Miele

Operating Instructions
Washer-Disinfectors

ExpertLine
PWD 8682
PWD 8692

Always read the operating instructions before setting up, installing, and commissioning the machine. This prevents both personal injury and damage to the appliance.

en-US, CA

M.-Nr. 12 894 690

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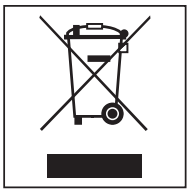
Applicable symbols

Symbol	Legend
	For warnings and safety notes; see “IMPORTANT SAFETY INSTRUCTIONS”
	Mandatory sign; see “IMPORTANT SAFETY INSTRUCTIONS”
	Observe the operating instructions
	MET symbol
	EMC symbol of the VDE
	Do not dispose of electrical machines in household waste; they need to be disposed of separately, see “Disposal of your old machine”
	Manufacturer

Symbols and conventions used in this document

Warnings

⚠ Warnings contain information related to safety. This alerts you to the potential danger of injury to people or damage to property. Read the warnings carefully and follow the instructions and directions.

Notes

Notes contain information that is particularly important to follow.

Additional information and comments

Additional information and comments are contained in a simple frame.

Operating steps

Operating steps are indicated by a black square bullet point.

Example:

■ Select an option.

Display

Display text is indicated by a particular font.

Example:

Save.

Definition of terms

Machine

In these operating instructions, this device is referred to as "the machine".

Wash items

The term “wash items” is used wherever the items to be reprocessed are not defined in any further detail.

Load carriers

Unless otherwise specified, all components and parts for holding wash items are referred to as load carriers, e.g., mobile units, baskets, modules, inserts, injector nozzles, etc.

Process chemicals

All media dispensed during a program sequence are generally referred to as process chemicals, e.g., cleaning agents.

Wash water

The term “wash water” refers to water or to a mixture of water and process chemicals.

Cycle

Machine-based cleaning and reprocessing procedures are generally referred to as cycles.

This machine conforms to current safety requirements. Inappropriate use can, however, lead to personal injury and material damage. Read the operating instructions carefully before using this machine. Pay attention in particular to the residual risks, which are described in the operating instructions in 🕮 "IMPORTANT SAFETY INSTRUCTIONS". This will prevent both personal injury and damage to the machine.
Keep these operating instructions in a safe place.

Proper use

▶ Use of the machine is only approved for the applications stated in the operating instructions. Conversions, modifications, and any other use are not permitted and could be dangerous.
The cleaning and disinfection processes are only designed for medical devices which are designated as reprocessable by the instrument manufacturer. Instructions issued by the manufacturers of wash items and instruments must be heeded.

▶ Observe the IMPORTANT SAFETY INSTRUCTIONS provided by the wash item manufacturers and their instructions on how to handle the wash items correctly.

▶ This machine is intended for indoor use in a stationary location only.

Risk of injury

Please pay attention to the following notes to avoid injury.

▶ The cleaning machine should only be commissioned, repaired, and maintained by Miele Service or a qualified specialist authorized by the manufacturer of the machine. A Miele service contract is recommended to ensure full compliance with the normative and regulatory provisions. Incorrect repairs can cause considerable danger to users.

▶ Do not install the machine in an area where there is any risk of explosion or of freezing conditions.

▶ In order to reduce the risk of water damage, the area around the machine should be limited to furniture and fittings that are designed for use in commercial environments.

▶ Some metal parts pose a risk of injury/being cut. Wear cut-resistant protective gloves when transporting and setting up the machine.

▶ The machine must not be installed in the immediate vicinity of room doors. When the wash cabinet door is open, it could block the room doors, locking people in or out. If the wash cabinet door also protrudes into the walkway, it poses a tripping hazard and could block possible escape routes.

▶ If the machine is installed under a countertop, it must be installed under a continuous countertop which is firmly secured to adjacent units to achieve the necessary stability.

▶ The electrical safety of the machine can only be guaranteed when correctly grounded. It is essential that this standard safety requirement is observed and regularly tested. If in any doubt, please have the electrical installation inspected by a qualified electrician.

▶ A damaged or leaking machine can pose a threat to your safety. Always switch off a damaged or leaking machine immediately and contact Miele Service.

▶ Label machines which have been taken out of operation and lock them to prevent them being switched on again without authorization. The machine may only be put back into operation once it has been successfully repaired by Miele Service or by an appropriately qualified specialist.

▶ Personnel operating the machine should be trained regularly. Untrained personnel must not be allowed access to the machine or its controls.

▶ Only use process chemicals which have been approved by their manufacturer for the relevant application. The manufacturer of the process chemicals is liable for any negative influences on the material of the wash items and the machine.

▶ Use caution when handling process chemicals. These may contain irritant, corrosive or toxic ingredients.
Please observe the process chemical manufacturer's safety instructions and safety data sheets.
Wear protective gloves and goggles.

▶ The machine is designed for operation with water and recommended additive process chemicals only. Organic solvents and flammable liquid agents must not be used as this could cause an explosion, damage rubber or plastic components in the machine and cause liquids to leak out of it.

▶ The water in the wash cabinet is NOT safe to drink!

▶ Do not lift the machine by protruding parts such as the control panel or the opened service flap as these could be damaged or torn off.

▶ Do not sit or lean on the opened door. This could cause the machine to tip and get damaged or cause injury.

▶ Be careful when sorting wash items with sharp, pointed ends. Position them in the machine so that you will not hurt yourself or create a danger for others.

▶ Broken glass can result in serious injury during loading or unloading. Broken glass items must not be processed in the machine.

▶ When operating the machine, beware of the high temperatures involved. If you bypass the electrical lock to open the door, there is a risk of scalding or chemical burns.

▶ Where there is a risk of toxic or chemical substances occurring in or leaking into the chamber wash water during cleaning (e.g., aldehyde in the disinfecting agent), it is essential to regularly check door seals and make sure that the steam condenser is functioning correctly.
Opening the machine door during a program interruption carries particular risks in such circumstances.

▶ Should personnel accidentally come into contact with toxic vapors or process chemicals, follow the emergency instructions given in the manufacturer's safety data sheets.

▶ If a program is interrupted or canceled, the inside of the wash cabinet may be contaminated in various ways depending on the application, e.g., with pathogenic bacteria, toxic or carcinogenic substances, etc. Appropriate protective measures must be taken when opening the wash cabinet door, e.g., the use of gloves.

▶ Load carriers and wash items must be allowed to cool down before removal. Empty any remaining water into the wash cabinet or an on-site utility sink before removing items.

▶ Never clean the machine with a water hose or a pressure washer.

▶ The machine must be disconnected from the electrical supply before any maintenance or repair work is carried out.

▶ Depending on the properties of the flooring and footwear worn on it, liquids can cause a slipping hazard. Keep the floor dry where possible and take care to clean up any liquid spills straight away. Take the necessary precautions when cleaning up hazardous substances and hot liquids.

Quality assurance

The following points should be observed to assist in maintaining quality standards when processing medical instruments and dental instruments, in order to protect patients, and to avoid damage to the loads being cleaned.

▶ If it is necessary to interrupt a program, as an exception only, this should only be done by authorized personnel.

▶ The supervisor must verify and document the results of the reprocessing process. This includes final checks of the cleaning results for each cycle and assessment of the applied and achieved process parameters.

▶ For thermal disinfection, use temperatures and temperature holding times to achieve the required infection prophylaxis in accordance with current health and safety regulations.

▶ Make sure items being washed are suitable for machine reprocessing and are in good condition. Plastic items must be thermally stable. Nickel plated items and aluminum items can be machine processed using special procedures only.
Items containing iron, and soiling containing residual rust must not be placed in the cabinet.

▶ Medical devices are reprocessed by means of thermal disinfection. Heat-sensitive wash items (e.g., medical shoes) can be disinfected using a chemical disinfectant. To do this, a special reprocessing program must be provided by Miele Service. Disinfection parameters are based on claims made by the disinfectant manufacturer. Please observe, in particular, their instructions on handling, operating conditions, and effectiveness.
Chemo-thermal procedures of this type are not suitable for the reprocessing of medical devices.

▶ Under certain circumstances, process chemicals can result in damage to the machine. The recommendations issued by manufacturers of process chemicals must be followed.
Contact the machine manufacturer in the event of damage and any suspicion of material incompatibility.

▶ Instrument care products based on paraffin oils (white oils) can damage the elastomers and plastics of the washer-disinfector. Such care products may not be dispensed as chemical agents in these washer-disinfectors even if they are recommended for machine use by the instrument care product manufacturer.

▶ Abrasive substances must not be placed in the machine as they could cause damage to the mechanical components of the water supply. Any residues of abrasive substances on items to be washed must be removed without trace before reprocessing in the machine.

▶ Pre-treatments with cleaning or disinfecting agents can create foam, as can certain types of soiling and chemical agents. Foam can have an adverse effect on the cleaning and disinfection result.

▶ Processes must be set up such that foam cannot escape from the wash cabinet. It would hinder the correct functioning of the machine.

▶ The process used must be monitored on a regular basis by the supervisor to check foaming levels.

▶ To avoid the risk of damage to the machine and its accessories caused by process chemicals, soiling, and any reaction between the two, please read the notes in “Chemical processes and technology”.

▶ Even when a process chemical, e.g., cleaning agent, is recommended by the manufacturers of the process chemical, the machine manufacturer takes no responsibility for the effect of such process chemicals on the wash items.
Please note that changes in product formulation, storage conditions, etc., which are not announced by manufacturers of process chemicals may impair the quality of cleaning results.

▶ When using process chemicals, always consult the instructions issued by individual manufacturers. Process chemicals must only be used for the purpose they are designed for by the manufacturer to avoid any material damage or the occurrence of very strong chemical reactions, such as an oxyhydrogen explosion.

▶ Always follow the relevant manufacturer’s instructions on storage and disposal of process chemicals and their containers.

▶ Particles ≥ 0,8 mm are removed by the filters in the wash cabinet. Smaller particles may find their way into the circulation system. For this reason, reprocessing of wash items with narrow lumens requires additional filtering of the wash water.

▶ If the cleaning result is subject to particularly stringent requirements, e.g., in chemical analysis, regular quality control should be carried out by the operator to ensure that required standards of cleanliness are being achieved.

▶ Load carriers which hold the wash items must be used only as intended.
The interior of lumened wash items must be thoroughly flushed through with wash water.

▶ Secure small and light items with cover nets or place in a mesh tray for small items, so that they do not block the spray arms.

▶ Empty any containers or utensils before loading them.

▶ The amount of residual solvents and acids on items going into the cabinet should be minimal.
There should be no more than a trace of any solvents with a flash point of below 70°F (21°C).

▶ Chloride solutions, in particular hydrochloric acid, must not be placed in the cabinet.

▶ Ensure that solutions or steam containing chlorides or hydrochloric acid do not come into contact with the stainless steel outer casing of the machine in order to avoid any damage through corrosion.

▶ After any plumbing work, the water pipework to the machine will need to be primed. If this is not done, components can be damaged.

▶ The gaps between a built-in machine and adjacent cabinetry must not be filled with silicone sealant as this could compromise the ventilation to the circulation pump.

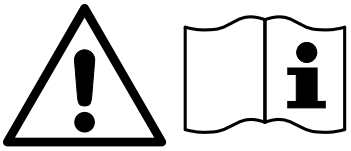
▶ Please follow the advice on installation in these operating instructions and the installation plan.

Using components and accessories

▶ It is strongly recomended to use only original spare parts and accessories from the manufacturer, which are suitable for the application they are required for. Model designations are available from Miele.

▶ Only use original load carriers from the machine manufacturer. Using load carriers made by other manufacturers or making modifications to original accessories can result in an unsatisfactory cleaning and disinfection result.

Symbols on the machine



Attention:
Observe the operating instructions!

Attention:
Danger of electric shock!

Warning: Hot surfaces:
It can be very hot inside the wash chamber when the door is opened!

Risk of being cut:
Wear cut-resistant protective gloves when transporting and setting up the machine!

Disposal of your old machine

▶ Please note that the machine may have contamination from blood, bodily fluids, pathogenic germs, facultative pathogenic germs, genetically modified material, toxic or carcinogenic materials, heavy metals etc. in it and must be decontaminated before disposal.
For environmental and safety reasons, ensure the machine is completely drained of any residual water, chemical residues and process chemicals. Observe safety regulations and wear safety goggles and gloves.
Make the door lock inoperable, so that children cannot accidentally lock themselves in the machine. Then make appropriate arrangements for its safe disposal.

SAVE THESE INSTRUCTIONS

General description

This machine is a medical device within the meaning of the FDA guidance document entitled “Class II Special Controls Guidance Document: Medical Washers and Medical Washer-Disinfectors; Guidance for the Medical Device Industry and FDA Review Staff”.
This machine is a Class II medical device in accordance with Health Canada.
It is being used for cleaning and intermediate level of disinfection of reprocessable medical devices.

How it works

The instruments are cleaned by means of programs, which are adapted to the soiling and medical devices to be reprocessed in terms of water quality, temperature, process chemicals used and system components. Additionally, thermal disinfection is carried out, which corresponds to an intermediate level of disinfection in accordance with the FDA-guidance document.

The machine is only suitable for cleaning reprocessable medical devices. A subsequent high-level disinfection or sterilization must be carried out in accordance with the recommendations of the instrument manufacturers.

It is important for the adequate cleaning and intermediate level of disinfection of the medical devices to use load carriers (trolleys, modules, inserts, etc.) that are adapted to this purpose.

Medical use

The cleaning result, e.g., by means of the Vario process, is decisive for the safety and sterilization and thus for the safe reuse of medical devices to be reprocessed.

The washing and intermediate level of disinfection of medical devices should preferably be carried out by machine cleaning procedures for the purpose of standardisation.

Intended use

In the machine, reprocessable medical devices can be cleaned, rinsed and disinfected in dental and medical practices, hospitals and healthcare facilities, outpatient surgery centers or veterinary facilities. For this purpose, the information provided by the manufacturers of the medical devices (ISO 17664, CAN/CSA-Z17664) and the manufacturers of the process chemicals must also be observed.

For machine variant is without active drying, complete drying after washing of the medical devices must be ensured depending on the application.

Intended user group

The machine may only be operated by trained medical (including dental and veterinarian) personnel who have the appropriate expertise for reprocessing medical devices, such as medical (including dental and veterinarian) assistants.

Conditions of use

The unit must be installed in rooms that comply with the following environmental conditions:

- Draught-free and dry
- The installation room must be equipped with suitable room ventilation
- Massive (observe floor load-bearing capacity) and level surface
- No direct sunlight
- Temperature range: 40°F - 104°F (5°C - 40°C)
- Relative humidity:
  - Max. 80% at a temperature 88°F (31°C) linearly decreasing to 50% at temperatures 104°F (40°C)
  - Min. 10%
- Ambient pressure/max. height above sea level: max. 6,561 ft (2.000 m) above sea level

The unit may only be connected in conjunction with a residual current device.

Application delimitation/exclusions

Flexible endoscopes or products that are not approved for reprocessing in a washer according to their reprocessing recommendation must not be reprocessed.

The washer-disinfector must not be operated in locations that do not comply with the following environmental conditions:

Operation (according to UL 61010-1, CSA C22.2 No. 61010-1):

- Ambient temperature:	40 °F to 104 °F (5 °C to 40 °C)
- Relative humidity:	max. 80 % for temperatures up to 88 °F (31 °C) linear decrease to 50 % for temperatures up to 104 °F (40 °C)
- Relative humidity:	min. 10 %
- Altitude above sea level (according to UL 61010-1, CSA C22.2 No. 61010-1):	Up to 6,561 ft (2.000 m)

Foreseeable misuse

Do not reprocess flexible endoscopes and disposable material or products that are not intended for reprocessing in the washer.

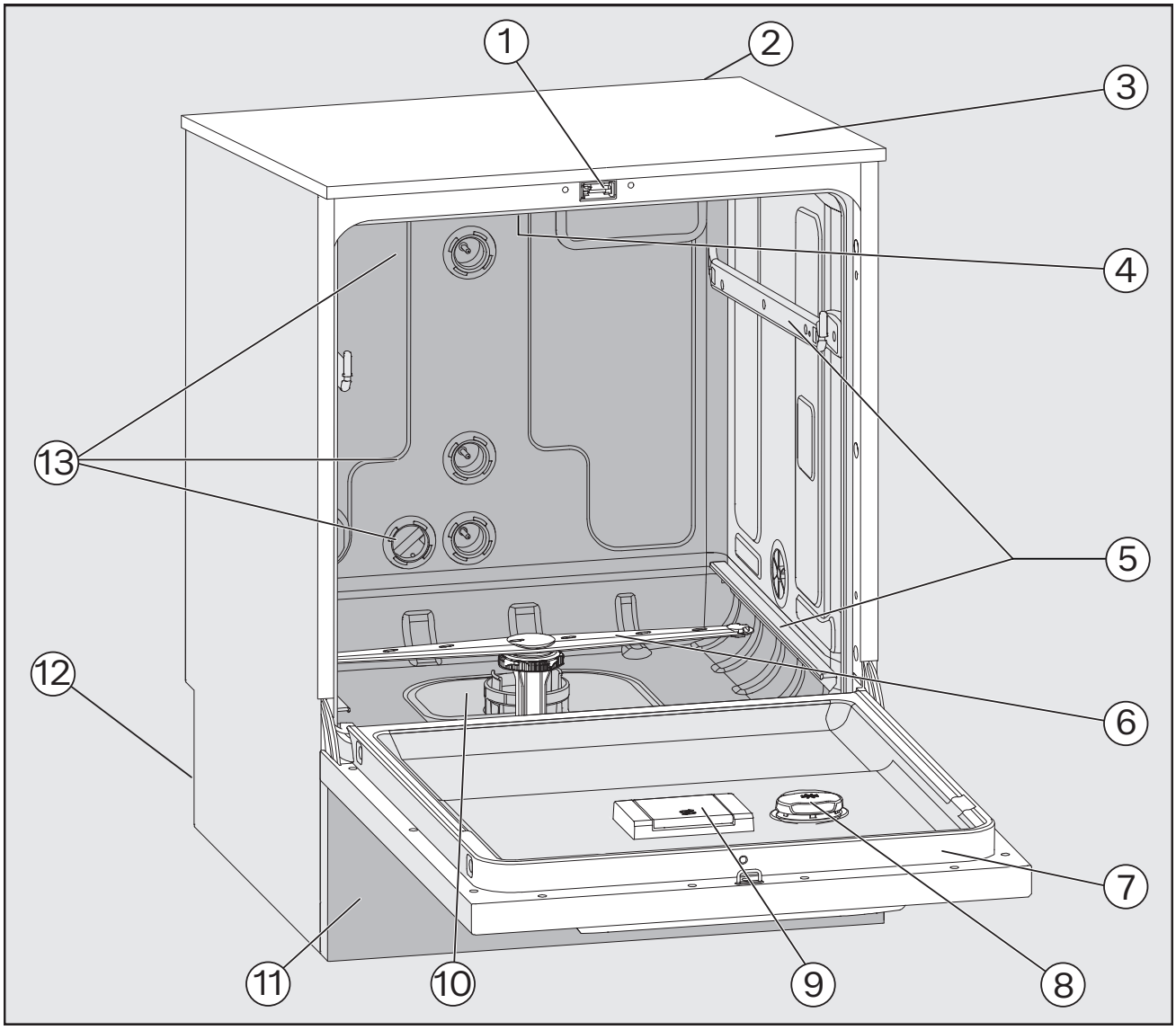
Non-observance of subsequent disinfection or sterilisation of the reprocessed products in accordance with the recommendations of the instrument manufacturers (see ISO 17665).

Non-observance of routine checks by the operator, as well as regular maintenance intervals.

Non-observance of the specified installation conditions.

Machine description

Machine overview



① Door lock

② Module slot for XKM communication module

③ Test point for validation
(Top, front right; may only be visible with lid removed)

④ Top machine spray arm

⑤ Rails for baskets and mobile units

⑥ Lower machine spray arm

⑦ Data plate

⑧ Rinsing agent container

⑨ Container for reactivation salt

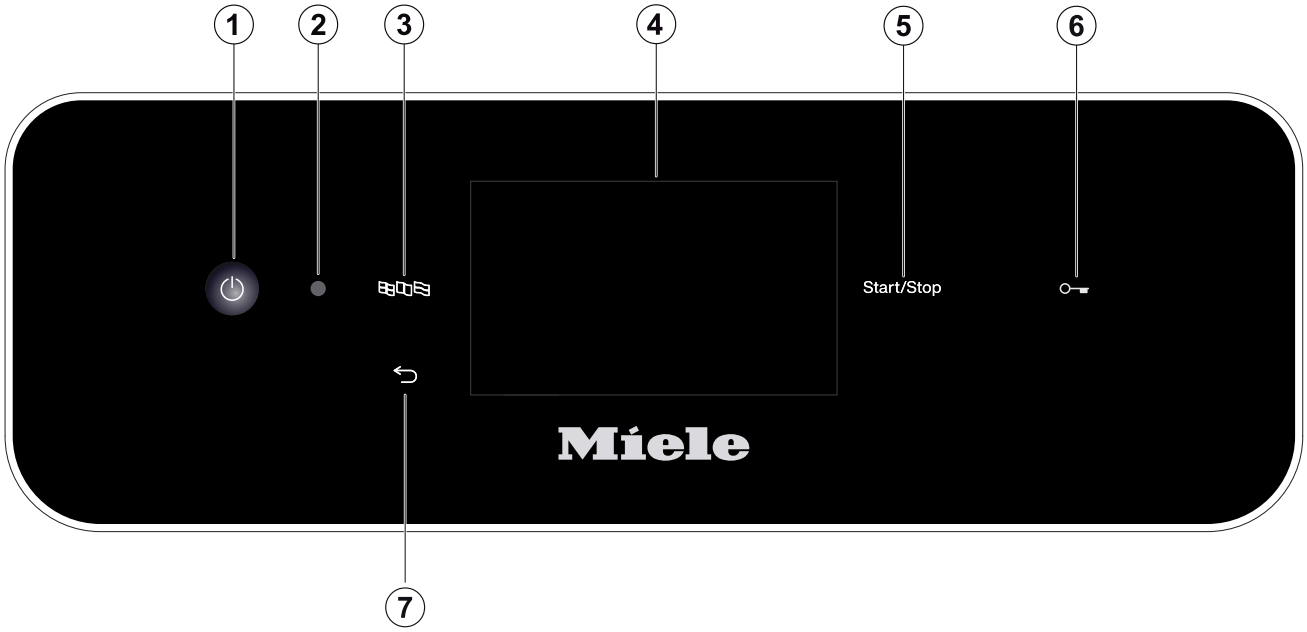
⑩ Filter combination

⑪ Toe-kick panel; for models with active drying with additional service flap

⑫ Rear:
- electrical and water connections
- suction lance/s for external containers, canisters
- connections for external dispenser modules (DOS modules)

⑬ Water connections for baskets and mobile units

Control panel



① ⏻ On/Off switch
Switching the machine on and off

② Service interface
Testing and transmission point for Miele Service

③ button (language selection)
For selecting the display language

④ Touch display
For displaying and selecting control elements

⑤ *Start/Stop* button
For starting or canceling a program

⑥ button (door lock)
Opening (unlocking) or closing (locking) the door

⑦ ⮌ button (cancel or back)
For canceling a process in the user interface (not for canceling programs)

Buttons on the control panel

Most of the buttons on the control panel are backlit with LED bulbs (light-emitting diodes). These have the following meaning during operation.

Button	LED	Status
	ON	The display language can be changed.
	ON	A process on the display can be canceled.
	OFF	The display shows the top menu level.
		A program is running.
		One or more system messages must be acknowledged.
Start/Stop	**ON**	A program is running.
	Pulsing	Display ON: - A program has been selected, but has not yet started. Display OFF: - The machine is in Standby mode.
	FLASHES RED	A fault has occurred (see “Frequently asked questions”).
	OFF	A program has finished.
	ON	The door is engaged in the door lock and can be opened (unlocked) or closed (locked) by pressing the button.
	OFF	The door is not engaged in the door lock.
		A program is running.

Daily operators

For day-to-day use, operators must be instructed on the basic functions and how to load the machine and must also be trained regularly.

They must have knowledge of machine reprocessing of medical devices.

Day-to-day work is carried out using the user level and in the Machine functions and Settings menus. The menus are freely accessible to all users.

