

## Operating instructions



The EC declaration of conformity is at the end of these operating instructions

# Operating Instructions

## for Winterhalter STR Rack Conveyor Dishwashing Machine

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# 1 About these instructions

From chapters 3 to 9, you can find information about which safety notes should be complied with, how to operate the machine and how to respond to malfunctions.

Chapter 11 describes how the dosing equipment for detergent and rinse aid must be connected. This chapter is intended for service technicians authorised by Winterhalter.

## 1.1 Explanation of symbols used

The following symbols are used:



**Danger**

Warning against possible severe and even fatal injuries to people if the described precautionary measures are not complied with.



**Warning**

Warning against possible slight injuries to people or possible damage to property if the described precautionary measures are not complied with.



**Caution**

Warning against possible defects or irreparable damage to the product if the described precautionary measures are not complied with.

**IMPORTANT** This provides important information.

**INFO** This provides useful information.

- These arrows indicate procedural instructions.
- ⇒ This symbol indicates the results of your actions.
- This symbol identifies lists.
- ▶ This symbol refers to a chapter with further information.

## 2 Product description

In the STR rack conveyor dishwashing machine, a wide variety of dishes are automatically transported through the machine and washed. Detergent and rinse aid are dosed by external dosing equipment. There are connection terminals for connecting this equipment that have been set up in advance (▶ 11).

### 3 Safety notes

For safe use of the STR rack conveyor dishwashing machine, please read the safety notes listed here carefully.

#### 3.1 Intended use

- The STR rack conveyor dishwashing machine is to be used exclusively for washing dishes such as plates, cups, cutlery and trays in catering and similar companies.
- The dishes are sorted in racks only and are transported through the machine. Always wash using washing racks suitable for the dishes. Never wash without a washing rack.
- We recommend that you only wash glasses if the rinse temperature can be lowered, since doing so can prevent premature glass corrosion. Special equipment.
- The STR rack conveyor dishwashing machine is a technical piece of equipment for commercial use and is not intended for private use.

#### 3.2 Non-intended use

- This device is not designed for use by persons (including children) who have a restricted physical, sensory or mental capacity, or persons who lack experience and knowledge of how to use this device. Any such persons must first be instructed by a supervisory person with responsibility for their safety, or supervised whilst operating the device.
- Do not use the STR rack conveyor dishwashing machine to wash electrically heated cooking implements or items made from wood.
- Do not wash plastic items unless they are heat-resistant and will not be damaged by the detergent solution.
- Only use a suitable detergent to wash aluminium items such as pots, containers or tins, so as to prevent black discolouration.
- Winterhalter Gastronom GmbH will not accept liability for any damage caused by failure to use the STR rack conveyor dishwashing machine in accordance with the intended use.

#### 3.3 Handling chemicals (detergent, rinse aid, descaler, etc.)

- When using chemicals, comply with the safety notes and recommended dosages printed on the packaging.
- Wear protective clothing, protective gloves and protective goggles when handling chemicals.
- Only use products that are suitable for commercial dishwashing machines. Such products are marked accordingly. We recommend using products developed by Winterhalter. These products are specially adapted for Winterhalter dishwashing machines.
- Do not mix different detergent products together as this could result in crystallisation and consequently cause irreparable damage to the detergent dosing device.
- Do not use any foaming products, e.g. hand soap, soft soap, manual wash-up cleaner. These products may not enter the machine, even through pre-washing of the dishes.

#### 3.4 General safety notes

- Carefully read through the safety and operating notes contained in these instructions. Winterhalter Gastronom GmbH will not accept any liability or honour any product guarantees if the safety notes are not complied with.
- Keep the machine documents close to hand. The Winterhalter service technicians require the circuit diagram for repairs.
- For your own safety, regularly test the residual-current circuit breaker (RCCB) installed in the building by pressing the test button.
- Load sharp, pointed utensils so that they cannot injure anyone.
- Keep children away from the machine. The interior of the machine holds a solution of detergent in hot water at about 60°C.

## Before working with the machine

- Train the operating personnel in how to use the machine, and inform them of the information in the safety notes. Repeat the training at regular intervals in order to avoid accidents.
- Only use your fingers and not sharp objects to operate the control panel.
- Close the water stopcock in the building after completing work.
- Switch off the mains disconnecter in the building after completing work.
- Do not open the machine door when it is washing. There is a risk that hot washing solution could spray out. Switch the machine off first.
- Do not place any towels or other objects on top of the machine, since suction openings are located there and they must not be covered up.
- Do not reach into the exhaust air pipe and do not cover the exhaust air pipe.
- During washing, do not reach inside the machine at either the infeed or outfeed end.

