

**OLR/OLV
Low-Boy Oil Furnace
PSC & ECM Variable Motors**



Product Specification



A10232

**LOW-BOY VARIABLE MOTOR OIL FURNACE
FEATURES**

- Stainless Steel construction - Heavy gauge heat exchanger quickly transfers heat to the ambient air
- OLV Motor - Variable speed ECM motor that provides true constant CFM capabilities
- OLR Motor - Multi-speed Direct Drive Motor permanently lubricated for long life performance
- Fan Control Switch - For continuous fan operation
- Easy Access - control panel
- Low profile - 098 is 33-3/4 inches (857 mm) high, 112 is 33-3/4 inches (857mm) high, 154 is 39-1/4 inches (997mm) high
- Sound attenuator - High density acoustic wool dampens combustion sound

- Burners - Choice of high static pressure oil burners Beckett NX, Riello F40 (Burners ordered and shipped separately)
- Inspection port - External for easy access and sealed - Adjust combustion parameters and simplify inspections
- Accessories included - Barometric draft regulator, internal filter rack and air filter
- High quality finish - High gloss baked
- Efficiency - AFUE up to 87.9% Canada, 87.5% US
- Approved - For chimney vent and sealed combustion installations

LIMITED WARRANTY *

- OLV - 10 year No Hassle Replacement™ limited warranty
- Lifetime heat exchanger limited warranty with timely registration
- 5 year parts limited warranty
- With timely registration, an additional 5 year parts limited warranty
- * For residential applications only. See warranty certificate for complete details and restrictions, including warranty coverage for other applications



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 .

A210038



All OLV series meet the EnergyStar® Guidelines

A210043

Model Number	Input (BTU/h)	Efficiency AFUE		Cooling capacity @ .5 in wc (125 Pa)	Dimensions - in(mm) HxWx D*	Shipping Wt. Lbs. (Kg.)
		CANADA	US			
OLR098A12	77,000-98,000	85.4-87.9	85.0-86.9	3 Tons	33- 3/4 x 21 x 47(857 x 533 x 1194)	175 (79)
OLR112A16	95,200-112,000	86.4-88.1	85.9-87.2	4 Tons	33- 3/4 x 21 x 48 (857 x 533 x 1219)	195 (89)
OLR154F20	126,000-154,000	86.1-87.7	85.5-87.5	5 Tons	39- 1/4 x 24- 7/8 x 52 (997 x 632 x 1320)	270 (122.5)
OLV098A12	77,000-98,000	85.4†-87.9†	85.0†-86.9†	3 Tons	33- 3/4 x 21 x 47 (857 x 533 x 1194)	175 (80)
OLV112A16	81,100-112,000	86.4†-88.1†	85.9†-87.2†	4 Tons	33- 3/4 x 21 x 48 (857 x 533 x 1219)	195 (89)
OLV154F20	107,700-154,000	86.1†-87.7†	85.5†-87.5†	5 Tons	39- 1/4x 24- 7/8 x 52 (997 x 632 x 1320)	270 (122.5)

*. Depth is without the burner

†. Meets EnergyStar guidelines, (only specific firing rates meet the ENERGY STAR® guidelines).

MODEL NUMBER NOMENCLATURE

MODEL NUMBER	O	L	V	098	A	12	#	REVISION
FUEL O = Oil								AIR FLOW 10 = 1000 CFM 14 = 1400 CFM 12 = 1200 CFM 16 = 1600 CFM 20 = 2000 CFM
PRODUCT GROUP U = Upflow H = Horizontal T = Upflow/Horizontal								SUPPLY PLENUM SIZE A = 20 x 20 B = 24 x 24 C = 21 ¹ / ₈ x 21 ¹ / ₂ D = 19 x 20
SERIES F = Front Breech R = Rear Breech V = Variable Motor								E = 19 x 24 F = 20 x 24 G = 22 x 30 J = 16 x 19 K = 17 ¹ / ₂ x 19 INPUT, MBTUH
		D = Downflow C = Downflow/Horizontal M = Multiposition L= Lo- Boy						

