

Delta ELITE Combination Heater Oil-Fired Direct Vent Instructions



DANGER

Indicates the presence of a hazardous situation which, if ignored, will result in death, serious injury or substantial property damage.

WARNING

Indicates the presence of a hazardous situation which, if ignored, can result in death, serious injury or substantial property damage.

WARNING

Failure to follow information below can result in severe personal injury, death or substantial property damage:

- Instructions are for use only by a qualified installer/service technician.
- Read all instructions before proceeding.
- Follow instructions in proper order.
- These instructions apply to the installation of the F-25 or F-30/35 and Triangle Tube's Oil Fired Vent Kit.
- Refer to the Delta ELITE Installation manual for additional information.

Location of the Delta ELITE Combination Heater

WARNING

Give special attention to location of the Combination Heater vent to avoid possibility of severe personal injury, death or substantial property damage.

- Locate the unit utilizing the shortest vent pipe length and most direct path to an outside wall.
- Flue gases will form a white plume in colder climates which may obstruct a favorite window view.
- Prevailing winds could cause freezing of condensate and water/ice build-up may occur on building, plants or roof.

Location of the Vent Termination

- Locate or guard the vent termination in a manner to prevent accidental contact by people or pets.
- Vent must terminate at least 4 feet below and 4 feet horizontally or 1 feet above from any window, door or gravity air inlet to the building.
- Vent must terminate not less than 7 feet above grade when located adjacent to a public sidewalk.

- Terminate the vent at least 6 feet from adjacent walls.
- The bottom of the vent terminal shall be located at least 1 foot above the grade, including the normal snowline.
- DO NOT terminate vent into window well, stairwell, alcove, courtyard or other recess area.
- DO NOT terminate vent above any window, door or gravity air inlet. Condensate can freeze causing ice formations.

Venting Restrictions

- Maintain 1-inch minimum clearance from combustibles to the vent pipe.
- Maximum allowable wall thickness for the vent termination is 14 inches.
- Maximum allowable vent length is 20 feet. Vent kits are available in 10 and 20 foot lengths.
- DO NOT splice lengths of vent pipe together.

DANGER

To avoid personal injury or substantial property damage, do not splice lengths of vent pipe, do not drill or penetrate the vent pipe and do not use any vent pipe which has been crushed.

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Vent Pipe Installation (see Fig. 1-2)

Vent Terminal Assembly

1. Determine proper location of the vent termination and cut an opening in the wall as follows:
 - Combustible wall: 8 inches diameter.
 - Non-combustible wall: 8 inches diameter.
2. Secure the trim plate flashing to the outside wall.
3. Insert the terminal assembly through the trim plate opening from the outside, until the stop bead on the assembly is flush with the trim plate.
4. Insert the inside trim plate over the terminal assembly and secure it to the inside wall.
5. Tighten the band clamp on the inside trim plate, securing the terminal assembly.
6. Seal around the outside trim plate and all external joints with a weatherproof caulk.

Vent Pipe

1. Measure and cut the vent pipe to length. Use a hack saw with a fine tooth blade.
2. Install the Terminal Connector and Appliance Adapter to the vent pipe.

Note:

Insert the vent pipe through the Air Intake Adapter prior to install the Terminal Connector and the Appliance Adapter

- Apply a continuous bead of high temperature sealant around the outside of the corrugated pipe on the Appliance Adapter.
- Insert the adapter into the end of the vent pipe using a twist motion. Turn the adapter counter-clockwise until it is insert into the vent pipe a minimum of 4 inches. The outer collar of the adapter should overlap the outside of the vent pipe.
- Tighten the band clamp on the outer collar of the Appliance Adapter securing it on the vent pipe.
- Repeat the above steps with the Vent Connector.

Connecting the Appliance Adapter to the unit

1. Apply a continuous bead of high temperature sealant to the inside of the Appliance Adapter approximately 1/4" to 1/2" from the adapter edge.
2. Slip the Appliance Adapter over the outlet of the flue hood and tighten the band clamp.

WARNING

DO NOT install a barometric damper. A barometric damper is not required on direct vent applications.

Terminal Connector to Terminal Assembly

1. Apply a continuous bead of high temperature sealant on the inside of the Terminal Adapter approximately 1/4" to 1/2" from the end.
2. Slip the adapter over the Terminal Assembly until it is fully engaged. Tighten the band clamp securing the adapter to the Terminal Assembly.

