

AAT FREEZING



SMALL BOX FREEZER

MODULAR
INGENIOUS

SHOCK FREEZING – COOLING – TEMPERING





“After repeatedly coming into contact with prospective clients who run small businesses, we decided to develop a fully automated freezer system for these customers too. We also considered it important to design a system that grows with the needs of the customers.”

Martin Kink, Head of Division of AAT-FREEZING & Authorized Representative of AAT GmbH

AAT-FREEZING Systems

We offer fully automated shock freezing systems, cooling systems, short-term storage systems and tempering systems for food in boxes or cartons.

AAT-FREEZING systems are among the most advanced freezing systems on the market. These systems are automatically loaded with the products through an air lock. After shock freezing, the finished products are

automatically transported out. The Small BoxFreezer has a throughput of 100 kg to 2 tonnes per hour. As a result of specific adjustments, this is also compatible with the industry standard 4.0.



BEEF



PORK



POULTRY



FISH



READY MEALS



FRUIT



VEGETABLES



DAIRY PRODUCTS

ADVANTAGES OF Small BoxFreezer

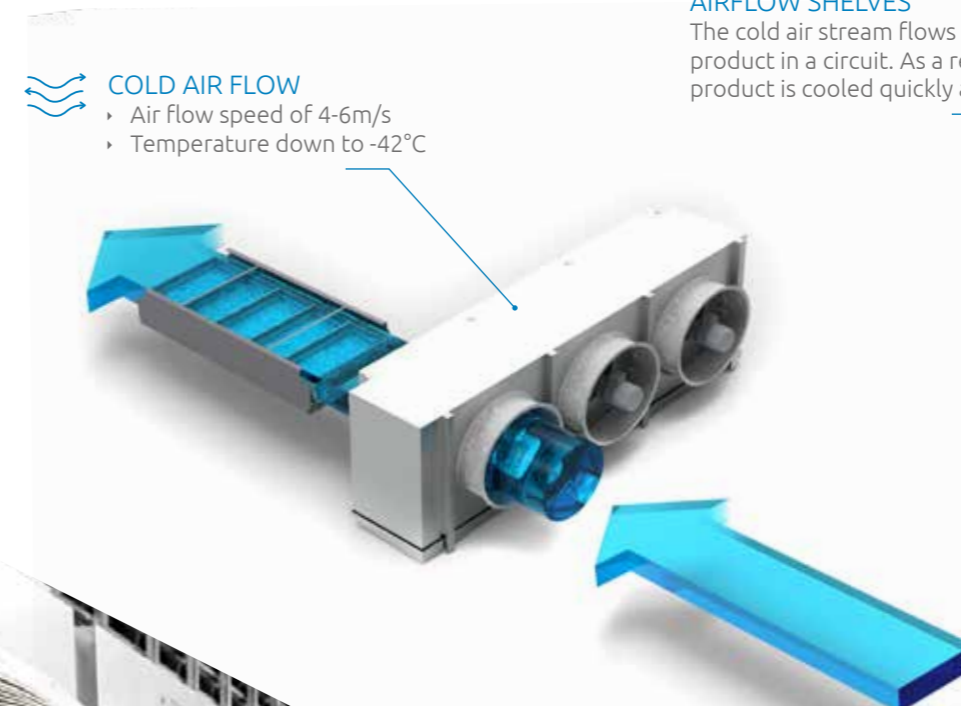
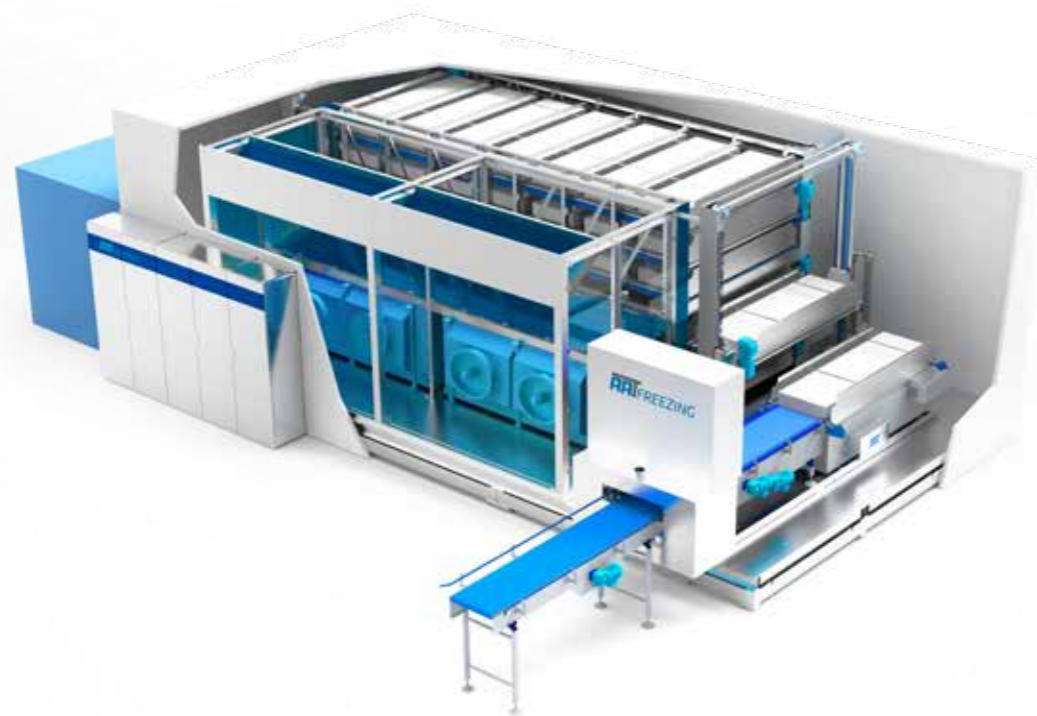
- ▶ The system can be easily extended or relocated due its modular structure.
- ▶ Low assembly costs on site – the system is delivered in finished modules.
- ▶ The Small BoxFreezer comes with an insulated foundation system – only a normal hall foundation is needed on site.
- ▶ The Small BoxFreezer is available with a matching refrigeration system. The customer only needs the electrical power supply for the system.
- ▶ Little to no ice formation in the Small BoxFreezer due to dehumidifying at the air locks.
- ▶ Due to the Airflow Shelf principle, the products in the Small BoxFreezer are ideally circulated with air.
- ▶ The Small BoxFreezer can be used on a wide range of products – cartons, crates, ice cream containers, dairy products, convenience food and many other types of product packaging.
- ▶ An ingenious loading and unloading system, which works without pushing out the products, does not cause damage to the cartons, boxes or other product packaging. As a result, there is no dust, wear or dirt due to damage to the products.

