

Translation of the original



# Operating Manual

## REFRIGERATED DISPLAY CASES





## *Information about this Operating Manual*

This Operating Manual applies to built-in units of the types refrigerated display cases for assisted service, insulated glass display cases and self-service display cases irrespective of the different possible configurations regarding freestanding and Gastronorm dimensions. Built-in units must be covered before they are put into use taking account of the technical requirements.

The options illustrated in this Operating Manual show the majority of configurations. Due to custom designs, many other configurations of our products are also possible.

### **NOTE**

Please observe possible supplementary sheets to this Operating Manual and declaration of conformity.  
For further information, please contact the manufacturer.

## *Operating Manual and installation instructions*

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## 1. GENERAL INFORMATION AND SAFETY

### 1.1. FOREWORD

Thank you for choosing one of our appliances. This product incorporates the highest technical standards with practical operating convenience.

With your unit, you have a product which is state of the art with regard to operating safety for the start-up personnel, the operator and the user.

The unit can constitute a hazard if used incorrectly or improperly. We point out any dangers in Chapter 1 and by means of safety information throughout the document.

The safety information and instructions in this document must be complied with. All persons who install the unit, put it into operation and operate it must have this document available, and must have read and understood it.

Our unit requires correct installation, start-up, operation and care. Non-compliance with the points mentioned above can lead to warranty, guarantee and product liability exclusions, but also to damage and safety hazards.

Always keep this document complete and in a perfectly legible condition. If necessary, request this document immediately from your supplier or operator, or download it from the manufacturer's website at [www.ideal-ake.at](http://www.ideal-ake.at).

#### NOTE

The manufacturer is not liable for technical or printing-related flaws in this document. Likewise no liability is assumed for damage that is directly or indirectly attributable to the delivery, performance or use of this document.

#### NOTE

The manufacturer reserves the right to change specifications and the design at any time as part of continuous product improvement.

#### NOTE

Please observe possible supplementary sheets to this Operating Manual and the related declaration of conformity. For more information please contact the manufacturer.

## 1.2. FLEXIBILITY



### CONFIGURATION OPTIONS

COLD

GREEN LINE

**COLD configuration:**

Refrigerated display cases with tempered single-pane safety glass enclosure

**GREEN configuration:**

Refrigerated display case with insulating tempered safety glass enclosure



### DESIGN (appliance photos as examples of closed display cases)



Curved



Square



Inclined \*)



PRO square



PRO curved

\*) for insulated-glass display cases on request



### SIZES IN USE



(2 to 5 trays up to a maximum of 150 mm)

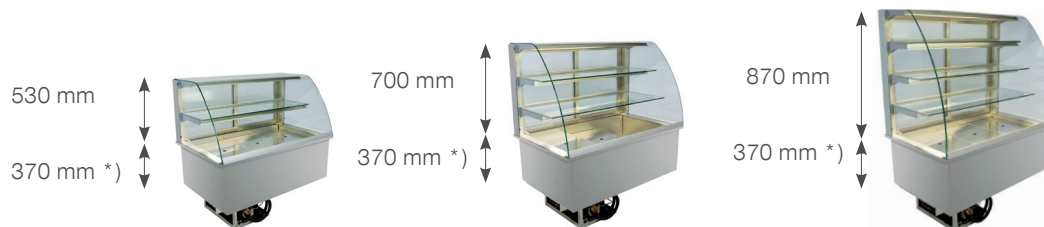


Gastronorm



Euronorm

(1 to 4 baking trays)

**HEIGHTS** (appliance photos as examples of closed display cases)

\*) optional flat 195 mm inner well possible

**INSTALLATION VARIATIONS** (appliance photos as examples of closed display cases)

Drop-in

Slide-in

Stand-alone

Countertop

PRO

**NOTE**

In combinations of different products, units with pedestals (height-adjustable feet) must be fully covered by the customer.

### 1.3. SCOPE OF APPLICATION

This Operating Manual applies to the following models as well as assignable custom models (self-contained or remote refrigeration):

#### Model designation:

Series **AKV-i** ddd yy  
 Series **BAK L** c-ddd-ee-f  
 Series **BAK** bc-ddd-ee-f xx yy zzz  
 Series **BAK KSL** bc-ddd-ggg-f  
 Series **BRILLANT KR** ddd-f  
 Series **Cake Tower** mmm-f yy  
 Series **COOL BOTTLE** ddd-f  
 Series **Cold Flaps** ee-f  
 Series **Delicious Sushi** ddd-ggg-mmm-f  
 Series **FLANTASTIC** bc-ddd-f  
 Series **GASTRO** aabc-ddd-ee-f xx yy zzz  
 Series **GASTRO A** c-ddd-ee-f  
 Series **GREEN A** c-ddd-ee-f  
 Series **GREEN** bc-ddd-ee-f xx yy zzz  
 Series **GREEN FSV** bc-ddd-ee-f xx yy zzz  
 Series **GREEN KSL** bc-ddd-ggg-f  
 Series **GREEN L** bc-ddd-ee-f  
 Series **Cooling Tower** aabc-ddd-ee-ggg-f xx zzz  
 Series **SALAD BAR** h k-f  
 Series **SNACKLINE Cool** bc-ddd-ee-f  
 Series **Sushi Tower** mmm-f yy  
 Series **TROPICAL FLAPS** ddd-ee-f  
 Series **VARIO PRESENTER VP** ddd-f  
 Series **VARIO FOOD COUNTER Cool** ddd-f

#### Abbreviations:

**aa:** Empty or HC (high capacity)  
**b:** G (closed on customer side) or O (open) or A (countertop)  
**c:** E (square) or S (10° inclined) or R (curved)  
**ddd:** Number between 50 and 400 (unit width)  
**ee:** Empty or number between 45 and 99 (height of glass enclosure)  
**f:** E (self-contained) or Z (remote refrigeration)  
**ggg:** Number between 50 and 200 (unit height)  
**h:** EN (Euronorm) or GN (Gastronorm)  
**i:** S (compressor on the side) and U (compressor below)  
**k:** Size specification "1/1" "to 6/1"  
**mmm:** Number between 53 and 100 (unit depth)  
**xx:** RG (back wall closed)  
**yy:** Empty or EC (Easy Change) or KL (flaps)  
**zzz:** Empty (drop-in installation) or PRO (for overhanging installation on the customer side)

#### NOTE

The dimensions and weight specifications of the units are order-based and vary depending on the requirements. For more detailed information, please contact the operator, your supplier, or our support team (see Chapter 1.5).

#### NOTE

Please note that at least two persons are required to lift the unit, and at least four persons are needed as of a certain size (> 60 kg) or "3/1" sizes of the units. Enlist the help of another person for spotting for the installation.

## 1.4. WARRANTY AND LIABILITY

Our General Terms and Conditions of Business and/or customer-specific payment and delivery conditions apply. Claims under warranty and for personal injury and property damage are not possible if they are attributable to one or more of the following reasons:

- Improper use of the unit
- Transport damage
- Operation of the unit with defective safety components or with safety components that have not been installed properly and are not functional
- Non-compliance with the instructions IN this Operating Manual with regard to the correct installation, start-up, operation, maintenance and assembly of the unit
- Unauthorised mechanical or technical changes to the unit
- Inadequate maintenance of used and wearing parts
- Unauthorised repairs
- Use of aggressive or caustic cleaning agents
- Forces of nature or force majeure

Also excluded from liability are:

- breakage of glass, breakage of plastic components, seals or lighting fixtures
- Any damage that is demonstrably attributable to incorrect setting of the cooling controller by an unqualified person.
- Damage or malfunctions due to incorrect assembly of the unit after cleaning, service or maintenance.

### NOTE

Units with the natural refrigerant propane (R290) must be installed in a safe environment that meets the requirements of the guidelines. Only electrical devices that are approved under the applicable ATEX Directive may be used inside the unit. The operator shall be responsible for this.

### NOTE

Warranty claims may lapse if the information provided is not observed.

### NOTE

If any malfunctions occur, switch the unit off and immediately contact your supplier or the manufacturer.

## 1.5. MANUFACTURER / SUPPORT

If you have any technical questions, contact your supplier or the manufacturer:

**AKE Ausseer Kälte- und Edelstahltechnik GmbH**  
Pichl 66  
A-8984 Bad Mitterndorf  
T: +43 3624 21100 - 0  
F: +43 3624 21100 - 33  
E: office@ake.at

### NOTE

When contacting your support, have the serial number of your unit ready. You can find this on the rating plate or the "AKE Certified" plate (see Chapter 1.7).

### 1.5.1. FURTHER CONTACT DETAILS FOR ENQUIRIES/REPAIR

Technical support (phone)	+43 3624 21100 – 0
Technical support (email)	office@ake.at
Orders / spare parts (email)	webshop@ake.at
Webshop / spare parts (online catalogue)	<a href="https://shop.ideal-ake.at/en/spare-parts-shop/">https://shop.ideal-ake.at/en/spare-parts-shop/</a>
Availability of spare parts	8 years after the last piece of the particular model group was placed on the market
Minimum warranty period	See contract agreement / General Terms and Conditions of Business of AKE
Information about the model (EPREL database)	<a href="https://ec.europa.eu">https://ec.europa.eu</a>

## 1.6. *SYMBOLS AND SIGNAL WORDS USED*

### **DANGER**

**Imminent danger to the life of persons**

Safety information with the DANGER signal word indicates imminent danger to the life and health of persons. Failure to observe these safety instructions can lead to death or serious damage.

### **WARNING**

**Danger of personal injury (serious injuries) and possibly property damage as well**

Safety information with the WARNING signal word indicates a dangerous situation that can have an impact on the health of persons. Failure to observe these safety instructions can lead to serious injuries.

### **CAUTION**

**Danger of personal injury (minor injuries) and possibly property damage as well**


Safety information with the CAUTION signal word indicates a possible dangerous situation. Failure to observe these safety instructions can lead to minor or slight injuries.

### **NOTE**

**This symbol with the comment NOTE indicates supporting information** for installation, operation and/or maintenance and repair. Failure to observe this information can lead to property damage.



## 1.7. IDENTIFICATION

<b>AKE</b>		AKE Ausseer Kälte- und Edelstahltechnik GmbH Pichl 66, A-6984 Bad Mitterndorf www.ideal-ake.at	
Serial-No.:	<input type="text"/>		
<b>TYPE:</b>			
Voltage:	220-240 V AC ~ / 50 Hz		
Rated current:	n.a. A		
Power con.:	W		
Ref.Cap.:	W at VT- 10 °C		
Refrigerant:	R 134a / kg		
CO <sub>2</sub> e / GWP:	3 according to DIN ISO 23953-2		
Climate class:			
Production year:	n.a. W		
Additional heating:	PS 30 bar, tightness proved		
CE			

The unit is clearly identified by the content of its rating plate. The rating plate is located on the cover of the controller or on the base, close to the control box.

Stückprüfung gemäß EN 60335-1:2012		<b>AKE</b>	
SN:			
WA:			
Datum: 16.03.2020			
Prüfer: 00327			

The unit is also identified by the AKE mark of conformity. The AKE mark of conformity is located on the base or control unit (depending on the model).

### NOTE

General technical specifications can be found in Chapter 2.2. Due to the large variety of models, additional technical details are provided on the rating plate.

## 1.8. GENERAL SAFETY INSTRUCTIONS

The following safety provisions and obligations apply generally when working with the unit:

- Covers provided with warning signs may only be opened by authorised specialists.
- The bottom and back of the unit must not be cleaned with a water jet.
- The protective covers and protective devices may not be removed, otherwise there is a risk of injury.
- The controller may only be opened by an authorised specialist.
- Air flows in the area of the unit from improperly installed ventilation (e.g. air conditioners) or draughts must be prevented in order to ensure perfect operation of the unit.
- The ambient temperature must not exceed +25 °C, and the relative ambient humidity must not exceed 60%.
- The unit is not suitable for operation in entrance and outdoor areas.
- The unit must be protected against direct sunlight.
- The products being presented must be pre-cooled and placed into the unit with a core temperature of the desired temperature class or colder.
- No loose sharp objects must be kept in the unit, otherwise there is a risk of injury.
- All glass enclosures must be treated with the necessary care in order to prevent injuries from breaking glass.
- Components and service fluids may only be replaced with original parts.
- Do not store any combustible or explosive products in the unit or close to it.
- During the assembly and/or installation, the unit must be covered adequately so that no contact with live parts is possible.
- The installation environment must be robustly constructed in order to withstand the strains of everyday operation.
- It must not be possible to remove any coverings that are mounted during the installation without tools.
- After cleaning, service or maintenance, the unit must be checked for loose connections, shearing points and damage. Remedy any deficiencies that are discovered immediately. Do not use the unit for any non-designated purposes.
- When topping up refrigerant, only the refrigerant stated on the rating plate (identification plate) may be used.
- Topping-up may only be performed by authorised specialists. The filling quantity stated on the rating plate must be followed.
- The unit must be installed away from heat sources in a low-dust and well-ventilated environment.
- Pushing or moving the unit is not permitted. Units must be lifted for transport or relocation (depending on the model).

### NOTE

Technical changes to the unit may only be carried out by authorised specialists. This applies in particular to work on the refrigeration system, electrical installation and mechanics.

**Any change must be authorised by your supplier or the manufacturer.**

### NOTE

The unit must not be operated in the immediate vicinity of devices that generate heat or steam. This can result in compressor damage, the formation of condensate on the glass, temperature control problems in the cooling area etc.

## 1.9. SPECIAL SAFETY INSTRUCTIONS FOR UNITS WITH PROPANE (R290) REFRIGERANT

The following applies to units with propane (R290) refrigerant:

- During installation or when combining with devices and/or electrical and refrigeration components that do not correspond to the respective guidelines for an R290, the unit must be covered and demarcated from the adjoining units/components.
- The refrigerant circuit may be opened and the refrigerant extracted exclusively in a well-ventilated room or outdoors. Activities must be carried out exclusively by authorised, qualified specialists who are trained for the refrigerant propane (R290).
- Work on the refrigeration system must be carried out exclusively by authorised, qualified specialists who are trained for the refrigerant propane (R290).
- Only electrical devices that are approved under the applicable ATEX Directive may be used inside the unit.
- The cooling circuit and refrigeration system of the unit must not be damaged. This can lead to an unintended exothermic reaction of the ignitable gas/air mix.
- The ventilation openings of the cladding of the unit (including accessories) must not be blocked or covered. In the event of a leak in the refrigeration system, this can lead to an unintended exothermic reaction of the ignitable gas/air mix.
- The ventilation openings on the front and back side of the appliance must be kept free. The minimum distances to other units must be complied with. Ensure that the air circulation is unobstructed. In the event of a leak in the refrigeration system, a blockage of the air circulation can lead to an unintended exothermic reaction of the ignitable gas/air mix.
- According to DIN EN 3787-1, the refrigerant propane (R290) is combustible and explosive (refrigerant group A3).
- The refrigerant propane (R290) can create an ignitable gas/air mix, which can trigger an exothermic reaction in a critical mixing ratio with air and in combination with a corresponding ignition energy (ignition source).
- The specified filling quantity on the rating plate must be observed. Overfilling may result in damage to components of the refrigeration circuit.

