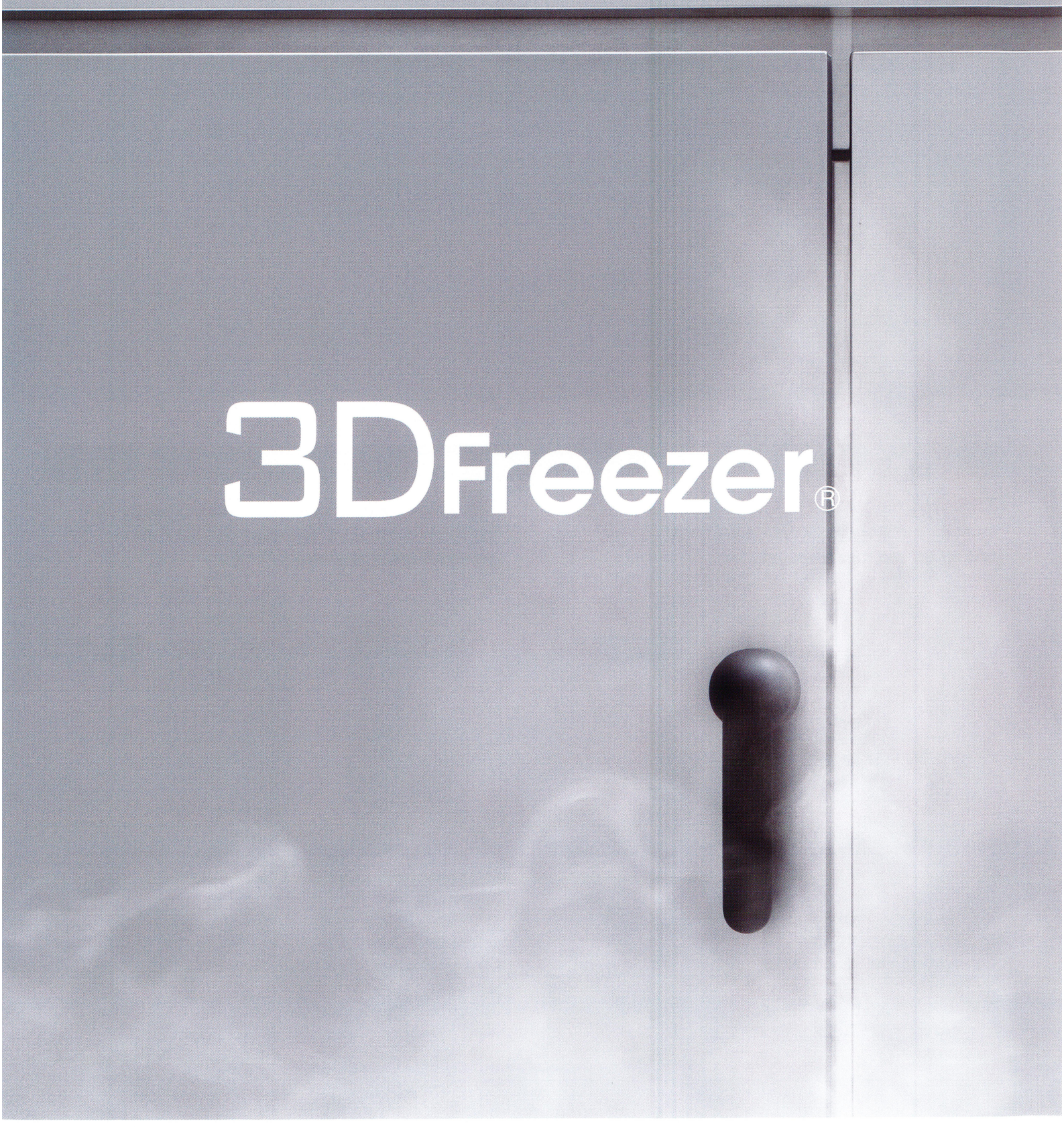
KOGASUN

## Freezers and Blast chillers

Tray-in Type NEW
Mobile Rack Type NEW
Cart-in Type NEW
Rack-in Type
Straight Conveyor Type
Spiral Conveyor Type





# 3D Freezing

## Enjoy delicious food anytime, anywhere!

Proprietary 3D Freezing technology allows for blast-freezing and chilling while locking in everything that makes food delicious. We aim to support a food culture that is kinder to the Earth while also reducing food loss — all for the sake of the future of food.

