

# Wexiödisk<sup>W</sup>

## COMBI-DISHWASHER WD-12S

(original documentation)

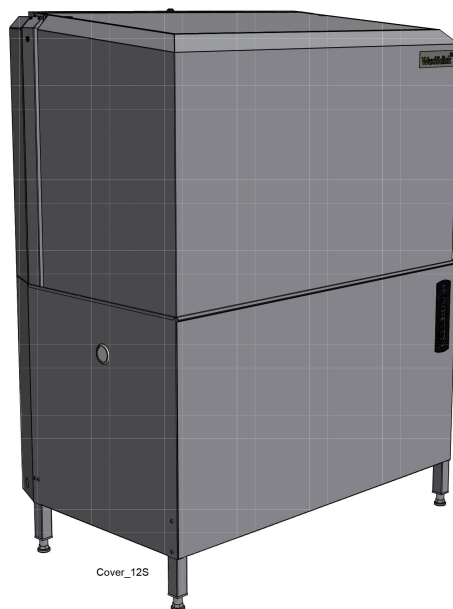


Read the manual before using the machine!

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## Installation and user manual

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# 1. General instructions

Read the instructions in this manual carefully as they contain important information regarding the correct, effective and safe installation, use and servicing of the machine. Service personnel should have access to all documentation for the machine.

Keep this manual in a safe place so that it can and should be used by other operators of the machine.



- The machine is intended to be used for washing dishware that is found in the general catering and restaurant trade. Other uses are NOT recommended!
- The machine can be equipped with a number of different options. Certain options may be standard in a number of countries. Check what your machine is equipped with.
- Use auxiliary equipment where possible to avoid heavy lifting.
- The machine's display indicates what the machine is doing. The machine's various temperatures and any alarms are also shown.
- The capacity requirements of the machine can be found in the TECHNICAL DATA chapter.
- The electronics in the machine are RoHS compatible.

Before the machine is started up and used, the following points should be observed:



- The SAFETY INSTRUCTIONS chapter must be studied carefully before commissioning the machine.
- Installation of the machine must be performed in accordance with the requirements and instructions indicated in the INSTALLATION INSTRUCTIONS and TECHNICAL SPECIFICATIONS chapters.
- Any personnel who may at some point use the machine must be trained in its operation, use and care.
- The machine should not be used by anyone suffering from a physical or mental illness.
- A close eye should be kept on any children in the vicinity of the machine to ensure they do not tamper with it.
- All cover plates must be fitted during use.



The machine and equipment requires an annual service. Contact one of our authorised and trained service companies for such a service.

## General instructions

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### 1.1 Symbols used



This symbol warns of situations where a safety risk may arise. The instructions given should be followed in order to prevent injury and dangerous situations.



This symbol on a machine part warns of electrical equipment. The machine must be entirely non-live during servicing, turn off the power at the power switch and if required, the switch should be locked to prevent unintentional operation. The component may only be removed by a qualified electrician.



This symbol warns that the machine's electronics are sensitive to electrostatic discharge (ESD), which is why a static electricity wristband must be used when handling the electronics at all times.



This symbol explains the right way to perform a task in order to prevent poor results and/or damage to the machine.



This symbol identifies recommendations and hints to help you get the best results when washing, to increase the machine's lifespan and reduce the risk of emergency shutdown.



This symbol explains the importance of careful and regular cleaning of the machine to meet hygiene requirements.



This symbol warns of the importance to read the manual before using the machine.



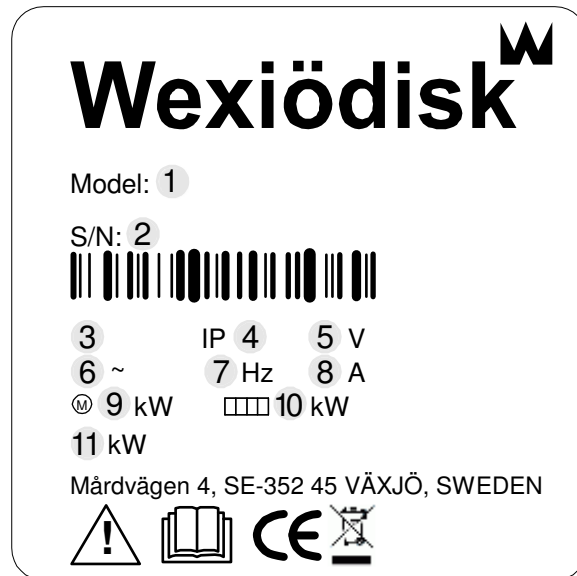
This symbol warns that local regulations must be followed for recycling of packaging etc. as well as the destruction of the machine.



This symbol shows where any earth cable for potential equalisation can be connected. The earth bolt is placed on the machine's stand.

## 1.2 Machine rating

The machine has two rating plates, one of which is placed at the bottom of one side of the machine and the other in the electrical cabinet. The technical information on the plates is also included on the machine's wiring diagram. The various rating fields show:



1. Machine type
2. Machine serial number
3. Year of manufacture
4. Enclosure protection class
5. Voltage
6. Number of phases with or without neutral
7. Frequency
8. Main fuse
9. Motor output
10. Electrical heating output
11. Max. output

## 1.3 Checking that the machine and manual correspond

Check that the type description on the rating plate corresponds with the type description on manual cover page. If manuals are missing, it is possible to order new ones from the manufacturer or the local distributor. When ordering new manuals, it is important to quote the machine number found on the rating plate.

## 1.4 EU Declaration of Conformity

A so-called EU Declaration of Conformity is provided on delivery of the machine.

**Wexiödisk**<sup>W</sup>

### CE DECLARATION OF CONFORMITY

This declaration of conformity only refers to the machine/product in the condition in which it is supplied, not any additions or modifications made by the customer/user.

1. **Manufacturer:** Wexiödisk AB Mårdvägen 4 S 352 45 Växjö, Sweden  
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2. **Representative:** BSH'sa General Trading, LLC Kyung Group Ltd, DSP doo, BSHMOWLS SERVICE OOO, Farus eht JZB, Martin Food Equipment Ltd, Moffit Pty Ltd, M's Alshw'as Conso'kates Pvt Ltd, Nakantshi MCo Co Ltd, QMB corporation, Retail doo, SHS Hvalen I Kundilan, TFN Group, Wexiödisk AB, Wexiödisk UK

3. **Compiler of technical documentation:** Magnus Ericsson

4. **Our machines are manufactured (2016) in accordance with applicable EU directives and we declare under sole responsibility that the following products:**

5. **CE Declaration of Conformity:**  
 EU's Machinery Directive 2006/42/EG, annex II A  
 EU's Low-voltage directive 2006/95/EC  
 EU's EMC-directive 2014/53/EU  
 EU's WEEE directive 2002/96/CE  
 EU's RoHS-directive 2011/65/EU

6. **Harmonised standards:**  
 EN 12100 Machine safety: General principles for design - Risk assessment and risk reduction  
 EN 50106 Safety - Particular rules for safety tests  
 EN 60229 specification for degrees of protection provided by enclosures (IP code)  
 EN 62233 Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure  
 EN 61010-2-2 Electromagnetic compatibility (EMC) - Immunity standard for industrial environments  
 EN 55014-1 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - (EMC) - Part 1: Emission  
 EN 50581 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

7. **The above directives and standards are common to the different machine groups. Standards in the tables below are specific to the different machine groups.**

<b>Single table, 100 mm wide, turntable with accessories:</b> WD-100 (S) WD-10007 & WD-100 & WD-10 & WD-100 (S) WD-10 (S) WD-10000 (S) WD-10 & WD-10000 (S) WD-10000 (S) & WD-10000 (S) & WD-10000 (S) WD-10000 (S) WD-10000 (S) WD-10000 (S) WD-10000 (S)	<b>Harmonised standards to EU's Machinery Directive 2006/42/EG, annex IA</b> EN 60204-2 Safety of machinery - Electrical equipment of machines - Part 2: Machines EN 60204-3 Safety of machinery - Electrical equipment of machines - Part 3: Machines
<b>Special machines:</b> WD-10000 (S) & WD-10000 (S) WD-10000 (S) & WD-10000 (S) WD-10000 (S) & WD-10000 (S)	<b>Harmonised standards to EU's Machinery Directive 2006/42/EG, annex IA</b> EN 60204-2 Safety of machinery - Electrical equipment of machines - Part 2: Machines
<b>Special machines:</b> ACS 400001000 (13147)	<b>Harmonised standards to EU's Machinery Directive 2006/42/EG, annex IA</b> EN 60204-2 Safety of machinery - Electrical equipment of machines - Part 2: Machines

8. **Växjö 2016-04-20**

Magnus Ericsson  
Managing Director

CE\_16\_2

1. Contact details of the manufacturer (Wexiödisk AB, Mårdvägen 4, SE-35245 Växjö, SWEDEN, Tel.: +46 470 771200, Fax: +46 470 23752, E-mail: wexiodisk@wexiodisk.com).
2. Representatives of Wexiödisk AB.
3. Person responsible for the product's documentation.
4. Year of manufacture of the product.
5. The EU Directives with applicable provisions to which all the machines, special machines and accessories comply.
6. Harmonised standards for the Directives specified, and which the machines, special machines and accessories meet, wherever relevant.
7. Model designation and serial number of the machines, special machines and accessories the document applies to.
8. Place and date with signature and name (in block letters) of the person responsible for ensuring compliance with legislation and regulations.



## 2. Safety instructions



Read the chapter GENERAL INSTRUCTIONS carefully before starting work.

### 2.1 General information



The machine is CE marked, which means that it complies with the requirements of the EU Machinery Directive with regard to product safety. Product safety means that the design of the machine will prevent personal injury or damage to property. The CE mark is only valid for an unmodified machine. Any damage to the machine arising from failure to follow the instructions will invalidate the supplier's warranty and product liability.



Installation, repairs and servicing must be performed by an authorised engineer in accordance with local and national rules in effect for such work with water and drainage systems, electricity, ventilation and steam. To ensure electrical safety, components must only be tested when installed in their normal place in the machine. We recommend that the work is performed by the manufacturer or one of the manufacturer's authorised service companies.

To further improve safety during installation, operation and servicing, the operator and the personnel responsible for installing and servicing the machine should read the safety instructions carefully.



The machine's electronics are sensitive to electrostatic discharge (ESD), which is why a static electricity wristband must be used when handling the electronics at all times.

Before the machine enters service, ensure that the personnel are given the necessary training in handling and looking after the machine.

## Safety instructions

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In order to avoid dangerous situations, the following must be followed:



- Switch off the machine immediately in the event of failure or malfunction.
- Make sure the machine is non-live before removing the cover plate. Turn off the power using the power switch. If required, the switch must be locked to prevent unintentional operation.
- Shut off the tap for incoming water and drain the machine's tank(s) before starting work. Let the machine cool down as pipes for water, washing pumps, booster heaters and valves become very hot when the machine is in operation.
- The machine and equipment requires an annual service. The machine should be serviced by a person authorised or trained to do so by us. Use original spare parts.
- Warranty repairs must be performed by an authorised company. Contact an authorised service company to draw up a programme of preventive care and maintenance. For authorised service companies, please see [www.wexiodisk.com](http://www.wexiodisk.com) or contact Wexiödisk AB.
- The regular checks described in the manual must be carried out in accordance with the instructions.

## 2.2 Transport



Handle the machine with care during unloading and transport; there is a risk of it tipping over. Never lift or move the machine without using the wooden packaging to support the stand.

## 2.3 Installation



- The machine is designed for quick electrical installation.
- The machine must be connected to a lockable power switch.
- Make sure that the mains voltage is the same as that indicated on the machine's rating plate.



For increased safety, it is recommended to equip the installation with a ground fault circuit breaker.

## 2.4 Detergent and drying agent



Be aware of the risks involved in handling detergents and drying agents. Protective gloves and safety glasses should be used when handling, and an eyebath should be within easy access. Read the warning text on the detergent and drying agent containers as well as the detergent supplier's instructions.

## Safety instructions

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### 2.5 Operation



Be very careful around the machine when it is in operation.

#### 2.5.1 High temperatures



- The temperature of the washing and rinsing water is 60°C and 85°C. Do not open the machine until the washing and rinsing phases have finished. The steam that comes out of the machine after the wash has been completed is hot.
- Avoid touching hot pipes and booster heaters. The machine's outer jacket can also become hot during operation.

