

# OBL/OVL

## Low-Boy Oil Furnace

### PSC & ECM Variable Motors

## Product Data



A10232

### THE LATEST IN OIL FURNACE TECHNOLOGY

The models OBL and OVL combine high efficiency and quiet operation with oil heating technology. The OBL/OVL can be fired at two different rates by a simple nozzle change and burner adjustments. Furnaces are available to cover input ranges from 77,000 to 154,000 Btuh. The furnace design is a low-boy style for upflow applications where overhead space is limited.

The OBL/OVL 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.

### OBL/OVL 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 make this unit one of the quietest on the market.

#### COMBUSTION PRODUCTS VENTING

- Rear 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

- OBL units equipped with 4-speed blower for precise airflow selection of heating or cooling operation.
- OVL units equipped with optional ECM Variable Speed high-efficiency motor.

#### CONSTANT LOW-SPEED BLOWER SWITCH (OBL 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 and heat exchangers are 100% tested for leaks.

#### CERTIFICATIONS

- OBL/OVL units are cCSAus certified
- AHRI efficiency rating certified.
- OVL models meet Energy Star guidelines
- Up to 87.9% AFUE for Canada (CSA B212 + Canadian laws)
- Up to 87.5% 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](http://www.ahridirectory.org).

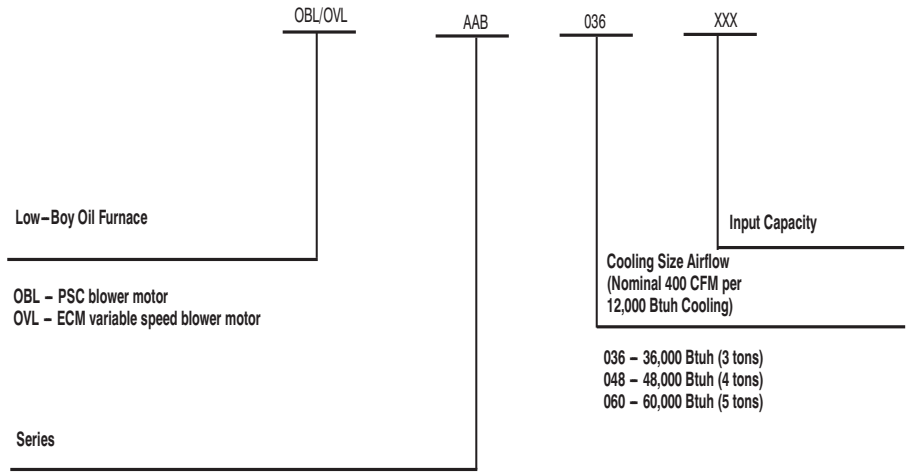
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All OVL series meet the EnergyStar® Guidelines

A210043

## MODEL NUMBER NOMENCLATURE



A210041

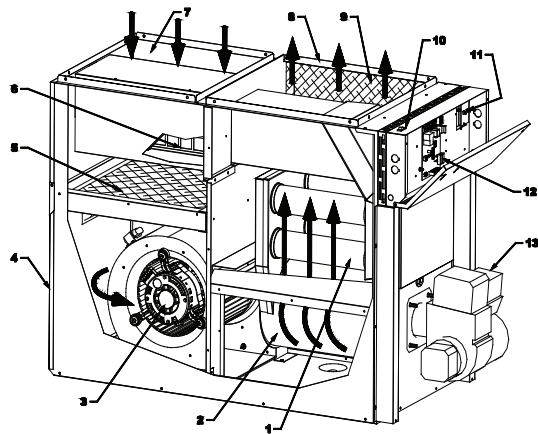
## CLEARANCE TO COMBUSTIBLES

LOCATION	UNIT APPLICATION	CLEARANCES - IN. (MM)	RECOMMENDED ACCESS FOR SERVICE
<b>SIDES</b>	Furnace	1 (25)	24 (610)
	Supply Plenum Within 6 Ft. (1.8 M) of Furnace	1 (25)	
<b>BACK</b>	Access panel to blower	4 (102)	24 (610)
<b>TOP</b>	Furnace or Plenum	2 (51)	
	Horizontal Warm-Air Duct Within 6 Ft. (1.8 M) of Furnace	2 (51)	
<b>BOTTOM*</b>	Furnace (combustible floor)*	0 (0)	
<b>FLUE PIPE</b>	Horizontally or below flue pipe	9 (229)	
	Vertically above flue pipe		
<b>FRONT</b>	Furnace (burner end)	8 (203)	24 (610)

