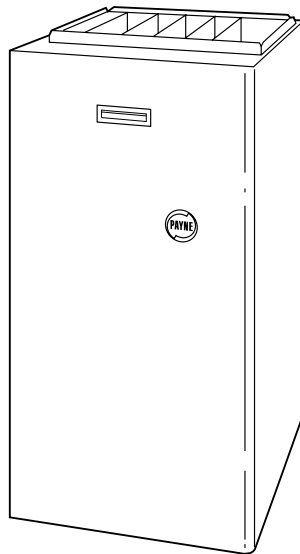




Heating & Cooling



FEATURES

INSTALLATION FLEXIBILITY:

The 4-way multipoise design allows a model PG9MAA to be installed in an upflow, downflow, or horizontal orientation. All sizes of the PG9MAA may be installed in direct vent (2-pipe) applications. All sizes except the 140 size may be installed in non-direct vent (1-pipe) applications. The 140 size also has an elevation limitation of 7,000 ft. See "Combustion Air and Vent Pipe" table for more information.

CASING:

The casing also has the required openings for left- or right-side connection of gas, electric, drain, and vent connections.

COMBUSTION SYSTEM:

Enclosed burner assembly isolates operating noise without the expense of sound deadening devices.

3-PASS PRIMARY HEAT EXCHANGERS:

This design accelerates heat transfer and extracts heat that conventional heat exchangers waste up the flue. The primary heat exchanger is made of aluminized steel for corrosion resistance.

FLOW-THROUGH SECONDARY HEAT EXCHANGERS:

Each cell is laminated with our patented polypropylene for greater corrosion resistance to help extend the life of the furnace for years of dependable performance. The heat exchanger is positioned in the furnace to extract additional heat from the combustion products regardless of furnace orientation.

LIMITED WARRANTY:

The PG9MAA is backed by a Lifetime Warranty on the heat exchangers in direct vent application (20-year in non-direct vent applications) and a 5-year Warranty on all other parts.

MONOPORT INSHOT BURNERS:

Produce precise air-to-gas mixture which gives a clean burn. The large monoport on the inshot or injection-type burners seldom, if ever, needs cleaning.

INTEGRATED CONTROL CENTER:

The printed-circuit board has convenient terminals which permit quick-connection of a thermostat, air conditioning control circuits, a humidifier, or an air cleaner. The control has a built-in status indicator and self-test feature. A self-test feature allows for a complete check of the major components in about 60 seconds. The control also features an adjustable blower off delay.

COMBUSTION

The PG9MAA advanced design allows Schedule 40 PVC, Schedule 40 CPVC pipe and fittings, PVC-DWV, SDR-21 PVC, SDR-26 PVC (not approved in Canada), ABS-DWV, or ABS-F628 Schedule 40 pipe to bring air into the furnace for combustion and to be used for venting combustion products outside the structure. The vent pipe can terminate through a sidewall or through the roof.

AIR AND VENTILATION:

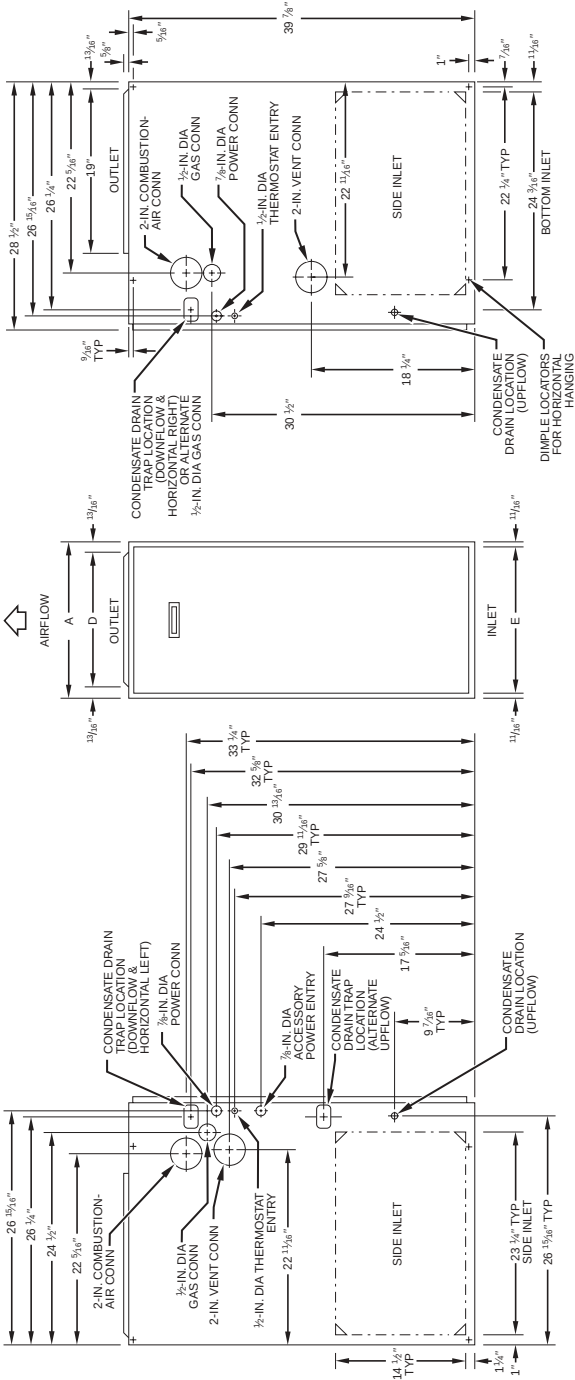
CERTIFICATIONS: The PG9MAA units are CSA (formerly A.G.A. and C.G.A.) design certified for use with natural and propane gases, as well as GAMA efficiency rating certified. The furnace is factory-shipped for use with natural gas. A CSA (formerly A.G.A. and C.G.A.) listed gas conversion kit is required to convert furnace for use with propane gas. The model PG9MAA meets California Air Quality Management District emission requirements.

QUALITY REGISTRATION:

The quality systems for this product have been registered by UL to ISO 9001 Standards.

Model PG9MAA

MULTIPOISE CONDENSING GAS FURNACE



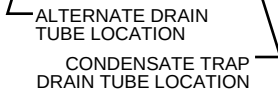
NOTES: Minimum return-air opening at furnace, based on metal duct. If flex duct is used, see flex duct manufacturer's recommendation for equivalent diameters:

1. For 800 CFM: 16-in. round or 14-1/2" X 12-in. rectangle.
2. For 1200 CFM: 20-in. round or 14-1/2" X 19-1/2" in. rectangle.
3. For 1600 CFM: 22-in. round or 14-1/2" X 23-1/4" in. rectangle.
4. For airflow requirements above 1800 CFM, see Air Delivery Table in product Specification Sheet for specific use of single side inlets. The use of both side inlets, a combination of 1 side and the bottom, or the bottom only will ensure adequate return-air openings for airflow requirements above 1800 CFM at 0.5" W.C. ESP.

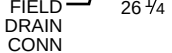
DIMENSIONS (in.)

