



KOMA MULTI-DECK **KMD-4-240-1500**

TUNNEL FREEZER & COMPLETE INSTALLATION

EFFICIENT FREEZING FOR ALL YOUR
FOOD PRODUCTS



KOMA MULTI-DECK KMD-4-240-1500 TUNNEL FREEZER

Brand: Koma
Refrigerant: R404A (Freon)

Product: Apple pie
Capacity: 800 pcs/h (2.2 kg each)
Infeed temperature: +40°C
Infeed level: 1
Outfeed temperature: -18°C
Evap. Temperature: -42°C

Product: Apple fritters
Capacity: 4500 pcs/h (100 g each)
Infeed temperature: +80°C
Infeed level: 3
Outfeed temperature: -15°C
Evap. Temperature: -42°C

Product: Coconut macaroon
Capacity: 6000 pcs/h (100 g each)
Infeed temperature: +25°C
Infeed level: 3
Outfeed temperature: -15°C
Evap. Temperature: -42°C

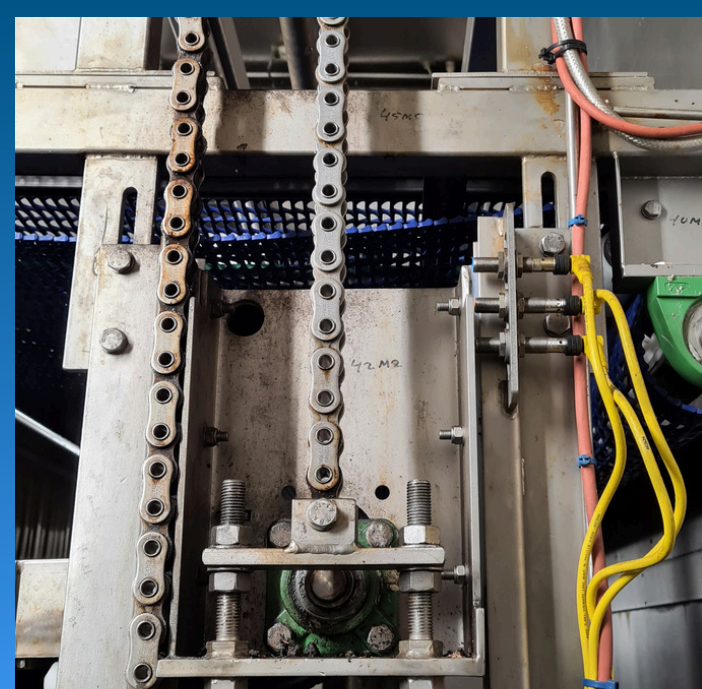
Total dimensions: 19000x4500x3500 mm
Belt width: 2380 mm
Effective belt length: 60000 mm

