

**THERMOBILE**



## **BIO ENERGY**

Bio-oil fired heaters with  
flue connection



**BIO ENERGY-B  
(thermo)**



**BIO ENERGY-1**



**BIO ENERGY-2**



**BIO ENERGY-3**

## BIO ENERGY OIL - WORKING PRINCIPLES

Thermobile Bio Energy oil fired heaters can be operated using Bio Oil, Bio diesels and various vegetable oils. The following must not be used: solvents, thinners, petro-chemical based oils, transformer oil or any oil above S.A.E. 90. Full combustion is achieved in a vapourising system and non-burnable residue is retained in the burner pan.

## BIO ENERGY B

The Bio Energy B and the Bio Energy B Thermo are recommended for workshops where no explosive vapours are present. Model Bio Energy B produces radiant heat only, whilst the Bio Energy B Thermo produces a combination of radiant heat plus hot air from the top mounted 'Thermo' blower.

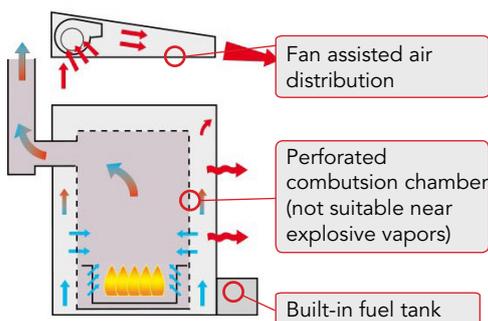
## BIO ENERGY 1, BIO ENERGY 2 AND BIO ENERGY 3

Models Bio Energy 1, Bio Energy 2 and Bio Energy 3 have been developed primarily for workshop heating. Model Bio Energy 1 produces a combination of radiant heat plus hot air from the top mounted 'THERMO' blower. Model Bio Energy 2 and Bio Energy 3 have a high capacity axial fan providing a heated air flow of 3,000 cubic metres per hour.

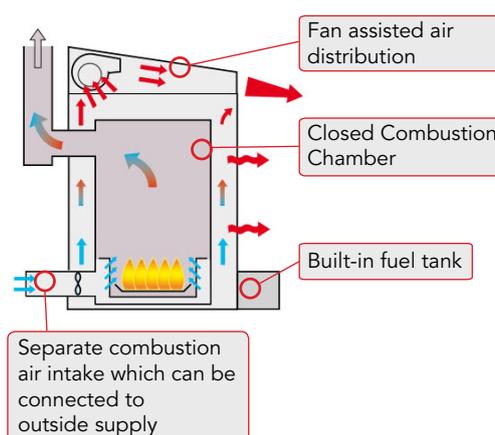
The high efficiency of the Bio Energy 2 and Bio Energy 3 is achieved by a built-in, large surface heat exchanger, through which all gases have to pass before entering the flue. A high capacity axial fan draws air from the workshop over the heat exchanger and combustion chamber and expels warm air into the building, providing a constant recycling of warm air.

All models are equipped with a fuel tank that can easily be removed for cleaning purposes. Thermobile Bio Energy oil heaters are backed by 50 years of experience in the manufacture and development of space heaters. They are built using the most up-to-date technology and carry a 12 month warranty, ensuring full customer satisfaction. The heating technology permits the end user to recover the investment costs within possibly one heating season because of the savings made from using Bio Energy Oil instead of a more expensive fuel oil.

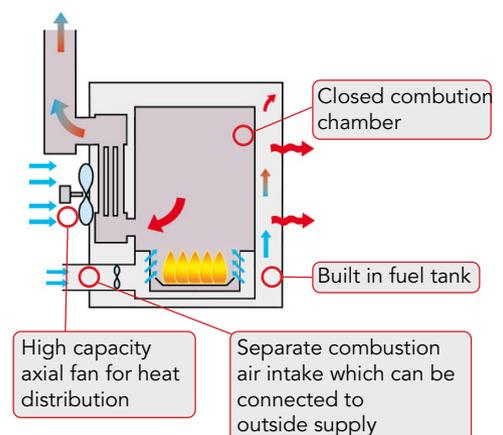
### BIO ENERGY-B (thermo)



### BIO ENERGY-1



### BIO ENERGY-2 & 3



## INSTALLATION OF THE HEATER

The Heater must be installed on a completely level concrete floor. The positioning of the heater in the workshop must take into account the following factors:

- Electricity Supply 240V
- Flue pipe installation
- Combustion air supply
- Access to built in fuel tank

Except for the Bio Energy B and Bio Energy B Thermo it is recommended that the unit is installed so that the combustion fan draws in clean air from the outside the building ensuring that no vapours, dust or oxygen can be sucked in from the workshop floor.

