Goodman
Air Conditioning & Heating

GRVM97 / GDVM97

HEATING INPUT: 60,000–120,000 BTU/H

MODULATING, VARIABLE-SPEED ECM GAS FURNACE 97% AFUE

R32

ComfortBridge™ technology

CoolCloud™

Contents

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 not be installed in California's South Coast Air Quality Management District (SCAQMD) and San Joaquin Valley Air Pollution Control District (SJVAPCD).
- AHRI Certified; ETL Listed

Cabinet Features

- Designed for multi-position installation — GRVM97: upflow, horizontal left or right GDVM97: 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_{Leak}) ≤ 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

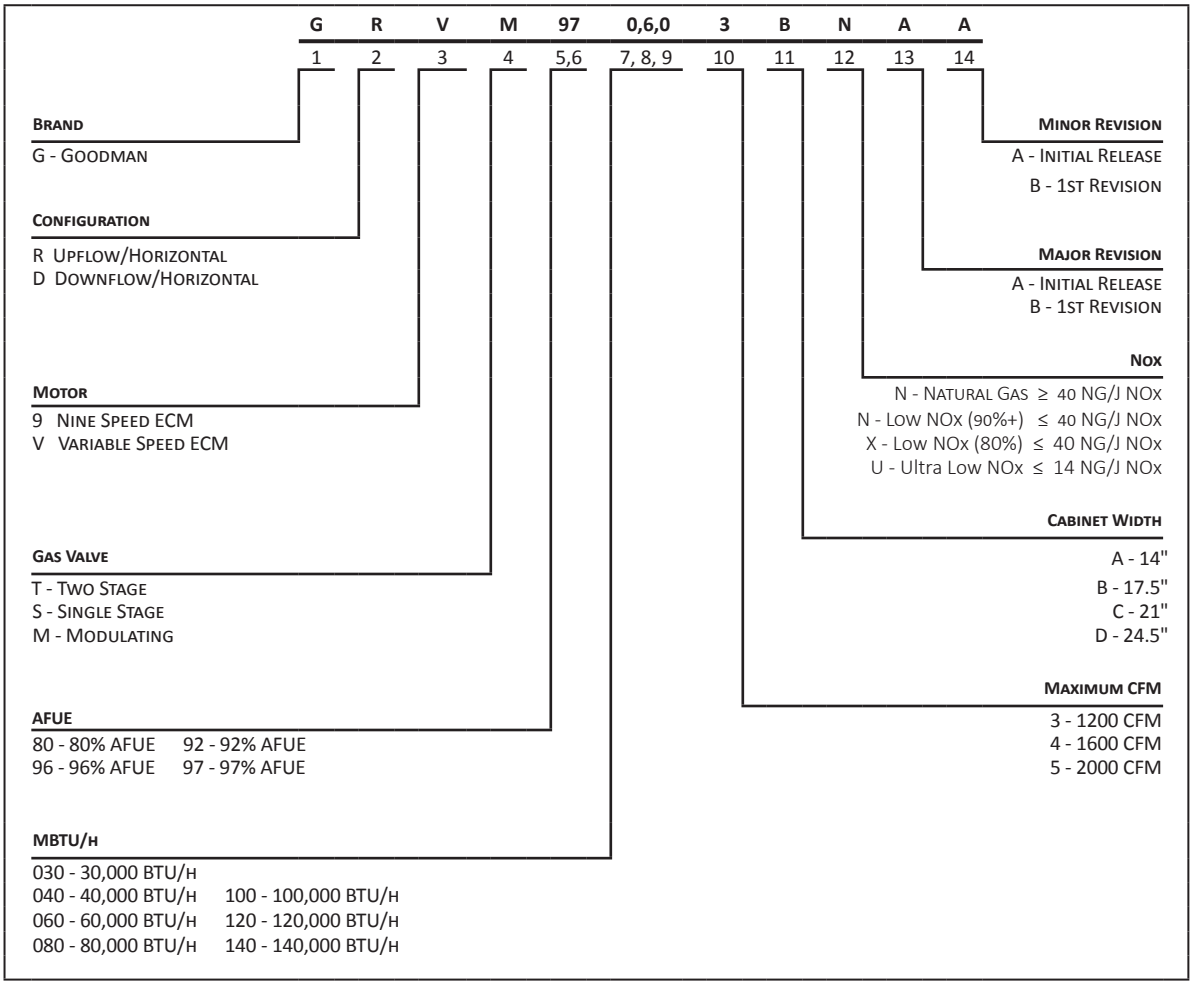
LIFETIME HEAT EXCHANGER LIMITED WARRANTY* | 10 YEAR UNIT REPLACEMENT LIMITED WARRANTY* | 10 YEAR PARTS LIMITED WARRANTY*

