

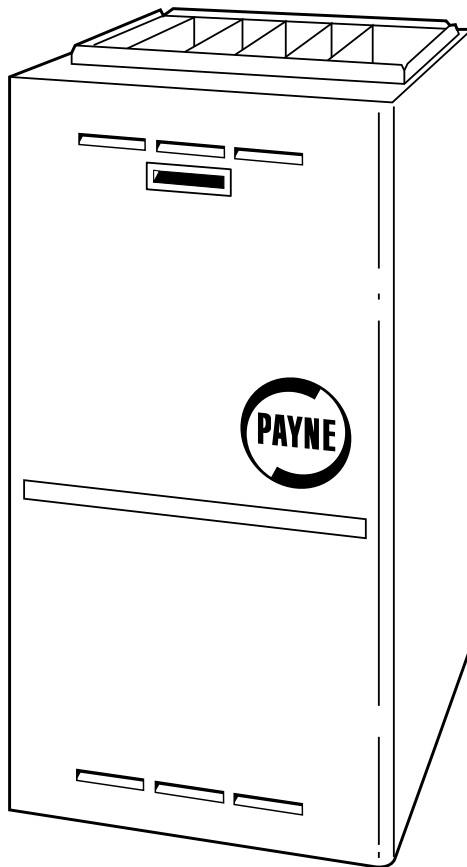


Heating & Cooling

DELUXE 4-WAY MULTIPOISE FIXED-CAPACITY DIRECT-VENT CONDENSING GAS FURNACE

490AAV

Sizes 040 thru 140
Series D



4-WAY MULTIPOISE CONDENSING GAS FURNACE

The Payne 490AAV Furnaces utilize a 4-way multipoise design to allow 1 unit to be installed in upflow, downflow, horizontal left, or horizontal right applications. Using condensing furnace technology, all models of the Payne 490AAV high-efficiency gas furnace except 140 size achieve 92.0% Annual Fuel Utilization Efficiency (AFUE) in the upflow or horizontal orientations and 91.5% AFUE in the downflow orientation. The combination of high efficiency and flexibility in a 4-way multipoise design makes the 490AAV a must for your product line. Proven, reliable hot surface ignition, a microprocessor control center, and a sealed combustion system will provide years of dependable service and a good value to the consumer.

FEATURES

Multipoise 4-Way Design—Allows a 490AAV model to be installed in an upflow, downflow, or horizontal orientation.

The model 490AAV is available in 12 heat/airflow combinations, and when combined with the 4-way design, allows for 48 different applications. Factory configured for upflow application, this furnace can easily be made ready for downflow or horizontal installations.

Sealed Combustion (Direct-Vent) System—Enclosed burner assembly isolates operating noise without the expense of

sound deadening devices. The sealed combustion (direct-vent) system brings outdoor air directly into the combustion chamber, cold air infiltration into the structure and reducing heat loss.

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 Everlastic™ polypropylene for greater resistance to corrosion. This breakthrough in heating technology helps 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.

Warranty—Limited Lifetime warranty on the heat exchangers for the lifetime of the original owner in single family residence; 20-year warranty in other residential and commercial applications. Contact your dealer for details. One-year warranty on micro-processor control, hot surface ignitor, and inducer motor.

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.

