

# metos

## DISHWASHER WD-4S

(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.
- 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.

## 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
12. QR code

## 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**

### 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-35245 Växjö, Sweden  
Tel: +46 (0)470 771200 Fax: +46 (0)470 23752 E-mail: wexiodisk@wexiodisk.com

2. Representative: Svenska Grönhygien Hygien Group Ltd, DSP Ltd, Biotekniks Service OOO, Fastus ehf, PZB, Marlin Food Equipment Ltd, Moffitt Pty Ltd, M's Alshwarya Consolidates Pvt Ltd, Nakantshi Mfg Co Ltd, QMS corporation, Retail doo, SHS Hygien i Mordian, TPN Group, Wexiödisk AB, Wexiödisk UK

3. Compiler of technical documentation: Magnus Ericson

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/EC, annex IIA, EU's Low-voltage directive 2006/95/EC, EU's EMC-directive 2014/53/EU, EU's WEEE directive 2002/96/EC, EU's RoHS-directive 2011/65/EU

6. Harmonised standards:  
EN 12103 Machine safety: General principles for design - Risk assessment and risk reduction  
EN 50105 Safety - Particular rules for machine tools  
EN 60205 Specification for degrees of protection provided by enclosures (IP code)  
EN 62233 Measurement methods for electromagnetic interference 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 50681 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.

|   |  |
|---|--|
| Single family, PCH ready, Tunnel-<br>drill machines with accessories:<br>WD-400 (11/2005)<br>WD-3000007 & WD-400 & WD-400 (11/2005)<br>WD-400 (11/2005)<br>WD-3000000 (11/2005)<br>WD-400 & WD-4000000 (11/2005)<br>WD-4000000 & WD-4000000 (11/2005)<br>WD-4000000 & WD-4000000 (11/2005)<br>WD-4000000 & WD-4000000 (11/2005)<br>WD-4000000 & WD-4000000 (11/2005)<br>WD-4000000 & WD-4000000 (11/2005) | Harmonised standards to: EU's Machinery Directive 2006/42/EC, annex IIA<br>EN 60335-1 Safety of household and similar electrical appliances - General safety requirements<br>EN 60335-2-69 Safety of household and similar electrical appliances - Particular safety requirements - Corded electric drill driving machines |
| Construction, special machines:<br>WD-4000000 & WD-4000000 (11/2005)<br>WD-4000000 & WD-4000000 (11/2005)<br>WD-4000000 & WD-4000000 (11/2005)<br>WD-4000000 & WD-4000000 (11/2005)   | Harmonised standards to: EU's Machinery Directive 2006/42/EC, annex IIA<br>EN 60335-1 Safety of household and similar electrical appliances - General safety requirements  |
| Special machines:<br>ACB 4000000 (11/2005)  | Harmonised standards to: EU's Machinery Directive 2006/42/EC, annex IIA<br>EN 60335-1 Safety of household and similar electrical appliances - General safety requirements  |

8. Växjö 2016-04-20

Magnus Ericson  
Managing Director

CE\_16\_2

- Contact details of the manufacturer (Wexiödisk AB, Mårdvägen 4, SE-35245 Växjö, SWEDEN, Tel.: +46 470 771200, E-mail: wexiodisk@wexiodisk.com).
- Representatives of Wexiödisk AB.
- Person responsible for the product's documentation.
- Year of manufacture of the product.
- The EU Directives with applicable provisions to which all the machines, special machines and accessories comply.
- Harmonised standards for the Directives specified, and which the machines, special machines and accessories meet, wherever relevant.
- Model designation and serial number of the machines, special machines and accessories the document applies to.
- 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. 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.



In order to further increase safety, we recommend that the installation is equipped with a circuit breaker and that the machine is placed on a water absorbent mat (WD009.9100).

## 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.

## 2.5 Operation



- If the machine will not be used for a longer period, the power to the machine should be turned off using the power switch, the water supply turned off and the door should be left ajar.
- There is a slight risk of the machine tipping if the items are not stacked properly.
- Avoid contact with the back of the machine as it becomes hot during 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



Take care when the door is closed to avoid crushing injuries.

### 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.



- Machines must NOT be stacked on top of each other!
- Heavy objects must NOT be placed on the machine.
- The instructions should be used together with the machine's wiring diagram. These can be found in the machine's electrical cabinet.
- 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.  |

**NOTE!** 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

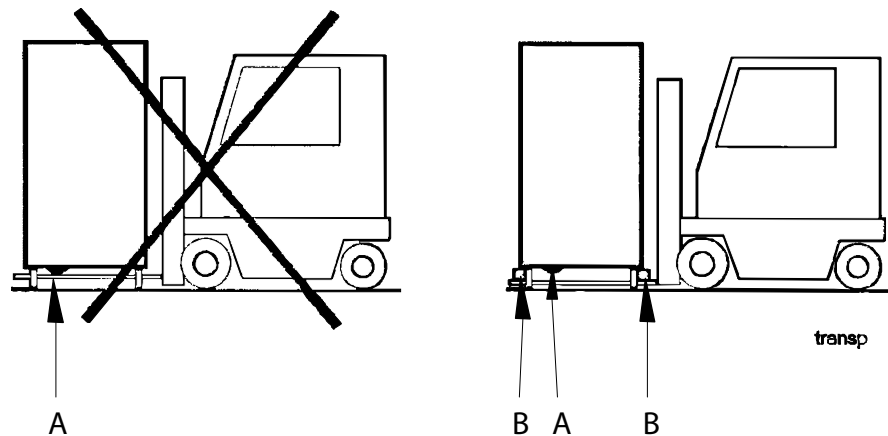
A 1-metre area should be left clear in front of the machine for servicing purposes. Depending on if the machine has different accessories, there may also be such a requirement at the infeed and outfeed ends as well as above the machine.

### 3.3 Transport and storage

Always transport the machine in an upright position.



Take care during transport, as there is a risk of tipping. NOTE! 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.

#### Recycling



- Packaging must be sent for destruction or recycling in accordance with local regulations.
- The machine is manufactured from stainless steel plate, among other things, and also contains electronic components. Recycling of the appliance when its economic lifetime has been reached must be carried out in accordance with current rules and 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.
- If the machine is equipped with overheating protection devices, check that these are reset.

