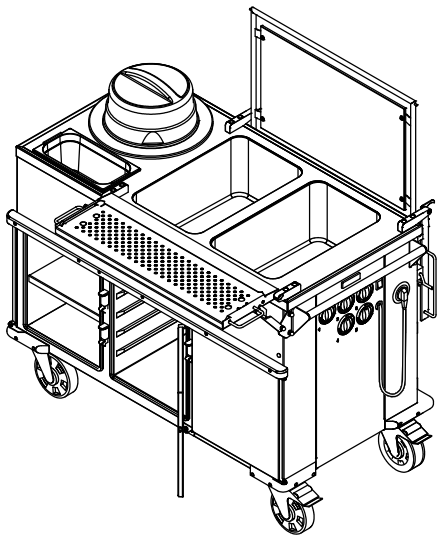
HUPFER®

Operating Instructions



Food transport trolley

SPTW-2/EBF/TEHCO

91319926_A0

1 Introduction

1.1 Appliance Information

Appliance designation	Food transport trolley
Appliance type/s	SPTW-2/EBF/TEHCO
Year of manufacture	2013
Manufacturer	HUPFER® Metallwerke GmbH & Co. KG Dieselstrasse 20 48653 Coesfeld P.O. Box 1463 D-48634 Coesfeld ☏ +49 2541 805-0 🖷 +49 2541 805-111 www.hupfer.de info@hupfer.de

Read these operating instructions thoroughly and attentively to ensure safe operation and avoid any damage!

Ensure that sources of danger and possible faulty operations have been pointed out to the operating staff.

Subject to modifications

The products covered by these operating instructions have been developed taking into consideration the requirements of the market and the latest technology. HUPFER® reserves the right to modify the products and associated technical documentation insofar as the modifications are in the name of technological progress. The data and weights as well as the description of performance and functions assured in the order confirmation as binding are always decisive.

This manual is a translation of the original edition.

Manual edition
91319926_A0

1.2 Table of Contents

1.3 List of Abbreviations

<table>
<tr><th>Abbreviation</th><th>Definition</th></tr>
<tr><td>BGR</td><td>Rule of the Professional Association</td></tr>
<tr><td>BGV</td><td>Regulation of the Professional Association</td></tr>
<tr><td>CE</td><td>Communauté Européenee
European Community</td></tr>
<tr><td>DIN</td><td>Deutsches Institut für Normung
German Institute for Standardisation, technical regulations and technical specifications</td></tr>
<tr><td>EC</td><td>European Community
European Union</td></tr>
<tr><td>EN</td><td>European Standard
Harmonised standard for the EU market</td></tr>
<tr><td>E/V</td><td>Spare and wearing part</td></tr>
<tr><td>IP</td><td>International Protection. The abbreviation IP and a further two-digit index specify the protection class of a housing.
<table>
<tr><th colspan="2">The first digit: Protection against ingress of solid foreign objects</th><th colspan="2">The second digit: Protection against ingress of water</th></tr>
<tr><td>0</td><td>No protection against contact, no protection against ingress of solid foreign objects</td><td>0</td><td>No protection against ingress of water</td></tr>
<tr><td>1</td><td>Protection against contact with any large surface of the body such as the hand, protection against ingress of foreign objects Ø >1.97" (50 mm)</td><td>1</td><td>Protection against vertically falling water drops</td></tr>
<tr><td>2</td><td>Protection against contact with fingers, protection against ingress of foreign objects Ø >0.47" (12 mm)</td><td>2</td><td>Protection against dripping water (at any angle up to 15° from the vertical)</td></tr>
<tr><td>3</td><td>Protection against contact with tools, thick wires or similar objects of Ø > 0.098" (2.5 mm), protection against foreign objects Ø > 0.098" (2.5 mm)</td><td>3</td><td>Protection against water drips at any angle up to 60° from the vertical</td></tr>
<tr><td>4</td><td>Protection against contact with tools, thick wires or similar objects of Ø >0.04" (1 mm), protection against foreign objects Ø >0.04" (1 mm)</td><td>4</td><td>Protection against water splashing from any direction</td></tr>
<tr><td>5</td><td>Protection against contact, protection against dust deposits inside</td><td>5</td><td>Protection against water jets (projected by a nozzle) at any angle</td></tr>
<tr><td>6</td><td>Complete protection against contact, protection against ingress of dust</td><td>6</td><td>Protection against rough sea or strong water jets (flood protection)</td></tr>
<tr><td></td><td></td><td>7</td><td>Protection against ingress of water during temporary immersion</td></tr>
<tr><td></td><td></td><td>8</td><td>Protection against pressurised water during continuous immersion</td></tr>
</table></td></tr>
<tr><td>LED</td><td>Light Emitting Diode
Light diode</td></tr>
</table>

1.4 Definitions of Terms

Term	Definition
Authorised specialist	An authorised specialist is a specialist that has been trained by the manufacturer, an authorised service dealer or a company assigned by the manufacturer.
Cook&Chill Kitchens	"Cook and Chill": Kitchens where warm food after being cooked is chilled as quickly as possible.
Cook&Serve Kitchens	"Cook and Serve": Kitchens where warm food is served immediately after being cooked or kept warm until it is consumed.
Specialist	A specialist is a person who can evaluate work assigned and can individually recognise any possible dangers due to professional training, specialist knowledge and experience as well as knowledge of the respective guidelines.
Gastronorm	Gastronorm is a measurement system applied worldwide, for instance, in food processing plants. The use of standardised sizes makes it possible to exchange food pans. The basic size of the Gastronorm (GN) 1/1 is 20.9x12.8" (530×325 mm). Items are available in different depths.
H1	Hygienic standard (NSF/USDA) for lubricants that are suitable for incidental and technically unavoidable contact with foodstuffs
Control	Compare with certain conditions and/or characteristics such as damage, leaks, filling levels, heat.
Machine safety	The term of machine safety means all the measures used to avert injury to persons. The basis for this are national as well as EC-wide valid directives and laws for protecting users of technical devices and systems.
Passive layer	A non-metallic protective layer on a metallic material that prevents or slows down material corrosion.
Check	Compare with certain values such as weight, torque, content, temperature.
Qualified person, qualified staff	Qualified personnel are persons who due to their professional training, experience and instruction as well as their knowledge of the respective standards, guidelines, accident prevention regulations and operating conditions have been authorised by a person responsible for system safety to carry out required activities and can recognise and prevent any possible danger (definition of specialists according to IEC 364).
Schuko®	The abbreviation of the German term "Protective contact" that indicates a system of domestic plugs and sockets equipped with protective earthed contacts used in most of Europe.
Instructed persons	An instructed person is a person who has been instructed on the possible risks resulting from improper behaviour when carrying out the assigned task as well as on the necessary protective equipment and protective measures and trained for this task if necessary.

1.5 Orientation Guide

The front

"The front" means the side where the operating elements are arranged. The operating staff stays at this side to move the food transport trolley.

The rear

The side named "the rear" means the opposite side of the front side (the front).

The right

The side named "the right" means the side at the right hand side of the front side (the front).

The left

The side named "the left" means the side at the left hand side of the front side (the front).

1.6 Notes on Use of Manual

1.6.1 Notes on the structure of the manual

This manual is structured in functional and task orientated chapters.

1.6.2 Notes and their illustrations used in the chapters

The warnings and notes are separated from the other text and particularly marked by corresponding icons. The icon cannot, however, replace the text of the safety instructions. Therefore, always read thoroughly the full text of the safety instructions. The warnings and notes are separated in these operating instructions as follows and categorised by the following danger levels by means of various symbols.

DANGER	**Brief description of danger**
	There is an imminent danger to life and limb of the user and / or third parties when the instructions are not followed precisely or the circumstances described are not taken into account. The type of danger is indicated by a symbol and explained in the accompanying text in more detail. In this example the general sign of danger is used.

WARNING	**Brief description of danger**
	There is an indirect danger to life and limb of the user and / or third parties when the instructions are not followed precisely or the circumstances described are not taken into account. The type of danger is indicated by a symbol and explained in the accompanying text in more detail. In this example the general sign of danger is used.

ATTENTION	**Brief description of danger**
	There is a potential risk of injury or damage to property when the instructions are not followed precisely or the circumstances described are not taken into account. The type of danger is indicated by a general sign and explained in the accompanying text in more detail. In this example the general sign of danger is used.

NOTE	**Brief description of additional information**
	Attention is pointed to special conditions or additional important information on the respective subject.

