



# GMVM97 (B) / GCVM97 (B)

HEATING INPUT: 60,000–120,000 BTU/H

MODULATING, VARIABLE-SPEED  
ECM GAS FURNACE  
UP TO 98% AFUE



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### Standard Features

- Integrated communicating ComfortBridge™ Technology
- Commissioning and diagnostics via on board Bluetooth with the CoolCloud phone and tablet application
- Heavy-duty aluminized-steel tubular heat exchanger
- Stainless-steel secondary heat exchanger
- Self-calibrating modulating gas valve auto-configure for each installation
- Durable Silicon Nitride igniter
- Quiet variable-speed induced draft blower
- Self-diagnostic control board with constant memory fault code history output to a dual 7-segment display
- Color-coded low-voltage terminals with provisions for electronic air cleaner
- Efficient and quiet variable-speed airflow system gently ramps up or down according to heating or cooling demand
- Multiple continuous fan speed options offer quiet air circulation
- Auto-Comfort and enhanced dehumidification modes available
- All models comply with California 40 ng/J Low NOx emissions standard
- Can no longer be installed in California’s South Coast Air Quality Management District (SCAQMD) on or after October 1, 2019.
- AHRI Certified; ETL Listed

### Cabinet Features

- Designed for multi-position installation — GMVM97: upflow, horizontal left or right GCVM97: downflow, horizontal left or right
- Certified for direct vent (2-pipe) or non-direct vent (1-pipe)
- Easy-to-install top venting with optional side venting
- Convenient left or right connection for gas and electrical service
- Cabinet air leakage (Q<sub>Leak</sub>) ≤ 2%
- Heavy-gauge steel cabinet with durable finish
- Fully insulated heat exchanger and blower section
- Airtight solid bottom or side return with easy-cut tabs for effortless removal in bottom air-inlet applications



\* Complete warranty details available from your local dealer or at [www.franklinhvacsyste.ms.com](http://www.franklinhvacsyste.ms.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.

	<b>G</b>	<b>M</b>	<b>V</b>	<b>M</b>	<b>97</b>	<b>060</b>	<b>3</b>	<b>B</b>	<b>N</b>	<b>**</b>	
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5,6</b>	<b>7,8,9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13,14</b>	
<b>BRAND</b>	G- Franklin® Brand										<b>ENGINEERING</b>
											Major / Minor Revisions * Not used for inventory control.
<b>CONFIGURATION</b>	M- Upflow/Horizontal C- Downflow/Horizontal										<b>NOx</b>
											N- Low NOx
<b>MOTOR</b>	V- Variable Speed ECM/ComfortBridge E- Multi-Speed ECM S- Single Speed										<b>CABINET WIDTH</b>
											B- 17½" C- 21" D- 24½"
<b>GAS VALVE</b>	M- Modulating C- Two- Stage S- Single Stage										<b>MAXIMUM CFM</b>
											2- 800 CFM 3- 1200 CFM 4- 1600 CFM 5- 2000 CFM
<b>AFUE</b>	97- 97% AFUE 96- 96% AFUE 92- 92% AFUE										<b>MBTU/h</b>
											060- 60,000 BTU/h 080- 80,000 BTU/h 100- 100,000 BTU/h 120- 120,000 BTU/h

