1.0 TITLE : BOILER EFFICIENCY

2.0 OBJECTIVES :

To determine the thermal efficiency and equivalent evaporation of a fulton steam boiler.

3.0 THEORY

A boiler is a steam generating device. It consists of a water container and a device that provides heating. Boilers are of two types generally the water tube boilers and the fibre - tube boiler.
A boiler is made of a large steel shell having two Large bore cylinders passing through it called fines. The fines are corrugated to counter the effects of expansion the boiler experiences. This is in order to prevent rapture of the device due to pressure build up.

The front end entrance of the fine has a furnace which is arranged such that it can burn gas, coal or oil. Boilers that use coal have a stroker also known as a chain grate stroker. The feed rate is controlled by the chain operated grate.
Fulton Boilers however use oil as fuel. The fulton boiler is also made of a steel cylinder shell water guage and mixing chamber to burn fuel. The fuel mostly used is Diesel which is stored in a tank that is metered to measure the fuel flow rate.
A pump feeds water into the boiler and a meter gives its water flow rate. When the boiler is switched on the fuel is burnt ~~that~~ in turn heats up the water to produce steam.
Steam then escapes to the steam outlet with its temperature measured by a temperature gauge. The temperature of the exhaust gases is recorded by a meter gbage as it escapes.