



## 250kW Wood Chip Boiler - Loyton Lodge

### Loyton Lodge

Loyton Lodge is a leisure facility near Bampton, in Devon. The owners, Mr and Mrs Barnes, are long-time farmers and landowners in the area. Driven by the need to diversify their business in the aftermath of the UK foot and mouth disease in 2001-2002, and European-wide agricultural reforms which have changed subsidies available, the couple decided to create a leisure facility which would cater for outdoor pursuits. Completed in May 2004, the complex can provide accommodation and catering for more than 20 guests.

The option of wood heating as an alternative to oil was an attractive one as the farm has a significant acreage of woodland. The wood chip fuel is provided by the regional organisation South West Wood Fuels Ltd (SWWF). This is a members Coop dedicated to providing quality and cost-effective fuel across the region. It has a chipper and storage available to members.

The system developed uses a Binder 250kW automatic wood boiler, alongside a 135kW back-up oil boiler. The boiler is fed from an automatic auger and fuel store system next door. The fuel store is set into a natural earth bank and chips are delivered at a moisture content of around 25% from a normal agricultural tipper-trailer using gravity feed. During the heating



season the boiler is expected to need 50m<sup>3</sup> (around 10 tonnes) every 5 to 7 weeks. As well as the Lodge, the wood heating system provides space and water heating for three family houses via a simple mini-district heating network.

The system is designed to always provide significant volumes of hot water for guests. A 3000 litres insulated water tank is always kept topped up and hot. Even in the case of the tank being drawn down as guests return from a day's outdoor activities, the system is programmed to re-heat the hot water as a priority. It can reheat the whole water tank from a standing start in less than 30 minutes.



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