Intertek | AHRI CERTIFIED | COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL = ISO 9001 = | COMPANY WITH ENVIRONMENTAL SYSTEM CERTIFIED BY DNV GL = ISO 14001 = | BBB ACCREDITED BUSINESS

ENERGY STAR

ENERGY STAR® and the ENERGY STAR mark are registered trademarks owned by the U.S. Environmental Protection Agency. ENERGY STAR products are third-party certified by an EPA-recognized Certification Body. Products that earn the ENERGY STAR prevent greenhouse gas emissions by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency.

* Complete warranty details available from your local dealer or at www.goodmanmfg.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. nline registration and some of the additional requirements are not required in Florida, California, or Québec. The duration of warranty coverage in Texas and Florida differs in some cases. Other limitations and exclusions apply; refer to complete warranty details for a full list of limitations and exclusions.


G R V M 97 0,6,0 3 B N A A
1 2 3 4 5,6 7, 8, 9 10 11 12 13 14
BRAND
G - GOODMAN
CONFIGURATION
R UPFLOW/HORIZONTAL
D DOWNFLOW/HORIZONTAL
MOTOR
9 NINE SPEED ECM
V VARIABLE SPEED ECM
GAS VALVE
T - TWO STAGE
S - SINGLE STAGE
M - MODULATING
AFUE
80 - 80% AFUE 92 - 92% AFUE
96 - 96% AFUE 97 - 97% AFUE
MBTU/H
030 - 30,000 BTU/H
040 - 40,000 BTU/H 100 - 100,000 BTU/H
060 - 60,000 BTU/H 120 - 120,000 BTU/H
080 - 80,000 BTU/H 140 - 140,000 BTU/H
MINOR REVISION
A - INITIAL RELEASE
B - 1ST REVISION
MAJOR REVISION
A - INITIAL RELEASE
B - 1ST REVISION
NOX
N - NATURAL GAS ≥ 40 NG/J NOX
N - LOW NOX (90%+) ≤ 40 NG/J NOX
X - LOW NOX (80%) ≤ 40 NG/J NOX
U - ULTRA LOW NOX ≤ 14 NG/J NOX
CABINET WIDTH
A - 14"
B - 17.5"
C - 21"
D - 24.5"
MAXIMUM CFM
3 - 1200 CFM
4 - 1600 CFM
5 - 2000 CFM