Height infeed: 2425 mm
Height outfeed: 1000 mm

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video**



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INDIVIDUALLY ADJUSTABLE 4-TIER BELT SYSTEM

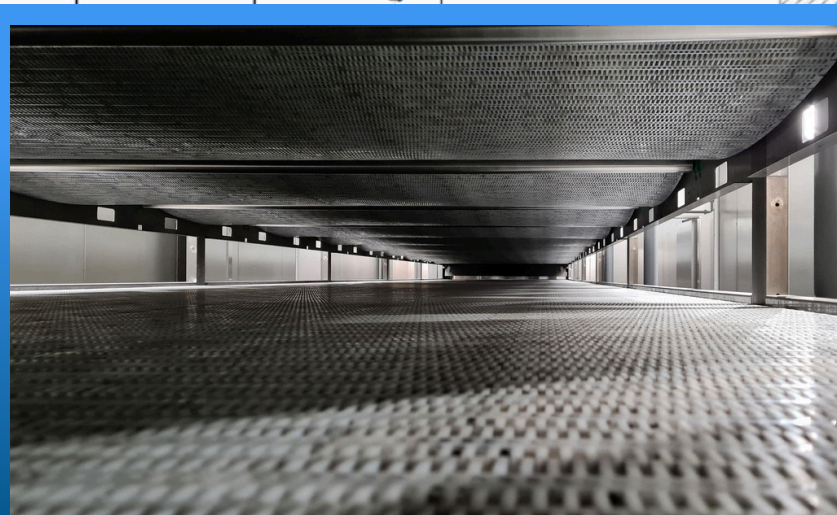
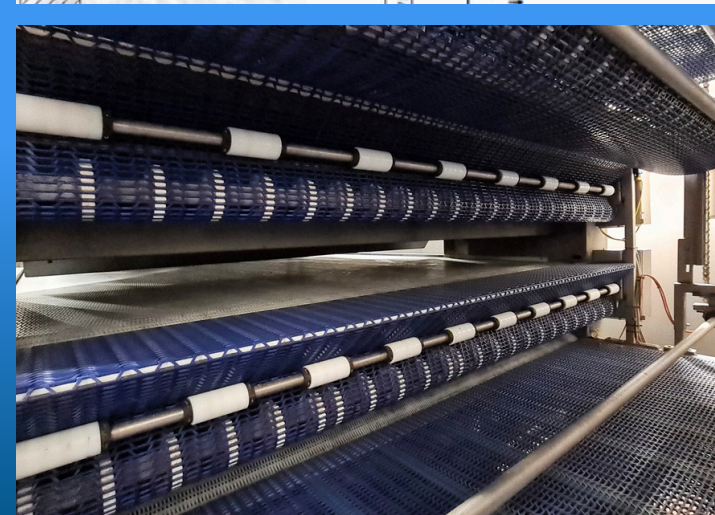
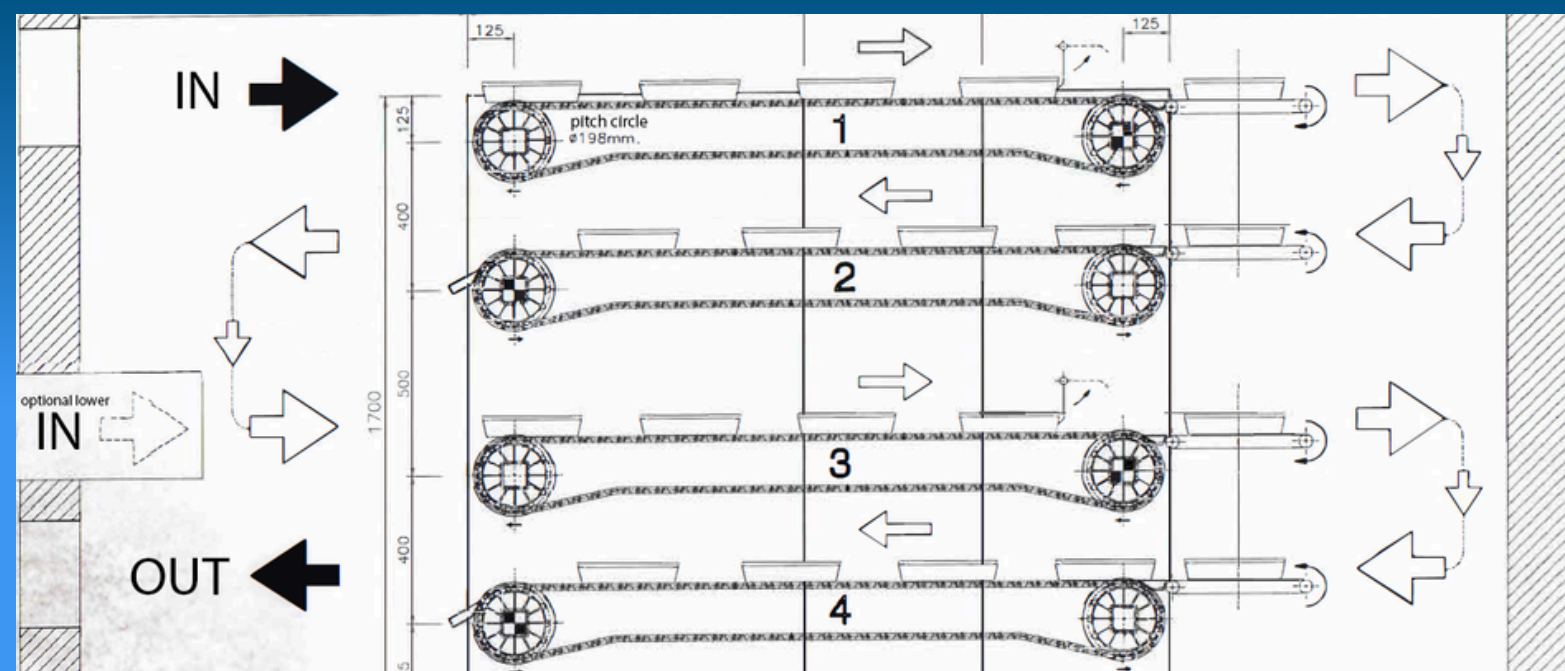
The Koma Multi-deck KMD-4-240-1500 tunnel freezer is equipped with four Intralox Series 400 Flush Grid belts, designed for reliable performance in demanding freezing applications. These belts combine high strength with excellent airflow characteristics, ensuring efficient and uniform product freezing across all four tiers.

The open flush grid design maximizes air penetration through the product, supporting rapid heat transfer and consistent freezing results.