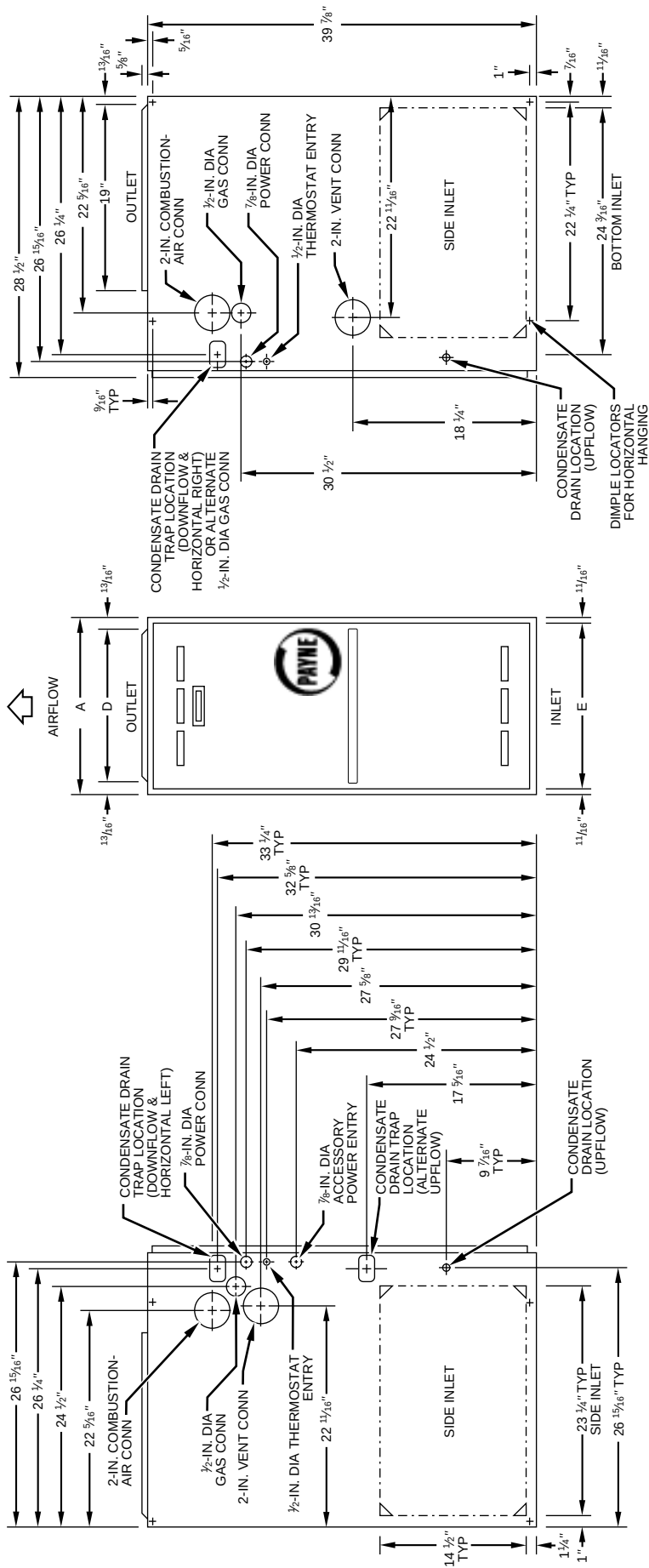
Microprocessor Control Center—The printed-circuit board and all internal wiring are factory installed. Convenient terminals permit quick connection of a thermostat, a humidifier, an air cleaner, and air conditioning control circuits.

The control has adjustable blower off delay switches. As an added feature, the control has a built-in status indicator and self-test feature. The status indicator flashes to indicate a problem condition and assists the servicer in diagnosis. The component test allows for a complete check of the control circuits in only seconds.

Combustion Air and Ventilation—The 490AAV advanced design allows Schedule 40PVC, PVC-DWV, SDR-21 PVC, SDR-26 PVC (not approved in Canada), ABS-DWV, or ABS-F628 Schedule 40 pipe to bring outdoor air into the furnace for combustion. The extracted heat lowers the temperature of the combustion products to a point (typically below 115°F) that any of the approved types of pipe can also be used for venting combustion products outside the structure. The combustion-air and vent pipes can terminate through a side wall or through the roof when using 1 of our approved vent termination kits.

Fully-Insulated Casing—Foil-faced insulation in the heat exchanger section cuts the heat loss, and insulation in the blower section reduces noise levels. The casing also has the required openings for left- or right-side connection of gas, electric, drain, and vent connections.

Certifications—The 490AAV units are 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. An A.G.A./C.G.A. listed gas conversion kit is required to convert furnace for use with propane gas. The Payne 490AAV meets California Air Quality Management District emission requirements. With the exception of the 140 size, all models of the 490AAV can be installed in a manufactured (mobile) home when the optional kit is used.