#### 2.5.2 Risk of crushing



The machine, and any equipment, has moving parts before, during and after washing. Be careful therefore to avoid crushing injuries. In connection with service or repairs that require the hood to be open, it must be secured by means of a prop for example.

#### 2.5.3 Risk of slipping



The floor should be kept clean and dry to eliminate any risk of slipping. Mop up any water and leftover food that has been spilt.

#### 2.5.4 Sounds



The machine is not silent during operation, see TECHNICAL SPECIFICATIONS. Hearing protection may therefore need to be used.

### 2.6 Cleaning the machine



The water in the tank has a temperature of approximately 60°C and contains detergent. Be careful when draining and cleaning the wash tank. Wear protective gloves and safety glasses and have an eyebath within easy access.

## 3. Installation instructions



Read the chapters GENERAL INSTRUCTIONS and SAFETY INSTRUCTIONS carefully before starting work.

### 3.1 General information



Read these instructions carefully, as they contain important information regarding the correct installation method.

- The instructions should be used together with the machine's wiring diagram located in the plastic folder behind the front panel of the machine.
- The machine can be equipped with a number of different options. Certain options may be standard in a number of countries. Check what your machine is equipped with.
- If holes need to be drilled in the machine, the holes must be fitted with an edge strip or similar protection.

## Installation instructions

### 3.1.1 Rust on industrial dishwashers



- Large-scale industrial dishwashers in general as well as our dishwashers are made of stainless materials, but despite this, there are still situations where rust can occur on “stainless” materials.
- We are going to describe a few reasons for this here, so that you, as a user, service engineer or other type of personnel, can avoid this.
- Rust usually occurs due to the fact that something that is not stainless finds its way onto the stainless surface. The non-stainless particles will soon start to rust, and then contaminate the stainless material, which also starts to rust. If no action is taken at this point, serious damage such as a hole in the material can occur.

RISK SITUATION	CAUSE	DECLARATION / ACTION
Drilling holes when installing a detergent device.	Using a drill or hole saw that has previously been used for ordinary non-stainless materials.	“Contaminated” hole-drilling tools can cause enormous damage in the form of pores in stainless plates. Never use a cutting tool that has previously been used on other materials or blackplate.
	Using blunt tools when drilling holes.	Stainless plate, which has overheated during hole drilling, may lose its “stainless” properties. This can show up as rust around the hole for the detergent cell.
	Shavings from hole drilling.	The shavings from drilling or hole sawing are usually heated so much that they lose their stainless properties. They must always be removed by hand! Washing after hole drilling is not enough!
Rust spots that occur during normal operation and use.	Minerals, e.g. ferrous gravel or earth, from dishware or food (vegetables and root vegetables) that has been lying in crates, find their way onto the stainless surface. Minerals (gravel) can also be found on the wheels of catering trolleys.	Daily cleaning is always important. Use a suitable brush for “mechanical” cleaning, e.g. in the wash tanks, on the wash trays and filters.
	Steel wool. Ordinary steel wool is not stainless, and can cause serious damage to stainless surfaces and plates.	Use stainless cleaning pads Remove all ordinary steel wool from the catering facility / restaurant.

N.B.! If rust spots have developed, they must be dealt with immediately by a person authorised to do so!

## **3.2 Requirements for the installation site**

### **3.2.1 Lighting**

In order to ensure the best possible working conditions during installation, operation, servicing and maintenance, make sure that the machine is installed in a well-lit room.

### **3.2.2 Ventilation and ambient temperature**

The machine is intended to be used in an indoor environment at normal room temperature. The machine produces heat and steam when in operation. In order to ensure the best possible working conditions, a certain air renewal rate is required in the dishwashing room. The ventilation requirements for the dishwashing room are to be dimensioned on the basis of the applicable standards.

### **3.2.3 Power supply**

Power supply connections are made by qualified personnel in a way that complies with local and national regulations. The machine's capacity requirements are stipulated in TECHNICAL SPECIFICATIONS.

### **3.2.4 Water**

Water connections are made by qualified personnel in a way that complies with local and national regulations. The machine's capacity requirements are stipulated in TECHNICAL SPECIFICATIONS.

### **3.2.5 Drain/waste pipe**

There must be a waste pipe with an effective trap for the machine's waste water and for water used for rinse cleaning. The machine's capacity requirements for drainage are stipulated in TECHNICAL SPECIFICATIONS.

### **3.2.6 Space for servicing**

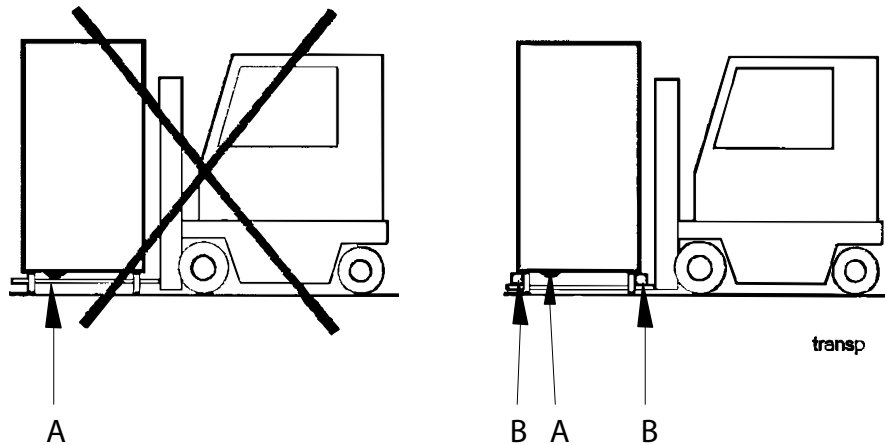
A 1-metre area should be left clear in front of the machine for servicing purposes. Depending on if the machine has different accessories, there may also be such a requirement at the infeed and outfeed ends of the machine.

### 3.3 Transport and storage

Always transport the machine in an upright position.



Take care during transport, as there is a risk of tipping. N.B.! The machine must not be transported without a pallet or other support. Some form of support beam must always be used along the sides of the machine during transport. Otherwise the machine may become damaged. When transporting the machine without a normal wooden pallet, always check that none of the components underneath the machine can be damaged.



*A=Pumps*  
*B=Spacers*



If the machine is not being installed immediately, it must be stored in a frost-free area where the air is dry.

#### 3.3.1 Unpacking

Check that all parts have been delivered by comparing them with the delivery note.

Remove the packing material. Inspect the machine for any transport damage.

#### 3.3.2 Recycling



Packaging must be sent for destruction or recycling in accordance with local regulations.

## 3.4 Installation

### 3.4.1 Preparing for the installation

Check that there is sufficient room for the machine at the installation location.



- Check that correct connections are available for water, electricity, drainage and possibly steam at the installation location. See TECHNICAL SPECIFICATIONS.
- Check that the overheating protection device is reset.

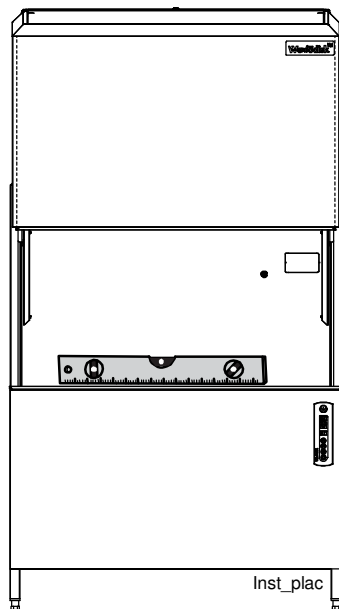
### 3.4.2 Positioning the machine

Check the following points before the machine is placed in position:



- Check that the fuse for the machine at the site is off, blocked and that outgoing electrical circuits from the machine are non-live.
- Remove the protective plastic on the sides which are to be stood against a wall.
- The distance between the wall and machine should be at least 20 mm.
- If the machine is to be corner-loaded, it must be positioned with the control panel furthest away from the wall.

Put the machine in position and check that the machine and any accessories are horizontal using a spirit level. Place the spirit level on the join between the machine tank and the upper part. Adjust the height with the legs.

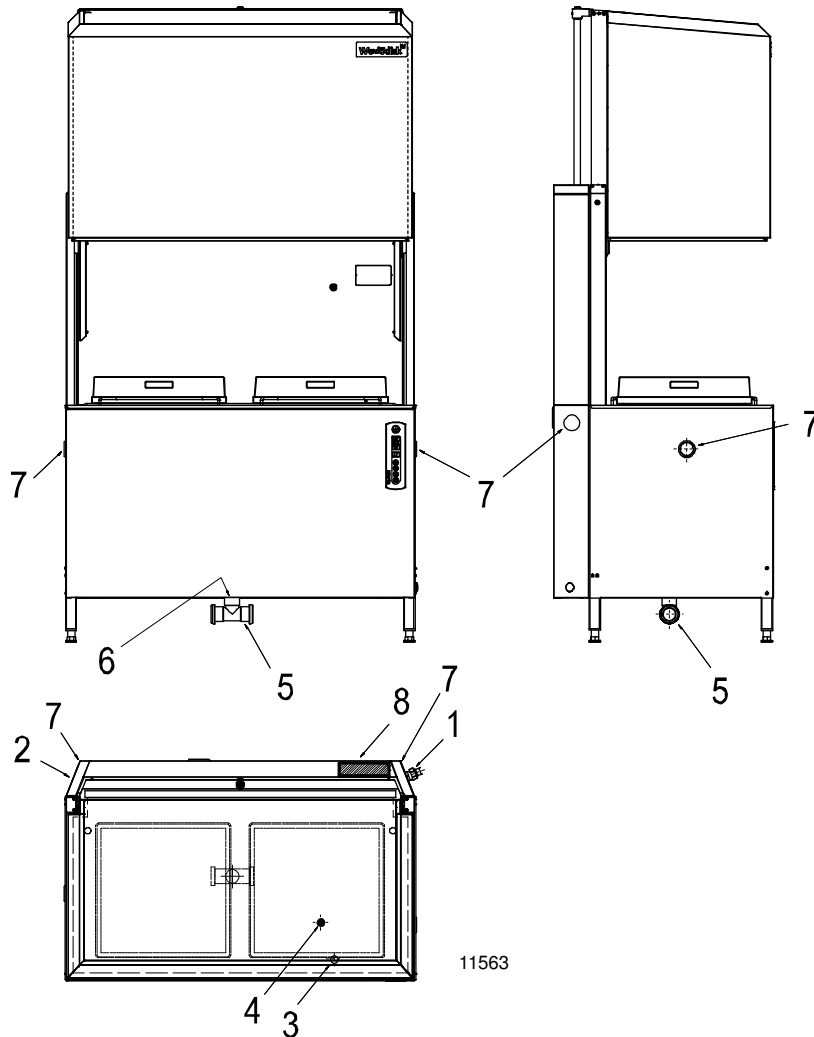


*Check with a spirit level that the machine is horizontal*

Once the machine has been filled with water, do another check to make sure the machine is horizontal.



### 3.5 Connections



1. Electrical connection
2. Alternative electrical connection
3. Standard machine: Hot water connection  
Machines with ECO flow (option): Cold water connection
4. Machines with ECO flow (option): Hot water connection
5. Drain/waste pipe connection
6. Drain pump (option)
7. Plugged hole for detergent connection
8. Exhaust air ECO flow (option)

In the following chapter, figures are given in brackets to clarify what needs to be done. These numbers refer to image and list above.

## Installation instructions

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### 3.5.1 Electrical connection

Information about electrical connections is available on the machine's wiring diagram which is provided on delivery. Store the diagrams in the plastic pocket, located in the electrical cabinet, even after installation.



- The machine is designed for quick electrical installation.
- The machine must be connected to a lockable power switch. This should be placed on a wall, well-protected from water and from the steam which escapes when the machine is opened. The machine is supplied with the electrical cable connected (1 or 2).

After completing the installation, switch on the power switch and all circuit breakers.

### 3.5.2 Water connection, regardless of any options



- A shut-off cock must be installed on the incoming pipe.
- It is important that the water supply has sufficient pressure to ensure the correct flow of water to the machine. The required water flow and pressure can be found in the TECHNICAL SPECIFICATIONS.
- The machine is fitted with a "Break Tank", which is equipped with a filter and non-return valve.

The water pipe is connected to (3) on a standard machine. The cold water is connected to (3) and the hot water to (4) if the machine is equipped with ECO flow (option). If the machine is connected with a hose, this should be steel braided and have an internal diameter of at least 12 mm.

