



## PRODUCT SPECIFICATIONS



**80% AFUE**

**HEATING INPUT:  
45,000-140,000 BTU/h**



\* To receive the Lifetime Heat Exchanger Limited Warranty, 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. Full warranty details available at [www.amana-hac.com](http://www.amana-hac.com).

# GMH8/GDH8

## MULTI-POSITION, MULTI-SPEED GAS FURNACE

The Amana® brand Distinctions™ GMH8/GDH8 Twin-Comfort™ Multi-Speed, Multi-Position Gas Furnaces feature a patented aluminized-steel tubular heat exchanger and durable Silicon Nitride Hot Surface Ignition system. With a heavy-gauge, reinforced, insulated steel cabinet and durable baked enamel finish, these units can be installed in a variety of locations.

### Standard Features

- Patented dual-diameter tubular heat exchanger with Lifetime Limited Warranty\* for as long as the original registered homeowner owns their home plus a 10-Year Unit Replacement Limited Warranty\*
- 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
- All "X" models comply with California NOx emissions standards

### 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 and electric service
- Coil and furnace fit flush for most installations

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NOMENCLATURE

	G	M	H	8	045	4	B	X	A	
	1	2	3	4,5	6,7,8	9	10	11	12	
<b>Brand</b>	G Goodman® Brand or Distinctions™								<b>Revisions</b>	
									A Initial Release	
									B 1st Revision	
									C 2nd Revision	
<b>Airflow Direction</b>	C Downflow/Horizontal								<b>NOx</b>	
	D Dedicated Downflow								N Natural Gas	
	H High Airflow								X Low NOx	
	K Dedicated Upflow								<b>Cabinet Width</b>	
	M Upflow/Horizontal								A 14"	
									B 17½"	
									C 21"	
									D 24½"	
<b>Description/Motor</b>	V Two-Stage/Variable-speed								<b>Maximum CFM @ 0.5" ESP</b>	
	H Two-Stage/Multi-speed								3 1200	
	S Single-Stage/Multi-speed								4 1600	
	E Two-Stage/EEM Motor								5 2000	
<b>AFUE</b>	95 95%								<b>MBTU/h</b>	
	9 93%+								045: 45,000	
	8 80%								070: 70,000	
									090: 90,000	
									115: 115,000	
									140: 140,000	

# SPECIFICATIONS — GMH8

	GMH8 0453AXC*	GMH8 0703AXC*	GMH8 0704BXC*	GMH8 0903BXC	GMH8 0904BXC*	GMH8 0905CXC*	GMH8 1155CXC*	GMH8 1405DXC*
<b>Heating Capacity</b>								
Input <sup>1</sup>	45,000	70,000	70,000	90,000	90,000	90,000	115,000	140,000
Natural Gas Output <sup>1</sup>	36,000	56,000	56,000	72,000	72,000	72,000	92,000	112,000
LP Gas Output <sup>1</sup>	32,000	48,000	48,000	64,000	64,000	64,000	80,000	96,000
AFUE <sup>2</sup>	80	80	80	80	80	80	80	80
Available AC @ 0.5" ESP	3	3	4	3	4	5	5	5
Temperature Rise Range (°F)	25 - 55	25 - 55	20 - 50	30 - 60	35 - 65	35 - 65	35 - 65	40 - 70
<b>Circulator Blower</b>								
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"	10" x 10"
Horsepower @1075 RPM	½	½	½	½	½	½	½	¾
Speed	4	4	4	4	4	4	4	4
Vent Diameter <sup>3</sup>	4"	4"	4"	4"	4"	4"	4"	4"
No. of Burners	2	3	3	4	4	4	5	6
Disposable Filter Size (in <sup>2</sup> )	580	580	770	580	770	960	960	960
<b>Electrical Data</b>								
Min. Circuit Ampacity <sup>4</sup>	8.1	8.1	12.5	8.1	12.5	12.5	12.5	14.7
Max. Overcurrent Device (amps) <sup>5</sup>	15	15	15	15	15	15	15	15
<b>Ship Weight (lbs)</b>	115	125	136	146	146	154	154	153

<sup>1</sup> 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

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

<sup>3</sup> 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).