### 3.5 Daily cleaning and care

- Comply with the information on maintenance and care given in these instructions (► 7).
- Put on protective clothing and protective gloves before holding parts that are covered with tank water (filters, wash arms, curtains, etc.).
- Do not spray the machine or direct vicinity (walls and floor) with a water hose, steam jet or high-pressure cleaner.  
When cleaning the floor, take care to avoid flooding the substructure of the machine, in order to prevent the uncontrolled entry of water.
- Use a water hose and a brush (not a pressure washer) for cleaning the interior of the machine.
- Do not use any scouring powder or abrasive cleaning agents.
- During daily cleaning, make sure that no foreign objects that could start to rust have been left in the interior of the machine; these objects could even induce corrosion of the stainless steel material. Rust particles might come from non-stainless steel dishes, cleaning aids, damaged wire racks or water pipes that do not have corrosion protection.
- Clean the outside of the machine using a suitable stainless steel cleaner and a soft cloth. We recommend Winterhalter Gastronom stainless steel cleaner and stainless steel polish.

## 4 Before working with the machine

- Have the machine installed by your Winterhalter service technician or dealer. Comply with the information in chapter 8 if the installation location is not free of frost.
- Have the machine connected by authorised technicians in accordance with the locally applicable standards and regulations (water, waste water, electricity, ventilation).
- In addition, have the machine connected to the steam and condensation pipes if it is heated by steam.
- Have the machine commissioned by a service technician authorised by Winterhalter. At the same time, have yourself and your operating personnel trained in how to operate the machine.

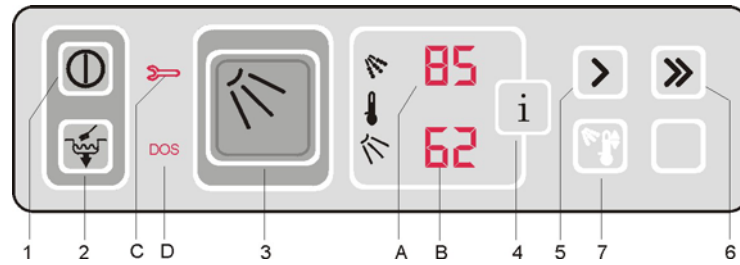
### 4.1 Checking for completeness

- Use the delivery note to check that the delivery is complete and search for any transport damage.
- Immediately inform the transport company, the insurance company and the manufacturer of any damage.

### 4.2 Initial installation

- After the machine has been correctly connected to the supply lines in the building, contact the Winterhalter branch that is responsible for the location in order to request initial installation and instructions in how to operate the machine.

## 5 Operating and control elements



- 1 On/off button
- 2 Tank draining
- 3 Start/stop rack conveyor transport
- 4 Temperature information
- 5 Slow rack conveyor transport
- 6 Fast rack conveyor transport
- 7 Switch for rinse temperature (special equipment)
- A Boiler temperature display for when the machine is being filled up or when button 4 is pressed
- B Tank temperature display for when the machine is being filled up or when button 4 is pressed
- C Fault indicator light
- D Indicator light for lack of detergent or rinse aid <sup>1</sup>

## 6 Operation

### 6.1 Preparing for operation

#### 6.1.1 Before switching on the machine

- Open the water stopcock in the building.
- Switch on the mains disconnecter in the building.
- For your own safety, test the residual-current circuit breaker (RCCB) installed in the building by pressing the test button.
- Open the machine door and check that all filters (strainers, inline filters for circulating pump and drain pump), barrier curtains and wash arms are in place.
- Close the machine door.



When using chemicals, comply with the safety notes and recommended dosages printed on the packaging.  
Wear protective clothing, protective gloves and protective goggles when handling chemicals.  
Do not mix different detergent products together.

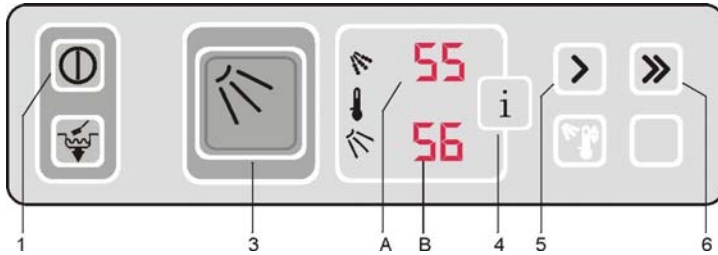
- Check whether there is detergent or rinse aid in the storage tanks. Top them up in time or replace the storage tanks so that the cleaning result will not be negatively affected.
- If there are any swivelling table elements (e.g. roller conveyor) present, fix them in their working position.

<sup>1</sup> Provides notification of a lack of detergent or rinse aid if storage tanks with suction tubes and level control are used.

The indicator light blinks as soon as a storage tank is found to be empty.

## 6.1.2 Switching on

➤ Close the machine door.



➤ Press the on/off button (1) to switch on the machine.

