CCR Commercial Refrigeration Care Guide

Instructions for the Use, Maintenance, and Care of Refrigeration and Freezing Equipment

Carrier Commercial Refrigeration
Licensed by Carrier Corporation

PROFROID

CELSIOR

GREEN & COOL

Contents

Introduction

Refrigeration cabinets and deep freeze cabinets are designed for the adequate storage of fresh goods and frozen foods and for their attractive presentation. However, this can only be achieved if the correct maintenance and care of the cabinets is ensured.

If care is neglected, different malfunctions may occur. Defrosting will not work correctly, refrigeration will be insufficient, or the energy consumed by the overall refrigerating system will be too high. The product will no longer appear fresh and its quality will suffer, resulting in dissatisfied customers. However, it is possible to avoid such inconvenience.

To achieve this, please

- ❄ familiarize yourself with the functionality of the refrigeration equipment,
- ❄ perform maintenance and care on a regular basis.

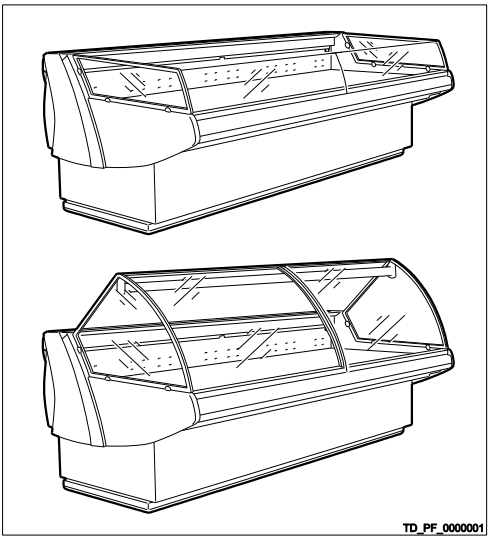
We have listed the information required for maintenance and care in this brochure.

Further information can be found in:

- CCR Care Guide Counters
- CCR Operating Manual Modular Line E5 & E6
- CCR Cleaning Manual Maress
- CCR Short Operating Manual Compact Line

Cabinet types according to product presentation

Service counters / self-service counters



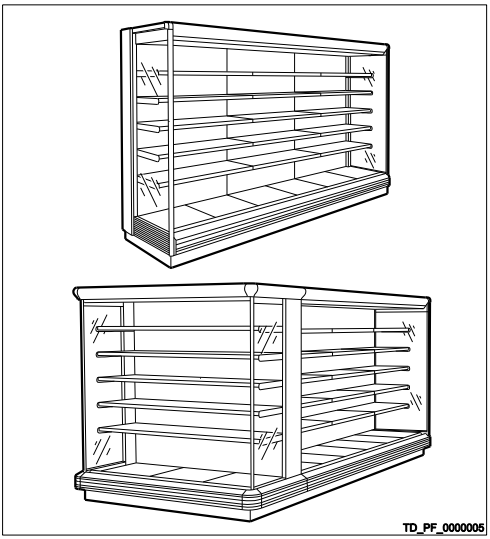
Description

These refrigeration cabinets are excellent for presenting goods. They provide a good view of the entire display area. A distinction is made between service counters and self-service counters

Special features

Counters usually have large glass areas at the front and sides. The internal equipment may consist of plates, grilles or stage inserts which are usually made of stainless steel.

Multidecks



Description

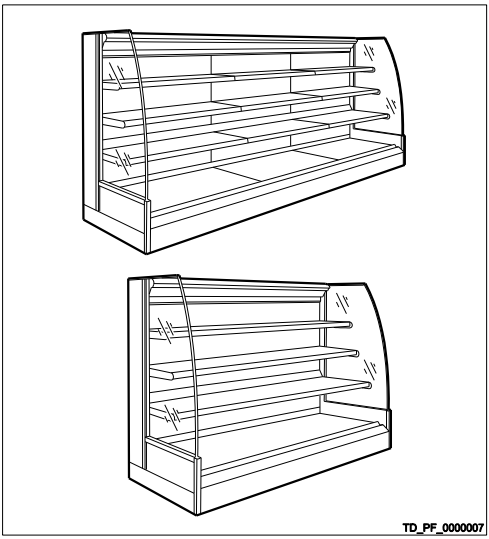
These refrigeration cabinets have a large product display area and a large product volume. This is achieved by a generous interior volume, a maximum product display area and a modern design. The air curtain system in single or double version ensures optimum and reliable temperature characteristics. The evaporator is either in the bottom section, or it is installed in the rear panel.

Special features

Multidecks have the widest range of variants. This applies to their design with different front heights, shelf depths and side panels as well as to the interior equipment. Adjustable display shelves, baskets, hook display units, grilles with divider grids and other accessories can be used here.

Cabinet types according to product presentation

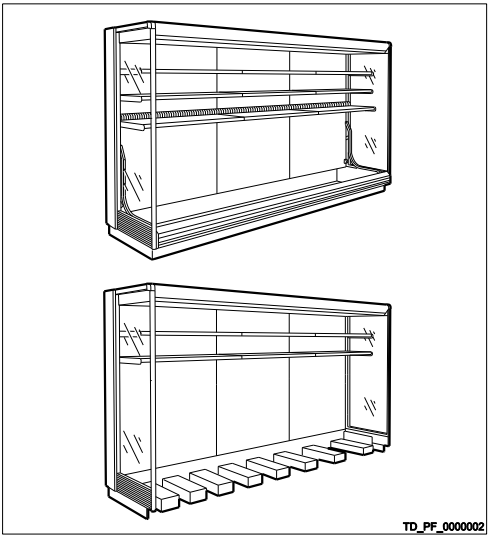
Semi-vertical multidecks



Description
These refrigeration cabinets are to be found in the entrance area of a store and in the area with fresh goods. Semi-vertical multidecks with their typical height of 1.29m – 1.60m provide an appealing presentation of the products plus a free view of other store offers.

Special features
Semi-vertical display units provide a good overview of the products due to their height, i.e. the cabinet's top is also within the customer's field of view, which needs to be taken into account when cleaning the cabinet.

Roll-in cabinets

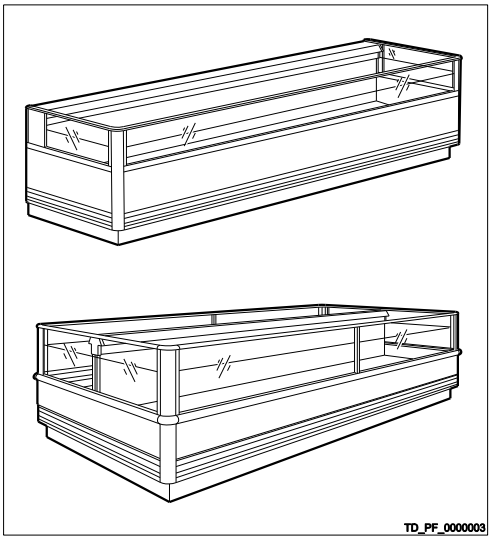


Description
These refrigeration cabinets are intended for fresh food departments with a high turnover rate, e.g. for milk and butter. They can be loaded with products with particular ease and also have high space productivity.

Special features
For front loading only, the evaporator is located in the rear panel. For cabinets that can be loaded both from the back and the front, the evaporator is integrated in the cabinet ceiling.

Cabinet types according to product presentation

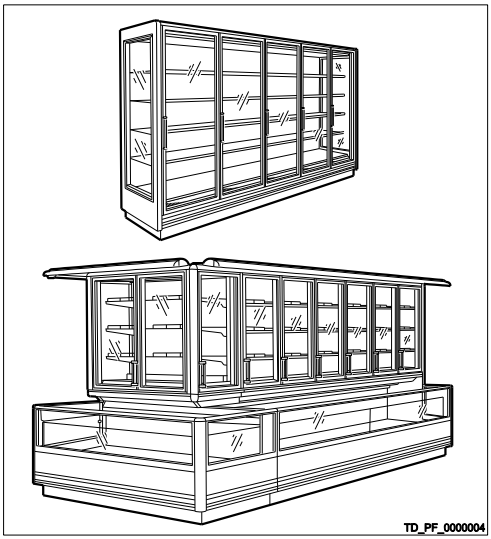
Island-sited cases and wall-sited cases



Description
Both types of cabinets are design for temperatures both above and below zero degrees. Their design and equipment are similar. Wall-sited cases are intended for positioning on walls. Island-sited cases are positioned freely in the room, by contrast.

Special features
Unrefrigerated attachments are frequently added to the islands which are used for additional offers. They are usually made of painted sheet metal parts.
Island-sited cases and wall-sited cases are mostly equipped with glass sliding covers. That increases the percentage of glass and plastic surfaces.

