Heating & Air Conditioning Amana

AMH8

Multi-Position, Multi-Speed Gas Furnace

Product Specifications

TwinComfort
PREMIUM HEATING PERFORMANCE

80% AFUE

Heating Input: 45,000 – 140,000 BTU/h

LIFETIME UNIT REPLACEMENT LIMITED WARRANTY*

10 YEAR PARTS LIMITED WARRANTY*

Asure EXTENDED SERVICE PLAN

* To receive the Lifetime Unit Replacement Limited Warranty 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. Full warranty details available at www.amana-hac.com.

The Amana® brand AMH8 TwinComfort™ multi-position, multi-speed gas furnace features a patented stainless-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, this unit can be installed in a variety of locations.

Standard Features

MILLION-AIR STAINLESS-STEEL HEAT EXCHANGER

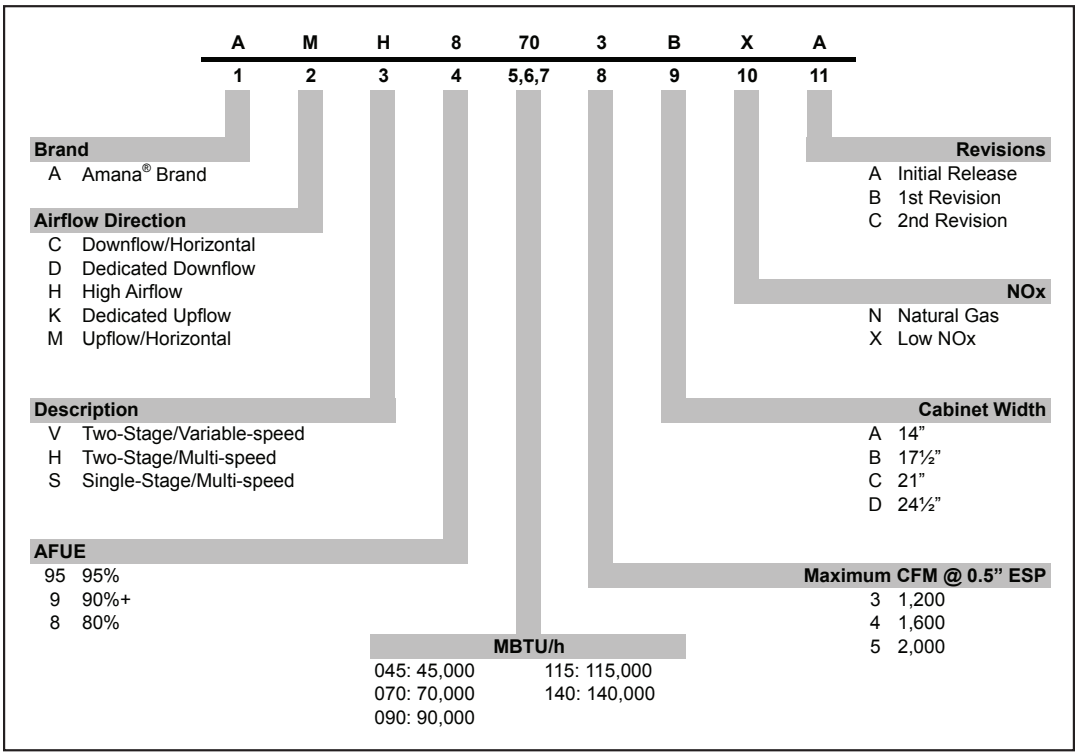
- Patented MillionAir™ stainless-steel, dual-diameter tubular heat exchanger with Lifetime Limited Unit Replacement Warranty* for as long as the original registered home-owner owns their home.
- Two-stage gas valve with convertible technology that allows installer to activate the two-stage valve with the flip of a dipswitch
- Silicon Nitride igniter for long igniter life
- Furnace control board with self-diagnostics, color-coded low-voltage terminals and provisions 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 allows homeowner to activate the low heat speed to efficiently circulate air throughout the home
- Self-adjusting feature automatically adjusts to high- or low-stage operation based on outside temperature without an outdoor temperature sensor
- Quiet, single-speed induced-draft blower
- All 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
- Designed for multi-position installation: upflow, horizontal left or right
- Removable bottom for side or bottom return applications
- Convenient left/right connection for gas/electric service
- Coil and furnace fit flush for most installations

