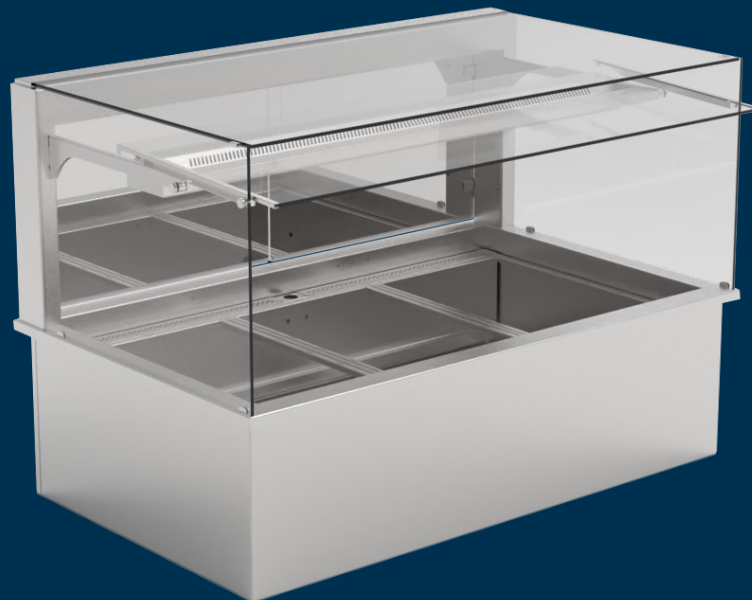


Translation of the original



# Operating Manual

## Display case with heating climate or dry heat





## Information about this Operating Manual

This Operating Manual applies to all units of the type “display case” with a heating climate or dry heat, irrespective of the different possible configurations regarding freestanding models and Gastronorm dimensions. Built-in units must be covered before they are put into use, bearing the technical requirements in mind. The possibilities described in this operating manual show the majority of configurations. Due to custom designs, further configurations of display cases with heating climate and dry heat are possible.

## 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 that is state of the art with regard to its operating safety for the start-up personnel, the operator and users. The unit can be dangerous if it is used incorrectly or improperly. We point out 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 personnel 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 a copy immediately from your supplier or operator, or download it from the manufacturer's website [www.ideal-lake.at](http://www.ideal-lake.at)

#### NOTE

The manufacturer is not liable for technical or printing-related shortcomings in this document. Similarly, 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 ongoing product improvement.

#### NOTE

Please observe possible supplementary sheets to this operating manual and the associated declaration of conformity. Contact the manufacturer for more information.

## 1.2. Flexibility



### MODEL OPTIONS

Display case with dry heat (no steam generation)  
Display case with heating climate (steam generation)



### DESIGN

The glass cover on heated display cases

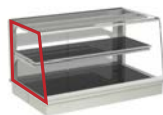
The glass cover on heated display cases with Easy-Change



Round



Square



Inclined



Square



Inclined

Options on the customer side



Customer side open



Customer side closed



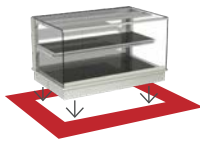
Customer side soft-close removal flaps



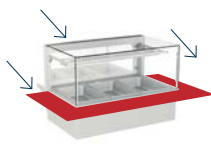
Customer side Easy-Change system



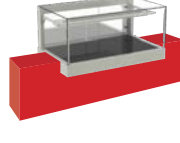
### INSTALLATION VARIANTS *(Photos of units are examples only)*



Drop-in



Slide-in with pedestal



Pro



Countertop



Stand-alone

### 1.3. Scope of application

This Operating Manual applies to the following models with dry heat:

#### Model designation:

##### Hot storage WU-aaa bbb

Abbreviations:

aaa: Number between 78 and 146

bbb: Empty or PRO (for protruding installation on customer side)

##### Heating tower aa-58 bb cc

Abbreviations:

aa: WT (heating tower)

bb: Empty or KL (flap)

cc: RG (back wall closed)

##### W aaa-bbb-cc dd ee fff gg hh

Abbreviations:

aaa: empty or AE (countertop heated display case) or G (closed) or GE (closed squared) or GS (10° closed inclined) or GR (closed round) or KOR (customer side open round) or KOE (customer side open squared) or KOS (customer side open 10° inclined)

bbb: Number between 41 and 146 (unit width)

cc: Number between 45 and 100 (unit height)

dd: Empty or EC (Easy-Change)

ee: Empty or KL (flaps)

fff: Empty or PRO (for protruding installation on customer side)

gg: Empty or HOT MARIE

hh: RG (back wall closed)

##### WB HS a-bbb-45 c

Abbreviations:

a: Empty or E- (flat glass)

bbb: Number between 1/1 and 6/1

c: Empty or D (double curved glass)

##### Hotplate HP aa bb (with WB HS)

Abbreviations:

aa: GN or empty

bb: Number between 1/1 and 6/1 or number between 41 and 146 (unit width)

##### Hot Marie HM aa bb

Abbreviations:

aa: GN or empty

bb: Number between 1/1 and 6/1 or number between 41 and 146 (unit width)

##### Hot Vario aaa-b

Abbreviations:

aaa: Number between 50 and 200 (unit width) or empty

b: 1-6 (Module number)



This Operating Manual applies to the following models with heating climate:

#### Model designation:

##### **FOODSTATION Hot Flaps aa**

Abbreviations:

aa: Number between 70 and 87 (unit height)

##### **Heating tower aa-58 BASIC Plus**

Abbreviations:

aa: WT (heating tower)

##### **BASIC aaaa b-ccc-dd eee**

Abbreviations:

aaaa: Empty or PLUS

b: E (square) or S (inclined)

ccc: Number between 44 and 146 (unit width)

dd: Number between 45 and 100 (unit height)

eee: Empty or PRO or Slide In or Drop In

##### **COMFORT a-bb-cc ddd**

Abbreviations

a: E (square) or S (inclined)

bb: Numbers between 78 and 146 (unit width)

cc: Number between 53 and 100 (unit height)

ddd: Empty or Slide In

##### **Vario Food Counter Hot aa bb**

Abbreviations::

aa: 82 (unit width)

bb: UB (base frame with heat cabinet)

##### **System base aaa**

Abbreviations:

aaa: Number between 44 and 146

#### **NOTE**

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

#### **NOTE**

Suitable lifting equipment should be selected depending on the stated weight of the unit (see technical specifications). Enlist the help of another person for spotting for the installation.

## 1.4. Warranty and liability

Our "General Terms and Conditions (GTC)" or customer-specific payment and delivery conditions apply. A guarantee claim and liability for personal 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 safety components that have not been installed properly and are not operable
- Non-compliance with the instructions in the operating manual in connection with the correct installation, start-up, operation, maintenance and assembly of the unit
- Unauthorised mechanical or technical modifications 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 the liability are:

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

### NOTE

In the event of non-compliance with the information provided, claims under warranty might lapse.

### NOTE

AKE GmbH assumes no liability / warranty or guarantee for components which have subsequently been installed on the unit (ex works).

### NOTE

The manufacturer is not liable for damage arising on the unit or components (e.g. broken glass, etc.) in the event of incorrect installation or of additional changes being required to specific environmental parameters of the unit (e.g. de-pressurisation).

### NOTE

If there are any malfunctions, switch off the unit and contact your supplier.

## 1.5. Manufacturer/Support

For technical queries please contact your supplier or 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](mailto:office@ake.at)

### **NOTE**

When contacting support, please 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 queries/repair

Technical support (phone):

+43 3624 21100 – 0

Technical support (email):

[office@ake.at](mailto:office@ake.at)

Orders / spare parts (email):

[webshop@ake.at](mailto:webshop@ake.at)

Webshop / spare parts (online catalogue):

<https://shop.ideal-ake.at/en/spare-parts-shop/>

Minimum warranty period:

See contract agreement / General Terms and Conditions of AKE

## 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) as well as possible damage to property**

Safety information with the WARNING signal word indicates a possibly dangerous situation. Failure to observe these safety instructions can lead to serious injuries.

### **CAUTION**

**Danger of personal injury (minor injuries) as well as possible damage to property**

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

### **NOTE**

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

## 1.7. Marking

The unit is clearly identified by the content of its rating plate. Depending on the model, the rating plate is located on the outer casing of the unit well on the operating side (see Chapter 2.1), in the base frame on the technology box casing (see Chapter 2.1), or on the cover of the controller in the base frame.



symbolic illustration



## 1.8. General safety instructions

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

- Covers with warning signs may only be opened by authorised specialists.
- The unit must not be cleaned with a water jet.
- Supporting heat (radiant heater including the housing) and primary heat (hotplate) reach high temperatures during operation and must not be touched.
- The protective covers and attachments must not be removed, otherwise there is a risk of injury.
- The controller may only be opened by an authorised specialist.
- Air flows around the unit from improperly installed fans (e.g. air-conditioners) or draughts must be prevented in order to ensure perfect operation of the unit.
- The ambient temperature must not permanently exceed +25 °C, and the relative ambient humidity must not permanently exceed 60%.
- The unit is not suitable for operation in entrance and outdoor areas.
- The unit must be protected from direct sunlight.
- The products for presentation must be preheated and must be inserted with a core temperature of at least +85 °C or hotter.
- Sharp objects must not be kept loosely 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 the glass breaking.
- Components and operating equipment 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 or installation, the unit must be covered adequately so that no contact with live parts is possible.
- The installation environment must be sturdy in design in order to withstand the strains of everyday operation.
- Guide and fixing rollers must be checked and fixed in a stable position.
- It must not be possible to remove any coverings that are mounted during the installation without tools.
- After cleaning, maintenance and servicing the unit must be checked for loose connections, shearing points and damage. Any deficiencies that are discovered must be remedied immediately.
- The unit must not be used for non-business purposes.
- The unit must be installed away from heat sources in a low-dust and well-ventilated environment.
- The exterior and underside of the unit must not be cleaned with a water hose or washing brush. Flowing water must be avoided in this area at all events.
- Do not store any articles on the glass structures (cover panel) of the unit.
- Units with heating climate and a mains water connection (connected to the water supply system) must be operated within the range from 200k Pa to 500k PA (2 bar to 5 bar).

