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RC 3108753

REF: 51/021



Flash and Fire point Tester with ASTM Standard of D92 or D130

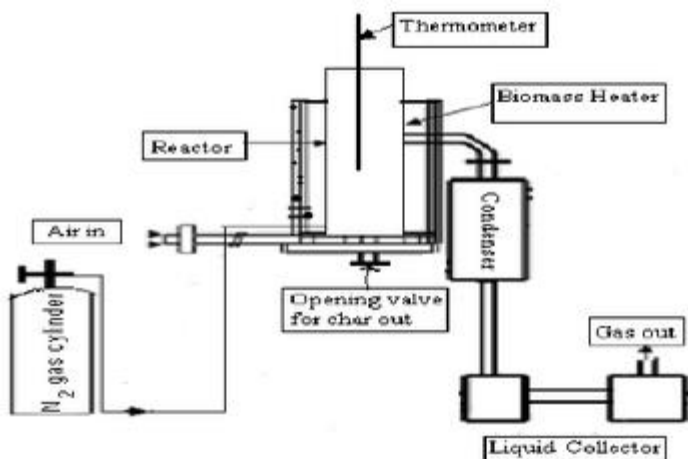
Heating Value (Calorific value):

The calorific value of bio oil was determined by burning a weighed sample in an oxygen-bomb calorimeter, Leco AC-350 under controlled conditions.

Experimental

Each of the oil is pyrolyzed individually in externally heated stainless steel fixed bed pyrolysis reactor system.

The main components of the system are fixed bed reactor, liquid condenser and ice-cooled liquid collectors. The schematic diagram of the fixed bed pyrolysis system is shown below



The effective dimensions of the reactors are presented in this diagram. The reactor is heated externally by a source heater at different temperatures from 400 to 600°C. The temperature is measured by means of pyrometer and mercury thermometer. Nitrogen gas is supplied in order to maintain the inert atmosphere in the reactor, and to dispose of the pyrolyzed vapor products to the condenser. Pyrolysis vapor is condensed into liquid in the condenser and collected in the ice-cooled liquid collectors. The char is collected from the reactor bed after each experimental run through the opening at the bottom of the reactor. The non-condensable gas is flared into the atmosphere.



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