INFO	**Short title**
	Contains additional information on work assisting features or recommendations on the respective subject.

2 Safety Instructions

2.1 Introduction

The chapter on safety instructions describes the risks associated with the appliance in terms of product liability (according to the EU Machinery Directive).

The safety instructions should warn of hazards and help to avoid damages to persons, the environment and property. Please make sure that you have read and understood all the safety instructions given in this chapter.

You must comply with the respectively valid national and international Safety at Work Regulations. The manager is responsible for the valid regulations he/she has to provide. He/she must acquaint himself/herself and the operator with the new regulations.

In addition to these operating instructions, comply with the rules on health and safety at work issued by the Main Association of the industrial Professional Associations, especially with those that concern the handling of hot items and risks involved (BGR 110 "Protection of health and safety at work in restaurants" and BGR 111 "Protection of health and safety at work in large-scale kitchens").

2.2 Warning Symbols Used

Symbols are used in these operating instructions to point out the dangers that can occur while operating or cleaning the appliance. In both cases, the symbol provides information on the type and circumstances of danger.

The following symbols can be used:

	General hazardous area
	Hazardous electrical voltage
	Risk of hand injuries
	Risk of crushing
	Risk of hot surfaces
	Wear hand protection

2.3 Safety Instructions for Appliance Safety

Safe operation of the appliance depends on appropriate and thorough use. Negligent handling of the appliance can lead to danger to life and limb of the user and / or third parties as well as hazards to the appliance itself and the other operator's property.

The following points are to be observed to ensure the appliance safety:

- The appliance may only be operated as intended, when it is in perfect condition with regards to technical standards, with awareness of safety and hazards and in accordance with the operating instructions.
- All the operating and actuating elements must be in a perfect and functionally reliable condition with regards to technical standards.
- The appliance must be checked for external visible damage and defects whenever it is put into operation. In case of damages, inform immediately the competent bodies and switch off the food transport trolley.
- Modifications or retrofits of the equipment are only permitted in consultation with the manufacturer and on receipt of his written agreement.
- The appliances can only be operated under continuous supervision.
- Move the appliance only with the doors closed. Unless the doors are closed, they can open during transport and cause in damages or lead to injuries.
- The appliance is provided exclusively for manual transport. Transport using any kind of devices is not permitted. Risk of injury and damage.
- Release both total brakes before commencing transporting. Moving the appliance with the total brakes locked can damage the chassis.
- Transport should only be undertaken over level floors. Moving the appliance over very uneven floors and stair steps can damage the chassis.
- Do not stop the food transport trolley by applying the total brakes. The total brakes are designed to be able to prevent the appliance from unintended moving. Do not stop the appliance on sloping floors. Secure the appliance against rolling away by applying both total brakes when stopping it.
- When approaching walls and moving round obstacles always pay attention to persons in the way. Risk of injury.
- When transporting the appliance, always grip the push bar with both hands. Never let go of the appliance when moving it around.
- When transporting the appliance, do not move it faster than a walking pace. Heavily laden appliances are difficult to brake and steer. If necessary, ask for assistance when transporting the appliance.
- If the food transport trolley tips over due to outside influence or inattention, never catch it manually. Risk of injury.
- In the case of off-site transport in a vehicle such as a lorry, the appliances should be secured properly. The total brakes are not sufficient as a transport securing method.
- Before transporting, switch off the appliance using the On/Off switch, pull out the mains plug and insert it into the holder provided.
- Never pull the mains plug out of the socket by the connecting lead.
- Never move the appliance by pulling by the connecting lead.
- Never pull too tight or subject the connecting lead to tension, otherwise the mains plug may be damaged.
- If the mains plug has come into contact with water it must be dried before inserting it into the socket. Danger to life.
- Damaged mains plugs or the connecting lead are to be replaced by authorised specialists before the appliance is used.
- Do not use any extension leads in wet and damp areas.

- It is not permitted to transport any loads on hinged lids, because transported objects are not protected against falling down.
- It is not allowed to move open containers with hot liquids on it.
- The appliance may only be moved with closed hinged lid.
- There is a risk of crushing your fingers when opening and locking the cover segments.
- Cover the inserted gastronorm containers with lids. If you use smaller gastronorm containers use separating webs and insert empty gastronorm containers into positions that remain free. The escaping steam can heat the lids up to 100°C.
- Before loading, the crockery dispensing height must be adjusted to the kind of crockery used.
- The crockery guides must be adjusted to the kind of crockery used before loading.
- To avoid injuries to the hands, care should always be taken to ensure that the crockery dispensing height does not fall below the upper rim of the housing.
- Never push the guide basket down manually into the plate dispensing tube (e.g. for cleaning). There is a risk of injury, if the guide basket is released.
- If a stack of plates with the covers is too high, do not push it down forcibly. There is a risk of injury, if the locking is released. Furthermore, the locking function of the covers can be damaged.
- The crockery temperatures can exceed the permitted maximum temperatures of 149°F (65°C) for touchable appliance surfaces. Always wear protective gloves when dispensing hot crockery. Risk of burning.
- When the plate dispensing tube is in use, never reach into it and touch the heating element with your fingers. Risk of burning.
- Plastic crockery, top and bottom parts of plastic insulated sets and plastic-coated items for keeping food warm should not be stored or warmed up. Owing to the high temperatures of the heating elements, the plastics can melt and catch fire.

2.4 Safety Instructions for Transport

The following points are to be observed when transporting the food transport trolley:

- When loading, use only hoists and load lifting devices approved for the weight of the appliance to be lifted.
- Only use transport vehicles that are approved for the weight of the food transport trolley.
- In no case put a defective appliance into operation and inform the supplier immediately.

2.5 Safety Instructions for Cleaning and Care

The following points must be observed when carrying out any cleaning and maintenance operations:

- Take the food transport trolley out of operation before beginning cleaning and maintenance procedures. Switch off the food transport trolley with the On / Off switch, pull out the mains plug, insert it into the plug park provided and secure to prevent unauthorized reactivation.
- For reasons of hygiene, pay strict attention to the cleaning instructions.
- Heated appliances must be out of operation and sufficiently cooled before cleaning.
- Do not clean the appliance with steam-jet or high-pressure washers. The appliance must be taken out of operation and switched off at the mains beforehand in any area where steam-jet or high-pressure washers are to be used.

2.6 Safety Instructions for Troubleshooting

The following points must be observed when carrying out any troubleshooting operations:

- The local applicable Accident Prevention Regulations must be observed.
- Take the food transport trolley out of operation before beginning maintenance or repair work. Switch off the food transport trolley with the On / Off switch, pull out the mains plug, insert it into the plug park provided and secure to prevent unauthorized reactivation. Before beginning work on the electrical system, isolate the appliance from the mains supply and secure to prevent it being switched on again. This work must only be carried out by a certified electrician.
- Observe the valid product safety regulations when handling oils, greases and other chemical substances.
- Carry out all the checks and inspections of the appliance on a regular basis. Remedy immediately deficiencies, such as loose screw connections, melted or damaged leads.
- Only authorised specialists may perform all repair work.
- Defective components should only be replaced with original parts.

2.7 Notes on Specific Hazards

Electrical energy

- All work on the electrical installations should only be carried out by a certified electrician or by authorised specialists under supervision and monitoring of a certified electrician according to the applicable electro-technical regulations.
- The appliances on which inspection, maintenance and troubleshooting work is performed must be disconnected from the power supply and secured against reactivation when the voltage is not required for this kind of work. This must only be carried out by a certified electrician.

3 Description and Technical Data

3.1 Performance Description

The food transport trolleys are a complete system for the transport and distribution of meals. They hold up prepared meals and keep them warm. Food in gastronorm containers can be either put into bain-marie wells or gastronorm containers, on grids or into baskets in heated cupboards. When switched off and with the use of a cold storage plate, the cupboard compartments can also be used for cold meals and cold side dishes, e.g. salads, bread, cold cuts and desserts. Bain-marie wells and heated cupboards are thermally insulated from each other.

Food transport trolleys are mainly used to store, transport for short distances and distribute hot meals. They can be used everywhere, where the use of tray systems is not efficient and the free choice of a portion size is a particularly important decision criterion. The number of persons depends on the number of menu components.

The heated plate dispensing tube with cover, the storage place for ladles and the neutral compartment provide sufficient space-saving storage options to store and transport all of the utensils required by the operating staff as well as all of the crockery/cutlery required for the guest in a single appliance.

3.2 Proper Use

Food transport trolleys are intended for storing hot meals and for keeping meals warm. It is not possible to heat up cold meals or to cook products which have been introduced in the warm state.