### CAUTION

#### Use/installation of units with propane (R290) as a refrigerant in closed rooms

Units with propane (R290) refrigerant have a maximum filling quantity of  $\leq 150$  g.

This filling quantity results in a minimum requirement (in accordance with Kälteanlagenverordnung [Refrigeration Plant Ordinance] (KAV) and EN 378-1) for the local conditions on the installation site:

Limit value  $[\text{kg}/\text{m}^3] \times \text{free room volume } [\text{m}^3] = \text{maximum refrigerant filling weight } [\text{kg}]$ .

$45\% \times \text{LFL}^* = 0.0141 [\text{kg}/\text{m}^3]$

Ambient temperature:  $25^\circ\text{C}$

Height above sea level: up to 1750 m

\*LFL.... lower flammable limit in accordance with EN378-1 Table E

**Manufacturer's recommendation for the installation site: min.  $12 \text{ m}^3$  room volume per unit** (for maximum refrigerant filling quantity of  $\leq 150$  g).

The data and requirements listed must be checked and complied with by the operator in compliance with all safety standards and workplace evaluations.

### 1.10. INTENDED USE

The units are specifically designed for installation in food counters and serving counters, as well as for single-unit or multi-unit installation (e.g. unit island). They are suitable for the refrigeration and presentation of food products and beverages at controllable temperatures (see catalogue and website). The units serve only to keep food cold, but not to cool it down.

#### *Ensure the following before switching on and off:*

The units must be operated in complete condition. All existing covers and doors must be mounted and closed during operation. The covers and doors may only be opened briefly for inserting and removing products. The unit is a built-in unit, and must either be closed on all sides in the base or be built in. The stability of the unit must be guaranteed and tipping prevented by correct installation in accordance with Chapter 2.4.

The units listed are designed for climate class 3 in accordance with DIN EN ISO 23953. To save energy, we recommend switching the units off when they are not in use outside business hours. Wait until the desired temperature is reached before stocking the units.

#### NOTE

It is mandatory for all the manufacturer's specifications to be complied with. Among others, these specifications are the ambient temperature, the quality of the installation environment and the connections that must be used.

Use in accordance with the intended purpose also includes observing the installation instructions and Operating Manual, as well as complying with the inspection and maintenance conditions. Any other use requires the written approval of the manufacturer. Improper use can endanger persons and result in damage to the system/unit.

The unit is operated via a control element, which may only be used after reading and understanding the documentation. When the unit is stopped or taken out of operation, the points stated in Chapter 1.8 must be complied with. If the unit uses propane (R290) as a refrigerant, the points stated in Chapter 1.9 must also be complied with. Furthermore, claims in respect of liability and warranty claims are excluded in the event of non-compliance with proper use. The unit may only be operated under the conditions of use described in the Operating Manual.

## 1.11. TARGET GROUP AND PRIOR KNOWLEDGE

This documentation is intended for operating personnel in the area of gastronomy (e.g.: hotel chains, restaurants, catering) and for the installation personnel. The unit may only be operated by trained personnel who are to be defined by the operator.

Ensure that the personnel operating the unit meet the following requirements:

- Operators must not have any visual impairments, as they must be able to read the safety instructions on the unit and the information in the documentation without any problems.
- Reading and understanding this documentation is a requirement. The currently applicable regulations on occupational safety and accident prevention must be complied with.
- Only instructed personnel may operate and clean the appliance. Only qualified personnel who have been authorised by the manufacturer may perform maintenance and repair work.
- The locally applicable commercial and safety regulations must be followed without fail.

The following measures must be carried out by the operator so that the knowledge that is required to operate the unit is acquired:

- Product training
- Regular safety instruction

This unit may be used by children aged 8 years and over, and by persons with reduced physical, sensory or mental capabilities or a lack of experience and knowledge, provided they are supervised or have been instructed in respect of safe use of the unit and the dangers resulting from it. Children must not play with the unit. Cleaning and maintenance must not be carried out by children without supervision.

### 1.12. *REASONABLY FORESEEABLE MISUSE*

The units must not be used as follows:

- No food may be cooled down by means of the unit. The unit must not be filled with food that exceeds the stipulated core temperature (+5 °C).
- Operation outside the specified temperature range is not reliably possible. See the catalogue and website.
- No ventilation slits may be blocked or covered. Food must not touch the walls of the appliance or block the air flow.
- The unit must not be operated outside of buildings. Protect the unit against direct sunlight.
- Units for food such as seafood, fish and muscles etc. must be designed with a higher grade of stainless steel (V4A or AISI 316) or be upgraded with suitable GN trays.
- Glass covers and shelves must not be used as climbing aids or for storage.
- Only authorised specialists may check the refrigeration circuit for refrigerant leaks. Any instructions for using propane (R290) in accordance with Chapter 1.9 must be complied with.

### 1.13. *INFORMATION REQUIREMENTS (EU) 2019/2024, (EU) 2019/2015*

The information provided serves to meet the information requirements in accordance with Regulation (EU) 2019/2024 – Annex II, 3:

- a. The temperature of each unit has been set in accordance with the technical requirements specified by the factory to ensure optimal food storage. These settings should be maintained.
- b. Changes to the temperature setting may lead to spoilage of the products placed in the unit.
- c. Not applicable
- d. Not applicable
- e. See Chapter 2.4  
See Chapter 4
- f. If the condenser coil is not cleaned once a year, this will lead to a considerable reduction in the efficiency of the unit.
- g. See Chapter 1.5.1
- h. See Chapter 1.5.1
- i. See Chapter 1.5.1
- j. See Chapter 1.5.1
- k. See Chapter 1.5.1

The information provided serves to meet the information requirements in accordance with Regulation (EU) 2019/2015 – Annex V.2.:

Listed products from Chapter 1.3 contain the following light sources (if installed):

LED lamps (2700 K): energy efficiency class E

LED lamps (3000 K): energy efficiency class D

LED lamps (4000 K): energy efficiency class C

### 1.14. RESIDUAL DANGERS

Even with maximum care being taken during the design and construction of the units, and safety-relevant circumstances being taken into account, there can still be residual dangers that were evaluated by means of a risk assessment. This chapter lists all the residual risks and safety instructions from the risk assessment.

#### WARNING

**Ignition danger from electric sparks or sparks caused by friction, and from hot surfaces**

With refrigerant R290, an explosive gas/air mix can be created as a consequence of possible leaks in the refrigeration system. The sparks from a vacuum cleaner or other electrical device may unintentionally ignite this mixture. No hot surfaces may be present or produced. For cleaning, maintenance and service work only use devices that comply with the applicable ATEX Directive.

#### WARNING

**Danger of crushing when inserting or repositioning the units in the counter opening/cut-out**

When inserting units, be aware of the danger of crushing, including for third parties. Manual lifting of the units must be carried out by at least four persons. These persons must be strong enough to be able to carry the units. Pushing or moving the units is not permitted. Call in another person for spotting if necessary. Wear protective gloves and safety shoes for installation and loading work.

#### WARNING

**Danger of crushing and danger from falling objects when handling/aligning/positioning heavy individual components**

When handling heavy objects, be aware of possible crushing dangers, including for third parties. If possible, use both hands when handling heavy objects. Get another person to help you if necessary. When handling/aligning/positioning heavy individual components, protective gloves and safety shoes must be worn.

#### WARNING

**Danger of colliding with the units during installation, cleaning and maintenance work**

Be aware of possible dangers of colliding with the unit.

#### WARNING

**Danger of crushing/cutting when handling the evaporator box**

When lifting and reinserting the evaporator box, use the metal rod provided for this. When lifting the evaporator box, ensure that it is lifted until the locking tabs snap into place automatically. Hold the evaporator box firmly on the metal rod or in position before unlocking.

#### WARNING

**Danger from leaking refrigerant from a damaged evaporator**

No sharp objects may be used for cleaning the evaporator fins. The evaporator fins may only be cleaned using products specified by the manufacturer.



## WARNING

### **Danger of crushing/cutting when moving the sliding or hinged doors**

When opening and closing the sliding doors, use the handles provided for this. When closing the sliding doors, do not reach between the side sections of the sliding door and the unit. Do not reach into the area between the underside of the angle trim and the top edge of the sliding door. Ensure that the angle trim is properly attached and screwed together. This also applies to hinged doors. Be very careful when handling glass.

## WARNING

### **Danger of crushing/cutting when moving the glass cover or front glass**

When lifting the glass cover, use the small handle strip provided for this. At least two persons are needed to open the glass cover or front glass. Close the glass cover and front glass carefully and watch out for dangers of crushing by the glass cover and front glass. Be very careful when handling glass.

## WARNING

### **Various dangers during the disposal of various refrigerants**

When disposing of refrigerants (propane, R404A, R134A etc.) wear protective gloves and safety glasses. Working with open flames is forbidden while disposing of refrigerant. Dispose of the refrigerant properly and in an environmentally compatible way. The laws of the specific country must be observed.

## WARNING

### **Various dangers during the disposal of damaged parts/components**

When disposing of damaged parts/components, wear protective gloves. Dispose of damaged parts/components properly and in an environmentally compatible way. The laws of the specific country must be observed.

## WARNING

### **Electrical dangers**

Ensure that the mains connection of the unit is not damaged. In the event of damage, it must be replaced by an authorised specialist in order to prevent hazards.

## CAUTION

### **Risk tripping hazard in the entire area of the unit**

Pay attention to possible tripping hazards from cables / lines laid on the floor. The operator must ensure, that all lines and cables are laid / installed safely.

## CAUTION

### **Danger of slipping due to condensate leaks**

Be aware of the possible danger of slipping in the area around the unit due to leaking liquids. During the installation, ensure that the siphon is installed properly and does not leak.

## CAUTION

### **Danger of crushing when sliding in the manual condensate tray (depending on the model)**

When sliding in the manual condensate tray use the handle strip provided for this. Ensure that the condensate tray is completely pushed into the compressor compartment.

### 1.15. PERSONAL PROTECTIVE EQUIPMENT

The following protective equipment must be worn for installation, dismantling and maintenance work:



Wear safety shoes for installation and loading work.



Wear safety glasses when disposing of the refrigerant and damaged parts/components.



Wear safety gloves in accordance with EN 378-3 during assembly, loading and activities involving refrigerant.



Wear a hardhat for installation, lifting and loading work.

#### NOTE

When cleaning the unit, wear the corresponding protective equipment stipulated by the manufacturer of the cleaning agent being used.

## 1.16. TRANSPORT AND PACKAGING

### NOTE

All units must only be transported and stored in the position of use (horizontal). Units with propane (R290) or other combustible and/or explosive refrigerants must be transported and handled observing the points stated in Chapter 1.9. All the safety instructions in Chapter 1.8 must also be complied with.

The design of the packaging is dependent on the quote issued, and is designed individually by agreement. By default the units are transported with wood cladding which protects the units against major damage. Glass shelf supports are secured on the left and right with L-shaped transport locks. Components made of glass are wrapped additionally with packaging material. Moving parts and glass shelves are provided with an additional covering of packaging material. All parts are positioned and taped safely for transport inside this wood cladding.

### ! WARNING

#### **Danger from falling objects and suspended loads during transport of the units and their components**

Use adequately dimensioned lashing and clamping devices. When securing the load, observe the permissible vehicle provisions. The statutory traffic laws of the specific country must be obeyed. Any load-lifting equipment that is used, e.g. forklifts, must be adequately dimensioned. During lifting processes, ensure that nobody is underneath the loads being transported while raised. The unit may only be transported upright (in the position of use).

### ! WARNING

#### **Danger of crushing against stationary structural elements (walls, other machines) when positioning the units, as well as danger of crushing between the pallet and ground when putting the unit down**

Keep yourself and other persons away from the hazardous area. Call in another person for spotting if necessary. When putting units down, be aware of the danger of crushing for third parties. Wear protective gloves, safety shoes and a hardhat for installation and loading work.

### ! WARNING

#### **Danger from falling objects when lifting and unpacking the units**

When removing the wood cladding, be aware of possible dangers from wooden parts which might snap out. Get another person to help you if necessary. The unit must be lifted with suitable load-lifting equipment, for example a forklift. Manual lifting of the unit must be carried out by at least four persons, who must be sufficiently strong. Wear protective gloves, safety shoes and a hardhat for installation and loading work.

In the event of a return shipment, the unit must be packed in the original packaging or in the same way, in a suitable manner for transport. Furthermore, the unit must be delivered unused, undamaged and complete. The return shipment must be commissioned and paid for by the customer. Information on the correct disposal of the packaging material can be found in Chapter 1.17.

### NOTE

All units must only be transported and stored in the position of use (horizontal). To ensure that damage caused during loading, transport and unloading is traceable, all units are equipped with a "ShockWatch® 2". This tool makes it possible to determine at which point of the delivery chain a product was damaged, in order to clarify transport damage. Information on the ShockWatch® concept is stored in the QR code (see Chapter 4.1) and on the manufacturer's website.

**1.17. DISPOSAL****! WARNING****Various dangers when disposing of refrigerants**

When disposing of refrigerants (propane, R404A, R134A etc.), wear protective gloves and safety glasses. Working with open flames is forbidden during the disposal of refrigerant. Dispose of the refrigerant properly and in an environmentally compatible way. The laws of the specific country must be observed.

**! WARNING****Various dangers during the disposal of damaged parts/components**

When disposing of damaged parts/components, wear protective gloves. Dispose of damaged parts/components properly and in an environmentally compatible way. The laws of the specific country must be observed.