Administration

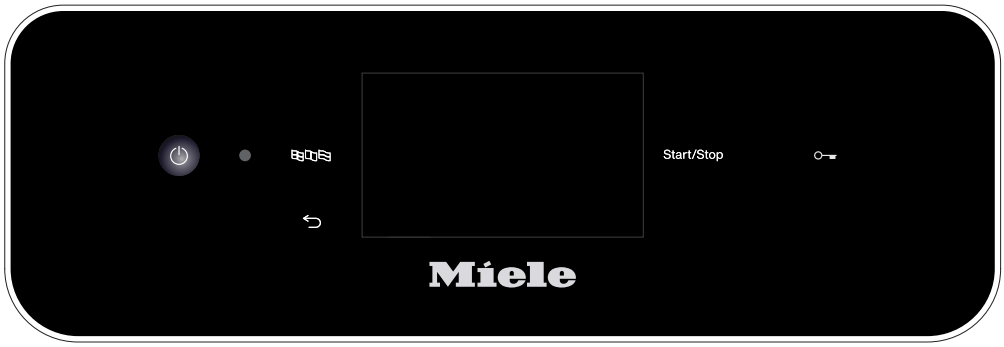
More advanced tasks, e.g., interrupting or canceling a program, require more detailed knowledge about the machine reprocessing of medical devices.

Alterations to the reprocessing procedure or adaptations to the machine, components, accessories used, or on-site conditions require additional specific knowledge of the machine.

Validation processes assume specialized knowledge about machine reprocessing of medical devices, the processes involved, and applicable standards and legislation.

The Extended settings menu incorporates all administrative processes and settings. This is protected by a PIN code.

Operation via control panel



The machine is usually operated via the control panel, which has an integrated touch display and various buttons (sensor controls).

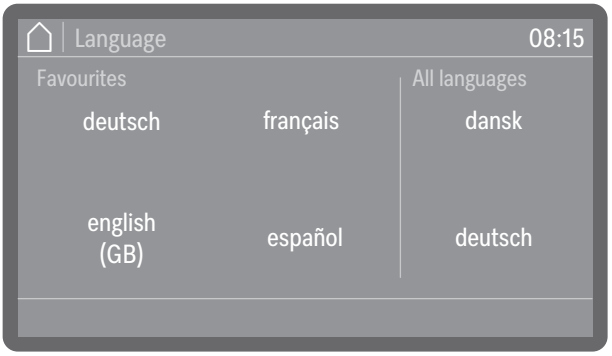
The buttons are backlit with LEDs and are only displayed in context, i.e., if they can be operated in conjunction with the display. Otherwise, they are not visible and cannot be selected.

The touch display and sensor controls react to touch.

The control panel with sensor controls and the touch display can be scratched by pointed or sharp objects, e.g., pens.
Only touch the control panel with your fingers or special pens for touch displays which have rubber tips (touch pens).

Every touch on the sensor controls is confirmed by a keypad tone. You can adjust the volume of the keypad tone or switch it off on the display; see ▸ ⚙ Settings ▸ Volume.

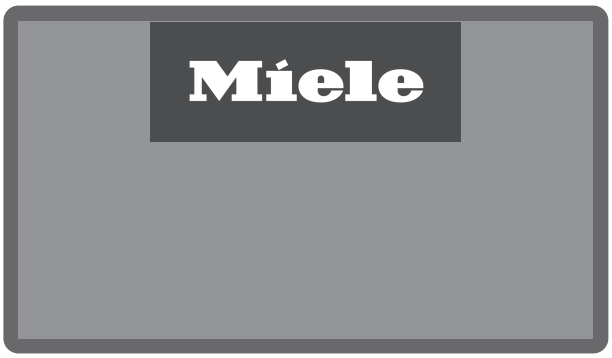
Display screens



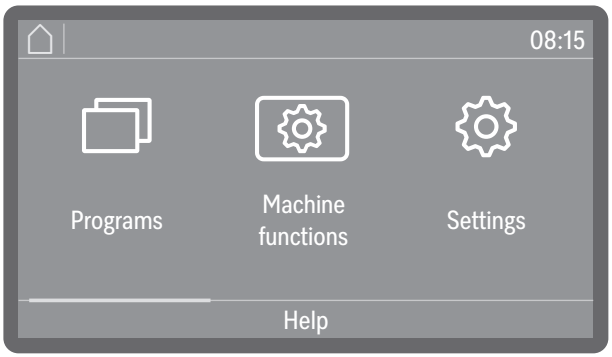
All display screens shown in these instructions are examples and may differ from the actual display screens.

Switching on

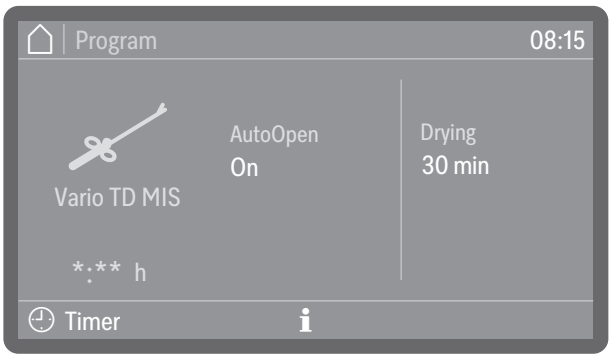
The machine must be connected to the electrical supply.



- Press the ⏻ On/Off switch until the Miele logo appears on the display.



As soon as the machine is ready for operation, the display changes and shows the menu selection.



(:** Program runtime varies depending on configuration)*

If the Memory function is activated, the most recently started program is displayed.

Tip: The Memory function can be activated or deactivated at ▸ ⚙ Extended settings ▸ Program options ▸ Memory.

If the machine is being used for the first time, or if the factory default settings have been reinstated, some basic parameters, e.g., language, date, time, etc., must first be set.

Switching off

- Press the ⏻ On/Off switch for a few seconds.

The machine then goes into Standby mode for approx. 1 minute before it switches off completely.

Standby/Off

If the machine has not been used for approx. 10 minutes, it can be set to Standby mode or switched off automatically.

Standby

In Standby mode, the machine remains switched on and the *Start/Stop* button pulses. The machine can be reactivated by pressing the *Start/Stop* button, touching the display, or opening the door.

Off

After automatic switch-off, the machine is switched off and can be switched on again by pressing the ⏻ On/Off switch.

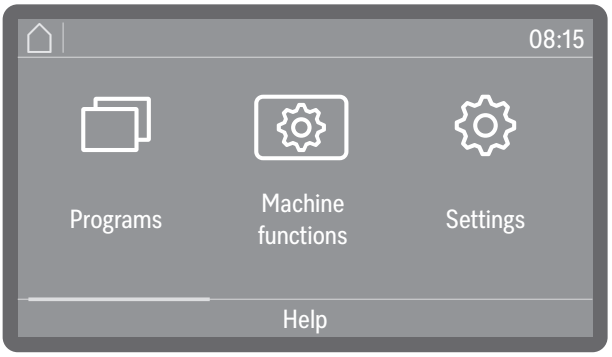
Touch display

Home button ⌂

As soon as you have opened a menu or the program selection, the home button ⌂ is activated in the top left of the display. This will take you back to the menu selection at any time.

Scroll bar

The colored scroll bar appears in the lower part of the display if there are more selection options available than can be displayed.



You can scroll to the right or the left by swiping your finger across the screen. To do this, place a finger on the touch display and swipe it in the direction you want.

Inputs on the display

In these operating instructions, the descriptions for operating the menus are shown as follows:

The input path describes the sequence to follow to access the menu level in question. The listed menu options have to be selected individually on the touch display.

It is not always necessary to follow the complete path. For example, if you have already opened one of the upper levels of the input path, you can continue to follow the path from this level.

Example:

⚙ Machine functions
Filter interval
Filter combination

Example 2:

▸ ⚙ Machine functions ▸ Filter interval ▸ Filter combination

Display and options

All setting options from the menus are presented as a list with a short explanation. Preselected options are highlighted in color.
The further procedure is then described.

Example:

■ Select a filter.

- Remaining filter cycles or Remaining time filter (depending on the type of filter selected)

  Displays the remaining program sequences (cycles) or operating hours until the next maintenance (cleaning or replacement)

- Reset interval

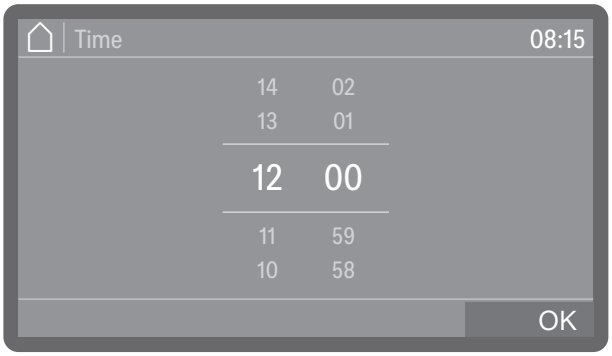
  Resets the counters for the filter cycles

⚠ The intervals must only be reset once the filters have been cleaned or replaced.

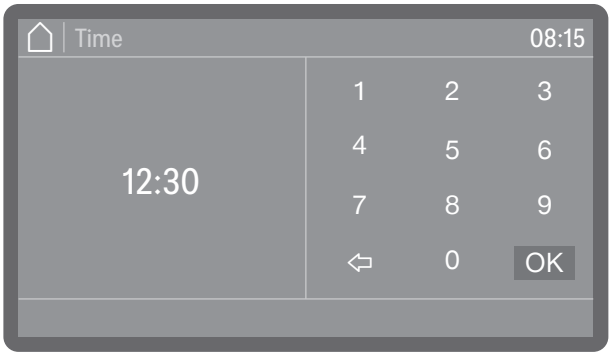
■ Select an option.

Setting numerical values

Numerical values can be entered in 2 different ways.



Firstly, you can place a finger on the numbers highlighted in color and change them by swiping up or down.



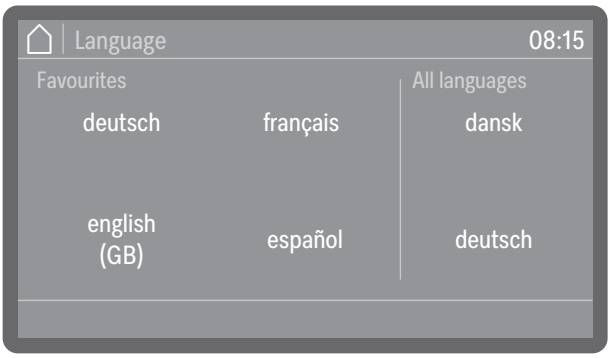
Secondly, you can call up a numerical keypad by briefly tapping the numbers highlighted in color and then entering the numbers directly.

Depending on the context, numbers entered directly may be rounded up or down. If, for example, it is only possible to enter values in increments of 10 (10, 20, 30, etc.), the value is rounded down to 10 when you enter 12, and rounded up to 20 when you enter 15.

Selecting the language

You can change the display language at any time.

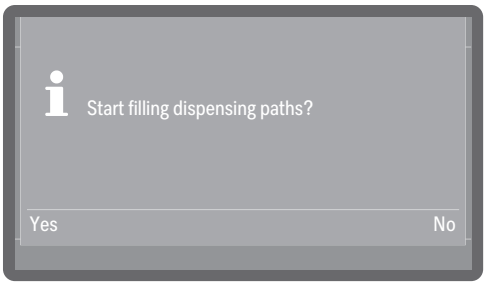
- Press the language selection button next to the display.

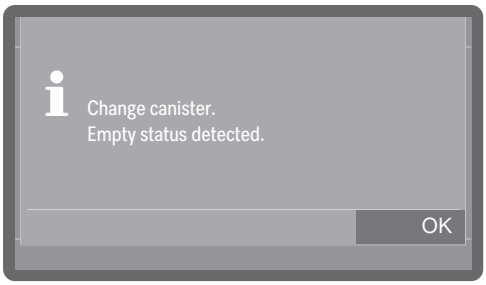


- Scroll to the language you want and select it by tapping on it.

The order of the languages in the display is variable. The more often a program is started in the selected language, the further forward the language moves in the sequence. The 4 most frequently selected languages are shown on the display as Favourites.

System messages i



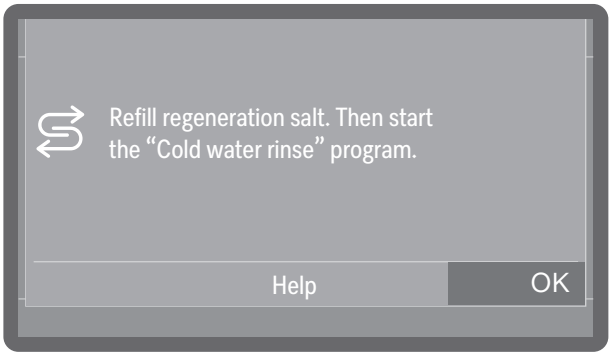


System messages are indicated by the information symbol i. These give information about current processes and the status of the machine. If there is more than one system message, they are shown one after the other and – depending on the message – must be processed or acknowledged individually.

Fault messages ⚠

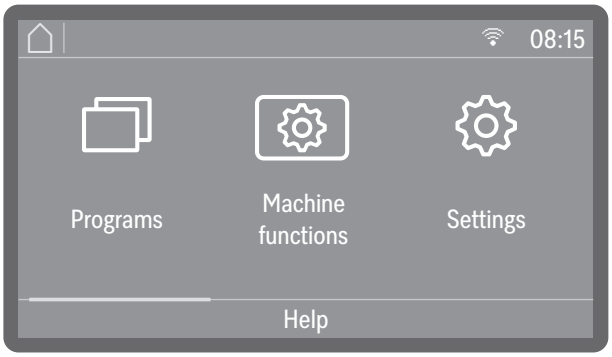
In the event of a fault, a warning symbol ⚠ appears on the display and the *Start/Stop* button flashes red in rapid succession. If audible signals are activated, a warning tone will also sound. Warning messages must be acknowledged by tapping the warning symbol. Troubleshooting assistance can be found in 🕮 “Frequently asked questions”.

Help button



If the Help button appears at the bottom of the display, you can display assistance for operation or troubleshooting. If required, tap the Help button and allow the machine to guide you through the process step by step.

Networking (Wi-Fi or L)



If the machine has been networked, a symbol for the available interface is shown at the top of the display. Wi-Fi stands for a Wi-Fi connection, L for a wired LAN connection. If the machine cannot establish a Wi-Fi connection with the router, the symbol will be shown with a cross through it .

Tip: The interface is set up at ▸ ⚙ Extended settings ▸ Network.

Comfort Door Lock

The door of the wash cabinet is equipped with a Comfort Door Locking Mechanism. When the door is closed, the Comfort Door Locking Mechanism automatically pulls the door into the closed position and thus ensures it is sealed. The door is locked electronically.

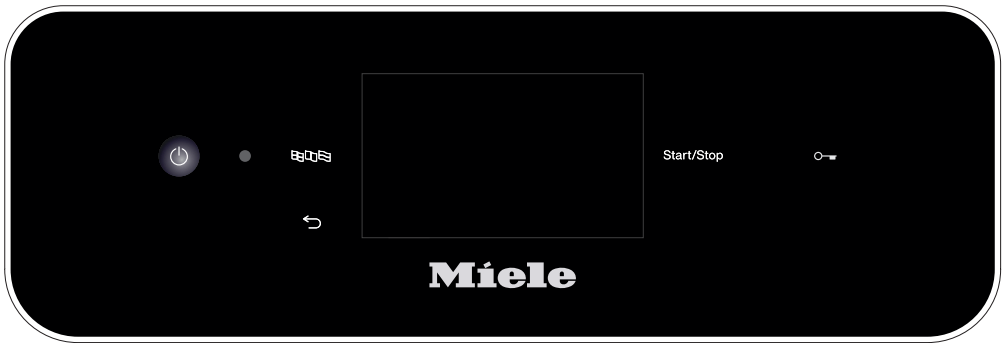
Opening the door

A door that has been locked electronically can be opened under the following circumstances:

- The machine is connected to the power supply and the ⏻ On/Off switch is lit up.
- The symbol for the 🔑 door button is lit up.

■ To open the door, press the 🔑 door button.

The comfort door lock opens the door slightly.



■ Open the door. The control panel serves as a door handle. Grasp the handle underneath the control panel and lower the door to open it.

The temperature in the wash cabinet may be higher after a program cycle. If the temperature exceeds 140 °F (60 °C), a message is shown on the display when you press the 🔑 door button: Hot wash cabinet: Risk of injury, take care when opening the door..

■ Confirm the message by pressing OK.

Close the door.

■ Make sure that no objects or wash items protrude into the closing area of the door.

⚠ Risk of injury caused by crushing.
Do not put your hand inside the door as it is closing. Risk of crushing.

■ Raise the door upward until the catch engages.

If the AutoClose function is activated, the door is then pulled into the end position.

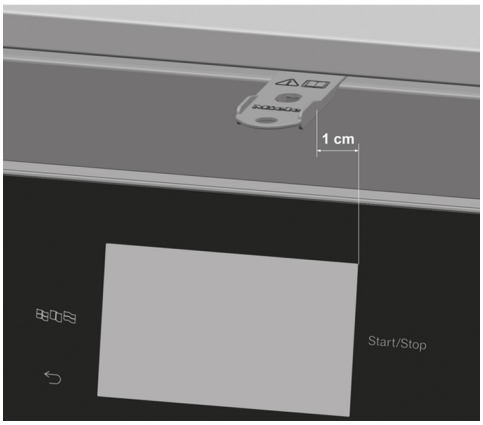
Tip: For more information on the AutoClose function; see ▸ ⚙ Machine functions ▸ AutoClose.

Opening the door using the emergency release

⚠ Danger of scalding, burning, and chemical burns!
If the emergency release is operated during a program sequence, hot water and process chemicals can escape. Where disinfecting agents are used, there is also a danger of inhaling toxic fumes.
Only open the door using the emergency release when strictly necessary.

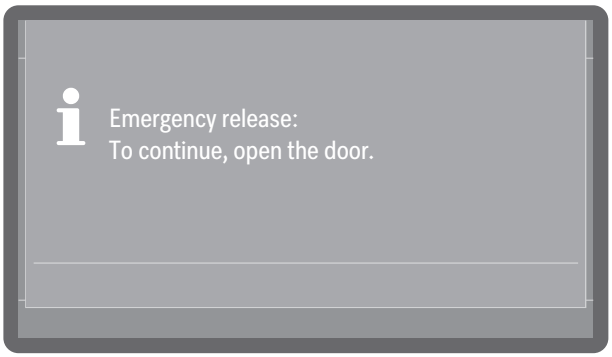
The emergency release mechanism is located on the right beside the door lock in the gap between the door and the lid of the machine or the countertop.
There should be 3/8" (1 cm) between the right edge of the tool and the right edge of the display.

- Press against the door to release the emergency release mechanism.



- Insert the tool from the accessory pack horizontally into the gap between the door and the lid or countertop.
- Press the tool against the release mechanism until you hear the door open. Continue to press the tool against the release mechanism and fully open the door.

If the machine is switched on, the following message is shown on the display when the emergency release is triggered:



- Open the door a little to acknowledge the message.

Water softening

In order to achieve excellent cleaning results, the machine requires a supply of soft water with a low calcium content. Hard tap water results in the build-up of calcium deposits on the wash items and on the wash cabinet walls.

Tap water with a water hardness of 4.2 gpg (0.7 mmol/L (4°dH)) or more must be softened. This occurs automatically while a program is running in the built-in water softener.
The water softener must be set to the exact hardness of the tap water.

If the water hardness is greater than 50 gpg (9.0 mmol/L (50°dH)), the water must be softened before water intake.
For this purpose, the water connections on site must be equipped with appropriate water softening systems that provide the required minimum flow pressures for the water connections; see “Technical data”.
Determine the water hardness of the pre-softened water and set the value on the display.

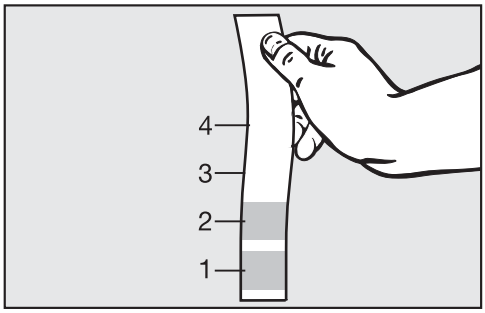
Setting the water hardness

Determining the degree of hardness

You can find out the degree of hardness of the tap water from your local water supplier.

As an alternative, you may also determine the approximate water hardness by using the test strip included with the machine.

- Take a water sample at the nearest water connection.



- Dip the test strip into the water for approx. 1 second. The zones of the test strip must be fully immersed.
- Remove the test strip from the water and shake the excess water off the test strip.

After approx. 1 minute, and based on the coloration, you will be able to read the water hardness.

Test strip	Water hardness	Settings on the display
4 green zones	< 3.1 gpg (0.5 mmol/l (3°dH))	3°dH or lower
1 red zone	> 4.27.3 gpg (0.7-1.2 mmol/l (4–7°dH))	7°dH
2 red zones	> 7.3–14.6 gpg (1.2-2.5 mmol/l (7–14°dH))	14°dH
3 red zones	> 14.6-21.9 gpg (2.5-3.7 mmol/l (14–21°dH))	21°dH
4 red zones	> 21.9 gpg (3.7 mmol(21°dH))	*)

*) Contact your local water supplier, inquire about the degree of hardness, and set this on the display.

Setting the degree of hardness

With varying water hardness, always set the highest level. If the water hardness fluctuates between, for instance, 8.3 and 17.7 gpg (8 and 17°dH), the water hardness must be set to 17.7 gpg (17°dH).

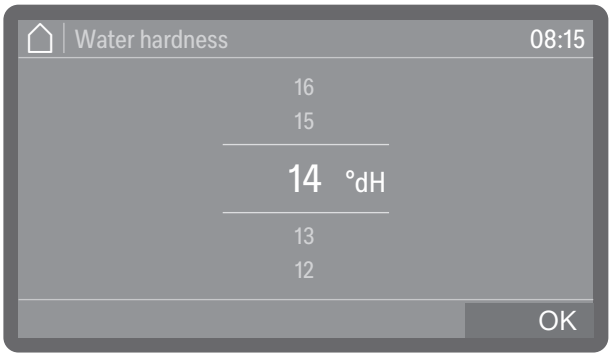
Water hardness setting values can be found in “Settings table”.

The menu is saved under the following input path.

Extended settings

Water hardness

- Select the Water hardness menu option.



- Set the water hardness.
- Press OK to save the setting.

Water hardness

Settings table

Water hardness can be set between 0 and 50 gpg (0–50°dH).
The water hardness is preset to 14 gpg (14°dH) at the factory.

gr/gal	ppm $CaCO_3$	mmol/l	**Display**
0	0	0	**0**
1	20	0.2	**1**
2	40	0.4	**2**
3	50	0.5	**3**
4	70	0.7	**4**
5	90	0.9	**5**
6	110	1.1	**6**
7	130	1.3	**7**
8	140	1.4	**8**
9	160	1.6	**9**
10	180	1.8	**10**
11	200	2.0	**11**
12	220	2.2	**12**
13	230	2.3	**13**
14	**250**	**2.5**	**14*)**
15	270	2.7	**15**
16	290	2.9	**16**
17	310	3.1	**17**
18	320	3.2	**18**
19	340	3.4	**19**
20	360	3.6	**20**
21	380	3.8	**21**
22	400	4.0	**22**
23	410	4.1	**23**
24	430	4.3	**24**
25	450	4.5	**25**

gr/gal	ppm $CaCO_3$	mmol/l	**Display**
26	470	4.7	**26**
27	490	4.9	**27**
28	500	5.0	**28**
29	520	5.2	**29**
30	540	5.4	**30**
31	560	5.6	**31**
32	580	5.8	**32**
33	590	5.9	**33**
34	610	6.1	**34**
35	630	6.3	**35**
36	650	6.5	**36**
37	670	6.7	**37**
38	680	6.8	**38**
39	700	7.0	**39**
40	720	7.2	**40**
41	740	7.4	**41**
42	760	7.6	**42**
43	770	7.7	**43**
44	790	7.9	**44**
45	810	8.1	**45**
46	830	8.3	**46**
47	850	8.5	**47**
48	860	8.6	**48**
49	880	8.8	**49**
50	900	9.0	**50**

*) Factory default setting

Reactivation salt

The water softener must be reactivated at regular intervals. Special reactivation salt is required for this. Reactivation is carried out automatically during a program sequence.