<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.

# SPECIFICATIONS — GDH8

	GDH8 0453AXCA	GDH8 0703AXCA	GDH8 0904BXCA	GDH8 1155CXCA
<b>HEATING CAPACITY</b>				
Input <sup>1</sup>	45,000	70,000	90,000	115,000
Natural Gas Output <sup>1</sup>	36,000	56,000	72,000	92,000
LP Gas Output <sup>1</sup>	32,000	48,000	64,000	80,000
AFUE <sup>2</sup>	80	80	80	80
Temperature Rise Range (°F)	35-65	30-60	35-65	40-70
Available AC @ 0.5" ESP	3	3	4	5
<b>CIRCULATOR BLOWER</b>				
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 <sup>3</sup>	4	4	4	4
No. of Burners	2	3	4	5
Disposable Filter (in <sup>2</sup> )	580	580	770	960
<b>ELECTRICAL DATA</b>				
Min. Circuit Ampacity <sup>4</sup>	8.5	8.5	12.9	12.9
Max. Overcurrent Protection <sup>5</sup>	15	15	15	15
<b>SHIP WEIGHT (LBS)</b>	120	130	153	175

<sup>1</sup> 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

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

<sup>3</sup> Vent diameter 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).

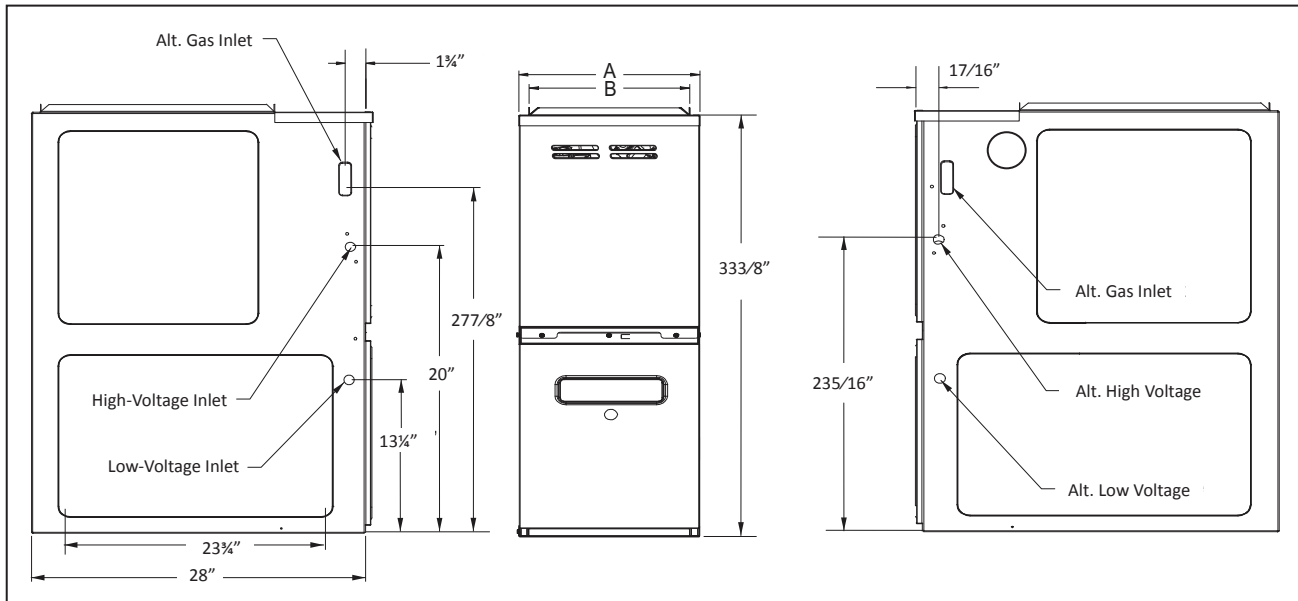
<sup>4</sup> Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

