or low-stage operation based on outside temperature without outdoor temperature sensor
- Quiet single-speed, induced-draft blower
- Certain models available with low NOx emissions

Cabinet Features

- Fully insulated, heavy-gauge steel cabinet with durable baked-enamel finish
- Foil-faced insulation lines the heat exchanger compartment
- Factory-sealed to achieve 2% or less leakage rate at 1.0" water gauge external duct static pressure
- GMH8 designed for multi-position installation;
- GDH8 designed for dedicated downflow only
- Removable bottom for side- or bottom-return applications
- Convenient left or right connection for gas/electric service
- Coil and furnace fit flush for most installations



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* Complete warranty details available from you local dealer or at www.amana-hac.com. To receive the Lifetime Heat Exchanger Limited Warranty (good for as long as you own your home), 10-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.

NOMENCLATURE

	G	M	H	8	060	3	B	*	*	
	1	2	3	4	5,6,7	8	9	10	11	
Brand	G Goodman® Brand or Distinctions™								Revisions	
									A Initial Release	
									B 1st Revision	
									C 2nd Revision	
Airflow Direction	C Downflow/Horizontal								NOx	
	D Dedicated Downflow								N Natural Gas	
	H High Airflow								X Low NOx	
	K Dedicated Upflow								Cabinet Width	
	M Upflow/Horizontal								A 14"	
Description	V Two-Stage/Variable-speed								B 17½"	
	H Two-Stage/Multi-speed								C 21"	
	S Single-Stage/Multi-speed								D 24½"	
AFUE	95 95%								Maximum CFM @ 0.5" ESP	
	9 90%+								3 1,200	
	8 80%								4 1,600	
									5 2,000	
									MBTU/h	
									040: 40,000	
									100: 100,000	
									060: 60,000	
									120: 120,000	
									080: 80,000	
									140: 140,000	



SPECIFICATIONS — GMH8

	GMH8 0403A*B	GMH8 0603A*B	GMH8 0604B*B	GMH8 0803B*B	GMH8 0804B*B	GMH8 0805C*B	GMH8 1005C*B	GMH8 1205D*B	GMH8 1405D*C
HEATING CAPACITY									
Input ¹	40,000	60,000	60,000	80,000	80,000	80,000	100,000	120,000	140,000
Natural Gas Output ¹	32,000	48,000	48,000	64,000	64,000	64,000	80,000	96,000	112,000
LP Gas Output ¹	32,000	48,000	48,000	64,000	64,000	64,000	80,000	96,000	96,000
AFUE ²	80	80	80	80	80	80	80	80	80
Available AC @ 0.5" ESP	3	3	4	3	4	5	5	5	5
Temperature Rise Range (°F)	25 - 55	20 - 50	20 - 50	35 - 65	35 - 65	35 - 65	35 - 65	40 - 70	40 - 70
CIRCULATOR BLOWER									
Size (D x W)	10" x 6"	10" x 6"	10" x 8"	10" x 8"	10" x 8"	10" x 10"	10" x 10"	11" x 10"	11" x 10"
Horsepower @1075 RPM	⅓	⅓	½	⅓	½	½	½	¾	¾
Speed	4	4	4	4	4	4	4	4	4
Vent Diameter ³	4"	4"	4"	4"	4"	4"	4"	4"	4"
No. of Burners	2	3	3	4	4	4	5	6	6
Disposable Filter Size (in ²)	580	580	770	580	770	960	960	960	960
ELECTRICAL DATA									
Min. Circuit Ampacity ⁴	8.1	8.1	12.5	8.1	12.5	12.5	12.5	14.7	14.7
Max. Overcurrent Device (amps) ⁵	15	15	15	15	15	15	15	15	15
SHIP WEIGHT (LBS)									
	115	125	136	146	146	154	158	163	163

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 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.

SPECIFICATIONS — GDH8

	GDH8 0403A*B	GDH8 0603A*B	GDH8 0804B*B	GDH8 1005C*B
HEATING CAPACITY				
Input ¹	40,000	60,000	80,000	100,000
Natural Gas Output ¹	32,000	48,000	64,000	80,000
LP Gas Output ¹	32,000	48,000	64,000	80,000
AFUE ²	80	80	80	80
Temperature Rise Range (°F)	25 - 55	30-60	35-65	40-70
Available AC @ 0.5" ESP	3	3	4	5
CIRCULATOR BLOWER				
Size (D x W)	10 X 6	10 X 6	10 X 8	10 X 10
Horsepower	1/3	1/3	1/2	3/4
Speed	4	4	4	4
Vent Diameter ³	4	4	4	4
No. of Burners	2	3	4	5
Disposable Filter (in ²)	580	580	770	960
ELECTRICAL DATA				
Min. Circuit Ampacity ⁴	8.5	8.5	12.9	12.9
Max. Overcurrent Protection ⁵	15	15	15	15
SHIP WEIGHT (LBS)	120	130	153	175

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).

