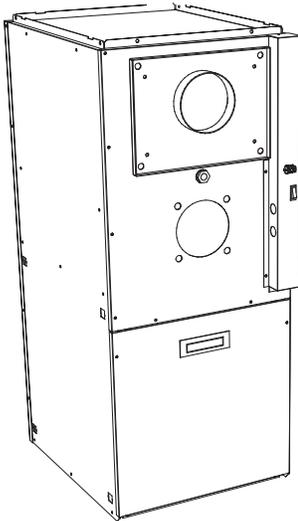


OBM/OVM Multi-Position Oil Furnace Non-Variable & Variable Motors

Product Data



A10311

THE LATEST IN OIL FURNACE TECHNOLOGY

The models OBM and OVM combine high efficiency and quiet operation with oil heating technology. The OBM/OVM can be fired at different rates by a simple nozzle change and oil pump pressure adjustment. Furnaces are available to cover input ranges from 70,000 to 154,000 BTU/h. The furnace design is a multipoise style for upflow, downflow, or horizontal applications.

The OBM/OVM is a standard part of a quality-built home. These high efficiency furnaces will provide years of quality service to home builders and homeowners alike.

This model is designed to work as part of a total home comfort system which includes elements for cooling, air cleaning, humidification, ventilation, and zoning.

OBM/OVM FEATURES / BENEFITS

BECKETT & RIELLO BURNER OPTIONS

- High quality Beckett or Riello oil burners allows safe and efficient combustion of oil.
- Both manufacturers approved for optional Sealed Combustion Venting.
- Ignition control and fan timer board provide reliable operation and easy connection of thermostat and accessory wiring.

CASING

- Made of 22-gauge painted steel for years of durability.

INSULATION AND SOUNDPROOFING

- Unique sound trap along with insulated walls efficiently capture most combustion noise and vibration to make this unit one of the quietest on the market.

COMBUSTION PRODUCTS VENTING

- Front flue outlet.
- Unit may be vented using Type L vent material and a factory-built metal or masonry chimney.
- Unit may also be sidewall vented with optional Sealed Combustion System.
- Unit may also be sidewall vented with an approved power venter.

ADJUSTABLE BLOWER SPEED

- OBM units equipped with 4-speed blower for precise airflow selection of heating or cooling operation.
- OVM units equipped with ECM 2.3 Variable Speed high-efficiency motor.

CONSTANT LOW-SPEED BLOWER SWITCH (OBM MODELS)

- Allows continual low-speed air circulation through the home to maximize comfort while maintaining efficiency.
- Air is constantly filtered and stagnant air is avoided.
- This option can be controlled by the homeowner.

COMBUSTION CHAMBER/HEAT EXCHANGER

- Composed of stainless and aluminized steel, the unique combination combustion chamber/heat exchanger resists corrosion, overheating, and deterioration.
- Heat transfer properties make it highly efficient.
- All seams are tightly welded for leak-free operation.

CERTIFICATIONS

- OBM/OVM units are CSA certified.
- AHRI efficiency rating certified.
- Canada Specifications: Up to 86.7% AFUE for Canada (CSA B212 + Canadian laws)
- USA Specifications: Up to 86.3% AFUE for USA (ASHRAE 103 + American laws)



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.

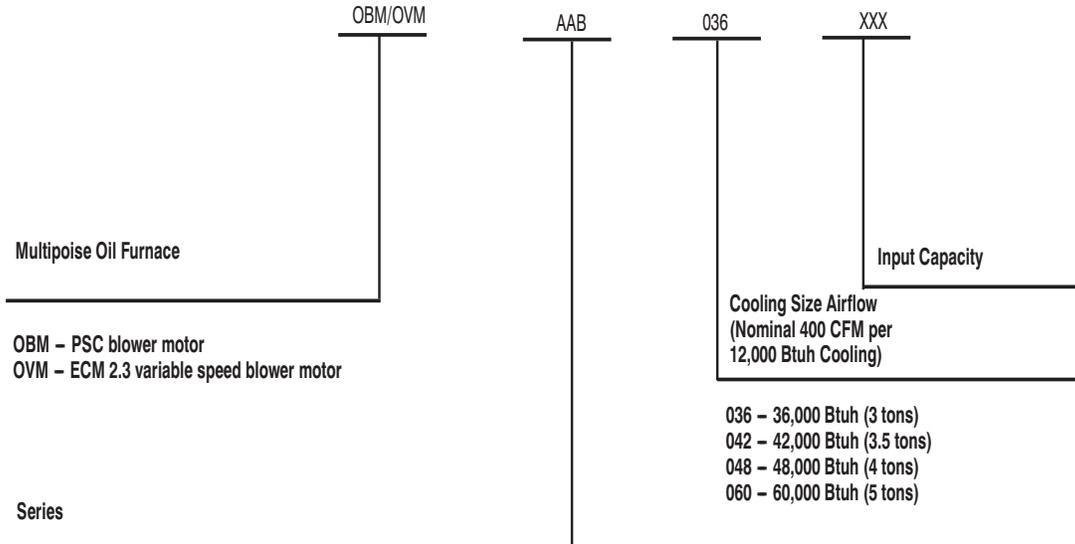


A210037

Specific firing rates of OVM series meet the EnergyStar® Guidelines

A210043

MODEL NUMBER NOMENCLATURE



A210036

CLEARANCE TO COMBUSTIBLES

Location	Application	Upflow In. (mm)	Downflow In. (mm)	Horizontal In. (mm)
Sides	Furnace*	1 (25.4)	2 (50.8)	N / A
	Supply plenum - within 6ft (1.8m) of furnace*	2 (50.8)	2 (50.8)	1 (25.4)
Bottom	Furnace† (*use sub-base on combustible floor)	0	2 (50.8)‡	1 (25.4)**
Back	OBM/OVM098 Furnace (opposite end of burner)*	3 (76.2)	3 (76.2)	1 (25.4)
	OBM/OVM112 / 154 Furnace (opposite end of burner)*	3 (76.2)	3 (76.2)	3 (76.2)
Top	Furnace† or Plenum	N / A	N / A	2 (50.8)
	Horizontal warm air duct - within 6ft (1.8m) of furnace	2 (50.8)	2 (50.8)	2 (50.8)
Flue pipe	Vertically above flue pipe	9 (228.6)	9 (228.6)	9 (228.6)
Front	Furnace (burner end)*	18 (457.2)	18 (457.2)	18 (457.2)

*. Horizontal dimensions

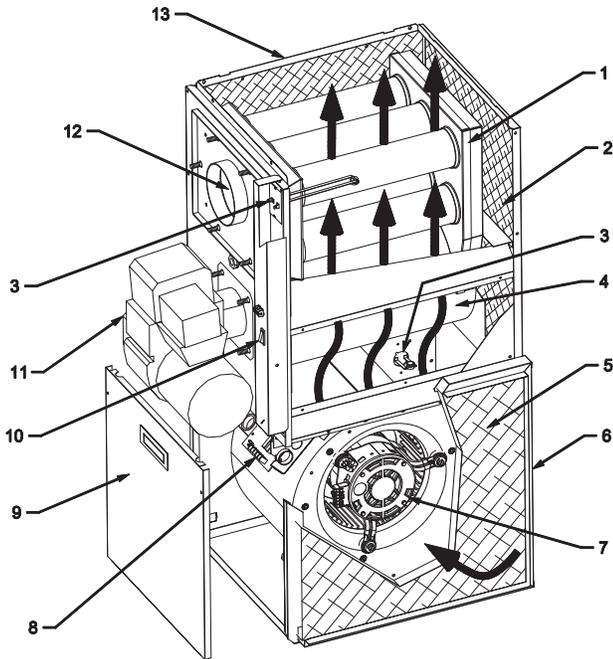
†. Vertical dimensions

‡. This dimension can be obtained using Horizontal Flow Base.

