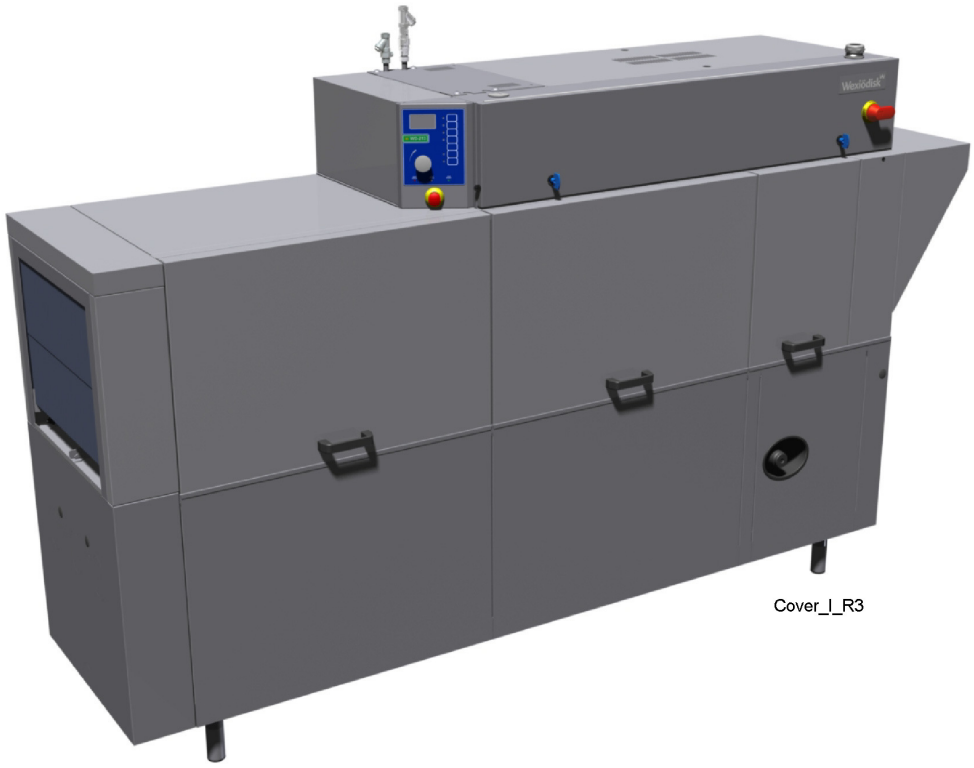
Wexiödisk

RACK CONVEYOR DISHWASHER
WD-153 - WD-423

(translation of the original documentation)

⚠ Read the manual before using the machine!

Installation and user manual



Cover_I_R3

S/N: (En) Valid from: 201807 Rev.: 5.0

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 alerts 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 installed 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.

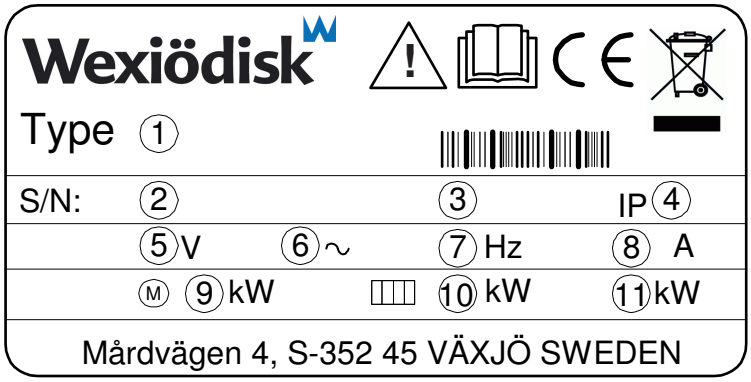
This symbol warns of the importance to read the manual before using the machine.

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:



marks_15

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.

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. 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.

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 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 main 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 interrupter.

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

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 rinsing phase has 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 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. 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.

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

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.

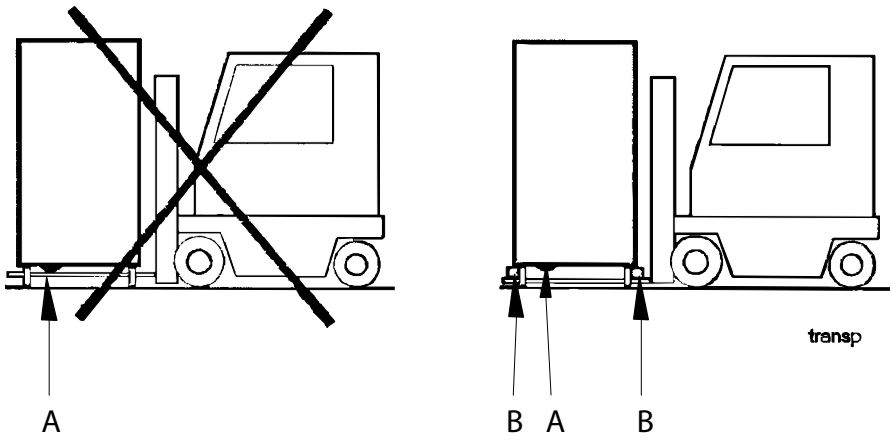
3.2.6 Space for servicing

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. NB! 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.

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.
- Check that the overheating protection device is reset.

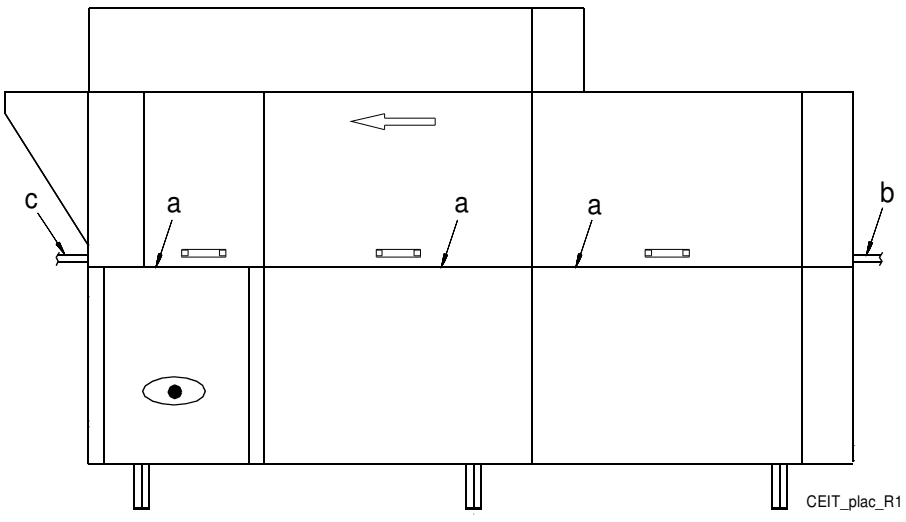
3.4.2 Positioning the machine

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 15-30mm.

Place the machine in position and check that it, and any accessories, are horizontally level. Adjust the height with the legs.

Check with a spirit level that is standing level. Place the spirit level on the join between the machine tank and the upper part. Once the machine has been filled with water, do another check to make sure the machine is standing level.



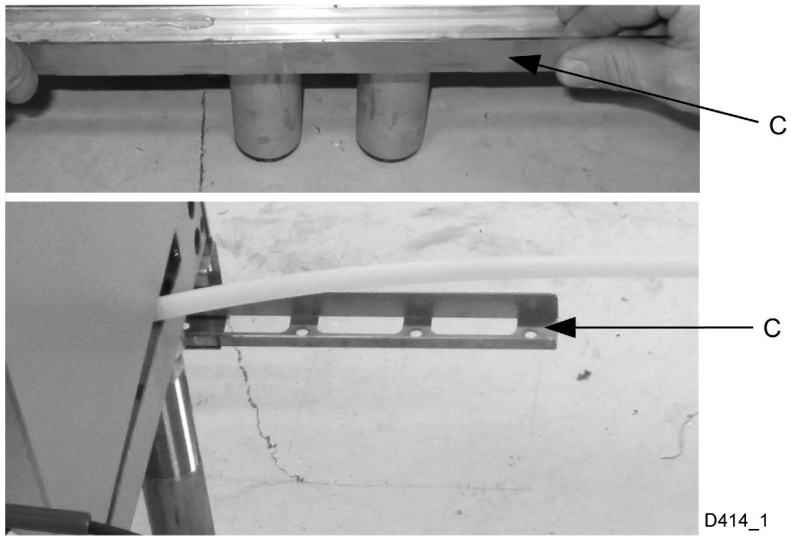
The machine must be evenly balanced on three sides:

- On the cover edge of the front side (a) (tank body).
- On the cover of the infeed (b).
- On the cover of the outfeed (c).

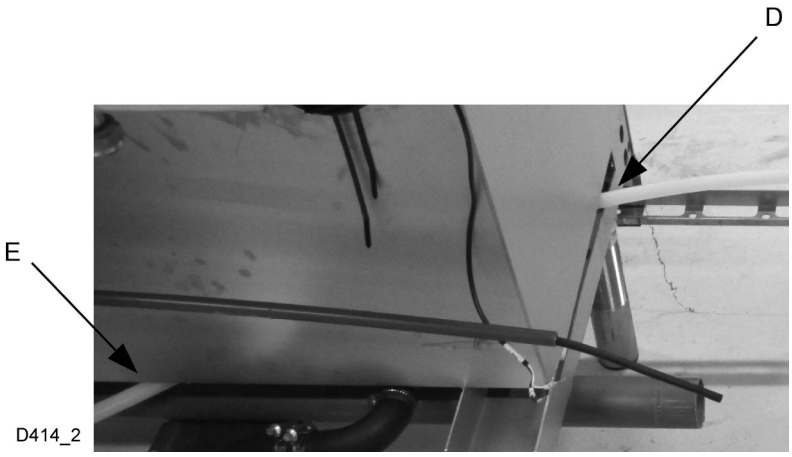
Assembling the divided machine (optional)

Parts which must be assembled are prepacked inside each section together with the necessary bolts, nuts, etc.

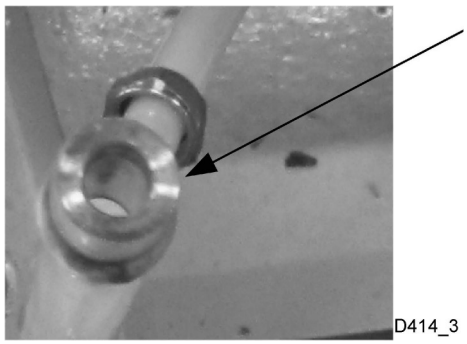
- Dismantle the lower cover plates (on the front side) beside the pre-wash and chemical wash.
- Remove the lower rear cover plate beside the chemical wash.
- Fit the support rails (C) to the lower bars, front and rear.



- Feed through the hose at (D) and (E) on the image.



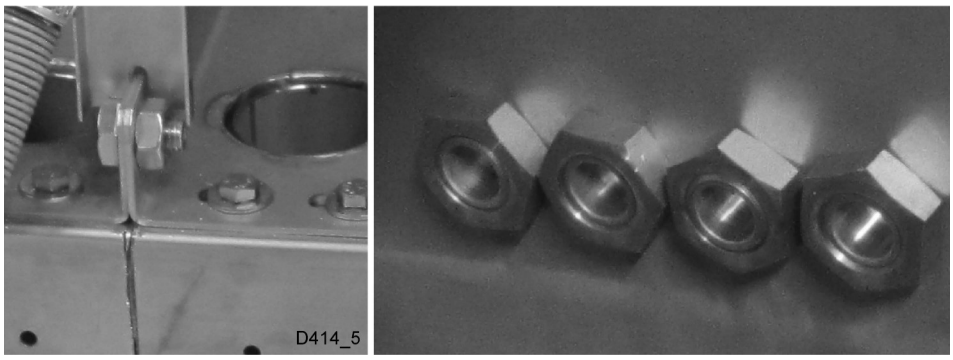
- Fit the coupling supplied to the hose.



- Feed through the electricity cables in the designated places.

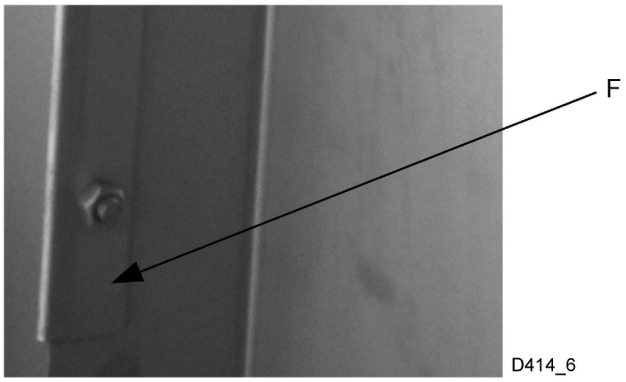
- Slide the two sections towards each other, but do not close completely. There must be enough space to allow silicone to be applied around all openings.
- Apply silicone around all screw holes and other openings on both sections.

- Slide the parts together, hold these in place using clamps and fit any screws and nuts.

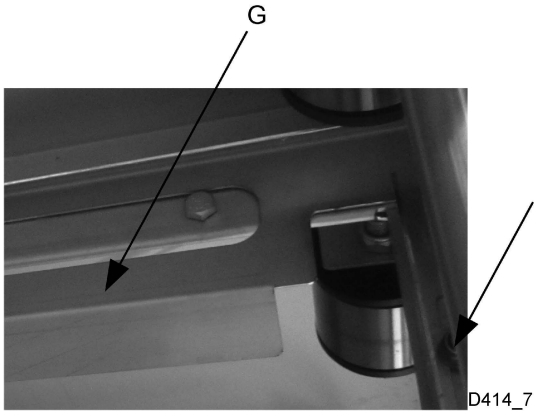


- Check with a spirit level that the machine is standing level.
- Wipe away any silicone that may have leaked out.

