Goodman
Air Conditioning & Heating

GRVT96 / GDVT96

HEATING INPUT: 40,000–120,000 BTU/H

TWO-STAGE, VARIABLE-SPEED ECM GAS FURNACE UP TO 97.50% AFUE

Contents

R32

ENERGY STAR

ComfortBridge™ technology

CoolCloud™

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
- Two-stage gas valve provides quiet, economical heating
- Durable Silicon Nitride igniter
- Quiet two-speed induced draft blower
- Compatible with any single-stage thermostat
- Self-diagnostic control board with constant memory fault code history output to a triple 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.

Cabinet Features

- Designed for multi-position installation — upflow, 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 baked-enamel 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

10 YEAR UNIT REPLACEMENT LIMITED WARRANTY* | 10 YEAR PARTS LIMITED WARRANTY* | 20 YEAR HEAT EXCHANGER LIMITED WARRANTY* + ONE-TIME HEAT EXCHANGER REPLACEMENT LIMITED WARRANTY* (FOR YEARS 21-99)

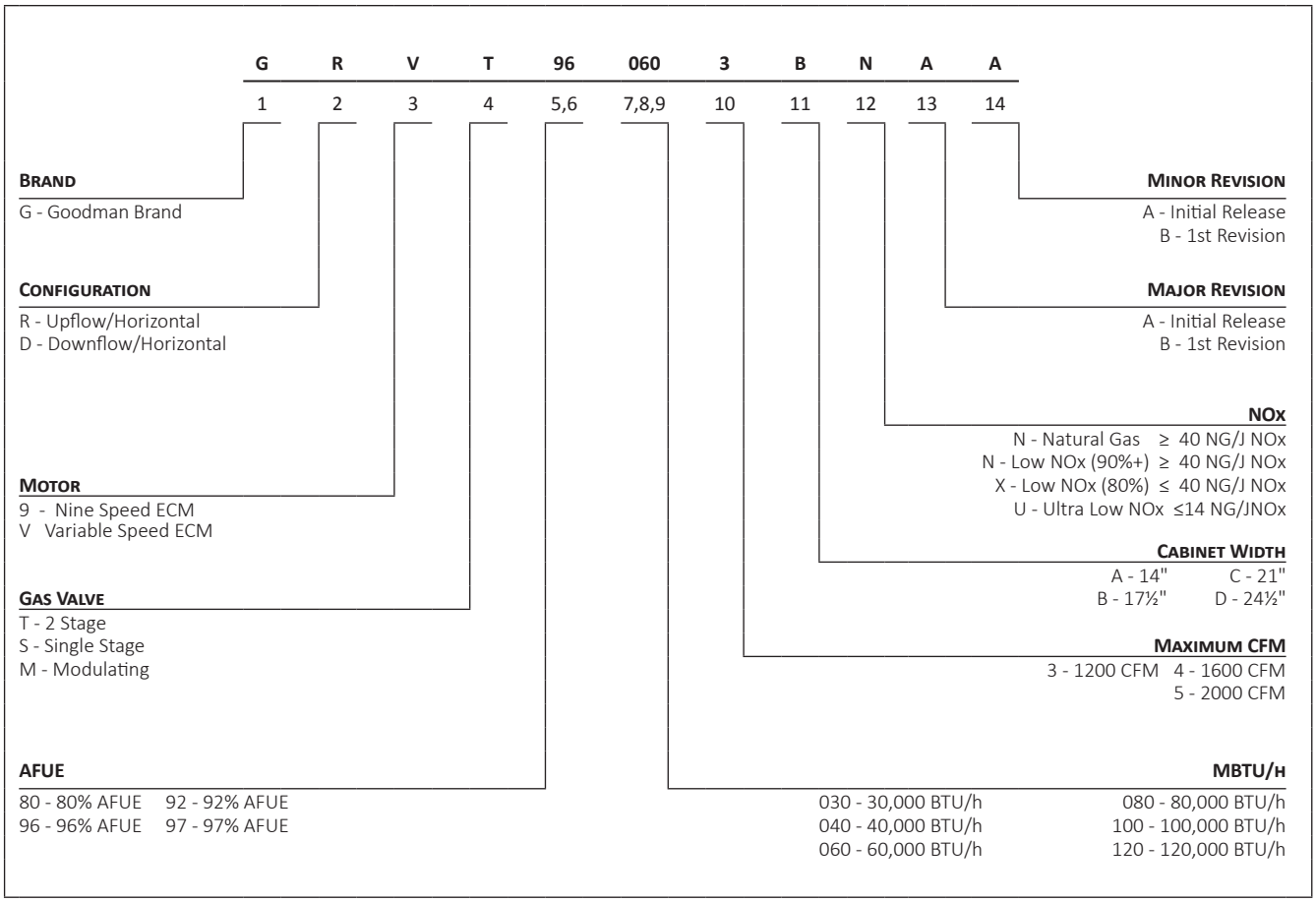
Intertek

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

* Complete warranty available from your local dealer or at www.goodmanmfg.com. To receive the 10-Year Unit Replacement Limited Warranty, 10-Year Parts Limited Warranty, and 99-Year Heat Exchanger Limited Warranty, online registration must be completed within 60 days of installation. The duration of warranty coverage may depend on the state in which you reside. Some states and provinces do not allow warranty coverage to be conditioned on registration. For a list of states and provinces that do not allow warranty coverage to be conditioned on registration, please visit www.goodmanmfg.com/warranty-information or, to request a paper copy of this information, please call us at 1-855-502-3903. Changes in law, regulations, or technology may result in an equivalent unit not being available. Other limitations and exclusions apply, refer to complete warranty details for full list of limitations and exclusions, as well as rights and obligations should an equivalent unit not be available.


G R V T 96 060 3 B N A A
1 2 3 4 5,6 7,8,9 10 11 12 13 14
