Miele
PROFESSIONAL

Operating instructions
Laboratory Glassware Washer
PG 8583

To avoid the risk of accidents or damage to the appliance, it is **essential** to read these instructions before it is installed and used for the first time.

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M.-Nr. 10 607 140

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Warnings

⚠ Information which is important for safety is highlighted in a thick framed box with a warning symbol. This alerts to a potential danger of injury to people or damage to property.
Read these warning notes carefully and follow instructions and codes of practice as described.

Notes

Notes contain information that is particularly important to follow. They are highlighted in a thick framed box.

Additional information and comments

Additional information and comments are contained in a box with a simple frame.

Operating steps

Operating steps are indicated by a black square bullet point.

Example:

■ Select an option using the arrow buttons and save your choice with *OK*.

Display

Information given via the display are shown in display messages using the same font as used in the display.

Example:

Menu Settings ⚑.

Intended use

This Miele laboratory glassware washer can be used to reprocess laboratory glassware and laboratory utensils with water based media. The process includes cleaning, rinsing and drying, and disinfection where required. Due to the wide variety of laboratory glassware and laboratory utensils on the market, it may be necessary in some cases to establish whether it is suitable for reprocessing in a laboratory glassware washer. This will depend on its use and the type of soiling present as well as disinfection parameters. Please also observe information provided by the manufacturer of the laboratory glassware and laboratory utensils.

Laboratory glassware and laboratory utensils suitable for reprocessing are for example:

– Vessels such as test tubes, beakers, flasks, cylinders, etc.
– Measuring vessels such as measuring cylinders, pipettes, volumetric flasks, etc.
– Dishes such as petri dishes, watch glasses, etc.
– Plates such as slides, sequencing plates, etc.
– Small items such as lids, spatulas, magnetic stirring rods, stoppers, etc.
– Other items such as funnels, pipe/hose pieces, etc.

Examples of application areas:

– Laboratories in schools, colleges and universities,
– Research, quality assurance, development, technology and production.
– Different areas of inorganic, organic, analytical and physical chemistry,
– Biology, microbiology and biotechnology,
– Hospital laboratories.

Laboratory glassware and laboratory utensils for reprocessing are referred to as the wash load if they are not more closely defined.

Processing conditions must be suitable for the wash load and for the type of soiling. Process chemicals must be suitable for the type of soiling and for methods of analysis being used.

The use of a suitable carrier (mobile unit, basket, module, insert, etc.) is important to ensure adequate processing of the load. Examples are given in the section "Areas of application".

This machine is programmed to carry out the final rinse with mains water or with processed water of a quality to suit the application (e.g. purified water, fully demineralized water or demineralized water).
It is particularly important to ensure the appropriate water quality for the rinse and final rinse of items used for analytical purposes.

The machine can be qualified for process validation.

The machine fulfills the requirements of the EU Machinery Directive 2006/42/EC.

Spray pressure and spray arm monitoring

The machine has a sensor for monitoring spray pressure in order, for example, to detect pressure fluctuations due to misloading or foam in the water circulation system. Spray pressure monitoring is set at the factory to be active in the "Cleaning" and "Final rinse" wash blocks. The spray pressure monitoring result is documented together with an optional process documentation.

Spray arm speed can also be monitored, e.g. for prompt detection of blockages due to misloading or foam in the water circulation system. Spray arm speed monitoring can be activated or deactivated via the programmable settings.

Miele Service can make further settings for spray pressure and spray arm monitoring.

User profiles

Daily operators

Daily operators must be instructed in operating and loading the machine and trained regularly to guarantee safe daily use. They require knowledge of machine reprocessing of laboratory glassware and laboratory utensils.

Tasks for daily routine operation are located in the Settings menu. This menu is freely accessible to all users.