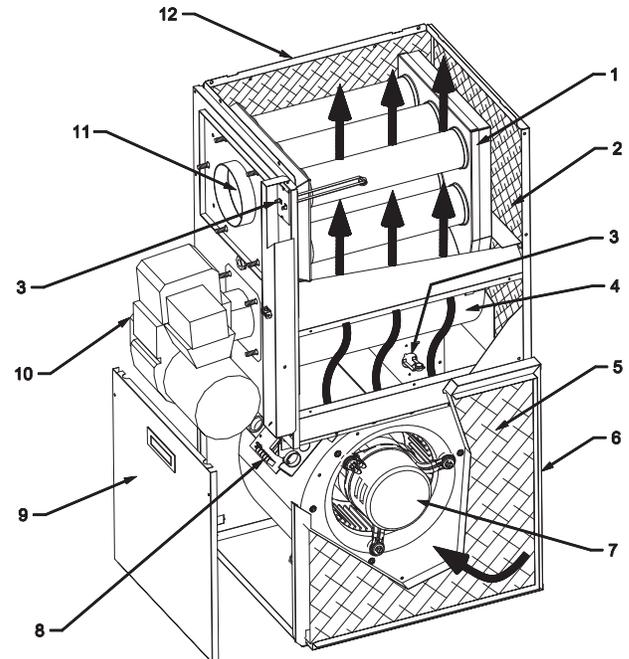
**.. This dimension can be obtained by using Downflow Base, KLASB0801DET for 098 or KLASB0901DET for 112 or KLASB1001DET for 154..

OBM - NON-VARIABLE SPEED UNIT

OVM - VARIABLE SPEED UNIT



DNS-1254 Rev.A



- A10309
1. Heat exchanger designed and shaped to efficiently transfer heat from furnace into the home.
 2. Fully insulated internal walls to minimize heat loss.
 3. High limit control to prevent over temperature.
 4. Stainless steel combustion chamber.
 5. Air filters.
 6. Return-air plenum.
 7. Heavy-duty blower circulates air across the heat exchanger to transfer heat into the home.
 8. Adjustable electronic fan timer control (inside) has low voltage electrical terminal strip for easy connection of thermostat, cooling control, electronic air cleaner and humidifier.
 9. Access doors to air filters and blower.
 10. Manual switch to allow user control of constant low-speed blower operation.
 11. High-performance oil burner, sold separately.
 12. Unique silencer system controls combustion noise.
 13. Supply-air plenum.

- A10310
1. Heat exchanger designed and shaped to efficiently transfer heat from furnace into the home.
 2. Fully insulated internal walls to minimize heat loss.
 3. High limit control to prevent over temperature.
 4. Stainless steel combustion chamber.
 5. Air filters.
 6. Return-air plenum.
 7. Heavy-duty blower circulates air across the heat exchanger to transfer heat into the home.
 8. Adjustable electronic fan timer control (inside) has low voltage electrical terminal strip for easy connection of thermostat, cooling control, electronic air cleaner and humidifier.
 9. Access doors to air filters and blower.
 10. High-performance oil burner, sold separately.
 11. Unique silencer system controls combustion noise.
 12. Supply-air plenum.

FURNACE SPECIFICATIONS

OVM098 SERIES, MULTI-POSITION MODELS	UNITS WITH 1/2 HP ECM MOTOR	
RATING AND PERFORMANCE		
Firing rate(USGPH) [*]	0.50	0.60
Input (BTU/h) [*]	70,000	84,000
Heating temperature rise (Degr. F) [*]	55 - 85 Degr. F	
Flue draft with chimney (inch of w.c.)	-0.06 to -0.025	
Overfire pressure with chimney (inch of w.c.)	-0.035 to +0.010	
Flue pressure with direct vent (inch of w.c. - no wind)	+0.05 to +0.20	
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.03 to +0.15	
BECKETT BURNER; AFG MODEL (Chimney) /Insertion	KLABR0401BEC / 1 3/4"	
AHRI Model #	OVMAB036098-070-BF	OVMAB036098-084-BF
Maximum Heating capacity, (BTU/h) [*]	58,000	69,000
Head type	2 Slots - L2 head	
Nozzle (Delavan) [†]	0.40 - 60A	0.50 - 60A
Low firing rate baffle	Yes (5880)	Yes (5880)
Pump pressure (PSIG) [*]	155	145
Head/Air setting (damper/band)	4/0	8/0
AFUE % (From CSA B212 standard and Canadian regulation) [‡]	**85.6%	**85.6%
AFUE % (From ASHRAE 103 standard and US regulation) [‡]	**85.2%	**85.1%
BECKETT BURNER; NX MODEL (Chimney or DV) /Insertion	KLABR0101BEC / 1 3/4"	
AHRI Model #	OVMAB036098-070-BNX	OVMAB036098-084-BNX
Maximum Heating capacity, (BTU/h) [*]	59,000	70,000
Head type	6 Slots - LQ head	
Nozzle (Delavan) [†]	0.40 - 60W	0.50 - 60W
Low firing rate baffle	Yes (32229)	Yes (32229)
Pump pressure (PSIG) [*]	155	145
Combustion air adjustment	2.0	2.75
AFUE % (From CSA B212 standard and Canadian regulation) [‡]	**86.7%	**85.7%
AFUE % (From ASHRAE 103 standard and US regulation) [‡]	**86.1%	**85.4%
RIELLO BURNER; 40-F3 MODEL (Chimney) /Insertion	KLABR0101RLO / 2 3/4"	
AHRI Model #	OVMAB036098-070-RF	OVMAB036098-084-RF
Maximum Heating capacity, (BTU/h) [*]	59,000	70,000
Nozzle (Delavan) [†]	0.40 - 70A	0.50 - 70A
Pump pressure (PSIG) [*]	155	145
Combustion air adjustment (turbulator/damper)	0 / 1.5	0 / 2.5
AFUE % (From CSA B212 standard and Canadian regulation) [‡]	**87.0%	**86.3%
AFUE % (From ASHRAE 103 standard and US regulation) [‡]	**86.4%	**85.9%
RIELLO BURNER; 40-BF3 MODEL (Direct vent DV) /Insertion	KLABR0201RLO / 2 3/4"	
AHRI Model #	OVMAB036098-070-RBF	OVMAB036098-084-RBF
Maximum Heating capacity, (BTU/h) [*]	58,000	70,000
Nozzle (Delavan) [†]	0.40 - 70A	0.50 - 70A
Pump pressure (PSIG) [*]	155	145
Combustion air adjustment (turbulator/damper)	0 / 3.25	0 / 4
AFUE % (From CSA B212 standard and Canadian regulation) [‡]	**85.6%	**85.3%
AFUE % (From ASHRAE 103 standard and US regulation) [‡]	**85.1%	**85.0%
ELECTRICAL SYSTEM		
Volts - Hertz - Phase	115 - 60 - 1	
Rated current (Amps)	10.3	
Minimum ampacity for wire sizing (Amps)	12.2	
Max. fuse size (Amps)	15	
Control transformer (VA)	40	
External control power available: Heating / Cooling (VA)	40 / 30	
BLOWER DATA		
Heating blower speed at 0.25" W.C. SP	See the ECM air flow table	
Heating blower speed at 0.50" W.C. SP		
Motor (HP) / number of speeds	1/2 HP / ECM (with inductor)	
Blower size (diam. x width)	10" x 8"	
GENERAL INFORMATION		
Overall dimensions (width x depth x height)	16 7/8" x 20 1/8" x 40 3/4"	
Supply air opening (width x depth)	16" x 19"	
Return air opening (width x depth)	19" x 19"	
Filter size (depth x height x thickness)	20" x 20" x 1"	
Shipping weight Lbs/Kg	125 / 57	
Air conditioning, maximum output (tons) at 0.5" W.C. SP	3.	