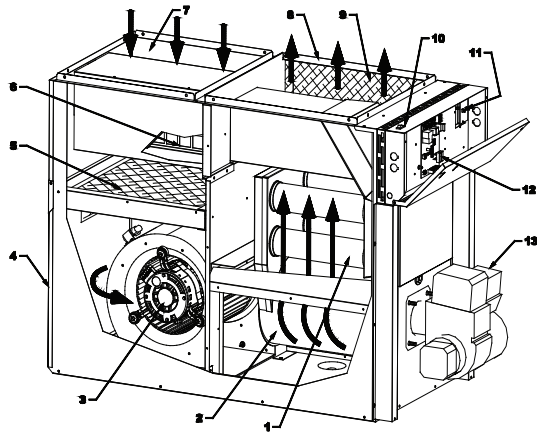
CLEARANCE TO COMBUSTIBLES

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

OLR - PSC MOTOR UNIT

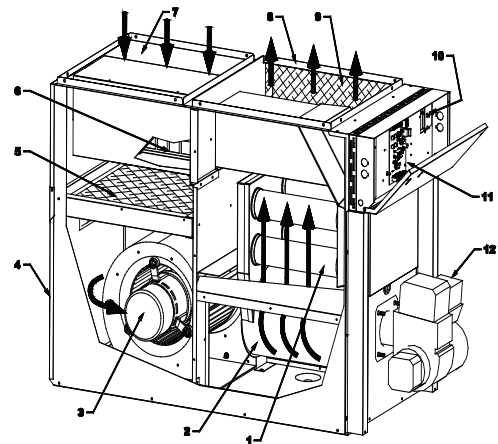


DNS-1247 Rev.A

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.

OLV - 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

OLV098 LOWBOY SERIES	UNITS WITH 1/2 HP ECM MOTOR	
RATING AND PERFORMANCE		
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	
BECKETT BURNER; MODEL AFG (Chimney) / Insertion	N01J054 / 1 3/4" (Note 1)	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	63,000	80,000
Head type	2 - Slot L2 Head	
Nozzle (Delavan)†	0.50 - 60A	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%
BECKETT BURNER; MODEL NX (Chimney or DV) / Insertion	N01J050 / 1 3/4" (Note 2)	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	65,000	81,000
Head type	6 - Slot LQ Head	
Nozzle (Delavan)†	0.60 - 60W	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%
RIELLO BURNER; MODEL 40-F3 (Chimney) / Insertion	N01F054 / 2 3/4"	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	64,000	80,000
Nozzle (Delavan)†	0.50 - 70A	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%
RIELLO BURNER; MODEL 40-BF3 (Direct vent DV) / Insertion	N01F055 / 2 3/4"	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	65,000	81,000
Nozzle (Delavan)†	0.50 - 70A	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%
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	
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" 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

OLV112 LOWBOY SERIES	UNITS WITH 3/4 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 à +0.15	
Overfire pressure with direct vent (inch of w.c. - no wind)	+0.05 à +0.17	
BECKETT BURNER; MODEL AFG (Chimney) / Insertion	N01J055 / 1 3/4"	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	81,000	94,000
Head type	2 - Slot L2 Head	
Nozzle (Delavan)†	0.60 - 60W	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%
BECKETT BURNER; MODEL NX (Chimney or DV) / Insertion	N01J052 / 1 3/4"	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	80,000	93,000
Head type	6 - Slot LQ head	
Nozzle (Delavan)†	0.60 - 60W	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%
RIELLO BURNER; MODEL 40-F3 (Chimney) / Insertion	N01F051 / 2 3/4"	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	80,000	94,000
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)‡	**87,6%	**87,4%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**86,6%	**86,1%
RIELLO BURNER; MODEL 40-BF5 (Direct vent DV) / Insertion	N01F052 / 2 3/4"	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	81,000	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)‡	**87,4%	**86,5%
AFUE % (From ASHRAE 103 standard and US regulation)‡	**87,2%	**86,5%
ELECTRICAL SYSTEM		
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	
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		
Blower size (diam. x width)	12" x 9" (tight housing)	
GENERAL INFORMATION		
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

OLV154 Lowboy Series		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 -0.025		
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		
BECKETT BURNER; NX MODEL (Chimney or DV)/ Insertion	N01J053 / 1 3/4"		
AHRI Efficiency rated	YES	YES	
Maximum Heating capacity, (BTU/h)†	106,000	128,000	
Head type	6 Slots - LC head		
Nozzle (Delavan)†	0.75 - 60B	0.90 - 60B	
Pump pressure (PSIG)*	145	150	
Head/Air setting	2.5	3.25	
AFUE % (From CSA B212 standard and Canadian regulation)‡	**87.7%	**86.7%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	**86.6%	**85.5%	
RIELLO BURNER; 40-F5 MODEL (Chimney)/ Insertion	N01F053 / 2 3/4"		
AHRI Efficiency rated	YES	YES	
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)‡	**87.6%	**86.8%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	**86.6%	**85.8%	
RIELLO BURNER; 40-BF5 MODEL (Direct vent DV)/ Insertion	N01F056 / 2 3/4"		
AHRI Efficiency rated	YES	YES	
Maximum Heating capacity, (BTU/h)†	107,000	129,000	
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)‡	**87.7%	**86.1%	
AFUE % (From ASHRAE 103 standard and US regulation)‡	**87.5%	**86.2%	
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 HP / ECM (with power choke)		
Blower size (diam. x width)	12" x 10" (tight housing)		
GENERAL INFORMATION			
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 & 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