- ⇒ The tank of the main wash zone and the boiler are filled and heated up automatically.
- ⇒ Detergent is dosed into the tank of the main wash zone (assuming dosing equipment is connected).
- ⇒ Button 3 lights up red until the rated levels in the tank and boiler are reached.
- ⇒ Before the rated temperatures have not been reached, the temperatures in displays A (boiler) and B (tank) are shown. After this point, the temperatures displayed disappear.

The following signify together that the machine is ready for operation:

- Button (3) lights up green.
- Button (5) lights up yellow and blinks.
- Button (6) lights up yellow.

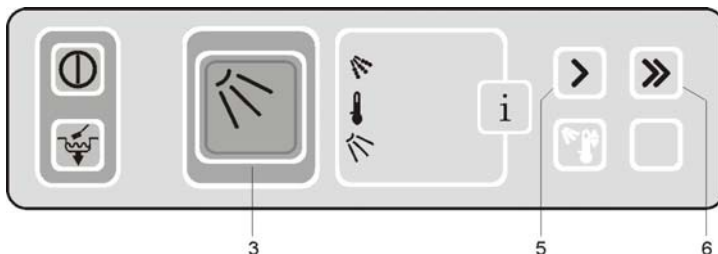
**INFO:** The machine is supplied from the factory programmed so that it can be started as soon as the rated levels in the tank and the boiler are reached. Alternatively, the machine can be programmed so that it can only be started after the rated temperatures have been reached. Contact a Winterhalter service technician.

## 6.2 Washing

The machine can be operated with two different transport speeds.

Button 5		Slow-speed transport	For normally to very dirty dishes
Button 6		High-speed transport	For slightly dirty dishes

### 6.2.1 Starting/stopping transport



The machine is pre-set to slow-speed transport: Button 5 blinks.

➤ Press button 3 to start rack conveyor transport.

⇒ Button 3 lights up blue.

➤ If you want to increase the transport speed, press button 6.

⇒ Button 3 lights up green shortly, then blue.

⇒ Button 6 blinks.

⇒ Button 5 lights up.

➤ If you want to stop rack conveyor transport, press button 3.

⇒ Button 3 lights up green.

### 6.2.2 Washing

- Remove general debris (left-over food, serviettes, etc.) from the dishes.
  - Place plates, trays and the like into the washing racks with their hollow profile facing forwards.
  - Place bowls into the washing racks with their hollow side downwards.
  - Sort cups, glasses and cutlery into suitable washing racks.
  - Spray the dishes with cold water using a hand shower so that as little debris as possible is carried into the machine. (More debris results in increased detergent consumption.)
  - Push one washing rack after another into the machine.
    - ⇒ The washing rack is drawn in automatically.
    - ⇒ The circulating pump switches on as soon as the washing rack actuates the rack switch. Rinsing is activated via a second rack switch.
  
- Leave the washing racks on the outfeed table until the dishes dry, if possible. For continuous washing, however, you should remove the washing racks from the outfeed table before the table limit switch is actuated and the rack conveyor transport is switched off.

### 6.2.3 Machine door open

If the machine door is opened during washing, rack conveyor transport stops and button 3 lights up green.

#### How to continue washing:

- Close the machine door.
- Press button 3 to start rack conveyor transport.
  - ⇒ Button 3 lights up blue.

### 6.2.4 Breaks in operation

- Do not switch the machine off during breaks in operation so as to maintain the rated temperatures.
  - ⇒ Rack conveyor transport continues to run for about five minutes after the dishes have exited the machine. Button 3 lights up blue in this period of time.
  - ⇒ Afterwards, button 3 lights up green.
  - ⇒ The selected transport speed remains set: Button 5 or 6 blinks.

#### After the break in operation:

- Push a washing rack past the transport pawls into the machine until rack conveyor transport starts.

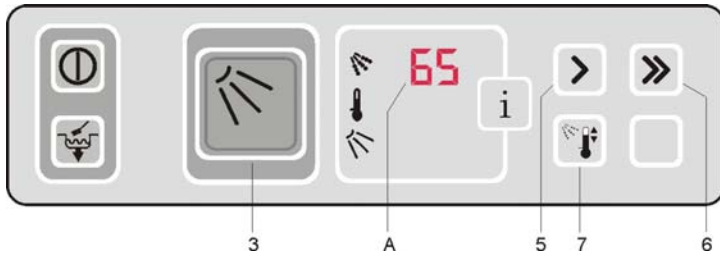
or

- Press button 3 to start rack conveyor transport again.

