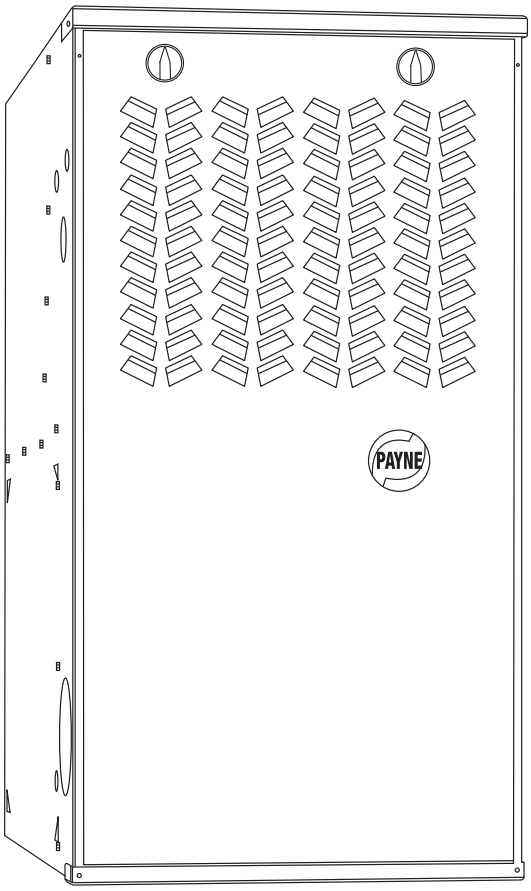
PG8MVA
PG8JVA

4−WAY MULTIPOISE INDUCED−COMBUSTION GAS FURNACE INPUT CAPACITIES: 70,000 thru 135,000 Btuh SERIES A

Product Data



A10257

THE PAYNE 80 GAS FURNACE

The PG8MVA/JVA 4-way Multipoise Gas Furnaces offer deluxe features not found in other two-stage 80% gas furnaces. The variable-speed ECM motor and Payne's control logic combine to provide the benefits of longer, more gentle cycles, and less temperature differences between rooms.

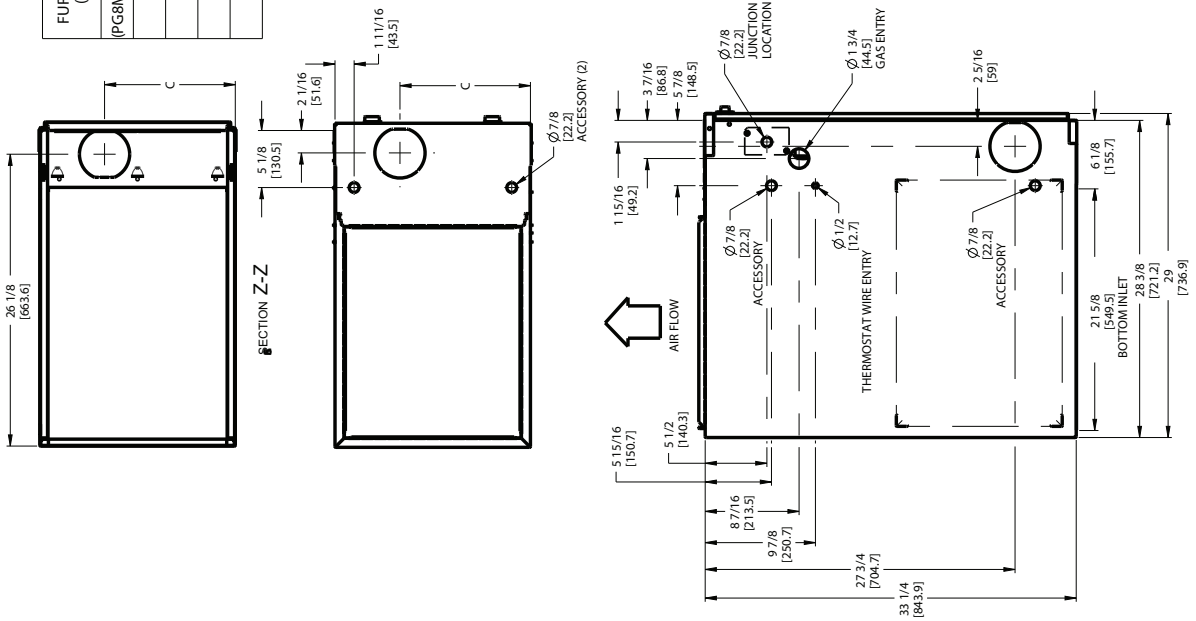
The gas furnace control system provides a dehumidification mode and a motor speed selection for continuous fan operation selectable at the thermostat. Applications are easy with 4-way multipoise design, through-the-furnace downflow venting, 13 different venting options, and an overall design for easy service access. The PG8MVA/JVA furnaces are approved for use with natural or propane gas, and the PG8JVA is approved for use in Low NOx Air Quality Management Districts.