Food transport trolleys are only intended for the transport of meals in gastronorm containers or portioned meals on grids or in baskets.

The plate dispensing tube of the food transport trolley is intended for dispensing round crockery items made of porcelain or toughened glass. It is also possible to transport crockery, cutlery and napkins in suitable transport containers or on trays in the neutral compartment.

Food transport trolleys are only intended for the transport for short distances. When transporting for longer distances, connect the appliance to a power supply, switch the heating on and reheat the meals at regular intervals.

When cooling meals or the components it is necessary to comply with the respective legal directives on food storage (duration and temperature).

The intended use means the predetermined procedures, compliance with the indicated specifications and use of the delivered or additionally available original accessories.

Any other use of the appliance is considered as unintended use.

3.3 Improper Use

It is not permitted to use food transport trolleys for cooking food or keeping it warm, for room heating and drying the crockery.

The maximum duration of transport of hot meals shall in no case be exceeded between two heating stages.

Do not transport any loads on the hinged lids of the appliances, because transported objects are not secured to prevent them falling down.

Transport of persons is not permitted.

In no case may people sit or stand on the appliance.

It is not permitted to heat dry the bain-marie wells

The plate dispensing tube is not designed to heat and store plastic crockery, top and bottom parts of plastic insulated sets or plastic-coated items used to keep food warm. Owing to the high temperatures of the heating elements, the plastics can melt and catch fire.

Any other use, especially loading the food transport trolley with other loads as given, is not permitted.

The manufacturer and suppliers are not liable for any consequential damage resulting from unintended use. No liability is assumed and no warranty claims can be submitted for damages caused by improper use.

3.4 Appliance Description

3.4.1 View of the appliance food transport trolley

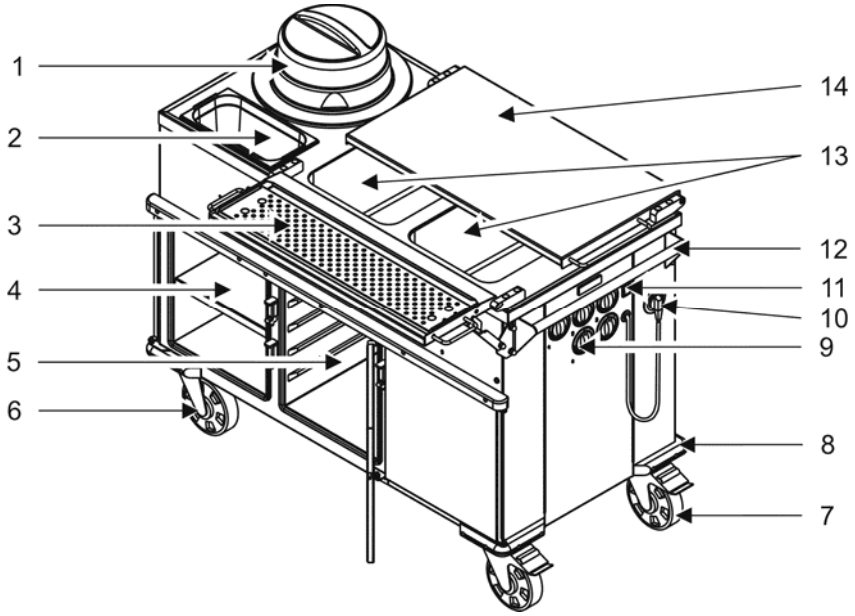


Figure 1 View of the appliance SPTW-2/EBF/TEHCO

1	Plate dispensing tube with cover	8	Corner bumper
2	Storage place for ladles	9	Thermostat for setting the temperature*
3	1/3 Cover element, open	10	Connecting lead with mains plug
4	Neutral cupboard compartment	11	On / Off switch
5	Heated cupboard with beads	12	Push bar
6	Swivel caster without total brake	13	Bain-marie wells
7	Swivel caster with total brake	14	2/3 Cover element, closed

3.4.2 Appliance Description

Food transport trolleys are equipped with two heated bain-marie wells and two heated cupboard compartments. They hold up prepared meals in Gastronorm containers and keep them warm. It is also possible to switch off the heated cupboard compartments and use these in combination with a cold storage plate as cooling compartments. The thermal insulation of the mobile bain-marie ensures the efficacy of the bain-marie wells above these compartments and the adjacent heated cupboards is not impaired.

The bain-marie wells are filled with water up to the fill level indicator and heated by a foil heater. The generating water vapour heats up the inserted Gastronorm containers. The heating element and electrical parts are easy to be accessed and can be dismantled without any problems. The bain-marie wells can be emptied by the water drain taps after the operation.

The operating temperature for each bain-marie well and each heated cupboard compartment can be chosen separately. Using the continuously adjustable thermostats located on the front of the food transport trolley it is possible to separately adjust the operating temperature of each individual bain-marie well and cupboard compartment. Digits on the thermostats indicate the corresponding bain-marie wells and heated cupboard compartments.

The lids can be opened to the left and the right. The smaller 1/3 element with a removable perforated plate opens to the left and is locked in position at 180° by two supports. It can be used for serving plates, filling of soup bowls and to hold up ladles. The bigger 2/3 element is opened to the right and it is equipped with a condensate collecting channel on the inner side. When it is opened to an angle of 270° it can be used to hold gastronorm container lids. It is not possible to lock it in an angle of 180°.

The plate dispensing tube holds clean plates made of porcelain or toughened glass in an adjustable, spring-loaded guide basket. Special springs ensure crockery items are automatically and constantly moved up the entire lift to a uniform dispensing height. The ergonomically favourable dispensing height can be adjusted within a limit to persons of different height. The plastic cover used to cover the plate dispensing tube effectively protects loaded crockery against dust and condensation even during relatively long periods of tempo-

rary storage. When fitted in position the cover reduces upward heat loss and lowers the time required to heat the inserted crockery as well as prolonging the time warm crockery takes to cool down.

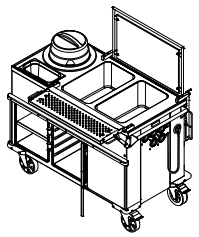
3.4.3 Equipment and optional accessories

The following parts can be applied as optional accessories for the food transport trolley:

- Folding shelf
  The stainless steel folding shelf is designed to hold items of crockery; it is designed to be fitted to the end of the appliance. Authorised staff only are permitted to fit folding shelves to the appliance. To do so, requires a welding machine. It is not permitted to put heavy loads on to folding shelves. During transport, they must be folded up. The folding shelves can be folded up by lifting them slightly up and raising them to an angle of 90°. There is a risk of crushing your fingers when folding up and locking.
- Cold storage plate
  The cold storage plates are filled with approximately 4 litres of cooling brine. Nutritionally, plastic housings and coolant are totally harmless. Dimensions 530 x 325 x 30 mm, total weight 4.5 kg.
  During the phase transition from the solid to the liquid state about 70 % of the available cooling power is released. If only liquid cooling brine is used, the power will be only 30 % of the maximal possible value.
  When freezing, cold storage plates have to be stored horizontally and with sufficient distance to each other, since otherwise centrally located cold storage plates cannot be cooled sufficiently even after 24 hours. During the freezing process, the cold storage plates bulge due to the volume increase of the cooling brine. This is a natural process that can be reversed by the heating in the food transport trolley.
  It is not useful to cool down the cooling brine below -18°C because too low temperatures slow down the liquid-to-solid phase transition. The maximal permitted surface temperature of the cold storage plates is +50°C. Cold storage plates are not suitable for the cleaning in dishwashers.
- Gastronorm containers and bowls of various sizes
- Support bars for wells, length 325 mm, made of stainless steel
- Support bars for wells, length 530 mm, made of stainless steel
- Basket GN 1/1, 530 x 325 x 70 mm, Mesh width 26 mm, stainless steel, plastic-coated
- Swivel casters made of stainless steel, Ø = 125, 160 or 200 mm with and without total brakes, plate attachment
- Fixed caster made of stainless steel, Ø = 125, 160 or 200 mm, plate attachment

The part numbers of the special accessories can be found in the spare parts catalogue and order lists available online.