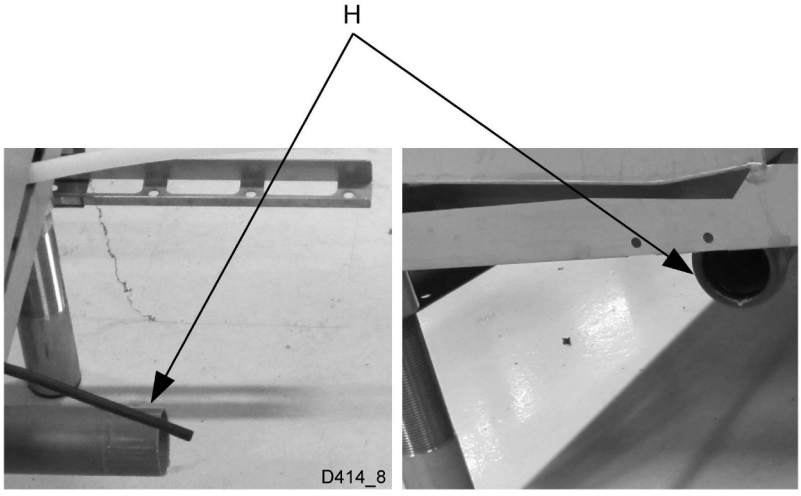
- Now fit the stainless clamp strips (F) to the interior of the machine above the join between the sections. Apply silicone to the strips before fitting them into place. Fit the strips in the following arrangement: 1- upper strip, 2 - lower strip, 3 - rear strip.



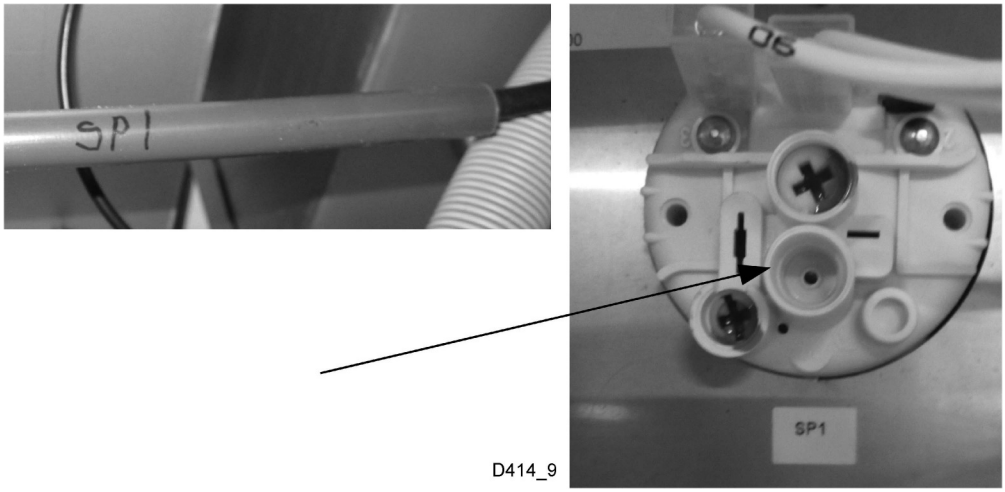
- Finally, fit the curtain rail (G) This must be screwed firmly into the middle of the oval hole.



- Assemble the drain (H).

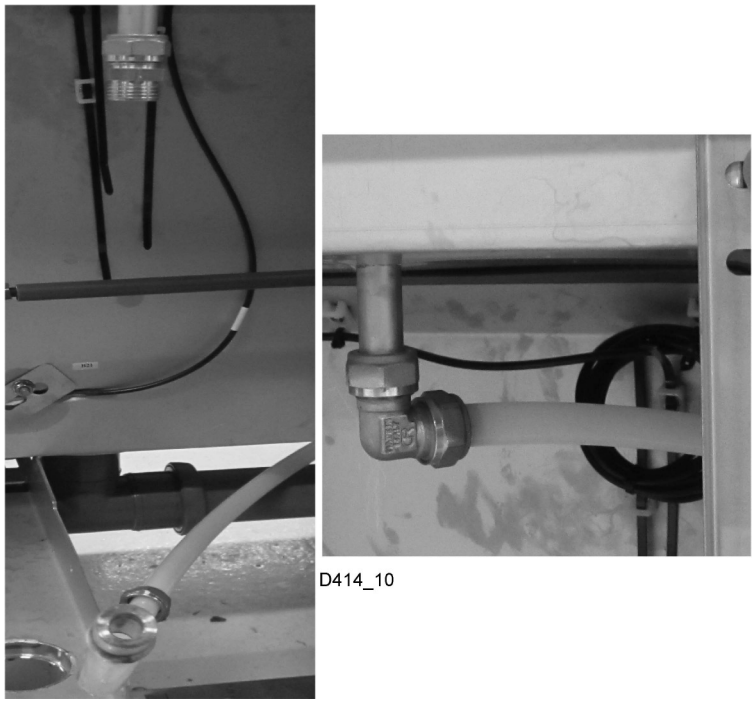


- Connect the pressure stat hose 'SP1' in its designated place.



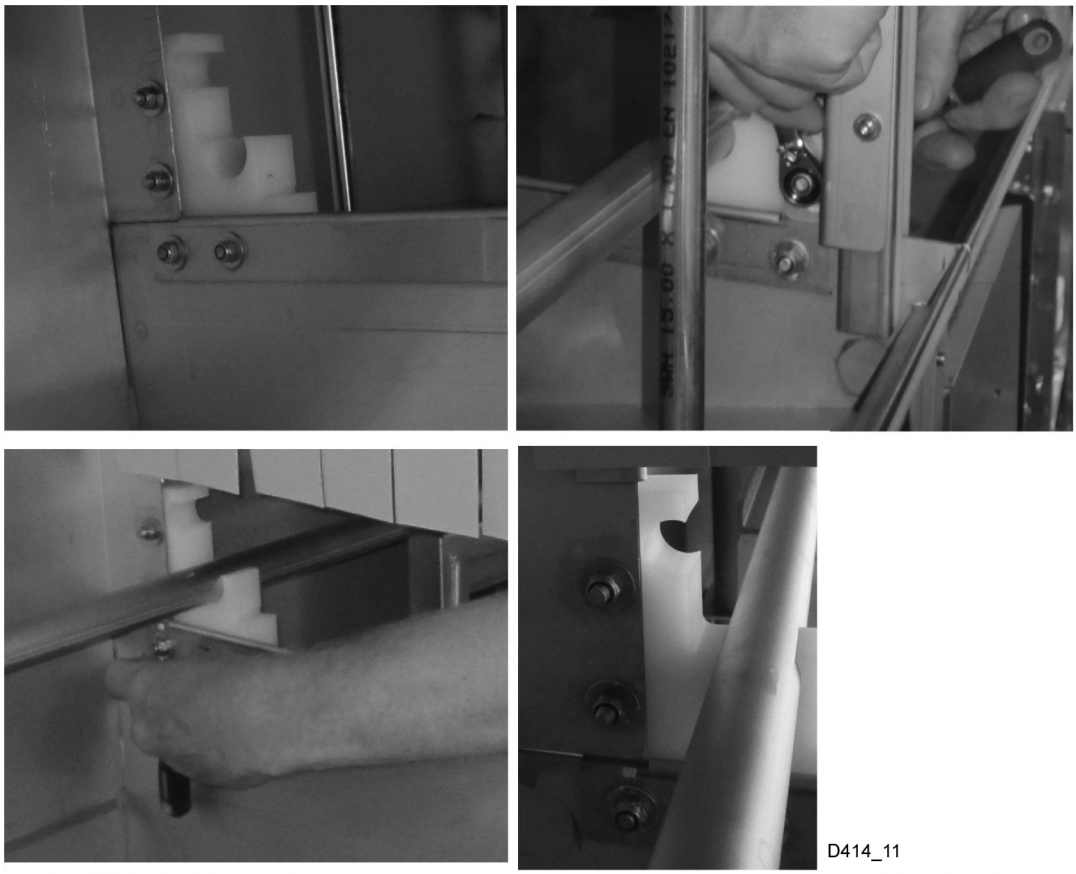
D414_9

- Connect the water connection.



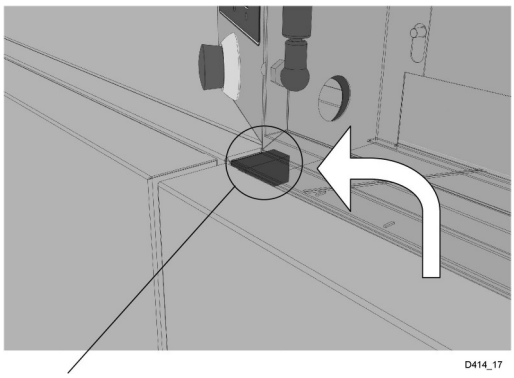
D414_10

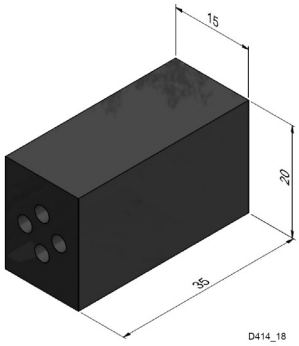
- Now fit the feed cradle and emptying device.



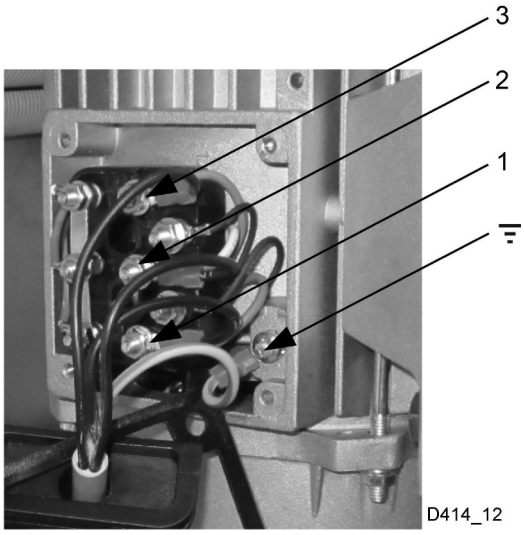
D414_11

- Fitting the door seal to the electrical cabinet. Place the door seal (WD400277.31) in the cable channel. This seals the hole for the door switch and photocell cable.

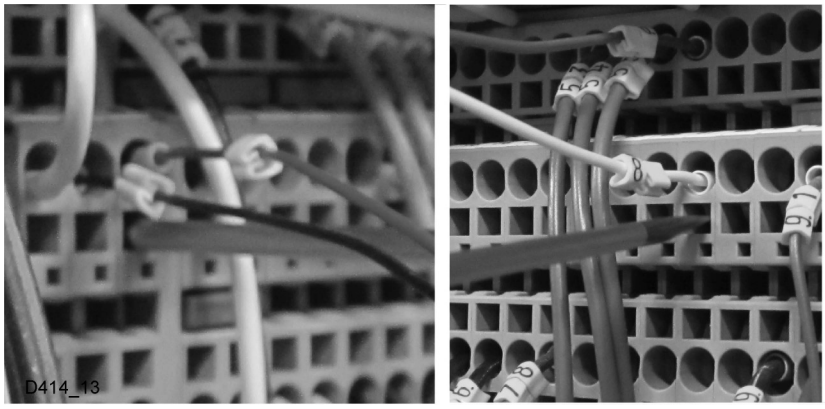




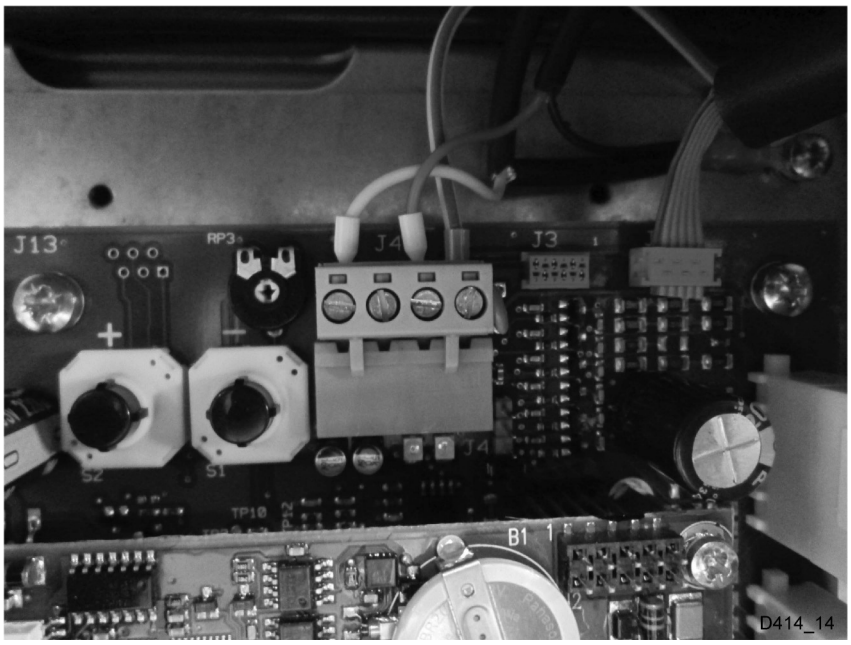
- The wiring must be positioned and anchored in the designated places for this.
- Check all couplings against the machine's wiring diagram!
- Switch on the wiring for washing pump M1, the cables are labelled in accordance with the image.



