



THERMAL & REFRIGERATION ENGINEERING CO., LTD



WATERTUBE SOLID FIRED STEAM BOILER

BB SERIES

3-PASS DESIGN

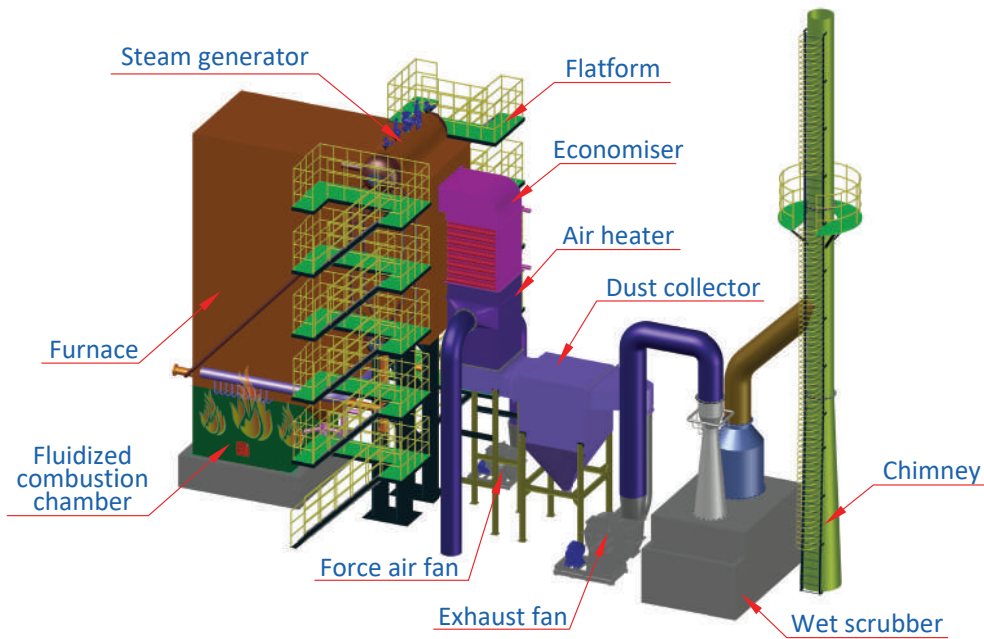
All Steel D-Type Watertube Construction

Capacities from 1,5 to 20 MW
2000 to 30000 Kg/h
Pressure max 17 Bar



- High efficiency levels and excellent heat transfer capabilities
- Suitable for oil, gas or dual fuel firing
- It is capable of rising steam quickly from cold without thermal stress

SECTION VIEW



Inspected by
LLOYDS, SGS



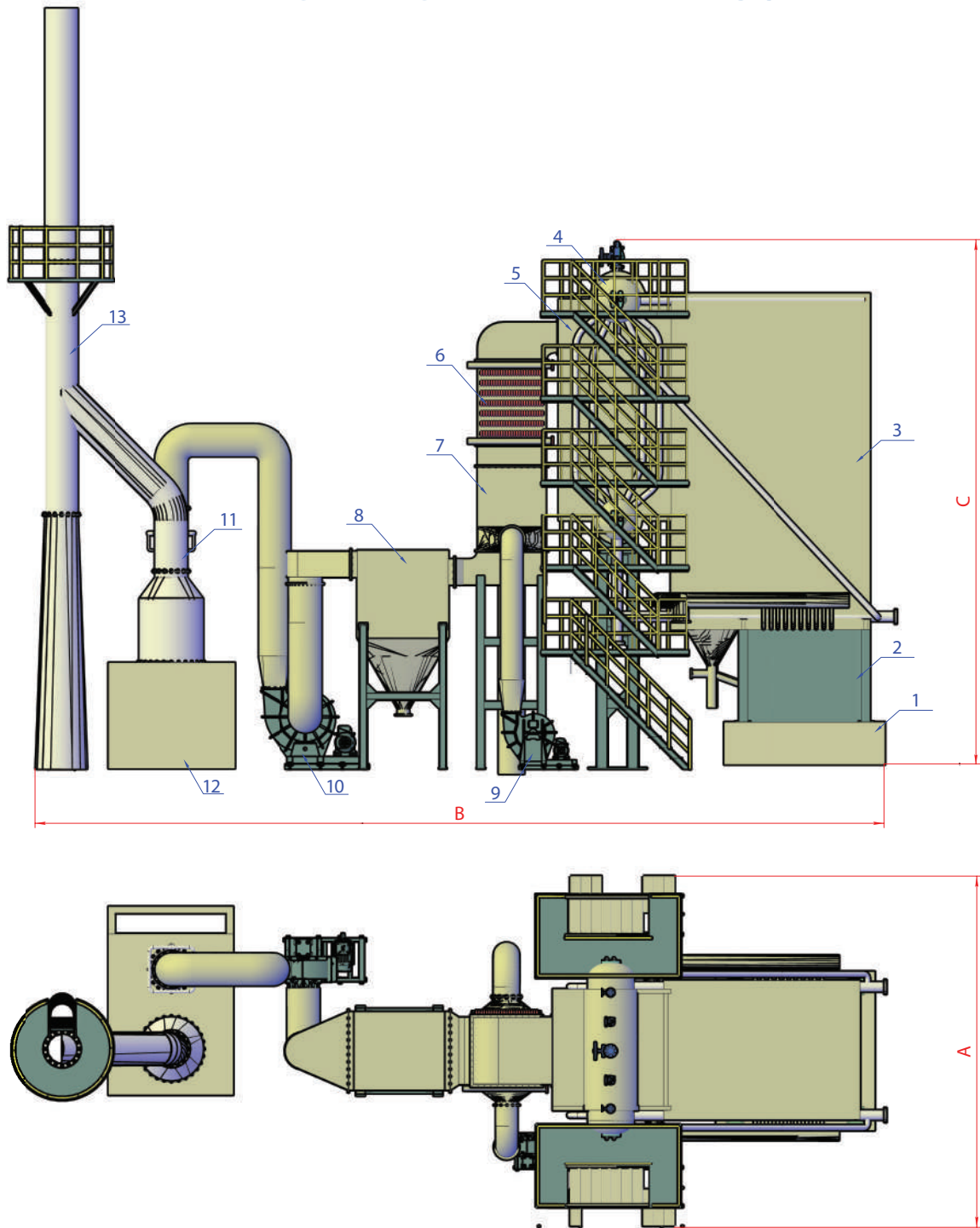
Designed,
constructed and
stamped in
accordance with the
requirements of the
ASME Boiler Codes.

