



Flue Gas and Smoke Opacity Analysis

Technology Overview

Exhaust gas generated through combustion process is called flue gas and its composition depends on the type of fuel and the combustion conditions. An analysis of flue gas gives an evidence of efficiency of combustion and is a prime factor in controlling the operation for maximum results and in arriving at improvements in design. Flue gas analysis indicates the air to fuel ratio. It is often desirable to predict the quantity and analysis of the products of combustion to determine flue sizes and furnace pressure and to predict the magnitude of flue gas losses.

Smoke opacity is a result of the presence of solid particles (mostly soot – black smoke), hydrocarbons (blue smoke) and water vapour (white smoke) in a gas stream resulting from a combustion process.

Potential Application

Flue gas and Smoke opacity analysis are carried out in various types of industries where combustion processes are incorporated into the main production processes or subsidiary processes.

Advantages

- Helps in efficiency improvement.
- Provides information for preventing the environmental pollution.
- Helps in checking the compliance with national air quality regulations and health and safety regulations.

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