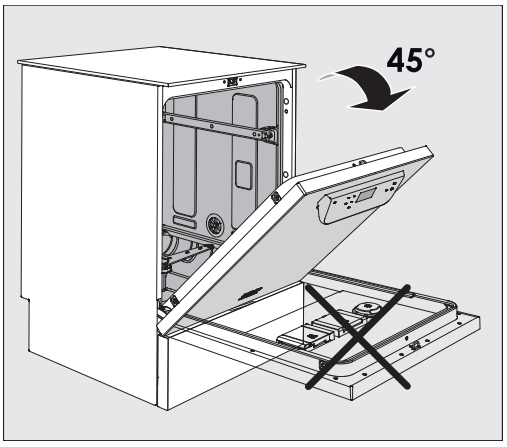
If the water hardness is consistently less than 4.2 gpg (0.7 mmol/l (4°dH)), salt is not required for the water softener. However, the water hardness level must still be set; see “Setting the water hardness”.

Filling the container for reactivation salt

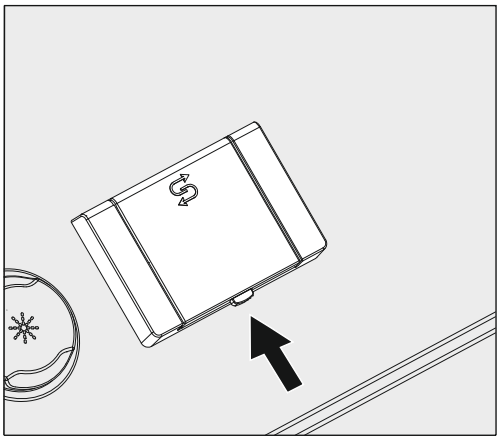
Only use special, coarse-grained reactivation salt or pure evaporated salt with a grain size of approx. 1/16"-3/16" (1–4 mm).
Never use other salts, e.g., table salt, cattle salt, or de-icing salt. Other salts may contain insoluble additives which can impair the functioning of the water softener.

⚠ Inadvertently filling the salt container with cleaning agent will always cause serious damage to the water softener.
Before filling the salt container, make sure that you have picked up the right packet of reactivation salt.

Machine with steel door

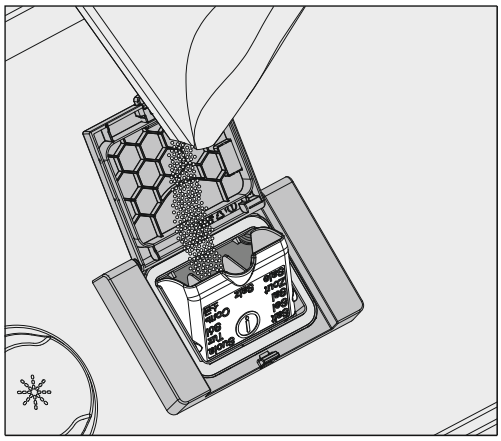


- Open the door to an angle of around 45°. This ensures that the salt flows into the container more easily.



- Press the yellow locking button on the salt container ⇆. The flap will spring open.
- Open the funnel.

The container takes approx. 3-4.4 lb (1.4–2 kg) of salt, depending on the type of salt and the remaining fill level.



⚠ Never fill the container with water.
The container could overflow when filled with salt.

- Add salt into the container until the funnel is full but still closes easily. Do not add any more than 4.4 lb (2 kg) of salt.

As the salt container is being filled, displaced water (brine) may run out.

- Clean any excess salt from around the opening of the container, focusing especially on the container's seal. Do not use running water to rinse away salt residues as this can cause the container to overflow.
- Close the container. Make sure that the container is closed tightly so that no wash water can enter the container.

⚠ Do not force the container shut if it has been overfilled.
If an overfilled salt container is forced shut, this may damage the container.
Remove excess salt before closing the container.

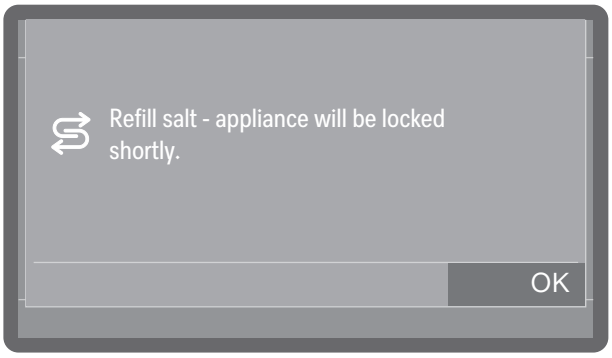
- Run the Cold water rinse program after refilling salt.

This will ensure that any traces of salt and brine are dissolved, diluted, and rinsed away.

Excess salt and brine which has overflowed cause corrosion damage if they are not rinsed away.

Salt refill indicator

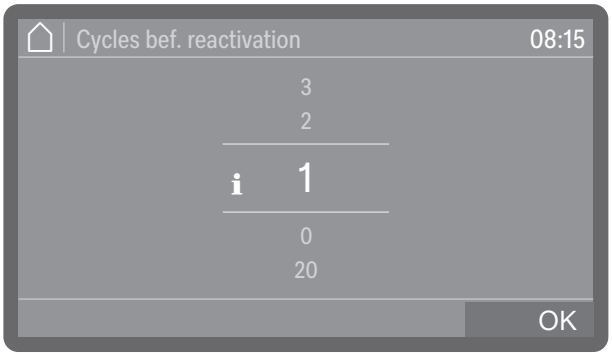
If the fill level in the salt container is low and reactivation is carried out, the following message appears on the display:



- Confirm the message with OK.
- Top up the reactivation salt; see 🕮 “Filling the container for reactivation salt”.

If the message is being displayed for the first time, additional program cycles may be possible depending on the set water hardness. If no salt is added, the message is displayed again at the end of every program.

Reactivation notification

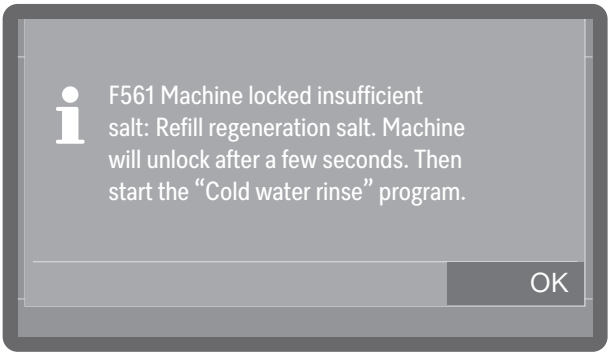


You can set how many program cycles in advance you want to be notified of the upcoming reactivation; see ▸ Extended settings ▸ Maintenance/Service ▸ Note reactivation.

Canceling machine lock due to lack of salt

If the salt in the water softener has been used up, a fault appears on the display and the machine is locked to prevent further use.

- Acknowledge the fault by tapping the warning symbol.



- Follow the instructions on the display and top up the reactivation salt; see 🕮 “Filling the container for reactivation salt”.

The machine lock is lifted automatically with a certain delay once salt has been added.

Mobile units, baskets, modules and inserts

This machine can be equipped with an upper basket and lower basket or a mobile unit which can be equipped with different inserts and modules or exchanged for special accessories depending on the wash items to be washed.

Select load carriers and other accessories which are appropriate for the application.

Information on the individual areas of application can be found on the following pages, as well as in the operating instructions for the load carriers (if available).

For all areas of application defined in 🕮 “Intended use”, Miele offers suitable load carriers and special irrigation connectors. Contact Miele for more information.

Water supply

Load carriers with spray arms or other irrigation connectors are equipped with one or several connectors for the water supply at the rear. When these are slid into the machine, the connections couple automatically with the water supply docking points in the rear panel of the cabinet. The load carriers are held in position by the wash cabinet door when it is closed.
Unused docking points in the rear panel of the wash cabinet are closed mechanically.

Mobile units and baskets from older series

The use of mobile units and baskets from older series is only possible in this machine following consultation with Miele. In particular, mobile units and baskets with water supply pipes for spray arms and injector manifolds must be converted to the modified water connections.
The conversion is carried out by Miele Service and is only possible on selected models.

⚠ The connectors for the water supply to the mobile units and baskets must be installed by Miele Service.
Assembly errors can cause damage to the machine when using the mobile units and baskets.

Following conversion, the mobile units and baskets can no longer be used in machines from older series.

Height-adjustable upper baskets

Height-adjustable upper baskets can be adjusted between 3 positions with 1" (3 cm) between each position to accommodate wash items of different heights.

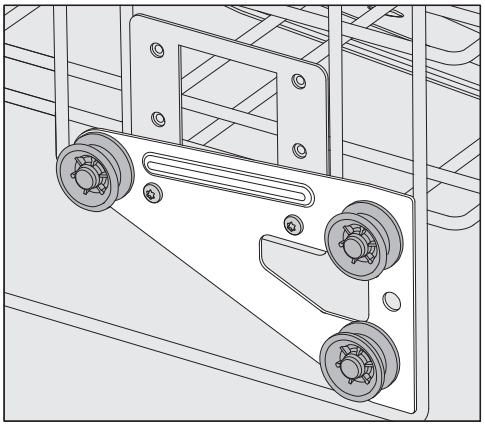
To adjust the height, the brackets with rollers on the side of the upper basket and the water connector at the back of the basket have to be moved. The roller brackets are each secured to the upper basket by 2 screws. The water connector consists of the following components:

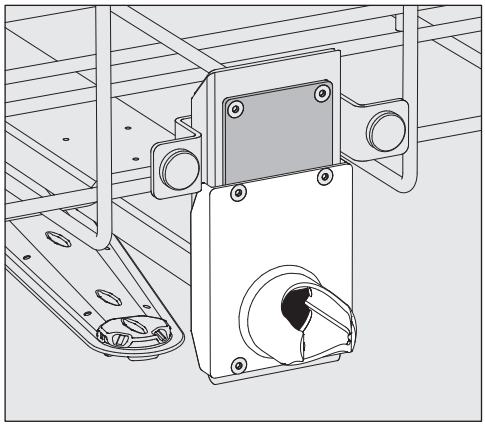
- a stainless steel plate with 2 openings
- a plastic connector
- 6 screws

Only adjust upper baskets horizontally. The baskets are not designed for tilting (one side up, one side down).
Adjusting the height alters the vertical clearance of the upper and lower baskets.

Setting the upper position

- Remove the upper basket by pulling it out until a resistance is felt and lifting it off the runners.
- Unscrew the roller brackets and the water connector.

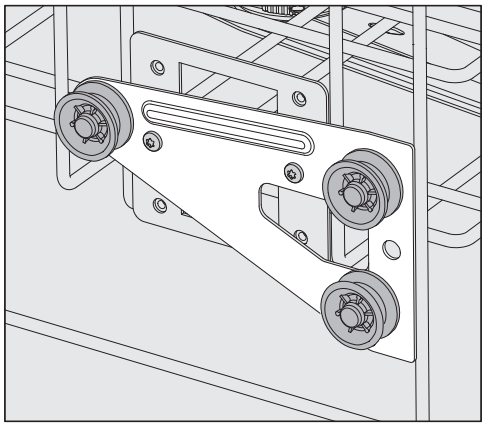


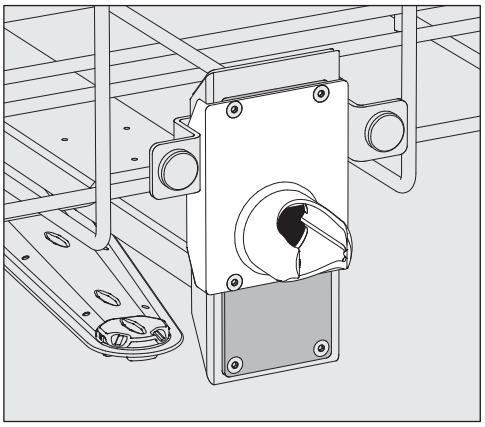


- Move the roller brackets on both sides to the lower position and secure them firmly.
- Place the stainless steel plate over the openings in the water inlet pipe so that the top opening is covered. Screw the stainless steel plate to the top with 2 screws. Insert the connector into the lower opening of the stainless steel plate so that the middle opening is covered. Screw the connector on with 4 screws.

Setting the middle position

- Remove the upper basket by pulling it out until a resistance is felt and lifting it off the runners.
- Unscrew the roller brackets and the water connector.

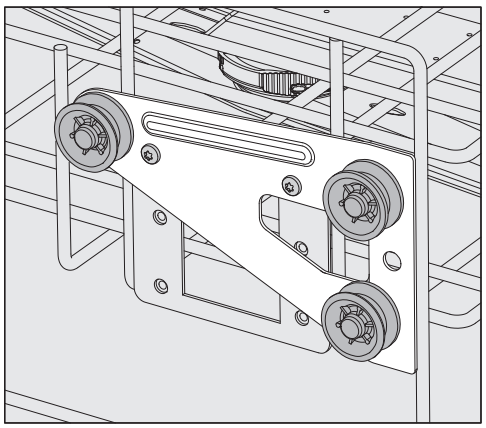


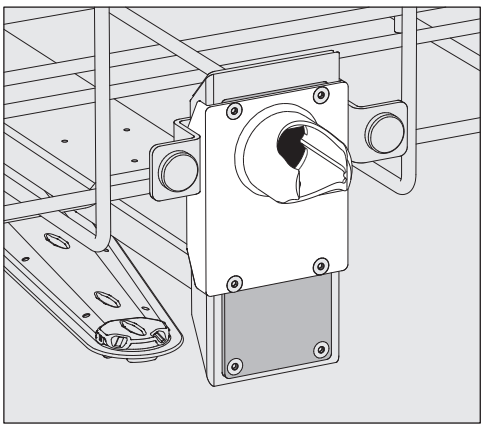


- Move the roller brackets on both sides to the middle position and secure them firmly.
- Place the stainless steel plate over the openings in the water inlet pipe so that one of the outer openings is covered. Screw the stainless steel plate to the top or bottom with 2 screws. Insert the connector into the middle opening of the stainless steel plate so that the outer opening is covered. Screw the connector on with 4 screws.

Setting the lower position

- Remove the upper basket by pulling it out until a resistance is felt and lifting it off the runners.
- Unscrew the roller brackets and the water connector.





- Move the roller brackets on both sides to the top position and secure them firmly.
- Place the stainless steel plate over the openings in the water inlet pipe so that the lower opening is covered. Screw the stainless steel plate to the bottom with 2 screws. Insert the connector into the upper opening of the stainless steel plate so that the middle opening is covered. Screw the connector on with 4 screws.

Then check:

- Put the upper basket back on the rails and push it in carefully to check that the water connector is positioned correctly.

Wash pressure measurement

The wash pressure can be measured on all load carriers with spray arms, injector manifolds, or other wash connections, e.g., during performance tests and validations in accordance with EN ISO 15883.

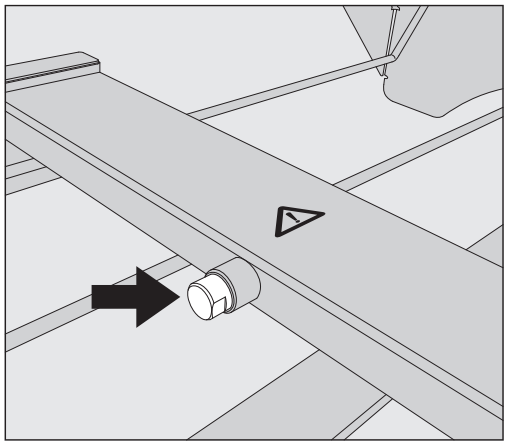
Test point for measuring wash pressure

On load carriers with spray arms and additional injector manifolds or other wash connections, there is a connection on the injector manifold or a wash connection for wash pressure measurement. The exact location is described in the respective operating instructions for the load carriers.

On load carriers with spray arms but without other wash connections, the test point for measuring the wash pressure can be found in the water inlet pipe for the spray arms. The test point is labeled with a ⚠ warning symbol and closed with a blanking plug.

Perform measurement

⚠ Risk of infection due to insufficient cleaning and disinfection.
Test points labeled with a ⚠ warning symbol do not have sufficient cleaning and disinfection performance.
Do not connect wash items or rinse fittings to the test points under any circumstances.



- To measure the wash pressure, replace the blanking plug with a Luer Lock adapter.

Suitable Luer Lock adapters, such as the E 447, are available from Miele.

- Carry out the measurement.
- Close the test point again with the blanking plug after the measurement.

Arranging the wash items

⚠ Contaminated wash items pose a health risk.
Contaminated wash items can result in various hazards to health, which can lead to infections, poisoning, injuries, and more depending on the type of contamination.
When working with contaminated wash items, ensure that all necessary measures are taken to protect personnel.
Wear protective gloves and use suitable aids.

⚠ Only wash items which have been declared by their manufacturer as suitable for machine reprocessing may be processed. The manufacturer's specific reprocessing instructions must be observed.
Used disposable items must not be reprocessed.

⚠ Risk of injury caused by wash items.
There is a risk of injury when loading and unloading wash items due to possible sharp edges, rims, or pointed ends.
To minimize the risk of injury, loading should take place from the rear to the front and unloading should take place in the reverse order.

- Special load carriers or irrigation connectors such as nozzles, irrigation sleeves, or adapters may be required for appropriate internal cleaning, depending on the wash items.
- Arrange the wash items so that wash water can access all surfaces. This ensures that they get properly cleaned.
- Do not place wash items inside other items where they may be concealed, as this will hamper cleaning.
- Do not place wash items so close together that cleaning is hampered.
- The interior of lumened wash items must be thoroughly flushed through with wash water. Special load carriers or rinse fittings are required for this, depending on the wash items.
- Ensure that wash items with long, narrow, hollow sections can be flushed through properly before placing them in or connecting them to a rinse fitting.
- Lumened instruments should be inverted and placed in the correct load carriers to ensure that wash water can flow in and out of them unrestricted.
- Deep-sided wash items should be placed at an angle to make sure the wash water runs off them freely.
- Tall, narrow, hollow items should be placed in the center of the baskets or mobile units. This ensures better water coverage.
- Take apart any wash items which can be dismantled according to the manufacturer's instructions and reprocess the individual parts separately from each other.

- Lightweight wash items should be secured with cover nets to prevent them from spinning around in the wash cabinet and blocking the spray arms.
- Only reprocess small items and micro components in special inserts, mesh trays with lids, or filters.
- The spray arms must not be blocked by wash items which are too tall or which hang down in their path.
- Broken glass and ceramics can result in serious injury when loading or unloading. Damaged glass or ceramic wash items must not be reprocessed in the machine.
- Nickel and chrome-plated wash items and items made of aluminum are not generally suitable for machine reprocessing. Special process conditions are required for these wash items.
- It is advisable to use only instruments made of stainless steel which is not susceptible to corrosion.
- Plastic wash items must be thermally stable.
- Heat-sensitive wash items, e.g., medical shoes, must only be reprocessed using a chemo-thermal program.

Suitable load carriers and rinse fittings as well as other accessories are available from Miele.

Preparing the wash items

⚠ Danger of explosion due to flammable gases.
Flammable solvents with a flash point below 70°F (21°C) outgas and can generate a flammable mix of gases.
Only place wash items into the wash cabinet that are wetted with traces of solvents at most.
Start a reprocessing program immediately after loading.

⚠ Material damage due to solvents.
Solvents can damage the elastomers and plastics of the machine and lead to leaks.
Only place wash items into the wash cabinet that are wetted with traces of solvents at most.
Start a reprocessing program immediately after loading.

⚠ Material damage due to corrosion.
Chloride solutions, particularly hydrochloric acid, and ferrous materials that can rust or corrode cause corrosion on the stainless steel of the machine and the load carrier.
Do not introduce any chloride solutions into the wash cabinet.
Do not introduce any ferrous materials that can rust or corrode into the wash cabinet.

⚠ Contaminated wash items pose a health risk.
Contaminated wash items can result in various hazards to health, which can lead to infections, poisoning, injuries, and more depending on the type of contamination.
When working with contaminated wash items, ensure that all necessary measures are taken to protect personnel, e.g., wearing protective gloves.

- Follow the wash item manufacturer's instructions regarding pre-cleaning and pre-treatment.
- Empty all wash items before loading into the machine and pay particular attention to relevant regulations.
- Disassemble the wash items according to the instructions of the wash item manufacturer.
- Place small parts and micro components in suitable basket for small parts to secure them.
- Open available faucets and valves or remove them according to the manufacturer's instructions and place the individual parts in suitable basket for small parts.
- Thoroughly rinse wash items which have been pre-treated with chemicals; see 🕮 "Wet loading".

Dry loading

Contaminated wash items should be placed directly into the load carriers after use without pre-treatment.

Dry loading is preferable for contaminated wash items.

Wet loading

Chemically pre-treated wash items must be rinsed thoroughly by hand or with a suitable rinsing program before the machine reprocessing procedure to avoid a significant build-up of foam.

⚠ Risk of infection due to protein adhesion.
Unsuitable chemical pre-treatment agents can lead to the denaturation of protein soiling, which may be difficult to remove by machine reprocessing.
Only use suitable pre-treatment agents. Carry out manual pre-cleaning if necessary. If possible, avoid chemical pre-treatment.

- For machine rinsing, use the Cold water rinse program.

Checks before starting a program

Carry out a visual check before starting every program:

- Are the wash items correctly loaded and connected for cleaning?
- Was the recommended loading template followed?
- Can the lumen/narrow sections of hollow wash items be accessed by the wash water?
- Are the spray arms clean and do they rotate freely?
- Is the filter combination clean and securely installed?
  Remove any coarse soiling and clean the filter combination if necessary.

- Are the removable modules, nozzles, irrigation sleeves, and other irrigation connectors securely connected?
- Are the load carriers with spray arms or nozzles, irrigation sleeves, and other irrigation connectors correctly connected to the water supply?
- Are all process chemical containers sufficiently filled?

After reprocessing

Tests

The following must be checked at the end of every program:

- Carry out a visual check of the wash items for the cleaning results.
- Are all lumened wash items still attached to the appropriate nozzles?

⚠ Risk of infection due to insufficient cleaning and disinfection.
Wash items that become detached from the irrigation connector during reprocessing will not be sufficiently cleaned and disinfected on the inside.
Any wash items that become detached from the irrigation connector during reprocessing must be reprocessed again.

- Are the lumens of hollow wash items free from obstructions?
- Are the nozzles and connections securely held in position in the load carriers?
- If the machine is equipped with a drying unit, carry out a visual check of the wash items for the drying results.

Carry out maintenance, care, and functional tests.
After reprocessing, carry out all maintenance and care measures specified by the manufacturers of the wash items as well as the necessary functional tests.

Recontamination

Take appropriate measures to prevent recontamination of processed items, e.g.:

- Wear clean gloves when removing the wash load.
- Remove the entire wash load from the carriers before reloading them.

Indicator test

Cleaning results should be subjected to periodic tests, e.g. daily with the Miele cleaning indicators (Canada only).

Surgical instruments

The time between using surgical instruments and reprocessing them should be kept as short as possible, and must not exceed 6 hours.

Surgical instruments – and those used for minimally invasive surgery – must be disinfected thermally. To avoid stains on and corrosion of the load, the final rinse should preferably be carried out with DI water. There is a risk of corrosion if process water with a chloride content exceeding 100 mg/L is used.

⚠ Due to the risk of injury when placing instruments with probes pointing upward in an upright position, the instruments should be loaded from the rear to the front and unloaded in the reverse order.

To allow the wash water to flow through lumened instruments/channels, they must be disassembled according to the manufacturer's instructions. Caps and seals must be removed and any taps must be opened.

Narrow-lumened instruments must be manually pre-rinsed where necessary. Follow the instrument manufacturer's instructions.

Hinged instruments

Open the hinged instruments and place them in the mesh trays; they must not cover each other.

Optical instruments

⚠ Risk of damage due to mechanical influences.
Optical instruments may be damaged if the washing mechanics move them.
Always reprocess optical instruments in inserts made by the optical instrument manufacturer or in the special E 460 insert.
Only reprocess optical instruments which have been designated as suitable for machine reprocessing by their manufacturer.

Operating room shoes

⚠ Operating room shoes should be cleaned and disinfected **in a machine installed specifically for this purpose only**. This is to ensure, for example, that any fluff or soiling cannot settle inside the lumen of hollow instruments.
Operating room shoes can only be reprocessed together with other items if a risk assessment has been carried out by the user.

Medical shoes made of heat-sensitive materials and insoles can be chemo-thermally cleaned and disinfected at 140°F (60°C). To do this, a special program must be installed by Miele Service and a special dispenser module for dispensing chemical disinfectants must be retrofitted.
For information about the disinfection performance of chemo-thermal procedures, contact the manufacturer of the relevant chemical disinfectants.

Thermal disinfection can be used if the manufacturer of the medical shoes confirms that they are thermally stable up to 176°F (80°C).

- Remove insoles before reprocessing medical shoes.