	GMVM97 0603BNB	GMVM97 0803BNB	GMVM97 0804CNB	GMVM97 1005CNB	GMVM97 1205DNB	GCVM97 0603BNB	GCVM97 0803BNB	GCVM97 0804CNB	GCVM97 1005CNB
<b>HEATING DATA</b>									
High Fire Input <sup>1</sup>	60,000	80,000	80,000	100,000	120,000	60,000	80,000	80,000	100,000
High Fire Output <sup>1</sup>	58,800	77,600	78,400	97,000	116,400	58,200	77,600	77,600	97,000
Low-Fire Steady-State Input <sup>1</sup>	30,000	40,000	40,000	50,000	60,000	30,000	40,000	40,000	50,000
Low-Fire Steady-State Output <sup>1</sup>	29,400	38,800	39,200	48,500	58,200	29,100	38,800	38,800	48,500
AFUE <sup>2</sup>	98	97	98	97	97	97	97	97	97
Temperature Rise Range (°F)	35- 65	30- 60	25- 55	35- 65	35- 65	35- 65	35- 65	35- 65	35- 65
Vent Diameter <sup>3</sup>	2"- 3"	2"- 3"	2"- 3"	2"- 3"	2"- 3"	2"- 3"	2"- 3"	2"- 3"	2"- 3"
No. of Burners	3	4	4	5	6	3	4	4	5
<b>CIRCULATOR BLOWER</b>									