	GRVM97 0603BN	GRVM97 0803BN	GRVM97 0804CN	GRVM97 1005CN	GRVM97 1205DN	GDVM97 0603BN	GDVM97 0803BN	GDVM97 0804CN	GDVM97 1005CN
HEATING DATA									
High Fire Input[1]	60,000	80,000	80,000	100,000	120,000	60,000	80,000	80,000	100,000
High Fire Output[1]	58,200	77,600	77,600	97,000	116,400	58,200	77,600	77,600	97,000
Low-Fire Input[1]	30,000	40,000	40,000	50,000	60,000	30,000	40,000	40,000	50,000
Low-Fire Output[1]	29,100	38,800	38,800	48,500	58,200	29,100	38,800	38,800	48,500
AFUE[2]	97	97	97	97	97	97	97	97	97
Temperature Rise Range (°F) High/Low Fire	35-65 / 35-65	30-60 /20-50	25-55 / 25-55	35-65 / 25-55	35-65 /30-60	35-65 / 30-60	35-65 / 35-65	35-65 / 35-65	35-65 / 30-60
Vent Diameter[3]	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
CIRCULATOR BLOWER									
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	1/2	1/2	3/4	1	1	1/2	1/2	3/4	1
Speed	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM
FILTER SIZE (IN²) (QTY)	(1) 16 x 25 (side or bottom)	(1) 16 x 25 (side or bottom)	(1) 16 x 25 (side or bottom)	(1) 20 x 25 (bottom) or (2) 16 x 25 (side)	(1) 20 x 25 (bottom) or (2) 16 x 25 (side)	"2) 10 x 20 or (1) 16 x 25 (top return)	(2) 10 x 20 or (1) 16 x 25 (top return)	(2) 10 x 20 or (1) 16 x 25 (top return)	(1) 14 x 20 (bottom) or (1) 20 x 25 (top return)
ELECTRICAL DATA									
Min. Circuit Ampacity[4]	8.1	8.1	11.4	14.4	14.4	8.1	8.1	11.4	14.4
Max. Overcurrent Device (amps)[5]	15	15	15	25	25	15	15	15	25
SHIPPING WEIGHT (LBS)	118	121	142	144	157	117	122	144	146

[1] Natural Gas BTU/h

[2] DOE AFUE based upon Isolated Combustion System (ICS)

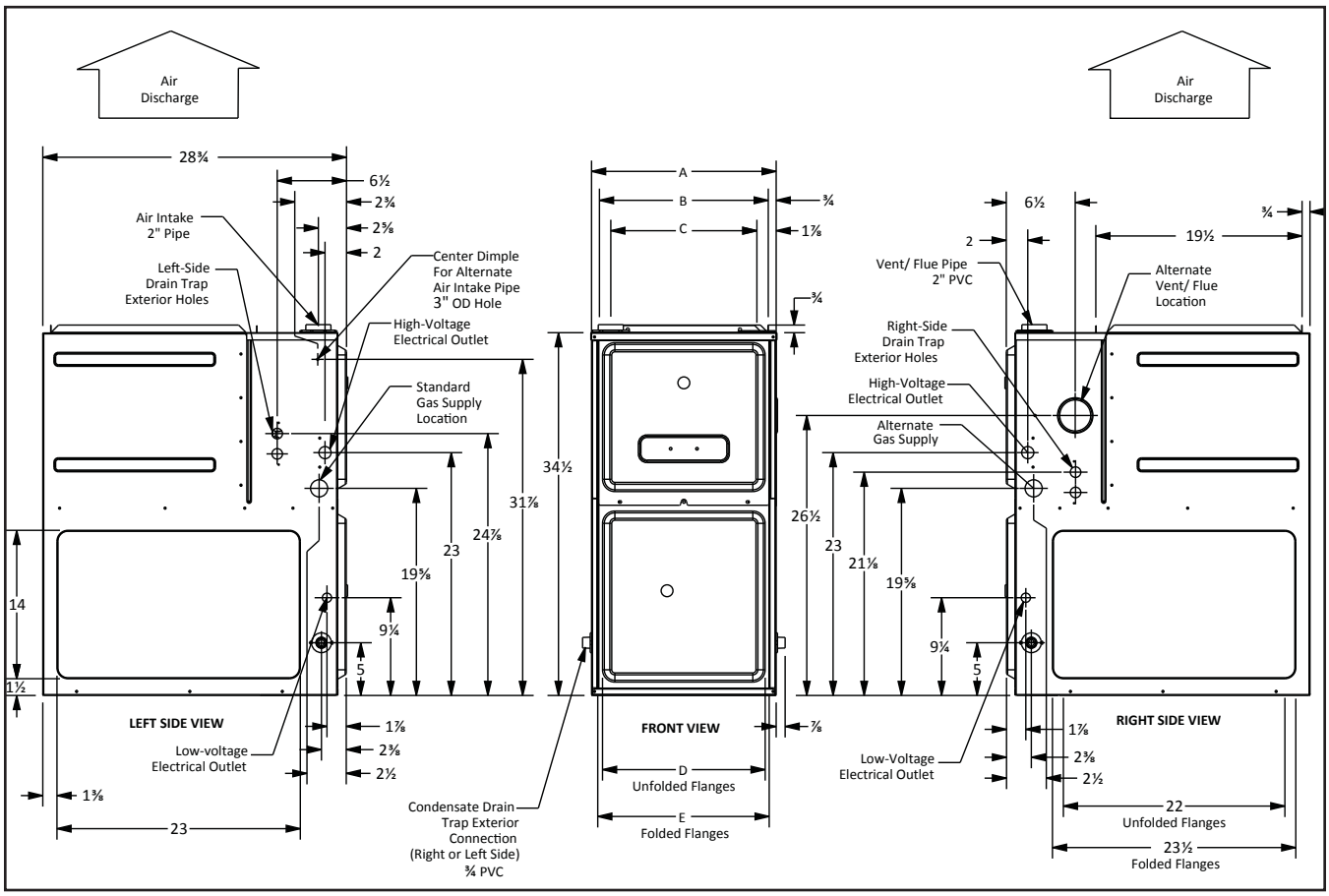
[3] Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run and installation (1 or 2 pipes). The optional Combustion Air Pipe is dependent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