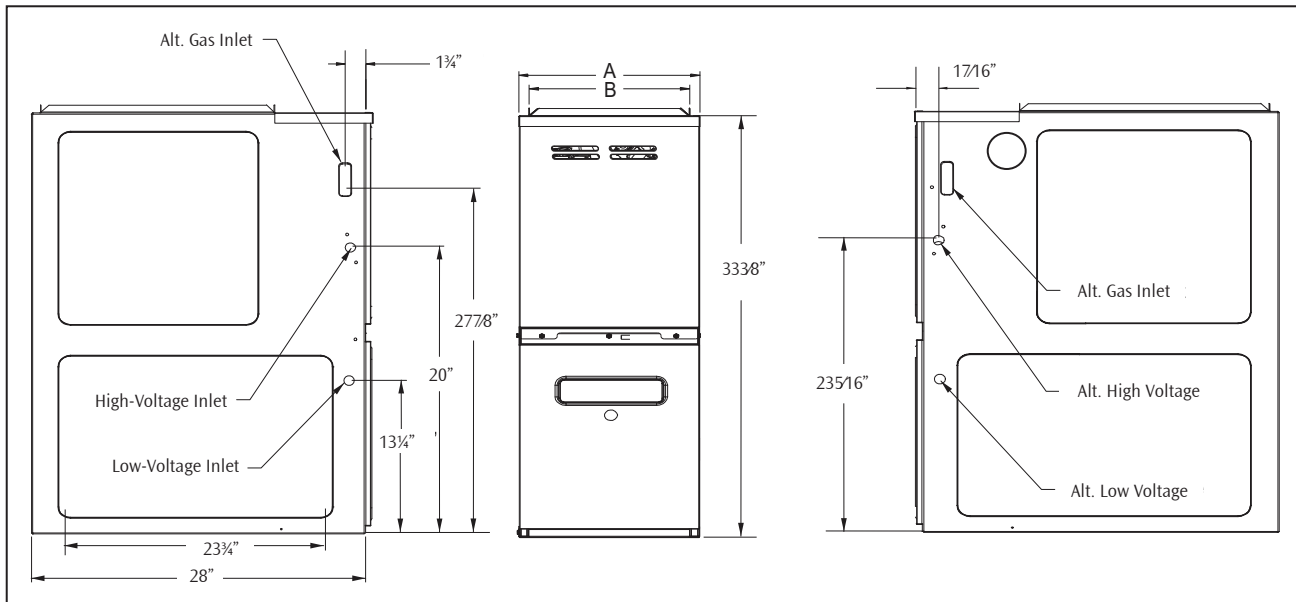
⁴ Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

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.

GMH8 DIMENSIONS



MODEL	A	B
GMH80403A**	14"	12 1/2"
GMH80603A**	14"	12 1/2"
GMH80604B**	17 1/2"	16"
GMH80803B**	17 1/2"	16"

MODEL	A	B
GMH80804B**	17 1/2"	16"
GMH80805C**	21"	19 1/2"
GMH81005C**	21"	19 1/2"
GMH81205D**	24 1/2"	23"

Notes:

- 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.

