



Southern Wood Energy Ltd

Fröling LM KOM-H 1000, Woodchip Heating System – January 2016

Scheme To provide heating for woodchip drying

Boiler and plant	A Fröling LM KOM-H 1000, commercial boiler was installed, linked to a 20,000 litre Galu Classic thermal store. This is being fed to a drying plant.
Fuel	The boiler is expected to use around 1,400 tonnes of woodchip per annum; this is based on operating the boiler for around 5,000 full load hours per year.
Chip storage	The fuel store has been constructed from reinforced concrete panels, with a 750mm thick concrete base, at the bottom of this lies the 4m×6m walking floor system. Loading is completed with the telehandler on site.
Grant / Funding	The system was funded by Southern Wood Energy, and is accredited under the Non-Domestic Renewable Heat Incentive scheme.
Savings / Investment	The system enables Southern Wood Energy to dry woodchip with biomass rather than using kerosene. This provides significant savings.
CO ₂ saving	Compared to kerosene drying, our woodchip system reduces CO ₂ emissions by over 95%.



Project overview

Southern Wood Energy (SWE) uses a large amount of electricity and heat during the processing of woodchip products that are supplied to a number of markets. SWE wanted an energy efficient system which would lower their costs and increase their supply capabilities of woodchip.

All of the construction was completed by our team of in-house welders and engineers; this meant we could deliver the project within a tight timeframe.

Fuel supply and chip handling

The Fröling LM1000 was chosen for its extreme versatility when it comes to fuel. This system is designed to take G100 woodchip with a moisture content up to 50%. This is possible by having the hydraulic ram stoker in combination with the hydraulic cross feeder. The chip is loaded onto the walking floor with the telehandler, from here the hydraulic system takes over to feed the boiler at the required rate of demand.

System design and installation

The system was designed to supply 1mW of heat to the drying plant, it is critical that the plant is supplied with a constant level of heat to ensure the drier is able to get the required temperature from the heat exchangers.

The design of the exchangers is critical, especially when you are using biomass instead of oil or gas, as there are more criteria to fulfil to ensure the biomass system is effective and efficient.

Benefits

Dunster's effective design has improved the production of dry woodchip on the site. SWE can now also use oversize products that cannot be used in most other biomass boilers.



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