Air Inlet Adapter to Terminal Assembly

1. Apply a continuous bead of Silicone sealant (high temperature sealant is not required) on the inside of the Air Inlet Adapter approximately 1/4" to 1/2" from the adapter end.
2. Slip the Air Adapter over the Terminal Assembly until it is fully engaged. Tighten the band clamp securing the Air Inlet Adapter to the Terminal Adapter.
3. Apply a continuous bead of silicone sealant (high temperature sealant is not required) sealing the gap around the vent pipe and the Air Inlet Adapter.

Securing The Vent Pipe

- Secure the vent pipe into position using strap hangers.
- Space the hangers appropriately to avoid any sags or dips in the vent pipe. A maximum 5 feet spacing is recommended.
- Ensure all bends in the vent pipe are less than 90°.
- All horizontal run must slope towards the vent terminal at least 1/4 inch per foot.

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Combustion Air Intake Installation

General

1. DO NOT reduce the air inlet vent pipe size maintain a minimum 4 inches.
2. Use 4 inch single wall galvanized, stainless steel or equivalent metal vent material.
3. Maximum recommended air intake length is 20 feet with (1) 90° elbows.

Installation of the Air Inlet System

1. Mount the vacuum relief valve on to the burner air box, securing it with sheet metal screws.
2. Install the remaining air inlet vent piping between the vacuum relief valve and the inlet terminal.
 - Ensure all joints are secured with sheet metal screws and seal airtight with silicone caulk or vent tape.

Service and Cleaning

WARNING

Ensure proper operation of the Delta ELITE Combination Heater. Improper combustion settings or lack of routine maintenance may result in soot damage to the exterior of the building.

General

- Inspection, service and cleaning should be conducted on an annual basis.
- Ensure electrical power is disconnected and oil supply valve is closed prior to any service.
- Refer to the HMF Installation and Technical manual for additional servicing and cleaning instructions.

Venting and Air Inlet Systems

- Inspect for obstructions, sooting, vent pipe damage, loose fittings and joints, and hanger supports.

1. Disconnect the Appliance Adapter from the unit.
 - Inspect inside the vent pipe.
 - Remove any obstructions and clean with a wire brush as needed.
 - Reconnect the adapter per the instructions listed in **Vent Pipe Installation** when completed.
2. Clean the screen on the vent terminal. The screen must be free of obstructions, undamaged and securely attached to the vent terminal.
3. Check the sealant/caulking around the vent terminal, trim plate, and building. Ensure all joints are weather-tight.
4. Inspect for any damage to the vent pipe. Ensure vent pipe is not crushed or distorted by impact or excessive temperatures.
5. Ensure vent pipe is properly supported with hangers spaced a maximum 5 feet apart. Ensure vent pipe does not sag and is properly pitched toward the vent terminal at least 1/4 inch per foot.
6. Ensure all vent and air inlet pipe fittings and joints are secured and air-tight.