3.5 Technical Data

	Dim.	SPTW-2/EBF/TEHCO
		
Width	in (mm)	30.7 (779)
Depth	in (mm)	52.0 (1321)
Height	in (mm)	38.7/44.1 (982/11199)
Own weight	lbs (kg)	159 (350.5)
Payload	lbs (kg)	392.4 (178)
Capacity (in people)		50
maximum duration of transport between two heating stages	min	20
Number of bain-marie wells		2
Well size for GN 1/1	in (mm)	20.9 x 12.8 (530 x 325)
Heating of bain-marie wells		Foil heating 0.7 kW 230V
Temperature regulation, for each individual well		continuous
Thermostat setting	°F (˚C)	86-203 (30-95)
Heat insulation		ceramic mat
Crockery guide		3 adjustable guides per tube, plastic-coated
Guide basket		Rod construction, plastic-coated
Stack height without cover	in (mm)	21.7 (535)
Stack height with cover	in (mm)	24.7 (625)
Crockery size	in (mm)	∅ 7.48-10.24" (190-260)
Number of crockery stacks		1
Heating plate dispensing tube		Stainless steel tubular heating element 0.5 kW 230V
Thermostat setting	°F (˚C)	86-176 (30-80)
Maximum crockery temperature	°F (˚C)	140 (60)
Temperature regulation		continuous
Heat insulation		ceramic mat
Number of cupboard compartments		2 heated compartments, 1 neutral compartment

	Dim.	SPTW-2/EBF/TEHCO
Internal cupboard dimensions	in (mm)	36.45 x 17.12 x 25.6" 330 x 540 x 370
Beads		4 pairs, distance 75 mm
Heating of heated cupboards		Stainless steel tubular heating element 0.45 kW 230 V
Temperature regulation, for each compartment separately		continuous
Thermostat setting	°F (˚C)	86-176 (30-80)
Heat insulation		special insulation
Power requirement		AC 230V N PE 50/60Hz 2.8 kW
Protection class		IPX4
Operating and environmental condi-tions of casters	°F (˚C)	68 to 122 (20 to +50)
Caster diameter	in (mm)	6.3" 160

The corresponding test marks are available from our homepage at www.hupfer.de.

3.6 Rating Plate

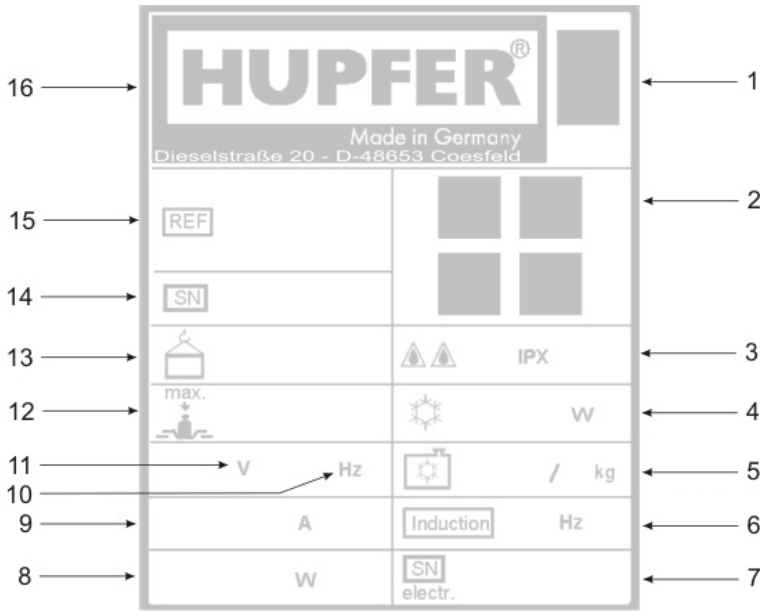


Figure 2 Rating plate

1	Disposal of old appliances	9	Nominal current
2	Test mark	10	Frequency
3	Protection class	11	Nominal voltage
4	Chilling capacity	12	Payload
5	Refrigerant	13	Own weight
6	Induction frequency	14	Serial number/Order number
7	Current serial number	15	Item and brief description
8	Electric power	16	Manufacturer

4 Transport, Putting into Operation and Decommissioning

4.1 Transport

ATTENTION	Appliance damages caused by improper transport
	In the case of off-site transport in a vehicle such as a lorry, the appliances should be secured properly. The total brakes are not sufficient as a transport securing method. If the appliances are not secured properly, there is a risk of damage to property and persons caused by squashing. During transport, secure all the individually standing appliances using corresponding transport securing devices.

The food transport trolley is delivered as an assembled unit, i.e. it is completely assembled including the heating.

When loading, use only hoists and load lifting devices approved for the weight of the food transport trolley. Only the transport vehicles may be used that are approved for the weight of the appliance.

According to the valid purchase contract, the scope of delivery is specified in the shipping documents attached to the delivery item.

4.2 Putting into Operation

DANGER	Hazardous electrical voltage
	The electrical voltage may be considerably dangerous to limb and life of persons and lead to injuries. Before putting the appliance into operation, check whether the power supply indicated on the rating plate (230V / 50/60 Hz) corresponds to the local power supply. Otherwise, do not put the appliance into operation. Do not use any extension leads in wet areas.

Remove the original packing and check, whether the appliance is complete and undamaged. In no case put a defective appliance into operation and inform the supplier immediately.

Always place the food transport trolley on firm and level floors when unpacking and operating it. Apply the total brakes on both swivel casters to secure the appliance against rolling away.

INFO	Disposal of packing material
	The packing consists of recyclable materials and can be disposed of appropriately. Thereby, the different materials are to be separated and disposed in an environmentally compatible manner. In any case, the local bodies responsible for disposal are to be involved for this purpose

The food transport trolley should be thoroughly cleaned with a soft cloth before putting it into operation for the first time. Before the appliance is put into operation it must be clean and dry.

The following appliance functions must be checked before putting it into operation:

- the functioning of the total brakes
- the functioning of the operating elements and heating.

4.3 Storage and Recycling

Temporary storage must take place in a dry and frost-free environment. The food transport trolley must be kept covered with a suitable covering material to be protected against dust ingress.

The appliance kept in the storage location must be checked for damages and corrosion every 6 months.

NOTE	Condensed water formation
	Ensure that there is sufficient ventilation and no large temperature fluctuations in the storage location to avoid condensed water formation.

Before the appliance is taken back into operation it must be clean and dry.

If the food transport trolley is recycled, all operating and auxiliary materials must be disposed in an environmentally compatible manner. The recyclable materials must be properly separated and disposed in an environmentally compatible manner according to the local Waste Disposal Regulations. In any case, the local bodies responsible for disposal are to be involved for this purpose. Separate the reusable materials of the appliance (casters and plastic parts) before disposing or send the appliance to a recycling centre. Dispose the electronics at corresponding collection centres.

We offer our customers to dispose their waste appliances. Please contact us or one of our distribution partners.

Packaging and packing material can be sent to the recycling centre by indicating the waste disposal contract number. If you do not have the valid waste disposal contract number, you can ask for it at HUPFER® - Service.

5 Operation

WARNING	Risk of hot surfaces
	If the thermostat is set to the level 3 and higher, the permitted maximum temperature of 149°F (65°C) for touchable appliance surfaces can be exceeded. Direct contact with your skin can cause burns. Only instructed staff may operate the appliance. Wear suitable protective clothing.

ATTENTION	Damage to property
	A layer of scale acts as thermal insulation and can lead to a heat accumulation above the tubular heating element as well as cause damage to the well base. There is a risk of corrosion under the scale layer. If you heat the bain-marie wells dry, they get warped and micro-cracks form. This can result in a total damage. Only operate the food transport trolley when it is clean.

ATTENTION	Exposed springs
	When pressing down the guide basket manually, the springs are exposed. Reaching into the gaps of the exposed springs may cause hand injuries. Never press the guide basket down manually.

The food transport trolley must be checked for external visible damages and defects before each operation.

Before putting the appliance into operation, the heated cupboards must be clean and the bain-marie wells must be cooled down, clean and without scale deposits. If required, bain-marie wells that have been already put into operation and completely drained off must cool down for some time.

Appliances equipped with foil heating may not be heated without water in the bain-marie well.

5.1 Arrangement and Function of the Operating Elements

The operating elements of the food transport trolley are arranged on the front side of the appliance.

The digits on the thermostats can be allocated to the bain-marie wells and the heated cupboards.