## Tray-in Type NEW

Table-top model that fits into locations such as a restaurant kitchen without taking up too much space.

GOOD DESIGN AWARD 2023



**Efficient movement from cooking to blast freezing or chilling.**

Cooking work or heating equipment, such as a small steam convection oven, can be placed on top of the unit, allowing it to function as a versatile cooking space. The interior comes fitted as standard with a tray rack featuring six levels of French baking trays (400-mm wide by 600-mm deep). Can accommodate 1/1 gastronome pans as standard.



The 1-door model houses the condensing unit inside and boasts a compact design that can be placed almost anywhere.

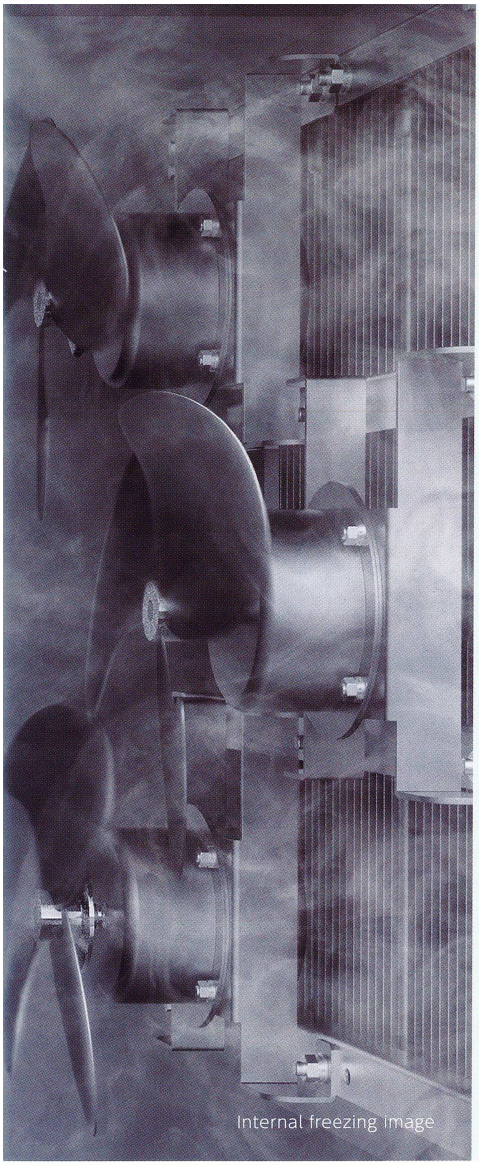


GOOD DESIGN AWARD 2023

**Perfect for kitchens looking to keep things simple and compact.**

The flat design harmonizes with other kitchen equipment. Also perfectly suited to stylish open kitchens. The interior is standard with eight levels of basic-size French baking trays for the 1-door model and eight levels × 2 for the 2-door model. Can accommodate 1/1 gastronome pans as standard.

