

TECHNICAL SPECIFICATIONS

O5 Series Oil Furnaces

Low boy

High boy

Downflow/Horizontal

The O5 Series Oil Furnace combines time proven design in the Classic Low Boy, High Boy, and Downflow configurations. The Downflow models can be configured for horizontal applications. The units are multi-fired for a wide range of outputs (.50 to 1.2 G.P.H. depending on model). Classic design, versatility and reliability are important attributes that oil heat professionals have come to rely upon.



WARRANTY

- This product offers a 10-year All-Parts Warranty.
- This product offers a 10 year Quality Pledge to replace the entire unit, if the unit's major component (heat exchanger or compressor) fails within the first 10 years of operation, to the original owner. All split system products must be installed with a matched indoor air handler or indoor coil to qualify.
- Consumer product registration required for both 10 year All Parts Warranty and Quality Pledge within a limited period of time after the installation. See current warranty document or visit our consumer web site for warranty details.
- Also when registered, this product is upgraded to a limited lifetime heat exchanger warranty.

FEATURES and BENEFITS

- **Cabinet Construction:** 22 gauge steel cabinet ensures strength and quiet operation.
- **Finish:** Thermosetting powder coat for greater durability.
- **Firing Rates:** Multi-firing rates for a wide range of applications.
- **Burner:** Equipped with industry leading Beckett burner which includes cleancut pump, PSC motor, and solid state controls. Factory pre-wired, pre-assembled and tested. Ready to connect to fuel supply line.
- **Barometric Draft Control:** Included with all models.
- **Heat Exchanger:** Proven heat exchanger design featuring 100% welded construction for maximum performance. Large, accessible heat exchanger clean-out ports.
- **Radiator:** "Wrap-around" type for maximum heat transfer.
- **Blower:** Direct drive type. Permanently lubricated, resilient mounted.
- **Blower Motor:** Designed for heavy-duty, continuous operation. Thermally protected. Four-speed is standard.
- **Blower Assembly:** Entire unit with motor can be easily removed for servicing.
- **Filters Included in all Models:** Filter and rack built in on O5LD models. Filter and rack packaged with O5HD and O5MD models.
- **Insulation:** Spun glass and aluminum foil for "hand cool" cabinet.
- **Access Door:** Easily removed for access to burner and controls. Completely enclosed controls and burner in most units.
- **Air Conditioning:** Pre-wired fan center relay is standard on all direct drive models except O5LD-231A.
- **Coil Transitions:** Adapts furnace outlet to accept C6/ C7 cased coils.

B Cabinet: sku 559528

C Cabinet: sku 559529

D Cabinet: sku 559530

Note: All oil fired furnaces manufactured after May 1, 2005 **for sale in Canada** require additional safety devices that will shut down the Oil Burner if the Flue Vent becomes blocked. (See Replacement Parts List for Part Numbers).

Low Boy Front & Rear Flue Outlet

O5LD-091A-12-R (Compact)

Caution - All oil furnaces require proper set-up and installation by a certified oil heat technician.

SYSTEM SPECIFICATIONS:

**Table A-1-Beckett AF Oil
Becket AF Series Oil Burner Set-UP**
(For use with chimney vented units only)

Furnace Model	Output BTU/Hr	Burner Model	Nozzle	Pump Pressure	Flow Rate	Head ¹	Static Plate
O5LD-070A-12-R ²	59,000	AF76BNHS	0.50 / 80°A	100 PSIG	0.50 USGPH	F3	3-3/8 in.
O5LD-091A-12-R	76,000	AF76BNHS	0.65 / 80°A	100 PSIG	0.65 USGPH	F3	3-3/8 in.
O5LD-105A-12-R	85,000	AF76BNHS	0.75 / 80°A	100 PSIG	0.75 USGPH	F3	3-3/8 in.

¹ Head is shielded by ceramic insulator.

² Low Firing Rate Baffle required when using a 0.50-gallon nozzle. Bold models indicate the factory equipped firing rate.