UNIT SIZE	A	D	E	SHIP. WEIGHT (Lb)
024040	17-1/2	15-7/8	16	165
036040	17-1/2	15-7/8	16	166
024060	17-1/2	15-7/8	16	172
036060	17-1/2	15-7/8	16	174
048060	17-1/2	15-7/8	16	174
036080	17-1/2	15-7/8	16	188
048080	17-1/2	15-7/8	16	194
060080	21	19-3/8	19-1/2	206
048100	21	19-3/8	19-1/2	219
060100	21	19-3/8	19-1/2	221
060120	24-1/2	22-7/8	23	250
060140	24-1/2	22-7/8	23	250

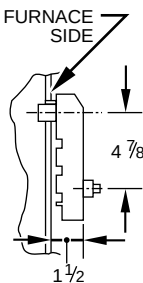
CONDENSATE TRAP



UPFLOW APPLICATIONS

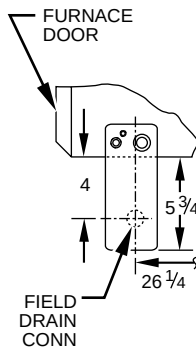


SIDE VIEW

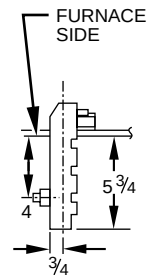


FRONT VIEW

DOWNFLOW AND ALTERNATE EXTERNAL UPFLOW APPLICATIONS

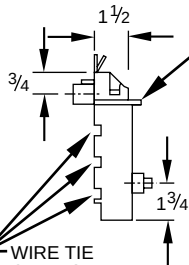


END VIEW

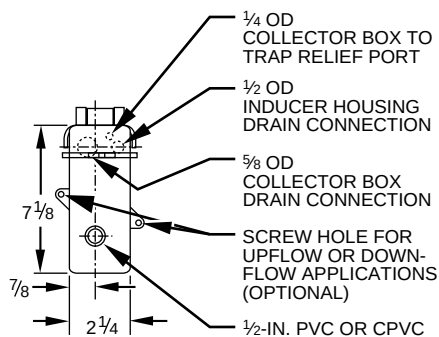


FRONT VIEW

HORIZONTAL APPLICATIONS



FRONT VIEW



SIDE VIEW

A93026



MEETS DOE RESIDENTIAL CONSERVATION SERVICES PROGRAM STANDARDS.

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



As an ENERGY STAR® partner, Payne Heating & Cooling has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

ISO 9001:2000



SPECIFICATIONS

UNIT SIZE		024040	036040	024060	036060	048060	036080
RATINGS AND PERFORMANCE							
Input Btuh*		40,000	40,000	60,000	60,000	60,000	80,000
Output Capacity†		Nonweatherized ICS					
		37,000	37,000	56,000	56,000	56,000	74,000
AFUE%†	Upflow/Horizontal Direct Vent Applications	92.1	92.1	92.1	92.1	92.1	92.1
	Nonweatherized ICS	Downflow Direct Vent Applications	91.5	91.5	91.5	91.5	91.5
	Upflow/Horizontal Non-Direct Vent Applications	90.0	90.0	90.0	90.0	90.0	90.0
	Downflow Non-Direct Vent Applications	90.0	90.0	90.0	90.0	90.0	90.0
Certified Temperature Rise Range °F		30—60	15—45	45—75	30—60	20—50	40—70
Certified External Static Pressure		Heating	0.10	0.10	0.12	0.12	0.15
		Cooling	0.50	0.50	0.50	0.50	0.50
Airflow CFM‡		Heating	850	1125	885	1065	1320
		Cooling	895	1215	900	1200	1545
ELECTRICAL							
Unit Volts—Hertz—Phase		115—60—1					
Operating Voltage Range Min—Max**		104—127					
Maximum Unit Amps		6.1	7.4	6.1	7.2	9.6	7.7
Unit Ampacity††		8.4	10.0	8.4	9.8	12.8	10.4
Minimum Wire Size		14	14	14	14	14	14
Maximum Wire Length (Ft)‡‡		44	37	44	38	29	36
Maximum Fuse Size or Ckt Bkr Amps (Time-Delay Type Recommended)		15	15	15	15	15	15
Transformer (24v)		40va					
External Control Power Available		Heating	12va				
		Cooling	21va				
Air Conditioning Blower Relay		Standard					
CONTROLS							
Limit Control		SPST					
Heating Blower Control (Off Delay)		Selectable 90, 120, 150, or 180					
Burners (Monoport)		2	2	3	3	3	4
Gas Connection Size		1/2-in. NPT					
GAS CONTROLS							
Gas Valve (Redundant)		Manufacturer	White-Rodgers				
		Minimum Inlet Pressure (In. wc)	4.5 (Natural Gas)				
		Maximum Inlet Pressure (In. wc)	13.6 (Natural Gas)				
Ignition Device		Hot Surface					
BLOWER DATA							
Direct-Drive Motor HP (Permanent Split Capacitor)		1/5	1/3	1/5	1/3	1/2	1/3
Motor Full Load Amps		4.9	5.8	4.9	5.8	7.9	5.8
RPM (Nominal)—Speeds		1075—3	1075—4	1075—3	1075—4		
Blower Wheel Diameter x Width (In.)		10 X 6	10 X 7	10 X 6	10 X 7	11 X 8	10 X 7
Filter Size (In.)—Permanent Washable		(1) 16 X 25 X 1					(1) 20 X 25 X 1
FACTORY-AUTHORIZED AND LISTED, DEALER-INSTALLED OPTIONS							
Gas Conversion Kit—Natural-to-Propane		KGANP2901ALL					
Gas Conversion Kit—Propane-to-Natural		KGAPN2301ALL					
Twinning Kit		N/A				KGATW0601 HSI	N/A
Manufactured (Mobile) Home Kit†††		KGAMH0101KIT					
Downflow Base***		KGASB0201ALL					
Vent Termination Kit (Bracket Only for 2 Pipes)†††		2-in.—KGAVT0101BRA		3-in.—KGAVT0201BRA			
Concentric Vent Termination Kit (Single Exit)†††		2-in.—KGAVT0501CVT		3-in.—KGAVT0601CVT			
Condensate Freeze Protection Kit		KGAHT0101CFP					
Side Filter Rack (Without Filter)—Upflow ONLY		KGAFR0206ALL					
Thermostat—Programmable		For Use With Air Conditioner—TSTATPPSAC01					
Thermostat—Non-Programmable		For Use With Air Conditioner—TSTATPPBAC01-B					
Condensate Neutralizer Kit (obtained thru RCD)		P908-0001					

* Gas input ratings are certified for elevations to 2000 ft. For elevations above 2000 ft, reduce ratings 2 percent for each 1000 ft above sea level. In Canada, derate the unit 5 percent from 2000 to 4500 ft above sea level.

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

‡ Airflow shown is for bottom only return-air supply. For air delivery above 1800 CFM, see Air Delivery table for other options. A filter is required for each return-air supply.

** Permissible voltage limits for proper furnace operation.

†† Unit ampacity = 125 percent of full load amps of largest components plus 100 percent full load amps of all other potential operating components (EAC, humidifier, etc.).

‡‡ Length shown is measured 1 way along wire path between unit and service panel for maximum 2 percent voltage drop.