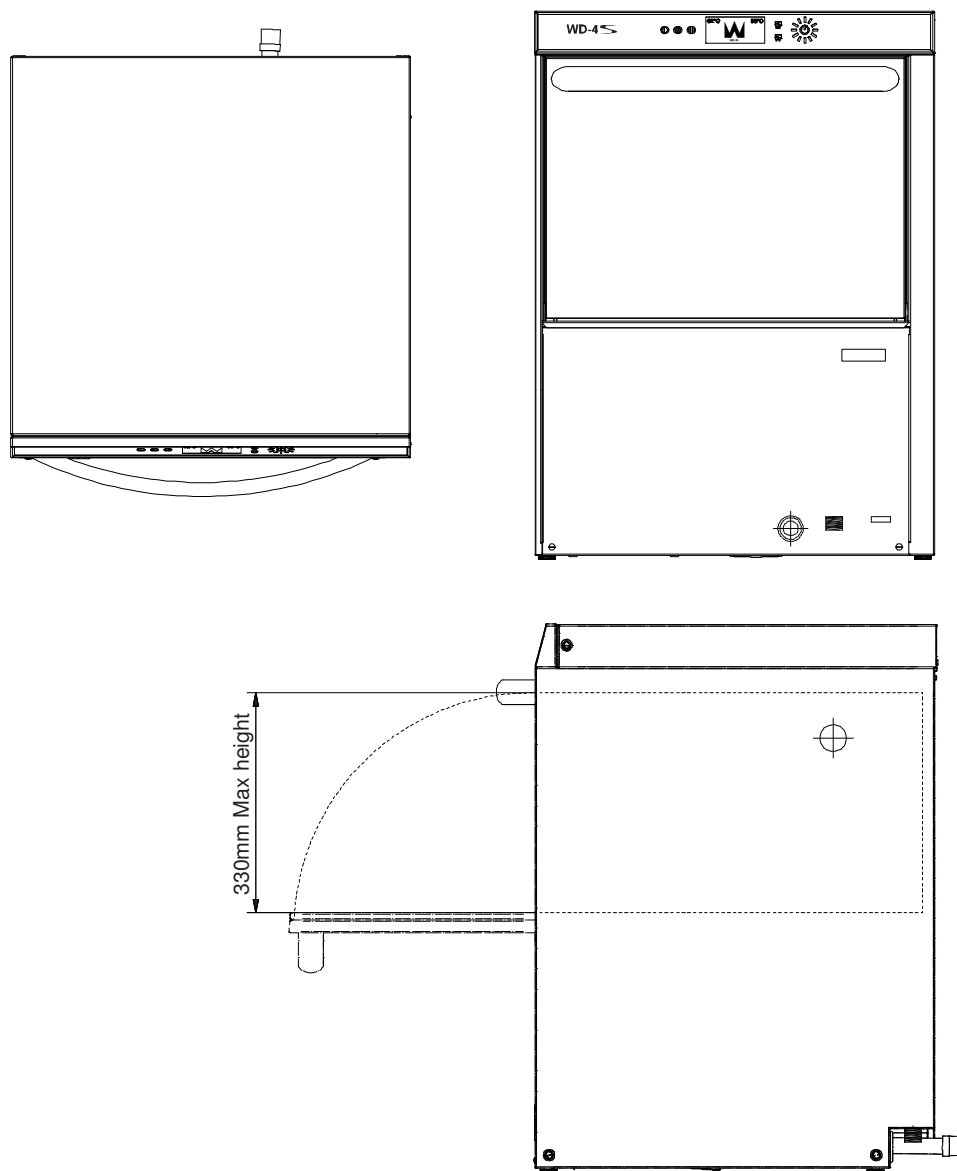
### 3.4.2 Positioning the machine

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.
- If holes need to be drilled in the machine, the holes must be fitted with an edge strip or similar protection.
- Lift the machine off the pallet by opening the door and lifting internally together with a counterstay at the back of the machine. The machine should NOT be lifted by the handle.
- Put the machine in position and check that it is horizontal using a spirit level. Use the legs to adjust the machine height (+ 55mm). Once the machine has been filled with water, do another check to make sure the machine is horizontal.





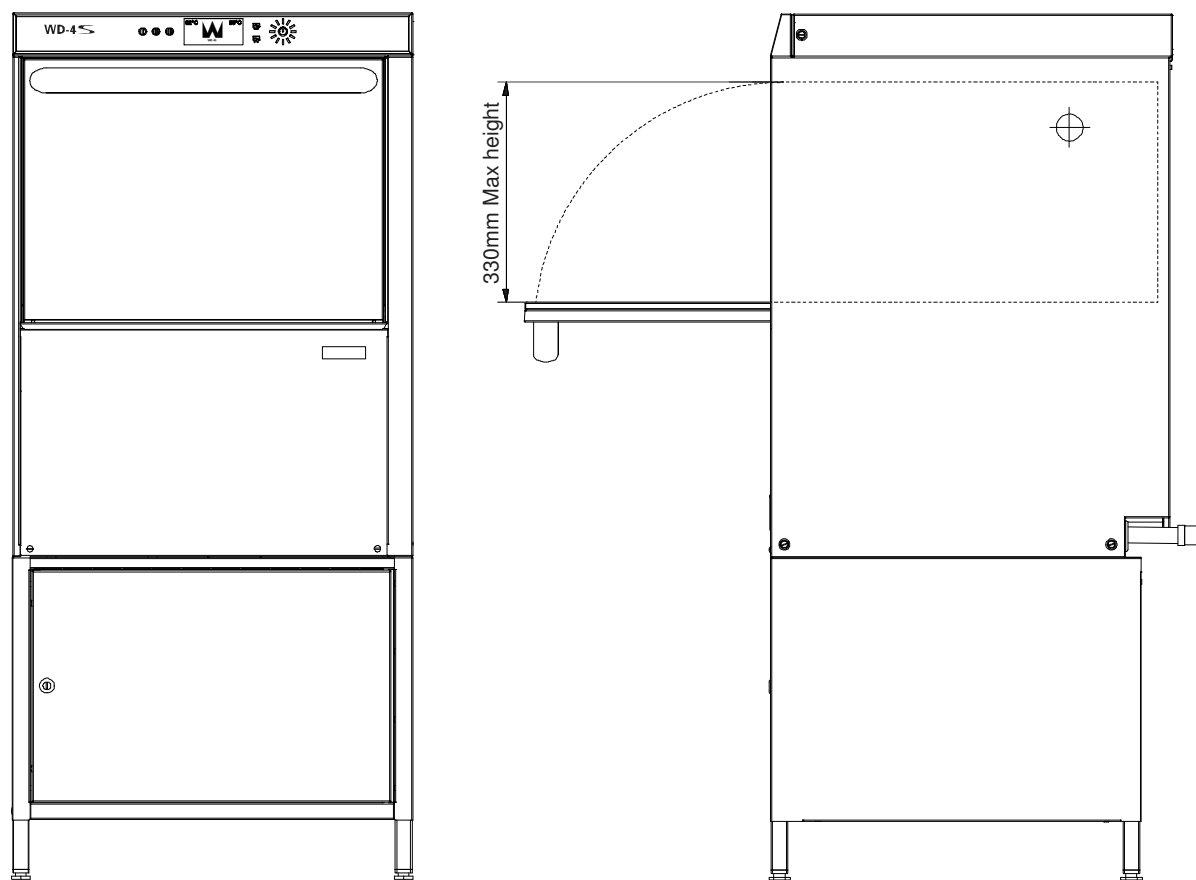
11454\_ABD

*Machine for built-in or freestanding installation*



Maskin\_diskbänk

*Machine sink-mounted to the right or left,  
WD201.0550H & WD201.0550V (option)*



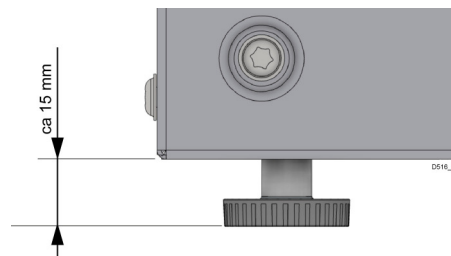
11454\_28595

*Machine mounted on stand (option) containing shelves (WD201.0556) or lockable cabinet (WD201.0557)*

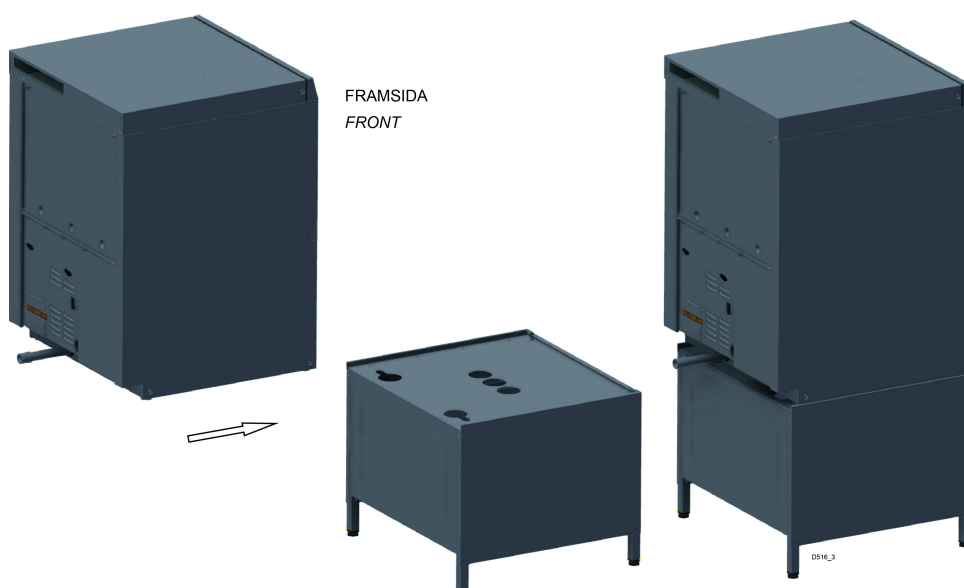
## Mounting machine on stand (option)



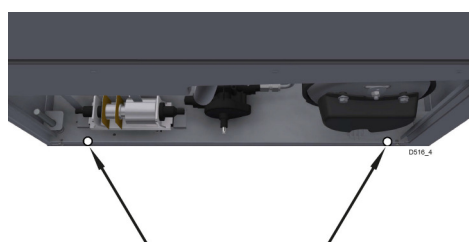
Remove the screws (2) on the front of the cover plate and remove the plate. Save the screws, as they will be used later.