Vertical freezers

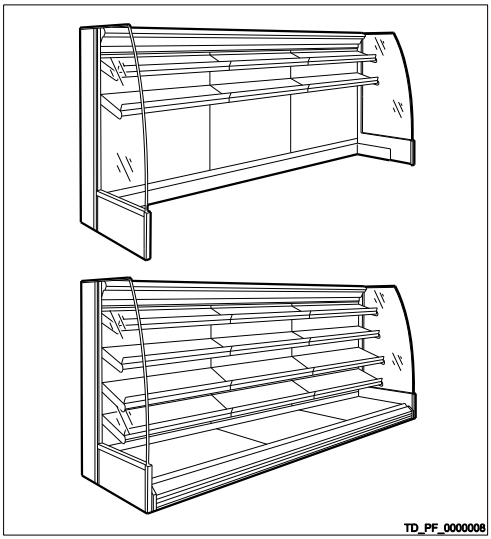


Description
These refrigeration cabinets have been specially designed for deep freeze applications. We distinguish freezer cabinets and freezer combinations. The glass doors have been designed for the presentation of frozen foods. They provide maximum product display area and high capacity in a small installation space.

Special features
The glass doors are subject to high operational demands. In addition to the functionality of the doors – mechanical ease of movement and tightness – the condition of the outer and inner glass surfaces is essential for selling the products in the refrigeration cabinet.

Cabinet types according to product presentation

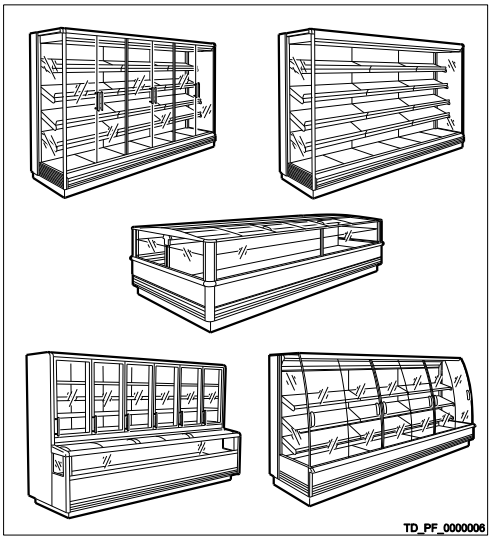
Refrigeration cabinets with ultrasonic humidification system



Description
The missing ceiling (NC = no ceiling) is one of the most striking features and enables the excellent presentation of products.
The interior equipment is very flexible.

Special features
These cabinets can be equipped with a humidification system intended specially for use with mainly unpackaged fruit and vegetables. The ultrasonic humidification system ensures that the produce presented does not dry out.

*e*Cube cabinets*



Description
e*Cube cabinets are available as island-sited cases and wall-sited cases, but also as vertical freezes and multidecks. They are characterized by their particularly high energy efficiency compared to refrigeration cabinets of the same design.

Special features
Refrigeration cabinets in e*Cube design can be equipped with the following energy-saving features:

- EC fans
- LED illumination
- Doors with insulated glass or sliding windows/covers
- Unheated anti-condensation windows (anti-fogging film on revolving glass doors)

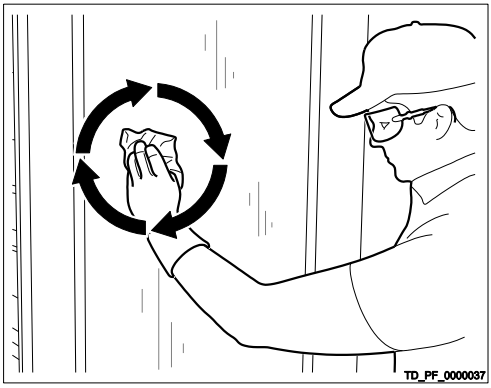
Care of painted steel sheets

Note

For the optimum care of the paint of a refrigeration cabinet, it must be cleaned thoroughly and any dirt removed. If residual dirt is mixed with the paint care product used, that could produce undesired results. The dirt would cause more damage to the paint than before the paint care. The cabinet must be absolutely dry before starting with the actual paint care.

1. Cleaning and drying

Wash with warm water and a light detergent and then wipe dry.



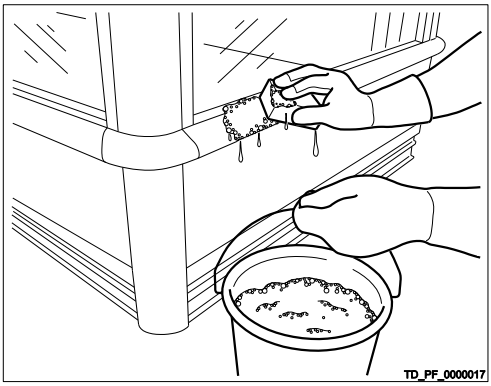
2. Apply and polish care products

The care product of your choice is applied to the clean paint. Then, the care product needs to be polished off thoroughly. It is advisable to use soft materials, such as microfibre or terry cloths.

3. Touch up damaged paint

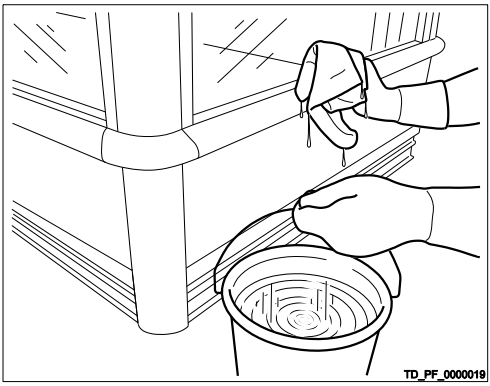
To do this, use paint in spray cans or a paint stick. Dirt and rust must be removed from the damaged area first to ensure optimum paint adhesion.

Care of plastic parts



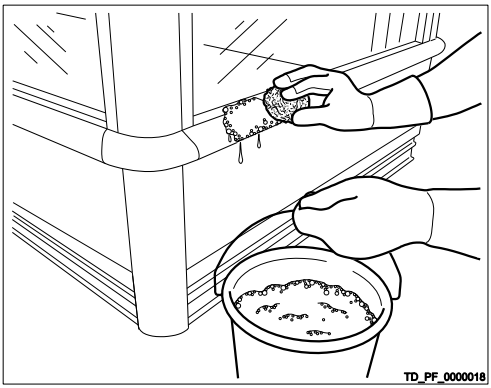
1. Wash

Use lukewarm water, with a mild washing-up liquid added.



2. Rinse off with clear water

Use fresh water several times for rinsing.



3. Do not use any cleaners that contain abrasive agents.

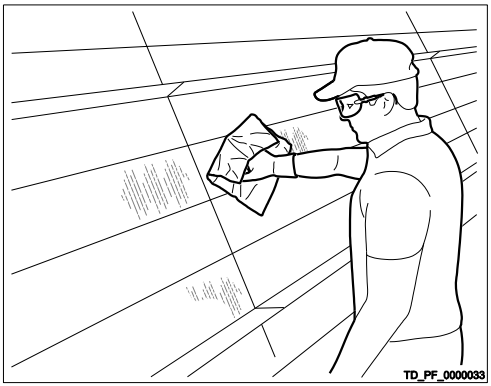
Otherwise, the plastic surface will become unsightly, dull or damaged. Chemical solvents are never suitable.

4. Use steel wool to remove stubborn dirt

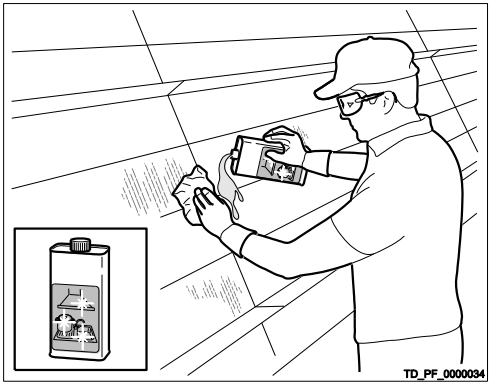
Steel wool can be used to clean stubborn dirt deposits. When rubbing, take care not to produce any grooves or recesses. Only steel wool of the finest grain is suitable (approx. 200µ).

Care of stainless steel parts *i.e. chrome, chrome steel or nickel chrome steel*

1. Wash
Use lukewarm water, with a mild washing-up liquid added. Chemical solvents or cleaners that contain abrasive agents are never suitable.

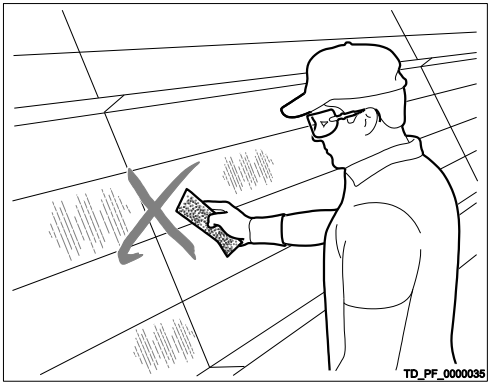


2. Rub dry
Bear in mind that any residual moisture can encourage rust formation. Chamois leather, a linen cloth or a microfibre cloth are suitable for rubbing. Woollen material is unsuitable, since it leaves fibres that are difficult to remove.



3. Remove stubborn dirt with a stainless steel cleaner

Apply the cleaner, let it take effect briefly and then remove it with a clean and soft cloth.



Important!

Do not use any sandpaper. In the case of very stubborn dirt, careful treatment with steel wool of the finest grain is possible (approx. 200µ).

Care of glass parts

1. Wash the glass surfaces

Soap the glass surfaces, then rinse them thoroughly with warm water.