\*. Floor may be combustible

**NOTE:** Adequate service clearance should be provided over and above these dimensions as required.

## OBL - PSC MOTOR UNIT

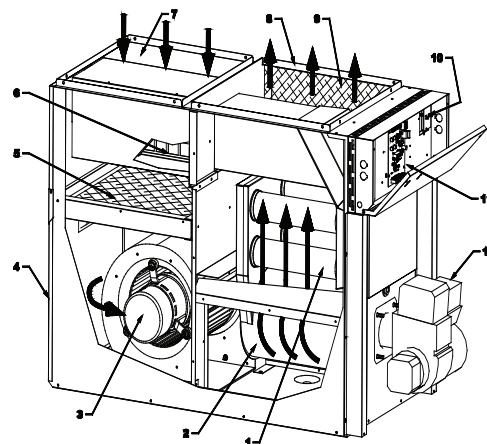


DNS-1247 Rev.A

A10027

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

## OVL - ECM VARIABLE MOTOR UNIT



JNS 1248 Rev.A

A10028

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

## FURNACE SPECIFICATIONS

OVL098 LOWBOY SERIES	UNITS WITH 1/2 HP ECM MOTOR	
<b>RATING AND PERFORMANCE</b>		
Firing rate (USGPH)*	0.55	0.70
Input (BTU/h)*	77,000	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)	+0.03 to +0.20	
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.05 to +0.15	
<b>BECKETT BURNER; MODEL AFG (Chimney) / Insertion</b>	<b>KLABR0401BEC / 1 3/4" (Note 1)</b>	
AHRI Model #	OVLAAB036098-077-BF	OVLAAB036098-098-BF
Maximum Heating capacity, (BTU/h)*	63,000	80,000
Head type	2 - Slot L2 Head	
Nozzle (Delavan)†	<b>0.50 - 60A</b>	0.60 - 60W
Pump pressure (PSIG)*	150	140
Head/Air setting	6/0	10/3
AFUE % (From CSA B212 standard and Canadian regulation)‡	**86.9%	**86.4%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**85.7%	**85.1%
<b>BECKETT BURNER; MODEL NX (Chimney or DV) / Insertion</b>	<b>KLABR0101BEC / 1 3/4" (Note 2)</b>	
AHRI Model #	OVLAAB036098-077-BNX	OVLAAB036098-098-BNX
Maximum Heating capacity, (BTU/h)*	65,000	81,000
Head type	6 - Slot LQ Head	
Nozzle (Delavan)†	<b>0.60 - 60W</b>	0.65 - 60W
Pump pressure (PSIG)*	140	150
Head/Air setting	3.0	3.5
AFUE % (From CSA B212 standard and Canadian regulation)‡	**87.9%	**86.3%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**86.9%	**85.2%
<b>RIELLO BURNER; MODEL 40-F3 (Chimney) / Insertion</b>	<b>KLABR0101RLO / 2 3/4"</b>	
AHRI Model #	OVLAAB036098-077-RF	OVLAAB036098-098-RF
Maximum Heating capacity, (BTU/h)*	64,000	80,000
Nozzle (Delavan)†	<b>0.50 - 70A</b>	0.60 - 70A
Pump pressure (PSIG)*	150	140
Combustion air adjustment (turbulator/damper)	0 / 2.0	1 / 3.5
AFUE % (From CSA B212 standard and Canadian regulation)‡	**87.6%	**86.3%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**86.6%	**85.2%
<b>RIELLO BURNER; MODEL 40-BF3 (Direct vent DV) / Insertion</b>	<b>KLABR0201RLO / 2 3/4"</b>	
AHRI Model #	OVLAAB036098-077-RBF	OVLAAB036098-098-RBF
Maximum Heating capacity, (BTU/h)*	65,000	81,000
Nozzle (Delavan)†	<b>0.50 - 70A</b>	0.60 - 70A
Pump pressure (PSIG)*	150	140
Combustion air adjustment (turbulator/damper)	0 / 3,5	1 / 5.25
AFUE % (From CSA B212 standard and Canadian regulation)‡	**87.1%	**85.4%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**86.7%	**85.0%
<b>ELECTRICAL SYSTEM</b>		
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	
Cooling (VA)	30	
<b>BLOWER DATA</b>		
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)	
<b>GENERAL INFORMATION</b>		
Overall dimensions (width x depth x height)	21" x 47" x 34"	
Supply air opening (width x depth)	20" x 20"	
Return air opening (width x depth)	18" x 20"	
Filter size and quantity	20" x 20" x 1" ou 2"	
Shipping weight Lbs/Kg	175 Lbs / 80 Kg	
Air conditioning, maximum output (tons) at 0.5" W.C. SP	3.0	

- \*. INPUT & OUTPUT ADJUSTMENTS  
 - 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 of operation
- \*\* Meets EnergyStar guidelines