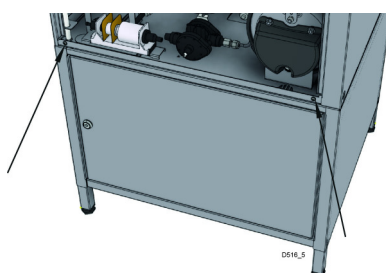
Unscrew the machine's feet.



If possible, lay the machine on its back during assembly and adjustment.

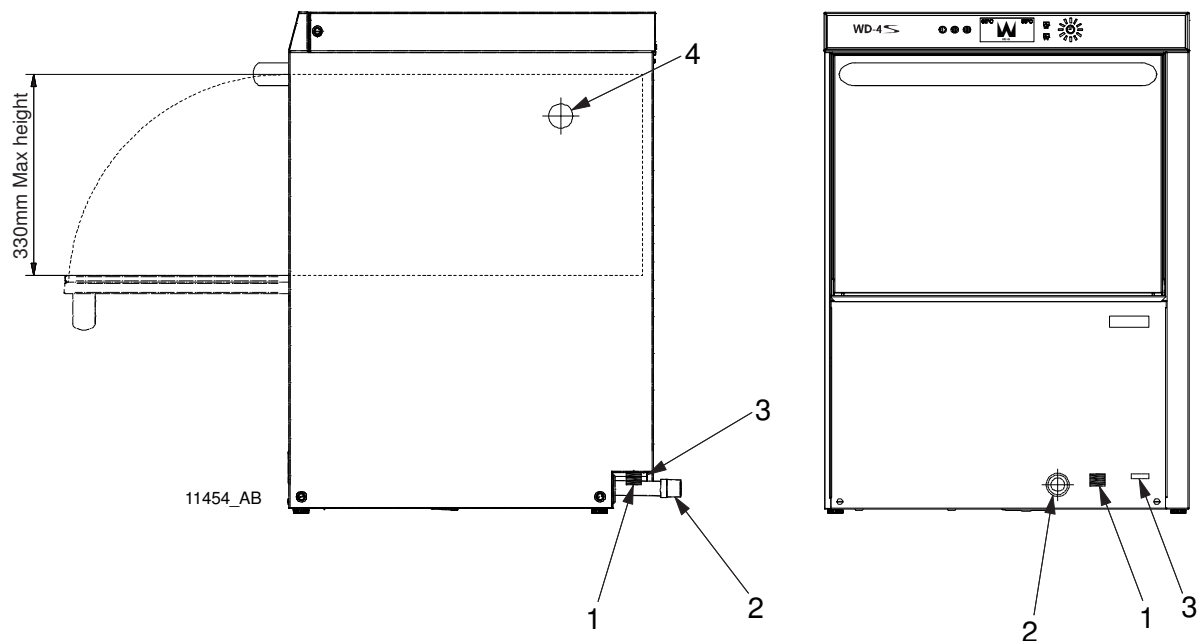


Screw the machine to the stand; use M4 screws (2).



Refit the cover plate from (A) using the screws which were previously removed.

### 3.5 Connections



#### *Connections on the machine*

1. Water connection, external thread
2. Drain connection, spiral hose
3. Electrical connection
4. Non-return valve / Vacuum valve

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

### 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 contains an EMC filter, which will continue to remain charged even if the power cable is severed. Therefore, take care when removing the power cable.
- It is important that the electrical connection is checked so that it is certain that the live and neutral wires are correctly connected and not swapped over. It is also important to check at the same time that the earthing system connection is correct and sufficient so that the machine's electrical and personal security system is not compromised.
- 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 (3).

Check the voltage available on site where the machine will be installed.

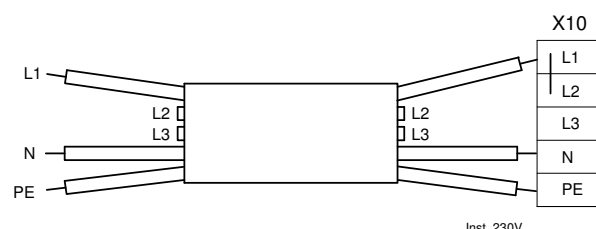
If the machine is equipped with a 2.8 or 4.2kW booster heater (standard), this may be powered by:

1. 400V, 50Hz, 3N~, 10A
2. 230V, 1N~, 50Hz, 16A

If the voltage is according to option **1**, no extra measures are required. The machine has a 10A fuse (see also the machine's wiring diagram).

If the voltage is according to option **2** do the following:

1. The connection cable in the electrical cabinet:  
Remove phases L2 (black) and L3 (grey) from the terminal blocks in X10 in the machine. Cut off the wires and insulate these with end sleeves (enclosed with the machine).
2. Install a clamp (enclosed with the machine) between terminal block L1 and L2 in X10 in the machine.
3. Outgoing end on the connection cable:  
Cut off the wires for the phases L2 (black) and L3 (grey). Insulate these with end sleeves (enclosed with the machine).
4. Connect L1, neutral and earth. The machine has a 16A fuse (see also the machine's wiring diagram).
5. The fuses enclosed are spare fuses for use in the dishwasher's electrical cabinet, regardless of voltage.



If the machine is equipped with a 6.9 kW booster heater (option), it CANNOT be changed to single phase.

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. If the water pressure is too low, a booster pump must be fitted.

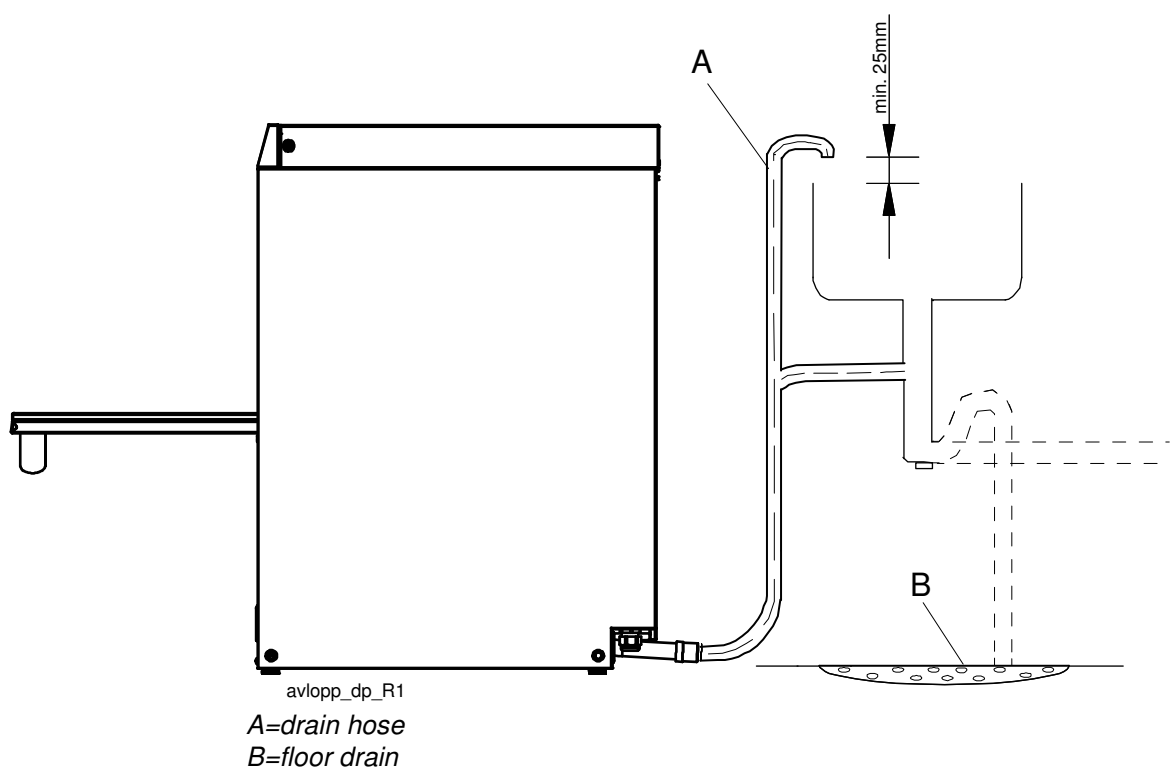
The water pipe is connected at (1). The machine should be connected with a steel braided and flexible hose. The hose's internal diameter should be at least 9 mm. It can be helpful to use the connection hose WD400125.31.

