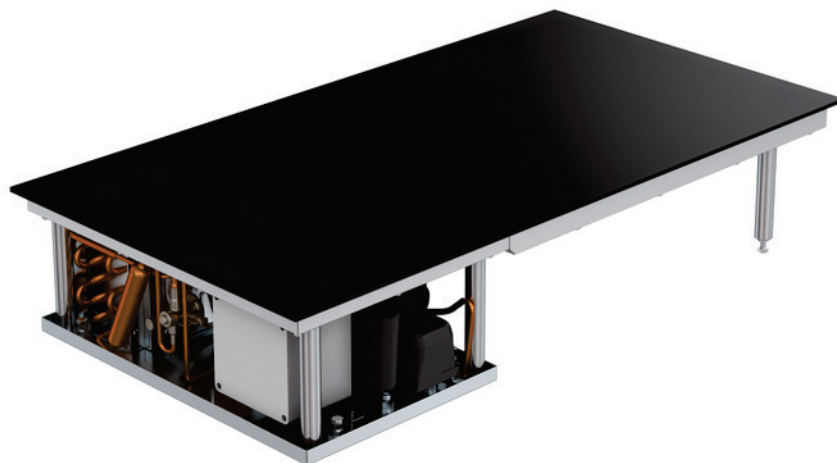


**HUPFER**

# Operating Instructions



## Hot and cold plate

KWP

Read the operating instructions carefully before use and keep them for future reference.

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## 2 General information

### 2.1 Manufacturer information

Manufacturer	<b>HUPFER</b> Metallwerke GmbH & Co. KG
Address	Dieselstraße 20 48653 Coesfeld
Contact	+49 (0) 2541/805-0 info@hupfer.de www.hupfer.com

### 2.2 Document information

Title	Operating instructions Hot and cold plate
Index	A 3.0
Last update	12.10.2020

### 2.3 Product information

Product name	Hot and cold plate
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### 2.4 Target groups

These operating instructions are intended for the following groups of people who perform the listed activities with or on the product:

Electrician	<ul style="list-style-type: none"><li>▪ Servicing or repairing the electrical installation within the product</li><li>▪ Rectifying electrical faults</li></ul>
Refrigeration specialist	<ul style="list-style-type: none"><li>▪ Assembling, dismantling, servicing or disposing of a system within the product</li><li>▪ Rectifying faults</li></ul>
Service engineer	<ul style="list-style-type: none"><li>▪ Maintenance work on mechanical systems or trained activities in the electrical, cooling or heating systems</li><li>▪ Simple repairs</li><li>▪ Appropriately trained employee of the customer or an employee of Hupfer</li></ul>
Operator	<ul style="list-style-type: none"><li>▪ Standard operating steps</li><li>▪ Rectifying faults as described in the "Troubleshooting" section</li><li>▪ Cleaning</li></ul>

## 2.5 Symbols



### **DANGER**

“Danger” indicates a hazardous situation that will result directly in death or serious injury.



### **WARNING**

“Warning” indicates a hazardous situation that may result in serious injury.



### **CAUTION**

“Caution” indicates a potentially hazardous situation that may result in minor to moderate injury.



### **ATTENTION**

“Attention” indicates a situation that may result in damage to property.



### **NOTE**

“Notes” give tips on the correct use of the product.

## 2.6 Signs



### **Hot surface warning**

This warning symbol is placed in locations on the product or its immediate surroundings where a user may directly access or inadvertently touch a hot surface not recognisable as such.

The label is enclosed loose with the product and must be affixed by the operator in the direct vicinity of the product in such a way that it is clearly visible to the user prior to first operation.

### 3 Product description

The hot and cold plates are used to keep food cold, hot and to warm it up in sufficiently temperature-resistant food storage containers and must be permanently installed in counters or similar structures with a lockable inspection flap. They are available in different sizes:

- KWP 1/1 for 1 × GN container 1/1
- KWP 2/1 for 2 × GN container 1/1
- KWP 3/1 for 3 × GN container 1/1
- KWP 4/1 for 4 × GN container 1/1

The hot and cold plates are equipped with integrated heating elements and an integrated cooling element, which can be used to adjust the surface temperature.

