

# SITSON FBC BOILER

Fluidized Bed Combustion Boiler

Our Range - 5 to 210 TPH



## Suitable Fuels



Coal



Rice Husk



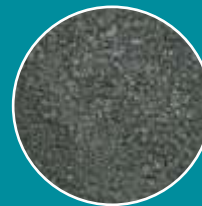
Biomass Briquette



Bagasse



Wood Chips



Pet Coke



Solid Waste Briquette

**SITSON INDIA PVT.LTD.**  
Boiler | Process | Power

## INTRODUCTION TO SITSON FBC BOILER

SITSON FBC boiler is design for fuels with high moisture content and low heating value such as coal, biomass, paper & pulp industry wastes, sludge etc. The Atmospheric fluidized bed technology is considered suitable for coal with a high percentage of non-combustibles (heating value 2200 – 6000 Kcal/kg).

SITSON's Atmospheric Fluidized Bed Combustion boiler is environmentally benign. The process employs Atmospheric fluidized bed combustor that operates at a temperature of around 800-850C°. The fuel is fed to the lower furnace where it is kept suspended and burnt in an upward flow of combustion air. The sorbent is fed to facilitate capture of sulfur from the coal in the bed itself resulting in consequent low sulfur emission. The combustion air is fed in two stages - Primary air direct through the combustor and Secondary air, way up the combustor above the fuel feed point.

The heat transfer surfaces are usually embedded in the fluidized bed and steam generated is passed through the conventional steam cycle operating on Rankin Cycle. Alternatively, without the Fluid Bed Heat Exchanger, the heat transfer surface may be distributed over the combustor and the convective pass.



### KEY FEATURES OF SITSON FBC BOILER -

- 1) Excellent turn down ratio.
- 2) Under bed feeding of fuel gives less carbon loss and high efficiency.
- 3) Very less refractory work.
- 4) More fuel flexibility.
- 5) Low SOx and NOx emission levels.
- 6) No moving part in combustor so less maintenance
- 7) Low temperature of fluidized bed reduce possibility of clinker formation & fouling tendency for biomass fuel.

### ADVANTAGES OF SITSON FBC BOILER

- 1) Reduce operation costs at low load operation.
- 2) Low auxiliary power consumption compare to other boilers.
- 3) High combustion efficiency.
- 4) Low start up time and low operation costs.

### HIGHER RELIABILITY

- 1) Our design is having low erosion rate of bed coils so reduced maintenance cost.
- 2) No soot blowers required in convection bank zone coal fired boiler.
- 3) Lower velocity in furnace so less erosion of pressure parts.
- 4) Low super heater erosion.



# List of FBC Boiler Installations

SN	Customer	Boiler				
		Capacity TPH	Pressure Kg/cm <sup>2</sup>	Temp. °C	Type	Fuel
01*	M/s. Facor Alloys Limited, Garividi, AP	210	110	540	CFBC	Indian / Indonesian Coal, Washery Rejects
02	M/s. Mid India Engineering Limited., Gandhidham, Gujarat.	2 X 90	67	510	PFBC	Pulverized coal
03*	M/s. NEPA Ltd., M.P.	85	67	485	AFBC	Indian Coal, Imported Coal
04	M/s. Apollo Tyres Ltd. Chennai , T.N.	60	67	485	AFBC	Indian Coal, Imported Coal
05	M/s. AB Grain Spirit Pvt. Ltd., Noida, U.P.	60	87	520	AFBC	Rice husk, Biomass
06	M/s. The Bombay Dyeing & Mfg. Co. Ltd. Mumbai, M.S.	50	10.5	Saturated	AFBC	Coal, Biomass
07	M/s. CLC Textile Park Ltd., Pandhurna, M.P.	45	68	490	AFBC	Coal
08	M/s. Mahavir Ferro Alloys, Kalunga, Sundargarh, Orissa	40	67	480	AFBC	Coal, Char
09*	M.s Apollo Tyres Ltd., Chennai	35	67	485	AFBC	Indian Coal, Imported Coal
10	M/s. Three (3) M Paper Manufacturing Co. Pvt. Ltd., Mumbai, M.S.	30	67	490	AFBC	Coal
11	M/s. Garg Duplex & Paper Mills Ltd. Muzaffarnagar, U.P.	35	63	490	AFBC	Bagasse, Coal, Husk
12	M/s. Century Laminating Co. Ltd.	25	48	425	AFBC	Coal, Saw Dust, Rice Husk
13	M/S. H L Agro Products Pvt Ltd, Kanpur.	25	18	Saturated	AFBC	Coal / Rice Husk
14	M/s. Krishna S.S.K. Ltd. Karad, Satara , M.S.	15	42	420	AFBC	Bagasse,Coal, Spent Wash
15	M/s. Sanjivani S.S. K. Ltd. Ahmednagar, M.S.	15	21	340	AFBC	Coal, Bagasse
16	M/s. Padmashri Dr.VithalraoVikhe Patil S.S.K. Ltd., Pravaranagar, Ahmednagar, M.S.	10	10.5	Saturated	AFBC	Coal