Contents

Nomenclature



Accessories

Model	Description	AMH8 A Models	AMH8 C Models
LPM-05[1]	LP Conversion Kit (Springs & Orifice)	√	√
LPM-06[2]	LP Conversion Kit (Springs & Orifice)	√	√
HA02	High-Altitude Natural Gas Kit (+7,000′)	√	√
AFE18-60A	Fossil Fuel Kit	√	√
FTK03A	Twinning Kit	√	√

[1] White-Rodgers valves only

[2] White-Rodgers and Honeywell valves

Specifications

	AMH8 0453AXA	AMH8 0703AXA	AMH8 0704BXA	AMH8 0903BXA	AMH8 0904BXA	AMH8 0905CXA	AMH8 1155CXA	AMH8 1405DXA
Heating Capacity								
Input[1]	45,000	70,000	70,000	90,000	90,000	90,000	115,000	140,000
Natural Gas Output[1]	36,000	56,000	56,000	72,000	72,000	72,000	92,000	112,000
LP Gas Output[1]	32,000	48,000	48,000	64,000	64,000	64,000	80,000	96,000
AFUE[2]	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
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"	10" x 10"
Horsepower @1750 RPM	⅓	⅓	½	⅓	½	½	½	¾
Speed	4	4	4	4	4	4	4	4
Vent Diameter[3]	4"	4"	4"	4"	4"	4"	4"	4"
No. of Burners	2	3	3	4	4	4	5	6
Disposable Filter (in²)	580	580	770	580	770	960	960	960
Electrical Data								
Min. Circuit Ampacity [5]	8.1	8.1	12.5	8.1	12.5	12.5	12.5	14.7
Max. Overcurrent Device (amps)[6]	15	15	15	15	15	15	15	15
Ship Weight (lbs)	120	130	143	153	153	163	163	163

	AMH8 0453AXC	AMH8 0703AXC	AMH8 0704BXC	AMH8 0903BNC	AMH8 0904BXC	AMH8 0905CXC	AMH8 1155CXC	AMH8 1405DXC
Heating Capacity								
Input[1]	45,000	70,000	70,000	90,000	90,000	90,000	115,000	140,000
Natural Gas Output[1]	36,000	56,000	56,000	72,000	72,000	72,000	92,000	112,000
LP Gas Output[1]	32,000	48,000	48,000	64,000	64,000	64,000	80,000	96,000
AFUE[2]	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
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"
Horsepower @1075 RPM	⅓	⅓	½	½	½	½	½	¾
Speed	4	4	4	4	4	4	4	4
Vent Diameter[3]	4"	4"	4"	4"	4"	4"	4"	4"
No. of Burners	2	3	3	4	4	4	5	6
Disposable Filter (in²)	320	483	483	640	640	640	800	738
Electrical Data								
Min. Circuit Ampacity[4]	8.1	8.1	12.5	8.1	12.5	12.5	12.5	14.7
Max. Overcurrent Device (amps)[5]	15	15	15	15	15	15	15	15
Ship Weight (lbs)	120	130	143	153	153	163	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 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).