### NOTE

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

**Any change must be authorised by your supplier or the manufacturer. Furthermore, in the event of non-compliance, liability and warranty claims are excluded.**

## 1.9. Proper use

The units are intended specifically for installation in food and dispensing counters. They are suitable for keeping food products and beverages warm and presenting them at controllable temperatures (see catalogue and website). Depending on the model, the units can be used as self-service units (see Chapter 1.3).

The units serve only for keeping packaged (especially for use at temperatures  $> 85^{\circ}\text{C}$ ) or unpackaged food hot, but not for heating up or cooking food. Units with a heating climate achieve the optimal humidification of unpackaged foods. When using units with dry heat for packaged foods, care must be taken that the packaging is suitable for the heating components, and for the temperatures in the unit. When stocking the units, a minimum distance of 80 mm from the heating components must be maintained. The units must be operated in complete condition. Depending on the model, all covers and doors must be fitted and closed during operation. Depending on the model, the covers and doors may only be opened briefly for inserting and removing products. The units listed have been developed and specified in accordance with EN 60335-1 / EN 60335-2-49. To save energy, we recommend switching off the units when they are not in use (WITHOUT foodstuffs) outside of business hours. Before stocking the units, wait until the desired temperature is reached.

### NOTE

All of the manufacturer's specifications must be complied with. Among others, these specifications include the ambient temperature, the quality of the installation environment and the connections that are to be used.

Use in accordance with the intended purpose also includes observing the installation and operating instructions, as well as compliance 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. The unit is operated via a control element that may only be used after reading and understanding the associated documentation. Furthermore, 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.

## 1.10. Target group and prior knowledge

This documentation is intended for operating personnel in the area of gastronomy (e.g. hotel chains, restaurants, catering) as well for the installation personnel. The unit may only be operated by trained personnel who must be appointed by the operator. Ensure that the personnel who are intended to operate the unit meet the following requirements:

- Operators may not be visually impaired, because they must be able to easily read the safety instructions on the unit and the information in the documentation.
- Reading and understanding this documentation is a requirement. The currently applicable regulations regarding 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 operator may perform maintenance and repair work.
- Ensure without fail that the locally applicable safety regulations and the regulations as mandated by trade law are complied with.

To acquire the knowledge that is required to operate the unit, the following measures must be carried out by the operator

- Product training
- Regular safety instruction



## 1.11. Reasonably foreseeable misuse

The units must not be used as follows:

- No food must be heated up or cooked. The unit must be stocked exclusively with foods which are at the prescribed temperature (from +85 °C).
- Operation outside the specified temperature range is not reliably possible, see Chapter 1.8.
- No openings may be blocked or covered. Food must not touch the walls of the unit (heating climate) or block the doors (operating side).
- The unit must not be operated outside of buildings. Protect the unit from direct sunlight.
- Units for food such as seafood, fish and mussels or similar must be designed with a higher grade of stainless steel (V4A or AISI 316) or equipped with suitable containers (e.g. GN trays). This also applies to unpackaged foods.
- Glass covers and shelves must not be used as climbing aids or for storage.
- The unit must not be used for non-business purposes.

## 1.12. Residual dangers

Even with maximum care during the design and construction of the units and taking into consideration all safety-relevant circumstances, there can still be residual dangers that have been evaluated by means of a risk assessment. All the residual risks and safety instructions from the risk assessment are listed in this chapter.

### DANGER

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

Cleaning, assembly, start-up, dismantling and repair work on all electric components must only be undertaken by authorised specialist personnel with the power to the unit switched off. To do this, switch the unit off or disconnect all poles from the mains supply.

### WARNING

**Danger of crushing when inserting the units into the counter opening/cut-out**

When inserting units, be aware of the danger of crushing, including for other persons. 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 (without transport rollers) 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 as well as danger from falling objects when handling/aligning/positioning heavy individual components**

When handling heavy objects, be aware of possible crushing dangers, including for other persons. If possible, use both hands when you handle heavy objects. Enlist 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 collision with the units during cleaning, installation and maintenance work**

Watch out for possible dangers of collision with the unit.

### WARNING

**Danger of crushing when moving the sliding/hinged doors**

To open and close the sliding doors, use the handles provided for this. When closing sliding doors, do not reach between the sliding door and the unit. Do not reach into the guiderails. When opening and closing the sliding doors take care to do this slowly. Rapid opening and closing can lead to hand injuries.

### WARNING

**Danger of tipping on uneven or unstable ground**

The base frame into which the unit is installed must exhibit sufficient stability to support it permanently.

## WARNING

### **Danger of crushing and falling parts when moving the unit**

The guide and fixing rollers must be fixed to ensure a permanent stable position. This applies in particular for larger models of the unit.

---

## WARNING

### **Danger of crushing in the lid area**

When lifting the lid of the unit there is a danger of crushing between the lid and the glass walls. Enlist the help of a second person if required. This applies in particular for larger models of the unit.

---

## WARNING

### **When lifting the lid of the unit there can be dangers due to a non-ergonomic body posture.**

Enlist the help of a second person if required. This applies in particular for larger models of the unit.

---

## WARNING

### **Various dangers when disposing of damaged parts/components.**

Wear protective gloves when disposing of damaged parts/components. Dispose of damaged parts/components properly and in an environmentally friendly way

---

## WARNING

### **Danger of burns in the interior of the display unit.**

Do not touch hot surfaces or products with bare hands. Use appropriate means such as tongs to remove the products. Allow the display unit to cool down completely before cleaning and maintenance work.

---

## WARNING

### **Danger of burns**

Do not place any flammable articles or packaging materials within the range of the radiant heater. Observe the local fire prevention regulations. Allow the display unit to cool down completely before cleaning and maintenance work.

---

## WARNING

### **Danger of crushing in the area of the front glass.**

When opening (folding out forwards) or lifting the front glass of the unit, there is a danger of crushing between the lid and the glass walls. Enlist the help of a second person if required. This applies in particular for larger models of the unit.

---

## WARNING

### **Danger of burning on the drip tray or the water bath.**

Switch the unit off and allow it to cool down for at least 45 minutes before starting cleaning work.

---

**! WARNING**

**Danger of burns on the steam inlet (only on units with heating climate).**

Close the steam inlet on the operating side before stocking the unit with products or removing them. Allow the unit to cool down completely before cleaning and maintenance work.

**! WARNING**

**Danger of burns on the steam generator (only on units with heating climate).**

Take care not to touch the steam generator when inserting and removing the hinged doors from the slot. Switch the unit off and allow it to cool down for at least 45 minutes before starting cleaning work.

**! WARNING**

**Danger of crushing in the area of the baseplate (only on units with heating climate).**

Check the gas damper regularly for proper functioning and replace it in accordance with the manufacturer's information.

**! CAUTION**

**Danger of tripping in the entire area around the unit**

Be aware of possible tripping hazards from cables/lines installed on the floor. Lines and cables must be installed safely by the operator so that there is no tripping hazard.

**! CAUTION**

**Danger of slipping on spilt water.**

Use the top-up container supplied with the unit (on units with heating climate) and clear up any spilt water.

## 1.13. Personal protective equipment

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



Wear safety shoes during installation and loading work.



Wear safety glasses when disposing of damaged parts/components.



Wear safety gloves during installation and loading work.



Wear a hardhat for installation, lifting and loading activities.

### NOTE

When cleaning the unit, the respective protective equipment stipulated by the manufacturer of the cleaning agent being used should be worn. Safety gloves should be worn during all cleaning activities inside the unit.

## 1.14. Transport and packaging

The design of the packaging is dependent on the quote provided and is implemented individually by agreement. By default, the units are transported with wood cladding, which protects the units against major damage. Components made of glass are wrapped additionally with packaging material. Moving parts and glass shelves are provided with an additional shell of packaging material. All parts are positioned and taped safely for transport inside this wood cladding.

### **! DANGER**

#### **Danger from falling objects when transporting and installing the units**

Use adequately dimensioned lashing and clamping devices. When securing the load, observe the permissible vehicle provisions. Local road regulations must be complied with. Any load-lifting equipment that is used, e.g. forklifts, must be adequately dimensioned. During lifting processes, make sure that no third parties are underneath loads being transported while raised. The unit may only be transported upright (in the position of use). Always lift loads at the centre of gravity.

### **! WARNING**

#### **Danger from falling objects when transporting and installing the units.**

Wear protective gloves and safety shoes during installation activities.

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 returned unused, undamaged and complete. The return shipment must be commissioned and paid for by the customer. Information on correct disposal of the packaging material can be found in Chapter 1.15.

### **NOTE**

All units must only be transported and stored in the position of use (horizontal). To be able to trace damage that is caused during loading, transport and unloading, 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 contained in the QR code and on the manufacturer's website.



<http://shockwatch.ideal-ake.at>

### 1.14.1. Storage before putting the units into operation

If the unit isn't be installed / used immediately after delivery, the following information should be noted for interim storage:

- Store the unit in a dry, well ventilated room, never outdoors.
- Do not remove or damage the original packaging.

## 1.15. Disposal

### **WARNING**

**Danger through falling objects when lifting and unpacking the units**

When removing the wooden cladding, watch out for possible dangers through wooden parts folding out. Enlist the help of another person if necessary. The unit must be lifted using suitable lifting gear, e.g. forklift. Any manual lifting of the unit must be done by at least four people, who must be sufficiently strong. Wear protective gloves and safety shoes during assembly and loading activities.

### **WARNING**

**Various dangers when disposing of damaged parts/components.**

Wear protective gloves when disposing of damaged parts/components. Dispose of damaged parts/components properly and in an environmentally friendly way.

### **NOTE**



Please note that some components of the unit are electronic parts. They therefore cannot be disposed of by the disposal provider under public law. Check your obligations in accordance with the national WEEE regulations. It is obligatory to sort waste before disposal in all events.