Available AC @ 0.5" ESP	1.5- 3	1.5- 3	1.5- 4	2- 5	2- 5	1.5- 3	1.5- 3	1.5- 4	2- 5
Size (D x W)	11" x 8"	11" x 8"	11" x 10"	11" x 10"	11" x 11"	11" x 8"	11" x 8"	11" x 10"	11" x 10"
Horsepower @ 1075 RPM	½	½	¾	1	1	½	½	¾	1
Speed	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM
<b>ELECTRICAL DATA</b>									
Min. Circuit Ampacity <sup>4</sup>	8.8	8.8	11.6	15.4	15.4	8.8	8.8	11.6	15.4
Max. Overcurrent Device (amps) <sup>5</sup>	15	15	15	20	20	15	15	15	20
<b>SHIPPING WEIGHT (LBS)</b>									
	118	121	142	144	157	117	122	144	146

<sup>1</sup> Natural Gas BTU/h

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

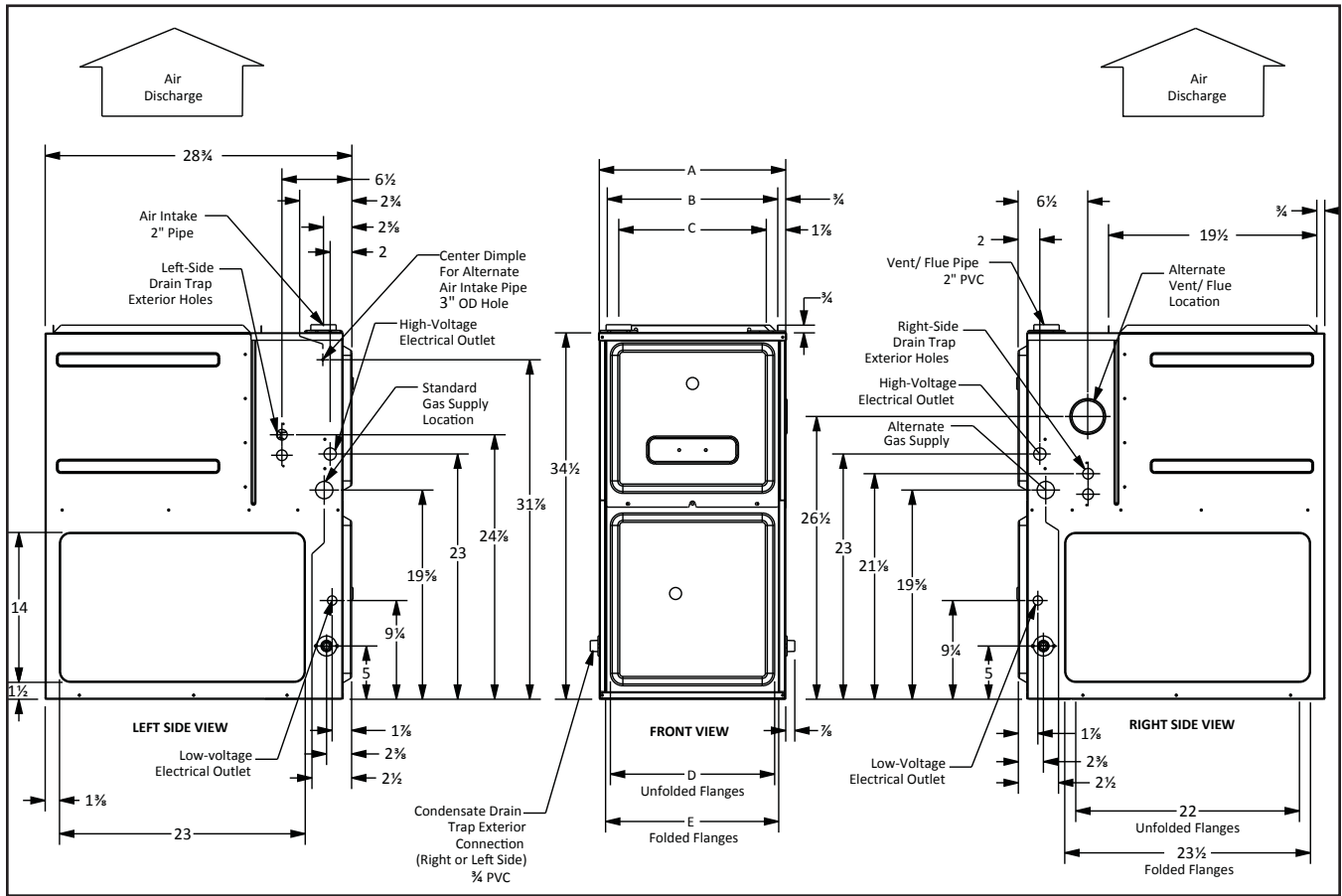
<sup>3</sup> Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run and installation (1 or 2 pipes). The optional Combustion Air Pipe is dependent on installation/code requirements and must be 2" or 3" diameter PVC.