[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.
- 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.



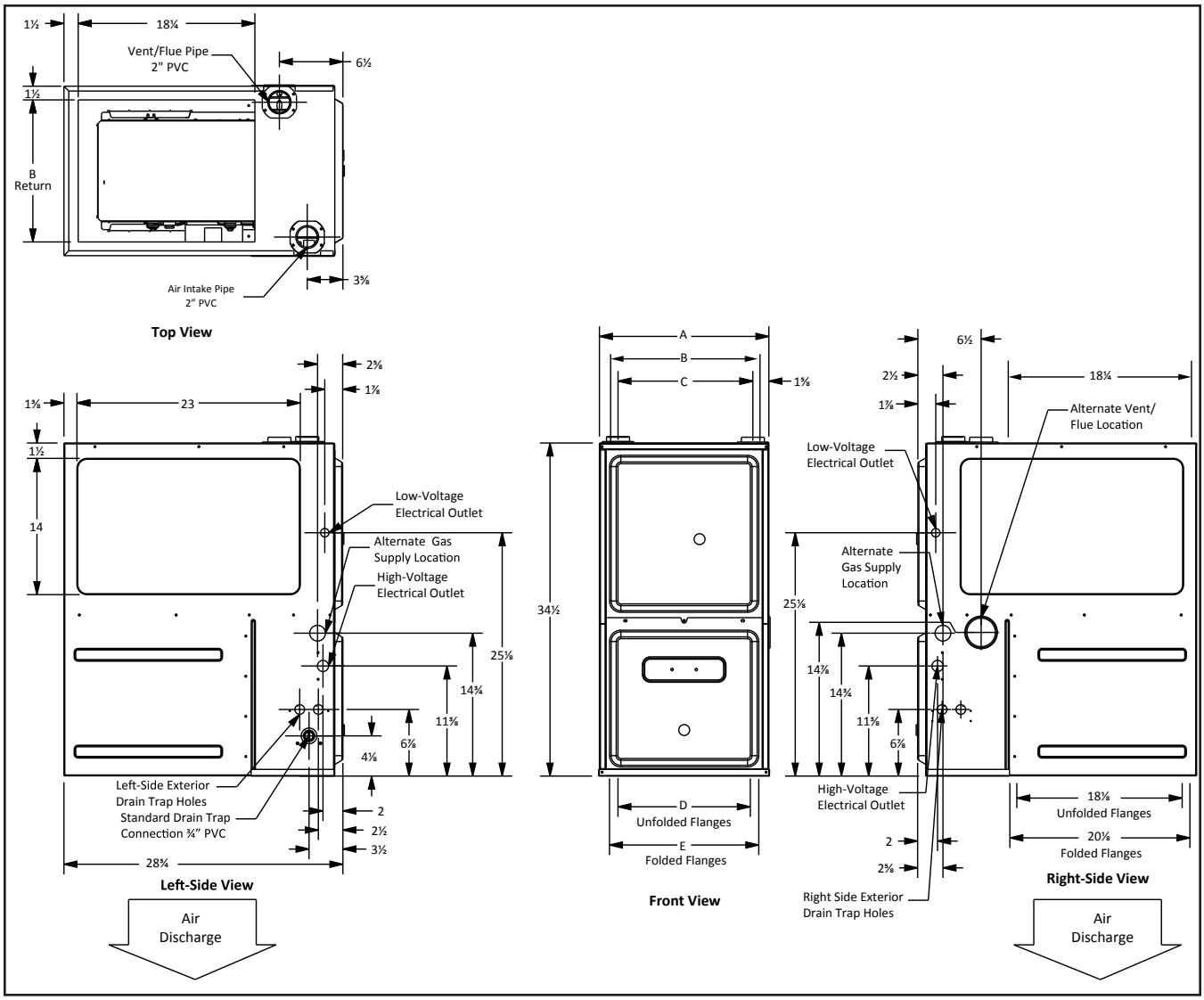
Model	W	D	H
GRVM970603BN	17½”	28⅞"	34½”
GRVM970803BN	17½”	28⅞"	34½”
GRVM970804CN	21”	28⅞"	34½”
GRVM971005CN	21”	28⅞"	34½”
GRVM971205DN	24½"	28⅞"	34½"