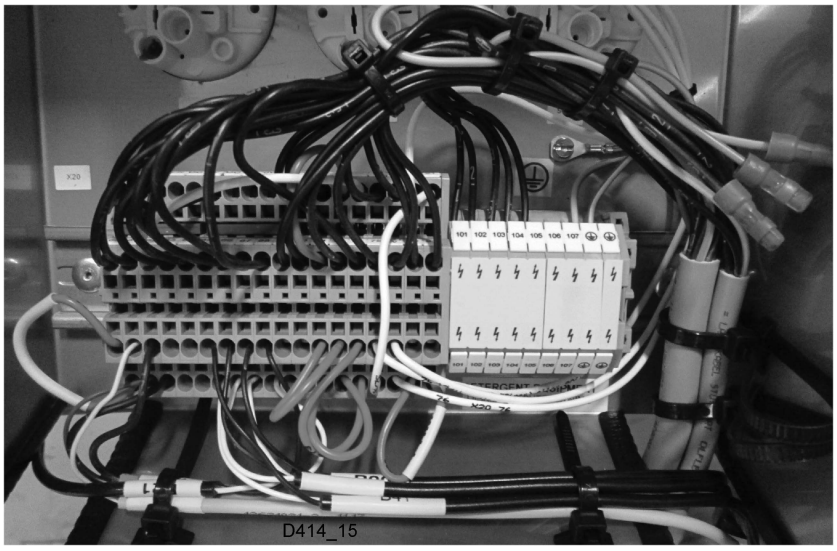
- Connect the wiring for the door switches to the terminals in accordance with the labelling.



- Connect the wiring for photocell B61 and B62 to the green contact J44 on computer card A1.

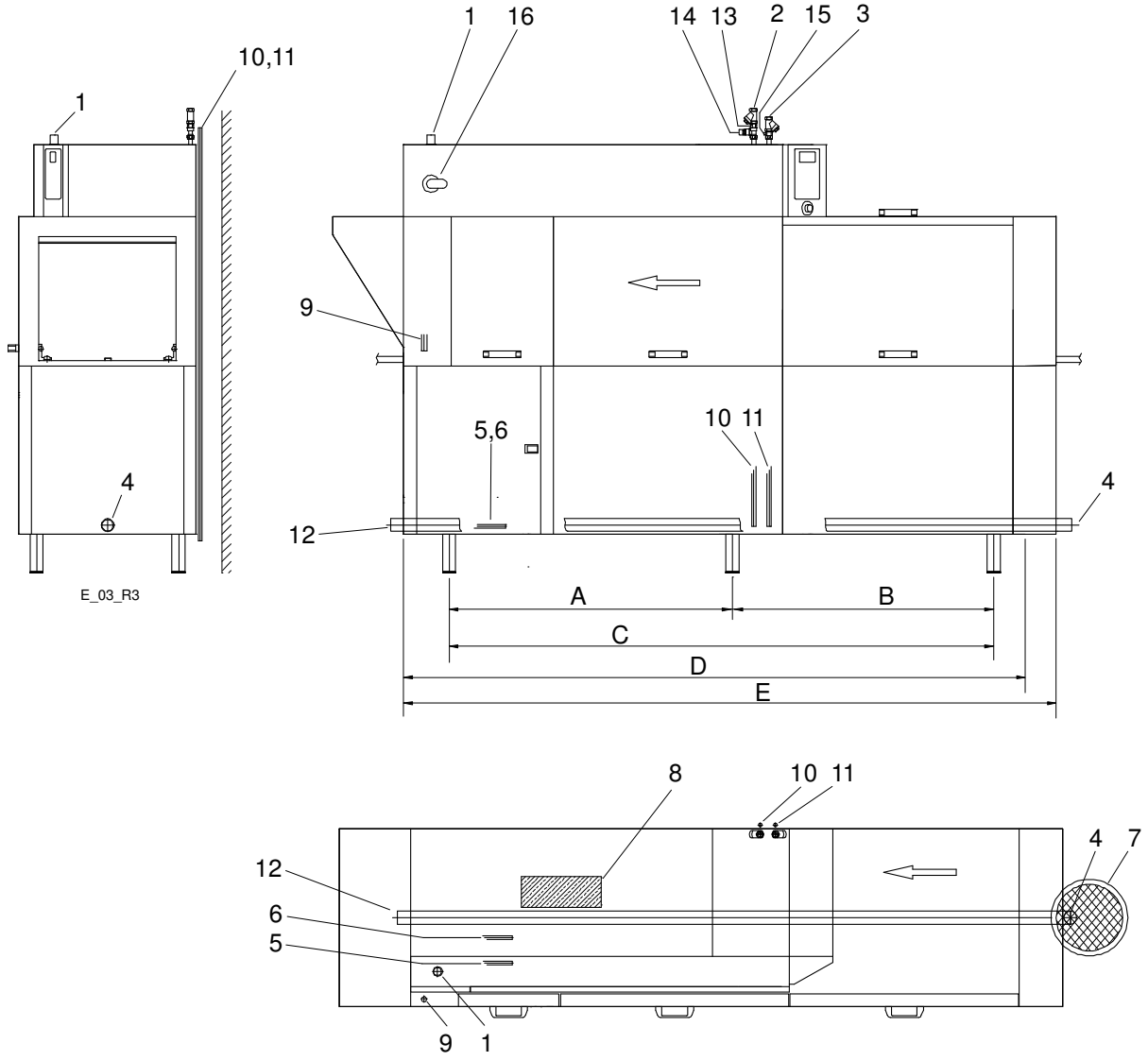


- Connect the temperature sensor to the terminal box in accordance with the machine's wiring diagram.



- Check that all wiring has been connected. NB! Perform an additional check of the earth wiring.

3.5 Connections



1. Electrical connection
2. Cold water connection/filter
3. Hot water connection/filter
4. Drain/waste pipe connection
5. Steam connection (option)
6. Condensing water connection (option)
7. Floor drain
8. Condensing battery exhaust fan
9. Alternative electrical connection
10. Alternative cold water connection
11. Alternative hot water connection
12. Alternative drain connection
13. Non-return valve
14. Vacuum valve
15. Detergent dosage outlet
16. Main switch

	WD-153	WD-213	WD-243	WD-333	WD-423
A				1360	2260
B				1670	1670
C	1230	1830	2130	3030	3930
D	1535	2135	2435	3335	4235
E *	1655	2255	2555	3455	4355

* = Installation dimensions at bench height

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

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 has a built-in main switch (16). Connect the electric cable at (1). In special cases, certain dishwashers may have an electrical connection from the floor. The cable is then drawn behind the cover plate at (9).
- Check the direction of rotation of the pump motors during operation when the tanks are full of water. The direction of rotation must conform without exception to the direction of the arrow on the pump. Stop the dishwasher immediately if the direction of rotation is incorrect and change two of the incoming phases.

After completing the installation, switch on the main 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 (2, 3) or at (10, 11). If the machine is connected with a hose, this should be steel braided and have an internal diameter of at least 12mm.

The hot water connection (3) on the machine is fitted with a filter.

The cold water connection (2) on the machine is fitted with a filter, non-return valve and vacuum valve.

As the machine is fitted with a "Break Tank", the connection is fitted with a filter and non-return valve.

3.5.3 Ventilation

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

The machine has a condensing battery connected to an exhaust fan to reduce the amount of steam released. Extractor fans for extracting steam can be installed above the infeed and outfeed openings, as well as above the area of the machine where steam is emitted from the condensing fan.

If a hood is fitted over the machine, it much be positioned so that it covers the drying rack after the machine and preferably also the exhaust from the condensing fan.

3.5.4 Steam (optional)

A shut-off cock must be installed on the incoming pipe.

If the machine is steam-heated, connect the pipes for steam at (5).

3.5.5 Condensation water (option)

A shut-off cock must be installed on the incoming pipe.

If the machine is steam-heated, connect the pipes for condensation water at (6).

3.5.6 Drain/waste pipe

The waste water system connected to (4 or 12) should consist of a 50mm metal pipe that will withstand mechanical impacts. The drain must run to a floor drain, where its opening must be above the water level.

The drain can be fitted to the left or right. Remove the perforated section of the end plate and pull the pipe through the hole. Connect the drain and run to the floor drain where it should flow freely above the water level.

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

3.5.7 Detergent and drying agent

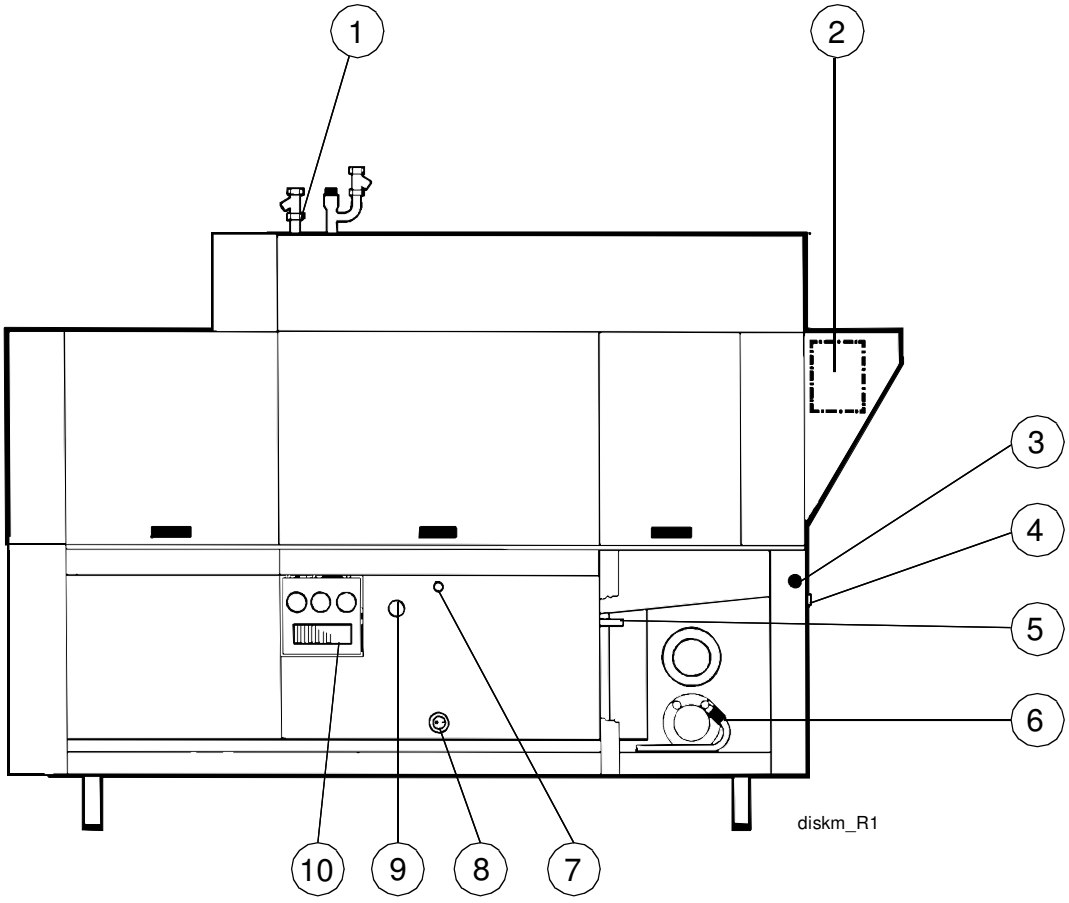
- Check what your machine is equipped with, which depends on the model, machine type and country.
- With machines connected to cold water, the water pipe temperature may be too low for use of powder or paste type detergents.
- If liquid detergent is used together with Wexiödisk's detergent pump, the 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.

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

For information about electrical connections, see the electrical diagram.

Connection of the equipment

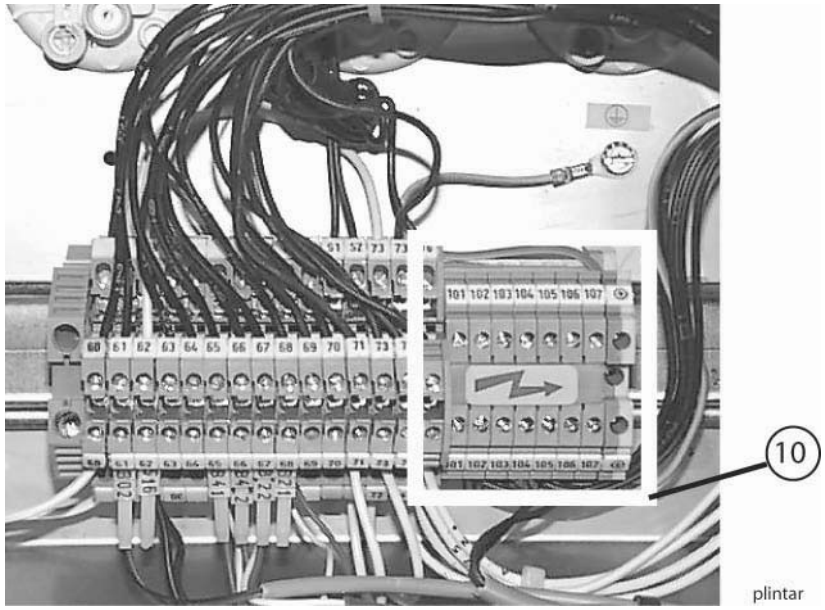


1. Hot water outlet
2. Alternative location of detergent equipment
3. Hole ø 25mm for hose intended for detergent in solid form
4. Hole ø 19mm for drying agent hose
5. Plugged connection ø 18mm for connecting hose for detergent in solid form
6. Drying agent dosage outlet
7. Plugged connection ø 11mm for liquid detergent
8. Plugged hole ø 22mm for measuring cell. The measuring cell is connected in the terminal box (10).
9. “DETERGENT” adhesive label. The label is affixed to the inside rear wall of the chemical wash tank and indicates the alternative position of the detergent opening. Drill a hole from the back of the chemical tank through the plugged hole in the cover plate.
10. Terminal box with connections for detergent and drying agent.