### 6.3 Washing with a decreased rinse temperature (special equipment)



**IMPORTANT:** Wash glasses with a reduced rinse temperature in order to prevent premature glass corrosion.

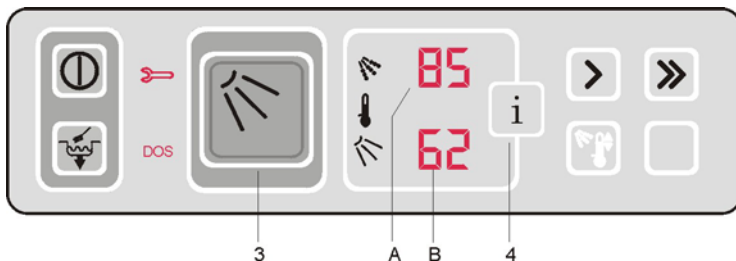


- Press button 7 to activate the temperature decrease.
  - ⇒ Button 7 blinks.
  - ⇒ The rated temperature entered into the program at which rinsing at a reduced temperature will take place appears on display A for about five seconds.
  - ⇒ Afterwards, the current actual temperature is displayed. If continuous display of the temperatures was not activated (▶ 6.4), the display goes blank after a short time.
- Set the transport speed (press button 5 or button 6) and start the rack conveyor transport with button 3.

If you want to increase the rinse temperature again, do the following:

- Press button 7 to switch off the temperature decrease.
  - ⇒ Button 7 lights up.
  - ⇒ The rated temperature entered into the program at which rinsing without a reduced temperature will take place appears on display A for about five seconds. Afterwards, the current actual temperature is displayed if continuous display of the temperatures was activated (▶ 6.4).

### 6.4 Displaying the temperatures on the control panel



- Press button 4.
  - ⇒ The current boiler temperature is displayed for about five seconds on display A.
  - ⇒ The current tank temperature is displayed for about five seconds on display B.

**INFO:** Alternatively, the machine can be programmed so that the temperatures are continuously displayed. Contact a Winterhalter service technician.

### 6.5 The table limit switch

The table limit switch prevents dish breakage in case the rinsed washing racks are not taken away from the outfeed table and more washing racks are transported out of the machine.

As soon as a washing rack is pushed onto the table limit switch, rack conveyor transport stops and button 3 lights up green.

When the load is taken off of the table limit switch, rack conveyor transport starts again automatically and button 3 lights up blue. If a washing rack is in the machine, the circulating pump is started up again.

## 6.6 Routine checks

- Check that the dishes are cleaned.



- Check whether the fault indicator light on the control panel has lit up.

If so, do the following:

- Switch off the machine and write down the error code.
- Use the error table (► 9.1) to see if you can remedy the error yourself.
- Tell the Winterhalter service technician about the fault message if you cannot remedy the fault yourself.
- Only switch the machine back on after the fault has been remedied.



- Check if the indicator light for lack of detergent or rinse aid on the control panel is lit.

If so, do the following:



**Warning**

When using chemicals, comply with the safety notes and recommended dosages printed on the packaging.

Wear protective clothing, protective gloves and protective goggles when handling chemicals. Do not mix different detergent products together.

- Check whether there is detergent or rinse aid in the storage tanks. Top them up in time or replace the storage tanks so that the cleaning result will not be negatively affected.

- Check the interior of the machine.



**Warning**

Put on protective clothing and protective gloves before holding parts that are covered with tank water (filters, wash arms, curtains, etc.).

- Open the machine door.
- Remove the strainer to clean it. There is no need to drain the water in order to do this.
- Reinsert the strainer.
- Close the machine door.

## 6.7 Switching off the machine

- Press the on/off button (1).
  - ⇒ The buttons are not lit up any more and the machine is switched off. The tank remains filled, but the temperature in it is no longer maintained.



**Warning**

The machine remains live until the mains disconnecter in the building is switched off.

- Proceed as described in point 7.1 if you want to drain the tank and clean the machine at the end of a working day.

## 7 Maintenance and care



**Warning**

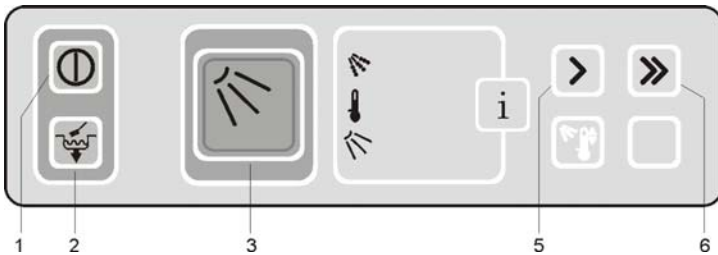
Do not spray the machine or direct vicinity (walls and floor) with a water hose, steam jet or high-pressure cleaner.

When cleaning the floor, take care to avoid flooding the substructure of the machine, in order to prevent the uncontrolled entry of water.

### 7.1 Daily

An evacuation program is helpful on cleaning the machine. It can be interrupted at any time, for example to also clean the machine interior manually (7.1.4). If it is not interrupted, it will run automatically and terminate by switching off the machine.

#### 7.1.1 Starting the drainage programme



➤ Let the last rack be transported out of the machine.

➤ Press button 3 to stop rack conveyor transport.

⇒ Button 3 lights up green.

⇒ Button 2 lights up yellow.

