

# TECHNICAL GUIDE

## MODELS: G9V TWO STAGE *ULTRA* GAS-FIRED VARIABLE SPEED FURNACES DOWNFLOW/HORIZONTAL MODELS

92 AFUE

CATEGORY IV/DUAL CERTIFIED  
DIRECT VENT & 1-PIPE VENT  
80, 100 & 120 MBH INPUT



This product was manufactured in a plant whose quality system is certified/registered as being in conformity with ISO 9001.

Due to continuous product improvement, specifications are subject to change without notice.

Visit us on the web at [www.york.com](http://www.york.com) for the most up-to-date technical information.

Additional information can be found at [www.gamanet.org](http://www.gamanet.org).

## DESCRIPTION

These Category IV, highly efficient, compact, condensing type furnaces are designed for residential and commercial installations in a basement, closet, alcove, recreation room or garage where the ambient temperature is above 32°F, or higher. They may be either side wall or thru-roof vented using approved plastic type combustion air and vent piping. All units are factory assembled, wired and tested to assure dependable and economical installation and operation.

These units may be installed in downflow applications without any conversion required. They also may be applied in horizontal applications (left or right) by field converting the condensate drain system.

## WARRANTY

*Lifetime limited warranty on both heat exchangers to the original purchaser; a 20-year limited warranty from original installation date to subsequent purchaser.*

*10-year warranty on commercial applications.*

*5-year limited parts warranty.*

## FEATURES

- Two stage heating operation includes:
  - Two stage gas valve
  - Two stage inducer operation
  - Variable speed ECM blower operation

Provides increased comfort level & very quiet unit operation

- Adjustable delay timer allows two stage operation with single stage thermostat
- Blower-off delay for cooling SEER improvement
- Field selectable continuous fan speed
- Ignition control supports 24 or 120 volt circulator outputs
- Built-in, high level self diagnostics with fault code display
- Low unit amp requirement for easy replacement application
- May be installed as either two-pipe (sealed combustion) or single pipe vent (using indoor combustion air)
- Electronic Hot Surface Ignition saves fuel cost with increased dependability and reliability
- Two speed induced combustion system with inshot main burners for quiet, efficient operation
- Insulated Blower Compartment
- 100% shut off main gas valve for extra safety
- Variable speed blower motor with 12 cooling CFM selection options
- 24V, 40 VA control transformer and blower relay supplied for add-on cooling
- Hi-tech tubular aluminized steel primary heat exchanger
- Secondary (condensing) heat exchanger of 29-4C high-grade stainless steel
- Timed on, adjustable off blower capability for maximum comfort
- Blower door safety switch
- All models are propane convertible
- High velocity filters provided