## Installation instructions

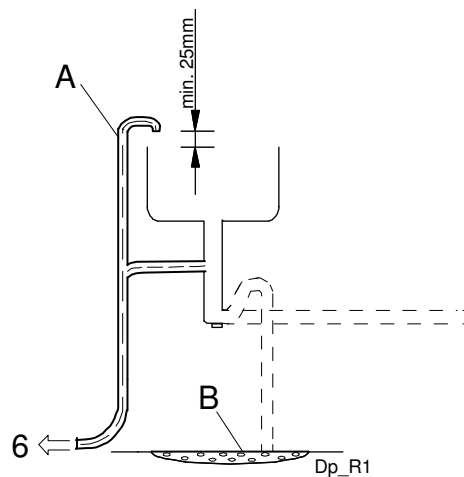
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### 3.5.3 Drain/waste pipe

The waste water system connected to (5) should consist of a 50 mm metal pipe that will withstand mechanical impacts. The waste pipe must run to a floor drain, where its opening must be above the water level.

Ensure that the drain connection is kept in place by using e.g. cable ties in the designated areas.

#### Machines with a drain pump (option)



*Drain hose (A) consists of a spiral hose which is connected to the machine's drain pump (6) and to the drain (B) as desired.*

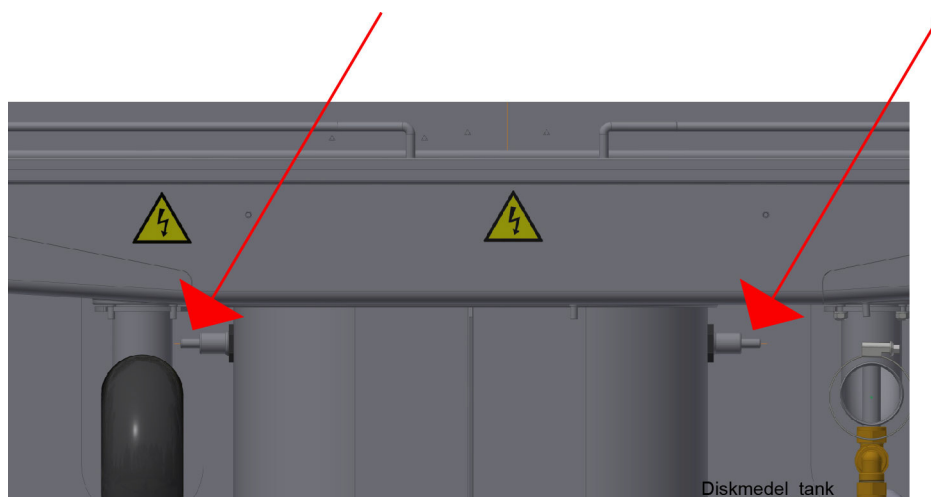
## Installation instructions

### 3.5.4 Detergent and drying agent



- Check what your machine is equipped with, as this may vary depending on market. The equipment will be roughly set at the factory if the machine is equipped with any of these alternatives. Contact your chemical supplier for a more precise setting.
- Use the same make and type of detergent and drying agent.
- With machines connected to cold water, the water pipe temperature may be too low for use of powder or paste type detergents.
- If liquid detergent is used together with Wexiödisk's detergent pump, the detergent must be placed under the machine's tank level.

If equipment for a different type of detergent is used, it should preferably be put on the wall behind the machine to avoid holes being drilled unnecessarily in the machine.



#### *Detergent hose connections on both sides of the tank*

The measuring cell for measuring the concentration of detergent in the washing water is located on the left-hand side of the tank (viewed from the front) and hole markings for drilling are shown.

For information about electrical connections, see the wiring diagram.

The process of setting the detergent and drying agent dispenser is described in the ADJUSTMENT INSTRUCTIONS.

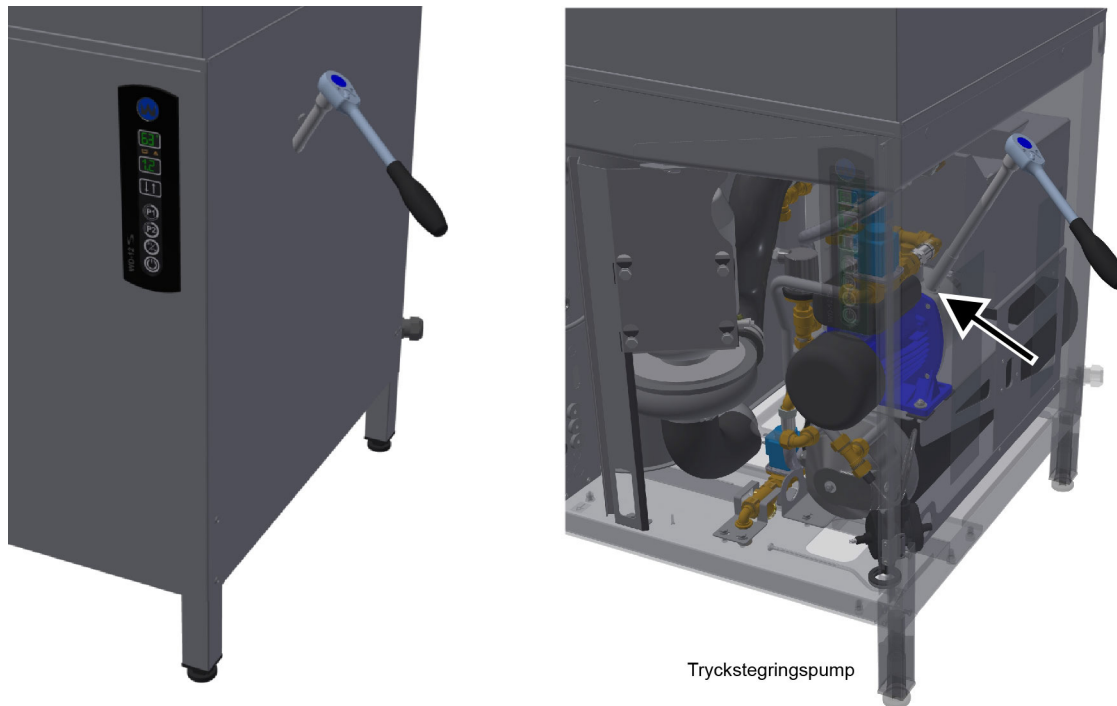
### 3.5.5 Ventilation

The machine's heat load for the room is stipulated in TECHNICAL SPECIFICATIONS.

### 3.5.6 Bleeding the booster pump



The pump housing must be filled with water before starting the booster pump for the first time. Once the break tank has been filled with water, the booster pump is bled by slackening the bleed screw on the top right-hand side of the pump housing. This may be accessed via the plastic plug on the right-hand side of the machine. The booster pump is located on the removable booster heater kit.

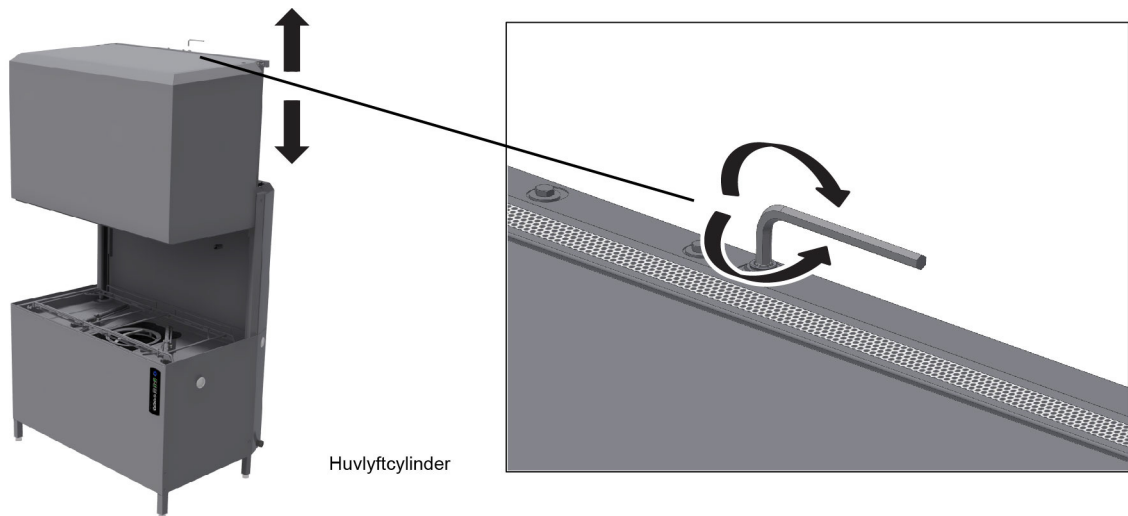


*Booster heater bleed screw*

## Installation instructions

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### 3.5.7 Bleeding the hood lifting cylinder

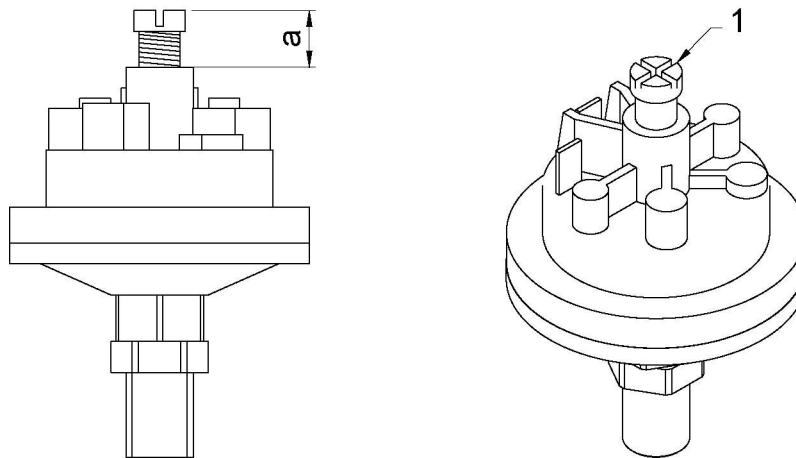


*Hood lifting cylinder bleed screw, located above back edge of hood*

1. Close the hood.
2. Unscrew the bleed screw a couple of turns.
3. Push the hood up and down until only water (N.B.! Not air) comes from the cylinder.
4. Tighten the bleed screw.
5. Wipe away any waste water from the hood lifting switch located inside the hood near the bleed screw.

## Installation instructions

### 3.5.8 Adjusting the hood pressure switch



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Hood function should be checked before beginning installation of the pressure switch. The hood should open and close with a smooth movement.

It is important that the machine is evenly balanced for optimal operation of the hood.

Run the machine through one wash so that water reaches the sliding surface of the hood. This will mean that hood function should now operate normally.

Adjusting the pressure switch:

1. Unscrew the adjuster screw on the pressure switch (1) to length a, approximately 10-11mm.
2. Push the hood down to around 10cm above the edge of the tank, and use your hand (in the middle of the hood) to hold it there. When the anti-crushing mechanism is correctly installed, the hood should automatically stop and go up again when the pressure reaches around 12kg. This can be checked by, for example, using scales (such as fish weighing scales or dynamometer).
3. Tighten the screw a quarter of a turn and repeat the test. The pressure switch is usually adjusted correctly when length a = approximately 12mm. One revolution of the screw is equivalent to around 1mm. If the screw is tightened (turned clockwise) the pressure switch will become more sensitive and turn off more easily, and vice versa.

Make sure you do not set the pressure switch to turn off too easily. This could mean that the pressure switch will break if, for example, there is too much dirt on the sliding surface of the hood, or the hood is stiff for any reason, causing it to not go down.

## 3.6 Installation and connection of auxiliary equipment and options



- Once the machine is in place and has been adjusted horizontally and vertically, the auxiliary equipment can be fitted.
- The machine can be equipped with a number of options. Check what your machine is equipped with, which will vary depending on market.

The various options normally place no specific requirement on the installation. Brief descriptions of certain options are provided below.

### 3.6.1 ECO flow (condensing unit)



- A hot and cold water connection is required.
- The machine has a 15kW booster heater, but can also optionally be fitted with a 12kW booster heater.
- Automatic rinse cleaning of heat recovery unit.
- "CO" is shown on the machine's display when the condensing unit is active and the function may then be cancelled.
- May be retrofitted.

### 3.6.2 Cold water-connected machine



15kW booster heater.