Table A-6 Direct Drive Blower Characteristics

Furnace Model	Blower	Motor HP	Motor FLA	T	Speed	CFM				
						External Static Pressure – Inches w.c.				
						0.2	0.3	0.4	0.5	0.6
-12R	10-10T DD	1/2 HP	7.1	70°F	High	1722	1645	1516	1462	1375
					Med-High	1604	1545	1473	1383	1302
					Med-Low	1147	1133	1106	1063	1013
					Low	747	738	720	702	669

DIMENSIONS:

TABLE A-9: General Dimensions (Inches)

CABINET			PLENUM OPENINGS		FLUE DIAMETER	FILER (PERM)	SHIP WEIGHT (LBS.)
WIDTH	LENGTH	HEIGHT	SUPPLY	RETURN			
O5LD-091A-12-R							
22	51½	32	20½ x 19	20½ x 18½	5	20 x 20 x 1	240

Low Boy Front & Rear Flue Outlet

O5LD-140A-16-(F-R)

O5LD-168A-16-(F-R)

**Table A-1-Beckett AF Oil
Becket AF Series Oil Burner Set-UP**
(For use with chimney vented units only)

Furnace Model	Burner Model	Nozzle	Heating Capacity [MBH]	Pump Pressure	Flow Rate	Burner Head	Static Plate
O5LD-105A-16-F	AF65XN	0.75 / 80°A	88	100 PSIG	0.75 USGPH	F3	2-¾ in.
O5LD-119A-16-F	AF65XN	0.85 / 80°A	100	100 PSIG	0.85 USGPH	F3	2-¾ in.
O5LD-140A-16-F	AF65XN	1.00 / 80°A	114	100 PSIG	1.00 USGPH	F3	2-¾ in.
O5LD-105A-16-R	AF65XN	0.75 / 80°A	90	100 PSIG	0.75 USGPH	F3	2-¾ in.
O5LD-119A-16-R	AF65XN	0.85 / 80°A	100	100 PSIG	0.85 USGPH	F3	2-¾ in.
O5LD-140A-16-R	AF65XN	1.00 / 80°A	118	100 PSIG	1.00 USGPH	F3	2-¾ in.
O5LD-154A-16-F	AF65YB	1.10 / 70°A	128	100 PSIG	1.10 USGPH	F6	2-¾ in.
O5LD-168A-16-F	AF65YB	1.20 / 60°A	139	100 PSIG	1.20 USGPH	F6	2-¾ in.
O5LD-154A-16-R	AF65YB	1.10 / 70°A	130	100 PSIG	1.10 USGPH	F6	2-¾ in.
O5LD-168A-16-R	AF65YB	1.20 / 60°A	141	100 PSIG	1.20 USGPH	F6	2-¾ in.

Table A-4: Airflow Characteristics – Direct Drive

Furnace Model	Blower	Motor HP	Motor FLA	ΔT	Speed	CFM					
						External Static Pressure – Inches w.c.					
						0.20	0.25	0.30	0.40	0.50	0.60
O5LD-*-16(F,R) Lowboy Models	G10	1/2 HP	7.0	85°F	High	1810	1775	1740	1675	1585	1510
					Med-High	1570	1555	1540	1495	1445	1375
					Med-Low	1090	1085	1080	1070	1065	1050
					Low	710	700	700	690	665	650

DIMENSIONS:

Table A-3: General Dimensions (Inches)

Furnace Model	Cabinet			Plenum Openings			Flue		Filter		Shipping Weight
	Width	Depth	Height	Supply	Gap	Return	Diameter	Height	Type	Size	
Rear Breech	22	51½	41	20½ x 18½	2½	20½ x 18½	6	37¼	Permanent	20 x 25 x 1	280
Front Breech	22	51½	41	20½ x 18½	2½	20½ x 18½	6	38¼	Permanent	20 x 25 x 1	250

High Boy, Front Flue

O5HD-091A-12-F

O5HD-091A-V-F

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SYSTEM SPECIFICATIONS:

**Table A-1-Beckett AF Oil
Becket AF Series Oil Burner Set-UP**
(For use with chimney vented units only)

Furnace Model	Output BTU/Hr	Burner Model	Nozzle	Pump Pressure	Flow Rate	Head ¹	Static Plate
O5HD-070A-12-F ² O5HD-070A-V-F ²	59,000	AF76BNHS	0.50 / 80°A	100 PSIG	0.50 USGPH	F3	3-3/8 in.
O5HD-091A-12-F O5HD-091A-V-F	76,000	AF76BNHS	0.65 / 80°A	100 PSIG	0.65 USGPH	F3	3-3/8 in.
O5HD-105A-12-F O5HD-105A-V-F	85,000	AF76BNHS	0.75 / 80°A	100 PSIG	0.75 USGPH	F3	3-3/8 in.

¹ Head is shielded by ceramic insulator.

² Low Firing Rate Baffle required when using a 0.50-gallon nozzle. Bold models indicate the factory equipped firing rate.