* INPUT & OUTPUT ADJUSTMENT

- Pump pressure can be adjusted to maintain proper firing rate.
- Adjust flue gas temperature between 400° and 575°F
- Adjust fan speed for the air temperature rise specified

†. Default installed Nozzle in bold characters

‡. AFUE value established after minimum 20 hours operation

**. Meets EnergyStar guidelines

OVM112 SERIES, MULTI-POSITION MODELS	UNITS WITH 1/2 HP ECM MOTOR	
RATING AND PERFORMANCE		
Firing rate(USGPH)*	0.68	0.80
Input (BTU/h)*	95,200	112,000
Heating temperature rise (Degr. F)*	60 - 72 Degr. F	
Flue draft with chimney (inch of w.c.)	-0.06 to -0.025	
Overfire pressure with chimney (inch of w.c.)	-0.035 to +0.025	
Flue pressure with direct vent (inch of w.c. - no wind)	+0.03 to +0.15	
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.05 to +0.17	
BECKETT BURNER; AFG MODEL (Chimney)/ Insertion	KLABR0501BEC / 1 3/4"	
AHRI Model #	OVMAAB042112-095-BF	OVMAAB042112-112-BF
Maximum Heating capacity, (BTU/h)*	79,000	92,000
Head type	2 Slots - L2 head	
Nozzle (Delavan)†	0.60 - 60W	0.65 - 60B
Pump pressure (PSIG)*	140	150
Head/Air setting	10/0	10/0 (Note 1)
AFUE % (From CSA B212 standard and Canadian regulation)‡	**86.3%	**85.6%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**85.3%	**85.4%
BECKETT BURNER; NX MODEL (Chimney or DV)/ Insertion	KLABR0201BEC / 1 3/4"	
AHRI Model #	OVMAAB042112-095-BNX	OVMAAB042112-112-BNX
Maximum Heating capacity, (BTU/h)*	80,000	83,000
Head type	6 Slots - LQ head	
Nozzle (Delavan)†	0.60 - 60A	0.70 - 60A
Pump pressure (PSIG)*	130	130
Head/Air setting	3.5	2.5
AFUE % (From CSA B212 standard and Canadian regulation)‡	**87.1%	**86.6%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**85.8%	**85.3%
RIELLO BURNER; 40-F3 MODEL (Chimney)/ Insertion	KLABR0301RLO / 2 3/4"	
AHRI Model #	OVMAAB042112-095-RF	OVMAAB042112-112-RF
Maximum Heating capacity, (BTU/h)*	79,000	93,000
Nozzle (Delavan)†	0.60 - 70A	0.70 - 70A
Pump pressure (PSIG)*	130	130
Combustion air adjustment (turbulator/damper)	1 / 2.6	2 / 3.1
AFUE % (From CSA B212 standard and Canadian regulation)‡	**87.0%	**86.8%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**85.8%	**85.4%
RIELLO BURNER; 40-BF5 MODEL (Direct vent DV) / Insertion	KLABR0401RLO / 2 3/4"	
AHRI Model #	OVMAAB042112-095-RBF	OVMAAB042112-112-RBF
Maximum Heating capacity, (BTU/h)*	79,000	94,000
Nozzle (Delavan)†	0.60 - 70A	0.70 - 70A
Pump pressure (PSIG)*	130	130
Combustion air adjustment (turbulator/damper)	0 / 2.75	0 / 3.25
AFUE % (From CSA B212 standard and Canadian regulation)‡	**86.7%	**85.5%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**85.3%	**85.3%
ELECTRICAL SYSTEM		
Volts - Hertz - Phase	115 - 60 - 1	
Rated current (Amps)	10.3	
Minimum ampacity for wire sizing (Amps)	12.2	
Max. fuse size (Amps)	15	
Control transformer(VA)	40	
External control power available: Heating (VA)	40	
External control power available: Cooling (VA)	30	
BLOWER DATA		
Heating blower speed at 0.25" W.C. SP	See the ECM air flow table	
Heating blower speed at 0.50" W.C. SP		
Motor (HP) / number of speeds	1/2 HP / ECM	
Blower size (diam. x width)	10" x 10" (tight housing)	
GENERAL INFORMATION		
Overall dimensions (width x depth x height)	21 3/4" x 25 3/4" x 41 1/2"	
Supply air opening (width x depth)	17 3/4" x 18 3/4"	
Return air opening (width x depth)	23" x 19"	
Filter size	24" x 20" x 1"	
Shipping weight Lbs/Kg	153 / 70	
Air conditioning, maximum output (tons) at 0.5" W.C. SP	3.5	

* INPUT & OUTPUT ADJUSTMENT

- Pump pressure can be adjusted to maintain proper firing rate.
- Adjust flue gas temperature between 400° and 575°F
- Adjust fan speed for the air temperature rise specified

† Default installed Nozzle in bold characters

‡ AFUE value established after minimum 20 hours operation

** Meets EnergyStar guidelines

OVM154 SERIES, MULTI-POSITION MODELS	UNITS WITH 1.0 HP ECM MOTOR	
RATING AND PERFORMANCE		
Firing rate(USGPH)*	0.90	1.10
Input (BTU/h)*	126,000	154,000
Heating temperature rise (Degr. F)*	60 - 72 Degr. F	
Flue draft with chimney (inch of w.c.)	-0.06 to -0.035	
Overfire pressure with chimney (inch of w.c.)	-0.035 to +0.045	
Flue pressure with direct vent (inch of w.c. - no wind)	+0.05 to +0.16	
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.06 to +0.22	
BECKETT BURNER; NX MODEL (Chimney or DV)/ Insertion	KLABR0301BEC / 1 3/4"	
AHRI Model #	OVMAAB060154-126-BNX	OVMAAB060154-154-BNX
Maximum Heating capacity, (BTU/h)*	107,000	129,000
Head type	6 Slots - LC head	
Nozzle (Delavan)†	0.75 - 60B	0.90 - 60B
Pump pressure (PSIG)*	145	150
Head/Air setting	3.5	4
AFUE % (From CSA B212 standard and Canadian regulation)‡	**87.0%	**85.6%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**85.3%	**85.1%
RIELLO BURNER; 40-F5 MODEL (Chimney)/ Insertion	KLABR0501RLO / 2 3/4"	
AHRI Model #	OVMAAB060154-126-RF	OVMAAB060154-154-RF
Maximum Heating capacity, (BTU/h)*	106,000	128,000
Nozzle (Delavan)†	0.75 - 70A	0.90 - 70A
Pump pressure (PSIG)*	145	150
Combustion air adjustment (turbulator/damper)	1.5 / 2.25	2.5 / 2.75
AFUE % (From CSA B212 standard and Canadian regulation)‡	**86.6%	**85.3%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**86.0%	**85.0%
RIELLO BURNER; 40-BF5 MODEL (Direct vent DV)/ Insertion	KLABR0601RLO / 2 3/4"	
AHRI Model #	OVMAAB060154-126-RBF	OVMAAB060154-154-RF
Maximum Heating capacity, (BTU/h)*	106,000	128,000
Nozzle (Delavan)†	0.75 - 70A	0.90 - 70A
Pump pressure (PSIG)*	145	150
Combustion air adjustment (turbulator/damper)	1.0 / 3.75	3.0 / 4.25
AFUE % (From CSA B212 standard and Canadian regulation)‡	**86.4%	**85.7%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**86.1%	**85.0%
ELECTRICAL SYSTEM		
Volts - Hertz - Phase	115 - 60 - 1	
Rated current (Amps)	15.7	
Minimum ampacity for wire sizing (Amps)	18.1	
Max. fuse size (Amps)	20	
Control transformer(VA)	40	
External control power available: Heating (VA)	40	
External control power available: Cooling (VA)	30	
BLOWER DATA		
Heating blower speed at 0.25" W.C. SP	See the ECM air flow table	
Heating blower speed at 0.50" W.C. SP		
Motor (HP) / number of speeds	1.0 HP / ECM (with inductor)	
Blower size (diam. x width)	12" x 10" (tight housing)	
GENERAL INFORMATION		
Overall dimensions (width x depth x height)	25" x 28 1/2" x 48"	
Supply air opening (width x depth)	20" x 22"	
Return air opening (width x depth)	23" x 23"	
Filter size	24" x 24" x 1"	
Shipping weight Lbs/Kg	200 / 90	
Air conditioning, maximum output (tons) at 0.5" W.C. SP	5.0	

*. INPUT & OUTPUT ADJUSTMENT
 - Pump pressure can be adjusted to maintain proper firing rate.
 - Increase pump pressure if flue gas temperature is under 400°F
 - Adjust the total flue gas temperature between 400°F and 575°F (330°F and 505°F net approximately)
 †. Default installed Nozzle in bold characters
 ‡. AFUE values established after minimum 20 hours of operation
 **. Meets EnergyStar guidelines