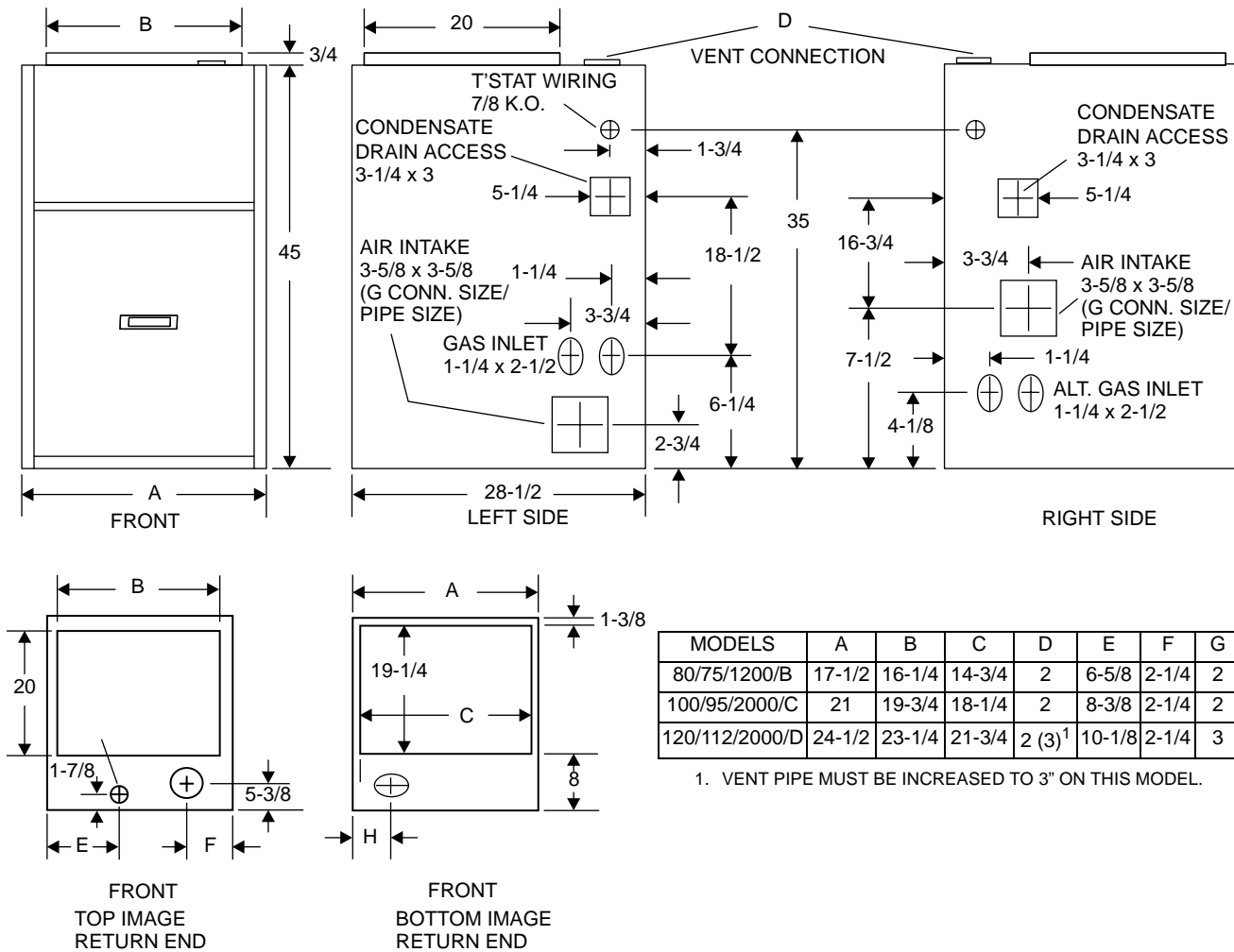


FIGURE 1 : Dimensions

**RATINGS & PHYSICAL / ELECTRICAL DATA**

MODEL	INPUT MBH H/L	OUTPUT MBH H/L	NOM. CFM	CABINET WIDTH (INCHES)	AFUE <sup>1</sup>	LOW = FIRE TEMP RISE °F	HIGH FIRE TEMP RISE °F	MAX. OUTLET AIR TEMP. °F	BLOWER			TOTAL UNIT AMPS	MAX OVER-CURRENT PROTECT <sup>2</sup>	MIN WIRE SIZE (AWG) @ 75 FT. ONE WAY <sup>2</sup>	OPERATING WT. (LBS)
									HP	AMPS	SIZE				
G9V08012DHB11	80/52	75/49	1200	17-1/2	92.0	35-65	35-65	165	1/2	1.7	11 x 8	9.0	20	14	128
G9V10020DHC11	100/65	95/60	2000	21	92.0	40-70	40-70	170	1	4.4	11 x 10	14.5	20	12	175
G9V12020DHD11	120/78	112/74	2000	24-1/2	92.0	40-70	40-70	170	1	4.4	11 x 10	14.5	20	12	184

1. AFUE numbers are determined in accordance with DOE test procedures
2. Wire size and overcurrent protection must comply with the National Electrical Code (NFPA-70-latest edition).
  - For altitudes above 2,000 ft., reduce capacity 4% for each 1,000 ft. above sea level. Refer to Form 035-14460-000.
  - Wire size based on copper conductors, 60°C, 3% voltage drop.
  - Continuous return air temperature must not be below 55°F.