The water connection on the machine is fitted with a filter, non-return valve and vacuum valve.

### 3.5.3 Drain/waste pipe

The drain/waste pipe connection consists of a spiral hose that is provided on delivery.

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



Connect the drain hose (A) to the drain/waste pipe (B) by any suitable means.



### 3.5.4 Detergent and drying agent



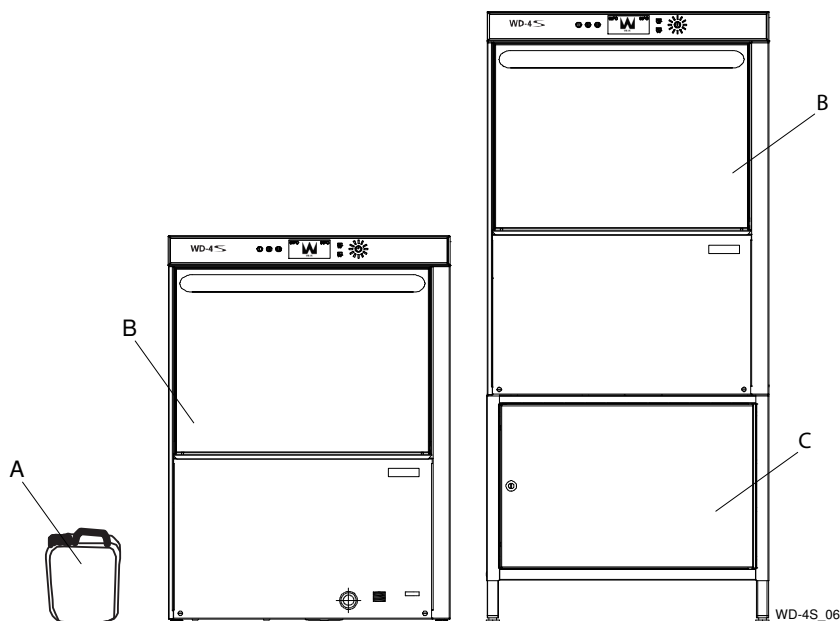
NOTE! For the potential-free outputs KA9-KA15, the spark-guard sits on the electronic card to protect the relay contactors in case of inductive loads. This spark-guard can generate a small leakage current even if the relay is not activated. If you connect equipment to a high impedance input on any of the contactors J71-J74, this current can affect the operation of the equipment. See also the wiring diagram for the machine.



- Check what your machine is equipped with, which depends on the model, machine type and country. 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.
- The bushing for hoses is located on the rear of the machine.
- 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.
- As the machine is equipped with a condensing unit, detergent intended for aluminium should be used. Washed items should be taken out of the machine as soon as the condensation cycle is complete so that re-condensation does not occur.

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

For information about wiring diagram, see the machine's wiring diagram.



*The detergent (A) is placed below the door's (B) bottom edge.  
If the machine is equipped with stand (C), the detergent can be placed there.*

## Installation instructions

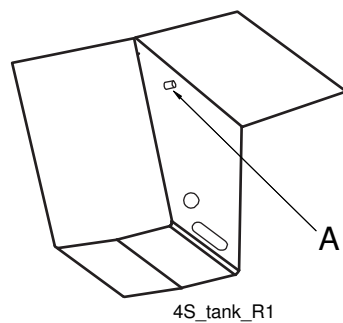
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If equipment for a different type of detergent is used, it should preferably be put on the wall behind the machine to avoid holes being drilled unnecessarily in the machine.

The detergent hose is connected to the pipe (A) at the front end of the chemical washing tank (see the figure below).

When drilling any holes in the tank, it is important to observe the following points:

- Use sharp tools so that panels do not become unnecessary hot. Red-hot panels can rust in the future.
- Remove all metal shavings carefully both from the machine and tank before refilling with water. Shavings left in the tank can cause corrosion.



*A=Connection in the tank*

### 3.5.5 Ventilation

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

### 3.5.6 Equipment package for the machine



The machine can be equipped with a number of different packages with various contents. Check what your machine is equipped with. The various equipment packages place no specific demand on the installation.

#### **Break tank, EN1717 (option)**

If the machine is equipped with a break tank, it also has a booster pump.

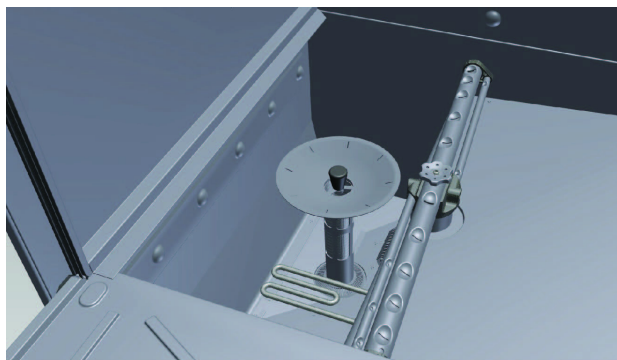
#### **Condensing unit (option)**

The machine has a cold water connection.

The machine has a condensing unit for recycling heat and steam reduction.

#### **Active filter (option)**

The machine can be equipped with an active filter for collecting dirt in the washing tank. The filter is located under the strainers in the drain filter.



WD-4S\_11

*Active filter*

#### **Marine design (option)**

Among other things, the machine is equipped with special “feet” to secure the machine and the booster heater has external resettable overheating protection.

#### **Glass washing (option)**

The machine has a programme intended especially for glass washing.

The machine is equipped with a dishwasher basket developed especially for washing glasses.

### Softening function (option)



**NOTE!** This function CANNOT be combined with a condensing unit, active filter, PPE or marine design. The machine must be equipped with a breaktank. Check setpoints.



- Useful in cases where incoming water has a high degree of hardness.
- The machine requires a special program and is equipped with a special display.

Incoming water is softened. The number of litres of water that the filter can soften before regeneration is required depends on the quality of the incoming water.

| Hardness (°dH) | Type of water |
|----------------|---------------|
| 0-2            | Very soft     |
| 2-5            | Soft          |
| 5-10           | Medium hard   |
| 10-20          | Hard          |
| >20            | Very hard     |

Measure the hardness of the incoming water (°dH (German degree of hardness)) and set the function to a suitable value. This value has a corresponding value in the number of washing cycles which can be run between regenerations.

| Water hardness (°dH) | Setting | Number of possible washes |
|----------------------|---------|---------------------------|
| 0-7                  | H01     | 150                       |
| 8-14                 | H02     | 100                       |
| 15-21                | H03     | 50                        |
| 22-25                | H04     | 10                        |

Do as follows (at the first start-up):

- Fill the machine's salt container with the salt intended for the function (around 6dl) and then, in the same container, add water to 20mm below the rim; use the funnel supplied.
- **NOTE!** It can take some time for the salt to dissolve. Immediately wipe up any spilled salt, as this can cause rust formation in the machine.

### 3.5.7 WD-RO150

When the machine is equipped with a breaktank, our water purifying unit WD-RO150 also can be connected. However, some adjustments to the setpoints may be required.

### 3.5.8 Setting / adjustment of flows

This is described in the chapter ADJUSTMENT INSTRUCTIONS.