NOTE 1: With Low firing baffle #3708  
 NOTE 2: With Low firing baffle #32229

OVL112 LOWBOY SERIES	UNITS WITH 3/4 HP ECM MOTOR	
<b>RATING AND PERFORMANCE</b>		
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 à +0.15	
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.05 à +0.17	
<b>BECKETT BURNER; MODEL AFG (Chimney) / Insertion</b>	<b>KLABR0501BEC / 1 3/4"</b>	
AHRI Model #	OVLAAB048112-095-BF	OVLAAB048112-112-BF
Maximum Heating capacity, (BTU/h)*	81,000	94,000
Head type	2 - Slot L2 Head	
Nozzle (Delavan)†	<b>0.60 - 60W</b>	0.65 - 60B
Pump pressure (PSIG)*	140	150
Head/Air setting	8/0	7/0 (Note 1)
AFUE % (From CSA B212 standard and Canadian regulation)‡	**87,2%	**86,4%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**87,1%	**86,3%
<b>BECKETT BURNER; MODEL NX (Chimney or DV) / Insertion</b>	<b>KLABR0201BEC / 1 3/4"</b>	
AHRI Model #	OVLAAB048112-095-BNX	OVLAAB048112-112-BNX
Maximum Heating capacity, (BTU/h)*	80,000	93,000
Head type	6 - Slot LQ head	
Nozzle (Delavan)†	<b>0.60 - 60W</b>	0.65 - 60W
Pump pressure (PSIG)*	140	150
Head/Air setting	3.0	3.5
AFUE % (From CSA B212 standard and Canadian regulation)‡	**88,1%	**87,0%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**87,0%	**85,9%
<b>RIELLO BURNER; MODEL 40-F3 (Chimney) / Insertion</b>	<b>KLABR0301RLO / 2 3/4"</b>	
AHRI Model #	OVLAAB048112-095-RF	OVLAAB048112-112-RF
Maximum Heating capacity, (BTU/h)*	80,000	94,000
Nozzle (Delavan)†	<b>0.60 - 70A</b>	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)‡	**87,6%	**87,4%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**86,6%	**86,1%
<b>RIELLO BURNER; MODEL 40-BF5 (Direct vent DV) / Insertion</b>	<b>KLABR0401RLO / 2 3/4"</b>	
AHRI Model #	OVLAAB048112-095-RBF	OVLAAB048112-112-RBF
Maximum Heating capacity, (BTU/h)*	81,000	94,000
Nozzle (Delavan)†	<b>0.60 - 70A</b>	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)‡	**87,4%	**86,5%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**87,2%	**86,5%
<b>ELECTRICAL SYSTEM</b>		
Volts - Hertz - Phase	115 - 60 - 1	
Rated current (Amps)	12.2	
Minimum ampacity for wire sizing (Amps)	14.7	
Max. fuse size (Amps)	15	
Control transformer (VA)	40	
External control power available: Heating (VA)	40	
External control power available: Cooling (VA)	30	
<b>BLOWER DATA</b>		
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	3/4 HP / ECM (with power choke)	
Blower size (diam. x width)	12" x 9" (tight housing)	
<b>GENERAL INFORMATION</b>		
Overall dimensions (width x depth x height)	21" x 48" x 33"	
Supply air opening (width x depth)	19 3/4" x 19 3/4"	
Return air opening (width x depth)	19 3/4" x 19 3/4"	
Filter size and quantity	20" x 20" x 1" (or 2") 16" x 20" x 1" (quantity = 2)	
Shipping weight Lbs/Kg	195 Lbs / 89 Kg	
Air conditioning, maximum output (tons) at 0.5" W.C. SP	4.0	

- \*. INPUT & OUTPUT ADJUSTMENTS  
- Pump pressure can be adjusted to maintain proper firing rate  
- Increase pump pressure if flue gases temperature is under 400°  
- Adjust the total flue gas temperature between 400° and 575°F (300°F and 505°F net approximately)
- †. Default Installed Nozzle in bold characters
- ‡. AFUE values established after minimum 20 hours of operation
- \*\* . Meets EnergyStar guidelines