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Fig. 1

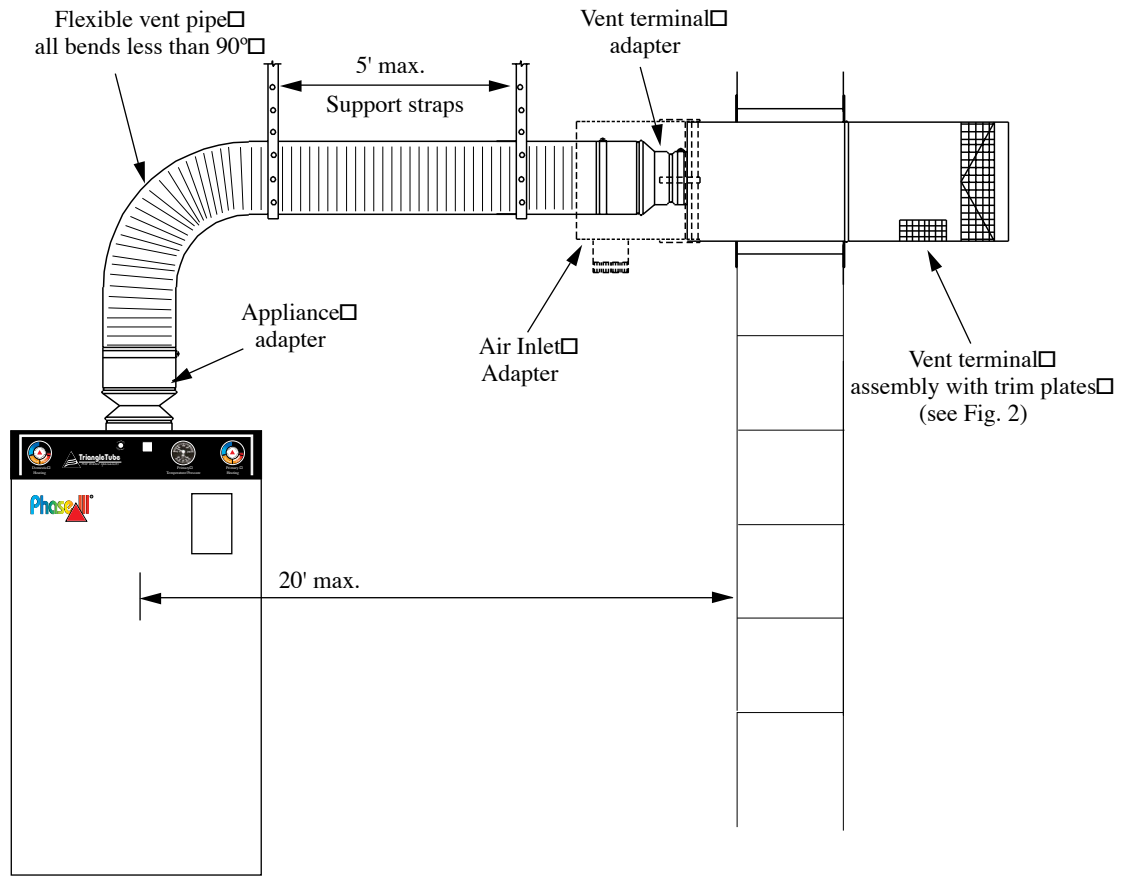
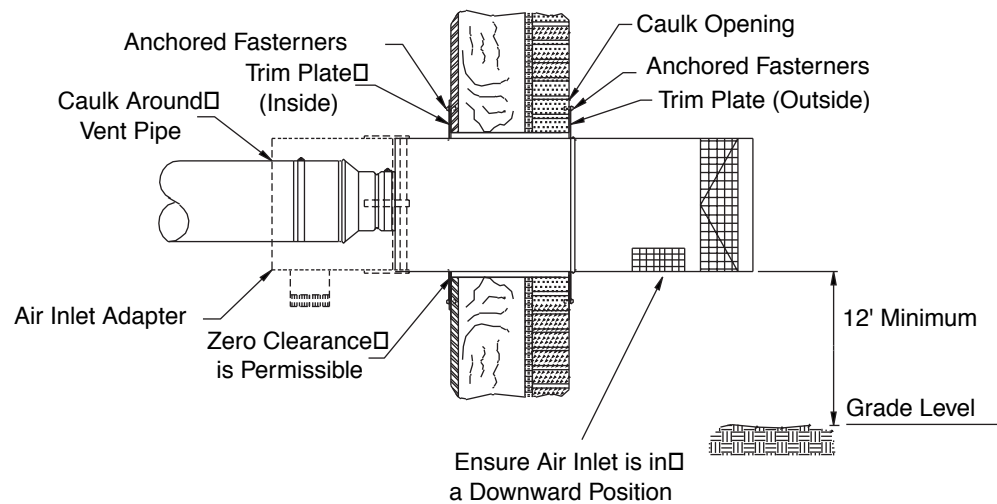
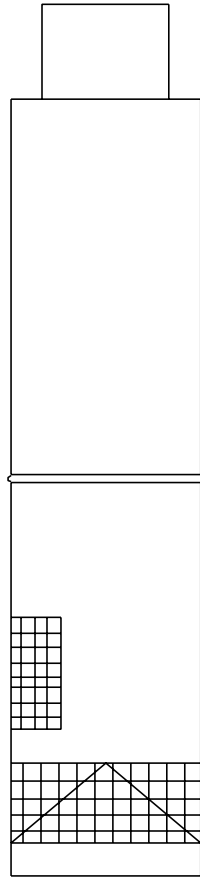