BRAND
G - Goodman Brand
CONFIGURATION
R - Upflow/Horizontal
D - Downflow/Horizontal
MOTOR
9 - Nine Speed ECM
V Variable Speed ECM
GAS VALVE
T - 2 Stage
S - Single Stage
M - Modulating
AFUE
80 - 80% AFUE 92 - 92% AFUE
96 - 96% AFUE 97 - 97% AFUE
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/JNOx
CABINET WIDTH
A - 14" C - 21"
B - 17½" D - 24½"
MAXIMUM CFM
3 - 1200 CFM 4 - 1600 CFM
5 - 2000 CFM
MBTU/H
030 - 30,000 BTU/h 080 - 80,000 BTU/h
040 - 40,000 BTU/h 100 - 100,000 BTU/h
060 - 60,000 BTU/h 120 - 120,000 BTU/h

	GRVT96 0403BN	GRVT96 0603BN	GRVT96 0803BN	GRVT96 0804CN	GRVT96 1005CN	GRVT96 1005DN	GRVT96 1205DN
HEATING DATA							
High Fire Input[1]	40,000	60,000	80,000	80,000	100,000	100,000	120,000
High Fire Output[1]	39,000	58,200	76,880	77,600	96,100	97,500	115,320
Low-Fire Input[1]	28,000	42,000	56,000	56,000	70,000	70,000	84,000
Low-Fire Output[1]	27,300	40,740	53,816	54,320	67,270	68,250	80,724
AFUE[2]	97.50	97.00	96.10	97.00	96.10	97.50	96.10
Temperature Rise Range (°F) High	20 - 50	30 - 60	35 - 65	25 - 55	35 - 65	30 - 60	35 - 65
Temperature Rise Range (°F) Low Fire	20 - 50	25 - 55	30 - 60	20 - 50	35 - 65	25 - 55	30 - 60
Vent Diameter[3]	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"
No. of Burners	2	3	4	4	5	5	6
CIRCULATOR BLOWER							
Available AC @ 0.5" ESP	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 4	2 - 5	2 - 5	2 - 5
Size (D x W)	10" x 8"	11" x 8"	11" x 8"	11" x 10"	11" x 10"	11" x 11"	11" x 11"
Horsepower @ 1075 RPM	1/2	1/2	1/2	3/4	1	1	1
Speed	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)[6]	(1) 20 x 25 (bottom) or (2) 16 x 25 (side)	(1) 20 x 25 (bottom) or (2) 16 x 25 (side)	(1) 20 x 25 (bottom) or (2) 16 x 25 (side)	(1) 20 x 25 (bottom) or (2) 16 x 25 (side)
ELECTRICAL DATA							
Min. Circuit Ampacity [4]	7.5	7.5	7.5	10.8	13.8	13.8	13.8
Max. Overcurrent Device (amps) [5]	15	15	15	15	20	20	20
SHIPPING WEIGHT (LBS)	114	117	120	141	143	153	156
ENERGY STAR® Certified	ENERGY STAR	ENERGY STAR	NO	ENERGY STAR	NO	ENERGY STAR	NO

[1] Natural Gas BTU/h; for altitudes 0-4500' above sea level, reduce input rating by 4% for each 1000' above 4500' altitude.