## 2. Technology

### 2.1. Explanation of terms for components

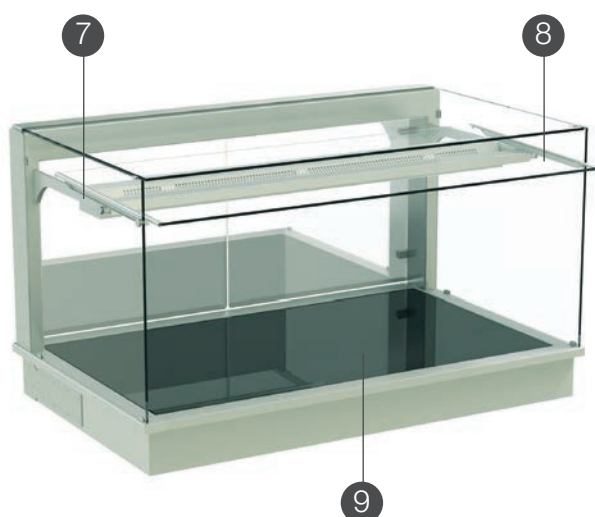
This chapter shows and identifies the individual components of the units. The pictures shown are for information purposes only and do not have to correspond to the actual size or shape of your model.



#### 2.1.1. Units with dry heat

##### OPERATOR SIDE



##### CUSTOMER SIDE

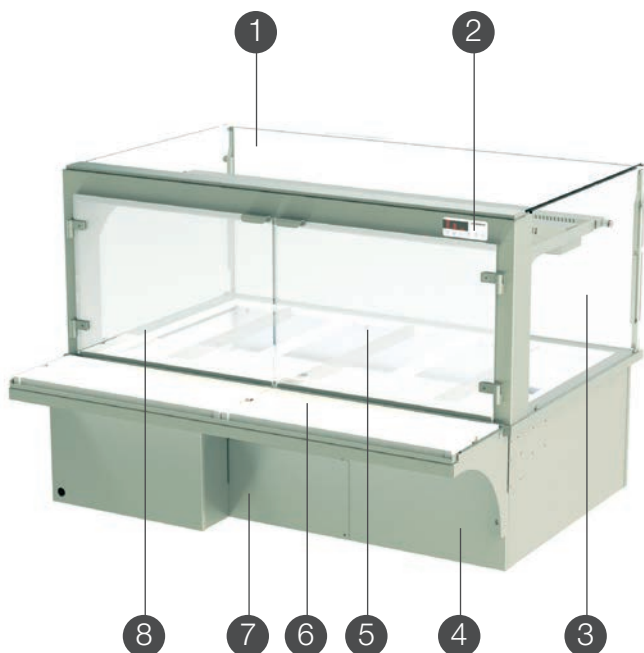


No.	Designation
1	Glass cover
2	Controller display
3	Side glass (operating side, right)
4	Bottom tray
5	Hinged door, right Mirror effect with one-way glass and Easy-Clean (detachable)
6	Hinged door, left Mirror effect with one-way glass and Easy-Clean (detachable)
7	Lighting element (including supporting heat) For details see chapter „2.1.3“
8	Front glass with Easy-Change function (optional open or closed operation)  Soft-close flaps (depending on model) 
9	Black glass plate (including hotplate)






## 2.1.2. Units with heating climate

### OPERATOR SIDE



### CUSTOMER SIDE

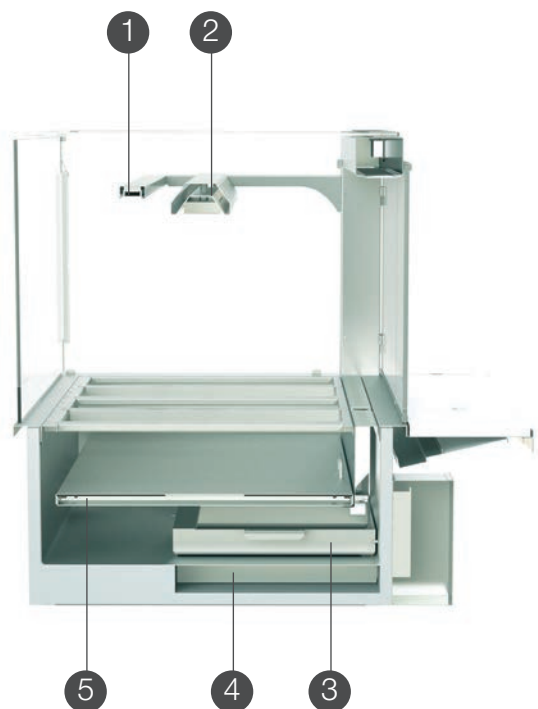


No.	Designation
1	Glass cover
2	Controller display
3	Side glass (operating side, right)
4	Bottom tray
5	Hinged door, right Mirror effect with one-way glass and Easy-Clean (detachable)
6	Cutting board (detachable) with integrated folding mirror 
7	Inspection flap (replaceable heating element, float switch, water bath)
8	Hinged door, left Mirror effect with one-way glass and Easy-Clean (detachable)
9	Lighting element (including supporting heat) For details see chapter „2.1.3“
10	Front glass with Easy-Change function (optional open or closed operation)  Soft-close flaps (depending on model) 
11	GN trays (not included in scope of delivery)


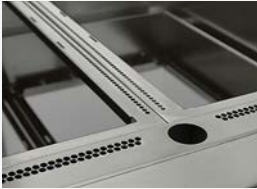

# 02 | Display cases with heating climate or dry heat Technology

## 2.1.3. Cross-section (units with heating climate)

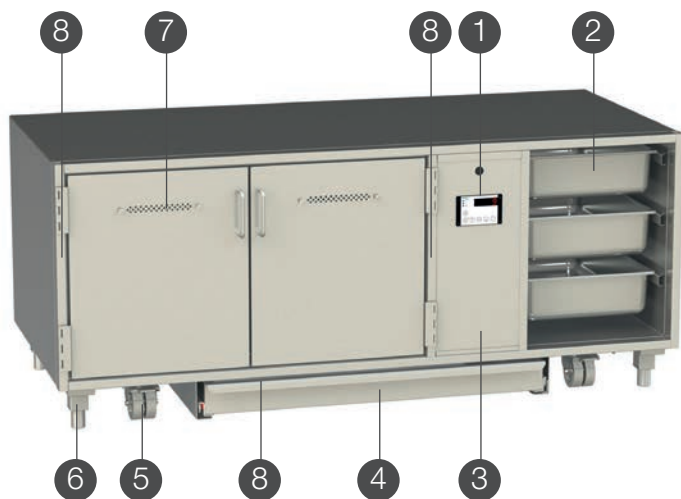
CUSTOMER SIDE



OPERATOR SIDE

No.	Designation
1	Lighting (LED)
2	Supporting heat (radiant heat)
3	<p>Water bath with float switch</p>  <p>Options for filling the water bath:</p> <ul style="list-style-type: none"> <li>• Easy filling (with measuring can)</li> </ul>  <ul style="list-style-type: none"> <li>• Technology box and/or water tank (CNS riser and filter)</li> </ul>  <ul style="list-style-type: none"> <li>• Mains water connection</li> </ul>
4	Heating elements
5	Primary hotplate hinged (including gas damper)

## 2.1.4. Heated base (Hot Storage model)

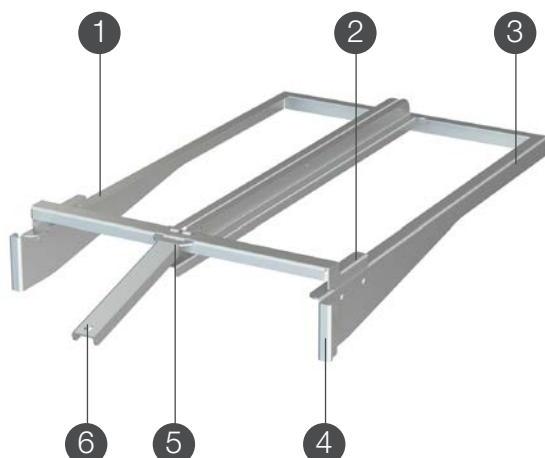


OPERATOR SIDE



No.	Designation
1	Controller display
2	Additional compartment for GN trays (only for model size 4/1, GN trays not included in scope of delivery)
3	Installation compartment cover
4	Drawer (optional for hinged door Basic models)
5	Guide and fixing rollers with locking mechanism (optional)
6	adjustable feet
7	Dehumidification opening, adjustable
8	Position of hotplate (HP)
9	Hook-in frame for GN trays with divider (depending on model)
10	Supports for hook-in frame (height-adjustable)
11	Hinged doors

## 2.1.5. Structure of hook-in frame



No.	Designation
1	Support for GN trays
2	Stabiliser
3	Base frame
4	Hook-in lug
5	Crossbar
6	Hook-in aid

# 02 | Display cases with heating climate or dry heat Technology

## 2.2. Technical specifications

<b>Protection class</b>	Protection class I earth connection	EN 61140
<b>Performance data</b>	According to rating plate or <ul style="list-style-type: none"> <li>• website</li> <li>• catalogue</li> <li>• quote</li> </ul>	
<b>Materials</b>	<ul style="list-style-type: none"> <li>• Stainless steel <ul style="list-style-type: none"> <li>- 1.4301</li> <li>- 1.4016</li> <li>- 1.4404</li> </ul> </li> </ul>	
<b>Supplier components</b>	<ul style="list-style-type: none"> <li>• Primary heat</li> <li>• Supporting heat (radiant heater)</li> <li>• LED (lighting)</li> <li>• Glass</li> <li>• Electric lines and assembly materials (cables, cable ties, etc.)</li> <li>• Control box (depending on model) (controller, PCB, display, etc.)</li> </ul>	
<b>Insulating material</b>	<ul style="list-style-type: none"> <li>• LAMOLTAN® polyurethane rigid foam system</li> </ul>	
<b>Glass</b>	Single pane safety glass (6 or 8 mm) or insulating glass (16mm)	EN12150-2:2004

### NOTE

Dimensions, product presentation areas and unit construction can differ from the values stated due to custom designs, and are defined by the specific order. Further details can be obtained from your supplier, specialist retailer or customer service.




## Unit service life

### NOTE

Due to the use of high-quality and long-lasting materials and 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. These must be followed under all circumstances. If the safety markings start to blister or become damaged over the course of the service life of the unit, they must be replaced by new stickers without delay. The legibility and completeness must be checked at regular intervals.

Pictograms	Descriptions
	Warning – electrical hazard
	Warning – hot surfaces
	Protection class I earth connection

### 2.3.1. Electrical information

The units are electrically fully equipped and installed (due to custom designs and depending on the order specification, the product may be prepared for customer-side controller/electrics).