NOTE 1: Without low firing baffle #5880

OVL154 LOWBOY SERIES		UNITS WITH 1.0 HP ECM MOTOR	
<b>RATING AND PERFORMANCE</b>			
Firing rate(USGPH) <sup>†</sup>	0.90	1.10	
Input (BTU/h) <sup>*</sup>	126,000	154,000	
Heating temperature rise (Degr. F) <sup>†</sup>	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)	+0.05 to +0.12		
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.06 to +0.16		
<b>BECKETT BURNER; NX MODEL (Chimney or DV)/ Insertion</b>			
AHRI Model #	OVLAAB060154-126-BNX	OVLAAB060154-154-BNX	
Maximum Heating capacity, (BTU/h) <sup>*</sup>	106,000	128,000	
Head type	6 Slots - LC head		
Nozzle (Delavan) <sup>†</sup>	<b>0.75 - 60B</b>	0.90 - 60B	
Pump pressure (PSIG) <sup>*</sup>	145	150	
Head/Air setting	2.5	3.25	
AFUE % (From CSA B212 standard and Canadian regulation) <sup>‡</sup>	**87.7%	**86.7%	
AFUE % (From ASHRAE 103 standard and US regulation) <sup>‡</sup>	**86.6%	**85.5%	
<b>RIELLO BURNER; 40-F5 MODEL (Chimney)/ Insertion</b>			
AHRI Model #	OVLAAB060154-126-RF	OVLAAB060154-154-RF	
Maximum Heating capacity, (BTU/h) <sup>*</sup>	106,000	128,000	
Nozzle (Delavan) <sup>†</sup>	<b>0.75 - 70A</b>	0.90 - 70A	
Pump pressure (PSIG) <sup>*</sup>	145	150	
Combustion air adjustment (turbulator/damper)	1.5 / 2.25	2.5 / 2.75	
AFUE % (From CSA B212 standard and Canadian regulation) <sup>‡</sup>	**87.6%	**86.8%	
AFUE % (From ASHRAE 103 standard and US regulation) <sup>‡</sup>	**86.6%	**85.8%	
<b>RIELLO BURNER; 40-BF5 MODEL (Direct vent DV)/ Insertion</b>			
AHRI Model #	OVLAAB060154-126-RBF	OVLAAB060154-154-RBF	
Maximum Heating capacity, (BTU/h) <sup>*</sup>	107,000	129,000	
Nozzle (Delavan) <sup>†</sup>	<b>0.75 - 70A</b>	0.90 - 70A	
Pump pressure (PSIG) <sup>*</sup>	145	150	
Combustion air adjustment (turbulator/damper)	1.0 / 3.75	3.0 / 4.25	
AFUE % (From CSA B212 standard and Canadian regulation) <sup>‡</sup>	**87.7%	**86.1%	
AFUE % (From ASHRAE 103 standard and US regulation) <sup>‡</sup>	**87.5%	**86.2%	
<b>ELECTRICAL SYSTEM</b>			
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		
<b>BLOWER DATA</b>			
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			
Blower size (diam. x width)	12" x 10" (tight housing)		
<b>GENERAL INFORMATION</b>			
Overall dimensions (width x depth x height)	24 3/4" x 52" x 39 1/4"		
Supply air opening (width x depth)	23 3/4" x 23 3/4"		
Return air opening (width x depth)	23 3/4" x 19 3/4"		
Filters size and quantity	20" x 24" x 1" or 2" (quantity=1) 16" x 24" x 1" (quantity=2)		
Shipping weight Lbs/Kg	270 / 122.5		
Air conditioning, maximum output (tons) at 0.5" W.C. SP	5.0		

## \* INPUT &amp; OUTPUT ADJUSTMENTS

- Pump pressure can be adjusted to maintain proper firing rate
- Increase pump pressure if flue gases temperature is under 400°
- Adjust the total flue gas temperature between 400° and 575°F (300°F and 505°F net approximately)