SMALL BOX FREEZER

The leading innovation: AIRFLOW SHELF

The sophisticated design of our Airflow Shelf ideally and controlled directs the air over the product. Your product is frozen faster and more gently. This saves you time and money. The arrangement of the cooling unit allows a continuous flow of cold air through the open shelf floors. Thus, the cold air reaches the products faster, whereby the freezing time is significantly

reduced. As the air only has to be distributed across the width of the system, the total distance travelled by the cold air is shorter than with other systems. Thus, the temperature curve is optimised and ensures uniform freezing of the products.



IDEAL FOR PRODUCTS IN SMALL PACKAGING

The Small BoxFreezer is a cost effective, automated refrigeration or freezing system for products in small packaging or in small volume production such as cartons, crates, ice cream containers, dairy products, convenience food etc. The system is ideal for products with different freezing times.

TECHNICAL DATA

Freezing capacity per SBF unit:	4.200 kg
Dimensions:	10 (to 31) x 6 x 3.5 m (LxBxH)
Freezing time:	0.5 to 24 hours – dependent on product, packaging, volume and weight
Capacity per SBF unit:	210 boxes (600 x 400 x 150 mm) 420 cartons (300 x 400 x 150 mm) 1000 ice boxes (260 x 160 x 150 mm)
Feed rate per SBF unit:	8 boxes / min (600 x 400 x 150 mm) 16 boxes / min (300 x 400 x 150 mm) 38 ice boxes / min (260 x 160 x 150 mm)

Small BoxFreezer

Thoroughly designed down to the last detail

In contrast to comparable freezing plants, such as spiral freezers or cold rooms, products with different freezing times can be cooled with the Small BoxFreezer. This is just one of the many innovations that our Small BoxFreezer has to offer.

SMALL BOXFREEZER

INNOVATIVE PRODUCT CARRIERS (AIRFLOW SHELVES)

The Airflow Shelves are designed to allow the airflow to pass through, above and below the product. As a result, it is cooled faster and more efficiently.

INSULATION

The Small BoxFreezer is completely encased in insulation to ensure efficient freezing and not waste any unnecessary energy.

LIFTING STATION

The lifting station moves the products to the prescribed level and ensures optimal filling of the Small BoxFreezer. It also makes it possible to sort products according to freezing times.

REFRIGERATION SYSTEM

The system is available with an efficient refrigeration system, which has been designed specifically for the plant. The Small BoxFreezer can also be connected to an existing refrigeration system.

LOADING AND UNLOADING CONVEYOR

The loading and unloading conveyor ensures trouble free loading of the product carriers (airflow shelves). The products are gently placed on the product carrier by the conveyor system.

CONTROL CABINETS

The system is equipped with high quality electrical components, such as Siemens, SEW, SICK and Pepperl + Fuchs.