OBM098 SERIES, MULTI-POSITION MODELS		UNITS WITH 1/3 HP 4-SPD. MOTOR		
RATING AND PERFORMANCE				
Firing rate(USGPH)*	0.50	0.60	0.70	
Input (BTU/h)	70,000	84,000	98,000	
Heating temperature rise (Degr. F)	55 - 85 Degr. F			
Flue draft with chimney (inch of w.c.)	-0.06 to -0.025			
Overfire pressure with chimney (inch of w.c.)	-0.035 to +0.010			
Flue pressure with direct vent (inch of w.c. - no wind)	+0.05 to +0.20			
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.03 to +0.15			
BECKETT BURNER; AFG MODEL (Chimney) /Insertion		KLABR0401BEC / 1 3/4"		
AHRI Model #	OBMAAB036098-070-BF	OBMAAB036098-084-BF	OBMAAB036098-098-BF	
Maximum Heating capacity, (BTU/h)*	58,000	69,000	80,000	
Head type	2 Slots - L2 head			
Nozzle (Delavan)†	0.40 - 60A	0.50 - 60A	0.60 - 60B	
Low firing rate baffle	Yes (5880)	Yes (5880)	No	
Pump pressure (PSIG)*	155	145	135	
Head/Air setting (damper/band)	4/0	8/0	5/0	
AFUE % (From CSA B212 standard and Canadian regulation)‡	85.6%	85.6%	84.3%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	85.2%	85.1%	83.9%	
BECKETT BURNER; NX MODEL (Chimney or DV) /Insertion		KLABR0101BEC / 1 3/4"		
AHRI Model #	OBMAAB036098-070-BNX	OBMAAB036098-084-BNX	OBMAAB036098-098-BNX	
Maximum Heating capacity, (BTU/h)*	59,000	70,000	81,000	
Head type	6 Slots - LQ head			
Nozzle (Delavan)†	0.40 - 60W	0.50 - 60W	0.60 - 60W	
Low firing rate baffle	Yes (32229)	Yes (32229)	No	
Pump pressure (PSIG)*	155	145	135	
Combustion air adjustment	2.0	2.75	2.5	
AFUE % (From CSA B212 standard and Canadian regulation)‡	86.7%	85.7%	85.0%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	86.1%	85.4%	84.5%	
RIELLO BURNER; 40-F3 MODEL (Chimney) /Insertion		KLABR0101RLO / 2 3/4"		
AHRI Model #	OBMAAB036098-070-RF	OBMAAB036098-084-RF	OBMAAB036098-098-RF	
Maximum Heating capacity, (BTU/h)*	59,000	70,000	81,000	
Nozzle (Delavan)†	0.40 - 70A	0.50 - 70A	0.60 - 70A	
Pump pressure (PSIG)*	155	145	135	
Combustion air adjustment (turbulator/damper)	0 / 1.5	0 / 2.5	1 / 3.5	
AFUE % (From CSA B212 standard and Canadian regulation)‡	87.0%	86.3%	84.9%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	86.4%	85.9%	84.5%	
RIELLO BURNER; 40-BF3 MODEL (Direct vent DV) /Insertion		KLABR0201RLO / 2 3/4"		
AHRI Model #	OBMAAB036098-070-RBF	OBMAAB036098-084-RBF	OBMAAB036098-098-RBF	
Maximum Heating capacity, (BTU/h)*	58,000	70,000	80,000	
Nozzle (Delavan)†	0.40 - 70A	0.50 - 70A	0.60 - 70A	
Pump pressure (PSIG)*	155	145	135	
Combustion air adjustment (turbulator/damper)	0 / 3.25	0 / 4	1 / 5.25	
AFUE % (From CSA B212 standard and Canadian regulation)‡	85.6%	85.3%	84.0%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	85.1%	85.0%	83.3%	
ELECTRICAL SYSTEM				
Volts - Hertz - Phase	115 - 60 - 1			
Rated current (Amps)	12.2			
Minimum ampacity for wire sizing (Amps)	13.7			
Max. fuse size (Amps)	15			
Control transformer (VA)	40			
External control power available: Heating / Cooling (VA)	40 / 30			
BLOWER DATA				
Heating blower speed at 0.25" W.C. SP	MED-LOW	MED-HIGH	HIGH	
Heating blower speed at 0.50" W.C. SP	MED-LOW	MED-HIGH	HIGH	
Motor (HP) / number of speeds	1/3 HP / 4 speeds			
Blower size (diam. x width)	10" x 8"			
GENERAL INFORMATION				
Overall dimensions (width x depth x height)	16 7/8" x 20 1/8" x 40 3/4"			
Supply air opening (width x depth)	16" x 19"			
Return air opening (width x depth)	19" x 19"			
Filter size (depth x height x thickness)	20" x 20" x 1"			
Shipping weight Lbs/Kg	125 / 57			
Air conditioning, maximum output (tons) at 0.5" W.C. SP	2.5			

* INPUT & OUTPUT ADJUSTMENT

- Pump pressure can be adjusted to maintain proper firing rate.
- Adjust the total flue gas temperature between 400°F and 575°F
- Adjust fan speed for the air temperature rise specified

†. Default installed Nozzle in bold characters

‡. AFUE value established after minimum 20 hours of operation

OBM112 SERIES, MULTI-POSITION MODELS		UNITS WITH 1/2 HP 4-SP. MOTOR	
RATING AND PERFORMANCE			
Firing rate(USGPH)*	0.68	0.80	
Input (BTU/h)*	95,200	112,000	
Heating temperature rise (Degr. F)*	55 - 75 Degr. F		
Flue draft with chimney (inch of w.c.)	-0.06 to -0.025		
Overfire pressure with chimney (inch of w.c.)	-0.035 to +0.025		
Flue pressure with direct vent (inch of w.c. - no wind)	+0.03 to +0.15		
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.05 to +0.17		
BECKETT BURNER; AFG MODEL (Chimney)/ Insertion		KLABR0501BEC / 1 3/4"	
AHRI Model #	OBMAAB042112-095-BF	OBMAAB042112-112-BF	
Maximum Heating capacity, (BTU/h)*	79,000	92,000	
Head type	2 Slots - L2 head		
Nozzle (Delavan)†	0.60 - 60W	0.65 - 60B	
Pump pressure (PSIG)*	140	150	
Head/Air setting	10/0	10/0 (Note 1)	
AFUE % (From CSA B212 standard and Canadian regulation)‡	86.3%	85.6%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	85.3%	85.4%	
BECKETT BURNER; NX MODEL (Chimney or DV)/ Insertion		KLABR0201BEC / 1 3/4"	
AHRI Model #	OBMAAB042112-095-BNX	OBMAAB042112-112-BNX	
Maximum Heating capacity, (BTU/h)*	80,000	83,000	
Head type	6 Slots - LQ head		
Nozzle (Delavan)†	0.60 - 60A	0.70 - 60A	
Pump pressure (PSIG)*	130	130	
Head/Air setting	3.5	2.5	
AFUE % (From CSA B212 standard and Canadian regulation)‡	87.1%	86.6%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	85.8%	85.3%	
RIELLO BURNER; 40-F3 MODEL (Chimney)/ Insertion		KLABR0301RLO / 2 3/4"	
AHRI Model #	OBMAAB042112-095-RF	OBMAAB042112-112-RF	
Maximum Heating capacity, (BTU/h)*	79,000	93,000	
Nozzle (Delavan)†	0.60 - 70A	0.70 - 70A	
Pump pressure (PSIG)*	130	130	
Combustion air adjustment (turbulator/damper)	1 / 2.6	2 / 3.1	
AFUE % (From CSA B212 standard and Canadian regulation)‡	87.0%	86.8%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	85.8%	85.4%	
RIELLO BURNER; 40-BF5 MODEL (Direct vent DV) / Insertion		KLABR0401RLO / 2 3/4"	
AHRI Model #	OBMAAB042112-095-RBF	OBMAAB042112-112-RBF	
Maximum Heating capacity, (BTU/h)*	79,000	94,000	
Nozzle (Delavan)†	0.60 - 70A	0.70 - 70A	
Pump pressure (PSIG)*	130	130	
Combustion air adjustment (turbulator/damper)	0 / 2.75	0 / 3.25	
AFUE % (From CSA B212 standard and Canadian regulation)‡	86.7%	85.5%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	85.5%	85.3%	
ELECTRICAL SYSTEM			
Volts - Hertz - Phase	115 - 60 - 1		
Rated current (Amps)	12.6		
Minimum ampacity for wire sizing (Amps)	15.2		
Max. fuse size (Amps)	20		
Control transformer(VA)	40		
External control power available: Heating (VA)	40		
External control power available: Cooling (VA)	30		
BLOWER DATA			
Heating blower speed at 0.25" W.C. SP	MED-LOW	MED-HIGH	
Heating blower speed at 0.50" W.C. SP	MED-LOW	MED-HIGH	
Motor (HP) / number of speeds	1/2 HP / 4 speeds		
Blower size (diam. x width)	10" x 10" (tight housing)		
GENERAL INFORMATION			
Overall dimensions (width x depth x height)	21 3/4" x 25 3/4" x 41 1/2"		
Supply air opening (width x depth)	17 3/4" x 18 3/4"		
Return air opening (width x depth)	23" x 19"		
Filter size	24" x 20" x 1"		
Shipping weight Lbs/Kg	153 / 70		
Air conditioning, maximum output (tons) at 0.5" W.C. SP	3.5		