Equip the upper and lower basket carriers with the following inserts for reprocessing medical shoes:

- A 101 or A 102 with A 310 insert for medical shoes up to size W 10/ M 8.5
- A 103 with A 308 insert for insoles up to size W 13/M 11.5
- A 151 with A 307 insert for medical shoes up to size W 14.5/M 13

Large quantities of lint can be produced when cleaning medical shoes. Therefore, check the filters in the wash cabinet frequently and clean them if necessary; see 🕮 “Cleaning the filters in the wash cabinet”.

Ophthalmology

Wash items must only be reprocessed in load carriers designed for them and using programs tailored to the application.

⚠ Damage due to the clogging of lumens.
The reprocessing of medical shoes generates a large amount of lint which, in certain circumstances, can clog the lumens of instruments.
Do not reprocess ophthalmic wash items in a washer-disinfector which is also used to reprocess medical shoes.

⚠ Tissue irritation due to the ingredients of process chemicals.
Process chemical ingredients such as enzymes and surfactants can cause eye irritations, e.g., TASS.
Only use process chemicals that are suitable for ophthalmic instruments.
Do not use surfactant when reprocessing ophthalmic instruments.

Water quality

For ophthalmic instruments, the fully demineralized water must also be low in endotoxins and pyrogens.

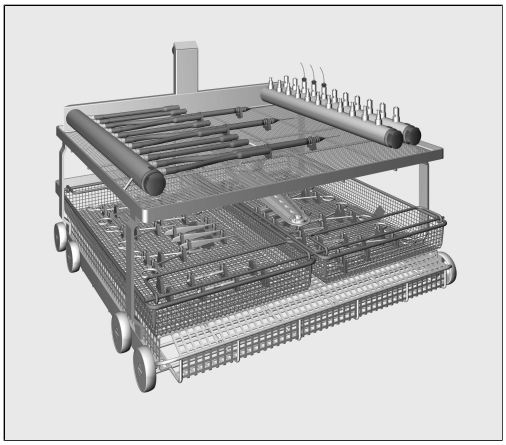
⚠ Risk of skin irritation due to pyrogens in the final rinse water.
Pyrogens in the final rinse water can cause irritation to the eyes, e.g., TASS.
Use fully demineralized water which is low in pyrogens for the final rinse. Check the water quality for pyrogens regularly if the fully demineralized water is generated with an ion exchanger.

Program selection

Special programs matched to the load carriers are stored for reprocessing ophthalmic instruments. Disinfection is carried out thermally.

A 204 mobile injector unit

The A 204 mobile injector unit is divided into 2 levels; it has a spray arm and may only be used with the Ophthalmology program.



The top level is fitted with various connections for reprocessing lumened instruments, such as rinsing and suction hand-pieces, and cannulas.
The lower level is designed to take inserts and mesh trays for reprocessing instruments without lumens.

A 207 mobile injector unit

The A 207 mobile injector unit has 3 levels with 2 spray arms and may only be used with the OphthaTrays A207 program.

An injector manifold with silicone hoses with Luer Lock connectors is located on the upper level. Trays and mesh trays for ophthalmic sets with integrated injector manifolds can be connected to this.
The two lower levels are designed to take inserts and mesh trays for reprocessing instruments without lumens.

Dentistry

Instruments

Deposits that can harden or contain grinding particles must be removed manually from the instruments immediately after the patient has been treated, e.g., with a swab. Examples of deposits include dental cement, composite, polishing paste, or similar.

Instruments with particularly complex functional ends or very stubborn deposits may require ultrasonic pre-treatment.

⚠ Risk of injury caused by wash items.
There is a risk of injury when loading and unloading wash items due to possible sharp edges, rims, or pointed ends.
To minimize the risk of injury, loading should take place from the rear to the front and unloading should take place in the reverse order.

Transmission instruments

Examples of transmission instruments include dental turbines and handpieces.

Transmission instruments with **light guide rods** can be regarded as durable, whereas **fiber optic bundles** can be susceptible to more rapid wear.

Use a neutral to mildly alkaline liquid cleaning agent for cleaning. Where there is build-up of deposits, a citric acid-based neutralizing agent should be dispensed.

The wash water must be filtered prior to internal cleaning so that the narrow channels in transmission instruments do not become blocked with treatment residues from the wash water. The A 105/1 injector upper basket should therefore be used for reprocessing transmission instruments, in conjunction with the re-usable A 800 tubular filter and the
A 803 holder for transmission instruments or the AUF 1 holder.
The upper injector basket, the tubular filter, and the AUF 1 holder each come with their own operating instructions.

- After reprocessing, the insides of the transmission instruments must be dried with sterile compressed air before being cleaned and sterilized as appropriate in accordance with the manufacturer's instructions. Observe national health and safety regulations.

Before using transmission instruments again following reprocessing, a function check must be carried out, e.g., by spraying into a basin, to ensure they are clear.

Mouth specula

⚠ Risk of damage due to machine reprocessing procedure.
Not all glass mouth specula can be reprocessed by machine.
Always follow the manufacturer's instructions.

Rhodium-coated mouth specula, because of their delicate surface, must be loaded in such a way that the mirror surfaces cannot sustain mechanical damage during reprocessing, e.g., by knocking against other instruments.

Mouth rinse cups

Mouth rinse cups should preferably only be reprocessed in the upper basket. There is a greater risk of stress cracking and corrosion in the lower basket due to larger temperature fluctuations and risk of mechanical damage.

Opal glass is particularly suitable for reprocessing in the machine.

Anesthetic instruments (AN)

⚠ Risk of heat damage.
The permissible reprocessing temperature is below 85°C for some elastomers used in breathing bags and breathing masks.
Observe the manufacturer's information on the permissible reprocessing temperature to prevent the material from aging prematurely.

Wash items must only be reprocessed in load carriers designed for them and using programs tailored to the application.

Load carriers are supplied with their own operating instructions.

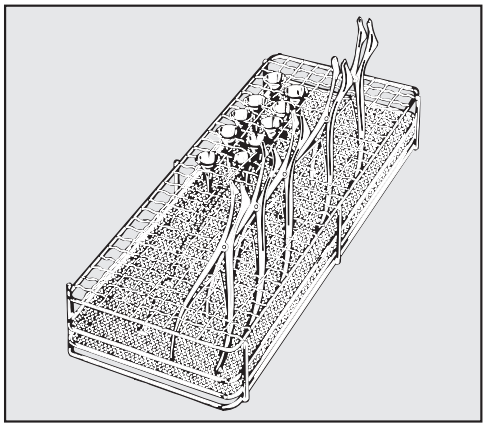
⚠ Germ contamination due to inadequate drying.
Items must be dried completely before they are stored to prevent the growth of waterborne bacteria.
It is therefore essential to check the drying results at the end of each cleaning program. The interiors in particular must be completely dry.
The drying time of the cleaning program may need to be adjusted to achieve this.

Ear, nose and throat instruments (ENT)

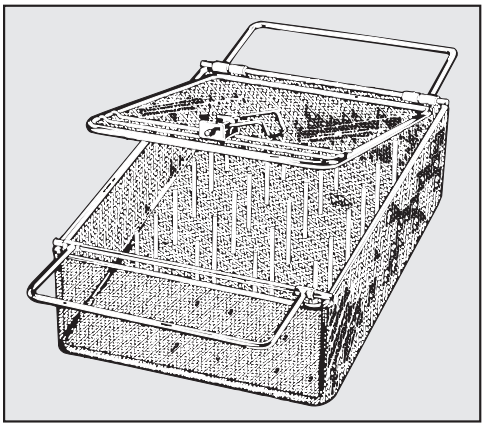
Wash items must only be reprocessed in load carriers designed for them and using programs tailored to the application.

Load carriers are supplied with their own operating instructions.

Please use a special insert such as the E 417/1 for reprocessing ear and nasal specula.



- To ensure coverage of all surfaces by the wash fluid please open specula and place in the insert.



Lightweight ENT instruments e.g. ear specula can be reprocessed in a lockable E 374 insert

Please be aware that thin chrome plating can be very sensitive to neutralizing agent.

ENT fibre optics

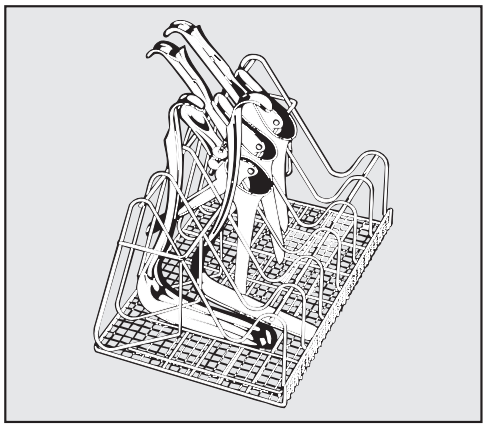
⚠ To avoid mechanical damage, only reprocess ENT optical instruments in inserts made by the instrument manufacturer or in special inserts such as the E 460.

- Pre-clean the instruments before machine reprocessing, e.g., with a non-fixative disinfectant or a swab soaked in ethanol.

Gynecology (GYN)

Wash items must only be reprocessed in load carriers designed for them and using programs tailored to the application.

Use special inserts for reprocessing gynecological specula, e.g., the E 416.



Load the insert as shown in the illustration.

One-part specula:

- Open and place between the struts of the insert.

Two-part specula:

- Place the lower parts in the narrow compartments of the insert, on the left in the illustration.
- Place the upper parts in the wide compartments of the insert, on the right in the illustration.

Arrange the specula between two struts so that they do not touch or cover each other.

Baby bottles

Wash items must only be reprocessed in load carriers designed for them and using programs tailored to the application.

Baby bottles can be cleaned and disinfected in containers such as the E 135 and nipples for baby bottles in special inserts such as the E 364 for wide-necked nipples and the E 458 for screw-on nipples.

- Highly alkaline cleaning agents can etch and erase the graduated markings on baby bottles. Therefore, only use baby bottles with dishwasher-safe level markings.
- If there is a delay of 4 hours or more before bottles can be reprocessed, fill them with water to prevent residues from drying on.

Load carriers are supplied with their own operating instructions.

⚠ Germ contamination due to inadequate drying.
Items must be dried completely before they are stored to prevent the growth of waterborne bacteria.
It is therefore essential to check the drying results at the end of each cleaning program. The interiors in particular must be completely dry.
The drying time of the cleaning program may need to be adjusted to achieve this.

Chemical processes and technology

In this section, you will find a description of the causes of common chemical reactions which can occur between different types of soiling, process chemicals, and the components of the machine, along with their remedies as necessary.

This section is intended as a guide. If unforeseen interactions occur during reprocessing or if you have any queries on this subject, please seek advice from Miele.

General information	
Problem	**Solution**
If elastomers (hoses and seals) and plastics in the machine are damaged, for example by swelling, shrinking, hardening, or brittleness of materials, tears, and cracks, components will not function correctly and this generally leads to leaks.	- Determine and remedy the causes of the damage. See information regarding “Associated process chemicals”, “Soiling”, and “Reaction between process chemicals and soiling” in this section.
A heavy build-up of foam during the program sequence will impair the cleaning and rinsing effect on the wash items. Foam escaping from the wash cabinet can cause damage to the machine. When foam develops, the cleaning process is not standardized or validated in principle.	- Determine and remedy the causes of the foam. - Check the process used regularly to monitor foaming levels. See information regarding “Associated process chemicals”, “Soiling”, and “Reaction between process chemicals and soiling” in this section.
Corrosion to stainless steel in the wash cabinet and to accessories can give them a different appearance: - rust (red stains/discoloration) - black stains/discoloration - white stains/discoloration (etched surface) Corrosive pitting can lead to the machine not being water-tight. Depending on the application, corrosion can affect cleaning and rinsing results or cause corrosion to (stainless steel) wash items.	- Determine and remedy the causes of corrosion. See information regarding “Associated process chemicals”, “Soiling”, and “Reaction between process chemicals and soiling” in this section.

Associated process chemicals	
Problem	**Solution**
The ingredients in process chemicals have a significant impact on the longevity and functionality (throughput) of dispensing hoses.	- Follow the process chemical manufacturer's instructions and recommendations. - Carry out a regular visual check of the dispensing hose (suction lances, hoses, canisters, etc.) for any damage. - Regularly check the flow rate of the dispensing hose. - Ensure that the regular cycle of maintenance is observed. - Please contact Miele for advice.
Process chemicals can damage elastomers and plastics in the machine and accessories.	- Follow the process chemical manufacturer's instructions and recommendations. - Carry out a regular visual check of any accessible elastomers and plastics for damage.
The following process chemicals can cause large amounts of foam to build up: - cleaning agents and rinsing agents containing surfactants Foam can occur: - in the program phase in which the process chemical is dispensed - in the following program block if it has been spilt - in the following program with rinsing agent if it has been spilt	- The process parameters in the wash program, such as dispensing temperature, dosage concentration, etc., must be set to ensure the whole process is foam-free or very low-foaming. - Please observe the process chemical manufacturer's instructions.

Chemical processes and technology

Soiling	
Problem	**Solution**
The following substances can lead to a heavy build-up of foam during washing and rinsing: - some disinfectants, dishwashing cleaning agents, etc. - active foaming agents such as surfactants	- Thoroughly rinse the wash items in water beforehand. - Select a cleaning program with at least one short pre-wash in cold or hot water.
The following substances may cause corrosion to stainless steel in the wash cabinet and on accessories: - hydrochloric acid - other substances containing chlorides, such as sodium chloride - concentrated sulphuric acid - chromic acid - particles of iron and shavings	- Thoroughly rinse the wash items in water beforehand. - Put the drip-dry wash items into the load carriers and start a reprocessing program as soon as possible after placing in the wash cabinet.

Reaction between process chemicals and soiling	
Problem	**Solution**
Soiling containing high protein levels, such as blood, can cause a heavy build-up of foam when processed with alkaline process chemicals.	- Select a cleaning program with at least one short pre-wash in cold water.
Non-precious metals such as aluminum, magnesium, and zinc can release hydrogen when processed with very acidic or alkaline process chemicals (oxyhydrogen reaction).	- Please observe the process chemical manufacturer’s instructions.

Process chemicals

⚠ Unsuitable process chemicals pose a health risk.
Using unsuitable process chemicals will generally cause an unsatisfactory wash result and can pose a health risk or cause damage to property.
Only use process chemicals designed specifically for use in laboratory glassware washers and follow the manufacturer's instructions on how to use them.
Please follow any instructions relating to non-toxic residues.

⚠ Process chemicals pose a health risk.
Some process chemicals may be corrosive and irritant.
Observe the relevant safety codes and safety data sheets issued by the process chemical manufacturers when handling process chemicals.
Take all protective measures required by the process chemical manufacturer, e.g., wear protective goggles and protective gloves.

Highly viscous (thick) process chemicals can affect the dispensing monitoring and lead to inaccurate data. In this instance, please contact Miele Service for advice.

Contact Miele for information about suitable process chemicals.

The safety data sheets for the process chemicals must be easily accessible during operation of the machine.

Process chemicals

The machine is only designed for use with liquid cleaning agents. The liquid cleaning agent is dispensed from an external canister via a suction lance.

For environmental reasons it is important to always consider the following factors when selecting a cleaning agent:

- How alkaline does the cleaning agent need to be for the cleaning application involved?
- Are protein-removing enzymes required and is the program sequence suitable for this?
- Are surfactants required for proper dispersion and emulsification?
- A suitable, mildly alkaline, active chlorine-free cleaning agent should be used for thermal disinfection programs.

For cleaning specific types of soiling, and for information on the optimum cleaning agents and additives to use for liquid dispensing, Please contact Miele Service.

Adding and dispensing process chemicals

Neutralizing agent

Depending on the equipment variant, neutralizing agent is dispensed either via an internal dispensing hose or an external dispenser module. Dispenser modules are installed by Miele Service and can be retrofitted at any time. Internal dispensing hoses cannot be retrofitted.

Neutralizing agent is dispensed during the interim rinse in certain programs to avoid discoloration and patches of corrosion on the instruments, especially in the joint areas.

Neutralizing agent (pH setting: acidic) also neutralizes residues of alkaline cleaning agents on the surface of the wash items.

Rinse aid

Rinse aid is necessary to ensure water does not cling and leave marks on wash items, and to help wash items dry faster after reprocessing.

⚠ Residues of rinse aid remain on the surface of wash items after they have dried.
It is important to check the suitability of the rinse aid being used on the wash items.

⚠ Do not dispense rinse aid when reprocessing ophthalmic wash items.

Instrument care products

⚠ Damage caused by instrument care product based on paraffin oils (white oils).
Paraffin oils (white oils) can damage the elastomers and plastics in the machine.
Such care products must not be dispensed as process chemicals in this machine, even if they are recommended for machine use by the care product manufacturer.

If necessary, you can use instrument care products based on paraffin oil for instrument care following machine reprocessing. Observe the instructions provided by the manufacturers of the instrument and the care products.

It is safe to reprocess instruments that have been treated with this type of care product in this machine.

Dispensing systems

The machine is designed for dispensing the following process chemicals:

- Cleaning agent
  Depending on the equipment variant, liquid cleaning agents are dispensed via an internal dispensing hose or with the aid of an external dispenser module.
- Neutralizing agent
  Dispensing is carried out using a suction lance from a canister.
- Rinse aid
  Depending on the equipment variant, dispensing is carried out either from a ✳ dispenser canister in the door or via an external dispenser module.
- Additional media
  Additional liquid process chemicals can be dispensed via external dispenser modules.

Dispensing systems in the door are exempt from monitoring.

Color coding on the suction lances

Liquid process chemicals from external canisters are dispensed via suction lances. Color coding can be helpful for correct dispensing.

Miele uses and recommends the following:

- Blue: For cleaning agents
- Red: For neutralizing agents
- Green: For chemical disinfection agents or an additional second cleaning agent
- White: For acidic process chemicals
- Yellow: For free choice

Dispenser modules

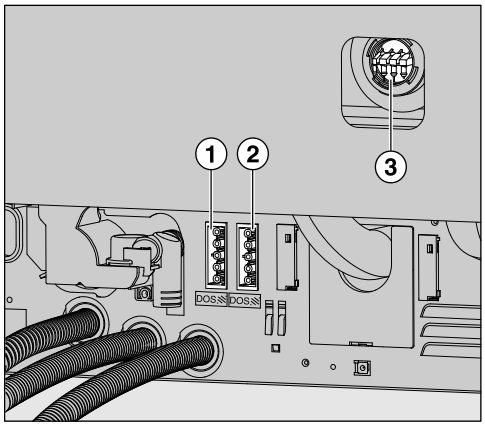
If required, additional external dispenser modules (DOS K85 Flex or Comfort modules) for liquid process chemicals can be retrofitted. The number of connections varies depending on the equipment variant.

External dispenser modules are installed by Miele Service. Internal dispensing hoses cannot be installed retrospectively.

Connecting dispenser modules

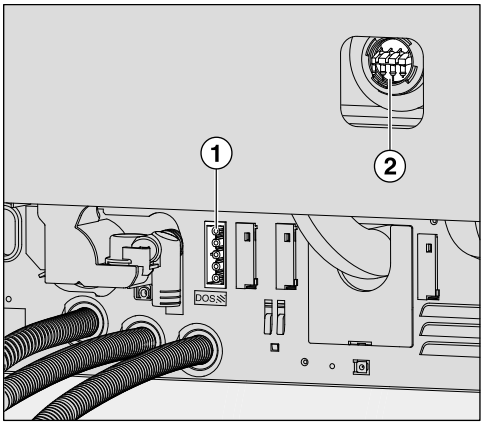
The dispenser modules are supplied with installation instructions.

2 DOS module connections



① Power supply connection
② Power supply connection
③ Connections for dispensing hoses

1 DOS module connection



① Power supply connection
② Dispensing hose connection

The dispenser modules are controlled via the power supply. Pay attention the labeling of the connections.

- DOS 1 Cleaning agent
- DOS 3 Neutralizing agent
- DOS 3 Rinse aid
  (dispensing only possible with certain machine types instead of neutralizing agent)
- DOS 4 Additional media
  Connection is activated by Miele Service if required.

- Connect the power supply.
- To connect the dispensing hoses, release the hose clip on a free connector and remove the protective cap.
- Push the dispensing hose onto the connector and secure it with a hose clip.

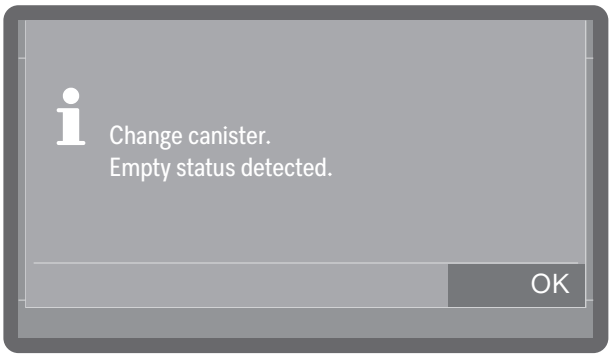
Unused connectors for dispensing hoses must be blanked off with protective caps to prevent the leakage of wash water.

Replacing the media canister

⚠ Risk of infection due to unsuitable cleaning agents.
Using unsuitable cleaning agents, such as a cleaning agent for a domestic dishwasher, will mean that the reprocessing result is not as expected.
Only use cleaning agents that are suitable for cleaning machines.

Only replace empty canisters with canisters containing the appropriate process chemicals.
The reprocessing results are sometimes significantly impaired by dispensing the wrong process chemicals in the program blocks. In addition, mixing different process chemicals in the dispensing hose can lead to unexpected chemical reactions.
Pay attention to the color coding on the suction lances.

When the fill level in the canister is low, you are reminded to change the canister; see the example for cleaning agent here:

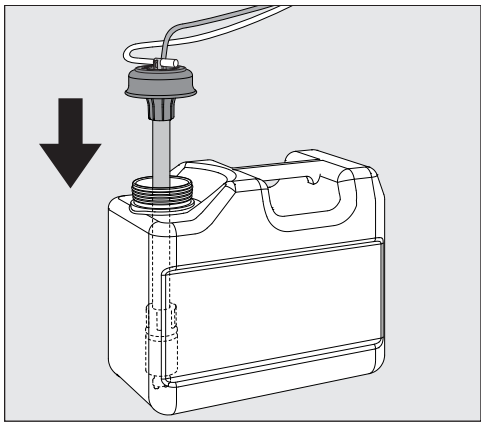


- Press OK to confirm the message.

Once the supply has been used up, the machine is locked to prevent further use.
The lock is lifted some time after the canister has been replaced.

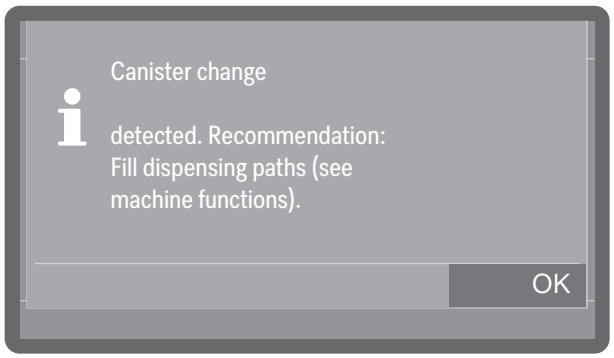
- Take the canister and place it on a robust and easy-to-clean surface, e.g., the wash cabinet door.
- Take the lid off the canister and remove the suction lance.
- Place the suction lance on a robust and easy-to-clean surface, e.g., the wash cabinet door.

- Replace the empty canister with a full one.



- Push the suction lance into the opening of the canister and secure the lid.
- Feed the suction lance into the canister until it reaches the bottom.
- Wipe up any spilled process chemical thoroughly.
- Place the canister on the floor next to the machine or in an adjacent cabinet. The canister must not be placed on top of or above the machine. Ensure that the dispensing hose is not kinked or trapped.

When replacing the canisters, air can get into the dispensing hose and lead to inaccurate dispensing. For this reason, we recommend that you refill the dispensing hose after changing the canister.



- Confirm the message with OK.
- To fill the dispensing hose, select the corresponding dispensing hose at ▸ ⚙ Machine functions ▸ Dispensing paths ▸ Fill dispensing paths and start the process. The hose is filled automatically.