## 3.6 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.

### 3.6.1 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 equipment is correctly connected to tank (option)
- That there is sufficient salt and water in the designated container for the intended function (option).
- Strainers and active filters (option) are in place
- The water flow and pressure are sufficient (see chapter TECHNICAL SPECIFICATIONS)

#### 2. Filling the machine:

- Switch on the power switch
- Press the ON/OFF button
- Close the door. If it is closed, open and close it again.
- Fill the machine with water according to the chapter USING THE DISHWASHER

#### 3. Start the machine:

- Empty the machine and refill it
- Check that the final rinse flow 4 is between 17-22 litres. This is done after the second filling has been performed. The value can be read in accordance with table V in the "adjustment instructions"

#### 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 door switch works
- The water temperatures are maintained
- The washed items are clean
- The dishware dries

N.B.: The equipment for detergent and drying agent (option) is roughly set at the factory; contact your detergent supplier for a more precise setting.

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

- Tighten all connections on the contactor
- Display the guide supplied with the machine

### 7. Train and inform personnel concerning:

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

## 3.7 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



If the QR code on the front of the machine is scanned, you end up on WD's website and user videos for the machine.

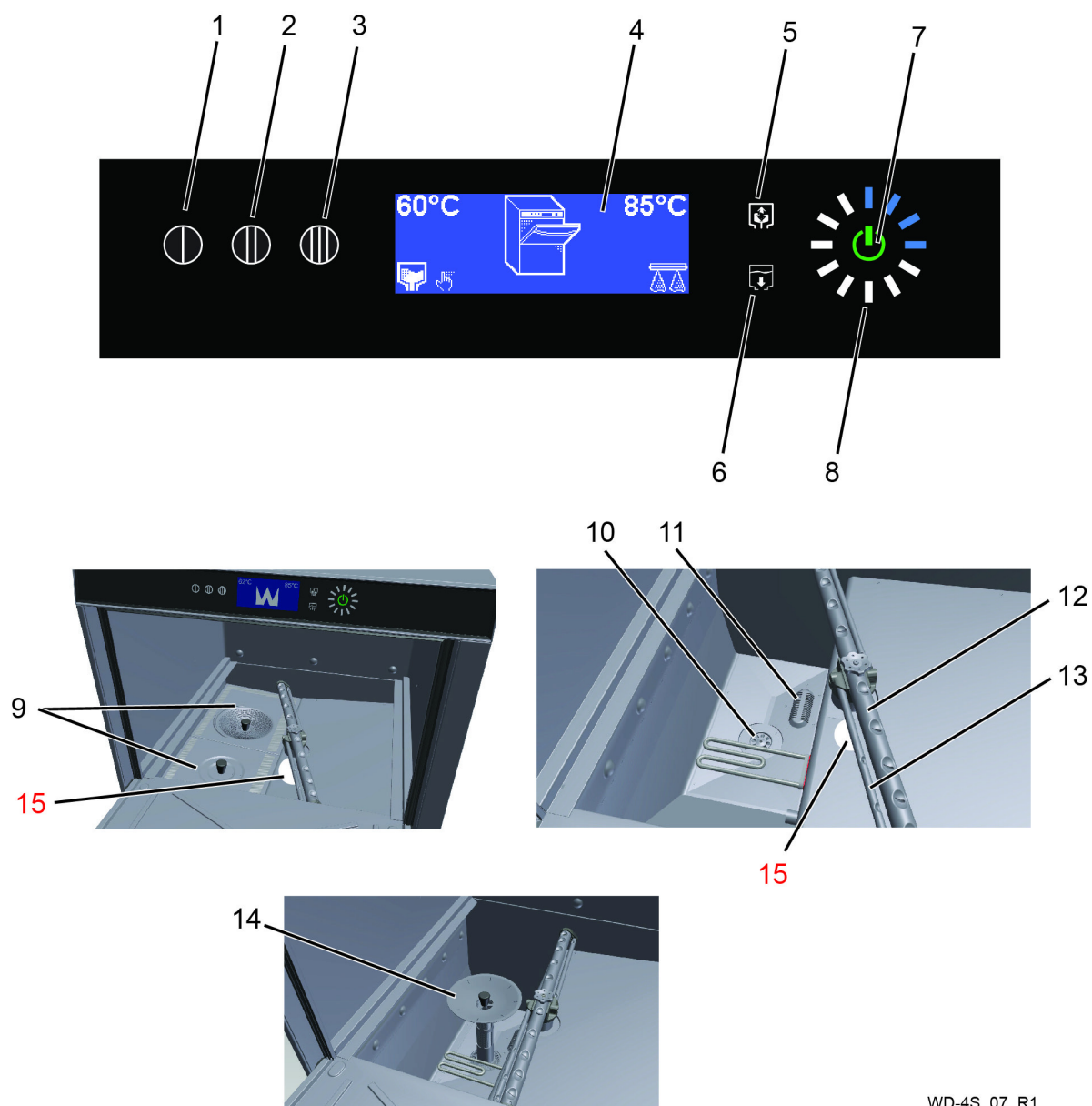
The use of the machine is dependent on how the machine is equipped.



If the machine will not be used for a longer period, the power to the machine should be turned off using the power switch, the water supply turned off and machine should be left open.

## 4.1 Before washing

### 4.1.1 Machine design




WD-4S\_07\_R1



## Operating instructions

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1. Button for programme P1
2. Button for programme P2
3. Button for programme P3
4. Display
5. Pushbutton for changing water, as option button for regeneration 
6. Button for emptying machine with internal cleaning
7. Button for ON/OFF. Acknowledgement of alarm, green LED for "ready for wash" and faint red LED when the machine is switched off. Flashes yellow in the event of IF alarm and red for Er alarm.
8. Indicator which, among other things, counts down the washing time
9. Tank strainers (x 2)
10. Drain filter
11. Pump filter
12. Washing arms (x 2)
13. Rinse pipe (x 4)
14. Active filter (located under the tank strainers) (option)
15. Salt container (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.

## 4.1.2 Preparations before filling

Check:



- That the machine and removable parts have been cleaned. If not – clean them!
- that no dirt is in the washer arms' (12) or in the rinse pipes' (13) nozzles
- That removable parts are correctly in place
- The amount of detergent and drying agent (option)
- The amount of salt (option)
- That the stopcock for the water to the machine is open
- That the power switch is in the ON position



Add the salt intended for the function to the container as follows (upon initial start-up):

- Fill the machine's salt container with the salt intended for the function (around 6dl) and then, in the same container, add water to 20mm below the rim; use the funnel supplied.
- NOTE! It can take some time for the salt to dissolve. Immediately wipe up any spilled salt, as this can cause rust formation in the machine.

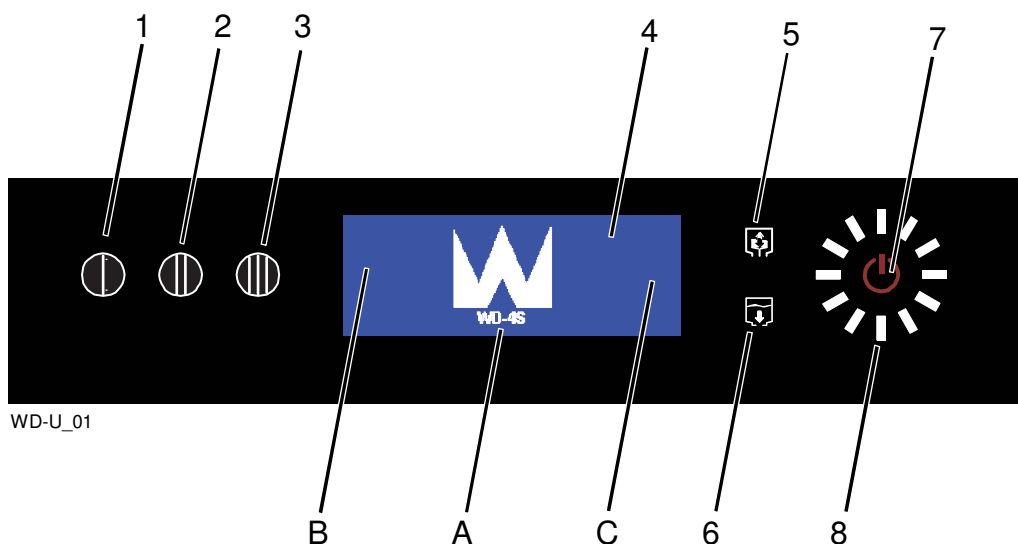
Remember:



- 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

You can see what the machine is doing on the machine's panel.