†. Default Installed Nozzle in bold characters

‡. AFUE value established after minimum 20 hours of operation

\*\*. Meets EnergyStar guidelines

OBL098 LOWBOY SERIES	UNITS WITH 1/3 HP 4-SPD. MOTOR	
<b>RATING AND PERFORMANCE</b>		
Firing rate (USGPH)*	0.55	0.70
Input (BTU/h)*	77,000	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)	+0.03 to +0.20	
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.05 to +0.15	
<b>BECKETT BURNER; MODEL AFG (Chimney) / Insertion</b>	<b>KLABR0401BEC / 1 3/4" (Note 1)</b>	
AHRI Model #	OBLAAB036098-077-BF	OBLAAB036098-098-BF
Maximum Heating capacity, (BTU/h)*	63,000	80,000
Head type	2 - Slot L2 Head	
Nozzle (Delavan)†	<b>0.50 - 60A</b>	0.60 - 60W
Pump pressure (PSIG)*	150	140
Head/Air setting	6/0	10/3
AFUE % (From CSA B212 standard and Canadian regulation)‡	86.9%	86.4%
AFUE % (From ASHRAE 103 standard and US regulation)‡	85.7%	85.1%
<b>BECKETT BURNER; MODEL NX (Chimney or DV) / Insertion</b>	<b>KLABR0101BEC / 1 3/4" (Note 2)</b>	
AHRI Model #	OBLAAB036098-077-BNX	OBLAAB036098-098-BNX
Maximum Heating capacity, (BTU/h)*	65,000	81,000
Head type	6 - Slot LQ Head	
Nozzle (Delavan)†	<b>0.50 - 60W</b>	0.60 - 60W
Pump pressure (PSIG)*	150	140
Head/Air setting	3.0	3.5
AFUE % (From CSA B212 standard and Canadian regulation)‡	87.9%	86.3%
AFUE % (From ASHRAE 103 standard and US regulation)‡	86.9%	85.2%
<b>RIELLO BURNER; MODEL 40-F3 (Chimney) / Insertion</b>	<b>KLABR0101RLO / 2 3/4"</b>	
AHRI Model #	OBLAAB036098-077-RF	OBLAAB036098-098-RF
Maximum Heating capacity, (BTU/h)*	64,000	80,000
Nozzle (Delavan)*	<b>0.50 - 70A</b>	0.60 - 70A
Pump pressure (PSIG)*	150	140
Combustion air adjustment (turbulator/damper)	0 / 2.0	1 / 3.5
AFUE % (From CSA B212 standard and Canadian regulation)‡	87.6%	86.3%
AFUE % (From ASHRAE 103 standard and US regulation)‡	86.6%	85.2%
<b>RIELLO BURNER; MODEL 40-BF3 (Direct vent DV) / Insertion</b>	<b>KLABR0201RLO / 2 3/4"</b>	
AHRI Model #	OBLAAB036098-077-RBF	OBLAAB036098-098-RBF
Maximum Heating capacity, (BTU/h)*	65,000	81,000
Nozzle (Delavan)†	<b>0.50 - 70A</b>	0.60 - 70A
Pump pressure (PSIG)*	150	140
Combustion air adjustment (turbulator/damper)	0 / 3.5	1 / 5.25
AFUE % (From CSA B212 standard and Canadian regulation)‡	87.1%	85.4%
AFUE % (From ASHRAE 103 standard and US regulation)‡	86.7%	85.0%
<b>ELECTRICAL SYSTEM</b>		
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 (VA)	40	
External control power available: Cooling (VA)	30	
<b>BLOWER DATA</b>		
Heating blower speed at 0.25" W.C. SP	MED-LOW	MED-HIGH
Heating blower speed at 0.50" W.C. SP	MED-LOW	HIGH
Motor (HP) / number of speeds	1/3 HP / 4 speed	
Blower size (diam. x width)	10" x 10" (tight housing)	
<b>GENERAL INFORMATION</b>		
Overall dimensions (width x depth x height)	21" x 47" x 34"	
Supply air opening (width x depth)	20" x 20"	
Return air opening (width x depth)	18" x 20"	
Filter size and quantity	20" x 20" x 1" ou 2"	
Shipping weight Lbs/Kg	175 Lbs / 80 Kg	
Air conditioning, maximum output (tons) at 0.5" W.C. SP	3.0	

## \* INPUT &amp; OUTPUT ADJUSTMENTS

- Pump pressure can be adjusted to maintain proper firing rate
- Adjust flue gas temperature between 400° and 500° F
- Adjust the fan speed for the air temperature rise specified

## † Default Installed Nozzle in bold characters

## ‡ AFUE value established after minimum 20 hours of operation

NOTE 1: With low firing baffle #3708

NOTE 2: With low firing baffle #32229

OBL112 SERIES, MULTI-POSITION MODELS		UNITS WITH 1/2 HP 4-SP. MOTOR	
<b>RATING AND PERFORMANCE</b>			
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		
<b>BECKETT BURNER; AFG MODEL (Chimney)/ Insertion</b>		<b>KLABR0501BEC / 1 3/4"</b>	
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)†	<b>0.60 - 60W</b>	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%	
<b>BECKETT BURNER; NX MODEL (Chimney or DV) / Insertion</b>		<b>KLABR0201BEC / 1 3/4"</b>	
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%	
<b>RIELLO BURNER; 40-F3 MODEL (Chimney)/ Insertion</b>		<b>KLABR0301RLO / 2 3/4"</b>	
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%	
<b>RIELLO BURNER; 40-BF5 MODEL (Direct vent DV) / Insertion</b>		<b>KLABR0401RLO / 2 3/4"</b>	
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%	
<b>ELECTRICAL SYSTEM</b>			
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		
<b>BLOWER DATA</b>			
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)		
<b>GENERAL INFORMATION</b>			
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 ADJUSTMENTS  
 - Pump pressure can be adjusted to maintain proper firing rate  
 - Adjust flue gas temperature between 400° and 500° F  
 - Adjust the fan speed for the air temperature rise specified

†. Default Installed Nozzle in bold characters

‡. AFUE value established after minimum 20 hours of operation

NOTE 1: With Low firing baffle #3708



OBL154 SERIES, MULTI-POSITION MODELS	UNITS WITH 1.0 HP 4-SP. MOTOR	
<b>RATING AND PERFORMANCE</b>		
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	
<b>BECKETT BURNER; NX MODEL (Chimney or DV)/ Insertion</b>	<b>KLABR0301BEC / 1 3/4"</b>	
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)†	<b>0.75 - 60B</b>	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%
<b>RIELLO BURNER; 40-F5 MODEL (Chimney)/ Insertion</b>	<b>KLABR0501RLO / 2 3/4"</b>	
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%
<b>RIELLO BURNER; 40-BF5 MODEL (Direct vent DV)/ Insertion</b>	<b>KLABR0601RLO / 2 3/4"</b>	
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%
<b>ELECTRICAL SYSTEM</b>		
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	
<b>BLOWER DATA</b>		
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)	
<b>GENERAL INFORMATION</b>		
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 &amp; OUTPUT ADJUSTMENTS