### 3.6.3 Basket conveyor with foldable grid sections (WD206.5371 & WD206.5372)



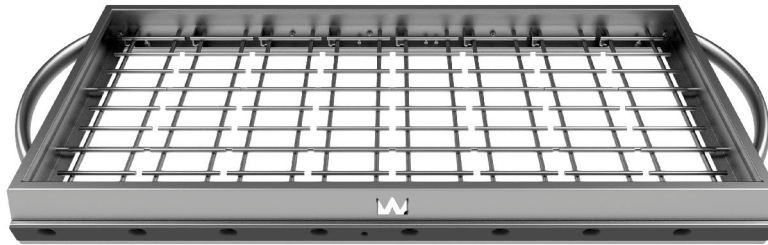
- Foldable.
- May be retrofitted.



## Installation instructions

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### 3.6.4 Grid basket



Gallerkorg



Removable.

### 3.6.5 Drain pump



May be retrofitted.

### 3.6.6 Marine design



Special machine feet and special connection voltage.

## Installation instructions

### 3.6.7 Adaptation for WD-PRM 7

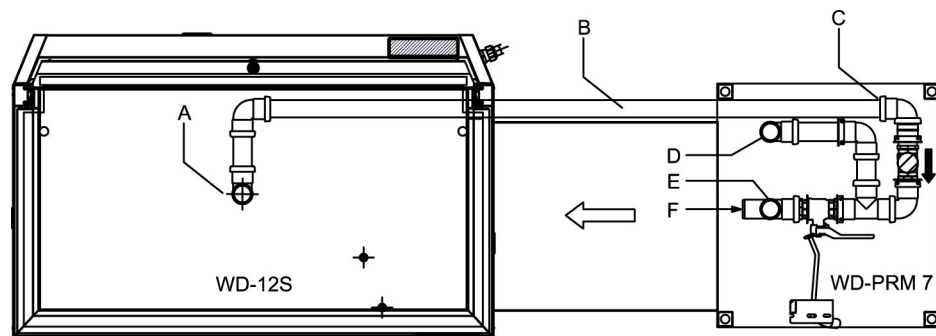


The level pipe is fixed for WD-PRM 7.

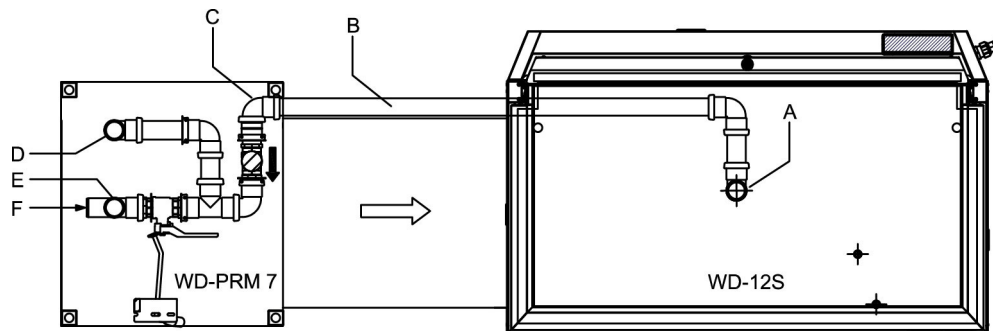
#### Setting the pressure switch

	Upper level	Lower level
WD-PRM 7	220 mm	155 mm
WD-12S	Standard	Standard

#### Water and waste pipe connections



Feed direction: Right to left



Feed direction: Left to right

- A=Water connection in the bottom of the dishwasher's washing tank on WD-12S. The connection must be fitted with a bottom filter. N.B.! No level pipe.
- B=Connecting pipe. Cut to a suitable length.
- C=Connection for connecting pipe.
- D=Water connection in the bottom of washing tank on WD-PRM 7. The connection must be fitted with a bottom filter. N.B.! No level pipe.
- E=Drain connection in the bottom of washing tank on WD-PRM 7.
- F=Connection for waste pipe between machine and floor drain.

## Installation instructions

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### 3.6.8 Reduced opening height



- The machine's opening height is reduced by either 50 or 100mm.
- May be retrofitted.

### 3.6.9 Autostart



- The hood on the machine will close and washing will start when the washing basket is pushed into the machine.
- May be retrofitted.

### 3.6.10 Hot water filling for demi water rinsing



- N.B.! Hot water is connected to the machine at (4).
- N.B.! Demi water for the final rinse is connected at (3).

## Installation instructions

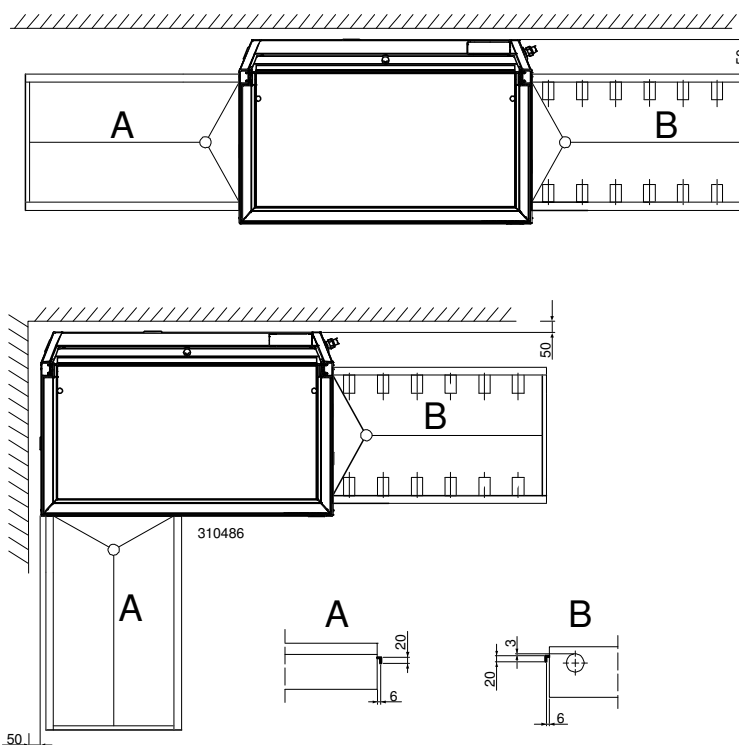
### 3.6.11 Conveyors and roller conveyors

Once the machine is in place and has been adjusted horizontally and vertically, the auxiliary equipment can be fitted.

N.B.! When connecting sinks and conveyors, no holes must be drilled on the front of the machine.

The machine can be positioned so that it can be straight-loaded or corner-loaded.

#### Side support for corner-loading



*A=Connection sink*  
*B=Connection conveyor*

The connection profile must look like the one shown in the drawing. The distance of 6 mm may be reduced, but must not be less than 3 mm.

- Attach the sink connection to the machine and then adjust.
- Drill two  $\varnothing 4.5$  mm holes through the sink connection and the machine, approx. 100 mm from each outer edge.
- Countersink the holes.
- Seal with silicone between the connection and the machine.
- Secure the sink with countersunk M4 screws, grommets on the outside surface and nuts. Alternatively, you can secure the sink to the wall with wall brackets.

Use a spirit level to check that the sinks are horizontal and adjust the height, if necessary.

## 3.7 Trial operation

Prepare the machine for trial operation with the help of OPERATING INSTRUCTIONS. The instructions describe the measures that must be taken to prepare the machine for operation.

### 3.7.1 Start-up schedule

This should be completed when the machine is started up and used.

<b>Machine type:</b>
<b>Machine serial number:</b>
<b>Installation date:</b>

Read the installation and user manuals carefully. Then check the following points:

#### 1. Check:

- Water and waste pipe connections
- That the machine is evenly balanced
- Detergent and drying agent
- The filter, filter tray and level pipe are in place
- That the overheating protection device is reset
- That bleeding of the booster pump has been carried out according to the manual

#### 2. Filling the machine:

- Turn on the power switch and any circuit breakers
- Press the machine's control button ON/OFF
- Close the hood
- Bleed the booster pump
- Bleed the hood lifting cylinder
- Fill the machine with water in accordance with the INSTRUCTIONS FOR USE
- Bleed the hood lifting cylinder

#### 3. Start the machine:

- Check the direction of rotation of the pumps  
N.B.! If the direction of rotation is wrong, the phase must be inverted on the lockable power switch
- Empty the machine and refill it
- Check the final rinse flow during filling

#### 4. Check the setting of the reference values:

- All the reference values have been set to the recommended values on delivery
- Check the temperatures

## Installation instructions

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### 5. Run a number of washes complete with dishware and check:

- There are no water leaks
- The automatic hood lift's anti-crushing system is working
- The water temperatures are maintained
- The dishware is clean  
N.B.: If the machine is equipped with detergent dosing, this function is roughly set at the factory; contact your chemical supplier for a more precise setting.
- The dishware is dry  
N.B.: If the machine is equipped with drying agent dosing, this function is roughly set at the factory; contact your chemical supplier for a more precise setting.

### 6. Final check: Empty the machine and turn off the power using the power switch.

- Re-tighten all connections on contacts and any circuit breakers
- Set all the circuit breakers to the ON position
- Display the maintenance instructions supplied with the machine.

### 7. Train the dishwashing personnel

- Washing
- Care (daily, weekly and other frequencies)
- Recommendation for annual service

## 3.8 Documentation



For correct use and servicing, it is essential that the documentation accompanying the machine is made available to personnel who will be using the machine. The installation and user manual, which describes handling and care among other things, should be stored near the machine.

## 4. Operating instructions



Read the chapters GENERAL INSTRUCTIONS and SAFETY INSTRUCTIONS carefully before starting work.



This chapter describes what must be done with the machine:

- Before washing
- How washing should be performed
- After completed washing
- In the event of error messages and troubleshooting

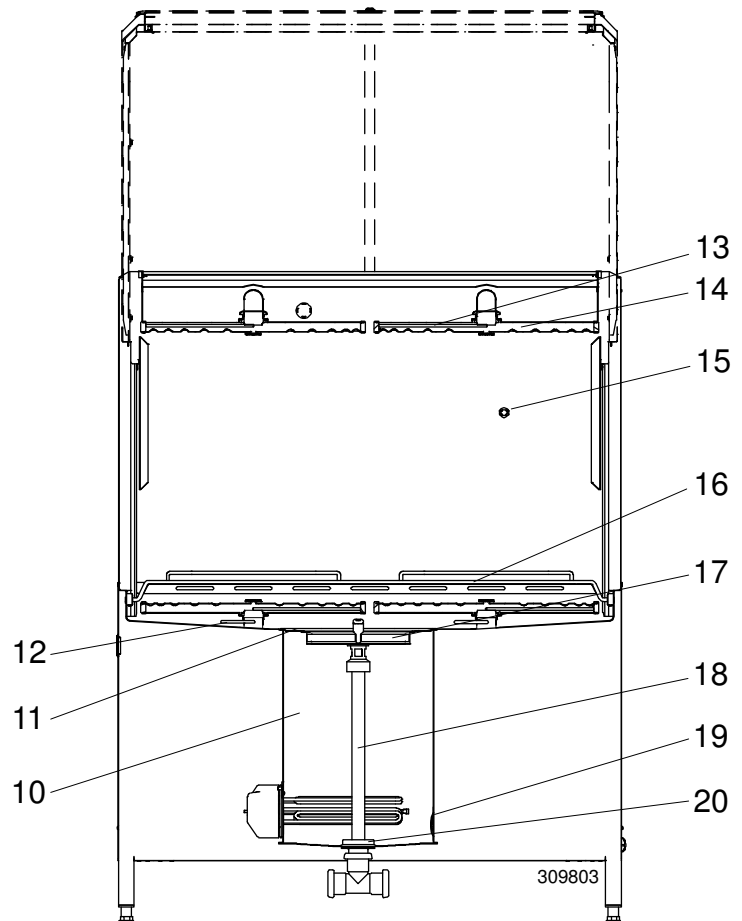
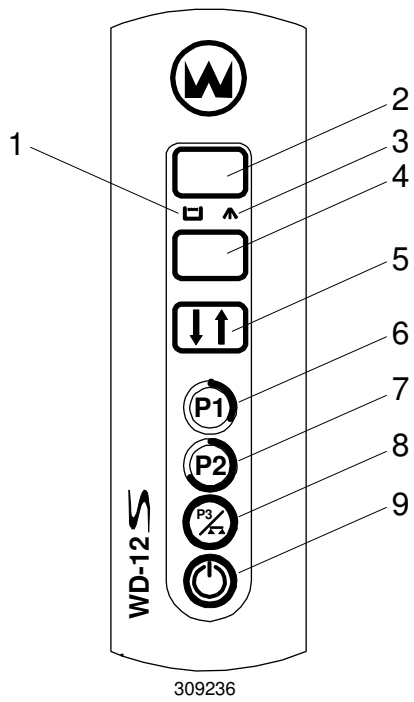
The use of the machine is dependent on how the machine is equipped.