[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.

[6] Recommended to use 2 side ducts with 2 separate 16 x 25 filters or ONE 20 x 25 bottom filter for better mid rise & blower performance.

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.

Energy Star Notes

Proper sizing and installation of equipment is critical to achieving optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet ENERGY STAR® criteria. Ask your contractor for details or visit www.energystar.gov. The www.energystar.gov website provides up-to-date system combinations certified to meet ENERGY STAR® requirements.

	GDVT96 0403BN	GDVT96 0603BN	GDVT96 0804CN	GDVT96 1005CN	GDVT96 1205DN
Heating Data					
High Fire Input[1]	40,000	60,000	80,000	100,000	120,000
High Fire Output[1]	38,800	58,200	76,880	96,100	115,320
Low-Fire Input[1]	28,000	42,000	56,000	70,000	84,000
Low-Fire Output[1]	27,160	40,740	53,816	67,270	80,724
AFUE[2]	97.00	97.00	96.10	96.10	96.10
Temperature Rise Range (°F) High/Low Fire	20 - 50	25 - 55	35 - 65	35 - 65	35 - 65
Temperature Rise Range (°F) High/Low Fire	20 - 50	20 - 50	35 - 65	35 - 65	35 - 65
Vent Diameter[3]	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"
No. of Burners	2	3	4	5	6
Circulator Blower					
Available AC @ 0.5" ESP	1.5 - 3	1.5 - 3	1.5 - 4	2 - 5	2 - 5
Size (D x W)	10" x 8"	11" x 8"	11" x 10"	11" x 10"	11" x 11"
Horsepower @ 1075 RPM	1/2	1/2	3/4	1	1
No. of Speeds	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM
FILTER SIZE (IN²) (QTY)	(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)	(1) 14 x 20 (bottom) or (1) 20 x 25 (top return)
Electrical Data					
Min. Circuit Ampacity [3]	7.5	7.5	10.8	13.8	13.8
Max. Overcurrent Device (amps) [4]	15	15	15	20	20
Shipping Weight (lbs)	116	119	143	145	158
ENERGY STAR® Certified	ENERGY STAR	ENERGY STAR	NO	NO	NO

[1] Natural Gas BTU/h; for altitudes 0-4500' above sea level, reduce input rating by 4% for each 1000' above 4500' altitude.

