

ABOUT US

Established Industry Leader

Founded in 2004, Maanya Engineering Company is a leading manufacturer and exporter of high-quality industrial boilers. With a strong reputation for innovation and reliability, we cater to diverse industries, including pharmaceuticals, textiles, chemicals, FMCG, and refineries, ensuring customized and efficient boiler solutions for various operational needs.

Advanced and Sustainable Products

We specialize in state-of-the-art boiler systems such as Biomax, Agripac, Maxpac, Petromax, Combimac, Minipac and Agomax designed for energy efficiency, durability, and reduced environmental impact. Our commitment to cutting-edge technology enables us to deliver sustainable, high-performance solutions that optimize energy consumption and enhance productivity across multiple industrial sectors.

Comprehensive Customer Solutions

At Maanya Engineering, we provide end-to-end services, including design, manufacturing, installation, and after-sales support. Our expert team ensures seamless operations, helping clients achieve maximum efficiency and reliability. We prioritize customer satisfaction by delivering tailored solutions that meet specific industry requirements and operational challenges.

Commitment to Innovation and Quality

With a dedicated R&D team, we continuously improve our products to incorporate the latest technological advancements. Our focus on quality and precision engineering ensures long-lasting, high-performing boiler systems that adhere to global standards, making us a trusted partner in industrial manufacturing.

Global Reach and Sustainability Focus

Expanding across multiple countries, we are committed to providing sustainable and eco-friendly boiler solutions. Our global presence reflects our dedication to energy efficiency and environmentally responsible engineering, helping industries reduce carbon footprints while maintaining superior performance and operational excellence.

“1000 +TOTAL WORKING INSTALLATION ALL OVER WORLD”

RICE STRAW/CANE TRASH/MUSTARD BALE FIRED MULTI-FUEL BOILER RICE STRAW/CANE TRASH/ MUSTARD BALE FIRED MULTI-FUEL BOILER

At Maanya Engineering Company, we are committed to providing innovative and sustainable energy solutions. With the rising concerns of climate change and environmental pollution, the shift towards renewable energy sources has become essential. Our Rice Straw, Cane Trash, and Mustard Bale Fired Multi-Fuel Boiler is designed to utilize agricultural waste efficiently, reducing reliance on fossil fuels.

Paddy Straw, Cane Trash, Bagasse and Mustard Bale are commonly discarded agricultural residues in India. Their open field burning releases harmful pollutants, contributing to severe air pollution and respiratory issues. By using these biomass fuels in our advanced boiler systems, we offer a cleaner and more sustainable alternative, minimizing environmental impact while maximizing energy efficiency.

To address the challenge of handling these fuels effectively, Maanya Engineering Company has developed an advanced combustion system featuring a Pulsating Grate and Reciprocating Grate Boiler. This technology ensures optimal fuel disintegration, improved combustion efficiency, and reduced emissions, making it an eco-friendly and cost-effective solution for various industries.

With our expertise in industrial boilers and commitment to green energy, we continue to drive innovation, supporting industries in their transition to sustainable and efficient energy solutions.

RECIPROCATING GRATE

The Reciprocating Grate Boiler is a high-efficiency biomass combustion system designed to handle various fuels while ensuring complete combustion, lower emissions, and reduced maintenance. It is an ideal choice for industries seeking cost-effective and eco-friendly energy solutions.

Key Features

Three-Pass Water Wall Design-

Enhances heat transfer and improves thermal efficiency.

Multi-Stage Air and Fuel Distribution-

Ensures complete combustion with minimal unburnt fuel. Optimum air to fuel ratio.

Large Fuel Bed Area

– Increases fuel

residence time, optimizing burning

efficiency.

High-Pressure Secondary Air System-

Improves turbulence and air-fuel mixing for better combustion.

Minimal Clinker Formation

– Reduces maintenance and prevents operational disruptions.

Efficient Heat Transfer

– Water walls and

convective surfaces boost energy output.

Key Benefits

High Efficiency & Fuel Flexibility

– Supports biomass fuels like bagasse, rice husk, wood chips, and municipal waste.

Lower Maintenance & Less Downtime

– Robust design reduces wear, ensuring long-term reliability.

Reduced Ash Carryover

– Cleaner operation

with better ash management.

Eco-Friendly with Low Emissions

– Optimized combustion lowers CO and NOx emissions.

Automated Control System

– Enhances efficiency with automated fuel feeding and air supply control.

HYBRID BIOMAX BOILER

(Combination of Water cum Smoke tube boiler)

Salient Features of Hybrid Biomax Boiler with Reciprocating Grate

Hybrid Design for High Efficiency

Combines water tube (for rapid heat transfer) and smoke tube (for better heat retention) to achieve efficiency of 80–85%.

Reciprocating Grate System

Supports moisture content up to 50%, ensuring uniform fuel combustion and reducing clinker formation.

Can handle fuel particle sizes ranging from 10 mm to 600 mm.

Multi-Fuel Capability

Compatible with biomass fuels such as rice straw, cane trash, mustard bale, wood chips, and husk.

Fuel feeding rate: 500–5000 kg/hr, depending on MCR rating of boiler.

Low Emission Technology

Equipped with multi-cyclone dust collectors and wet scrubbers for emission control.

Automated Fuel Feeding & Ash Handling

Continuous screw or pneumatic feeding system ensures optimized fuel input.

Automatic ash removal system with less than 5% unburnt carbon in ash for improved efficiency.

Robust & Durable Construction

Designed to withstand pressure ratings of 10–67 kg/cm² and temperature up to 450°C.