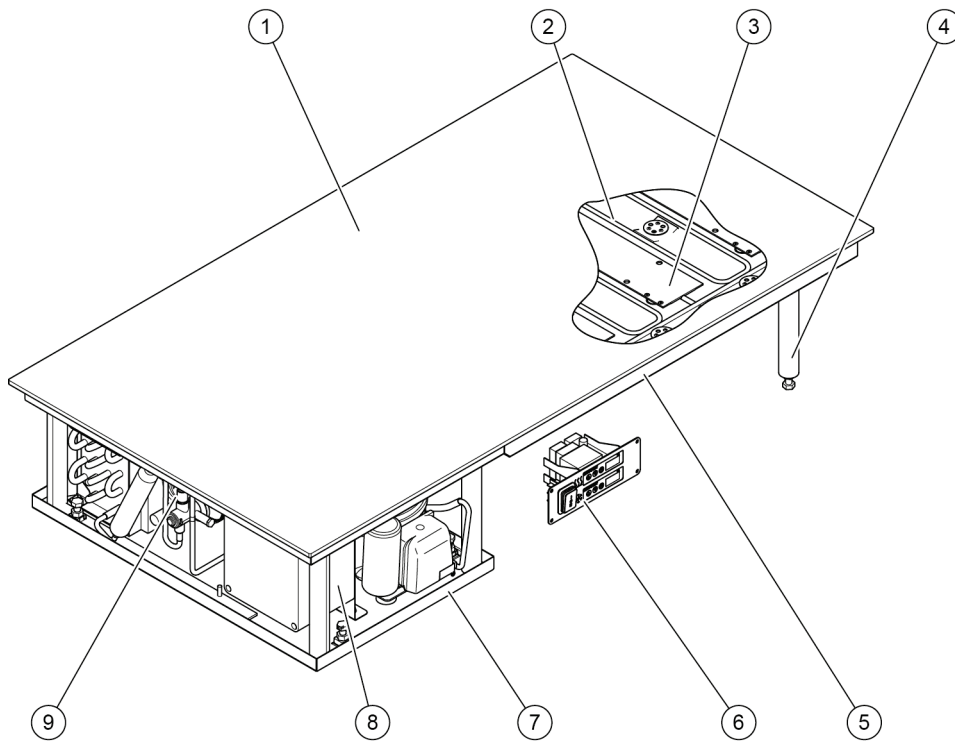
The surface can be made of different materials:

- Glass surface
- Sintered ceramic surface

The surface temperature can be fixed within the two temperature ranges. Operation is via a control panel with a display that can be freely positioned in the counter.

The hot and cold plate can be used in combination with a heated lamp gantry.

### 3.1 Overview of hot and cold plate with integrated cooling element



Overview of hot and cold plate KWP

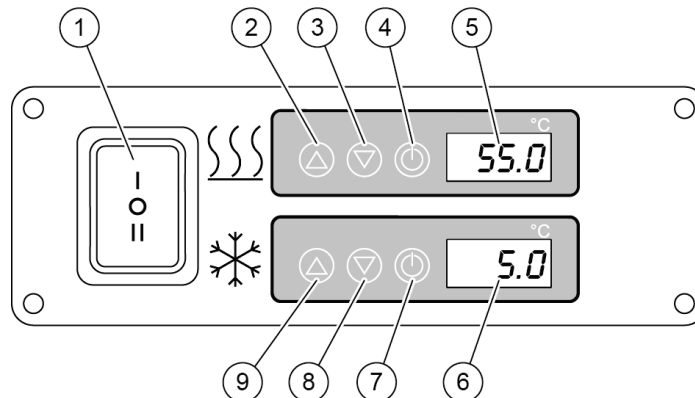
1	Surface	6	Control with displays (freely positionable)
2	Pipe loops for cooling	7	Base (condenser unit)
3	Heating element	8	Electrical connection box
4	Support	9	Fan
5	Base frame		

EN

## 3.2 Equipment

### 3.2.1 Display and controls

The display and controls are mounted as a unit in the same structure as the hot and cold plate; the position can be freely determined during installation.