Fig. 2

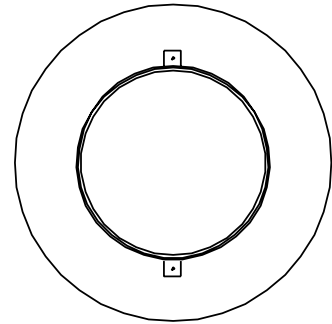


Direct venting thru combustible or non combustible wall

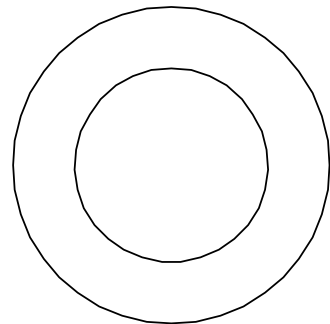
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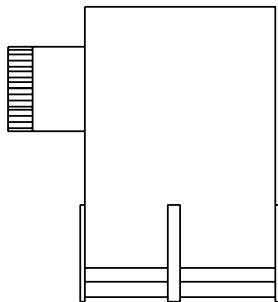
Vent termination assembly



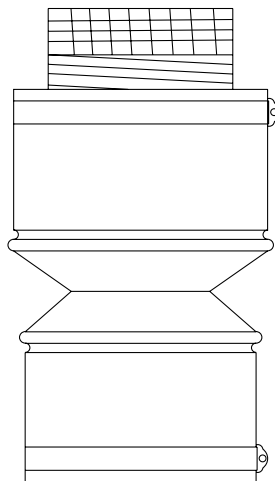
*Inside trim plate
(with band clamp)*



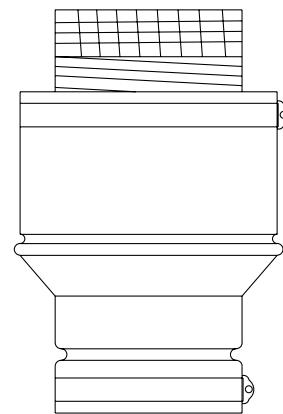
Outside trim plate



*Air Inlet
Adapter*



Appliance adapter



Vent terminal adapter

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Delta ELITE Oil Fired Direct Vent System Part List

Burners

Item No.	Delta ELITE Model	Burner Model	Part Number
1	F-25/30/35	Carlin EZ-1	HMBUR35
2	F-25	Beckett AFG	HMBUR28
3	F-30/35	Beckett AFII	HMBUR31
4	F-25	Reillo BF-3	HMBUR27
5	F-30/35	Reillo BF-3	HMBUR36

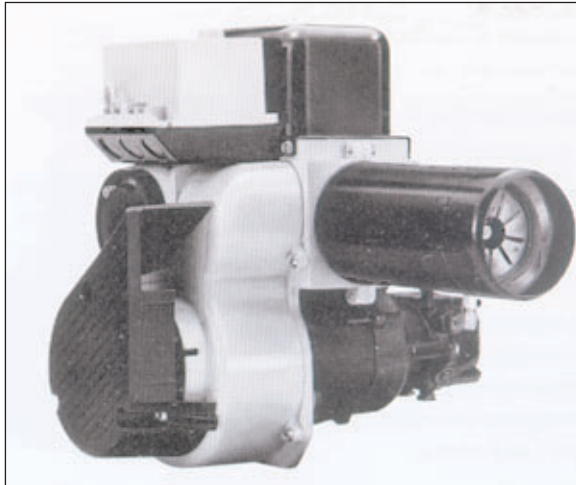
Vent Kits

Item No.	Vent Length	Part Number
7	10 feet	HMVKIT07
8	20 feet	HMVKIT08

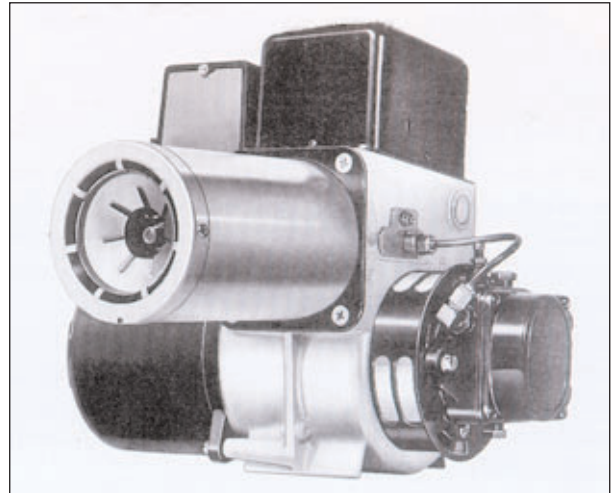
All vent kits include:

