

# OIL-FIRED UNIT HEATERS

Commercial/Industrial



**Beacon/Morris**  
GAS-FIRED UNIT HEATERS

# OIL-FIRED UNIT HEATERS

## Models BMOF 50 - 250 Standard Features

### Heat Exchangers

16-gauge aluminized steel.

### Oil Burner

Efficient flame retention burner results in complete and clean combustion.

### Adjustable Louvers

Directs the air where needed.

### Heavy duty fan

Fan assembly is constructed of quality materials to insure trouble free operation.

### Completely packaged

Shipped factory assembled and ready to install. Cuts expensive labor and materials costs.

### Standard Equipment

- Flame Retention Oil Burner
- 115V, 60Hz
- CAD Cell Burner Control
- Fan/Limit Control
- Summer Fan Operation
- 4 Point Suspension
- Burner Service Switch

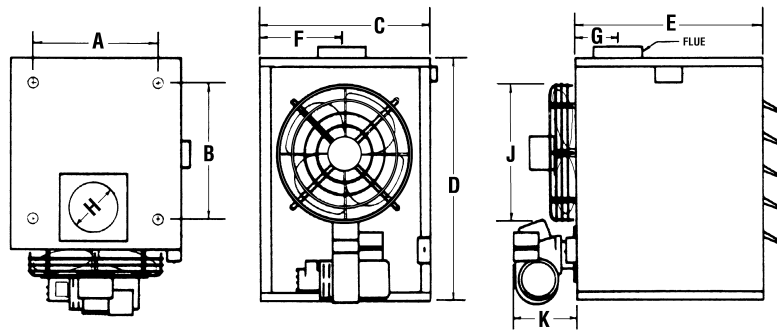
### Optional Equipment

- Combustion Air Adaptor

## Models BMOF 50 - 250 Performance & Dimensional Data

DATA	50*	84*	100*	180*	250
Input — BTU per hour	70,000	105,000	126,000	231,000	312,000
Output — BTU per hour	56,000	84,000	100,000	184,000	250,000
Firing rate — No. 2 oil	.50 GPH	.75 GPH	.90 GPH	1.65 GPH	2.25
Fan motor RPM	1140	1140	1140	1140	1750
Fan motor HP	1/4	1/4	1/4	1/4	1/2
Air delivery	1050 CFM	1750 CFM	2000 CFM	3200 CFM	3400 CFM
Effective air throw at 12' suspension	35'	46'	47'	56'	64'
Flue size diameter	7"	7"	7"	8"	9"
Hanger size	3/4" IPS	3/4" IPS	3/4" IPS	3/4" IPS	3/4" IPS
Net weight	155 lbs.	155 lbs.	155 lbs.	285 lbs.	420 lbs.
Shipping weight	175 lbs.	175 lbs.	175 lbs.	310 lbs.	450 lbs.

Specifications subject to change without notice. \*Underwriters' Laboratories Listed



**DIMENSIONS (in inches)**

MODEL	A	B	C	D	E	F	G	H	J	K
50	15	12	20	31	19-1/2	10-1/8	7-1/2	7	16	10
84	15	12	20	31	19-1/2	10-1/8	7-1/2	7	16	10
100	15	12	20	31	19-1/2	10-1/8	7-1/2	7	16	10
180	20-3/4	20-3/4	28-1/8	39	31-1/8	14-1/16	7-3/8	8	20	12
250	27-3/4	19-3/4	34-1/8	44-1/4	34-1/8	17-1/16	9-3/8	9	22	12

# Models BMOF 300 & 450 Standard Features

## Heat Exchangers

Primary of 16-gauge, 400 Series, stainless steel; secondary of 14-gauge hot rolled steel.

## Frame and cabinet

Welded Formex frame provides exceptional strength for rigid support. Frame and recessed vinyl-coated steel cabinet panels provide very rugged long-lasting casing for internal parts of unit. Handsome gray finish.

## Standard Equipment

- 1" Foil-Faced Fiberglass Frame and Casing Insulation
- 3,450 RPM Flame Retention Burner for No. 2 Oil
- Cad Cell Burner Primary Relay
- Burner Service Switch
- Fan and Limit Control with Summer Fan Switch
- Complete Factory Assembly, Wiring and Fire-Tested