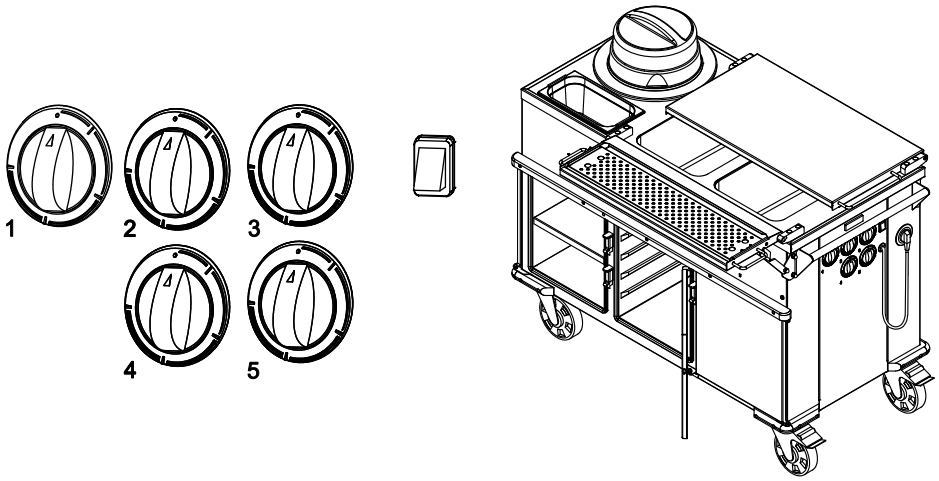


Figure 3 Operating elements of food transport trolley

5.2 Adjusting the plate dispensing tube

WARNING	Risk of hot surfaces
	The internal surfaces of the heated appliances can become hot during operation and only cool down slowly in the air. To adjust the guide basket, allow the appliance to cool down sufficiently with the cover removed.

ATTENTION	Exposed springs
	When pressing down the guide basket manually, the springs are exposed. Reaching into the gaps of the exposed springs may cause hand injuries. Never press the guide basket down manually. Be careful when hooking and unhooking the springs. When adjusting springs on sharp edges, pay particular attention to the ends of the tension springs.

The adjustments should only be carried out on the appliances which are switched off, disconnected from the power supply and cooled down (room temperature).

Before starting work, always check it the plate dispensing tube of the food transport trolley is correctly set for the crockery to be used.

The following functions are to be checked separately:

- The vertical guide of the plates, in order to prevent any risk of injury to the operating staff if the crockery guides are set too far apart or too close together.
- The dispensing height, so that the staff cannot suffer injury or become trapped and no breakage of crockery can occur.

Basically, the appliance must be adjusted if at least one of the following crockery parameters alters:

- Diameter
- Height
- Stack height
- Weight.

5.2.1 Crockery guide adjustment

Before loading, the crockery guides must be adjusted to the diameter of the crockery items and fixed in the locking positions provided.

If the crockery guides are set too far apart from each other, the crockery stack can become wedged under the upper plate due to the possible high tilt angles, and can injure the operating staff when released.
If the crockery guides are set too close, the plates can become jammed and can injure people when released suddenly.
Too small crockery items cannot be guided properly and, therefore, should not be used.

Adjustment of crockery guides

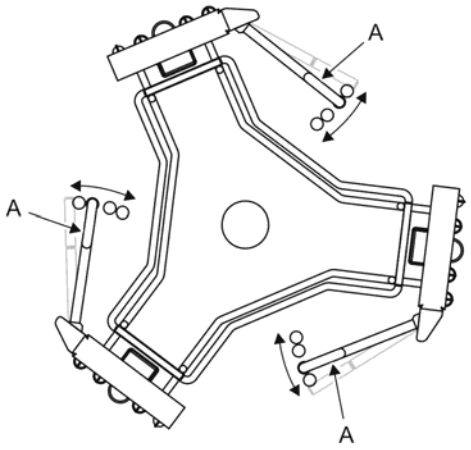


Figure 4 Crockery guides

Release the crockery guides (A) out of the locking position by lifting them and put them on the outermost position.

- Load a stack of 10 to 12 plates on the guide basket.
- Turn the crockery guides (A) and fix them in the corresponding locking position with respect to the crockery diameter. Check by pressing slightly the crockery stack, whether it can move easily on its guide without rocking.
- All three crockery guides must be fixed in the same locking positions to ensure uniform loading of the stacking platform.
- After the appliance is loaded and before transport begins, the guide rails must be checked again manually to ensure that they are fixed.

Adjust retaining bolts

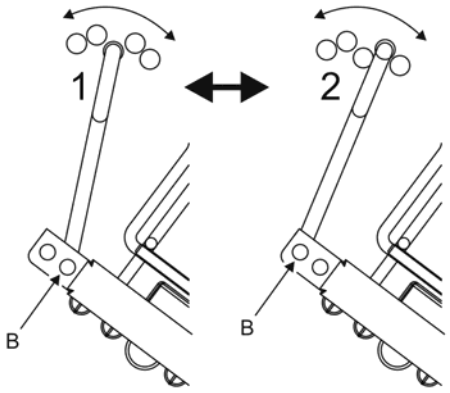


Figure 5 Retaining bolts

- Remove the crockery guides in the area of the retaining bolts (B) by pressing them down slightly and fit them onto the other retaining bolts (B).

INFO	Crockery diameters
	The following crockery diameters can be set with the locking positions provided: 19.0 / 21.5 / 23.5 / 26.0 cm.

5.2.2 Spring adjustment

ATTENTION	Damage to persons and property due to improper adjustment
	When the dispensing height is exceeded, there is a risk of accident or injury due to tipping of the crockery stack and breakage of dishes. If the level falls below the dispensing height, injuries to the fingers due to squashing can occur when removing dishes. Adjust appropriately the dispensing height by hooking or unhooking the springs. When adjusting springs on sharp edges, pay particular attention to the ends of the tension springs. Act carefully.

ATTENTION	Risk of injury
	Be careful when hooking and unhooking the springs. When adjusting springs on sharp edges, pay particular attention to the ends of the tension springs.

NOTE	Guide basket
	It is not necessary to dismantle the guide basket in order to adjust the springs. It should only be dismantled by specialist staff and, moreover, it is not possible do this from above without a tool.

Before loading the appliance, the dispensing height must be adjusted to the kind of crockery used. The dispensing height is adjusted by hooking or unhooking tension springs. So long as the same kind of plates is always used, the dispensing height only needs to be set once.

The dispensing height must be adjusted so that over the entire lift the uppermost item of crockery is constantly moved upwards to a uniform dispensing height between 4 and 6 cm above the upper edge of the housing.

Step 1 - Checking the spring adjustment

- Load a stack of 15 to 20 items on the guide basket to test the dispensing height.
- Wait for a reaction.

If the dispensing height of the crockery stack is about 1.97" (5 cm) above the upper edge of the appliance, the spring system is adjusted correctly.

If the crockery stack drops down only a little or not at all, the dispensing height must be altered by adjusting the springs.

Step 2 - Changing the spring adjustment

The dispensing height is adjusted by hooking or unhooking tension springs on two attachment bars. The springs are arranged in groups of 5, where 1 to 2 are base springs with higher tension (1) and 4 are adjustable springs (2) with lower tension.

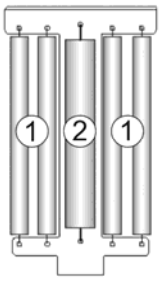


Figure 6 Attachment bar with tension springs

If the dispensing height is too high, adjustable springs must be unhooked.

If the dispensing height is too low, adjustable springs must be added.

Procedure for setting the springs:

- Take the inserted crockery items out of the plate dispenser (if available).
- Hook or unhook adjustable springs uniformly in all groups of springs.
- Preferably unhook the adjustable springs. Always leave the base springs inserted, if possible. Always unhook the springs on the lower attachment bar.

Both steps must be repeated as often as possible, until the dispensing height is in the range from 1.57" (4 cm) to 2.36" (6 cm). So long as the same kind of crockery is always used, the dispensing height only needs to be set once.

NOTE	Arrangement of the springs
	For guiding the guide basket uniformly and without friction, a symmetrical arrangement of springs between the attachment bars is necessary. A slightly asymmetrical arrangement of springs within an attachment bar does not pose any problem.

NOTE	Spring system
	Since the plate dispensing tubes are designed for a maximum crockery load, the available spring system of the appliances is entirely sufficient for all usual market plates. Owing to the base springs with higher tension, the plate dispensing tubes are unsuitable for plastic items.

5.2.3 Calculating the capacity of the plate dispensing tubes

The capacity of the plate dispensing tube depends on the type of crockery used.