Electrical connection of the equipment

The machine comes ready for fitting detergent and drying agent equipment, but this is not included with the machine.

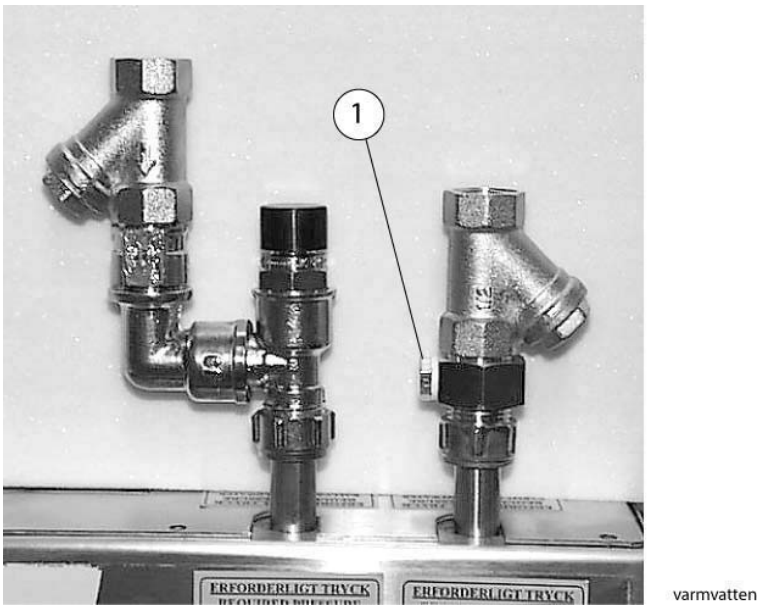
To avoid making unnecessary holes in the machine, the equipment should be placed on the wall behind the machine on the outfeed side.



Connections for detergent and drying agent, NB! 230V

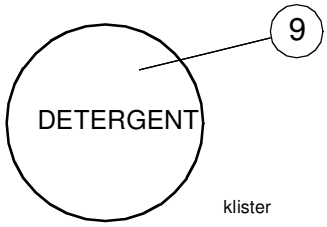
Detergent dosage

The water outlet (1) for the detergent dosage is placed on the incoming hot water pipe.

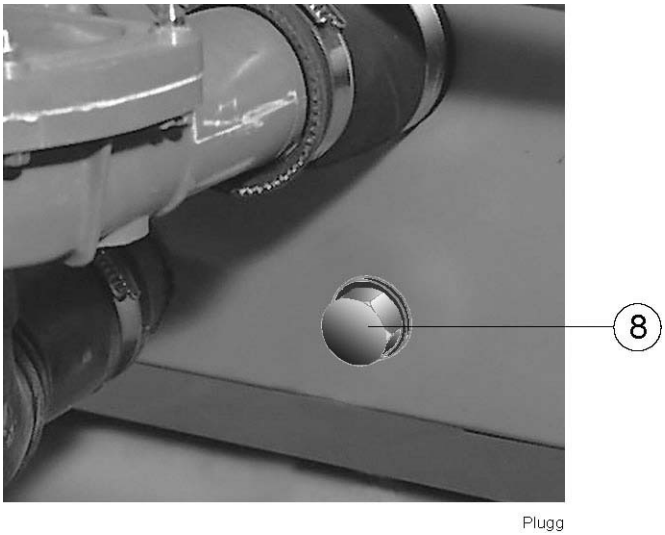


Hot water outlet

Plugged holes for hoses for detergent and drying agent



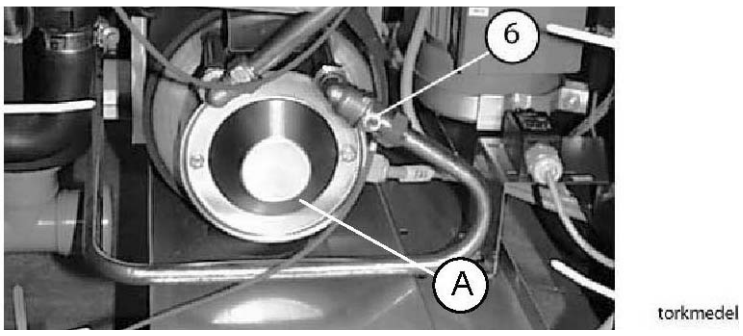
Adhesive label indicating alternative opening for detergent



Plugged hole for measuring cell

Drying agent dosage

The connection for drying agent (6) is located next to the booster heaters.



Drying agent dosage outlet
A=Lower booster heater

3.5.8 Setting / adjustment of flows

This is described in the chapter ADJUSTMENT INSTRUCTIONS.

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 depends on the model, machine type and country.
- The machine comes ready for the connection of WD-PRM60/90. Loop X20 (see the machine's wiring diagram) must be removed when WD-PRM60/90 is retrofitted.

The various options normally place no specific requirement on the installation.

3.6.1 Machines with TimerStart

- Check the machine's software version, which should be 1.49.6.1 or later.
- Check that the reference value for row 108 is set to YES.

3.6.2 Machines with rinse cleaning functions

- The machine should be connected to hot water for optimum functioning.
- It is possible to connect detergent to this function; this is done using the rinse cleaning valve.

3.6.3 Limit switch

The limit switch is installed on the lower terminal block, which is placed in front of the chemical wash tank. When connecting, remove the existing clamp on the connection points. See the machine's wiring diagram NB! The machine's voltage is 24V.

3.6.4 Conveyors

Installation of in- and outfeed equipment (conveyors, curves) must be performed in accordance with the wiring diagram's main circuit instructions. This applies to machines equipped with a motor switch and contactors for this equipment.

Connection of supply voltage to the in- and outfeed equipment is performed in accordance with the wiring diagram's instructions. NB! The machine's voltage is 24V.

When fitting a motor switch and contactors retrospectively, use the components on the wiring diagram and follow the connection instructions. This affects the manufacturer's liability - see "SAFETY INSTRUCTIONS."

3.6.5 Emergency stop

An additional emergency stop can be connected at the lower terminal block, which is placed in front of the chemical wash tank. Replace the existing clamp on the connection points when connecting a new emergency stop. See the machine's wiring diagram NB! The machine's voltage is 24V.

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 and signed by the customer on start-up.

Machine type:

Machine serial number:

Installation date:

Customer:
Address for visitors
Postcode + Town/City:
Telephone:
Contact:

Dealer:
Telephone:
Contact:

Installation company:
Telephone:
Contact:

Service company:
Telephone:

Detergent supplier:
Telephone:

End-user signature:

Name (in capitals):

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

1. Check:

- Water, steam and drain connections
- That the machine is evenly balanced
- That the closed doors are in line
- That the benches, conveyor bend etc. are correctly fitted
- Detergent and drying agent
- That the filters, level pipe, filter tray and curtains are in position
- The mini-switches for all the heating elements must be in the OFF position.
- That the overheating protection device is reset

2. Filling the machine:

- Close the doors
- Switch on the main switch and press 0/1
- Fill the machine with water in accordance with the OPERATING INSTRUCTIONS
  Note: It takes approximately 10 minutes to fill the system. The booster heaters fill automatically when the doors are closed. The machine has a filling check function for the booster heaters. When the function is activated, a check is carried out to ensure that the booster heaters are full of water, before the element is switched on.
  Note: If the filling process is interrupted using the main switch, the check starts again from the beginning.
- When the filling check has been completed and all the tanks are full, the mini-switches for the booster heaters switch on.

3. Check the setting of the reference values:

- All the reference values have been set to the recommended values on delivery
- Check that the motor cut-off switch for the infeed and outfeed conveyors have been set correctly

4. Start the machine:

- Check the direction of rotation of the pumps
  NB! If the direction of rotation is wrong, the phase must be inverted on the incoming feed.
- Check that the overload switch on the feed cradle is functioning.

5. Lock the impulse arm and the photocell in the activated position:

- Run the machine continuously for 10 minutes. Check and adjust the temperature and water flow
- Final rinsing (in accordance with the table in the manual)
- Intermediate rinsing (in accordance with the table in the manual)
- Pre-rinsing rinsing (in accordance with the table in the manual)

6. Run a number of washes complete with loads and check that:

- The basket is in the correct position after the photocell
- There are no water leaks
- The door breaker works
- The limit switch is working
- Steam discharge from the machine
- The water temperatures are maintained
- The washed items are clean
- The washed items are dried

7. Final check: Empty the machine and turn off the power using the main switch:

- Re-tighten all the connections on the circuit breakers and contactors
- Check that all the mini-switches and the motor cut-off switch are in the on position.
- Display the quick guides supplied with the machine

8. Train and inform personnel concerning:

- 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:

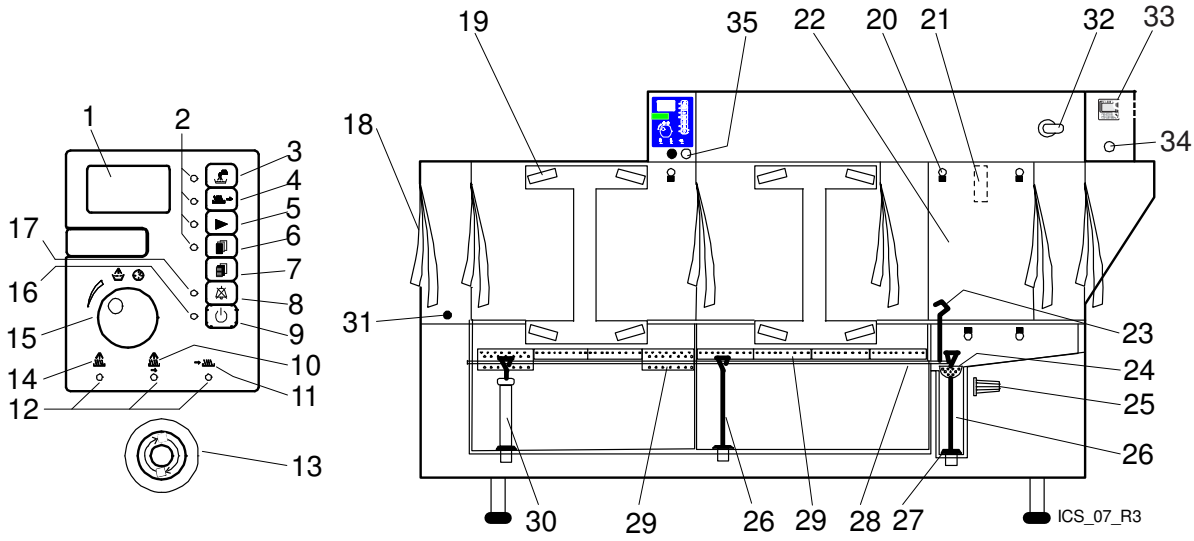
- Before washing
- How washing should be performed
- After completed washing
- In the event of error messages and troubleshooting

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

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



1. Display
2. LEDs which indicate that functions are enabled
3. Button for filling the machine
4. Button for manually unloading the baskets
5. Button to start/stop the feed
6. Button for the diagnostics function.
7. Button for diagnostic messages
8. Button for resetting alert
9. On/Off
10. Symbol for rinsing
11. Symbol for next basket
12. LEDs to indicate the washing process
13. Emergency stop
14. Symbol for washing
15. Knob for selecting contact time
16. LED which lights when the power is switched on
17. LED for indication of alerts. If the LED flashes, the alert can be reset by pressing button (8).
18. Curtains
19. Wash arms
20. Wash nozzle
21. Catch
22. Door
23. Lever for emptying the tanks
24. Filter for the final rinse
25. Filter
26. Outlet seal
27. Rubber sleeve
28. Lifting arm for level pipe and outlet seals
29. Filters
30. Level pipe
31. Photocell
32. Main switch
33. Timer for a timed start of the machine (option)
34. Button for activating rinse cleaning (option) (position when the machine is also equipped with TimerStart)
35. Button for activating rinse cleaning functions (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.