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

OLR098 LOWBOY SERIES	UNITS WITH 1/3 HP 4-SPD. MOTOR	
RATING AND PERFORMANCE		
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	
BECKETT BURNER; MODEL AFG (Chimney) / Insertion	N01J054 / 1 3/4" (Note 1)	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	63,000	80,000
Head type	2 - Slot L2 Head	
Nozzle (Delavan)†	0.50 - 60A	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%
BECKETT BURNER; MODEL NX (Chimney or DV) / Insertion	N01J050/ 1 3/4" (Note 2)	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	65,000	81,000
Head type	6 - Slot LQ Head	
Nozzle (Delavan)†	0.50 - 60W	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%
RIELLO BURNER; MODEL 40-F3 (Chimney) / Insertion	N01F054 / 2 3/4"	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	64,000	80,000
Nozzle (Delavan)†	0.50 - 70A	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%
RIELLO BURNER; MODEL 40-BF3 (Direct vent DV) / Insertion	N01F055 / 2 3/4"	
AHRI Efficiency rated	YES	YES
Maximum Heating capacity, (BTU/h)*	65,000	81,000
Nozzle (Delavan)†	0.50 - 70A	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%
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 (VA)	40	
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	HIGH
Motor (HP) / number of speeds	1/3 HP / 4 speed	
Blower size (diam. x width)	10" x 10" (tight housing)	
GENERAL INFORMATION		
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 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

OLR112 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	N01J055 / 1 3/4"	
AHRI Efficiency rated	YES	YES
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	N01J052 / 1 3/4"	
AHRI Efficiency rated	YES	YES
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	N01F051 / 2 3/4"	
AHRI Efficiency rated	YES	YES
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	N01F052 / 2 3/4"	
AHRI Efficiency rated	YES	YES
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 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

OLR154 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	N01J053 / 1 3/4"	
AHRI Efficiency rated	YES	YES
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	N01F053 / 2 3/4"	
AHRI Efficiency rated	YES	YES
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	N01F056 / 2 3/4"	
AHRI Efficiency rated	YES	YES
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 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) OLR098

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.)
HIGH	1420	1335	1240	1180	1085	1025
MED-HIGH	1275	1230	1170	1095	1045	960
MED-LOW	1015	1000	955	915	860	785
LOW	815	785	775	730	690	635

OLR112

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.)
HIGH	1680	1640	1600	1590	1540	1460
MED-HIGH	1210	1190	1180	1160	1130	1110
MED-LOW	1110	1070	1040	1010	970	930
LOW	960	940	920	890	860	830

OLR154

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.)
HIGH	2185	2115	2045	1995	1905	1820
MED-HIGH	1900	1845	1810	1760	1685	1635
MED-LOW	1475	1465	1460	1435	1380	1335
LOW	1140	1125	1110	1100	1085	1060

OLV098

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)				

OLV098 (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

OLV112

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.

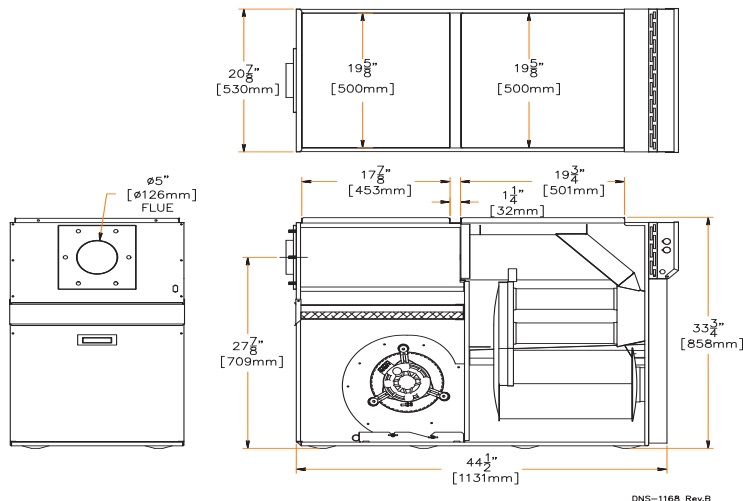
DELAY PROFILE FOR COOLING OR HEAT PUMP HEATING MODE				
No adjustment required	A/C size	PreRun On-delay CFM Level - Time	ShortRun On-delay CFM Level - Time	Off-Delay CFM level - Time
-	All	NO DELAY	NO DELAY	100% - 90 sec

