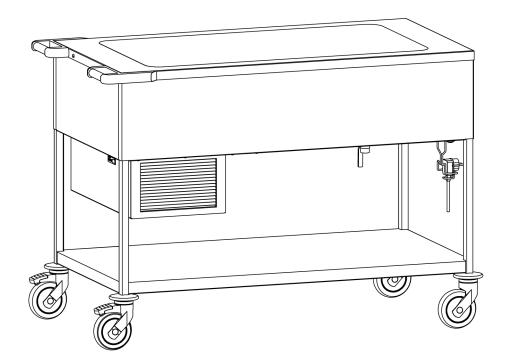


# **Operating instructions**



# **GN** container food serving trolleys

SPA/K

## **Manufacturer information**

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## **Document information**

Last update: 19.09.2022

Index: 1, en\_GB

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## 1 General information

#### 1.1 Product information

Product name GN container food serving trolleys

Product type SPA/K – with active cooling

## 1.2 Target group

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

#### Electrician

- Servicing or repairing the electrical installation within the product
- Rectifying electrical faults

#### Maintenance engineer

- Maintenance work on mechanical systems or trained activities on the electrical, cooling or heating systems
- Simple repairs
- Appropriately trained employees of the customer or an employee of the manufacturer

#### Operating staff

- Standard operating steps
- Rectifying faults as described in the "Troubleshooting" section
- Cleaning

#### Operator

The operator or an authorised person must carry out the work.

- Check the condition of the entire unit
- Determine maintenance requirements

#### Refrigeration specialist

- Assembling, dismantling, servicing or disposing of a system within the product
- Rectifying faults

## 1.3 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.



## **NOTICE**

"Notice" indicates a situation that may result in damage to property.



"Notes" give tips on the correct use of the product.



## 1.4 Signs



#### General warning sign

This warning symbol is attached at points on the product that present a risk of accident and injury.



## Warning of electric current

This warning symbol is attached at points on the product where the electrical circuits are installed.



## Warning of flammable substances

This warning symbol is attached to points where hazards are caused by flammable substances.



#### Do not use pressure washers and steam cleaners

This warning symbol means that no steam cleaners or pressure washers may be used on or around the product.

# 2 Product description

#### 2.1 Function

The GN container food serving trolley is used to present food in Gastronorm containers (GN containers) and keep it cold during food distribution.



#### 2.2 Overview

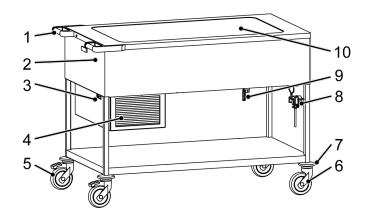


Fig. 1: Overview of SPA/K

1Handle6Swivel castor2Rating plate7Disk bumper3Control8Plug4Housing with ventilation grilles9Drain valve5Swivel castor with locks10Cold well

## 2.3 Equipment features

2.3 Equipment lea	tures
Housing	Sturdy, self-supporting design in stainless steel.
Chassis	Made of stainless steel, solid, torsionally rigid.
Wheel	The castor design complies with the DIN 18867-8 standard.
Swivel castor	With locks. When the locks are engaged the castors cannot swivel and turn.
Handle	For safely moving the transport trolley.
Impact protection	on every corner. Protects against damage in the event of collision. The following components protect the transport trolley from impact:
	Disk bumpers
	Handles with integrated impact protection
Cold well	For keeping food cold in GN containers. Control for setting the temperature of the well. Drain valve for draining condensate

## 2.4 Variants

Several versions of the GN container food serving trolley are available. The versions differ as follows:

from the well.