When the machine is not in use for an extended period of time, e.g. overnight, over a weekend or similar, the machine's power supply must be isolated, the water supply shut off and the machine left open.

## 4.1 Before washing

### 4.1.1 Machine design





## Operating instructions

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1. Symbol for washing function. After the machine is started, the symbol lights up when the tank is full. The symbol flashes if the water level in the tank is too low.
2. Display for temperature during operation. When checking and setting reference values, the display shows the number for the relevant reference value, e.g. 01, 02, 03, etc. Together with display (4), it shows error messages.
3. Final rinse indicator. The symbol is lit while the machine is filling up, during the final rinse phase and when the cleaning programme is run after a completed washing cycle. The symbol flashes if the hood is opened during the washing cycle or if the correct rinse temperature has not been reached when the rinsing is due to start.
4. Display for programme display during operation. If the machine is equipped with ECO flow, "CO" is shown on the display when this is active. When checking and setting the reference values, the display shows the relevant reference value.
5. Button for opening/closing the hood.
6. Button for washing programme P1. When the machine is in service mode, P1 is used to show the different reference values and to reset the reference values to the last saved values. If the machine has a drain pump, P1 is used to start the drain pump and empty the tank after washing.
7. Button for washing programme P2. P2 is used in service mode to increase a reference value or jump between tables. In shut-off mode the software version number can be displayed by holding down P2.
8. Button for washing programme P3. P3 is used in service mode to reduce a reference value or jump between tables. P3 is used in shut-off mode to start internal rinsing when the cleaning programme is used to clean the machine.
9. Button to switch the power on or off. This button is also used to reset alarms, display the water flow to the machine and to move to service mode.
10. Wash tank
11. Filter tray
12. Levers (qty. 2) for selecting Normal load (-) and Heavily soiled load (+)
13. Rinse pipe
14. Washing arm (qty. 4), removable
15. Bracket to support basket conveyor (16), with grid section (option) in folded position.
16. Basket conveyor, foldable. The basket conveyor may optionally be equipped with grid sections.
17. Strainer basket
18. Level pipe
19. Pump filter
20. Rubber sleeve

In the following chapter, figures are given in brackets to clarify what needs to be done. These numbers refer to image and list above.

## Operating instructions

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### 4.1.2 Preparations before filling

Check:



- The machine and removable parts have been cleaned. If not – clean them!
- That no dirt is in the washer arms' (14) or in the rinse pipes' (13) nozzles
- removable parts are correctly in place
- amount of detergent and drying agent (option)
- That the stopcock for the water to the machine is open
- the power switch is in the ON position
- That the machine's control button ON/OFF (9) is switched on

Remember:



- Ordinary washing-up liquid must not be used in the machine or for soaking. Contact your detergent supplier regarding the choice of a suitable detergent. Washing-up liquid causes a build-up of foam, produces poor wash results and can damage the machine.
- Steel wool must not be used for pre-treating the dishware.
- Only detergent and drying agent intended for industrial machines may be used.
- If using liquid detergent and drying agent, the same make and type of detergent and drying agent should be used.
- If the machine is designed for glass washing and equipped with a condensing unit, detergent intended for aluminium should be used.
- If the machine is equipped with a condensing unit, dishware should be removed from the machine as soon as the wash cycle is complete so that re-condensation does not occur.

### 4.1.3 Filling and heating the machine

- Switch on the power supply to the machine using the power switch.
- Switch on the power supply on the machine using the 0/1 pushbutton (9).
- Close the hood by pressing button (5). The display (2) shows the temperature of the rinsing water. The display (4) shows P0. P0 is a pause mode which indicates that no washing programme has been selected.
- Filling and heating for a standard machine take approx. 20 minutes at an incoming water temperature of 55 °C. The heating time is dependent on the incoming water temperature. The symbol (3) will light up while the machine fills with water.
- When the machine is full, symbol (1) lights up and the washing temperature is shown in the display (2). If the washing temperature falls below the set value by more than 5 °C, the temperature shown on the display (2) flashes.
- The machine cannot start washing until the set temperature minus 5 °C for the washing water has been reached, if this function is selected. The normal operating temperature for the washing phase is 60 °C. If the washing temperature falls below 50 °C, the temperature display flashes.

## 4.2 Washing

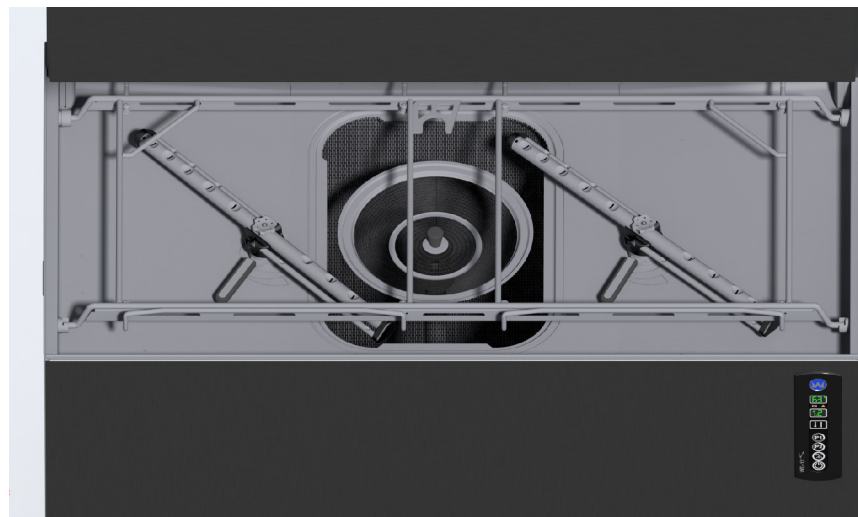


To reduce the risk of strain injuries, the dishware should be stacked in baskets positioned on the attached auxiliary equipment so that these may be moved along slide rails or rollers. Grid baskets or basket conveyors with grid sections (options) may be used when washing heavy dishware to reduce straining. Using these also allows the dishware to be stacked directly in the machine.

### 4.2.1 Positioning of dishware in baskets

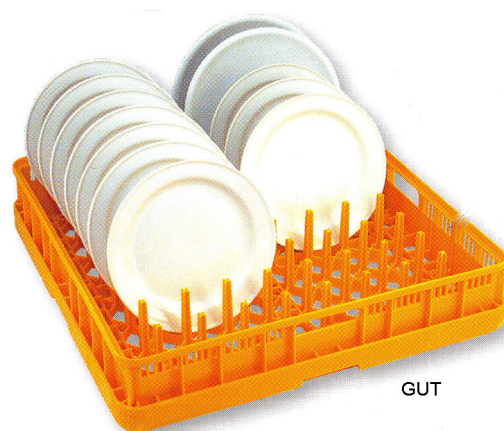


Depending on what the machine is equipped with, it will be delivered with baskets or a basket conveyor with grid sections (option) or removable grid baskets (option).



Maskin med korgbana\_R1

*Machines with a basket conveyor*



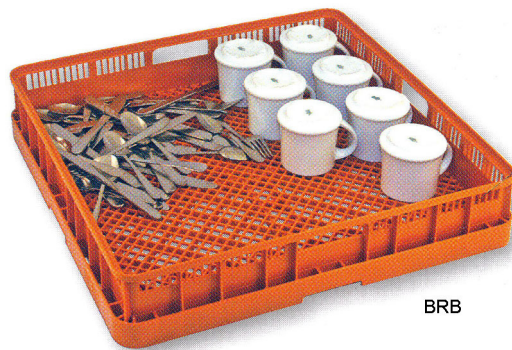
GUT

*The yellow basket is used for side plates, trays, plates, etc.*



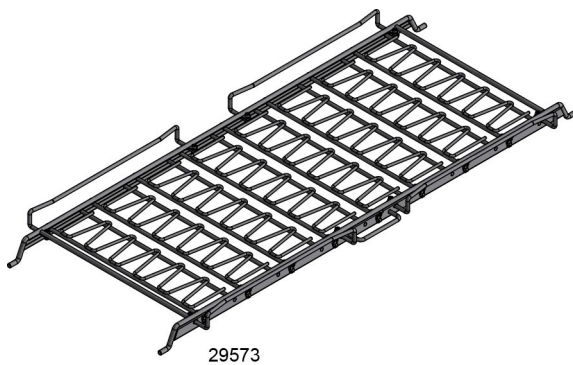
BLG

*The blue basket is used for glasses, cups and canteens*



BRB

*The brown basket is used for cutlery during the first wash*



29573

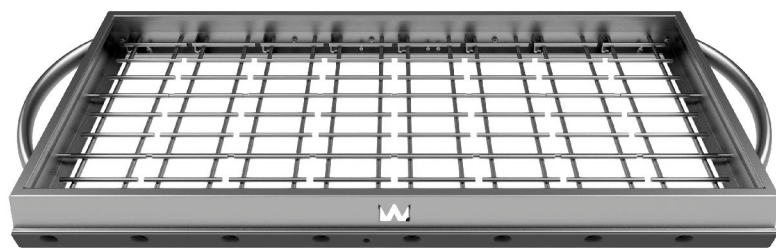


200446

*Basket conveyor with foldable grid sections (option)*

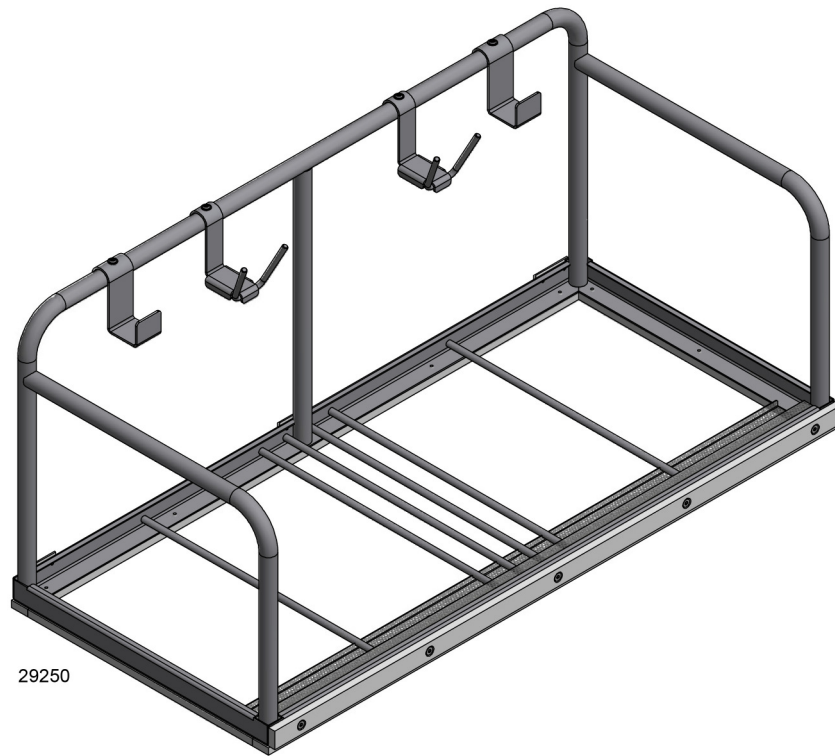


*Washing basket located on basket conveyor with grid sections*



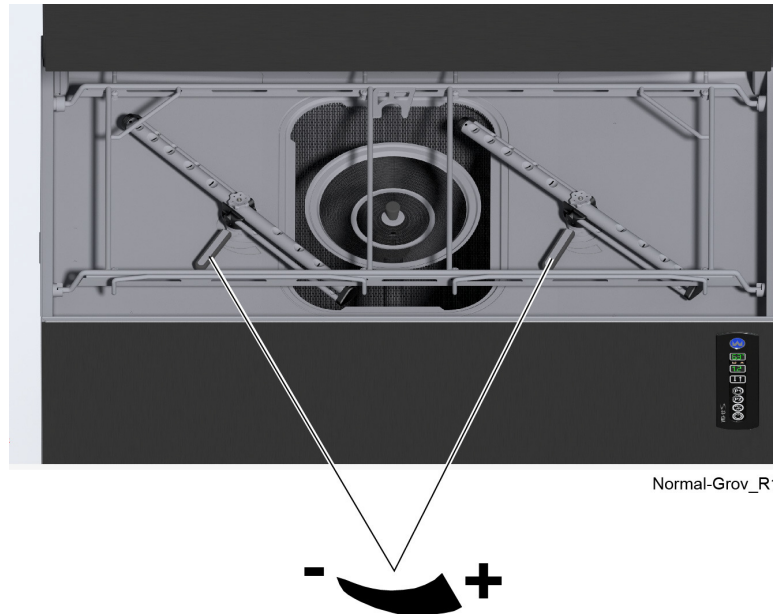
Gallerkorg

*Grid basket (option)*



*Basket for special equipment, PPE (option)*

## 4.2.2 Programme selection – Normal load (-)/Heavily soiled load (+)



*Normal load (-) and Heavily soiled load (+) may be selected using the levers*

The machine can be used as a standard dishwasher for washing plates and glassware in baskets or as a potwasher.