- Inside Trim Plate
- Outside Trim Plate
- 4” Insulated Vent Pipe –Appropriate Length
- Appliance Adapter
- Vent Terminal Adapter
- Vent Termination Assembly
- Air Inlet Adapter
- 4” Single Wall, Flex Air Inlet Duct - Appropriate Length
- High Temperature Sealant
- Banding Clamps
- Vacuum Relief Valve

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Beckett AF II



Beckett AFG

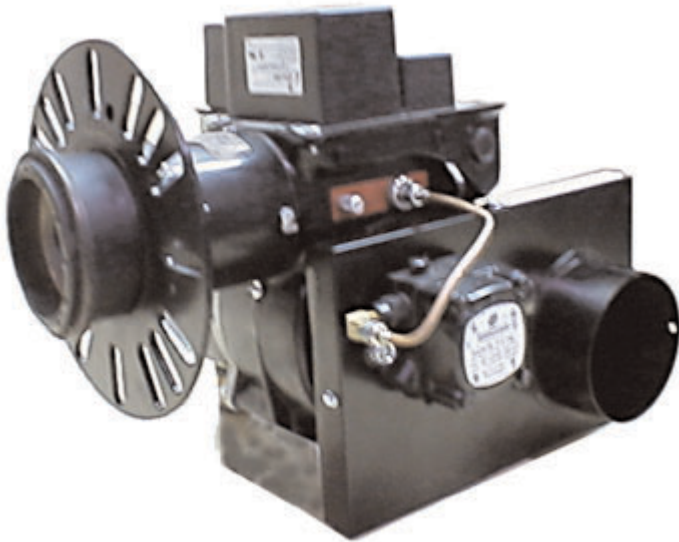
DESCRIPTION	AFII-150	AFG
Depth of Burner Chassis	6 11/16"	6 9/16"
Insertion Depth (Air Tube to Flange)	3"	2 3/4"
Motor Size - HP / RPM	1/7 HP 3450 RPM	1/7 HP 3450 RPM
Power Supply	120/60/1	120/60/1
Motor Amps	1.8A	5.8A
Burner Pitch	6°	3°

F-Model	Burner Input No. 2 Oil GPH	Standard Combustion Control	Standard Combination Control	Air Tube Combination	Overfire Draft	Air Setting	Head Type	Head Setting
F-25	0.70	AFG	R7184P	AFG50MB	0.02	25.0	L1	--
F-30	0.85	AFII-150	R7184P	HLX70HD	0.20	6.5	HLX6	4.0
F-35	1.00	AFII-150	R7184P	HLX70HD	0.23	7.0	HLX6	7.0

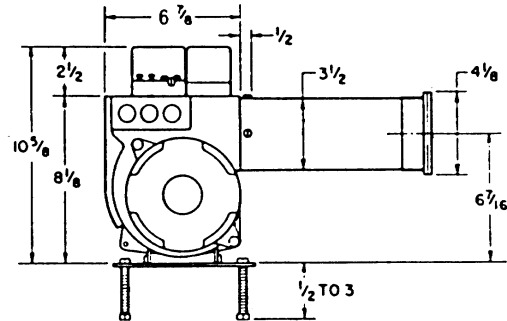
F- Model	Oil Burner Nozzle Data						Pump Pressure PSIG	Oil Pump Model	Nozzle/ Gear Capacity GPH
	Primary Nozzle			Alternate Nozzle					
	Size GPH	Angle	Type	Size GPH	Angle	Type			
F-25	0.5	60	B-Delavan				200	Clean Cut	3/17
F-30	0.65	45	B-Hago	0.65	45	AS-DanFoss	175	Clean Cut	3/17
F-35	0.75	45	AS-DanFoss	0.75	45	B-Delavan	175	Clean Cut	3/17

- Oil ratings based on No. 2 fuel oil with heating value of 140,000 Btu per gallon.
- R7184P combustion safety control uses a cadmium sulfide cell flame detector to monitor oil flame, provides intermittent direct spark ignition of oil flame and pre purge cycles.
- Settings shown are for initial start-up. Final settings should be determined after combustion readings.