*** Required for installation on combustible floors when no coil box is used, or when any coil box other than a Payne CD5, CK5 or KCAKC cased coil is used.

††† For direct vent applications only.

N/A—Not Applicable. Unit is not allowed in this installation application.

ICS—Isolated Combustion System

SPECIFICATIONS Continued

UNIT SIZE		048080	060080	048100	060100	060120	060140	
RATINGS AND PERFORMANCE								
Input Btuh*		80,000	80,000	100,000	100,000	120,000	138,000	
Output Capacity†		74,000	74,000	93,000	93,000	112,000	127,000	
AFUE%†	Upflow/Horizontal Direct Vent Applications	92.1	92.1	92.1	92.1	92.1	92.1/92.0	
	Nonweatherized ICS	Downflow Direct Vent Applications	91.5	91.5	91.5	91.5	91.5	90.0
	Upflow/Horizontal Non-Direct Vent Applications	90.0	90.0	90.0	90.0	90.0	N/A	
	Downflow Non-Direct Vent Applications	90.0	90.0	90.0	90.0	90.0	N/A	
Certified Temperature Rise Range °F		30—60	20—50	45—75	30—60	40—70	50—80	
Certified External Static Pressure		Heating	0.15	0.15	0.20	0.20	0.20	0.20
		Cooling	0.50	0.50	0.50	0.50	0.50	0.50
Airflow CFM‡		Heating	1285	1785	1315	1690	1720	1970
		Cooling	1525	1925/2035	1570	1930/2130	2000/2130	1990/2045
ELECTRICAL								
Unit Volts—Hertz—Phase		115—60—1						
Operating Voltage Range Min—Max**		104—127						
Maximum Unit Amps		10.1	14.1	10.2	14.8	14.6	14.6	
Unit Ampacity††		13.4	18.4	13.5	19.3	19.1	18.8	
Minimum Wire Size		14	12	14	12	12	12	
Maximum Wire Length (Ft)‡‡		28	31	27	30	30	30	
Maximum Fuse Size or Ckt Bkr Amps (Time-Delay Type Recommended)		15	20	15	20	20	20	
Transformer (24v)		40va						
External Control		Heating	12va					
Power Available		Cooling	21va					
Air Conditioning Blower Relay		Standard						
CONTROLS								
Limit Control		SPST						
Heating Blower Control (Off Delay)		Selectable 90, 120, 150, or 180						
Burners (Monoport)		4	4	5	5	6	6	
Gas Connection Size		1/2-in. NPT						
GAS CONTROLS								
Gas Valve (Redundant)		Manufacturer	White-Rodgers					
		Minimum Inlet Pressure (In. wc)	4.5 (Natural Gas)					
		Maximum Inlet Pressure (In. wc)	13.6 (Natural Gas)					
Ignition Device		Hot Surface						
BLOWER DATA								
Direct-Drive Motor HP (Permanent Split Capacitor)		1/2	3/4	1/2	3/4	3/4	3/4	
Motor Full Load Amps		7.9	11.1	7.9	11.1	11.1	11.1	
RPM (Nominal)—Speeds		1075—4						
Blower Wheel Diameter x Width (In.)		11 X 8	11 X 10	11 X 8	11 X 10	11 X 10	11 X 10	
Filter Size (In.)—Permanent Washable		(1) 20 X 25 X 1				(1) 24 X 25 X 1		
FACTORY-AUTHORIZED AND LISTED, DEALER-INSTALLED OPTIONS								
Gas Conversion Kit—Natural-to-Propane		KGANP3001ALL*						
Gas Conversion Kit—Propane-to-Natural		KGAPN2301ALL						
Twinning Kit		KGATW0601HSI					N/A	
Manufactured (Mobile) Home Kit†††		KGAMH0101KIT					N/A	
Downflow Base***		KGASB0201ALL						
Vent Termination Kit (Bracket Only for 2 Pipes)†††		2-in.—KGAVT0101BRA		3-in.—KGAVT0201BRA				
Concentric Vent Termination Kit (Single Exit)†††		2-in.—KGAVT0501CVT		3-in.—KGAVT0601CVT				
Condensate Freeze Protection Kit		KGAHT0101CFP						
Side Filter Rack (Without Filter)—Upflow ONLY		KGAFR0206ALL						
Thermostat—Programmable		For Use With Air Conditioner—TSTATPPSAC01						
Thermostat—Non-Programmable		For Use With Air Conditioner—TSTATPPBAC01-B						
Condensate Neutralizer Kit (obtained thru RCD)		P908-0001						

- * Gas input ratings are certified for elevations to 2000 ft. For elevations above 2000 ft, reduce ratings 2 percent for each 1000 ft above sea level. In Canada, derate the unit 5 percent from 2000 to 4500 ft above sea level.
- † Capacity and AFUE in accordance with U.S. Government DOE test procedures.
- ‡ Airflow shown is for bottom only return-air supply. For air delivery above 1800 CFM, see Air Delivery table for other options. A filter is required for each return-air supply.
- ** Permissible voltage limits for proper furnace operation.
- †† Unit ampacity = 125 percent of full load amps of largest components plus 100 percent full load amps of all other potential operating components (EAC, humidifier, etc.).
- ‡‡ Length shown is measured 1 way along wire path between unit and service panel for maximum 2 percent voltage drop.
- *** Required for installation on combustible floors when no coil box is used, or when any coil box other than a Payne CD5, CK5 or KCAKC cased coil is used.
- ††† For direct vent applications only.
- N/A—Not Applicable. Unit is not allowed in this installation application.
- ICS—Isolated Combustion System

COMBUSTION-AIR AND VENT PIPING FOR DIRECT VENT (2 PIPE) APPLICATIONS

MAXIMUM ALLOWABLE PIPE LENGTH (FT)