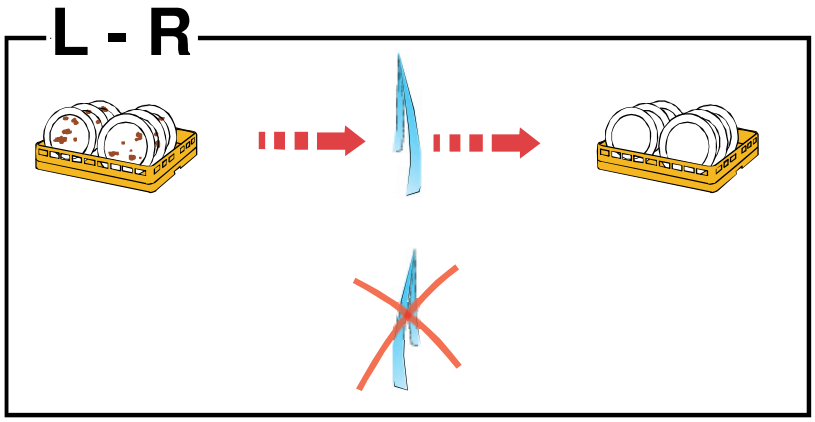
4.1.2 Preparations before filling

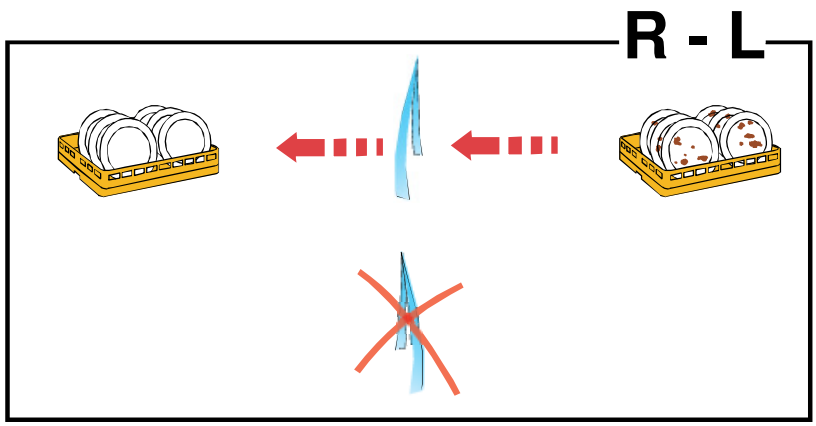
Check:

- that the machine and removable parts have been cleaned. If not – clean them!
- that the main switch (32) is in the ON position
- that the stopcock for the water to the machine is open
- that removable parts are correctly in place
- that no dirt is in the wash arms' (19) or in the rinse pipes' (15) nozzles
- amount of detergent and drying agent (option)

Curtain placement

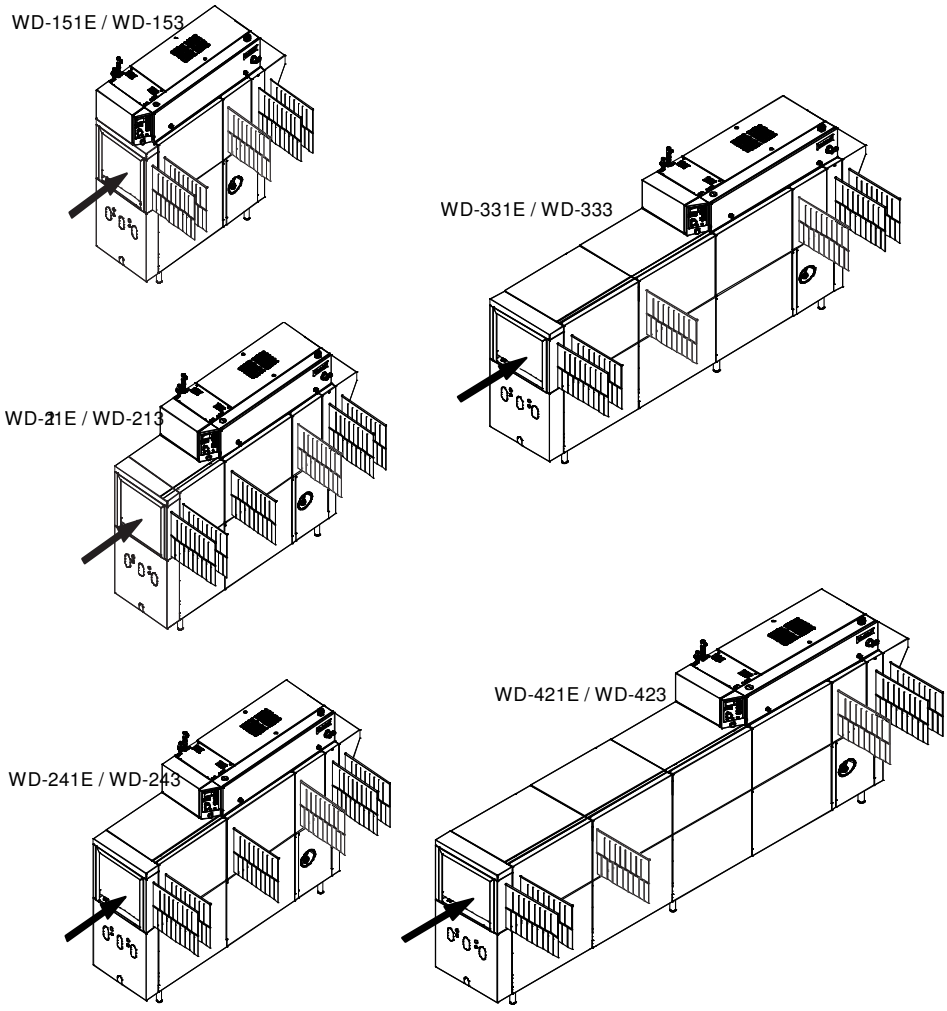
The curtains in the machine must hang in accordance the image depending on the feed direction.





The number of curtains is dependent on the size of the machine.

WD-153	WD-213	WD-243	WD-333	WD-423
5 pcs.	6 pcs.	6 pcs.	6 pcs.	6 pcs.



The machines in the images have a left - right feed direction

Detergent and drying agent

- 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 condensation 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.

- Turn the main switch (32) to the ON position.
- Close the doors.
- Press button (9) to switch on the power supply.
- Press button (3). The filling and heating process will begin.
- When the machine is filled and heated, it starts and runs for a while to mix the detergent.
- When the detergent is mixed, the message on the display indicates that the feed should start. Start the feed by pressing the button (5).
- The machine is now ready to wash.

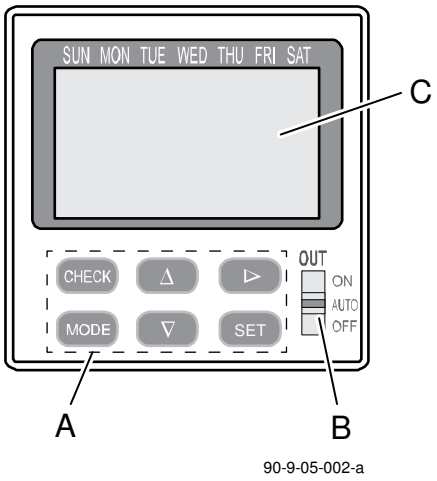
NB! The time it takes for the machine to fill and heat up to the right washing temperature varies between 5 and 30 minutes and depends on the temperature of the incoming water.

4.1.4 Filing and heating the machine using TimerStart (optional)

Using the TimerStart function, the dishwasher can start filling and heating water in the washing tank automatically at a set time. The dishwasher is then ready for washing when the next wash cycle starts and you don't have to wait for the machine to fill the tanks and heat the tank water before washing can start, which takes approx. 30 minutes.

For machines equipped with the TimerStart function, the machine must be in stand-by mode in order to start automatically, i.e. the ON/OFF button (9) is pressed and the following message is shown on the machine's display (1):

TIMER START
ACTIVATED



Timer

A=Buttons for setting and checking
B=Switch
C=Display

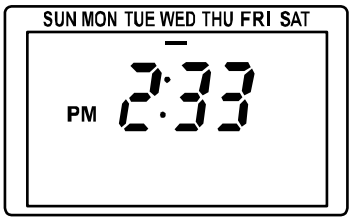
The switch (B) on the timer should be set to AUTO position.

If you want to bypass the TimerStart function and start manually, press the machine's ON/OFF button (9) once more when the message above is shown on the display. The filling and heating of the machine can then start as normal, i.e. by pressing button (3).

Once the wash and draining of the dishwasher has been completed, it must be switched off and set with the ON/OFF button (9) for the machine to enter stand-by mode. It is therefore not enough just to stop the wash cycle and/or to empty the washing tanks to put the machine into this mode.

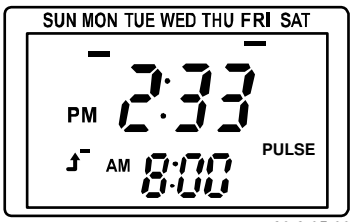
The display's appearance during operation (normal information)

When the machine is in operation, the timer's display looks different depending on whether the start time is set or not. The display also depends on how the start time has been set.



90-9-05-003

When the start time is not set, or when the start time is set for a specific date, the display appears as above.
The actual time (12-hour clock) is shown on the display. The present day of the week is shown as a thin line under the name of the day of the week. (If start time for date is set and this date has expired, the message YEAR is shown to the right of the time).



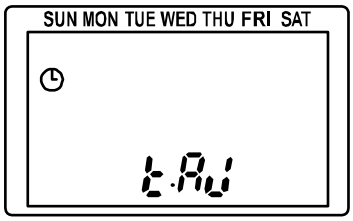
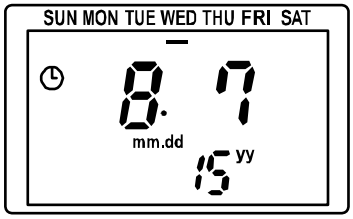
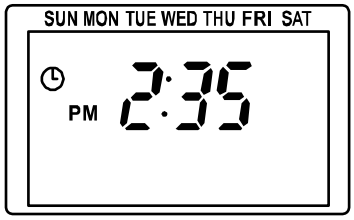
90-9-05-004

When the machine is set to start at a certain time on certain days of the week, the display appears as above.
The time and day of the week are shown here in the same way as above. The next upcoming start time is shown too. The time for the next start time appears under the actual time, and day of the week for the next start time is indicated with a thicker line under the name of the day of the week.

In both cases, it is possible to see the current date by holding down the button ► for 3 seconds. The date is then shown for 3 seconds on the display before returning to its state as per the illustrations above.

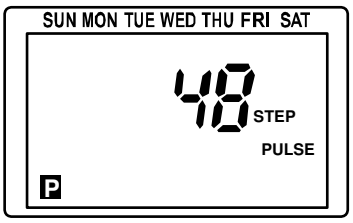
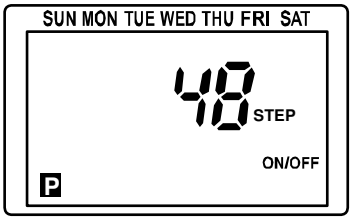
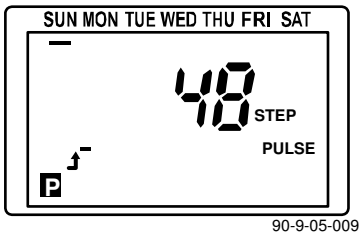
Setting the date and time

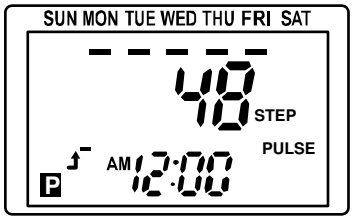
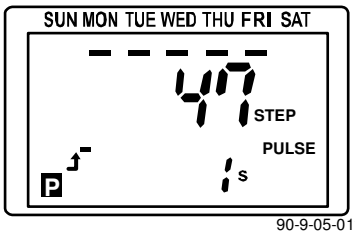
For the TimerStart function to work as expected, the date and timer clock must be set. This is normally done on delivery.

This is what you should do to set the time and date:	
Go into settings mode by holding down the MODE and SET buttons for 3 seconds.	
• Press the SET button.	 90-9-05-005 *The clock symbol in the upper left flashes*
Set the date.	
• The value that is currently set flashes. Increase or decrease the value with the buttons ▲ and ▼. • In order to move on to the next value, press the button ►. • When all the values in the image, (year (yy), month (mm) and day (dd)), are set - press the SET button.	 90-9-05-006
Set the clock. The clock has a 12-hour display so AM (before midday) and PM (after midday) must be set.	
• The one that is currently set flashes. Increase or decrease the value with the buttons ▲ and ▼. • In order to move on to the next value, press the button ►. • Once the clock has been set - press the SET button.	 90-9-05-007
Hold down the MODE button for 3 seconds in order to return to normal display information.	

Setting the start time, days of the week

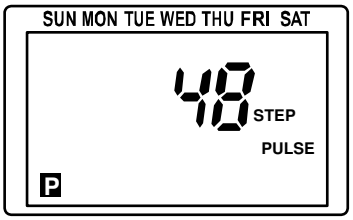
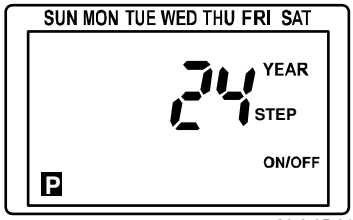
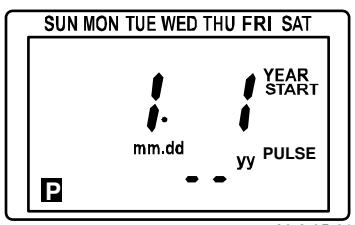
With this setting, you can set a time when the dishwasher begins to fill and heat the water in the tank, and which days of the week this start time applies to. If you want the dishwasher to start at another (additional) time, you must set it for this time too. All weekly settings are active at the same time. For example: The machine should start filling with water and heating at 8.00 on Monday to Friday inclusive and at 8.45 on Saturday and Sunday. Therefore, it is set to 8.00 for Monday, Tuesday, Wednesday, Thursday and Friday, and is set to 8.45 for Saturday and Sunday.