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Carlin EZ-1 Model with Air Box



Description	EZ-1
Insertion Depth (air tube to flange)	2 5/8"
Air Tube Pitch	3°
Motor Size - HP/RPM	1/7 HP 3450 RPM
Power Supply	120/60/1
Motor Amps	2.7A
Control Type	Interrupted Ignition 30 sec. Pre-purge

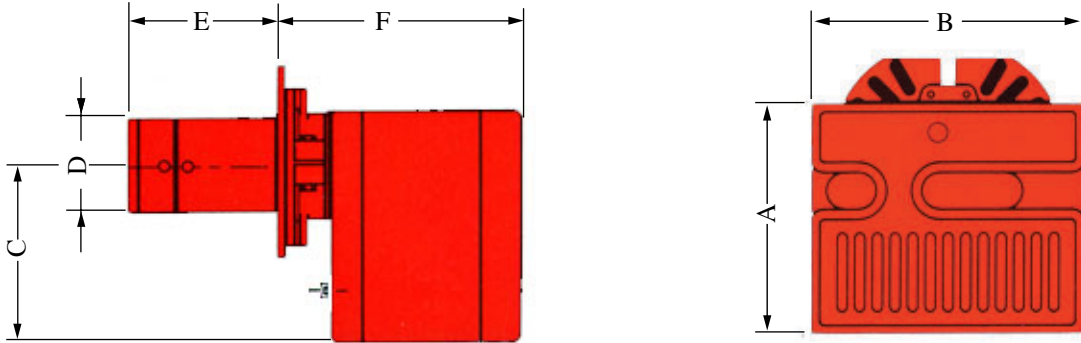
F-Model	Oil Burner Nozzle Data						Pump Pressure PSIG	Suntec 3450 RPM	Nozzle/ Gear Capacity GPH
	Primary Nozzle			Alternate Nozzle					
	Size GPH	Angle	Type	Size GPH	Angle	Type			
F-25	0.60	60	A-Delavan	0.60	60	SS-Hago	150	A2VA73006	3/17
F-30	0.65	60	W-Delavan	0.65	60	B-Hago	150	A2VA73006	3/17
F-35	0.85	70	B-Delavan	0.85	60	W-Delvan	150	A2VA73006	3/17

F-Model	Burner Input No. 2 Oil GPH	Standard Burner Model	Standard Combustion Control	Overfire Draft	Air Box Setting	Breech Draft	Head Setting
F-25	0.70	EZ-1	60200-02	+0.035	0.65	+0.01	.60/.65
F-30	0.85	EZ-1	60200-02	+0.05	0.85	+0.02	.60/.65
F-35	1.00	EZ-1	60200-02	+0.07	1.20	+0.02	.85/1.00

- Oil ratings based on No. 2 fuel oil with heating value of 140,000 Btu per gallon.
- CCT combustion safety control uses a cadmium sulfide cell flame detector to monitor oil flame, provides interrupted direct spark ignition of oil flame and manual lock-out switch.
- Setting shown are for initial start-up. Final settings should be determined after combustion readings.
- Combustion Air Box is factory installed and preset to the recommended air setting.

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Riello



Dimensions - inches	Model BF-3	Model BF-5
"A"	9 13/16"	9 13/16"
"B"	11 1/4"	11 1/2"
"C"	7 1/2"	7 1/2"
"D"	3 1/2"	3 1/2"
"E"	2"	2 1/2"
"F"	11"	10 1/2"

DESCRIPTION	Model BF-3	Model BF-5
Motor Size - RPM	3250 RPM	3250 RPM
Electrical Power Supply	120 /60/1	120 /60/1
Motor Amps	1.60A	1.70A
Primary Control	530 SE/C	530 SE/C

F-Model	Burner Model	Burner Input No. 2 Oil GPH	Burner Settings		Draft
			Air Setting	Turbulator Setting	Overfire Draft
F - 25	BF-3	0.70	6.0	1.0	+0.01
F - 35	BF-5	0.85	5.0	1.0	+0.01
F - 35	BF-5	1.00	7.0	2.0	+0.01

F-Model	Oil Burner Nozzle Data						Pump Pressure PSIG
	Primary Nozzle			Alternate Nozzle			
	Size GPH	Angle	Type	Size GPH	Angle	Type	
F - 25	0.6	70	B-Delavan				180
F - 30	0.75	80	A-Delavan				150
F - 35	0.85	80	A-Delavan				150

- Oil ratings based on No. 2 fuel oil with heating value of 140,000 Btu per gallon.
- All motors are furnished with integral overload protection with manual reset.
- Settings shown are for initial start-up. Final settings should be determined after combustion readings.