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

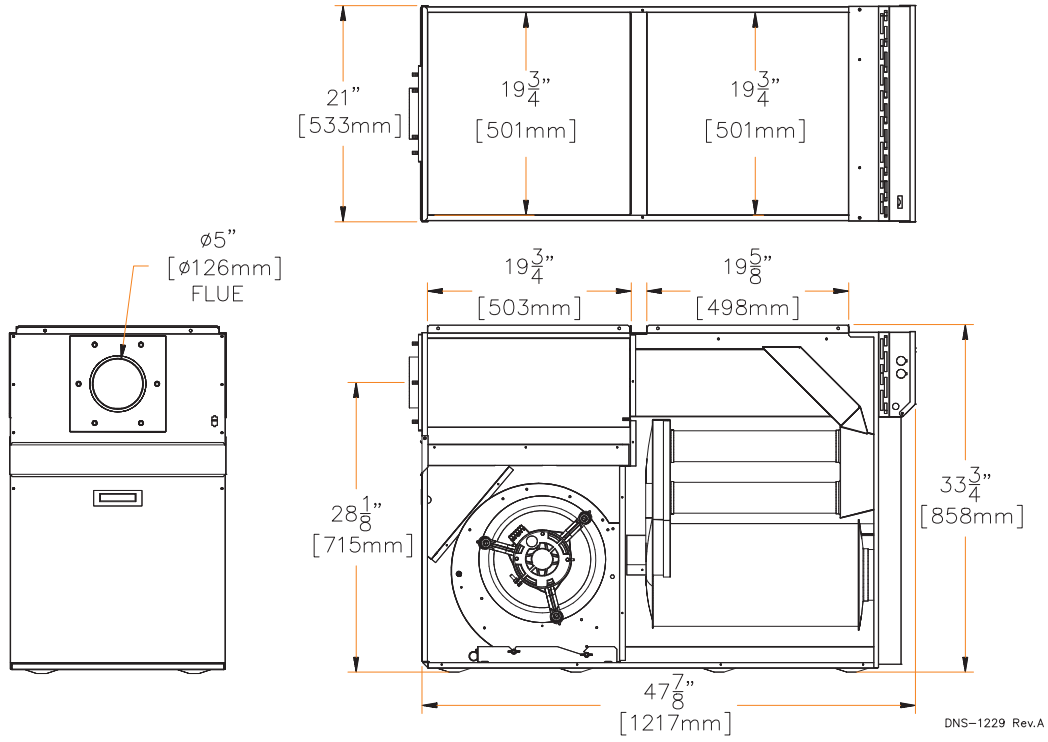
OLV154

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

DIMENSIONS - OLR098 / OLV098

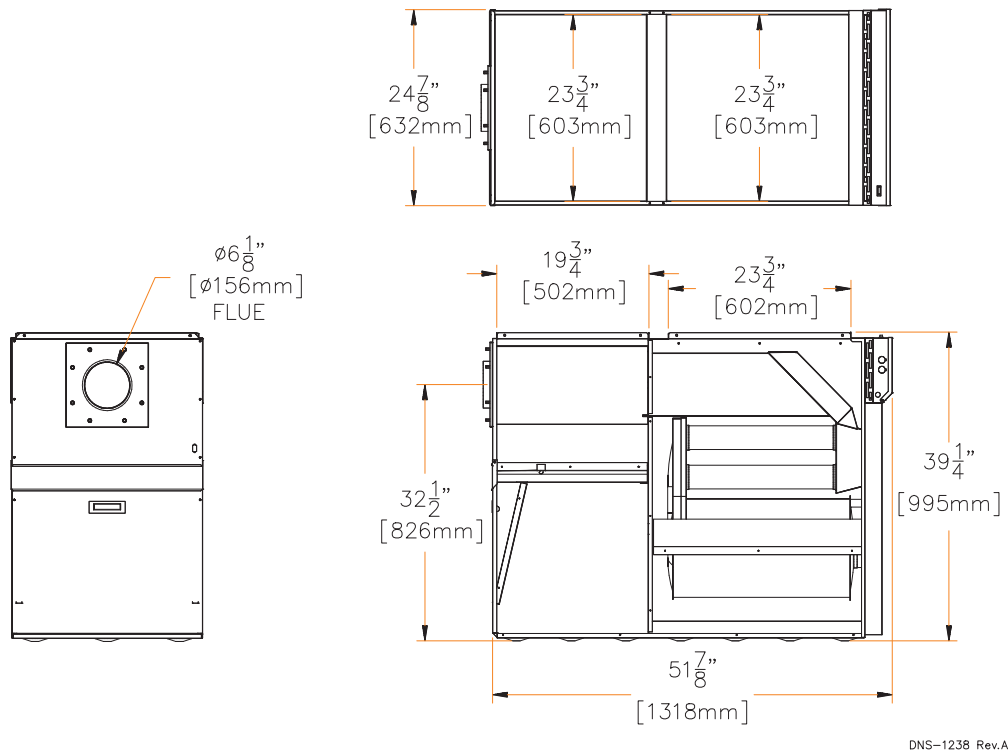


OLR112 / OLVOLV112



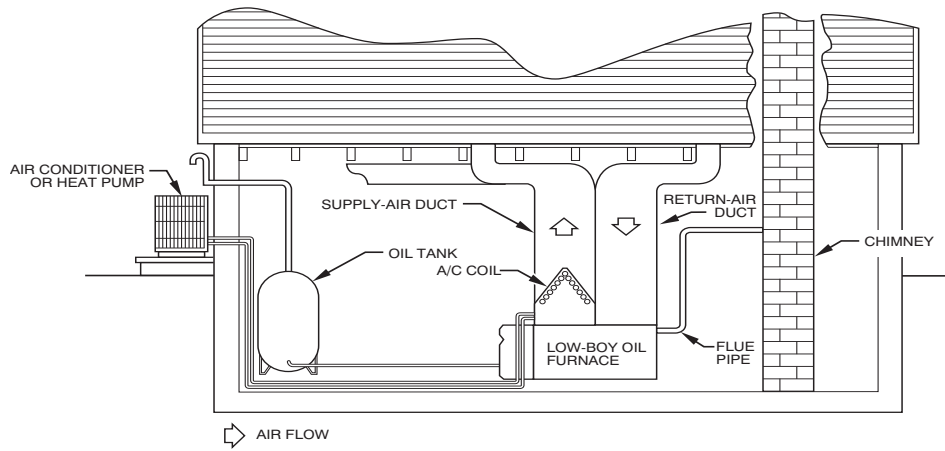
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OLR154 / OLV154



A10191

TYPICAL INSTALLATION



A98010

FURNACE ACCESSORIES

OLR-OLV098 ACCESSORIES		
ACCESSORY NUMBER	DESCRIPTION	APPLICATION NOTES
VTK-098	VENT TERMINAL KIT 4"	For sealed combustion
IFV098-20	4" INSULATED FLEX VENT 20ft	For sealed combustion (B02551-10)
N01J054	BECKETT AFG BURNER (0.50-60A NOZZLE)	
N01J050	BECKETT NX BURNER (0.50-60A NOZZLE)	For sealed combustion
N01F054	RIELLO 40-F3 BURNER (0.50-70A NOZZLE)	
N01F055	RIELLO 40-BF3 BURNER (0.50-70A NOZZLE)	For sealed combustion