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

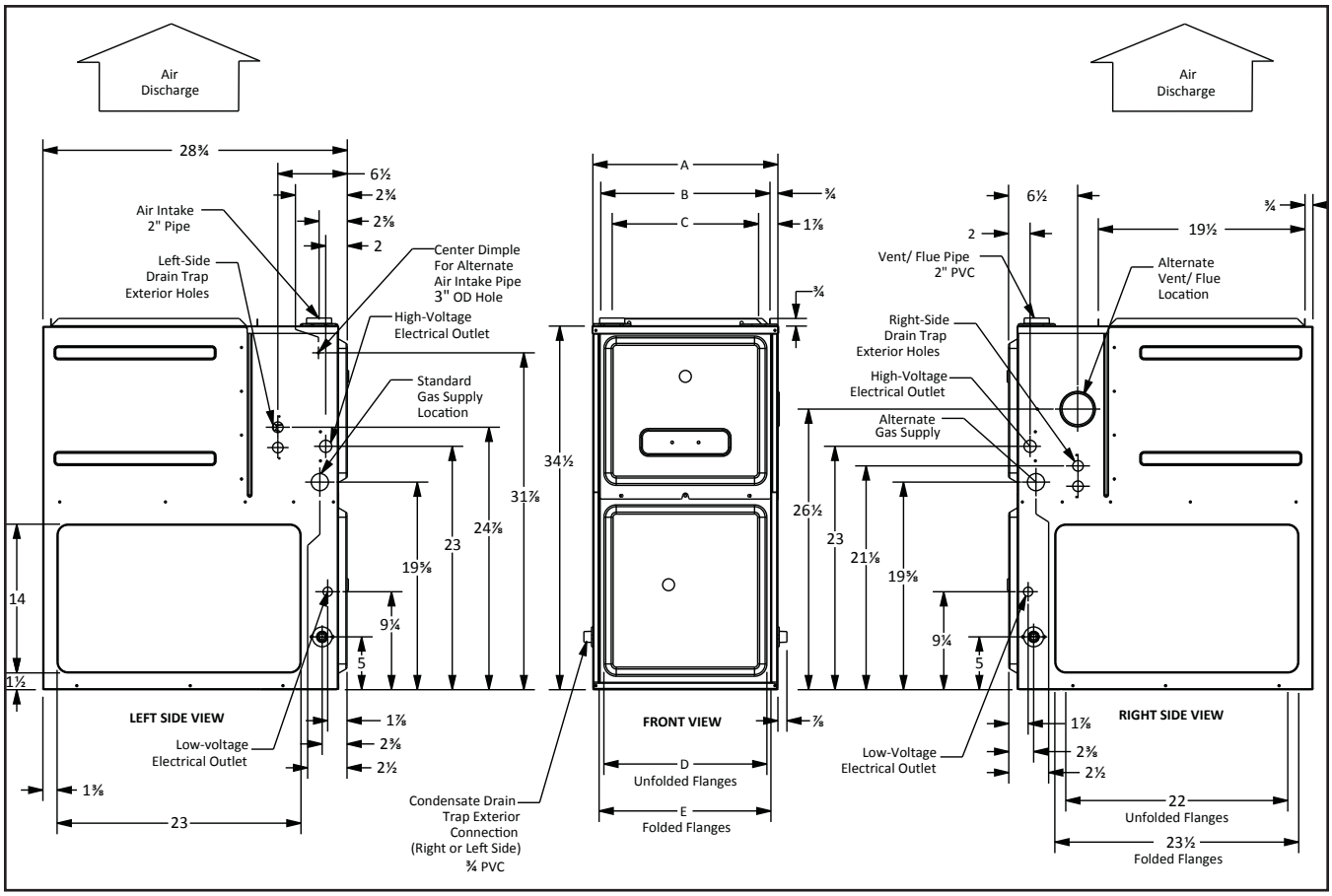
[3] Vent and combustion air diameters may vary depending upon vent length. Refer to the latest editions of the National Fuel Gas Code NFPA 54/ANSI Z223.1 (in the USA) and the Canada

[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.