#### Size of the cold well

## 2.5 Technical data

Model		SPA/K 2 GN DW	SPA/K 3GN DW
Dimensions, total weight			
Width <sup>1</sup>	mm	970	1317
Depth <sup>1</sup>	mm	695	695
Height <sup>1</sup>	mm	899	899
Total weight <sup>1</sup>	kg	54	54
Payload, total	kg	84	84
Well			
Effective dimensions		Gastronorm (GN) 530 × 325 mm	Gastronorm (GN) 530 × 325 mm
Quantity		max. 2 × 1/1 GN	max. 3 × 1/1 GN
Cooling			
Refrigeration system		Compressor	Compressor
Refrigerant		R290	R290
Refrigerant quantity	g	76	86
Refrigeration capacity	W	340	340
Climate classification		N (Normal): +16 to +32	N (Normal): +16 to +32
Control range, target temperature	°C	0 to +12	0 to +12
Electrical connection			
Voltage	V	230	230
Wattage	W	365	365
Rated current	Α	1.6	1.6
Mains frequency	Hz	50/60	50/60
Protection class	IP	Х3	X3
Emissions			
Sound pressure level	dB(A)	the A-weighted sound p	ressure level is less than 70 dB(A)



## 2.6 Rating plate

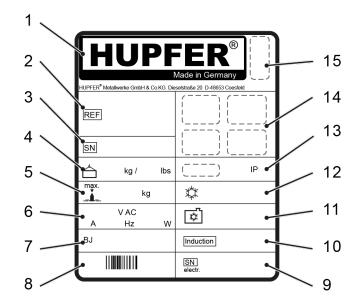


Fig. 2: Rating plate

- 1 Manufacturer and address
- 2 Type designation and product code
- 3 Order number
- 4 Total weight
- 5 Payload, total
- 6 Electrical connection
- 7 Model year
- 8 Product code as barcode

- 9 Electrical serial number
- 10 Induction frequency
- 11 Refrigerant
- 12 Refrigeration capacity
- 13 Protection code
- 14 Certification mark/CE label if available
- 15 Disposal of old appliances

# 3 Safety information

## 3.1 Intended use

The GN container food serving trolley is used to present food in Gastronorm containers (GN containers) and keep it cold during food distribution.

The cold well holds GN containers with food. Cold wells keep precooled food cold.

Intended use includes following the prescribed procedures, complying with the given specifications, and using the genuine accessories that are provided or additionally available. Any other use of the transport trolley is considered inappropriate.



#### 3.2 Improper use

The GN container food serving trolley is not to be used as a self-service trolley.

The GN container food serving trolley is not suitable for machine cleaning.

It may not be used for transporting living creatures. Persons must not sit or stand on or in the transport trolley.

In the case of improper use, the manufacturer and suppliers shall assume no liability for resulting damage. Damage caused by improper use shall result in loss of liability and of guarantee claims.

#### 3.3 Safety instructions

#### 3.3.1 General information

The transport trolley may only be used in a technically sound condition, taking risks and safety into consideration, for its intended purpose and in accordance with the operating instructions.

All operating elements and controls must be in a technically sound condition and functioning reliably.

Before each use, the transport trolley must be checked for any visibly apparent damage and defects. If damage occurs, immediately notify those responsible and take the transport trolley out of use.

Changes or conversions are only permitted after consultation and written consent from the manufacturer.

Transport trolleys can move off independently and in an uncontrolled manner if the castors are not locked.

#### 3.3.2 Transport

If the transport trolley needs to be lifted, only use lifting gear and load-bearing equipment approved for the total weight of the transport trolley.

Only use transport vehicles that are approved for the total weight of the transport trolley.

The transport trolley does not have any attachment points for eyelets or similar lifting aids.

If the transport trolley is transported, it must be additionally secured during transport. The locks on the castors are not sufficient as transport securing devices. They must not be braked during transport on an HGV because the locking mechanism will be damaged by the forces that occur.



#### 3.3.3 Operation and use

Transport trolleys can move off independently and in an uncontrolled manner if the castors are not locked. Secure the stationary transport trolley against rolling away.

Do not park on sloping ground.

Only move transport trolleys with the locks released. Moving with the locks engaged will damage the chassis. The locks are not brakes. Only engage the locks when the transport trolley is stationary.

