



Olympus Life Science Research Europa GMBH

Fuel Supply

Fuel Silo

The silo is manufactured from corrugated galvanised steel sheets, it is:



- Diameter: 6.24m
- Vertical wall height: 4.00m
- Total volume: 128m³

The usable volume is approximately 85m³, which is equal to 15 tonnes of wood chips at 35%MC. This is equal to about 230 full load hours, assuming 10 hours running time per day this equates to approximately 23 days.

The wood chips are delivered by tipper trailer into an above ground reception bin. The chips are conveyed from the bin by auger to a blower, which blows the chips into the silo. Using this system it takes about an hour to unload 6 tonnes of chips. The exhaust air is fed through a filtration system, preventing dust being blown around the site.



Once the desired moisture content is achieved, the logs will be chipped using a fuel wood chipper. These chippers are designed to produce woodchips, which conform to the standard set by the boiler manufacturers. These standards determine the cross sectional area of the chips and percentage of large or small pieces permitted in each load and the required moisture content.



Over sized chips can block the augers in the fuel feed system or too much dust can result in difficulties with ignition or the formation of clinkers on the grate.



Fuel Supply

The woodfuel will be sourced from either of two sources; the Olympus estate and privately owned plantations. Approximately 10ha of first thinnings will be required to meet the annual requirement of 120 tonnes. The annual fuel supply is planned on a five year cycle. The Olympus plantations will supply the annual requirement of wood for the first year of this cycle.



The remaining four years will be met by fuel wood sourced from locally owned plantations within a 15km radius of the Olympus site. To ensure continuity of supply a group of 10 growers has been established with the Olympus boiler as its focus. As these plantations mature younger ones will be added to ensure that there is always sufficient timber being produced to meet the demand.



The wood will be delivered as round logs to the purpose built storage yard. The logs will be piled with the cut ends facing south so that the prevailing wind can penetrate the pile, improving the drying conditions. The piles of logs are also covered using a reinforced, recyclable paper cover, which prevents rainfall wetting the logs.

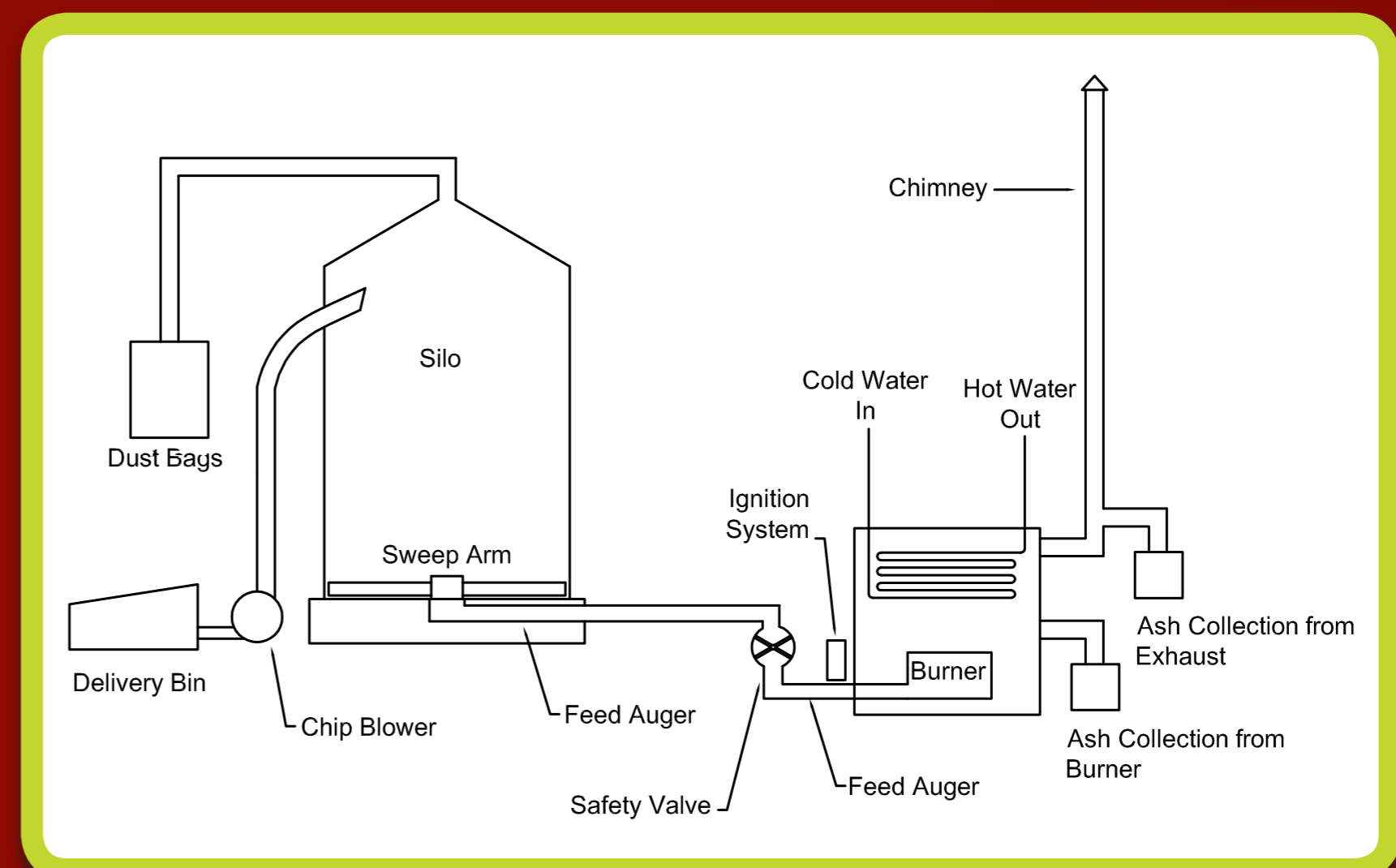


When the logs are delivered the moisture content is about 50-55%. The logs must be air dried down to a maximum moisture content of 35% before the logs are chipped. The time required to achieve this is a minimum of 12 months. It is best if the logs can be dried to a low moisture content as the energy yield per tonne increases as the moisture content decreases. The moisture content of the round logs is monitored during the drying process.

To ensure that the chips comply with the specifications, a sample of approximately 2.5kg is taken from each load. The moisture content of the sample is determined using microwave, the sample is then sieved, using a grader and the proportion of over sized pieces and dust is determined as a percentage of the total weight of the sample. A hard copy of the results is provided to both the suppliers and the end user.

The Olympus supply chain is different from other supply chains in the area in that Olympus will purchase freshly felled round logs and store them in their own drying yard. Furthermore, Olympus plan to build a storage shed, which will hold six weeks supply of wood chips. Chipping will be done on contract by a local chipping contractor.

By switching from fossil fuel to woodchips Olympus have forged closer links with the local community in that their suppliers are local growers, the material is harvested and processed by local contractors and a much larger proportion of the money spent on woodchips stays within the local community.



Olympus Schematics