If using the machine for a normal load (-), the levers (12) must be at the (-) position. The different programs are then used as follows:

The control panel has three programme buttons: P1, P2 and P3.

- P1=Lightly soiled items (e.g. trays and glassware)
- P2=Normal load
- P3=Heavily soiled items

For heavily soiled items, move the levers (12) to the (+) position.

The machine may optionally be equipped with grid baskets or for a basket conveyor with grid sections (16).

The washing temperature and washing and rinsing times for each programme are pre-set on delivery. The operator can change these values if required.

**PPE (option)**

When the machine is in PPE mode, all wash programmes restart three (3) times in a row.



*Sign on machines in PPE mode*

When washing gas cylinders, heavily soiled loads should be selected.



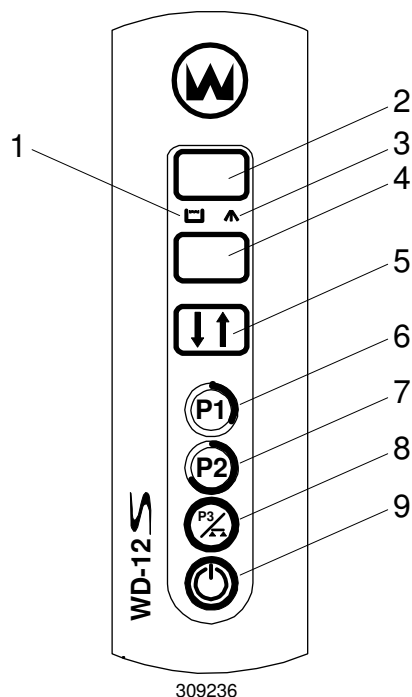
### 4.2.3 Changing the washing temperature and washing time

The factory setting for the washing temperature is 60°C. The operator can adjust the temperature to between 55 and 70°C.

The washing temperature and chemical washing times are set on delivery.

#### Changing the values. Selecting service mode

The machine must be set to service mode when the operator needs to change a value. This is done using the control panel. The values that can be changed flash. The displays and buttons have different functions than when the machine is in normal operating mode.



#### *The panel's functions in service mode*

1. Symbol for washing function.
2. Display for the table numbers and the row numbers of each table.
3. Symbol for final rinse.
4. Display of values and other information for all the row numbers in the tables.
5. Button for opening/closing the hood.
6. Use the P1 button to move between the table rows or to reset the values to those last saved.
7. Use the P2 button to increase a value or move forwards between the tables.
8. Use the P3 button to reduce a value or move backwards between the tables.
9. Use the 0/1 button to enter or exit service mode.

## Operating instructions

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All the values are laid out in tables, with each table containing a certain number of rows, one for each value. The table containing the values for the washing temperature and washing times for the different programmes is designated "0.0."

In table "0.0", the values for washing temperature washing and rinsing times are on rows 01 to 10. The table below shows a standard machine.

Table 0.0			
Row	Relates to	Factory setting	Range of settings
01	Washing temperature	60 °C	55 - 70 °C
02	Washing time programme P1	1.0 min.	1.0 - 6.0 min.
03	Washing time programme P2	1.5 min.	1.0 - 6.0 min.
04	Washing time programme P3	5.0 min.	1.0 - 6.0 min.
08	Rinsing time, programme P1	13 seconds	10-15 seconds.
09	Rinsing time, programme P2	13 seconds	10-15 seconds.
10	Rinsing time, programme P3	13 seconds	10-15 seconds.

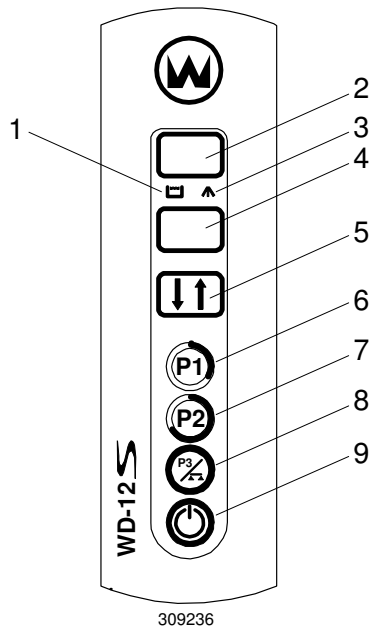
To select service mode and change the washing temperature and washing time, follow these instructions:

- When moving to service mode, the washing programme must be finished.
- Press the 0/1 button (9). Both the displays (2, 4) will now show two horizontal dashes "--" and the machine will be in shut-off mode.
- Hold the 0/1 button (9) down for approximately 3 seconds until the top display (2) shows "0.0.". The two zeros "0.0" indicate that the machine is in service mode.
- Press P1 (6). The top display (2) will now show 01, the first row number in the table. The bottom display (4) shows the set washing temperature flashing; only values that flash when they appear can be changed. If the temperature is to be changed, press P2 (7) to increase the value or P3 (8) to reduce the value.
- If the washing time for a programme is to be changed, use P1 (6) to move to the next row number in the table. For explanations of row numbers 01, 02, 03 and 04, see table "0.0" above.
- When the settings are complete, exit service mode by holding down the 0/1 button (9) for approximately 3 seconds until the displays show two horizontal dashes "--". The changed values are now saved.
- Return to normal operating mode by then quickly pressing the 0/1 button (9).

### 4.2.4 Starting washing



- For longer periods between washes, the machine should be in the “normal” mode and closed. This ensures the temperature in the machine is maintained.
- Check that the detergent is suitable for the items.



- Remove larger food particles by rinsing the items using a hand shower. The water in the hand shower must not exceed 40 °C. Place the items to be washed in the basket.
- Open the hood (5).
- Select normal load (-) or heavily soiled load (+) using the levers (12).
- Select programme P1 (6), P2 (7) or P3 (8).
- Slide the basket into the machine. If the machine is equipped with Autostart (option), the hood will now close and the machine will start the wash and the remaining washing time will be shown on the display (4).
- Close the hood (5). The machine starts washing with the selected programme. The display (4) now shows the program’s remaining washing time.
- The symbol (1) is lit during the washing phase.
- Once the rinsing phase starts, the symbol (3) lights up. If the final rinse water has not reached the correct rinse temperature once rinsing starts, the symbol (3) flashes and the machine continues washing until the rinsing water has reached the correct temperature.
- If the machine is equipped with ECO flow, this will run at the same time as the final rinse and “CO” will be shown on the display (4). The function may be cancelled by opening the hood using the button (5).
- The hood opens automatically once the washing cycle has finished. If the hood is opened during a washing cycle, the machine will stop and automatically start from the beginning once the hood has been reclosed.
- Once the machine has stopped, the display (4) shows the last programme run. Remove the washing basket and allow the washed items to dry.

## Operating instructions

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P0 is a pause mode and is used in the case of prolonged intervals between washes in order to maintain the tank temperature. The hood must be closed. The machine does not start in P0 mode.

- Press the programme button for the current programme once. "P0" appears on the display (4).
- Press the button again to return to the current programme.
- The hood must be opened and closed between each washing cycle.

### Washing with one basket, machines with Autostart (option)

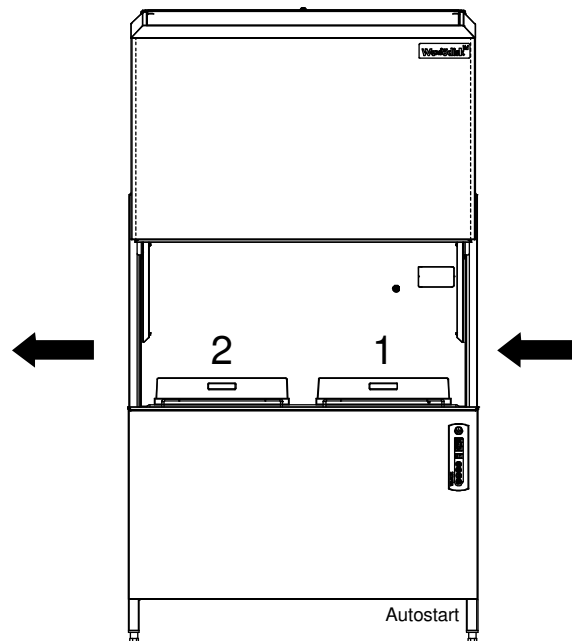


If the machine is equipped with "Autostart" and washing is to take place with only one basket, this basket must be put into the first position and the machine will start washing using the most recently selected programme.

### Washing with double baskets, machines with Autostart (option)



If the machine is equipped with "Autostart" and washing will take place with double baskets, basket 1 must be fed into second position in the machine. Basket 2 is then fed in and left in the first position. The machine will start washing using the most recently selected programme.



*Machines with a Right - Left feed direction*

## Washing with pre-wash machine WD-PRM 7 (option)



WD-12S med WD-PRM7

The start-up and washing procedures etc. are the same as for standard washing. See also the manual for WD-PRM6/7.

## Operating instructions

### 4.2.5 Checking the wash result



The dishware should be checked after each wash for:

PROBLEM	CAUSES & MEASURES
Starch spots	<ul style="list-style-type: none"> <li>• <b>Scraping:</b> Important to remove as much food particles as possible before washing. This also means that the water in the machine does not need to be changed as often. Scrape better.</li> <li>• <b>Detergent and drying agent dosage:</b> If using liquid detergent and drying agent, the same make and type should be used. A service technician should be contacted to rinse the equipment with water when replacing the detergent and drying agent. The dosing affects both detergent and drying results of the dishware. The hardness level of the water affects the consumption of detergent. Contact the detergent supplier.</li> <li>• <b>Temperatures:</b> At incorrect temperatures the dishes will not be clean. Contact a service technician if you need to change the set values.</li> <li>• <b>Programme selection:</b> Programme with too short a washing time selected. Choose a programme with a longer washing time.</li> <li>• <b>Cleaning the machine:</b> Insufficient cleaning of the machine affects the results of the washing. Ensure better cleaning of the machine.</li> <li>• <b>Placing dishes in baskets:</b> Incorrectly placed items can mean that the washing water does not reach the items during washing and rinsing.</li> <li>• <b>Soaking:</b> Items with hard dried food. Soak the dishes in water. Do NOT use washing-up liquid.</li> </ul>
Misting	
Protein residues	
Detergent residues	

## Operating instructions

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### 4.2.6 Changing the water



To achieve the best possible washing results, it is important that the water is changed daily. For normally soiled items, the water should be changed after around 30 washes. However, always change the water in the event of foam problems in the tank.

If IF09 appears on the display, this indicates that the water should be changed.

When the machine is in P0 mode with the hood open and the symbol (1) is lit, change the water as follows:

#### Machines without a drain pump

- Check that the machine is in P0 mode.
- Open the hood (5).
- Remove any washing baskets and grid baskets (option) from the machine. Fold up the basket conveyor (16); as an option, it can be equipped with foldable grid sections, lock it in place using the clasp (15) on the back of the machine.
- Remove the strainer basket (17) and filter tray (11) and clean them.
- Empty the machine by turning the level pipe (18) a quarter of a turn anticlockwise.
- When the tank is empty, turn the level pipe (18) clockwise and refit the filter tray (11) and strainer basket (17).
- Fold down the basket conveyor (16).
- Close the hood (5) and the machine will refill. Check that the final rinse symbol (3) is lit.

#### Machines with a drain pump (option)



N.B.! The hood must be open when the drain pump is running.