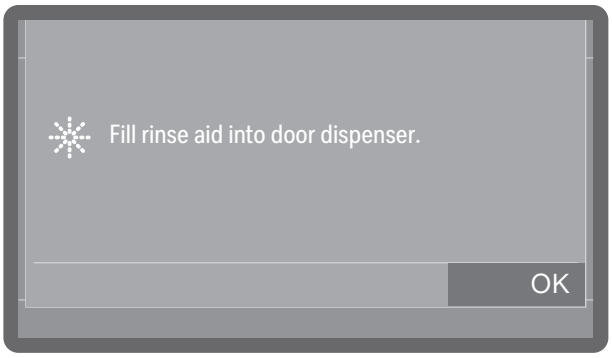
Rinse aid

Depending on the equipment variant, rinse aid is dispensed either from a ✳ dispenser canister in the door or from a media canister.

If rinse aid is dispensed from a media canister, you can replace or refill it. The procedure for this is essentially the same as the process described in 📖 “Replacing the media canister”.

Refilling the door dispenser canister

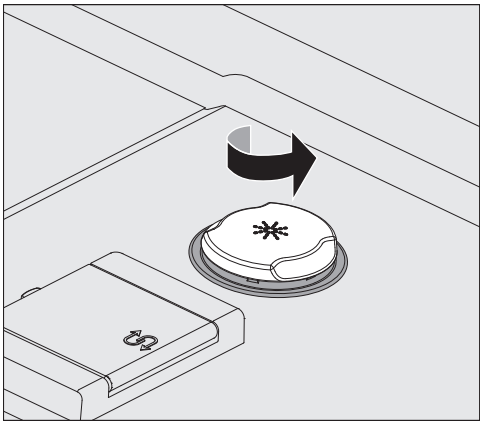
When the fill level in the rinse aid container is low, you are reminded to refill the dispenser canister.



- Press OK to confirm the message.

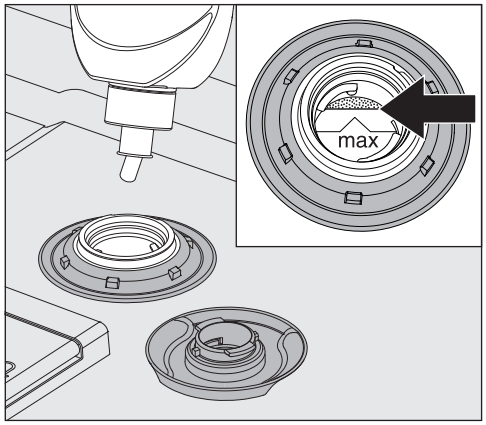
⚠ Never add cleaning agent.
This will always destroy the rinse aid container.
Only fill the rinse aid container with rinse aid for washer-disinfectors.

- Open the door fully.

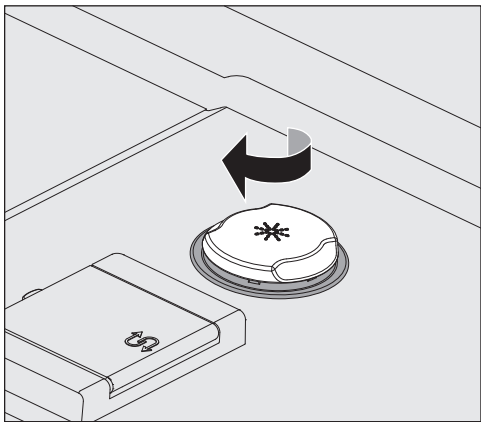


- Unscrew the yellow ✳ lid.

The container holds approx. 300 mL.



- Add the rinse aid only until it is visible at the “max” mark in the funnel.



- Close the container.
- Wipe up any spilled process chemical thoroughly. Then start the Cold water rinse program to prevent over-foaming from occurring during the next program.

Setting the dispensing concentration

The dispensing concentration is set by Miele Service.

Rinse aid

If spots appear on wash items after reprocessing:

- Increase the amount dispensed.

If clouding or smearing appears on wash items after reprocessing:

- Decrease the amount dispensed.

Neutralizing agent

If spots appear on wash items after reprocessing:

- Decrease the amount dispensed.

If clouding or smearing appears on wash items after reprocessing:

- Increase the amount dispensed.

Selecting a program

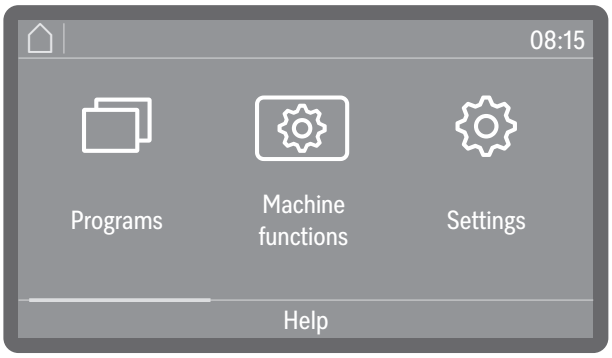
During initial installation and commissioning, only the relevant programs shall be kept by the installer (e.g. Vario TD Dental programs for Dental, or medical programs for medical application).

Always select the correct program depending on the application, type of wash items and type of soiling.

- You can find a list of all programs along with application descriptions in "Program overview".
- All released programs are available for selection.
- The order of the programs can be changed as required.

Tip: To release or block programs; see ▸ Extended settings ▸ Program options ▸ Release programs.

Tip: To change the order of the programs; see ▸ Extended settings ▸ Program options ▸ Set Favorites.

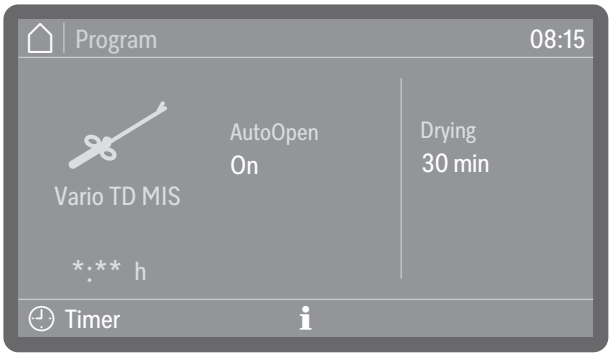


■ Tap Programs and select a program from the list; see "Program overview".

As soon as you have selected a program, the *Start/Stop* button starts to flash.

Use the Cancel button to return to the program selection screen before the program starts, e.g., to select a different program. This is no longer possible once the program has started.

Program information



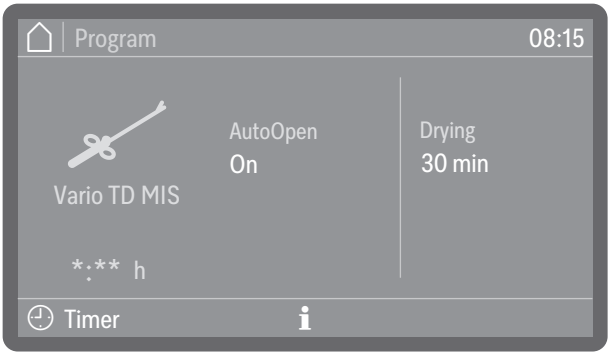
(:** Program runtime varies depending on configuration)*

In the program display, you can use the information symbol **i** to call up information about the program or, while a program is running, information about the current wash block.

Starting a program

Selecting and deselecting additional functions

Before starting the program, you can activate or deactivate the additional functions that are displayed to the right of the program name by tapping them.



(:** Program runtime varies depending on configuration)*

Activated functions are highlighted in color. The type and number of additional functions vary depending on the program and machine features.

AutoOpen

AutoOpen is an additional assisted drying function. At the end of the program, the door opens slightly to allow residual moisture to escape from the wash cabinet more quickly.

The door is opened as soon as the temperature in the wash cabinet has dropped below a certain value. Before the door is opened, a corresponding message is shown on the display and an audible signal sounds if audible signals are activated.

Drying

For machine variant with active drying.

When the drying function is activated and the door is closed, the drying unit feeds heated and HEPA-filtered air into the wash cabinet for active drying of the wash items. The heated air is discharged through the steam condenser and can be cooled down if necessary; see ▸ Extended settings ▸ Program options ▸ Air cooling.

If the drying time (▸ Drying time 2) is set as changeable (▸ Time changeable?: Yes) in the program settings, the drying time set can be altered. If the drying time is set as not changeable (▸ Time changeable?: No), the preset time applies; see ▸ Extended settings ▸ Program options ▸ Configure programs ▸ Drying ▸ Drying time 2 ▸ Time changeable?.

When the drying function is activated, the program runtime is extended.

Starting a program immediately

- Press the *Start/Stop* sensor control (the LED of the *Start/Stop* sensor control will light up).

Once a program has been started, it can no longer be changed. You can end a program before it has finished by canceling it; see “Canceling a program”.

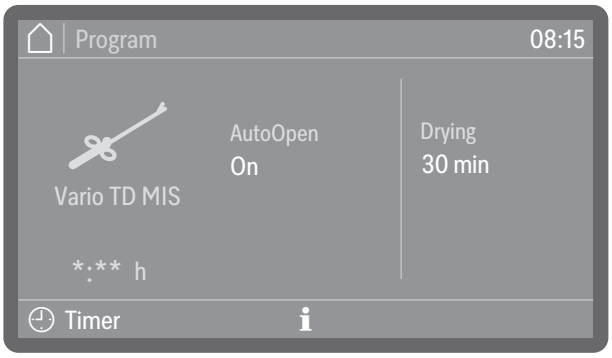
Starting the program using a timer

The start of a program can be delayed; for example, to benefit from economy rates of electricity at night. You can set a start time at which the program should start (Start at) or a finish time by which the program should end at the latest (Finish at). The times depend on the set time of day.

Tip: To set the time of day; see ▸ Extended settings ▸ Date/Time ▸ Time.

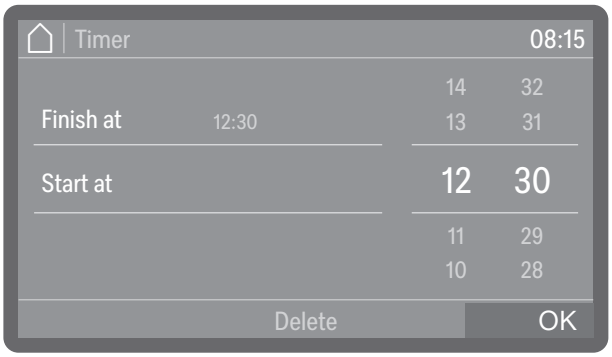
Setting the timer

- Select a program.

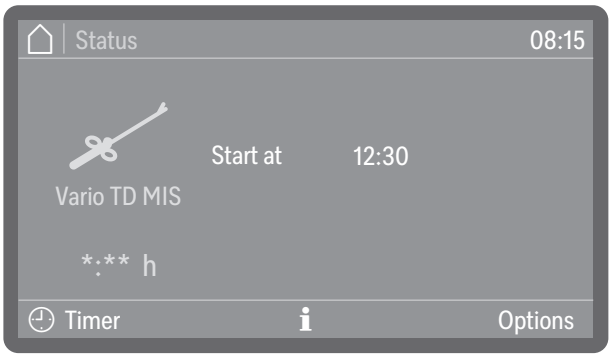


(:** Program runtime varies depending on configuration)*

- Tap Timer.



- Select the start time (Start at) or finish time (Finish at).
- Set the time.
  Selecting Delete allows you to delete the entries.
- Press OK to confirm your entries.



(:** Program runtime varies depending on configuration)*

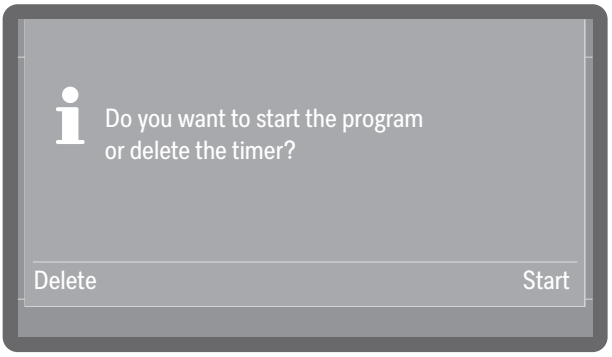
This activates the timer. Depending on the program, you can add or remove additional functions for the next program cycle via Options; see “Selecting and deselecting additional functions”. Some time after the last input, the machine switches to Standby mode until the program starts.

Changing the timer

- Tap Timer.
- Re-enter the start or finish time.

Deleting the timer

- Press the *Start/Stop* button.



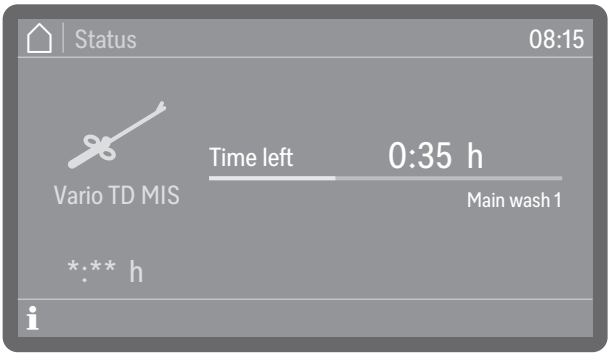
You will then be asked whether you want to start the program immediately (Start) or whether you want to delete the timer (Delete).

- Select an option.

Tip: Alternatively, you can switch off the machine by pressing the On/Off switch, which automatically deactivates the timer.

Program cycle display

Once a program has started, the display shows the program name, the name of the current wash phase, and the time left until the program is finished.



(:** Program runtime varies depending on configuration)*

During the program sequence, program information can be called up by tapping the information symbol **i**.

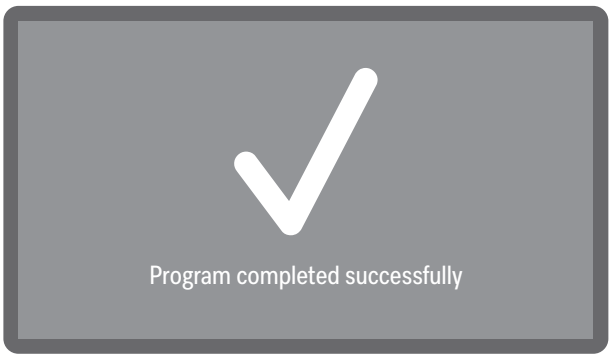
Only the parameters that are set for the wash block that is currently in progress are shown, for example:

- Temperature as actual value and setpoint if a temperature has been specified for the wash block
- Activation time as actual value and setpoint if an activation time has been set
- A_0 value as actual value and setpoint, for wash blocks with thermal disinfection and activated A_0 value control
- Cycle number

- Conductivity as limit value, if conductivity is monitored in the wash block, and as actual value, if conductivity is also measured (equipment variant)
- Drying as setpoint and actual value (equipment variant)

End of the program

After a program has ended normally, the LED of the *Start/Stop* button will go out and the following will appear on the display:



The door button starts to light up to indicate that the door can be opened.

In addition, an audible signal sounds for approx. 3 seconds and is repeated 3 times every 30 seconds.

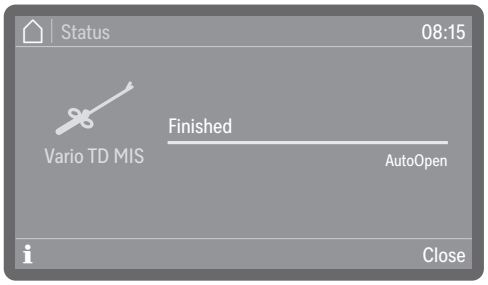
Tip: The audible signal settings can be found at ▸ Settings ▸ Volume ▸ Buzzer tones.

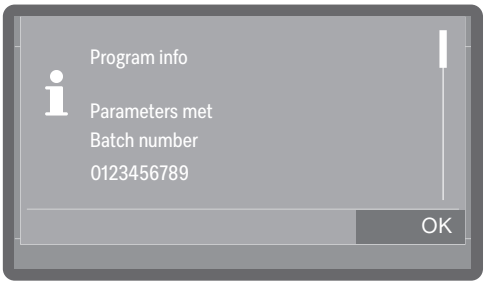
Acknowledging the end of the program

■ Tap the display to acknowledge the end of the program.

If system messages are pending at this time, these are then output, e.g., if a lack of salt or process chemicals has been detected or a notification regarding when the next maintenance is due. Every message needs to be acknowledged individually by pressing OK.

Displaying program information





At the end of the program, tap the information symbol **i** to call up program information, for example:

- Parameters met
- A_0 value as actual value, only with activated A_0 value control
- Cycle number
- Conductivity, if conductivity is monitored (equipment variant)
- Spray arm speed as OK or Not OK if monitoring is active
- Wash pressure as OK or Not OK if monitoring is active

If ▸ Batch control is activated, the cycle must first be documented on the display before the program information can be displayed.

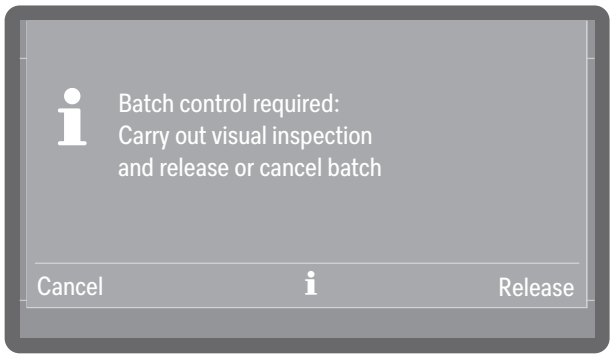
Batch control

If you carry out batch controls, you can document the results in the batch protocols of the machine. For this purpose, the function must be activated and a user ID must be set up for each authorized operator; see ▸ Extended settings ▸ Program options ▸ Batch control.

If batch control is activated on the machine, the cleaning results of the completed program must first be documented before the next program can be started.

Carrying out batch control

- Acknowledge the end of the program.
- Tap on the information symbol ℹ and check whether the displayed parameters are as expected.
- Open the door, remove the wash items, and carry out all the necessary checks to verify the cleaning results, e.g., visual checks.
- Close the door and document the result on the display.



- Release

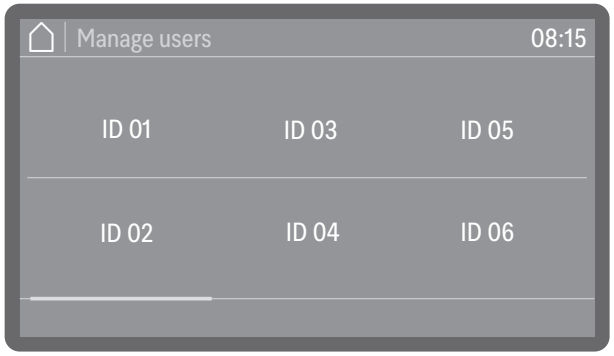
  The cleaning results meet expectations.

- Cancel

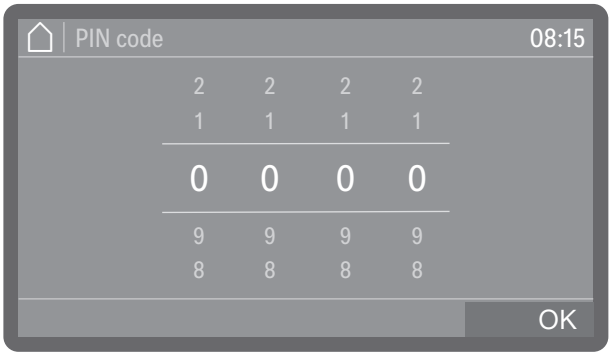
  The cleaning results are inadequate.

Do not continue to use wash items from canceled cycles.
The wash items must either be reprocessed or disposed of.

- Select one of the options.

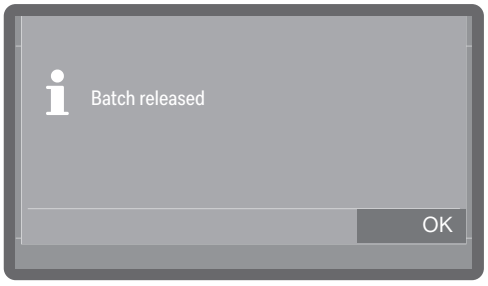


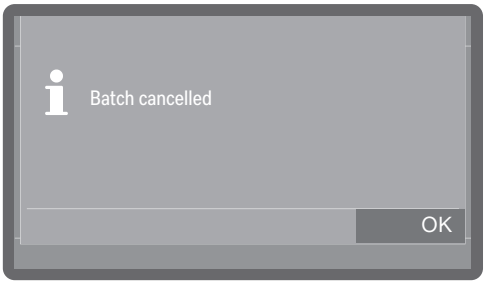
- Select your user ID.



- Enter your personal PIN code; see 🕮 “PIN code”.

If the PIN code is repeatedly entered incorrectly, the process will be canceled and the result will not be documented. Instead, the failed result documentation will be recorded in the batch protocol.





- Press OK to confirm the result of the batch control.

The cleaning results will be documented in the batch protocol together with the user ID.

Personal PIN codes must not be shared.
The PIN code identifies the owner of the user ID at the machine. If the personal PIN code becomes public knowledge, it is no longer possible to trace which operator used the user ID for the documentation.

Canceling a program

If a program is canceled, the wash items in the machine must be reprocessed again.

⚠ Danger of scalding, burning, and chemical burns due to hot wash items, wash water, or escaping vapors.
The wash items and the wash cabinet may be very hot. Hot wash water or steam may also escape.
Be careful when opening the door. Open the door slowly and do not stand in the rising vapors.

Program canceled due to a fault

The program stops and a fault message appears on the display.

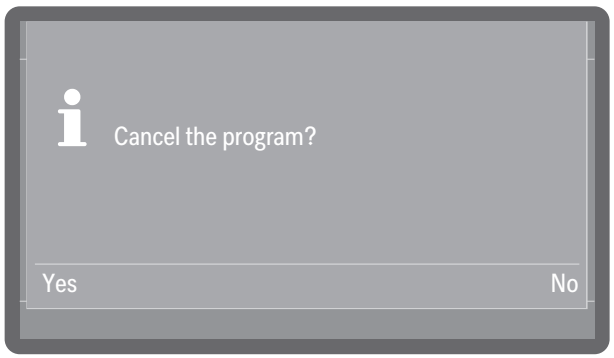
- Acknowledge the fault message by entering your PIN code.
- Take appropriate steps to resolve the fault, depending on its cause; see 🕮 “Frequently asked questions”.

Canceling a program manually

A program that is in progress may only be canceled if strictly necessary, e.g., if the wash items are moving significantly.

- Press the *Start/Stop* button.

The following will appear on the display:

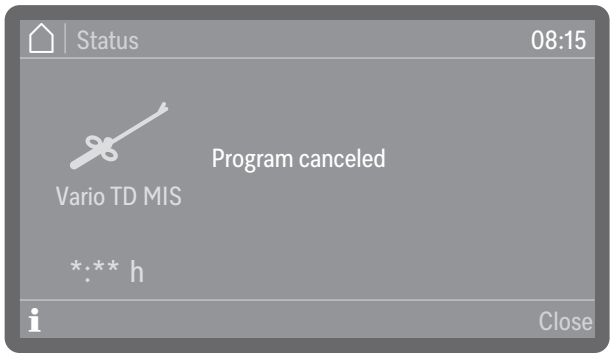


- Select Yes to cancel the program.

Tip: A PIN code may still need to be entered. To enter the PIN code; see "Entering the PIN code". To set up the PIN code lock; see ▸ Extended settings ▸ Program options ▸ Door lock code.

The program will only be canceled when Yes is confirmed. If no button is pressed for several seconds, or if the process is canceled using the ⮌ button, the display will revert to the program sequence display.

The following message will appear on the display:



The door must be opened to acknowledge the message. Open the door a little.

Restarting the program

- Restart the program or select a new program.

Menu structure

The Machine functions menu includes relevant functions to support daily routine tasks.

The factory settings are indicated by a tick ✓. A description of how to configure settings is provided after the overview.

- Machine functions
  - Filter interval
    - Tubular filter *1)
    - Filter combination *1)
    - HEPA filter *2)
  - Dispensing paths
    - Fill dispensing paths
    - Rinse dispensing paths
  - AutoClose
    - Off
    - On ✓
  - Documentation
    - Last report
    - Selected reports

*1) Visible if the interval is activated; see ▸ Extended settings ▸ Maintenance/Service ▸ Filter maintenance.

*2) Available for machines with active drying

Filter interval

The machine is equipped with several filters and a filter system, subsequently referred to as filters, which require regular maintenance. Reusable filters must be cleaned and disposable filters replaced.

For more information on cleaning or replacing the filters; see “Maintenance”. Reusable filters used in load carriers have their own operating instructions and cleaning instructions.

You can use the following menu to display the remaining time left or cycles of the filters and reset the counter after a filter has been changed or cleaned.

The menu is saved under the following input path.

Machine functions
> Filter interval
> > Tubular filter
> > Filter combination
> > HEPA filter

■ Select a filter.