## FLUE PIPE INFORMATION

The complete flue kit consists of:  
Bio Energy Basic B, Bio Energy Basic Thermo,  
Bio Energy 1, Bio Energy 2

- 1 x T piece complete with Draught Stabiliser
- 4 x 1m lengths of flue piping (150mm Dia) (including change-over length)
- 1 x Rain Cap
- 2 x Adjustable Wall Brackets
- 1 x High Temperature Silcon Rubber Roof

## BIO ENERGY 3

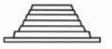
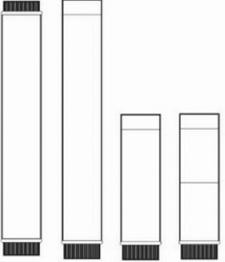
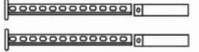
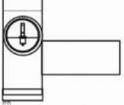
- 1 x T piece complete with Draught Stabiliser
- 5 x 1m lengths of flue piping (200mm Dia) (including change-over length)
- 1 x Rain Cap
- 2 x Adjustable Wall Brackets
- 1 x High Temperature Silcon Rubber Roof  
Flashing & Fitting Kit

## TERMINATIONS

To prevent leakage of rainwater into the pipe at joints which may be exposed above roof level, a change-over section is supplied in the flue kit. This section of pipe is provided with a male crimped coupling at each end and is designed for use where the flue passes through the roof: one end should be installed inside the building and one outside. Any subsequent components are installed inverted, ie. With the male coupling upwards and fitted and secured in the normal way. The top of flue pipe is fitted with the Rain Cap. All flue pipe connections must be adequately sealed. AQ flue draught stabiliser is essential for every model and is supplied with the standard flue stack. For efficient operation a minimum flue height of one metre above the roof apex and six meters above ground level is required. A detailed instruction and service manual is supplied with every Thermobile Heater.

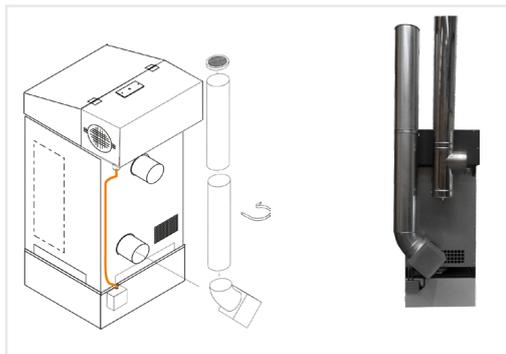
ALL LENGTHS AND FITTINGS ARE FABRICATED FROM 0.55MM TYPE 430 STAINLESS STEEL. THE INSTALLATION OF THE FLUE STACK IS THE MOST IMPORTANT ASPECT IN THE EFFICIENT OPERATION OF ANY BIO ENERGY HEATER.

## BIO ENERGY PARTS LIST

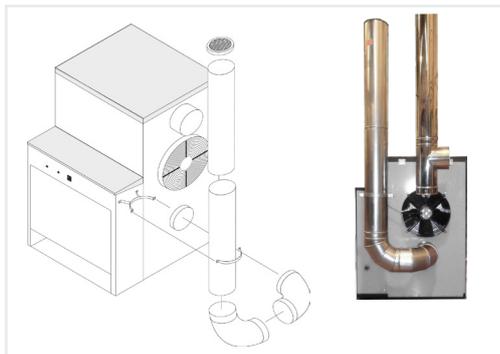
Rain Cap	41.900.830 Bio B,1,2 41.910.220 Bio 3	
Flashing	41.900.868 Bio B,1,2 41.910.497 Bio 3	
Flue pipe std Male-Female End 1M	41.900.821 Bio B,1,2 41.910.212 Bio 3	
Flue pipe c/o Male-male end 1M	41.900.820 Bio B,1,2 41.910.214 Bio 3	
Flue pipe std Male-female End 0.5M	41.900.822 Bio B,1,2 41.910.215 Bio 3	
Flue pipe tele Male-female End 0.54m-0.9m	41.900.818 Bio B,1,2 41.910.213 Bio 3	
Wall bands	41.900.834 Bio B,1,2 41.910.221 Bio 3	
Tee Piece Draft flap & condensation trap	41.900.832 Bio B,1,2 41.910.204 Bio 3	
45° elbows	41.900.825 Bio B,1,2 41.910.229 Bio 3	
Storm collar	41.900.860 Bio B,1,2 41.910.209 Bio 3	
Guy wire brkt	41.900.857 Bio B,1,2 41.910.206 Bio 3	
Guy wire 15m	98.085.892 All models	
Combustion air intake kit Horizontal	98.087.149 Bio 2,3 98.087.152 Bio 1	
Combustion air intake kit Vertical	98.087.151 Bio 1 98.087.148 Bio 2,3	