- Check that the machine is in P0 mode.
- Open the hood (5).
- Remove any washing baskets and grid baskets (option) from the machine. Fold up the basket conveyor (16); as an option, it can be equipped with foldable grid sections, lock it in place using the clasp (15) on the back of the machine.
- Remove the strainer basket (17), filter tray (11) and the level pipe (18) and clean them.
- Press the 0/1 button (9).
- Press P1 (6). One display (2) shows “dP”, and the other (4) shows the time. The drain pump starts and stops after a set time.
- When the tank is empty, refit the level pipe (18), filter tray (11) and the strainer basket (17).
- Fold down the basket conveyor (16).
- Press the 0/1 button (9).
- Close the hood (5) and the machine will refill. Check that the final rinse symbol (3) is lit.

## 4.3 After use – Cleaning

### HACCP

HACCP is a preventive inspection system to ensure hygiene requirements are met during the washing process and cleaning of the machine. As a result of its design, the machine meets strict hygiene requirements. Regular, thorough cleaning is also important from a hygiene perspective. A machine that is properly cleaned helps produce a good wash result, reduces the risk of dirt accumulating, increases the service life of the machine and reduces the risk of emergency shutdown.

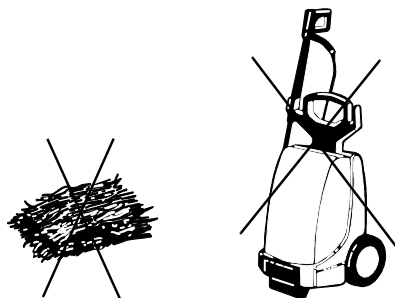
See the WEB Tool manual for the HACCP alarm options.

### 4.3.1 Incorrect cleaning methods



N.B.! An incorrect cleaning method may damage the machine. The following points must be observed:

- Do NOT use steel wool as it will cause corrosion to form on the machine.
- If detergent is used, it must not contain abrasives. Detergents containing abrasives will damage the stainless steel panels.
- The exterior of the machine must not be hosed. Water can enter the machine and damage the control panel and electrical equipment.
- Pressure washers and steam can damage the machine and must NOT be used for cleaning purposes. Never use a pressure washer to clean the floor within 1 metre of the machine. The supplier cannot be held liable for any faults caused by the use of pressure washers on the machine and any such use may invalidate the warranty. There is a risk of splashing even if the floor is hosed down.



12\_07

*Steel wool and pressure washers must not be used for cleaning*



## Operating instructions

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### 4.3.2 Emptying, internal machine rinsing



When the machine is switched off, the number of baskets washed is displayed for around 5 seconds.

Two horizontal dashes "--" are then shown in the display for 3 minutes. At this point, the machine is still live and emptying and internal rinse cleaning must start within this period. The machine then switches off automatically.

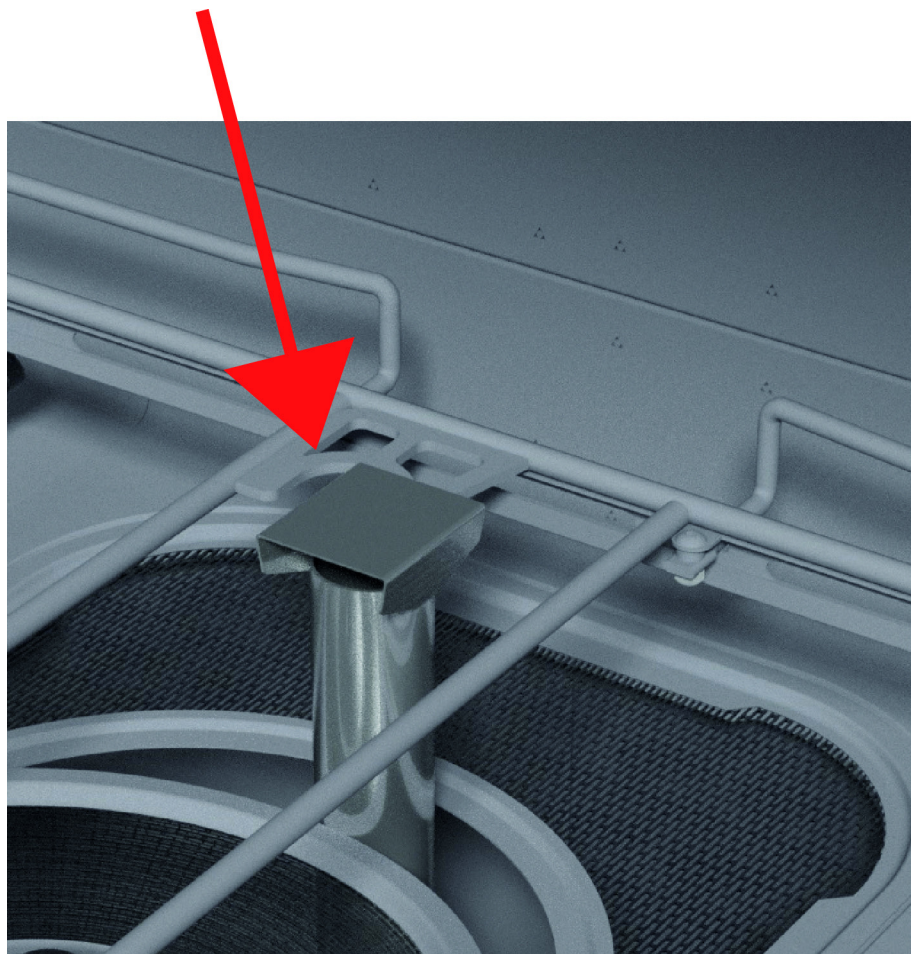


There are various options for storing the removable parts when the machine has been cleaned. It is important that the level pipe sleeve is not damaged, and the basket conveyor has a holder for this.



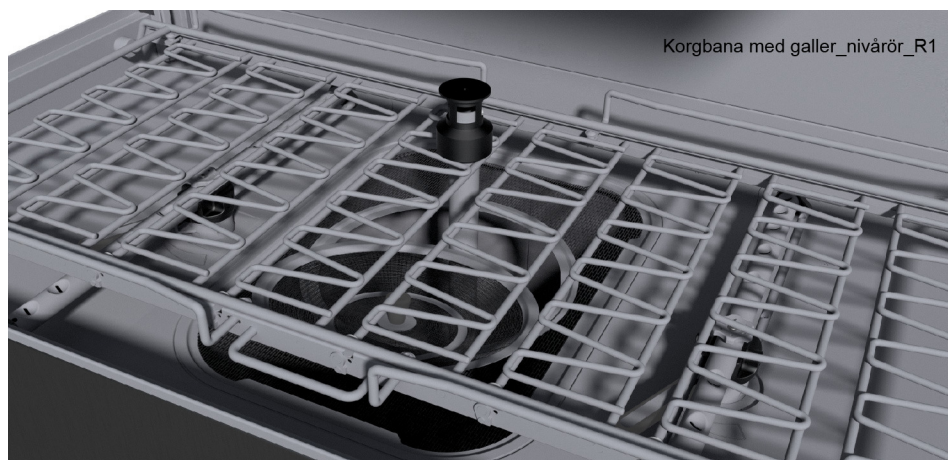
Korgbana\_nivärör\_R1

*Placing cleaned components in machines with a basket conveyor*



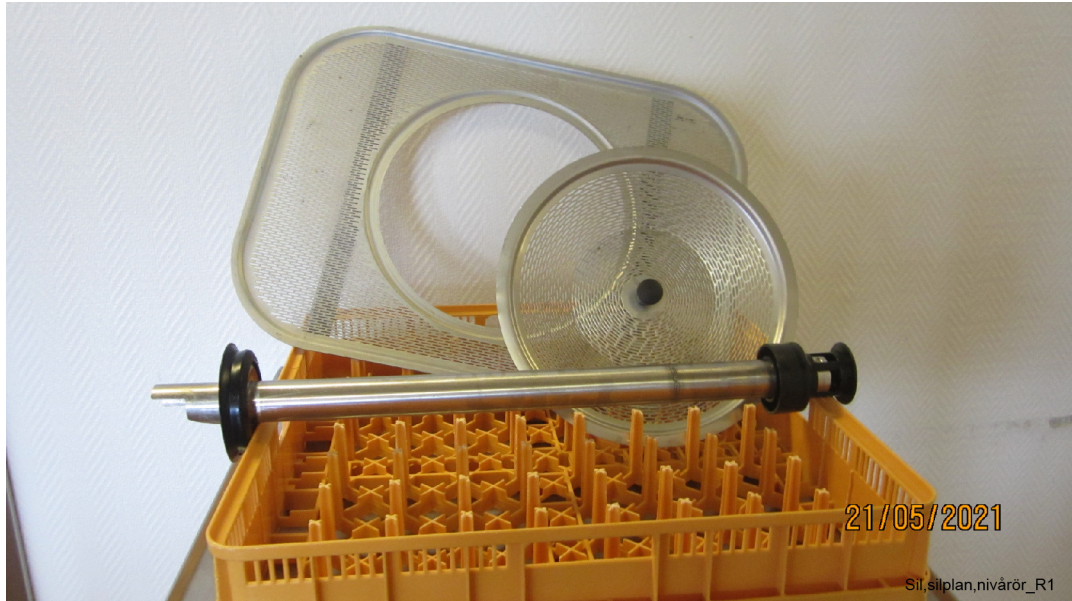
Korgbana\_Nivårör\_Dp

*Placing cleaned components in machines with a drain pump and a basket conveyor*



Korgbana med galler\_nivårör\_R1

*Placing cleaned components in machines with a basket conveyor with foldable grid sections*



*Placing cleaned components in a basket after washing*

**Machines without a drain pump**

- Check that the machine is in P0 mode.
- Open the hood (5).
- Remove any washing baskets and grid baskets (option) from the machine. Fold up the basket conveyor (16); as an option, it can be equipped with foldable grid sections, lock it in place using the clasp (15) on the back of the machine.
- Remove the strainer basket (17) and filter tray (11).
- Empty the machine by turning the level pipe (18) a quarter of a turn anticlockwise.
- Once the tank is empty, take out the level pipe (18).
- Press 0/1 (9) on the panel.
- Close the hood (5).
- Press P3 (8). The display (2) shows "SC" and the internal cleaning process starts. The display (4) shows the remaining cleaning time. When the cleaning process is finished, both the displays show two horizontal dashes "--".
- Open the hood (5).
- Check that the washing arms' (14) and the rinse pipes' (13) nozzles are clean and that no objects have fallen and become lodged in the machine.
- Clean the strainer basket (17), filter tray (11), level pipe (18) and pump filter (19)
- Clean the basket conveyor (16) and any grid sections/grid baskets (option).
- Store the cleaned parts in a washing basket.
- Ensure that the level pipe's rubber sleeve (20) does not become deformed, by allowing it to hang free.

## Machines with a drain pump (option)



N.B.! The hood must be open when the drain pump is running.

- Check that the machine is in P0 mode.
- Open the hood (5).
- Remove any washing baskets and grid baskets (option) from the machine. Fold up the basket conveyor (16); as an option, it can be equipped with foldable grid sections, lock it in place using the clasp (15) on the back of the machine.
- Remove the strainer basket (17), filter tray (11) and the level pipe (18) and clean them.
- Press the 0/1 button (9).
- Empty the machine. Start the drain pump using button P1 (6). "dP" is shown on one display (2) and the other display (4) shows the remaining emptying time. The water in the washing tank is pumped to the drain. The pump stops automatically after a set time.
- Once the tank is empty, take out the pump filter (19).
- Close the hood (5).
- Press P3 (8). The display (2) shows "SC" and the internal cleaning process starts. The display (4) shows the remaining cleaning time. When the cleaning process is finished, both the displays show two horizontal dashes "--".
- Open the hood (5). Check that the nozzles on the washing arms and rinsing pipes (14, 13) are clean and that no objects have fallen and become lodged in the machine.
- Clean the basket conveyor (16) and any grid sections/grid baskets (option).
- Store the cleaned parts in a washing basket.
- Ensure that the level pipe's rubber sleeve (20) does not become deformed, by allowing it to hang free.

### 4.3.3 Daily cleaning

#### Machines with ECO flow (condensing unit)

The machine's heat recovery unit is rinsed clean automatically when the machine fills and during ordinary use of the machine.

#### Internally

The interior of the machine will be rinsed clean when the machine is switched off in accordance with the manual.

#### Externally

Wipe the outside of the machine with a soft, damp cloth.

- If detergent is used, it must not contain abrasives. Detergents containing abrasives will damage the stainless steel panels.
- The exterior of the machine must not be hosed. Water can enter the machine and damage the control panel and electrical equipment.