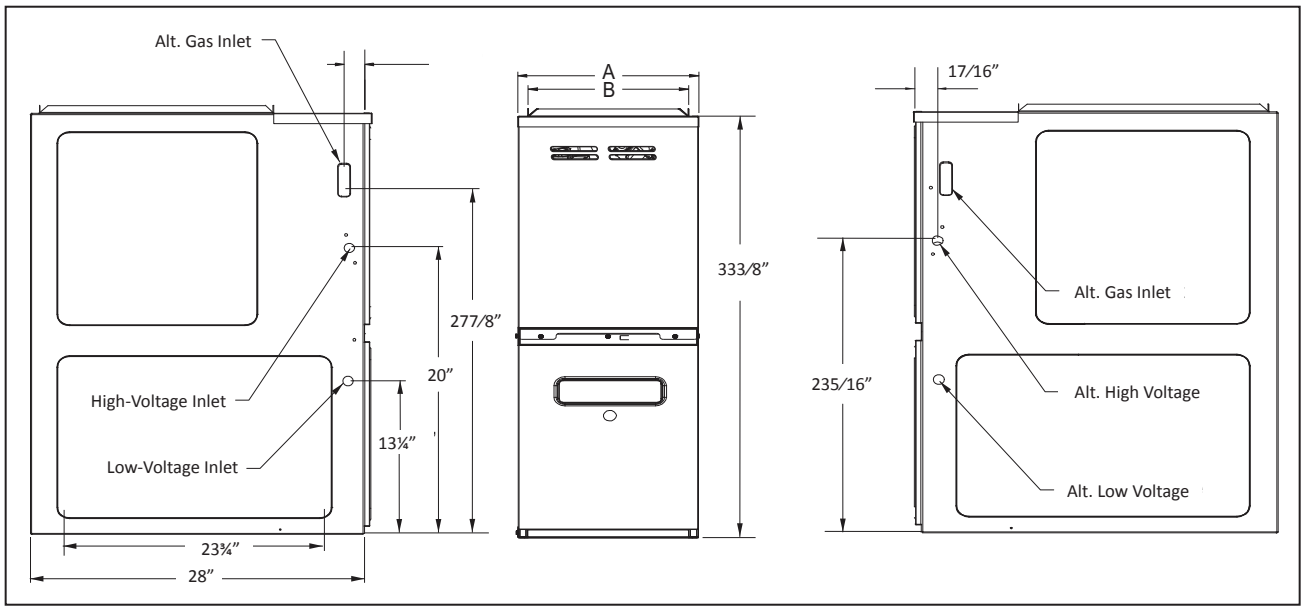
[4] Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

[5] 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.

Dimensions



Model	A	B
AMH80453AXA	14"	12½"
AMH80703AXA	14"	12½"
AMH80704BXA	17½"	16"
AMH80903BXA	17½"	16"

Model	A	B
AMH80904BXA	17½"	16"
AMH80905CXA	21"	19½"
AMH81155CXA	21"	19½"
AMH81405DXA	24½"	23"

Model	A	B
AMH80453AXC	14"	12½"
AMH80703AXC	14"	12½"
AMH80704BXC	17½"	16"
AMH80903BNC	17½"	16"

Model	A	B
AMH80904BXC	17½"	16"
AMH80905CXC	21"	19½"
AMH81155CXC	21"	19½"
AMH81405DXC	24½"	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: AMH8 approved for line contact in the horizontal position.

Airflow Data — A Models

(CFM & Temperature Rise vs. External Static Pressure)