- Press button 2 for about 2 seconds and then release it.
  - ⇒ Button 3 will light up blue.
  - ⇒ Buttons 2 and 6 blink.
  - ⇒ The circulating pump circulates the tank water for about two minutes.
  - ⇒ The interior of the machine is rinsed out with fresh water.
  - ⇒ About one minute after button 2 has been pressed, the tank water is pumped out and the circulating pump continues circulating the tank water.
  - ⇒ As soon as the tank water has been pumped out to a certain extent, the circulating pump switches off.
  - ⇒ When the rest of the water in the tank has been pumped out, the machine switches off. The buttons are not lit up anymore.

#### 7.1.2 Interrupting the drainage program

You can interrupt the evacuation program if you want to clean the machine interior manually.

- Press button 3, or open the machine door.
  - ⇒ Button 3 turns green
  - ⇒ Buttons 2 and 6 continue to flash
- Clean the machine interior, as described in Chapter 7.1.4.

#### 7.1.3 Continuing the drainage program

Water that entered the machine during manual cleaning can now be pumped out:

- Press button 2 for about 2 seconds and then release it. Press button 2 again to cancel the operation.
  - ⇒ Button 2 will flash more rapidly
  - ⇒ The drain pump will empty the tank
  - ⇒ The machine will switch itself off when the tank is empty. The buttons are no longer illuminated.

**If the water is not pumped out completely:**

- Switch off the drain pump (press button 2)
  - ⇒ The drain is vented (air bubbles rise up)
- Switch the drain pump on again when there are no more air bubbles rising.

**INFO:** If you do not interrupt the evacuation program, it will run automatically and terminate by switching off the machine.

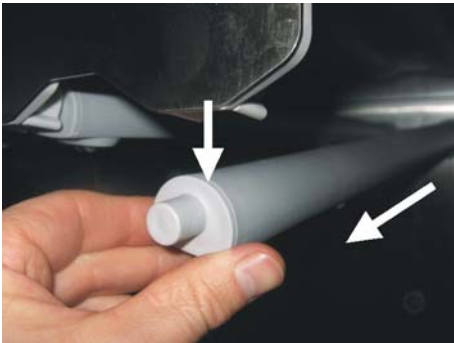
- ⇒ The tank is pumped empty.
- ⇒ The tape transport is switched off.
- ⇒ The machine switches itself off and the button lights are extinguished.

- Close the stopcock in the water pipe in the building.
- Switch off the mains disconnector in the building.

#### 7.1.4 Manual cleaning of the machine interior



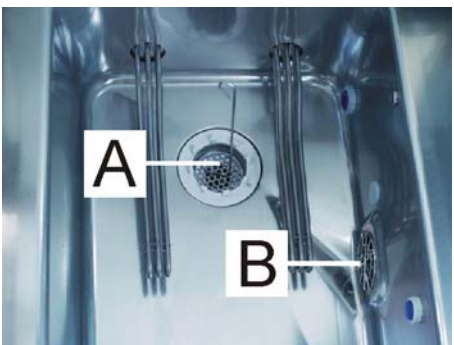
- Open the machine door.
- Remove and clean the curtains.
- Remove the lower wash arms (five jets):
  - Lift the locking mechanism.
  - Rotate the wash arm out of the guide and remove it in the direction of the front side.
- Wash out the wash arms if the jets are blocked.



- Remove the upper wash arms (six jets):
  - Pull the wash arm downwards out of the catch and remove it in the direction of the front side.
- Wash out the wash arms if the jets are blocked.



- Remove and clean the strainer.



- Remove the filter (A) from the tank floor drain.
- If the interior of the machine is dirty, clean the interior of the machine with a sponge and a brush. If necessary, you can spray the interior with a hose.
- Use a brush to clean the filter (B) covering the pump inlet opening. If necessary, the filter can be removed.

- Reinsert the filter (A) into the tank floor drain.
- Reinsert the strainer.
- Reinsert the wash arms.
- Reinsert the curtains. The curtains are designed (coded) so they cannot be inserted in the wrong position. Both of the long curtains are located on the ends of the machine.
- Close the machine door.

### 7.1.5 Cleaning the outside of the machine

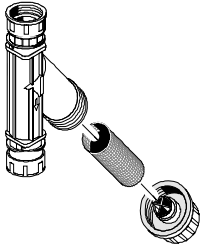
- Clean the exterior surfaces with a stainless steel cleaner and stainless steel polish.
- Clean the connected table system.

### 7.1.6 Checking external water treatment

- Check whether sufficient regeneration salt has been added.

## 7.2 Monthly

### 7.2.1 Cleaning the dirt trap



- Clean the debris filter in the dirt trap.

### 7.2.2 Descaling

If the machine is operated with very hard water and without suitable water treatment, limescale can build up in the boilers, the interior of the machine and in all pipes that carry water.

Limescale deposits and the incorporated dirt and grease residues represent a hygiene risk, and the limescale can cause the heating elements to fail. Therefore, it is essential to remove these deposits at regular intervals.