<sup>5</sup> 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
GMH80453AXC	14"	12 1/2"
GMH80703AXC	14"	12 1/2"
GMH80704BXC	17 1/2"	16"
GMH80903BNC	17 1/2"	16"

MODEL	A	B
GMH80904BXC	17 1/2"	16"
GMH80905CXC	21"	19 1/2"
GMH81155CXC	21"	19 1/2"
GMH81405DXC	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

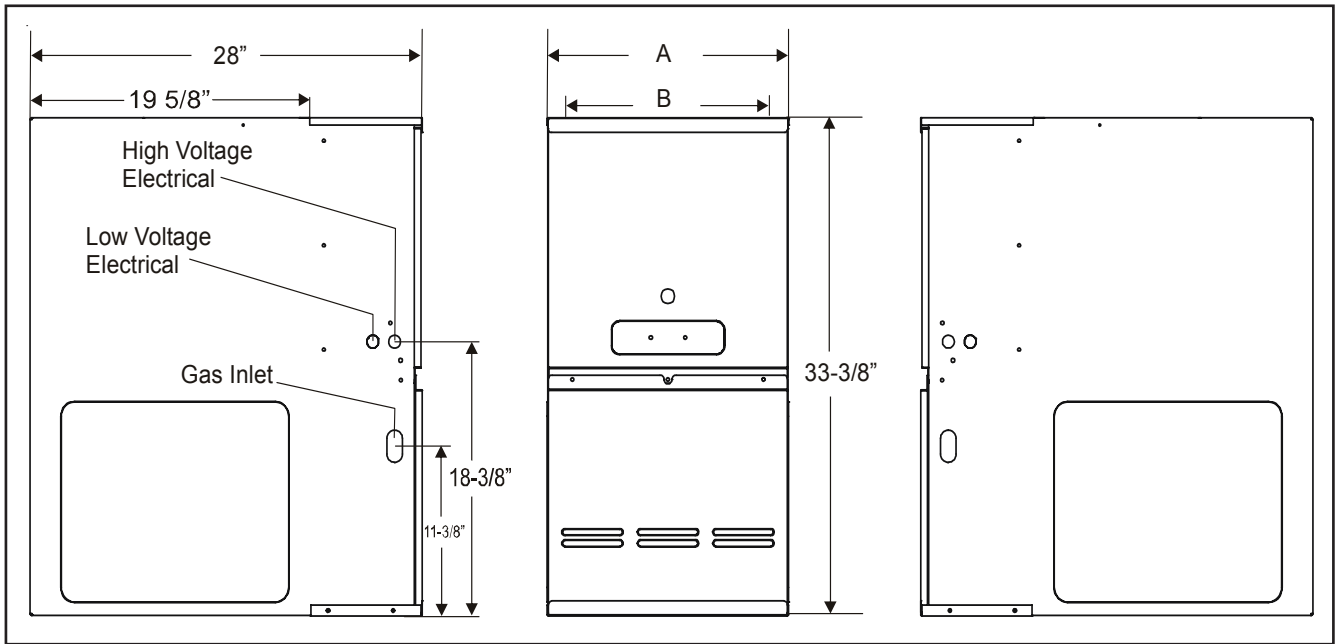
SIDES	REAR	FRONT <sup>1</sup>	VENT <sup>2</sup>		TOP
			SW	B	
1"	0"	3"	6"	1"	1"

<sup>1</sup> 24" clearance for serviceability recommended.

<sup>2</sup> 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
GDH80453AXAA	14"	12½"	SBT14
GDH80703AXAA	14"	12½"	SBT14
GDH80904BXAA	17½"	16"	SBT17
GDH81155CXAA	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 <sup>1</sup>	VENT <sup>2</sup>		TOP
			SW	B	
1"	0"	3"	6"	1"	1"

<sup>1</sup> 24" clearance for serviceability recommended.