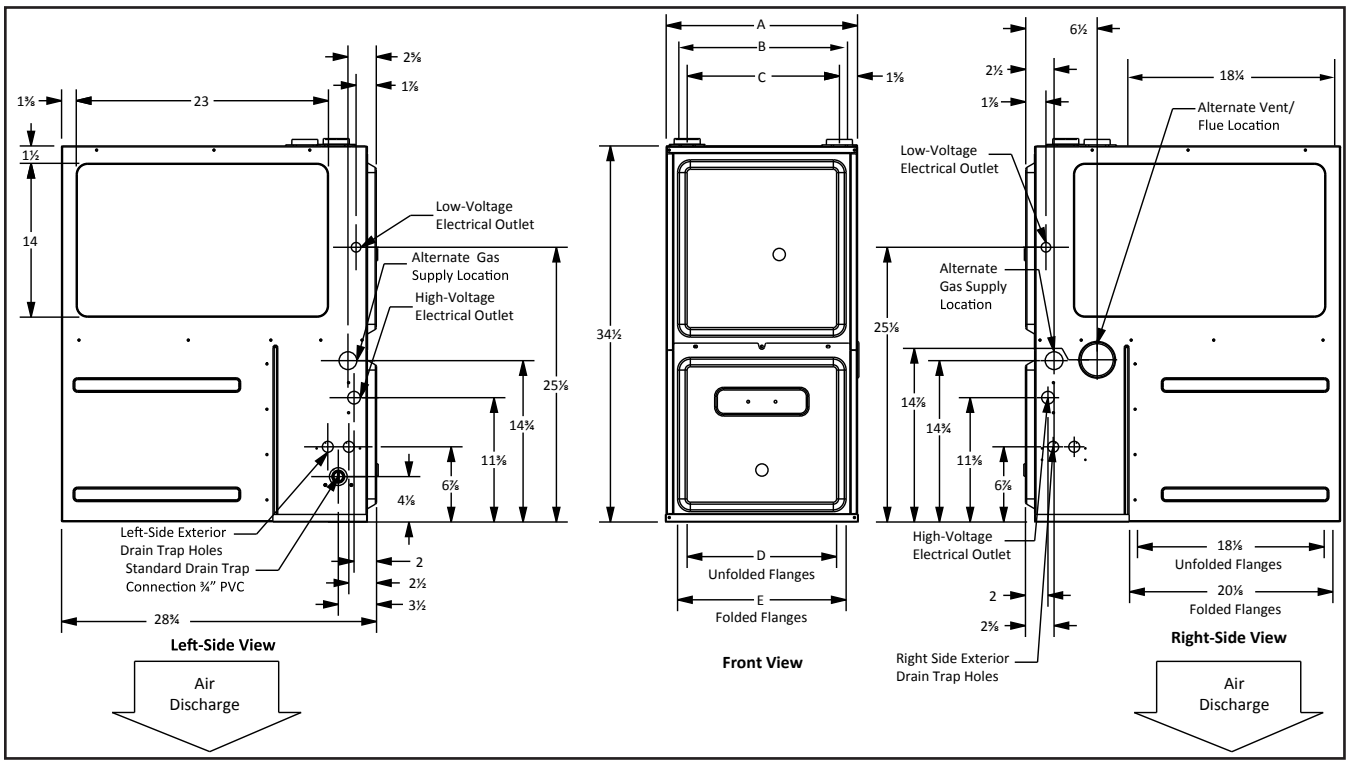
Model	W	D	H
GRVT960403BN	17½”	28⅞"	34½”
GRVT960603BN	17½”	28⅞"	34½”
GRVT960803BN	17½”	28⅞"	34½”
GRVT960804CN	21”	28⅞"	34½”
GRVT961005CN	21”	28⅞"	34½”
GRVT961005DN	24½”	28⅞"	34½”
GRVT961205DN	24½"	28⅞"	34½"

	Air Discharge			Air Return
A	B	C	D	E
17½”	16”	13⅞"	12⅛"	13⅝"
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"
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
GDVT960403BN	17½"	28⅞"	34½"
GDVT960603BN	17½"	28⅞"	34½"
GDVT960804CN	21"	28⅞"	34½"
GDVT961005CN	21"	28⅞"	34½"
GDVT961205DN	24½"	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"
24½"	21⅝"	21"	21½"	23"

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)	GDVT960403BN 20 - 50 (35)		GDVT960603BN 25 - 55 (40)		GDVT960804CN 35 - 65 (50)		GDVT961005CN 35-65 (50)		GDVT961205DN 35-65 (50)		GRVT960403BN 20-50 (35)	
	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE
Recommended CFM for High Heat/ Expected Temperature Rise	1025	35	1350	40	1760	50	1770	50	2150	50	1025	35
Lowest Recommended CFM for High Heat/Expected Temperature Rise	720	50	980	55	1300	65	1360	65	1650	65	720	50

MODEL/TEMP RISE RANGE (MID-RISE)	GRVT960603BN 30 - 60 (45)		GRVT960803BN 35-65 (50)		GRVT960804CN 25 - 55 (40)		GRVT961005CN 35-65 (50)		GRVT961005DN 30-60 (45)		GRVT961205DN 35-65 (50)	
	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE
Recommended CFM for High Heat/ Expected Temperature Rise	1200	45	1400	50	1760	40	1770	50	2000	45	2150	50
Lowest Recommended CFM for High Heat/Expected Temperature Rise	900	60	1090	65	1300	55	1360	65	1500	60	1650	65

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

GRVT960403BN, GRVT960603BN
GRVT960803BN, GDVT960403BN
GDVT960603BN
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

