



FOOD PRODUCTION SYSTEMS



Final Proofing



Cutting/Decorating



Baking



Depanning



Cooling/Freezing



Storage Systems

Member of the  Kaak Group

# Kaak: an introduction

Kaak Nederland b.v., together with Kaak Bakeware, is the origin of today's Kaak Group. Our division with its headquarters in Terborg develops and produces machinery as well as complete production lines for the food industry, specializing in the bread and confectionary sector. Kaak offers customized solutions which provide a heavy duty reliability.

## Multi-Spiral systems

Kaak as a manufacturer of Multi-Spiral systems has developed a complete range of systems for cooling, freezing, proofing and pasteurisation. The Multi-Spiral system consists of an endless conveyor belt system without any transfers. The conveyor is driven via a central drum with one single main drive.



Products cooling on the belt

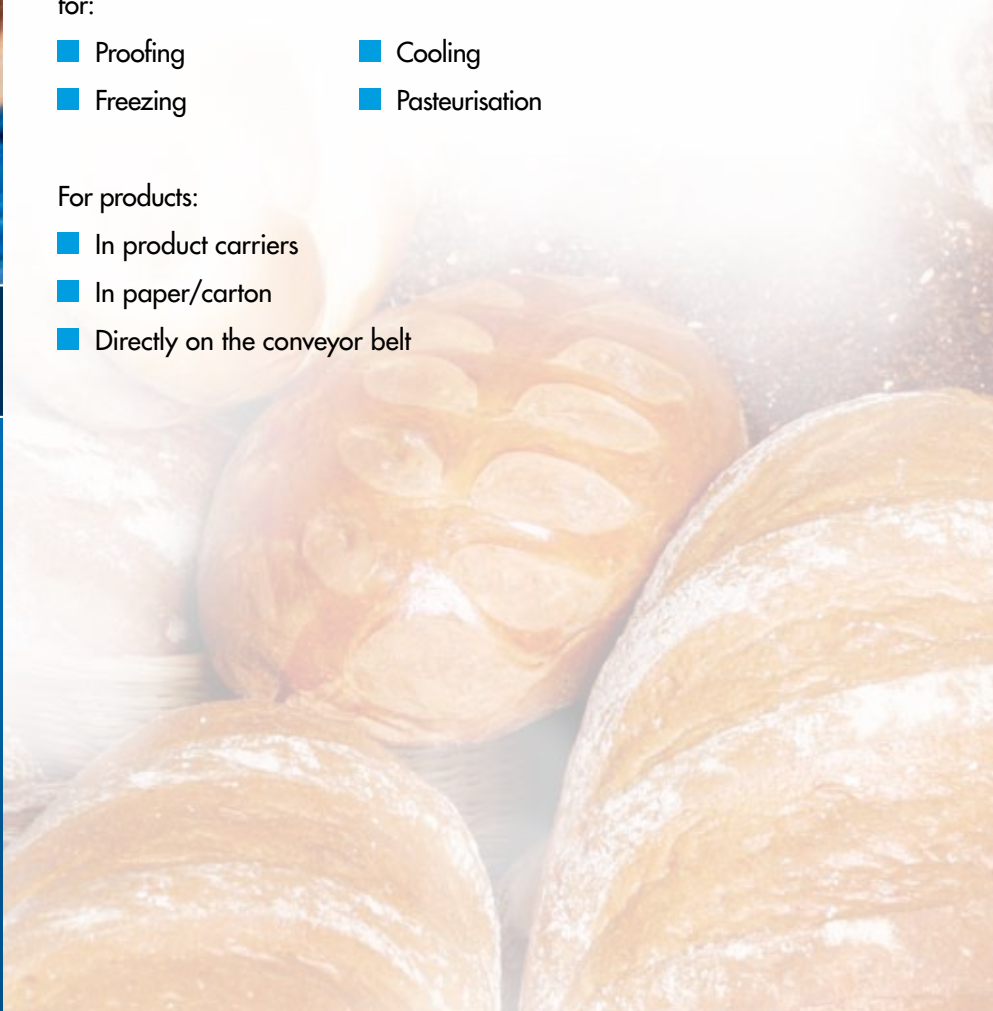
### Multiple applications

The Multi-Spiral application can be used in the food industry for:

- Proofing
- Freezing
- Cooling
- Pasteurisation

For products:

- In product carriers
- In paper/carton
- Directly on the conveyor belt





## Advantages

### ■ Reduces processing area

With an optimum selection of the drum diameter and tier pitch, Kaak has uniquely engineered it to meet the required specifications without physical limitations, resulting in a significant reduction in the processing area;

### ■ Hygiene

The endless conveyor belt can be washed and dried with the built-in belt washer, which is manufactured in accordance with the latest general requirements for food hygiene and HACCP regulations. The entire support structure is manufactured in stainless steel or aluminium with box section frameworks to minimise sanitation requirements and to enhance its aesthetic appearance.

Cleaning in Place (CIP) available from belt to the entire room;

### ■ Product orientation

There are no belt transfer points within the spiral conveyor system. Product orientation during the process cycle will not change;

### ■ Maintenance requirements

Low maintenance costs are achieved by using only one main drive with a belt tension system;

### ■ Enclosure

The compact utilisation of our spiral system is simple to provide with an insulated enclosure for maintaining optimum processing temperatures and humidity levels.



# Spiral system for freezing applications

Kaak can supply Turnkey solutions for cooling or freezing applications, in combination with a Kaak Multi-Spiral system with evaporator, enclosure, air distribution and refrigeration equipment.