Table A-3 Direct Drive Blower Characteristics PSC Motor

Furnace Model	Blower	Motor HP	Motor FLA	ΔT	Speed	CFM				
						External Static Pressure – Inches w.c.				
						0.2	0.3	0.4	0.5	0.6
O5HD-*-12-F	100-10T DD	1/2 HP	7	60°F	High	1741	1651	1556	1476	1369
					Med-High	1557	1497	1434	1369	1278
					Med-Low	1063	1051	1037	1037	1011
					Low	697	697	687	672	646

Table A-4 Direct Drive Blower Characteristics ECM Motor

Furnace Model	Blower	Motor HP	Motor FLA	ΔT	CFM RANGE		
					Continuous Fan	Heating	Cooling
						0.28 - 0.48 inches w.c.	0.5 inches w.c.
O5HD-070A-V-F O5HD-091A-V-F O5HD-105A-V-F	100-10 DD	1/2 HP ECM	7.7	60°F	500 - 700	825 - 1250	600 - 1400

DIMENSIONS:

Table A-5 General Dimensions (Inches)

Furnace Model	Cabinet			Plenum Openings			Flue Diameter	Filter		Shipping Weight (LB.)
	Width	Depth	Height	Supply	Return			Type	Size	
					Side	Bottom				
05HD-A-12-F 05HD-A-V-F 070-105	22	30-¾	49-5/8	20½ x 20	14 x 22	14 x 22	5	Permanent	16 x 25 x1	210

High Boy, Front Flue

O5HD-140A-14-F

O5HD-140A-V-F

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**Table A-1-Beckett AF Oil
Becket AF Series Oil Burner Set-UP**
(For use with chimney vented units only)

Furnace Model	Output BTU/Hr	Burner Model	Nozzle	Pump Pressure	Flow Rate	Head	Static Plate
O5HD-105A-14-F O5HD-105A-V-F	84,000	AF65XN	0.75/ 70° W	100 PSIG	0.75 USGPH	F3	2-¾ in.
O5HD-119A-14-F O5HD-119A-V-F	101,000	AF65XN	0.85/ 70° W	100 PSIG	0.85 USGPH	F3	2-¾ in.
O5HD-140A-14-R O5HD-140A-V-R	117,000	AF65XN	1.00/ 70° W	100 PSIG	1.00 USGPH	F3	2-¾ in.

Bold models indicate the factory equipped firing rate.

Table A-7 Direct Drive Blower Characteristics PSC Motor

Furnace Model	Blower	Motor HP	Motor FLA	ΔT	Speed	CFM				
						External Static Pressure – Inches w.c.				
						0.2	0.3	0.4	0.5	0.6
O5HD-105A-14-F O5HD-119A-14-F O5HD-140A-14-F	100-10 DD	1/2 HP	7	70°F	High	1639	1581	1507	1440	1374
					Med-High	1544	1493	1429	1366	1300
					Med-Low	1158	1144	1121	1084	1040
					Low	766	743	703	696	661

Table A-8 Direct Drive Blower Characteristics ECM Motor

Furnace Model	Blower	Motor HP	Motor FLA	ΔT	CFM RANGE		
					Continuous Fan	Heating	Cooling
						0.28 - 0.48 inches w.c.	0.5 inches w.c.
O5HD-105A-V-F O5HD-119A-V-F O5HD-140A-V-F	100-10 DD	1/2 HP ECM	7.7	70°F	500 - 700	1100 - 1525	600 - 1400

DIMENSIONS:

Table A-9 General Dimensions (Inches)

Furnace Model	Cabinet			Plenum Openings			Flue Diameter	Filter		Shipping Weight
	Width	Depth	Height	Supply	Return			Type	Size	
					Side	Bottom				
O5HD-14-F O5HD-V-F	22	30 3/4	58	20½ x 20	14 x 22	14 x 22	6	Permanent	16 x 25 x 1	270

Downflow/Horizontal

O5MD-091A-12-F

O5MD-140A-16-F

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SYSTEM SPECIFICATIONS:

**Table A-1-Beckett AF Oil
Becket AF Series Oil Burner Set-UP**
(For use with chimney vented units only)

Furnace Model	Output BTU/Hr	Burner Model	Nozzle	Pump Pressure	Flow Rate	Head ¹	Static Plate
O5MD-070A-12-F ²	59,000	AF76BNHS	0.50/ 80° W	100 PSIG	0.50 USGPH	F3	3-3/8 in.
O5MD-091A-12-F	76,000	AF76BNHS	0.65/ 80° W	100 PSIG	0.65 USGPH	F3	3-3/8 in.
O5MD-105A-12-F	86,000	AF76BNHS	0.75/ 80° W	100 PSIG	0.75 USGPH	F3	3-3/8 in.
O5MD-105A-16-F	90,000	AF76BNHS	0.75/ 80° W	100 PSIG	0.75 USGPH	F3	3-3/4 in.
O5MD-119A-16-F	97,000	AF76BNHS	0.85/ 80° W	100 PSIG	0.85 USGPH	F3	3-3/4 in.
O5MD-140A-16-F	118,000	AF76BNHS	1.00/ 80° W	100 PSIG	1.00 USGPH	F3	3-3/4 in.
O5MD-154A-16-F	128,000	AF76BNHS	1.10/ 80° W	100 PSIG	1.10 USGPH	F8	3-3/4 in.