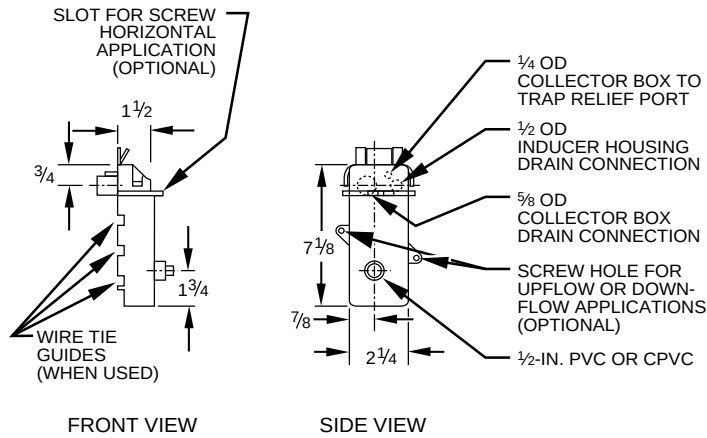
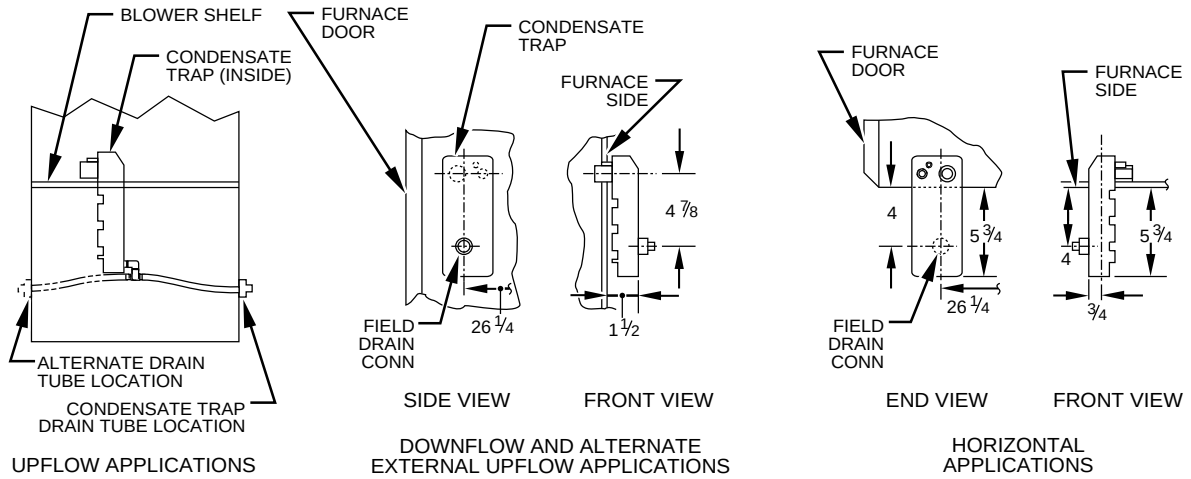
NOTES: Minimum return-air opening at furnace:

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, use both side inlets, a combination of 1 side inlet and the bottom, or the bottom only.

DIMENSIONS (in.)

UNIT SIZE	A	D	E	SHIP. WEIGHT (Lb)
024040	17-1/2	15-7/8	16	149
036040	17-1/2	15-7/8	16	152
024060	17-1/2	15-7/8	16	156
036060	17-1/2	15-7/8	16	163
048060	17-1/2	15-7/8	16	166
036080	17-1/2	15-7/8	16	172
048080	17-1/2	15-7/8	16	175
060080	21	19-3/8	19-1/2	197
048100	21	19-3/8	19-1/2	193
060100	21	19-3/8	19-1/2	196
060120	24-1/2	22-7/8	23	252
060140	24-1/2	22-7/8	23	252

CONDENSATE TRAP



A93026



MEETS DOE RESIDENTIAL CONSERVATION SERVICES PROGRAM STANDARDS.