## Operating instructions

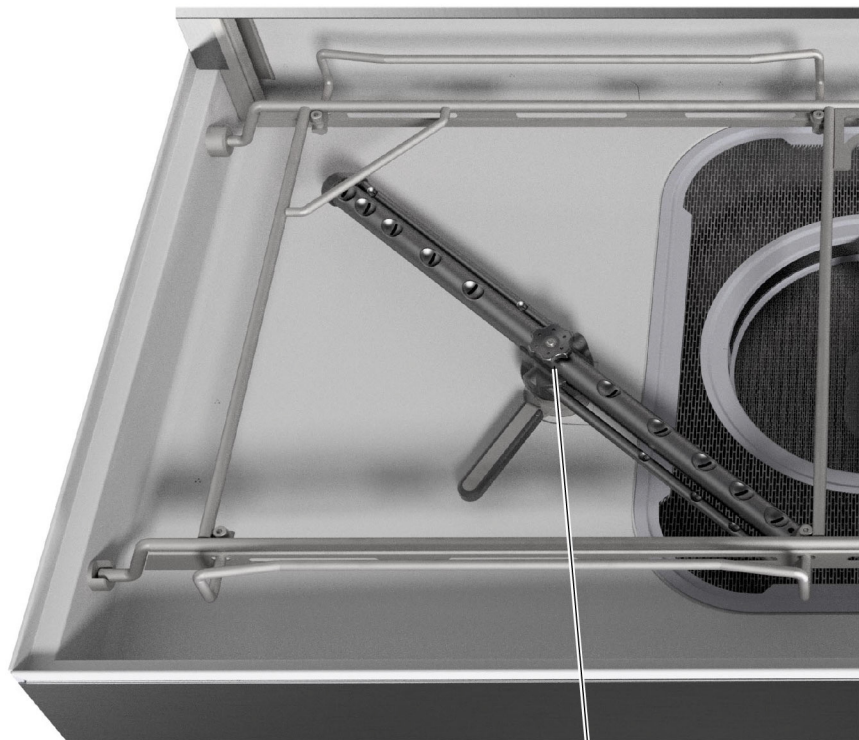
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### 4.3.4 Cleaning each week or as required

Weekly cleaning should be more thorough than daily cleaning. If the information message "IF10" is shown in the display, weekly cleaning needs to be performed.

In addition to the daily cleaning measures, clean the machine as per these instructions:

- Take out the wash arms (x 4). Loosen the lock nut (A) in the centre of the washer arm and remove the wash arm. Check and clean the nozzles if necessary. Rinse the wash arms and refit them.



Diskarm

A

*A=Lock nut*

## Operating instructions

### 4.3.5 Operating problems



Check:

- Has the appliance been used according to the instructions?
- Are all the removable parts in their correct place?
- Is the main switch in the ON position?
- Are there any error messages on the display?
- Are the fuses in the electrical cabinet still intact? Ask service personnel to check the fuses.

#### Error messages

During operation, various alarms or information messages can appear on the panel's display. There is a distinction between IF and Er alarms. IF alarms can normally be dealt with by the operator. If there is an Er alarm, the service personnel must be called. Some IF alarms that have been dealt with by the operator a few times will eventually change to Er alarms, meaning that the service personnel must be contacted.

Each alarm has a number: 01, 02, 03 etc. The top display shows either IF or Er. The bottom display shows the alarm number.

CODE	CAUSE	ACTION
IF01 / Er01	The time needed to fill the tank has been exceeded.	The alarm can be reset by pressing 0/1 on the panel.
	The level pipe is not in place.	Fit the level pipe.
	The level pipe's rubber sleeve is not sealing against the bottom plate.	Adjust the level pipe. Check that the rubber sleeve has not been damaged. Replace the sleeve, if it is damaged.
	The water stopcock is closed.	Open the stopcock.
Er02	It has taken too long for the machine to heat up, compared with the previous time.	The alarm can be reset by pressing 0/1 on the panel. Contact service personnel if the alarm recurs.
IF03 / Er03	The hood's pressure switch has been activated to prevent crushing injuries.	You can reset the alarm by pressing 0/1 or the button to open/close the hood.
Er04	Faulty temperature sensor in booster heater (B41).	Contact service personnel.
Er05	Faulty temperature sensor in washing tank (B21).	Contact service personnel.
IF06 / Er06	The booster heater is not cooled during the final rinse phase.	The alarm can be reset by pressing 0/1 on the panel.
	The water stopcock is closed.	Open the stopcock. Close the door.
IF09	Alarm for changing the water.	Change the water. The alarm can be reset by pressing 0/1 on the panel. If the alarm is not set to stop the machine, the washing programme can continue.
IF10	Alarm for weekly cleaning.	The machine must be cleaned more thoroughly than during daily cleaning. The alarm can be reset by pressing 0/1 on the panel.
Er12	The break tank has not been filled with water.	The alarm is reset automatically when the tank is full.

## Operating instructions

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CODE	CAUSE	ACTION
Er13	The level sensor in the break tank indicates an incorrect signal.	The alarm can be reset by pressing 0/1 on the panel. Contact service personnel.
Er16	The temperature in the booster heater is too low.	The alarm can be reset by pressing 0/1 on the panel. Contact service personnel.
	Low level in the break tank.	
Er23	The hood does not open when the automatic hood opener is used.	The alarm can be reset by pressing 0/1 on the panel. Contact service personnel if the fault recurs.
Er27	The machine has lost all its set values.	Contact service personnel.
IF30	Low water level in the washing tank before washing.	Check that the level pipe is closed. The alarm can be reset by pressing 0/1 on the panel.
	The level pipe's rubber sleeve is leaking.	Check that the level pipe's rubber sleeve has not been damaged.
IF34	The detergent alarm.	The alarm can be reset by pressing 0/1 on the panel.
	The machine has run out of detergent.	Check the amount of detergent and refill, if necessary.
IF35	The washing tank has not been filled with water.	Open and close the hood to start the filling process. The alarm can be reset by pressing 0/1 on the panel.
Er96	The motor safety cut-out for the pumps has tripped.	Contact service personnel.
Er97	One digital input is shorted to ground.	Contact service personnel.
Er98	Communication fault between the CPU and the panel card.	The alarm can be reset by pressing 0/1 on the panel. Contact service personnel if the alarm recurs.
Er99	Communication fault between the computer and panel cards.	The alarm can be reset by pressing 0/1 on the panel. Contact service personnel if the alarm recurs.



## Operating instructions

### Troubleshooting

The following errors can be dealt with by the operator. If the problem persists, contact authorised service personnel.

PROBLEM	CAUSE	ACTION
No indication on the control panel display when the control button is pressed.	Power switch is off.	Switch on the power switch.
The machine does not fill with water.	The incoming water stopcock is closed.	Open the tap.
	The door/hood is open.	Close the door/hood.
	The level pipe is not in place.	Fit the level pipe.
	The level pipe's rubber sleeve is not sealing against the bottom plate.	Adjust the level pipe. Check that the rubber sleeve has not been damaged. Change the rubber sleeve if it is damaged.
	The final rinse pipe nozzles are blocked.	Clean the wash nozzles.
The machine fills slowly.	The final rinse pipe nozzles are blocked.	Clean the wash nozzles.
The machine does not stop filling.	The level pipe is not in place.	Fit the level pipe.
	The level pipe's rubber sleeve is not sealing against the bottom plate.	Adjust the level pipe. Check that the rubber sleeve has not been damaged. Change the rubber sleeve if it is damaged.
The hood is not opened/closed properly.	Air has got into the system.	Bleed the hood lifting cylinder as per the manual.
The machine does not start washing.	The door/hood is open.	Close the door/hood.
	Dishware is blocking the magnet in the door.	Remove the dishware in question.
Noise from the washing pump.	Low water level. Foam in the tank.	Check the level. Change the water.
The machine stops in the middle of the wash cycle and starts taking in water.	The level pipe's rubber sleeve is not sealing against the bottom plate.	Adjust the level pipe. Check that the rubber sleeve has not been damaged. Change the rubber sleeve if it is damaged.

## Operating instructions

PROBLEM	CAUSE	ACTION
The machine is not cleaning properly.	The rinse and wash nozzles are clogged with dirt.	Check and clean the nozzles.
	There is too little detergent.	Check the amount of detergent. The hose ("thick") must be submerged in liquid and the filter in the hose must be clean.
	The water in the tank is too dirty.	Change the water.
	Foam forming in the tank.	Check that the washing temperature is not too low and that the correct detergent is being used.
	Programme with too short a wash time selected.	Choose a wash program with a longer wash cycle.
	Dirt has dried on the dishware to be washed.	Soak the dishware before washing.
	The dishware is incorrectly positioned in the baskets.	Use the correct type of washing basket and accessories to ensure that the dishware is correctly positioned.
	Detergent and drying agent of another make than usual are used.	Use the same make and type as before. Rinse the hoses and pumps with water if necessary.
The dishware has tipped over in the baskets.	The dishware is incorrectly positioned in the baskets.	Put the dishware in the correct position.
	Light dishware need washing.	Use a net grid to hold the items.
Dishware does not dry.	The rinse nozzles are blocked.	Check and clean the nozzles.
	Too little rinsing agent.	Check the amount of rinsing agent. The hose ("thin") must be submerged in liquid and the filter in the hose must be clean.
	The washed items have been left in the machine.	Remove the washed items once the programme has ended.

When you contact service personnel, you will need to provide the following information:

- Machine type and model.
- Machine serial number and date when the machine was installed.
- A brief description of the problem. Are any fault codes shown in the display?
- What happened/was being done immediately before the fault occurred?

## 5. Technical specifications

The manufacturer reserves the right to make changes to the technical data.

TECHNICAL DATA	
Washing pump (kW)	2 x 1.5
Booster heater (kW)	12 / 15 *
Tank heater (kW)	9
Booster pump (kW)	0.58
Drain pump (W) *	170
Heat recovery fan (W) *	52
Heat recovery fan, flow (m <sup>3</sup> /hour) *	540
Tank volume (l)	100
Weight, machine in operation (kg)	385 / 400 *
Enclosure protection class (IP)	44

\* option, (ECO flow and machines connected to cold water)

CAPACITY AND OPERATING DATA	
Total washing time P1 (min.) *	1.2
Total washing time P2 (min.) *	1.7
Total washing time P3 (min.) *	5.2
Max. capacity, baskets/hour (no.)	600x400 mm / 150 500x500 mm / 100
Water consumption rinsing/programme (l) ***	5.5–8
Sound pressure level, LPA (dBA) Normal load / Heavily soiled loads ****	64 / 63
Sound power level LWA (dBA) Normal load / Heavily soiled loads ****	78 / 78

\* Factory setting. The wash time is adjustable.

\*\*\* Applies under ideal conditions. The water consumption depends on local conditions. Fine adjustments can be made during installation.

\*\*\*\* in accordance with EN 60 335-2-58, §ZAA.2.8 with instruments that satisfy class 1.

Measurements of the sound pressure level on site are taken in three places 1 m from the edges of the front at a height of 1.55 m using a microphone.

When measuring sound power level, create an imaginary measurement area consisting of five sides at a distance of 1 m from all edges of the machine.

## Technical specifications

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CONNECTION, MACHINE	
Total connected load (kW)	15 / 18 *
Main fuse 400-415V 3N~ 50Hz (A) **	32
Max. connection area 400-415V 3N~ 50Hz (L1-L3, N, PE) Cu (mm <sup>2</sup> ) ***	25

\* option

\*\* Other voltages on request

\*\*\* 3-metre-long cable (outside machine) included

WATER, DRAIN AND VENTILATION CONNECTIONS	
Water quality, hardness (°dH)	2-7
Hot water connection 50-65°C (external thread) *	R½"
Cold water connection, 5-12°C (external thread) **	R½"
Waste pipe connection, PP pipe (ø mm)	50
Water capacity, pressure (kPa)	20
Water capacity, flow (litres/min.)	10
Floor drain, capacity (litres/sec.)	3
Heat load to room, latent / sensible / total (kW)	1.3 / 3.6 / 4.9

\* With water colder than 50°C, we recommend a 15kW booster heater

\*\* option, (ECO flow and machines connected to cold water)

SIZE AND WEIGHT FOR TRANSPORT *	
Size (LxWxH) (mm)	1340 x 860 x 1730
Weight (kg)	280 / 295 **

\* Including packaging

\*\* option