



LIPSIA
SPIRAL FREEZER
24 TIERS

EFFICIENT FREEZING FOR ALL YOUR
FOOD PRODUCTS

LIPSIA SPIRAL FREEZER 24 TIERS

Brand: Lipsia
Refrigerant: Ammonia or freon
Belt: Scanbelt S.201

Product: Hamburger (110 g)
Capacity: 2.000 kg/h
Infeed temperature: +2°C
Outfeed temperature: -20°C
Residence time: 30 min

Product: Chicken fillet (200 g)
Capacity: 1.780 kg/h
Infeed temperature: +4°C
Outfeed temperature: -18°C
Residence time: 85 min

Product: Croissant (70 g)
Capacity: 1.500 kg/h
Infeed temperature: +50°C
Outfeed temperature: -18°C
Residence time: 45 min

Product: Ice cream (72 g incl. pkg)
Capacity: 1.880 kg/h
Infeed temperature: -4°C
Outfeed temperature: -20°C
Residence time: 45 min

Capacity based on design air temperature -35°C

Total dimensions: 7800x7800x5100 mm
Effective belt width: 800 mm
Effective belt length: 33500 mm

Height infeed: 700 mm
Height outfeed: 4680 mm
Max. product height: 118 mm

**Scan the to QR code
to view the complete
video**



Or click here!



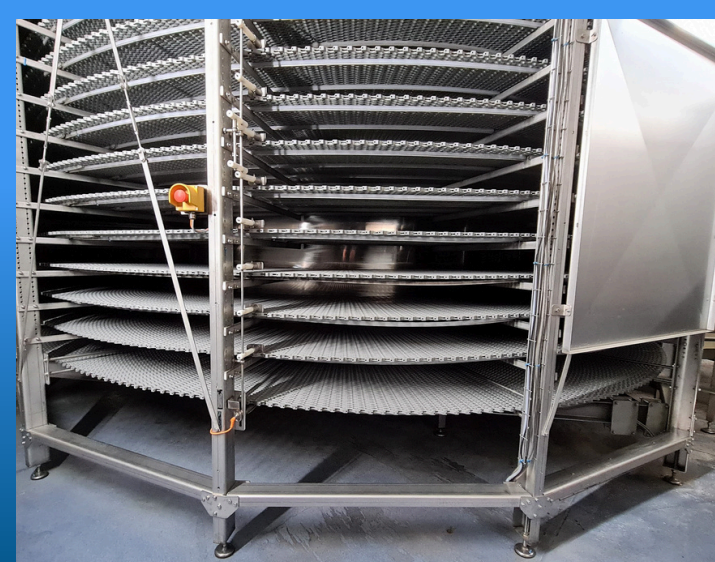
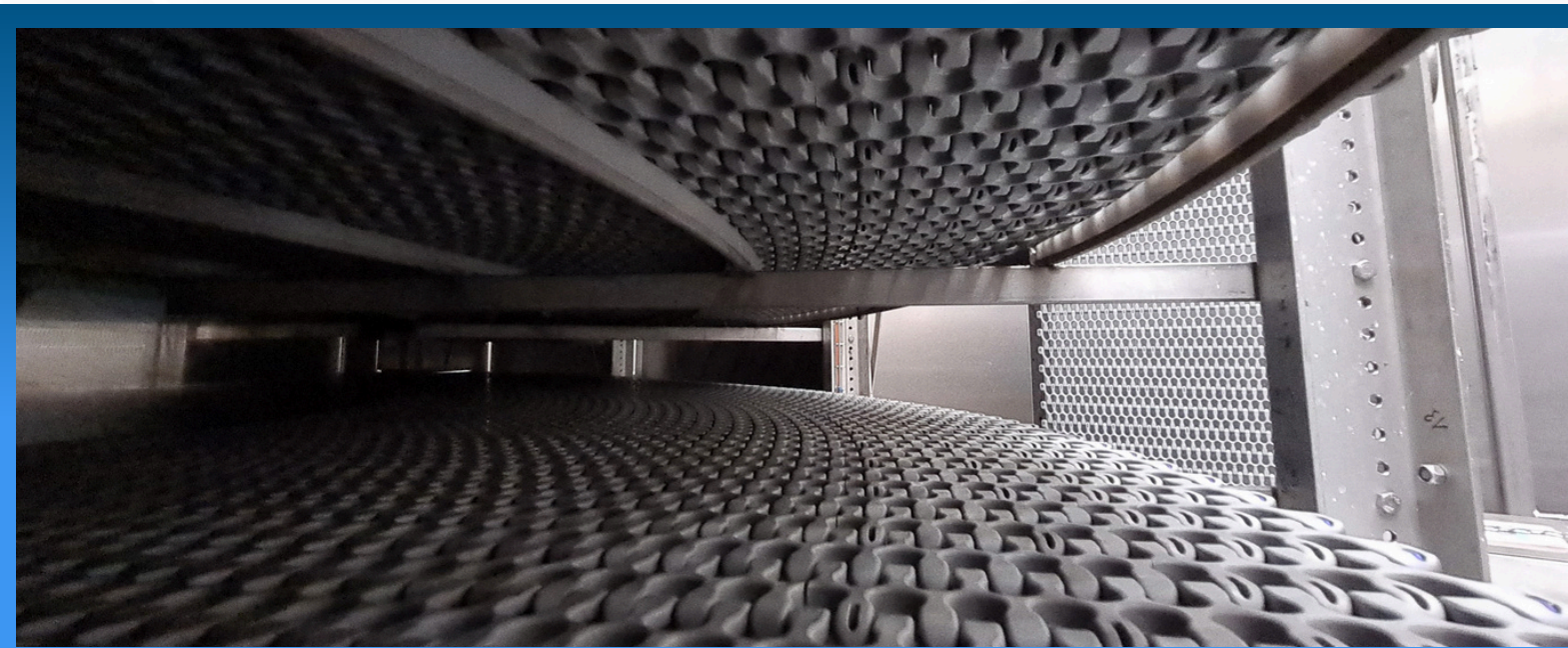
24-TIER SPIRAL BELT SYSTEM