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

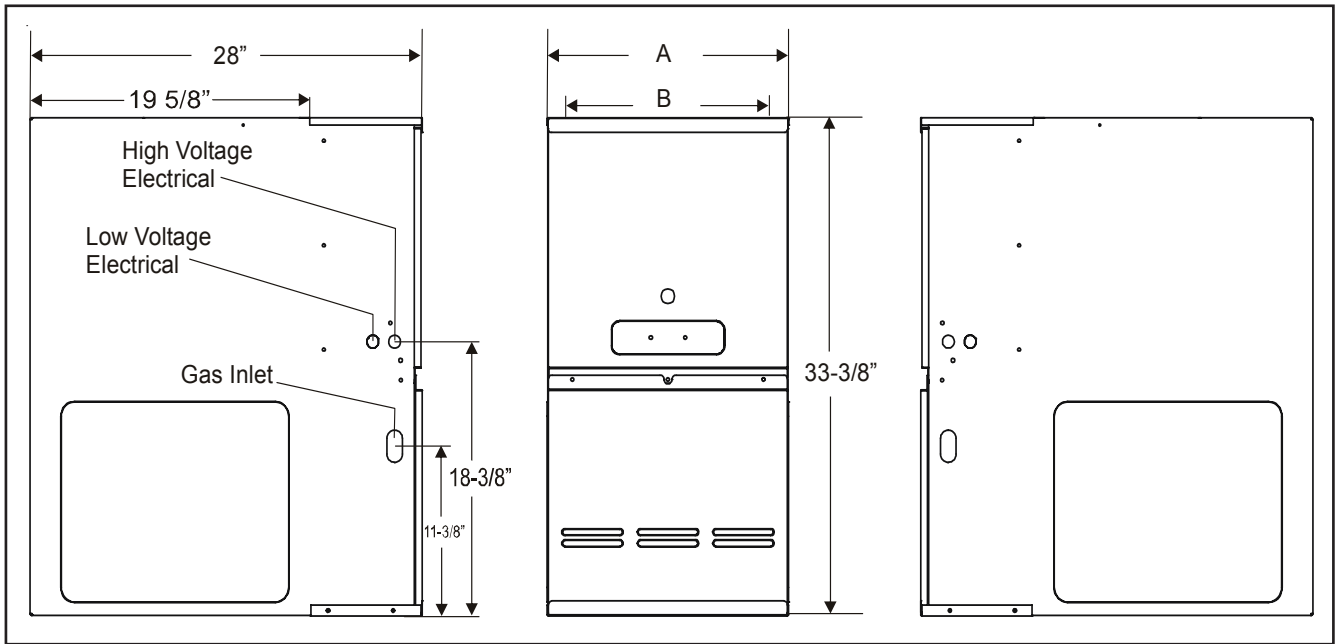
SIDES	REAR	FRONT ¹	VENT ²		TOP
			SW	B	
1"	0"	3"	6"	1"	1"

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: GMH8 approved for line contact in the horizontal position.

GDH8 DIMENSIONS



MODEL	A	B	NON-COMBUSTIBLE FLOOR BASE
GDH80403A**	14"	12½"	SBT14
GDH80603A**	14"	12½"	SBT14
GDH80804B**	17½"	16"	SBT17
GDH81005C**	21"	19½"	SBT21

NOTES:

- 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 90° street elbow; one 2½" pipe nipple; one 90° elbow; straight pipe; one ground joint union
 - ◊ Right: Straight pipe to reach gas valve

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).