## Optional Equipment

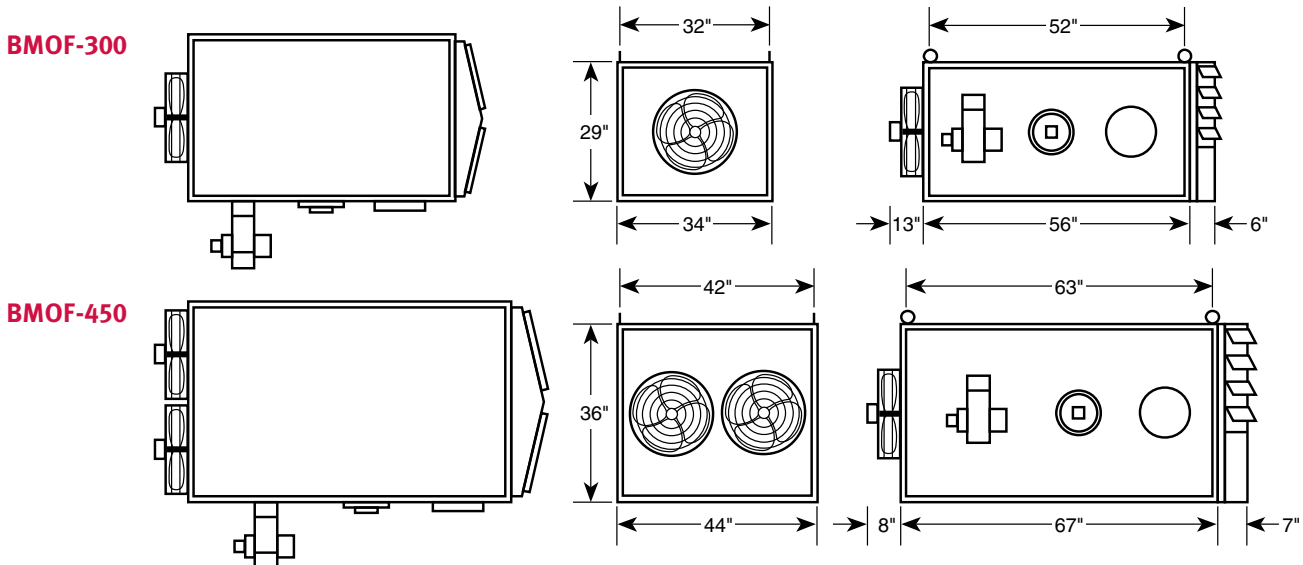
- Combustion Air Adaptor

# Models BMOF 300 & 450 Performance Data

UNIT SIZE	300	450
Input — BTU per hour	375,000	560,000
Output — BTU per hour	300,000	450,000
Firing rate — No. 2 oil	2.75 GPH	4.00 GPH
Fan motor Qty. — HP	1 - 1/2 HP	2 - 1/3 HP
Air delivery	5,000 CFM	6,000 CFM
Effective air throw at 12' suspension	90'	90'
Flue size diameter	9"	10"
Standard electrical	115/1/60	115/1/60
Net weight	675 lbs.	800 lbs.
Shipping weight	700 lbs.	850 lbs.
1" suspension eye bolts	4	4

Specifications subject to change without notice.

# Models BMOF 300 & 450 Dimensional Data



## Typical Specifications

Beacon/Morris Oil-Fired Unit Heaters are the vented type intended for space heating, and designed for ceiling suspension.

Heaters are equipped with a 3.450 RPM flame-retention oil burner of the pressure-atomizing type, using high-tension electric ignition. Operation excels that of conventional gun-type burners. Employing Group I or II safety combustion controls and oil pressures not greater than approximately 100 psi, the burner operates with fuels no heavier than Commercial grade No. 2.

## Clearance

Clearances between a unit and combustible construction should be at least 6" at sides, 6" at top and 18" from the smoke pipe in any direction. For installation of draft regulation, allow 18" between unit top and ceiling, 24" from burner.

## Suspension

Suspend utilizing four hangers of 3/4" steel pipe cut to length; pipe unions make installation easier.

## Location of Units (a general guide)

- a. **One Heater** should be suspended over an area of low heat loss to blow toward the area of greatest heat loss.
- b. **Two or more Heaters**, where there are no small areas of concentrated heat loss, should be arranged around the outside walls and blowing parallel to them. Each heater blows toward the air-intake side of the unit to create continuous circular air motion.

**NOTE:** Where there are concentrated heat-loss areas, like large garage doors, a combination of (a) and (b) is desirable. To supplement the circular air movement, direct individual heaters toward the high heat-loss areas.

## Flue Pipe and Chimney

Flue pipe of galvanized steel the same size as the heater connection is recommended. A full-size, approved type, barometric draft regulator (not furnished with heater) should be installed close to the unit's outlet. The air flow opening into the regulator should face the front of the heater to avoid air currents set up by the fan (such currents affect the regulator's operation). The flue should connect directly into a permanent chimney. The flue pipe must never pass through any floor or ceiling, or through any combustible material unless suitably guarded.

## Optional Equipment



THERMOSTAT  
Honeywell T87F Low  
Voltage Range 60-90°



COMBUSTION  
AIR ADAPTER

These general points should also be observed:

- a. Flue pipes through the roof, capped with a weatherproof anti-down draft cap, should rise at least 2' above any object within a 30' radius.
- b. If a chimney is used and 10' or more of it rises above the flue connection, no more than 20' of horizontal flue pipe is permissible. If chimney height above the flue connection is less than 10', the allowable horizontal length is 12'. Chimney walls should be clean and smooth, free from holes, flaws that permit air leakage, and offsets. Minimum inside chimney size for one unit heater is 8" x 8", or 8" round, inside. Chimney should be inspected (and vacuum-cleaned if necessary) at the beginning of each heating season.
- c. All flue pipes should rise about 1/4" per foot of horizontal run.
- d. Double flue pipe construction provides a safety thimble around a flue passing through roof. Consult local ordinances for proper method of installing flue pipes through the roof; in any case, minimum requirements must strictly accord with those of the National Board of Fire Underwriters.
- e. Flue pipe must always be extended full size with no restrictions whatsoever.

## Electrical Connections

Unit heaters are completely factory-assembled and wired with No.14 type TW solid wire, ready for connection to single phase, 60 cycle, 115 volt power ONLY. Wiring from branch circuit to heater terminals should accord with the National Electrical Code and any local ordinances that apply. Low voltage thermostat must be located out of the unit's heated air stream.



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