

EFFIBLOC GLOBAL

Multi Fuel fired with 5 Pass Integral Furnace
Smoke Cum Water Tube Hybrid Packaged Boiler



ROLLCE CAPABILITY IN OIL & CHEMICAL INDUSTRY

Rollce supplies Auto / Manual fired, shell type, steam generators, hot water generator,s and thermic fluid heaters over a wide range of capacities & pressures. More than 350+ installations supplied over 12+ countries are testimony to the efficient & sustainable solutions offered by Rollce Engineering over the last 05 years.

As an agile-minded organisation, Rollce Engineering is always looking to improve our services and solutions as a multi-disciplinary engineering and construction company. With our integrated solutions on smart energy in the field of Energy & Environment Conservation, Rollce is creating a new statement on sustainability and conservation practices. Our innovative solutions and cutting-edge products help to create a New Tomorrow with our technology and partners.



EFFIBLOC OVERVIEW

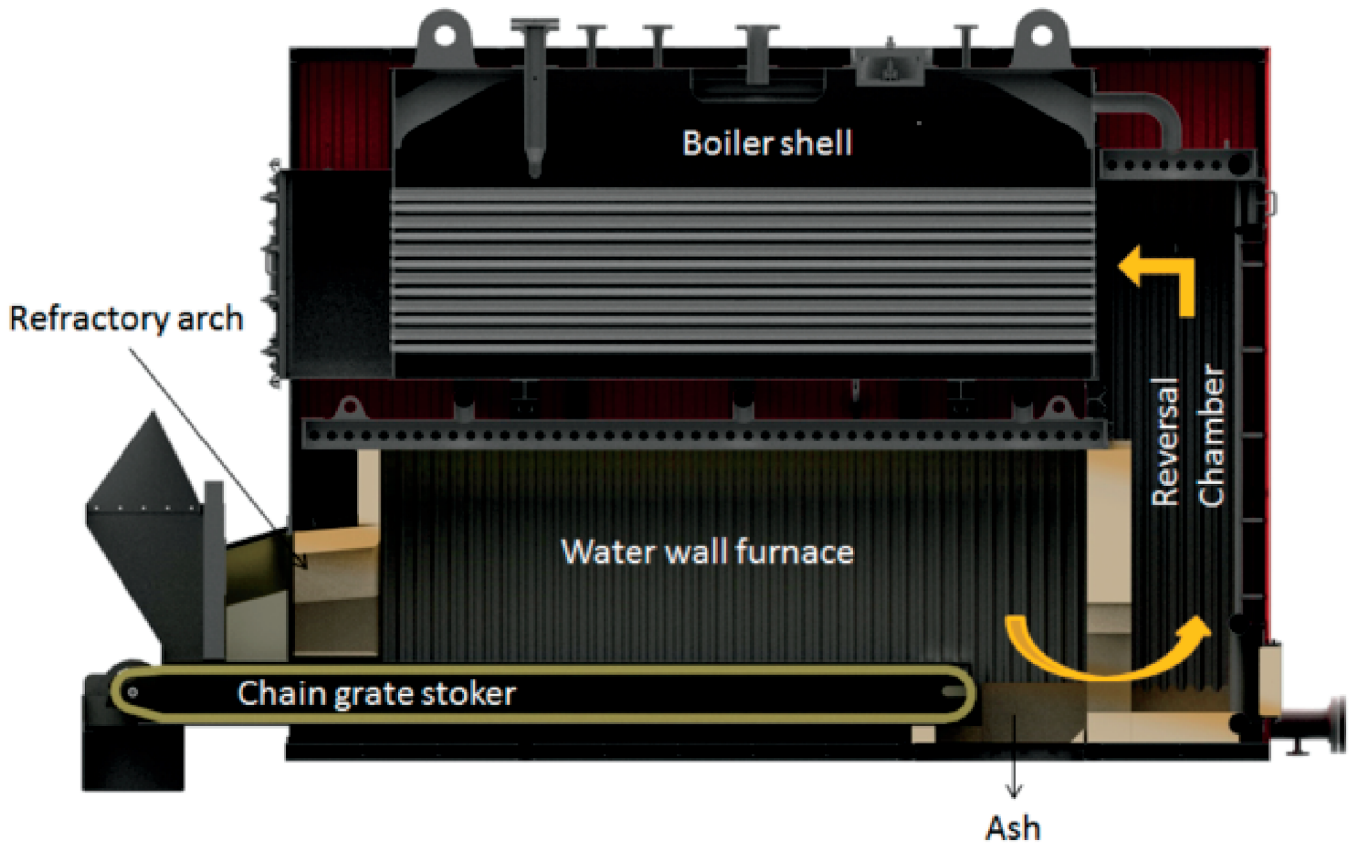


FIRE TUBE BOILER CONFIGURATIONS

Capacity Range	1000 kg/hr to 12,000 kg/hr
Maximum Design Pressure	17.5 kg/cm ²
Steam Temperature	Saturated,
Fuels	Coal/Coco-Shell/Rice Husk/Wood-Chips/Saw-Dust/Palm Kernel Shell
Design Standards	IBR, ASME, EN, GOST
Certification	CE, DOSH
Design and manufacturing Certification	IBR, BV, TUV, SGS, LYODS

EFFIBLOC SALIENT FEATURES

A Five-pass boiler convectional design consists of two sets of horizontal tubes in the Shell and the Water wall has three passes, with the stack outlet at the rear of the vessel.