GMH8 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
GMH8 0403A*B	High	3	1,521	---	1,466	---	1,414	---	1,373	---	1,298	---	1,243	1,164	1,075
	Med	2.5	1,160	26	1,160	26	1,132	26	1,121	26	1,082	27	1,042	997	925
	Med-Lo	2	961	31	955	31	948	31	932	32	913	33	882	821	803
	Low	1.5	781	38	785	38	781	38	773	38	761	32	745	716	668
GMH8 0603A*B	High	3	1,422	31	1,352	33	1,307	34	1,197	37	1,157	38	1,092	1,075	983
	Med	2.5	1,098	40	1,081	41	1,051	42	1,039	43	1,021	44	983	924	868
	Med-Lo	2	919	48	913	49	892	50	847	----	829	----	818	792	728
	Low	1.5	758	----	741	----	741	----	733	----	699	----	677	649	626
GMH8 0604B*B	High	4	2,134	21	2,100	21	2,042	22	1,975	23	1,883	24	1,786	1,700	1,601
	Med	3.5	1,668	27	1,663	27	1,656	27	1,645	27	1,616	28	1,549	1,492	1,391
	Med-Lo	3	1,419	31	1,426	31	1,426	31	1,432	31	1,419	31	1,378	1,328	1,261
	Low	2.5	1,134	39	1,145	39	1,166	38	1,171	38	1,160	38	1,144	1,111	1,071
GMH8 0803B*B	High	3	1,607	37	1,572	38	1,547	39	1,498	40	1,448	41	1,390	1,302	1,222
	Med	2.5	1,159	51	1,156	51	1,145	52	1,127	53	1,108	53	1,075	1,033	957
	Med-Lo	2	938	63	916	65	916	65	900	----	889	----	865	829	785
	Low	1.5	785	----	766	----	743	----	730	----	709	----	683	666	604
GMH8 0804B*B	High	4	2,051	----	1,983	----	1,895	---	1,812	---	1,725	---	1,627	1,530	1,439
	Med	3.5	1,736	---	1,708	35	1,652	36	1,611	37	1,540	38	1,475	1,394	1,307
	Med-Lo	3	1,493	35	1,668	36	1,459	41	1,429	41	1,389	43	1,339	1,274	1,204
	Low	2.5	1,200	49	1,185	50	1,180	50	1,173	51	1,158	51	1,125	1,125	1,080
GMH8 0805C*B	High	5	2,290	----	2,229	----	2,155	----	2,047	----	1,960	----	1,837	1,712	1,584
	Med	4	1,852	---	1,820	---	1,777	---	1,719	---	1,641	36	1,567	1,469	1,382
	Med-Lo	3.5	1,615	37	1,592	37	1,556	38	1,516	39	1,470	40	1,405	1,346	1,235
	Low	3	1,290	46	1,285	46	1,265	47	1,235	48	1,214	49	1,174	1,044	904
GMH8 1005C*B	High	5	2,323	---	2,225	---	2,120	35	2,040	36	1,974	38	1,801	1,688	1,577
	Med	4	1,858	40	1,847	40	1,799	41	1,744	42	1,674	44	1,577	1,493	1,399
	Med-Lo	3.5	1,596	46	1,587	47	1,571	47	1,552	48	1,493	50	1,397	1,326	1,217
	Low	3	1,291	57	1,272	58	1,261	59	1,257	59	1,205	61	1,168	1,118	1,060
GMH8 1205D*B	High	5	2,469	---	2,389	---	2,300	---	2,223	40	2,131	42	2,027	1,902	1,786
	Med	4	1,575	56	1,558	57	1,545	58	1,513	59	1,500	59	1,419	1,354	1,271
	Med-Lo	3.5	1,402	63	1,380	64	1,343	66	1,319	67	1,296	69	1,245	1,183	1,106
	Low	3	1,200	----	1,186	----	1,161	----	1,127	----	1,082	----	1,042	995	926
GMH8 1405D*C	High	5	2,469	42	2,389	43	2,300	45	2,223	47	2,131	49	2,027	1,902	1,786
	Med	4	1,575	66	1,558	67	1,545	67	1,513	69	1,500	69	1,419	1,354	1,271
	Med-Lo	3.5	1,402	----	1,380	----	1,343	----	1,319	----	1,296	----	1,245	1,183	1,106
	Low	3	1,200	----	1,186	----	1,161	----	1,127	----	1,082	----	1,042	995	926

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. If the furnace requires two return filters, this chart assumes both filters are installed.
- All furnaces ship as high-speed cooling and medium-speed heating. Installer must adjust blower cooling and heating speed as needed.
- For most jobs, 400 CFM per ton for cooling is desirable.
- INSTALLATION IS TO BE ADJUSTED TO OBTAIN TEMPERATURE RISE WITHIN THE RANGE SPECIFIED ON THE RATING PLATE.
- This chart is for information only. For satisfactory operation, external static pressure **should** not exceed value shown on the rating plate.
- The dashed (----) areas indicate a temperature rise not recommended for this model.
- The above chart is for U.S. furnaces installed at 0-2000 feet. At higher altitudes, a properly derated unit will have approximately the same temperature rise at a particular CFM, while ESP at the CFM will be lower.