<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.

**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.
- For bottom return: Failure to unfold flanges may reduce airflow by up to 18%. This could result in performance and noise issues.
- For servicing or cleaning, a 24" front clearance is required. Unit connections (electrical, flue and drain) may necessitate greater clearances than the minimum clearances listed above. In all cases, accessibility clearance must take precedence over clearances from the enclosure where accessibility clearances are greater.



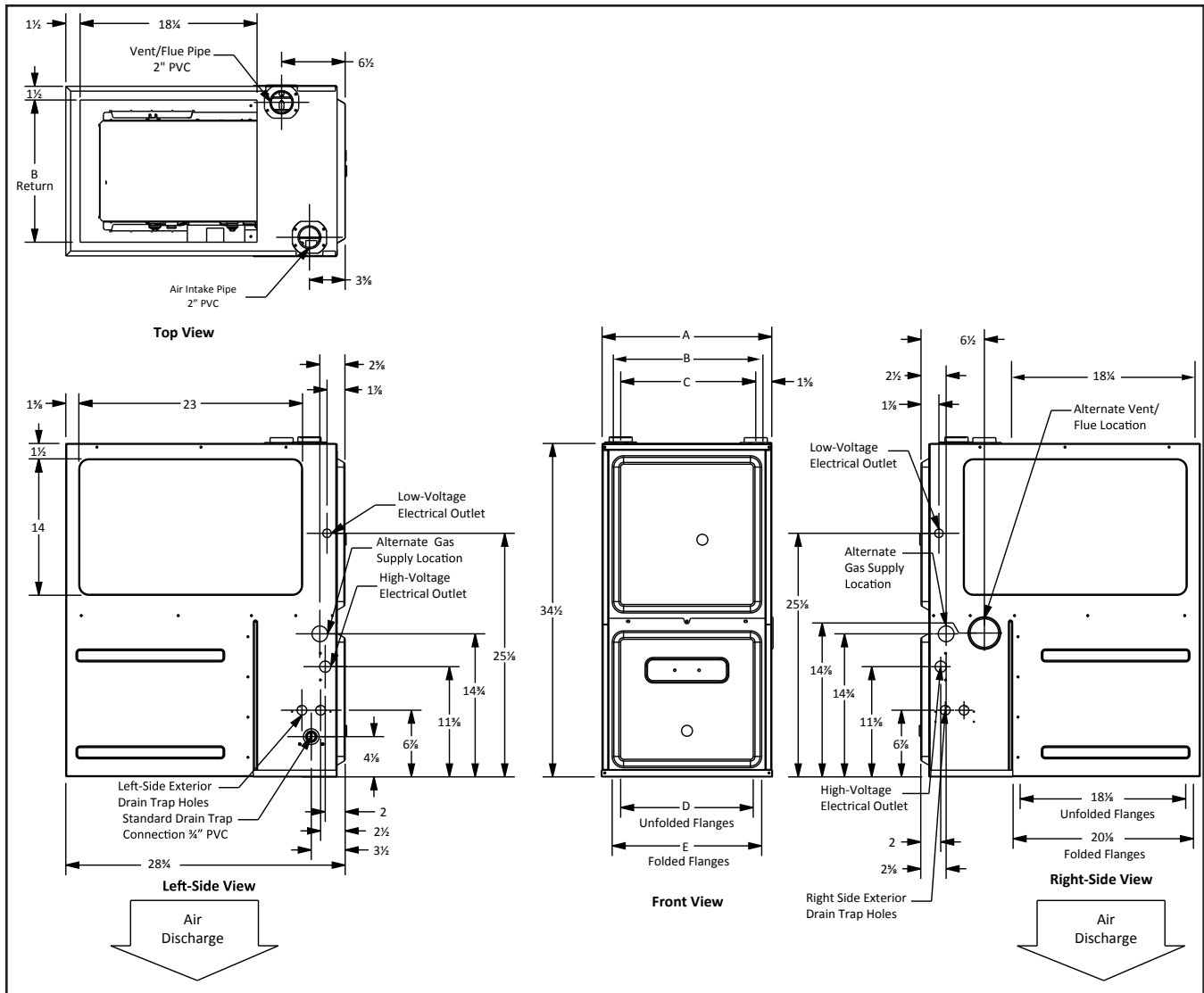
MODEL	W	D	H
GMVM970603BNB	17½"	28⅞"	34½"
GMVM970803BNB	17½"	28⅞"	34½"
GMVM970804CNB	21"	28⅞"	34½"
GMVM971005CNB	21"	28⅞"	34½"
GMVM971205DNB	24½"	28⅞"	34½"

	AIR DISCHARGE			AIR RETURN	
	A	B	C	D	E
	17½"	16"	13⅞"	12⅞"	13⅝"
	17½"	16"	13⅞"	12⅞"	13⅝"
	21"	19½"	17⅞"	16"	17½"
	21"	19½"	17⅞"	16"	17½"
	24½"	23"	20⅞"	19⅞"	20⅞"

**MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS**

POSITION	SIDES	REAR	FRONT	BOTTOM	FLUE	TOP
Upflow	0"	0"	3"	C	0"	1"
Horizontal	6"	0"	3"	C	0"	6"

C = If placed on combustible floor, the floor MUST be wood ONLY.



MODEL	W	D	H
GCVM970603BNB	17 1/2"	28 7/8"	34 1/2"
GCVM970803BNB	17 1/2"	28 7/8"	34 1/2"
GCVM970804CNB	21"	28 7/8"	34 1/2"
GCVM971005CNB	21"	28 7/8"	34 1/2"

	AIR RETURN			AIR DISCHARGE	
	A	B	C	D	E
	17 1/2"	14 5/8"	14"	14 1/2"	13 5/8"
	17 1/2"	14 5/8"	14"	14 1/2"	13 5/8"
	21"	18 5/8"	17 1/2"	18"	19 1/2"
	21"	18 5/8"	17 1/2"	18"	19 1/2"

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

POSITION	SIDES	REAR	FRONT	BOTTOM	FLUE	TOP
Downflow	0"	0"	3"	NC	0"	1"
Horizontal	6"	0"	3"	C	0"	6"

C = If placed on combustible floor, the floor MUST be wood ONLY.

NC = For installation on non-combustible floors only. A combustible floor sub-base must be used for installations on combustible flooring.