Only release the direction lock briefly when the transport trolley is at a standstill and on level ground, e.g. to move it sideways.

Maintain an overview of the route and move the transport trolley with foresight, e.g. by pulling the transport trolley. Watch out for children, other persons and obstacles. Do not move the transport trolley over steps. Two people should move the transport trolley on slopes.

Never try to catch a transport trolley that is falling over. Transport trolleys are heavy and can cause serious injury. Move the transport trolley with foresight.

#### 3.3.4 Cleaning

During cleaning and maintenance work, the transport trolley must not be in operation and must be de-energised. Pull out the mains plug.

If the electrical system comes into contact with water or condensate, there is a risk of short circuits and damage to the transport trolley. The transport trolley must not be cleaned with pressure washers or spraying lances.

#### 3.3.5 Maintenance

Troubleshooting may only be carried out by maintenance technicians.

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.

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

#### 3.3.6 Safety devices

Locks on the wheels. The locks must be activated when the trolley is stationary to prevent the transport trolley from rolling away.



## 4 Transport



#### Risk of crushing

Improper use or incorrect means of transport may cause the transport trolley to tip over, slip or fall. If not adequately secured, there is a danger of serious crushing injury and damage to the transport trolley.

 Secure each transport trolley with appropriate transport securing devices during transport.

# NOTICE

#### Damage to the locks

The forces that occur during transport by lorry cause damage to engaged locks.

- Secure the transport cart with a transport securing device.
- Release the locks during transport by lorry.

## 4.1 Delivery

Delivery is performed by a transport company, whose specialists are responsible for securing the load during transport. At the place of delivery, the transport cart can then be moved on its own wheels.

## 4.2 In-house transport

Delivery is made by a transport company, whose specialists are responsible for securing the load during transport. At the place of delivery, the transport trolley can then be moved on its own castors.

#### 4.3 Lifting

The transport cart does not have any attachment points for eyelets or similar lifting aids.

Always transport the transport cart upright if possible. It can be lifted using a lifting platform, for example.



# 5 Operating conditions



For installation and operation, the BG rule "Arbeiten in Küchenbetrieben" (Working in kitchens) of the BGZ technical committee "Nahrungs- und Genussmittel" (BGR 111) BGR 500:2008-04 Chapter 2-35 must be observed, among others.

#### **Observe clearances**

The transport trolley requires unobstructed air exchange for cooling and for electronics to function properly.

- Observe the minimum distance to the ventilation grilles: Fan-assisted cooling 300 mm.
- Do not cover or move any ventilation grilles.
- 1. Only move the transport trolley over flat, dry and stable surfaces.
- 2. The transport trolley should only be positioned on a level floor.
- **3.** Secure the transport trolley with the locks when stationary.
- **4.** Ensure that the ventilation grilles are not obstructed.
- Position the transport trolley at a sufficient distance from heat sources and steam-forming devices, e.g. ovens and bain-marie wells.

# 6 Commissioning



## CAUTION

#### Injuries caused by rolling away

The transport trolley is heavy, and if it rolls away out of control, there is a risk that people may be injured by being hit or crushed.

- Engage the locks when the transport trolley is stationary.
- The transport trolley should only be positioned on horizontal surfaces.



# NOTICE

#### Instructing operating staff

Before commissioning, operating staff must be instructed how to operate the transport cart correctly.

## NOTICE

#### Compressor damage

After delivery, the compressor oil must be allowed to settle or compressor damage will occur.

- Allow the transport trolley to stand upright and undisturbed for at least 8 hours.
- Do not connect the transport trolley to the mains immediately.



Help protect our environment. Separate the packaging materials and recycle them. Dispose of:

- Packaging and foils in the (yellow) recycling bin.
- Cardboard boxes and paper in the paper recycling bin.

Clean the transport trolley thoroughly before first use (see cleaning instructions).

