



# RADIO FREQUENCY HEATING DRYER

**50<sup>+</sup> Years**  
*Of experience*



# 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

## Radio Frequency Heating Dryer

The Radio Frequency Heating Dryer is a cutting-edge industrial drying system that utilizes electromagnetic waves at 13.56 MHz or 27.12 MHz to achieve rapid and uniform moisture removal. This technology generates heat directly within the product by causing water molecules to oscillate, creating internal friction that heats materials from the inside out. Unlike conventional surface heating methods, RF technology penetrates deep into thick materials, ensuring consistent drying throughout while significantly reducing processing time and energy consumption.

Ideal for wood products, textiles, food items, rubber, paper, pharmaceuticals, and composite materials, this system offers precise moisture control with minimal thermal degradation. The stainless steel construction ensures durability and hygiene compliance, while advanced PLC controls allow programmable settings for specific materials. Available in batch or continuous conveyor configurations, the RF Heating Dryer reduces drying time by up to 80%, lowers energy costs by 40-60%, and delivers superior product quality with consistent results across diverse industrial applications.

### Key Features

- **Deep Penetration Heating**  
RF waves penetrate up to 300mm depth for uniform drying of thick materials
- **Ultra-Fast Processing**  
Reduces drying time by 80% compared to conventional methods
- **Volumetric Heating**  
Heats entire product mass simultaneously from inside out

- **Energy Efficient**  
Cuts energy consumption by 40-60% with targeted heating
- **Low Temperature Operation**  
Gentle drying at 40-80°C protects heat-sensitive products
- **Advanced PLC Control**  
Automated system with real-time monitoring and data logging
- **Flexible Configuration**  
Available in batch, semi-continuous, and continuous systems
- **Scalable Capacity**  
Ranges from 50 kg/hr to 5000 kg/hr processing rates
- **Multi-Material Capability**  
Handles various product types without change-over

### Advantages

- **Exceptional Speed**  
Completes drying in 75-80% less time than hot air or steam methods
- **Superior Energy Efficiency**  
Reduces energy costs by 40-60% through direct internal heating
- **Deeper Penetration**  
Effectively dries thick products up to 300mm without turning or repositioning
- **Versatile Application**  
Handles materials from 10% to 90% initial moisture content
- **Environmentally Friendly**  
Zero emissions, no chemical additives, and reduced carbon footprint
- **Instant Response**  
Immediate heating with no preheating or cool-down time required

## Applications

Industry	Description
Food Processing	Drying pasta, noodles, baked goods, meat products, and snacks while retaining quality
Textile Industry	Fast drying of fabrics, carpets, garments, and technical textiles without shrinkage
Rubber & Plastics	Curing and drying rubber sheets, foam, plastic films, and composite materials
Paper & Packaging	Moisture leveling in paper rolls, cardboard, and corrugated packaging materials
Pharmaceuticals	Drying tablets, powders, capsules, and herbal medicines with precise moisture control
Agriculture	Post-harvest drying of grains, seeds, nuts, and specialty crops
Ceramics	Drying clay products, tiles, pottery, and ceramic components without cracking



## Technical Specifications

Parameter	Specification Range	Description
RF Frequency	13.56 MHz / 27.12 MHz	ISM band frequencies for industrial heating
Power Output	15 kW - 300 kW	Adjustable for different capacity requirements
Processing Capacity	50 - 5000 kg/hr	Scalable from small to large production
Penetration Depth	100 - 300 mm	Deep heating for thick materials
Temperature Range	40°C - 100°C	Low to moderate temperature drying
Moisture Removal Range	10% - 90% initial moisture	Handles wide moisture content variations
Drying Efficiency	90% - 98%	High efficiency with minimal losses
Chamber Dimensions	2000-8000 mm (L) x 800-2000 mm (W)	Customizable based on production needs
Energy Consumption	0.3 - 0.6 kWh/kg water	Highly energy efficient operation
Moisture Accuracy	±1%	Precise final moisture control
Ambient Temperature	5°C - 35°C	Normal industrial environment
RF Shielding	< 2 mW/cm <sup>2</sup> leakage	Complies with safety standards



# THANK YOU

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