



IJT BOILERS

Straw Fired Boilers

Curbing Stubble Burning : Unleashing the Power of Straw



ENGINEERING FOR EXCELLENCE



Straw Fired Boilers

Isgec Heavy Engineering Ltd. is a diversified heavy engineering company engaged in manufacturing and project businesses with an extensive global presence. In operation for the past 89 years, Isgec provides state-of-the-art, sustainable engineering solutions to customers around the world.

Isgec has experience in setting up over 850 boilers across geographies and a wide variety of technologies. With environmental pollution becoming a real challenge, Isgec is now offering a solution to stubble burning with technology from Burmeister & Wain Energy (BWE), Denmark. A leading name in this field, BWE, Denmark has experience in setting up boilers equivalent to 3500 MWe, including the world's largest 172 TPH Straw Fired Boiler in the UK.

The extensive engineering, execution, and operational experience of Isgec, combined with the cutting-edge technology from BWE, Denmark makes it the ideal solution for utilizing straw in the most eco-friendly and efficient manner.

BEST AVAILABLE TECHNOLOGY

- State-of-the-art Danish Technology
- Wide fuel flexibility
(co-fire with Wood-chips, Agro-biomass, Cotton Stalks, Wood Pellets)
- Low Maintenance & Operation Cost
- Low greenhouse gas emission compared to open field burning

CONSTRUCTIONAL FEATURES

- 3-Pass design
- Water cooled vibrating grate for efficient combustion and evaporation rate
- Tailor-made design adapted for client requirements and optimised for the specific fuel
- Patented scarifier and straw feeding system for square bales
- Slagging type superheaters with large pitch
- Four stage superheaters for better temperature control
- No fly ash collection at bottom of economizer and FGC cooler

RANGE

- Steam generation capacity: 50 to 175 TPH
- Steam pressure: up to 110 bar (up to 140 bar in case of reheat)
- Steam temperature: up to 540 Deg. C
- Fuel firing system: Water cooled vibrating grate



Crop Residue Burning



Square Bales



*75 TPH, 94.2 ata, 540 Deg. C.
Paddy Straw Fired Boiler
at Sukhbir Agro, Kurukshetra, Haryana*

KEY ADVANTAGES & SERVICES

- Improved efficiency as compared to other conventional boiler (Minimum 82% on HHV basis)
- Low NOx firing systems
- Low excess air ratio – 1:3 > high efficiency
- Seamless construction for furnace water walls, side walls and top ceiling ensuring a long life for the boiler walls
- Fourth Generation Water Cooled Gate
- Fourth-generation grate sealing system for robust design and longer life of grate
- Bigger boiler drum size volume to protect the pressure parts in black-out condition
- Improved and unique bottom ash handling system
- Boiler is designed to absorb fluctuations in the load and fuel feeding
- Boiler design is suitable for all kinds of rectangular bales up to 1000 kg of size. Only feeding conveyors are to be modified for suitable size bales
- Improved and unique water cooled damper and grate sealing system
- Onsite inspections & technical expertise
- Boiler pressure parts manufactured at state-of-the-art manufacturing facility at Yamunanagar & Rattangarh
- BWE India local presence