<sup>2</sup> 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 <sup>1</sup>	Motor Speed	Tons AC <sup>2</sup>	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 0453A*C* (Medium)	High	3	1,521	22	1,466	23	1,414	24	1,373	24	1,298	26	1,243	1,164	1,075
	Med	2.5	1,160	29	1,160	29	1,132	29	1,121	30	1,082	31	1,042	997	925
	Med-Lo	2	961	35	955	35	948	35	932	36	913	37	882	821	803
	Low	1.5	781	43	785	42	781	43	773	43	761	44	745	716	668
GMH8 0703A*C* (Medium)	High	3	1,422	36	1,352	38	1,307	40	1,197	43	1,157	45	1,092	1,075	983
	Med	2.5	1,098	47	1,081	48	1,051	49	1,039	50	1,021	51	983	924	868
	Med-Lo	2	919	56	913	57	892	58	847	----	829	----	818	792	728
	Low	1.5	758	----	741	----	741	----	733	----	699	----	677	649	626
GMH8 0704B*C* (Medium)	High	4	2,134	----	2,100	25	2,042	25	1,975	26	1,883	28	1,786	1,700	1,601
	Med	3.5	1,668	31	1,663	31	1,656	31	1,645	32	1,616	32	1,549	1,492	1,391
	Med-Lo	3	1,419	37	1,426	36	1,426	36	1,432	36	1,419	37	1,378	1,328	1,261
	Low	2.5	1,134	46	1,145	45	1,166	44	1,171	44	1,160	45	1,144	1,111	1,071
GMH8 0903B*C* (Medium)	High	3	1,607	41	1,572	42	1,547	43	1,498	45	1,448	46	1,390	1,302	1,222
	Med	2.5	1,159	58	1,156	58	1,145	58	1,127	59	1,108	60	1,075	1,033	957
	Med-Lo	2	938	----	916	----	916	----	900	----	889	----	865	829	785
	Low	1.5	785	----	766	----	743	----	730	----	709	----	683	666	604
GMH8 0904B*C* (Medium)	High	4	2,051	----	1,983	----	1,895	35	1,812	37	1,725	39	1,627	1,530	1,439
	Med	3.5	1,736	38	1,708	39	1,652	40	1,611	41	1,540	43	1,475	1,394	1,307
	Med-Lo	3	1,493	45	1,668	40	1,459	46	1,429	47	1,389	48	1,339	1,274	1,204
	Low	2.5	1,200	56	1,185	56	1,180	56	1,173	57	1,158	58	1,125	1,125	1,080
GMH8 0905C*C* (Medium)	High	5	2,290	----	2,229	----	2,155	----	2,047	----	1,960	----	1,837	1,712	1,584
	Med	4	1,852	36	1,820	37	1,777	38	1,719	39	1,641	41	1,567	1,469	1,382
	Med-Lo	3.5	1,615	41	1,592	42	1,556	43	1,516	44	1,470	45	1,405	1,346	1,235
	Low	3	1,290	52	1,285	52	1,265	53	1,235	54	1,214	55	1,174	1,044	904
GMH8 1155C*C* (Medium)	High	5	2,323	37	2,225	38	2,120	40	2,040	42	1,974	43	1,801	1,688	1,577
	Med	4	1,858	46	1,847	46	1,799	47	1,744	49	1,674	51	1,577	1,493	1,399
	Med-Lo	3.5	1,596	53	1,587	54	1,571	54	1,552	55	1,493	57	1,397	1,326	1,217
	Low	3	1,291	----	1,272	----	1,261	----	1,257	----	1,205	----	1,168	1,118	1,060
GMH8 1405D*C* (Medium)	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