ALTITUDE ABOVE SEA LEVEL (FT)	UNIT SIZE	TERMINATION TYPE	PIPE DIAMETER (IN.)*	NUMBER OF 90° ELBOWS					
				1	2	3	4	5	6
0 to 2000	024040 036040	2 Pipe or 2-in. Concentric	1	5	NA	NA	NA	NA	NA
			1-1/2	70	70	65	60	60	55
			2	70	70	70	70	70	70
	024060 036060 048060	2 Pipe or 2-in. Concentric	1-1/2	20	15	10	5	NA	NA
			2	70	70	70	70	70	70
			1-1/2	10	NA	NA	NA	NA	NA
	036080 048080 060080	2 Pipe or 2-in. Concentric	2	55	50	35	30	30	20
			2-1/2	70	70	70	70	70	70
			2	5	NA	NA	NA	NA	NA
	048100 060100	2 Pipe or 3-in. Concentric	2-1/2	40	30	20	20	10	NA
			3	70	70	70	70	70	70
			2-1/2 one disk	10	NA	NA	NA	NA	NA
	060120	2 Pipe or 3-in. Concentric	3†	45	40	35	30	25	20
			3† no disk	70	70	70	70	70	70
			2-1/2 one disk	5	NA	NA	NA	NA	NA
	060140	2 Pipe or 3-in. Concentric	3† one disk	40	35	30	25	20	15
			3† no disk	60	56	52	48	44	40
			4† no disk	70	70	70	70	70	70
			1-1/2	67	62	57	52	52	47
2001 to 3000	024040 036040	2 Pipe or 2-in. Concentric	2	70	70	70	70	70	70
			1-1/2	17	12	7	NA	NA	NA
	024060 036060 048060	2 Pipe or 2-in. Concentric	2	70	67	66	61	61	61
			2	49	44	30	25	25	15
	036080 048080 060080	2 Pipe or 2-in. Concentric	2-1/2	70	70	70	70	70	70
			2-1/2	35	26	16	16	6	NA
	048100 060100	2 Pipe or 3-in. Concentric	3	70	70	70	70	66	61
			3	14	9	NA	NA	NA	NA
	060120	2 Pipe or 3-in. Concentric	3† no disk	70	70	63	56	50	43
			4† no disk	70	70	70	70	70	70
			3† one disk	20	15	10	5	NA	NA
	060140	2 Pipe or 3-in. Concentric	3† no disk	39	35	31	27	23	19
			4† no disk	70	70	70	70	70	70
			1-1/2	64	59	54	49	48	43
3001 to 4000	024040 036040	2 Pipe or 2-in. Concentric	2	70	70	70	70	70	70
			1-1/2	16	11	6	NA	NA	NA
	024060 036060 048060	2 Pipe or 2-in. Concentric	2	68	63	62	57	57	56
			2	46	41	28	23	22	13
	036080 048080 060080	2 Pipe or 2-in. Concentric	2-1/2	70	70	70	70	70	70
			2-1/2	33	24	15	14	5	NA
	048100 060100	2 Pipe or 3-in. Concentric	3	70	70	70	66	61	56
			3† no disk	65	58	51	44	38	31
	060120	2 Pipe or 3-in. Concentric	4† no disk	70	70	70	70	70	70
			3† one disk	11	6	NA	NA	NA	NA
			3† no disk	30	26	22	18	14	10
	060140	2 Pipe or 3-in. Concentric	4† no disk	70	70	70	70	70	70

* Disk usage—Unless otherwise specified, use perforated disk assembly (factory-supplied in loose parts bag). If one disk is stated, separate 2 halves of perforated disk assembly and use shouldered disk half. When using shouldered disk half, install screen side toward inlet box.

† Wide radius elbow.

‡ Vent sizing for Canadian installations above 4500 ft (1370m) above sea level are subject to acceptance by the local authorities having jurisdiction.

N/A — Not Allowed. Pressure switch will not make.

NOTES:

1. Do not use pipe size greater than those specified in table or incomplete combustion, flame disturbance, or flame sense lockout may occur.
2. Size both the combustion-air and vent pipe independently, then use the larger diameter for both pipes.
3. Assume two 45° elbows equal one 90° elbow. Long radius elbows are desirable and may be required in some cases.
4. Elbows and pipe sections within the furnace casing and at the vent termination should not be included in vent length or elbow count.
5. The minimum pipe length is 5 ft for all applications.
6. Use 3-in. diameter vent termination kit for installations requiring 4-in. diameter pipe.

MAXIMUM ALLOWABLE PIPE LENGTH (FT) Continued

ALTITUDE ABOVE SEA LEVEL (FT)	UNIT SIZE	TERMINATION TYPE	PIPE DIAMETER (IN.)*	NUMBER OF 90° ELBOWS					
				1	2	3	4	5	6
4001 to 5000†	024040 036040	2 Pipe or 2-in. Concentric	1-1/2	60	55	50	45	44	39
			2	70	70	70	70	70	70
	024060 036060 048060	2 Pipe or 2-in. Concentric	1-1/2	15	10	5	NA	NA	NA
			2	64	59	58	53	52	52
	036080 048080 060080	2 Pipe or 2-in. Concentric	2	44	39	26	21	20	11
			2-1/2	70	70	70	70	70	70
	048100 060100	2 Pipe or 3-in. Concentric	2-1/2	31	22	13	12	NA	NA
			3	70	70	67	62	57	52
	060120	2 Pipe or 3-in. Concentric	3† no disk	53	46	40	33	26	20
			4† no disk	70	70	70	70	70	70
	060140	2 Pipe or 3-in. Concentric	3† no disk	21	17	13	9	5	NA
			4† no disk	69	64	59	54	49	44
5001 to 6000‡	024040 036040	2 Pipe or 2-In. Concentric	1-1/2	57	52	47	42	40	35
			2	70	70	70	70	70	70
	024060 036060 048060	2 Pipe or 2-In. Concentric	1-1/2	14	9	NA	NA	NA	NA
			2	60	55	54	49	48	47
	036080 048080 060080	2 Pipe or 2-In. Concentric	2	41	36	23	18	17	8
			2-1/2	70	70	70	70	70	70
	048100 060100	2 Pipe or 3-In. Concentric	2-1/2	29	21	12	11	NA	NA
			3	70	67	62	57	52	47
	060120	2 Pipe or 3-In. Concentric	3† no disk	42	35	29	22	15	9
			4† no disk	70	70	70	70	70	70
	060140	2 Pipe or 3-In. Concentric	3† no disk	12	8	NA	NA	NA	NA
			4† no disk	42	37	32	27	22	17
6001 to 7000‡	024040 036040	2 Pipe or 2-In. Concentric	1-1/2	53	48	43	38	37	32
			2	70	70	68	67	66	64
	024060 036060 048060	2 Pipe or 2-In. Concentric	1-1/2	13	8	NA	NA	NA	NA
			2	57	52	50	45	44	43
	036080 048080 060080	2 Pipe or 2-In. Concentric	2	38	33	21	16	15	6
			2-1/2	70	70	68	67	66	64
	048100 060100	2 Pipe or 3-In. Concentric	2-1/2	27	19	10	9	NA	NA
			3	68	63	58	53	48	43
	060120	2 Pipe or 3-In. Concentric	3† no disk	31	24	18	11	NA	NA
			4† no disk	70	70	70	70	70	70
	060140	2 Pipe or 3-In. Concentric	4† no disk	17	12	7	NA	NA	NA
7001 to 8000‡	024040 036040	2 Pipe or 2-In. Concentric	1-1/2	49	44	39	34	33	28
			2	66	65	63	62	60	59
	024060 036060 048060	2 Pipe or 2-In. Concentric	1-1/2	12	7	NA	NA	NA	NA
			2	53	48	46	41	40	38
	036080 048080 060080	2 Pipe or 2-In. Concentric	2	36	31	19	14	12	NA
			2-1/2	66	65	63	62	60	59
	048100 060100	2 Pipe or 3-In. Concentric	2-1/2	25	17	8	7	NA	NA
			3	63	58	53	48	43	38
	060120	2 Pipe or 3-In. Concentric	3† no disk	20	13	7	NA	NA	NA
			4† no disk	61	56	51	46	41	36
	060140			NA					

* Disk usage—Unless otherwise specified, use perforated disk assembly (factory-supplied in loose parts bag). If one disk is stated, separate 2 halves of perforated disk assembly and use shouldered disk half. When using shouldered disk half, install screen side toward inlet box.

† Wide radius elbow.

‡ Vent sizing for Canadian installations above 4500 ft (1370m) above sea level are subject to acceptance by the local authorities having jurisdiction.

N/A — Not Allowed. Pressure switch will not make.

