

THERMOBILE
UK LIMITED

All the heat you need!



AT Range Universal Oil Fired Heaters with Manual Ignition

Heat capacities from 102,000 Btu/hr. to 210,000 Btu/hr.

Multi Oil Heaters



AT306 102,000 Btu/hr.



AT306THERMO 102,000 Btu/hr.



AT307 102,000 Btu/hr.

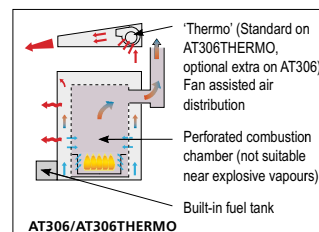
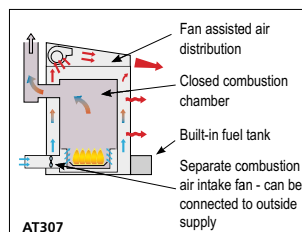
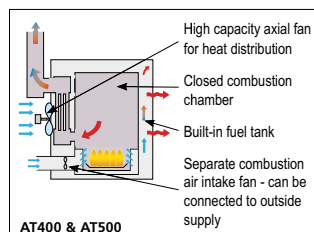


AT400 146,000 Btu/hr.



AT500 210,000 Btu/hr.

WORKING PRINCIPLES



Thermobile Universal Oil Fired Heaters can be operated on the following:

- + 35 second Heating oil/Diesel
- + Processed Fuel Oil (PFO)
- + Rapeseed Oil
- + Linseed Oil
- + Certain Vegetable Oils
- + Used Oil (subject to licensing control)
- + Bio Diesel

AT306, AT306THERMO

The AT306 and AT306THERMO are recommended only for workshops where no explosive vapours are present. Model AT306 produces radiant heat only, whilst the AT306THERMO produces a combination of radiant heat plus hot air from the top mounted 'thermo' blower.

AT307, AT400, AT500

Model AT307 produces a combination of radiant heat plus hot air from the top mounted 'THERMO' blower. Model AT400 and AT500 have a high capacity axial fan providing a heated air flow of 3,000 cubic metres per hour.

The high efficiency of the AT400 and AT500 is achieved by a built-in, large surface heat exchanger, through which all the 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.

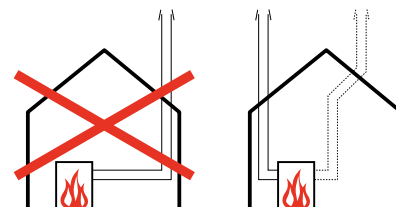
All models are equipped with a fuel tank that can be easily removed for cleaning purposes. Thermobile universal oil heaters are backed by 50 years of experience in the manufacture and development of space heaters. They are built using the most up-to-date technology and carry a 12 month warranty, ensuring full customer satisfaction.

THE INSTALLATION OF THE FLUE STACK IS THE MOST IMPORTANT ASPECT IN THE EFFICIENT OPERATION OF VAPORISING HEATERS SUCH AS THE THERMOBILE AT RANGE.

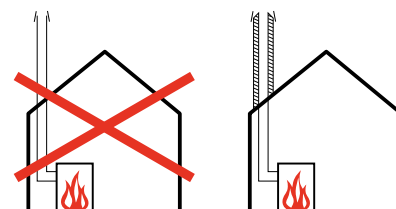
THE MINIMUM FLUE STACK HEIGHT SHOULD BE 6 METRES ABOVE GROUND LEVEL AND 1 METRE ABOVE THE ROOF APEX.

Flue Stack Installation

Errors to be avoided when installing the flue stack.

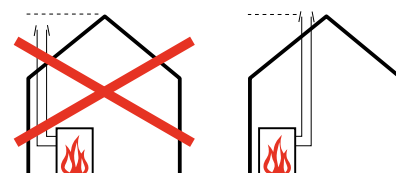


Flue gases can not rise in a horizontal stack and bends also restrict their movement. If flue bends are used then we recommend 45° bends instead of 90° and a gradual sloping stack.