- *. INPUT & OUTPUT ADJUSTMENT
- Pump pressure can be adjusted to maintain proper firing rate.
- Adjust the total flue gas temperature between 400°F and 575°F
- Adjust fan speed for the air temperature rise specified
- †. Default installed Nozzle in bold characters
- ‡. AFUE value established after minimum 20 hours of operation

OBM154 SERIES, MULTI-POSITION MODELS	UNITS WITH 1.0 HP 4-SP. MOTOR	
RATING AND PERFORMANCE		
Firing rate(USGPH)*	0.90	1.10
Input (BTU/h)*	126,000	154,000
Heating temperature rise (Degr. F)*	55 - 75 Degr. F	
Flue draft with chimney (inch of w.c.)	-0.06 to -0.035	
Overfire pressure with chimney (inch of w.c.)	-0.035 to +0.045	
Flue pressure with direct vent (inch of w.c. - no wind)	+0.05 to +0.16	
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.06 to +0.22	
BECKETT BURNER; NX MODEL (Chimney or DV)/ Insertion	KLABR0301BEC / 1 3/4"	
AHRI Model #	OBMAAB060154-126-BNX	OBMAAB060154-154-BNX
Maximum Heating capacity, (BTU/h)*	107,000	129,000
Head type	6 Slots - LC head	
Nozzle (Delavan)†	0.75 - 60B	0.90 - 60B
Pump pressure (PSIG)*	145	150
Head/Air setting	3,5	4
AFUE % (From CSA B212 standard and Canadian regulation)‡	87.0%	85.6%
AFUE % (From ASHRAE 103 standard and US regulation)‡	85.3%	85.1%
RIELLO BURNER; 40-F5 MODEL (Chimney)/ Insertion	KLABR0501RLO / 2 3/4"	
AHRI Model #	OBMAAB060154-126-RF	OBMAAB060154-154-RF
Maximum Heating capacity, (BTU/h)*	106,000	128,000
Nozzle (Delavan)†	0.75 - 70A	0.90 - 70A
Pump pressure (PSIG)*	145	150
Combustion air adjustment (turbulator/damper)	1.5 / 2.25	2.5 / 2.75
AFUE % (From CSA B212 standard and Canadian regulation)‡	86.6%	85.3%
AFUE % (From ASHRAE 103 standard and US regulation)‡	86.0%	85.0%
RIELLO BURNER; 40-BF5 MODEL (Direct vent DV)/ Insertion	KLABR0601RLO / 2 3/4"	
AHRI Model #	OBMAAB060154-126-RBF	OBMAAB060154-154-RBF
Maximum Heating capacity, (BTU/h)*	106,000	128,000
Nozzle (Delavan)†	0.75 - 70A	0.90 - 70A
Pump pressure (PSIG)*	145	150
Combustion air adjustment (turbulator/damper)	1.0 / 3.75	3.0 / 4.25
AFUE % (From CSA B212 standard and Canadian regulation)‡	86.4%	85.7%
AFUE % (From ASHRAE 103 standard and US regulation)‡	86.1%	85.0%
ELECTRICAL SYSTEM		
Volts - Hertz - Phase	115 - 60 - 1	
Rated current (Amps)	16,9	
Minimum ampacity for wire sizing (Amps)	19,5	
Max. fuse size (Amps)	20	
Control transformer(VA)	40	
External control power available: Heating (VA)	40	
External control power available: Cooling (VA)	30	
BLOWER DATA		
Heating blower speed at 0.25" W.C. SP	MED-LOW	MED-HIGH
Heating blower speed at 0.50" W.C. SP	MED-LOW	MED-HIGH
Motor (HP) / number of speeds	1.0 HP / 4 speeds	
Blower size (diam. x width)	12" x 10" (tight housing)	
GENERAL INFORMATION		
Overall dimensions (width x depth x height)	25" x 28 1/2" x 48"	
Supply air opening (width x depth)	20" x 22"	
Return air opening (width x depth)	23" x 23"	
Filter size	24" x 24" x 1"	
Shipping weight Lbs/Kg	200 / 90	
Air conditioning, maximum output (tons) at 0.5" W.C. SP	5.0	

* INPUT & OUTPUT ADJUSTMENT

- Pump pressure can be adjusted to maintain proper firing rate
- Increase pump pressure if flue gases temperature is under 400°F
- Adjust the total flue gas temperature between 400°F and 575°F (330°F and 505°F net approximately)

† Default Installed Nozzle in bold characters

‡ AFUE values established after minimum 20 hours of operation..

AIR DELIVERY - CFM (WITH FILTERS)

OBM098

BLOWER SPEED	EXTERNAL STATIC PRESSURE WITH AIR FILTER (In. W.C.)					
	0.2	0.3	0.4	0.5	0.6	0.7
HIGH	1185	1150	1095	1050	990	920
MED-HIGH	1055	1005	970	925	875	810
MED-LOW	860	860	845	795	740	695
LOW	680	690	680	665	640	565

OBM112

BLOWER SPEED	EXTERNAL STATIC PRESSURE WITH AIR FILTER (In. W.C.)					
	0.2	0.3	0.4	0.5	0.6	0.7
HIGH	1550	1510	1460	1400	1320	1220
MED-HIGH	1320	1280	1240	1200	1160	1020
MED-LOW	1180	1150	1110	1080	1040	940
LOW	1070)	1040	1010	980	910	840

OBM154

BLOWER SPEED	EXTERNAL STATIC PRESSURE WITH AIR FILTER (In. W.C.)					
	0.2	0.3	0.4	0.5	0.6	0.7
HIGH	2130	2085	1995	1915	1820	1745
MED-HIGH	1930	1855	1800	1750	1675	1615
MED-LOW	1565	1495	1460	1430	1400	1360
LOW	1185	1170	1140	1105	1080	1065

AIR DELIVERY - CFM (WITH FILTERS)

OVM098

OIL HEATING MODE - 24 VAC input (R) on W only				
SW1- HEAT DIP switch position	HEAT INPUT (USGPH)	CFM with SW3-ADJ DIP switch position A	CFM with SW3-ADJ DIP switch position B	CFM with SW3-ADJ DIP switch position C
A (1=OFF, 2=OFF)	0.70	970	1070	875
B (1=ON, 2=OFF)	0.60	820	900	735
C (1=OFF, 2=ON)	0.50	680	750	610
D (1=ON, 2=ON)		Same value as DIP switch position A		

CONTINUOUS FAN - 24 VAC input (R) on G only				
SW2- COOL DIP switch position	A/C size (TON)	CFM with SW3-ADJ DIP switch position A	CFM with SW3-ADJ DIP switch position B	CFM with SW3-ADJ DIP switch position C
A (1=OFF, 2=OFF)	3.0	900	1035	765
B (1=ON, 2=OFF)	2.5	750	860	635
C (1=OFF, 2=ON)	2.0	600	690	510
D (1=ON, 2=ON)	1.5	450	515	380

COOLING OR HEAT PUMP HEATING MODE - 24 VAC input (R) to G, Y/Y2 and O (for cooling)				
SW2- COOL DIP switch position	A/C size (TON)	CFM with SW3-ADJ DIP switch position A	CFM with SW3-ADJ DIP switch position B	CFM with SW3-ADJ DIP switch position C
A (1=OFF, 2=OFF)	3.0	1200	1320	1080
B (1=ON, 2=OFF)	2.5	1000	1100	900
C (1=OFF, 2=ON)	2.0	800	880	720
D (1=ON, 2=ON)	1.5	600	660	540

In Cooling - Dehumidification mode, with no 24 VAC input to DH, the CFM are reduced by 15%.