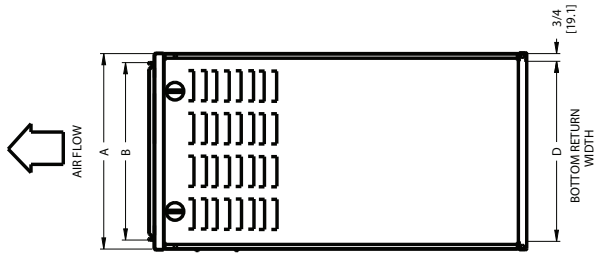
STANDARD FEATURES

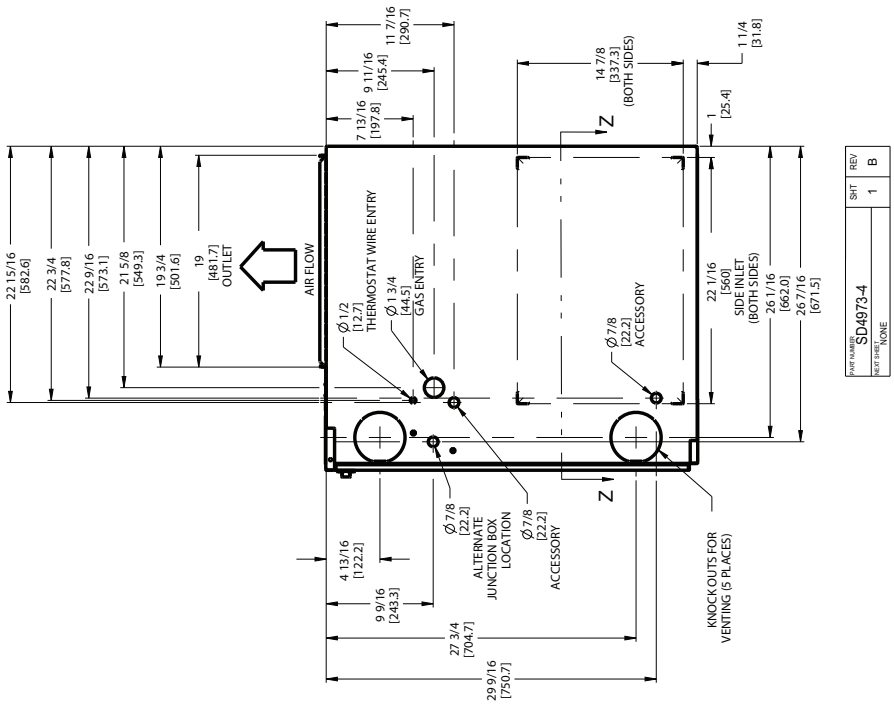
- **Variable-speed ECM blower motor**
- **Two heating stages**
- **Humidity control when using a humidity sensing thermostat**
- **Adjustable constant fan speed from the thermostat**
- **Certified to leak 2 percent or less of its nominal air conditioning CFM delivered when pressurized to 1-In. Water Gauge with all present air inlets, air outlets, and condensate drain port(s) sealed.**
- **LED diagnostics and self test feature**
- **Stores fault codes during power outages**
- **Adjustable heating air temperature rise**
- **Adjustable cooling airflow**
- **4-way Multipoise furnace, 13 vent applications**
- **Hot surface ignition**
- **Draft safeguard switch to ensure proper furnace venting**
- **Dual fuel compatible (including 13.0 SEER Heat Pumps)**
- **All models are chimney friendly when used with accessory vent kit**

DIMENSIONS

FURNACE SIZE (MODELS)	A (CABINET WIDTH)		B (OUTLET WIDTH)		C TOP AND BOTTOM (VENT KNOCKOUT LOCATION)		D (BOTTOM INLET WIDTH)		FLUE COLLAR		SHIPPING WEIGHT	
(PG8MVA/PG8JVA)	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	LBS	KG
036-070	14 3/16	360	12 9/16	319	9 5/16	237	12 11/16	322	4	102	115	52.1
048-090	17 1/2	445	15 7/8	403	11 9/16	294	16	406			130	59.0
060-110	21	533	19 3/8	495	13 5/16	338	19 1/2	495			155	70.3
066-135	24 1/2	622	22 7/8	584	15 1/16	383	23	584			166	75.3







*135 size furnaces requires a 5 or 6–in. (127 or 152 mm) vent. Use a vent adapter between furnace and vent stack. See Installation Instructions for complete installation requirements.

A12051

CLEARANCE TO COMBUSTIBLES

⚠ WARNING

FIRE, EXPLOSION, ASPHYXIATION HAZARD

Improper adjustment, alteration, service, maintenance, or installation can cause serious injury or death.