Controls and display for hot and cold plate

1	Main switch	6	Display, "Cooling mode"
2	Increase set temperature, "Heating mode"	7	Setting button, "Cooling mode"
3	Reduce set temperature, "Heating mode"	8	Reduce set temperature, "Cooling mode"
4	Setting button, "Heating mode"	9	Increase set temperature, "Cooling mode"
5	Display, "Heating mode"		

The unit is switched off completely via the main switch and the operating mode (heating mode or cooling mode) is selected.

The display shows the current actual temperature for each operating mode. When the temperature is set, the display shows the required temperature.

The required temperature is set using the controls on the displays.

If the hot and cold plate is used together with a permanently installed heated lamp gantry, the heated lamp gantry can be connected and operated via the controls. In this case, the controls can also be installed in the heated lamp gantry.



### 3.3 Optional equipment

#### 3.3.1 Mounting frame



*Mounting frame (example)*

If the optional mounting frame is selected, it is mounted on the hot and cold plate ex works. If the mounting frame is installed subsequently, the frame must be connected to the hot and cold plate using the holder supplied.

Mounting frames are available in surface-mounted version for mounting in the structure.

### 3.4 Optional accessories

#### 3.4.1 Heated lamp gantry



*Heated lamp gantry (model Horizon 2, example)*

The hot and cold plate can also be supplemented with a heated lamp gantry. In heating mode, the heated lamp gantry provides additional warming of the food from above by means of infrared rays. In cooling mode, LED lights are switched on to illuminate the food.

The heated lamp gantry can be mounted above the hot and cold plate in two ways:

- Installation in the recesses of the mounting frame of the hot and cold plate
- Installation directly on the worktop of the food system

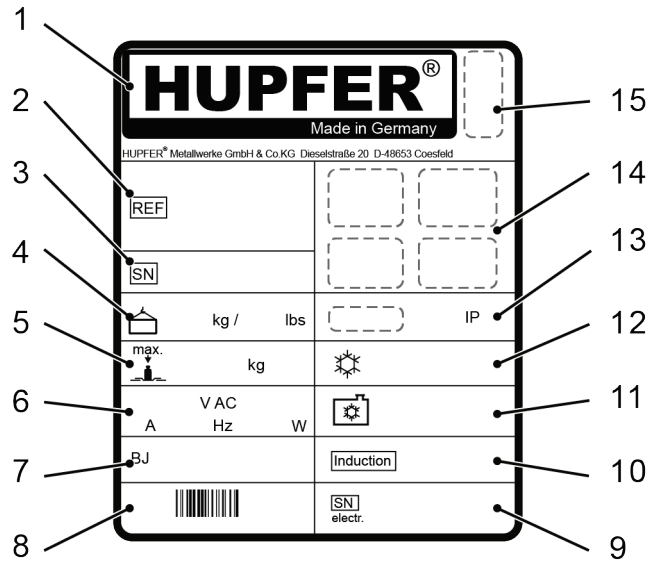
The heated lamp gantry has a mounting cut-out to accommodate the controls for the hot and cold plate.

The heated lamp gantry is also controlled via the controls for the hot and cold plate and the functions are switched on according to the selected operating mode. The additional heat generated by the heated lamp gantry is detected by the temperature sensor of the hot and cold plate to record the surface temperature and is thus indirectly used to control the temperature of the hot and cold plate.

For information on assembly and connection of the heated lamp gantry used, please refer to the relevant assembly instructions.

### 3.4.2 Rating plate

The rating plate is attached to the lower cover of the base frame of the hot and cold plate.