#### Machine's display

A= The centre of the display shows what the machine is doing and what the machine will do

B=The left side of the display shows the "wash" side in the machine

C=The right side of the display shows the "rinse" side in the machine

1. Button for programme P1
2. Button for programme P2
3. Button for programme P3
4. Display
5. Pushbutton for changing water  
Pushbutton for regeneration (option) 
6. Button for emptying machine with internal cleaning
7. Button for ON/OFF. Acknowledgement of alarm, green LED for "ready for wash" and faint red LED when the machine is switched off. Flashes yellow in the event of IF alarm and red for Er alarm.
8. Indication with blue LED which among other things counts down the washing time

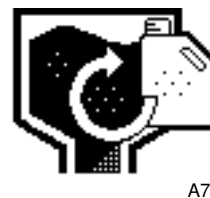
- Start the machine using the ON/OFF button (7) on the panel.



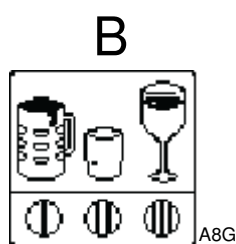
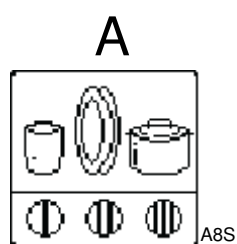
- Close the door.
- If the following images are shown on the display, the door must be opened and closed in order to start filling the machine.



- Filling, heating and detergent mixing starts.



- The indication (8) now flashes gradually anti-clockwise in blue.
- The machine is ready for washing when the following conditions are satisfied.
  - \* The machine is filled.
  - \* Desired value (D01) washing tank has reached the correct value (-5°C).
  - \* Detergent mixing has been performed.
- The button (7) now lights green, an audible signal is heard and the display shows:



*Ready for washing*

*A=Standard*

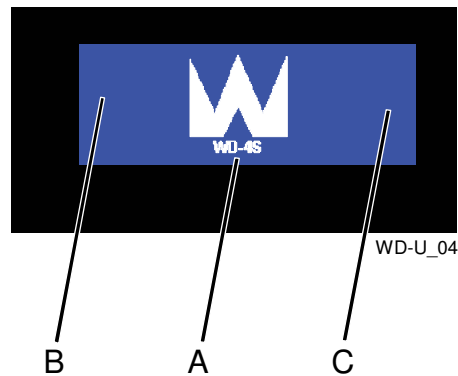
*B=Glass washing (option)*

## 4.2 Washing



Remember that there is a certain risk of tipping, e.g. when a heavier load is placed at the outer edge of the door in the open position.

### 4.2.1 Symbols on the machine's display



*Machine's display*

*A= The centre of the display shows what the machine is doing and what the machine will do*

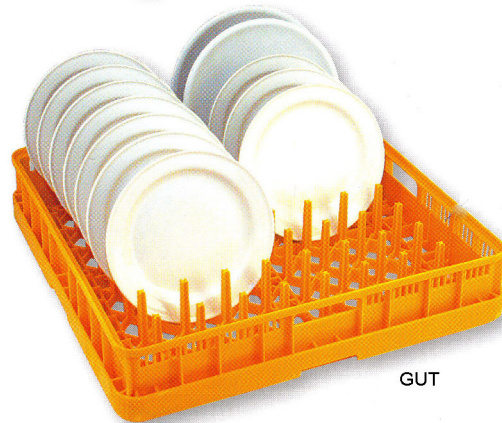
*B=The left side of the display shows the "wash" side in the machine*

*C=The right side of the display shows the "rinse" side in the machine*

## 4.2.2 Positioning of dishware in baskets



The machine is supplied with washing baskets depending on the equipment level. The washing baskets are used according to the following:



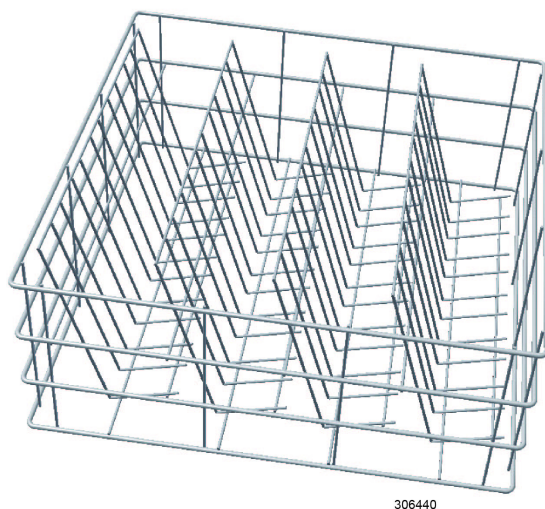
*The yellow basket is used for side plates, trays, plates, etc. (Basic)*



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



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



*Basket specially intended for glass (Glass)*



There are also various special baskets, racks and accessories (option) for use in the machine.

### 4.2.3 Selecting a programme

#### Standard machine

The control panel has three programme buttons P1 (1), P2 (2) and P3 (3).

- P1=Lightly soiled items (e.g. trays and glassware)



P1

- P2=Normal wash (e.g. plates and cups)



P2

- P3=Heavily soiled items (e.g. cutlery and pots)



P3

The washing temperature and chemical washing time for each programme is set on delivery.

When the door is closed, select a programme. The symbol for the selected programme is lit and the machine starts immediately.



It is possible to set the machine for continuous operation, keep the desired programme button pressed for approx. 5 seconds on the display's middle section until the symbol is shown that indicates that this has been chosen. On the panel's "wash" side the symbol is shown for automatic operation. The programme selection button for the selected programme is lit. When the door is closed, the washing starts again immediately. To return to "normal" operation, press one of the programme selection buttons that are not lit.



auto



## Glass washing dishwasher (option)

The control panel has three programme buttons P1 (1), P2 (2) and P3 (3).

- P1=Beer glasses



P1

- P2=Standard glasses



P2

- P3=Wine glasses



P3

The washing temperature and chemical washing time for each programme is set on delivery.

When the door is closed, select a programme. The symbol for the selected programme is lit and the machine starts immediately.



It is possible to set the machine for continuous operation, keep the desired programme button pressed for approx. 5 seconds on the display's middle section until the symbol is shown that indicates that this has been chosen. On the panel's "wash" side the symbol is shown for automatic operation. The programme selection button for the selected programme is lit. When the door is closed, the washing starts again immediately. To return to "normal" operation, press one of the programme selection buttons that are not lit.



auto

## Washing temperature and washing time

The factory setting for the washing temperature is 60 °C.

The chemical washing times for each programme are set on delivery to:

### Standard machine:

- 1.0 min. (programme P1)
- 2.2 min. (programme P2)
- 4.0 min. (programme P3)

### Glass washing dishwasher (option):

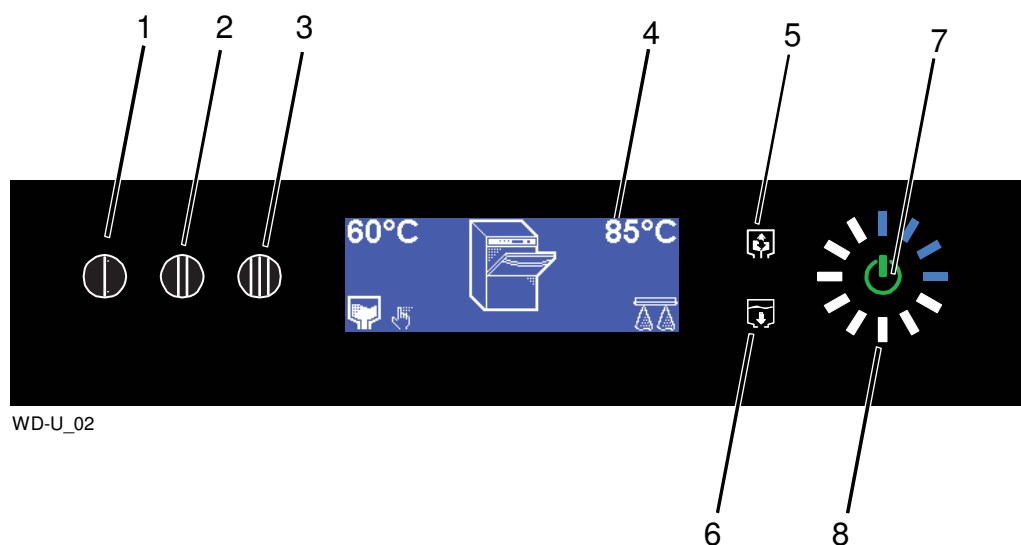
- 1.0 min. (programme P1)
- 1.0 min. (programme P2)
- 2.0 min. (programme P3)

The washing times can be adjusted between 0.0 and 9.4 minutes.