**HIGH EFFICIENCY 2 STAGE CFM/TAP SELECTION - VARIABLE SPEED**

HIGH/LOW SPEED COOLING AND HEAT PUMP CFM							
G9V08012DHB11		G9V10020DHC11		G9V12020DHD11		JUMPER SETTINGS	
High	Low	High	Low	High	Low	Cool Tap	Adj. Tap
1345	740	2125	1250	2230	1290	A	B
1120	620	1765	1020	1810	1025	B	B
1225	675	1980	1140	2100	1150	A	A
1020	560	1615	935	1680	950	B	A
1100	605	1800	1025	1850	1045	A	C
880	490	1575	900	1600	900	C	B
920	505	1470	850	1500	840	B	C
660	450	1350	800	1410	770	D	B
800	450	1425	825	1510	825	C	A
600	420	1225	750	1265	700	D	A
720	440	1295	775	1320	740	C	C
545	420	1120	675	1120	625	D	C

HEATING AIRFLOW													
G9V08012DHB11				G9V10020DHC11				G9V12020DHD11				JUMPER SETTINGS	
High	Temp. Rise	Low	Temp. Rise	High	Temp. Rise	Low	Temp. Rise	High	Temp. Rise	Low	Temp. Rise	Cool Tap	Adj. Tap
1380	50	900	50	1875	47	1275	45	1925	54	1260	54	A	Any
1260	55	820	55	1715	49	1175	49	1750	59	1165	59	B	Any
1150	60	750	60	1600	54	1075	52	1600	65	1055	65	C	Any
1075	65	700	65	1475	57	1000	55	1475	70	985	70	D	Any

All CFM's are shown at 0.5" w.c. external static pressure. These units have variable speed motors that automatically adjust to provide constant CFM from 0.0" to 0.6" w.c. static pressure. From 0.6" to 1.0" static pressure, CFM is reduced by 2% per 0.1" increase in static. Operation on duct systems with greater than 1.0" w.c. external static pressure is not recommended.

**FILTER SIZE/ADD-ON COOLING**

MODEL	FILTER SIZE		ADD-ON COOLING
	SIDE	BOTTOM	TONS
G9V08012DHB11	16 x 25	16 x 25	1-1/2, 2, 2-1/2, 3
G9V10020DHC11	(2) 16 x 25	20 x 25	3, 3-1/2, 4, 5
G9V12020DHD11	(2) 16 x 25	20 x 25	3, 3-1/2, 4, 5

**UNIT CLEARANCES TO COMBUSTIBLES (Inches) (All surfaces identified w/unit in a vertical position)**

APPLICATION	TOP	FRONT	REAR	LEFT SIDE	RIGHT SIDE	FLUE	FLOOR/BOTTOM	CLOSET	ALCOVE	ATTIC	LINE CONTACT
DOWNFLOW	1	3	0	0	0	0	COMBUSTIBLE <sup>1</sup>	YES	YES	YES	NO
HORIZONTAL	1	3	0	0	0 <sup>2</sup>	0	1"	NO	YES	YES	YES <sup>3</sup>

1. When installed on combustible floor with out cooling coil in place, combustible floor base must be used.
2. Minimum of 8" clearance required to install condensate removal system.
3. Line contact only permitted between lines formed by the intersection of the rear panel and side panel (top in horizontal position) of the furnace jacket and building joists, studs or framing.

**ACCESSORIES**

**Propane (LP) Conversion Kit - 1NP0480**

This accessory conversion kit may be used to convert natural gas (N) units for propane (LP) operation. Conversions must be made by qualified distributor or dealer personnel.

**Concentric Vent Termination - 1CT0302 (2")  
1CT0303 (3")**

For use through rooftop, sidewall. Allows combustion air to enter and exhaust to exit through single common hole.