B03398-03	Blocked Vent Shutoff Kit	
OLR-OLV112 ACCESSORIES		
VTK-098	VENT TERMINAL KIT 4"	For sealed combustion
IFV098-20	4" INSULATED FLEX VENT 20ft	For sealed combustion (B02551-10)
N01J055	BECKETT AFG BURNER (0.60-60W NOZZLE)	
N01J052	BECKETT NX BURNER (0.60-60W NOZZLE)	For sealed combustion
N01F051	RIELLO 40-F5 BURNER (0.60-70A NOZZLE)	
N01F052	RIELLO 40-BF5 BURNER (0.60-70A NOZZLE)	For sealed combustion
B03398-03	Blocked Vent Shutoff Kit	
OLR-OLV154 ACCESSORIES		
VTK-3	VENT TERMINAL KIT 5"	For sealed combustion
IFV5-20	5" INSULATED FLEX VENT 20ft	For sealed combustion (B02551-10)
N01J053	BECKETT NX BURNER (0.75-60B NOZZLE)	For sealed combustion
N01F053	RIELLO 40-F5 BURNER (0.75-70A NOZZLE)	
N01F056	RIELLO 40-BF5 BURNER (0.75-70A NOZZLE)	For sealed combustion
B03398-03	Blocked Vent Shutoff Kit	