- Pump pressure can be adjusted to maintain proper firing rate
- Increase pump pressure if flue gases temperature is under 400° and 500° F
- Adjust the total flue gas temperature between 400° and 575° F (300° F and 505° F net approximately)

## † Default Installed Nozzle in bold characters

## ‡ AFUE value established after minimum 20 hours of operation

## AIR DELIVERY - CFM (WITH FILTERS)

### OBL098

Airflow data, models with 1/3 HP 4 speed motors						
BLOWER SPEED	EXTERNAL STATIC PRESSURE WITH AIR FILTER					
	0.2" (W.C.)	0.3" (W.C.)	0.4" (W.C.)	0.5" (W.C.)	0.6" (W.C.)	0.7" (W.C.)
<b>HIGH</b>	1420	1335	1240	1180	1085	1025
<b>MED-HIGH</b>	1275	1230	1170	1095	1045	960
<b>MED-LOW</b>	1015	1000	955	915	860	785
<b>LOW</b>	815	785	775	730	690	635

### OBL112

Airflow data, models with 1/2 HP 4 speed motors						
BLOWER SPEED	EXTERNAL STATIC PRESSURE WITH AIR FILTER					
	0.2" (W.C.)	0.3" (W.C.)	0.4" (W.C.)	0.5" (W.C.)	0.6" (W.C.)	0.7" (W.C.)
<b>HIGH</b>	1680	1640	1600	1590	1540	1460
<b>MED-HIGH</b>	1210	1190	1180	1160	1130	1110
<b>MED-LOW</b>	1110	1070	1040	1010	970	930
<b>LOW</b>	960	940	920	890	860	830

### OBL154

Airflow data, models with 1 HP 4 speed motors						
BLOWER SPEED	EXTERNAL STATIC PRESSURE WITH AIR FILTER					
	0.2" (W.C.)	0.3" (W.C.)	0.4" (W.C.)	0.5" (W.C.)	0.6" (W.C.)	0.7" (W.C.)
<b>HIGH</b>	2185	2115	2045	1995	1905	1820
<b>MED-HIGH</b>	1900	1845	1810	1760	1685	1635
<b>MED-LOW</b>	1475	1465	1460	1435	1380	1335
<b>LOW</b>	1140	1125	1110	1100	1085	1060

### OVL098

Airflow data, models with 1/2 HP variable speed motors (ECM)				
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	1260	1385	1135
B (1=ON, 2=OFF)	0.55	1050	1155	945
*C (1=OFF, 2=ON)	0.55	850	935	765
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	1036	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 CFMs are reduced by 15%.				
The CFMs shown are reduced by 20% if there is 24 VAC input to Y1 (first stage of the 2-stage cooling unit)				

**OVL098 (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)	0.7	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)	0.55	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 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 CFMs, 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 for higher temperature rise

**OVL112**

Airflow data, models with 1/2 HP variable speed motors (ECM)				
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)	4,0	1200	1380	1020
B (1=ON, 2=OFF)	3,5	1050	1210	875
C (1=OFF, 2=ON)	3,0	900	1035	765
D (1=ON, 2=ON)	2,5	750	865	640

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)	4,0	1600	1750	1440
B (1=ON, 2=OFF)	3,5	1400	1540	1260
C (1=OFF, 2=ON)	3,0	1200	1320	1080
D (1=ON, 2=ON)	2,5	1000	1100	900

In cooling - Dehumidification mode, with no 24 VAC input to DH, the CFMs are reduced by 15%.  
The CFMs shown are reduced by 20% if there is 24 VAC input to Y1 (first stage of the 2-stage cooling unit)

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 CFMs, 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 for higher temperature rise