Read and follow instructions and precautions in User's Information Manual provided with this furnace. Installation and service must be performed by a qualified service agency or the gas supplier.

⚠ CAUTION

Check entire gas assembly for leaks after lighting this appliance.

INSTALLATION

1. This furnace must be installed in accordance with the manufacturer's instructions and local codes. In the absence of local codes, follow the National Fuel Gas Code ANSI Z223.1 / NFPA54 or CSA B-149. 1 Gas Installation Code.
2. This furnace must be installed so there are provisions for combustion and ventilation air. See manufacturer's installation information provided with this appliance.

OPERATION

This furnace is equipped with manual reset limit switch(es) in burner compartment to protect against overheat conditions that can result from inadequate combustion air supply or blocked vent conditions.

1. Do not bypass limit switches.
2. If a limit opens, call a quallified serviceman to correct the condition and reset limit switch.

INSTALLATION

MINIMUM INCHES CLEARANCE TO COMBUSTIBLE CONSTRUCTION

This forced air furnace is equipped for use with natural gas at altitudes 0 - 10,000 ft (0 - 3,050m).

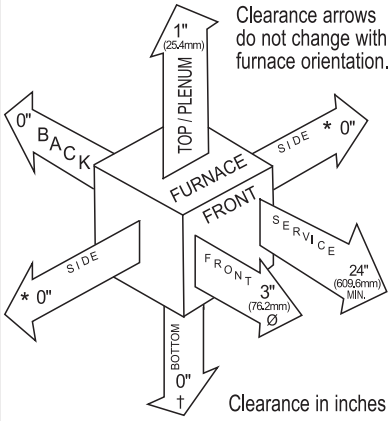
An accessory kit, supplied by the manufacturer, shall be used to convert to propane gas use or may be required for some natural gas applications.

This furnace is for indoor installation in a building constructed on site.

This furnace may be installed on combustible flooring in alcove or closet at minimum clearance as indicated by the diagram from combustible material.

This furnace may be used with a Type B-1 Vent and may be vented in common with other gas fired appliances.

This furnace is approved for UPFLOW, DOWNFLOW, and HORIZONTAL installations.



Vent Clearance to combustibles:
For Single Wall vents 6 inches (6 po).
For Type B-1 vent type 1 inch (1 po).

MINIMUM INCHES CLEARANCE TO COMBUSTIBLE CONSTRUCTION

DOWNFLOW POSITIONS:

† Installation on non-combustible floors only.
For Installation on combustible flooring only when installed on special base, Part No. KGASB0201ALL or NAHA01101SB, Coil Assembly, Part No. CAR, CAP, CNPV, CNRV, END4X, ENW4X, WENC, WTNC, WENW OR WTNW.

Ø 18 inches front clearance required for alcove.

* Indicates supply or return sides when furnace is in the horizontal position. Line contact only permissible between lines formed by intersections of the Top and two Sides of the furnace jacket, and building joists, studs or framing.

336996-101 REV. C

A10269

PG8MVA/JVA

Certified System ISO 9001 QMI-SAI Global

AHRI CERTIFIED www.ahridirectory.org

Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.

DESIGN CERTIFIED

Always Ask For FACTORY AUTHORIZED PARTS

SPECIFICATIONS

UNIT SIZE			036070	048090	060110	066135
RATINGS AND PERFORMANCE						
Input Btuh* Nonweatherized ICS	PG8JVA Upflow; all PG8MVA	High	66,000	88,000	110,000	132,000
		Low	43,500	58,000	72,500	87,000
	PG8JVA Downflow/Horizontal	High	63,000	84,000	105,000	126,000
		Low	43,500	58,000	72,500	87,000
Output Capacity (Btuh)† Nonweatherized ICS	PG8JVA Upflow; all PG8MVA	High	54,000	71,000	89,000	107,000
		Low	35,000	47,000	59,000	70,000
	PG8JVA Downflow/Horizontal	High	51,000	68,000	85,000	102,000
		Low	35,000	47,000	59,000	70,000
AFUE†			80.0	80.0	80.0	80.0
Certified Temperature Rise Range – °F (°C)		High	30-60 (17–33)	40-70 (22–39)	40-70 (22–39)	40-70 (22–39)
		Low	30-60 (17–33)	30-60 (17–33)	25-55 (14–30)	25-55 (14–30)
Certified External Static Pressure		Heat/Cool	0.12/0.50	0.15/0.50	0.20/0.50	0.20/0.50
Airflow CFM‡		Heating High/Low	1060/615	1090/825	1330/1110	1725/1430
		Cooling	1225	1400	2095	2100
ELECTRICAL						
Unit Volts–Hertz–Phase			115-60-1			
Operating Voltage Range		Min-Max	104-127			
Maximum Unit Amps			9.0	9.6	15.1	14.9
Maximum Wire Length (Measure 1 Way in Ft (M)			30 (9.1)	29 (8.8)	29 (8.8)	30 (9.1)
Minimum Wire Size			14		12	
Maximum Fuse or Ckt Bkr Size (Amps)**			15		20	
Transformer (24v)			40va			
External Control		Heating	12va			
Power Available		Cooling	35va			
Air Conditioning Blower Relay			Standard			
CONTROLS						
Limit Control			SPST			
Heating Blower Control			Solid-State Time Operation			
Burners (Monoport)			3	4	5	6
Gas Connection Size			1/2-in. NPT			
GAS CONTROLS						
Gas Valve (Redundant)	Mfr.		White-Rodgers			
	Min. inlet pressure (In. W.C.)		4.5 (Natural Gas)			
	Max. inlet pressure (In. W.C.)		13.6 (Natural Gas)			
Ignition Device			Hot Surface			
Factory-installed orifice			Size 43			
BLOWER DATA						
Direct-Drive Motor HP (ECM)			1/2	1/2	1	1
Motor Full Load Amps			7.7	7.7	12.8	12.8
RPM (Nominal)-Speeds			300-1300	300-1300	300-1300	300-1300
Blower Wheel Diameter x Width – In. (mm)			10 x 6 (254 x 152)	10 x 8 (254 x 203)	11 x 10 (279 x 254)	11 x 11 (279 x 279)