Bio oil heaters should not be operated on Waste oil until they have been registered with the relevant local Authority. Application forms are available from your local District or Borough Council.

# COMBUSTION AIR INTAKE SETS



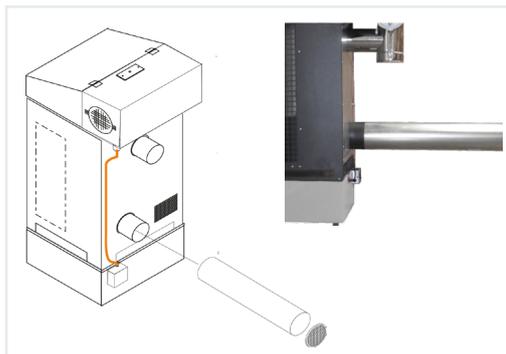
**Bio energy 1** | **98.087.151**



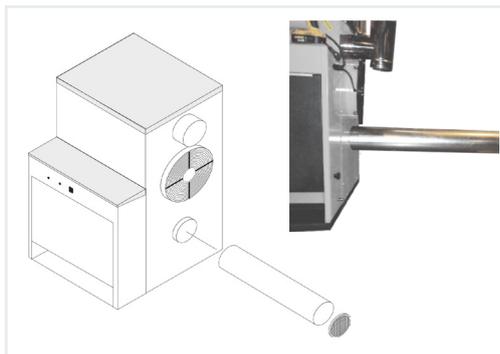
**Bio energy 2 & 3** | **98.087.148**



**Flue booster** | **98.087.345**



**Bio energy 1** | **98.087.152**



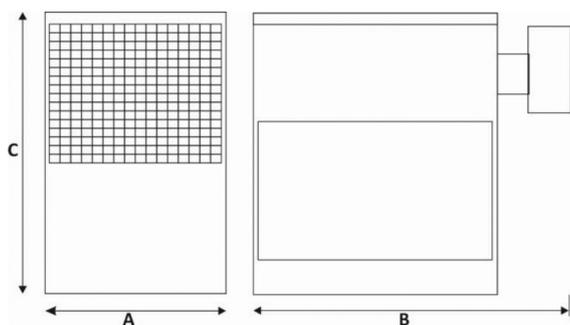
**Bio energy 2 & 3** | **98.087.149**

**Optional, suitable for Bio energy b & 1 models only**

# TECHNICAL INFORMATION

		Bio energy b	bio energy b thermo	bio energy 1	bio energy 2	bio energy 3
Capacity Btu/hr / kW (1)	Min	68,000 / 20	68,000 / 20	68,000 / 20	85,000 / 25	130,000 / 38
	Max	102,000 / 30	102,000 / 30	102,000 / 30	146,000 / 43	210,000 / 62
Fuel Consumption L/hr (1)	Min	2	2	2	2.5	3.8
	Max	3	3	3	4.3	6.2
Tank Capacity	Litres	50	50	50	55	55
Weight	Kg	67	84	102	135	165
Current	A	0.23	0.7	0.8	1	2
Flue connection	Ø (mm)	130	130	130	130	180
Heated Airflow	m <sup>3</sup> /hr		1000	1000	3000	3000
Max. space to be heated (2)	cu.ft	20,000	20,000	20,000	28,000	42,000

(1) Output depending on type of oil. (2) Depending on building insulation - figures quoted are for well - insulated modern building with doors closed



	(a) width	(b) depth*	(c) height
Bio Energy B	54cm   21"	98cm   39"	113cm   44"
Bio Energy B THERMO	54cm   21"	105cm   41"	127cm   50"
	54cm   21"	105cm   41"	127cm   50"
Bio Energy 1	54cm   21"	105cm   41"	127cm   50"
Bio Energy 2	82cm   32"	110cm   43"	108cm   42"
Bio Energy 3	82cm   32"	115cm   45"	128cm   50"

\* Depth includes T Pieces for the flue stack

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