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



APPROVALS
ISO 9001
EN 29001
BS 5750 PART 1
ANSI/ASQC Q91

CERTIFICATION OF MANUFACTURING SITE

As an ENERGY STARSM Partner, Payne Heating and Cooling has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

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	37,200	37,200	55,800	55,800	55,800	74,400
AFUE%†	Upflow/Horizontal	92.0	92.0	92.0	92.0	92.0	92.0
	Nonweatherized ICS Downflow	91.5	91.5	91.5	91.5	91.5	91.5
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	0.12	0.15
	Cooling	0.50	0.50	0.50	0.50	0.50	0.50
Airflow CFM‡	Heating	850	1125	885	1065	1320	1190
	Cooling	895	1215	900	1200	1545	1245
ELECTRICAL							
Unit Volts—Hertz—Phase		115—60—1					
Operating Voltage Range Min—Max**		104—127					
Maximum Unit Amps		6.1	7.3	6.1	7.1	9.5	7.6
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 Fuse Recommended)		15	15	15	15	15	15
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, 135, 180, or 225 Sec					
Burners (Monoport)		2	2	3	3	3	4
Gas Connection Size		1/2-in. NPT					
GAS CONTROLS							
Gas Valve (Redundant)	Manufacturer	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 (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		KGANP2001ALL					
Gas Conversion Kit—Propane-to-Natural		KGAPN1601ALL					
Twinning Kit—Upflow ONLY		N/A				KGATW0401HSI	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			
Sidewall Vent Terminal Cover (For 2 Pipes)		2-in.—KGAVT0301COV		3-in.—KGAVT0401COV			
Condensate Freeze Protection Kit		KGAHT0101CFP					
Side Filter Rack (Without Filter)—Upflow ONLY		KGAFR0206ALL					
Electronic/Mechanical Air Cleaner		Model AIRA, KEACA, MECH, or 902B					
Humidifier		Models 912D, 912E, 913B, 913C, or 914A					
Heat/Energy Recovery Ventilator		Models VA3B, VB5B, VC5B, or VL3A					

See notes on page 5.

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†	Nonweatherized ICS	74,400	74,400	93,000	93,000	111,600	127,000
AFUE%†	Upflow/Horizontal	92.0	92.0	92.0	92.0	92.0	91.0
	Nonweatherized ICS	Downflow	91.5	91.5	91.5	91.5	90.0
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		10.0	14.1	10.2	14.8	14.6	14.3
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 Fuse 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, 135, 180, or 225 Sec					
Burners (Monoport)		4	4	5	5	6	6
Gas Connection Size		1/2-in. NPT					
GAS CONTROLS							
Gas Valve (Redundant)	Manufacturer	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 (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				(2) 16 x 25 x 1	
FACTORY-AUTHORIZED AND LISTED, DEALER-INSTALLED OPTIONS							
Gas Conversion Kit—Natural-to-Propane		KGANP2001ALL					
Gas Conversion Kit—Propane-to-Natural		KGAPN1601ALL					
Twinning Kit—Upflow ONLY		KGATW0401HSI					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		
Sidewall Vent Terminal Cover (For 2 Pipes)		2-in.—KGAVT0301COV			3-in.—KGAVT0401COV		
Condensate Freeze Protection Kit		KGAHT0101CFP					
Side Filter Rack (Without Filter)—Upflow ONLY		KGAFR0206ALL					
Electronic/Mechanical Air Cleaner		Model AIRA, KEACA, MECH, or 902B					
Humidifier		Models 912D, 912E, 913B, 913C, or 914A					
Heat/Energy Recovery Ventilator		Models VA3B, VB5B, VC5B, or VL3A					

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

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

‡ Air delivery above 1800 CFM requires that both sides, 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.

** Permissible voltage limits for proper furnace operation.

†† Unit ampacity = 125% of largest component's full load amps plus 100% of all other potential operating component (EAC, humidifier, etc.).

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

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

N/A—Not applicable

ICS—Isolated Combustion System

COMBUSTION-AIR AND VENT PIPING

MAXIMUM ALLOWABLE PIPE LENGTH (FT)

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

See notes on page 7.