- Pre- Insulated Boiler and Total unit skid mounted on the common base frame.
- More furnace volume ensures a better quality of combustion; more residence time for volatiles to burn.
- Refractory baffle wall ensures higher residence time for fuel to burn-thus higher thermal efficiency.
- Higher Fuel Flexibility.
- A high circulation ratio and optimum water hold-up enable meeting load fluctuation.
- Quick start-up time.
- Minimal Site Works.
- Multi-Fuel Firing Options.
- Optional 3-element control systems for close monitoring of water level, steam flow & feed water flow.
- Optional PLC-based control panels that can be hooked to SCADA or DCS systems.
- Pre-Wired, Pre-Insulated, Fully Skid Mounted Boiler Option.
- Multi-Combustors Options- Stationary Grate, Bubbling Bed, Fluidized Bed, Reciprocating Grate, Travelling Grate, Pulsating Grate.
- Compact Design enables less site work & quicker commissioning.
- Good Quality Dry Saturated Steam at Steady Steam Pressure with a High Dryness Fraction helps in reducing the processing time, saves steam, and improves the quality of processed material.
- Minimum stack temperature.
- Easy Ash Removability.

STATIONARY GRATE FURNACE

- A liberally sized furnace (high volume) helps in achieving higher combustion efficiency & longer life of the boiler.
- Suitable for a variety of burners.
- $VHRR < 1\text{mw/m}^3$ ensures lower emissions & higher efficiency.
- Higher HTA and lower exit tern ensure longer life.



BUBBLING BED FURNACE

- A bubbling fluidized bed (BFB) boiler is a boiler that can also handle fuels that are difficult to pulverize or less combustible. The fuel is introduced into a mixture of sand flowing at high temperatures, allowing the fuel to be efficiently combusted.
- The Unit is with the option of Manual Feeding or with a specially designed Pneumatic Feeding system (PFS). The Pneumatic feeding system is a separate system that is compatible with the EFFIBLOC boiler. In PFS the fuel is fed into the Service offer and conveyed pneumatically with SA Fan to the Boiler. The PFS fitted with a special SS Alloy Diffuser spreads fuel uniformly into the Combustion Chamber.

FLAKE CHAIN GRATE

Chain grate Model is supplied along with chain grate Assembly with variable speed drive for Mechanical and Total Automatic Feeding System. The Chain and Links are interconnected with each other and is designed specifically for Boiler to offer controlled Mechanical Feeding and high Combustion Efficiency. It has a special design control panel & Mimic screen which shows the control feeding system operation along with Boiler operating Parameters (Pressure, Temperature). The Fuel is fed into the Service Hopper fitted in from of the Combustor. The Chain Grate is driven by a Motor interconnected with Electronic Variable speed Drives (mounted on the Control Panel). The Chain Grate is suitable for feeding AGRO-WASTE like Corn kernels, Wood waste and other briquetted Agro Fuels and Coal.



RECIPROCATING GRATE

- The firing system shall consist of a RECIPROCATING Grate with continuous ash discharge controlled by Electrical drive. The grate assembly shall include the Grate bars, Connecting Rod etc.
- The direction of movement of the grate will be forward and backward for the movement of fuel for effective combustion.
- The ambient air from the FD fan is uniformly distributed under the grate. This distribution will take into account the possible non-uniform fuel distribution on the grate.



FLOW METERS

For measuring the consumption of utilities, 1 generation of steam

A Steam flow meter - Vortex type | Orifice type

B. Water flow meter - Vortex type | Orifice type

C. Oil flow meter - Gear type | Coriolis type

- High measurement accuracy & repeatability.
- Quality construction for long service life & reliability.
- Easy to use & maintain.
- Seamless communication with a panel for data display, record, and reporting.

FEED WATER PUMPS

- Boilers are provided with 2 boiler feed pumps in 1 working + 1 standby configuration.
- Reduce power bills with efficient pumps sourced from renowned OEMs.
- Superior metallurgy & manufacturing process guarantees long life & uptime.
- Avoid treated water wastage with mechanical seals.
- Low NPSH requirement, service tanks can be




EFFIBLOC APPLICATIONS

- Skid –mounted water cum smoke tube boiler-Requires very less floor area and site work
- Multi-fuel options-Total flexibility
- Available in both manual and automatic fuel feeding systems.
- Factory-assembled boiler including ducting, insulation, refractory work, structure work, etc.
- Easy installation & Low maintenance
- Easy access for cleaning and inspection
- Lower cost Space saving
- No site work involved




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