The spiral freezer is equipped with a 24-tier conveyor system designed for continuous industrial freezing with maximum space efficiency. With an effective belt length of 335 meters, the system provides substantial dwell time within a compact footprint, enabling high throughput while maintaining controlled freezing conditions.

The freezer is fitted with a Scanbelt S.201 open radius belt featuring a 50 mm pitch. This belt type is specifically developed for spiral applications and can operate in both S- and J-curve configurations. Its open structure, combined with a 47% open surface area, ensures excellent airflow penetration through the product layer, supporting efficient and uniform freezing performance.

The belt design offers a low collapse factor and high mechanical strength, resulting in stable product support even with delicate or semi-baked goods. The effective belt width allows consistent product positioning across the conveyor, while the maximum product clearance makes the system suitable for a broad range of bakery and prepared food applications.

For hygiene and operational reliability, the system is equipped with an integrated belt washing unit. The spiral construction is fully enclosed with insulated side and top panels to optimise airflow management and thermal efficiency.



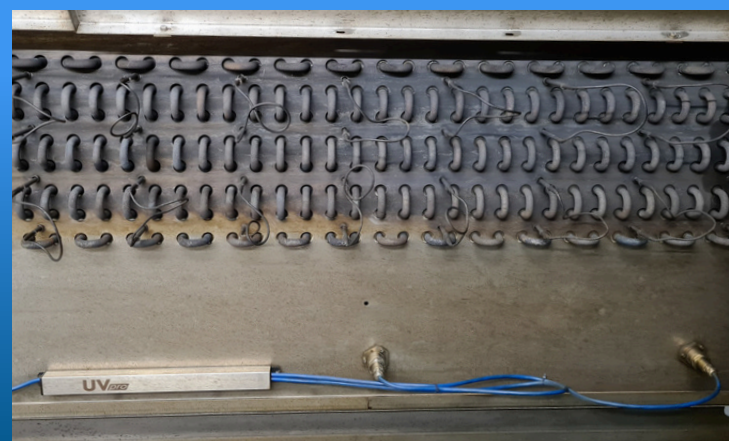
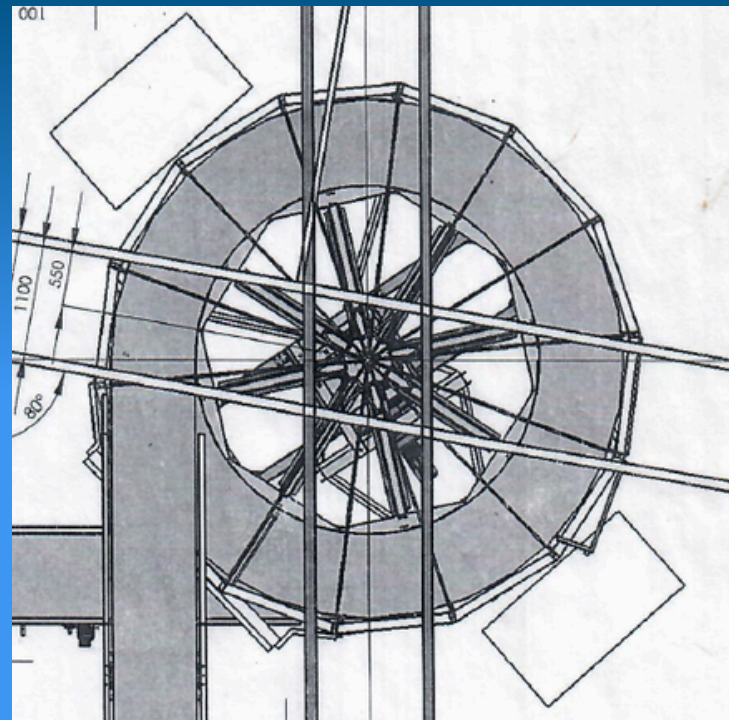
ADVANCED AIRFLOW TECHNOLOGY