TECHNICAL DATA

MODEL	BB 150	BB 200	BB 300	BB 400	BB 500	BB 600	BB 800	BB 1000	BB 1200	BB 1500	BB 2000
FUEL	BIOMASS										
Steam Capacity (Kg/h)	2000	3000	4000	6000	7000	9000	12000	15000	18000	22000	30000
Heat Output (MW)	1,5	2	3	4	5	6	8	10	12	15	20
Total Heat Surface Area (m ²)	120	150	220	330	400	500	600	750	1000	1200	1500
Design Pressure (Bar)	17	17	17	17	17	17	17	17	17	17	17
Total Volume (m ³)	5	6	8	10	12	15	18	22	26	30	35
Biomass Consumption (Kg/h) ^(*)	600	900	1200	1900	2200	2700	3840	4500	5800	6600	9500
Chimney Diameter (mm)	320	400	460	550	700	800	955	1100	1200	1300	1500
Overall Width A (mm)	6000	6000	7000	7000	9000	12000	12000	15000	15000	20000	25000
Overall Length B (mm)	15000	20000	20000	30000	40000	50000	60000	70000	70000	80000	80000
Overall Height C (mm)	8000	8000	10000	12500	12500	14000	15000	16000	16000	17000	20000

(*) : Wood chip calorific value 3.200 Kcal/kg
Moisture < 35%
Steam output > 60% of design capacity

TECHNICAL DRAWINGS



ANNOTATION:

- 1. Combustion chamber air supply
- 2. Fluidized combustion chamber
- 3. Main body
- 4. Steam drum
- 5. Boiler convector
- 6. Economiser
- 7. Air heater

- 8. Cyclone
- 9. Air fan
- 10. Exhaust fan
- 11. Venturi
- 12. Wet ash duster
- 13. Chimney

PRODUCT OVERVIEW

- Efficient 3 - Pass Design
- Flexibility - Capable of burning natural gas, fuel oil, digester gas & various other gaseous fuels
- ASME Code Constructed & Stamped
- Competitively Priced, Easily Maintained, Designed for Efficiency
- Large Furnace Volume for Ultimate Combustion Efficiency
- Low Heat Release
- Factory Insulated - 4" Mineral Wool
- Factory Jacketed & Stainless Steel
- Easy to maintaining and operating
- Ample Waterside Clean - Out Openings
- Fully Automatic Operation
- Factory Test Fired

Watertube steam boilers can be fired via conventional fuels (Diesel, LPG or Natural Gas). However, the ever increasing cost of fossil fuels, these steam boilers can be manufactured to take a large range of alternate fuels like coal, wood or even agricultural waste. All units are factory packaged with operating controls, relief valves, burner and fuel train. Installation is made simple in that only service connections are needed to place in operation. Flexible burner systems are available for firing natural gas, LP gas, #2 oil, heavy oil, or combinations. High density 4" mineral wool insulation assures lower radiant heat loss.



CONTACT US