

Nielsen cooling tunnels



Pioneering cooling
technology since 1942



Welcome to our world



The Aasted Nielsen cooling tunnels

Aasted Nielsen cooling tunnels stand out for their consistency, reliability, top performance and design, making them easy to clean and maintain, maximizing uptime.

With the Aasted Nielsen cooling tunnels you are provided with the best technology ensuring your products the best finishing touch for chocolate, confectionery and bakery.



Nielsen

With covers available in aluminum and stainless steel, the Nielsen cooling tunnel provides perfect crystallization for chocolate, confectionery and bakery products.



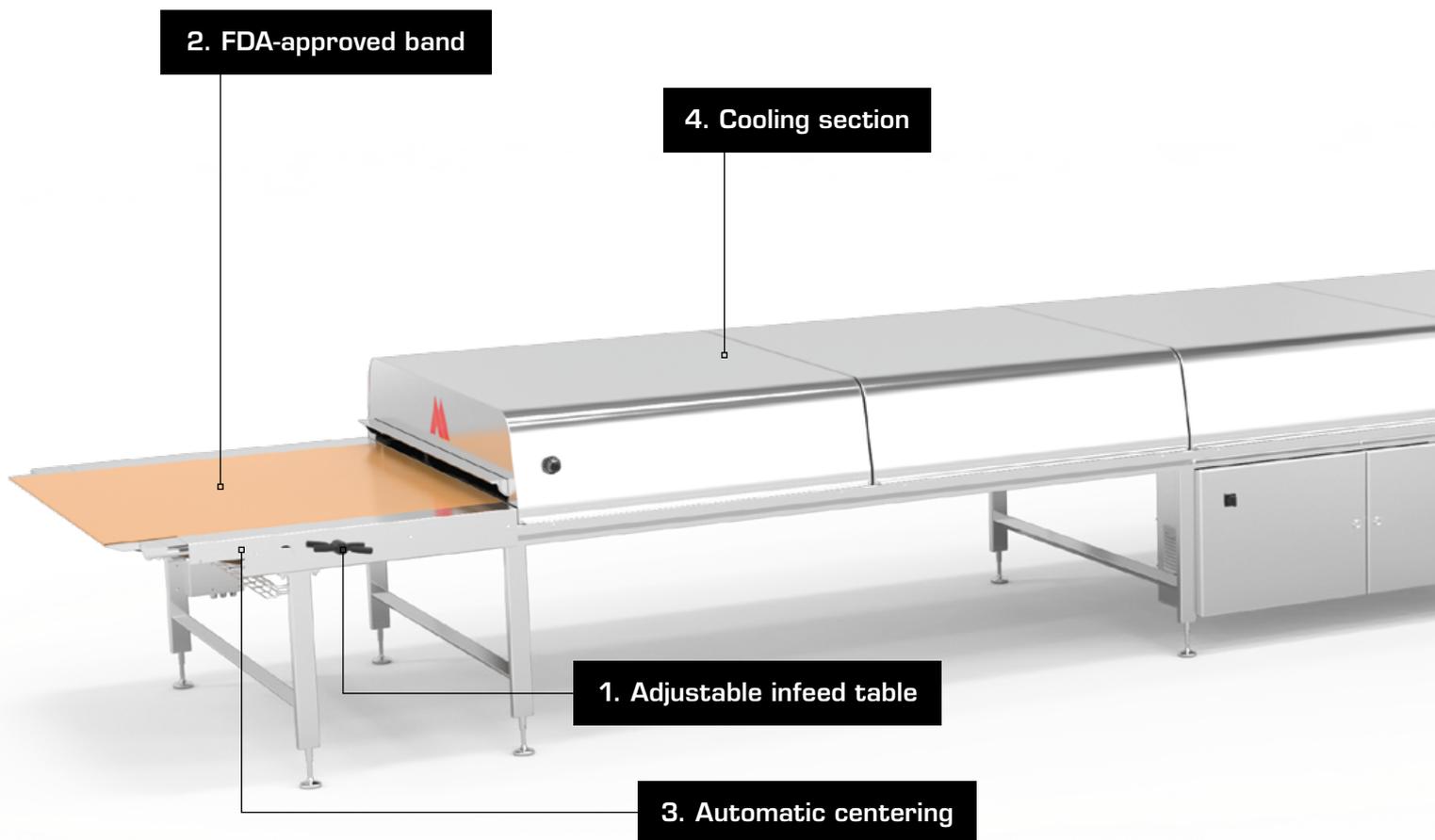
Nielsen Sanitary Design

With a unique hygienic design for easy cleaning and maintenance the Nielsen Sanitary Design is perfect for production with high hygiene requirements.



Nielsen XXL

Designed for large-scale cooling, the Nielsen XXL ensures the highest quality-cooling regardless of the scale of your production.