MODEL/TEMP RISE RANGE (MID RISE)	GMVM97 0603BNB* 35-65 (50)		GMVM97 0803BNB* 30-60 (45)		GMVM97 0804CNB* 25-55 (40)		GMVM97 1005CNB* 35-65 (50)		GMVM97 1205DNB* 35-65 (50)	
	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE
Recommended cfm for 100% firing rate & expected temperature rise	1080	50	1440	50	1760	41	1780	50	1950	55
Lowest recommended cfm for 100% firing rate & expected temperature rise	840	65	1200	60	1320	55	1380	65	1670	65
Maximum cfm for 100% firing rate & expected temperature rise	1400	39	1650	44	1760	41	2200	41	2200	49

NOTE: Low Heat CFM = High Heat CFM X .7. Low Heat Temperature Rise Is Expected to Equal High Heat Temperature Rise ± 5% 0140F02402-A

**GMVM970603BNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1000	700
3	1200	840
MAX	1,400	

**GMVM970803BNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1000	700
3	1200	840
MAX	1,650	

**GMVM970804CNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
2.5	1000	700
3	1200	840
4	1600	1120
MAX	1,760	

**GMVM971005CNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
3	1200	840
4	1600	1120
5	2000	1400
MAX	2,200	

**GMVM971205DNB\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
3	1200	840
4	1600	1120
5	2000	1400
MAX	2,200	

All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.  
For most jobs, about 400 CFM per ton when cooling is desirable.  
Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.

**MINIMUM FILTER SIZES**

	GMVM97 0603BNB	GMVM97 0803BNB	GMVM97 0804CNB	GMVM97 1005CNB	GMVM97 1205DNB
Filter Sizes (in <sup>2</sup> ) (Qty)	(1) 16 x 25 (side or bottom)			(1) 20 x 25 (bottom) or (2) 16 x 25 (side)	

Note: Other size filters of equal or greater dimensions may be used. Filters may also be centrally located.

MODEL/TEMP RISE RANGE (MID RISE)	GCEM97 0603BNE* 35-65 (50)		GCEM97 0803BNE* 35-65 (50)		GCEM97 0804CNE* 35-65 (50)		GCEM97 1005CNE* 35-65 (50)	
	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE
Recommended cfm for 100% firing rate & expected temperature rise	1080	50	1440	50	1430	50	1800	50
Lowest recommended cfm for 100% firing rate & expected temperature rise	830	65	1100	65	1100	65	1380	65
Maximum cfm for 100% firing rate & expected temperature rise	1400	38	1550	46	1760	41	2200	41

NOTE: Low Heat CFM = High Heat CFM X .7. Low Heat Temperature Rise Is Expected to Equal High Heat Temperature Rise ± 5% 0140F02402-A