	Air Discharge			Air Return
A	B	C	D	E
17½”	16”	13⅞"	12⅛"	13⅝"
17½”	16”	13⅞"	12⅛"	13⅝"
21”	19½”	17⅞"	16"	17½”
21”	19½”	17⅞"	16"	17½”
24½”	23"	20⅞"	19⅜"	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
GDVM970603BN	17½"	28⅞"	34½"
GDVM970803BN	17½"	28⅞"	34½"
GDVM970804CN	21"	28⅞"	34½"
GDVM971005CN	21"	28⅞"	34½"

	Air Return			Air Discharge
A	B	C	D	E
17½"	14⅝"	14"	14½"	16"
17½"	14⅝"	14"	14½"	16"
21"	18⅛"	17½"	18"	19½"
21"	18⅛"	17½"	18"	19½"

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)	GRVM970603BNA* 35-65 (50)		GRVM970803BNA* 30-60 (45)		GRVM970804CNA* 25-55 (40)		GRVM971005CNA* 35-65 (50)		GRVM971205DNA* 35-65 (50)	
	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE
Recommended cfm for 100% firing rate & expected temperature rise	1080	50	1450	50	1750	41	1800	50	2150	50
Lowest recommended cfm for 100% firing rate & expected temperature rise	830	65	1200	60	1300	55	1380	65	1660	65

NOTE: Low Heat CFM = High Heat CFM X .7. Low Heat Temperature Rise Is Expected to Equal High Heat Temparatue Rise ± 5%

GRVM970603BNA*
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

Tons	High-Stage	Low-Stage CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,400	

GRVM970803BNA*
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

Tons	High-Stage	Low-Stage CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,650	

GRVM970804CNA*
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

Tons	High-Stage	Low-Stage CFM
2	800	560
2.5	1,000	700
3	1,200	840
4	1,600	1,120
MAX	1,760	

GRVM971005CNA*
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

Tons	High-Stage	Low-Stage CFM
2	800	560
3	1,200	840
4	1,600	1,120
5	2,000	1,400
MAX	2,200	

GRVM971205DNA*
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

Tons	High-Stage	Low-Stage CFM
2	800	560
3	1,200	840
4	1,600	1,120
5	2,000	1,400
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.