Check the functions of the transport trolley:

- Functionality of all mechanical parts
- Functionality of all electrical parts
- Functionality of the controls
- Functionality of the locks

Free access to the mains plug of the transport trolley is required for operation. In an emergency, the mains plug can be pulled out of the socket to de-energise the transport trolley.

# 7 Operation



#### Flammable refrigerant

A flammable gas is used as a refrigerant. Closed vents will result in a flammable air-gas mixture in the event of leakage.

Do not close the vents in the floor of the cart.





#### Injuries caused by rolling away

The transport trolley is heavy, and if it rolls away out of control, there is a risk that people may be injured by being hit or crushed.

- Engage the locks when the transport trolley is stationary.
- The transport trolley should only be positioned on horizontal surfaces.

## 7.1 Supply the transport trolley with power

- **1.** Position the transport trolley in the desired location.
- 2. Activate both locks.
  - → The transport trolley is secured against rolling away.
- 3. Connect the transport trolley to the power supply.

## 7.2 Operating the transport cart

The cooling is operated via the control panel.

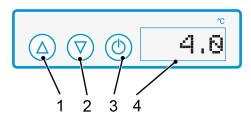


Fig. 3: Controls and display on the GN container food serving trolley

- 1 [Increase temperature] button
- 2 [Reduce temperature] button
- 3 [On/Off] button
- 4 [Current temperature] display

#### Switch on the controls

As soon as the transport trolley is connected to the power supply, the controls are switched on.

- Connect the transport trolley to the power supply.
  - → The display shows [OFF] when the cooling is switched off.
  - → The display shows the [current temperature] when the cooling is switched on.



The controls will remember if cooling was switched on or off when the transport trolley is disconnected from the power supply.



#### Switching cooling on/off



- ▶ Press the on/off button ⊚ for at least 3 seconds.
  - → The display shows [OFF] when the cooling is switched off. The ventilation switches off.
  - → The display shows the [current temperature] when the cooling is switched on.

The ventilation audibly switches on.

#### Displaying the required temperature



- ▶ Press the on/off button ⊚ for no more than 3 seconds.
  - → The [required temperature] is shown in the display.

#### Setting the required temperature

If you press and hold the on/off button  $\circledcirc$  for at least 3 seconds and do not press either the up or down button  $\circledcirc$   $\circledcirc$ , the controls will be switched off.

If you hold down the on/off button  $\odot$  and immediately press the up or down button  $\odot$ , the required temperature will be set.



**1.** Press and hold the on/off button **.** 



- $(\nabla)$
- **2.** Press the up or down button rianlge or rianlge to increase or decrease the required temperature.
  - → The display shows the [required temperature].
- **3.** Release the buttons.
  - → The required temperature has been set.

#### 7.3 Moving the cart



## **WARNING**

## Risk of crushing

Improper use or incorrect means of transport may cause the transport trolley to tip over, slip or fall. If not adequately secured, there is a danger of serious crushing injury and damage to the transport trolley.

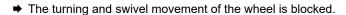
 Secure each transport trolley with appropriate transport securing devices during transport.



#### **Engaging the locks**

Swivel castors with locks can block the wheel from turning and swivelling. When the locks on both swivel castors are engaged, the transport cart is secured against rolling away.







#### Releasing the lock

Release the lock as shown on the left.

→ The wheel can turn and swivel.



## Moving with the push handle

# WARNING

#### **Contusion hazard**

Transport carts rolling in an uncontrolled way may crush persons.

- Never leave the transport cart to roll unattended.
- Only drive uphill or downhill if you can control the transport cart. If necessary, involve a second person.
- Only park the transport cart on level surfaces.
- Each time you park the transport cart, secure it with both locks against rolling away.
- Fix the wheels in the "straight ahead" position.



# **A** CAUTION

#### Risk of injury from the power cable

If the transport trolley is connected to the power supply or the wall station when moving, there is a risk of injury.