All the leading manufacturers give the necessary data for calculating the intermediate stack height in the following manner:

$$H_Z = \frac{(H_n - H_1)}{n-1}$$

H_Z: Intermediate stack height
H_1: Height of the first crockery item
H_n: Height of n crockery items
n: Number of crockery items

he capacity per crockery stack can be calculated together with the stack height H_S:

$$K = \frac{(H_S - H_1)}{H_Z} + 1$$

K: Items per crockery stack
H_S: Stack height of the plate dispenser

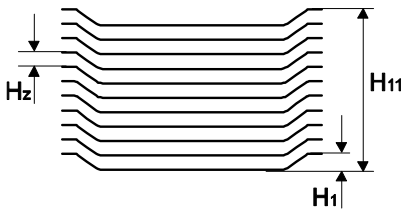


Figure 7 Intermediate stack height H_z of 11 crockery items

Example:

$$H_Z = \frac{(140 - 28)}{10} = 11{,}2 \text{ mm}$$

$$K = \frac{(625 - 28)}{11{,}2} + 1 = 54$$

H_1= 1.1" (28 mm): Height of the first crockery item

H_{11}= 5.5" (140 mm): Height of 11 crockery items

t= 11: Number of crockery items

H_S = 24.6" (625 mm): Stack height

So 54 crockery items can be stacked into this plate dispensing tube.

5.3 Operation

WARNING	Risk of hot surfaces
	If the thermostat is set to the level 3 and higher, the permitted maximum temperature of 149°F (65°C) for touchable appliance surfaces can be exceeded. Direct contact with unprotected skin can cause burns. Only instructed staff may operate the appliance. Wear suitable protective clothing.

Use of the cover

ATTENTION	Risk of injury
	If a stack of plates with the covers is too high, do not push it down forcibly. There is a risk of injury, if the locking is released.

NOTE	Use of the cover
	The cover ensures effective protection against ingress of dust and condensed water even during relatively long periods of temporary storage. Using a cover in the heated appliances lowers the heat loss upwards and reduces the heating time of the inserted crockery or delays the cooling of pre-warmed crockery.

The cover is provided with a 3-point locking mechanism.

- Place the cover on to the plate dispensing tube and lock it by turning it clockwise.
- Open the cover again by turning it anti-clockwise.

Use of the storage place for ladles

There is a compartment in the upper plate of the mobile bain-marie, where a gastronorm container (1/3) with 150 mm depth can be inserted. Here you can store ladles or other crockery items.

ATTENTION	Risk of impurities
	The storage place for ladles is not liquid-tight without gastronorm containers. Liquid can flow into the appliance and cause hygienic problems and smell nuisance. Always insert a suitable gastronorm container.

5.3.1 Filling bain-marie wells

- Close the water drain taps.
- Fill the bain-marie wells with about 3 l water. There is a maximum fill level indicator on the inner side of the heat-retaining well.

NOTE	Filling bain-marie wells
	Filling warm or hot water reduces the heating time of the appliance. The inserted Gastronorm containers should not come into contact with water, for this reduces heat transfer. Steam is the best heat transfer medium. The higher the fill level, the longer heating time is.

INFO	Water quality
	If tap water is particularly rich of minerals use softened water to reduce deposits of scale.

5.3.2 Tempering

The On/Off switch and the thermostat for the bain-marie wells and heated cupboards are arranged on the front side of the food transport trolley.

If you use a cupboard compartment as a cooling compartment, adjacent heated cupboards and overlying bain-marie wells can be normally operated due to the thermal insulation.

Setting the temperature of the bain-marie wells

- Close the bain-marie wells with a well closing lid to avoid heat loss.
- Connect the food transport trolley to the mains.
- Switch on the appliance with the On / Off switch. The indicator integrated in the switch will light up to show that the appliance is ready for operation.
- Set the desired temperature using the thermostat of the certain bain-marie well. A continuous adjustment is possible within the 4 power ranges. Digits engraved into the housing above every thermostat helps to allocate them to the corresponding bain-marie wells.

NOTE	Temperature setting
	If the temperature of the heated cupboard is set too low, the food temperature can drop to the value below the permitted limit of 65°C. This affects negatively the food safety and stimulates quick bacterial growth.

INFO	Operating temperature
	If the appliance is filled with cold water up to 2 cm, closed well with a lid and switch on to the maximum power, the water in the bain-marie wells will reach a temperature of 90°C in about 45 minutes.

Setting the temperature of the heated cupboards

- In order to avoid heat loss you have to close the heated cupboards.
- Connect the food transport trolley to the mains.
- Switch on the appliance with the On / Off switch. The indicator integrated in the switch will light up to show that the appliance is ready for operation.
- Set the desired temperature using the thermostat of the heated cupboard. A continuous adjustment is possible within the 4 power ranges. Digits engraved into the housing above every thermostat helps to allocate them to the corresponding bain-marie wells.

INFO	Warm up the heated cupboard
	If you warm up the heated cupboard, you can avoid that warm meals get cold.

Use the heated cupboard as a cooling compartment

NOTE	Use of the cold storage plate
	It is necessary to use at least one cold storage plate per compartment. The cold storage plate has to be inserted horizontally into the uppermost shelf. Warm meals should not be put into the appliance. The temperature of the liquid-to-solid phase transition is -12°C. A constant cooling temperature of -18°C and a duration of cooling of 24 hours is recommended, since the cold storage plates must be completely frozen in order to be fully effective and to significantly reduce liquid components in the cooling brine. When you shock freeze them, the duration in the appliance will be reduced. Please take into account the technical notes of the respective manufacturers.

The following must be considered when they are used as cooling compartment:

- It is imperative that the cupboard compartment heating is switched off.
- The temperature of the cupboard compartment corresponds to the room temperature.
- The cold storage plate is completely frozen and is inserted into the uppermost pair of beads.

The duration of cooling is technically limited and dependent on the ambient temperature and the impact by any heat sources (e.g. sunlight). The state of the cold storage plate has to be checked at regular intervals. New cold storage plates have to be used regularly for longer cooling times.

When stored meals are kept properly, it is necessary to check and verify the compliance of the prescribed storage temperatures with appropriate measuring instruments (thermometers) before the distribution of meals.

5.3.3 Loading

WARNING	Risk of scalding | Risk of hot surfaces
	Metal parts of the appliance can get very hot during operation. Water steam escaping between the Gastronorm containers can cause scalds. Therefore, pay always attention, if the Gastronorm containers are closed well. Wear suitable protective clothing.

Gastronorm containers (1/1) with the depth of up to 200 mm can be put into the bain-marie wells without taking any further measures.
If you use smaller Gastronorm containers (e.g. GN 2/3, GN 1/2 or GN 1/3), you should use support bars to reduce the steam escape between the containers and, subsequently, heat loss.

- Put support bars suitable for smaller Gastronorm containers into the bain-marie wells.
- Put the Gastronorm containers into the bain-marie wells.
- Place a suitable lid to avoid heat loss.

4 pairs of beads at a distance of 75 mm are available for each heated cupboard compartment. For the optimal use of the cupboard compartment you should use gastronorm containers with a depth of 65 mm. Along with gastronorm containers you can also insert grids or baskets with portioned meals into the heated cupboards.

It is also possible to use GN 2/3, GN 1/2 and GN 1/3 containers. It is not possible to insert smaller containers.

5.3.4 Moving

ATTENTION	Injuries and damage to property due to improper transport
	Only move the food transport trolley when the doors and lids are closed. Unless the doors are closed, they can open during transport and cause damages or lead to injuries. Before transport, check the food transport trolley whether the doors and lids are closed.

- Set all thermostats to 0.
- Switch off the appliance with the On / Off switch.
- Pull out the mains plug and insert it into the plug park provided.
- Release the total brakes.
- Grip the food transport trolley by the push bar and move it to the destination.
- When you got to the destination, apply both total brakes and make sure they are locked and the appliance is secured against unintended movement.
- Connect the appliance to the mains using the mains plug.
- Switch on the food transport trolley with the On / Off switch.
- Set the desired capacity using the thermostat of the certain bain-marie well.

Using the folding shelf

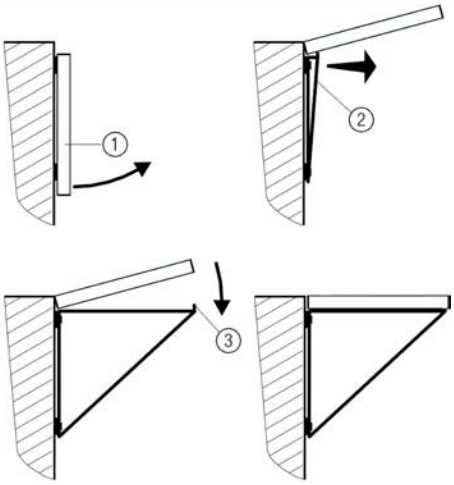


Figure 8 Fold down the folding shelf

- Fold up the folding shelf (1).
- Fold down the supports (2).
- Place the supports so that the pins (3) fit into the holes when folding down the folding shelf.

