

Tubular Condenser Integrated Bio Oil Unit

Utility

The Biooil unit is comprised of a pyrolysis reactor, cooling unit, electrical control unit, gas flow meter and the mounting frame. The reactor is made from stainless steel sheet with an internal diameter of 100 mm and length of 600 mm. In each run 500 g of dried biomass is loaded. Temperature is recorded by a thermocouple fitted inside the reactor and temperature



is controlled by a PID controller. The unit is used for production of biooil and biochar from biomass feedstocks on experimental basis to see the pyrolytic behavior of biomass at different temperature and gas flow rate. The cooling system consists of five stainless steel pipes inserted into bigger size SS pipe. The vapour travels through the small pipes and cooled down by the circulating cold water into the space inside the bigger size pipe. In this process vapour is cooled down and collected as biooil. A water tank of 20 liter capacity is kept nearby to recycle the water.

Specification and working features		
Capacity	:	500 g
Biooil recovery	:	40 to 50%
Cost	:	Rs. 1 lakh

Design: ICAR-CIAE, Bhopal

Commercialization Status: Ready for Commercialization

Proposed stakeholders: Labs and research stations working on biomass and biochar

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