- Remaining filter cycles or Remaining time filter (depending on the type of filter selected)

  Displays the remaining program sequences (cycles) or operating hours until the next maintenance (cleaning or replacement)

- Reset interval

  Resets the counters for the filter cycles

⚠ The intervals must only be reset once the filters have been cleaned or replaced.

■ Select an option.

Dispensing paths

The dispensing systems for liquid media can only dispense reliably if the dispensing system has been purged of air and contains no deposits.

Filling dispensing paths

The dispensing hoses need to be topped up in the following situations:

- If the dispensing hose is being used for the first time.
- If air has been sucked in or the system has been drained.
- If canisters for liquid media have been changed or refilled.

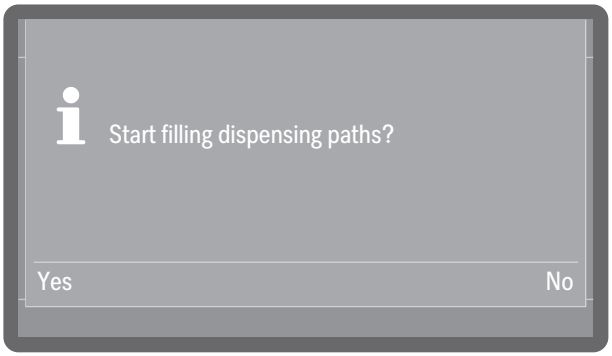
Before filling the dispensing paths, make sure that the canisters are full and that the suction lances are screwed securely to the canisters and that they cannot suck in air.

The menu is saved under the following input path.

Machine functions
> Dispensing paths
> > Fill dispensing paths

- Select the Fill dispensing paths menu option.
- Select the dispensing hose that you want to fill.

You will then be asked if you want to start the filling process:



- Yes

  Starts the process. The dispensing hose is filled automatically. The message Fill dispensing paths completed is displayed following successful completion. If filling is interrupted prematurely, the process must be repeated.

- No

  Cancels the process without filling the dispensing hose.

- Select an option.

Rinsing dispensing paths

A dispensing hose must be rinsed in the following situations:

- If a dispensing hose was accidentally filled with the wrong medium.
- If deposits have formed in the dispensing paths or in the canisters which could completely or partially clog the systems. Deposits can form, for example, after long periods of downtime or when the canisters are refilled instead of being replaced.

■ Fill a clean container, e.g., a bucket, with clear, clean water.

⚠ Damage to the dispensing hose.
Small foreign objects in the water, such as sand, lint, or similar, can be sucked in by the dispensing hose and may clog or damage it.
Make sure that there are no foreign objects in the water.

The menu is saved under the following input path.

Machine functions
Dispensing paths
Rinse dispensing paths

■ Select the Rinse dispensing paths menu option.

■ Select the dispensing hose that you want to rinse.

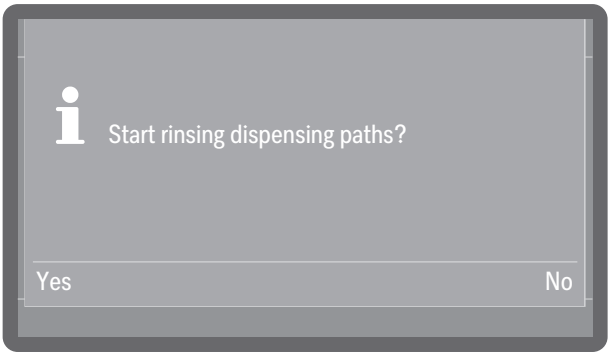
The message Place the suction lance in a bucket with water. is then displayed.

■ Place the suction lance in the container filled with water. The lower end of the suction lance with the suction opening must be thoroughly rinsed.

■ Secure the suction lance so that it cannot tip over or fall out of the container.

■ Confirm the message with OK.

You will then be asked if you want to start the process:



- Yes

  Starts the process. The dispensing hose is rinsed automatically. The message Rinse dispensing paths completed is displayed following successful completion. If rinsing is interrupted prematurely, the process must be repeated.

- No

  Cancels the process without rinsing the dispensing hose.

■ Select an option.

AutoClose

This can be used to determine whether the door should be drawn into the final closed position by the automatic door lock immediately after closing or whether it should remain slightly open.

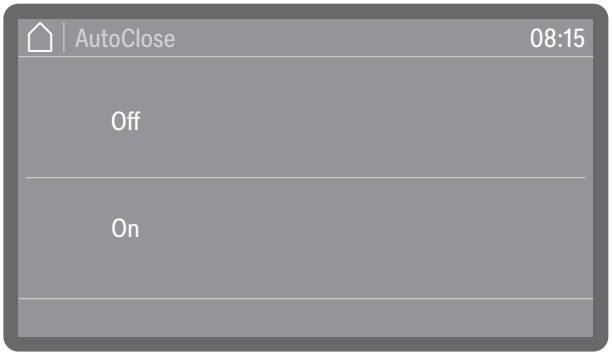
In its final closed position, the door is mechanically locked and can be unlocked and opened again by pressing the door button ⊶.

The menu is saved under the following input path.

Machine functions

AutoClose

■ Select the AutoClose menu option.



- On

  AutoClose is activated for all programs. The door is drawn into the final closed position and locked immediately after closing.

- Off

  AutoClose is deactivated for all programs. The door hooks into the door latch and can be pulled open again without pressing the ⊶ button.

■ Select an option.

Documentation

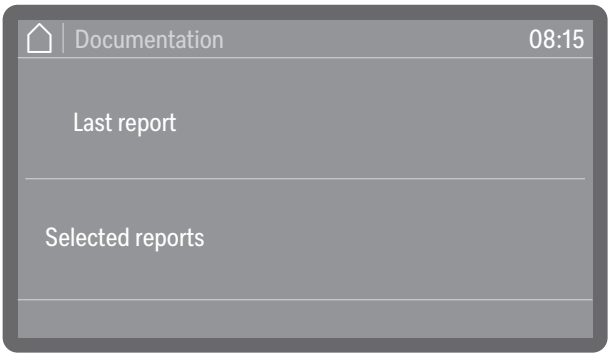
Internally stored protocols can be output retrospectively from the machine. To do this, the machine must be connected to a network or to a printer; see ▸ Wi-Fi / LAN.

The menu is saved under the following input path.

Machine functions

Documentation

■ Select the Documentation menu option.



- Last report

  The last batch protocol is output again.

- Selected reports

  You can select individual protocols from the last protocols and have them displayed.

■ Select an option.

Menu structure

Basic parameters for machine control are stored in the Settings menu.

The factory settings are indicated by a tick ✓. A description of how to configure settings is provided after the overview.

- Settings
  - Display brightness
  - Volume
    - Buzzer tones
    - Keypad tone
  - Welcome melody
    - Off
    - On ✓
  - Lighting *)
    - Off
    - On
    - Automatic ✓

*) Available for machines with glass door

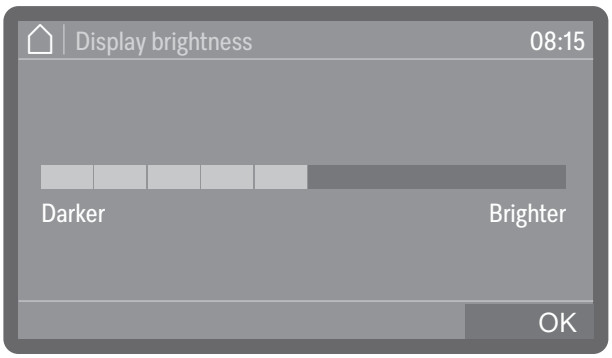
Display brightness

You can also set the brightness of the display.

The menu is saved under the following input path.

- Settings
  - Display brightness

- Select the Display brightness menu option.



- Adjust the brightness of the display and press *OK* to save the setting.

Volume

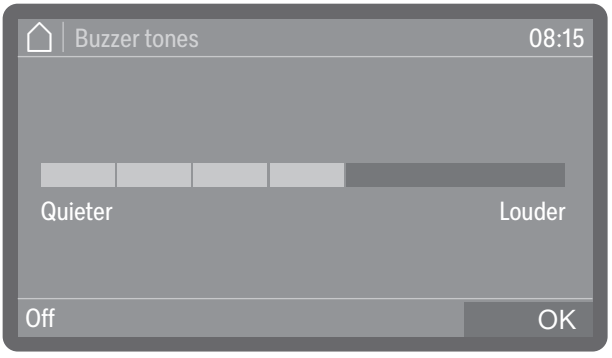
An acoustic signal transmitter is integrated in the control panel, which can provide acoustic feedback in the following situations:

- Keypad tone when operating the buttons
- Buzzer tones at the end of the program or for system messages (notifications)

The menu is saved under the following input path.

Settings
> Volume
> > Keypad tone
> > Buzzer tones

- Select the Volume menu option.
- Select either Keypad tone or Buzzer tones. The volume is set in the same way for both options.



- Set the volume.
  If you select Off, the sound can be switched off entirely. You can switch it on again if required by selecting On (displayed instead of Off).
- Press *OK* to save the setting.

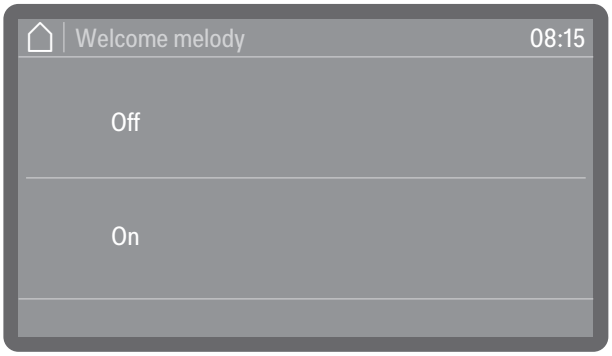
Welcome tone

There is a brief melody when the machine is switched on and off. You can use this option to switch this melody off and back on again.

The menu is saved under the following input path.

Settings
> Welcome melody

- Select the Welcome melody menu option.



- Off

  The melody is switched off.

- On

  A welcome melody is played when the machine is switched on.

■ Select an option.

Lighting

Available for machines with glass door.

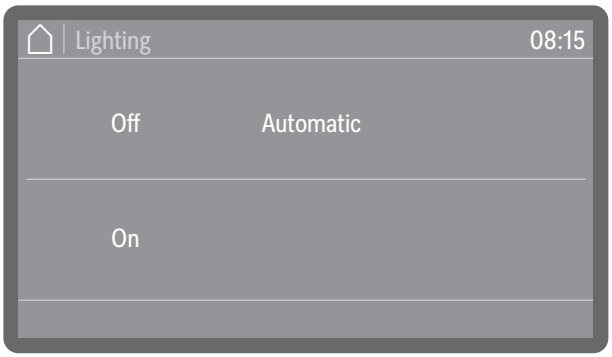
Machines with glass doors are equipped with chamber lighting that allows the reprocessing procedure to be monitored. The lighting can be switched on and off as required.

The menu is saved under the following input path.

Settings

Lighting

■ Select the Lighting menu option.



- Off

  The chamber lighting is switched off permanently.

- On

  During a program, the chamber lighting remains permanently switched on.

- Automatic

  When the door is opened, the chamber lighting switches on and remains switched on for some time after the door is closed. During a program sequence, the lighting is switched off and is only reactivated at the end of the program or in the event of a fault.

■ Select an option.

Logging process data

Reprocessing procedures are documented per cycle. Required and actual values are always recorded.

During the program cycles, the following data is logged, among other things:

- Machine model and serial number
- Date
- Program
- Start time
- Cycle number
- Wash blocks
- Dispensing hose with dispensing temperature and target dispensing amount if necessary
- Setpoints for temperature and activation time
- Minimum and maximum temperatures during the activation time
- Wash pressure measuring results
- Fault messages
- End of the program time
- System messages, e.g., refill salt

Memory

Up to 20 batch protocols are stored in an internal power failure safe memory within the machine. In the event of network or printer problems, for example, these can be subsequently recalled. If the memory is full, the oldest protocol is overwritten.

In addition, raw data from the last program cycle is stored to create a graphical display of the process data. This data can be converted into graphical representations using external apps or other documentation software systems. It is not possible to create graphical representations on the display or on a directly connected printer. Power-failure-safe storage of graphical information is not available.

Adding cycle numbers

Miele Service can add subsequent cycle numbers, e.g., in the event of software updates or if the machine controls are replaced.

Communication modules

The machine is equipped with an integrated Wi-Fi module. In addition, the machine has a module slot on the back of the machine, which can be equipped with a Miele XKM communication module to set up wired interfaces.

The interface can be used to permanently archive batch protocols using documentation software, apps, or a report printer. In addition, further digital offers are available if you are connected to the Miele cloud.

Please contact Miele for further information on software, the Miele cloud and suitable printers.

Only use terminal devices (PC, printers, etc.) compliant with IEC/EN 62368.

Depending on the equipment variant, the machine is either equipped with a communication module at the factory or a module can be retrofitted at any time. The communication modules are available from Miele as an accessory. The modules have their own instructions.

Only specialists are permitted to configure the interface; see ▸ ⚙🔒 Extended settings ▸ Networking ▸ Wi-Fi / LAN.

Maintenance

The machine should be serviced **every 1000 hours of operation, or at least once every 12 months**, by Miele Service or a suitably qualified specialist.

If the machine is used exclusively for reprocessing dental, podiatry, or veterinary wash items or ward utensils, the maintenance interval can be extended to up to 24 months (or 1000 operating hours). The maintenance interval is set by Miele Service or by a suitably qualified specialist and adjusted if necessary.

Maintenance covers the following points and functional checks:

- replacement of wear parts
- electrical safety check compliant with national rules and regulations (e.g., IEC 60364-4-41 or the local regulations)
- door mechanism and door seal
- any screw connections and connectors inside the wash cabinet
- water inlet and drainage
- internal and external dispensing systems
- spray arms
- filter combination
- sump including drain pump and non-return valve
- all load carriers
- Steam condenser
- wash mechanism/wash pressure
- Drying unit (equipment variant)
- visual inspection and functional check of components
- a thermo-electric check
- leak test on seals
- safety testing of all relevant measuring systems
- safety features

Optionally available (equipment variant from the factory):

- Conductivity meter

External documentation software and computer networks are not tested by Miele Service.

Routine checks

Before the start of each working day, the supervisor must conduct a series of routine checks.

The following items must be checked:

- Filters in wash cabinet
- Machine spray arms and spray arms of load carriers
- Wash cabinet and door seal
- Dispensing hoses
- water connector caps in the rear panel of the wash cabinet
- Load carriers, e.g., baskets, modules, and inserts, as well as any irrigation connectors that may be present
- filters in load carriers

Cleaning the filters in the wash cabinet

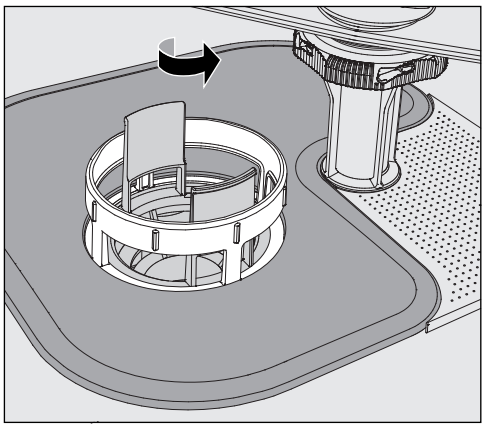
⚠ Risk of damage due to blocked waterways.
If the filters are not inserted, dirt particles will end up in the machine water circuit. The dirt particles may block the nozzles and valves.
Only start a program if the filters are inserted.
Check that the filters are positioned correctly when you reinsert them after cleaning.

The filters in the floor of the wash cabinet prevent coarse soiling from coming into contact with the circulation system. Filters can become blocked by soiling, so they need to be checked every day and cleaned as necessary.

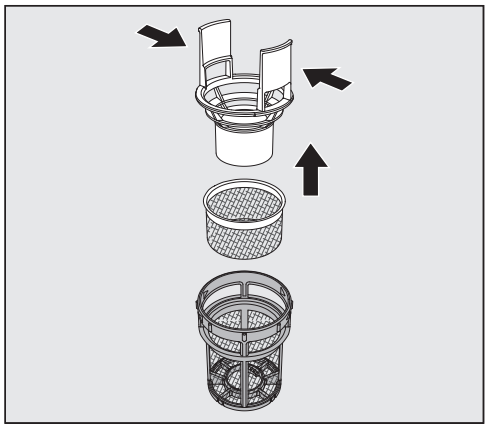
It is possible to set a cleaning interval for the filters in the wash cabinet in the controls; see ⚙ Extended settings ▸ Filter maintenance.
The cleaning interval is not a substitute for the daily routine check of the filters in the wash cabinet!

Removing and cleaning filters

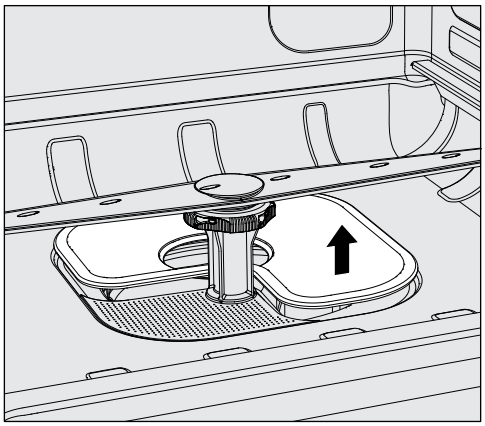
⚠ Danger of injury from sharp and pointed objects.
There is a danger of injury from sharp or pointed objects (e.g., glass shards or needles) retained in the filters. Small glass shards in particular are not always immediately visible in the filter.
Therefore, take extra care when removing and cleaning the filters.



- Loosen the microfine filter by turning it in the direction of the arrow and remove it together with the coarse filter.



- Press the catches towards each other and pull the coarse filter upward to remove it.
- Remove the fine filter which sits loosely between the coarse filter and the microfine filter.



- Remove the flat filter last.
- Clean the filters.
- Re-insert the filter combination in the reverse order.

- The flat filter must lie flat in the base of the wash cabinet.
- The coarse filter must securely click into place in the microfine filter.
- The microfine filter is screwed in tight as far as it will go.

Checking and cleaning the spray arms

The spray arm nozzles can become blocked, especially if the filters are not inserted correctly in the wash cabinet. This can cause coarse particles of soiling to get into the wash water circulation.

The spray arms must be visually checked daily for any soiling.

- To do this, remove the mobile unit or the baskets.
- Visually check the spray arms for soiling and blocked nozzles.
- Also check that the spray arms can turn easily.

⚠ Immobile or blocked spray arms must not be used again.
In this case, contact Miele Service.

Cleaning the spray arms

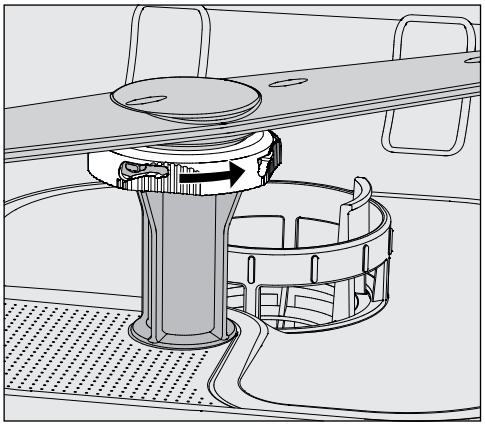
To clean the machine, the spray arms of the machine, mobile units, and baskets must be dismantled as follows:

- Remove the mobile unit or the baskets from the machine.

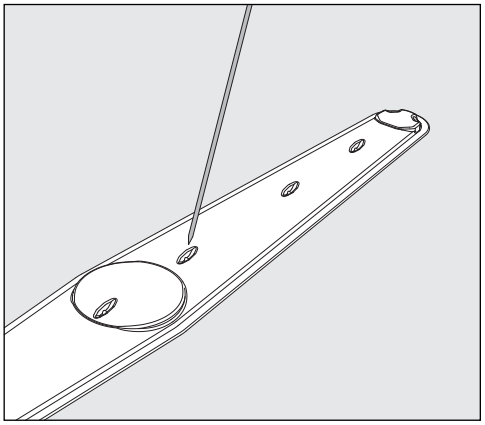
The upper machine spray arm is attached with a plug connection.

- Pull the upper machine spray arm downward.

The lower machine spray arm and the spray arms of the load carriers are fastened with bayonet catches.



- Loosen the knurled bayonet catches by turning them as far as they will go in the direction of the arrow.
- You can then pull the spray arms up or down.



- Use a pointed object to push particles into the spray arm.
- Rinse the spray arm thoroughly under running water.

⚠ Do not allow any magnetic objects or wash items to attach to the magnets on the spray arms.
Any metallic objects on the magnets can cause a false reading of spray-arm rotation.
Remove all metal objects from the magnets.

- Check the spray arm bearings for visible signs of wear.

Visible wear on the bearings can adversely affect the long-term functioning of the spray arms.
In this case, contact Miele Service.

- Replace the spray arms after cleaning.
- Make sure the spray arms can rotate easily after they have been installed.

The spray arms of the load carriers are each labeled with a number that is also embossed on the water inlet pipes in the bayonet catch area, e.g., 03. When installing, make sure that the numbers on the spray arms match the numbers on the water inlet pipes.

Cleaning the machine

⚠ Never clean the machine with a water hose or a pressure washer.

⚠ Do not use cleaning agents containing ammonia or thinners on stainless steel surfaces!
These agents can damage the surface material.

For surface disinfection, use a cleaning agent recommended and listed by the manufacturer, e.g., an alcohol-based agent with a maximum alcohol content of 70%.

Cleaning the control panel

⚠ Do not use any abrasive materials or all-purpose cleaners to clean the control panel.
Due to their chemical composition, these can cause considerable damage to the glass and plastic surfaces and to the onset control buttons.

- Clean the control panel with a damp all-purpose cloth and liquid dish soap or with a non-abrasive stainless steel cleaner.
- You can also use commercially available glass or plastic cleaners to clean the display and the plastic underside.

Cleaning the door and the door seal

- Wipe the door seals regularly with a damp cloth to remove any soiling and stains.
  Seals which are no longer tight or which have suffered damage must be replaced with new ones by Miele Service.
- Remove any soiling from the door sides and hinges.
- Regularly clean the groove in the base panel under the door with a damp cloth.

Cleaning the wash cabinet

The wash cabinet is generally self-cleaning. However, should a build-up of deposits occur in the cabinet, please contact Miele Service for advice.

Cleaning the machine front

- Clean the stainless steel surface with a damp cleaning cloth and liquid dish soap or a non-abrasive stainless steel cleaning agent.

Preventing re-soiling

- To help prevent re-soiling of stainless steel surfaces (fingerprints, etc.), a suitable stainless steel care product can be used after cleaning.

Checking the load carriers

Load carriers must be checked daily to make sure they are functioning correctly.

The following points need to be checked:

- If the load carriers have rollers, are the rollers in good condition, and are they securely attached to the load carrier?
- Are the water connectors present and undamaged?
- Are height-adjustable water connectors adjusted to the correct height and securely fixed?
- Are all nozzles, irrigation sleeves, and hose adapters securely attached to the load carrier?
- Are all injector nozzles, irrigation sleeves, and hose adapters clear so that wash water can flow through unhindered?
- Are all caps and fasteners securely attached to the irrigation sleeves?
- Are end caps present and securely located for all modules and injector manifolds?
- Are the caps in the water connectors of load carriers in the modular system working properly?

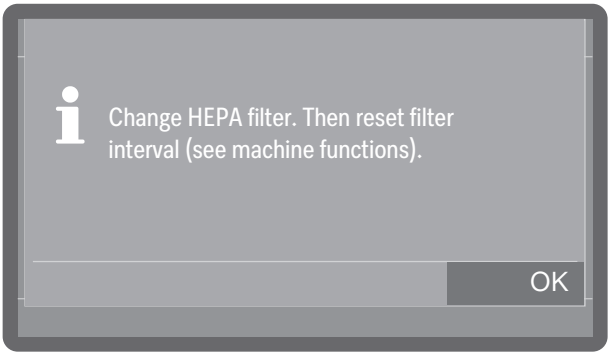
Where applicable:

- Do the spray arms rotate freely?
- Are the spray arm nozzles free of any blockages? See “Cleaning the spray arms”.
- Do the magnets integrated into the spray arms have any metallic objects sticking to them?

Filter change

Valid for machines with active drying (drying fan).