Flue gases must not cool down inside the flue because:-
(a) they should rise create draught; and
(b) condensation has to be avoided.

It is important that as much of the flue as possible (two thirds minimum) is installed within the building. If this is not possible, then twin wall (insulated) flue may be necessary.



The flue must reach above the apex of the roof otherwise the prevailing winds will affect the flue draft.

- 35 second Heating oil/Diesel
- Processed Fuel Oil (PFO)
- Rapeseed Oil
- Linseed Oil
- Certain Vegetable Oils
- Used Oil (subject to licensing control)
- Bio Diesel
- Clean, soot free combustion
- Heater includes built-in tank, pump & controls.

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 model AT306 and AT306THERMO it is recommended that the unit is installed so that the combustion fan draws in clean air from outside the building ensuring that no vapours, dust or oxygen can be sucked in from the workshop floor.

BURNER DRAW SYSTEM ON MODELS AT400 & AT500



USED OIL

If the heater is operated on Used Oil they fall under Chapter IV the Industrial Emissions Directive (IED).

Heaters operating on Used Oil require a relevant permit under Schedule 13A of the Environmental Permitting Guidance (EPR).

There will be requirements placed on emissions monitoring and operational control procedures."

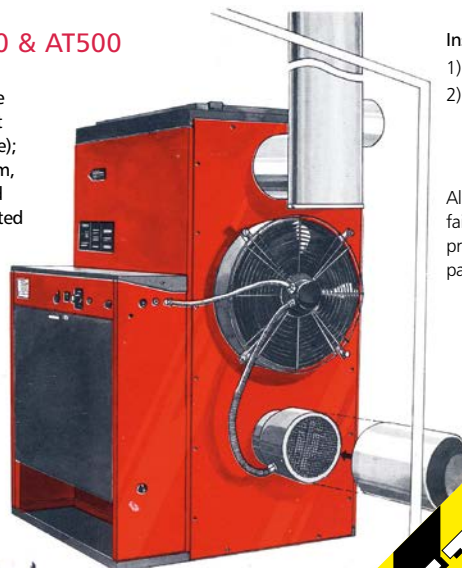
MODELS AT400 & AT500

Thermobile heaters are complete units (except flue and air-intake pipe); fuel tank, pump system, wiring and all required controls are incorporated in the heaters.

Pour approx 1/3 litre of diesel into the combustion dish and manually ignite.



Close and lock the burner draw and put the control switch to position '1'.



Install:

- 1) The flue pipe.
- 2) Combustion air intake pipe if required.

All heaters have flame failure and overheat protection plus burner pan overflow security.

The oil is fed into a burner pan where the oil vapourises; the gases maintain the flame and the unburnable residues remain in the burner pan.

OPERATION SAFETY



The combustion air can be taken from outside the building, so no dangerous fumes from inside the building can enter the heater. SO, THIS IS A CLOSED SYSTEM! This also applies to model AT307

FEATURES	AT306	AT306 THERMO	AT307	AT400	AT500
Sealed Combustion Chamber			✓	✓	✓
Burner Draw System				✓	✓
Overheat Protection		✓	✓	✓	✓
Flame Failure Protection	✓	✓	✓	✓	✓
Burner Pan Overflow Security	✓	✓	✓	✓	✓
Combustion Chamber Pressure Relief Valve			✓	✓	✓
High Efficiency Heat Exchanger				✓	✓
Outside Combustion Air Facility			✓	✓	✓

FLUE PIPE INFORMATION

The complete flue kit consists of...