**NOTE**

Please note that some components of the unit are electronic parts. Therefore it is not possible to dispose of them using public waste management companies. Check your obligations in accordance with the national WEEE provisions. Sorted disposal is always mandatory.


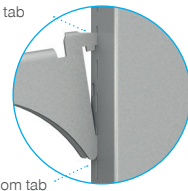
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## 2. TECHNOLOGY

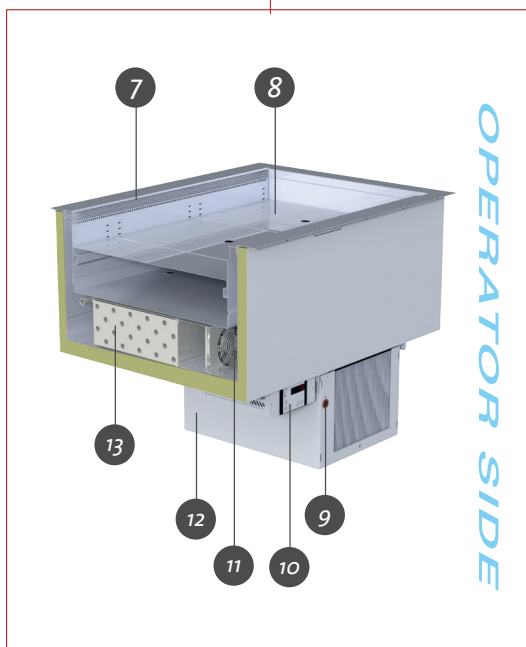
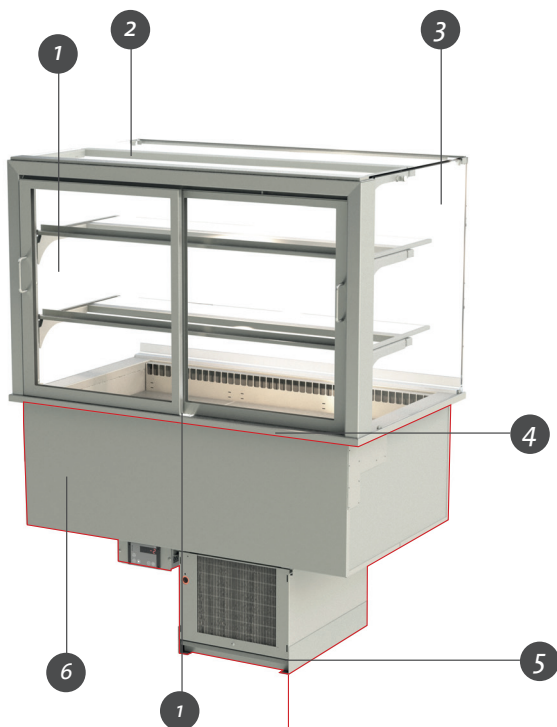
## 2.1. EXPLANATION OF TERMS FOR COMPONENTS

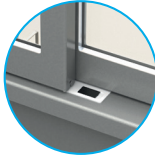

## CUSTOMER SIDE



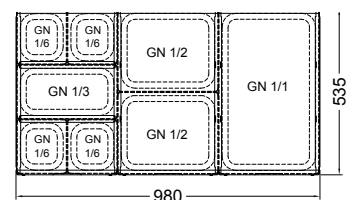
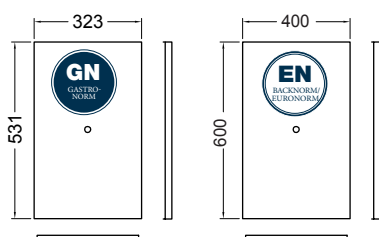
No.	Name
1	Frame support
2	Night roller blind including. roller blind box (optional) (depending on the model, in mechanical or electric version with incremental settings)
3	Glass cover (with handle strip, depending on the model with gas pressure damper)
4	Glass shelf (level 2)
5	Glass shelf (level 1)
6	<p>Front glass (with handle strip, depending on the model with gas pressure damper) different configurations possible:</p> <ul style="list-style-type: none"> <li>- Easy change function (choice of open or closed operation)</li> <li>- Removal flap (soft-close)</li> </ul>  <ul style="list-style-type: none"> <li>- Removal flap (acrylic)</li> </ul>
7	Tilting structure for front glass (depending on the model)
8	<p>Shelf support Options:</p> <ul style="list-style-type: none"> <li>- choice of inclined/straight position by hooking in the top tab</li> <li>- choice of height adjustment <math>\pm 25</math> mm by hooking in the top and bottom tab</li> </ul> 
9	Complete base

# OPERATOR SIDE



No.	Name
1	Sliding doors with grip and lock <div>  <p>Options: - Hinged doors (depending on the model) with Lexan® air ducts</p>  </div>
2	Lighting support (including lamp)
3	Side glass, right
4	Cutting board (removable) (depending on the model)
5	Defrosting tray For options, see Chapter 2.2.
6	Base with cake drawer or drawer (depending on the model)
7	Air baffle plate (including hook-in strips)
8	Base deck <sup>1</sup>
9	Inspection glass (not for propane R290)
10	Controller (including display)
11	Evaporator fan
12	Compressor compartment <sup>2</sup> (including condensing unit)
13	Evaporator (including evaporator plate), can be folded up and rinsed

<sup>1</sup> Multifunctional shelf with height-adjustable base deck, individual components:



<sup>2</sup> Remote refrigeration not available, water loop different design

## 2.2. TECHNICAL SPECIFICATIONS

Protection class	Protection class I earth connection	EN 61140
Performance data	According to rating plate or <ul style="list-style-type: none"> <li>• website</li> <li>• catalogue</li> <li>• quote</li> </ul>	
Noise data	< 70 dB(A) (closed units)	IEC 60335-1 IEC 60335-2-89
Drinking water connection wastewater, condensate	The distributor/operator is responsible for this.	Recommended: IEC 61770:2008 ÖNORMEN 1717:2008-04-01
Condensate	<ul style="list-style-type: none"> <li>• via siphon directly into the onsite wastewater system (DN32)</li> <li>• via the hot gas evaporation</li> <li>• via the condensate tray: <ul style="list-style-type: none"> <li>- manual emptying</li> <li>- electric condensate heater</li> </ul> </li> </ul>	
Materials	<ul style="list-style-type: none"> <li>• Stainless steel <ul style="list-style-type: none"> <li>- 1.4301 (well, body)</li> <li>- 1.4016 (compressor compartment/ outer shell)</li> <li>- 1.4404 (custom design)</li> </ul> </li> <li>• Copper tubes (refrigeration circuit)</li> </ul>	
Supplier components	<ul style="list-style-type: none"> <li>• Refrigeration unit (compressor, condenser, fan motor, etc.)</li> <li>• Evaporator</li> <li>• Gas damper (depending on the model)</li> <li>• Glass (depending on the model)</li> <li>• Electric lines and assembly materials (cables, cable ties, etc.)</li> <li>• Control box (PCB, display, etc.)</li> <li>• Lighting (depending on the model)</li> <li>• Lexan® air ducts (depending on the model)</li> </ul>	
Insulating material	LAMOLTAN® polyurethane rigid foam system	
Glass	<ul style="list-style-type: none"> <li>• Einscheibensicherheitsglas (6mm, 8mm)</li> <li>• Isolierglas (16mm)</li> </ul>	EN12150-2:2004






**NOTE**

Due to the use of high-quality and long-lasting materials as well as vendor components, a long service life can be expected with regular care and maintenance.



## 2.3. SAFETY INSTRUCTIONS ON THE UNIT

Safety instructions are attached to the unit, which must be followed under all circumstances. If the safety markings start to blister or become damaged over the course of the unit's service life, they must immediately be replaced with new stickers. The legibility and completeness must be checked at regular intervals.

Pictograms	Descriptions	Pictograms	Descriptions
	Warning of inflammable substances (refrigerants of class A2L, A2, A3, B2L, B2 and B3)		Danger! No open flames; fire, open sources of ignition and smoking are prohibited
	Warning of electrical hazard		F-gas marking (in accordance with Regulation (EU) no. 517/2014).
	Protection class I earth connection		

### 2.3.1. ELECTRICAL INFORMATION

The units are fully equipped and installed electrically (due to special construction depending on the order specification, the product may be prepared for the controller/electrics to be fitted by the customer).

#### NOTE

The cooling zone controller is completely set and ready for operation. After completion of the installation, check parameter H11 (calibration of return air sensor). The cooling zone controller must be set up by an authorised specialist in accordance with the enclosed programming guide.

#### DANGER

##### **Danger from electrical voltage on live components**

The electrical connection must be carried out by an authorised specialist and must comply with the applicable standards, regulations and safety regulations.

#### *Connecting the unit*

Self-contained units are delivered with a 1.5-meter long power cord with an earthing contact plug as a standard feature. They must be connected to an AC power grid with a nominal AC voltage and frequency of 230 volts and 50 Hz (depending on the country, with 115 V / 60 Hz, 120 V / 60 Hz, 220-240 V / 50-60 Hz). The electrical supply line must be protected with a 16 A fuse (trip characteristic "C").

#### *Possibility of disconnection from the power grid*

If a plug connection is used for the mains connection, the power outlet must be easily accessible so that the unit can be disconnected from the power grid if need be (cleaning, maintenance work). If direct wiring is used, a means of disconnecting the unit from the power grid must be provided if necessary.

#### DANGER

##### **Danger from electrical voltage on live components**

The mains voltage and frequency must match the values stated on the rating plate. It is not permitted to connect to any other voltage, type of current or frequency. The relevant local safety regulations must be observed.

### 2.3.2. REFRIGERATION-RELATED INFORMATION

All units are equipped with coated fin coil evaporators. The connection pipes lead out downwards through the foamed refrigerated well. All pipes are installed and insulated. Units that are configured with gas dampers for the opened position of the fin coil evaporator must be checked monthly to ensure they are working (depending on the model).

#### **WARNING**

##### **Various dangers when disposing of refrigerants**

When disposing of refrigerants (propane, R404A, R134A etc.), wear protective gloves and safety glasses. Working with open flames is forbidden during the disposal of refrigerant. Dispose of the refrigerant properly and in an environmentally compatible way. The laws of the specific country must be observed.

#### **WARNING**

##### **Various dangers during the disposal of damaged parts/components**

When disposing of damaged parts/components, wear protective gloves. Dispose of damaged parts/components properly and in an environmentally compatible way. The laws of the specific country must be observed.

#### *Self-contained units*



On self-contained units, the pipework is attached permanently to the refrigeration unit, and the refrigeration circuit is filled with refrigerant. Display cases with expansion valves and those above a specific size have an inspection glass with a moisture indicator (for checking during servicing). This is located beside the condenser. There is no inspection glass for self-contained units with propane (R290) as a refrigerant.

#### **CAUTION**

For servicing purposes, the refrigeration system including the stainless steel housing can be pulled out to the front (customer side).

**Do not pull or damage the lines behind it.**



#### *Remote refrigeration units*

Remote refrigeration units are intended for connection to an existing refrigeration plant provided by the customer. The copper tubing is insulated and leads out downward through the foamed refrigerated well with convection cooling. The evaporators are equipped with an expansion valve for the desired refrigerant and filled with dry nitrogen. The specified evaporation temperatures and the condensing temperatures must be kept constant. Steam components must be avoided in front of the expansion valve.

#### **NOTE**

Solenoid valves, filter dryers and if applicable back pressure regulators must be installed by the customer.

#### *Connection work*

All work, installations, deliveries and services may only be carried out by authorised refrigeration companies and qualified specialists. The state of the art, relevant legal provisions, regulations and guidelines of authorities, professional and trade associations must be complied with. The installed refrigeration system must be put into operation and a functional and safety test performed. The report must be submitted to the operator.

#### **NOTE**

Units without their own cooling unit must be installed exclusively by an authorised refrigeration company.

## 2.4. ASSEMBLY AND INSTALLATION GUIDE

This chapter provides important information on the assembly and use of the units.

### 2.4.1. FIRST STEPS

#### Acceptance

Check whether the unit has any transport damage, and note any damage discovered on the acceptance documents from the freight forwarder as well as on your form. Have the damage confirmed.

#### NOTE

To enable damage that is caused during loading, transport and unloading to be traced, all units are equipped with a "ShockWatch® 2". This tool makes it possible to determine at which point of the delivery chain a product is damaged in order to clarify transport damage. Information on the ShockWatch® concept is stored in the QR code (see Chapter 4.2).

If the damage is only discovered after unpacking, then you are obliged to report it immediately in writing. It is advisable to notify your supplier by phone in advance. To remove the transport packaging you require:

- At least two persons
- Tools:
  - cordless screwdriver or Philips screwdriver
  - cutting tool (scissors or knife)

#### NOTE

Your claim to compensation for damage will expire if you do not report transport damage in good time (in accordance with our General Terms and Conditions of Business).

#### Set-up

All requirements at the installation site according to Chapter 1.8 must be followed in order to ensure efficient and safe operation.

#### NOTE

Avoid placing the unit near any equipment that produces a lot of steam. This can lead to heavy icing of the evaporator, condensate on the glass, and other adverse effects which are unwanted and/or reduce the performance.

#### NOTE

Correct installation and fault-free operation are requirements for putting the unit into operation. The installation must comply with the local electrical, safety and hygiene regulations.

## ! WARNING

#### **Danger of the unit tipping over on an uneven and unstable subsurface**

Ensure that the unit is installed exclusively on a level and adequately stable subsurface, otherwise the unit could tip over or parts of the unit could fall off or open accidentally (drawers, hinged doors, etc.)

## Preparation

To install the unit you require:

- At least two persons
- Tools:
  - adjustable wrench or pipe wrench (for units with a pedestal)
  - spirit level
  - possibly a special tool for the refrigeration unit

The installation personnel are responsible for the stability or support of the unit. Ensure that the appliance cladding and counters are prepared in accordance with the technical specifications. The size of the installation opening can be found in the current product catalogue under "Technical data" of the respective product group, on the manufacturer's website or in the order specification. Protect the surfaces of the unit and the base against any damage during the installation.

### NOTE

The base must be placed level to enable the condensate to drain off. Test whether the water on the inside of the well can also drain out.

All work, installations, deliveries and services may only be carried out by authorised refrigeration companies and qualified specialists. Electrical installations may only be carried out by an authorised specialist. You must ensure that suitable personnel and tools are available to prevent damage and injuries.