MAXIMUM ALLOWABLE PIPE LENGTH (FT) Continued

ALTITUDE ABOVE SEA LEVEL (FT)	UNIT SIZE	TERMINATION TYPE	PIPE DIA (IN.)*	NUMBER OF 90° ELBOWS					
				1	2	3	4	5	6
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	67	62
	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					
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		NA					
	060140								

* 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:

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

**MAXIMUM ALLOWABLE EXPOSED VENT PIPE LENGTH (FT) WITH AND WITHOUT INSULATION
IN WINTER DESIGN TEMPERATURE AMBIENT***

UNIT SIZE	WINTER DESIGN TEMPERATURE (°F)	MAXIMUM PIPE DIAMETER (IN.)	WITHOUT INSULATION	WITH 3/8-IN. OR THICKER INSULATION†
024040 036040	20	1-1/2	51	70
	0	1-1/2	28	70
	-20	1-1/2	16	70
024060 036060 048060	20	2	65	70
	0	2	35	70
	-20	2	20	70
036080 048080 060080	20	2-1/2	70	70
	0	2-1/2	47	70
	-20	2-1/2	28	70
048100 060100	20	3	70	70
	0	3	50	70
	-20	3	28	70
060120	20	4	70	70
	0	4	48	70
	-20	4	23	70
060140	20	4	70	70
	0	4	57	70
	-20	4	30	70

* Pipe length (ft) specified for maximum vent pipe lengths located in unconditioned spaces. Vent pipes located in unconditioned space cannot exceed the total allowable pipe length as specified in Maximum Allowable Pipe Length table.

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

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 direct-vent, forced-air furnace is for indoor installation in a building constructed on site or in a manufactured (mobile) home when using factory authorized kit, see rating plate.

This furnace may be installed on combustible flooring in alcove or closet at minimum clearance from combustible material.

This appliance 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, 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 (600 mm), minimum 3/4 inches (19 mm) thickness (including roofing materials).

MINIMUM INCHES CLEARANCE TO COMBUSTIBLE CONSTRUCTION

TOP / PLENUM	BOTTOM	SIDES	BACK	FRONT	VENT	INSTALLATION
1	0	0	0 ††	3*	0	UPFLOW
1	†	0	0 ††	3*	0	DOWNFLOW
1	0 Ø	1§	0 ††	3*	0	HORIZONTAL

† 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.

§ Clearance shown is for air inlet and air outlet end.
Horizontal position: Line contact is permissible only between lines formed by intersections of top and two sides of furnace jacket, and building joists, studs, or framing.

Ø 120 and 140 size Furnaces require 1 inch bottom clearance to combustible materials.

* Minimum front clearance for service 30 inches (762mm).

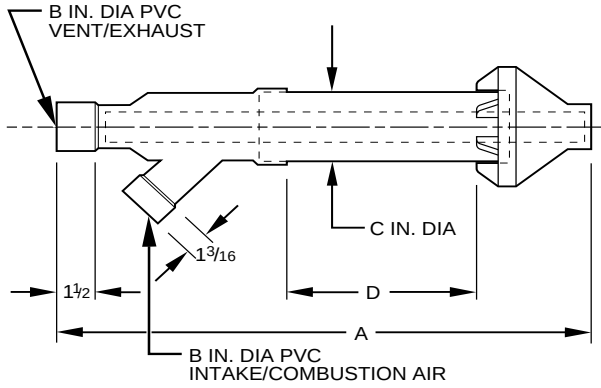
†† 140 size Furnaces require 1 inch back clearance to combustible materials.

323855-101 REV. A (LIT)

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ACCESSORIES

CONCENTRIC VENT



A93294

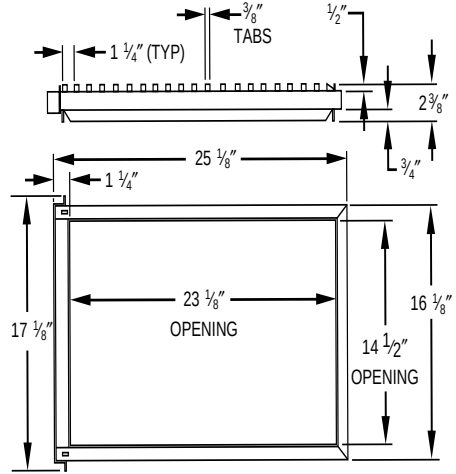
DIMENSIONS (in.)