Disconnect the connection to the power supply or the wall sta-



- 1. Disconnect the connection to the power supply.
- 2. hang the plug in the holder provided.
- 3. Release the locks.
- 4. Move the transport trolley using the push handle.
- **5.** Make sure that path ahead is clear.
- **6.** Nonly move the transport trolley over flat, dry and stable surfaces.
- **7.** Have someone help you if the transport trolley needs to be moved on a slope.
- **8.** Engage the locks when the transport trolley is stationary.

#### 7.4 Loading goods

#### Cold well

1. If you have covered the cold well to allow for efficient pre-cooling, remove the lid.



#### Using the support bars

If you are using GN containers with smaller dimensions, put in suitable support bars. The support bars ensure that the GN containers lie securely in the well.

- Use support bars for smaller GN containers.
- 2. Put the GN container in the GN container in the cold well.
- 3. Cover the GN containers with suitable lids.
  - → The food can be kept cold until it is served.

#### 7.5 Keeping food cold

The GN container food serving trolley is intended for keeping precooled food cold. The transport trolley must not be loaded with warm, non-precooled food.

Cover the food if it is not necessary to access it.

Food can only be kept cold when the transport trolley is connected to the power supply. Only disconnect the transport trolley from the power supply during operation when the food is covered and only for a short time. After an interruption in operation, check whether the food temperatures are still within the permissible range.

#### Cold well



#### Precooling time

The required duration of precooling depends on several factors (size of the transport trolley, ambient temperature, etc.). The values specified for the precooling time are reference values.



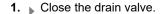
The GN container food serving trolley can only effectively keep food cold if it is precooled for 0.5 hours.

The GN container food serving trolley can be switched on manually for pre-cooling.









- 2. Cover the well with a suitable lid.
- **3.** Connect the GN container food serving trolley to the power supply.



- **4.** Switch the GN container food serving trolley on by pressing the on/off button ((min. 3 seconds)).
- **5.** Check on the display whether the cooling is switched on.
  - → The display shows the [current temperature]. If necessary, switch on the cooling.



**6.** Check the *[required temperature]* on the display, press the on/off button (max. 3 seconds).

If necessary, correct the [required temperature].

The GN container food serving trolley starts cooling.

The GN container food serving trolley can be switched on automatically for pre-cooling via a timer.

- **1.** Connect the GN container food serving trolley to the power supply via the timer.
- 2. Close the drain valve.
- 3. Cover the well with a suitable lid.



- **4.** Switch the GN container food serving trolley on by pressing the on/off button (min. 3 seconds).
- **5.** Check on the display whether the cooling is switched on.
  - ➡ The display shows the [current temperature]. If necessary, switch on the cooling.



- **6.** Check the [required temperature] on the display, press the on/off button ⊚ (max. 3 seconds). If necessary, correct the [required temperature].
- 7. Switch off the power supply at the timer.
  - → The GN container food serving trolley starts cooling when the timer connects the GN container food serving trolley to the power supply.



## 7.6 Removing the goods

#### Cold well

- Remove the lids from the GN containers.
  - → You can remove food or the entire GN containers.

# G

#### Practical tip

It is easier to carry cold GN containers on drop handles.

Use GN containers with drop handles.

## 7.7 Finishing operation

#### Disconnecting the power supply

- 1. Disconnect the connection to the power supply.
- 2. Hang the plug in the holder provided.
  - → You can move the transport trolley.

#### Emptying the cold well

During operation, condensate and dirt may accumulate in the well.

- 1. Place a suitable recipient under the drain.
- 2. Open the drain valve.
- 3. Drain all the water from the well.
- **4.** Remove all GN containers and any support bars from the well.
- 5. Clean the well if necessary.









# 8 Care and cleaning



## **DANGER**

#### **Electrical hazard**

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

- Before starting any cleaning and maintenance work, disconnect the transport cart from the mains.
- Disconnect the mains plug and put away the cable in its designated place until the next use.
- Do not clean the transport cart with steam cleaners or high-pressure cleaners.





