

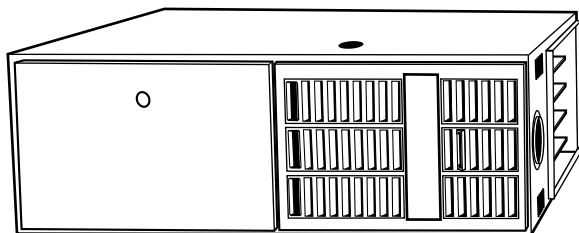
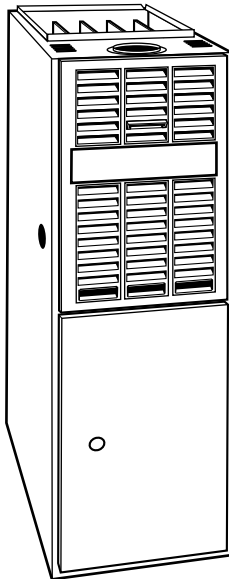


PLUS 80 VARIABLE-SPEED UPFLOW/HORIZONTAL INDUCED COMBUSTION FURNACE

333BAV

333JAV

Sizes 060 thru 120
Series A



With a unique approach to induced-combustion design, a 40-in. tall cabinet, a 4-pass heat exchanger, an inshot burner system and its safety features, this furnace is without peer. The Plus 80 Variable-Speed Upflow/Horizontal Furnace achieves an 80% Annual Fuel Utilization Efficiency (AFUE) rating. The benefits of variable-speed operation in reducing sound and improving comfort put it in a class well ahead of the competition. The Plus 80 Variable-Speed has the kind of overall performance needed in today's homes. All models are GAMA efficiency rating certified and certified for use in California Air Quality Management Districts.

FEATURES

EFFICIENCY — The Plus 80 Variable-Speed Induced-Combustion Gas Furnace provides the efficiency customers want with 80.0% AFUE and improves air conditioner or heat pump performance up to 2 points.

HOT SURFACE IGNITION — No pilot to waste gas with this field-proven ignition system.

ALUMINIZED HEAT EXCHANGER — The patented 4-pass heat exchanger is made of aluminized steel and backed by a 20-year Limited Warranty.

INTELLIGENT CONTROL — The Plus 80 Variable-Speed has an intelligent control that monitors the operation of the furnace. This control also has a component-test feature that enables the servicing technician to verify operation of the control, the high and low inducer, the hot surface ignitor, and high-, medium-, and low-speed blower operation. The control features a 3-amp fuse that protects the transformer and control. We guarantee the reliability of the control with a 3-year Limited Warranty.

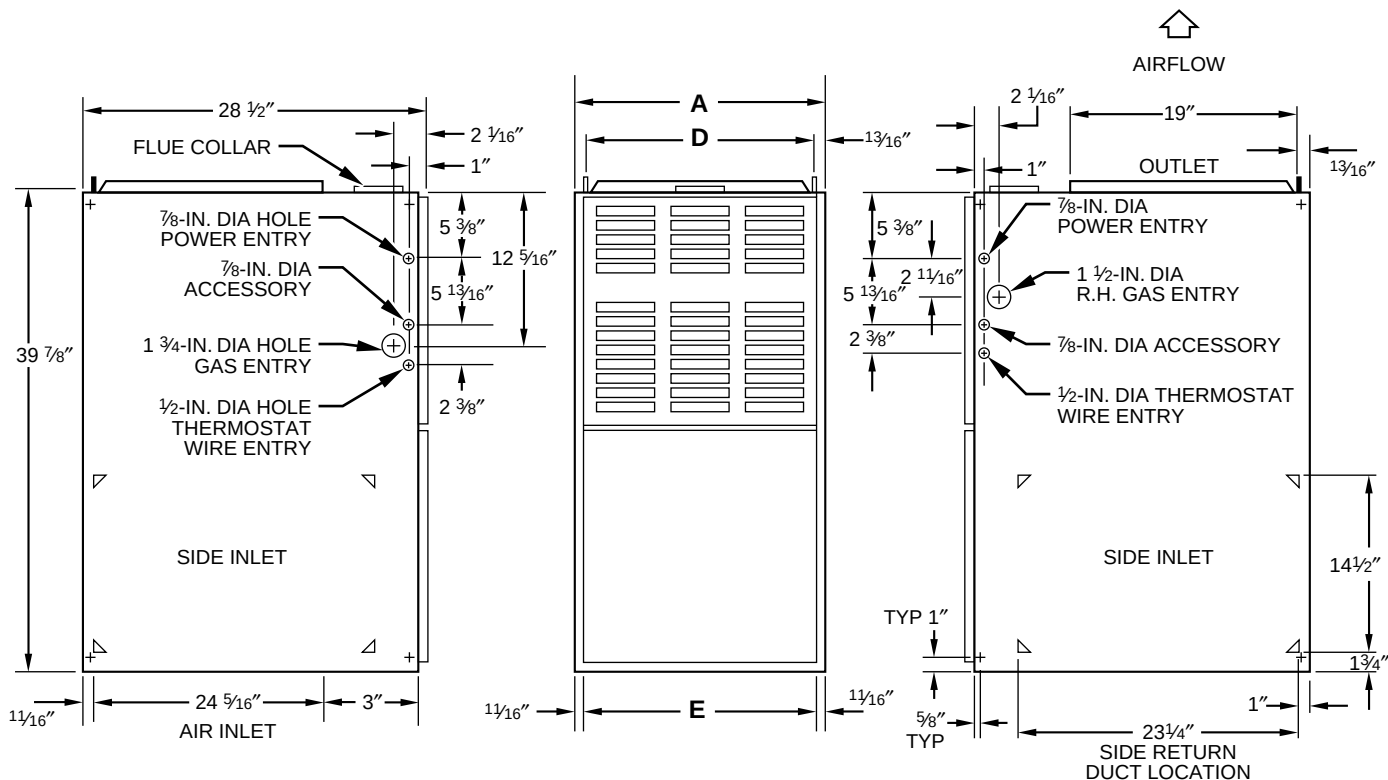
40-IN. HEIGHT — The Plus 80 Variable-Speed cabinet height is only 40 in. This simplifies installation in alcoves, attics, basements (ideal for short basement), closets, and utility rooms, especially with a taller high-efficiency cooling coil.

