a Legacy of Trust since 1974

WASTE HEAT RECOVERY BOILERS



LLOYDS® ENGINEERING WORKS

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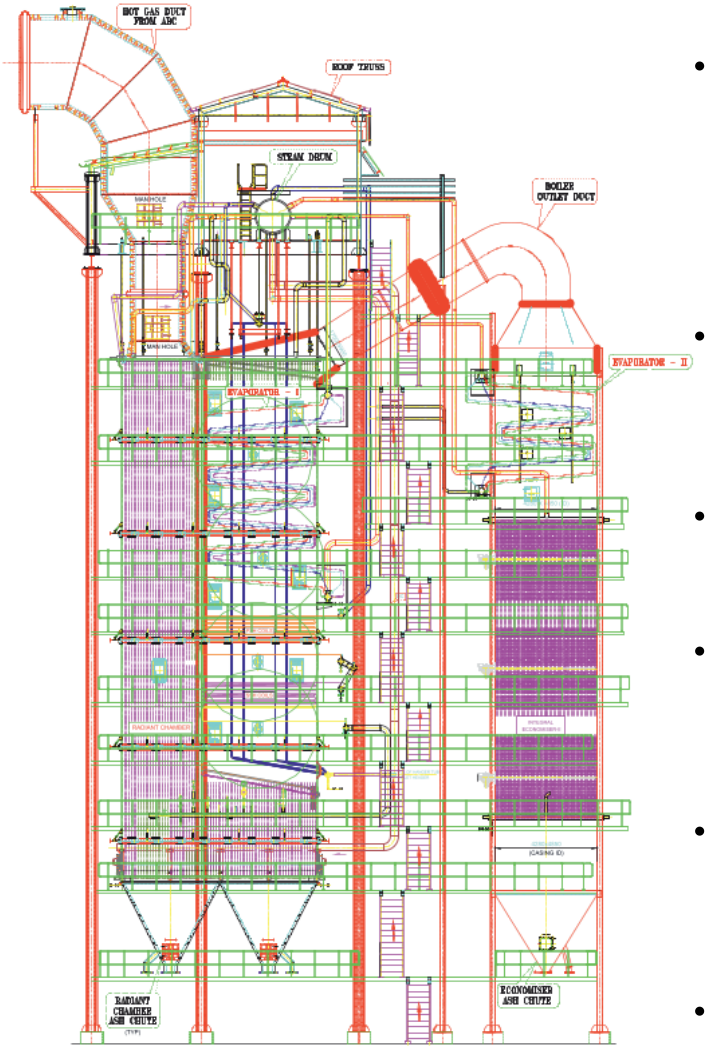
Salient Features of Lloyds WHRB:



- Single drum design calls for elimination of bank tubes and reduction of thickness resulting into an Economic design
- Compact three pass Vertical design available with both Bottom / Top supporting arrangement & Natural circulation design
- Gas tight water wall membrane design brings to prevent air ingress as well the optimum Pinch and Approach point enable the WHRB to generate higher steam generation with the Maximum effectiveness (efficiency)
- Can achieve the steam parameters at MSSV outlet of up to 110 kg/cm2 (g) steam pressure and 540 deg. C steam temperature
- Able to perform with large amount of ash coming out from the Kiln exhaust flue gas
- Self-cleaning design lead less ash carryover and addition of soot blowers ensure the clean pressure parts, better heat transfer and longer life
- Design with Optimum gas velocity to reduce corrosion and optimum pressure part pitches to reduce the fouling of ashes
- Flexibility of selection on pollution control equipment as per latest government norms
- Intellectual boiler control ensures automated and reliable operation
- Simple & Smooth in operation and ease on maintenance
- Robust and durable

Manufacturing Shop Capabilities

- **Heat Treatment Furnace** – LDO-fired furnace delivering heat treatment up to 1100°C with a chamber size of 6 m W x 6 m H x 14 m L.
- **High-Thickness Plate Bending Machine** – Cold rolling technology for plates up to 3000 mm wide and 135 mm thick.
- **Submerged Arc Welding (SAW) Machine with Column & Boom** – High-capacity 1000 A welding system with a 7000mm x 6000 mm working range for heavy-duty fabrication.
- **CNC Plasma Plate Profile Cutting Machine** – SH Electronic Co. system enabling precision cutting of carbon steel up to 200 mm and stainless steel up to 90 mm, across a 2500 x 12,000 mm range.