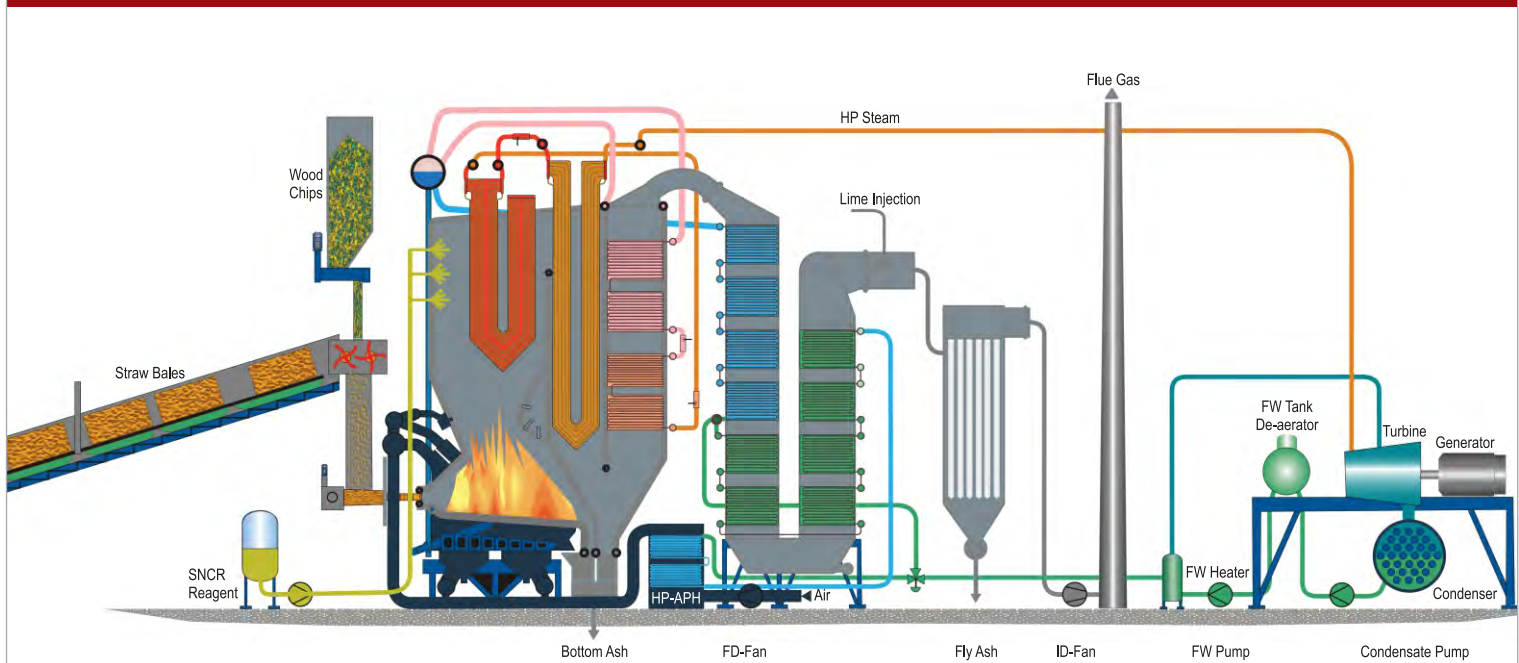


Fourth Generation Water Cooled Gate

75 TPH, 94.2 ata, 540 Deg. C. Paddy Straw Fired Boiler at Sukhbir Agro, Kaithal, Haryana



General Arrangement of a Straw Fired Boiler



Manufacturing Facilities



Yamunanagar Works



Yamunanagar Works



Rattangarh Works



Dahej Works

Isgec Offerings

STEAM GENERATORS

- Pulverised Coal Fired (PC)
- Circulating Fluidised Bed Combustion (CFBC)
- Atmospheric Fluidised Bed Combustion (AFBC)
- Travelling / Pulsating / Pinhole / Dumping Grate
- Oil & Gas Fired
- Heat Recovery Steam Generators
- Waste to Energy
- Waste Heat Recovery
- Slop / Spent Wash / Vinasse Fired

AUXILIARY EQUIPMENT *

- Air Pollution Controller (ESP)
- Deaerator / Fans
- Valves
- Electricals & Instrumentations
- Burner
- Bed Ash Coolers
- DCS
- Feeders
- Pumps

STEAM GENERATOR SERVICES

- Site Construction & Commissioning
- Retrofitting and Modernisation
- Replacement / Upgradation of Parts
- Troubleshooting & Services
- Residual Life Assessment (RLA) Studies
- Training
- Spares
- Operation & Maintenance

EPC PROJECTS

- Independent Power Plants
- Cogeneration Plants
- Sugar Plants
- Material Handling
- Water Treatment Plants
- Distilleries

* Only available with the Boiler

Feed Cycle Equipment (HP Heater, LP Heater & Condenser)
Process Equipment • Presses • Castings • Contract Manufacturing



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