Each belt can be adjusted individually, allowing fine-tuning of freezing profiles per tier. With belt speeds ranging from 0,07 to 2,30 m/min, residence time can be precisely adapted to different product types, capacities and freezing requirements.

In addition to standard infeed at level 1, the system also allows product entry at level 3. This configuration enables operation on tiers 3 and 4 only, bypassing the first two belts when required. This flexible infeed option makes it possible to adjust freezing capacity and dwell time to match specific production needs, without using the full four-tier configuration.

The robust belt construction, combined with reliable Flender drive units, ensures smooth product transfer across all three hand-over points and stable operation under continuous use.





HIGH-CAPACITY EVAPORATOR & AIR DISTRIBUTION SYSTEM

The freezer is equipped with six Goedhart LLK.p 187 M2 evaporators, each delivering 27 kW of cooling capacity with an airflow of 25.000 m³/h. Operating on R404A at an evaporating temperature of -42°C, the system is designed for rapid temperature pull-down and stable low-temperature performance.

The evaporators feature a 12 mm fin spacing, optimized for freezer applications where frost formation must be controlled without compromising heat transfer. Each evaporator is fitted with 2 × 710 mm Ziehl-Abegg fans, delivering high-volume downblow airflow across all four tiers for consistent temperature distribution over the entire 2.380 mm effective belt width.

Defrosting is carried out electrically, with each evaporator equipped with 9 heating elements of 1890 W – 220 V, ensuring effective and controlled defrost cycles while maintaining operational reliability.

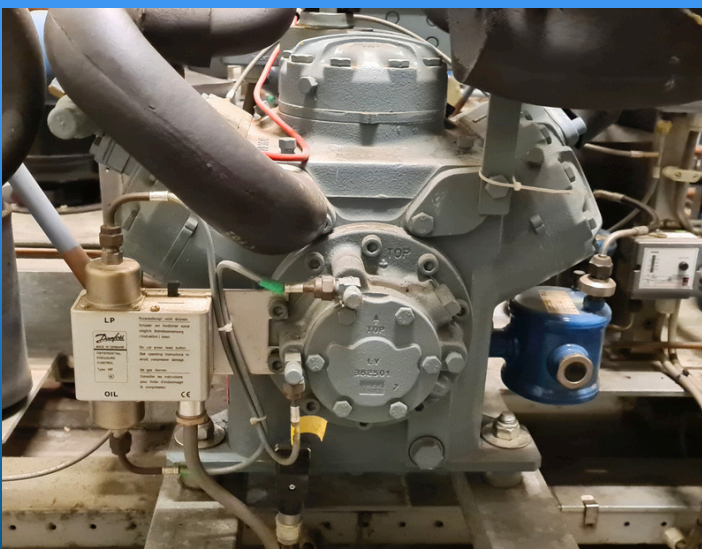


HIGH-CAPACITY REFRIGERATION SYSTEM

The installation is powered by a robust Bitzer-based refrigeration plant, consisting of six compressor sets, each with two Bitzer S6F-30.2Y-40P compressors. The system is equipped with liquid receivers, oil separators, filters, pressure safety switches and gauges, forming a complete, industrial-grade refrigeration package.

This multi-set configuration ensures balanced load distribution, operational flexibility, and stable performance under continuous low-temperature conditions, supporting consistent cooling capacity for demanding production requirements.

Heat rejection is handled by six Koma CAV L09 1x2A condensers, each fitted with two fans. This arrangement provides efficient and reliable condensing performance, completing the installation as a fully integrated, turnkey refrigeration system.



CONTROL CABINET

The Koma KMD-4-240-1500 is equipped with a fully integrated control panel, featuring Omron Sysdrive inverters for precise belt speed regulation and reliable automation of the freezing process. Each belt can be individually controlled, allowing flexible adjustment of residence times and freezing profiles per tier.

The panel also manages the refrigeration plant, including compressors, condensers, and evaporators, with built-in safety functions such as pressure monitoring, fault detection, and emergency shut-off. This ensures stable operation under continuous industrial use and maximizes product consistency.



ADAPTIVE FREEZING

The Koma Multi-deck KMD-4-240-1500 tunnel freezer is designed for a wide range of bakery products, from heavy cakes and large pies to smaller pastries, fried goods and individual confectionery items. Its multi-tier configuration allows both long residence times for high-mass products and shorter freezing cycles for lighter items.



CAKES AND PIES

FRIED BAKERY PRODUCTS



PASTRIES & VIENNOISERIE

COOKIES & SMALL CONFECTIONERY





CONTACT US

Commercial Director

Iwan Ooms

iwan@hosbv.com

[\(+31\)_\(0\)6-50287415](tel:+31650287415)