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

GRVT960804CN
GDVT960804CN
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

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

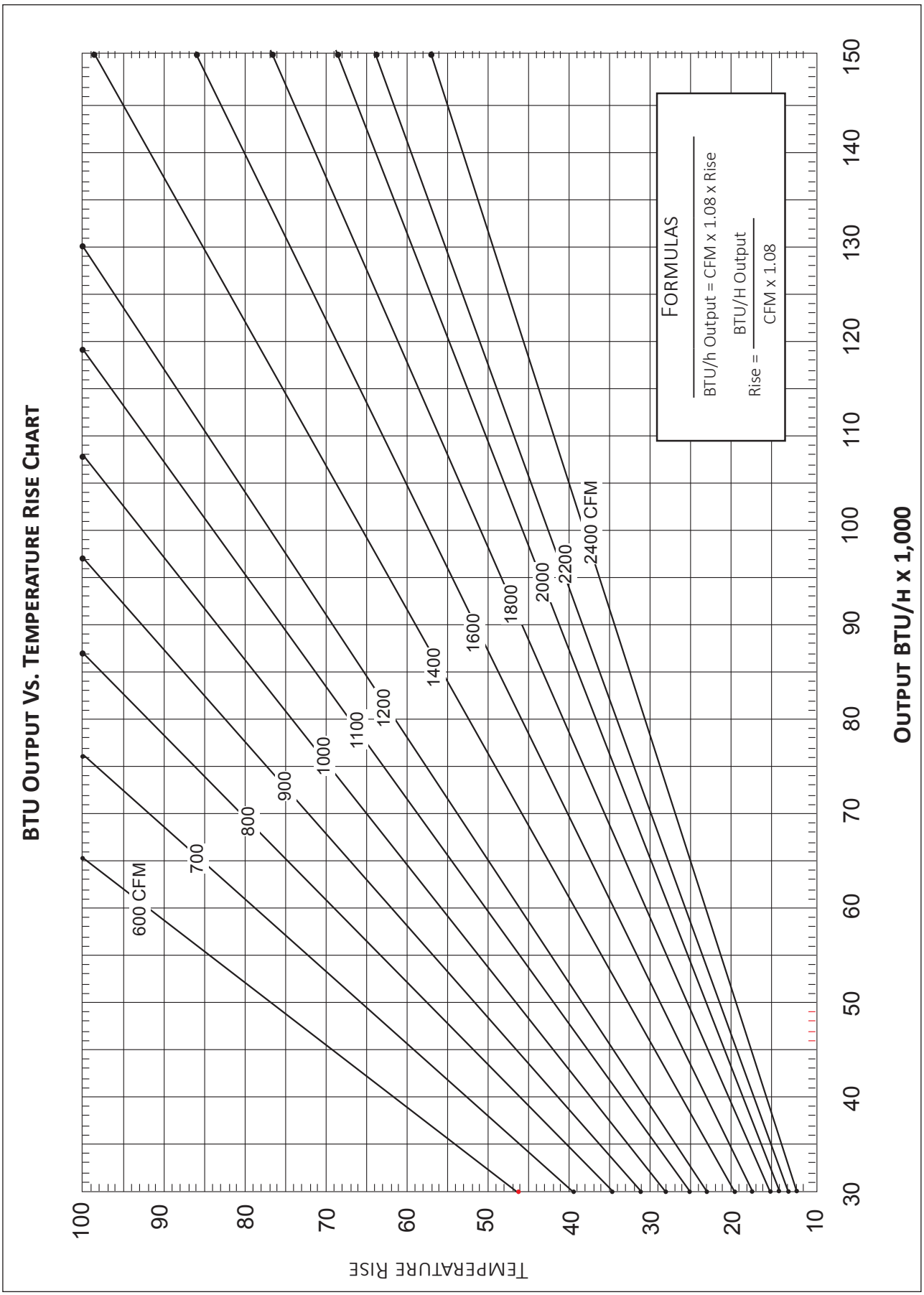
GRVT961005CN, GRVT961005DN
GRVT961205DN
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