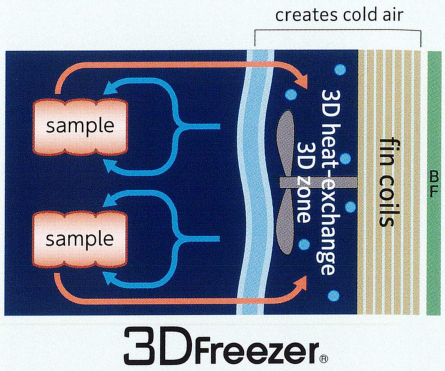



Internal freezing image

## Equipped with ACVCS®

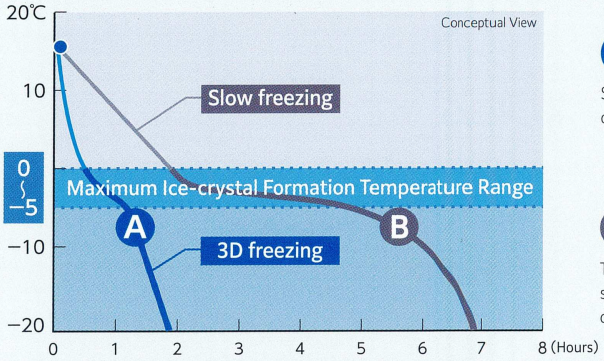
Anti Cycle Vibration Cold System

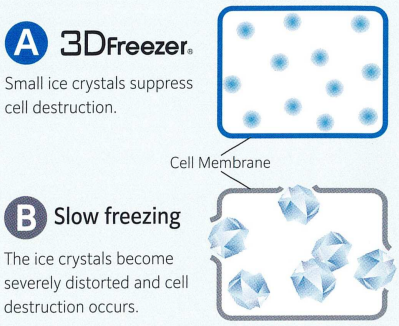
Existing air blast freezers work by blowing dry, cold air directly at the food at high speed — a process that also strips the moisture from the surface of the food. 3D Freezers use an anti-cycle vibration cold system (ACVCS®) that prevents the air from returning to the fin coil, realizing higher humidity inside the freezer space and preserving the moisture content of food while allowing for blast freezing and chilling.




## High humidity 3D Freezing for uniform blast freezing and chilling.

During slow freezing, passage through the maximum ice crystal formation temperature range (between 0 and -5℃) for water becoming ice is also slow, causing larger and more damaging ice crystals to form. This causes damage to the cells of the food and leads to dripping during defrosting. With 3D Freezing, blast freezing and chilling occur by uniformly enveloping the food in highly humid air, meaning the crystals are much smaller and only cause minor damage.




## Mobile Rack Type NEW

The mobile rack model allows for efficient chilling of cooked dishes.



Supports mobile ovenracks from all steam conveyor oven manufacturers



**Supports the mobile oven rack from steam convection ovens.**

Shares the mobile oven rack with medium-sized steam convection ovens, allowing for the effective blast freezing and chilling of hot food immediately after cooking. The interior also has a frame that allows switching to a tray rack style. Supports the use in various kitchen facilities, including hotels, restaurants, and bakeries.



## Cart-in Type NEW

The internal cart model is suited to cooking systems such as school lunch centers.



Supports roll-in carts from all manufacturers



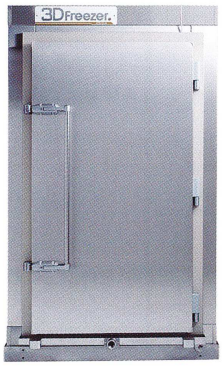
**Supports the roll-in carts from large steam convection ovens.**

The roll-in cart can be shared with large steam convection ovens, effectively blast- freezing and chilling large volumes of food. Offers support for cooking systems in facilities like school lunch centers, central kitchens, and large medical facilities.



## Rack-in Type

Internal rack model with a design that can be adjusted according to requirements.




**Offers support for various cart systems.**

The basic design offers excellent flexibility, including alterations to meet the carts you currently use, a sloping floor, and floor-panel inserts. It can support the use in various kitchens, from meat, seafood, and bakeries to a central kitchen.



## 3D Freezer®: Globally Recognized Freezing Technology

The anti-cycle vibration cold system (ACVCS®) used by
3D Freezers is recognized as a patented technology worldwide.




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**3D Freezer® On-Site Freezing Tests**

KOGASUN is happy to help meet our customers' needs by offering on-site testing of our 3D Freezers. Please contact us via our website, head office, or sales office for further details.
Reception Desk: Weekdays 9:00 a.m. – 5:00 p.m. (Closed weekends and holidays)

* Please read all the instruction manuals carefully before using our products.
* Specifications and performance of all products are subject to change without prior notice.
* The color of products as shown in this catalog may differ slightly from the actual color.
* The terms "3D Freezer" and "ACVCS" are registered trademarks of KOGASUN Co.,Ltd.