To fold up the folding shelf, proceed in the reverse sequence.

5.4 Measures at the End of Operation

Switching the food transport trolley off

WARNING	Risk of hot surfaces
	Heated Gastronorm containers can be very hot after operation and exceed the maximum temperature of 65°C, at which you are allowed to touch the appliance surfaces with bare hands. Direct contact with unprotected skin can cause burns. Act carefully. Wear suitable protective clothing.

- Set all thermostats to 0.
- Switch off the appliance with the On / Off switch.
- Apply both total brakes, make sure they are locked and the appliance is secured against unintended movement.
- Pull out the mains plug and insert it into the plug park provided.
- Remove the inserted Gastronorm containers.
- Remove the support bars if available.

Draining off the water

WARNING	Risk of scalding
	The water in the bain-marie wells can be very hot after operation. There is a risk of scalding, when draining off water. Act carefully. Wear suitable protective clothing.

WARNING	Risk of hot surfaces
	After draining off water, the water drain taps can get very hot and the maximum temperature of 65°C, at which you are allowed to touch the appliance surfaces with bare hands, can be exceeded. Direct contact with unprotected skin can cause burns. Act carefully. Wear suitable protective clothing.

NOTE	Opening the water drain tap
	Never turn off or on the water drain taps with a tool. If the water drain tap is stiff, use lubricants that are harmless to health or parting agents (according to USDA-H1).

NOTE	Draining off the water
	Turn on the water drain taps only directly above the on-site drain or a central waste drain in the kitchen.

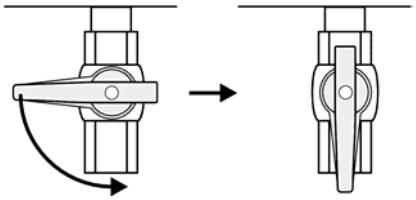


Figure 9 Opening the water drain tap

- Open the water drain taps.
- Drain off the water from the bain-marie wells.

6 Fault Detection and Troubleshooting

6.1 Safety Measures

DANGER	Hazardous electrical voltage
	The electrical voltage may be considerably dangerous to limb and life of persons and lead to injuries. Before looking for faults, switch off the appliance at the mains. Switch off the appliance with the On / Off switch, pull out the mains plug and insert it into the plug holder provided.

WARNING	Risk of hot surfaces
	The heated appliances can become hot during operation and only cool down slowly in the air. Before looking for faults, let the appliance cool down sufficiently.

ATTENTION	Exposed springs
	When pressing down the guide basket manually, the springs are exposed. Reaching into the gaps of the exposed springs may cause hand injuries. Never press the guide basket down manually. Be careful when hooking and unhooking the springs. When adjusting springs on sharp edges, pay particular attention to the ends of the tension springs.

6.2 Notes on Troubleshooting

Please contact our service partners in case of malfunction and complaints within the warranty period. Even after the warranty period is expired you can have necessary repair work done by our service partners and certified electricians.

Service work should only be carried out by authorised specialists.

Defective components should only be replaced with HUPFER® original parts. The modular design simplifies the replacement of individual components.

In the event of after-sales service and when ordering spare parts, always specify the data and corresponding part number indicated on the rating plate.

Regular inspection and maintenance of the appliance prevent disruptions to operation and ensure safety.

6.3 Fault and Action Table

Fault	Possible cause	Action
Running noise of swivel casters	Defective caster bearings	Replace the swivel casters.
	Sticky surface of the casters	Clean the swivel casters.
The appliance pulls to the right or to the left when transporting	Damaged caster bearings	Replace defective casters with new ones
Rolling resistance of the casters is higher than when putting the appliance into operation		
Total brakes do not have any locking action	Wear of the locking brakes	Replace the locking brakes or replace defective casters with new ones
Appliance does not become warm;	Defective building fuses	Check fuse and repair, if necessary

Fault	Possible cause	Action
indicator light does not come on.	Defective On / Off switch	Switch off the appliance at the mains, have it checked and repaired by authorised specialist staff, if neces-sary
	Defective mains connecting lead or mains plug	Switch off the appliance at the mains, have it checked and repaired by authorised specialist staff, if neces-sary
Appliance becomes warm; indicator light does not come on.	Defective indicator light	Take the appliance out of operation, have it checked and repaired by authorised specialist staff, if neces-sary
	Defective circuit	Take the appliance out of operation, have it checked and repaired by authorised specialist staff, if neces-sary
Appliance does not become warm; indicator light is on	Thermostat is defective	Take the appliance out of operation, have it checked and repaired by authorised specialist staff, if neces-sary
Bain-marie well takes too long to heat up	Too much water in the bain-marie well	Reduce the amount of water
	Deposits of scale or impurities in the bain-marie well	Take the appliance out of operation, descale and clean the bain-marie well after it has been sufficiently cooled down
Heated cupboard takes too long to heat up	Heated cupboard door is not closed properly	Close the heated cupboard door
	Damaged lip seal of the frame	Replace the seal (see the list of spare parts)
Water runs off despite closed valve	Ball valve is defective	Ball valve has to be replaced
Water does not run off despite open ball valve	Drainage pipe is clogged	When the valve is open carefully push down stuck leftovers with suitable tools, e.g. flexible bottle brush or wire.
The platform does not go up even when the load is low	Spring breakage	Replace a destroyed spring by a new one
Cooling is not sufficient	Cold storage plates too warm	Insert newly frozen cold storage plates
	Cupboard door is not closed properly	Close cupboard door
	The cold storage plate has become loose due to mechanical impact.	Use new cold storage plates
	Product temperature higher than 10°C	Store only cold foodstuff
	Usage of wrong cold storage plates	At a lower temperature cold storage plates containing liquid brine are not as efficient as the completely frozen ones
	Cold storage plate does not lie on the uppermost beads	Cold storage plate lies on the upper-most beads

7 Cleaning and Care

7.1 Safety Measures

DANGER	Hazardous electrical voltage
	The electrical voltage may be considerably dangerous to limb and life of persons and lead to injuries. Before cleaning, switch off the appliance at the mains. Switch off the appliance with the On / Off switch, pull out the mains plug and insert it into the plug holder provided.

WARNING	Risk of hot surfaces
	The heated appliances can become hot during operation and only cool down slowly in the air. Before cleaning, let the appliance cool down sufficiently.

ATTENTION	Appliance damages
	A layer of scale acts as thermal insulation and can lead to a heat accumulation above the tubular heating element as well as cause damage to the well base. There is a risk of corrosion under the scale layer. Clean the bain-marie wells thoroughly after every use.

ATTENTION	Exposed springs
	When pressing down the guide basket manually, the springs are exposed. Reaching into the gaps of the exposed springs may cause hand injuries. Never press the guide basket down manually. Be careful when hooking and unhooking the springs. When adjusting springs on sharp edges, pay particular attention to the ends of the tension springs.

7.2 Hygiene Measures

The correct behaviour of the operating staff is decisive for optimal hygiene.

All persons must be informed about the locally valid hygiene regulations, observe them and comply with them.

Stick a waterproof plaster to cover wounds on the hands and arms.

Never sneeze or cough on clean crockery or meals.

7.3 Cleaning and Care

If the food transport trolley is handled with care, cleaned and maintained on a regular basis, it does not require any additional care measures. The bain-marie wells and heated cupboards should be cleaned regularly after every use to ensure a hygienically perfect operation.

To clean thoroughly and quickly, wipe the bain-marie wells and heated cupboards with a soft cloth. Use for cleaning a soft cleaning cloth or an uncoated sponge. Use degreasing liquid cleansers that are approved for food industry. Never use high-pressure cleaners, chloride-containing cleaning agents, abrasive cleaning powder or other dry cleaning agents, steel wool, steel sponges and/or sharp-edged items.

If after cleaning the bain-marie wells there are still scale deposits, remove them, otherwise energy consumption will grow and efficiency will decrease. In case of heavy scale deposits, this can result in damages to the appliance. To descale, use commercially available descaling agents or vinegar water.

You can regrease the water drain taps with lubricating grease approved for use in the food industry to maintain tightness and ease of movement.