**GCEM970603BNE\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1000	700
3	1200	840
MAX	1,400	

**GCEM970803BNE\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1000	700
3	1200	840
MAX	1,650	

**GCEM970804CNE\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
2.5	1000	700
3	1200	840
4	1600	1120
MAX	1,760	

**GCEM971005CNE\***  
COOLING SPEED  
( @ .1" - .8" w.c. ESP)

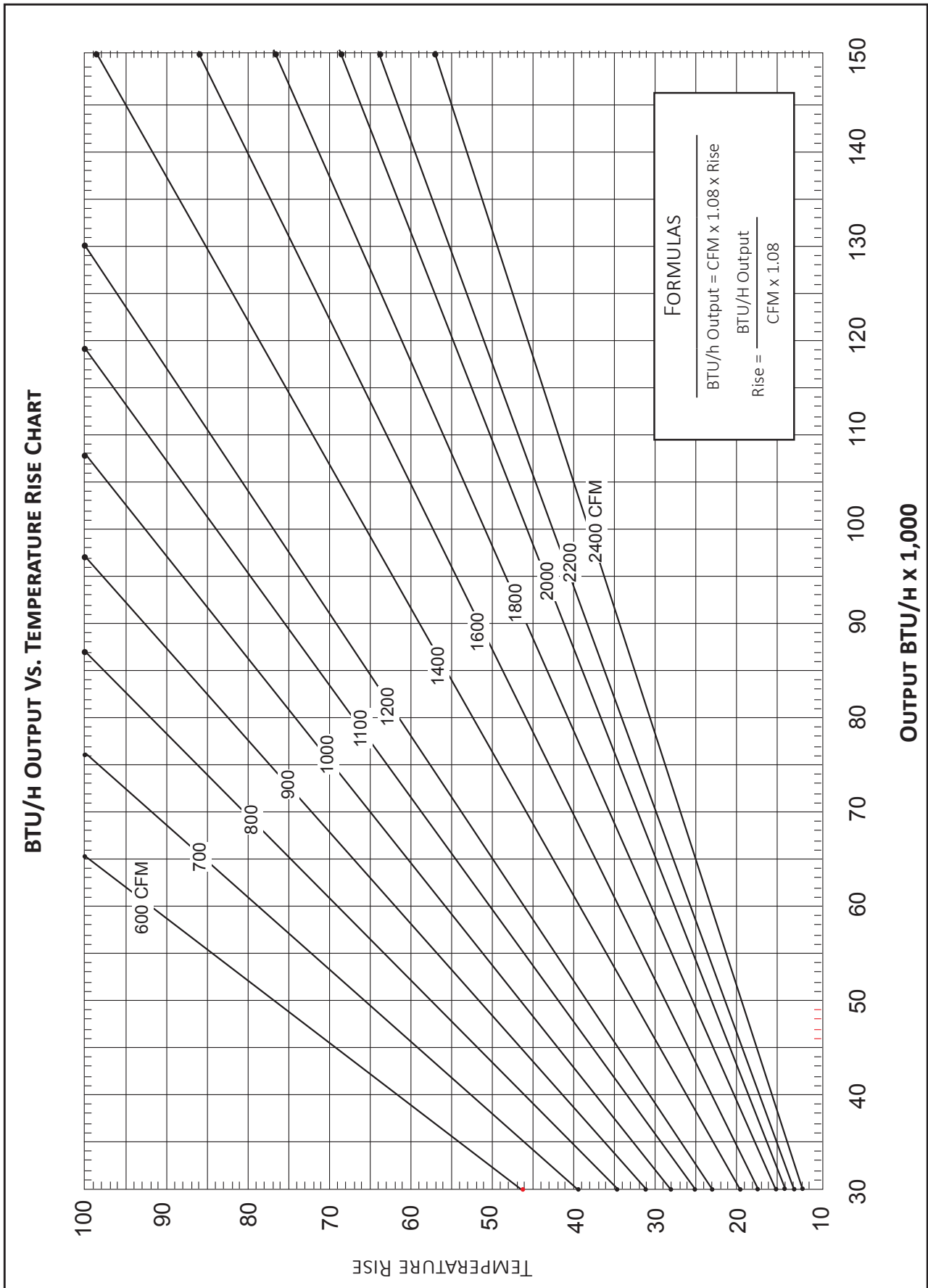
TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
3	1200	840
4	1600	1120
5	2000	1400
MAX	2,200	