#### Flammable refrigerant

A flammable gas is used as a refrigerant. Closed vents will result in a flammable air-gas mixture in the event of leakage.

- Do not close the vents in the floor of the cart.
- Do not use heat sources or chemical de-icers for de-icing.
- Do not damage the refrigerant circuit.



# **A** CAUTION

#### Slip hazard due to water carryover

Wet and dripping transport trolleys distribute water on paths. There is a severe risk of slipping on wet paths.

Dry the transport trolley after cleaning.

#### 8.1 **Cleaning intervals**

The specified cleaning intervals are recommendations from the manufacturer. You can clean the transport trolley at any time if necessary. Observe the operator's hygiene concept.

Interval	Maintenance work	Personnel
After each use and according to the in-house hygiene concept	Clean the well	Operating staff
As needed and according	Clean the housing	Operating staff
to the in-house hygiene concept	Disinfect the housing	Operating staff
every six months	Remove dust from the refrigeration unit and condenser	Maintenance engineer

#### Permissible cleaning types



## CAUTION

#### Slip hazard due to water carryover

Wet and dripping transport trolleys distribute water on paths. There is a severe risk of slipping on wet paths.

Dry the transport trolley after cleaning.



# NOTICE

## **Deformation at high temperatures**

The polymers used deform at high temperatures and longer contact times.

- Restrict the contact time to max. 3 seconds.
- Restrict the temperature to max. 120°C.

# NOTICE

## Bearing damage

The wheel bearings are greased. Washing out the bearing grease will result in bearing damage.

Do not direct jets directly at the wheel bearings.

# NOTICE

#### Damage due to high-pressure cleaning

Seals on the door and housing can become loose due to direct highpressure jets and damage will result.

- Do not point the spray directly at the seals.
- Keep a distance of at least 30 cm between the nozzle and the transport trolley.
- Use a flat stream nozzle.

Cleaning type		Definition of the cleaning operation	Approval for	
			SPA/K	
Manual cleaning	Dry	Cleaning with dry cleaning agents	×	
	Damp	Cleaning with a damp cloth and degreasing liquid cleaner	<b>V</b>	
	Wet	Cleaning with a wet sponge and degreasing liquid cleaner	<b>V</b>	
Water hose	Pressure ≤8 bar	Cleaning with a spray jet and degreasing cleaning agents if required:	×	
		Do not spray into the bearings.		
High-pressure/steam	High-pressure	Cleaning the surfaces:	•	
cleaning	≤200 bar	■ max. 30-90 seconds		
		Do not spray into the bearings		
		Use a flat stream nozzle		
		Keep a distance of at least 30 cm		



Cleaning type		Definition of the cleaning operation	Approval for	
			SPA/K	
	Wet steam ≤135°C	Cleaning the surfaces:	•	
		max. 30-90 seconds		
		Short exposure time for individual sections		
		Do not spray into the bearings		
Washing devices	Water temperature	Spraying with cleaning and rinsing agent:	*	
	≤90°C	max. 30-90 seconds		

## 8.3 Permissible cleaning agents



## Incorrect cleaning agents

Incorrect treatment of the installed material surfaces will result in damage and corrosion.

- Only use cleaning agents approved for cleaning.
- Follow the instructions of the cleaning agent manufacturer.



## Suitable cleaning agents

The manufacturer cannot assess the suitability of specific detergents or disinfectants.

- Check the notes on the cleaning agents or disinfectants to find out whether they are suitable for the materials of the transport cart.
- If in doubt, ask the manufacturer of the agent if it is suitable for the materials of the transport cart.