How temperatures and times are changed is described in the “ADJUSTMENT INSTRUCTIONS” supplied with the machine.

## 4.2.4 Washing



WD-U\_02

### *The machine's panel*

- Remove larger food particles by scraping and 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.
- Push the basket into the machine and close the door. For “normal” operation, select programme P1 (1), P2 (2) or P3 (3) depending on type of dishes and the machine will start.



hand



P1-P3

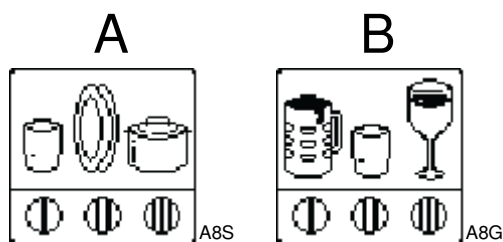
- When “auto” operation has been selected, the machine starts when the door is closed.



auto

- The machine starts to wash with the selected programme and the programme button for the selected programme lights up. The display shows what the machine is doing using different figures. The indication (8) flashes blue gradually clockwise, counting up the washing time.
- Do not open the door before the programme has finished.

- When the machine has finished washing, a signal sounds and the display shows:



A=Standard

B=Glass washing (option)

- Remove the washing basket and allow the washed items to dry.
- Check that the dishes are clean.
- For longer periods between washes, the machine should be in the “normal” mode and closed. This ensures the temperature in the machine is maintained.
- If the dishwasher is stopped for a period of 8 hours, the machine will enter energy saving mode and ON/OFF (7) will flash green. The “alarm” must be acknowledged to restart the machine.



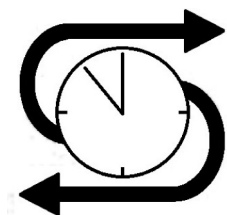
*Energy saving mode*

## Machine with softening function (option)

During each wash, the dishware is rinsed with softened water.



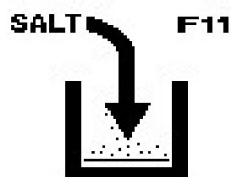
When the machine needs to regenerate the water softener filter, the button flashes (5). How often this is needed will depend on the incoming water and settings. The regeneration is started by pressing the button (5) and takes around 15 minutes. The washing tank must be filled and the door closed when regeneration is started. Regeneration can be started at any suitable time. When regeneration is taking place, this is indicated on the display (4).



If the rinse result is not satisfactory, the user can start this function by pressing the designated button (5) on the panel, even before the machine's preset value.



When salt needs to be topped up, this is indicated on the display (4). Use the salt intended for the function.



Extra regeneration can be started as necessary.

## 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>Program selection:</b> Program with too short a washing time selected. Choose a program 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 |   |

## Changing the water

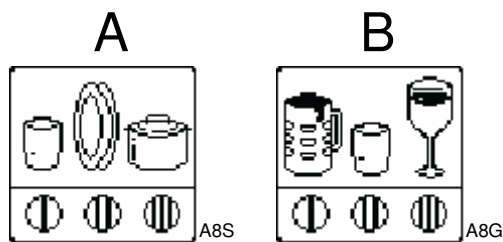


- To achieve the best possible washing results, it is important that the water is changed frequently. For normally soiled items, the water should be changed after around 30 washes. However, always change the water in the event of foam problems in the tank.
- The machine can be equipped with a so-called active filter (option). This means that the machine does not normally need to replace the water. However, always change the water in the event of foam problems in the tank.
- When the machine is equipped with a softening function (option), the water is changed by emptying and refilling the machine.
- If IF09 appears on the display, this indicates that the water should be changed.



IF

- Check that the machine is in standby mode.



A=Standard

B=Glass washing (option)

- Press (5) to start the water replacement programme.



W\_C

- When the tank is empty, the machine is filled again if the door is closed.

## 4.3 After use – Cleaning



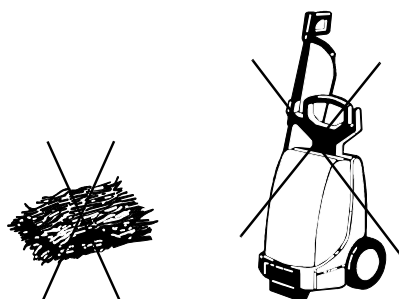
HACCP is a preventive inspection system to ensure hygiene requirements are met during the washing process and cleaning of the machine. As a result of its design, the machine meets strict hygiene requirements. Regular, thorough cleaning is also important from a hygiene perspective. A machine that is properly 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 shut-down.

### 4.3.1 Incorrect cleaning methods



NOTE! 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.



WD4\_16

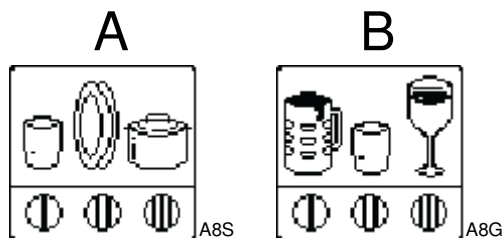
*Steel wool and pressure washers must not be used for cleaning*



## 4.3.2 Daily cleaning

### Emptying with internal cleaning

- Check that the machine is in standby mode.



A=Standard

B=Glass washing (option)

- Open the door.
- Remove the tank strainers (9) and the active filter (14) (option).
- Close the door.
- Press (6) to start the emptying programme.



drain

- When the tank is empty, the internal machine rinsing will start automatically if the door is closed, the machine will turn off without internal machine rinsing when the door is open.



machine\_rinse

- The machine is now switched off automatically, the lighting on ON/OFF (7) fades to a faint red LED and an audible signal sounds.



waterflow

*When the machine is switched off, the incoming water flow is shown on the panel.*



pos

XX

*Then the number of washes made after the last start-up is shown.*



*The total number of washes made since the machine was used for the first time is now shown.*

- Open the door. Check that the washing arms' (12) and the rinse pipes' (13) nozzles are clean and that no objects have fallen and become lodged in the machine.
- Clean the pump strainer (11), drain strainer (10), tank strainers (9) and the active filter if applicable (14).
- Store the cleaned parts in a washing basket.



Leave the door ajar until the machine is next used. This space-saving hygiene position prevents bacterial growth when the machine is not used.



WD-4S\_08

*The machine with the door ajar*

## Externally

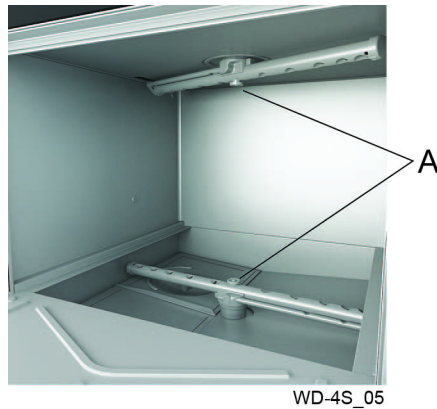
Wipe the outside of the machine with a soft, damp cloth.

- 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.

### 4.3.3 Cleaning each week or as required

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

- Remove the wash arms. 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.