2. Rub dry

Use cloths and rags made of chamois leather, linen cloth or microfibre for rubbing.

3. Alternative

Glass cleaners are available that are only sprayed on and then rubbed off. Washing is no longer necessary.

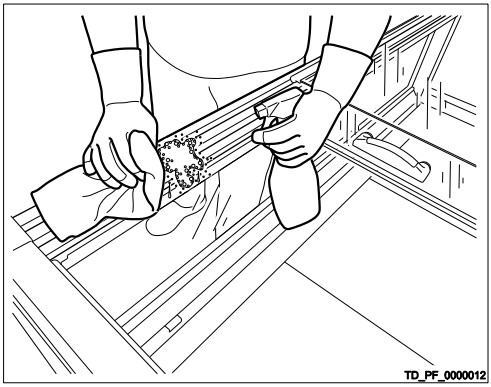
CAUTION!
Never use hot water on cold glass surfaces. That could break the glass, injuring you and others. Allow the glass to warm up first or use cold water.

Note

If double glazing windows are foggy on the inside, cleaning will not help. The window will have to be replaced.

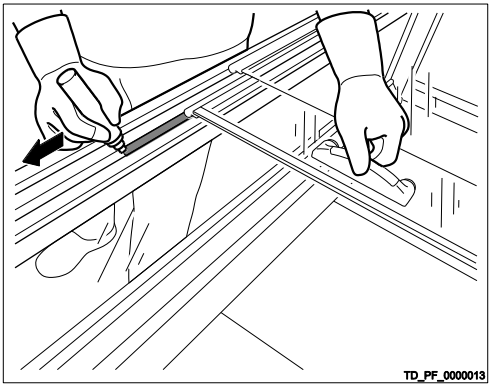
Care of sliding doors and lids

Sliding surfaces of sliding doors and covers



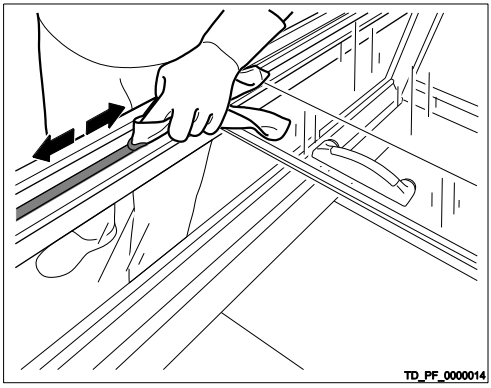
1. Clean

Use a commercially available glass cleaner and a soft, clean cloth. Also clean the non-visible running surfaces of glass windows.



2. Care of the plastic sliding surfaces

Use a silicone stick (part no. at CCR: 4071263) to maintain the sliding property of the plastic sliding surfaces. Apply the stick to one side and move it to the end using even pressure.



3. Distribute evenly

Use a soft cloth.
Please note: less is more, i.e. the silicone is only for the controlled running in of the windows. It will evaporate after a short while.

Care of hinged glass doors

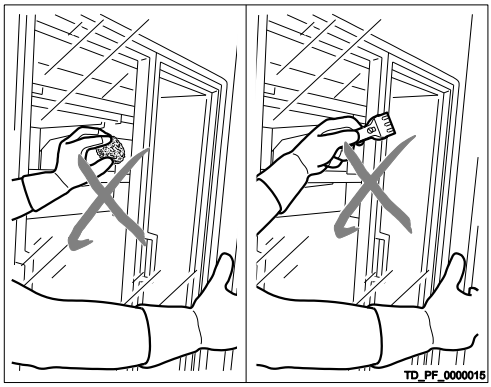
Anti-fogging film on hinged glass doors

The anti-fogging film is a major innovation in the field of deep freeze technology. A special coating prevents any fogging of the windows effectively and reliably. The windows have optimum transparency and provide an unobstructed view of the products on offer, even immediately after closing the door.

CAUTION!
Correct care of the film is required to maintain its properties for a long time. Scouring agents or abrasive material such as Ajax, Scotch Brite or steel wool must never be used on the film.

Cleaning in refrigeration mode should be performed using pure or high-percentage alcohol and pulp-made paper or a paper towel. Normal cleaners could freeze on very cold surfaces. At temperatures above 0 °C, lukewarm water can also be used with a mild cleaner.

NOTE
Oily residue or oil transferred from the air could impair the anti-fogging effect if it is not removed. Remove any contamination by oil with a grease cleaner, e.g. Top Job®.



CAUTION!
Do not contaminate the door with silicone.

No not use any adhesive tape, glue, stickers, adhesive sticks etc. on the film.

Do not use razor blades or other mechanical devices to remove foreign matter or other objects from the film.

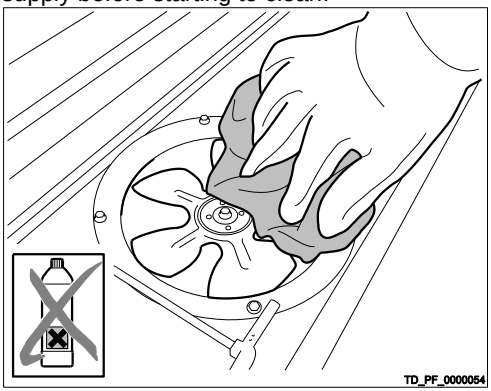
CAUTION!
Do not use any cleaner that could impair the film's anti-fogging function or damage the surface. Examples of such cleaners are Armor All, Tilex, Bleach, Windex No-Drip, Windex Wipes, Pledge and all products that contain silicone oil or wax.

Care of counters

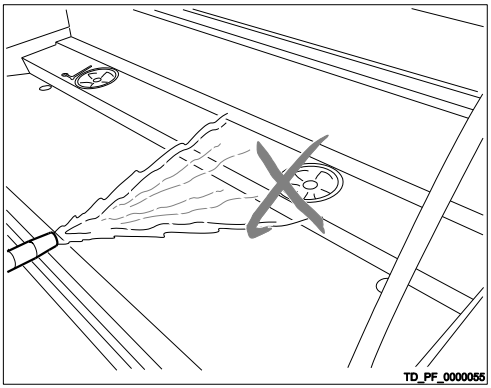
Special features of counters

Liquids from openly presented goods can penetrate into air ducts and have considerable impact on the circulating air. Therefore, clean regularly here.

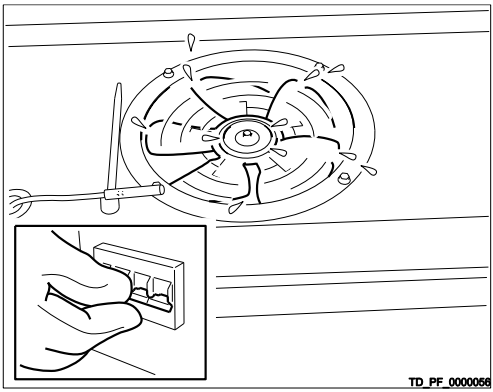
When counters are cleaned, special attention must be paid to the amount of water used, in particular for the fan motors. The complete counter must be disconnected from the power supply before starting to clean.



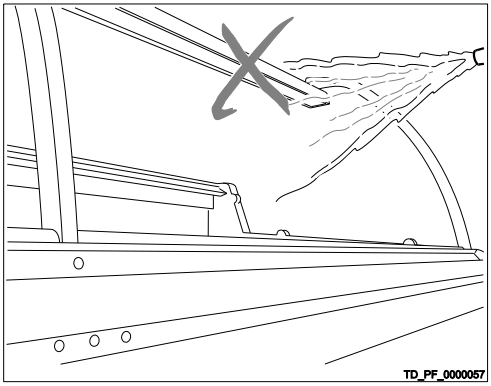
1. Fan motors must never be treated with highly corrosive and alkaline cleaners.



2. Direct flooding of the fan motors must be avoided.

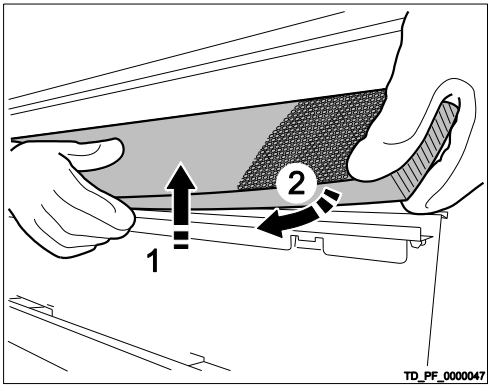


3. After cleaning the inside of the counter with water, switch on the fans again briefly to remove any residual water from the shaft seat.



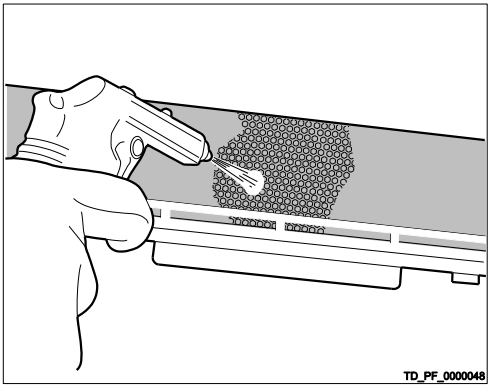
4. Lights in the glass top and base illumination must not be cleaned using running water.