Administration

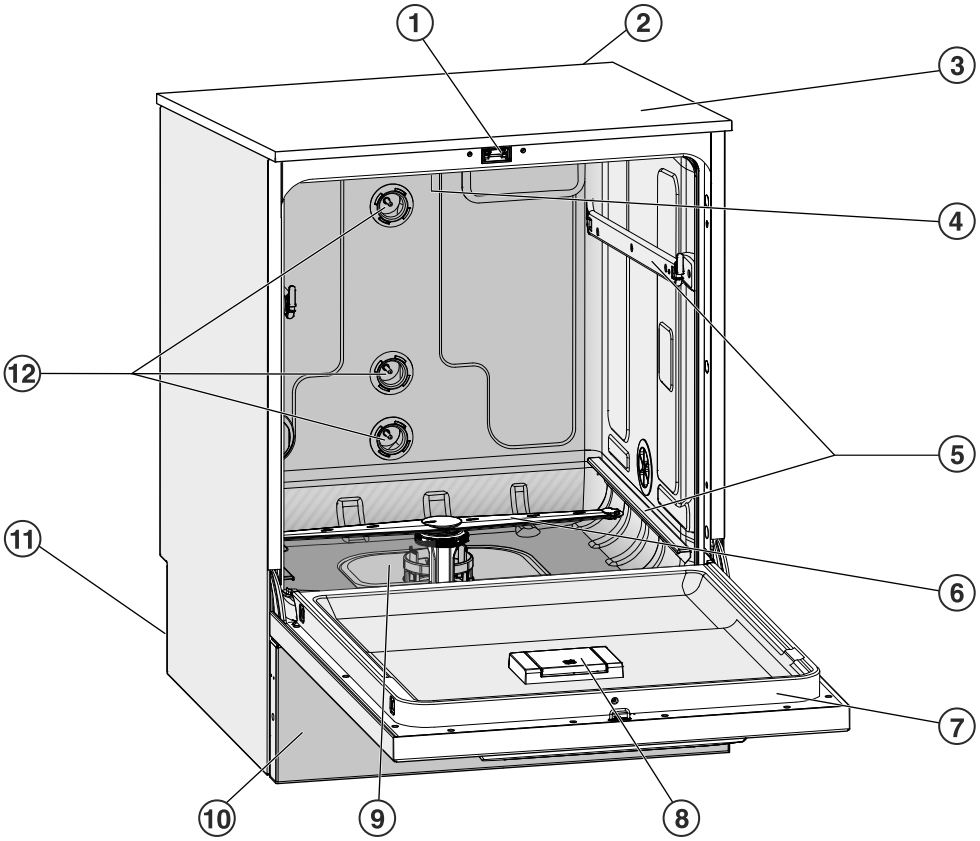
More advanced tasks, e.g. interrupting or cancelling a program, require more detailed knowledge about the machine reprocessing of laboratory glassware and laboratory utensils.

Alterations or adaptations of the machine, e.g. accessories used or on-site conditions require additional specific knowledge of the machine.

Validation processes assume specialised knowledge of the machine reprocessing of laboratory glassware and utensils, of the processes involved and of applicable standards and legislation.

Administrative processes and settings are allocated to the Additional settings menu. This is protected from unauthorized access by a PIN code.

Overview



① Comfort door locking mechanism

② Module slot for a communication module (Back, top right)

③ Test point for performance checks (Top, front right; only visible with lid removed)

④ Upper machine spray arm

⑤ Rails for baskets and wash carts

⑥ Lower machine spray arm

⑦ Data plate

⑧ Reservoir for reactivation salt

⑨ Filter combination

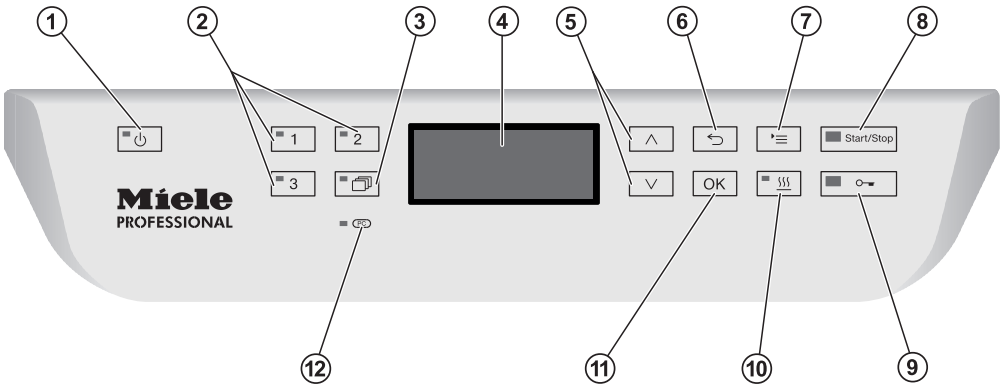
⑩ Toe kick cover

⑪ On the back:

