

CASE STUDY - Brookhill Cottage, Ipswich, 25 kW Pellet Boiler



Building Specifications

- 4 bedroom semi-detached house.
- Existing property 1850's solid wall.
- New extensions are fully insulated.
- Living area: 140 m² (currently).
- Under floor heating, hot water cylinder and one radiator circuit.
- Property is 'off grid'.

The original property, circa 1850, was heated by a small radiator circuit connected to an old AGA solid fuel boiler (phurnacite). By modern standards this provided insufficient heat capacity for the property so once the new extensions were completed a replacement system was necessary to meet the combined heat load.

25 kW Pellet Boiler

Given the customers plans for further extension of the existing property we had to include for extra capacity and selected Biotech 25kW boiler PZ 25 RL combined together with a thermal storage tank.



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Main Technical Features

- Modulating boiler with efficiency 96.3%.
- Output 6.7kW-25kW.
- Automatic Pellet Ignition System.
- User friendly control system and LCD graphical menu display.
- Dual Combustion Control – two sets of sensors analyzing continuously the combustion and giving the boiler orders how to keep the highest possible efficiency and minimum pellet usage by adjusting combustion parameters.
- Large ash box including ash compactor. About 4,000 kg pellets can be burnt in our appliances before the ashtray needs to be emptied!
- Daily pellet tank with suction turbine, automatically supplying pellets from your main storage area.



Automatic Feeding System & Pellet Store

This installation benefits from an auger based feeding system, which is ideal for rectangular pellet stores. Wooden bed inclined by 45° in combination with the auger ensures that the store can be almost completely emptied. Suction turbines then transport pellets into the boiler. The dimensions of this store are 2m x 1.6m x 2.4m and can hold approximately 4 tonnes of pellets.



Fuel Specifications

Evergreen boilers are built to combust 6mm pure-wood pellets compliant with one of following standards: O-Norm M-7145, DIN-PLUS Norm, Swisspellet or CEN / TS 14961. High quality of fuel is essential for minimising the fuel consumption and protecting the boiler against unnecessary wear and tear.

Return on Investment – Renewable Heat Incentive*

Under the consultation paper on the renewable heat incentive, this small installation would receive annual payment of approximately £1,350.00 per year for 15 years (total amount £20,250.00).

*The calculated payments are estimates based on the consultation paper released by the Department of Energy and Climate Change.

Evergreen Ecosystems Ltd.

Evergreen is an independent distributor of wood fuel heating systems with offices in the North and East of England. We are part of a well established group of companies offering industrial systems to commercial and domestic customers.

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