NOTES:

1. Do not use pipe size greater than those specified in table or incomplete combustion, flame disturbance, or flame sense lockout may occur.
2. Size both the combustion-air and vent pipe independently, then use the larger diameter for both pipes.
3. Assume two 45° elbows equal one 90° elbow. Long radius elbows are desirable and may be required in some cases.
4. Elbows and pipe sections within the furnace casing and at the vent termination should not be included in vent length or elbow count.
5. The minimum pipe length is 5 ft for all applications.
6. Use 3-in. diameter vent termination kit for installations requiring 4-in. diameter pipe.

MAXIMUM ALLOWABLE PIPE LENGTH (FT) Continued

ALTITUDE ABOVE SEA LEVEL (FT)	UNIT SIZE	TERMINATION TYPE	PIPE DIAMETER (IN.)*	NUMBER OF 90° ELBOWS					
				1	2	3	4	5	6
8001 to 9000‡	024040 036040	2 Pipe or 2-In. Concentric	1-1/2	46	41	36	31	29	24
			2	62	60	58	56	55	53
	024060 036060 048060	2 Pipe or 2-In. Concentric	1-1/2	11	6	NA	NA	NA	NA
			2	49	44	42	37	35	34
	036080 048080 060080	2 Pipe or 2-In. Concentric	2	33	28	17	12	10	NA
			2-1/2	62	60	58	56	55	53
	048100 060100	2 Pipe or 3-In. Concentric	2-1/2	23	15	7	5	NA	NA
			3	59	54	49	44	39	34
	060120	2 Pipe or 3-In. Concentric	3† no disk	10	NA	NA	NA	NA	NA
			4† no disk	35	30	25	20	15	10
	060140		NA						
9001 to 10,000‡	024040 036040	2 Pipe or 2-In. Concentric	1-1/2	42	37	32	27	25	20
			2	57	55	53	51	49	47
	024060 036060 048060	2 Pipe or 2-In. Concentric	2	45	40	38	33	31	29
			2	30	25	14	9	7	NA
	036080 048080 060080	2 Pipe or 2-In. Concentric	2-1/2	57	55	53	51	49	47
			2-1/2	21	13	5	NA	NA	NA
	048100 060100	2 Pipe or 3-In. Concentric	3	54	49	44	39	34	29
			4† no disk	10	5	NA	NA	NA	NA
	060120	2 Pipe or 3-In. Concentric							
	060140		NA						

* Disk usage—Unless otherwise specified, use perforated disk assembly (factory-supplied in loose parts bag). If one disk is stated, separate 2 halves of perforated disk assembly and use shouldered disk half. When using shouldered disk half, install screen side toward inlet box.

† Wide radius elbow.

‡ Vent sizing for Canadian installations above 4500 ft (1370m) above sea level are subject to acceptance by the local authorities having jurisdiction.

N/A — Not Allowed. Pressure switch will not make.

NOTES:

1. Do not use pipe size greater than those specified in table or incomplete combustion, flame disturbance, or flame sense lockout may occur.
2. Size both the combustion-air and vent pipe independently, then use the larger diameter for both pipes.
3. Assume two 45° elbows equal one 90° elbow. Long radius elbows are desirable and may be required in some cases.
4. Elbows and pipe sections within the furnace casing and at the vent termination should not be included in vent length or elbow count.
5. The minimum pipe length is 5 ft for all applications.
6. Use 3-in. diameter vent termination kit for installations requiring 4-in. diameter pipe.

**MAXIMUM ALLOWABLE EXPOSED VENT PIPE LENGTH (FT) WITHOUT INSULATION
IN WINTER DESIGN TEMPERATURE AMBIENT FOR DIRECT-VENT APPLICATIONS***

UNIT SIZE	WINTER DESIGN TEMPERATURE (°F)	MAXIMUM PIPE DIAMETER (IN.)	WITHOUT INSULATION	WITH 3/8-IN. OR THICKER INSULATION†
040	20	1-1/2	51	70
	0	1-1/2	28	70
	-20	1-1/2	16	70
	20	2	45	70
	0	2	22	70
	-20	2	10	58
060	20	2	65	70
	0	2	35	70
	-20	2	20	70
080	20	2	55	55
	0	2	48	55
	-20	2	30	55
	20	2-1/2	70	70
	0	2-1/2	47	70
	-20	2-1/2	28	70
100	20	2-1/2	40	40
	0	2-1/2	40	40
	-20	2-1/2	38	40
	20	3	70	70
	0	3	50	70
	-20	3	28	70
120	20	3	70	70
	0	3	61	70
	-20	3	37	70
	20	4	70	70
	0	4	48	70
	-20	4	23	70
140	20	3	60	60
	0	3	60	60
	-20	3	44	60
	20	4	70	70
	0	4	57	70
	-20	4	30	70

* Pipe length (ft) specified for maximum pipe lengths located in unconditioned spaces. Pipes located in unconditioned space cannot exceed the total allowable pipe length as specified in Maximum Allowable Pipe Length table on pages 6 and 7.

† Insulation thickness based on R value of 3.5 per in.

VENT PIPING FOR NON-DIRECT VENT (1 PIPE) APPLICATIONS

MAXIMUM ALLOWABLE VENT PIPE LENGTH (FT)

ALTITUDE ABOVE SEA LEVEL (FT)	UNIT SIZE	VENT PIPE DIAMETER (IN.)*	NUMBER OF 90° ELBOWS					
			1	2	3	4	5	6
0 to 2000	024040 036040	1	5	NA	NA	NA	NA	NA
		1-1/2	70	70	65	60	60	55
		2	70	70	70	70	70	70
	024060 036060 048060	1-1/2	20	15	10	5	NA	NA
		2	70	70	70	70	70	70
	036080 048080 060080	1-1/2	10	NA	NA	NA	NA	NA
		2	55	50	35	30	30	20
		2-1/2	70	70	70	70	70	70
	048100 060100	2	5	NA	NA	NA	NA	NA
		2-1/2	40	30	20	20	10	NA
		3	70	70	70	70	70	70
	060120	2-1/2 one disk	10	NA	NA	NA	NA	NA
		3†	45	40	35	30	25	20
		3† no disk	70	70	70	70	70	70
		4† no disk	70	70	70	70	70	70
2001 to 3000	024040 036040	1-1/2	67	62	57	52	52	47
		2	70	70	70	70	70	70
	024060 036060 048060	1-1/2	17	12	7	NA	NA	NA
		2	70	67	66	61	61	61
	036080 048080 060080	2	49	44	30	25	25	15
		2-1/2	70	70	70	70	70	70
	048100 060100	2-1/2	35	26	16	16	6	NA
		3	70	70	70	70	66	61
	060120	3	14	9	NA	NA	NA	NA
		3† no disk	70	70	63	56	50	43
		4† no disk	70	70	70	70	70	70
3001 to 4000	024040 036040	1-1/2	64	59	54	49	48	43
		2	70	70	70	70	70	70
	024060 036060 048060	1-1/2	16	11	6	NA	NA	NA
		2	68	63	62	57	57	56
	036080 048080 060080	2	46	41	28	23	22	13
		2-1/2	70	70	70	70	70	70
	048100 060100	2-1/2	33	24	15	14	5	NA
		3	70	70	70	66	61	56
	060120	3† no disk	65	58	51	44	38	31
		4† no disk	70	70	70	70	70	70
4001 to 5000†	024040 036040	1-1/2	60	55	50	45	44	39
		2	70	70	70	70	70	70
	024060 036060 048060	1-1/2	15	10	5	NA	NA	NA
		2	64	59	58	53	52	52
	036080 048080 060080	2	44	39	26	21	20	11
		2-1/2	70	70	70	70	70	70
	048100 060100	2-1/2	31	22	13	12	NA	NA
		3	70	70	67	62	57	52
	060120	3† no disk	53	46	40	33	26	20
		4† no disk	70	70	70	70	70	70

* Wide radius elbow.