All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.  
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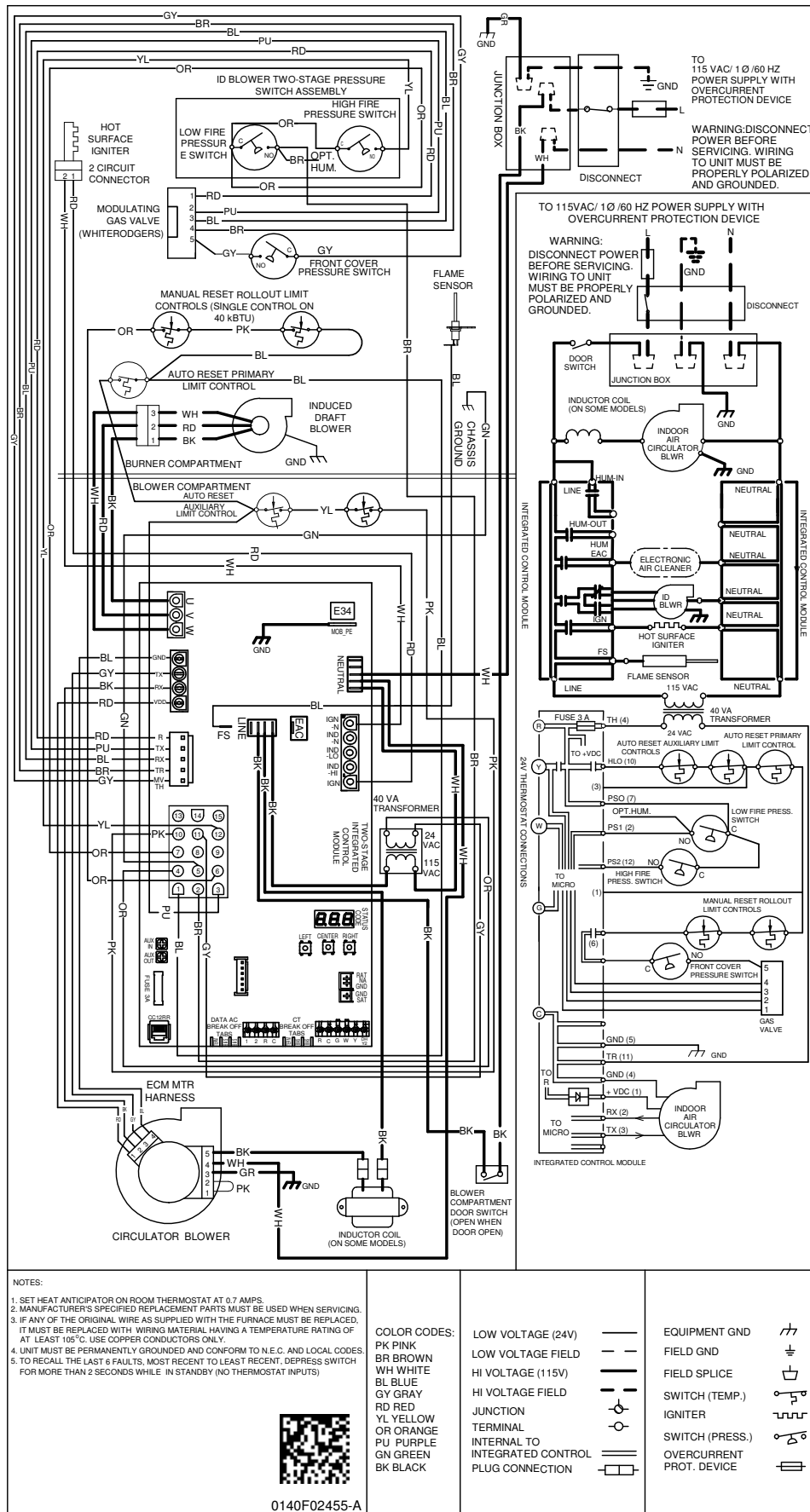
**MINIMUM FILTER SIZES**

	GCEM97 0603BNE	GCEM97 0803BNE	GCEM97 0804CNE	GCEM97 1005CNE
Filter Sizes (in <sup>2</sup> ) (Qty)	(2) 10 x 20 or (1) 16 x 25 (top return)		(2) 14 x 20 or (1) 20 x 25 (top return)	

Note: Other size filters of equal or greater dimensions may be used. Filters may also be centrally located.







- 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. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C. AND LOCAL CODES.
  5. TO RECALL THE LAST 4 FAULTS, MOST RECENT TO LEAST RECENT, DEPRESS SWITCH FOR MORE THAN 2 SECONDS WHILE IN STANDBY (NO THERMOSTAT INPUTS).