MODEL/TEMP RISE RANGE (MID RISE)	GDVM970603BNA* 35-65 (50)		GDVM970803BNA* 35-65 (50)		GDVM970804CNA* 35-65 (50)		GDVM971005CNA* 35-65 (50)	
	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE
Recommended cfm for 100% firing rate & expected temperature rise	1100	50	1400	51	1450	50	1800	50
Lowest recommended cfm for 100% firing rate & expected temperature rise	830	65	1100	65	1100	65	1380	65

NOTE: Low Heat CFM = High Heat CFM X .7. Low Heat Temperature Rise Is Expected to Equal High Heat Temparatue Rise ± 5%

GDVM970603BNA*
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,400	

GDVM970803BNA*
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,650	

GDVM970804CNA*
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
2.5	1,000	700
3	1,200	840
4	1,600	1,120
MAX	1,760	

GDVM971005CNA*
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
3	1,200	840
4	1,600	1,120
5	2,000	1,400
MAX	2,200	

All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.
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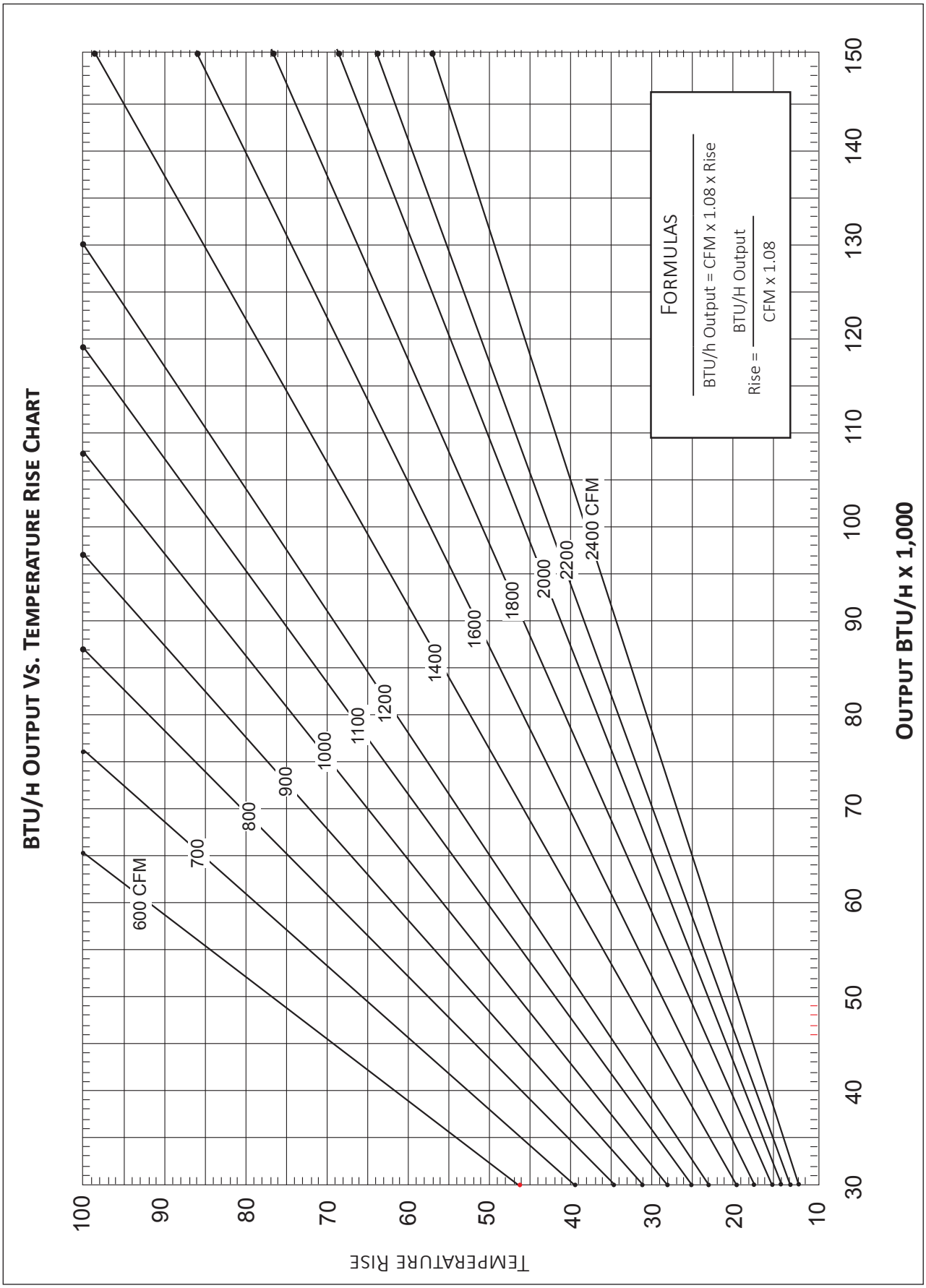
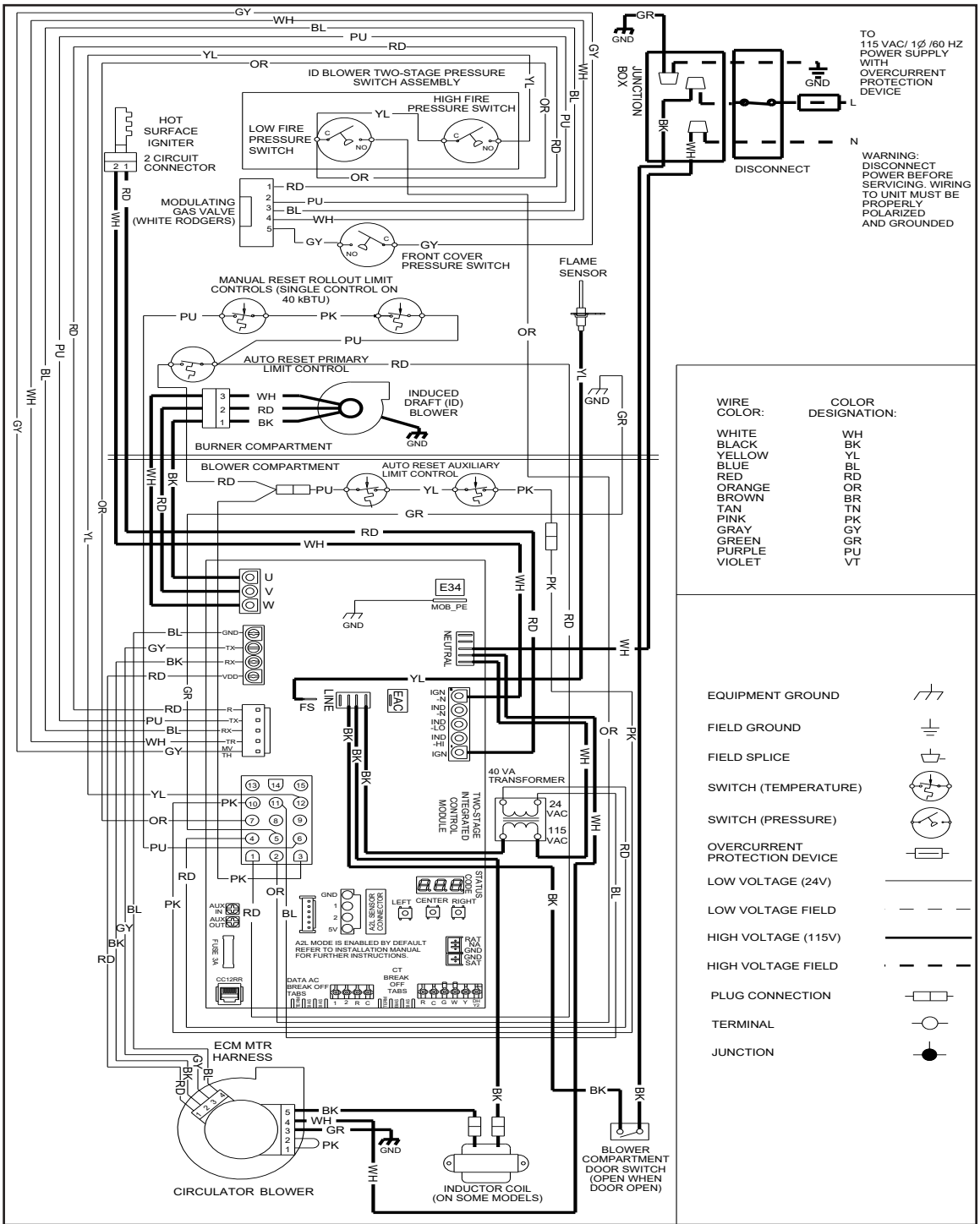