- Second data plate
- Electrical and plumbing connections
- Suction lance(s) for external supply containers
- Connections for external dispensing modules (optional DOS modules)

⑫ Connection point for wash carts and baskets

Control panel



① **Button ⏻ (On/Off)**
For switching the machine on and off.

② **Buttons 1, 2 and 3**
Program selection buttons.
Can be configured.

③ **Button ⧉ (program list)**
For accessing the list of all programs.

④ **Display**
User interface and program sequence display.

⑤ **Arrow buttons ∧ and ∨**
For navigating within the user interface.

⑥ **Button ⮌ (cancel)**
For canceling a process in the user interface
(not for canceling programs)

⑦ **Button ‣≡ (settings)**
For accessing the system settings menu.

⑧ **Button** *Start/Stop*
For starting or canceling a program.

⑨ **Button ⊶ (door release)**
For opening the door before or after a program.

⑩ **Button ⧛ (drying assistance)**
For switching Drying assistance on and off.

⑪ **Button** *OK*
For selecting or confirming entries in the user interface.

⑫ (PC) **PC / Optical interface**
Used by Miele service technicians to run diagnostic checks and can also be used to update programming data in the future.

LEDs in the buttons

The buttons on the control panel have LEDs. These indicate the status of the machine.

Button	LED	Status
Button ⏻	**ON**	The machine is switched on.
	FLASHES	The machine is ready for use.
	OFF	The machine is switched off.
Program selection buttons 1, 2 **and** 3	**ON**	The respective program has been selected. At the end of the program the LED will remain lit until a different program is selected.
	OFF	The program is not selected or the program settings are being changed.
Button	**ON**	A program has been selected from the program list. At the end of the program the LED will remain lit until a different program is selected.
	OFF	No program has been selected from the list or the program settings are being changed.
Button	**ON**	The additional "Drying Assistance" function has been activated for the selected program (not available for all programs; see "Program chart").
	OFF	The additional "Drying Assistance" function has been deactivated.
Start/Stop **button**	**ON**	A program is running.
	FLASHES GREEN	A program has been selected, but not yet started.
	FLASHES RED	A fault has occurred (see "Problem solving guide").
	OFF	A program has finished.
Button	**ON**	The door is closed (locked) and there is no program running.
	FLASHES	A program has finished and the door is closed (locked).
	OFF	A program is running or the door is open (unlocked).

This machine complies with all statutory safety requirements. Inappropriate use can, however, lead to personal injury and material damage.
Read these instructions carefully before using it for the first time to avoid the risk of accidents and damage to the machine.
Keep these instructions in a safe place and make sure they are available at all times to any user of the machine.

Correct application

▶ This machine is designed for use with the applications described in these operating instructions only. Alterations or conversions to the machine, or using it for purposes other than those for which it was designed, are not permitted and could be dangerous.
This machine must only be used for cleaning laboratory glassware and utensils if the manufacturer has stated that they are suitable for machine reprocessing. Manufacturer's cleaning and maintenance instructions must also be observed.
Miele cannot be held liable for damage caused by improper or incorrect use or operation of the machine.

▶ 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!

▶ This machine must be commissioned, serviced and repaired by a Miele service technician only. To ensure compliance with Good Laboratory Practice guidelines, a Miele service contract is recommended. Unauthorized repairs can pose considerable risks to the user.

▶ 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.

▶ If the machine is built under, it must only be installed under a continuous worktop run which is firmly secured to adjacent units to improve stability.

▶ The electrical safety of this machine can only be guaranteed when it is correctly grounded. It is essential that this standard safety requirement is met. If in any doubt, please have the electrical installation tested by a qualified electrician. Miele cannot be held liable for the consequences of an inadequate earthing system (e.g. electric shock).