Cleaning agent	Approva
Degreasing agent	
■ Neutral liquid cleaner	V
Salty cleaning agents	•
■ Table salt	
■ Hydrochloric acid	
Sulphuric cleaning agents	•
Sulphur dioxide	
Sulphuric acid	
Chlorinated cleaning agents	•
Chlorine cleaner	
Sea water	
Bleach	
errous material	•
Water with iron content	×
_ow-oxygen cleaning agents	•
Low-oxygen water	
CO2 atmosphere	
Neutral cleaning agents	
■ Neutral cleaning agents pH 7	V
■ Slightly acidic cleaning agents pH 6 – 7	
■ Slightly alkaline cleaning agents pH 7 – 8	
Acidic cleaning agents pH 1 – 5	•
Acids	
Alkaline cleaning agents pH 8 – 14	•
Alkalis	
Abrasive cleaning agents	•
Scouring pad	<b>*</b>
Pot scrubber	
Non-abrasive cleaning agents	
<ul><li>Uncoated sponges</li></ul>	V
Soft cloths	

# 8.4 Material compatibility

When selecting the cleaning agent, make sure it is compatible with the materials used.

Material	Component
Stainless steel	Housing, well
PE 500 (polyethylene)	Corner bumpers



#### 8.5 Manual cleaning

- 1. Clean the well of the transport trolley after each use and according to the operator's instructions.
- **2.** Clean the outer surfaces of the transport trolley after use or as required.
- 3. For wet cleaning, use a soft cloth or an uncoated sponge.
- 4. Use degreasing liquid cleaners.
- **5.** Rinse so that all detergents and disinfectants are completely removed
- 6. Dry the interior and exterior surfaces after cleaning.

## De-icing the cold well

Manual de-icing and cleaning may be necessary under certain environmental conditions, e.g. hot outside temperatures and humid climates.

Do not remove ice build-up with chemical de-icers or heat sources.

- **1.** Disconnect the GN container food serving trolley from the power supply.
- 2. Remove all containers.
- 3. Place a suitable recipient under the drain.
- 4. Deen the drain valve.
- **5.** Allow the GN container food serving trolley to defrost, overnight if necessary.
- 6. Clean the well if necessary.
- 7. Dry the well.
  - → The well is de-iced.

#### 8.6 Disinfecting

All the surfaces can be disinfected with commercially available surface disinfectants.



## **NOTICE**

#### Damage to property

High concentrations of disinfectant can cause corrosion damage.

- Follow the instructions of the disinfectant manufacturer.



#### 9 Maintenance and repair



## **DANGER**

#### **Electrical hazard**

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

- Before starting any cleaning and maintenance work, disconnect the transport cart from the mains.
- Disconnect the mains plug and put away the cable in its designated place until the next use.
- Do not clean the transport cart with steam cleaners or high-pressure cleaners.



## WARNING

#### Flammable refrigerant

A flammable gas is used as a refrigerant. Closed vents will result in a flammable air-gas mixture in the event of leakage.

- Do not close the vents in the floor of the cart.
- Do not use heat sources or chemical de-icers for de-icing.
- Do not damage the refrigerant circuit.



# NARNING

#### **Unqualified staff**

Danger from incorrect handling of mechanical or electrical components.

Only qualified personnel may carry out maintenance work.

The refrigerant circuit and its components must be inspected and, if necessary, serviced once a year by a refrigeration specialist. The work must comply with the refrigeration engineering regulations (VDMA 24020-3).



#### 9.1 **Maintenance intervals**

Regularly check that the following components are functioning properly:

Interval	Maintenance work	Personnel
before each use	Check connecting cable and mains plug for mechanical damage and ageing.	- Operator
daily	Carry out a visual inspection of the entire unit.	Operator
every six months	Check electrical functions of cooling system	Electrician
	Check cooling capacity and temperature.	Refrigeration specialist
annually	<ul> <li>Check entire unit for distortion and mechanical damage</li> </ul>	Maintenance engineer
	Check effectiveness of the locks	
	Check mechanical strength of the wheels	
	Check functionality of the central lock treads	
	Check electrical protective conductor (VDE 0701); limit value for protective conductorresistance < 100 m $\Omega$	Electrician
	Perform DGUV V3 measurement for portable equipment.	Electrician
	Check cooling controller.	Refrigeration specialist
	Reset maintenance interval.	