## 2.4.2. INSTALLATION OF THE UNIT ABOVE 2000 M ABOVE SEA LEVEL

The unit is intended for use up to 2000 m above sea level.

When used above 1500 m above sea level, pressure relief must be provided for insulating glass to prevent damage to the glass. All insulating glass display cases are delivered WITHOUT pressure relief as standard. Contact your service partner or the manufacturer for more information.

### NOTE

The manufacturer is not liable for any damage caused to the unit or components (e.g. glass breakage, etc.) in the event of incorrect installation or additional modifications required (e.g. pressure relief) for specific environmental parameters of the unit.

## 2.5. INSTALLATION OF CONTROLLER HOUSING

The controller housing (including controller and display) is attached to the base of the unit (standard version). In the case of remote refrigeration units, the controller is supplied loose (and must be professionally installed after the unit has been installed).

### NOTE

Depending on the unit type, different controllers (cooling zone controllers) may be installed.  
The enclosed operating manual for the controller must be observed under all circumstances.

### 2.5.1. STÖRK CONTROLLER (ST501, ST200F)

ST200F



Each controller consists of the display (control panel) and the power electronics (PCB) that is built into the housing of the controller. The display is connected to the power electronics internally by a cable. The control panel is removable and can be mounted on the front of the appliance.

#### Possible configurations:

**ST501:** The control panel is by default connected to the power electronics by a 1.5 metre data cable (> 2 m data transmission incorrect).

**ST200F:** The control panel is by default connected to the power electronics with a 1.5 m CAT5 cable (up to a maximum of 100 metres).

ST501



### NOTE

Cut-out required for installation of display:  
– ST501: 87.5 mm x 56.5 mm  
– ST 200F: 102.5 mm x 52.5 mm  
See Chapter 3.2 for the button assignment

### 2.5.2. CAREL CONTROLLER (PJ EZ / PJS2C)

PJ EASY



Some units are equipped with refrigeration controller PJ EASY or PJS2C.

#### Possible configurations:

**PJ EZ:** Control unit for units without light control

**PJS2C:** Control unit for units with light control

PJS2



### NOTE

Cut-out required for installation of the cooling zone controller:  
PJEASY / PJS2: 71 x 21 mm  
See Chapter 3.2 for the button assignment

## 2.6. CONDENSATE DISPOSAL

The condensate can be disposed of in a variety of ways (see table in Chapter 2.2).

### WARNING

**Danger from water leaking from an open hot gas evaporation unit or improperly installed condensate tray.**

During the installation and operation of the unit, ensure that the condensate tray is pushed in properly and the hot gas evaporation unit is completely closed. Manually lifting the units can lead to loosening of the locking mechanism of the hot gas evaporation unit, and hence to the condensate leaking out. This must be checked after the installation and before putting the unit into daily operation. Wear safety gloves for the installation and inspection.

### *Via siphon directly into the wastewater system*

Units that are operated with remote refrigeration are equipped at the factory with odour traps (siphon) so that only the wastewater connections or external condensate trays have to be installed in accordance with the local conditions. It must be ensured that wastewater cannot get back into the refrigeration point.

### NOTE

The wastewater installation may only be carried out by authorised specialists.

### *Fully-automatic condensate evaporation*

Self-contained units (depending on the model) are equipped with fully automatic condensate evaporation.

### NOTE

Units with hot gas evaporation have a condensate tray. They may only be operated with the condensate tray pushed in and the base completely closed.

### NOTE

Electric condensate evaporation trays generate heat and moisture. To prevent damage to the condenser, they must be installed at the greatest possible distance. The installation and assembly guide for the condensate tray can be found in Chapter 4.2 under the QR code provided there.

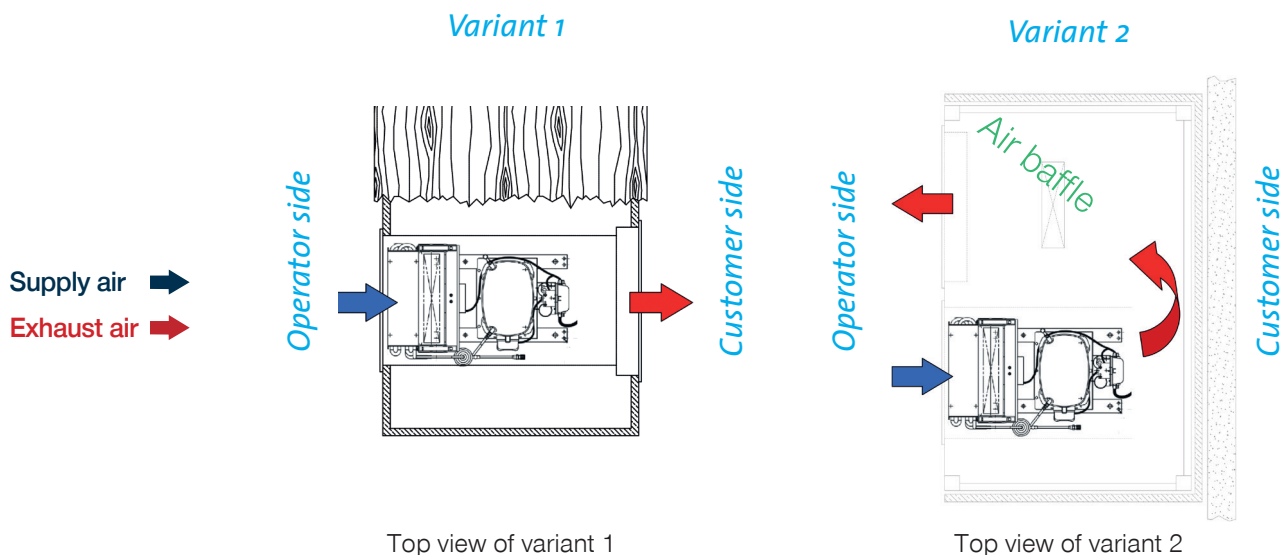
## 2.7. VENTILATION AND DISCHARGE

By default, the units are delivered with incoming air on the operator side and exhaust air on the customer side. We recommend having the exhaust air outlet on the customer side (see variant 1). If an exhaust air outlet on the customer side is not possible, then the exhaust air must discharge on the side of the unit or the operator side (see variant 2). Ensure that the exhaust air is not directly drawn back in, in order to ensure perfect operation (of the cooling).

### ⚠ CAUTION

**Reduction of the cooling capacity or destruction from overheating of the refrigeration unit**

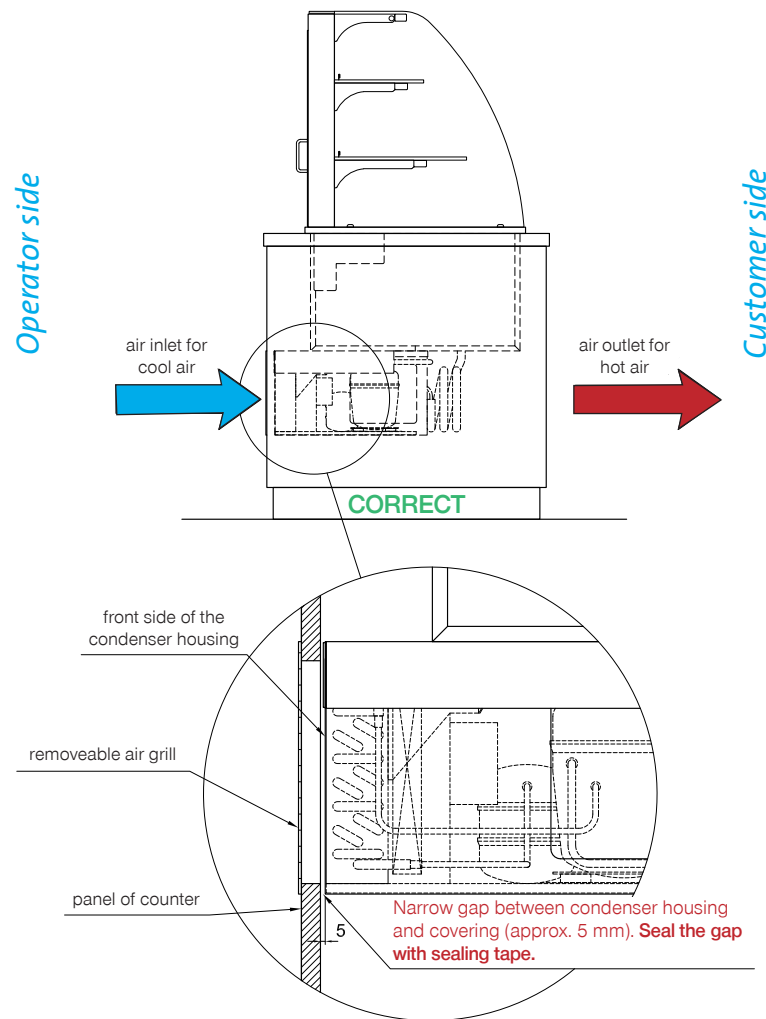
The air circulation openings of the refrigeration unit must not be blocked or obstructed. The airflow must not be interrupted or impaired. The ventilation grilles must be at least 1.5-times the cross-section of the surface area of the condenser. The openings in the ventilation grille should be executed with louvres.



#### Definition of Terms:

<b>Compressor:</b>	The compressor pumps the gaseous refrigerant through the cooling system.
<b>Condenser/fan/blower:</b>	The fan draws in cold ambient air by means of which it cools the compressor and the hot gas in the condenser.
<b>Condenser:</b>	This is a heat exchanger in which the extracted heat of the cooling area is output back into the circulating air. Gaseous refrigerant is liquefied again through the heat output. All self-contained units have a pull-out compressor housing (condensing unit). This provides the option of positioning the condenser on the ventilation grille of the air inlet, and preventing air circulation.





## NOTE

Prevent the hot exhaust air being drawn back into the compressor compartment. The air opening of the covering must be **less than 5 mm** away from the condenser.

## 2.8. DEFROSTING OPTIONS

### *Automatic defrosting*

Defrosting takes place automatically by means of the electronic thermostat. The unit starts the defrosting process automatically at regular intervals (depending on the model – every 3 hours for closed display cases, every 2 hours for self-service display cases). The duration is already set at the factory for the respective model. During this time, the centre LED display (defrosting) is illuminated on the left of the display. Cooling mode starts automatically when defrosting is completed.

### *Manual defrosting*

Defrosting can be initiated at any time by pressing the UP button (controller button assignment, see Chapter 3.2). If the LED starts flashing after the UP button is pressed, the input has been recognised. Defrosting starts automatically after several minutes. The respective LED is illuminated continuously during defrosting.

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### 3. *OPERATION AND USE*

This chapter describes the proper start-up and operation of the unit.

#### 3.1. *INITIAL START-UP*

There must be a wait of at least two hours after the installation before the initial start-up. This off-time ensures that any oil in the compressor capsule, which might have become displaced during transport, can drain back to the compressor (applies to self-contained cooling appliances).

### **DANGER**

**Danger from electrical voltage on live components**

Before start-up, check the cable connections and power supply once again for correctness and contact.

The unit is pre-cleaned before delivery. Nevertheless, we still recommend cleaning the unit thoroughly with a suitable cleaning agent or disinfectant (see Chapter 4.1.2) before start-up in order to remove any dirtying.

## 3.2. SWITCHING THE UNIT ON

### 3.2.1. STÖRK BUTTON ASSIGNMENT (ST501, ST200F)

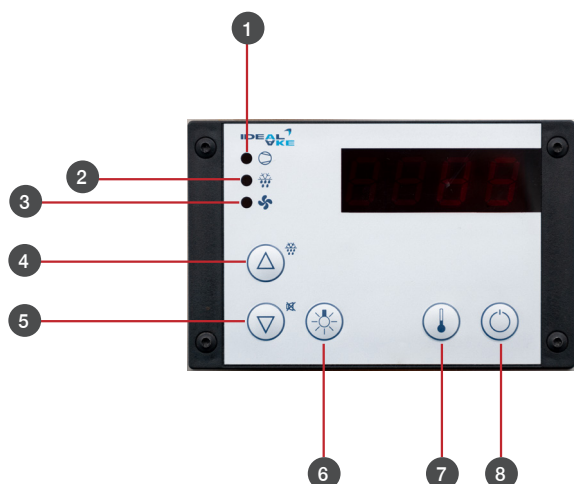
The button assignments and their functions are described in the following table. The digital display of the cooling controller is located above the buttons, and shows the average temperature and any error messages (see Chapter 3.5).

#### NOTE

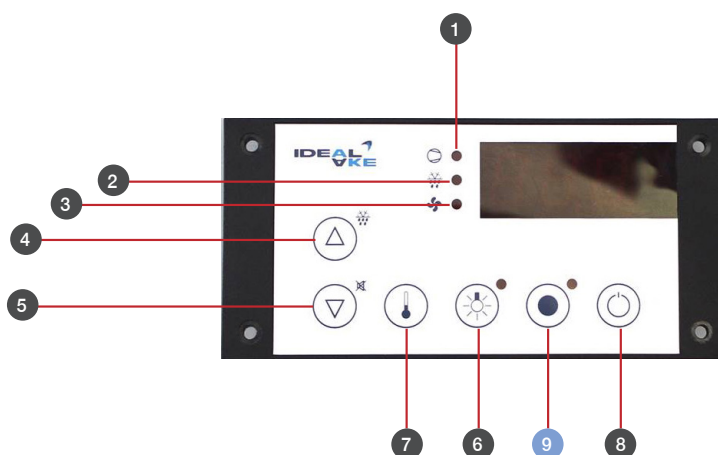
Wait until the desired (set) temperature is reached before stocking the unit with products.