GDH8 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
GDH8 0403A*B (Med) ²	High	3.0	1,353	---	1,290	---	1,246	---	1,199	25	1,149	26	1,116	1,116	1,099
	Med	2.5	1,183	25	1,113	27	1,098	27	1,052	28	1,039	29	1,006	1,012	969
	Med-Lo	2.0	980	30	946	31	920	32	900	33	896	33	885	855	804
	Low	1.5	778	38	762	39	738	40	746	40	738	40	717	696	678
GDH8 0603A*B (Med) ²	High	3.0	1,290	34	1,236	36	1,194	37	1,166	38	1,176	38	1,166	1,108	1,029
	Med	2.5	1,139	39	1,090	41	1,035	43	1,063	42	1,063	42	1020	962	895
	Med-Lo	2.0	962	46	927	48	925	48	941	47	909	49	877	834	779
	Low	1.5	787	56	776	57	763	58	744	60	723	---	690	641	581
GDH8 0804B*B (Med) ²	High	4.0	2,128	---	2,063	---	2,001	---	1,927	---	1,824	---	1,726	1,628	1,529
	Med	3.5	1,840	---	1,788	---	1,745	---	1,689	35	1,625	36	1,550	1,470	1,364
	Med-Lo	3.0	1,602	37	1,558	38	1,543	38	1,493	40	1,455	41	1,402	1,328	1,239
	Low	2.5	1,277	46	1,252	47	1,244	48	1,229	48	1,214	49	1,179	1141	1079
GDH8 1005C*B (Med) ²	High	5.0	2,405	---	2,361	---	2,250	---	2,161	---	2,037	36	1,937	1,808	1,689
	Med	4.0	1,880	39	1,838	40	1,794	41	1,734	43	1,677	44	1,568	1,510	1,401
	Med-Lo	3.5	1659	45	1,630	45	1,587	47	1,537	48	1,492	50	1,445	1,368	1,287
	Low	3.0	1,472	50	1,454	51	1,404	53	1,366	54	1,326	56	1300	1228	1139