The job of correctly descaling the boilers and all pipes that carry water should be entrusted to a Winterhalter service technician.

However, you can descale parts of the interior of the machine yourself by following the instructions below.

- Drain the machine (► 7.1.1).
- Interrupt the dosing of detergents (e.g. pull out the suction tube or switch off the dosing equipment) in order to prevent chlorine gas from being formed if the active chlorinated detergent comes into contact with descaler.
- Fill the machine (► 6.1.2).



#### Warning

When using chemicals, comply with the safety notes and recommended dosages printed on the packaging.

Wear protective clothing, protective gloves and protective goggles when handling chemicals.

- Add the descaler to the tank of the machine in accordance with the recommended dosage.
- Run the machine with empty washing racks until all the limescale deposits have been removed.
- It may be necessary to dose additional descaler after an operating time of about 10 minutes.
- Drain the machine (► 7.1.1).



#### Caution

The descaler may not remain in the machine for several hours.

- Fill the machine (► 6.1.2).
- Run the machine with empty washing racks in order to remove descaler residue from the washing system.
- Drain the machine (► 7.1.1) again.
- Put the detergents dosing into operation again.

### 7.3 Maintenance by customer service

We recommend having the machine serviced at least twice a year by a Winterhalter service technician. This service should also include having components subject to wear or ageing being checked and replaced if necessary.

Examples of such components:

- Water supply hoses
- Dosing tubes
- Splash curtains

Winterhalter offers a service contract that includes this work, amongst other services.

## 8 Taking the machine out of service for a longer period of time

Comply with these instructions if you need to take the machine out of service for a longer period of time (company holidays, seasonal operation).

- Drain the machine (► 7.1.1).
- Clean the machine as described in point 7.1.
- Leave the machine door open.
- Close the water stopcock in the building.
- Switch off the mains disconnecter in the building.

If the machine is installed in a room that is not protected against frost, do the following:


- Contact a Winterhalter service technician and request frostproofing of the machine.
- The technician must drain the boiler and the drain pump. In machines with a non-pressurised boiler, the rinse pump must also be drained.

### Taking the machine back into service

- Open the water stopcock in the building.
- Switch on the mains disconnecter in the building.
- Switch on the machine.
  - ⇒ The boilers fill up automatically. Start heating only when the minimum level has been reached in the main wash zone tank or when the boiler is filled in order to prevent the heating elements in the boilers from burning through.

## 9 Malfunctions

This explains what action to take in case of malfunctions. The tables provide information about possible causes and notes on remedial action. Contact the Winterhalter service technician if you are unable to rectify the fault yourself.








**Danger**

**DANGER – risk of fatal injury due to live components.**

Do not open any machine covers or machine components if you require a tool to do so. Risk of electric shock.  
Have all work on the electrical system performed by a Winterhalter service technician.  
The machine must be disconnected from the electrical mains first.

### 9.1 Malfunctions; display on the control panel

Display	Meaning	Remedy
DOS	Lack of detergent or rinse aid	➤ Refill detergent or rinse aid in the machine.
	Fault message	<p>➤ Switch off the machine. ⇒ An error code appears on the control panel.</p> <p><b>If Err 4, Err 5, Err 7-Err 11, Err 13-Err 15 or Err 17-Err 20 is displayed, do the following:</b></p> <ul style="list-style-type: none"> <li>➤ Check if the water stopcock is opened.</li> <li>➤ Switch on the machine again.</li> </ul> <p><b>If the fault message appears again, do the following:</b></p> <ul style="list-style-type: none"> <li>➤ Disconnect the machine from the mains and close the water stopcock.</li> <li>➤ Tell the Winterhalter service technician about the fault message.</li> </ul> <p><b>If another error code is displayed:</b></p> <ul style="list-style-type: none"> <li>➤ Look at the table to find out the meaning of the error code, and follow the instructions.</li> </ul>
Err 1 Err 6 Err 12	If error codes <b>Err 1</b> , <b>Err 6</b> or <b>Err 12</b> are displayed, the machine's functioning has been so impaired that it has automatically switched off and cannot be switched on again.	➤ Tell the Winterhalter service technician about the fault message.
Err 16	The machine door was opened during the drainage programme and was not closed again within 60 minutes.  The machine switches off and displays <b>Err 16</b> .	➤ The error code disappears the next time that the machine is switched on again.
Err 21	If the error code <b>Err 21</b> appears when the machine is switched off, the water level in the machine was too high. Water was pumped out.	<ul style="list-style-type: none"> <li>➤ Close the water stopcock so no more water flows into the machine.</li> <li>➤ Tell the Winterhalter service technician about the fault message.</li> </ul>