Nielsen cooling tunnel

The cooling tunnels are designed with a focus on simple and clean design – and due to remarkable flexible airflow, the result is an environmentally friendly and energy efficient solution. A specialized cooling system, re-circulation fan and evaporator work to reduce the tunnel humidity and transform the moisture into dry air, the Nielsen cooling tunnels guarantee a perfect crystallization and cooling process.

1. Adjustable infeed table

The infeed table can be adjusted to the height of the feed belt. The sharply angled leading edge ensures a seamless transfer from the enrober, oven, or other feeding system.

2. FDA-approved band

The FDA-approved, long-life synthetic or wire mesh band is completely contained inside the cooling tunnel. This means a number of decisive benefits:

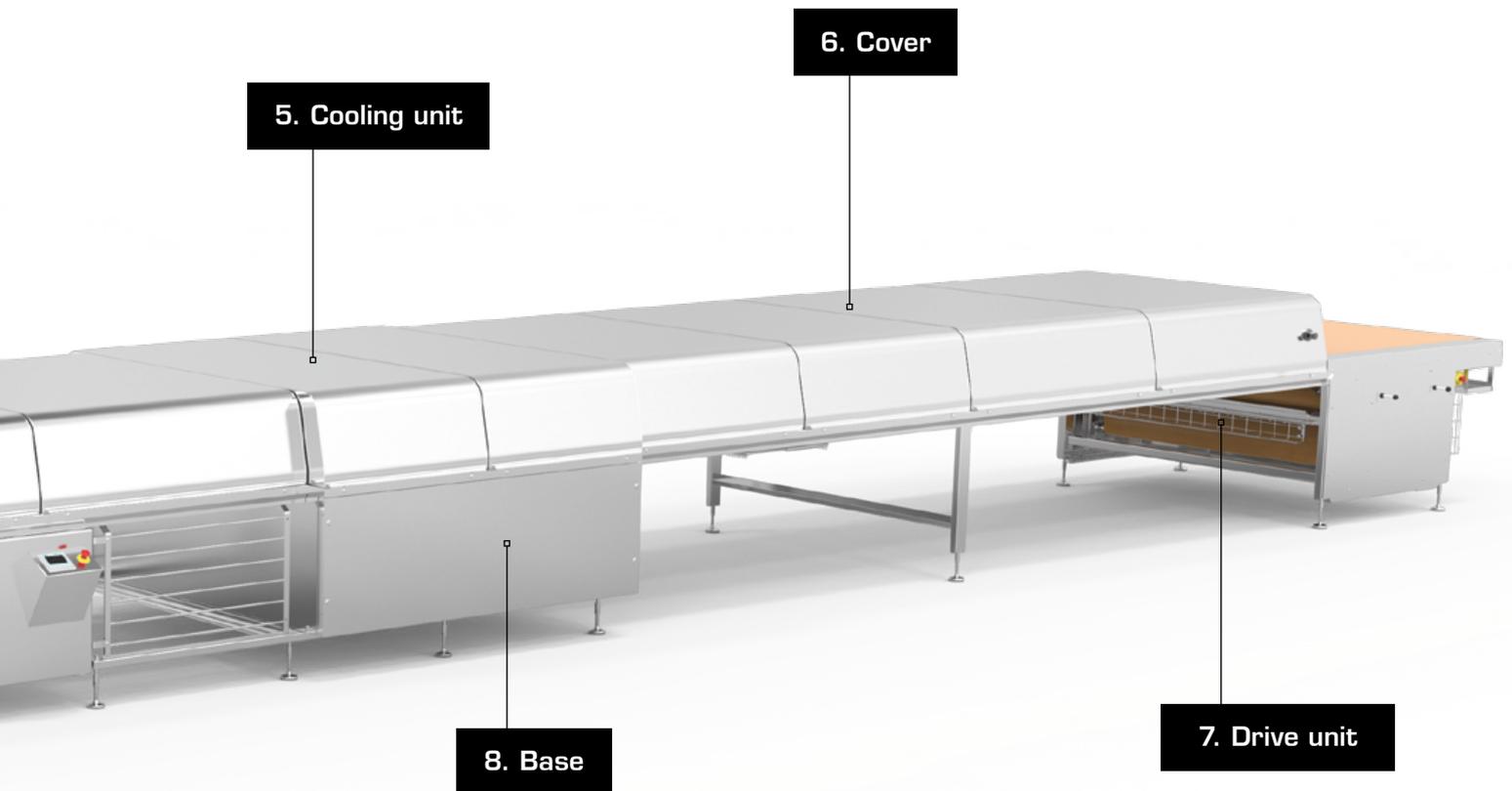
- a more hygienic environment that is not vulnerable to dust penetration and moisture condensation from the surroundings
- easier cleaning as surplus product falls into the