* Gas input ratings are certified for elevations to 2000 ft. (610 M) In USA for elevations above 2000 ft (610 M), reduce ratings 4 percent for each 1000 ft (305 M) above sea level. Refer to National Fuel Gas Code NFPA 54/ANSI Z223.1–2009 Table F.4 or furnace installation instructions.

† Capacity in accordance with U.S. Government DOE test procedures.

‡ Airflow shown is for bottom only return-air supply for the as-shipped speed tap. For air delivery above 1800 CFM, see Air Delivery table for other options. A filter is required for each return-air supply. An airflow reduction of up to 7 percent may occur when using the factory-specified 4-5/16 in. (110 mm) wide, high efficiency media filter.

** Time–delay type is recommended.

ICS Isolated Combustion System

AIR DELIVERY - CFM (With Filter)*

Unit Size	Operating Mode	CFM Airflow Setting	External Static Pressure Range* (In. W.C.)	External Static Pressure (ESP) (In. W.C.)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
036070				AIRFLOW (CFM)									
††	Low Heat	735 (615)†	0–0.50	735	735	735	735	725					
	High Heat	1180 (1060)†	0–1.0	1160	1165	1175	1180	1180	1180	1180	1180	1180	1175
††	1–1/2–Ton Cooling	525	0–0.50‡	515	500	500	490	485					
††	2–Ton A/C Cooling	700	0–0.50‡	690	680	675	680	675					
	2–1/2–Ton A/C Cooling	875	0–1.0‡	875	875	875	870	865	855	850	835	825	820
	3–Ton A/C Cooling	1050	0–1.0‡	1050	1050	1050	1050	1050	1050	1045	1035	1020	1000
	3–1/2–Ton A/C Cooling	1225	0–1.0	1220	1225	1225	1225	1225	1220	1205	1190	1185	1170
	Maximum	1400	0–1.0	1395	1400	1400	1400	1395	1385	1370	1340	1300	1245
048090													
	Low Heat	985 (825)†	0–1.0	950	970	985	985	985	985	985	985	985	980
	High Heat	1210 (1090)†	0–1.0	1190	1205	1210	1210	1210	1210	1210	1210	1210	1200
††	1–1/2–Ton A/C Cooling	525	0–0.50‡	525	520	525	495	475					
††	2–Ton A/C Cooling	700	0–0.50‡	680	680	680	675	670					
	2–1/2–Ton A/C Cooling	875	0–1.0‡	815	845	845	855	850	850	845	835	820	805
	3–Ton A/C Cooling	1050	0–1.0‡	1005	1005	1015	1035	1040	1040	1035	1030	1025	1010
	3–1/2–Ton A/C Cooling	1225	0–1.0	1190	1200	1200	1205	1205	1215	1205	1200	1185	1170
	4–Ton A/C Cooling	1400	0–1.0	1350	1370	1390	1390	1400	1390	1380	1380	1360	1340
	Maximum	1600	0–1.0	1595	1600	1600	1600	1595	1555	1505	1465	1430	1390
060110***													
	Low Heat	1320 (1110)†	0–1.0	1275	1295	1315	1320	1320	1320	1320	1320	1320	1315
	High Heat	1475 (1330)†	0–1.0	1460	1465	1475	1475	1475	1475	1475	1475	1465	1465
††	2–Ton A/C Cooling	700	0–0.50‡	700	700	700	700	700					
††	2–1/2–Ton A/C Cooling	875	0–0.50‡	875	875	875	875	875					
††	3–Ton A/C Cooling	1050	0–0.50‡	1050	1050	1050	1050	1050					
	3–1/2–Ton A/C Cooling	1225	0–1.0‡	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225
	4–Ton A/C Cooling	1400	0–1.0‡	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
	5–Ton A/C Cooling	1750	0–1.0‡	1750	1750	1750	1750	1750	1750	1750	1750	1740	1725
	6–Ton A/C Cooling	2100	0–1.0	2100	2100	2100	2100	2090	2075	2055	2040	2005	1970
	Maximum	2200	0–1.0	2200	2190	2190	2180	2155	2145	2125	2100	2080	2020
066135													
	Low Heat	1700 (1430)†	0–1.0	1700	1700	1700	1700	1700	1695	1700	1695	1685	1670
	High Heat	1915 (1725)†	0–1.0	1900	1905	1915	1915	1915	1915	1915	1915	1915	1915
††	2–Ton A/C Cooling	700	0–0.50‡	700	700	700	700	665					
††	2–1/2–Ton A/C Cooling	875	0–0.50‡	870	870	865	865	865					
††	3–Ton A/C Cooling	1050	0–0.50‡	1010	1030	1050	1050	1050					
	3–1/2–Ton A/C Cooling	1225	0–1.0‡	1155	1180	1200	1210	1220	1225	1225	1225	1225	1225
	4–Ton A/C Cooling	1400	0–1.0‡	1395	1400	1400	1400	1400	1400	1400	1390	1375	1355
	5–Ton A/C Cooling	1750	0–1.0‡	1740	1750	1750	1750	1735	1740	1735	1730	1715	1700
	6–Ton A/C Cooling	2100	0–1.0	2075	2085	2090	2100	2100	2100	2090	2080	2055	2025
	Maximum	2200	0–1.0	2180	2195	2200	2200	2200	2200	2185	2165	2140	2095