AT306, AT306THERMO, AT307, AT400

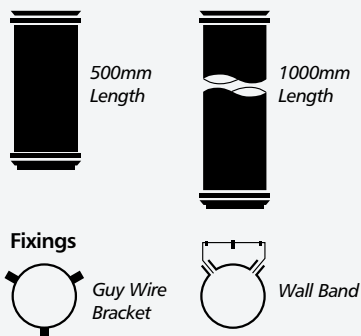
- 1 x T Piece complete with Draught Stabiliser
- 5 x 1m lengths of Flue Piping (150mm dia)
INCLUDING CHANGE-OVER LENGTH
- 1 x Rain Cap
- 2 x Adjustable Wall Brackets
- 1 x High Temperature Silicon Rubber Roof
Flashing & Fitting Kit

AT500

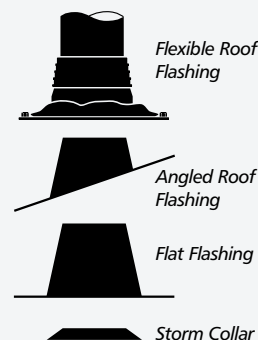
- 1 x T Piece complete with Draught Stabiliser
- 6 x 1m lengths of Flue Piping (200mm dia)
INCLUDING CHANGE-OVER LENGTH
- 1 x Rain Cap
- 2 x Adjustable Wall Brackets
- 1 x High Temperature Silicon Rubber Roof
Flashing & Fitting Kit

INDIVIDUAL FLUE COMPONENTS

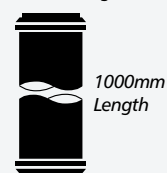
Straight Lengths – Fixed straight lengths are available in two sizes:- 500mm, 1000mm and Adjustable.



Flashings & Terminations



Change-Over Lengths (installed through roof)



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. All flue pipe connections must be adequately sealed. A 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 metres 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.

TECHNICAL DETAILS		AT306	AT306 THERMO	AT307	AT400	AT500
Capacity Btu/hr (1)	Max Min	102,000 68,000	102,000 68,000	102,000 68,000	146,000 85,000	210,000 130,000
Fuel Consumption L/h (1)	Min Max	2 3	2 3	2 3	2.5 4.3	3.8 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	Ømm	130	130	130	130	180
Heated Airflow	m³/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 a well-insulated modern building with doors closed

	A Width	B Depth*	C Height
AT306	54cm 21"	98cm 39"	113cm 44"
AT306 THERMO	54cm 21"	105cm 41"	127cm 50"
AT307	54cm 21"	105cm 41"	127cm 50"
AT400	82cm 32"	110cm 43"	108cm 42"
AT500	82cm 32"	115cm 45"	128cm 50"

*Depth includes 'T' pieces for flue stack

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Thermobile reserve the right to alter specifications without notice.

12th April 2016

INFORMATION REGARDING SMALL WASTE OIL BURNERS (SWOBS)

On the 18th July 2011 Thermobile UK Ltd were made aware that The Department for Environment Food and Rural Affairs (Defra) were conducting a review of guidance on the implementation of the European Union Waste Incineration Directive (WID), now the Industrial Emissions Directive (IED), and it's application to small waste oil burners (SWOBS) in England and Wales.

Thermobile attended meetings at Defra on 10th August 2011 and 4th November 2011 together with representatives of the Garage Equipment Association (GEA), the Retail Motor Industry Federation (RMI) and the Oil Firing Technical Association (OFTEC).

SWOBS were exempt from WID since it's inception in 2000 as the UK produced guidance which took the view that small waste oil burners lacked the technical specification to amount to "incineration plant" for the purposes of the Directive.

Manufacturers of SWOBS, the GEA, RMI, OFTEC and other trade organisations fought the case for current and potential operators of SWOBS as to the benefits of burning waste oil on site at the point of it's arising as against that of being transported, recycled and sold back to the end user at great profit to the oil recycling companies.

The initiative rails against the logic of the obvious sensible carbon footprint of burning waste oil on site and reducing the operator's heating bills in these difficult economic times.