Model (Heating Speed as Shipped)	Motor Speed	Tons AC @ 0.5" ESP	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
AMH8 0453AXA (Medium)	High	3.0	1,555	---	1,511	---	1,459	---	1,392	---	1,344	25	1,279	1,201	1,120
	Med	2.5	1,165	28	1,123	30	1,100	30	1,090	30	1,048	32	1,017	970	903
	Med-Lo	2.0	927	36	907	37	889	37	863	38	853	39	822	800	746
	Low	1.5	699	47	694	48	668	50	645	51	636	52	592	566	524
AMH8 0703AXA (Medium)	High	3.0	1,437	36	1,310	39	1,295	40	1,310	39	1,273	41	1,202	1,129	1,039
	Med	2.5	1,127	46	1,100	47	1,095	47	1,075	48	1,050	49	1,018	967	904
	Med-Lo	2.0	895	---	917	---	878	---	867	---	853	---	830	786	743
	Low	1.5	694	---	681	---	663	---	640	---	625	---	591	562	522
AMH8 0704BXA (Medium)	High	4.0	2,234	23	2,151	24	2,076	25	1,990	26	1,897	27	1,803	1,710	1,569
	Med	3.5	1,676	31	1,653	31	1,648	31	1,581	33	1,555	33	1,492	1,414	1,352
	Med-Lo	3.0	1,342	38	1,335	39	1,321	39	1,313	39	1,291	40	1,261	1,215	1,149
	Low	2.5	1,089	47	1,085	48	1,078	48	1,071	48	1,057	49	1,040	986	932
AMH8 0903BXA (Medium)	High	3.0	1,593	42	1,561	43	1,567	42	1,543	43	1,493	44	1,420	1,343	1,230
	Med	2.5	1,186	56	1,160	57	1,160	57	1,135	58	1,118	59	1,089	1,045	983
	Med-Lo	2.0	957	---	940	---	937	---	921	---	895	---	861	826	778
	Low	1.5	742	---	710	---	685	---	663	---	635	---	611	578	476
AMH8 0904BXA (Medium)	High	4.0	2,251	---	2,169	31	2,084	32	1,986	33	1,891	35	1,773	1,688	1,537
	Med	3.5	1,659	40	1,653	40	1,648	40	1,605	41	1,555	43	1,485	1,405	1,313
	Med-Lo	3.0	1,364	49	1,349	49	1,347	49	1,340	50	1,313	51	1,260	1,212	1,130
	Low	2.5	1,104	60	1,098	60	1,092	61	1,083	61	1,080	61	1,040	1,001	945
AMH8 0905CXA (Medium)	High	5.0	2,276	---	2,176	---	2,079	---	1,986	---	1,886	35	1,788	1,688	1,551
	Med	4.0	1,723	39	1,713	39	1,679	40	1,639	40	1,589	42	1,510	1,430	1,339
	Med-Lo	3.5	1,411	47	1,412	47	1,403	47	1,369	48	1,325	50	1,274	1,219	1,137
	Low	3.0	1,142	58	1,127	59	1,128	59	1,108	60	1,078	62	1,053	993	926
AMH8 1155CXA (Medium)	High	5.0	2,481	---	2,395	35	2,288	37	2,217	38	2,076	41	1,999	1,858	1,732
	Med	4.0	1,738	49	1,732	49	1,709	50	1,686	50	1,639	52	1,585	1,492	1,385
	Med-Lo	3.5	1,364	62	1,378	62	1,372	62	1,372	62	1,350	63	1,313	1,261	1,125
	Low	3.0	1,137	---	1,142	---	1,140	---	1,114	---	1,090	---	1,056	954	860
AMH8 1405DXA (Medium)	High	5.0	2,554	41	2,435	43	2,375	44	2,240	47	2,152	49	2,002	1,883	1,744
	Med	4.0	1,846	57	1,773	59	1,762	60	1,712	61	1,672	63	1,583	1,526	1,442
	Med-Lo	3.5	1,520	69	1,500	70	1,483	---	1,470	---	1,435	---	1,373	1,308	1,245
	Low	3.0	1,301	---	1,274	---	1,260	---	1,231	---	1,207	---	1,177	1,093	931

Notes

- CFM in chart is without filter(s). Filters do not ship with this furnace, but must be provided by the installer.
- All furnaces ship as high-speed cooling. Installer must adjust blower cooling speed as needed.
- For most jobs, about 400 CFM per ton is desirable when cooling.
- INSTALLATION IS TO BE ADJUSTED TO OBTAIN TEMPERATURE RISE WITHIN THE RANGE SPECIFIED ON THE RATING PLATE.
- The 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' - 2,000'. At higher altitudes, a properly de-rated unit will have approximately the same temperature rise at a particular CFM, while ESP at the CFM will be lower.

