

Rape Seed Boiler for Eco Heating



Rape Seed Oil is a liquid, carbon-neutral, renewable bio-fuel. When burned in a boiler all the CO₂ emitted will be taken out of the atmosphere during the following season when the replacement plants are grown.

Liquid bio-fuel boilers, have been slow to come to the market but the one illustrated has been developed from a proven design by a British manufacturer and will be available from January 2007.

Hot water for space heating and stored DHW can be produced at traditional flow & return temperatures of 82-71°C and due to a unique condensing economiser unit that extracts maximum energy from the exhaust gases, operates at a minimum efficiency of 92% in the summer increasing to 99% in mid winter.

Available in a range of heating loads between 10kW and 530kW offering maximum condensing performance with instantaneous modulating control of water and combustion, auto ignition and spark.

At the heart of the boiler are two carefully designed heat exchangers.

The first of high quality steel design and the second of high-grade polypropylene plastic. Rape seed oil is piped from the storage tank to a pre-heater as it passes to the burner. Pre-heated fresh air mixes with oil and is burnt in the combustion chamber, transferring heat energy to a flow of water controlled via a valve at 82-71°C.

The flue gases pass through and leave the first heat exchanger at temperatures below 90°C and enter the second polypropylene condensing heat exchanger. Here they are cooled by incoming fresh air from either a balanced flue or conventional chimney.

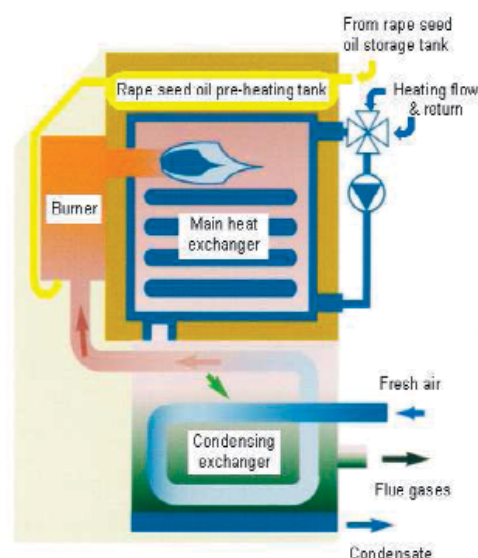
This inlet air temperature will vary throughout the year, typically between 20-30°C in high summer giving an efficiency of 92% with flue gas temperatures of 45-50°C, increasing to 99% efficiency in mid-winter as incoming air temperatures drop with exhaust flue gas temperatures as low as 15°C.

Rape seed oil has a calorific value approx. 10% lower than mineral oil but is 10% denser, hence the resulting performance is virtually the same as for conventional oil boilers.

Assuming a household currently using 23,000kWh/yr of heat, a gas boiler with an average efficiency of 80%, would cost approx. £920 and emit 4.37 tonnes of CO₂. An Oil boiler of similar efficiency would require 2625 litres of fuel oil costing approx. £1050 and emit 7 tonnes of CO₂. Rape Seed oil burned at an average efficiency of 96% would require 2100 litres costing approx. £1050* yet would be carbon neutral.

The distribution network for rape seed oil as a domestic heating fuel is currently in development, so to overcome any difficulties we can arrange a contract delivery service to supply rape seed oil to your property.

Boilers start at £3995 and will be subject to a LCBP Grant. Rape seed oil costs based on 50p/litre*



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