The spiral freezer is equipped with four Güntner S-GFN 050C/810-E evaporators, each fitted with four fans and electric defrost, installed inside the insulated enclosure alongside the spiral structure. The units are arranged in two vertical towers of two evaporators, positioned in opposing corners of the freezing chamber to promote balanced and controlled airflow throughout the system.

This configuration ensures uniform temperature distribution across all 24 tiers and supports consistent freezing performance. By integrating the evaporators within the insulated panel construction, airflow paths remain short and controlled, minimising energy losses and enhancing overall thermal efficiency.

The sixteen fans are driven by ABB frequency inverters, enabling precise and variable control of the air velocity. This allows the airflow to be adjusted to different product types and loading conditions, ensuring optimal freezing performance while maintaining energy efficiency.

The system is additionally equipped with an integrated UV treatment device at the evaporator section, supporting hygienic operation by reducing biological build-up on the coil surfaces. The spiral is supplied complete with side and top insulation panels, allowing installation as a self-contained freezing chamber with high thermal integrity.



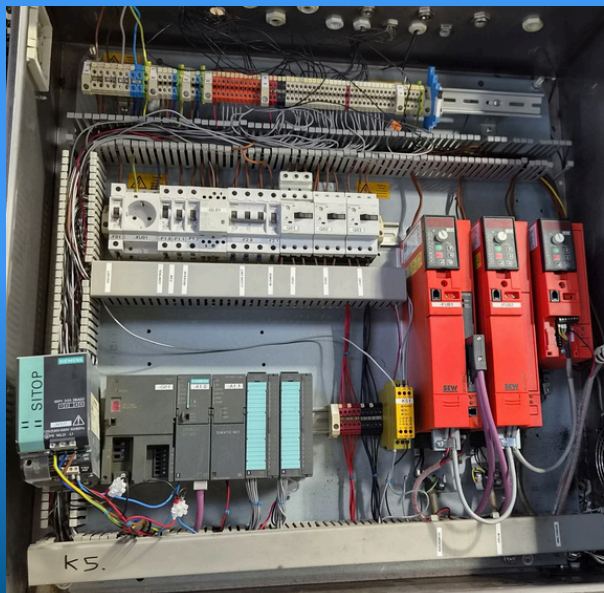
INTEGRATED CONTROL & HYGIENE SYSTEM

The installation features a modular control system designed for reliable operation in demanding industrial environments. Operation and monitoring are handled via a dual-interface setup, combining a Siemens SIMATIC touch panel with a KOMA MonoCell display. This provides the operator with a clear overview of both the mechanical transport process and the real-time freezing status.

Product transport is managed by three SEW-Eurodrive frequency inverters, controlling the spiral drum, return belt and overdrive functions. This coordinated drive system ensures smooth and stable belt movement, preventing tension issues and maintaining consistent product alignment across all tiers.

The installation is further equipped with an Ecolab Maxxi Foamer (Topax) hygiene system. Controlled directly via the Siemens touch panel, the system enables automated cleaning cycles, including foaming, rinsing, and drying of the belt. This integrated approach ensures the highest food safety standards and significantly reduces manual labor during sanitation intervals.

The core of the electrical installation is the central power cabinet featuring a KOMA ControlEXT Master/Slave configuration. This unit manages the main power distribution, including high-capacity interfaces for external compressors (up to $2 \times 160A$), integrated safety circuits and intelligent airlock control. The modular panel layout ensures clear separation of functions and provides excellent accessibility for service and maintenance.



VERSATILE

The Lipsia spiral freezer is designed for versatile use across a wide range of food products, from raw meat and poultry to bakery items and frozen desserts. Thanks to its flexible airflow control, adjustable residence time and stable belt transport, the system can be tailored to different product characteristics and production requirements.



MEAT



POULTRY



BAKERY



FROZEN DESSERTS





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