- Fresh-products
- Bake-off products
- Complete baked, grilled or boiled products
- Convenience food / TV meals

Kaak has developed an air distribution system, based on processing conditions, size and product composition. This air distribution system guarantees that sensitive products will not be damaged and it prevents excessive dehydration. The carefully selected air velocity over the products generates rapid heat extraction from the products before crystallisation occurs in the product.

## Evaporators and defrosting systems

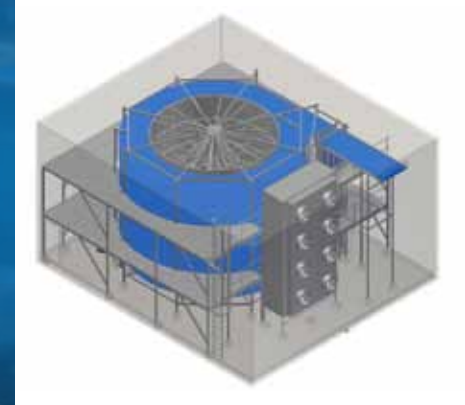
The evaporators are manufactured from CU/AL and ST.ST/AL materials. The continuous vent configuration makes it easy to clean. Also efficient internal cleaning systems are available. Defrost systems are equipped with their own fans, hot gas or are used in combination with water.

## Insulated enclosure

Our efficiently insulated enclosures are assembled with a tongue and groove panel system, which can be installed as per customer requirements either inside of the factory or outside. The rapid assembly insulating panel is characterised by low flammability –B1 according to DIN 4102. The floor construction is modular, being manufactured at our factory in sections. The internal stainless steel or polyester floor also has a gully incorporated for water drainage.



Horizontal air distribution through a spiral tower



Indirect airstream without air guides



# Multi-Spiral system with plastic conveyor belt

The spiral belt to select depends on your specific product and required processing conditions.

## Multi-Curve standard

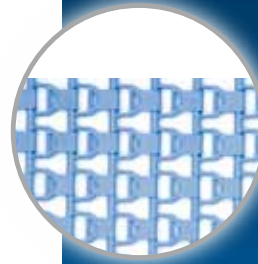
The patented Multi-Curve belt is standardised in belt widths from 375 mm up to 1375 mm, which can be increased in steps up to 100 mm! This polyamide belt is extremely suitable for cooling, proofing and resting applications because of low friction and exceptionally strong material. Singularly linked elements with an open structure for good air circulation around the product, especially designed for a specific belt width and radius.

## Multi-Curve modular

Same as above, except that each link is built from a number of elements.

## Multi-Curve heavy-duty

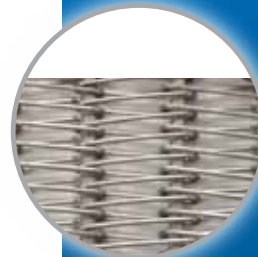
- Multi-Curve standard : cooling and proofing with normal belt loads;
- Multi-Curve modular : cooling, proofing and freezing with normal belt loads;
- Multi-Curve heavy-duty : cooling, proofing and freezing with normal belt loads;
- Grid without deck : cooling and freezing with lower belt loads;
- Grid with deck : cooling, freezing and proofing for fragile products;
- Omni flex : cooling and freezing for significant belt loads.



Multi-Curve belts



Grid without deck



Grid with deck

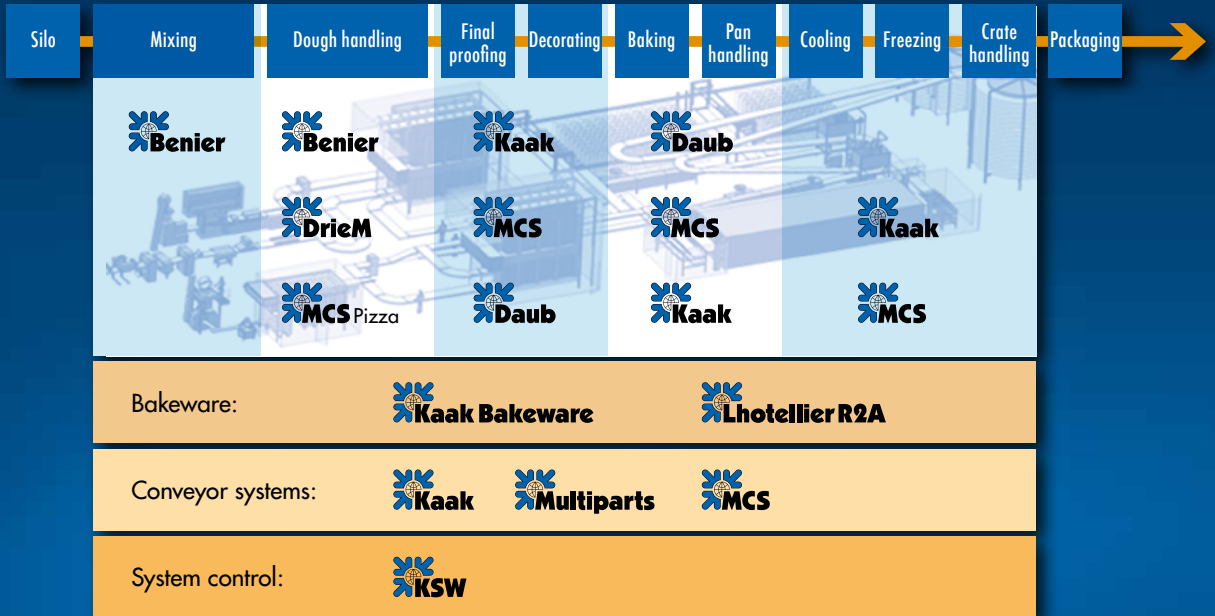


Omni flex





The Baking Process:



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