<sup>1</sup> Heating speed as shipped

<sup>2</sup> @ 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 <sup>1</sup>	Motor Speed	Tons AC <sup>2</sup>	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 0453AXCA (Med) <sup>2</sup>	High	3.0	1,353	25	1,290	26	1,246	27	1,199	28	1,149	29	1,116	1,116	1,099
	Med	2.5	1,183	28	1,113	30	1,098	30	1,052	32	1,039	32	1,006	1,012	969
	Med-Lo	2.0	980	34	946	35	920	36	900	37	896	37	885	855	804
	Low	1.5	778	43	762	44	738	45	746	45	738	45	717	696	678
GDH8 0703AXCA (Med) <sup>2</sup>	High	3.0	1,290	40	1,236	42	1,194	43	1,166	44	1,176	44	1,166	1,108	1,029
	Med	2.5	1,139	46	1,090	48	1,035	50	1,063	49	1,063	49	1020	962	895
	Med-Lo	2.0	962	54	927	56	925	56	941	55	909	57	877	834	779
	Low	1.5	787	66	776	67	763	68	744	70	723	72	690	641	581
GDH8 0904BXCA (Med) <sup>2</sup>	High	4.0	2,128	31	2,063	32	2,001	33	1,927	35	1,824	37	1,726	1,628	1,529
	Med	3.5	1,840	36	1,788	37	1,745	38	1,689	39	1,625	41	1,550	1,470	1,364
	Med-Lo	3.0	1,602	42	1,558	43	1,543	43	1,493	45	1,455	46	1,402	1,328	1,239
	Low	2.5	1,277	52	1,252	53	1,244	54	1,229	54	1,214	55	1,179	1141	1079
GDH8 1155CXCA (Med) <sup>2</sup>	High	5.0	2,405	35	2,361	36	2,250	38	2,161	39	2,037	42	1,937	1,808	1,689
	Med	4.0	1,880	45	1,838	46	1,794	47	1,734	49	1,677	51	1,568	1,510	1,401
	Med-Lo	3.5	1,659	51	1,630	52	1,587	54	1,537	55	1,492	57	1,445	1,368	1,287
	Low	3.0	1,472	58	1,454	59	1,404	61	1,366	62	1,326	64	1300	1228	1139

<sup>1</sup> Heating speed as shipped

<sup>2</sup> @ 0.5" ESP

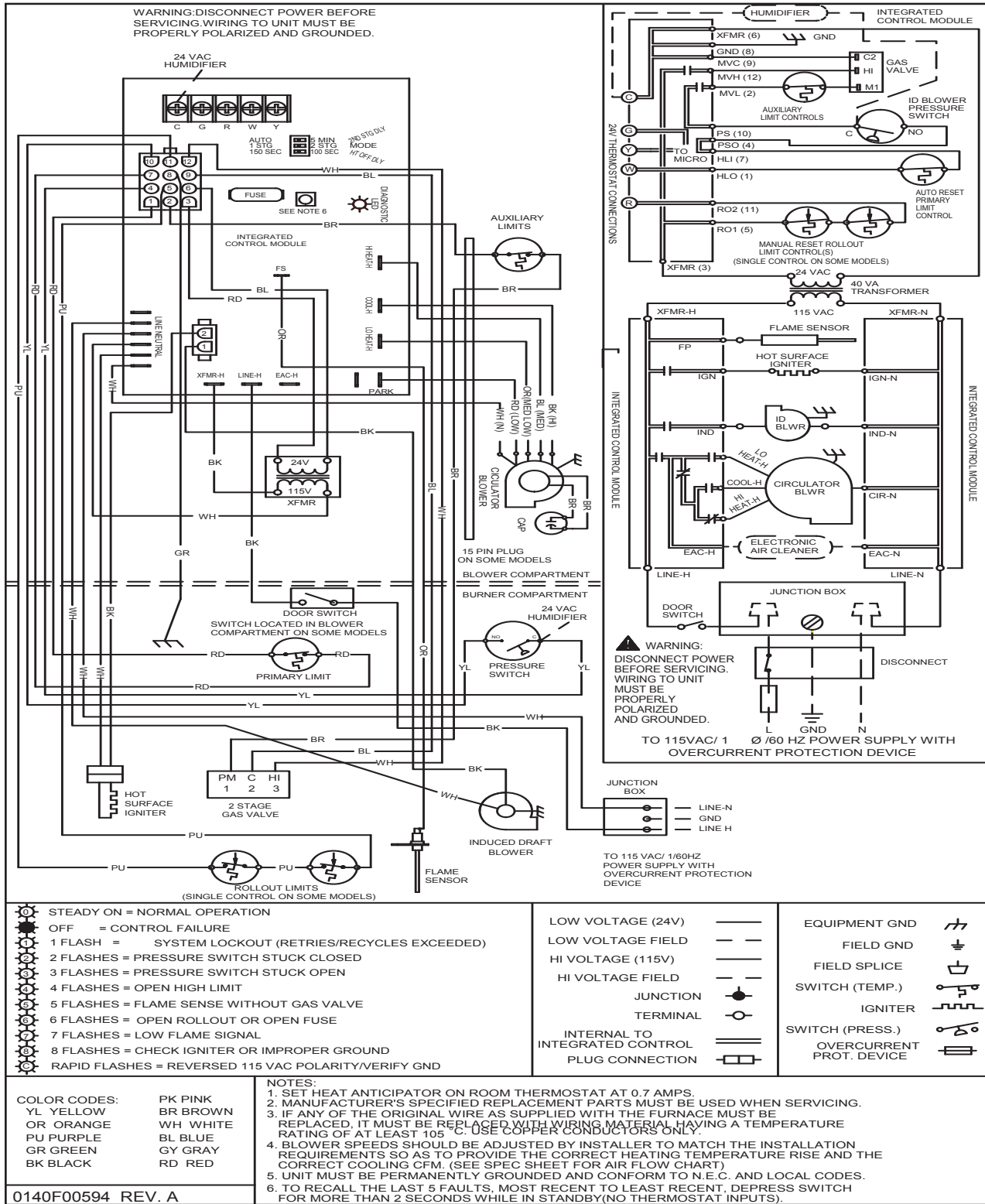
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- INSTALLATION IS TO BE ADJUSTED TO OBTAIN TEMPERATURE RISE WITHIN THE RANGE SPECIFIED ON THE RATING PLATE.
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# GMH8/GDH8 WIRING DIAGRAM WITH WHITE-RODGERS VALVE