The CFM shown are reduced by 20% if there is 24 VAC input to Y1 (Slow speed of 2-speed compressor)

DELAY PROFILE FOR OIL HEATING MODE				
SW4- DELAY DIP switch position	HEAT INPUT (USGPH)	PreRun On-Delay CFM Level - Time	ShortRun On-Delay CFM Level - Time	Off-Delay CFM Level - Time
A (1=OFF, 2=OFF)	0.7	13% - 45 sec.	19% - 30 sec	38% -3 min.
B (1=ON, 2=OFF)	0.55	13% - 45 sec.	19% - 60 sec	38% -3 min.
C (1=OFF, 2=ON)	0.505	13% - 60 sec.	13% - 60 sec	38% -3 min.
D (1=ON, 2=ON)	All	13% - 30 sec.	100% - 0 sec	100% - 2 min.

PreRun and ShortRun are the periods of time when the blower starts at very low CFM to minimize the distribution of cool air in the system and then runs up to normal speed.

Off Delay is the time required to cool down the heat exchanger with low CFM , to minimize cool draft in the air distribution system.

DELAY PROFILE FOR COOLING OR HEAT PUMP HEATING MODE				
No adjustment required	A/C size	PreRun On-Delay CFM Level - Time	ShortRun On-Delay CFM Level - Time	Off-Delay CFM Level - Time
-	All	No delay	No delay	100% - 90 sec.

OVM112

OIL HEATING MODE - 24 VAC input (R) on W only				
SW1- HEAT DIP switch position	HEAT INPUT (USGPH)	CFM with SW3-ADJ DIP switch position A	CFM with SW3-ADJ DIP switch position B	CFM with SW3-ADJ DIP switch position C
A (1=OFF, 2=OFF)	0.68	1160	1275	1045
B (1=ON, 2=OFF)	0.80	1340	1475	1205
C (1=OFF, 2=ON)*	0.68	1000	1100	900
D (1=ON, 2=ON)*	0.80	1160	1275	1045

CONTINUOUS FAN - 24 VAC input (R) on G only				
SW2- COOL DIP switch position	A/C size (TON)	CFM with SW3-ADJ DIP switch position A	CFM with SW3-ADJ DIP switch position B	CFM with SW3-ADJ DIP switch position C
A (1=OFF, 2=OFF)	3.5	1050	1210	895
B (1=ON, 2=OFF)	3.0	900	1035	765
C (1=OFF, 2=ON)	2.5	750	865	640
D (1=ON, 2=ON)	2.0	600	690	510

COOLING OR HEAT PUMP HEATING MODE - 24 VAC input (R) to G, Y/Y2 and O (for cooling)				
SW2- COOL DIP switch position	A/C size (TON)	CFM with SW3-ADJ DIP switch position A	CFM with SW3-ADJ DIP switch position B	CFM with SW3-ADJ DIP switch position C
A (1=OFF, 2=OFF)	3.5	1400	1400	1260
B (1=ON, 2=OFF)	3.0	1200	1320	1080
C (1=OFF, 2=ON)	2.5	1000	1100	900
D (1=ON, 2=ON)	2.0	800	880	720

In Cooling - Dehumidification mode, with no 24 VAC input to DH, the CFM are reduced by 15%.

The CFM shown are reduced by 20% if there is 24 VAC input to Y1 (first stage cooling mode)

DELAY PROFILE FOR OIL HEATING MODE				
SW4- DELAY DIP switch position	HEAT INPUT (USGPH)	PreRun On-Delay CFM Level - Time	ShortRun On-Delay CFM Level - Time	Off-Delay CFM Level - Time
A (1=OFF, 2=OFF)	0.68	13% - 45 sec.	19% - 60 sec	38% - 3 min.
B (1=ON, 2=OFF)	0.80	13% - 45 sec.	19% - 30 sec	38% - 3 min.
C (1=OFF, 2=ON)	All	13% - 45 sec.	100% - 0 sec	100% - 2 min.
D (1=ON, 2=ON)	All	13% - 90 sec.	100% - 0 sec	100% - 2 min.

PreRun and ShortRun are the periods of time when the blower starts at very low CFM to minimize the distribution of cool air in the system and then runs up to normal speed.

Off Delay is the time required to cool down the heat exchanger with low CFM, to minimize cool draft in the air distribution system.

DELAY PROFILE FOR COOLING OR HEAT PUMP HEATING MODE				
No adjustment required	A/C size	PreRun On-Delay CFM Level - Time	ShortRun On-Delay CFM Level - Time	Off-Delay CFM Level - Time
-	All	No delay	No delay	100% - 90 sec.

* Alternate adjustment in oil-fired heating mode with higher temperature rise.

OVM154

OIL HEATING MODE - 24 VAC input (R) on W only				
SW1- HEAT DIP switch position	HEAT INPUT (USGPH)	CFM with SW3-ADJ DIP switch position A	CFM with SW3-ADJ DIP switch position B	CFM with SW3-ADJ DIP switch position C
A (1=OFF, 2=OFF)	0.90	1450	1595	1305
B (1=ON, 2=OFF)	1.10	1700	1875	1530
C (1=OFF, 2=ON)*	Settings not used in this mode			
D (1=ON, 2=ON)*				

CONTINUOUS FAN - 24 VAC input (R) on G only				
SW2- COOL DIP switch position	A/C size (TON)	CFM with SW3-ADJ DIP switch position A	CFM with SW3-ADJ DIP switch position B	CFM with SW3-ADJ DIP switch position C
A (1=OFF, 2=OFF)	5.0	1500	1725	1275
B (1=ON, 2=OFF)	4.0	1200	1380	1020
C (1=OFF, 2=ON)	3.5	1050	1205	890
D (1=ON, 2=ON)	3.0	900	1035	765

COOLING OR HEAT PUMP HEATING MODE - 24 VAC input (R) to G, Y/Y2 and O (for cooling)				
SW2- COOL DIP switch position	A/C size (TON)	CFM with SW3-ADJ DIP switch position A	CFM with SW3-ADJ DIP switch position B	CFM with SW3-ADJ DIP switch position C
A (1=OFF, 2=OFF)	5.0	2000	2200	1800
B (1=ON, 2=OFF)	4.0	1600	1760	1440
C (1=OFF, 2=ON)	3.5	1400	1540	1260
D (1=ON, 2=ON)	3.0	1200	1320	1080

In Cooling - Dehumidification mode, with no 24 VAC input to DH, the CFM are reduced by 15%.

The CFM shown are reduced by 20% if there is 24 VAC input to Y1 (first stage cooling mode)

AIR DELIVERY - CFM (WITH FILTERS)**OVM154 (CONTINUED)**

DELAY PROFILE FOR OIL HEATING MODE				
SW4- DELAY DIP switch position	HEAT INPUT (USGPH)	PreRun On-Delay CFM Level - Time	ShortRun On-Delay CFM Level - Time	Off-Delay CFM Level - Time
A (1=OFF, 2=OFF)	0.90	13% - 90 sec.	31% - 30 sec.	50% - 4 min.
B (1=ON, 2=OFF)	1.10	13% - 60 sec.	31% - 30 sec.	38% - 5 min.
C (1=OFF, 2=ON)	ALL	13% - 90 sec.	31% - 30 sec.	56% - 5 min.
D (1=OFF, 2=ON)	ALL	13% - 60 sec.	31% - 30 sec.	44% - 5 min.