Cleaning the air discharge honeycomb



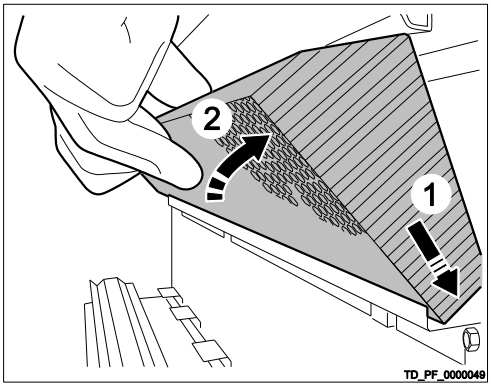
1. Remove

First push the air discharge honeycomb up, pressing it together slightly.
Then you can remove it by pulling it out to the front. With some models, the bottom strip remains attached to the honeycomb.
It must also be removed.



2. Clean

Use water with a mild cleaner. Do not use any hard mechanical aids.
The fins can also be cleaned and dried using compressed air.



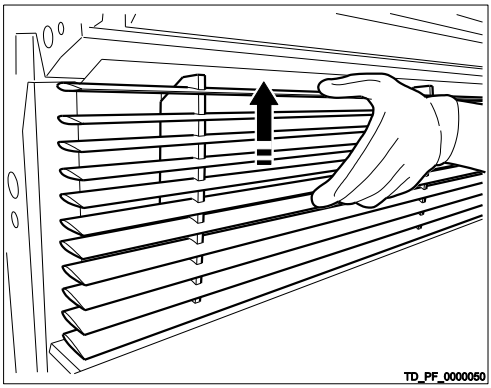
3. Install

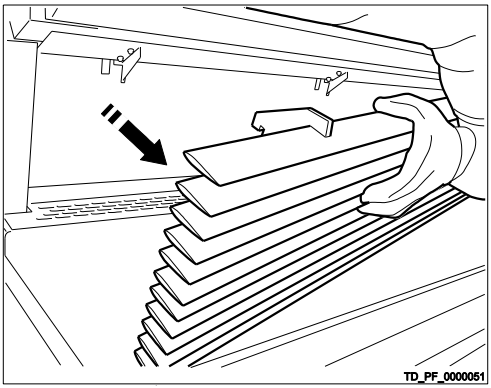
First insert the air discharge honeycomb in the bottom guide rail. Then press the honeycomb down slightly and
push it completely under the cover.

Important!

The air discharge honeycomb must fit in a straight manner and evenly in the lower and upper guides. A buckled or bent honeycomb will result in the uneven flow of air.

Cleaning the fins

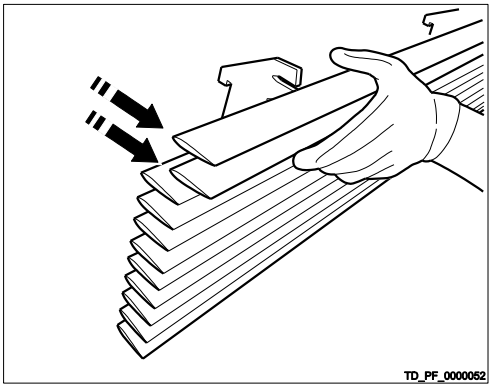


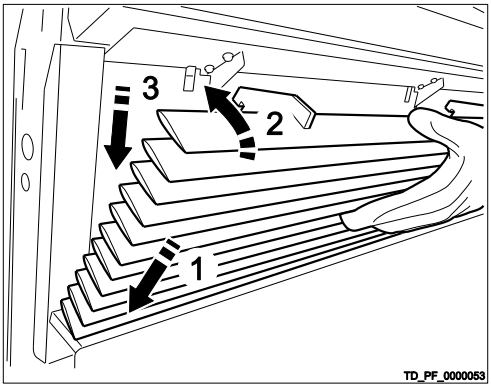


1. Remove

To clean the fins, it is advisable to remove the complete fin package. To do this, lift it evenly and pull it out of the upper brackets.

Then remove the package with the fins towards the front.
Take care not to bend any of the upper brackets.





2. Clean

Remove the fins individually, clean them with a mild cleaner and water, dry them and re-assemble them as a package.

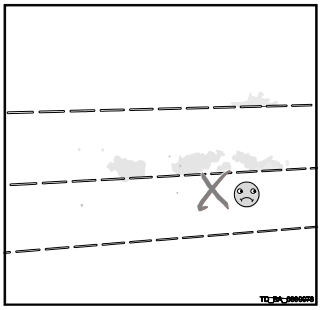
3. Install

Insert the fin package in the lower guide, then in the upper brackets and finally push it down.

Periodic cleaning task list

The following cleaning intervals are recommended:

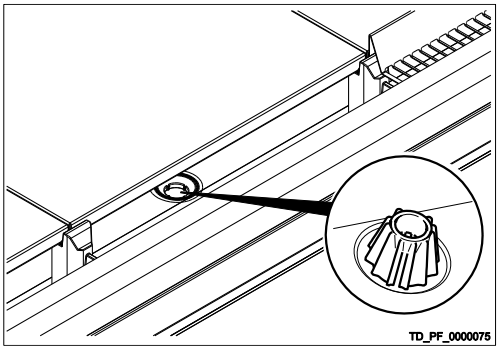
Drain strainer	Every 1 to 4 weeks, weekly visual inspection
Cabinet interior	Minimum every six months
	Do not use cleaning agents that contain substances that are corrosive to the skin or eyes or have a corrosive effect on metals.
Cabinet exterior	As required
Thorough cleaning with removal of air baffle	Every 6 to 18 months, depending on the category of goods, also see Cleaning Manual Maress



Remove the air baffle, do not bend it open, or the paint will crack.

Do not place the dismounted air baffle directly onto the bottom panel to prevent damage.

Cleaning the drain strainer



- Remove return air grille and other components that impede access to the drain strainer.
- Remove drain strainer from the cabinet.
- Clean drain strainer under running water.
- Insert drain strainer back into cabinet.
- Put the previously removed components back into the cabinet.

Seven-point plan for periodic cleaning

1. **Remove the products from the refrigeration cabinet**
   This work should best be done after defrosting.

2. **Switch off the refrigeration cabinet's power supply**
   That will normally de-energise a complete row of refrigeration cabinets. This can only be done by a skilled person or an electrician.

3. **Remove the floor panels to the evaporator chamber or return air grille**
   The plates and return air grilles of modern refrigeration cabinets are equipped with grip holes for this purpose.
   If the grip holes are too small, use a hook for lifting.

4. **Clean the containers inside the refrigeration cabinet**
   CAUTION:
   Use cut-resistant gloves to prevent any injury by sharp-edged parts - e.g. on the evaporator's fins.
   Experience shows that dust, liquid from damaged containers, old labels and paper or product remains will accumulate in the space under the base shelves. ***When removing and reinserting the shelf supports, further scratches, especially on the base tray, must be avoided!*** If possible, use a water hose and a soft brush. As soon as you have removed everything, clean the inside with a damp cloth.

5. **Rub refrigeration cabinet down with disinfectant**
   Proceed with great care. Any remainders represent rot pathogens, which are not permitted for hygienic reasons. Furthermore, rot pathogens develop unpleasant odours after a short time.
   Do not use any corrosive or strongly smelling disinfectant. Use the protective equipment (glasses, gloves etc.) according to the safety instructions (on the safety data sheet) of the cleaner.

6. **Rinse off with clear water**
   Use warm water, since cold water will not remove the remaining grease films. Then rub the area dry with a cloth.

7. **Flush the drainage system**
   Many refrigeration cabinets have a double drainage system. Flush it several times. Check if the waste trap has been cleaned and the water can drain properly. Weekly cleaning is recommended for cabinets for dairy products.
   As soon as this work has been completed, refit the grilles and shelves at their original positions.
   Then, restart refrigeration. Once the storage temperature in the refrigeration cabinet is established again, the products can be loaded into the cabinet.

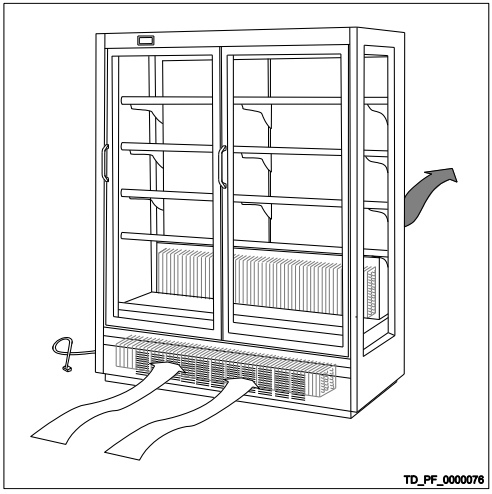
Technology – The refrigerant circuit

Technically speaking, there are two basic types of refrigerated cabinets.