All work, installations, deliveries and services may only be carried out by specialist companies and specialist personnel. Electrical installations must be carried out by a specialist. You must ensure that qualified personnel and tools are available to prevent damages and injuries.

#### **DANGER**

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

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

## Connecting the unit

Units with a nominal voltage of 230 V 50 Hz (single-phase) are supplied with a mains plug as standard. Units for 400 V 50 Hz (three-phase) must be connected to the power supply by authorised specialist personnel.

The following conditions must be met for a proper connection:

- A permanent power availability of 16 A per phase must be guaranteed.
- Faults in the power supply must be rectified before connecting the unit.

The manufacturer of the unit is not responsible for damage resulting from improper connection.

### Fuse protection:

Units with 230 V 50 Hz (single-phase): 1 x 16 A

Units with 400 V 50 Hz (three-phase): 3 x 16 A

### NOTE

**For 400 V units a three-pole mains power switch must be supplied on-site (by the installer / customer / operator). ).**  
Not included in the scope of delivery. Further information can be found in the unit's circuit diagram.

## Possibility of disconnection from the power grid

If a plug connection is used for the mains connection, then the power outlet must be easily accessible to be able to disconnect the unit from the power grid if need be (cleaning, maintenance work). If direct wiring is used, then a means of disconnecting the unit from the power grid must be provided.

### DANGER

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

The mains voltage and frequency must match the values given 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. If the mains connection is damaged, it must be removed and replaced by authorised specialist personnel.

## 2.4. Assembly and installation guide

This chapter provides important information on assembling and using the unit. All work, installations, deliveries and services may only be carried out by specialist companies and authorised specialist personnel. Electrical installations must only be carried out by specialist personnel with the necessary knowledge. They must ensure that suitable personnel and tools are available to prevent damage and injuries.

### 2.4.1. Delivery acceptance of the unit

Check the unit for any transport damage, and note any damage you identify on the acceptance documents from the freight forwarder as well as on your own form, and have the damage confirmed.

#### **DANGER**

To make it possible to trace damage that is caused during loading, transport and unloading, all units are equipped with a "Shockwatch® 2". This tool makes it possible to determine at which point of the delivery a product is damaged in order to clarify transport damage. Information on the ShockWatch® concept is given in the QR code (see Chapter 4.1) or can be requested from the manufacturer.

If the damage is only discovered after unpacking, you are required to report it immediately in writing. It is advisable to notify your supplier by phone in advance.

To remove the transport packaging you require the following:

- at least two people
- tools:
  - cordless screwdriver or Philips screwdriver
  - cutting tool (scissors or knife)

#### **NOTE**

Your claim to compensation for the damage will lapse if you do not report transport damage in good time (in accordance with GTCs).

### 2.4.2. Details of the installation site

All requirements for the installation site in accordance with Chapter 1.8 must be followed in order to ensure efficient and safe operation.

#### **NOTE**

Correct installation and trouble-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 on an uneven and unstable subsurface**

Make sure 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 unintentionally (drawers, hinged doors, etc.) It must be ensured that the unit is stable.

### 2.4.3. Assembly of the unit

To install the unit you require the following:

- suitable lifting equipment
- tools:
  - adjustable spanner or pipe wrench (for freestanding units)
  - spirit level
  - possible special tool for water supply and drainage (depending on the model)

The installation personnel are responsible for the stability and mounting of the unit. Use the supporting and fastening elements supplied with the unit (depending on the model, see installation instructions). Detailed installation instructions can be requested from your service partner. The supporting and fastening elements enable installation on the floor or wall (depending on the model). Attach the supporting and fastening elements with screws using the corresponding installation materials depending on the condition of the floor/wall. Protect the surfaces of the unit and the base frame against any damage during assembly/installation.

#### NOTE

When using the supporting and fastening elements, ensure that the condition of the floor/wall is adequate for the unit. Check that the unit is secure after installation (check screws). Stand-alone units and units with a pedestal must be attached to ensure safe operation!

#### NOTE

It is necessary for the base to be level (units with height-adjustable feet) in order to enable the condensate to drain off (units with heating climate). Ensure that the water inside the well can also drain off.

Ensure that the appliance cladding and counters are prepared in accordance with the technical specifications. The size of the installation opening depends on the model and can be found in the current product catalogue under "Technical data" for the respective unit, or in the order drawing (technical drawing). Please note that the dimensions of the bottom tray can expand due to the heat in the unit (see Chapter 2.1). The bottom tray must not be placed adjacent to the installation opening or the cladding. Protect the surfaces of the unit and the base frame against any damage during assembly/installation.

#### NOTE

It is essential to level the unit in total horizontal position.

### 2.4.4. Wastewater disposal (steam condensate)

The wastewater disposal takes place via the unit's wastewater connection, which is preinstalled by the manufacturer ex works. Depending on the model and contractual specifications, the disposal of condensate must take place via a fixed wastewater connection or via a further collection option which is adequate for the unit volumes (e.g. a collection container). It must be ensured that wastewater cannot flow back into the unit.

#### NOTE

Further technical details can be found in the customer-specific information.



## 2.4.5. Connecting the drain

If there is no drain on-site, ensure that the shut-off valve of the siphon hose is closed during operation (depending on the model). If you are using an on-site drain the siphon hose can be connected directly to this. The drain must be equipped with a siphon to prevent cold air and odours penetrating the display case.

### NOTE

The drainage installation must only be undertaken by authorised specialist personnel. The manufacturer recommends installing an odour trap (siphon) in the drainage system. Drainage connections must be installed according to the local conditions.

## WARNING

### **Risk of water leaks due to drainage connection being attached incorrectly**

When setting up and operating the unit, ensure that the drainage connections are properly installed. Lifting the unit manually can loosen the locking mechanism and thus lead to water flowing out. This must be checked after setting the unit up and before it is put into daily use. Personal protective equipment must be used.

## 2.4.6. Connecting the mains water

Only a drinking water supply pipe may be connected to the mains water connection. Depending on the model, use the seal and filter supplied with the unit when installing it. A shut-off valve must be provided on-site, which must be closed every day after the close of business. Check the connection regularly for leaks.

### NOTE

For units with a permanent water connection (drinking water quality) the maximum connection pressure is 4 bar. This must be ensured and checked by the operator.

## 2.5. Installing the control box / control display

For some groups of units, the control box is enclosed loose (depending on the model) and has to be mounted after assembly or installation in the counter etc. Every control unit consists of the control display (control panel) and the power electronics (PCB) which is built in to the casing of the control box. The control display is connected internally to the power electronics by means of a cable. The control panel is detachable, and can be removed from the control box and mounted on the front of the unit (depending on the model). After installation, the control unit and cabling are only accessible with a suitable tool.

### NOTE

Depending on the model, different control units (heat regulators) can be installed.  
The enclosed operating instructions for the control must be observed under all circumstances.

### 2.5.1. Control unit STÖRK (ST-501; ST-200; ST-300)

(Display: ST-501)



#### Possible configurations:

**ST-501:** The control panel is by default connected to the power electronics by a 1.5 metre data cable (> 2 m data transmission incorrect).

**ST-122:** 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).

ST200 / ST300  
(Display: ST-122)



### NOTE

Cut-out required for installation of display:  
- ST-501: 87.5 mm x 56.5 mm (WxH)  
See Chapter 3.3 for the button assignment  
- ST-122 Display (ST-200 / ST-300) Box Display: 35 x 105 mm (WxH)  
See Chapter 3.2 for the button assignment

### 2.5.2. Control unit CAREL (IJ-F)



Some heating units can be equipped with control unit IJ-F  
This controller is permanently installed / wired in the device and can't be installed in furniture fronts (special design possible).  
Due to special design, this description may deviate and is enclosed separately with the device (including all important information).

### NOTE

Cut-out required for installation of display:  
- Carel IJ-F: 29 x 71 mm (WxH)  
See Chapter 3.4 for the button assignment

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.

## 3. Operation and use

This chapter describes the proper start-up and use of the unit (depending on the model).

### 3.1. Initial start-up

#### **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, it is still recommended that the unit is cleaned thoroughly with a suitable disinfectant or cleaning agent (see Chapter 4.1.2) to remove any dirtying.

#### **NOTE**

Wait until the desired temperature has been reached before stocking the unit with products. For units with energy adjustment.

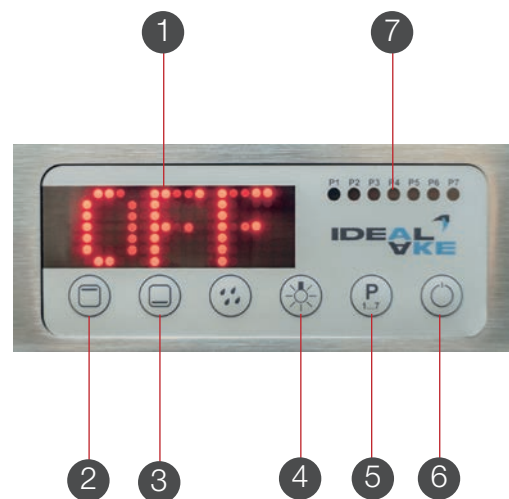
#### **NOTE**

In the event of a power failure, the unit will start again in the last operating mode.

## 3.2. Operation of the units

### 3.2.1. Button assignment for units with dry heat (ST-122)

BUTTON	DESCRIPTION	FUNCTION
1	Display	Shows settings/changes/ value/faults
2	Supporting heat	Supporting heat on/off (3 heating levels)
3	Primary heat	Primary heat on/off (3 heating levels)
4	Light	Light on/off
5	Program	Storable programs P1 to P7
6	On/off	Heated display case on/off
7	Display P1 bis P7	red lighted = active



#### NOTE

If nothing is shown on the display, check whether the unit is connected to the power supply.

## Operation of the unit with dry heat



When the unit has been connected to the power supply, "OFF" appears on the display. To switch the unit on or off press **button 6**.



After the unit has been switched on, the controller display (No. 1) always shows the power level NEUTRAL for all heat sources. **The unit does not heat up.** The light can be switched on and off using **button no.4**.



By pressing the buttons, supporting heat (**button 2**) and primary heat (**button 3**) can be activated separately with 3 heat settings. The controller display indicates the heat levels visually.



Pressing button **4** turns the light on and off. The unit offers the option of neutral (unheated) operation (all heat levels are turned off).