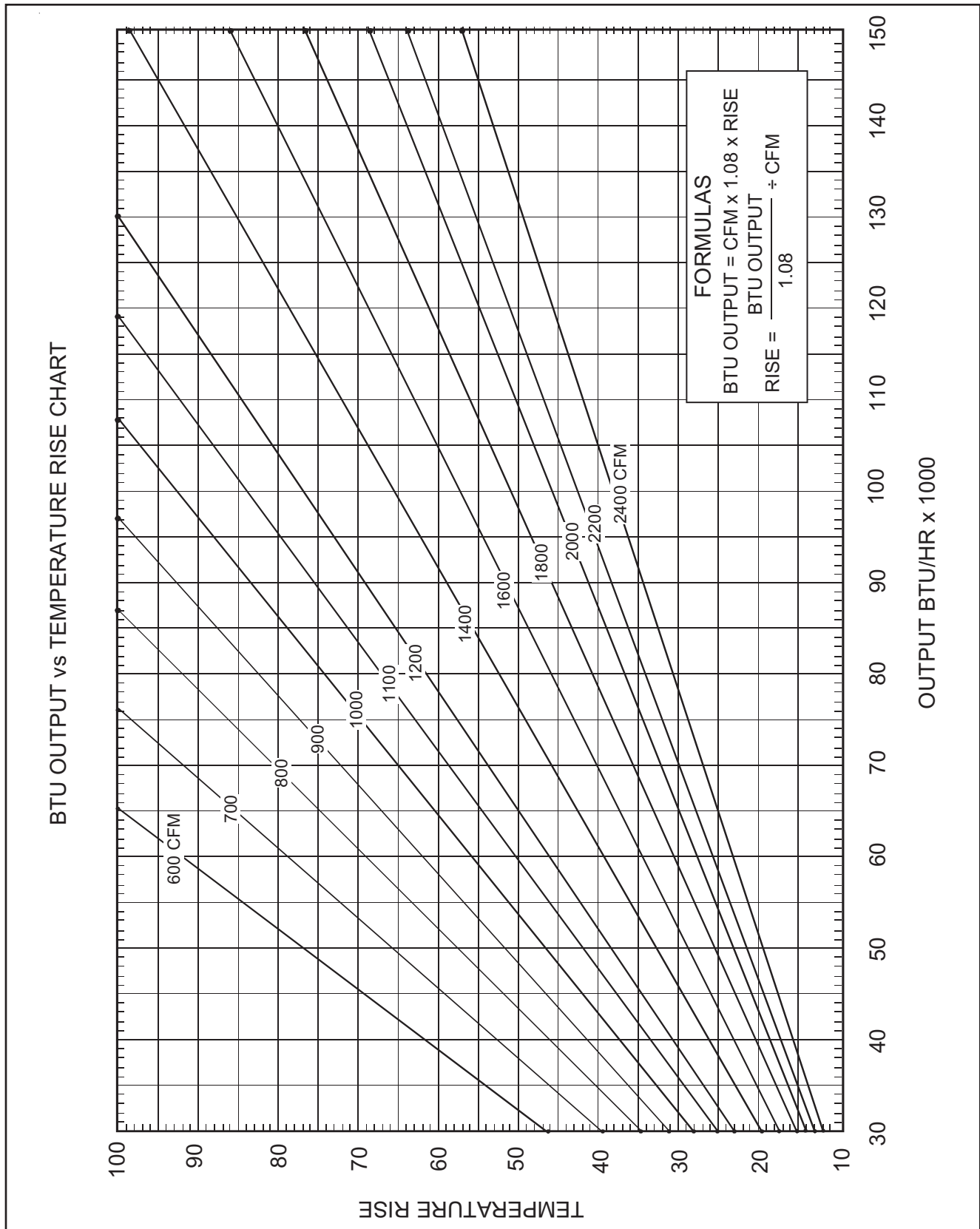
¹ Heating speed as shipped

² @ 0.5" ESP

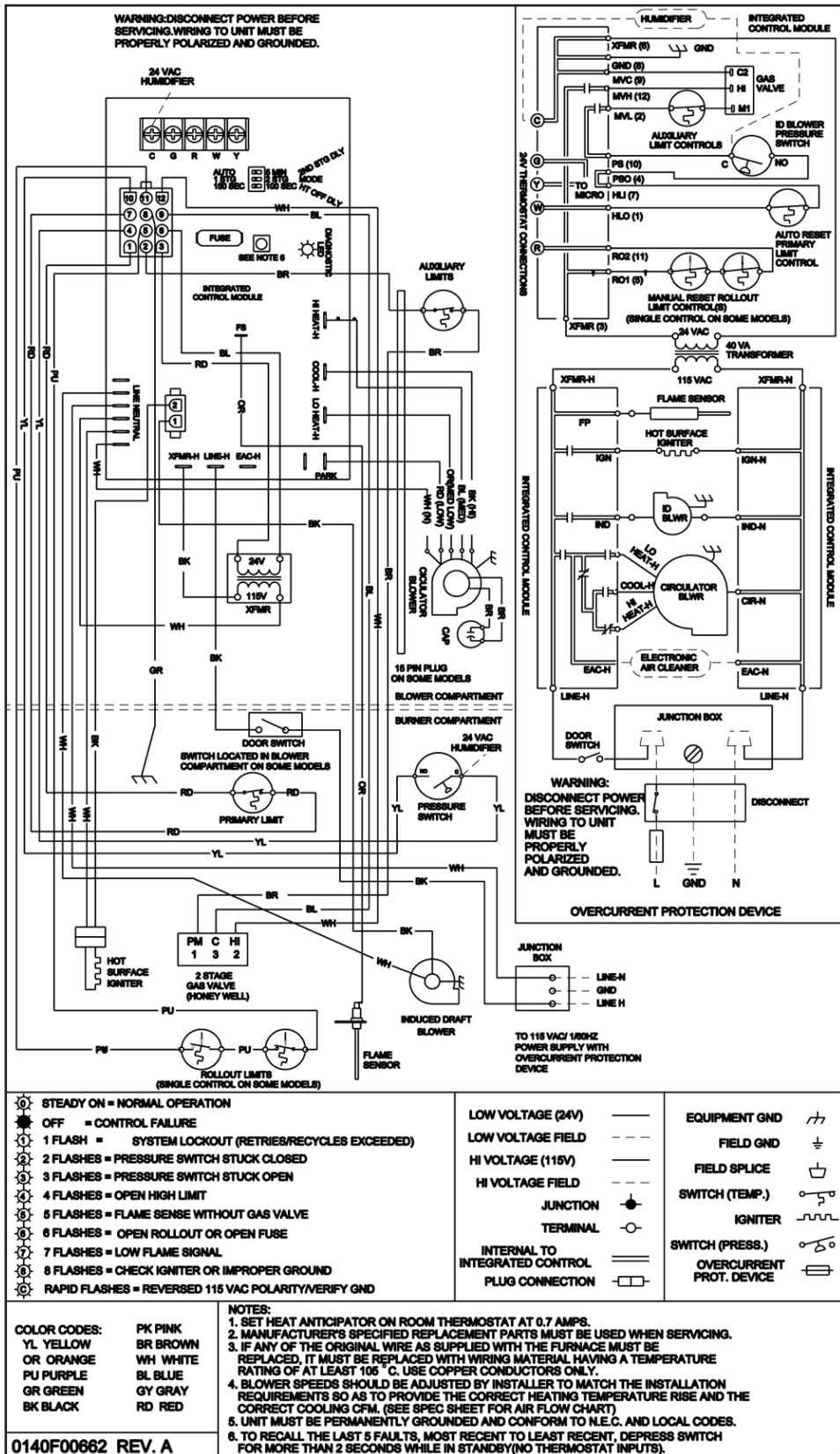
NOTES

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- All furnaces ship as high-speed cooling and medium-speed heating. Installer must adjust blower cooling and heating speed as needed.
- For most jobs, 400 CFM per ton for cooling is desirable.
- INSTALLATION IS TO BE ADJUSTED TO OBTAIN TEMPERATURE RISE WITHIN THE RANGE SPECIFIED ON THE RATING PLATE.
- This chart is for information only. For satisfactory operation, external static pressure **should** not exceed value shown on the rating plate.
- The dashed (---) areas indicate a temperature rise not recommended for this model.
- The above chart is for U.S. furnaces installed at 0-2000 feet. At higher altitudes, a properly derated unit will have approximately the same temperature rise at a particular CFM, while ESP at the CFM will be lower.

TEMPERATURE RISE RANGE CHART



WIRING DIAGRAM



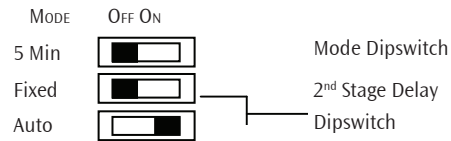
TWINCOMFORT™ CONFIGURATION & OPERATION

TwinComfort™

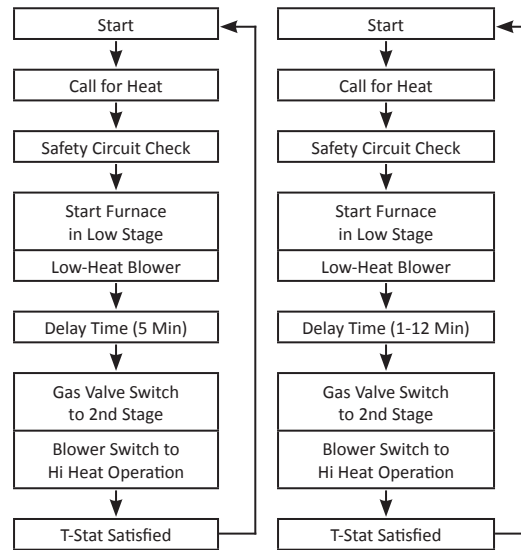