Display	Meaning	Remedy
 Blinks red	<p>The temperature in the boiler or tank is greater than 95°C.</p> <p>➤ Switch off the machine immediately. The error code <b>Err 2</b> or <b>Err 3</b> appears.</p>	<p>➤ Tell the Winterhalter service technician about the fault message.</p>
 Blinks blue	<p>Water level in the machine is too high. The drain pump switches on and drains until the normal level is reached.</p> <p>When the error occurs five times,  appears.</p> <p>When you switch off the machine, <b>Err 21</b> is displayed.</p>	<p>➤ Close the water stopcock so no more water flows into the machine.</p> <p>➤ Tell the Winterhalter service technician about the fault message.</p>
 Rack conveyor transport and circulating pump switch off	<p>Thermo protection switch of the built-in geared motor or of an external drive motor connected to the machine was triggered.</p>	<p>➤ Switch off the machine.            ⇨ Err 11 is displayed.</p> <p>Washing can continue as soon as the motor has cooled off.</p> <p>➤ Tell the Winterhalter service technician about the fault message.</p>

9.2 Malfunctions

Error	Possible cause	Remedy
Machine cannot be switched on.	The mains disconnecter in the building is not switched on.	Switch on the mains disconnecter in the building.
	Fuses installed in the building are defective.	Replace fuses installed in the building.
	EMERGENCY STOP activated.	Release EMERGENCY STOP.
Machine does not fill up.	Machine door not fully closed.	Close machine door.
	Water stopcock closed.	Open water stopcock.
Rack conveyor transport cannot be started.	Table limit switch is activated.	Take load off of table limit switch.
	Machine door not fully closed.	Close machine door.
Dishes are not cleaned.	No or insufficient detergent dosed.	Set the dosing according to the information provided by the manufacturer.
		Check dosing lines (kinks, breaks, etc.).
		Replace storage tanks.
	Dishes not sorted correctly.	Do not stack dishes on top of one another.
	Wash arm jets blocked.	Remove wash arms and clean jets.
Transport speed too fast.	Set a slower speed.	
Temperatures too low.	Check the temperatures (► 6.4); call customer service if the rated values (► 10.1) are not achieved.	
Deposits form on the dishes.	Limescale deposits: water is too hard.	Check external water treatment / set correctly. Perform basic cleaning.
	Starch deposits: excessively high temperatures in manual pre-wash (spraying).	Temperature should be 30°C at most.
Dishes do not dry by themselves.	No or insufficient rinse aid dosed.	Set the dosing according to the information provided by the manufacturer.
		Check dosing lines (kinks, breaks, etc.).
		Replace storage tanks.
		Check the dosing equipment.
Washing racks are not transported.	Table limit switch blocked.	Remove washing rack.
	Slip clutch not set correctly.	Call a Winterhalter service technician.

## 10 Technical data

### 10.1 Technical data

#### Factory settings for temperature

Area	
Main wash zone	62°C
Fresh water rinsing	85°C

#### On machines heated with steam

Permitted steam pressure	30 – 400 kPa (0.3 – 4.0 bar)
Permitted steam temperature	107.1°C – 151.8°C

### 10.2 Emissions

#### Noise

The emission sound pressure level at a work station  $L_{pAeq}$  acc. to DIN EN ISO 11204 is < 70 dB(A).

#### Exhaust air

800-1000 m<sup>3</sup>/h

The air admission and evacuation system must be configured acc. to VDI Guideline 2052.

### 11 Connecting external dosing equipment (detergent, rinse aid)

The machine must be equipped with external dosing equipment for the purpose of dosing detergent and rinse aid.



**Danger**

**DANGER – risk of fatal injury due to live components.**  
Have the dosing equipment installed and commissioned by a service technician authorised by Winterhalter.  
Disconnect the machine from the mains and check for the absence of voltage before starting any electrical work on the machine.

The Winterhalter service technician is obliged to:

- Install the dosing equipment according to the documents supplied with the equipment.

#### 11.1 Installing the conductivity electrode



- Remove the front cover.
- Remove the dummy plug (see arrow) and install the conductivity electrode supplied with the dosing equipment. The bolt for earthing is located directly under the dummy plug.

Make a new hole if the hole diameter does not match.

- Line the interior of the tank with cloths or paper to catch the drilling swarf.
- After drilling, remove all drilling swarf from the washing tank; otherwise rust could form.
- Guide the main power cable to the dosing equipment. Holes for cable glands have already been drilled on the left and right rear areas of the base plate.

#### 11.2 Installing the dosing tube (detergent)



- Remove the protective cap (see arrow) and secure the dosing tube with a cable tie.
- Guide the dosing tube to the left side cover taking a short route and avoiding kinks. The hose must not contact any hot surfaces or sharp edges.
- Guide the dosing tube to the dosing equipment. Holes have already been drilled on the left and right rear areas of the base plate.

### 11.3 Installing the dosing tube (rinse aid)



- Remove the cap (see arrow) and secure the dosing tube with a cable tie.
- Install a non-return valve in the dosing tube close to the dosing point, because dosing takes place against counterpressure.
- Guide the dosing tube to the left side cover taking a short route and avoiding kinks. The hose must not contact any hot surfaces or sharp edges.
- Guide the dosing tube to the dosing equipment. Holes have already been drilled on the left and right rear areas of the base plate.