PREPAINTED CABINET — The Plus 80 Variable-Speed uses prepainted sheet metal for the cabinet. This is the same high-quality finish found on refrigerators and other appliances today. We ensure its durability by using a galvanized steel substrate to provide superior rust protection.

PATENTED DRAFT SAFEGUARD — Our induced-combustion furnace has a patented draft safeguard switch. The safeguard switch will stop furnace operation if the vent system becomes blocked or is not operating properly. An exclusive with the Plus 80 Variable-Speed furnace.

EASY INSTALLATION — The Plus 80 Variable-Speed has many features that make installation easier: left or right gas and electrical connections, heating and cooling blower speed selector, matching coil sizes, accessory low-voltage connections, and many more.

QUIET OPERATION — A soft mount inducer assembly and 2-stage slow-opening gas valve reduce sound level. The 2-stage heating operation capability minimizes furnace and air noise for total home comfort.



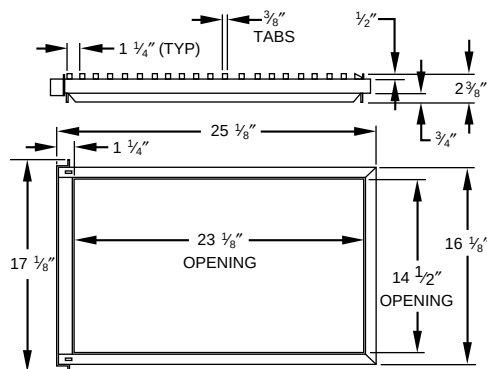
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DIMENSIONS (In.)

UNIT SIZE	A	D	E	VENT CONNECTION*	SHIPPING WEIGHT (LB)
036060	14-3/16	12-9/16	12-11/16	4	134
048080	21	19-3/8	19-1/2	4	154
060100	24-1/2	22-7/8	23	4	184
060120	24-1/2	22-7/8	23	5	194

* Refer to the furnace Installation Instructions for proper venting procedures.