*Actual external static pressure (ESP) can be determined by using the fan laws (CFM 2 proportional to ESP); such as, a system with 1180 CFM at 0.5 ESP would operate at cooling airflow of 1050 CFM at 0.4 ESP and low–heating airflow of 735 CFM at 0.19 ESP.

†Comfort airflow values are shown in parenthesis. Comfort airflow is selected when the low–heat rise adjustment switch (SW1–3) is OFF and the comfort/efficiency switch (SW1–4) is ON.

‡Ductwork must be sized for high–heating CFM within the operational range of ESP.

††Operation within the blank areas of the chart is not recommended because high–heat operation will be above 1.0 ESP.

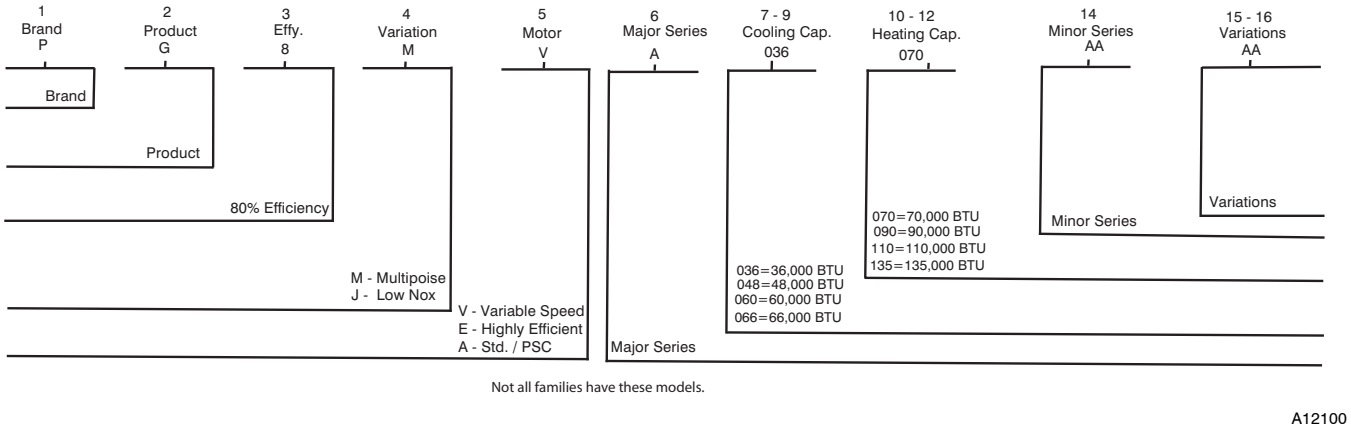
***All airflows on 110 size furnace are 5% less on side return only installations.