PART NO.	A*	B	C	D†
KGAVT0501CVT	41-1/8	2	3-1/2	27-1/4
KGAVT0601CVT	46-3/4	3	4-1/2	31-7/8

* 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.

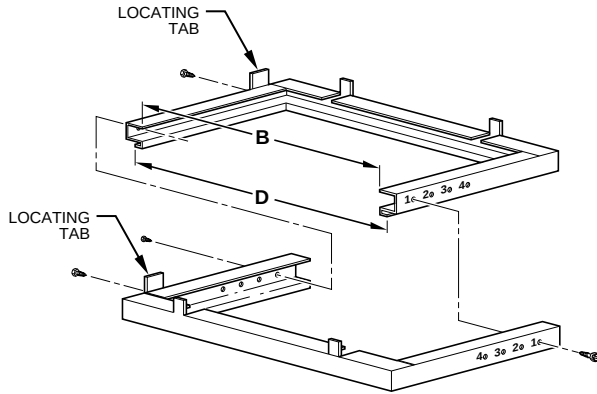
SIDE FILTER RACK*



A80199

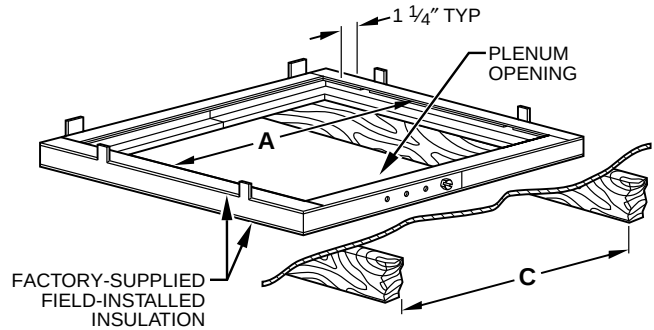
*Accepts one 16 x 25 x 1 in. filter.

ACCESSORY DOWNFLOW SUBBASE



A88207

Disassembled



A88206

Assembled

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 or CK5 Coil Assembly or KCAKC Coil Box	15-1/8	19	16-3/4	20-3/8	3
21	Furnace with or without CD5 or 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 or 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.

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
		Low	930	925	910	850	830	770	705	635
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
		Low	915	895	885	865	840	800	720	650
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
		Low	1205	1170	1145	1110	1080	1035	990	950
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
		Low	1040	1020	990	960	910	860	785	680
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
		Low	1135	1105	1075	1040	995	995	910	860
060080	bottom only	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
		Low	1560	1555	1515	1460	1435	1390	1340	1270
060080	both sides or 1 side and bottom	High	2360	2280	2210	2130	2035	1960	1875	1790
		Med-High	1965	1925	1870	1830	1760	1710	1670	1575
048100	1 side or bottom	High	1740	1705	1660	1615	1570	1500	1425	1355
		Med-High	1500	1470	1445	1410	1375	1330	1280	1210
		Med-Low	1340	1315	1300	1270	1235	1200	1140	1095
		Low	1195	1175	1165	1130	1100	1070	1030	975
060100	bottom only	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
		Low	1490	1480	1460	1440	1380	1340	1295	1230
060100	both sides or 1 side and bottom	High	2360	2315	2265	2200	2130	2055	1965	1890
		Med-High	1960	1940	1930	1900	1850	1800	1740	1660
060120	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
		Low	1545	1520	1465	1415	1365	1325	1265	1185
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
060140	bottom only	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
		Low	1460	1445	1430	1400	1370	1320	1275	1230
060140	both sides or 1 side and bottom	High	2310	2255	2185	2120	2045	1965	1880	1800
		Med-High	1975	1945	1900	1860	1835	1775	1720	1640

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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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE
WITH INSTALLATION INSTRUCTIONS

Cancels: PDS 490A.40.5P