This furnace is capable of the following heating modes:

- Single Stage (Factory Setting)
- Modified Two-Stage
 - » Fixed 5-Min Low Stage
 - » Auto Time (1-12 Min) Low Stage

To change from the factory single-stage operation, adjust the dipswitches on the ignition control as follows:



Note: This furnace is designed to be used with a single-stage room thermostat.



ACCESSORIES

MODEL	DESCRIPTION	GMH8 0403*	GMH8 0603*	GMH8 0604*	GMH8 0803*	GMH8 0804*	GMH8 0805*	GMH8 1005*	GMH8 1205*	GMH8 1405*
LPM-06	LP Conversion Kit (Springs & Orifice) ¹	√	√	√	√	√	√	√	√	√
HA02	High-Altitude Natural Gas Kit (+7,000')	√	√	√	√	√	√	√	√	√
FTK04	Twinning Kit	√	√	√	√	√	√	√	√	√
MVK-01 ²	Masonry Vent Kits	√	√	√	√	√	√	√		
MVK-02 ²	Masonry Vent Kits								√	√
AFE18-60A	Fossil Fuel Kit	√	√	√	√	√	√	√	√	√

¹ Honeywell or White-Rodgers valves

² Upflow applications only

MODEL	DESCRIPTION	GDH8 0403*	GDH8 0603*	GDH8 0804*	GDH8 1005*
LPM-06	LP Conversion Kit (Springs & Orifice) ¹	√	√	√	√
HA02	High-Altitude Natural Gas Kit (+7,000')	√	√	√	√
FTK04	Twinning Kit	√	√	√	√
AFE18-60A	Fossil Fuel Kit	√	√	√	√
SBT 14/17/21*	Downflow Sub-base	√	√	√	√

¹ Honeywell or White-Rodgers valves