BUTTON	DESIGNATION	FUNCTION
1	Cooling	Display red = active
2	Defrosting	Display red = active
3	Fan	Evaporator fan, display red = active
4	UP	Increase value, start defrosting (hold for approx. 3 seconds)
5	DOWN	Decrease value, acknowledge alarm
6	LIGHT	ON/OFF lighting (depending on the model, optional)
7	SET	Displays set value and setting parameters
8	STANDBY	ON/OFF (stand-by) of unit (hold for approx. 4 seconds)
9	FREE	Freely programmable button (on ST200F)

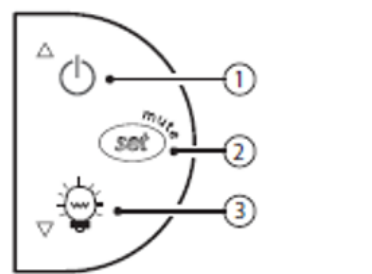
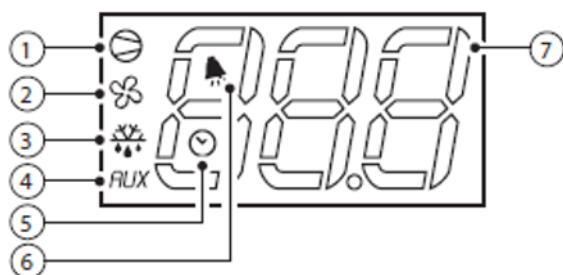
ST501



ST200F



### 3.2.2. CAREL BUTTON ASSIGNMENT (SPECIAL CONTROLLER PJ EASY / PJS2)



DISPLAY	DESIGNATION
1	Compressor
2	Fan/blower
3	Defrosting
4	Auxiliary output / light
5	RTC clock display
6	Alarm
7	Numbers

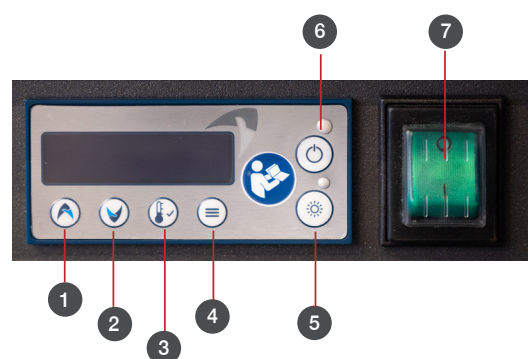
BUTTON	DESIGNATION	FUNCTION
1	ON/OFF button	Switches on the device
2	Programming button	Display / setting parameters etc.)
3	Light button / defrost button	Switches on light / deactivates defrosting

#### NOTE

The unit comes with its own operating manual for the cooling zone controller with detailed information on its use. The instructions contained in this must be followed.

### 3.2.3. UNITS WITH REFRIGERATED BASE

BUTTON	DESIGNATION	FUNCTION
1	UP	Increase value, select menu item Model with night roller blind: raise roller blind
2	DOWN	Decrease value, select menu item Model with night roller blind: lower roller blind
3	OK	Save settings/changes/ values, acknowledge alarm. To set desired value: hold for approx. 2 seconds
4	MENU/EXIT	Unit settings, close menu item
5	LIGHT	Light on = active Light off = inactive, (dimnable depending on model: hold for approx. 4 seconds)
6	STANDBY	Unit on/off (stand-by) (hold for approx. 4 seconds), unit on = green, unit off (stand-by) = red
7	ON/OFF	Main switch (unit): 1 = On 0 = Off



#### NOTE

The unit comes with its own operating manual for the refrigerated base with detailed information on handling. The instructions contained in this must be followed.

### 3.2.4. *SETTING THE TEMPERATURE*

The interior temperature is regulated via the controller display of the electronic temperature controller. This is located in the controller housing. The factory-set target value can be shown by pressing the SET button. The desired temperature can be set by holding the SET button and simultaneously pressing the UP button for a higher temperature, or the DOWN button for a lower temperature. You can find the exact button assignment in Chapter 3.2.

#### **NOTE**

The factory-set target value can be shown by pressing the SET button. This is set accordingly for the unit, and adjustment is only permitted by an authorised specialist.

After the temperature settings have been changed, it takes some time for the unit to reach the desired temperature and stabilise (check the set temperature with a suitable testing device). The temperature should be set by the supplier or specialist dealer during the installation. When selecting the inside temperature take account of the ambient conditions. A large temperature difference between the inside and outside temperature combined with high air humidity can lead to heavy ice formation and condensate. This reduces the refrigeration capacity and prevents the automatic defrosting from working properly.

#### **CAUTION**

**Changes to the temperature setting may lead to spoilage of the products placed in the unit.**

The temperature has been factory set for each unit according to specified technical requirements to ensure optimal food storage. This temperature setting can be changed according to the food placed in the unit, in order to prevent the accumulation of food waste due to the cooling temperature being set incorrectly.



### 3.2.5. *SENSOR CALIBRATION*

For every new installation and start-up of a unit, sensor calibration is only possible after the target value temperature has been reached. This will take some time.

#### **NOTE**

The cooling controller is set correctly and ready for operation. After completion of the installation, check parameter H11 (calibration of return air sensor). Calibration may only be carried out by an authorised specialist in accordance with the programming instructions which are valid for the unit.

---

### 3.3. STOCKING THE UNIT AND ADJUSTING THE HEIGHT OF THE SHELF

#### Stocking

Stock the unit with pre-cooled products via the sliding or hinged doors from the operator side, or via the customer side in the case of open units and units with a closed back wall. The products can be placed on glass shelves and on the base deck.

#### NOTE

Observe the maximum carrying capacity of the base decks and shelves

**Loading shelves:** see stacking limit / outline drawing of the corresponding model group.

**Loading the base deck:** see stacking limit / outline drawing of the corresponding model group.

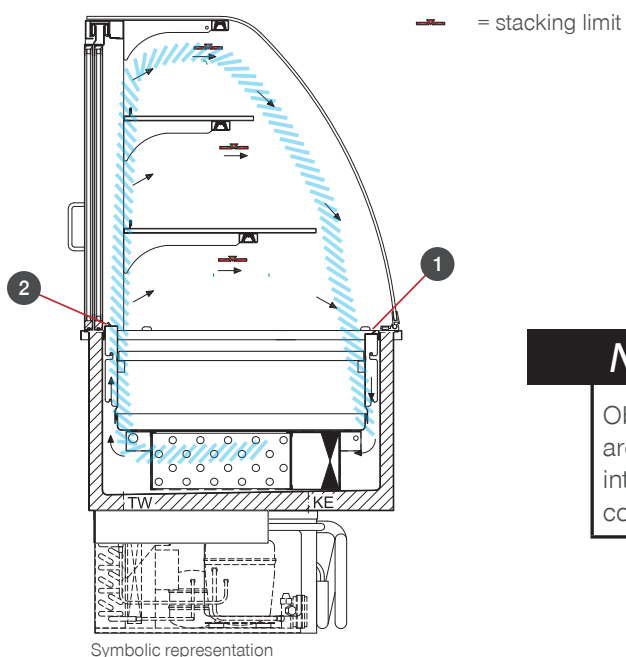
Ensure that you do not store any kegs or bottles on the glass shelves.

**ATTENTION:** The stacking limit can vary depending on the overall height of the unit. Please contact the manufacturer regarding this.

#### NOTE

Ceramic plates can cause scratches on powder-coated base decks.

#### Correct stocking



#### NOTE

Observe the respective stacking limits, as well as the loading and storage areas of the shelves. The cold air curtain of the unit must not be impaired/interrupted by stored products. This is the only way to achieve optimum cooling of the products.

#### NOTE

Flawless functioning can only be guaranteed if the supply and return air openings are kept free and the cold air curtain is not blocked.

In units with convection cooling, the presented products are cooled by a directional air curtain of cooled air. The specified minimum distance (see marked stacking limits) from the lighting and the air outlet openings must be maintained. The ventilation slits on the front **1** and rear **2** side of the unit must not be covered under any circumstances.

### 3.3.1. STACKING LIMITS / OUTLINE DRAWINGS

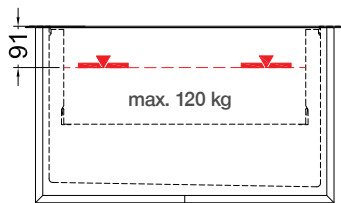
Due to the respective installation situations, the local attachment/definition of the outline drawing is different for each model and cannot be defined by the manufacturer. The installation personnel must ensure that the outline drawing is clearly visible to the operator after the refrigeration appliance has been installed. The respective outline drawing with the indicated stacking limits is enclosed with each refrigerated cabinet on delivery. The operator must ensure that this is affixed permanently and clearly visible. If the sticker is illegible, a new sticker must be ordered from the manufacturer and attached to the appliance.

#### NOTE

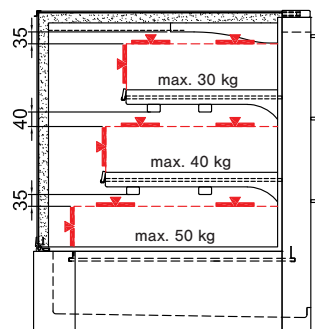
The outline drawings shown with defined stacking/loading limits refer to standard configurations of the respective cooling appliance.

Due to special constructions and customised designs, the stacking limits provided may only be valid to a limited extent and/or not at all.

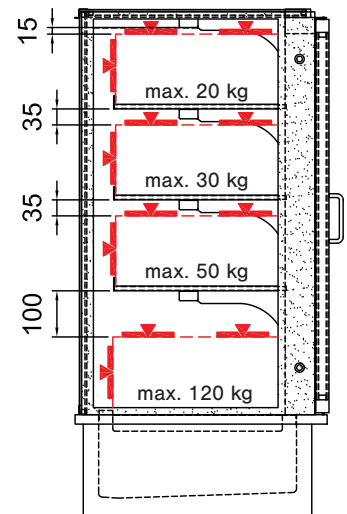
Please contact your supplier, specialist dealer or manufacturer regarding this.



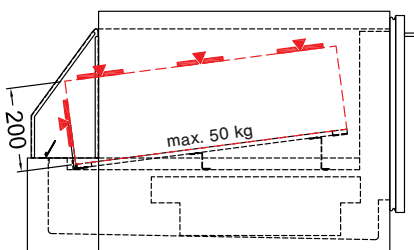
UKW, EURO, Gastro G-45 EC



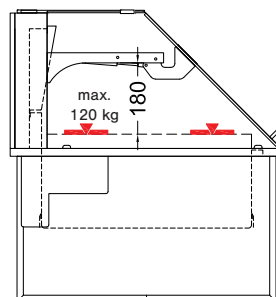
Flantastic G



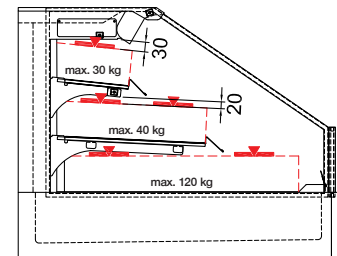
Cake Tower; VP 51



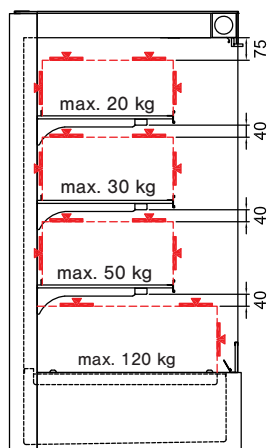
Cool Bottle



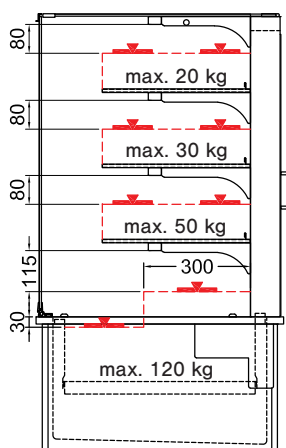
Salatbar GN Single and GN Duo



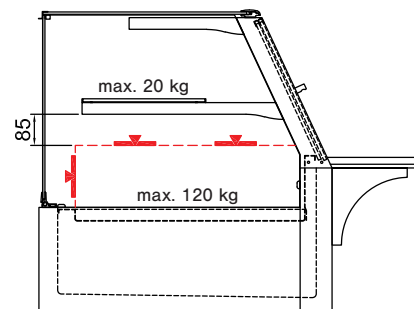
Delicious Sushi



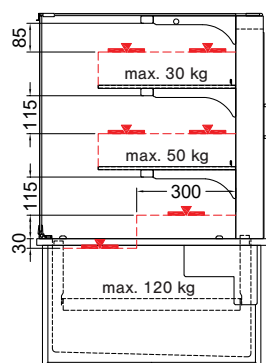
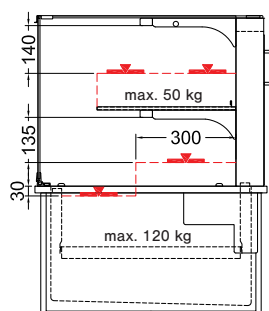
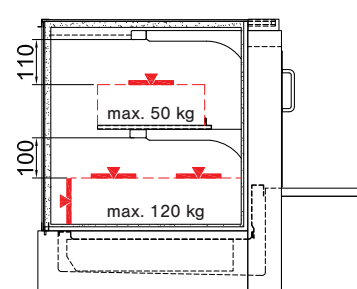
Cooling Tower KT-58; Brilliant KR



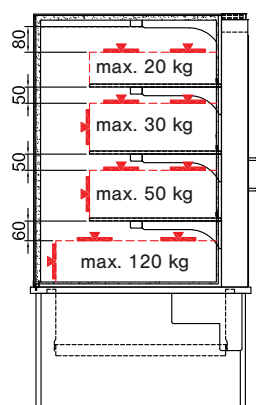
Gastro G-87, HCG-87, G-87 KL



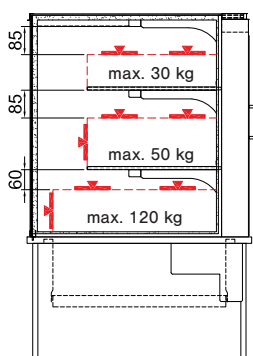
Snack-Line Cool

Gastro G-70, Gastro G-70 KL,  
BAK G-70, KGW G-70, KGU G-70Gastro G-53, Gastro G-53 KL;  
BAK G-53