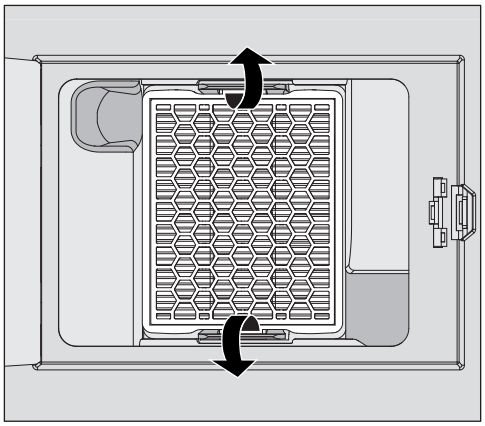
The air filters for the machine's internal drying unit have a limited service life. For this reason, the filters must be replaced regularly.



- Confirm the message by pressing OK.

Replacing the HEPA filter

- Open the service flap in the plinth panel.



- Push the retaining clips outward to release the HEPA filter.
- Grasp the recesses on the sides and pull the filter toward you.
- Insert a new HEPA filter, making sure that it locates securely in the retaining clips.
- Close the service flap.

Whenever the filter is replaced, the operating hours counter must be reset. To do this, select the filter at ▸ ⚙ Machine functions ▸ Filter interval and reset the counter using the Reset interval option.

Process validation

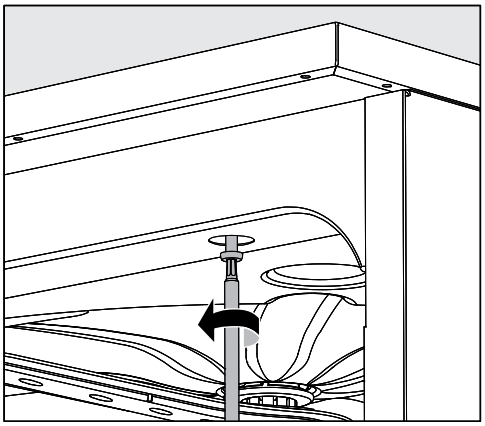
The standard of cleaning and disinfection in the disinfection programs must be confirmed by the user as a routine matter.

Safety checks and performance validation must be carried out in accordance with the internationally recognized standard EN ISO 15883. In some countries, national regulations, guidelines, and recommendations also apply.

Test point for measuring sensors

The sensor test point for validation is located at the front right on the top of the machine, covered by the lid or the countertop. To reach the access point, the lid of the machine must be removed or the machine must be pulled out from under the countertop.

- Open the door.



- Remove the protective caps and unscrew the fixing screws.
- Then remove the locking screws on the back of the machine from the **lid** and lift the **lid** to remove it.

Or

- Pull the machine out by approx. 15 cm from under the **countertop** until the sensor test point on the top is freely accessible.

Test programs

Various programs are available for monitoring the cleaning performance in the course of routine checks. The test programs are not separate reprocessing programs. Rather, they are additional functions that can be activated prior to starting any reprocessing program.

The test programs interrupt the program cycle automatically at specified points. The interruption is indicated by an audible signal tone and message on the display. Miele Service can set the duration of the interruption to between 10 seconds and approx. 42 minutes. During this time period, measurements can be made or the door can be opened to obtain a sample.
To prevent cooling of the wash cabinet, do not keep the door open too long.

The program cycle continues automatically after the time has elapsed. If the door has been opened, the program cannot start resume until the door has been closed again.
If a measurement or sample is not needed, you can resume the program sooner by pressing the *Start/Stop* button.

In addition, the door can be opened at any time during the drying phase to check the dryness of the wash load. In this way, you can determine the optimal drying time.

The following test programs can be selected:

- Laboratory

  The program cycle is stopped in each wash block immediately before the wash water is drained away.

- Validation

  The program cycle is interrupted at the following points:

  — Before the wash water is drained away in the final wash block.
  — After the interim rinse before the wash water is drained away.
  — After water intake and before draining in the final rinse block.

Activating the test program

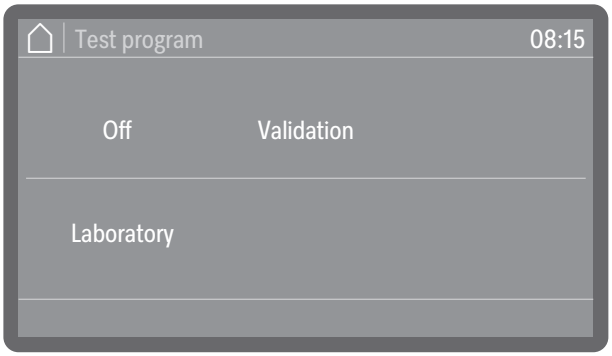
Test programs are only valid for one program cycle. To carry further tests, a test program must be selected again beforehand in each time.

The menu is saved under the following input path.

Extended settings

Program options

Test program



- Off

  The menu is closed without a program being selected.

- Laboratory

  Activates the Laboratory test program.

- Validation

  Activates the Validation test program.

■ Select an option.

You can now start the performance test.

■ To do this, select a program from the program list and start it.

During the program sequence, the information Test program is shown on the display.

If you want to deactivate the test program again before the performance test, you have to call up the menu again and select the Off option.

If you interrupt or cancel the running program during a performance test before an automatic measuring point has been reached, the test program is deactivated immediately.

Troubleshooting

The following guide should help you to find the reason for a fault and to correct it. However, please note the following:

⚠ Danger due to unauthorized repairs.
Unauthorized repairs can expose the user to considerable risk.
Repairs may only be carried out by Miele Service or a suitably qualified specialist.

To avoid unnecessary service visits, check that the fault has not been caused by incorrect operation when a fault message first appears.

Technical faults and unexpected behavior

Problem	Possible cause and solution
The display is dark and all backlit buttons are out.	The machine is not switched on. ■ Switch the machine on using the ⏻ On/Off switch.
	A breaker is faulty or has tripped. ■ Refer to the minimum breaker rating on the data plate. ■ Reset the breaker switch. ■ If the breaker trips again, call Miele Service.
	The machine is not plugged in. ■ Insert the electrical plug.
The display is dark and the *Start/Stop* button is pulsing.	This is not a fault. The machine is ready for use. ■ Press the *Start/Stop* button to reactivate the machine.
The machine has switched itself off.	This is not a fault. The Standby/Off function switches the machine off automatically after a preset waiting time to save energy. ■ Switch the machine on using the ⏻ On/Off switch.
Power outage during operation	If a temporary power outage occurs during a program sequence, the program is canceled. ⚠ Risk of infection due to contaminated wash items. In the event of a power outage in an early program phase, the wash items may be contaminated with soiling. Reprocess the wash items after every power outage. When opening the door after a power outage, take all necessary measures to protect personnel, e.g., wear protective gloves.
A program has ended, but the machine has not rinsed.	This is not a fault. The Demo mode for simulating processes and program sequences on the display is activated. ■ Deactivate Demo mode; see ▸ Demo Mode.

Maintenance and testing

Problem	Possible cause and solution
Next electrical safety test due on: or in hours	This is not a fault. Miele Service has provided a recommended date for the next electrical safety test. ■ Arrange an appointment with Miele Service or have the electrical safety test carried out by a suitably qualified specialist.
Next validation due on: or in hours	This is not a fault. Miele Service has recommended a date for the next validation. ■ Arrange an appointment with Miele Service or have the validation carried out by a suitably qualified specialist.
Next service due on: or in hours	This is not a fault. Miele Service has recommended a date for the next service visit. ■ Arrange an appointment with Miele Service or have the maintenance carried out by a suitably qualified specialist.

Dispensing/dispensing systems

⚠ Caution when handling process chemicals!
For all process chemicals, the process chemical manufacturer's safety instructions as given on their safety data sheets must be observed.

Problem	Possible cause and solution
Change canister	During a program sequence, a low fill level was measured in a canister for liquid process chemicals. ■ Replace the empty canister with a full one.
Fill dispensing paths	This is not a fault. A dispensing hose is currently being filled automatically Wait until the process is complete.
Fill dispensing paths cancelled	Filling of the dispensing hose was canceled because an insufficient flow rate was identified. A dispensing hose may be kinked or the suction lance blocked. ■ Check the dispensing hose for kinks and leaks. Position it so that it cannot become kinked. ■ Check the suction opening of the suction lance for blockages and remove them as necessary. ■ Start the process again.
	Contact Miele Service if there are leaks in the dispensing hose or a fault with the suction lance.

Highly viscous (thick) process chemicals can affect the dispensing monitoring and lead to inaccurate data. In this instance, please contact Miele Service for advice.

Insufficient salt/water softener

Problem	Possible cause and solution
Refill salt - appliance will be locked shortly.	The salt supply in the water softener has been used up. Reactivation is no longer possible. The machine will be locked for further use with the next reactivation. ■ Refill with reactivation salt.
F561 Machine locked insufficient salt: Refill regeneration salt. Machine will unlock after a few seconds. Then start the "Cold water rinse" program.	The water softener cannot reactivate because there is insufficient salt. The machine is locked for further use. ■ Refill with reactivation salt. The machine is unlocked a short while after the salt container has been refilled. Reactivation will occur automatically during the next program sequence.
Close salt container lid	The salt container is not closed properly. Salt residues are preventing it from closing. ■ Remove all salt residues from the edge of the salt refilling opening, the lid, and the seal. Do **not** use running water to rinse away salt residues as this can cause the container to overflow. ■ Close the container properly.
	Machine with steel door: The salt container flap has sprung open during a program. ⚠ When the door is opened, hot steam, and process chemicals can escape! ■ Open the door and close the container flap.

Filters

Problem	Possible cause and solution
Clean filter combination. Then reset filter interval (see machine functions).	The filter combination needs cleaning. ■ Remove the filter combination and clean it; see "Cleaning the filters in the wash cabinet". ■ After cleaning, reset the maintenance interval for the filter combination; see ▸ Machine functions ▸ Filter interval ▸ Filter combination ▸ Reset interval.
Clean tubular filter. Remaining cycles:	The tubular filters in the load carriers need cleaning. ■ Remove the tubular filters and clean them. To do this, follow the instructions in the operating instructions for the tubular filters. ■ After cleaning, reset the maintenance interval for the tubular filters; see ▸ Machine functions ▸ Filter interval ▸ Tubular filter ▸ Reset interval.
Change HEPA filter. Then reset filter interval (see machine functions).	The maximum permissible operating hours for the HEPA filter have been reached. ■ Replace the HEPA filter with a new one. ■ Then reset the operating hours counter for the HEPA filter; see ▸ Machine functions ▸ Filter interval ▸ HEPA filter ▸ Reset interval.

Cancel with fault code

If a program is canceled and a fault code appears, e.g., Fxxx (where xxx represents a number), there could be a serious technical fault.

In the event of a program being canceled and a fault code being shown:

- Follow the instructions in the display.
- Switch the machine off using the ⏻ On/Off switch.
- Wait approximately 10 seconds before switching the machine on again with the ⏻ On/Off switch.
- Start the previously selected program again.

If the same fault message appears again:

- Make a note of the fault message.
- Switch the machine off using the ⏻ On/Off switch.
- Contact Miele Service.

Please also read the notes regarding the following fault codes.

Problem	Possible cause and solution
F427, F428, F527, F528, F635, F636 **Conductivity**	The measured conductivity does not meet the requirements. Possible causes: – Carry-over of conductive substances during the reprocessing procedure ■ Check the reprocessing procedure.
	– Empty or faulty water softener or demineralization systems ■ Check external water softener or demineralization systems. ■ If necessary, reactivate the systems.
	– Work on the on-site water supply ■ Contact a qualified plumber.
	– Swapped water connections ■ Observe the markings on the water connections (see 🕮 “Connecting the water inlet”).
F433, F438 **Door blockage**	Objects in the closing area of the door or outside in front of the door prevent the door from being opened or closed automatically. ■ Remove all objects in front of the door of the machine, e.g., mobile units or boxes. ■ Open the door and remove all objects that protrude into the closing area of the door. For example, sort the wash items so that they do not protrude into the door area and remove all objects that protrude into the door area from the outside, e.g., hanging all-purpose cloths. ■ Switch the machine off and then back on again.
F434, F444, F446 **Door lock**	Slamming the door can result in problems with the comfort door lock. ■ Open and close the door.

Problem	Possible cause and solution
F460, F461, F462 **Spray arm blockage**	The set spin speed has not been reached. – Wash items are blocking the spray arm ■ Arrange the wash items so that the spray arms can turn easily and start the program again.
	– The spray arm is clogged ■ Clean the spray arm. ■ Check whether the filters in the wash cabinet are clean and correctly inserted. ■ Restart the program.
	– Wash pressure is too low due to a heavy build-up of foam ■ Follow the instructions regarding foam build-up; see 🕮 "Chemical processes and technology". ■ Start the Cold water rinse program to clean the wash cabinet. ■ Then reprocess the wash items again.
F511, F512, F513 **Dispenser pump**	Technical defect in one of the dispenser pumps. ■ Contact Miele Service.
F518, F519, F520 **Dispensing hose**	Fault detected in the dispensing hose. ⚠ Exercise caution when handling process chemicals. For all process chemicals, the manufacturer's safety notes as given on their safety data sheets must be observed. ■ Check the fill levels of the canisters and replace empty ones with full ones. ■ Check the suction apertures of the suction lances and remove any deposits. ■ Check the connections between the dispensing hoses and the suction lances, the machine, etc. ■ Remove any kinks from the dispensing hoses and check the hoses for leaks. Position the dispensing hoses so that they cannot kink. ■ Vent the dispensing hoses.
	If you identify any leaks in the dispensing hoses or defects on the suction lances, contact Miele Service.

Door

Problem	Possible cause and solution
Hot wash cabinet: Risk of injury, take care when opening the door.	When the 🔑 door button is pressed, the temperature in the wash cabinet is over 60°C. ⚠ When the door is opened, hot steam, and process chemicals can escape! ■ Open the door only when strictly necessary.

Problem	Possible cause and solution
Anti-trap guard: To continue, open the door.	The door was closed before the door lock catch was fully retracted. ■ Open the door. ■ The door lock catch must be fully retracted before you close the door again.
Emergency release: To continue, open the door.	The door was opened using the emergency release. ■ Follow the instructions for emergency release; see 🕮 "Opening the door using the emergency release".

Unsatisfactory cleaning and corrosion

Problem	Possible cause and solution
There are white deposits on the wash load.	The water softener is set too low. ■ Set the water softener to the correct water hardness.
	There is no salt in the salt reservoir. ■ Refill with reactivation salt.
	The quality of the water for the final rinse was insufficient. ■ Use water with a low conductivity value ■ If the machine is connected to a water softening cartridge, check it and replace as necessary.
	The water from the DI water connection is not sufficiently demineralized. ■ Check the external demineralization system. If necessary, replace the demineralization cartridge with a new one.
The wash items are flecked.	The rinse aid container is empty. ■ Refill the container.
	The rinse aid concentration is set too low. ■ Contact Miele Service and have the dispensing concentration reset.
The cleaning results are unsatisfactory.	Load carriers were not suitable for the wash items. ■ Select load carriers which are suitable for the task.
	The load carriers were loaded incorrectly or overloaded. ■ Arrange the wash items correctly according to the information in the operating instructions. ■ Avoid overloading the load carriers.
	The reprocessing program was not suitable for the soiling. ■ Select a suitable program. Or ■ Adjust the program parameters to suit the task.
	Soiling has been left to dry on the wash items for too long. ■ Soiling should not be left on the wash items for more than 6 hours before machine reprocessing.
	A spray arm is blocked.

Problem	Possible cause and solution
	■ Ensure the spray arms are not obstructed when arranging the wash items.
	The nozzles of the spray arms are clogged. ■ Check the nozzles and clean them as necessary.
	The filters in the wash cabinet are soiled or not inserted correctly. ■ Check the filters and clean them if necessary.
	Load carriers were not correctly mounted on the water connection. ■ Check the adapter.
Items made of glass are showing signs of corrosion.	The items are not suitable for machine reprocessing. ■ Only use items which are declared by their manufacturer as suitable for machine reprocessing.
	Neutralization has not taken place during the program. ■ Check the level in the reservoir and vent the dispensing system if necessary.
	The wash temperature was too high. ■ Select a different program. or ■ Reduce the wash temperature.
	The process chemicals used were too alkaline. ■ Use a milder process chemical. or ■ Reduce the concentration of process chemicals.
Stainless steel items are showing signs of corrosion.	The stainless steel is of insufficient quality for machine reprocessing. ■ Only use stainless steel items made of high quality stainless steel and follow the instructions of the manufacturer regarding machine reprocessing.
	The chloride content in the water is too high. ■ Have a water analysis check carried out. Connection to an external water processing unit and the use of demineralized water may be necessary.
	Neutralization has not taken place during the program. ■ Check the level in the supply container and vent the dispensing system if necessary.
	Rust or superficial rust has built up in the wash cabinet, e.g. due to an excessively high iron content in the water or rust on other wash load items. ■ Check the installation. ■ Discard any rusty items.

Spray arm monitoring/conductivity/wash pressure

Problem	Possible cause and solution
Upper spray arm: Blockage detected **or** Middle spray arm: Blockage detected **or** Lower spray arm: Blockage detected	The set spin speed has not been reached. – Wash items are blocking the spray arm ■ Arrange the wash items so that the spray arms can turn easily and start the program again.
	– The spray arm is clogged ■ Clean the spray arm. ■ Check whether the filters in the wash cabinet are clean and correctly inserted. ■ Restart the program.
	– Wash pressure is too low due to a heavy build-up of foam ■ Follow the instructions regarding foam build-up; see 🕮 “Chemical processes and technology”. ■ Start the Cold water rinse program to clean the wash cabinet. ■ Then reprocess the wash items again.
Conductivity block repetition:	This is not a fault. The measured conductivity in the running wash block was too high. The wash block is repeated. Possible causes: – Carry-over of conductive substances during the reprocessing procedure ■ Check the reprocessing procedure.
	– Empty or faulty water softener or demineralization systems ■ Check external water softener or demineralization systems. ■ If necessary, reactivate the systems.
	– Work on the on-site water supply ■ Contact a qualified plumber.
	– Swapped water connections ■ Observe the markings on the water connections (see 🕮 “Connecting the water inlet”).

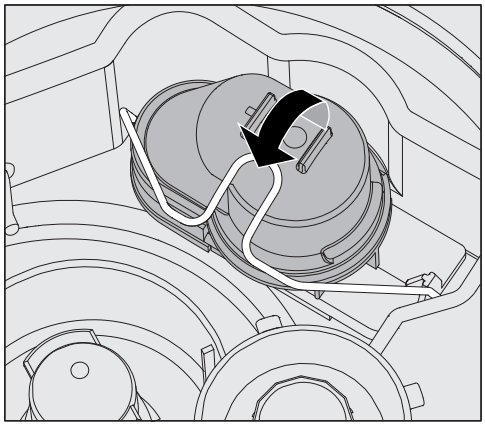
Noises

Problem	Possible cause and solution
There is a knocking noise in the wash cabinet.	One or more spray arms are knocking against the wash load. ■ Cancel the program. To do this, follow the instructions in “Canceling a program.” ■ Arrange the wash load so it cannot obstruct the spray arms. ■ Make sure the spray arms are not obstructed. ■ Start the program again.
There is a rattling noise in the wash cabinet.	Items are not properly secured in the wash cabinet. ■ Cancel the program. To do this, follow the instructions in “Canceling a program.” ■ Rearrange the load so that items are secure. ■ Start the program again.
Knocking noises in the water line.	This may be caused by the on-site installation or the cross-section of the water line being too small. This does not affect the function of the machine. ■ Contact a qualified plumber.

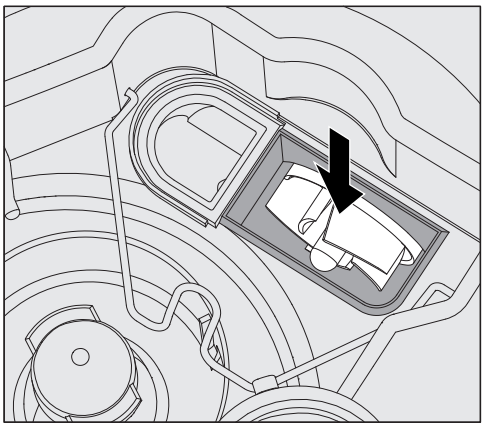
Cleaning the drain pump and non-return valve

If water was not pumped away at the end of a program, there may be a foreign object in the drain pump or blocking the non-return valve.

- Remove the filter combination from the wash cabinet; see “Cleaning the filters in the wash cabinet”.



- Open the locking clamp.
- Lift out the non-return valve and rinse well under running water.
- Make sure that the vent on the outside of the non-return valve is not blocked (this vent is only visible after the non-return valve has been taken out). If it is blocked, use a pointed object to release the blockage.



The drain pump impeller is situated under the non-return valve.

- Check the impeller for foreign objects and remove them if necessary before reinstalling the non-return valve.
- Carefully replace the non-return valve and secure it with the locking clamp.

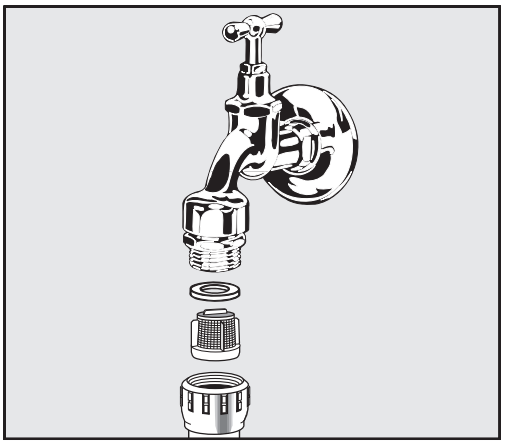
Cleaning the filters in the water inlet

Filters are incorporated into the water inlet connection on the hose to protect the water inlet valve. If these filters get dirty they must be cleaned as otherwise too little water will flow into the wash cabinet.

⚠ The plastic housing on the water inlet valve contains an electrical component. It must not be dipped in water.

To clean the filter

- Disconnect the machine from the power supply (switch the machine off, unplug the electrical plug, or disconnect or disable the breaker).
- Close the faucet.
- Unscrew the water intake valve.



- Take the seal ring out of the screw connection.
- Pull the filter out using combination or needle-nose pliers.
- Clean the filter or replace it if necessary.
- Replace the filter and seal, making sure they are sitting correctly.
- Screw the water intake valve onto the faucet. Ensure that the screw thread goes on straight and not cross-threaded.
- Open the faucet. If water leaks out, the screw connection may not be connected securely or it may have been screwed on at an angle. Unscrew and reconnect the water intake valve correctly.

Retrofitting the large-surface filter

If the water contains a high level of insoluble components, a large-surface filter can be installed between the faucet and the water inlet hose.
The large-surface filter is available from Miele Service.

Contacting Miele Service

⚠ Repairs should only be carried out by Miele Service or an authorized technician.
Unauthorized repairs can expose the user to considerable risk.

To avoid unnecessary customer service visits, you should check whether this fault can be remedied yourself using the instructions in 🕮 “Frequently asked questions” the first time a fault message occurs.

If, having followed the advice in the operating instructions, you are still unable to resolve a fault, contact Miele Service.

The contact details can be found on the back of these 🕮 operating instructions or on the Miele homepage, e.g., at www.miele.com/professional.

If possible, please have the following information ready when contacting us:

- model and serial number of the machine

  This information can be found on the data plate. The position of the data plates is described in the machine overview or can be called up via the display at ▸ ⚙🔒 Extended settings ▸ Data plate.
- the fault message and the fault number from the display
- the software versions of the machine components

  This information can be found on the display at ▸ ⚙🔒 Extended settings ▸ Software version.

Notification of serious incidents

If serious incidents occur that are related to the machine – that is, if death or a significant deterioration in the health of a patient, user, or third party results or could have resulted, this must be reported to the manufacturer and the responsible authorities in the relevant country. This also applies in the event of a serious risk to public health.

Contact details for the manufacturer can be found at the end of these operating instructions.

Setup and alignment

Further information can be found in the installation plan. The installation plan is available online.

⚠ Unauthorized access poses a risk.
Settings in the machine, e.g., parameters for dispensing process chemicals, may be changed as a result of unauthorized access via the machine display.
Set up the machine in a room with restricted access. Only give the PIN code to people you trust.

⚠ Risk of injury from metal parts.
Some metal parts pose a risk of injury/being cut.
Wear cut-resistant protective gloves when transporting and setting up the machine.

⚠ Risk of injury when lifting the machine.
Due to their heavy weight, the machines must not be lifted by a single person.
If possible, always have 2 or more people lift the machines. Follow the instructions on occupational safety, e.g., ensure an ergonomic posture when lifting.
Use suitable aids such as pallet trucks or hand trucks for longer transport distances.