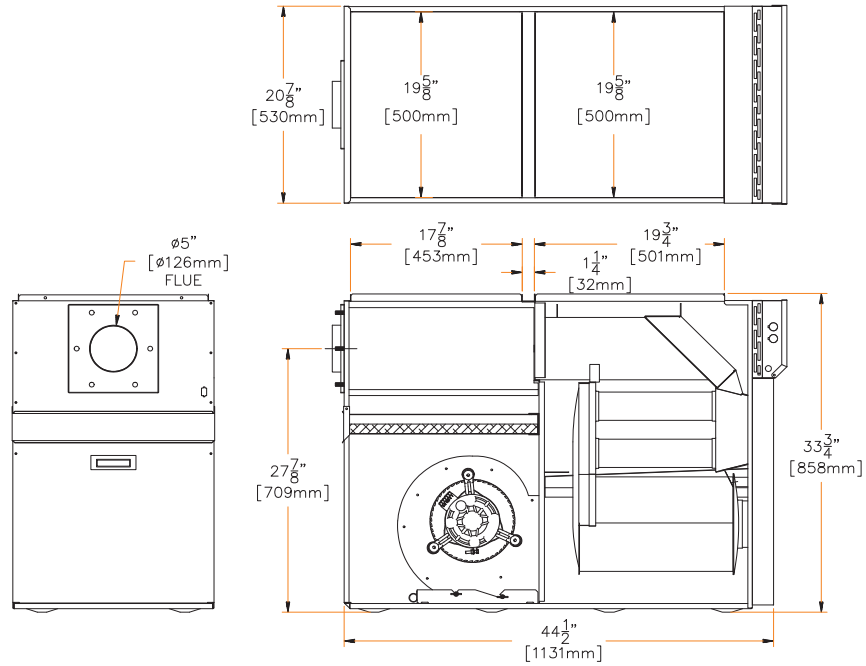
**OVL154**

Airflow data, models with 1 HP variable speed motors (ECM)				
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	1535
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	1730	1275
B (1=ON, 2=OFF)	4.0	1200	1380	1020
C (1=OFF, 2=ON)	3.5	1050	1210	895
D (1=ON, 2=ON)	3.0	900	1040	775
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 CFMs are reduced by 15%.				
The CFMs shown are reduced by 20% if there is 24 VAC input to Y1 (first stage of the 2-stage cooling unit)				
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% - 45 sec.	44% - 30 sec	38% - 3 min.
B (1=ON, 2=OFF)	1.10	13% - 30 sec.	44% - 30 sec	38% - 3 min.
C (1=OFF, 2=ON)	1.10	13% - 30 sec.	50% - 30 sec	38% - 3 min.
D (1=ON, 2=ON)	Settings not used in this mode			
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 CFMs, 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**

OBL-OVL098 ACCESSORIES		
ACCESSORY NUMBER	DESCRIPTION	APPLICATION NOTES
KLAVT0101DET	VENT TERMINAL KIT 4"	For sealed combustion
KLAFV0201DET	4" INSULATED FLEX VENT 20ft	For sealed combustion (B02551-10)
KLABR0401BEC	BECKETT AFG BURNER (0.50-60A NOZZLE)	
KLABR0101BEC	BECKETT NX BURNER (0.50-60A NOZZLE)	For sealed combustion
KLABR101RLO	RIELLO 40-F3 BURNER (0.50-70A NOZZLE)	
KLABR201RLO	RIELLO 40-BF3 BURNER (0.50-70A NOZZLE)	For sealed combustion
KLABV0201DET	Blocked Vent Shutoff Kit	
OBL-OVL112 ACCESSORIES		
KLAVT0101DET	VENT TERMINAL KIT 4"	For sealed combustion
KLAFV0201DET	4" INSULATED FLEX VENT 20ft	For sealed combustion (B02551-10)
KLABR0501BEC	BECKETT AFG BURNER (0.60-60W NOZZLE)	
KLABR0201BEC	BECKETT NX BURNER (0.60-60W NOZZLE)	For sealed combustion
KLABR0301RLO	RIELLO 40-F5 BURNER (0.60-70A NOZZLE)	
KLABR0401RLO	RIELLO 40-BF5 BURNER (0.60-70A NOZZLE)	For sealed combustion
KLABV0201DET	Blocked Vent Shutoff Kit	
OBL-OVL154 ACCESSORIES		
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
KLABV0201DET	Blocked Vent Shutoff Kit	