Airflow Data — C Models

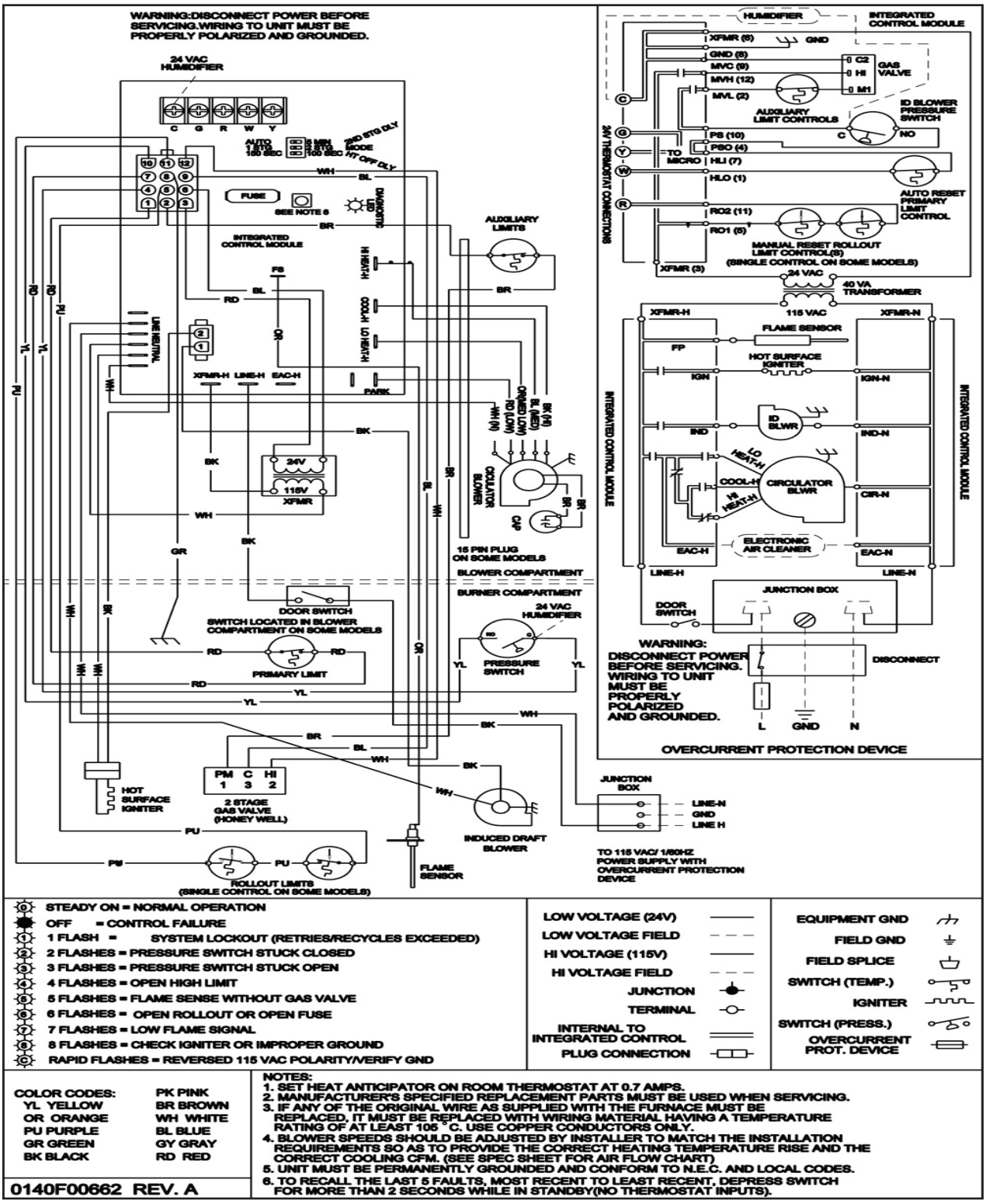
(CFM & Temperature Rise vs. External Static Pressure)

Model (Heating Speed as Shipped)	Motor Speed	Tons AC @ 0.5" ESP	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
AMH8 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
AMH8 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
AMH8 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	1111	1071
AMH8 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
AMH8 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	1080
AMH8 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	1044	904
AMH8 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	1118	1060
AMH8 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

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.