**Condensate Neutralizer Kit - 1NK0301**

Neutralizer cartridge has a 1/2" plastic tube fittings for installation in the drain line. Calcium carbonate refill media is also available from Source 1 Parts (p/n 026-30228-000).

**High Altitude Pressure Switches -1PS0319  
1PS0320  
1PS0321**

Used to convert units for operation at altitudes from 4,500 ft. to 10,000 ft. Refer to table below for proper pressure switch application.

KIT <sup>1</sup>	APPLICATION	MODELS
1PS0319	4,500 - 10,000 FT.	G9V08012DHB11
1PS0320		G9V12020DHD11
1PS0321		G9V10020DHC11

1. For high altitude conversion, an orifice change may also be required. See Form 650.78-N1.1V for application information.

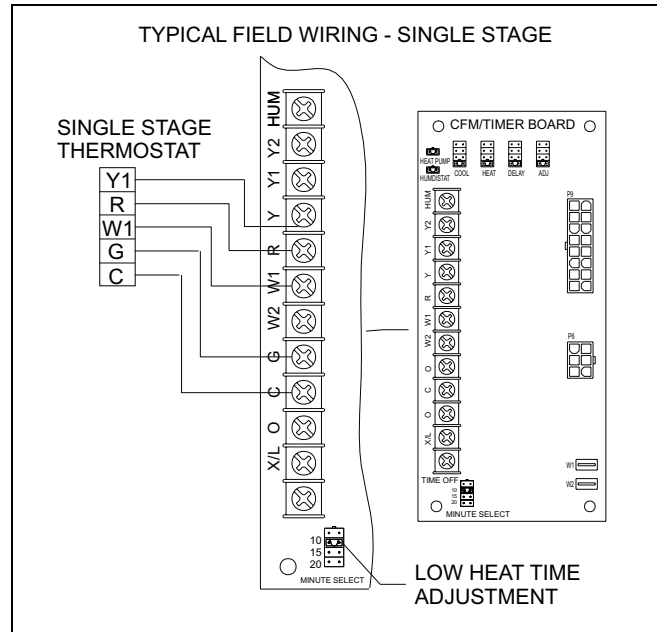
**Combustible Floor Base - 1CB0317  
1CB0321  
1CB0324**

Required when installing unit on a combustible floor when an air conditioning coil is not being used.

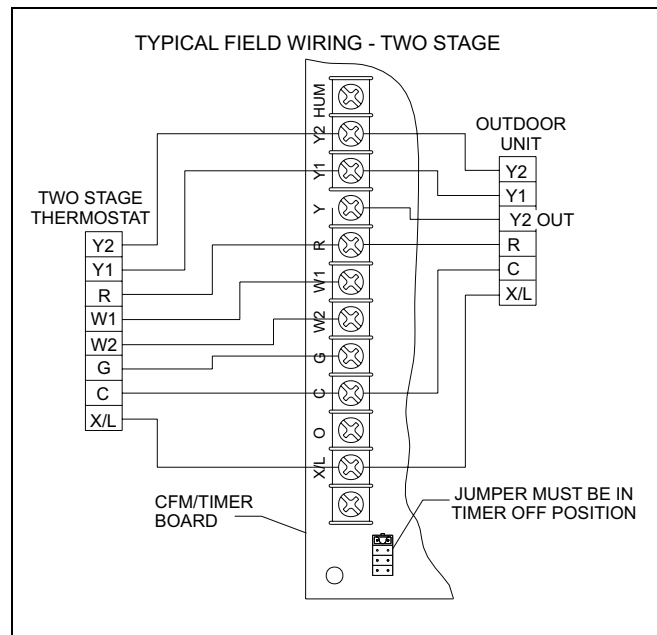
**External Horizontal Filter Rack - 1BR0317  
1BR0321  
1BR0324**

Provides a cleanable, high velocity type filter and rack for horizontal installation.

**NOTE:**These furnaces are not approved for twinning applications.



**FIGURE 2 : Field Wiring for Single Stage Thermostat**



**FIGURE 3 : Field Wiring for Two Stage Thermostat**