¹ Head is shielded by ceramic insulator.

² Low Firing Rate Baffle required when using a 0.50-gallon nozzle

Table A-8 Direct Drive Blower Characteristics

Furnace Model	Blower	Motor HP	Motor FLA	ΔT	Speed	CFM			
						External Static Pressure – Inches w.c.			
						0.20	0.30	0.40	0.50
O5MD-091A-12-F 070-105	100-10T DD	1/2 HP	7.0	45-75°F	LOW	813	813	797	763
					MED-LOW	1170	1144	1118	1063
					MED-HIGH	1423	1381	1291	1220
					HIGH	1505	1444	1359	1291
O5MD-140A-16-F 105-154	120-10 DD	3/4 HP	12.5	50-80°F	LOW	1334	1286	1239	1185
					MED-LOW	1389	1332	1287	1236
					MED-HIGH	1423	1373	1326	1289
					HIGH	1553	1491	1449	1331

TIP:

These Formulae will assist with the design of the ductwork and the determination of airflow delivery:

$$CFM = \frac{\text{Bonnet Output}}{(1.085 \times \text{System Temperature Rise})}$$

$$\text{System Temperature Rise} = \frac{\text{Bonnet Output}}{(1.085 \times CFM)}$$

DIMENSIONS:

Table A-9 General Dimensions (Inches)

Furnace Model	Cabinet			Plenum Openings			Flue Diameter	Filter		Shipping Weight (LB.)
	Width	Depth	Height	Supply	Return			Type	Size	
					Side	Bottom				
05MD-091A-12-F	22	22-1/8	55-¼	19 x 19	18 x 18	18 x 18	5	Permanent	20 x 20 x1	265
05MD-410A-16-F	22-¼	22-¼	62	20½ x 20½	18 x 18	18 x 18	6	Permanent	20 x 20 x1	292

(1) Factory setting

(2) Conversion kit for 123,000 Btuh output use #546012

(3) Front Vestibule add 8 3/4"

ACCESSORIES:

O5MD-091 non-combustible floor base

Part # 546011

O5MD-140 non-combustible floor base

Part # 546010

O5MD-091 Front Vestibule Kit

Part # 546014A

(for sku 544106A)

Nordyne Model Number	AFUE [%]	Heating Capacity [MBH]
O5LD-091A-12-R	84.0	76
O5LD-070A-12-R	84.0	59
O5LD-105A-12-R	82.8	85
O5LD-140A-16-R	84.4	118
O5LD-105A-16-R	85.5	90
O5LD-119A-16-R	83.2	100
O5LD-140A-16-F	83.0	114
O5LD-105A-16-F	83.8	88
O5LD-119A-16-F	83.6	100
O5LD-168A-16-R	84.0	141
O5LD-154A-16-R	84.5	130
O5LD-168A-16-F	81.6	139
O5LD-154A-16-F	82.1	128
O5MD-091A-12-F	82.4	76
O5MD-070A-12-F	83.3	59
O5MD-105A-12-F	81.5	86
O5MD-140A-16-F	83.3	118
O5MD-105A-16-F	84.6	90
O5MD-119A-16-F	83.2	97
O5MD-154A-16-F	81.9	128
O5HD-091A-12-F	83.3	76
O5HD-070A-12-F	83.1	59
O5HD-105A-12-F	81.4	85
O5HD-140A-14-F	83.0	117
O5HD-105A-14-F	83.4	84
O5HD-119A-14-F	84.0	101
O5HD-091A-V-F	83.3	76
O5HD-070A-V-F	83.1	59
O5HD-105A-V-F	81.4	85
O5HD-140A-V-F	83.0	117
O5HD-106A-V-F	83.4	84
O5HD-119A-V-F	84.0	101

Bold as shipped



GENERAL TERMS OF LIMITED WARRANTY

Nortek Global HVAC, LLC will furnish a replacement for any part of this product which fails in normal use and service within the terms and conditions of the warranty.

For complete details of the Limited Warranty, including applicable terms and conditions, see your local installer or contact the Nortek Global HVAC, LLC warranty department for a copy.

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer. Specifications and illustrations subject to change without notice and without incurring obligations. Printed in U.S.A (1. /2015)