ADVANTAGES OF HYBRID BIOMAX BOILER WITH RECIPROCATING GRATE.

High Thermal Efficiency & Reduced Fuel Consumption

- Achieves up to 85% efficiency, significantly lowering fuel consumption per unit of steam generation.
- Optimized heat transfer results in lower flue gas temperature (<180°C), improving fuel economy.

Eco-Friendly & Sustainable Solution

- Prevents field stubble burning by utilizing waste agricultural residues.

Consistent Steam Quality for Industrial Applications

- Generates superheated or saturated steam with controlled dryness fraction of 0.9–0.98.
- Steam output: 1–50 TPH (tons per hour) depending on industry requirements.

Lower Maintenance & Minimal Downtime

- Automatic soot blowers prevent soot buildup, reducing cleaning frequency.
- Easy-to-access inspection doors for quick maintenance and troubleshooting.

Advanced Safety & Automation

- Equipped with PLC/SCADA-based control systems for automated operations and real-time monitoring.
- Features high-pressure safety valves, low-water level protection, and flame monitoring for enhanced safety.

Versatile Industrial Applications

- Suitable for power plants, food processing, textiles, pharmaceuticals, paper mills, and chemical industries.
- Steam generation range: 1 TPH to 50 TPH, adaptable to various industrial needs.

WATERTUBE BIOMAX BOILER

Salient Features of Water Tube Boiler with Reciprocating Grate

High Thermal Efficiency & Rapid Heat Transfer

- Water tube design ensures faster heat absorption, achieving efficiencies of 85–90% with optimized fuel combustion.

Reciprocating Grate System for Biomass Fuels

- Efficiently handles high-moisture biomass fuels like rice straw, cane trash, mustard bale, wood chips, and bagasse.
- Supports moisture content up to 55% and fuel sizes from 10 mm to 150 mm.

High-Pressure & High-Temperature Operation

- Can operate at pressures from 10 to 100 kg/cm² and temperatures up to 540°C, making it suitable for industrial power generation.

Multi-Fuel Flexibility

- Designed to burn a variety of solid fuels, including biomass, coal, and agro-waste, ensuring adaptability to fuel availability.

Optimized Steam Generation

- Provides steady, dry, and superheated steam with high steam-to-fuel ratio for efficient power and process heating.

Advanced Ash & Emission Control System

- Reciprocating grate allows continuous ash discharge, minimizing clinker formation and reducing unburnt carbon to <3%.
- Equipped with multi-cyclone dust collectors and wet scrubbers for cleaner operation.

ADVANTAGES OF WATER TUBE BOILER WITH RECIPROCATING GRATE

Higher Efficiency & Faster Start-Up

Water tube boilers heat up 3-5 times faster than smoke tube boilers, reducing start-up time and improving energy efficiency.

Better Heat Recovery & Lower Fuel Consumption

High heat transfer rates ensure reduced fuel consumption, lowering operating costs for industries.

Ability to Handle High Steam Demand

Suitable for large-scale industrial applications, including power plants, textile mills, paper industries, and food processing units.

Lower Maintenance & Longer Lifespan

Less prone to scaling and corrosion due to better water circulation, extending boiler lifespan and reducing downtime.

Automation & Safety Features

Integrated PLC/SCADA-based control systems for real-time monitoring, automated fuel feeding, and temperature regulation.

Equipped with multiple safety valves, flame detectors, and low-water level alarms for enhanced operational safety.

Compact Design & Space Optimization

Requires less floor space than smoke tube boilers, making it ideal for industries with space constraints.

OTHER PRODUCTS

PETROMAX

Oil and Gas Fired Boiler



MINIPAC

Two-Pass, Dry Back Smoke Tube Horizontal Package Steam Boiler



MAXPAC

Three-Pass internal furnace Smoke Tube Horizontal Package Boiler



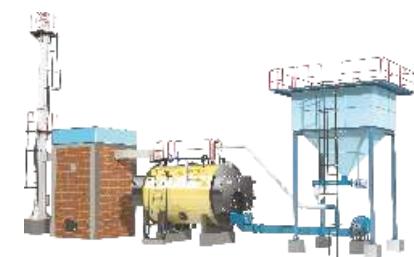
COMBIMAC

Complete Multifuel Fired Water-Cum-Smoke Tube Boiler



AGROMAX

Internal furnace Rice Husk fired Boiler



BIOMAX

Advance Paddy Straw / Bale Fired / Mustard Husk / Boiler with Pulsating / Reciprocating Grate



RETROFIT & SPARES

- Spares for Boiler pressure parts/non-pressure parts.
- Spares for Fuel feeding system.
- Boiler Services - AMC / O&M Services / Project executions.

POLLUTION CONTROL EQUIPMENT

- Bag Filters
- Cyclones
- Wet-Scrubbers

ENERGY SAVING EQUIPMENT

- Air Pre-Heater
- Pressurized Economizers
- Condensate Recovery
- Water Pre-Heater Systems

WATER SOLUTION EQUIPMENT

- Sand Filters
- Iron Removal Plants
- Softeners
- ETP's for Rice Mills



**Step Towards Revolutionizing
the Industry with Environmentally
Conscious Solutions**

- Comes fitted with an air pollution control system.
- Suitable for combustion of renewable fuels.
- Industry-leading manufacturing and quality control.
- Complete fuel combustion.



**MAANYA QUALITY STANDARDS ARE INSPECTED BY
PRESTIGIOUS GLOBAL AGENCIES**



CERTIFICATION & ACCREDITATIONS

ISO 9001:2015 • ISO 14001:20015 • ISO 45001:2010



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**Built with Integrity,
Steaming with Trust..**