## Heat settings



Supporting heat  
Primary heat  
(neutral mode)

**Button 2** deactivated  
**Button 3** deactivated



Supporting heat  
Primary heat

**Button 2** on level 1  
**Button 3** on level 1



Supporting heat  
Primary heat

**Button 2** on level 2  
**Button 3** on level 2



Supporting heat  
Primary heat

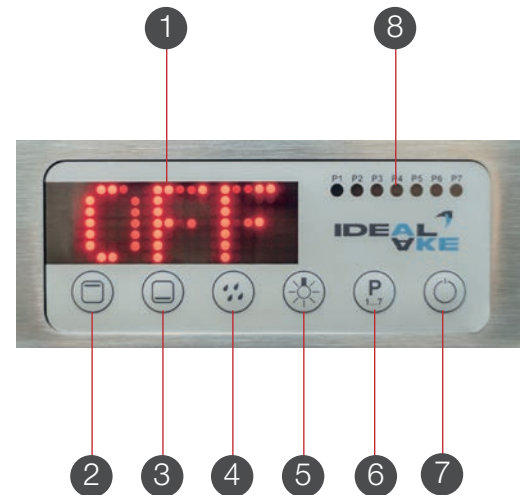
**Button 2** on level 3  
**Button 3** on level 3

### NOTE

The different levels shown for supporting and primary heat can be set individually as needed. The pre-set program can be selected by pressing **button nr.5 „Program“**. The active program is indicated in section nr.7 by the respective red LED light.

### 3.2.2. Button assignment on units with heating climate

BUTTON	DESCRIPTION	FUNCTION
1	Display	Shows settings/changes/ value/faults
2	Supporting heat	Supporting heat on/off (3 heating levels)
3	Primary heat	Primary heat on/off (3 heating levels)
4	Humidification	Humidification on/off (3 intensity levels)
5	Light	Light on/off
6	Program	Storable programs P1 to P7
7	On/off	Heated display case on/off
8	Display P1 to P7	red lighted= active



## Operation of the unit with moist heat (heating climate)



When the unit has been connected to the power supply, "OFF" appears on the display.

To switch the unit on/off press **button 7**. The light can be switched on and off using **button 5**. The unit offers the option of neutral (unheated) operation (all heat levels are deactivated).



After the unit has been switched on, the controller display always shows the power level NEUTRAL for all heat sources. **The unit does not heat up.** The light can be turned on and off. By pressing the buttons supporting heat (**button 2**), primary heat (**button 3**) and humidification (**button 4**) can be activated separately with 3 heat settings each. The controller display indicates the heating levels visually.

## Heat settings



Supporting heat  
Primary heat  
Humidification  
(neutral mode)

**Button 2** deactivated  
**Button 3** deactivated  
**Button 4** deactivated



Supporting heat  
Primary heat  
Humidification

**Button 2** on level 1  
**Button 3** on level 1  
**Button 4** on level 1



Supporting heat  
Primary heat  
Humidification

**Button 2** on level 2  
**Button 3** on level 2  
**Button 4** on level 2



Supporting heat  
Primary heat  
Humidification

**Button 2** on level 3  
**Button 3** on level 3  
**Button 4** on level 3

### NOTE

The different levels shown for supporting and primary heat can be set individually as needed. The pre-set program can be selected by pressing **button nr.6 "Program"**. The active program is indicated in section nr.8 by the respective red LED light.



### 3.3. Button assignment on units with energy-adjustment element

The table below explains the button assignment and the functions of the buttons. The digital display of the temperature controller is located above the buttons, and shows the average temperature and any error messages (see Chapter 3.7).

#### NOTE

The target value set at the factory can be displayed by pressing the SET button. This value is set according to the unit, an adjustment is only permitted by an authorised specialist.

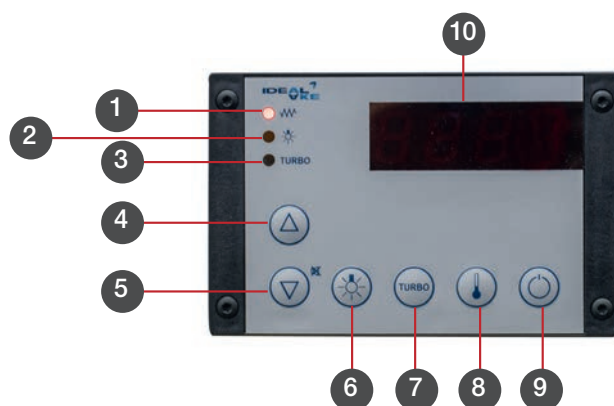
After changing the temperature settings, it takes some time for the desired temperature to be reached in the unit and stabilise (check the set temperature with a suitable test thermometer). The temperature must be set by authorised specialist personnel, the supplier or specialist dealer during the installation. Observe the ambient conditions when choosing the food storage temperature. A large temperature difference between the inside and outside temperature combined with high air humidity can lead to heat losses.

# 03 | Display cases with heating climate or dry heat

## Operation and Use

### 3.3.1. Energy-adjustment element with turbo button (heat levels)

BUTTON	DESCRIPTION	FUNCTION
1	Heating	Display red = active
2	Light	Display red = active
3	Turbo	Display red = active heating-up phase, level 10 = 100%
4	Up	Increase value Level 1 = 10% Level 2 = 20% Level 3 = 30% Level 4 = 40% Level 5 = 50% Level 6 = 60% Level 7 = 70% Level 8 = 80% Level 9 = 90% Level 10 = 100%
5	Down	Reduce value (for levels see button 4 "UP")
6	Light	Light ON/OFF
7	Turbo	Start heating-up phase, level 10 = 100%
8	Set	Shows level (target value) and setting parameters
9	Standby	Heated display case ON/OFF (standby)
10	Digital display	Shows actual value and mes- sages (errors)

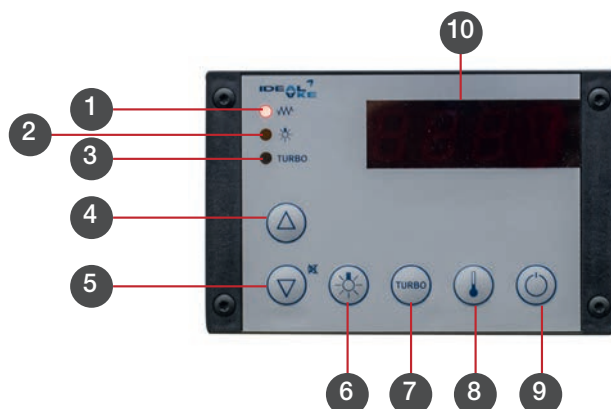


### Temperature setting (heat levels)

The food storage temperature is controlled via the controller display of the electronic temperature control. This is located normally on the control box. When the unit is switched on, the adjusted temperature is shown in levels and can be changed by pressing the SET button. The desired level (temperature) can be set by holding down the SET button and at the same time pressing the UP button for higher levels or the DOWN button for lower levels. This enables the temperature to be set from level 1 (10% of the possible heating capacity = minimum temperature) to 10 (100% = maximum temperature). When turning the unit on, pressing the **TURBO button 3** will start the unit at the highest level for a pre-programmed period of time, after which the temperature will regulate itself to the level that has been set.

### 3.3.2. Energy-adjustment element without turbo button (heat levels)

BUTTON	DESCRIPTION	FUNCTION
1	Heating	Display red = active
2	Light	Display red = active
3	Turbo	Display red = active heating-up phase, level 10 = 100%
4	Up	Increase value
5	Down	Reduce value
6	Light	Light ON/OFF
7	Button not assigned	
8	Set	Shows level (target value) and setting parameters
9	Stand by	Heated display case ON/OFF (standby)
10	Digital display	Shows actual value and messages (errors)









## Temperature setting (°C)

The food storage temperature is controlled via the controller display of the electronic temperature control. This is located normally on the control box. When the unit is switched on, the actual temperature is shown in °C. The target value set at the factory is shown in °C and can be displayed by pressing the SET button. Your desired temperature can be set by holding down the SET button and at the same time pressing the UP button for a higher temperature or the DOWN button for a lower temperature. The button assignment can be found in Chapter 3.3.1.

## 3.4. Operation of units with dry heat (Carel control)



Symbolic illustration

SYMBOL	DESCRIPTION	FUNCTION
	Light	Activating / deactivating LED light
	fan active	-
	Heating mode active	-
	Program	Short press: - Access to menu - Saving value and returning to parameter code  Long press (3 sec): - Access to programming mode - Return to previous level
	setpoint arrow up	- increase the setpoint - scrolling through the setup - direct access to setpoint settings
	ON OFF Button Arrow down	- switch on/off the heating unit - lowering of setpoint - scrolling through the setup

**NOTE**

The unit is delivered with its own operating instructions for the heat controller with detailed information on operation. These instructions described therein must be followed.

### 3.5. Operation of units with a rotary knob (US devices)

The control is installed primarily in devices that are intended for the American continent. The displays and components on the control unit are explained in the following table.



BUTTON	DESCRIPTION	FUNCTION
1	Switch for light	Lighting ON/OFF
2	Temperature controller	Temperature controller (levels 1 to 12 clockwise) for main heat (hotplate)
3	ON/OFF indicator	Display indicates green light = main heat (hotplate) active
4	Heating operation indicator	Display indicates red light = main heat (hotplate) is heating (energy supply)

### Temperature setting

The food storage temperature is controlled via the rotary control knob. It is located on the control box. The heated display case is switched on by means of **button 2** of the energy adjustment controller, and the hot plate temperature is increased by turning the knob clockwise. As soon as the energy adjustment controller is switched on the green LED lights up, and the red LED lights up until the set temperature is reached.

### 3.6. Stocking the unit

#### NOTE

Before stocking the unit, ensure that the unit and the products have been pre-heated to the respective temperature.

The products presented in units are maintained at the desired temperature by means of primary heat (heating mats with black glass) and supporting heat radiant heaters. Products stored in the unit must be kept at the specified minimum distance (**of at least 80 mm**) from the supporting heat, and must not touch this under any circumstances (risk of fire). If foods are brought too close to the supporting heat, this can result in the foods scorching and drying out.

#### ! WARNING

##### Risk of burns inside the heating unit

Do not touch any hot surfaces or products with your bare hands. Use suitable tools such as pliers for handling with products.