1	Manufacturer and address	9	Electrical serial number
2	Type designation and product code	10	Induction frequency
3	Order number	11	Refrigerant
4	Weight	12	Refrigeration capacity
5	Payload	13	Protection code
6	Electrical connection	14	Certification mark if available CE label
7	Model year	15	Disposal of old appliances
8	Product code as barcode		

## 4 Safety information

### 4.1 Intended use

The hot and cold plate is intended exclusively for keeping food cold, hot or warming it up.

The hot and cold plate may only be operated when installed and sealed (in a counter or comparable structure with a fixed working surface on the top) within closed rooms. Please also observe the separate assembly instructions.

Intended use includes following the prescribed procedures, complying with the given specifications, and using the genuine accessories that are provided or additionally available.

Any use other than or beyond this is considered inappropriate.

Proper use also includes observing the operating instructions and the conditions for inspection and maintenance.

## 4.2 Improper use

All uses other than the intended one are improper. Improper use may result in damage to property or injury.

In particular, make sure that the following inappropriate uses are avoided:

- Cooling and heating of other materials than those specified (e.g. flammable, corrosive or explosive substances) and non-food
- Structural changes or changes in performance parameters
- Operation of the hot and cold plates in a faulty condition and/or without protective coverings or safety devices
- Operation with safety devices that are not in perfect condition, or are bypassed or out of service
- Use of spare parts that are not approved by Hupfer

## 4.3 Safety instructions

### 4.3.1 Work on the electrical system

- Work on electrical equipment may only be carried out by electricians.
- The work must be carried out in compliance with the rules of electrical engineering.

### 4.3.2 Work on the cooling system

- Work on the cooling system may only be carried out by refrigeration specialists.
- The work must be carried out in compliance with the rules of refrigeration engineering.

## 5 Technical data

### 5.1 Hot and cold plate with integrated cooling element

		KWP 1/1	KWP 2/1	KWP 3/1	KWP 4/1
<b>Dimensions and weight</b>					
Width <sup>1</sup>	mm	330	660	990	1320
Depth <sup>1</sup>	mm	530			
Height <sup>1</sup>	mm	200 (glass), 202 (sintered ceramic)			
Dimensions of mounting frame (width x depth)	mm	536 x 635	868 x 635	1200 x 635	1532 x 635
Weight with glass surface	kg	Approx. 18	Approx. 24	Approx. 30	Approx. 37
Weight with sintered ceramic surface	kg	Approx. 19	Approx. 26	Approx. 33	Approx. 41
Payload	kg	9	18	27	36
<b>Electrical connection</b>					
Nominal voltage	V	230			
Frequency	Hz	50 – 60			
Nominal current	A	8	8	9	10.5
Current	A	16			
Total output	W	1840	1840	2070	2420
<b>Cooling</b>					
Refrigeration technology		Compressor cooling			
Refrigeration capacity of the cooling function	W	340			
Refrigerant		R290			
Temperature range, cooling	°C	- 5 to + 10			
Air flow for supply and exhaust air	m <sup>3</sup> /h	240			
Cross section for supply and exhaust air	cm <sup>2</sup>	min. 310			
<b>Heating</b>					
Heating technology		PTC heating elements			
Heating power per GN field	W	300			
Temperature range, heating	°C	+ 40 to + 140			
<b>Terms of use</b>					
Operating and ambient conditions		+ 5 to + 32 C, in closed rooms			
Protection class in installed state		IPX3			

<sup>1</sup> The figures are approximate values. Deviations are possible.

## 6 Transport



### CAUTION

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#### Injuries caused by sharp edges

The mounting frame and base of the product, as well as the surface, may have sharp edges.

- ▶ Wear suitable protective gloves when transporting and installing the product.
- 

For transport, the hot and cold plate is packed and fastened on a suitable pallet so that the surface is protected from damage caused by scratches or stress cracks. The hot and cold plate can be stored on the pallet until installation.