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



**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.



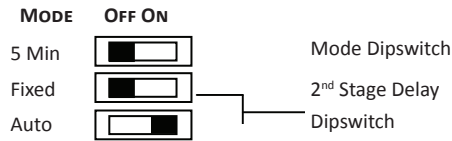
# TWINCOMFORT™ CONFIGURATION & OPERATION

## TwinComfort™

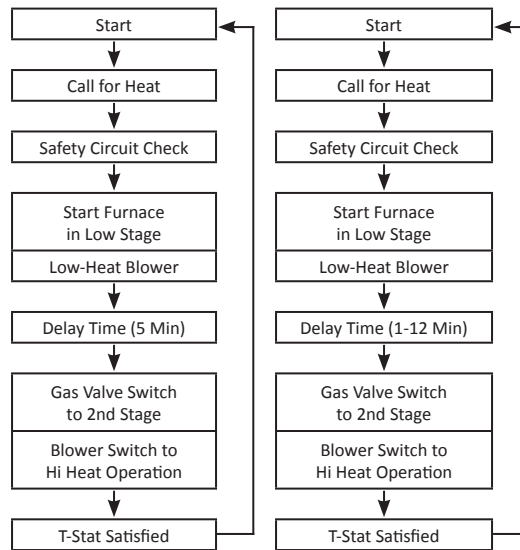
This furnace is capable of the following heating modes:

- 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 ALL MODELS	GDH8 ALL MODELS
LPM-05	LP Conversion Kit (Springs & Orifice) <sup>1</sup>	√	√
LPM-06	LP Conversion Kit (Springs & Orifice) <sup>2</sup>	√	√
HA02	High-Altitude Natural Gas Kit (+7,000')	√	√
FTK03A	Twinning Kit	√	√
AFE18-60A	Fossil Fuel Kit	√	√
SBT 14/17/21*	Downflow Sub-base		√

<sup>1</sup> White-Rodgers valves only  
<sup>2</sup> Honeywell or White-Rodgers valves  
\* Supplied by McDaniel Metals