#### ! WARNUNG

##### Danger of combustion at the steam outlet on units with heating climate.

Close the steam outlet on the operating side before stocking the unit with products or removing them. When stocking or removing products, ensure that they do not come into direct contact with parts carrying steam.

#### NOTE

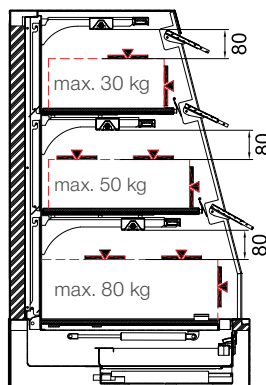
Set the temperature according to your product. A temperature that is too high leads to the product drying out or burning.

#### NOTE

Observe the maximum load capacity of the respective supports (shelves).

**For the maximum load see the graphic representation.**

Please note that you cannot store any casks or bottles on the glass shelves. Ceramic plates can cause scratches on powder-coated shelves.



#### NOTE

When stocking the unit, a **minimum distance of 80 mm** must be maintained from supporting heat components (radiant heater).

### 3.6.1. Filling the water bath with water

(only for units with heating climate)

#### **! WARNING**

##### **Danger of burns**

Switch off the unit and wait for at least 45 min for cooling down the unit before starting with cleaning work.



MODEL	FILLING QUANTITY
BASIC, BASIC Plus GN 1/1 up to 3/1	2.5 litres
BASIC, BASIC Plus GN 4/1	4 litres

The BASIC unit has a waterproof system which triggers an acoustic warning signal if the water level in the tray drops below the quantity of water required. A visual indicator appears on the control display. The acoustic warning signal sounds for five seconds and then switches off, while the visual warning indicator "H2O" (the filling level in the glass on the control display moves up and down) flashes visible on the control display until the tray is filled up with water to the required level using the measuring can supplied with the unit (accessory included in the scope of supply).

#### **NOTE**

Filling with cold water extends the warm-up phase up to 30 minutes.



The BASIC heated display case has an easy-filling system. This enables the unit to be filled up during operation without the removal of the stored products. The opening for filling up the water is located in the centre of the operating side on the hook-in frame.

#### **NOTE**

If the water is not filled up within 30 minutes of the refill warning signal, the heating for the water tray will automatically switch off. The products will remain at temperature through the primary and supporting heat.

#### **NOTE**

Only use drinking water to fill the water tray. The water tray must be emptied and cleaned daily after use.

### 3.6.2. Filling the water tank of Basic Plus units

Fill the water tray with drinking water every day when starting up the unit for the first time. The water tank can subsequently be filled up with hot water.

#### NOTE

Filling the water tray with cold water extends the heating-up phase up to 30 minutes.



As soon as the water tank is empty, an acoustic warning signal sounds for 5 seconds. The visual warning indicator "H2O" (the filling level in the glass on the control display moves up and down) draws attention to the necessary filling..



The water tank can be removed after unscrewing the pump system, and is then filled up at the tap via the filling hole (remove the yellow cap). After topping up, press the **buttons 2 and 4** simultaneously for 7 seconds to acknowledge the warning and restart the humidity supply (see Chapter 3.3).

#### NOTE

If the water is not topped up within 30 minutes of the top-up warning signal sounding, the heating for the water tray will automatically switch off. The products will remain at temperature through the primary and supporting heat.

The water tank in the base frame of the BASIC Plus heated display case provides the automatic water supply for up to 12 hours depending on the model.

#### NOTE

Only use drinking water for filling the water tank. The water tray and water tank must be emptied and cleaned daily.



### 3.6.3. Pumping water out of the steam generator (only for units of type „Comfort Line“)

On units with a steam generator (Hygromatik system) this must be emptied prior not being used for longer period of time. If the unit will not be in operation for three or more days, the water must be drained from the steam generator.

#### **WARNING**

##### **Danger of burns**

Switch the unit off and let it cool down for at least 45 minutes before starting cleaning work.

Pump out the water, switch off the device including the technology box and let the entire device at least 45 minutes cool down!

#### **WARNING**

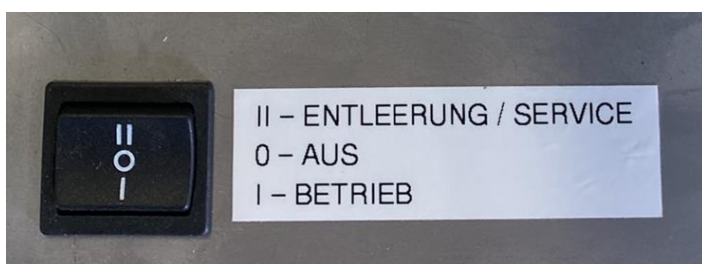
##### **Danger through touching hot surfaces**

The temperatures in the area of the machine compartment are very high. The parts remain hot even after the unit is switched off.



Proceed as follows step by step:

1. Switch the unit off
2. Provide a suitable container or attach a drainage hose to dispose of the water directly into the on-site drain.
3. Pump out the water present in the steam cylinder by means of the drain pump. Keep the rocker switch on the technology box pressed down on level 2.



II = Drain / Service

0 = Off

I = Automatic mode (operation)

Close the mains water connector on the display case if the steam unit is not in use.

#### **WARNING**

##### **Danger of burns on the steam generator (only on units with heating climate)**

Switch the unit off and let it cool down for at least 45 minutes before draining the water from the steam generator.

### 3.7. Troubleshooting / faults and causes

#### NOTE

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

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

Fault	Possible cause	Remedy
The unit is not working.	Power supply disconnected	Check the 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.	Too much / too cold food	Remove products and preheat
	Ambient temperature in the room is too low	Adjust the room air-conditioning (for ambient conditions see Chapter 1.8).
	A draught from the outside is interfering (mainly with open units)	Choose installation location without a strong draught; follow requirements in Chapter 1.8.
	Heat level set incorrectly	New setting of the level / target temperature (see Chapter 3)
	Fault in the primary / supporting heat, unit faulty	Contact authorised service specialist / support.

Fault	Possible cause	Remedy
Lighting is not working	LED lighting not switched on	Switch lighting on (see Chapter 3)
	Lamp or lamp connector defective	Contact authorised service specialist / support.

Fault	Possible cause	Remedy
Primary and/or supporting heat does not become hot, cannot be regulated	Unit is not switched on	Switch unit on (see Chapter 3)
	Control / sensor or fuse defective	Contact authorised service specialist / support.

Fault	Possible cause	Remedy
Radiant heater and/or bottom tray/heating tray does not become hot	Unit not switched on	Switch unit on
	Control / sensor or fuse defective	Contact authorised service specialist / support.

Fault	Possible cause	Remedy
Heat sources cannot be regulated	Control / sensor or fuse defective	Contact authorised service specialist / support.

Fault	Possible cause	Remedy
Food is too hot	Temperature level is set to high	Set the controller for heat sources lower

Fault	Possible cause	Remedy
Food dries out too quickly	Water tank is empty / mains water connection defective (depending on the model)	Fill up water tank, check mains water connection (by authorised specialist)

Fault	Possible cause	Remedy
H2O alarm on the display	No water or insufficient water	Check the water supply (see Chapter 3.5.1)

Fault	Possible cause	Remedy
The food cools down.	Food placed in the unit is cold or not at the desired temperature	Check that the functions “primary heat” and “supporting heat” are active (Chapter 3). Check that the food was placed in the unit with a core temperature of 85 °C. 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.

### 3.8. Status indicators and error messages on the display

Fault/symbol	Cause / description	Remedy / action
Display does not show anything	"OFF" is not shown on the display. Display black	Check the power supply. If the fault cannot be resolved with the aid of Chapter 2.3.1, contact an authorised service specialist / support
Error message on display: <i>F90</i>	Communication fault between display and controller.	Contact authorised service specialist / support
Error message on display: <i>F1HrF1L</i>	Fault on the supporting heat sensor or sensor defective	Contact authorised service specialist / support
Error message on display: <i>F2HrF2L</i>	Fault on the primary hotplate sensor or sensor defective	Contact authorised service specialist / support
Error message on display: <i>F3HrF3L</i>	Fault on the water bath angle sensor	Contact authorised service specialist / support
Error message on display: <i>F10</i>	Fault on the float or water bath Water bath or float not being used properly	Check float and water bath (see Chapter 4.1.6) If the fault continues, contact your support or the manufacturer
Error message on display	No water or insufficient water  Note: H2O alarm. Indicator moves and signal tone sounds	Check the water supply: for manual filling see Chapter 3.5.1; Water tank see Chapter 3.5.2; Drinking water connection see Chapter 2.4.5; If the fault continues, contact your support or the manufacturer

#### NOTE

The table shown does not apply to custom controllers. Further information on custom controllers can be found in the associated programmer instructions.

## 3.9. Programmes and recommended settings

### NOTE

The values shown should be taken as recommendations based on tests and feedback from users.

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..