ACCESSORIES

DESCRIPTION	PART NUMBER	036070	048090	080110	066135
External Bottom Return Filter Rack	KGAFR0401B14	X			
	KGAFR0501B17		X		
	KGAFR0601B21			X	
	KGAFR0701B24				X
External Side Return Filter Rack	KGAFR0801SRE	X	X	X	X
Unframed Filter, 3/4-in. (19 mm)	KGAWF1301UFR†	S	S		
	KGAWF1401UFR			S	
	KGAWF1501UFR				S
	KGAWF1306UFR†	X	X		
	KGAWF1406UFR			X	
	KGAWF1506UFR				X
Flue Extension	KGAFE0112UPH	X	X	X	X
Combustible Floor Base	KGASB0201ALL	X	X	X	X
Downflow Vent Guard	KGBVG0101DFG	X	X	X	X
Vent Extension Kit	KGAVE0101DNH	X	X	X	X
Chimney Adapter Kit	KGACA02014FC	X	X	X	
Chimney Adapter Kit	KGACA02015FC				X
Natural-to-Propane Conversion Kit *	KGANP5201VSP	X	X	X	X
Propane-to-Natural Conversion Kit	KGAPN4401VSP	X	X	X	X
Label Kit	KGALB0101KIT	X	X	X	X
ECM Motor Simulator	KGASD0301FMS	X	X	X	X
Gas Orifice	LH32DB207	See Installation Instructions for model, altitude, and heat value usages.			
	LH32DB202				
	LH32DB200				
	LH32DB205				
	LH32DB208				
	LH32DB078				
	LH32DB076				
	LH32DB203				
	LH32DB201				
	LH32DB206				
	LH32DB209				
	LH32DB210				

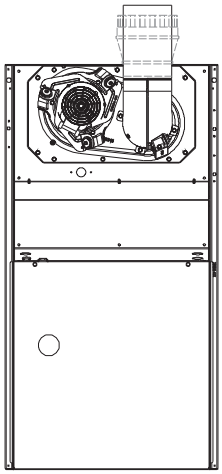
* Factory authorized, field installed. Fuel conversion kits are CSA (Formerly AGA/CGA) recognized.
† Suitable for Side Return Filter Rack.
X = Accessory
S = Standard

MODEL NUMBER NOMENCLATURE



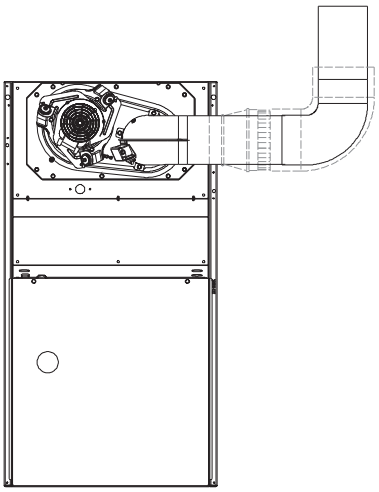
Not all families have these models.