### 6.1 Delivery

The hot and cold plate is delivered by a freight forwarding company, whose transport specialists are responsible for securing the load during transport.

### 6.2 In-house transport

The hot and cold plate is permanently installed at the place of use in a counter or similar structure.

When transporting the entire structure, it must be ensured that the necessary supports within the structure cannot break away or warp.

### 6.3 Lifting

Lifting aids or slings may only be attached to the transport frame.

The hot and cold plate must not be lifted by the surface, but only by the structure below.

## 7 Assembly and electrical connection

### 7.1 Assembling the hot and cold plate



#### CAUTION

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##### Injuries caused by sharp edges

The mounting frame and base of the product, as well as the surface, may have sharp edges.

- ▶ Wear suitable protective gloves when transporting and installing the product.
- 



#### ATTENTION

---

##### Heat accumulation

If the cut-out for supply and exhaust air is blocked or is too small, heat builds up. Heat accumulation has a negative impact on operation.

- ▶ Plan to ensure the cut-out is of sufficient size for the supply and exhaust air.
  - ▶ Make sure that the cut-out for supply and exhaust air is not blocked during operation.
- 

The hot and cold plate is permanently installed in a counter with a suitable substructure for support; the display is installed separately in the same counter or the optional heated lamp gantry. The counter must have a lockable inspection opening that allows access to the base of the hot and cold plate and, if necessary, the power supply.

Once assembly is complete, the warning labels supplied with the product must be affixed to the counter in a clearly visible position in the immediate vicinity of the product.

Information on the layout of cut-outs and supports and the necessary assembly work can be found in the separate assembly instructions.

Depending on the version with or without mounting frame, an additional sealing of the hot and cold plate is required after assembly. Please observe the information in the assembly instructions.

Make sure that the cut-out for supply and exhaust air is the right size and is not blocked during operation.

## 7.2 Electrical connection

The electrical connection of the hot and cold plate is made via a hard-wired connection at the installation site. The control unit and, if necessary, a heated lamp gantry are permanently connected to the hot and cold plate.

For information on the layout of the connection and connection diagrams, please refer to the separate assembly instructions.

The connection must be carried out by a trained electrician.

## 8 Operation



### WARNING

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#### Danger of burns from hot surfaces when switched off

The surface of the hot and cold plate can reach up to 140°C during operation. Food containers and objects that are placed on the plate also heat up. After switching off the hot and cold plate, there is no way to tell if the plate is still hot.

- ▶ Make sure that the enclosed warning stickers are attached visibly next to the product and are not covered.
  - ▶ Wear suitable protective gloves when removing objects from the hot and cold plate.
  - ▶ Do not place any heat-sensitive objects on the hot and cold plate.
  - ▶ Only clean the surface when it has cooled down sufficiently.
- 



### WARNING

---

#### Risk of injury when heating closed containers

When heating food in closed containers, high pressure can build up and the container can burst or explode.

- ▶ For heating, only use containers in which no pressure can build up (e.g. containers with vents in the lid)
-



## **i** ATTENTION

### Damage to property

Insufficiently temperature-resistant containers may be damaged when used on the hot and cold plate.

- ▶ Only use food storage containers that are sufficiently temperature-resistant over the entire adjustable temperature range.

## **i** ATTENTION

### Heat accumulation

If the cut-out for supply and exhaust air is blocked or is too small, heat builds up. Heat accumulation has a negative impact on operation.

- ▶ Do not close the cut-out for supply and exhaust air.

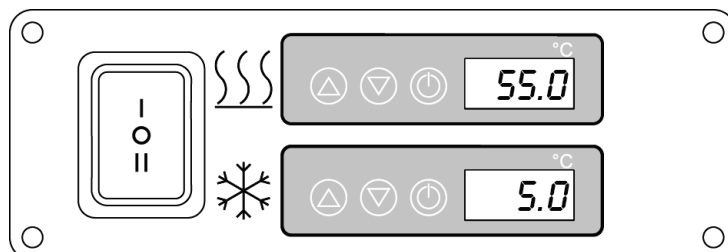
During operation, the hot and cold plates keep food containers with contents above the preset surface temperature at a constant temperature. For support, a Hupfer heated lamp gantry can be installed over the hot and cold plate. When the hot and cold plate is operated in heating mode, the infrared lamp of the heated lamp gantry is active.