Further to this statement by Defra, Thermobile commissioned a Carbon Footprint "cradle to grave" report for Waste Oil versus Processed Fuel Oil and Virgin Oil which was presented to Defra.

Thermobile is the only manufacturer of Waste Oil Fired Heaters to have been involved in discussions with Defra for the past 25 years concerning the use of waste oil as a means of workshop heating and the ONLY Company to spend a large sum on the Carbon Footprint study.

On the 14th September 2015 Thermobile received notification from Defra that on the 16th July 2015 the Parliamentary Under Secretary of State for Environment and Rural Affairs, Rory Stewart, announced that as part of commitment to cleaner air the Government would amend the current Environmental Permitting Guidance – the "Waste Incineration Directive Guidance", to state clearly that all waste incineration plants and co-incineration plants burning waste oils in England and Wales fall under the scope of Chapter IV the Industrial Emissions Directive (IED). The change effects small basic appliances such as Small Waste Oil Burners (SWOBS). A further Impact Assessment report was received a few days later.

This Guidance will be amended to advise that these units are within scope of Chapter IV of the IED, and therefore their continued use of waste oils as a fuel will require the relevant permit under Schedule 13A of the Environmental Permitting Guidance (EPR). The cost of the application is £3,218 with an annual subsistence fee of £1,384. In addition to the considerable cost, the application process is far more complex and additional requirements will be placed on emissions monitoring and operational control procedures. The change comes after the European Union Commission raised concerns that the low risk status of small waste oil burners in England and Wales was jeopardising local air quality.

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The use of SWOBS is already subject to similar severe financial and monitoring restrictions in Scotland , Northern Ireland and all other EU member states the cost of this permit would be prohibitive to end users.

We have never been presented with emission figures from a waste oil heater by Defra and as far as we know the last tests were conducted 35 years ago when the new oil had far greater metallic compounds and other impurities.

In 2011 Thermobile offered to pay for emission tests and were told not to bother by Defra as the main objective of the directive was waste, and not emissions.

The astounding admission by Defra is "There could be some emissions produced when waste oil is processed, however we have no data on this so assume these would be negligible"!!

This Processed Fuel Oil (PFO) is the main alternative fuel suggested by Defra !!!.

Defra published the amended guidance in December 2015 with amendments taking effect from 6th April 2016 which is extremely annoying as the RMI, GEA and ourselves were assured in 2011 that we would be involved in further consultation.

A meeting with Rory Stewart , the Parliamentary Under Secretary of State for Environment and Rural Affairs , took place on the 1st March 2016 attended by Andy Wallis (General Manager Thermobile UK), Stuart James (RMI Independent Garages Director) and Dave Garratt (GEA Chief Executive).

Rory Stewart acknowledged our concerns but explained that his primary concern with SWOBS was their potential impact on public health due to emissions. However he is prepared to look at any evidence that we can show to prove that they have got it wrong.

We pointed out again to Defra that a SWOB burning waste oil is as clean as one burning Processed Fuel Oil (PFO) but this did not carry much weight and it became obvious that Defra did not see any future in burning PFO or waste oil.

Defra commented that we will need to prove that the emissions from a SWOB burning waste oil are no more damaging than a SWOB burning heating oil (diesel).

If we could provide such evidence we would also need to convince them that the quality of the waste oil used was constant, which is obviously impossible.

Thermobile are looking into the cost of the tests involved and will liaise with the RMI and GEA as to the feasibility of such tests.

Waste Oil heaters can still be operated on alternative fuels which do not require a licence from Defra.

The units can be operated on 35 sec Heating Oil, Diesel, Processed Fuel Oil (PFO), and Bio Oils

Including Linseed, Rapeseed and certain refined Vegetable Oils.

The manual ignition AT Series Do Not Require any adjustment.

The Automatic ignition SB Series require simple adjustments to the compressed air pressure and the temperature setting of the oil pre-heating element