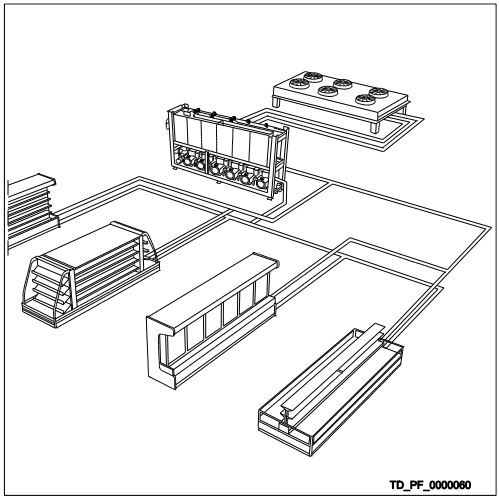
The so-called **plug-in cabinets** are similar to a household refrigerator or freezer - the heat is extracted from the interior of the cabinet and then released directly into the surrounding air.

In so-called **remote cabinets**, the heat is conducted from the interior of the cabinet into a large refrigerant circuit and then released to the outside air far away from the salesrooms.

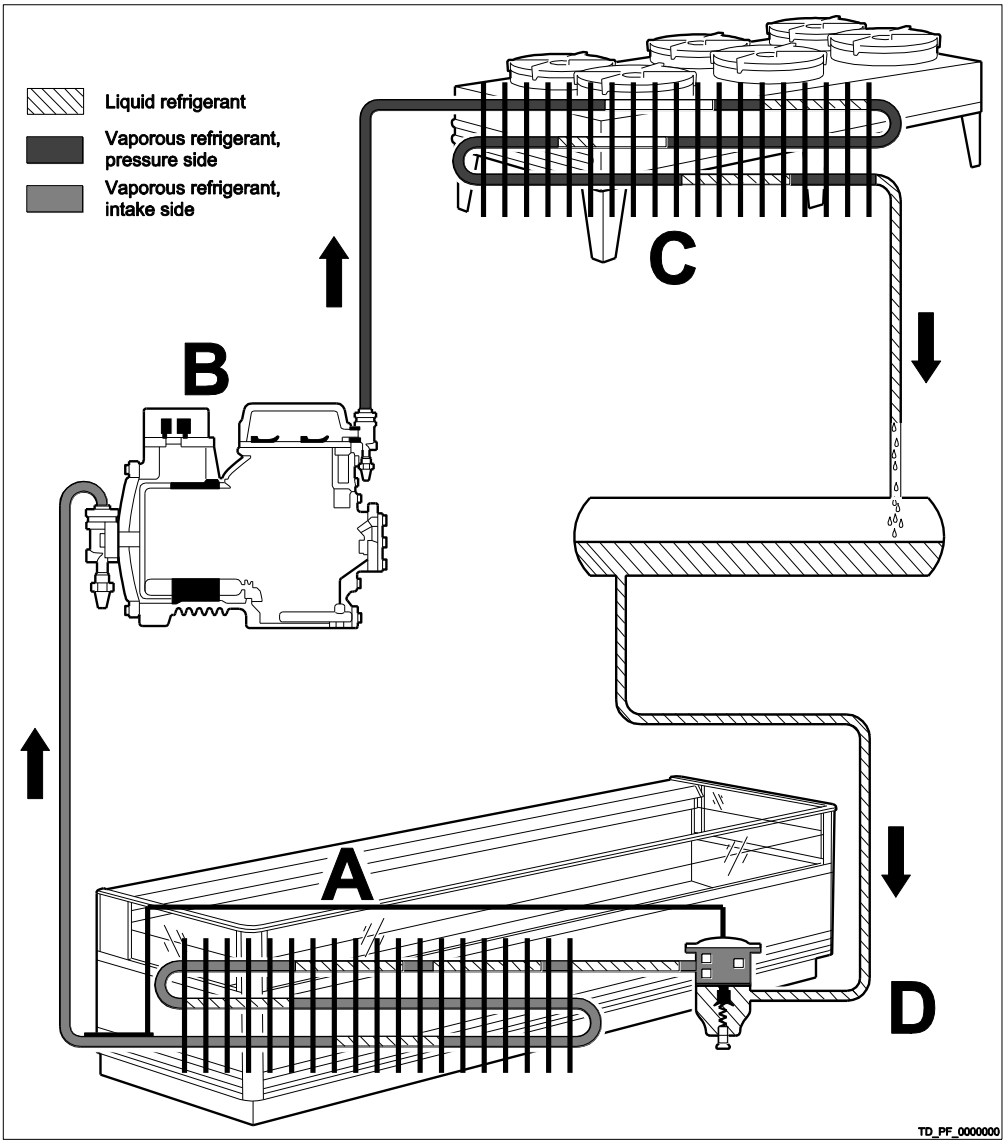
Semi-plug-in cabinets are an in-between solution - the heat from the interior of the cabinet is transferred to a brine circuit, which in turn releases it to the outside air.



1. Plug-in cabinet
The refrigeration cabinet is an independent unit with a closed refrigerant circuit.



2. Remote cabinet
The refrigeration cabinet is connected to a large refrigerant circuit with many other refrigeration units.


Liquid refrigerant
Vaporous refrigerant, pressure side
Vaporous refrigerant, intake side
A
B
C
D
TD_PF_0000000

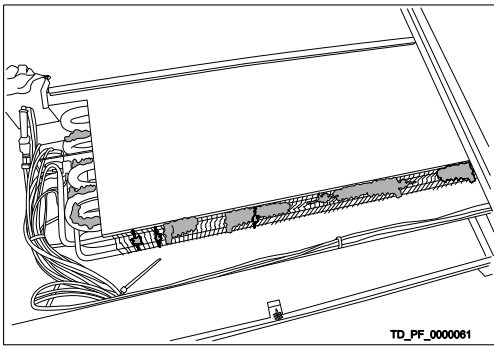
Technology – The refrigerant circuit

The "refrigerant" removes heat from the refrigeration cabinets and transfers it to the outside air. Refrigerants are substances that absorb large amounts of heat during the transition from liquid to gaseous state. The refrigeration circuit in a store with refrigeration cabinets works in four steps:

1. The compressor [B] compresses the refrigerant. The higher pressure increases the temperature of the gas.
2. The hot gas is conveyed along a cooling surface (usually outside the cabinet or as shown here outside the building), a condenser [C], giving off heat to the ambient air and condensing into a liquid.
3. The condensed refrigerant flows through an expansion valve [D] where its pressure drops.
4. This cold gas is guided through the evaporator [A] where it again evaporates to a cold gas and absorbs heat, thus ensuring a cooler temperature inside the cabinet.

NOTE

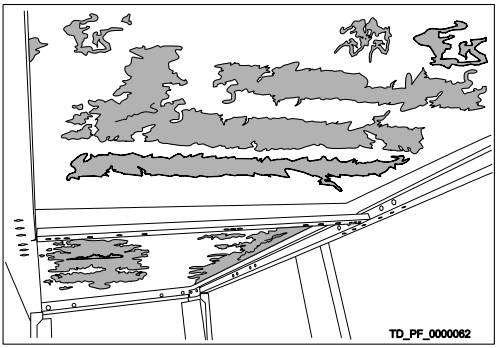
A refrigeration circuit will only work in the optimum way if the flow of heat can reach the evaporator and later be discharged by the condenser without being obstructed. Because of this, the evaporator must not be iced over and the condenser should be free of dirt and dust.



1. Evaporator iced over

Loading the cabinet with goods can quickly lead to problems as warm, humid air is constantly entering the cabinet.

- Limit the duration of loading to a maximum of 15 minutes per hour.
- Only keep the door open which is currently needed for loading.
- Do not load unrefrigerated goods into the cabinet.
- Only goods with a product temperature of -18 °C or colder may be loaded into freezer cabinets.



2. Soiled condenser

Have the condenser or dry cooler cleaned regularly:

- Sweep off the dirt with a soft broom in the direction of the fins.

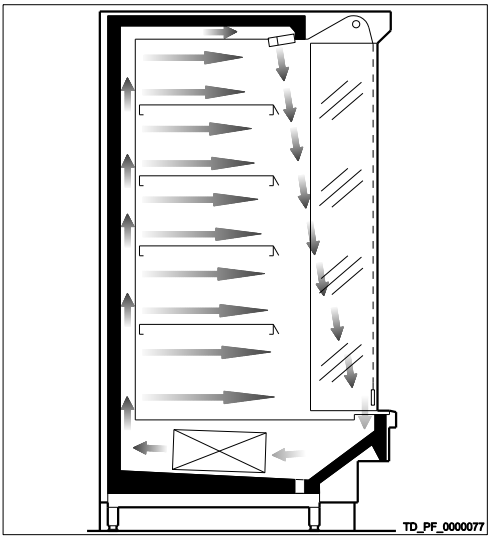
Caution! The fins are sharp. Please wear protective gloves.

- Use a vapor pressure jet with a max. pressure of 50 bar.
- Keep nozzle at a distance of 20 cm.
- Only use neutral detergents.
- Do not bend the fins when using the pressure jet.

