

Wood Heat at the Charterhouse Centre

An Econergy installed Fröling Turbomatic 55kW woodchip boiler provides heat and hot water for Somerset County Council's Charterhouse Outdoor Activity Centre on the Mendip Hills.



The Charterhouse Centre

Fröling Turbomatic 55kW automatic woodchip boiler



Technical summary

- A Fröling Turbomatic 55kW woodchip boiler is fed automatically via auger from an adjacent store by 3m diameter spring-arm fuel outfeeder.
 - The fuel store holds up to 25m³ of woodchip, sufficient for up to three months' winter time operation.
 - Fröling's unique automatic shaking and tipping grate system and separate high temperature ceramic lined combustion chamber ensures efficient combustion of a wide range of woodfuel.
 - Combustion is regulated by a Fröling H3100 modulating lambdatronic controller, automatically optimising combustion according to fuel type for 91% or better efficiency across the full output range of 16 to 55kW.
 - The boiler includes
 - automatic ignition by hot air gun
 - automatic tube cleaning
 - automatic ash extraction to an easy to empty sealed external ash box
- for nearly attendance free operation between annual servicing.
- The highly efficient combustion system ensures low emissions, easily bettering the top, class III, requirements under the EN303-5 standard.

Operation

- The system delivers an estimated 55,000 kWh of renewable heat each year.
- In replacing an oil fired system the woodchip boiler will avoid some 20 tonnes of Carbon Dioxide emissions per year.
- Some 15 tonnes per year of seasoned (~20% moisture) woodfuel is sourced from a local timber business.
- Econergy undertake annual servicing under a rolling fixed price agreement.

Grants

- The installation was supported by a grant from the DTI's Clear Skies programme.



The boiler room and fuel store (right)



Spring-arm outfeeder within the fuel store



Fuel feed (from left), with failsafe fire flap, and auto-ignition system (bottom right)