This is what you should do to set the start time and which days of the week it should apply to:	
Access the start time settings mode by pressing the MODE button for 3 seconds.	
• Press the SET button.	 90-9-05-008 *P down to the left flashes*
If there are no previously stored start time settings, the points below must be followed. If start time settings are stored, the timer moves on directly to the next step (set days of the week):	
• Press on either of the buttons ▲ or ▼ so that the message ON/OFF changes to PULSE. • Press the SET button.	 90-9-05-026 *The message ON/OFF flashes*
Set which days of the week the start time should apply to.	
• To activate the day of the week that the pointer (the thin line under the day of the week) indicates, press either of the buttons ▲ or ▼. When a thicker line under the thin flashing line is shown, this day is activated. • By pressing the button ►, the pointer can be moved. • Continue to move and activate with the buttons until all the days of the week which the start time should apply to have a thicker line visible under them. • Once the setting is complete - press the SET button.	 90-9-05-009 *The arrow symbol and the line under the day of the week flashes*

This is what you should do to set the start time and which days of the week it should apply to:	
Set the start time. The value that is currently set flashes.	
• Change the flashing value with the buttons ▲ and ▼. • Move between the settings for the part of the day (AM / PM), hours and minutes with the button ►. • Once the setting of all the values for the start time are complete - press SET.	 90-9-05-010 *The arrow symbol and adjustable value flashes*
Set the pulse length.	
• The pulse length should always be set to 1 second. Change the value if necessary with the buttons ▲ and ▼. • Press SET when the setting is complete.	 90-9-05-011
Press SET once more.	
Hold down the MODE BUTTON for 3 seconds in order to return to normal display information.	

Setting the start time, date

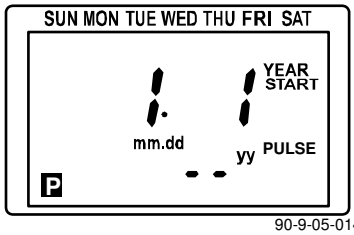
It is possible to set the start time for specific dates, either for an individual date or for a period between a start date and an end date. It is possible to set the timer for a date up to two years from the current date.

This is what you should do to set the start time and which dates it should apply to:	
Hold down the MODE button for 3 seconds in order to enter settings mode.	
• Press MODE again.	 90-9-05-008 *P down to the left flashes*
• Press the SET button.	 90-9-05-012 *The message YEAR and P down to the left flashes*
If there are no previously stored start time settings, the points below must be followed. If start time settings are stored, the timer moves on directly to the next step (set start date):	
• Change with the buttons ▲ and ▼ so that PULSE is indicated instead of ON/OFF. • Press SET.	 90-9-05-013 *The message ON/OFF flashes*
Set the start date (adjustable value flashes):	
• Change the flashing value with the buttons ▲ and . • Scroll to the next value with the button ►. • When all the values (year, month and day) are set, press SET.	 90-9-05-014

This is what you should do to set the start time and which dates it should apply to:

Set the stop date (adjustable value flashes):

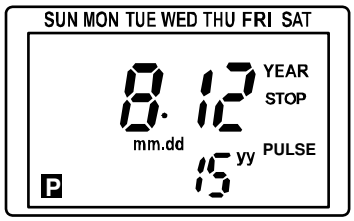
- Change the flashing value with the buttons ▲ and ▼.
- Scroll to the next value with the help of the button ►.
- When all the values (year, month and day) are set, press SET.



90-9-05-014

Set the start time (adjustable value flashes):

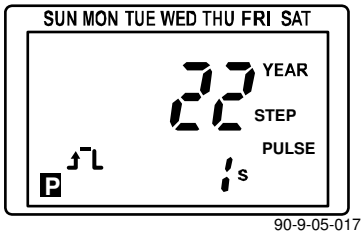
- Change the flashing value with the help of the buttons ▲ and ▼.
- Scroll to the next value with the help of the button ►.
- When all the values (before midday (AM)/after midday (PM), hours and minutes) are set, press SET.



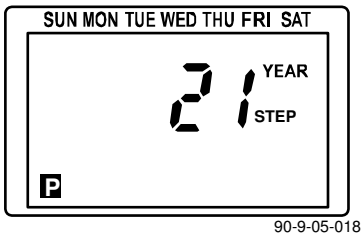
90-9-05-015

Set the pulse length:

- The pulse length should always be set to 1 second. Change with the help of the buttons ▲ and ▼ if necessary.
- Press SET.



90-9-05-017



90-9-05-018

Hold down the MODE button for 3 seconds in order to return to normal information mode.

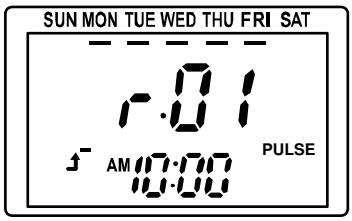
Checking, changing and removal of set start time

If the buttons have not been pressed for at least 60 seconds while in check information mode, the display returns automatically to normal display mode.

Checking of set start times, days of the week:

Hold down the CHECK button for approx. 1 second until the display changes state.

- By pressing repeatedly on CHECK, you can scroll through every set start time.
- If several start time settings are stored, they are numbered as r01, r02 and so on.
- Once you have scrolled past the last stored start time, the display returns to its normal state.

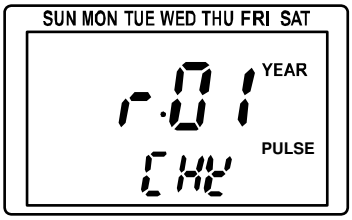


90-9-05-019

Checking of set start times, date:

Hold down the CHECK button for approx. 3 seconds.

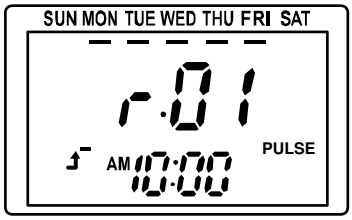
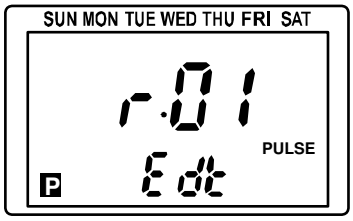
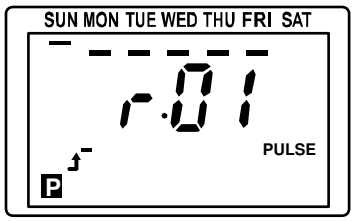
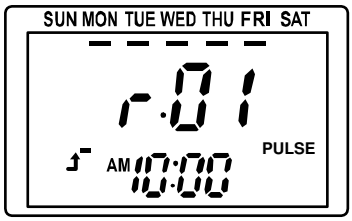
- By pressing repeatedly on CHECK, you can scroll through every set start time.
- If several start time settings are stored, they are numbered as r01, r02 and so on.
- Once you have scrolled past the last stored start time, the display returns to its normal state.



90-9-05-020

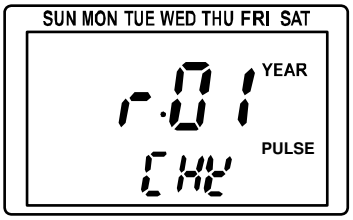
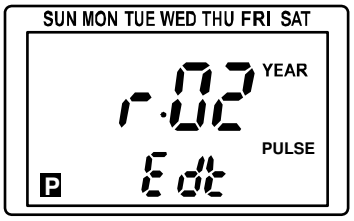
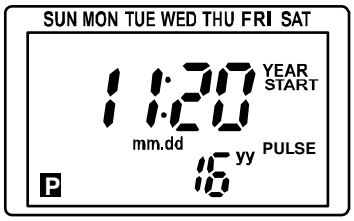
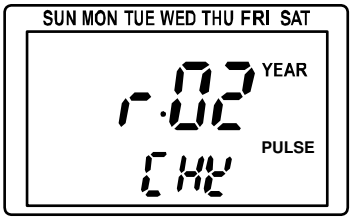
Changing set start times, days of the week:

Hold down the CHECK button for approx. 1 second.

• Scroll forward to the start time setting to be changed by pressing CHECK. • Hold down the SET button for approx. 3 seconds.	 90-9-05-019 *The arrow symbol flashes*
• Press the SET button.	 90-9-05-021 *Edt flashes*
• Set days of the week, start time and pulse length in the same way as described above under “Setting the start time, days of the week” • The display returns to check information mode when the SET button is pressed after the pulse length has been changed.	 90-9-05-022 *Arrow symbol and adjustable value flashes*
• You can choose here to scroll further to the next set start time by pressing the CHECK button or to exit the check information mode by holding down the MODE button for approx. 3 seconds (if the buttons have not been pressed for at least 60 seconds, the display returns automatically to normal display mode).	 90-9-05-019

Changing the set start times, date:

Hold down the CHECK button for approx. 3 seconds.

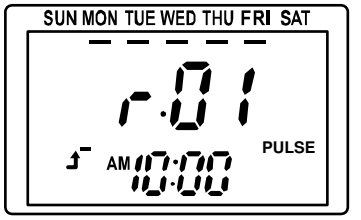
• Scroll forward to the start time setting that should be changed by pressing CHECK repeatedly. • Hold down the SET button for approx. 3 seconds.	 90-9-05-020
• Press the SET button.	 90-9-05-023 *Edt flashes*
• Set start date, stop date, start time and pulse length in the same way as described under “Setting the start time, date” • The display returns to check information mode when the SET button is pressed after the pulse length has been changed.	 90-9-05-024 *START and adjustable value flashes*
• You can choose here to scroll further to the next set start time by pressing the CHECK button or to exit the check information mode by holding down the MODE button for approx. 3 seconds (if the buttons have not been pressed for at least 60 seconds, the display returns automatically to normal display mode).	 90-9-05-025 *r02 flashes*

Removal of set start time:

Start time, day of the week: Enter check mode by holding down the CHECK button for approx. 1 second.

Start time, date: Enter check mode by holding down the CHECK button for approx. 3 second.

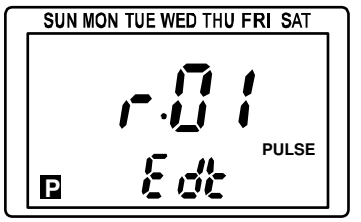
- Scroll forward to the start time setting to be removed by pressing the CHECK button.



90-9-05-019

Hold down the SET button for approx. 3 seconds.

- Change with the help of either of the buttons ▲ or ▼ so that Clr is indicated under the start time setting number instead of Edt.



90-9-05-021

Press SET.

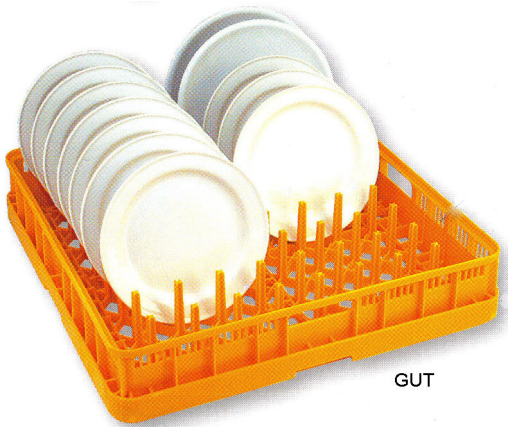
Hold down the SET button for 3 seconds in order to return to normal information mode.

4.2 Washing

DIN 10510 is a German standard which describes how the washing process must work in rack conveyor or flight type machines in order to ensure good washing results. Amongst other things, it recommends that the contact time should be around 120 seconds for normally soiled loads. The contact time is the time which the load spends in a wash or rinse zone with washing water containing detergent. In principle this means the period from when the load enters the pre-wash zone to when it is rinsed with clean water in the final rinse zone. The standard is a useful means of comparing the capacity and consumption of different dishwashers.

4.2.1 Positioning of dishware in baskets

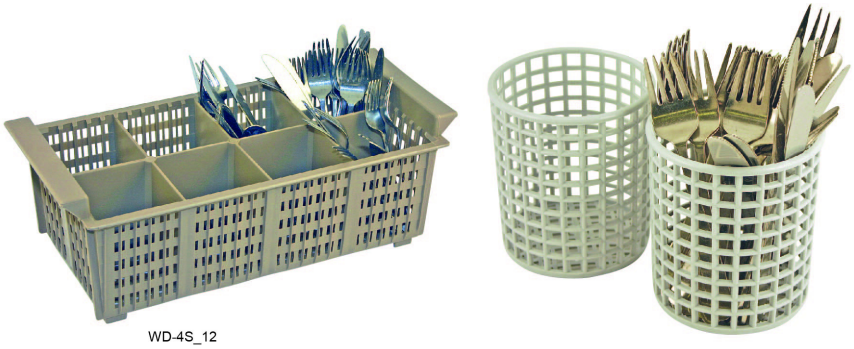
The machine is supplied with washing baskets depending on the equipment level. The washing baskets are used according to the following:



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

The blue basket is used for glasses, cups and canteens

The brown basket is used for cutlery during the first wash



Cutlery must therefore be placed in designated baskets before the second wash, the baskets above are placed in the blue basket

4.2.2 Washing

- Dried on food remnants must be soaked and larger food remnants must be removed prior to washing.
- Plates and trays must be placed longitudinally in the machine.

Selecting the contact time/wash time

When the machine's feed has started, a text message appears on the display indicating that the machine is ready to wash and specifying a contact time in seconds.

- Select the contact time using knob (15) on the panel. Various times may be chosen.
- You should select a contact time on the basis of how heavily soiled the load is. If the load is very heavily soiled, choose the longest contact time. In the case of lightly or normal soiled loads, choose a shorter contact time depending on the level of soiling.

Feeding loads into the machine

- Push the basket carefully towards the feed opening until the feed device hooks the basket in place.

- Once the feed device begins to pull the basket into the machine, the basket must not be pushed manually. This may disturb the wash cycle, resulting in impaired wash results.
- When baskets are fed in uninterruptedly, they are transported through the machine and washed continuously. If the photocell (31) indicates a gap in the queue of baskets, the machine stops until the next basket is fed in.