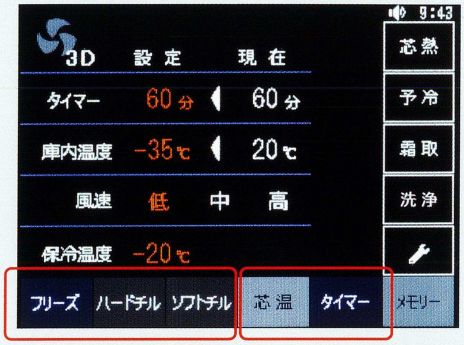
Sales Agent

# 3D Freezer®, with their chiller mode, allows a single unit to fulfill two roles.

Offering freezer and chiller modes allows for a wide range of applications, from blast freezing to chilling.

## Simple yet precise controls.

The simple, easy-to-read control panel allows anyone easy access to various powerful functions.




Freezing/Cooling Operation Mode

Control Mode

## Two control modes:

### Timer and Core Temperature

**■ Timer Mode (Standard)**

Provides freezing or chilling to a specified temperature at a specified time. Allows food into which a core temperature sensor cannot be inserted to be frozen or cooled without damage.

**■ Core Temperature Mode**

**(1 supplied with all models other than conveyor models)**

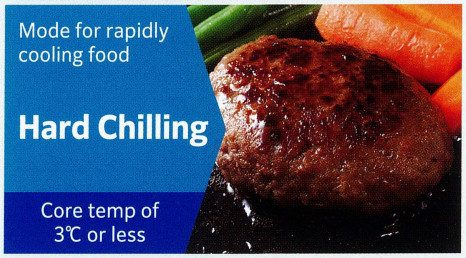
Allows for blast freezing or chilling until the core of the food reaches the set temperature via the insertion of a core temperature sensor. When using either mode, the set temperature is maintained after being reached.

## Freeze Mode [3D Freezing]

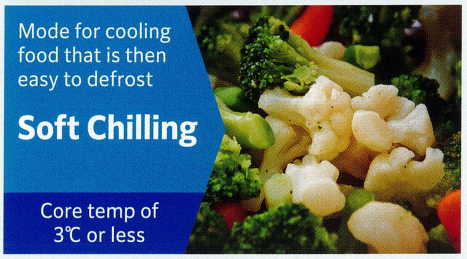



Rapidly uses 3D Freezing to reach the set temperature or core temperature quickly. Also freezes the nutrients in the food, the moisture that holds the umami, and passes quickly through the temperature band in which the gelatinized starch found in cakes and confectionery is most adversely affected.

## Chiller Mode [3D Chilling]




Uses colder 3D cold air than the soft chill, at -20℃, to allow for speedy passage through the dangerous temperature bands. The perfect chilling mode for meat and fish dishes, fried foods, and root vegetables.




Uses 3D cold air to rapidly pass through those dangerous temperature bands in which pathogenic bacteria most easily multiply. Blast chilling into a temperature band in which the food does not freeze. The perfect chilling mode for vegetables, side dishes, desserts, and noodles.

## Straight Conveyor Type

Freezing and chilling are conducted using a belt conveyor, enhancing food plant productivity.

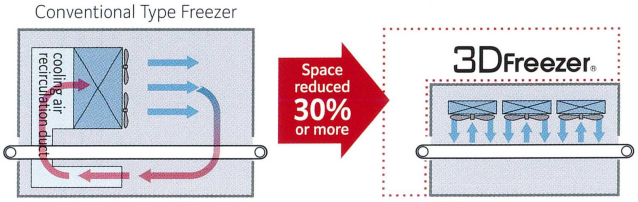


Non-standard specification order-made designs supported

**Achieving a significant reduction in unit size.**

Removing the need for a cold air circulation duct increases freedom in the placement of the unit while also reducing its size. Allows for more than a 30% reduction in occupied space.

Conventional Type Freezer




## Spiral Conveyor Type

A spiral belt conveyor allows for a massive reduction in required space.

