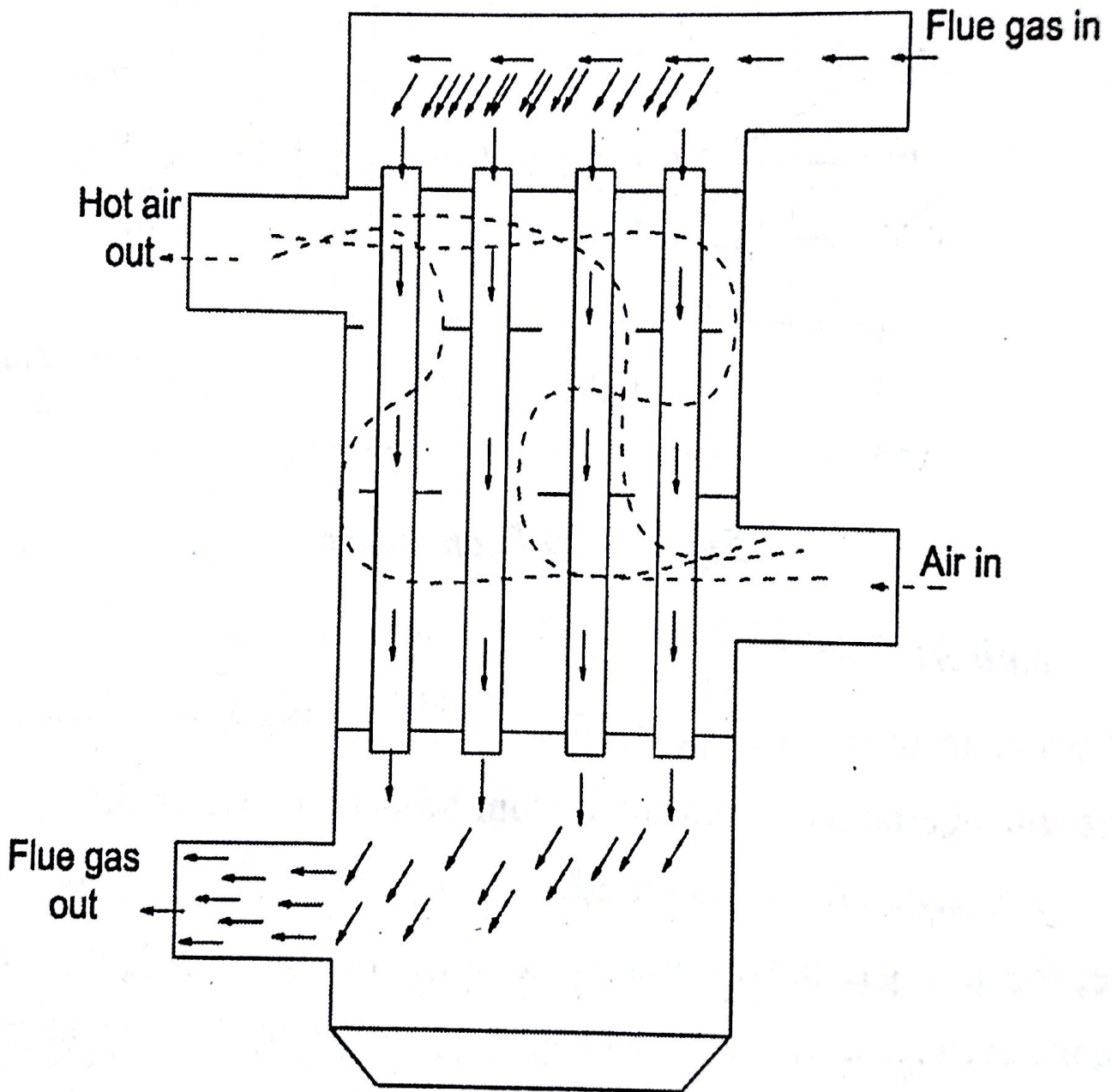


Air pre-heater



*Figure 2.30 Air preheater*

[www.pandianprabu.weebly.com](http://www.pandianprabu.weebly.com)

Air pre-heater

## Function

Air pre-heater pre-heats (increases the temperature) the air supply to the furnace with the help of hot the gases.

## Location

It is installed between the economizer and the chimney.

## Construction

A tubular type air pre-heater is shown in figure. It consists of a large number of tubes. Flue gases pass through the tube. Air flows over the tubes. Baffles are provided to pass the air number of times over the tubes. A soot hopper is provided at the bottom to collect the soot.

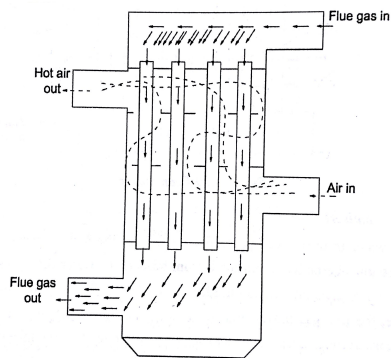


Figure 2.30 Air preheater

Figure: Air pre-heater

## Working

Hot flue gases pass through the tubes of air pre-heater after leaving the boiler or economizer. Atmospheric air is allowed to pass over these tubes. Air and flue gases flow in opposite directions. Baffles are provided in the air pre-heater and the air passes number of times over the tubes. Heat is absorbed by the air from the flue gases. This pre-heater air is supplied to the furnace to air combustion.

## Advantages

1. Boiler efficiency is increased.
2. Evaporative rate is increased.
3. Combustion is accelerated with less soot, smoke and ash.
4. Low grade and inferior quality fuels can be used.