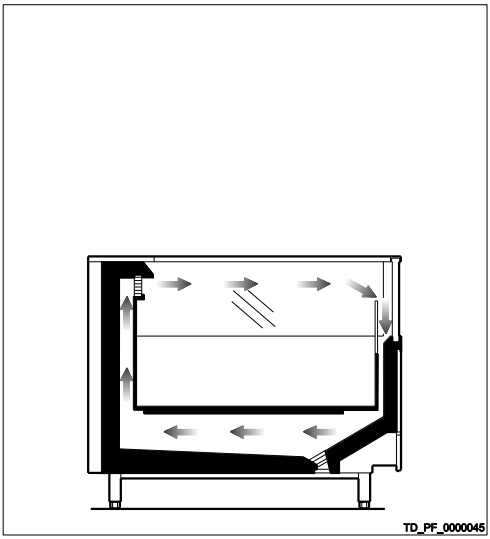
The cleaning of Güntner series "microox" condensers with the designation "X" in the type code is more complex. Please leave it to professionals.

Technology – Air curtain and night blind

The “temperature-assured forced-air cooling” of refrigerated cabinets works by fans circulating air around the evaporator and up. The air then falls into the display shelves. It forms a "curtain" on the products, thus keeping them cool. The air then enters the openings of the return air grilles, which completes the circuit.
In open refrigeration cabinets, such as multidecks without doors or island-sited and wall-sited cases without cover, the cool air passes a large distance without a fixed guide. It can therefore be very easily deflected here, thus interrupting the circuit.
During the night, a night blind can ensure stable circulation, requiring less energy for the air circulation system.



Air circulation system in a multideck



Air circulation system in a case

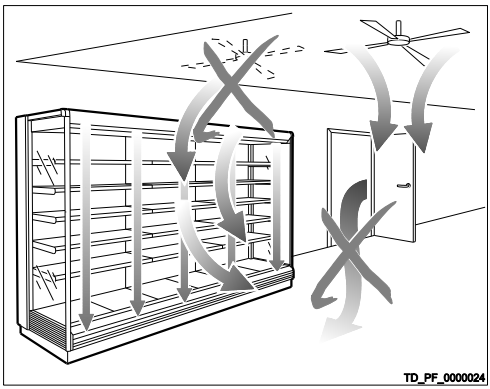
Additional measures for maintaining air circulation:

- Do not stack goods above the stack markers.
- Keep the return air grille unobstructed.
- Regularly clean the discharge air honeycombs.

Technology – Ambient conditions

Changes to the equipment in a store may have an effect on the refrigeration cabinets. For trouble-free operation, the ambient conditions must always be observed.

Drafts and ventilation systems

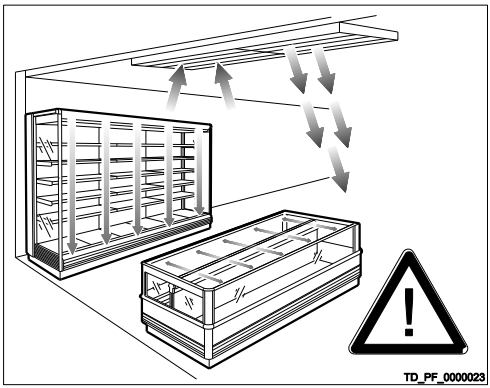


The products in a refrigeration cabinet are covered by a cooling “curtain”. Excessive air movement in its vicinity can deflect this circuit or even cause it to collapse.

Measures

Do not expose refrigeration cabinets to air blown by fans or drafts caused by open doors.

Heating, air conditioners, and powerful light sources



Defined upper temperature and humidity limits apply to the point of installation of refrigeration cabinets. If these values are exceeded, the control cannot maintain the refrigerating temperature, which could cause icing.

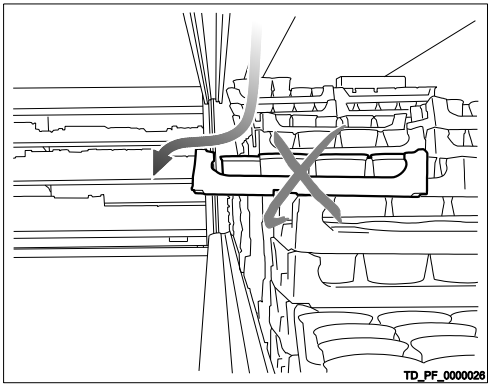
Measures

Do not set up any heat sources near the refrigeration cabinets, such as heaters, air conditioners, or other electrical appliances. Avoid any direct sunlight (e.g. through windows) or powerful light sources (e.g. spotlights).

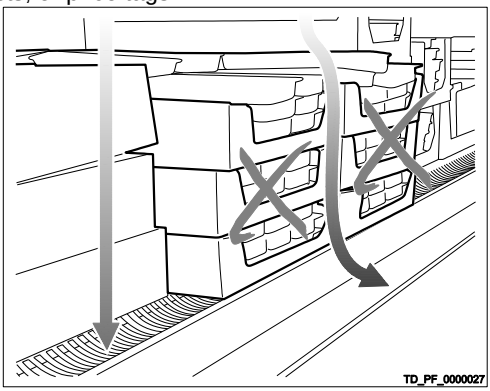
Technology – Return air grille and air honeycomb

Obstruction of the flow of air

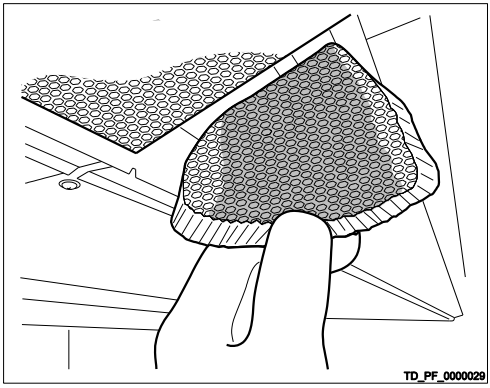
Make sure that the air can flow freely from the air discharge honeycomb to the return air grille and that it is not obstructed by packaging, products, or price tags.



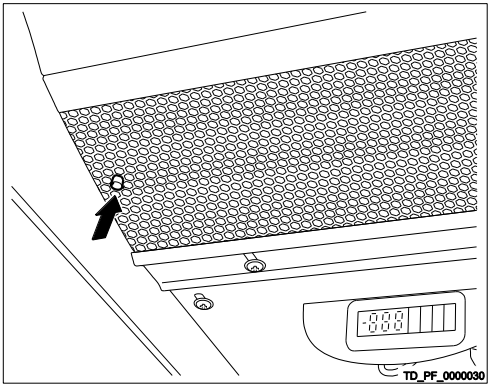
1. Goods stacked too high or incorrectly
This obstructs the flow of air, resulting in increased energy costs and higher product temperatures. In addition, the blind could get caught and tear.



2. Obstructed return air grilles
This will result in increased energy costs and higher product temperatures. The night blind cannot move down completely.

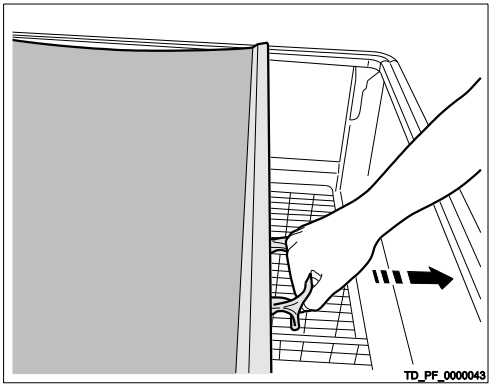


3. Soiled air discharge honeycomb
Especially the dust from vegetables can quickly clog the honeycombs. Pull the air discharge honeycomb out of the bracket and clean it under running water with a mild cleaner.
Do not use any hard mechanical aids.

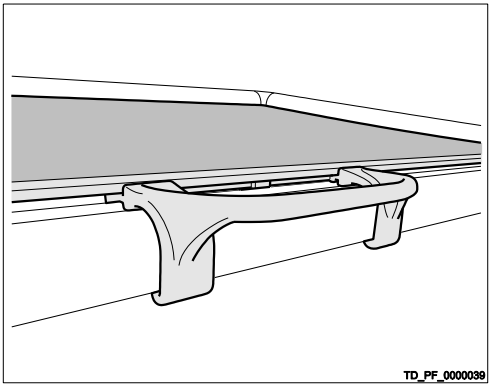


4. Position of the honeycomb
After drying the air discharge honeycomb, re-insert it into the guide. Make sure it is in the correct position. The individual white tubes must always be on the left side or the air honeycomb only fits in the correct position.

Hand-operated blinds

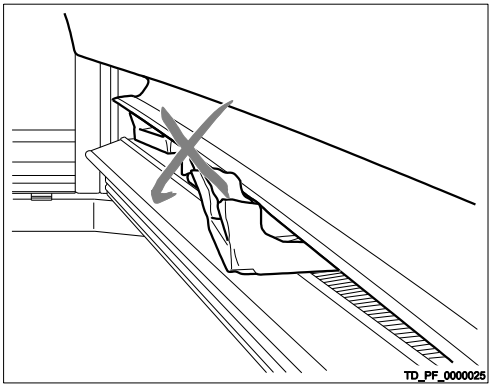


1. Closing
To close the hand-operated blind on island-sited cases and wall-sited cases, grasp the handle and slowly pull the blind without force towards the front handrail.