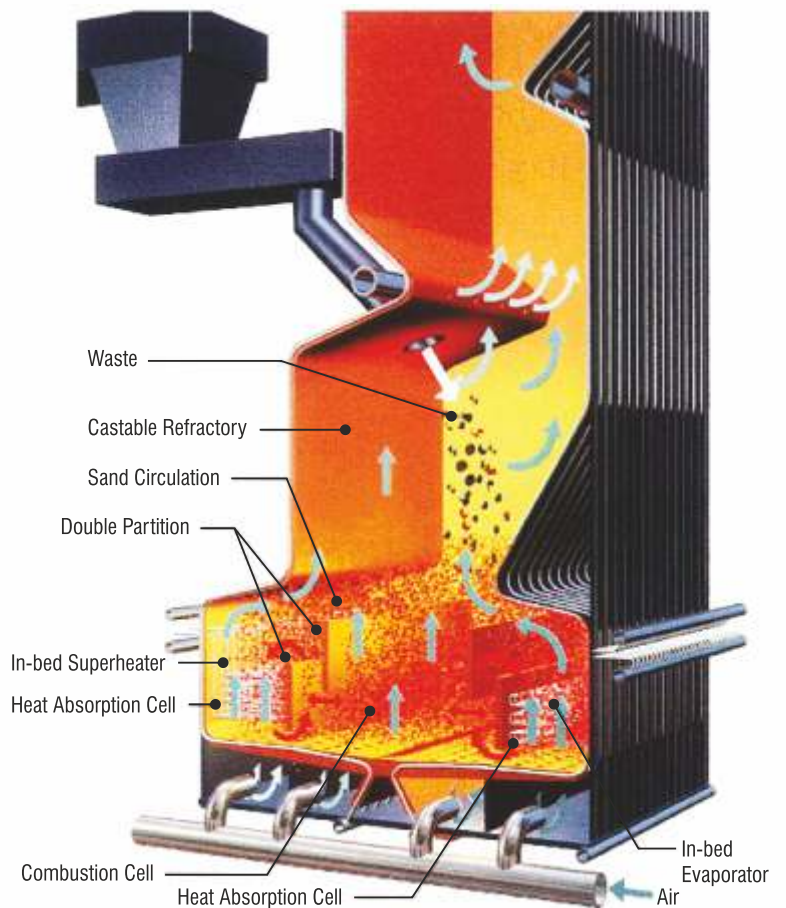
\*Under Execution



We are  
**ECO**  
Friendly

### About Fluidized Bed Boiler

SITSON Fluidized Bed Boiler also has internal circulation arrangement for increase combustion efficiency and low Loss of Ignition (LOI). In an internal circulation fluidized bed boiler, the combustion and heat absorption cells are separated. Fuel is fed into the combustion cell and burn with moving air. The moving air speed in the heat absorption cell is slower than that of the combustion cell, so that the fluidizing media is induced internal circulation. Using the sensible heat from the bed material, the temperature of the boiler tubes in the heat absorption cell is increased; generating high-temperature, high-pressure steam. This design is very beneficial for waste fuel like RDF (Refuse-derived Fuel) and municipal solid waste.



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