† Vent sizing for Canadian installations above 4500 ft (1370m) above sea level are subject to acceptance by the local authorities having jurisdiction.

NA — Not Allowed. Pressure switch will not make.

NOTES:

1. Do not use pipe size greater than those specified in table or incomplete combustion, flame disturbance, or flame sense lockout may occur.
2. Assume two 45° elbows equal one 90° elbow. Long radius elbows are desirable and may be required in some cases.
3. Elbows and pipe sections within the furnace casing and at the vent termination should not be included in vent length or elbow count.
4. The minimum pipe length is 5 ft for all applications.

MAXIMUM ALLOWABLE VENT PIPE LENGTH (FT) Continued

ALTITUDE ABOVE SEA LEVEL (FT)	UNIT SIZE	VENT PIPE DIAMETER (IN.)*	NUMBER OF 90° ELBOWS					
			1	2	3	4	5	6
5001 to 6000†	024040 036040	1-1/2	57	52	47	42	40	35
		2	70	70	70	70	70	70
	024060 036060 048060	1-1/2	14	9	NA	NA	NA	NA
		2	60	55	54	49	48	47
	036080 048080 060080	2	41	36	23	18	17	8
		2-1/2	70	70	70	70	70	70
	048100 060100	2-1/2	29	21	12	11	NA	NA
		3	70	67	62	57	52	47
6001 to 7000†	024040 036040	1-1/2	53	48	43	38	37	32
		2	70	70	68	67	66	64
	024060 036060 048060	1-1/2	13	8	NA	NA	NA	NA
		2	57	52	50	45	44	43
	036080 048080 060080	2	38	33	21	16	15	6
		2-1/2	70	70	68	67	66	64
	048100 060100	2-1/2	27	19	10	9	NA	NA
		3	68	63	58	53	48	43
7001 to 8000†	024040 036040	1-1/2	49	44	39	34	33	28
		2	66	65	63	62	60	59
	024060 036060 048060	1-1/2	12	7	NA	NA	NA	NA
		2	53	48	46	41	40	38
	036080 048080 060080	2	36	31	19	14	12	NA
		2-1/2	66	65	63	62	60	59
	048100 060100	2-1/2	25	17	8	7	NA	NA
		3	63	58	53	48	43	38
8001 to 9000†	024040 036040	1-1/2	46	41	36	31	29	24
		2	62	60	58	56	55	53
	024060 036060 048060	1-1/2	11	6	NA	NA	NA	NA
		2	49	44	42	37	35	34
	036080 048080 060080	2	33	28	17	12	10	NA
		2-1/2	62	60	58	56	55	53
	048100 060100	2-1/2	23	15	7	5	NA	NA
		3	59	54	49	44	39	34
9001 to 10,000†	024040 036040	1-1/2	42	37	32	27	25	20
		2	57	55	53	51	49	47
	024060 036060 048060	2	45	40	38	33	31	29
		2	30	25	14	9	7	NA
	036080 048080 060080	2-1/2	57	55	53	51	49	47
		2-1/2	21	13	5	NA	NA	NA
	048100 060100	3	54	49	44	39	34	29
		4† no disk	10	5	NA	NA	NA	NA

* Wide radius elbow.

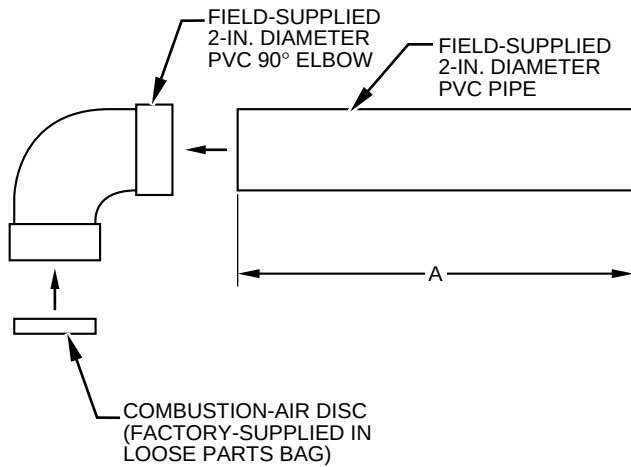
† Vent sizing for Canadian installations above 4500 ft (1370m) above sea level are subject to acceptance by the local authorities having jurisdiction.

NA — Not Allowed. Pressure switch will not make.

NOTES:

1. Do not use pipe size greater than those specified in table or incomplete combustion, flame disturbance, or flame sense lockout may occur.
2. Assume two 45° elbows equal one 90° elbow. Long radius elbows are desirable and may be required in some cases.
3. Elbows and pipe sections within the furnace casing and at the vent termination should not be included in vent length or elbow count.
4. The minimum pipe length is 5 ft for all applications.

COMBUSTION-AIR PIPE FOR NON-DIRECT VENT APPLICATIONS (Sizes 040 through 120 only)



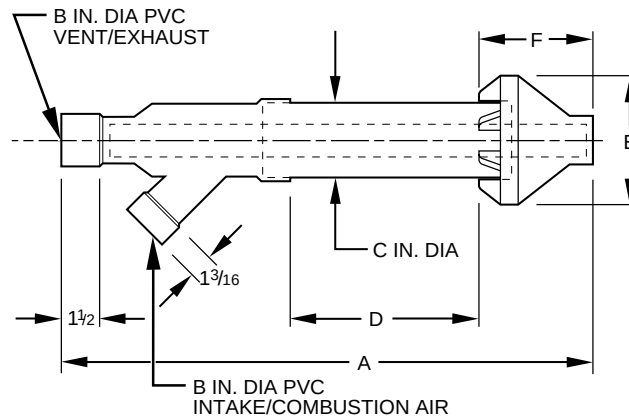
**LENGTH OF STRAIGHT PIPE PORTION OF
COMBUSTION-AIR INLET PIPE ASSEMBLY (IN.)**

CASING WIDTH	A
17-1/2	8-1/2 ± 1/2
21	10-1/2 ± 1/2
24-1/2	12 ± 1/2

A96211

ACCESSORIES

CONCENTRIC VENT (Direct Vent Applications Only)



A97110

Note: See furnace Installation Instructions when venting multiple furnaces near each other.

DIMENSIONS (In.)