DIMENSIONAL DRAWINGS OF OPTIONAL SIDE FILTER RACK



A80199

SPECIFICATIONS

UNIT SIZE		036060††	048080	060100	060120
RATINGS AND PERFORMANCE					
Gas Input (Btuh)*	High Stage	60,000	80,000	100,000	117,000
	Low Stage	39,000	52,000	65,000	78,000
Output Capacity (Btuh)†	High Stage	48,000	64,000	81,000	94,000
	Low Stage	31,000	42,000	52,000	63,000
Nonweatherized ICS					
AFUE%†	Nonweatherized ICS	80.0	80.0	80.0	80.0
Certified Temperature Rise Range (°F)	High Stage	25—55	30—60	25—55	40—70
	Low Stage	15—45	15—45	15—45	25—55
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	1175/1025	1445/1260	1720/1515	1730/1525
	Cooling	1300	1740	2210	1980
ELECTRICAL					
Unit Volts— Hertz— Phase		115—60—1			
Operating Voltage Range		104—127			
Maximum Unit Amps		11.4	13.5	19.0	18.2
Maximum Wire Length (Measured 1 Way) Ft		32	27	30	31
Minimum Wire Size		14		12	12
Maximum Fuse Size		15		20	20
Transformer (24v)		40va			
External Control	Heating	19va			
Power Available	Cooling	35va			
Air Conditioning Blower Relay		Standard			
CONTROLS					
Limit Control		SPST (Auto-Reset)			
Heating Blower Control		Solid-State Time Operation			
Inducer		2-Speed			
Burners (Monoport)		3	4	5	6
Gas Connection Size		1/2-in. NPT			
GAS CONTROLS					
2-Stage Redundant Gas Valve		White-Rodgers			
	Min Inlet Pressure (In. wc)	4.5 (Natural Gas)			
	Max Inlet Pressure (In. wc)	13.6 (Natural Gas)			
Ignition Device		Hot Surface			
BLOWER DATA					
Direct-Drive Motor HP (PSC)		1/3	1/2	3/4	3/4
Motor Full Load Amps		5.8	7.9	11.1	11.1
RPM (Nominal)—Speeds		1075—4	1075—4	1075—4	1075—4
Blower Wheel Diameter x Width (In.)		10 x 6	10 x 8	11 x 10	11 x 10
Filter Size (In.)—Permanent Washable (Supplied)		(1) 16 x 25 x 1	(1) 20 x 25 x 1	(2) 16 x 25 x 1	(2) 16 x 25 x 1
FACTORY-AUTHORIZED DEALER-INSTALLED ACCESSORIES					
High-Altitude Pressure Switch Kit**		KGAHA5701PSW			
Gas Conversion Kit—Natural-to-Propane		KGANP24012SP			
Gas Conversion Kit—Propane-to-Natural		KGAPN20012SP			
Side Filter Rack (Accepts 1 Filter)††		KGAFR0201ALL (Filter Size 16 x 25 x 1)			
Return Filter Cabinet (With Washable Filters)		KGARP0201ALL (Filter Size 2—20 x 25 x 1)			

* Gas input ratings are certified for elevations to 2000 ft. For elevations above 2000 ft, reduce ratings 4% for each 1000 ft above sea level. Refer to National Fuel Gas Code Table F4. In Canada, derate the unit 10% for elevations 2000 ft to 4500 ft above sea level.

† Tentative capacity in accordance with U.S. Government DOE test procedures.

‡ Air delivery above 1800 CFM requires that both sides, or a combination of 1 side and bottom, or bottom only of the furnace be used for return air. A filter is required for each return-air supply.

** 5500 ft and higher above sea level.

†† Side filter rack must be used for upflow right-side return with 036060 size.

ICS—Isolated Combustion System



**MEETS DOE RESIDENTIAL
CONSERVATION SERVICES
PROGRAM STANDARDS.**

**Before purchasing this appliance, read important
energy cost and efficiency information available
from your retailer.**

CLEARANCES FROM COMBUSTIBLE MATERIALS (In.)

UNIT SIZE		060	080-120
UPFLOW			
Furnace Sides	Single-Wall Vent	1	0
	Type B-1 Double-Wall Vent	0	0
Furnace Back		0	0
Plenum Top		1	1
Furnace Front (See Notes)	Single-Wall Vent	6	6
	Type B-1 Double-Wall Vent	3	3
Vent	Single-Wall Vent	6	6
	Type B-1 Double-Wall Vent	1	1
HORIZONTAL POSITION (IN ALCOVE, ATTIC, AND CRAWLSPACE)			
Sides*†		1	1
Back		0	0
Top	Single-Wall Vent	1	1
	Type B-1 Double-Wall Vent	1	1
Furnace Front† (See Notes)	Single-Wall Vent	6	6
	Type B-1 Double-Wall Vent	3	3
Vent	Single-Wall Vent	6	6
	Type B-1 Double-Wall Vent	1	1
HORIZONTAL POSITION (IN CLOSET)			
Sides*†		1	1
Back		3	3
Top	Single-Wall Vent	2	2
	Type B-1 Double-Wall Vent	2	2
Furnace Front (See Notes)	Single-Wall vent	6	6
	Type B-1 Double-Wall Vent	3	3
Vent	Single-Wall Vent	6	6
	Type B-1 Double-Wall Vent	1	1

* Clearance shown is for the outlet end. The inlet end must maintain 6 in. clearance from flue to combustible materials when using single-wall vent.

† 18 in. front clearance required for alcove.

‡ Indicates supply or return sides when furnace is in the horizontal position.

NOTES:

1. Provide 30-in. front clearance for servicing. An open door in front of the furnace can meet this requirement.
2. A minimum clearance of 3 in. must be provided in front of the furnace for combustion air and proper operation.

