



50⁺ Years
Of experience

BIOMASS DRYER



ISO 9001:2015 | ISO 14001:2015 | ISO 45001:2018

ABOUT US

Kerone Engineering Solutions Ltd is a global leader in advanced industrial heating, drying, cooling & end to end process engineering solutions. With over five decades of proven expertise, we specialize in designing, manufacturing, and delivering highly customized, cutting-edge systems tailored to the evolving needs of industries worldwide.

Our commitment to engineering excellence, sustainability, digitalization, and technological innovation has positioned us as a trusted partner for businesses across multiple sectors. By integrating Artificial Intelligence (AI), Machine Learning (ML), and Internet of Things (IoT) technologies into our systems, Kerone ensures smarter automation, real-time monitoring, predictive maintenance, and data-driven process optimization—empowering our clients to achieve greater productivity, efficiency, and reliability.



50+

Years of Experience



10,000+

Satisfied Clients



500+

Employee



100+

Experts



50+

Global Presence



50+ Years Manufacturing Excellence



Great Sale Support



Highly Customized Product



Adherence to Standards



Sound Infrastructure



Team of experts Delivering Quality



Timely Delivery



Cost Effective Solutions



INDUSTRIES WE SERVE

- ✓ Food Processing & Agro-Processing
- ✓ Chemicals & Petrochemicals
- ✓ Pharmaceuticals
- ✓ Textiles, Automotive & Aerospace
- ✓ Paper & Packaging
- ✓ Ceramics & Glass
- ✓ Rubber & Plastics
- ✓ Environmental & Waste Management
- ✓ Oil, Gas & Steel Industries



- ✓ Industry Expertise – Over 50 years of global engineering leadership.
- ✓ Custom Solutions – Tailored engineering that meets unique industrial requirements.
- ✓ Global Reach – Trusted by industries across continents with proven reliability.
- ✓ Digital & Smart Systems – AI/ML-powered automation, IoT-based monitoring, and predictive insights.
- ✓ Cutting-Edge Technology – Continuous innovation in heating, drying, and advanced processing.
- ✓ Energy Efficiency – AI-optimized designs for lower energy consumption and sustainability.

QUALITY & COMPLIANCE

At Kerone, quality and compliance are non-negotiable. All our solutions are engineered in adherence to international standards and industry best practices, ensuring maximum safety, durability, reliability, and efficiency. With integrated digital technologies, we enable smarter quality control and compliance tracking across all operations.





Powered by AI/ML & IoT

Biomass Dryer

A Biomass Dryer is a heavy-duty industrial machine designed to reduce the moisture content of organic biomass materials — such as wood chips, sawdust, agricultural residues, straw, and energy crops — to optimal levels suitable for combustion, pelletization, or storage. By using controlled heat and airflow systems, these machines efficiently process large volumes of raw biomass that would otherwise be too wet for effective energy conversion or downstream processing. They are engineered to handle the rigorous demands of continuous industrial operations, featuring robust construction and high thermal efficiency.

Modern biomass dryers integrate advanced control systems that monitor temperature, airflow, and moisture levels in real time, ensuring consistent output quality while minimizing energy consumption. These machines play a critical role in the bioenergy supply chain, enabling the production of high-quality biomass fuels with lower emissions and higher calorific value. Available in configurations such as rotary drum, belt conveyor, and flash dryers, they can be customized to suit specific biomass types, throughput requirements, and facility layouts — making them a versatile and essential asset in industries ranging from wood processing to agricultural waste management.

Key Features

- **High Thermal Efficiency**
Advanced heat recovery systems maximize energy use and reduce fuel consumption during drying cycles.

- **Robust Rotary Drum Design**
Heavy-duty steel drum construction ensures durability under continuous high-temperature operations.
- **Optimized Airflow System**
Counter-current or co-current airflow configurations allow flexible drying intensity based on material type.
- **Automated Moisture Control**
Real-time sensors and PLC-based controls maintain target moisture levels with precision and consistency.
- **Modular & Scalable**
Easily scalable capacity from small industrial setups to large-scale biomass processing plants.
- **Waste Heat Utilization**
Can be integrated with boilers or CHP systems to use exhaust heat, significantly cutting operating costs.

Advantages

- **Reduces moisture content**
from up to 65% down to 10–15%, dramatically improving fuel quality
- **Increases calorific**
value of biomass, leading to more efficient combustion
- **Lowers transportation costs**
by reducing the weight and volume of biomass material
- **Extends storage life**
by preventing microbial degradation and mold growth
- **Improves pellet quality**
for downstream densification and pelletizing processes
- **Low maintenance**
design with easy-access panels and wear-resistant components

Applications

Industry	Description
Wood & Timber Processing	Drying wood chips, sawdust, and bark before pelletization or combustion in biomass boilers
Agriculture	Reducing moisture in crop residues like straw, corn stalks, rice husks, and sunflower husks for biofuel use
Sugar & Ethanol Production	Drying bagasse (sugarcane waste) for use as boiler fuel or fermentation feedstock
Biomass Power Plants	Pre-treating biomass fuel to achieve consistent moisture for stable and efficient electricity generation
Waste-to-Energy Plants	Processing municipal solid waste (MSW) and organic waste biomass for thermal conversion
Animal Feed & Organic Fertilizer	Drying poultry litter, manure, and organic compost for safe handling and product formulation
Torrefaction & Pyrolysis	Preparing pre-dried biomass feedstock for advanced thermochemical conversion processes



Technical Specifications

Parameter	Specification Range	Description
Drying Capacity	1 – 50+ TPH	Throughput per hour depending on model size and biomass type
Inlet Moisture Content	30% – 65% (wb)	Acceptable range of moisture in raw/wet biomass feed
Outlet Moisture Content	8% – 15% (wb)	Target moisture level after drying process
Drying Temperature	150°C – 600°C	Inlet hot gas temperature; varies by biomass sensitivity
Thermal Efficiency	75% – 92%	Ratio of useful drying energy to total heat energy input
Drum Length	8 m – 35 m	Longer drums provide extended drying residence time
Heat Source Compatibility	Gas, Oil, Biomass Burner, Waste Heat	Flexible integration with various heat generation sources
Evaporation Rate	500 – 20,000 kg H ₂ O/hr	Volume of water removed per hour during operation
Residence Time	15 – 45 minutes	Duration biomass spends inside the dryer drum



THANK YOU

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