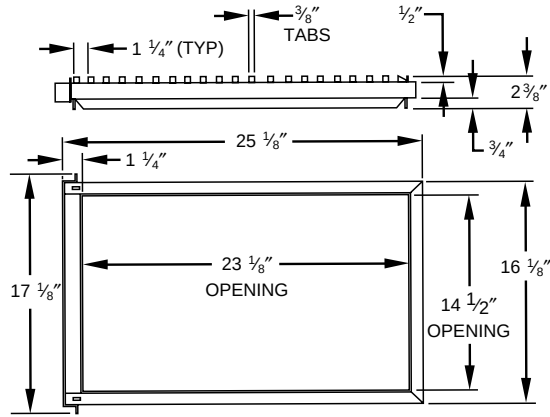
PART NO.	A*	B	C	D†	E	F
KGAVT0501CVT	33-3/8	2	3-1/2	16-5/8	6-1/4	5-3/4
KGAVT0601CVT	38-7/8	3	4-1/2	21-1/8	7-3/8	6-1/2

* Dimension A will change accordingly as dimension D is lengthened or shortened.

† Dimension D may be lengthened to 60 in. maximum. Dimension D may also be shortened by cutting the pipes provided in the kit to 12 in. minimum.

ACCESSORIES (Continued)

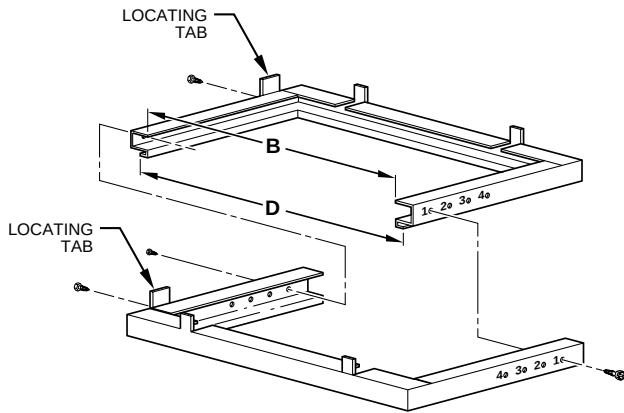
SIDE FILTER RACK*



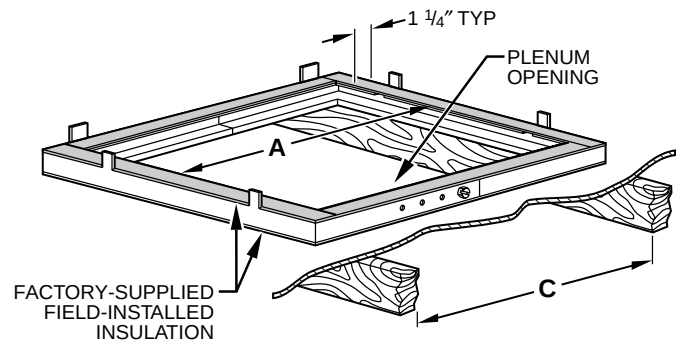
A80199

*Accepts one 16 x 25 x 1 in. filter.

ACCESSORY DOWNFLOW SUBBASE



Disassembled



Assembled

A88207

A97427

FURNACE CASING WIDTH	FURNACE IN DOWNFLOW APPLICATION	PLENUM OPENING*		FLOOR OPENING		HOLE NO. FOR WIDTH ADJUSTMENT
		A	B	C	D	
17-1/2	Furnace with or without CD5, CK5 Coil Assembly or KCAKC Coil Box	15-1/8	19	16-3/4	20-3/8	3
21	Furnace with or without CD5, CK5 Coil Assembly or KCAKC Coil Box	18-5/8	19	20-1/4	20-3/8	2
24-1/2	Furnace with or without CD5, CK5 Coil Assembly or KCAKC Coil Box	22-1/8	19	23-3/4	20-3/8	1

* The plenum should be constructed 1/4-in. smaller in width and depth than the plenum dimensions shown above.

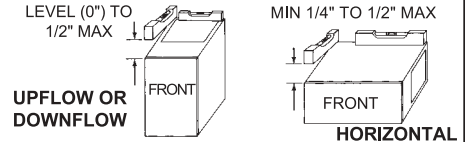
CLEARANCE TO COMBUSTIBLES

INSTALLATION

- This forced air furnace is equipped for use with natural gas at altitudes 0 - 10,000 ft (0 - 3,050m), except 140 size furnaces are only approved for altitudes 0 - 7,000 ft (0 - 2,135m).
- 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 in a manufactured (mobile) home when stated on rating plate and using factory authorized kit.
- This furnace may be installed on combustible flooring in alcove or closet at **Minimum Inches Clearance To Combustible Construction** as described below.
- This furnace requires a special venting system. Refer to the installation instructions for parts list and method of installation. This furnace is for use with schedule-40 PVC, PVC-DWV, CPVC, or ABS-DWV pipe, and must not be vented in common with other gas-fired appliances. Construction through which vent/air intake pipes may be installed is maximum 24 inches (610 mm), minimum 3/4 inches (19 mm) thickness (including roofing materials).
- Cette fournaise à air pulsé est équipée pour utilisation avec gaz naturel et altitudes comprises entre 0 - 3,050m (0 - 10,000 pi), excepté queles fournaises de 140 taille sont pour altitudes comprises entre 0 - 2,135m (0 - 7,000pi).
- Utiliser une trousse de conversion, fournie par le fabricant, pour passer au gaz propane ou pour certaines installations au gaz naturel.
- Cette fournaise à air pulsé est pour installation à l'intérieur dans un bâtiment construit sur place. Cette fournaise à air pulse peut être installée dans une maison préfabriquée (maison mobile) si prescrit par la plaque signalétique et si l'on utilise une trousse spécifiée par le fabricant.
- Cette fournaise peut être installée sur un plancher combustible dans un enfoncement ou un placard en observant les **Dégagement Minimum En Pouces Avec Éléments De Construction Combustibles**.
- Cette fournaise nécessite un système d'évacuation spécial. La méthode d'installation et la liste des pièces nécessaires figurent dans les instructions d'installation. Cette fournaise doit s'utiliser avec la tuyauterie des nomenclatures 40 PVC, PVC-DWV, CPVC, ou ABS-DWV et elle ne peut pas être ventilée conjointement avec d'autres appareils à gaz. Épaisseur de la construction au travers de laquelle il est possible de faire passer les tuyaux d'aération (admission/évacuation): 24 po (610 mm) maximum, 3/4 po (19mm) minimum (y compris la toiture).

For upflow and downflow applications, furnace must be installed level, or pitched within 1/2" of level. For a horizontal application, the furnace must be pitched minimum 1/4" to maximum of 1/2" forward for proper drainage. See Installation Manual for IMPORTANT unit support details on horizontal applications.

Pour des applications de flux ascendant et descendant, la fournaise doit être installée de niveau ou inclinée à pas plus de 1/2" du niveau. Pour une application horizontale, la fournaise doit être inclinée entre minimum 1/4" et maximum 1/2" du niveau pour le drainage approprié. En cas d'installation en position horizontale, consulter les renseignements IMPORTANTS sur le support dans le manuel d'installation.



MINIMUM INCHES CLEARANCE TO COMBUSTIBLE CONSTRUCTION

ALL POSITIONS:

- * Minimum front clearance for service 24 inches (610mm).
- †† 140 size furnaces require 1 inch back clearance to combustible materials.