AIR LOCKS

It is possible to install a combined loading and unloading air lock or two separate locks for loading and unloading the system. To avoid ice formation, we use a MUNTERS air dehumidifier in our Small BoxFreezer.

AIR COOLERS

The air coolers are mounted on the side relative to the direction of flow. This allows for even cooling along the entire system. In addition, this optimises the air flow to the product.

INPUT AND OUTPUT STATION

The input station forms the interface to the other production areas, such as slaughter, cutting or packaging lines. As a seasoned expert in conveyor systems and special machine construction, AAT-FREEZING also offers a broad product portfolio in all of these areas.

OPTIONAL QUALITY CONTROL

- Sorted Products:
- ▶ Damaged package
 - ▶ EAN code unreadable

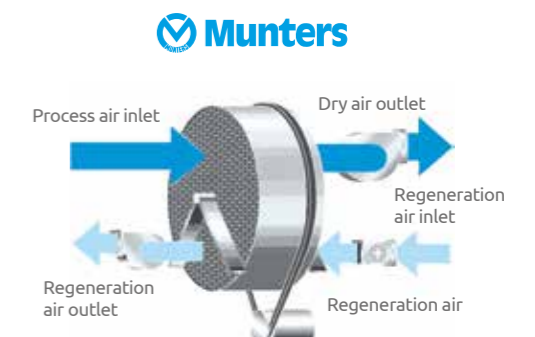


WITH MUNTERS
Air dehumidifiers

WITHOUT MUNTERS
Air dehumidifiers

MUNTERS AIR DEHUMIDIFIERS

This ensures that there is no ingress of moisture into the Small BoxFreezer from the surrounding areas (slaughter or production rooms, etc.) and the products. This process is adapted to match individual conditions and ensure optimal freezing of the products.



MODULAR INGENUOUS

SMALL
Box FREEZER

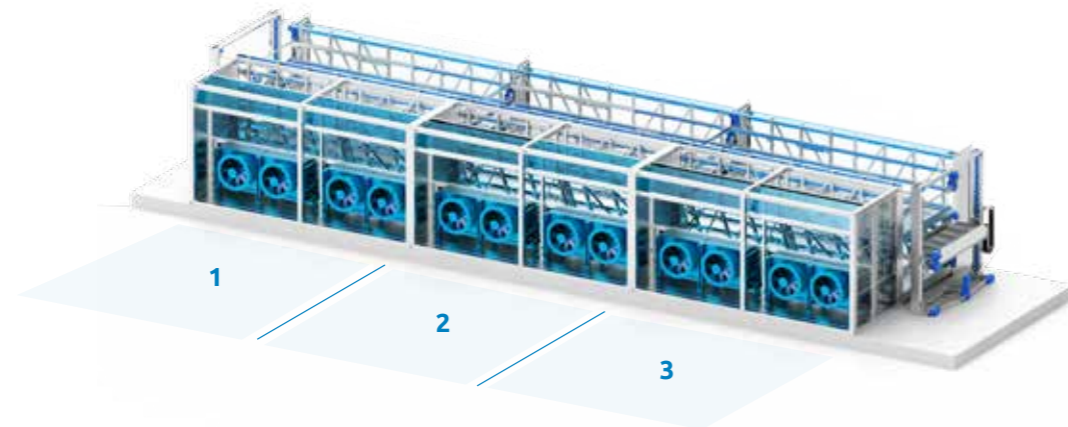
In order to be able to assemble the entire system at the customer's site with a minimum assembly and commissioning time, the system is already assembled in advance in Austria, operationally tested and then dismantled into appropriate transportable modules (container size).



MODULAR EXTENDABLE

Due to its modular design, the Small BoxFreezer can grow with the customer without constantly having to invest in new, larger systems. Extension is possible both in the horizontal and vertical direction, thus allowing for adaptation to the spatial conditions on site.

HORIZONTAL EXTENSION



VERTICAL EXTENSION

READY FOR THE NEXT STAGE?

The Small BoxFreezer has a capacity of up to 24 tonnes (2 t/h for a 12 h production time/day). If your requirements exceed this capacity, then the BoxFreezer with throughput of 3 to 30 tonnes per hours would be the right choice for your products.