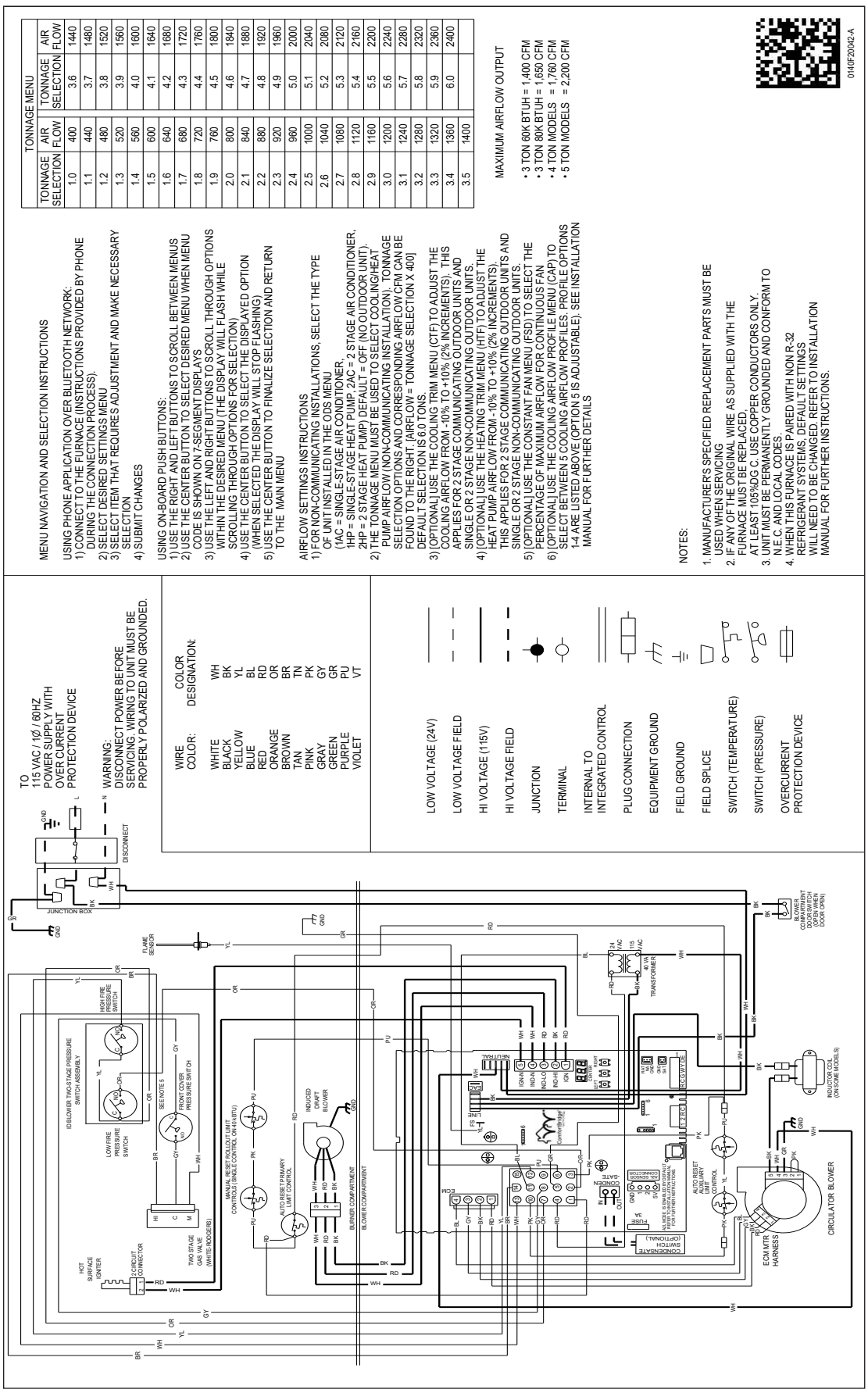
TONS	HIGH-STAGE CFM	LOW-STAGE CFM
2	800	560
3	1,200	840
4	1,600	1,120
5	2,000	1,400
MAX	2,200	

GDVT961005CN
GDVT961205DN
COOLING SPEED
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE CFM	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


BTU 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



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.