internal stainless steel trays that can easily be removed for emptying and cleaning, rather than on the floor beneath the tunnel

- energy savings as the band remains at a constant temperature during the entire cycle, thus eliminating the need for reheating
- enhanced safety due to the absence of moving parts outside the protection of the housing.

3. Automatic centering

Photoelectric cells in the infeed table and the downstream drive unit ensure precise centering of the synthetic band throughout the length of the cooling tunnel.



4. Cooling section

Cooling sections feature easily adjustable, stainless steel air plates for radiation and convection cooling, and water-cooled stainless steel bottom plates for rapid, forced conduction cooling, for example of bakery or liquorice products. Nielsen water-cooled bottom plates can be divided into two sections for even greater control, and feature a special water circulation design to ensure uniform water temperature throughout.

5. Cooling units

Cooling units contain a built-in, semi-hermetic, air- or water-cooled compressor, an air recirculation fan, filter, and evaporator. Together with a PID temperature regulator, this ensures high-precision control of even temperature humidity. The compressor or condensing unit can also be located outside the cooling tunnel.

6. Cover

Nielsen cooling tunnel covers are unique in both design and materials. Lead- and freon-free insulation material with highly consistent and stable physical properties is

sandwiched between and bonded to aluminum plates. This special process together with the curves, one-piece, and close-fitting design eliminates cold bridges to ensure exceptionally high insulation efficiency and negligible temperature differentiation across the band. Covers can be lifted on hydraulic supports for easy access.

7. Drive unit

The drive unit features a steel sheet that completely separates the drive mechanism from the product. The dual drive chains and gear wheels are also separate and easily accessible for maintenance. The drive unit is available in 300 mm with cover. In 1,800 mm the drive unit is available without cover. The drive unit features larger belt drums, ensuring you precise belt steering.

8. Base

The rigid, enameled base features slanted cross braces for easy cleaning. Together with the aluminum covering and curved covers, the matching base contributes to an attractive, harmonious and hygienic appearance.



Covers come in aluminum, stainless steel or a combination.



Band tensioning station.



Retractable infeed.



Easily removable air guide plates.



Easy accessible openings.



Air guiding system.