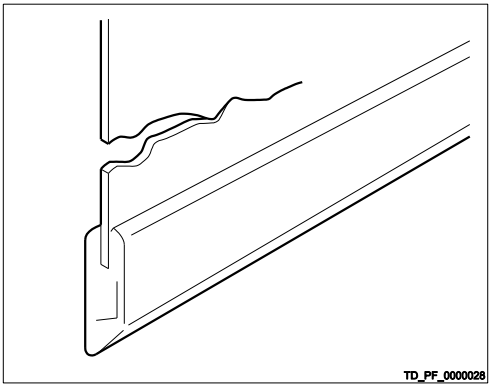


2. Engaging
Engage the handle in the front handrail. Do not let go of the blind before reaching the end position. Releasing it too early could damage the material of the blind.

Malfunctions of night blinds

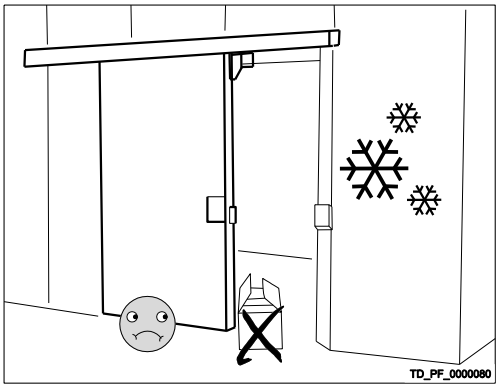


1. Obstruction of the function
Incorrectly stacked products can impair the correct opening and closing of the night blinds. This will impair their functionality.

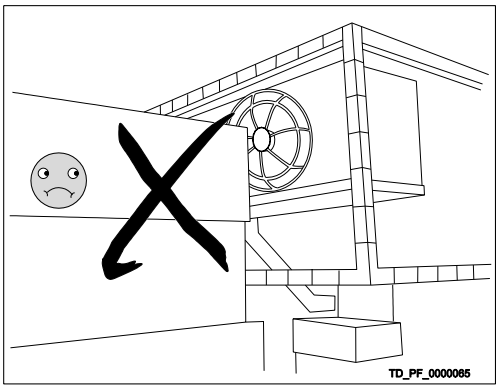


2. Damage to the blind material
Torn blinds will have a reduced energy-saving effect. The same applies to detached blinds. They must be readjusted or replaced.

Cold and deep-freeze rooms and cells



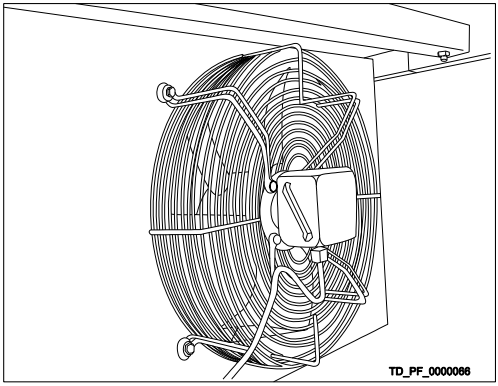
1. Keep cold room doors closed!
Every entry of the cold storage rooms leads to an air exchange and thus to an increase in the temperature and humidity of the cold storage room.



2. Never stack the goods up to the ceiling
or directly in front of the fans. This interrupts the air circulation in the room.

3. Only load with pre-cooled goods!
Cold and deep-freeze rooms are not to be used for the interim storage of uncooled goods, nor for the cooling or freezing of goods.

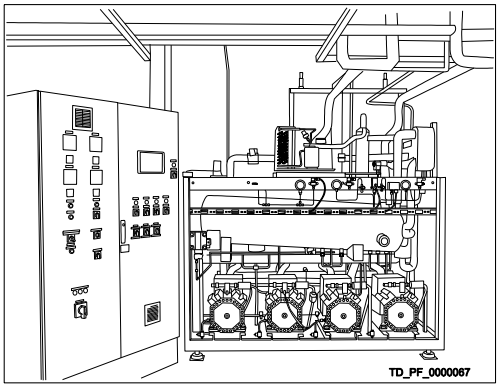
4. Daily cleaning
Dirt and product residues must be thoroughly removed from the cold room every day. They are the perfect breeding ground for microorganisms that threaten your fresh produce.



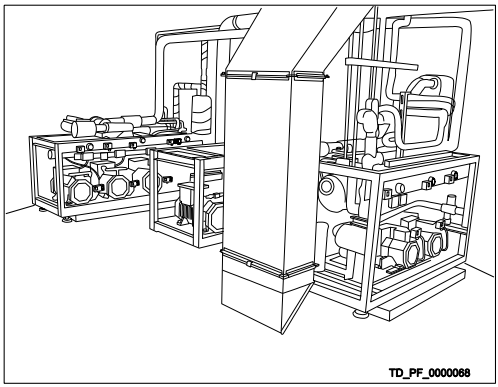
5. Cleaning of floors and walls
For regular cleaning of floors and walls, switch off refrigeration.
Wipe cold rooms with a damp cloth, sweep deep-freeze rooms.

6. Electrical equipment not running?
First, check the control lamps and fuses.
You cannot detect a fault?
Then talk to the electrician on site.
You only need to call service if the electrician detects a defect in the refrigeration system.

Machine rooms

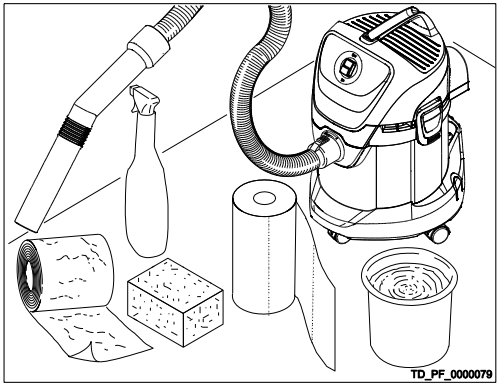


1. No structural changes!
The engine room contains the "heart" of the refrigeration system - the compressors that keep the refrigerant circuit running.
The room has been designed to work perfectly.
Please do not change anything yourself!



2. Not a storage room!
Never allow goods, empties, or cleaning materials to be stored here, not even temporarily.
Otherwise, the combination of confined space and fire mass can easily lead to fatal accidents or fires.

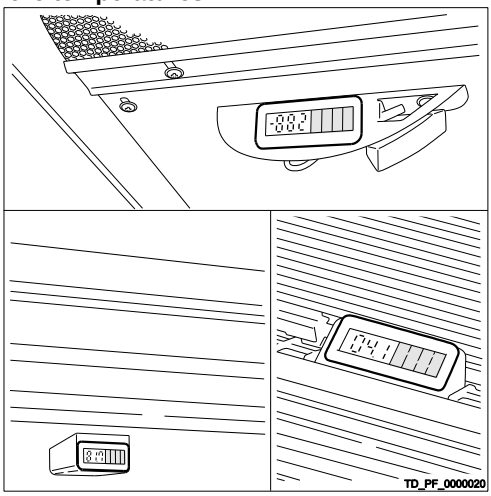
3. Sufficient ventilation!
Never adjust the air supply.
Poor ventilation can lead to damage to the refrigeration unit!



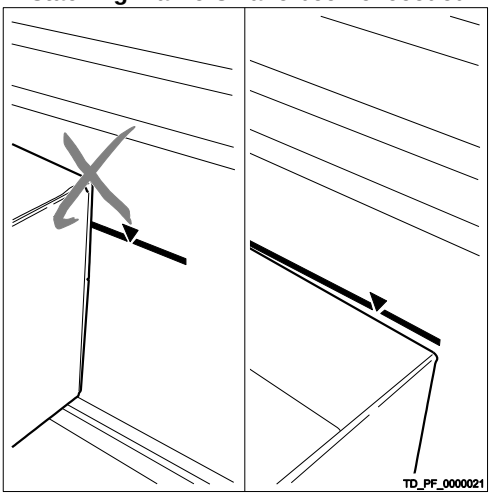
4. Meticulous cleanliness
The machine room should be cleaned regularly and as thoroughly as the commercial area.
Include this activity in the weekly cleaning schedule.

Weekend inspection

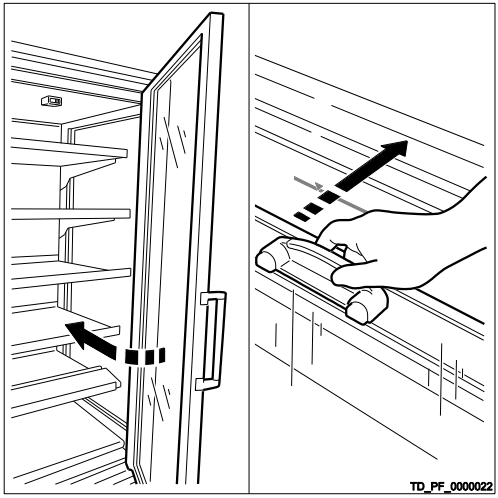
Check
the temperatures.



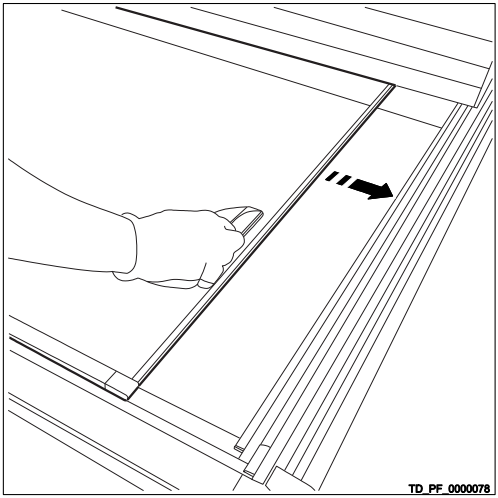
Check
if stacking markers have been exceeded.