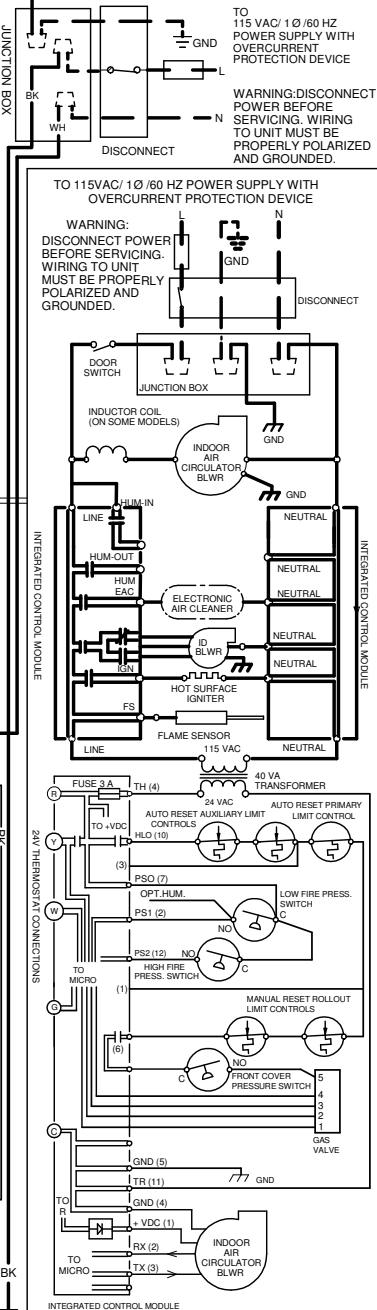


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COLOR CODES:  
 PK PINK  
 BR BROWN  
 WH WHITE  
 BL BLUE  
 GY GRAY  
 RD RED  
 YL YELLOW  
 OR ORANGE  
 PU PURPLE  
 GN GREEN  
 BK BLACK

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 ———



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

**ACCESSORIES**

MODEL	DESCRIPTION	GMVM97 0603BNB	GMVM97 0803BNB	GMVM97 0804CNB	GMVM97 1005CNB	GMVM97 1205DNB
72950	Concentric Vent Kit (2")	√	√	√	√	√
72951	Concentric Vent Kit (3")	√	√	√	√	√
RF000142	Drain Kit-Horizontal Left Vertical Flue	√	√	√	√	√
EFRO2	External Filter Rack with 16" x 25" Permanent Filter	√	√	√	√	√
0170K00000S	Flush Mount Vent Kit- 3" or 2"	√	√	√	√	√
0170K00001S	Flush Mount Vent Kit- 2"	√	√	√	√	√
AFE18-60A	Fossil Fuel (Dual Fuel) Kit	√	√	√	√	√
LPLP04	Low LP Gas Pressure Switch	√	√	√	√	√
LPM-10	LP Conversion Kits	√	√	√	√	√
HAMFK-01	High Altitude Kit	√	√	√	√	√

**NOTES**

√ Indicates available for this model

- For installation in Canada, gas furnaces are certified only to 4,500'.

MODEL	DESCRIPTION	GCRM97 0603BNB	GCRM97 0803BNB	GCRM97 0804CNB	GCRM97 1005CNB
72950	Concentric Vent Kit (2")	√	√	√	√
72951	Concentric Vent Kit (3")	√	√	√	√
CFSB17	Downflow Sub-Base 17.5"	√	√	---	---
CFSB21	Downflow Sub-Base 21"	---	---	√	√
0170K00000S	Flush Mount Vent Kit- 3" or 2"	√	√	√	√
0170K00001S	Flush Mount Vent Kit- 2"	√	√	√	√
AFE18-60A	Fossil Fuel (Dual Fuel) Kit	√	√	√	√
LPLP04	Low LP Gas Pressure Switch	√	√	√	√
LPM10	LP Conversion Kits	√	√	√	√
HAMFK-01	High Altitude Kit	√	√	√	√

**NOTES**

√ Indicates available for this model

- For installation in Canada, gas furnaces are certified only to 4,500'.