To clean the food transport trolley, proceed as follows:

- Switch off the appliance with the On/Off switch, pull out the mains plug and insert it into the plug park provided.
- Allow the appliance to cool down.
- Drain off the bain-marie wells.
- Wipe the bain-marie wells and descale if required.
- Clean the heated cupboards.
- Wipe the exterior panelling, folding shelves and shelves of the appliance.

Table of care measures

Cleaning and care measures	Action	daily	wweekly	monthly	Interval
Bain-marie wells	clean				**x[1]**
Heated cupboards	clean				**x[1]**
Perforated plate	clean				**x[1]**
Bain-marie wells	descale				**x[2]**
Outer cover of the food transport trolley	clean				**x[2]**
Folding shelves and shelves of the food transport trolley	clean				**x[2]**
Swivel casters	lubricate				**x[3]**
Water drain taps	lubricate				**x[2]**
Mechanical damages and obsolescence on the connecting lead	check				**x[4]**
Mechanical damages and obsolescence on the mains plug	check				**x[4]**

x^1 = after use
x^2 = if necessary, every 25 operating hours at the latest
x^3 = every 2 months
x^4 = every 6 months

7.4 Special Care Instructions

The resistance to corrosion of stainless steels is based on a passive layer which is formed on the surface when oxygen is admitted. The oxygen in the air is sufficient for the formation of the passive layer, so that faults or damage to the passive layer can be remedied again automatically by mechanical action.

The passive layer develops or reforms more quickly when the steel comes into contact with flowing water containing oxygen. The passive layer can be chemically damaged or disrupted by agents having a reducing (oxygen-consuming) action when the steel comes into contact with them in concentrated form or at high temperatures.

Such aggressive substances are for example:

- substances containing salt and sulphur
- chlorides (salts)
- seasoning concentrates (e.g. mustard, vinegar essence, seasoning cubes, saline solutions).

Further damages can occur due to:

- extraneous rust (e.g. from other components, tools or rust film)
- iron particles (e.g. grinding dust)
- contact with non-ferrous metals (element formation)
- lack of oxygen (e.g. no admission of air, low-oxygen water).

General working principles for the handling of appliances made of "refined stainless steel":

- Always keep the surface of appliances made from stainless steel clean and accessible to the air.
- Use cleaning agents suitable for stainless steel. No bleaching and chloride-containing cleaning agents should be used.
- Remove layers of lime scale, grease, starch and egg-white daily by cleaning. Corrosion can occur underneath these layers due to lack of air admission.
- After each cleaning operation remove all cleaning agent residues by wiping thoroughly. Afterwards, the surface should be thoroughly dried.
- Do not allow parts made from stainless steel to come into contact with concentrated acids, seasoning, salts etc. for longer than is absolutely necessary. Acid fumes which generate during cleaning of tiles also promote the corrosion of "refined stainless steel".
- Avoid damaging the surface of the stainless steel, particularly by metals other than stainless steel.
- Residues of extraneous metals produce extremely small amounts of chemical elements which can cause corrosion. In any case, contact with iron and steel should be avoided because that leads to extraneous rust. If stainless steel comes into contact with iron (steel wool, steel particles from pipes, water containing iron), this can be a trigger for corrosion. Therefore, for mechanical cleaning use exclusively refined steel wool or brushes with natural, plastics or refined steel bristles. Steel wool or brushes with unalloyed steel lead to extraneous rust due to abrasion.

8 Spare Parts and Accessories

8.1 Introduction

Service work should only be carried out by authorised specialists.

Defective components should only be replaced with HUPFER® original parts. That is the only way to guarantee a safe operation and long service life together with a high transport capacity.

In the event of after-sales service and when ordering spare parts specify always the data and corresponding part number given in the rating plate.

Always give the order number and corresponding part number when ordering replacement parts. The order number is given on the rating plate of the food transport trolley.

Always stockpile a full set of replacement parts as a reserve or make a maintenance contract with a specialised dealer to avoid standstill times.

8.2 Spare Parts and Accessories List

SPTW-2/EBF/TEHCO

4000150-B	Swivel caster	St galv. T1/160	
4000151-B	Swivel caster	Steel galv. T1/160 w. brakes	
4000152-B	Fixed caster	Steel galv. T1/160	
91082883	Lead	Wend.H07BQ-F 3G1.5/1600 WS-	
014001112	Heating	Stainless steel 230 V 450 W SPTW/EB-2+3	
4001213	Thermostat	30-90°C 1S cl.1730 UL	
014001300	On / Off switch	w. frame, spray h.	
86-176 (014002170-01)	Thermostat	Switching module, complete	
4002973	Silicone profile	Lip seal	
4005008	Ball valve	CuZn nickel-pl. 1/2"	
0163309	Drain hose	SPTW complete	
014034027-01	Thermostat	30-115°C	
91095077	Limiter	Temp. protection 90°C 2Ö	
91079799	Cable set	SPTW- EBF-TEHCO	
014129504	Drain	complete - SPTW/ EB-2 + 3	
0162606	Lock	SPTW complete	
014002110	Corner bumpers	complete set	(Package contents 4 piece)
0191148605	Dummy socket	ø75/43 black cpl	
4318000	Guide basket	Steel 336/293/130 cpl	
91002254	Crockery guide	Steel 696/116/16 cpl	
014040164	Tension spring	Stainless steel 5gr Ø1.0/Ø12/146 set	(Package contents 5 piece)
014040101	Tension spring	Stainless steel 10gr Ø1.5/Ø20/146 set	(Package contents 5 piece)
0163655	Cable gland	with tension relief set	
0162636	Heating	Foil heating 230 V 700 W	

0162626	Repair set	for foil heating	
0131392HF	Gastronorm container	BGN-F 1/3 - 150	
0132502H	Gastronorm container	bridge SB-325 16.5	
0132512H	Gastronorm container	bridge SB-530 23.5	
0132522H	Gastronorm container	bridge SB-325 20.5	

Spare parts for plate dispensing tube

014510023	Heating	Stainless steel 230 V 500 W, Ø 8.5 mm Sa	(Package contents 2 piece)
014034027-01	Thermostat	30-115°C	
014040164	Tension spring	Stainless steel 5gr Ø1.0/Ø12/146 set	(Package contents 5 piece)
014040101	Tension spring	Stainless steel 10gr Ø1.5/Ø20/146 set	(Package contents 5 piece)
4320006	Plate guide	623/127/34 cpl	
4322000	Cover	PC Ø310/103/3 transp	

The following plug types can be used with food transport trolleys:

- 2-pole Schuko® angle plug (standard)
- CEE plug 230 V - 16 A - 3-pole in Germany on request at SPTW-3/EBF, in Switzerland Standard at SPTW-3 EBF
- 3-pole British mains plug in accordance with BS 1363 A for Great Britain and Hong Kong
- 3-pole Swiss mains plug of type 12 - 10 A

9 Annex

9.1 EC Declaration of Conformity

CE Konformitätserklärung

Declaration of CE-Conformity | Déclaration de conformité CE

Gegenstand | Object | Objet
Tellerstapler, Tassenstapler | plate dispenser, cup dispenser | chariot niveau constant assiettes, chariot niveau constant à tasses

Typ | Type | Type
TE / EBR / SPTW/TE

Es wird bescheinigt, dass das/die zuvor näher beschriebene/n Produkt/e der/den im Folgenden aufgelisteten EU-Richtlinie/n entspricht/entsprechen:
2006/42/EG
Darüber hinaus wurden folgende harmonisierte Normen angewandt:
EN ISO 12100:2010, EN ISO 13857

It is certified that the product/s described in detail before, conform/s to the requirements of the European Union directive/s listed in the following:
2006/42/EC
Furthermore, the following harmonised standards have been applied:
EN ISO 12100:2010, EN ISO 13857

Il est certifié que le/s produit/s décrit/s en détail ci-dessus, correspond/ent aux directive/s de l´UE énuméré/es dans ce qui suit:
2006/42/CE
En outre, les normes harmonisées suivantes ont été appliquées:
EN ISO 12100:2010, EN ISO 13857

Coesfeld, 12.06.2013

Helmut Schumacher Vorname, Nachname	Geschäftsführung Position	Unterschrift
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Diese Konformitätserklärung ist eine original Konformitätserklärung in deutscher Sprache und kann gleichlautende Übersetzungen in weiteren EU-Sprachen enthalten. This declaration of conformity is an original declaration of conformity in the German language and can contain identical translations in the other EU languages. Cette déclaration de conformité est une déclaration de conformité originale en langue allemande et peut contenir des traductions conformes en d´autres langues de l´UE.

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