PG8MVA/JVA



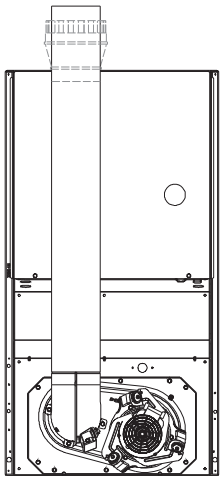
SEE NOTES: 1,2,4,7,8,9
UPFLOW

A02058



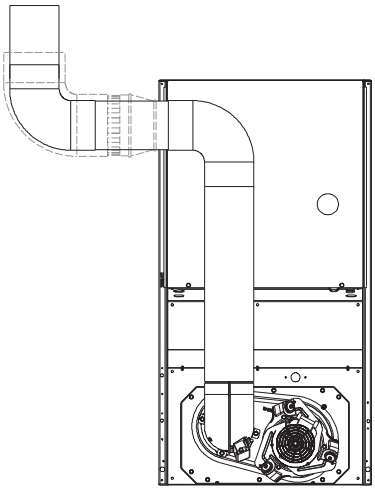
SEE NOTES: 1,2,3,4,7,8,9
UPFLOW

A02059



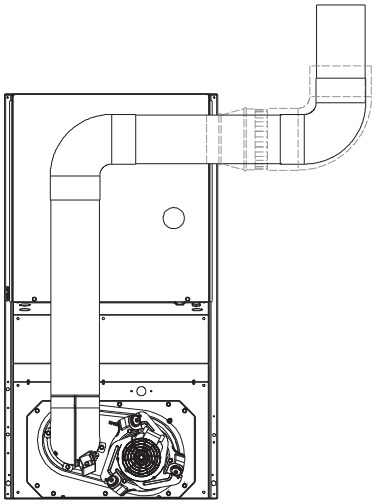
SEE NOTES: 1,2,4,5,7,8,9
DOWNFLOW

A02061



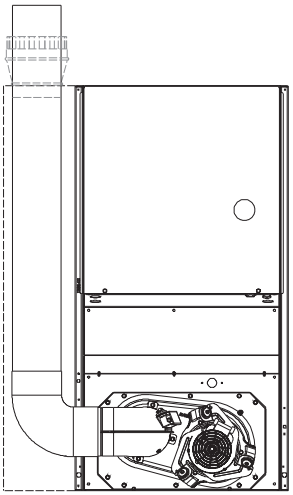
SEE NOTES:1,2,3,4,5,7,8,9
DOWNFLOW

A02060



SEE NOTES: 1,2,3,4,5,7,8,9
DOWNFLOW

A02063

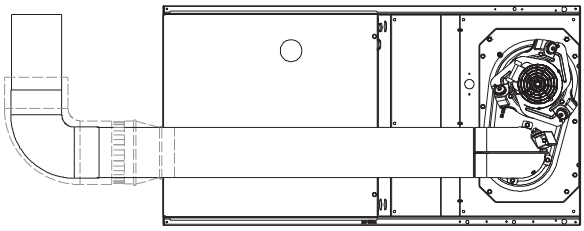


SEE NOTES: 1,2,4,5,6,7,8,9
DOWNFLOW

A02062

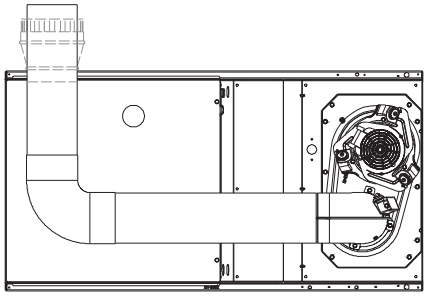
Venting Notes

1. For common vent, vent connector sizing and vent material: United States, latest edition of the National Fuel Gas Code (NFGC), ANSI Z223.1/NFPA 54.
2. Immediately increase to 5-in. (127 mm) vent connector outside furnace casing when 5-in. (127 mm) vent connector required, refer to Note 1.
3. Side outlet vent for upflow and downflow installations must use Type B vent immediately after exiting the furnace, except when Downflow Vent Guard is used in downflow position.
4. Type B vent where required, refer to Note 1.
5. 4 – in. (102 mm) single wall vent must be used inside furnace casing and the Downflow Vent Guard Kit.
6. Accessory Downflow Vent Guard Kit required in downflow installations with bottom vent configuration.
7. Chimney Adapter Kit required for exterior masonry chimney applications. Refer to Chimney Adapter Kits for sizing and complete application details.
8. Secure vent connector to furnace elbow with (2) corrosion-resistant sheet metal screws, space approximately 180° apart.
9. Secure all other single wall vent connector joints with (3) corrosion-resistant screws spaced approximately 120° apart. Secure Type B vent connectors per vent connector manufacturer's recommendations.



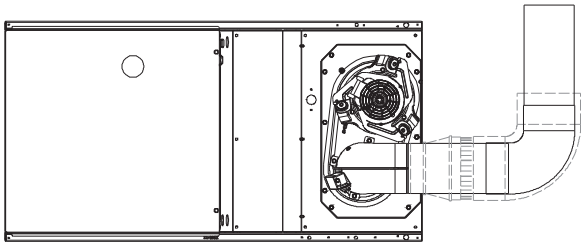
SEE NOTES: 1,2,4,5,7,8,9
HORIZONTAL RIGHT

A02068



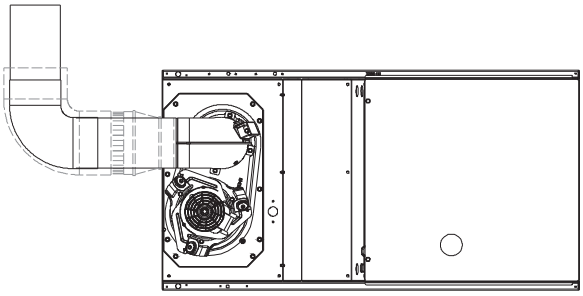
SEE NOTES: 1,2,4,5,7,8,9
HORIZONTAL RIGHT

A02070



SEE NOTES: 1,2,4,7,8,9
HORIZONTAL RIGHT

A02069



SEE NOTES: 1,2,4,7,8,9
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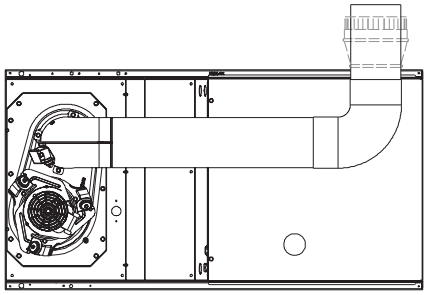
A02064