Shown in the picture: non pressurized boiler

### 11.4 Electrical connection

➤ Connect the dosing equipment to the terminals as described in the corresponding equipment documents. Terminal strip X3 for the electrical connection of the dosing equipment is located in the plinth on the front right-hand leg. Refer to the machine circuit diagram for more information.

#### Terminal strip X3 (excerpt)

Terminal		10	11	12	13	14	15	16
Label		FILL	WASH	RINSE	RESERVE	L1*	N*	PE

\* fused with 4 amps (medium time lag)

#### Liquid detergent

**Pre dosage:** Terminal 10 / FILL: continuous signal when machine is being filled up (after achieving dry running protection). Parameter P27 = 1 (factory setting).

**Additional dosage:** Terminal 12 / RINSE: continuous signal during rinsing.

#### Powder detergent

**Pre-dosage and additional dosage:** Terminal 11 / WASH: continuous signal when the circulating pump is active.

### 11.5 Commissioning the dosing equipment

Commission the dosing equipment as described in the corresponding equipment documents. First, however, the machine itself must have been commissioned.

# EG / EC KONFORMITÄT SERKLÄRUNG DECLARATION OF CONFORMITY

Wir, We, Nous, Noi, Wij, Nosotros, Nós, My, My, Podjetje, Εμείς η, Vi

Winterhalter Gastronom GmbH  
Tettlinger Straße 72  
DE-88074 Meckenbeuren

erklären in alleiniger Verantwortung, dass das Produkt  
declare under our sole responsibility that the product  
déclarons sous notre seule responsabilité que le produit  
dichiariamo sotto la nostra piena responsabilità che il prodotto  
verklaren als enig verantwoordelijke dat het product  
declaramos bajo nuestra absoluta responsabilidad que el producto  
Declaramos sob nossa única responsabilidade, que o produto  
oświadczamy na własną odpowiedzialność, że produkt  
prohlašujeme na vlastní zodpovednosť, že produkt  
na lastno odgovornostjo izjavlja, da je izdelek  
δηλώνουμε αποκλειστικά με δική μας ευθύνη, ότι το προϊόν  
förklarar med enskilt ansvar att produkten

Gewerbliche elektrische Spülmaschine,  
Commercial electric dishwashing machines,  
Lave-vaisselle professionnelle électrique,  
Sistema di lavaggio elettronico industriale,  
professionele vaatwasmachine,  
lavavajillas eléctrico industrial,  
Máquina de lavar loiça comercial eléctrica,  
elektryczna zmywarka przemysłowa,  
profesionální elektrická myčka  
Profesionalni električni pomivalni stroj,  
Επαγγελματικό ηλεκτρικό πλυντήριο πιάτων,  
elektrisk industridiskmaskin,

STR

auf das sich diese Erklärung bezieht, mit den folgenden Normen übereinstimmt:  
to which this declaration relates is in conformity with the following standards:  
auquel se réfère cette déclaration est conforme aux normes :  
al quale fa riferimento la presente dichiarazione, è conforme alle seguenti norme:  
waarop deze verklaring betrekking heeft, met de volgende normen in overeenstemming is:  
al que se refiere esta declaración, cumple las siguientes normas :  
ao qual esta declaração diz respeito, está em conformidade com as seguintes normas:  
do którego odnosi się to oświadczenie, jest zgodny z następującymi normami:  
na katerou se vztahuje toto prohlášení, odpovídá níže uvedeným normám:  
na katerega se nanaša ta izjava, skladen z naslednjimi standardi:  
στο οποίο αναφέρεται αυτή η δήλωση, συμφωνεί με τα ακόλουθα πρότυπα:  
vilken denna förklaring åsyftar, överensstämmer med följande normer:

EN 60335-1; EN 50416  
EN 61000-6-2; EN 61000-6-4

gemäß den Bestimmungen folgender Richtlinien:  
following the provisions of Directives:  
selon les conditions des directives suivantes:  
Ai sensi alle disposizioni previste dalle seguenti direttive :  
volgens de bepalingen van de volgende richtlijnen:  
conforme a las disposiciones de las siguientes directivas:  
de acordo com as disposições das seguintes directivas:  
zgodnie z postanowieniami następujących dyrektyw:  
na základě ustanovení následujících směrnic:  
in je skladen z določili naslednjih direktiv :  
σύμφωνα με τους κανονισμούς των ακόλουθων Οδηγιών:  
enligt följande riktlinjers bestämmelser:

2006/42/EC/MD (Machinery Directive); 2004/108/EC/EMC (Electromagnetic Compatibility)



Bernhard Graeff  
Technischer Leiter

Meckenbeuren, 29.12.2009



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