DOWNFLOW POSITIONS:

- † For installation on combustible floors only when installed on special base No. KGASB0201ALL, Coil Assembly, Part No. CD5 or CK5, or Coil Casing, Part No. KCAKC.

HORIZONTAL POSITIONS:

- Line contact is permissible only between lines formed by intersections of top and two sides of furnace jacket, and building joists, studs, or framing.
- § Clearance shown is for air inlet and air outlet ends.
- Ø 120 and 140 size furnaces require 1 inch bottom clearance to combustible materials.

DÉGAGEMENT MINIMUM EN POUCES AVEC ÉLÉMENTS DE CONSTRUCTION COMBUSTIBLES

POUR TOUTS LES POSITIONS:

- * Dégagement avant minimum de 24 po (610mm) pour l'entretien.
- †† Pour les fournaises de 140 taille, 1 po (25mm) dégagement des matériaux combustibles est requis au-arrière.

POUR LA POSITION COURANT DESCENDANT:

- † Pour l'installation sur le plancher combustible seulement quand on utilise la base spéciale, pièce n° KGASB0201ALL, l'ensemble serpentin, pièce n° CD5 ou CK5, ou le carter de serpentin, pièce n° KCAKC.

POUR LA POSITION HORIZONTALE:

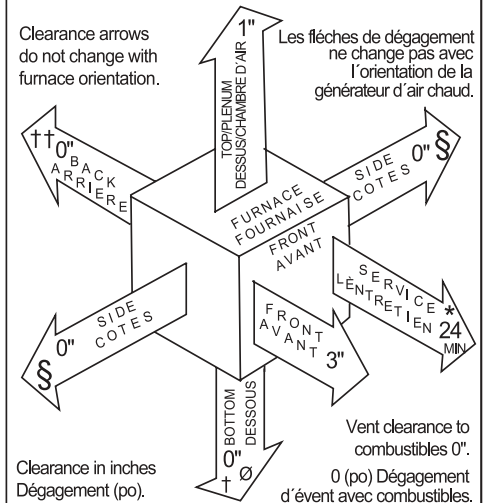
- Le contact n'est permis qu'entre les lignes formées par les intersections du dessus et des deux côtés de la chemise de la fournaise, et des solives, des montants ou de la charpente du bâtiment.
- § La distance indiquée concerne l'extrémité du tuyau d'arrivée d'air et l'extrémité du tuyau de sortie d'air.
- Ø Pour les fournaises de 120 et 140 taille, 1 po (25mm) dégagement des matériaux combustibles est requis au-dessous.

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

Cette fournaise est approuvée pour l'installation HORIZONTALE et la circulation d'air VERS LE HAUT et VERS LE BAS.

Clearance arrows do not change with furnace orientation.

Les flèches de dégagement ne change pas avec l'orientation de la générateur d'air chaud.



328066-201 REV. C

AIR DELIVERY—CFM (With Filter)*

UNIT SIZE	RETURN-AIR SUPPLY	SPEED	EXTERNAL STATIC PRESSURE (In. wc)							
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
024040	1 side or bottom	High	1075	1040	995	945	895	840	760	670
		Med-Low	850	825	780	740	685	635	560	480
		Low	740	700	650	620	565	515	455	385
036040	1 side or bottom	High	1470	1415	1400	1285	1215	1120	995	890
		Med-High	1315	1280	1235	1180	1115	1035	930	825
		Med-Low	1125	1110	1085	1045	990	915	830	740
024060	1 side or bottom	High	1100	1065	1005	945	900	805	730	610
		Med-Low	890	865	810	765	705	620	540	475
		Low	745	710	670	625	565	505	425	360
036060	1 side or bottom	High	1430	1375	1325	1275	1200	1135	1040	935
		Med-High	1270	1260	1215	1160	1105	1035	950	850
		Med-Low	1070	1055	1045	1015	975	920	850	750
048060	1 side or bottom	High	1700	1695	1640	1580	1545	1450	1380	1310
		Med-High	1500	1465	1435	1385	1355	1300	1250	1185
		Med-Low	1325	1295	1265	1230	1190	1150	1105	1050
036080	1 side or bottom	High	1535	1470	1405	1330	1245	1160	1065	935
		Med-High	1395	1350	1300	1225	1155	1080	985	880
		Med-Low	1200	1175	1125	1065	1030	970	890	780
048080	1 side or bottom	High	1750	1685	1635	1575	1525	1445	1380	1310
		Med-High	1495	1455	1405	1355	1305	1250	1185	1120
		Med-Low	1310	1260	1225	1170	1125	1095	1040	980
060080	1 side or bottom	High	2200	2175	2085	2025	1925	1820	1735	1635
		Med-High	2100	2025	1945	1865	1785	1700	1620	1540
		Med-Low	1815	1760	1720	1670	1620	1550	1480	1405
048100	1 side or bottom	High	2360	2280	2210	2130	2035	1960	1875	1790
		Med-High	1965	1925	1870	1830	1760	1710	1670	1575
		Low	1740	1705	1660	1615	1570	1500	1425	1355
060100	1 side or bottom	High	2250	2175	2090	2020	1930	1855	1760	1670
		Med-High	2020	1950	1900	1840	1790	1710	1640	1545
		Med-Low	1725	1690	1660	1630	1575	1520	1460	1370
060120	1 side only	High	2360	2315	2265	2200	2130	2055	1965	1890
		Med-High	1960	1940	1930	1900	1850	1800	1740	1660
		Low	1490	1480	1460	1440	1380	1340	1295	1230
060140	bottom only	High	2350	2250	2160	2070	2000	1885	1790	1635
		Med-High	2100	2015	1955	1875	1810	1710	1650	1540
		Med-Low	1770	1720	1675	1620	1575	1515	1450	1365
060120	both sides or 1 side and bottom	High	2435	2360	2285	2220	2130	2050	1965	1875
		Med-High	2040	2000	1950	1905	1835	1790	1725	1650
		Low	1545	1520	1465	1415	1365	1325	1265	1185
060140	1 side only	High	2255	2190	2115	2045	1965	1890	1800	1710
		Med-High	1985	1930	1890	1840	1780	1720	1645	1560
		Low	1460	1445	1430	1400	1370	1320	1275	1230
060140	both sides or 1 side and bottom	High	2285	2210	2140	2065	1990	1910	1830	1745
		Med-High	2020	1970	1920	1870	1805	1730	1660	1590
		Med-Low	1675	1650	1620	1590	1560	1510	1450	1390
060140	1 side only	High	2310	2255	2185	2120	2045	1965	1880	1800
		Med-High	1975	1945	1900	1860	1835	1775	1720	1640
		Low	1460	1445	1430	1400	1370	1320	1275	1230
060140	1 side only	High	2140	2080	2025	1945	1875	1795	1725	1625
		Med-High	1930	1850	1800	1740	1725	1660	1580	1495
		Low	1460	1445	1430	1400	1370	1320	1275	1230

* A filter is required for each return-air supply.

* For horizontal and downflow applications, use "1 side or bottom" or "bottom only" as airflow reference.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE
WITH INSTALLATION INSTRUCTIONS

Cancels: SS-PG9M-04



Heating & Cooling