When the hot and cold plate is operated in cooling mode, the colour-matched LED illumination of the heated lamp gantry is active. For further information on the heated lamp gantry, please refer to the operating instructions for the heated lamp gantry.

## 8.1 Operating the hot and cold plate

The hot and cold plate is operated via the display built into the same structure.

If the hot and cold plate is installed together with a heated lamp gantry, the heated lamp gantry is also operated via the display and supports the function of the hot and cold plate.



Controls and display for hot and cold plate

### 8.1.1 Switching on the hot and cold plate

- ▶ Move the main switch to position "I" or "II".
- ✓ The respective display shows the current temperature of the surface, while the other one remains black.

When the hot and cold plate is switched on again, the last set required temperature of the selected operating mode is stored and is automatically activated.

### 8.1.2 Switching off the hot and cold plate

- ▶ Move the main switch to the "0" position.
- ✓ Both displays go out.

### 8.1.3 Switching the cooling and heating function on and off

- ▶ Move the main switch to the position of the desired operating mode:
  1. Position "I": Heating mode
  2. Position "II": Cooling mode
- ✓ The active display also shows which operating mode has been selected.

### 8.1.4 Displaying the required temperature

- ▶ Briefly press the corresponding setting key on the display of the active operating mode.
- ✓ The required temperature is shown in the active display.

### 8.1.5 Setting the required temperature

- ▶ Briefly press the setting button on the display of the active operating mode.
- ✓ The required temperature is shown in the display.
- ▶ Hold down the setting button on the active display and use the Up and Down buttons to select the required temperature.
- ▶ Release the setting button.
- ✓ The required temperature for the active operating mode is changed.

## 9 Maintenance and care



### DANGER

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#### Electrical hazard

Electricity is a serious hazard and can cause injury or even death.

- ▶ Switch off the appliance before starting any cleaning and maintenance work.
  - ▶ Make sure that the unit is disconnected from the power supply before starting any maintenance or repair work.
  - ▶ If cleaning with steam jet or high-pressure cleaners is planned, make sure that the surface is properly sealed and disconnect the appliance from the power supply.
- 



### WARNING

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#### Risk of injury due to exposed fans

When engaging the components in the base, it is possible to reach into the open fan of the condenser.

- ▶ Make sure that the unit is disconnected from the power supply before starting any maintenance or repair work.
- 

### 9.1 Maintenance

The cooling element and the associated cooling technology for hot and cold plates with integrated cooling element must be checked once a year by a refrigeration engineer and serviced if necessary.

All maintenance work may only be performed by trained service technicians.

## 9.2 Cleaning



### WARNING

---

#### Danger of burns from hot surfaces when switched off

The surface of the hot and cold plate can reach up to 140°C during operation. Food containers and objects that are placed on the plate also heat up. After switching off the hot and cold plate, there is no way to tell if the plate is still hot.

- ▶ Make sure that the enclosed warning stickers are attached visibly next to the product and are not covered.
  - ▶ Wear suitable protective gloves when removing objects from the hot and cold plate.
  - ▶ Do not place any heat-sensitive objects on the hot and cold plate.
  - ▶ Only clean the surface when it has cooled down sufficiently.
- 



### ATTENTION

---

The stainless steel surfaces of the device may be damaged by incorrect handling and rust may form.