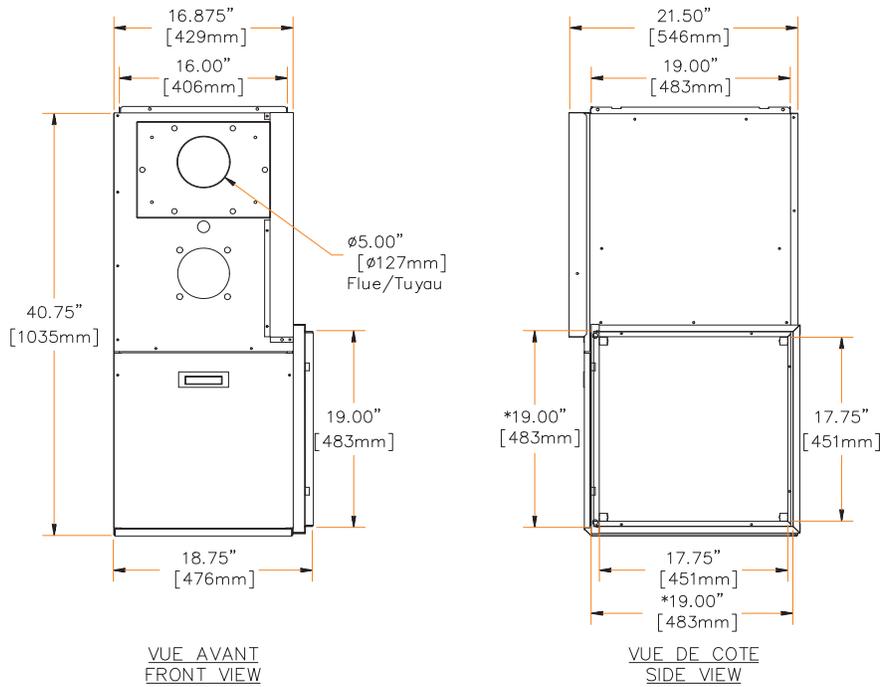
PreRun and ShortRun are the periods of time when the blower starts at very low CFM to minimize the distribution of cool air in the system and then runs up to normal speed.
Off Delay is the time required to cool down the heat exchanger with low CFM, to minimize cool draft in the air distribution system.

DELAY PROFILE FOR COOLING OR HEAT PUMP HEATING MODE				
No adjustment required	A/C size	PreRun On-Delay CFM Level - Time	ShortRun On-Delay CFM Level - Time	Off-Delay CFM Level - Time
-	All	No delay	No delay	100% - 90 sec.

FURNACE ACCESSORIES

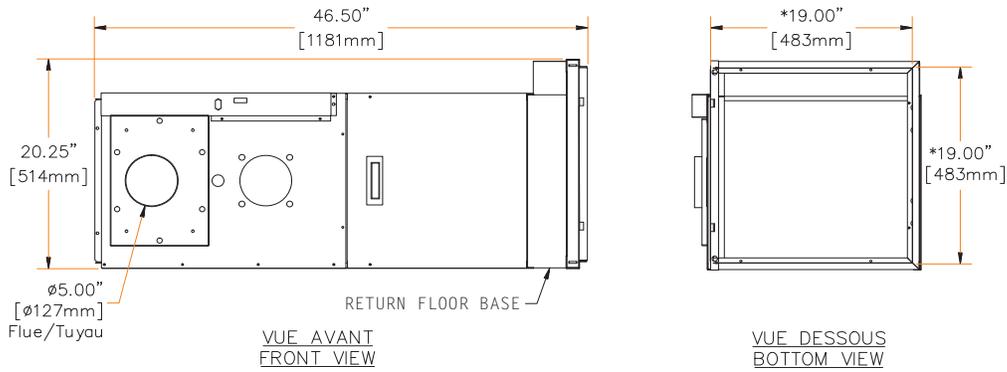
OBM-OVM098 ACCESSORIES		
ACCESSORY NUMBER	DESCRIPTION	APPLICATION NOTES
KLASB0801DET	DOWNFLOW BASE	B03464-01
KLASB0701DET	HORIZONTAL FLOW BASE	B00488-01
KLARB0101DET	FLOOR RETURN BASE	B03482-01
KLAVT0101DET	VENT TERMINAL KIT 4"	For sealed combustion
KLAFV0201DET	4" INSULATED FLEX VENT 20ft	For sealed combustion
KLABR401BEC	BECKETT AFG BURNER (0.50-60A NOZZLE)	
KLABR0101BEC	BECKETT NX BURNER (0.50-60W NOZZLE)	
KLABR0101RLO	RIELLO 40-F3 BURNER (0.50-70A NOZZLE)	
KLABR201RLO	RIELLO 40-BF3 BURNER (0.50-70A NOZZLE)	For sealed combustion
B03789	BURNER NX PROTECTION PLATE	For downflow installation only
KLABV0301DET	BLOCKED VENT SHUTOFF KIT	
OBM-OVM112 ACCESSORIES		
KLASB0901DET	DOWNFLOW BASE	B03464-02
KLASB0701DET	HORIZONTAL FLOW BASE	B00488-01
KLAVT0101DET	VENT TERMINAL KIT 4"	For sealed combustion
KLAFV0201DET	4" INSULATED FLEX VENT 20ft	For sealed combustion (B02551-10)
KLABR0501BEC	BURNER BECKETT AFG (0.60-60W NOZZLE)	
KLABR0201BEC	BECKETT NX BURNER (0.60-60A NOZZLE)	
KLABR0301RLO	RIELLO 40-F5 BURNER (0.60-70A NOZZLE)	
KLABR0401RLO	RIELLO 40-BF5 BURNER (0.60-70A NOZZLE)	For sealed combustion
KLABV0101DET	BLOCKED VENT SHUTOFF KIT	
OBM-OVM154 ACCESSORIES		
KLASB1001DET	DOWNFLOW BASE	B03464-03
KLASB0701DET	HORIZONTAL FLOW BASE	B00488-01
KLAVT0201DET	VENT TERMINAL KIT 5"	For sealed combustion
KLAFV0401DET	5" INSULATED FLEX VENT 20ft	For sealed combustion (B02551-10)
KLABR0301BEC	BECKETT NX BURNER (0.75-60B NOZZLE)	For sealed combustion
KLABR0501RLO	RIELLO 40-F5 BURNER (0.75-70A NOZZLE)	
KLABR0601RLO	RIELLO 40-BF5 BURNER (0.75-70A NOZZLE)	For sealed combustion
KLABV0101DET	BLOCKED VENT SHUTOFF KIT	

