



50⁺ Years
Of experience

SPIRAL CONVEYOR DRYER



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.





Spiral Conveyor Dryer

A spiral conveyor dryer is an advanced industrial drying system that utilizes a continuous spiral-shaped conveyor belt configuration to efficiently dry various materials in a compact vertical footprint. The machine features multiple tiers of conveyor belts arranged in a helical pattern within a climate-controlled chamber, allowing products to gradually move upward or downward through different temperature and humidity zones. This innovative design maximizes drying capacity while minimizing floor space requirements, making it ideal for facilities with limited horizontal area. The spiral configuration ensures uniform heat distribution and consistent airflow across all product layers, resulting in even drying throughout the entire batch. These systems are commonly employed in food processing (fruits, vegetables, pasta, snacks), pharmaceuticals, chemicals, and textile industries where gentle, controlled drying is essential.

The operational efficiency of spiral conveyor dryers stems from their ability to provide extended residence times without requiring excessive length, as the product travels through multiple vertical levels during a single continuous process. The system typically incorporates sophisticated temperature and humidity controls, adjustable belt speeds, and strategic air circulation patterns that can be customized based on specific product requirements. Energy efficiency is significantly enhanced through heat recovery systems and optimized airflow management, reducing operational costs while maintaining consistent output quality. The gentle handling characteristics prevent product damage or breakage, making these dryers particularly suitable for delicate materials that require careful processing.

Key Features

- **Space-Efficient Vertical Design**
Compact spiral configuration reduces floor space by 50-70% compared to linear dryers while maintaining high capacity through multi-tier stacking.
- **Uniform Drying Performance**
Multi-zone airflow system ensures consistent heat distribution across all layers, eliminating uneven drying and hot spots for superior product quality.
- **Multi-Zone Temperature Control**
Independent heating zones enable customized thermal profiles and gradual temperature transitions to prevent product damage.
- **Hygienic Construction**
Stainless steel design with easy-clean access meets FDA, HACCP, and GMP standards for food and pharmaceutical safety.

Advantages

- **Minimal Floor Space Requirement**
Occupies up to 70% less floor area than conventional linear dryers, perfect for maximizing production in limited facility space.
- **Consistent Product Quality**
Delivers uniform drying results with minimal variation between batches, ensuring superior and repeatable product standards.
- **Minimal Product Damage**
Gentle conveyor movement reduces breakage and waste, especially valuable for fragile or high-value products.
- **Improved Hygiene Standards**
Enclosed design prevents contamination and simplifies cleaning, ensuring compliance with food safety regulations.

Applications

Application	Description
Pasta, noodles, macaroni	Dries extruded products to 10–12% moisture while maintaining shape and preventing cracking.
Chips, crackers, extruded snacks	Removes oil and moisture post-frying for optimal crispness and extended shelf life.
Dried fruits, vegetables, herbs	Dehydrates produce at controlled temperatures while retaining color, nutrients, and flavor.
Jerky, dried fish, sausages	Low-temperature drying for preservation while developing texture and meeting safety standards.
Bread crumbs, biscuits, cookies	Reduces moisture post-baking for desired crispness and shelf stability.
Tablets, granules, powders	Precision drying to exact moisture specs in contamination-free, GMP-compliant environment.
Vitamins, supplements, extracts	Gentle drying preserving active ingredients, potency, and nutritional value.
Breakfast cereals, puffed grains	Dries to optimal crispness and moisture for packaging while maintaining crunch.



Technical Specifications

Parameter	Specification Range	Description
Belt Width	400 - 1200 mm	Conveyor belt width determining product capacity and volume throughput.
Spiral Diameter	2000 - 6000 mm	Overall diameter of spiral tower affecting footprint and production capacity.
Temperature Range	40 - 200°C	Operating temperature range adjustable based on product requirements.
Belt Speed	0.5 - 10 m/min	Variable conveyor speed controlling product residence time in dryer.
Air Velocity	0.5 - 3.5 m/s	Adjustable airflow speed for optimal heat transfer and moisture removal.
Humidity Control	20 - 80% RH	Relative humidity management for precise moisture control in drying chamber.
Moisture Removal	5 - 95% initial moisture	Capability to reduce product moisture from wet to desired final levels.
Tray Material	SS mesh or perforated plate	Food-grade stainless steel with 5–10mm holes for airflow.
Noise Level	65 - 75 dB	Operating sound level at standard working distance.



THANK YOU

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