Key benefits

1. Ensure the highest possible degree of hygiene: All air guiding plates, supporting plates for belt, shafts and rollers can be removed from the cooling tunnel without use of tools. This is for easy cleaning of any parts in the tunnel.
2. The air blowers are hinged for easy access to cleaning of energy section.



3. The supports for the belt, all rollers and gas cylinders are combined in one strong bracket designed for easy cleaning.
4. The driving terminal is mounted with a large drive drum with large belt loop drive for stable drive and belt control.
5. Cable routings are placed in open wire mesh trays in the total length of the cooling tunnel.



The sanitary design enables complete hose down cleaning, easy maintenance and handling.

Nielsen Sanitary Design

The Nielsen cooling tunnel SD is designed in stainless steel with a bottom, shaft, and plates that are removable without tools. This makes it ideal for production with many different products, medium/large scale production, where cleaning is often needed. Because of the many removable parts, a total wash-down is easy and fast.

- Hinged bottom plates for opening of tunnel for profound cleaning of the inside
- All parts are made in stainless steel and are fully washable
- The airflow, insulation and cooling cover design ensure a consistent temperature across the entire band width
- The cooling units contain a built-in semi hermetic air-cooled or water-cooled compressor, an evaporator and an air recirculation fan
- The cooling compressor housing is designed for easy and fast cleaning.



Nielsen XXL

The Nielsen XXL features a special heavy duty stainless steel cover for high capacity cooling with individual opening covers. Designed to operate at 24/7 it provides the option with both direct and indirect cooling depending on your product.

- Individually vertical opening doors for easy cleaning and maintenance
- Gives your products the best gloss, taste and break
- Designed with a heavy duty stainless steel cover withstanding high capacity cooling
- Airflow, insulation and cooling cover designed for temperature consistency across the entire band width
- Cooling compressor housing designed for easy cleaning.

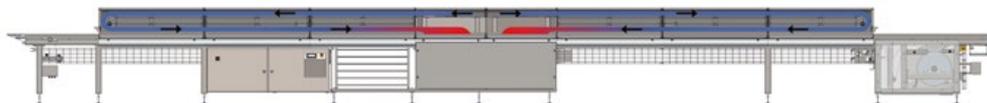


Features

All cooling tunnels are standard with direct cooling, indirect cooling or combined indirect/direct cooling

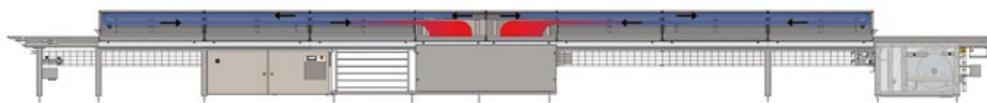
1. Direct cooling

Air circulation above and under the products. With a max air speed over the products 3,2 m/sec.



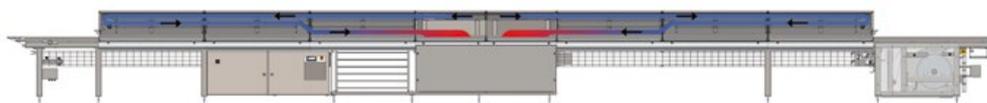
2. Indirect cooling

Chilled air falls down over the articles by radiation.



3. Combined indirect/direct cooling

The cooling tunnel can combine the two methods.



You can choose between different cooling systems such as:

Glycol

Normally preferred when bottom cooling.

Loose condensator

To prevent heating inside the building, the condensator can be installed outside.

Water-cooled compressor

In order to prevent heating inside the building the compressor can be water cooled instead of air cooled.



Water cooled bottom plates

Nielsen water-cooled bottom plates feature a special water circulation design to ensure uniform water temperature throughout.



FDA-approved band

Nielsen cooling tunnels are delivered with FDA-approved plastic conveyer bands.



Cooling cover

Nielsen cooling tunnels are made of insulated materials, free from lead and freon gases.



“
Cooperative,
high-quality and
innovative – that
would be the three
words describing
Aasted ”

Julia Whiteside, NPD director,
Kinnerton Confectionery



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