Therefore, take the following precautions when using the device:

- ▶ Read the special care instructions for stainless steel and follow the instructions contained in them.  
You can download the care instructions at [www.hupfer.com](http://www.hupfer.com) in the Downloads section.
  - ▶ Clean the surfaces regularly with water.
  - ▶ Avoid contact of the surfaces with other metals, especially iron or steel.
- 

No scouring powder or other dry cleaners, cleaning wool, steel sponges or sharp-edged objects may be used to clean the hot and cold plate.

Clean the hot and cold plates as described below:

- ▶ Only use grease-dissolving liquid cleaners for the surface that are approved for the food industry and for use on the respective surface.
- ▶ For wet cleaning, use a soft cloth or an uncoated sponge.
- ▶ Clean the controls with a damp cloth.
- ▶ If necessary, clean the components in the base with a dry cloth or hand brush to remove any dust build-up.

### 9.3 Disinfection

All the surfaces can be disinfected with commercially available disinfectants.

## 10 Troubleshooting



### DANGER

---

#### Electrical hazard

Electricity is a serious hazard and can cause injury or even death.

- ▶ Disconnect the device from the power supply before starting troubleshooting.
- 



### WARNING

---

#### Risk of injury due to exposed fans

When engaging the components in the base, it is possible to reach into the open fan of the condenser.

- ▶ Make sure that the unit is disconnected from the power supply before starting any maintenance or repair work.
-

## 10.1 Faults and fault messages

Fault	Possible cause	Remedy
The device does not heat up.	The setting button was pressed for too long.	Press and hold the setting button for 5 seconds to switch the associated display and function back on.
	Connection between control and heating elements interrupted	The connection must be checked by a specialist and restored if necessary.
	The sensor for temperature detection is defective.	The sensor must be checked by a specialist and replaced if necessary
The appliance heats up unevenly.	A single heating element is damaged	The heating elements must be checked by a service technician and replaced if necessary.
The device does not cool.	The setting button was pressed for too long.	Press and hold the setting button for 5 seconds to switch the associated display and function back on.
	Connection between control and cooling element interrupted	The connection must be checked by a specialist and restored if necessary.
	The sensor for temperature detection is defective.	The sensor must be checked by a specialist and replaced if necessary
	The cooling technology is defective	The cooling element and the cooling loops must be checked by a refrigeration specialist and replaced if necessary.
The display of the active operating mode shows nothing or the device cannot be operated.	The setting button was pressed for too long.	Press and hold the setting button for 5 seconds to turn the display and function back on.
	Power supply is interrupted	The power supply must be checked by a specialist and restored if necessary.
	Display defective	The display must be checked by a specialist and replaced if necessary.
The optional heated lamp gantry does not work <sup>1</sup> .	Connection between control and heated lamp gantry interrupted	The connection must be checked by a specialist and restored if necessary.
	Control defective	The control unit must be checked by a specialist and replaced if necessary.
	There is a fault in the heated lamp gantry.	Observe the information in the operating instructions for the heated lamp gantry.

<sup>1</sup> only for installation with additional fixed heated lamp gantry

Inform a service technician in the event of a fault.

### 10.1.1 Fault messages on the display

Fault message	Cause	Remedy
F1	Sensor fault	The temperature sensor must be checked by a specialist and replaced if necessary.
EP	Data loss in the parameter memory	The integrated controller must be checked by a specialist and replaced or repaired if necessary.

## 11 Disposal

### ATTENTION

Electrical components may only be removed by qualified electricians.

### ATTENTION

The cooling system may only be removed by refrigeration specialists.

Proceed as follows for proper disposal:

- ▶ Remove the electrical components.
- ▶ Drain off refrigerant or coolant and dispose of it properly.
- ▶ Remove the cooling system.
- ▶ Take the components to a designated disposal centre.

## 12 Spare parts and accessories

Spare parts and accessories are available from Hupfer Service. When ordering spare parts or requesting customer service, always state the order number and the information on the rating plate. This helps avoid queries from our customer service and speeds up the process.

Servicing may only be carried out by authorised specialist personnel. Defective components should only be replaced with genuine spare parts. Only then can safe and reliable operation be guaranteed.