BTU/H Output Vs. Temperature Rise Chart
Temperature Rise
Output BTU/H x 1,000
600 CFM
700
800
900
1000
1100
1200
1400
1600
1800
2000
2200
2400 CFM
Formulas
BTU/h Output = CFM x 1.08 x Rise
Rise = BTU/H Output / CFM x 1.08



NOTES:

1. MANUFACTURER'S SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
2. 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.
3. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C. AND LOCAL CODES.
4. TO RECALL THE LAST 6 FAULTS, MOST RECENT TO LEAST RECENT, DEPRESS SWITCH FOR MORE THAN 2 SECONDS WHILE IN STANDBY (NO THERMOSTAT INPUTS)
5. WHEN THIS FURNACE IS PAIRED WITH NON R-32 REFRIGERANT SYSTEMS, DEFAULT SETTINGS WILL NEED TO BE CHANGED. REFER TO INSTALLATION MANUAL FOR FURTHER INSTRUCTIONS.

0140F20046-A

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.

WARNING

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

MODEL	DESCRIPTION	GRVM97 0603BN	GRVM97 0803BN	GRVM97 0804CN	GRVM97 1005CN	GRVM97 1205DN
72950	Concentric Vent Kit (2")	√	√	√	√	—
72951	Concentric Vent Kit (3")	√	√	√	√	√
RF000142	Drain Kit Horizontal Left Vertical Flue	√	√	√	√	√
EFR02	External Filter Rack with 16"x25" Permanent Filter	√	√	√	√	√
0170K00000S	Flush Mount Vent Kit - 3" or 2"	√	√	√	√	√
0170K00001S	Flush Mount Vent Kit - 2"	√	√	√	√	—
AFE18-60A	Fossil Fuel (Dual Fuel) Kit	√	√	√	√	√
HAMFK-01	High-Altitude Kit	√	√	√	√	√
0270F05404	Horizontal Drain Tubing Kit	√	√	√	√	√
LPM-35	LP Conversion Kits	√	√	√	√	√

NOTES

√ Indicates available for this model

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

MODEL	DESCRIPTION	GDVM97 0603BN	GDVM97 0803BN	GDVM97 0804CN	GDVM97 1005CN
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	√	√	√	√
HAMFK-01	High-Altitude Kit	√	√	√	√
0270F05405	Horizontal Drain Tubing Kit	√	√	√	√
LPM-35	LP Conversion Kits	√	√	√	√

NOTES

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