OBM/OVM098



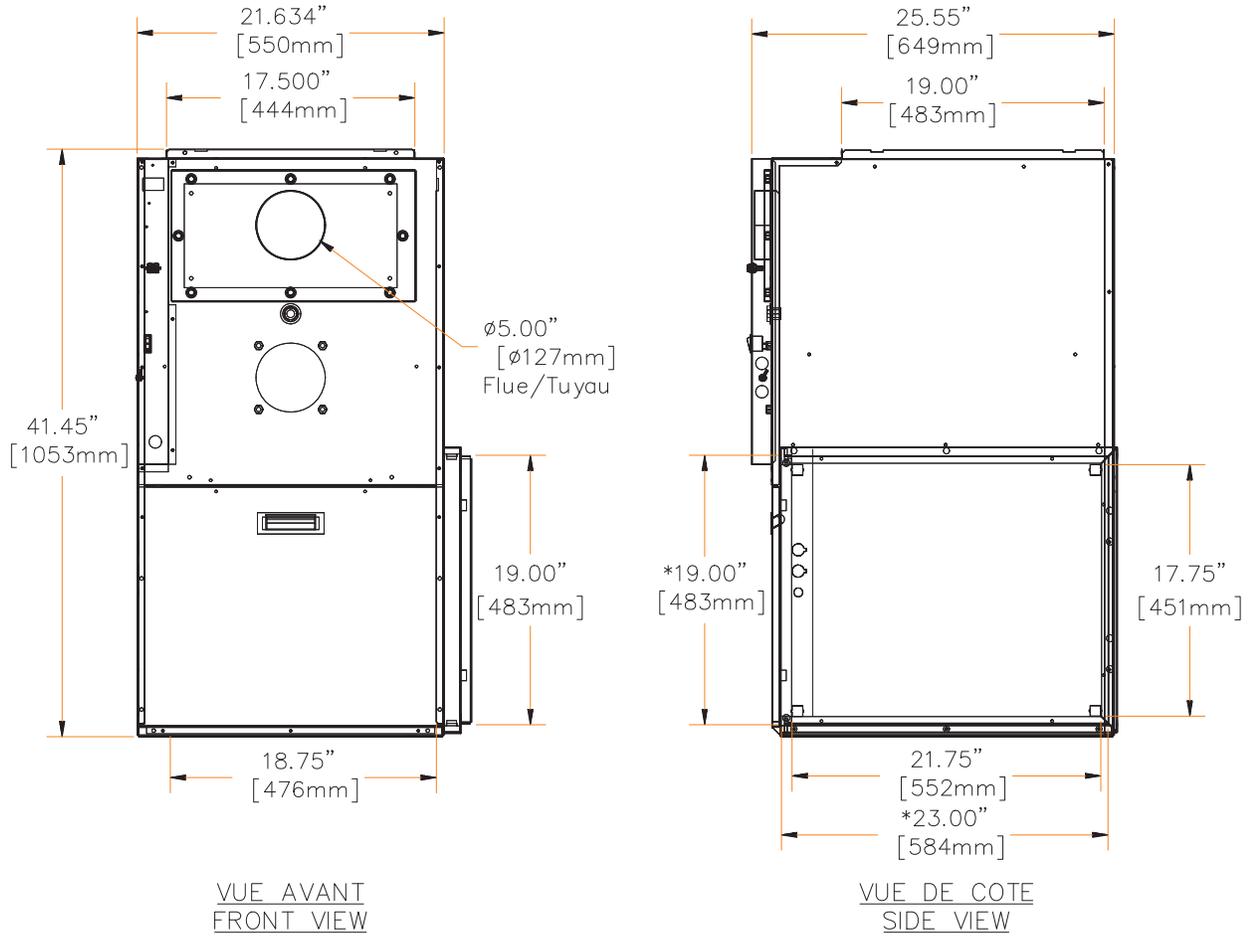
* OUVERTURE CONDUIT/DUCT OPENING

INSTALLATION HORIZONTALE AVEC BASE RETOUR DE PLANCHER
HORIZONTAL INSTALLATION WITH FLOOR RETURN BASE



* OUVERTURE CONDUIT/DUCT OPENING

OBM/OVM112

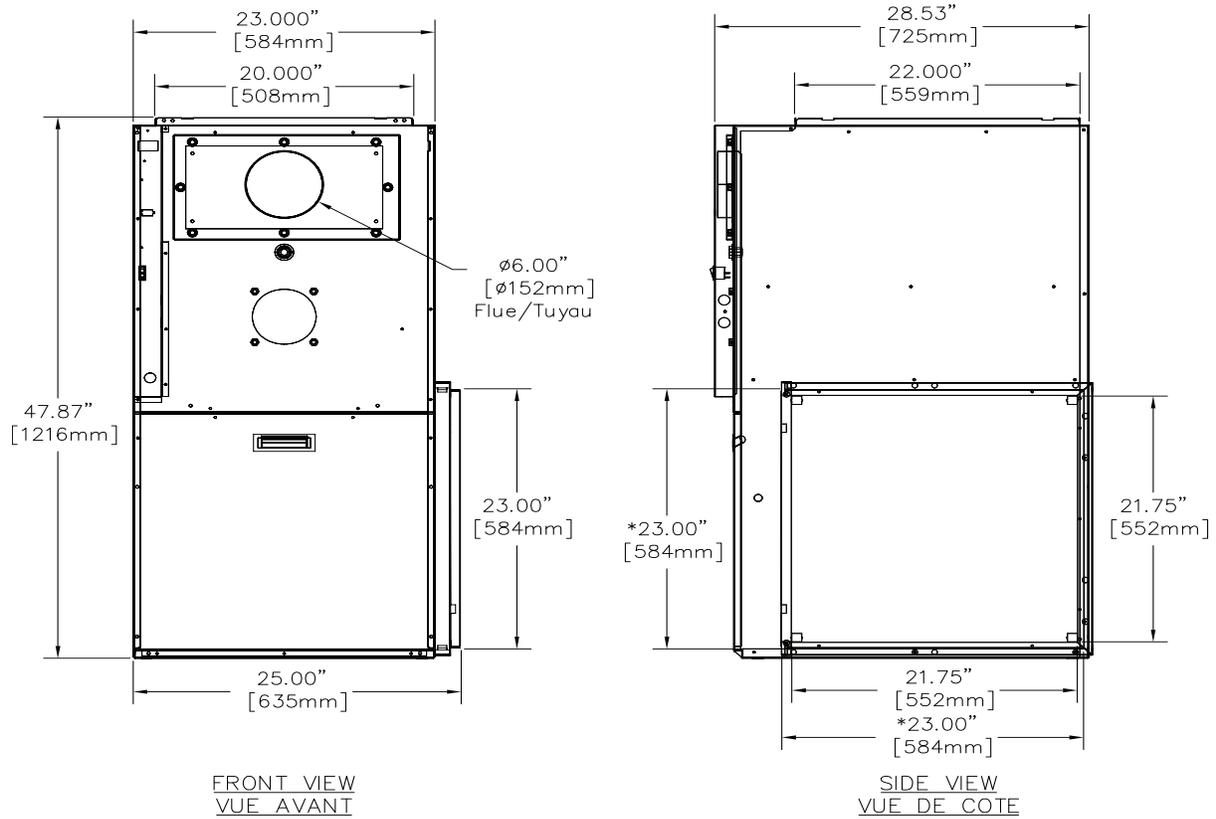


* OUVERTURE CONDUIT/DUCT OPENING

DNS-1226 Rev.A

A10317

OBM/OVM154

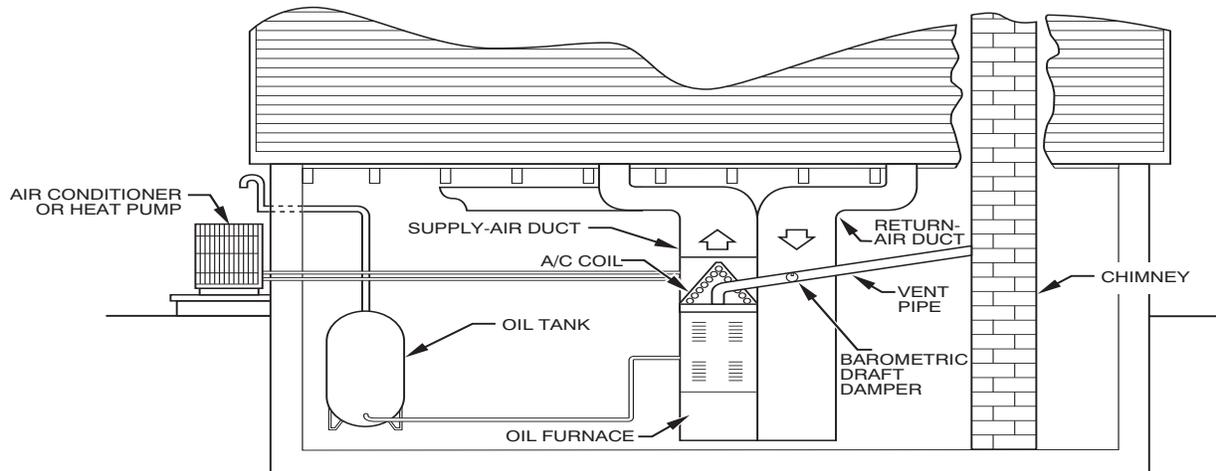


* DUCT OPENING/OUVERTURE CONDUIT

DNS-1290 Rev.B

A11467

TYPICAL INSTALLATION



A10322