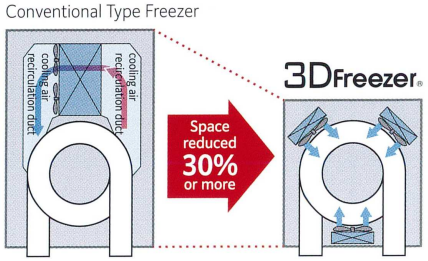


Non-standard specification order-made designs supported

**Significantly reduce space occupied by the unit.**

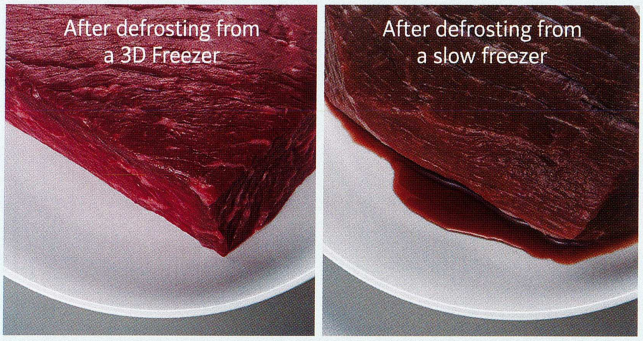
Without a cold air circulation duct, a 30% reduction in occupied floor space is achieved over existing models. Allows for large volume freezing and chilling in facilities with little leeway in terms of space.

Conventional Type Freezer



# The impossible becomes possible with 3D Freezing

3D freezing allows foods previously considered impossible to freeze to be rapidly frozen while keeping their quality.
Even foods that have mainly been handled chilled (3 – 0℃) or foods with issues with dryness and scattering upon defrosting can now be safely frozen, free from concerns for their taste or aesthetic appeal.




## Increased quality of freezing.

3D freezing involves enveloping the food in uniform, humid 3D cold air, reducing the damage caused to food cells and maintaining the water content. This minimizes drying out during freezing and maintains delicious flavors without any dripping once thawed out.



## Maintenance of shape.

3D Freezing does not cold air from a single direction but instead uses 3D cold that envelops the food from every direction. This means foods prone to scattering, like side dishes, and foods prone to change in shape, like bread and cakes, can also be frozen free from concern.



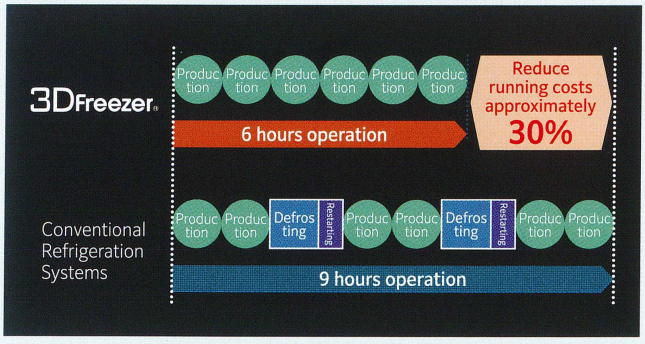
## Increased food safety.

Freshly cooked, freshly fried, and freshly steamed foods can immediately be placed inside, removing the need for an initial chilling period and creating a more hygienic production system, with food less likely to be contaminated by floating or falling bacteria.



## Reduced shrinkage, improved yield.

Using humid 3D cold air means less evaporation of moisture (vapor) occurs during freezing, reducing the product's shrinkage (volume loss) and increasing yield. This helps to decrease the volume of raw materials needed and leads to a reduction in costs.




## Less defrosting means higher efficiency.

Reduction in the formation of frost, therefore, reduces the number of times defrosting is required, allowing for more extended periods of continued operation compared to existing freezing equipment and higher overall efficiency. This is backed by an approximately 30%* reduction in running costs.

* Subject to change depending on the foods being cooled or frozen.



## Simple cleaning for more excellent hygiene.

3D Freezers use an anti-cycle vibration cold system (ACVCS®), meaning the unit has no cold air circulation duct inside. This makes cleaning simple, requiring only a wipe-down of the interior. There are also no blind spots or breeding grounds for bacteria related to cleaning, cutting the need for bacteria count controls while ensuring a high level of safety.