Annexure – 03

Features & Advantages of Technology

The development of fluidized bed combustion technology over the past 20 years has significantly increased the use of various biomass and waste products in power and heat generation & it's a novel technology. It converts agriculture and biomass waste fuels & any type of coal into highly efficient energy.

Fluidized Bed Gasifier/Combustion Technology:
Inside a fluidized bed, fuels mixed with inert solids such as ash or sand/Special media is combusted. Specific velocity air is passed into the bed, creating strong turbulence inside the bed and causing the solid particles to behave like a fluid and mix uniformly. Fluidized bed reactors are capable of combusting solid fuels at 95% efficiency or higher, generating heat/Gas at a high rate, which can in turn be used to produce steam and electricity for industrial factories.

Fluidized Bed [general]:
Fluidized Bed is a major & unique element in the development of advanced, improved, renewable energy systems. It is a highly efficient and interesting technology which gives combustion efficiency up to 95% and it is the best and ideal technology to utilize waste fuel like agriculture waste, saw dust, G. shell, Husks, lignite and powdery coal.

Fluidized Bed (Principal):
Inside a fluidized bed, fuels mixed with inert solids such as ash or sand are combusted. High velocity air is passed into the bed. Creating strong turbulence inside the bed and causing the solid particles to behave like a fluid and mix uniformly. Fluidized bed reactors are capable of combusting solid fuels at 95% efficiency or high, generating heat at a high rate, which can produce gaseous fuel & firing take place at above combustion zone to produce Hot Air, utilized for special purpose like spray drying of Ceramic Slurry. But the limitation of the system is that it can produce hot air up to 700 C max.

APPLICATIONS

The fluidized bed combustion technology has wide range of applications, notably in;

- Hot Air Generator
- Incinerator
- Spray Dryer
- Power Generation

Applicable Fuel: [Fuel Size 0 to 6 mm, Ash up to 40%)

- Wood Wasters (Bar, Chips, Saw Dust etc.)
- Agriculture wasters (Husks, Ground nut shell, Cotton Stock etc.)
- Lignite / Coal
- Croundnut Shell/Saw Dust/Husk

Energy products & services

PRODUCTS

DIRECT HOT AIR GENERATOR

- Fluidised bed combustion . DIRECT HOT AIR GENERATOR plants replaces your costly LPG / LDO / FO / NG , firing in your drying / heating process.
- DIRECT HOT AIR GENERATOR plants give hot air up to 700°c with dust particles below 40 micron size
- Accuracy of hot air achieved . with our automated plant is equivalent to any of your present firing system.
- These plants can be operated on any of the low cost solid fuel available locally (COAL , LIGNITE , RICE HUSK , GROUND NUT SHELL HUSK etc.)
- These plants are installed out side factory premises and clean hot air is conveyed to the processes .
- Plants are installed outside your factory premises and high temperature hot air is conveyed to the process.
- Overall thermal efficiency is over 85%.

TECHNICAL ANIMATION

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