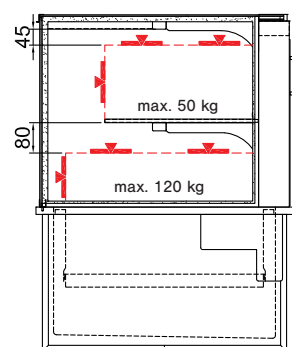
Gastro A; Green A



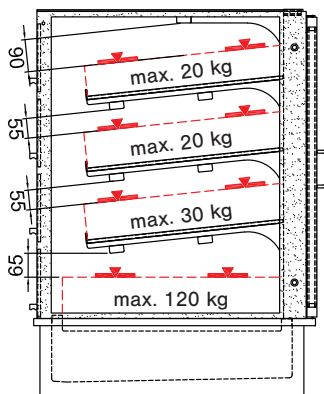
Green G-88, Green FSV



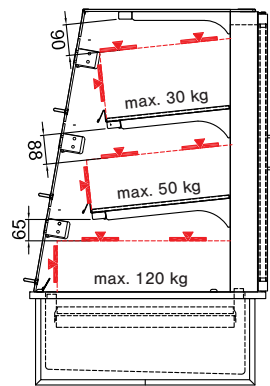
Green G-71



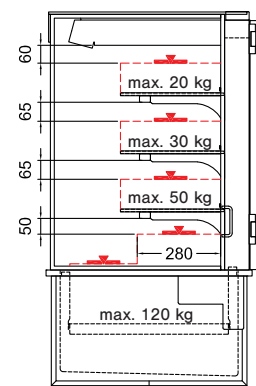
Green G-54



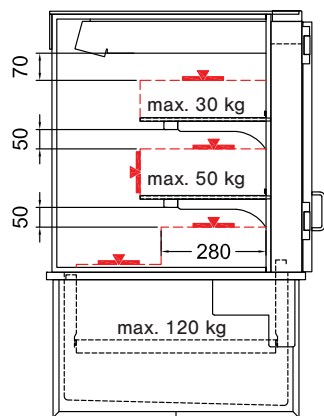
Sushi Tower



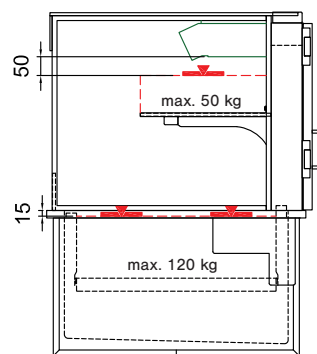
Cold Flaps, Tropical Flaps



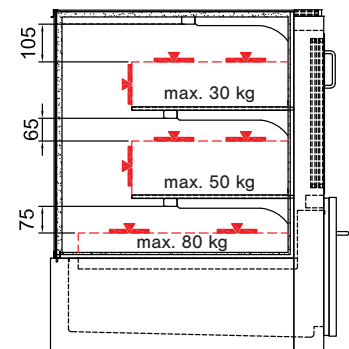
Green O-89; Gastro HCO-89



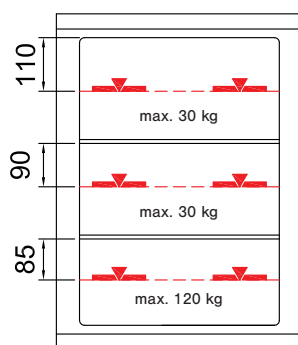
Green O-72; Gastro HCO-70



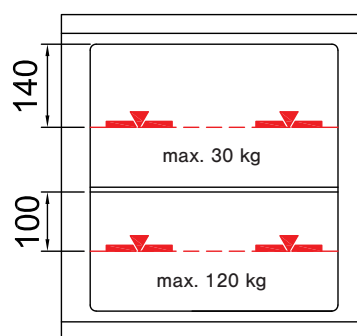
Green O-55



BAK L G-51; L G-68; KSL, Green L G-52, L G-69, KSL



AKV S-147, KI



AKV-U, KL; AKV-S, 96, 116, 146, KL

## ⚠ WARNING

### Danger of crushing when handling/aligning/positioning heavy individual components

When handling heavy objects, be aware of possible crushing dangers, including for third parties. If possible, use both hands when handling heavy objects. Get another person to help you if necessary. When handling/aligning/positioning heavy individual components, wear protective gloves and safety shoes.

### 3.3.2. STOCKING EXTENDABLE DRAWERS AND CAKE DRAWERS

The units of models BAK L and BAK KSL, Flantastic, GREEN L and GREEN KSL are ideally suited for presenting large cakes or similar products as they are easy to stock by means of the extendable drawers and cake drawers (see Chapter 2.1). All the content found in Chapter 3.3 is also applicable here and must be followed.

#### NOTE

It is important to keep the cake drawer or flap closed when it is not in use. If the cake drawer is not closed completely, it is not possible to keep a constant interior temperature.

#### Cake Drawer (BAK, GREEN)



#### Cake Drawer FLANTASTIC



#### NOTE

When stocking the extendable drawers or cake drawers, observe the stacking limits specified for the respective refrigeration appliance. All stacking limits can be found in Chapter 3.3.1.

If the stacking limits are reached or exceeded, optimum cooling of the products placed in the unit can no longer be guaranteed.

The manufacturer is not liable for any resulting product loss.

If you have any other questions, please contact your specialist dealer or the manufacturer.

### 3.3.3. STOCKING THE REFRIGERATED BASE

#### NOTE

The unit comes with its own operating manual for the refrigerated base with detailed information on handling. The instructions contained in this must be followed.

The interior is designed for the storage of beverages as well as packaged and unpackaged food of all types. Food that is acidic (such as salads, vinegar, fish and seafood) must be kept vacuum-packed or in tightly sealed containers. In the event of direct contact, damage to the stainless steel surfaces due to corrosion cannot be ruled out. A higher grade of stainless steel (V4A or AISI 316) is required as a minimum in this case.

#### ⚠ CAUTION

##### Danger of spoiled food

Unpackaged food can be destroyed by aggressive vapours from the evaporator. This does not apply to evaporators made of CNS (chromium nickel steel).

Ensure in particular that the products placed in the unit are not too close to the evaporator and do not cover the air openings. Circulation openings of the drawer baskets must not be completely closed by products, as this would prevent the optimal cooling of the products.

Even when using Gastronorm trays, ensure that they are not overfilled, especially in the area of the exhaust openings of the evaporator.

The interior temperature of the unit reacts much more sensitively to temperature changes than the stored products, which react considerably more slowly. This means that if products that are not sufficiently pre-cooled are stored, the thermometer will in fact show the desired temperature, but the stored products will not have reached this yet.





### 3.3.4. ADJUSTING THE HEIGHT OF THE SHELVES / BASE DECKS

The height and incline of the intermediate shelves can be adjusted in order to adapt the unit to your requirements. The intermediate shelves can be moved by one level ( $\pm 25$  mm) from the middle position.

#### Removal of glass shelves

#### NOTE

All glass shelves can be lifted out for easier cleaning. At least two persons are needed for this, depending on the size of the unit. The safety tabs must be unhooked for this. Ensure that the safety tabs are reattached when the glass is reinserted.

Before you can adjust the supports, remove the glass shelves (see Chapter 2.1). To do this, lift the front edge of the glass shelf until the safety tab releases the **1** glass shelf and it can be pulled out towards the front. Ensure that the product stopper (on the operator side) **2** faces upwards.



#### Moving the shelf supports

The shelf supports are hooked into the recesses with two tabs. The top tab has two indentations to adjust the incline of the shelf support (see Chapter 2.1).

Procedure:

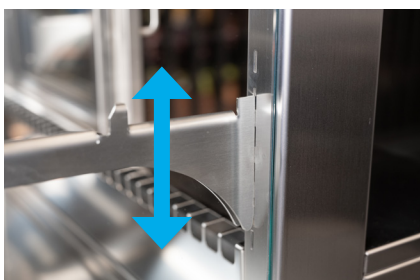
**1** Lift the support



**2** Pull the support out forwards



**3** Hook it in at the desired height



**4** Select the inclined/straight position





## Height-adjustment of the base decks

Some units are delivered with adjustable-height base decks. For models with a deep refrigerated well, this offers many options for product presentation (see Chapter 2.1). GN trays with a maximum depth of 150 mm can be used. Models of the BAK design are delivered with flat shelves without height adjustment (Backnorm baking sheets 600 x 400 mm).

### NOTE

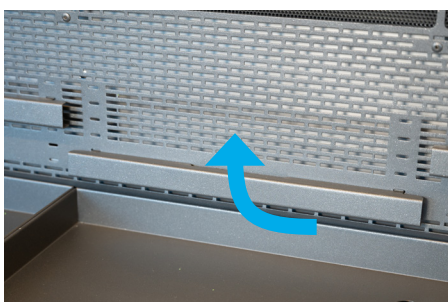
When adjusting the base decks, observe the stacking limits specified for the respective refrigeration appliance. All stacking limits can be found in Chapter 3.3.1.

If the stacking limits are reached or exceeded, optimum cooling of the products placed in the unit can no longer be guaranteed.

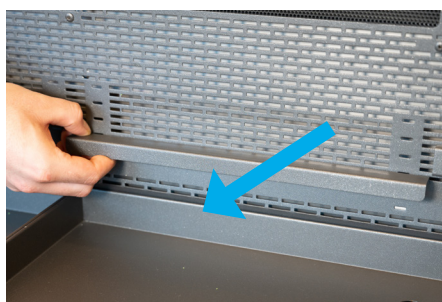
The manufacturer is not liable for any resulting product loss.

If you have any other questions, please contact your specialist dealer or the manufacturer.

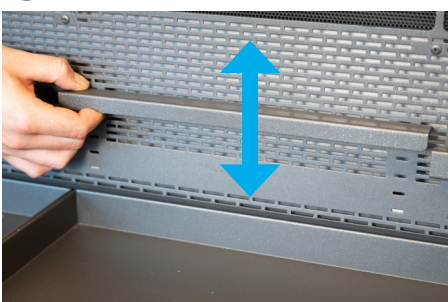
1 Lift the support



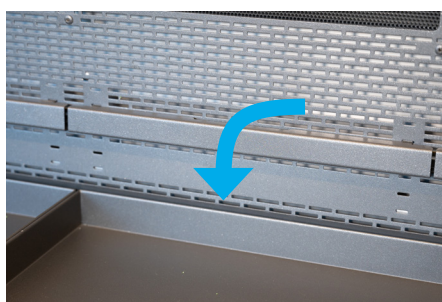
2 Pull the support out forwards



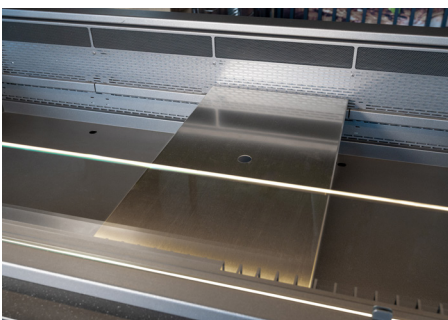
3 Hook it in at the desired height



4 Fix hook-in stripes



5 Place the air baffle plate



## 3.4. FAULTS AND CAUSES

**NOTE**

If malfunctions occur, switch off the unit and contact your supplier or the manufacturer immediately.

Check the points listed below, or contact your supplier or specialist dealer if this does not resolve the problem.

Fault	Possible cause	Remedy
The unit does not work.	Power supply disconnected.	Fit of the earthing contact plug (for power outlet and controller).
	No power to the socket.	Check whether the fuses are intact.
	Electronics set incorrectly or display dark.	Contact authorised service specialist / support.

Fault	Possible cause	Remedy
The products do not reach the desired temperature.	One or more doors are open.	Close doors, check temperature after 30 minutes.
	The ventilation slits in the unit are covered or blocked by products.	Ventilation slits (see Chapter 3.3).
	Evaporator tray inserted incorrectly.	Insert the evaporator tray with the opening facing upwards as described in chapter 4.1.3.
	Air circulation inadequate.	Ensure air circulation as shown in Chapter 2.7. If necessary, contact an authorised service specialist / support.
	Temperature on the display differs from the measured temperature.	Contact authorised service specialist / support (sensor calibration necessary (chapter 3.2.3)).
	Too much or too warm food.	Pre-cool the products (see Chapter 1.8), uncover the air openings (see Chapter 2.7).
	The target temperature is too high.	Set the target temperature value (see Chapter 3.2.2).
	The ambient temperature in the room is too high (more than 25 °C).	Adjust the room air-conditioning (see Chapter 1.8).
	A draught from the outside is interfering with the circulation of the cold air (mainly with open units).	Choose installation location without a strong draught; follow requirements stated in Chapter 1.8.
	Condenser fouled.	Clean the condenser (see Chapter 4.1.5).
	Evaporator heavily iced.	Initiate manual defrosting (see Chapter 2.8) or switch the unit off for several hours. <b>Check:</b> visual inspection of whether evaporator is free of ice. Otherwise repeat defrosting.
	Refrigeration unit refrigeration components malfunction, refrigeration circuit defective	Contact authorised service specialist / support.

Fault	Possible cause	Remedy
The evaporator ices up constantly.	The fans are not running.	Contact authorised service specialist / support.
	Air circulation in the unit impeded.	Uncover ventilation slits (see Chapter 3.3).
	Evaporator tray inserted incorrectly.	Insert the evaporator tray with the opening facing upwards as described in chapter 4.1.3.
	Doors open too long.	Only open the doors for as long as absolutely necessary.
	Too much warm or moist ambient air is drawn into the cooling chamber.	Follow requirements according to Chapter 1.8.
	Defrosting parameters incorrect / defrost sensor defective.	Contact authorised service specialist / support.

Fault	Possible cause	Remedy
The lighting does not work properly.	Light not switched on.	Press the LIGHT button on the controller for around one second (see Chapter 3.2). If this does not help, contact an authorised service specialist / support.
	The entire lighting/one LED has failed.	Contact authorised service specialist / support.

Fault	Possible cause	Remedy
Condensation on the glass.	Too low temperature in the unit.	Display target value: Press the SET button, units without insulating glass $\geq 4$ to $5^{\circ}\text{C}$ (see Chapter 3.2).
	Too high ambient temperature/ too high air humidity.	$+25^{\circ}\text{C}$ ambient temperature and 60% relative humidity should not be exceeded. If possible, switch on the air-conditioner.
	Neighbouring units give off heat.	Review the installation situation. If necessary, contact an authorised service specialist / support.
	Fan speed too high.	Contact authorised service specialist / support.

## NOTE

The manufacturer is not liable for any loss of product, even if the unit is still under guarantee. We recommend checking the temperature of the unit every six months.

### 3.5. STATUS DISPLAYS AND ERROR MESSAGES ON THE DISPLAY (STÖRK)

ST501	ST200F		
Message		Cause	Measure
H I	A 15	Overtemperature - temperature above the alarm limit from parameter A1	
L o	A 13	Undertemperature - temperature below the alarm limit from parameter A2	
E 1L	F 1L	Error on sensor F1, short circuit	Check sensor F1, return air
E 1H	F 1H	Error on sensor F1, break	Check sensor F1, return air
E 2L	F 2L	Error on sensor F2, short circuit	Check sensor F2, defrost/evaporator sensor
E 2H	F 2H	Error on sensor F2, break	Check sensor F2, defrost/evaporator sensor
E P 0	E P 0	Internal error, control unit	Repair control unit
E P 1	E P 1	Error in parameter memory	Check all parameters
E P 2	E P 2	Error in data memory	Repair control unit
F 9 0	F 9 0	Data transfer error, controller not found	Check wiring of the interface, check address, possibly de-energise the controller.