### 3.9.1. Recommendations for operation “Open on one side”

RECOMMENDED APPLICATIONS: 1) Self-service glass open and hinged doors closed 2) Self-service glass closed and hinged doors open	Supporting heat (top)	Primary heat (bottom)	Steam	Pre-programmed storage space
Meat-poultry-fish in sauce, steamed products in a little liquid (fish, poultry, meat), stuffed vegetables with meat/vegetables, rice, pasta, potatoes, vegetables with/without sauce, gratins, stews, soups	3	2	3	P1
Schnitzels, cutlets, meat and poultry, whole roasts for slicing, rice, pasta, potatoes, vegetables with/without sauce, gratins, stews, soups	3	3	3	P2
Schnitzels, meatballs, meatloaf, pork knuckle, chicken legs, pizza, sausages, sausages in water, burgers, kebabs (finger food), finger food articles	3	2	2	P3
French fries, wedges, nuggets, spring rolls, fish in batter, finger food articles	3	2	1	P4
Hot filled pittas, filled croissants, quiche, sausage in batter, finger food articles	2	1	1	P5
Bread rolls, croissants, bread, cake, baked goods	1	0	1	–

## 3.9.2. Recommendations for operation “closed on all sides”

RECOMMENDED APPLICATIONS: Self-service glass closed and hinged doors closed	Supporting heat (top)	Primary heat (bottom)	Steam	Pre-programmed storage space
Meat-poultry-fish in sauce, steamed products in a little liquid (fish, poultry, meat), stuffed vegetables with meat/vegetables, rice, pasta, potatoes, vegetables with/without sauce, gratins, stews, soups	2	1	1	P5
Schnitzels, cutlets, meat and poultry, whole roasts for slicing, rice, pasta, potatoes, vegetables with/without sauce, gratins, stews, soups	2	1	1	P5
Schnitzels, meatballs, meatloaf, pork knuckle, chicken legs, pizza, sausages, sausages in water, burgers, kebabs (finger food), finger food articles	2	1	1	P5
French fries, wedges, nuggets, spring rolls, fish in batter, finger food articles	2	1	0	–
Hot filled pittas, filled croissants, quiche, sausage in batter, finger food articles	1	1	1	P6
Bread rolls, croissants, bread, cake, baked goods	1	0	0	P7

### 3.9.3. Overview of pre-programmed storage setups

Programmable area	Supporting heat (top)	Primary heat (bottom)	Steam	Recommendations for “One side open” operation: 1) Self-service pane open and hinged doors closed 2) Self-service pane closed and hinged doors open	Recommendations for “All sides closed” operation: Self-service pane closed and hinged doors closed
P1	3	2	3	Meat-poultry-fish in sauce, steamed products in a little liquid (fish, poultry, meat), stuffed vegetables with meat/vegetables, rice, pasta, potatoes, vegetables with/without sauce, gratins, stews, soups	–
P2	3	3	3	Schnitzels, cutlets, meat and poultry, whole roasts for slicing, rice, pasta, potatoes, vegetables with/without sauce, gratins, stews, soups	–
P3	3	2	2	Schnitzels, meatballs, meatloaf, pork knuckle, chicken legs, pizza, sausages, sausages in water, burgers, kebabs (finger food), finger food articles	–
P4	3	2	1	French fries, wedges, nuggets, spring rolls, fish in batter, finger food articles	–
P5	2	1	1	Hot filled pittas, filled croissants, quiche, sausage in batter, finger food articles	Meat-poultry-fish in sauce, steamed products in a little liquid (fish, poultry, meat), stuffed vegetables with meat/vegetables, rice, pasta, potatoes, vegetables with/without sauce, gratins, stews, soups
P6	1	1	1	–	Hot filled pittas, filled croissants, quiche, sausage in batter, finger food articles generally
P7	1	0	0	–	Bread rolls, croissants, bread, cake, baked goods

## 4. Cleaning/maintenance/servicing

### 4.1. Cleaning and care

Regular cleaning is an essential requirement for ensuring consistently high results and maintaining the correct operation of the unit. To ensure best presentation of the products, daily cleaning of the complete unit must be carried out in accordance with the hygiene regulations.

Before starting with cleaning work, the unit must be switched off.

#### **DANGER**

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

The power supply must be disconnected before all cleaning, maintenance and servicing work. To do this, unplug the cooling appliance or disconnect all poles from the power mains. Assembly, start-up, dismantling and repair work on all electric components must only be undertaken by authorised specialist personnel, with the power to the unit switched off.

#### **DANGER**

**Danger from a malfunction after cleaning has finished.**

After the work has been completed, check all safety components to ensure they are working perfectly. Check that all screws have been tightened and all parts / components have been assembled properly.

#### **WARNING**

**Danger of colliding with the unit during assembly, cleaning and maintenance activities.**

Watch out for possible dangers of colliding with the unit.

#### **NOTE**

When cleaning the unit wear the corresponding personal protective equipment as prescribed by the manufacturer of the cleaning agent being used (see Chapter 4.1.2). Before cleaning, check that the water used for cleaning can also be drained off. If the unit is not directly connected to the sewage system on-site, a container of an appropriate size must be placed under the outflow.

#### **NOTE**

The underside (base frame) of the unit must not be cleaned with a water hose or washing brush. Flowing water must be avoided in this area at all events. Do not use a high-pressure cleaner for cleaning the unit.

It is recommended that the unit is cleaned daily at the end of the working day. The unit can remain switched off overnight or outside of business hours if there are no longer any products in the unit.

After cleaning, all parts must be rinsed in clean water and then dried to prevent residues. To keep the stainless steel parts of the unit in perfect condition, the following points are essential:

- Always keep the stainless steel surfaces clean.
- Ensure there is sufficient air circulation on the surfaces.
- Never touch the parts of the unit with rusty materials.
- Wipe off vegetable oils and marinades quickly.

#### **NOTE**

In addition, persons who perform cleaning work must comply with the measures specified for the respective cleaning agent (e.g.: wear gloves when cleaning; wear safety goggles etc.)



## 4.1.1. Cleaning intervals

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

Cleaning activity	Interval
Black glass plates (shelves depending on the model), display areas	Daily
Cutting board, folding mirror (depending on the model)	Daily
Supporting heat (heat bridge)	Daily
Lighting	Daily
Drip tray / bottom tray (drainage tap), water tank, water bath including float (depending on the model)	Daily
All glass, glass enclosure (including hinged doors) (depending on the model)	Daily
Controller display	Daily
Water connections and hose connectors (depending on the model)	Weekly
Gas damper (depending on the model)	Weekly
Steam baffle plate	Weekly
Remaining components of the unit (pedestals, frame, etc.)	Weekly


### NOTE

For best performance of the unit it must be cleaned daily.

### 4.1.2. Cleaning agents

#### NOTE

Exclusively the cleaning agents mentioned in this chapter are permissible for cleaning the unit. Do not use cleaning agents that contain chlorine or vinegar, strong-smelling, caustic or solvent-based, bleaching or chlorine-based cleaning agents. Never use high-pressure, water-pressure or steam-pressure cleaners. Do not use flammable chemical cleaning agents. Never use scouring agents (Scotch-Brite, cleaning pads) or steel wool.

Components/materials	Cleaning agent	Comment
Surfaces that come into contact with products	Lukewarm soapy water	Rinse with clear water.
Glass surfaces	Glass cleaner	The glass panes can be lifted up to make it easier to clean the panes and areas underneath
Stainless steel surfaces	Stainless steel cleaner	Ensure that the stainless steel cleaner that you use is food safe.
Powder-coated surfaces	Soft cloth, lukewarm soapy water	Do not use any abrasive or rough cleaning utensils.
LED lighting, supporting heat	Soft cloth	Only clean when dry
Hook-in frame with containers, dividers, shelves	Dishwashing liquid and brush	 Shelves and GN containers are easy to remove (see Chapter 2.1). Only use brushes with plastic or natural bristles.
All other parts of unit	Soft cloth, lukewarm soapy water	Do not use any abrasive or rough cleaning utensils.

#### NOTE

Test the cleaning agent first on a part of the unit that is not visible.

### 4.1.3. Cleaning the glass and easy-change front glass

The glass cover can be lifted up to make it easier to clean the inside of the glass enclosure.

#### ! WARNING

##### Danger of crushing in the area of the cover

When lifting the cover of the unit there is a danger of crushing between the cover and the glass walls. Enlist the help of a second person if required. This applies in particular for larger models of the unit.

#### NOTE

To clean the glass, use a cleaning agent stated in Chapter 4.1.2

## Easy-Change front glass

Some glass enclosures are designed as Easy-Change front glass versions, which are easy to stow underneath the glass lid.



Press with one hand against one of the upper corners of the front glass to rotate the lower edge outwards a few centimetres.



Raise the front glass until you are able to lift it up with a secure grip.



Lift the front glass and push it into the catch on the built-in tracks until it is engaged.

To close the front glass, repeat the steps above in the reverse order.

When lowering the glass, take care not to drop it. Lower it slowly until it is just short of the anchor points. Counterpressure on the upper corners of the front glass will enable the glass slowly to be lowered into its final position.

### **WARNING**

**Danger of crushing in the area of the front glass.**

When lifting the lid of the unit there is a danger of crushing between the lid and the glass walls. Enlist the help of a second person if required. This applies in particular for larger models of the unit.

#### 4.1.4. Cleaning the presentation area

### ! WARNING

**Danger of burns**

Switch the unit off and allow it to cool down for at least 45 minutes before starting cleaning work.



Depending on the model, remove the GN trays / presentation areas including the hook-in frames and clean them with suitable cleaning agents as described in Chapter 4.1.2.

**NOTE**

All the removable stainless steel parts can be cleaned with a dishwasher.



#### 4.1.5. Cleaning the steam baffle plate (only units with heating climate)

### ! WARNING

**Danger of burns**

Switch the unit off and allow it to cool down for at least 45 minutes before starting cleaning work.



Lift the hotplate (primary heat) up fully from the operating side using the handle provided for this. Due to the built-in gas pressure absorber, the plate will remain open in the final position (depending on the model)



Lift out the sliding steam control upwards



Lift the steam baffle plate out upwards, then remove the detachable filler nozzles for cleaning.

#### 4.1.6. Cleaning the water bath with float (only for units with heating climate)

The water bath including the float must be cleaned daily to ensure the steam function works properly. Take particular care to ensure that the float can always move freely. The water bath and the float must always be kept free from dirt and limescale to ensure a correct working condition.

### WARNING

#### Danger of burns

Switch the unit off and let it to cool down for at least 45 minutes before starting cleaning work.



Remove the water bath using the designated handles. Disassemble the float carefully and take care not to rotate it (the mountings might break). Only clean the water bath once the float has been disassembled. The float must only be cleaned by hand. Here we recommend using a limescale remover that is suitable for stainless steel. Rinse all parts with clean water to prevent residues (build-up).



### NOTE

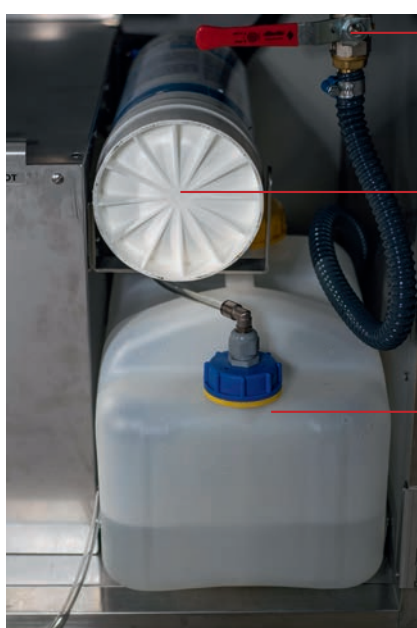
When reinserting the float into the mountings ensure it is properly in position. **The float is correctly inserted when it rests on the surface of the water and can move freely.** This should be checked after reinsertion. If the float is soiled or coated with limescale or defect it must be replaced. A defective float can cause the water bath to overheat or overflow.