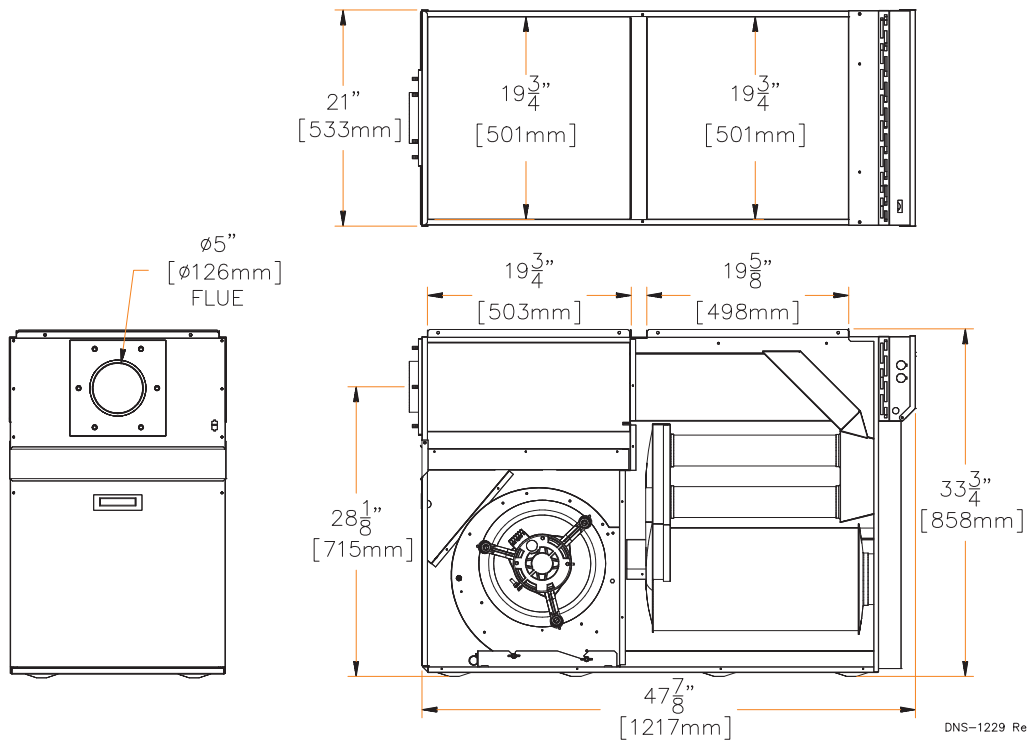
## DIMENSIONS - OBL098 / OVL098



DNS-1168 Rev.B

A09619

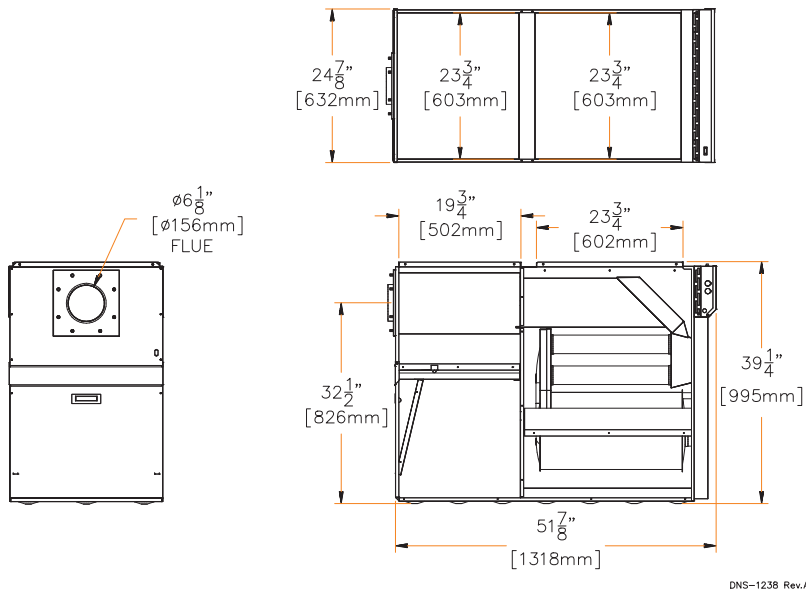
## OBL112 / OVL112



DNS-1229 Rev.A

A10190

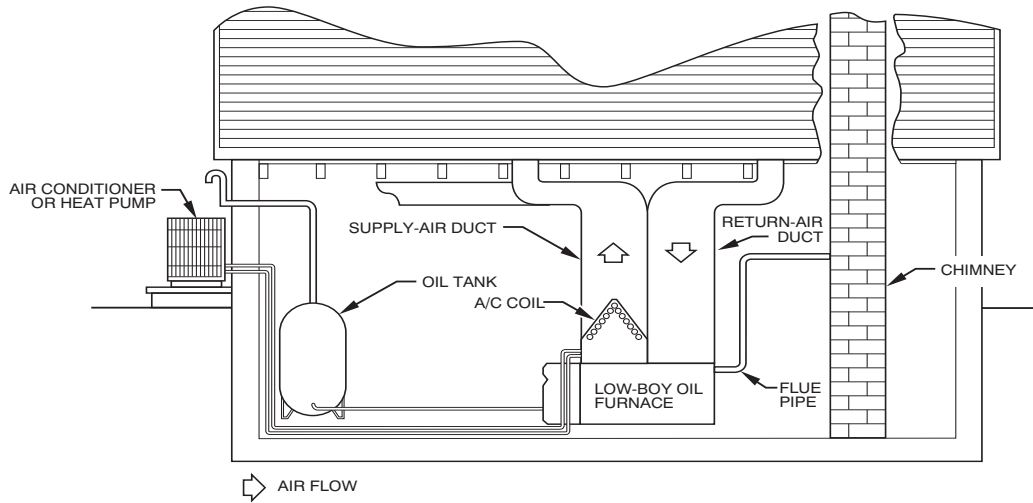
# OBL154 / OVL154



DNS-1238 Rev.A

A10191

## TYPICAL INSTALLATION



A98010