BoxFREEZER



FREEZING TEST

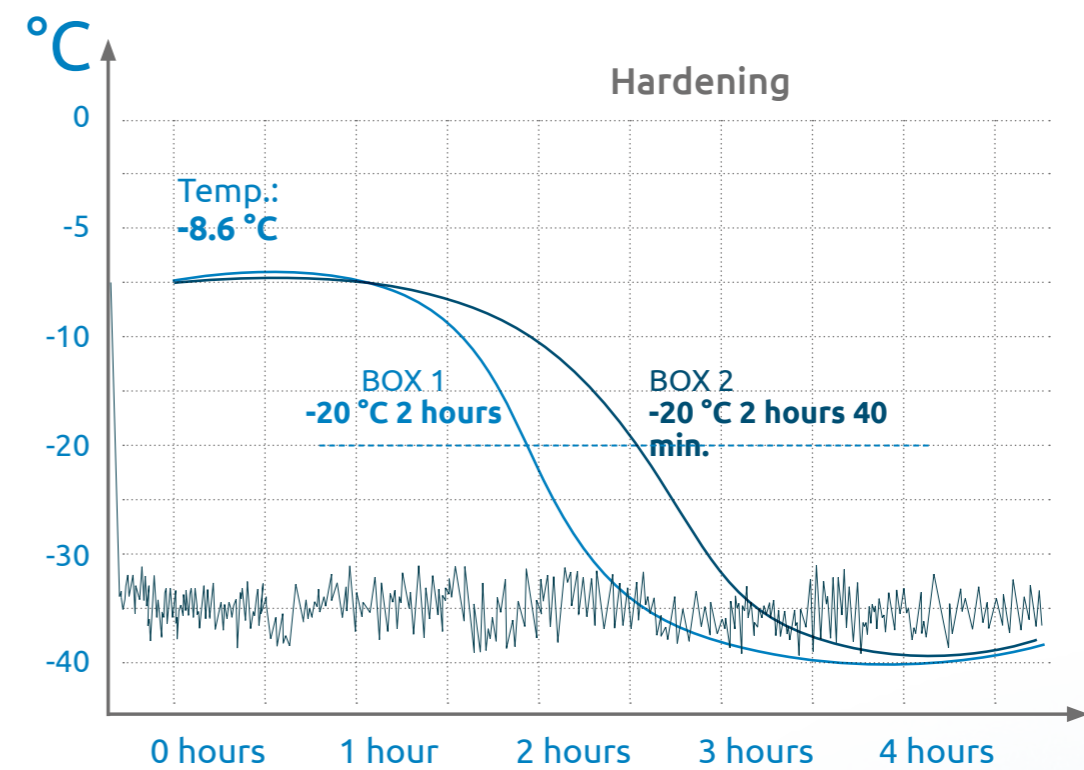


ICEBOX 4.8 L / 3.2 KG

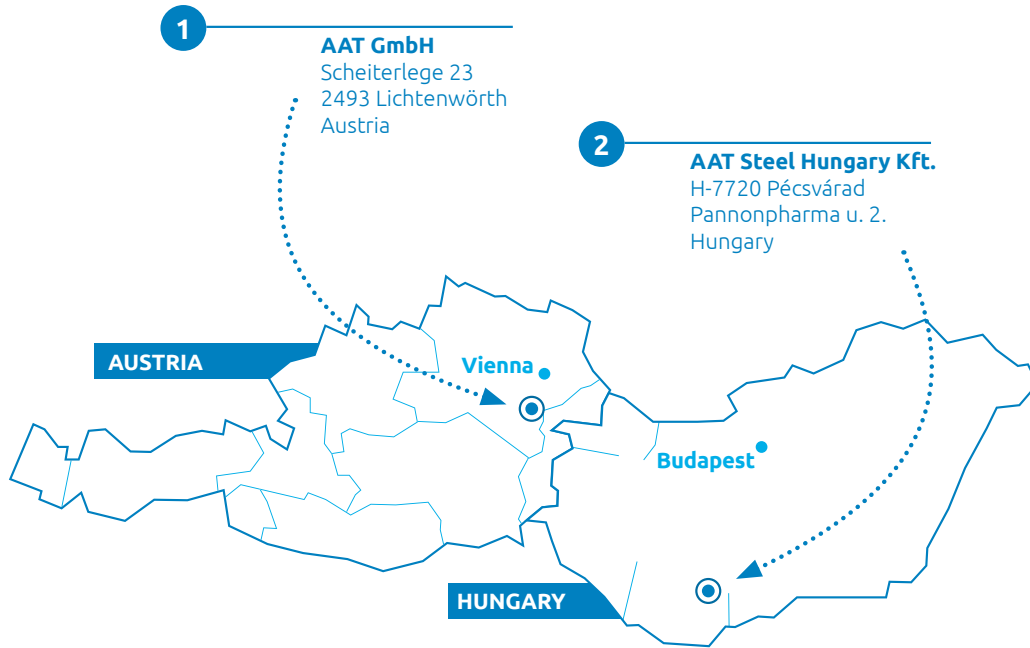
Carton: 350 x 170 x 130 mm, water content 60 %
Coolant: NH3
Air temperature: ~ -35 °C
Cooling from -8.6 °C to -20 °C (Hardening)



Dwell period: Box 1: 2 hours
Box 2: 2 hours 40 minutes



Locations:



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