#### NOTE

The table shown does not apply to custom controllers (see programming guide).

This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.

## 4. *CLEANING/MAINTENANCE/SERVICING*

### 4.1. *CLEANING AND CARE*

To ensure optimum presentation of the products, the inside and outside must be cleaned daily in accordance with the hygiene regulations.

#### **DANGER**

**Danger from electrical voltage on live components**

The power supply must be disconnected before all cleaning and service work. To do this, unplug the cooling appliance or disconnect all poles from the power mains.

---

#### **WARNING**

**Danger of collision with the cooling appliance during installation, cleaning and maintenance work**

Be aware of possible dangers of colliding with the unit.

---

Switch the unit off before any cleaning work. We recommend performing the daily cleaning at the end of the working day. The unit can remain switched off overnight or outside business hours if there are no longer any products in the unit.

### 4.1.1. CLEANING INTERVALS

The following cleaning intervals are recommended to ensure the best possible functioning of the unit:

ACTIVITY	INTERVAL		
	DAILY	WEEKLY	MONTHLY
Well including drain (siphon)	x		
Condensate collection basin, hot gas evaporation. Electric condensate tray (depending on the model)	x		
Shelves and base decks	x		
Evaporator		x	
Condenser		x	
Cake drawer		x	
Extendable drawer		x	
Night roller blind		x	
All glass (including sliding and hinged doors)	x		
Remaining components on the unit (pedestals, frame, etc.)		x	

#### NOTE

The unit must be cleaned daily.

#### NOTE

All glass shelves can be lifted out for easier cleaning. At least two persons are needed for this, depending on the size of the unit. The safety tabs must be unhooked for this. Ensure that the safety tabs are reattached when the glass is reinserted.

After cleaning, all parts must be rinsed with clean water and then dried to prevent residues.

To keep the stainless steel parts of the unit in perfect condition, the following points are important:

- Always keep stainless steel surfaces clean.
- Ensure adequate air circulation on the surfaces.
- Never touch components of the unit with rusty material.

#### NOTE

Persons who undertake cleaning work must also comply with the measures specified for the respective cleaning agents (e.g. wearing gloves when cleaning, wearing safety glasses, etc.).

4.1.2. *CLEANING AGENTS***NOTE**

Only the cleaning agents mentioned in this chapter are permissible for cleaning the unit. Do not use cleaning agents that contain chlorine or vinegar.

COMPONENTS/ MATERIALS	CLEANING AGENTS	COMMENT
Surfaces that come into contact with products	Lukewarm soapy water	Rinse with clean water.
Glass surfaces	Glass cleaner	The glass panes can be lifted up to make it easier to clean them and the areas underneath.
Stainless steel surfaces	Stainless steel cleaner	Ensure that the stainless steel cleaner you use is food-safe.
Base decks and GN containers	Washing up liquid and brush	Base decks and GN containers are easy to remove (see Chapter 2.1). Only use brushes with plastic or natural bristles.
Powder-coated surfaces	Soft cloth, lukewarm soapy water	Do not use any <ul style="list-style-type: none"> <li>• abrasive or coarse cleaning utensils</li> <li>• glass cleaner</li> <li>• solvents</li> </ul>
Acrylic glass (flaps)	Soft cloth, lukewarm soapy water	Do not use any <ul style="list-style-type: none"> <li>• abrasive or coarse cleaning utensils</li> <li>• glass cleaner</li> <li>• solvents</li> </ul>



### 4.1.3. *CLEANING THE EVAPORATOR*

#### **DANGER**

**Danger from electrical voltage on live components**

The power supply must be disconnected before all cleaning and service work. To do this, unplug the cooling appliance or disconnect all poles from the power mains.

#### **WARNING**

**Danger of crushing when handling the evaporator box**

When lifting and reinserting the evaporator box, use the metal rod provided for this. When lifting the evaporator box, ensure that it is lifted until the locking tabs snap into place automatically. Hold the evaporator box firmly on the metal rod firmly or in position before unlocking.

#### **WARNING**

**Danger from leaking refrigerant from a damaged evaporator**

Do not use any sharp objects for cleaning the evaporator fins. The evaporator fins may only be cleaned using products specified by AKE.

#### **CAUTION**

**Danger of cutting injuries**

The fins of the condenser are very thin and sharp. Avoid direct contact with the fins in order to prevent injuries. Wear the appropriate protective equipment.

#### **NOTE**

When cleaning the unit, wear the respective protective equipment stipulated by the manufacturer of the cleaning agent being used (see Chapter 4.1.2). Before cleaning the unit with water, please check that the water can run off. If the unit is not connected directly to the wastewater system onsite, then a suitably sized container must be placed under the drain.

*To clean the evaporator, proceed as follows:*



- 1 Remove the base decks or GN trays.



- 2 Remove the hook-in strips and air baffles upwards from the unit.



**Attention:**

The hook-in strips might fall off the air baffle plate. **Damage to the evaporator is possible.**

- 3 Lift the insertion tray up and out of the unit. To do this, use the round embossing on the insertion tray.



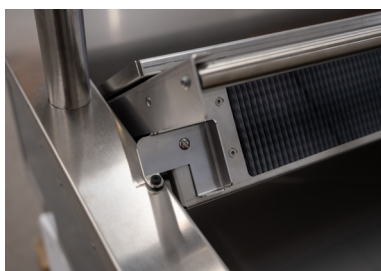
- 4 Fold up the evaporator cover. Rinse the entire evaporator box as well as the fins of the evaporator.



- 5 Fold up the evaporator box until the locking tab on the side snaps into place (depending on the model).



- 6 The evaporator is secured.



- 7 Clean the entire interior. First of all, remove the coarse dirt so that the drain does not become clogged.



*After cleaning has been completed, proceed in reverse order as follows:*

1. Lift up the evaporator box slightly.
2. Swing the side locking device to the inside.
3. Lower the evaporator box (do not let it fall) (depending on the model).
4. Close the evaporator cover.
5. Replace the insertion tray correctly.
6. Position the side air baffle with the support strips.
7. Replace the base decks or GN containers.

## **NOTE**

The outside and underside of the refrigerated well must not be cleaned with a water hose or washing brush. Running water must be avoided in this area in all events.

All surfaces can be cleaned with cleaning agents (see Chapter 4.1.2) and water.

#### 4.1.4. *CLEANING THE GLASS*

The front glass can be tilted forwards for easier cleaning, and can be pushed in on models with the Easy Change System. The glass covers can be moved upwards making it easier to clean the inside (see Chapter 2.1).

### **WARNING**

#### **Danger from falling objects**

Hold on to the glass firmly when cleaning, and never let the front glass fall forwards.

### **NOTE**

On units of size 2/1 or more, the glass must be manipulated and cleaned by at least two people. Do not underestimate the weight of the glass. This also applies to screwed-on glass enclosures or models with a safety cord.

Models with a safety cord are held in the end position by a safety cord. However, the glass must still be supported manually when open to protect the safety cord. The safety cord must be hooked-in during cleaning. This also applies to models that are only equipped with a tilting structure. Use a glass cleaner for cleaning (see Chapter 4.1.2).

### **NOTE**

All glass shelves can be lifted out for easier cleaning. At least two persons are needed for this, depending on the size of the unit. The safety tabs must be unhooked for this. Ensure that the safety tabs are reattached when the glass is reinserted.

#### *Hinged and sliding doors*

### **WARNING**

#### **Danger of crushing/cutting when moving the sliding or hinged doors**

When opening and closing the sliding doors use the handles provided for this. When closing the sliding doors, do not reach between the side sections of the sliding door and the unit. Do not reach into the area between the underside of the angle trim and the top edge of the sliding door. Ensure that the angle trim is attached and screwed together properly. The same thing applies to hinged doors. Be very careful when handling glass.

### **NOTE**

Only the cleaning agents mentioned in Chapter 4.1.2 are permissible for cleaning the hinged and sliding doors.

Sliding doors can be taken out of the unit for cleaning by means of the locking mechanism (see Chapter 2.1). After cleaning, ensure that all doors are reattached and are completely closed.



No.	Name
1	Left door guide
2	Right door guide
3	Left door locking lever
4	Left door
5	Running rail (not visible)
6	Right door
7	Guide rail

### NOTE

On units of size “4/1” or more, the sliding doors must be manipulated and cleaned by at least 2 people. Do not underestimate the weight of the sliding doors. This also applies to the hinged doors.

### NOTE

Be very careful when handling glass.

*Disassembly steps / sliding door sequence:*

1. Hold the door handle firmly with your left hand.  
Pull the lever of the lock all the way up using your right hand.
2. Keep your left hand on the door handle and clasp the door frame with your right hand. Tip the door towards the operator side.
3. Place the door into the position where the recesses are located on the running rail for the rollers. To remove the door from the guide rail, lift it up slightly and push it backwards.
4. Tip the door up at the front and lift it out of the unit.
5. Store the door on a clean and soft underlay. Ensure that the handle is on the top side.
6. Hold the door handle firmly with your left hand. Clasp the door frame with your right hand. Tip the door towards the operator side.
7. Place the door into the position where the recesses are located on the running rail for the rollers. To remove the door from the guide rail, lift it up slightly and push it backwards.
8. Tip the door up at the front and lift it out of the unit.
9. Store the door on a clean and soft underlay. Ensure that the grip is on the top side.
10. Clean the doors and overlapping zone. Check the rollers on the sliding doors to make sure they move freely. They must be free of any dirtying.

**NOTE**

Only the cleaning agents mentioned in Chapter 4.1.2 are permissible for cleaning the sliding doors.

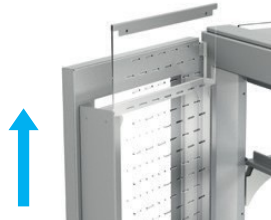
11. Reattach the right window. To do this, repeat steps 6 to 8 in reverse order. Ensure that the right window is hooked into the white lock. Place the right window in the far right position.
12. Reattach the left window. To do this, repeat steps 1 to 4 in reverse order. Ensure that the left window is hooked into the black lock. Place the left window in the far left position.

**NOTE**

After cleaning, ensure that all doors are reattached, completely closed and the locking mechanism has been activated. Check to make sure the sliding doors move freely.

### LEXAN® – air ducts (air baffle box)

Some units are equipped with air ducts on the hinged doors or back walls. These can be unhooked for easier cleaning.



Lift the air ducts upwards out of the hinged door / back wall and clean them at intervals according to Chapter 4.1.1 using the prescribed cleaning agents according to Chapter 4.1.2. After cleaning is complete, reinsert them correctly into the mounting bracket.

#### NOTE

Ensure that the air ducts are installed correctly. If they are incorrectly installed, the cooling function of the unit may be impaired and the necessary air flow cannot be guaranteed. As a result, optimum cooling of the food cannot be guaranteed.

### 4.1.5. CLEANING THE CONDENSER

On self-contained units, the condenser must be cleaned weekly, and there must be a visual check daily in accordance with Chapter 4.1.1. A dirty condenser leads to reduced refrigeration performance, overheating of the refrigeration unit or even damage to the compressor.



#### *Guide to cleaning the condenser*

1. Remove the ventilation grille or condenser protector.
2. Remove dirt using a vacuum cleaner.  
Ensure that the fins do not become bent.
3. Install the air grille.



#### **NOTE**

Wear protective gloves during cleaning.

#### **NOTE**

The ingoing and outgoing air openings of the condenser must not be closed or blocked by objects; otherwise the cooling capacity will be hampered or in the worst case, the compressor will be destroyed.



#### **CAUTION**

##### **Danger of cutting injuries**

The fins of the condenser are very thin and sharp. Avoid direct contact with the fins in order to prevent injuries. Wear the appropriate protective equipment.



## 4.1.6. *CLEANING THE NIGHT ROLLER BLIND*

The night roller blind (depending on the model) must be cleaned weekly in accordance with Chapter 4.1.1. Only the cleaning agents mentioned in Chapter 4.1.2 are permissible for cleaning the unit. Depending on the model, it is possible to have a mechanical or electric night roller blind (see Chapter 2.1). For operation on units with a refrigerated base, see Chapter 3.2.1.

### **NOTE**

Technical changes to the unit may only be carried out by authorised specialists. This applies in particular to work on the refrigeration system, electrical installation and mechanics.

**Any change must be authorised by the manufacturer.**



### 4.1.7. CLEANING THE REFRIGERATED BASE

#### NOTE

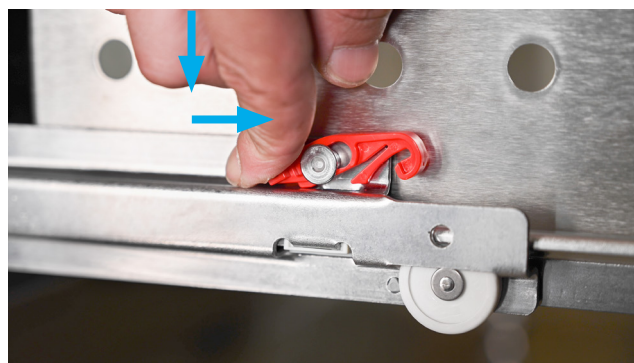
For cleaning the refrigerated base, follow the accompanying operating manual.

The refrigerated base (depending on the model) must be cleaned weekly. Please also observe the instructions in Chapter 4.1.1. Only the cleaning agents mentioned in Chapter 4.1.2 are permissible for cleaning the unit. To clean the refrigerated base, remove the necessary drawers from the unit. Proceed as follows:

- 1 Pull the drawer out as far as it goes.



- 2 Release the lock on the guide tracks.



- 3 Lift the drawer up by around 5 cm so that it can be unhooked.



- 4 Clean the bottom tray (collecting tray) below the evaporator.



#### NOTE

Easier access to the internal evaporator can be obtained by disassembling the drawer. It is recommended to check and clean the evaporator at the same time.

The instructions for cleaning the evaporator in the operating manual accompanying the base must be followed.