#### 9.2 **Maintenance activities**

## Cleaning the heat exchanger



# **CAUTION**

#### Sharp edges

The thin plates of the heat exchanger present a cutting hazard.

Wear protective gloves.

Dust can collect in front of the heat exchanger during operation. Heat exchangers heavily contaminated with dust work inefficiently and consume more energy.

The heat exchanger can be cleaned.

- 1. Disconnect the GN container food serving trolley from the power supply.
- 2. Loosen the screws on the housing of the refrigeration unit.





- 3. Remove the housing.
- **4.** Clean the heat exchanger with a vacuum cleaner. Be careful with the plates of the heat exchanger. Bent plates make the heat exchanger ineffective. The metal plates present a cutting hazard.
- **5.** Close the housing.
- 6. Screw the housing in place.
  - → The heat exchanger is clean.

## 9.3 Error messages

The display is alternating between error messages and the currently measured temperature.

Fault description	Cause	Remedy	Personnel
F 1H	Broken sensor	Check or replace the sensor	Maintenance engi- neer
F 1L	Short circuit at sensor F1	Check or replace the sensor	Maintenance engi- neer
F 2H	Broken sensor	Check or replace the sensor	Maintenance engi- neer
F 2L	Short-circuit on three- wire correction	Check or replace the sensor	Maintenance engi- neer
E P0	Error in program memory	Check or replace controller	Maintenance engi- neer
E P1	Error in parameter memory	Check or replace controller	Maintenance engi- neer
	Display out of range	Temperature range too high or too low.	

## 9.4 Troubleshooting

In the event of malfunctions and complaints within the guarantee period, contact our service partners. After the guarantee period has expired, have any necessary repair work carried out by our service partners or qualified electricians.

Fault description	Cause	Remedy	Personnel
Transport trolley pulls to one side during transport	Wheel bearings damaged	Replace worn wheels	Maintenance engi- neer
Running noises made by wheels	Wheel bearings damaged	Replace worn wheels	Maintenance engi- neer
Castor lock no longer working	Lock worn out	Replace lock	Maintenance engi- neer
Coolant leak	Coolant line defective	Ventilate the room well, disconnect the transport trolley from the power supply, avoid ignition sources and open fire, contact service technician	Maintenance engi- neer



Fault description	Cause	Remedy	Personnel
Insufficient cooling power	Incorrect required tem- perature	Set the required temperature cor- rectly	Operating staff
	Well iced up	De-ice the well	Operating staff
	Compressor defective	Service or replace the compressor	Refrigeration specialist
	Heat exchanger dusty	Clean the heat exchanger	Maintenance engi- neer

#### 9.5 Repairs and spare parts

Spare parts and accessories are available from our customer service. Replace defective components with genuine spare parts. Only then can safe and reliable operation be guaranteed. When ordering spare parts or requesting customer service, always state the order number and the information on the rating plate. This information helps avoid follow-up queries and speeds up the process.

## 9.6 Recommissioning

The transport cart may only be used in a technically sound condition, for its intended use, and in accordance with the operating instructions. Check the transport cart for visible damage before each use. In the event of damage, inform the responsible departments immediately. Only operate transport carts in faultless technical order.

- Check the transport cart functions, especially the lock and cooling.
- Clean the transport cart thoroughly before putting it back into operation.



# 10 Disposal



Help protect our environment. Make sure that the materials are recycled.

- Have the transport trolley disassembled and disposed of by recycling companies. All the materials are recyclable.
- Electrical components may only be removed by qualified electricians.
- The cooling system may only be removed by refrigeration specialists.

Dispose of the product using the following steps.

- **1.** Remove the electrical components.
- **2.** Drain the refrigerant and cooling brine.
- **3.** Drain the refrigerant.
- **4.** Dispose of the refrigerant and cooling brine properly.
- **5.** Dispose of the refrigerant properly.
- **6.** Take the components to a designated disposal centre.