GAS HEAT

UNIT SIZE	GAS HEAT TEMPERATURE RISE SELECTED	GAS HEAT AIRFLOW (HIGH / LOW)
060	HI	875 / 790
	M-HI MID	1010 / 915 1110 / 1010
080	HI	1010 / 865
	M-HI MID	1190 / 1180 1350 / 1300
100	HI	1380 / 1085
	M-HI MID	1685 / 1435 1900 / 1625
120	HI	1270 / 1065
	M-HI MID	1480 / 1330 1615 / 1465

* Minimum airflow set for electronic air cleaners

NOTES:

1. A humidistat can be added to further reduce airflow when increased humidity is sensed. This feature reduces the selected cooling airflow by 20% or a minimum of 280 CFM per ton.
2. Continuous fan selections are 50%, 65%, or 100% of selected cooling speeds. 100% is not recommended for 2-speed AC or heat pumps.
3. This data is preliminary and subject to change.

AIR DELIVERY — CFM* (With Filter)

AIR CONDITIONING OR HEAT PUMP—EFFICIENCY

UNIT SIZE	COOLING AIRFLOW SELECTED	AC COOLING HEAT PUMP—EFFICIENCY			2-SPEED—AC COOLING HEAT PUMP—EFFICIENCY		
		Maximum	Nominal	Minimum	Maximum High / Low	Nominal High / Low	Minimum High / Low
060	LO	600	525	500*	630 / 500*	550 / 500*	500* / 500*
	M-LO	800	700	630	840 / 520	735 / 500*	660 / 500*
	M-HI HI	1000 1200	875 1050	790 945	1050 / 650 1260 / 780	920 / 570 1100 / 680	825 / 510 990 / 615
080	LO	1000	875	790	1050 / 650	920 / 570	825 / 510
	M-LO	1200	1050	945	1260 / 780	1100 / 750	990 / 750
	M-HI HI	1400 1600	1225 1400	1100 1260	1470 / 910 1680 / 1040	1285 / 795 1470 / 910	1155 / 750 1325 / 820
100	LO	1200	1050	945	1260 / 780	1100 / 750*	990 / 750*
	M-LO	1400	1225	1100	1470 / 910	1285 / 795	1155 / 750*
	M-HI HI	1600 2000	1400 1750	1260 1575	1680 / 1040 2100 / 1300	1470 / 910 1840 / 1140	1325 / 820 1655 / 1025
120	LO	1200	1050	945	1260 / 780	1100 / 750*	990 / 750*
	M-LO	1400	1225	1100	1470 / 910	1285 / 795	1155 / 750*
	M-HI HI	1600 2000	1400 1750	1260 1575	1680 / 1040 2100 / 1300	1470 / 910 1840 / 1140	1325 / 820 1655 / 1025

HEAT PUMP—COMFORT

UNIT SIZE	AIRFLOW SELECTED	HEAT PUMP—COMFORT			2-SPEED HP—COMFORT		
		Maximum	Nominal	Minimum	Maximum High / Low	Nominal High / Low	Minimum High / Low
060	LO	540	500*	500*	567 / 500*	500* / 500*	500* / 500*
	M-LO	720	630	565	755 / 500*	660 / 500*	595 / 500*
	M-HI HI	900 1080	790 945	710 850	945 / 585 1135 / 702	830 / 515 990 / 610	740 / 500* 890 / 555
080	LO	900	790	710	945 / 585	830 / 515	745 / 500*
	M-LO	1080	945	850	1135 / 700	990 / 675	890 / 675
	M-HI HI	1260 1440	1105 1260	990 1135	1325 / 820 1510 / 935	1155 / 715 1325 / 820	1040 / 675 1195 / 740
100	LO	1080	945	850	1134 / 750*	990 / 750*	890 / 750*
	M-LO	1260	1105	990	1325 / 820	1155 / 750*	1040 / 750*
	M-HI HI	1440 1800	1260 1575	1135 1420	1510 / 935 1890 / 1170	1325 / 820 1655 / 1025	1195 / 750* 1490 / 925
120	LO	1080	945	850	1134 / 750*	990 / 750*	890 / 750*
	M-LO	1260	1105	990	1325 / 820	1155 / 750*	1040 / 750*
	M-HI HI	1440 1800	1260 1575	1135 1420	1510 / 935 1890 / 1170	1325 / 820 1655 / 1025	1195 / 750* 1490 / 925

SERVICE TRAINING

Packaged Service Training programs are an excellent way to increase your knowledge of the equipment discussed in this manual, including:

- Unit Familiarization
- Maintenance
- Installation Overview
- Operating Sequence

A large selection of product, theory, and skills programs is available, using popular video-based formats and materials. All include video and/or slides, plus companion book.

Classroom Service Training plus "hands-on" the products in our labs can mean increased confidence that really pays dividends in faster troubleshooting, fewer callbacks. Course descriptions and schedules are in our catalog.

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☐ Packaged Service Training

☐ Classroom Service Training

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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE
WITH INSTALLATION INSTRUCTIONS

Cancels: New