Make sure
that doors and sliding covers are closed.

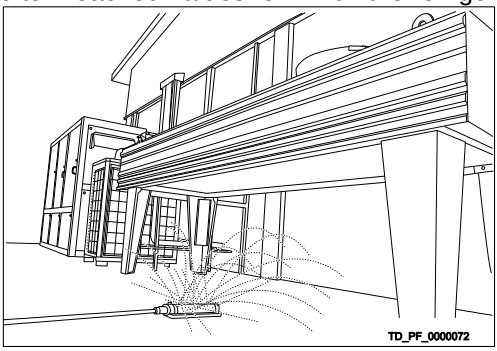


Make sure
that night blinds and covers are used and lids are closed.

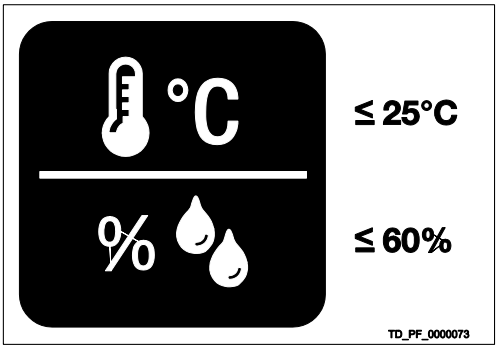


Emergency measures in high summer

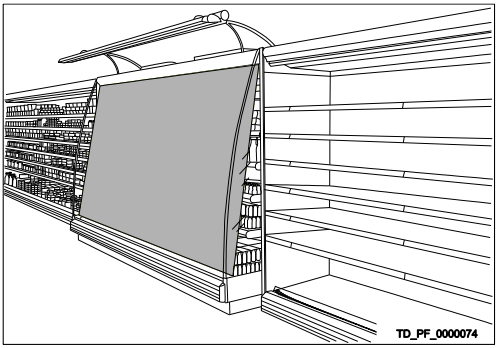
CCR refrigerated cabinets are designed for ambient conditions of up to 25°C and 60% humidity. In recent years during high summer, however, temperatures have often reached values for which the refrigeration systems were not configured.



1. Sprinkle the condenser surroundings
Use a normal sprinkler to humidify the area around the condenser. This can reduce the ambient temperature by up to 4 degrees, which significantly increases the efficiency of the condenser at temperatures above 30°C.
Never sprinkle the condenser itself, which can otherwise calcify very quickly and cause permanent damage.



2. Climate in the shopping area
With the air conditioning system, you can lower the temperature in the store and at the same time dehumidify the air.
Avoid draughts, which ruin these efforts by the incidence of hot, humid air.



3. Night blinds, switching off
The product temperature increases despite adherence to all operating principles (esp. pages 22 to 25)?

- Lower the night blinds on cabinets as these cabinets will need less refrigeration and thus relieve the refrigeration system.
- Empty some cabinets and switch them off to relieve the refrigeration system.

What to do in case of a malfunction

Refrigeration cabinet malfunctions are still possible despite good care and regular maintenance. In such cases, it is important to keep calm. The cause is frequently more innocuous than one might expect. We would like to give you some useful information on how to check the cause yourself in order to avoid any unnecessary service visits.

Case 1:
The refrigeration system is not running.

Check if the power supply is switched on.

If you are sure that your power supply is ok, e.g. because the lights are working, check whether a fuse has blown. Contact a certified electrician for this.

Case 2:
The refrigeration system is running but not refrigerating.

Check if the fans are working in the refrigeration cabinet, on the condenser or on the waste air guide. Also check whether the compressor or the fans are vibrating. If everything is working correctly, refrigerant might have escaped.

Call customer service without delay.

Check the evaporator's fins. To do this, look at the bottom shelf or rear panel. Icy or snowy areas here are a sign of severe icing of the evaporator. It will then need to be defrosted immediately. The icing needs to be removed by customer service.

As long as there is a noticeable refrigerating effect, keep the system in operation. If not, switch it off.

Case 3:
The machine is not running although everything appears to be OK.
Check if defrosting is currently in progress. During defrosting, the refrigeration switches off for 30 to 60 minutes. Determine whether refrigeration is resumed after this time. In rack refrigeration installations, a failure is indicated by warning devices. In this case, contact customer service.

Tips for immediate measures

If you cannot correct the malfunction, call customer service. Some time may pass until the specialist for your refrigerating system arrives. During this time, valuable goods can spoil. We would like to point out what you can do to avoid damage to the goods and to facilitate possible repairs.

Relocation within the store
Immediately transfer the products at risk to a different cabinet of the same temperature class, or move the products into the store's cold room.

Then clean the empty refrigeration cabinet.

Cover the cabinet
Cover the faulty cabinet with a night cover. Close any hand-operated blinds on the multideck, island-sited case or wall-sited case concerned.

Cover the goods with ice
Maintain the temperature, in particular of deep frozen products, by placing plastic bags with ice on the products or in the opening area of the refrigeration cabinet. The ice, which should be dry ice if possible, will delay or reduce the absorption of heat by the products. Using plastic bags makes it easier to quickly remove the ice later on and keeps the products dry.

Relocation outside the store
Take the goods to a partner company, a nearby branch or to the central warehouse. Try to use a refrigerated vehicle for transport. If that is not possible, the products need to be properly packed and insulated.

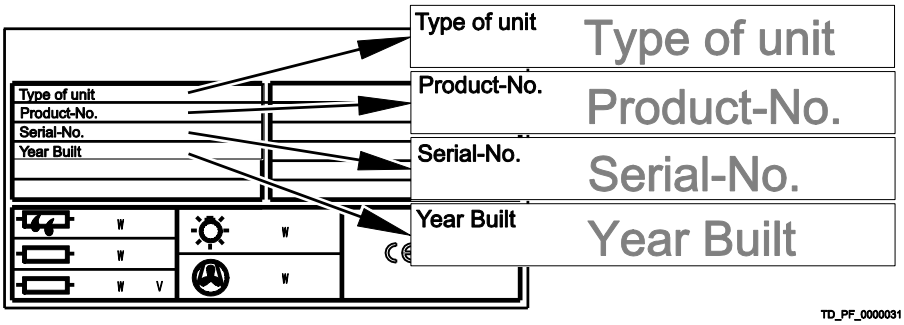
How to report a malfunction

Before you call customer service, make notes of your observations. Every single detail could be helpful. Our customer service specialist might be able to give you helpful information for correcting the malfunction directly by phone. Your notes will always help to make the correct preparations for the customer service job.

Please keep the following information at hand:

Address
What is the exact address of the store with the faulty cabinet?

Product information
Give specific details of the cabinet in question. Use the information on the name plate for this purpose.



Fault information

- What happened? How did you notice the malfunction?
- Which measures have you already taken?
- Are products at risk or already starting to thaw?

Spare parts

Identification and procurement of spare parts is carried out by CCR Customer Service.
Standard parts are usually carried by Customer Service engineers. Bigger parts such as glass components or side walls can be provided at short notice or may possibly have to be manufactured.
In case of direct orders, please give the following information about the refrigerated display cabinet:

- Type of unit
- Product number
- Serial number
- Year of manufacture

Availability of spare parts

CCR guarantees the availability of spare parts for up to 10 years after the end of serial production of the refrigerator.

Identification of spare parts

Identification is performed via an online spare parts catalogue.
Website: https://coolparts.CCR.com

Ordering spare parts

Spare parts can be ordered via the following email address:
espc_parts_identification@CCR.com

Risk of malfunction

Only use original CCR spare parts. Do not use alternative components even if you have been assured they are identical to the original parts. The safety of the cabinet and its faultless functioning cannot be guaranteed if spare parts of other manufacturers are in use.

Customer Service / Warranty

Customer Service

If you need Customer Service, please contact the supplier from whom you purchased the refrigerator. If you need spare parts, please contact Customer Service.

Website: https://www.ccr.com

Warranty

CCR's warranty offers free replacement under the conditions listed below.

Warranty conditions:

- The warranty period is 12 months and begins with the date of shipment.
- Costs other than those for repair and replacement are not covered by CCR's warranty.
- CCR's warranty covers all defects in materials and workmanship. Accordingly, all other defects and damages are excluded.

Our team of over 800 top-trained own service technicians is accessible 24 hours a day, 365 days a year for on-site service. With these resources, CCR proudly cares for more than 20,000 stores under maintenance contracts.

At CCR, service means much more than having a company you can call for maintenance issues and repair alone. Our offerings include a comprehensive, timely preventative maintenance program, remote monitoring services, energy control services and compliance services.

We also provide expert advising to get the most out of your installation during its entire lifetime, and different levels of upgrade and modernization packages focused on reducing costs, energy savings and operational efficiency.

Whether it's on-site or remotely, repair or analysis, new installation or upgrade, you can count on CCR service to get the most from your refrigeration systems.

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GREEN & COOL