#### After cleaning:

1. Hook the drawer into the guide tracks. Slide the drawer in completely (see Figure 3).
2. Lift up the extendable drawer and then hook it in again (see Figure 2).
3. Push the extendable drawer in and close it.

#### NOTE

Only the cleaning agents mentioned in Chapter 4.1.2 are permissible for cleaning the unit.

## 4.1.8. *CLEANING THE EXTENDABLE DRAWER / CAKE DRAWER INCLUDING EVAPORATOR UNIT*

To clean the refrigerated well including the evaporator unit, remove the cake drawer from the unit. Proceed as follows:

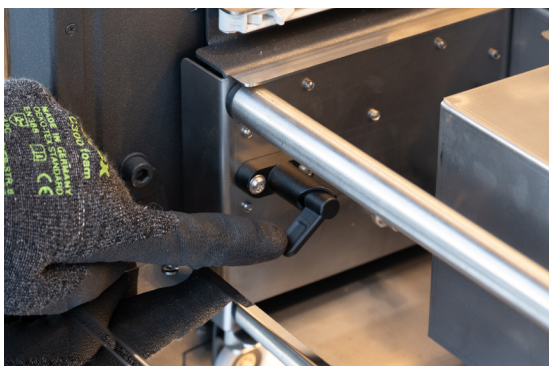
- 1 Pull the drawer out as far as it goes.



- 2 Lift the drawer up by around 5 cm so that it can be unhooked.



- 3 Lift up the evaporator. Release the fixing on both sides by means of the locking pins.



- 4 Clean the bottom tray below the evaporator.



### *After cleaning:*

1. Lift up the evaporator. Remove the locking pins on both sides (see Figure 3).
2. Lift up the drawer and then hook it in again (see Figure 2).
3. Push the drawer in and close it.

### **NOTE**

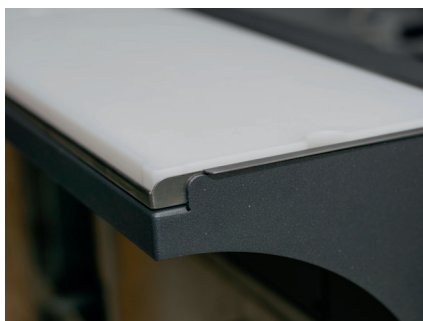
Only the cleaning agents mentioned in Chapter 4.1.2 are permissible for cleaning the unit.

### 4.1.9. *CLEANING THE CUTTING BOARD*

The cutting board consists of a removable CNS tray with one or more Poly-Hygiene inserts. The Poly-Hygiene inserts can be removed from the CNS holder for cleaning.

When the hinged doors are unhooked, the entire cutting board including the CNS tray can be lifted to the side and then lifted out of the guide.

1 Cutting board support hooked in, mirror below



2 Lift the cutting board support out of the anchoring.



3 Remove the cutting board support.



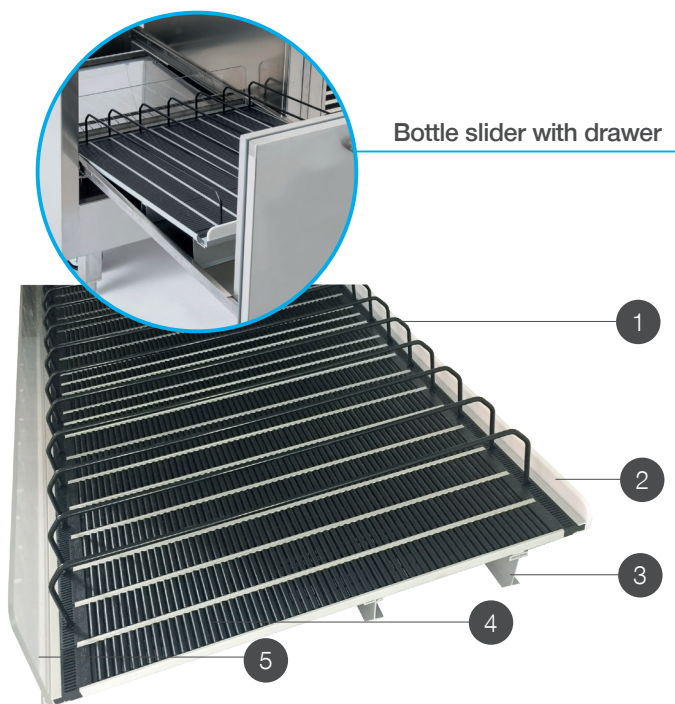


#### 4.1.10. CLEANING THE BOTTLE SLIDER (FLEXROLLER)

##### NOTE

Only the cleaning agents mentioned in Chapter 4.1.2 are permissible for cleaning the unit. After cleaning, all parts must be rinsed with clean water and then dried to prevent residues.

On units with a drawer (depending on the model), proceed as described in Chapter 4.1.8 so that the Flexroller system can be removed completely. Replace the Flexroller (depending on the model, with a raising profile) together with the acrylic front glass and PVC rear glass. Fit the dividing bars adjusted to the product dimensions.



No.	Name
1	Product divider
2	PVC rear glass (operator side)
3	Raising profile made of aluminium (depending on the model)
4	Flexroller (depending on the model)
5	Acrylic front glass (customer side)

### ⚠ WARNING

**Danger of colliding with the units during installation, cleaning and maintenance work**  
Be aware of possible dangers of colliding with the unit.

### ⚠ WARNING

**Danger of crushing and danger from falling objects when handling/aligning/positioning individual components**  
When handling objects, be aware of possible crushing dangers, including for third parties. If possible, use both hands when handling objects. When handling/aligning/positioning heavy individual components, protective gloves and safety shoes must be worn.

#### 4.1.11. *CLEANING HINGED HOT GAS CONDENSATE EVAPORATION*

The cleaning instructions provided are to be used for both the hot gas condensate evaporation and the electric condensate tray (optional accessory).

### **DANGER**

**Danger from electrical voltage on live components**

The power supply must be disconnected before all cleaning and service work. To do this, unplug the cooling appliance or disconnect all poles from the power mains.

### **CAUTION**

**Beware of hot surfaces when opening the condensate evaporation**

Switch the unit off before any cleaning work. Touching the hot gas line when it is switched on can cause burns. Wait for some time until the lines have cooled down.

### **WARNING**

**Danger of colliding with units during installation, cleaning and maintenance work**

Be aware of possible dangers of colliding with the unit.

### **WARNING**

**Danger of crushing and danger from falling objects when handling/aligning/positioning individual components**

When handling objects, be aware of possible crushing dangers, including for third persons. If possible, use both hands when handling objects. When handling/aligning/positioning heavy individual components, protective gloves and safety shoes must be worn.

### **NOTE**

Only the cleaning agents mentioned in Chapter 4.1.2 are permissible for cleaning the unit. After cleaning, all parts must be rinsed with clean water and then dried so that no residue remains.

*When cleaning the hot gas evaporation tray carry out the following steps:*



Wear protective gloves for cleaning.



No.	Designation
1	Lock
2	Guide handle



1. Switch off the unit via the controller and pull the mains plug properly out of the socket, or disconnect the unit from the mains at all poles.
2. Push the lock (no. 1) upwards with one hand. Pull it out forwards with one hand by means of the guide handle. The condensate evaporation tray folds down.
3. Remove the condensate evaporation tray, empty it and clean it. Please use only the cleaning agents mentioned in Chapter 4.1.2.

## NOTE

When removing the condensate evaporation tray, ensure that no water spills out. Wipe away any spilled water to prevent damage to the unit.

4. Replace the emptied and cleaned condensate evaporation tray. Ensure that the hot gas evaporation tray is fully inserted.
5. Lift the guide handle with both hands and push it backwards. The condensate evaporation tray must be completely folded upwards.
6. Check the locking mechanism; this must be closed.

## NOTE

Units with hot gas evaporation may only be operated with the condensate evaporation tray fully inserted and closed.

7. Switch unit on.

#### 4.1.12. *CLEANING THE ELECTRIC CONDENSATE TRAY (OPTIONAL ACCESSORY)*

The cleaning instructions provided should be applied in addition to the instructions described for the hot gas condensate evaporation.



#### NOTE

Further cleaning instructions are provided in the operating manual accompanying the condensate tray, and these must also be complied with.

#### ⚠ CAUTION

##### **Danger from electrical voltage on live components**

The power supply must be disconnected before all cleaning and service work. To do this, unplug the cooling appliance or disconnect all poles from the power mains.

*Carry out additional steps when cleaning the electric condensate tray (optional accessory):*

Items 1, 3, 4, and 7 of the hot gas evaporation tray apply in addition to the following steps:

- a. Remove any dirt from the condensate tray and clean it thoroughly (including the heating rods and float). Only use permissible cleaning agents as described in Chapter 4.1.2.
- b. Check the float for ease of movement.



#### 4.1.13. *CLEANING THE DRAIN PIPE (INCLUDING SIPHON)*

On units connected to the wastewater system, the drains including the siphon (depending on the model) must be flushed with hot water to remove possible impurities and bacteria.

On units that have condensate evaporation (hot gas or electric), remove the drain pipe from the condensate tray and flush it with hot water. Transfer the cleaning water into a suitable container.

### **CAUTION**

**Attaching the drain hose to the condensate tray.**

Ensure that after cleaning the well, including the siphon and drain pipes, they are properly reattached to the condensation tray. Water can leak out. There is a possible risk of slipping.

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## 4.2. MAINTENANCE INFORMATION

The unit must be checked and maintained regularly to ensure that it functions properly and presents the products in the best possible way. Each unit has been tested at the factory in accordance with the test procedure "Routine tests" in EN 60335-1 Appendix A. The manufacturer recommends that the operator undertake an annual follow-up test in accordance with VDE 0701-0702.

### **! DANGER**

#### **Danger from electrical voltage on live components**

The unit must be disconnected from the mains (by the main switch, or all-pole disconnection) until the maintenance, inspection and repair are completed. Unintentional switching on must be prevented.

### **NOTE**

The execution of the maintenance activities by the operating personnel or operator applies exclusively to the activities listed in Chapter 4.3.

### **NOTE**

Technical modifications to the unit may only be carried out by authorised specialists. This applies in particular to work on the refrigeration system, electrical installation and mechanics.

**Any change must be authorised by the manufacturer.**

Repair and maintenance guides can be found under the following QR code:



[shop.ideal-ake.at](https://shop.ideal-ake.at)

If you do not have a QR code reader (scanner), all the necessary documents can be found in the download area on the manufacturer's website, or you can contact your supplier or specialist dealer.

## 4.3. MAINTENANCE AND SERVICE INTERVALS

It is essential to adhere to the maintenance instructions in order to ensure, and possibly extend, the continued functioning of your unit.

ACTIVITY	INTERVAL		
	DAILY	WEEKLY	MONTHLY
<b>VISUAL AND FUNCTIONAL CHECK</b>			
Well including drain (siphon)	x		
Condensate collecting basin, hot gas evaporation Electric condensate tray (depending on the model)	x		
Gas damper (depending on the model) (glass cover and evaporator)			x
Condenser (dirtying, damage)		x	
Extendable drawer or cake drawer (depending on the model)		x	
Refrigerated base (depending on the model)		x	
Night roller blind, LED (depending on the model)		x	
All glass (including windows and hinged doors)	x		
Mechanical damage to all remaining components of the unit	x		

## 4.4. CHECKING THE GAS DAMPERS

### DANGER

#### **Danger from defective gas damper**

Check gas dampers monthly to ensure they are functioning properly. Replace them if they are defective. Observe the service life and maintenance intervals stated by the manufacturer.

## 4.5. CHECKING THE REFRIGERATION CIRCUIT

All cooling appliances are equipped with refrigeration circuits in which proven, tested components are used. Each unit is checked for leaks and refrigerant loss (self-contained models) by means of a final inspection at the factory.

### NOTE

Whether the refrigeration circuit must be inspected at a particular time in accordance with regulations depends on the guidelines and regulations of the specific country.

It is the operator's responsibility to carry out legally required inspections in a timely manner.

**The manufacturer is not liable for any damage caused by missed inspections.**

## 4.6. PURCHASING SPARE PARTS

Every unit is equipped with a rating plate (see Chapter 1.7). To order the correct spare parts for your unit, provide the unit data listed on the rating plate to your supplier or specialist dealer, or order the required spare parts directly from the manufacturer's online product catalogue. The type, serial number and date of manufacture are required for correct allocation of parts.



[shop.ideal-ake.at/en/spare-parts-shop](https://shop.ideal-ake.at/en/spare-parts-shop)

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## 5. DECLARATION OF CONFORMITY MRL 2006/42/EG



### EU Declaration of Conformity

in accordance with EU Directives 2006/42/EC and 2014/30/EC

Manufacturer	AKE Ausseer Kälte- und Edelstahltechnik GmbH Pichl 66, 8984 Bad Mitterndorf, ÖSTERREICH
Product	Refrigerated display cases for assisted service, insulating glass display cases, self-service display cases
Type	See Chapter 1.3
Year of manufacture	From 2021

The compliance of the products stated above with Machinery Directive 2006/42/EC and EMC Directive 2014/30/EU is hereby confirmed. The fundamental requirements from Machinery Directive 2006/42/EC and the essential requirements from EMC Directive 2014/30/EU were complied with. The necessary technical documents were prepared and archived. The following harmonised standards were applied in their currently valid versions:

#### EN 60335-1:2012

Household and similar electrical appliances – Safety – Part 1: General Requirements  
EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017  
(IEC 60335-1:2010, modified)

#### EN 60335-2-89:2010

Household and similar electrical appliances – Safety – Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor EN 60335-2-89:2010 + A1:2016 + A2:2017  
(IEC 60335-2-89:2010 + A1:2012, modified);

#### EN 378-2:2016

Refrigerating systems and heat pumps – Safety and environmental requirements – Part 2: Design, construction, testing, marking and documentation;

#### EN ISO 12100:2010-11

Safety of machinery - General principles for design – Risk assessment and risk reduction (ISO 12100:2010);

In the event of technical modifications to the product shown above that have not been agreed with the manufacturer, this EC Declaration of Conformity shall lose its validity.

Andreas Pilz (CTO)

Bad Mitterndorf, 2021

Authorised representative for technical documents

### NOTE

Please observe possible supplementary sheets to this Operating Manual and the associated Declaration of Conformity.  
**For further information contact the manufacturer.**



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