*A=Lock nut*

### 4.3.4 Operating problems

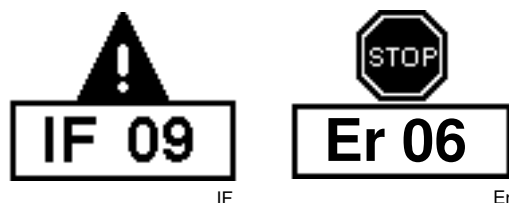


Check:

- Has the appliance been used according to the instructions?
- Are all the removable parts in their correct place?
- Is the power 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 display shows either IF or Er and a number.

The table shows only the alarms that the operator can deal with or temporarily reset using the ON/OFF button (7) on the panel.

The ON/OFF button (7) flashes yellow in the event of IF alarm and red for Er alarm.

| CODE        | CAUSE   | ACTION  |
|-------------|---|---|
| IF01 / Er01 | The time needed to fill the tank has been exceeded.   | The alarm can be reset by pressing ON/OFF on the panel. If the error recurs, contact an authorised service company. |
|             | The water stopcock is closed.   | Open the stopcock.  |
| Er02        | The tank temperature after filling is less than the nominal value after a set period of time. The machine must reach the correct temperature in order for detergent mixing to take place. | The alarm can be reset by pressing ON/OFF on the panel. If the error recurs, contact an authorised service company. |
| IF06 / Er06 | Water flow too low during final rinse.  | The alarm can be reset by pressing ON/OFF on the panel. If the error recurs, contact an authorised service company. |
|             | The water stopcock is closed.   | Open the stopcock. Close the door.  |
| Er08        | The temperature in the booster heater is too low.   | The alarm can be reset by pressing ON/OFF on the panel. If the error recurs, contact an authorised service company. |

## Operating instructions

| CODE  | CAUSE  | ACTION   |
|---|--|--|
| IF09  | Alarm for changing the water.  | Change the water. The alarm can be reset by pressing ON/OFF on the panel.  |
| IF11<br>   | The machine's salt tank contains too little (option).  | Top up salt. It can take some time for the salt to dissolve. The washing tank must be filled and the door closed when regeneration is started. Start the regeneration by pressing the designated button (5). The alarm can be reset by pressing ON/OFF on the panel, but returns after each regeneration attempt until the salt has been refilled. |
| Er12  | The break tank has not been filled with water.   | The alarm can be reset by pressing ON/OFF on the panel. If the error recurs, contact an authorised service company.  |
| Er16  | The rinsing temperature is too low before final rinsing. The machine continues to the rinsing phase but with a lower temperature than set when the alarm is displayed.                       | The alarm can be reset by pressing ON/OFF on the panel. If the error recurs, contact an authorised service company.  |
| Er17  | The temperature in the booster heater is too high for glass washing (option). The machine continues to the rinsing phase but with a higher temperature than set when the alarm is displayed. | The alarm can be reset by pressing ON/OFF on the panel. If the error recurs, contact an authorised service company.  |
| IF18  | The machine is not emptying as it should.  | The alarm can be reset by pressing ON/OFF on the panel. If the error recurs, contact an authorised service company.  |
| IF30  | Low water level in the washing tank before washing.  | Check that the level pipe is closed. The alarm can be reset by pressing ON/OFF on the panel. If the error recurs, contact an authorised service company.   |
|   | The level pipe's rubber sleeve is leaking.   | Check that the level pipe's rubber sleeve has not been damaged.  |
| IF35<br> | The machine's tank is not filling with water as it should.   | Open and close the door.   |
| Er95  | Alarm from external equipment.   | The alarm can be reset by pressing ON/OFF on the panel. If the error recurs, contact an authorised service company.  |
| Er96  | The motor safety cut-out for the pump has tripped.   | The alarm can be reset by pressing ON/OFF on the panel once the pump has cooled. If the error recurs, contact an authorised service company.   |
|          | Energy saving mode activated.  | The alarm can be reset and the machine activated again by pressing ON/OFF on the panel.  |

## 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 off.  | Switch on the power switch.   |
| The machine does not fill with water.  | The incoming water stopcock is closed.                             | Open the tap.   |
|  | The door is open.  | Close the door.   |
|  | 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 start washing.  | The door is open.  | Close the door.   |
|  | 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 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.                         |
|  | Program 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 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.   |
| Glass in particular has a coating after washing.                               | Excessively hard water. The softening function is set incorrectly. | The machine may need to regenerate more often.  |

## Operating instructions

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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, M1 (kW)  | 0.75 |
| Drain pump, M8 (W)   | 40   |
| Booster pump, M10 (kW) **  | 0.37 |
| Booster heater, E41 (kW) (400V)  | 4.2  |
| Booster heater, E41 (kW) (230V)  | 2.8  |
| Booster heater, E41 (kW) (400V) *                                      | 6.9  |
| Tank heater, E21 (kW)  | 1.4  |
| Tank volume (litres)   | 20   |
| Heat recovery fan, M15 (kW) *  | 0.01 |
| Weight, machine in operation (kg)                                      | 85   |
| Maximum temperature of the surroundings for machines in operation (°C) | 35   |
| Enclosure protection class (IP)  | 44   |

\* option

\*\* option, only in combination with break tank



| CAPACITY AND OPERATING DATA   |         |
|---|---------|
| Total washing time, incl. rinsing time, programme 1 (min) *                 | 1.2     |
| Total washing time, incl. rinsing time, programme 2 (min) *                 | 2.4     |
| Total washing time, incl. rinsing time, programme 3 (min) *                 | 4.2     |
| Total washing time, incl. rinsing time, programme 1 (min) (Glass washing) * | 1.2     |
| Total washing time, incl. rinsing time, programme 2 (min) (Glass washing) * | 1.2     |
| Total washing time, incl. rinsing time, programme 3 (min) (Glass washing) * | 2.2     |
| Capacity, max. (standard) (baskets/hour) **                                 | 50      |
| Basket size (mm)  | 500x500 |
| Water consumption rinsing/programme (litres) ***                            | 2.4     |
| Sound pressure level, LPA (dBA) ****  | 61      |
| Sound power level LWA (dBA) ****  | 72      |

\* Factory setting. The wash time is adjustable.

\*\* Hot water connection 50-65 °C.

The capacity is reduced for cold water connections.

The capacity is reduced with a condensing unit.

\*\*\* Applies under ideal conditions. The water consumption depends on the 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 performed in three places 20 cm 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.

| CONNECTION, MACHINE                       |      |
|---|------|
| Total connected power (400V 3N~) (kW) *   | 4.95 |
| Total connected power (230V 1N~) (kW) *   | 3.55 |
| Main fuse 400 V 3N~(A) *                  | 10   |
| Main fuse 230 V 1N~ (A) *                 | 16   |
| Connection cable Cu (mm <sup>2</sup> ) ** | 2.5  |

\* Other voltages on request

\*\* 2 m cable included

| WATER, DRAIN AND VENTILATION CONNECTIONS                        |                 |
|---|-----------------|
| Water quality, hardness (°dH)                                   | 2-7             |
| Hot water connection 50-65 °C (external thread) *               | R¾"             |
| Cold water connection, 5–12 °C (external thread) (option)       | R¾"             |
| Drain connection, hose (ø mm) **                                | 22              |
| Water capacity, pressure (kPa) (machines with break tank)       | 20              |
| Water capacity, pressure (kPa) (machines without break tank)    | 180             |
| Water capacity, flow (litres/min) (machines with break tank)    | 5               |
| Water capacity, flow (litres/min) (machines without break tank) | 17              |
| Heat load to room, latent / sensible / total (kW)               | 0.5 / 1.2 / 1.7 |
| Heat load to room, latent / sensible / total (kW) ***           | 0.3 / 0.6 / 0.9 |
| Floor drain with effective trap, capacity (litres/second)       | 1               |

\* It may take longer to fill the machine if the water connection is colder than 55 °C

\*\* 2 m drain hose included (1.3 m outside machine)

\*\*\* option

| SIZE AND WEIGHT FOR TRANSPORT   |              |
|---------------------------------|--------------|
| Size (LxWxH) (mm) *             | 700x760x1000 |
| Weight, standard machine (kg) * | 90           |
| Packaging weight (kg)           | 10           |

\* Including packaging