MODEL	DESCRIPTION	GRVT96 0403BN	GRVT96 0603BN	GRVT96 0803BN	GRVT96 0804CN	GRVT96 1005CN	GRVT96 1005DN	GRVT96 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"	√	√	√	√	√	√	—
0130F00723S	High-Altitude 2000-5400 Feet Pressure Switch	—	—	—	√	—	—	√
0130F00501S	High-Altitude 2000-5400 Feet Pressure Switch	√	—	—	—	√	√	—
0130F20443S	High-Altitude 2000-5400 Feet Pressure Switch	—	√	—	—	—	—	—
0130F20444S	High-Altitude 2000-5400 Feet Pressure Switch	—	—	√	—	—	—	—
0130F00723S	High-Altitude 5400-7800 Feet Pressure Switch	—	—	—	√	—	—	—
0130F00500S	High-Altitude 5400-7800 Feet Pressure Switch	—	—	√	—	—	—	—
0130F00501S	High-Altitude 5400-7800 Feet Pressure Switch	—	—	—	—	—	—	√
0130F20445S	High-Altitude 5400-7800 Feet Pressure Switch	—	—	—	—	√	√	—
0130F00434S	High-Altitude 5400-7800 Feet Pressure Switch	√	√	—	—	—	—	—
HA-06	High-Altitude 5400-7800 Feet (Orifice Kit - Nat.)	—	—	#48	—	—	—	—
HA-06	High-Altitude 5400-7800 Feet (Orifice Kit - LP)	—	—	#56	—	—	—	—
0130F00722S	High-Altitude 7800-10000 Feet Pressure Switch	N/A	—	—	√	—	—	—
0130F00501S	High-Altitude 7800-10000 Feet Pressure Switch	N/A	—	—	—	—	—	√
0130F00500S	High-Altitude 7800-10000 Feet Pressure Switch	N/A	√	—	—	√	√	—
0130F20443S	High-Altitude 7800-10000 Feet Pressure Switch	N/A	—	√	—	—	—	—
HA-06	High-Altitude 7800-10000 Feet (Orifice Kit - Nat.)	N/A	#48	#48	#48	#48	#48	—
HA-06	High-Altitude 7800-10000 Feet (Orifice Kit - LP)	N/A	#56	#56	#56	—	—	—
0270F20728	Horizontal Drain Tubing Kit	√	√	√	√	√	√	√
LPM-34	LP Conversion Kits	√	√	√	√	√	√	√

NOTE: GRVT960403BN* cannot be installed above 7800 Feet. For GRVT960804CN* installations at 2000-10000 Feet, replace the factory Front Cover with 0161F00026S.
√ Indicates available for this model

MODEL	DESCRIPTION	GDVT96 0403BN	GDVT96 0603BN	GDVT96 0804CN	GDVT96 1005CN	GDVT96 1205DN
72950	Concentric Vent Kit (2")	√	√	√	√	—
72951	Concentric Vent Kit (3")	√	√	√	√	√
CFSB17	Downflow Sub-Base 17.5"	√	√	—	—	—
CFSB21	Downflow Sub-Base 21"	—	—	√	√	—
CFSB24	Downflow Sub-Base 24"	—	—	—	—	√
RF000142	Drain Kit Horizontal Left Vertical Flue	√	√	√	√	√
0170K00000S	Flush Mount Vent Kit - 3" or 2"	√	√	√	√	√
0170K00001S	Flush Mount Vent Kit - 2"	√	√	√	√	—
0130F00723S	High-Altitude 2000-5400 Feet Pressure Switch	—	—	√	—	√
0130F00501S	High-Altitude 2000-5400 Feet Pressure Switch	√	—	—	√	—
0130F20443S	High-Altitude 2000-5400 Feet Pressure Switch	—	√	—	—	—
0130F00723S	High-Altitude 5400-7800 Feet Pressure Switch	—	—	√	—	—
0130F00501S	High-Altitude 5400-7800 Feet Pressure Switch	—	—	—	—	√
0130F20445S	High-Altitude 5400-7800 Feet Pressure Switch	—	—	—	√	—
0130F00434S	High-Altitude 5400-7800 Feet Pressure Switch	√	√	—	—	—
0130F00722S	High-Altitude 7800-10000 Feet Pressure Switch	N/A	—	√	—	—
0130F00501S	High-Altitude 7800-10000 Feet Pressure Switch	N/A	—	—	—	√
0130F00500S	High-Altitude 7800-10000 Feet Pressure Switch	N/A	√	—	√	—
HA-06	High-Altitude 7800-10000 Feet (Orifice Kit - Nat.)	N/A	#48	#48	#48	—
HA-06	High-Altitude 7800-10000 Feet (Orifice Kit - LP)	N/A	#56	#56	—	—
0270F20729	Horizontal Drain Tubing Kit	√	√	√	√	√
LPM-34	LP Conversion Kits	√	√	√	√	√

NOTES: GDVT960403BN* cannot be installed above 7800 Feet. For GDVT960804CN* installations at 2000-10000 Feet, replace the factory Front Cover with 0161F00026S.
√ Indicates available for this model

Scan the QR code above for high altitude conversion installation instructions