Unloading loads from the machine

- Baskets which remain in the machine when no new baskets are being fed in are automatically unloaded after a few minutes.

- The baskets remaining in the machine can also be unloaded manually by pressing button (4).

Checking the wash result

The dishware should be checked after each wash for:

PROBLEMS	CAUSES & MEASURES
Starch spots Misting Protein residues Detergent residues	• **Scraping:** 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. • **Detergent and drying agent dosage:** If using liquid detergent and drying agent, the same make and type should be used. The dosing affects both detergent and drying results of the dishware. The hardness level of the water affects the consumption of detergent. Contact your detergent supplier. • **Temperatures:** At incorrect temperatures the dishes will not be clean. Contact a service technician if you need to change the set values. • **Programme selection:** Programme with too short a washing time selected. Choose a programme with a longer washing time. • **Cleaning the machine:** Insufficient cleaning of the machine affects the results of the washing. Ensure better cleaning of the machine. • **Placing dishes in baskets:** Incorrectly placed items can mean that the washing water does not reach the items during washing and rinsing. • **Soaking:** Items with hard dried food. Soak the dishes in water. Do NOT use washing-up liquid.

Guaranteed final rinse

The temperature of the final rinse water is always correct and the right amount of rinse water is always used.

If the rinse temperature is too low, an alert is triggered on the control panel. The machine continues washing until the right temperature is reached. However, the alert can be reset in the meantime by pressing button (8) on the panel. The wash programme continues, but the machine will then rinse at a lower temperature. However, an alert is displayed.

If the flow during the final rinse is too low, an alert is displayed on the control panel. The alert can also be set up to stop the machine. The factory setting is for an alert only. If you need an alert which stops the machine, the setting must be changed by a service engineer in the machine's software.

Emergency stop function

The machine has an emergency stop button (13). If the machine has been stopped during operation using the emergency stop button, the button must be reset by turning it in the direction of the arrows. Then press the button (5) to restart the feed.

Changing the water

To achieve the best possible washing results, it is important that the water is changed frequently. However, always change the water in the event of foam problems in the tank.

- Switch the machine off by pressing button (9).
- Remove the filters (29) and drain the tanks by pulling the lever (23).
- When the tanks have been drained, close the level pipes and the outlet seals using the lever (23).
- Replace the filters.
- Refill the machine. See "Filling and heating the machine".

4.3 After use

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.

STOP

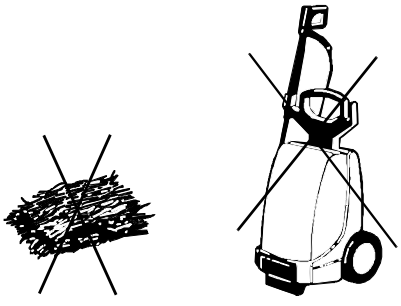
- Make sure the power supply to the machine is disconnected and that the incoming water is turned off during cleaning.
- All internal cleaning can and should take place from the front side of the machine to avoid the risk of crushing injuries beside the feed cradle.
- If any items become trapped in the feed cradle, these can be released using a 13mm double-ended spanner to turn the feed crank clockwise.

4.3.1 Incorrect cleaning methods

⚠

NB! 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.



WD9_07

Steel wool and pressure washers must not be used for cleaning

4.3.2 Emptying

- Unhook the curtains (18) at the infeed end and wash them in a basket.
- Switch the machine off by pressing button (9).
- Empty the tanks by pulling the lever (23).

4.3.3 Daily cleaning

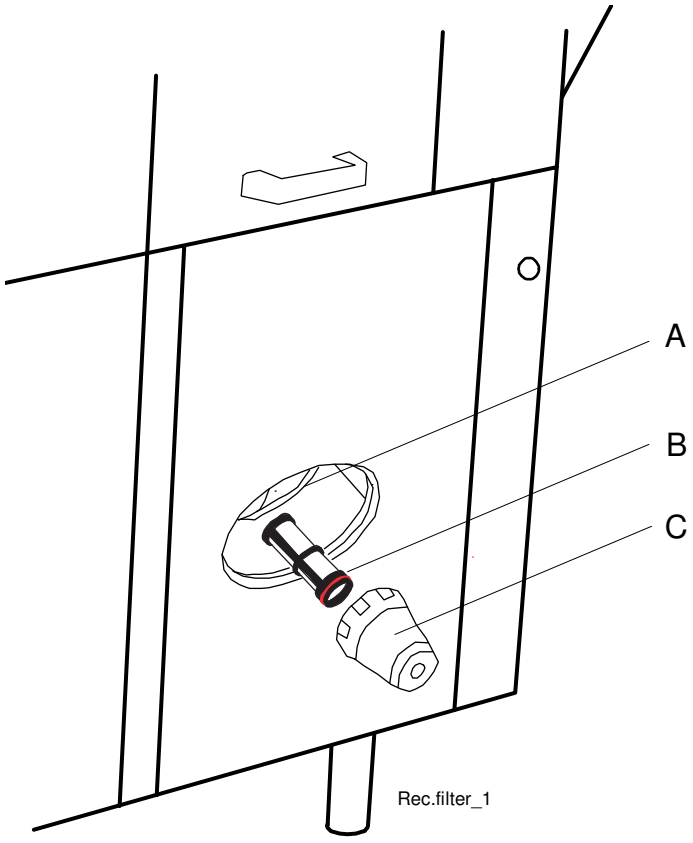
Cleaning the inside

- Clean the filters (29), all the curtains (18), the level pipe (30), the outlet seals (26) and the rinse nozzles (20). Never leave the curtains, level pipes and outlet seals so that the rubber sleeve rests on a surface. The sleeve can become deformed leading to the risk of water leakage in the tanks.
- Clean the washer arm nozzles (19).
- Clean the doors (22). Wipe the rubber strips on the doors which are fitted at the top of the back of the doors.
- Rinse all the inside surfaces of the machine and clean the tanks. Use our Cleaning Gun (WD240.9009) for best results
- Finally, clean the filter (24).
- Empty the final rinse tank and clean the filter (25). The filter is placed behind the lower cover plate at the outfeed end.
- Refit the components.
- Leave the doors open.

Cleaning the filter

The final rinse tank (25) must be empty when cleaning the filter. The tank must be emptied in connection with daily cleaning.

- Unscrew the cover (C) and remove the filter (B). Rinse the filter and cover.
- When refitting, it is important to fit the filter correctly to ensure that it is not damaged and that no leakage occurs.
- First fit the filter (B) in the filter housing (A) then ensure that it is sitting straight.
- Fit the cover (C), (does not need to be screwed tight).



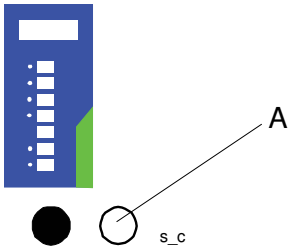
Removing/fitting the filter
A=Filter housing
B=Filter
C=Cover

Externally

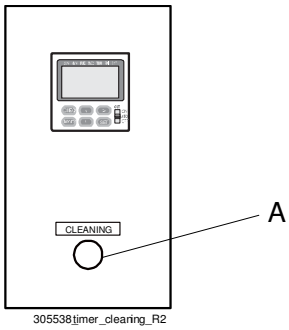
Wipe the outside of the machine with a soft, damp cloth.

Machines with rinse cleaning functions (option)

The machine may be fitted with a rinse cleaning function for the washing zones, condensing battery, washing zones and condensing battery.



Button for rinse cleaning functions



Button for rinse cleaning functions, button position when the machine is also equipped with TimerStart.

Automatic rinse cleaning function for washing zones

On activation of self-cleaning, the button (A) lights up and shines with a white light.

The machine rinses clean doors and tanks internally for a preset time (3 minutes).

When rinsing is complete, the button (A) goes out.

Automatic rinse cleaning function for condensing battery

On activation of self-cleaning, the button (A) lights up and shines with a white light.

The machine rinses the condensing battery for a preset time (12 seconds).

When rinsing is complete, the button (A) goes out.

Automatic self-cleaning of the condensing battery and washing zones

On activation of self-cleaning, the button (A) lights up and shines with a white light.

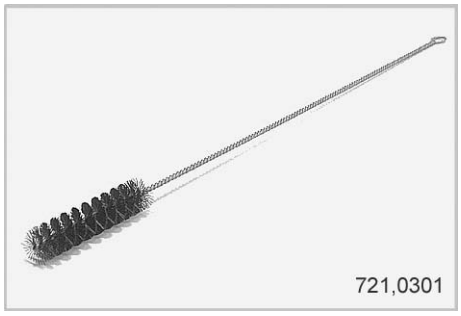
The machine rinses the condensing battery first for a preset time (12 seconds), then doors and tanks are rinsed internally for a preset time (3 minutes).

When rinsing is complete, the button (A) goes out.

4.3.4 Cleaning and checking each week or as required

Weekly cleaning should be more thorough than daily cleaning. In addition to the daily cleaning measures, clean the machine as per these instructions:

- Clean the washer arms (19). Brush and rinse the washer arms using the Cleaning brush (WD721.0301) and clean the nozzles.
- Check and clean the rinse nozzles (20).
- Remove and clean the doors (22). Open the door, depress the catch (21) and lift the door vertically.
- Refit all cleaned components.
- Decalcify the machine when necessary.

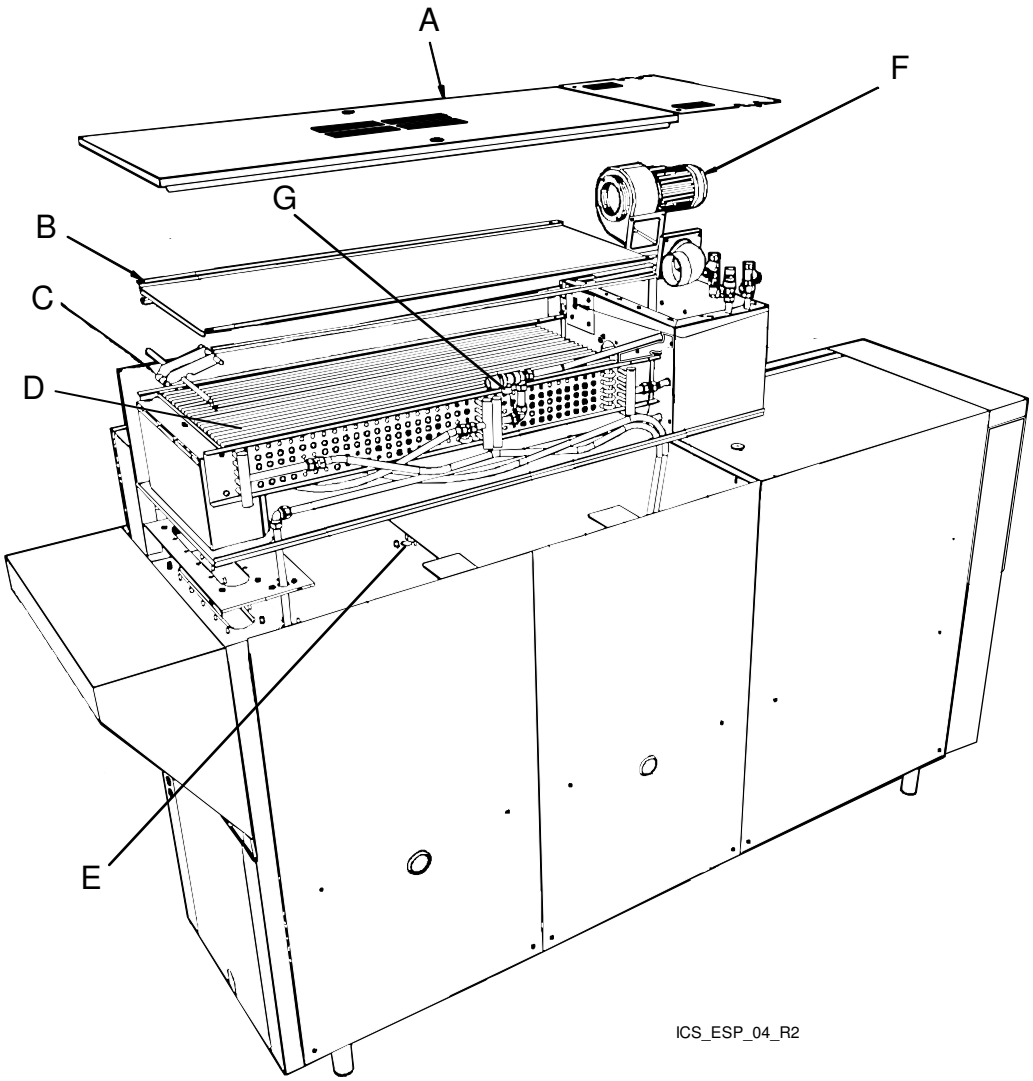


Cleaning brush WD721.0301

The door springs may be cleaned as required by rinsing these from the side. Use our Cleaning Gun (WD240.9009) for best results The springs must NOT be removed! The door in front of the spring being cleaned must be closed.

4.3.5 Cleaning in the event of an alert or 1 time / year

The machine's condensing battery (D) must be cleaned at least once a year or when an alert with a message about cleaning the battery appears on the control panel display.



A=Top panel
B=Cover plate
C=Lifting arm
D=Condensing battery
E=Drain
F=Fan motor
G=Safety valve

NB! When cleaning the condensing battery and the base of the battery box, do not use more water than the drain (E) under the battery can remove from the machine. The battery must be cleaned with hot water at normal pressure. Do not aim the water directly at the fan motor (F) on the end piece of the battery. The electric motor may be damaged if it is rinsed with high-pressure water.