# 04 | Display cases with heating climate or dry heat Cleaning/Maintenance/Serviceing

## 4.1.7. Cleaning the bottom tray (only on units with heating climate)



Lift the base (hotplate) up to clean the bottom tray. Once the water bath has been removed (depending on the version) the inside of the bottom tray can be cleaned.



NO.	DESIGNATION
1	Ball valve
2	Water filter
3	Water tank

Connect the drain hose of the bottom tray to the drain or place a suitable container underneath. Open the ball valve and start with the cleaning of the well. When the bottom tray has been cleaned and rinsed with clean water, close the ball valve and stow the drain hose in the base frame again.

### NOTE

After the cleaning work has been completed, ensure that the primary hotplate has been placed properly in its lower final position.

### NOTE

The container must be able to hold all „cleaning water“ coming out of bottom tray well.

## 4.1.8. Changing the water filter (only on units with heating climate)

On devices, equipped with filter system, the water filter must be replaced at regular intervals. The control display will indicate when the filter needs to be replaced. In the OFF condition the message "CHANGE WATER FILTER" will be displayed. If this message has been activated, proceed as follows:



1. Switch off the unit at least 45 minutes before starting to change the water filter. The unit must have cooled down.
2. Hold the filter by the fins on the base and turn it counterclockwise until it can be removed.
3. Hand-tighten the replacement filter clockwise (follow the installation instructions supplied with the replacement part -> all the instructions contained in this must be followed).
4. Turn the water supply back on.
5. Press **buttons 2 and 4** simultaneously for 5 seconds in the OFF condition to acknowledge the message on the display (see Chapter 3.2.2.).
6. Check the replaced filter head after first start up for tightness.

### CAUTION

#### **Determination water filter with water quality.**

Check whether the water filter installed in the unit as standard is suitable for use on-site. This will prevent damage to the installed components. For any questions contact your sales partner.

### NOTE

Irrespective of the remaining capacity, the filter must be changed no later than after 10 months in operation or after 4 weeks or more of non-use of the unit.



### 4.1.9. Cleaning and disassembling the folding mirror

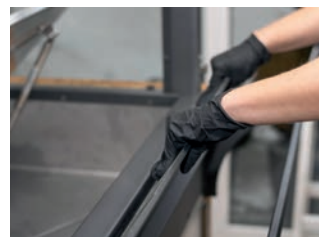
#### Cleaning the folding mirror



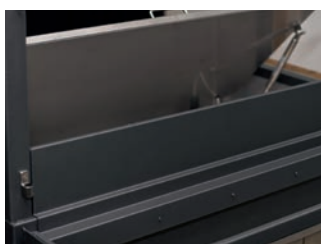
The fold-up mirror is located underneath the cutting board.



Hook-in system



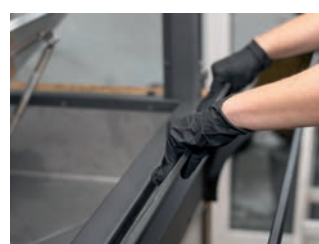
Grasp the mirror in the centre and lift it up.



The mirror can now snap into the hook-in system.



With the mirror folded up, push the cutting board support back in until it locks into its intended position. Ensure that the bracket is located towards the unit.



First remove the cutting board, then lift the mirror up, pull it towards your direction and fold it downwards.

#### Disassembling the fold-up mirror



Fold the mirror up.



Loosen the wing nut on the right hand side and remove the bracket.



Then pull the mirror out of the guide bolts on the left hand side.

To reinsert the mirror, follow the same steps in reverse order. After reinsertion, the mirror must again be secured with the retaining bolt and the wing nut.



## 4.1.10. Cleaning the cutting board

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

In the COMFORT, BASIC and BASIC Plus models, the cutting board support can be unhooked for cleaning purposes. With the hinged doors unhinged, the entire cutting board including the CNS tray can be lifted at the side and lifted out of the guiderail.



Unhook the cutting board support, mirror underneath.



Lift the cutting board support out of its mounting.



Remove the cutting board support.

## 4.1.11. Checking the gas damper

### **DANGER**

**Danger from defective gas dampers**

Check gas dampers monthly to make sure they working properly. Replace them if they are defective.

## 4.1.12. Checking the float switch (units with heating climate)

Check the float switch on the water bath (only on units with heating climate) to ensure it can move freely, or if necessary replace it.

### **NOTE**

The float must be able to move freely. If it sticks due to limescale or dirt / food residues, under some circumstances the water conveyed into the water bath can overflow and no more steam can be produced.

**The manufacturer is not liable for damage caused due to checks being missed.**

### 4.1.13. Heated base (Hot Storage)

The heated base must be cleaned daily.

#### **WARNING**

**Danger of burns**

Switch the unit off and let it cool down for at least 45 minutes before starting cleaning work.

#### **WARNING**

**Danger of crushing when moving sliding/hinged doors**

For opening and closing the sliding doors use the installed handles. When closing the sliding doors, never grasp between the side parts of the sliding door and the unit. Do not reach into the guide rails. When opening and closing the sliding doors ensure you do this slowly. Opening and closing the doors rapidly can lead to hand injuries.

#### **NOTE**

All the removable stainless steel parts can be cleaned in the dishwasher.



The mountings enable a variable arrangement of different GN tray heights (see Chapter 2.1). The heated base has a sensor controller.

For cleaning proceed as follows:

1. Take out the GN trays
2. Hook in the hook-in aid.
3. Always remove the hook-in frame without GN trays by means of the hook-in aid.
4. To do this, hook the hook-in aid onto the opening provided for this on the crossbar.
5. Clean the interior and all parts using the cleaning agents listed in Chapter 4.1.2.

## 4.2. Maintenance information

To ensure the unit works perfectly within a optimal product presentation, the unit must be checked and serviced regularly. Every unit is tested at the factory in accordance with the testing procedure "EN 60335-1 Anhang A". The manufacturer recommends an annual follow-up test by the operator in accordance with VDE 0701-0702.

### **DANGER**

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

The power supply must be disconnected from the mains supply until all maintenance, inspection and repair work is completed (using the main switch or disconnecting all poles from the power). Switching the unit on unintentionally must be prevented.

### **NOTE**

The undertaking of servicing activities by the operating personnel or the operator applies exclusively to the activities listed in Chapter 4.2.1.

### **NOTE**

Technical changes to the unit may only carried out by authorized specialist personnel! This applies in particular to work on heating technology, electrical installation and mechanics.

**Any change to the unit must be authorized by the manufacturer!**

### 4.2.1. Service and maintenance intervals

The maintenance instructions shown must be followed to ensure a long-term functionality of your unit and extend this if needed.

Component/unit	Activity	Interval
Black glass plates	Visual inspection and functional test	Daily
Heat bridge (supporting heat)	Visual inspection and functional test	Daily
Outflows (depending on the model)	Inspection and cleaning (see Chapter 4.1)	Daily
Float switch (depending on the model)	Visual inspection and functional test	Daily
All glass	Visual inspection and functional test	Daily
Mechanical damage to all the remaining components of the unit	Visual inspection and functional test	Daily
LED lights (depending on the model)	Visual inspection and functional test	Weekly
Drip tray / water bath / bottom tray	Inspection and cleaning (see Chapter 4.1)	Weekly
Water connections and hose connectors (depending on the model)	Visual inspection and functional test	Weekly
Gas damper (depending on the model) (black glass plate)	Visual inspection and functional test	Monthly
Entire unit	Safety check	Annually

## 4.2.2. Repair and Maintenance Instructions

Repair and maintenance instructions can be found on our AKE web shop at <https://shop.ideal-ake.at> or you get in contact with your supplier.

Further useful instructions on assembly / maintenance (of optional accessories) can be found using the following QR code:



<https://shop.ideal-ake.at>

## 4.3. 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 details shown on this to your supplier or specialist retailer, or order the spare parts you require via the online product catalogue of the manufacturer or contractual partner. The specification of the type, the serial number and the date of manufacture are required for the request.

Spare parts can be found at:



<https://ersatzteilshop.ideal-ake.at>

### NOTE

Special devices on customer request might not be listed in the product catalogue or webshop. For spare parts required for custom units, contact your supplier or contractual partner.

## 5. Declaration of conformity



### EU Declaration of conformity

in accordance with EU Directives 2014/35/EU and 2014/30/EU

Manufacturer: AKE Ausseer Kälte- und Edelstahltechnik GmbH  
Pichl 66, 8984 Bad Mitterndorf, Austria

Product: Heated display cases  
Type: See Chapter 1.3 (Scope of application)

Year of construction: from 2023

The compliance of the products stated above with the Low Voltage Directive 2014/35/EU and Electromagnetic Compatibility Directive 2014/30/EU is hereby confirmed. The fundamental requirements of the Low Voltage Directive 2014/35/EU and the essential requirements of the Electromagnetic Compatibility Directive 2014/30/EU were complied with. The necessary technical documents were prepared and archived. The following harmonised standards were applied in the version valid at the time:

#### EN 60335-1:2012

Safety of electrical appliances for household and similar purposes– Part 1: General requirements  
EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 (IEC 60335-1:2010, modified)

#### EN 60335-2-49:2003

Household and similar electrical appliances - Safety - Part 2-49: Particular requirements for commercial electric appliances for keeping food and crockery warm  
EN 60335-2-49:2003/AC:2007 + EN 60335-2-49:2003/A11:2012 + A2:2019  
(IEC 60335-2-49:2002 + A1:2008+ A2:2017)

#### EN ISO 12100:2010

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

In the event of technical changes to the product stated above which are not agreed with the manufacturer, this EC declaration of conformity will lose its validity.

Bad Mitterndorf, 2023

Andreas Pilz (CTO)

Authorised representative for technical documentation

### NOTE

Please observe possible supplementary sheets to this Operating Manual and the associated declaration of conformity.  
**Contact the manufacturer for more information.**



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