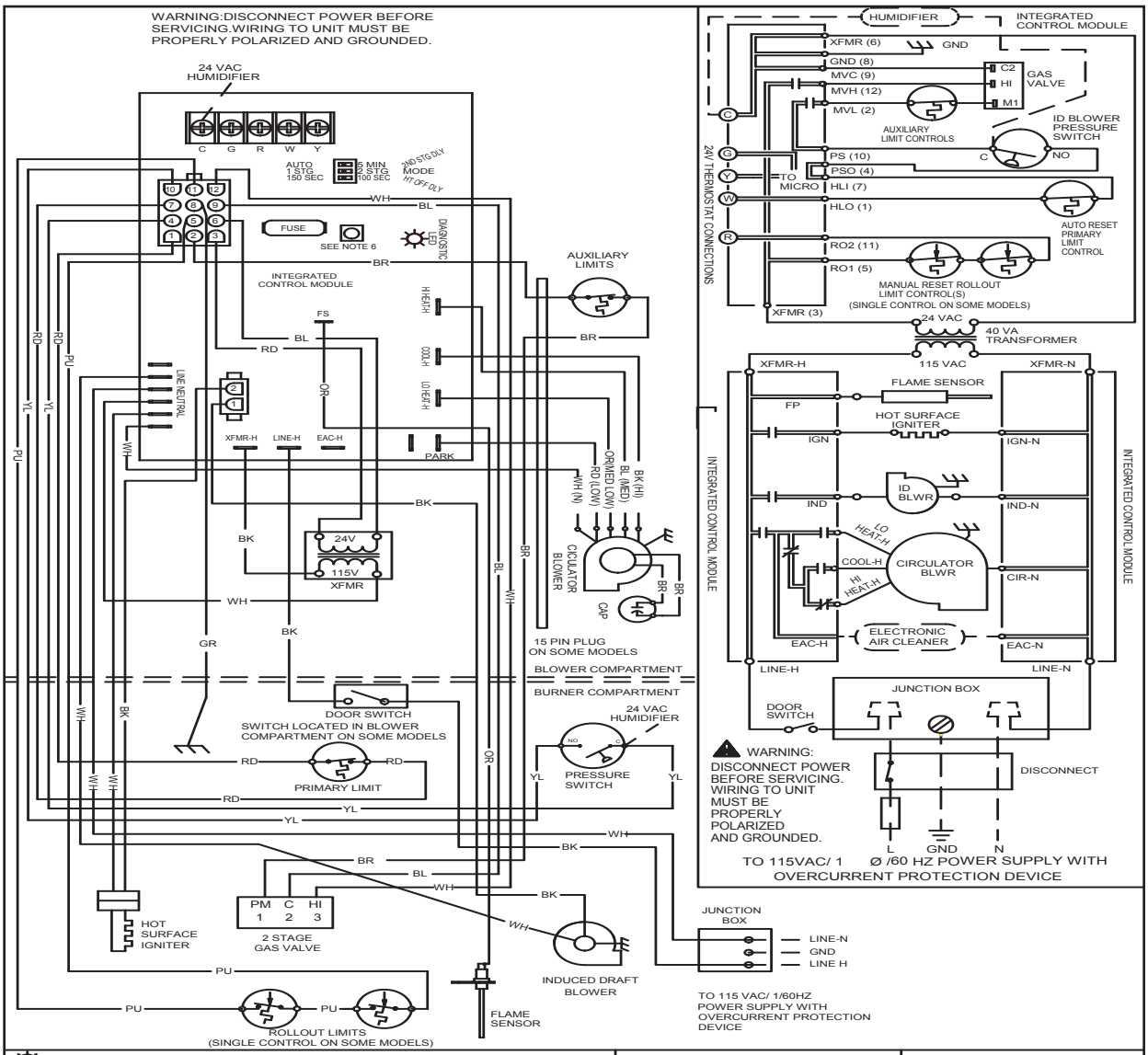
WIRING DIAGRAM WITH HONEYWELL VALVE



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

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 DIAGRAM WITH WHITE-RODGERS VALVE



- STEADY ON = NORMAL OPERATION
- OFF = CONTROL FAILURE
- 1 FLASH = SYSTEM LOCKOUT (RETRIES/RECYCLES EXCEEDED)
- 2 FLASHES = PRESSURE SWITCH STUCK CLOSED
- 3 FLASHES = PRESSURE SWITCH STUCK OPEN
- 4 FLASHES = OPEN HIGH LIMIT
- 5 FLASHES = FLAME SENSE WITHOUT GAS VALVE
- 6 FLASHES = OPEN ROLLOUT OR OPEN FUSE
- 7 FLASHES = LOW FLAME SIGNAL
- 8 FLASHES = CHECK IGNITER OR IMPROPER GROUND
- RAPID FLASHES = REVERSED 115 VAC POLARITY/VERIFY GND

- LOW VOLTAGE (24V)
- LOW VOLTAGE FIELD
- HI VOLTAGE (115V)
- HI VOLTAGE FIELD
- JUNCTION
- TERMINAL
- INTERNAL TO INTEGRATED CONTROL
- PLUG CONNECTION

- EQUIPMENT GND
- FIELD GND
- FIELD SPLICE
- SWITCH (TEMP.)
- IGNITER
- SWITCH (PRESS.)
- OVERCURRENT PROT. DEVICE

COLOR CODES:

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

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NOTES:
1. SET HEAT ANTICIPATOR ON ROOM THERMOSTAT AT 0.7 AMPS.
2. MANUFACTURER'S SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
3. 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.
4. 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. (SEE SPEC SHEET FOR AIR FLOW CHART)
5. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C. AND LOCAL CODES.
6. TO RECALL THE LAST 5 FAULTS, MOST RECENT TO LEAST RECENT, DEPRESS SWITCH FOR MORE THAN 2 SECONDS WHILE IN STANDBY(NO THERMOSTAT INPUTS).

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

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.