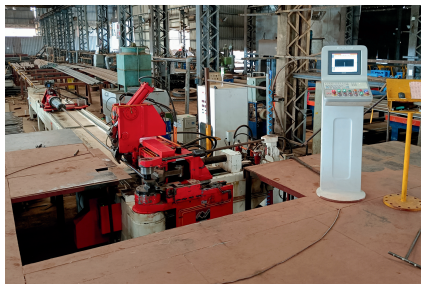


















- **2000 MT Hydraulic Press** – Heavy-duty forming capability for SS plate up to 60 mm, CS plate up to 70 mm and clad plate up to 66 mm, with diameters up to 5200 mm.
- **Tube Polishing Machine** – Precision finishing for smooth, consistent and high-quality tube surfaces.
- **Waterwall Panel Welding Machine** – Panasonic-powered 8-torch MIG welding system for membrane panels up to 12,000 x 3500 mm.
- **100 NCX Four-Axis Electro-Pneumatic Bending Machine** – High-precision four-axis bending for complex fabrication applications. Advanced 4-axis, 1D bending capability for tubes up to 3" OD.
- **100 NCX Two-Axis Electro-Pneumatic Bending Machine** – Accurate and efficient two-axis bending for diverse fabrication requirements.
- **65 NCX Single-Axis Electro-Pneumatic Bending Machine** – Specialized precision bending for waterwall panel tubes.







Major WHR, AFBC & CFBC Boilers executed by Lloyds

- 4 x 12 TPH WHRB for M/s. Gopani Iron & Power (India) Pvt. Ltd., Chandrapur
- 1 x 55 TPH WHRB for M/s. LMEL Ghugus, Chandrapur
- 4 x 12 TPH WHRB for M/s. LMEL Ghugus, Chandrapur
- 1 x 90 TPH AFBC Boiler for M/s. LMEL Ghugus, Chandrapur
- 1 x 9.7 TPH WHRB for Indian Oil Corporation Ltd. Paradip Refinery, Odisha
- 1 x 18.7 TPH WHRB for Indian Oil Corporation Ltd. Paradip Refinery, Odisha
- 1 x 6.1 TPH WHRB for Hindustan Petroleum Corporation Ltd.-HPCL Refinery, Vizag
- 1 x 2.2 TPH WHRB for Numaligarh Refinery Ltd.
- 1 x 0.88 TPH WHRB for IOCL, Bongaigaon Refinery
- 1 x 10.50 TPH WHRB for IOCL, Dumad Refinery
- 2 x 12 TPH WHRB for M/s. LMEL Konsari, Gadchiroli
- 1 x 10 TPH WHRB for IOCL, Dumad
- 2 x 76.2 TPH WHRB for M/s. Spintech Tubes Pvt. Ltd., Raniganj West Bengal
- 1 x 22 TPH WHRB for M/s. Salagram Power and Steel Pvt. Ltd., Burdwan West Bengal
- 2 x 75 TPH WHRB for M/s. LMEL Ghugus, Chandrapur
- 1 x 38 TPH WHRB (HSM) for M/s. Jindal Steel and Power Ltd., Angul
- 2 x 16.30 TPH WHRB for M/s. Vazron Industries Pvt. Ltd., Raigarh
- 1 x 9.3 TPH WHRB for M/s. Shri Hare Krishna Sponge Iron Ltd., Raipur
- 1 x 9.8 TPH WHRB for M/s. Chaman Metallics Ltd., Chandrapur

WHR, AFBC & CFBC Boilers under execution

- 4 x 550 TPH CFBC Boiler for M/s. LMEL Konsari, Gadchiroli
- 1 x 90 TPH CFBC Boiler for M/s. LMEL Ghugus, Chandrapur
- 1 x 38 TPH WHRB for M/s. Jindal Steel and Power Ltd., Angul
- 2 x 15 TPH WHRB for M/s. Jindal Steel and Power Ltd., Angul
- 1 x 75 TPH WHRB (BF Gas fired) for M/s. LMEL Ghugus, Chandrapur
- 2 x 63 TPH WHRB (Coke Oven) for M/s. LMEL Ghugus, Chandrapur
- 1 x 31 TPH WHRB (CDQ) for M/s. LMEL Ghugus, Chandrapur
- 90 TPH AFBC Boiler for M/s. LMEL Ghugus, Chandrapur
- 2 x 9.26 TPH WHRB for M/s. Shreesatya Sponge & Power Pvt. Ltd., Bardhaman West Bengal
- 1 x 19.10 TPH WHRB for M/s. Shreesatya Sponge & Power Pvt. Ltd., Bardhaman West Bengal
- 1 x 18 TPH AFBC Boiler for M/s. Shri Hare Krishna Sponge Iron Ltd., Raipur
- 1 x 30 TPH WHRB for M/s. Jindal Steel and Power Ltd., Raigarh
- 1 x 44.4 TPH WHRB for M/s. Dinanath Allied Steel Manufacturing Pvt. Ltd., Chandrapur
- 1 x 45 TPH WHRB for M/s. Neerganga Ispat Pvt. Ltd., Raipur
- 2 x 44 TPH WHRB for M/s. Million Steels Pvt. Ltd., Chandrapur

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