⚠ Material damage during transport with pallet trucks, hand trucks, or other transport aids.
Pallet trucks, hand trucks, or other transport aids can dent components in the base of the machine and damage them.
When transporting the machine using pallet truck, hand truck, or other transport aids, the machine must be in its original packaging or placed on a stable, continuous support.
When transporting the machine using a hand truck, do not lift it from the front as this could damage the control panel or the door.

⚠ Material damage during transport or installation.
Do not lift, pull, or push the machine by protruding parts, such as the control panel, the open door, drawers (if present), components on the back of the machine, hoses, or cables, as these could be damaged or torn off.
To lift, pull, or push the machine, hold it by the housing if possible.

Installation variants

The machine is suitable for the following installation variants:

- Freestanding.
- Slot-in:

  The machine should be placed next to other machines, furniture, or in a niche. The niche must be at least 23 5/8" (600 mm) wide and 23 5/8" (598 mm) deep.
- Built-under:

  The machine should be placed under a continuous countertop or sink drain. The installation space must be at least 23 5/8" (600 mm) wide, 23 5/8" (598 mm) deep, and 32 5/16" (820 mm) high.

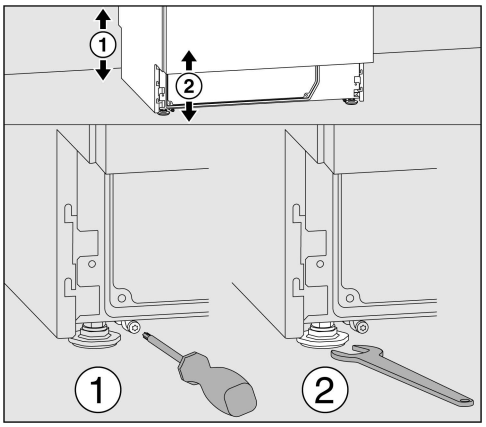
Freestanding machines or machines positioned in a niche must be equipped with machine lids.

Matching lids are available from Miele.

Leveling out uneven floors

The machine must be stable and horizontal.

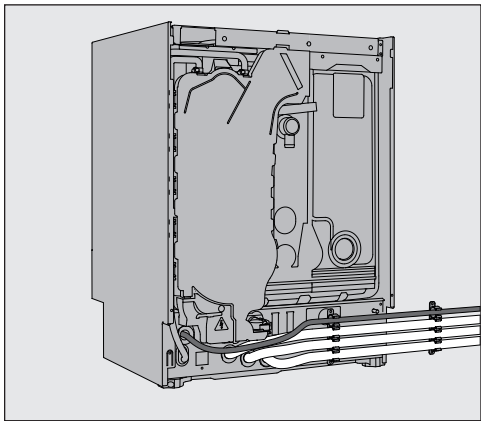
Any unevenness in the floor level and machine height can be compensated for by adjusting the 4 feet. The adjustable feet can be screwed out to a maximum of 2 3/8" (60 mm).



The front adjustable feet can be adjusted with an open wrench (wrench size 13); the rear ones with a T20 Torx screw.
If the skids of the rear adjustable feet are not installed, the adjustable feet can also be adjusted with the open wrench.
They are adjusted upward when turned clockwise and downward when turned counterclockwise.

Hose holder

The supplied hose holders can be used to lay the power cord and the hoses for supply and waste water in a way that saves space.
The hose holder prevents hoses from kinking or crushing when installing the machine in tight recesses.
The power cord and hoses can be laid either on the left or the right, depending on the connection situation.

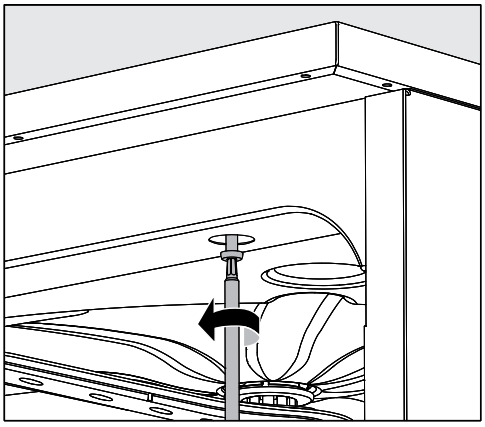


Lid

The lids must be screwed to the machine. The side with the screw threads on the underside belongs at the front; the side with the brackets for the locking screws protruding downward at the rear.

Installation instructions are included with lids that can be purchased separately.

- Place the lid on the machine. The lid must lie flush.
- Tighten the two securing screws on the back of the machine.
- Open the door.



- Remove the cover caps on the left and right and tighten the retaining screws. Then reinstall the cover caps.

Built-under a continuous countertop

⚠ Damage caused by condensation.
When the machine is in operation, vapors escape which can condense on the cabinetry and fittings in the immediate vicinity.
In order to reduce the risk of water damage, the area around the machine should be limited to cabinetry and fittings that are designed for use in commercial environments.

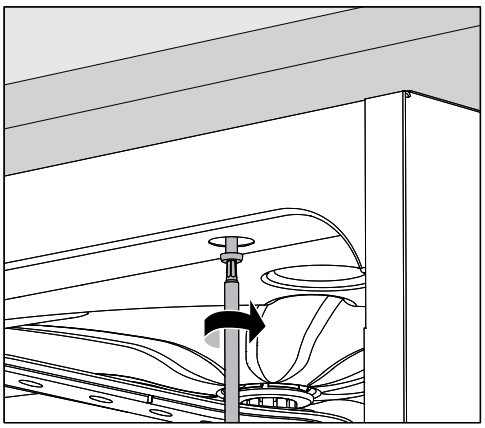
Steam condenser

To avoid steam damage to the countertop, the protective foil supplied (self adhesive 10 x 23" / 25 x 58 cm) must be applied underneath the countertop in the area of the steam condenser.

Securing to the countertop

To improve stability, the machine must be secured to the countertop after it has been aligned.

- Open the door.



- Remove the cover caps on the left and right. Screw the machine to the continuous countertop through the holes in the front trim. Then reinstall the cover caps.

Please contact Miele Service to secure it at the sides to adjacent cabinetry.

Priming the circulation pump

⚠ The gaps between a built-in machine and adjacent cabinetry must not be sealed, e.g., with silicone sealant, as this could compromise the ventilation of the circulation pump.

Vapor barrier for countertops

The vapor barrier supplied protects the countertop from damage caused by steam when the door is opened. It must be positioned underneath the countertop above the machine door.

Electromagnetic compatibility (EMC)

The machine's high frequency (HF) energy emissions are very low and are therefore unlikely to interfere with other electronic machines in the vicinity.

Flooring at the installation site must be wood, concrete, or tiled. Synthetic flooring must be able to withstand a relative humidity level of at least 30% to minimize the risk of electrostatic discharges.

The quality of the power supply should comply with that found in a typical commercial or hospital environment. Check that the power supply voltage is within a range of +/-10% of its nominal value.

⚠ All electrical connection work must be carried out by a qualified electrician in accordance with local and national safety regulations.

- The electrical installation must be carried out in accordance with IEC 60364-4-41 or the local regulations.
- The connection to the power supply must comply with national regulations. The power outlet must be accessible after the machine has been installed. An electrical safety test must be carried out after installation and after any maintenance work.
- If the machine is hard-wired to the power supply or connected via an outlet, a power switch capable of disconnecting the machine at all poles must be installed. This power switch must be designed to operate at the rated current, have a contact gap of at least 1/8" mm (3 mm), and also be lockable in the off position. The power switch must be accessible after the machine has been installed.
- If necessary, equipotential bonding must be carried out.
- The rated loads are specified on the data plate and in the circuit diagram.
- For added safety, the machine should be protected by a type A residual current device with a trip current of 30 mA. The installation of the residual current device must be carried out on site by the supervisor.
- The power supply cord may only be replaced by an original spare part from the manufacturer.

Further information on the electrical connection can be found in the installation plan. The installation plan is available online.

The machine must only be operated with the voltage, frequency, and fuse rating shown on the **data plate**.

This machine **can be converted to a different type of power supply** in accordance with the conversion diagram and circuit diagram.

The **data plates** are attached to the machine. The positions are described in the machine overview.

The **circuit diagram** is available online.

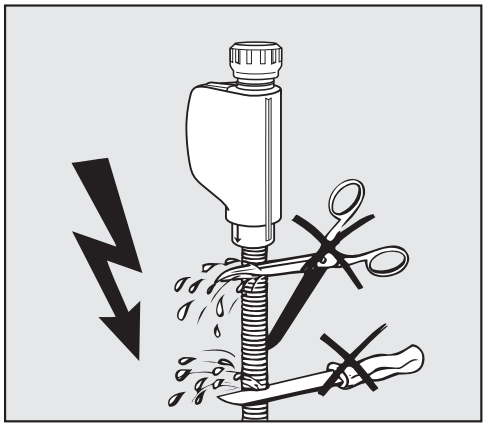
Additional equipotential bonding

There is a screw connection point marked ⏚ at the back of the machine, to which additional equipotential bonding can be connected if required.

Connecting the water supply

⚠ Water from the chamber is not suitable for drinking!

- The machine must be connected to the water supply in strict accordance with local regulations.
- The water used must at least comply with local and national codes for drinking water quality. If the water supply has a high iron content, there is a danger of corrosion occurring on wash items made of stainless steel and on the machine itself. If the chloride content of the water exceeds 100 mg/l, the risk of corrosion to wash items made of stainless steel in the machine will be further increased.
- For **ophthalmologic** applications, the DI water must have a low endotoxin and pyrogen content.
- In certain regions (e.g., mountainous areas), the water composition may cause precipitates to form, requiring the use of softened water in the steam condenser.
- The machine complies with the applicable standards for the protection of drinking water.
- The machine is equipped as standard for connection to cold water (blue marking) and hot water (red marking) up to max. 149°F (65°C). Connect the water inlet hoses to the supply valves for cold and hot water.
- If no hot water supply is available, the **red** coded inlet hose for the hot water connection must also be connected to the cold water supply.
- The steam condenser is supplied with water via the cold water connection.
- The **minimum flow pressure** for the cold water connection is 14.5 psi (100 kPa) pressure, for the hot water connection 5.8 psi (40 kPa) pressure, and for the DI water connection 4.4 psi (30 kPa) pressure.
- The **recommended water connection pressure** is ≥ 29 psi (200 kPa) for the cold and hot water connections and ≥ 29 psi (200 kPa) for the DI water connection in order to avoid excessively long water intake times.
- The **maximum permissible static water pressure** is 145 psi (1,000 kPa).
- If water pressure is not within the specified range, please contact Miele Service for advice.
- Shut-off valves with a ¾ inch male garden hose thread must be provided on site for the connection. The valves must be easily accessible to allow the water inlet to be turned off when not in use.
- The water inlet hoses are 5' 7" (1.7 m) long pressure hoses, DN 10, with ¾ inch female thread. The filters in the screw threads must not be removed.



⚠ Risk of electric shock from voltage.
There are electrical components in the water inlet hoses.
Do not shorten or otherwise damage the water inlet hoses supplied with the machine.

Further information can be found in the installation plan. The installation plan is available online.

In line with national provisions relating to the protection of drinking water, non-return valves must be installed between the water connection and the water inlet hose on all water inlet hoses present. The connection for DI water is excluded.

Retrofitting the large-surface filter

If the water contains a high level of insoluble components, a large-surface filter can be installed between the faucet and the water inlet hose.
The large-surface filter is available from Miele Service.

DI water connection for 4.4-145 psi (30-1,000 kPa) – pressure-proof

The machine is supplied as standard for a pressurized system operating between 4.4-145 psi (30-1,000 kPa). At a water pressure (flow pressure) below 29 psi (200 kPa), the water intake time extends automatically.

- Connect the pressure-tested, green-marked DI water inlet hose with the ¾" threaded union to the on-site faucet for DI water.

⚠ If the machine is not going to be connected to DI water, the DI water connection has to be deactivated by Miele Service. The water inlet hose remains on the back of the machine.

DI water ring line

The machine can be connected to a ring line system for DI water. For this purpose, the machine must be technically adapted and the controls reset by Miele Service.

Please contact Miele Service for further information.

Connecting the water drain

- The machine drainage system is equipped with a non-return valve, which prevents dirty water from flowing back into the machine via the drain hose.
- The machine drainage hose should be connected to a separate on-site drainage system for the machine only. If a separate connection is not available, it is recommended to connect the hose to a dual-chamber siphon.

⚠ As standard, the drain water of the machine will reach temperatures greater than 158°F (70°C).
At this temperature, drain water can damage the drain system.
In order to reduce the drainage temperature Miele offers an optional drain water cool-down kit.

- The on-site connection must be 12" and 3.3' (0.3 m and 1.0 m) in height, **measured from the lower edge of the machine**. If the connection is lower than 12" (0.3 m), the drain hose must be laid with a bend in it and be at least 12" (0.3 m) high.
- The drainage system must be able to accommodate a minimum drainage flow of 16 L/min.
- The drain hose is approx. 4.7' (1.4 m) long and flexible with an internal diameter of 7/8" (22 mm). Hose clips for the connection are included.
- The drain hose must not be shortened.
- The drain hose can be extended using a connecting piece to attach a further length of hose up to 13' (4.0 m). The drainage length must not be longer than 13' (4.0 m).
- The drain noise can be significantly reduced if the drain hose is laid with a bend in it with a minimum height of 1.9' (0.6 m) and a maximum height of 3.3' (1.0 m), measured from the lower edge of the machine.

Further information can be found in the installation plan. The installation plan is available online.

Factory tests

Every Miele machine undergoes extensive quality and safety checks during the production process. They include the following specific safety checks.

Thermo-electric temperature checks

Thermo-electric temperature checks compliant with EN ISO 15883 incl. disinfection parameters are carried out at the production plant.
Thermo-electric temperature checks do not have to be carried out again during the initial commissioning of new machines.
Thermo-electric temperature checks are a mandatory requirement if disinfection parameters (e.g., temperature, holding time, A0 value) are changed during initial commissioning.
Thermo-electric temperature checks must be carried out in the context of Operation Qualification (OQ) as part of performance qualification according to EN ISO 15883.
Thermo-electric temperature checks must be carried out when a machine is put back into operation after a period of downtime or having been relocated, for example.
Regional and national rules and regulations must be complied with.

Calibration of dispensing systems

Calibration of dispensing systems according to EN ISO 15883 is carried out at the production plant. Calibration of dispensing systems can be omitted during the initial commissioning of new machines.
Calibration of dispensing systems must be carried out in the context of Operation Qualification (OQ) as part of performance qualification according to EN ISO 15883.
Calibration of dispensing systems must be carried out when a machine is put back into operation after a period of downtime or having been relocated, for example.
Regional and national rules and regulations must be complied with.

Electrical safety

Grounding and high-voltage testing according to UL 61010-2-040, CSA-C22.2 No. 61010-2-040 is carried out at the factory.
If electrical installation and/or repair work proves necessary during commissioning, an electrical safety check compliant with national rules and regulations must be carried out.

Wash pressure test

Testing of the wash pressure incl. spray arm speeds is carried out at the production plant in line with EN ISO 15883. Wash pressure testing does not have to be carried out again during the initial commissioning of new machines, provided that no significant changes have been made to the machine or the load carriers. Wash pressure testing must be carried out in the context of Operation Qualification (OQ) as part of performance qualification in line with EN ISO 15883. Wash pressure testing in line with EN ISO 15883 must be carried out when a cleaning machine is put back into operation after a period of downtime or after having been relocated, for example. Regional and national rules and regulations must be complied with.

Program chart

To adjust the program parameters; see ▸ Extended settings ▸ Program options ▸ Configure programs.

General program information

Program	Area of application
Vario TD Inst 4trays	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing instruments in A 202 mobile unit for 4 DIN mesh trays.
Vario TD Inst 6trays	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing instruments in mobile unit/basket combinations for 6 A 202 and A 103 mesh trays.
Vario TD Inst 8trays	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing instruments in 8 A 208 mesh trays.

Anesthetic instruments (AN)

Program	Area of application
Vario TD AN	Cleaning and disinfection program with a higher water level, designed for reprocessing anesthesia instruments. Program compliant with EN ISO 15883 80°C (+5°C, -0°C) with a 10-minute holding time for medical devices which come into contact with intact skin.

Minimally invasive surgery (MIS)

Program	Area of application
Vario TD MIS	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing instruments from minimally invasive surgery (MIS).

Ophthalmology

Program	Area of application
OphthaTrays A207	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing ophthalmologic wash items. **Program for the A 207 mobile injector unit (3 levels, 2 spray arms)** with increased water levels and increased wash pressure.
Ophthalmology	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing ophthalmologic wash items. **Program for the A 204 mobile injector unit with 2 levels and 1 spray arm.**

Gynecology (GYN)

Program	Area of application
Vario TD GYN	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing gynecological instruments (GYN).

Ear, nose and throat instruments (ENT)

Program	Area of application
Vario TD ENT	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing ear, nose, and throat instruments (ENT).
Vario TD ENT +	Special cleaning and disinfection program with increased wash pressure and increased water levels according to the Vario TD ENT program. **Program for the combination of the A 105/1 upper basket and the A 315 module.**
Vario TD ENT Optic	Program for thermal disinfection, compliant with EN ISO 15883, exclusively for reprocessing ear, nose, and throat (ENT) optical instruments. **Manual pre-cleaning of the instruments is required.** Not suitable for any other ENT instruments or other medical devices.

Dentistry

Program	Area of application
Vario TD Dental	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing wash items with **normal** soiling.
Vario TD Dental +	Cleaning and disinfection program with increased wash pressure and increased water levels according to the Vario TD Dental program. **Program for the combination of the A 105/1 upper basket and the A 315 module.**
Vario TD Intensive	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing wash items with **heavy** soiling.

Programs for specific wash items

Program	Area of application
OR shoes	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing **thermally stable** medical shoes **(temperature resistant: > 60°C)**. Not suitable for heat-sensitive medical shoes (up to max. 140°F/ 60°C).
Baby bottles	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing baby bottles and nipples.
Vario TD Container	Cleaning and disinfection program for sterile supply containers including lids.
Ward utensils	Cleaning and disinfection program, compliant with EN ISO 15883, for reprocessing ward utensils, e.g., kidney dishes, bowls, etc.

Program chart

Additional programs

Program	Area of application
Clean machine	**Do not use for reprocessing wash items!** Service program for cleaning the wash cabinet.
Cold water rinse	Program for rinsing the wash cabinet, for rinsing overflowing brine after refilling reactivation salt or for rinsing heavily soiled wash items, e.g., for pre-rinsing soiling, residual disinfectant, or to prevent items drying out and to prevent incrustation before running a full program. Cold water is used for rinsing, holding time: 2 min
Drying	Available for machines with active drying. Program for drying wash items.
Drain	For draining wash water, e.g., after a program cancelation.

Service programs for Miele Service	
Service cycle	**Do not use for reprocessing wash items!** Service program to be performed by Miele Service or a suitably qualified specialist. Special process chemicals are required for the program.
Refresh	**Not a cleaning program!** Program to maintain the value of stainless steel wash items in use. Used to maintain and freshen up the chromium oxide passive layer and to protect against corrosion, e.g., flash rust. The program requires a combination of special process chemicals.

	Metric	Imperial
Height With machine lid Without machine lid	 835 mm (adjustable + 60 mm) 820 mm (adjustable + 60 mm)	 32 7/8" (adjustable + 2 3/8") 32 5/16" (adjustable + 2 3/8")
Width	598 mm	23 9/16"
Depth With glass door + control panel With steel door + control panel With door open	 603 mm + 41 mm 598 mm + 41 mm 1.200 mm	 23 3/4" + 1 5/8 23 9/16" + 1 5/8 47 1/4"
Wash cabinet dimensions: Height Width Depth of upper basket/lower basket	 520 mm 530 mm 474 mm/520 mm	 20 9/16" 21 1/8" 20 3/8"/20 9/16"
Weight of machine (net): With glass door With steel door, without active drying With steel door and active drying	 80 kg 74 kg 81 kg	 176 lbs 163 lbs 179 lbs
Max. load capacity of open door	37 kg	81.6 lbs
Maximum load weight Upper basket + lower basket/mobile unit Mobile unit/lower basket (without upper basket)	 8 kg + 16 kg 24 kg	 17.6 lbs + 35.3 lbs 53 lbs
Voltage, rated load, fuse rating	See data plate	See data plate
Power cord	Approx. 1.8 m	Approx. 5' 9"
Water connection temperature: Cold water Hot water DI water	 Max. 20°C Max. 65°C Max. 65°C	 Max. 68°F Max. 149°F Max. 149°F
Static water pressure	1,000 kPa overpressure	145 psi
Minimum water connection flow pressure: Cold water Hot water DI water	 100 kPa pressure 40 kPa pressure 30 kPa pressure	 14.5 psi pressure 5.8 psi pressure 4.4 psi pressure
Recommended water connection pressure: Cold water Hot water DI water	 ≥ 200 kPa pressure ≥ 200 kPa pressure ≥ 200 kPa pressure	 ≥ 29 psi pressure ≥ 29 psi pressure ≥ 29 psi pressure
DI water connection without pressure (optional)	8,5–60 kPa	1.2–8.7 psi pressure
Water inlet hose	Approx. 1.7 m	Approx. 5' 7"
Drain hose	Approx. 1.4 m	Approx. 4.7'
Delivery head	Min. 0.3 m, max. 1.0 m	Min. 12", max. 3.3'
Drainage length	Max. 4.0 m	Max. 13'

Technical details

Operation (according to UL 61010-1, CSA C22.2 No. 61010-1): Ambient temperature Relative humidity maximum linear decrease to Relative humidity minimum	 5°C to 40°C 80% for temperatures up to 31°C 50% for temperatures up to 40°C 10%	 40°F up to 140°F 80% for temperatures up to 88°F 50% for temperatures up to 104°F 10%
Storage and transportation conditions: Ambient temperature Relative humidity Air pressure	 -20°C to 60°C 10% to 85% 500 hPa to 1060 hPa	 -4°F to 140°F 10% to 85% 7.25 psi to 15.37 psi
Altitude above sea level (according to UL 61010-1, CSA C22.2 No. 61010-1)	Up to 2.000 m *)	Up to 6,561 ft *)
Protection category (according to IEC 60529)	IP21	IP21
Degree of soiling (according to UL 61010-1, CSA C22.2 No. 61010-1)	2	2
Overvoltage category (according to IEC 60664)	II	II
Sound emission values in dB (A), sound pressure level LpA during cleaning and drying phases	< 70	< 70
Wi-Fi standard	802.11 b/g/n	
WiFi frequency band	2,400-2,483.5 MHz	
Maximum WiFi transmission power	< 100 mW	
VDE radio suppression, EMC equipment class (according to EN 61236-1)	B FCC part 15	
MET electrical safety	UL 61010-1, CSA C22.2 No. 61010-1, UL 61010-2-040, CSA-C22.2 No. 61010-2-040	
Class II Medical devices	Registered with FDA and Health Canada	
Manufacturer’s address	Miele & Cie. KG, Carl-Miele-Strasse 29, 33332 Gütersloh, Germany	

* If installation site is above 6,561 (1.500 m), the boiling point of the wash water will be lower. In this case, the disinfecting temperature and the holding time will need to be reset by Miele Service.

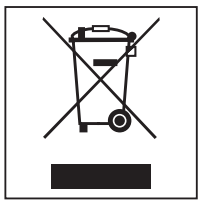
Disposal of packaging material

The packaging is designed to protect the machine against transportation damage. The packaging materials used are selected from materials which are environmentally friendly for disposal and should be recycled.

Ensure that any plastic wrappings, bags, etc. are disposed of safely and kept out of the reach of children. Danger of suffocation!

Disposing of your old machine

Electrical and electronic appliances contain many valuable materials. They also contain certain materials, compounds, and components which were essential for their correct functioning and safety. These could be hazardous to your health and to the environment if disposed of with household waste or if handled incorrectly. Please do not, therefore, dispose of your old appliance with household waste.



Instead, please make use of officially designated collection and disposal points to dispose of and recycle electrical and electronic appliances in your local community. By law, you are solely responsible for deleting any personal data from the appliance prior to disposal. You are legally obliged to remove any old batteries which are not securely enclosed by the appliance and to remove any lamps without destroying them, where this is possible. These must be taken to a suitable collection point where they can be handed in free of charge. Please ensure that your old machine poses no risk to children while being stored for disposal.

Please have the model and serial number of your machine available when contacting Technical Service.

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