SEE NOTES: 1,2,4,5,7,8,9
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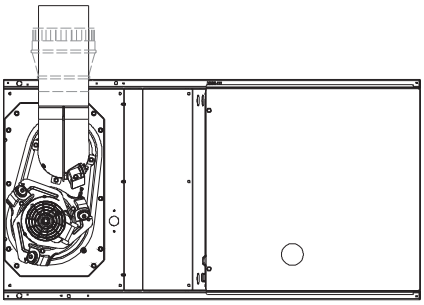
A02065



SEE NOTES: 1,2,4,5,7,8,9
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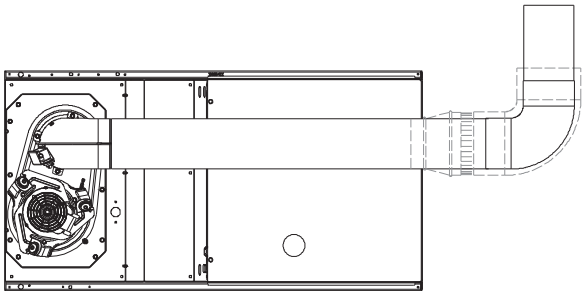
A02066



SEE NOTES: 1,2,4,5,7,8,9
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A02067

Gas Furnace
PG8MVA/JVA
General

SYSTEM DESCRIPTION

Furnish a _____ fixed capacity gas-fired furnace for use with natural gas or propane (factory authorized conversion kit required for propane).

QUALITY ASSURANCE

Unit will be designed, tested and constructed to the current ANSI Z 21.47/CSA 2.3 design standard for gas-fired central furnaces.

Unit will be 3rd party certified by CSA to the current ANSI Z 21.47/CSA 2.3 design standard for gas-fired central furnaces.

Unit will carry the CSA Blue Star® label.

Unit efficiency testing will be performed per the current DOE test procedure as listed in the Federal Register.

Unit will be certified for capacity and efficiency and listed in the latest AHRI Consumer's Directory of Certified Efficiency Ratings.

Unit shall carry the current Federal Trade Commission Energy Guide efficiency label.

DELIVERY, STORAGE AND HANDLING

Unit shall be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

WARRANTY (for inclusion by specifying engineer)

U.S. only. Warranty certificate available upon request.

EQUIPMENT

Components shall include: slow-opening gas valve to reduce ignition noise, regulate gas flow, with electric switch gas shut-off; flame proving sensor, hot surface igniter, pressure switch assembly, flame rollout switch, blower and inducer assembly, 40va transformer; low-voltage (heating) (heating/cooling) thermostat.

Blower Wheel and Blower Motor

Galvanized blower wheel shall be centrifugal type, statically and dynamically balanced. Variable-speed ECM blower motor shall be permanently lubricated with sealed bearings, of _____hp, and shall be multiple-speed direct drive. Blower motor shall be soft mounted to the blower scroll to reduce vibration transmission.

Filters

Furnace may have reusable-type filters. Filter shall be _____ in. (mm) (x) _____in. (mm).

Casing

Casing shall be of .030-in. (.76 mm) thickness minimum, pre-painted galvanized steel.

Inducer Motor

Inducer motor shall be soft mounted to reduce vibration transmission.

Draft Safeguard Switch

Draft Safeguard Switch (blocked vent safeguard) shall be factory installed to reduce the possibility of vent gas infiltration due to a blocked or restricted vent pipe.

Heat Exchangers

Heat exchangers shall be a 4-Pass 20 gage aluminized steel of fold-and-crimp sectional design when applied operating under negative pressure.

Controls

Control shall include a micro-processor based integrated electronic control board with at least 11 service troubleshooting codes displayed via enhanced flashing LED diagnostic light on the control, a self-test feature that checks all major functions of the furnace within one minute, and a replaceable automotive-type circuit protection fuse. Multiple operational settings available including, separate blower speeds for low heat, high heat, low cooling, high cooling and continuous fan. Continuous fan speed may be adjusted from the thermostat. Cooling airflow will be selectable between 325, 350, 370 or 400 CFM per ton of air conditioning. Features will also include temporary reduced airflow in the cooling mode for improved dehumidification.

OPERATING CHARACTERISTICS

Heating Capacity shall be _____ Btuh input; _____ Btuh output capacity.

Fuel Gas Efficiency shall be 80% AFUE.

Air delivery shall be _____ CFM minimum at 0.50 In. W.C. external static pressure.

Dimensions shall be: depth _____ in. (mm); width _____ in. (mm); height_____in. (mm) (casing only). Height shall be_____in. (mm) with A/C coil and _____in. (mm) overall with plenum.

ELECTRICAL REQUIREMENTS

Electrical supply shall be 115 volts, 60 Hz, single-phase (nominal). Minimum wire size shall be_____AWG; maximum fuse size or circuit breaker shall be _____Amps.

SPECIAL FEATURES

Refer to section of the product data sheet identifying accessories and descriptions for specific features and available enhancements.

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Catalog No: SS–PG8MVA–02

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Replaces: SS–PG8MVA–01