- Remove the top panel (A) on the condensing battery box.
- The safety valve (G) should be aerated/activated at least once a year.
- Remove the cover plate (B) from the condensing battery by unscrewing the wing nuts which fasten it in place. Lift up the condensing battery using the lifting arm (C) to make it easier to remove.
- Check from inside the machine that the drain (E) under the battery is not blocked.
- With the condensing battery removed, begin by cleaning the bottom plate of the battery box. Then check that the drain (E) is not blocked.
- Next, clean the condensing battery (D). Rinse between the cooling fins from above. If the condensing battery is very dirty, a cleaning product with a neutral pH which will dissolve grease can be used. Check the drain.
- Finish by washing the base of the battery box again.
- Replace the condensing battery using the lifting arm (C), attach the cover plate securely (B) using the wing nuts, before fitting the top panel (A).

4.3.6 Operating problems

Error messages

Machine faults and user faults are indicated by messages on the display (1). The alerts indicated with a flashing LED (17) can be reset by pressing button (8) when the cause of the alert has been rectified. Alerts that are indicated by the fact that the LED (17) is lit but not flashing cannot be reset by the operator.

The following alerts can be addressed by the operator. For other alerts, or if an alert reset with button (8) recurs, authorised service personnel must be contacted.

ALERT MESSAGE	ACTION
(0) PLATFORM ERROR	Restart the machine.
(63) PPOWER SUPPLY FAILURE CHECK THE EMERGENCY SWITCH	Reset the emergency stop by turning it in the direction of the arrows. Restart the machine.
(98) HARDWARE ERROR POWER ON FUNCTION DEFECT CALL SERVICE	Restart the machine. If the error recurs, contact an authorised service company.
(1) EMERGENCY STOP ACTIVATED	Reset the emergency stop by turning it in the direction of the arrows. Start the feed by pressing button (5).
(100) NOMINAL VALUES RESTORED FROM UI	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(4) COMMUNICATION ERROR BETWEEN CPU AND I/O 1 CALL SERVICE	Restart the machine.
(5) COMMUNICATION ERROR BETWEEN CPU AND I/O 2 CALL SERVICE	Restart the machine.
(6) COMMUNICATION ERROR BETWEEN CPU AND EXTRA CARD CALL SERVICE	Restart the machine.
(7) COMMUNICATION ERROR BETWEEN CPU AND DISPLAY CARD CALL SERVICE	Restart the machine.
(14) WEAK SIGNAL FROM PHOTOCELL WASH START CLEAN PHOTOCELL	Clean the photocell. The alert in the display will disappear after cleaning.
(47) HACCP ALARM PUMP FUNCTIONALITY DEFECT PRESS RESET	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.

ALERT MESSAGE	ACTION
(64) HACCP ALARM WRONG TEMPERATURE IN TANK PRESS RESET	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(67) HACCP ALARM WRONG TEMPERATURE IN BOILER PRESS RESET	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(72) HACCP ALARM WASHING DETERGENT FUNCTIONALITY DEFECT PRESS RESET	Check and fill with new detergent. Reset the alert by pressing button (8).
(78) HACCP ALARM FINAL RINSE DEFECT PRESS RESET	Open the tap. Clean the nozzles. Reset the alert by pressing button (8).
(29) EXTERNAL ALARM INPUT ACTIVATED	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(30) TIMEOUT FILLING OF TANKS PRESS RESET	Open the stopcocks. Close the level pipe and the outlet seals. Check the rubber sleeves. Reset the alert by pressing button (8).
(31) TIMEOUT HEATING TANKS AND BOILERS PRESS RESET	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(32) BASKET IN FINAL RINSE ZONE OR SENSOR ERROR B02 PRESS RESET	Remove the basket. Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(33) DOOR IS OPEN CLOSE DOOR	Close the door and start the feed by pressing button (5).
(40) LOW LEVEL IN TANK 1 (PRE-RINSE TANK)	Close the level pipe. Check the rubber sleeve.
(41) LOW LEVEL IN TANK 2 (CHEM WASH TANK 1)	Close the level pipe or the outlet seal. Check the rubber sleeve.
(42) LOW LEVEL IN TANK 3 (CHEM WASH TANK 2)	Close the outlet seal. Check the rubber sleeve.
(43) LOW LEVEL IN TANK 3 (CHEM WASH TANK 1/2)	Close the outlet seal. Check the rubber sleeve.
(44) LOW LEVEL IN TANK 4 (CHEM WASH TANK 3)	Close the outlet seal. Check the rubber sleeve.
(45) LOW LEVEL IN FINAL RINSE TANK	Close the outlet seal. Check the rubber sleeve.

ALERT MESSAGE	ACTION
(51) OVERLOAD FEEDING ACTIVATED REMOVE OBJECT RESTART FEEDING	Remove the item. Start the feed by pressing button (5).
(85) OVERLOAD FEEDING ACTIVATED PRESS RESET	Reset the alert by pressing button (8).
(52) FEEDER LIMIT SWITCH ACTIVATED REMOVE OBJECT FROMTHE FEEDER LIMIT	Remove the basket. The feed will start automatically.
(61) LOW TEMPERATURE IN TANK 2 (CHEM WASH TANK 1)	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(62) LOW TEMPERATURE IN TANK 3 (CHEM WASH TANK 2)	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(81) LOW TEMPERATURE IN TANK 4 (CHEM WASH TANK 3)	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(66) LOW TEMPERATURE IN THE FINAL RINSE BOILER	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(69) LOW TEMPERATURE FINAL RINSE. CLEAN HEAT RECOVERY UNIT. PRESS RESET	Clean the condensing battery or contact service personnel. Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(71) WASHING DETER-GENT ALARM ACTIVE CHECK DETERGENT DEVICE	Check and fill with new detergent.
(74) POWER GUARD ACTIVATED PART OF EQUIPMENT IS TURNED OFF	OPTION
(77) FINAL RINSE ERROR SENSOR ERROR FLOW METER BV02	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.
(76) FINAL RINSE ERROR NO FLOW IN THE MACHINE	Check that the stopcocks on the incoming water supply are open. Reset the alert by pressing button (8). If the error recurs, contact an authorised service compa-ny.
(75) FINAL RINSE ERROR LOW FLOW IN THE MACHINE	Clean the nozzles. Reset the alert by pressing button (8). If the error recurs, con-tact an authorised service company.

ALERT MESSAGE	ACTION
(80) STRAINER STOPPED IN TANK 02. CLEAN FILTER AND STRAINER PRESS RESET	Clean the filters. Reset the alert by pressing button (8).
(83) TIME FOR MAINTENANCE CONTACT	Reset the alert by pressing button (8). If the error recurs, contact an authorised service company.

Troubleshooting

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

PROBLEMS	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/hood is open.	Close the door/hood.
	The rinse pipe nozzles are blocked.	Clean the wash nozzles.
The machine fills slowly.	The rinse pipe nozzles are blocked.	Clean the wash nozzles.
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 dishes 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 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 tank.	Check that the washing temperature is not too low and that the correct detergent is being used.
	The contact time is too short.	Select a longer contact time using knob (15).
	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.
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.

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 information

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

TECHNICAL DATA	
Pump motor, pre-wash (kW), WD-213 - WD-423	1.5
Pump motor, chemical wash 1 (kW)	1.5
Pump motor, chemical wash 2 (kW), WD-333 - WD-423	1.5
Pump motor, chemical wash 3 (kW), WD-423	1.5
Pump motor, recirculating rinse (kW)	0.11
Heat recovery fan (kW)	0.12
Drive motor (kW)	0.12
Booster heater 1 (kW), WD-153	9 *
Booster heater 1 (kW), WD-213 - WD-423	12 *
Booster heater 2 (kW), WD-153	9
Booster heater 2 (kW), WD-213 - WD-423	12
Tank heater, chemical wash 1 (kW), WD153 - WD-243	12
Tank heater, chemical wash 1 (kW), WD333- WD-423	9
Tank heater, chemical wash 2 (kW), WD333- WD-423	9
Tank heater, chemical wash 3 (kW), WD-423	9
Heat recovery, cooling surface (m^2)	25
Heat recovery fan, flow (m^3/hour)	100
Tank volume, pre-wash (litres), WD-213	51
Pump motor, pre-wash (litres), WD-243 - WD-423	77
Tank volume, chemical wash tank 1 (litres)	100
Tank volume, chemical wash tank 2 (litres), WD-333- WD-423	100
Tank volume, chemical wash tank 3 (litres), WD-423	100
Tank volume, final rinse tank (litres)	6
Weight, machine in operation (kg), WD-153	490
Weight, machine in operation (kg), WD-213	625
Weight, machine in operation (kg), WD-243	655
Weight, machine in operation (kg), WD-333	900
Weight, machine in operation (kg), WD-423	1020
Enclosure protection class (IP)	55

* Adjust where necessary. Affects the capacity and connected power.

CAPACITY AND OPERATING DATA	
Normal wash capacity (baskets/hour), WD-153	70-150 *
Normal wash capacity (baskets/hour), WD-213	100-200 *
Normal wash capacity (baskets/hour), WD-243	110-210 *
Normal wash capacity (baskets/hour), WD-333	150-230 *
Normal wash capacity (baskets/hour), WD-423	150-230 *
Capacity in accordance with DIN 10510 (baskets/hour), WD-153	80
Capacity in accordance with DIN 10510 (baskets/hour), WD-213	120
Capacity in accordance with DIN 10510 (baskets/hour), WD-243	140
Capacity in accordance with DIN 10510 (baskets/hour), WD-333	190
Capacity in accordance with DIN 10510 (baskets/hour), WD-423	245
Cold water consumption, normal final rinse (litres/basket), WD-153	1.4 **
Cold water consumption, normal final rinse (litres/basket), WD-213	1.3 **
Cold water consumption, normal final rinse (litres/basket), WD-243	1.2 **
Cold water consumption, normal final rinse (litres/basket), WD-333	1.1 **
Cold water consumption, normal final rinse (litres/basket), WD-423	1.0 **
Steam consumption ***, (kg/hour), WD-153	50
Steam consumption ***, (kg/hour), WD-213 - WD-243	60
Steam consumption ***, (kg/hour), WD-333	70
Steam consumption ***, (kg/hour), WD-423	75
Surface temperature at a room temperature of 20°C (°C)	35
Sound pressure level, L_{PA} (dBA) ****	69
Sound power level L_{WA} (dBA) ****	83

* Maximum capacity 240 baskets/hour.

** The water consumption is reduced by 0.1 litres in combination with WD-PRM 60/90.

*** When the machine is steam-heated.

**** 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 20cm from the edges of the front at a height of 1.55m 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, ELECTRICALLY-HEATED MACHINE	
Total connected power (kW), WD-153	32.6
Total connected power (kW), WD-213 - WD-243	40.1
Total connected power (kW), WD-333	47.6
Total connected power (kW), WD-423	58.1
Main fuse 400V 3N~ (A) *, WD-153	50
Main fuse 400V 3N~ (A) *, WD-213 - WD-243	63
Main fuse 400V 3N~ (A) *, WD-333	80
Main fuse 400V 3N~ (A) *, WD-423	100
Max. connection area 400 V 3N~ (L1-L3, N, PE) Cu (mm²)	35

* Other voltages on request.

CONNECTION, STEAM-HEATED MACHINE 150-250 kPa *	
Total connected power (kW), WD-153	1.8
Total connected power (kW), WD-213 - WD-243	3.4
Total connected power (kW), WD-333	4.8
Total connected power (kW), WD-423	6.0
Main fuse 400V 3N~ (A) **, WD-153	16
Main fuse 400V 3N~ (A) **, WD-213 - WD-423	20
Max. connection area 400 V 3N~ (L1-L3, N, PE) Cu (mm²)	25
Steam (internal thread), WD-153 - WD-243	R¾"
Steam (internal thread), WD-333 - WD-423	R1"
Condensing water (internal thread)	R½"

* Other pressures available on request.

** Other voltages on request.

WATER, DRAIN AND VENTILATION CONNECTIONS	
Water quality, hardness (°dH)	2-7
Hot water connection 50-65°C (internal thread)	R½"
Cold water connection 5-12°C (internal thread)	R½"
Drain connection, PP pipe (ø mm)	50
Water capacity, pressure (kPa)	250-600
Water capacity, flow (litres/minute)	11
Floor drain, capacity (litres/second)	3
Heat load room, latent / sensitive / total (kW), WD-153	2.5 / 3.5 / 6.0
Heat load room, latent / sensitive / total (kW), WD-213 - WD-243	2.6 / 3.9 / 6.5
Heat load room, latent / sensitive / total (kW), WD-333	3.2 / 4.8 / 8.0
Heat load room, latent / sensitive / total (kW), WD-423	4.2 / 6.3 / 10.5

SIZE AND WEIGHT FOR TRANSPORT, STANDARD MACHINE *	
Size ** (L x B x H (m)), WD-153	2.1 x 0.8 x 2.0
Size ** (L x B x H (m)), WD-213	2.7 x 0.8 x 2.0
Size ** (L x B x H (m)), WD-243	3.0 x 0.8 x 2.0
Size ** (L x B x H (m)), WD-333	3.9 x 0.8 x 2.0
Size ** (L x B x H (m)), WD-423	4.8 x 0.8 x 2.0
Weight ** (kg), WD-153	400
Weight ** (kg), WD-213	510
Weight ** (kg), WD-243	550
Weight ** (kg), WD-333	680
Weight ** (kg), WD-423	790

* Normal delivery fully assembled. If necessary, delivered in smaller components.

** Including packaging.