▶ A damaged or leaking machine is dangerous and poses a safety hazard. Immediately disconnect the machine at the power switch and contact the Miele Service Department.

▶ Personnel operating the machine should be trained on a regular basis. 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 application you are using. The manufacturer of the process chemicals is responsible for any negative influences on the material of the load is made from and for any damage they may cause to the machine.

▶ Always exercise caution when handling the process chemicals for this machine. These products may contain irritant, corrosive or toxic ingredients.
Always comply with safety requirements and the manufacturer's safety instructions (see safety data sheets)!
Use protective eyewear and gloves!

▶ The machine is designed to operate with water and the recommended process chemicals only. Organic solvents or flammable liquid agents must not be used in it!
This could cause an explosion, property damage due to the destruction of rubber and plastic components, and the resulting leakage of liquids.

▶ The water in the cabinet must not be used as drinking water.

▶ Take care not to inhale powder cleaning detergents. Swallowing process chemicals can cause chemical burns in the mouth and throat or lead to asphyxiation.

▶ 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 or become damaged.

▶ Be careful when sorting 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 when 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 danger of scalding and heat or chemical burns. If disinfectants have been used, there is also the danger of inhaling toxic vapour.

▶ Should personnel accidentally come into contact with toxic vapours or processing chemicals, consult the manufacturer's safety data sheets for emergency procedures.

▶ Always allow wash carts, baskets, modules, inserts, and loads to cool down before unloading. Any water remaining in concave items could still be very hot. Empty them into the wash cabinet before taking them out.

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

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

Quality assurance

The following points should be observed to assist in maintaining quality standards when reprocessing laboratory glassware and accessories and to avoid damage to the loads being cleaned.

▶ If it is necessary to interrupt a program in exceptional circumstances, this may only be done by authorised personnel.

▶ The standard of reprocessing must be routinely confirmed by the user. The process should be validated on a regular basis, and checked against documented control results.

▶ For thermal disinfection, the appropriate temperatures and holding times, as required by microbiological and public health standards and guidelines, must be used to achieve the required degree of infection control.

▶ Make sure items being washed are suitable for machine processing and are in good condition. Plastic items must be thermally stable. Nickel plated items and anodised 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.

▶ Under certain circumstances process chemicals can cause damage to the machine. Always follow the recommendations of the process chemical manufacturers.
In case of damage or doubt about compatibility, please consult with Miele.

▶ Process chemicals containing chlorine can damage the elastomers of the machine.
If the use of process chemicals containing chlorine is required, a maximum temperature of 70°C in the program block "Main wash" is recommended (see program overview).
In machines equipped with special oil-resistant elastomers (ex works) for oil and grease applications process chemicals containing chlorides may not be used!

▶ 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-treating (e.g. with cleaning agents or disinfectants), some types of soiling and the interaction of certain process chemicals can cause foaming. Foam can have an adverse effect on the cleaning and disinfection results obtained.

▶ The process must be set so that no foam escapes the wash compartment. Escaping foam jeopardizes the safe operation of the machine.

▶ The process must be checked regularly in order to detect any foaming.

▶ To prevent material damage to the machine and accessories used from the effects of process chemicals, soiling and their interaction, follow the notes in chapter "Chemical Processes and technology".

▶ Even when a chemical additive (e.g. cleaning chemical) is recommended on technical application grounds, the machine manufacturer takes no responsibility for the effect of such chemicals on the material of the items being cleaned.
Note that formulation changes, storage conditions, etc., that are not disclosed by the chemical manufacturer may adversely affect the cleaning results obtained.

▶ When using process chemicals, always follow the instructions of the chemical's manufacturer. The process chemicals must only be used for the application it is designed for and in the situation specified to avoid material damage and such dangers as a severe chemical reaction (e.g. an explosive oxyhydrogen gas reaction).

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

▶ For critical applications, where very stringent reprocessing requirements have to be met, it is strongly recommended that all process-related factors (processing chemicals, water quality, etc.) are discussed in advance with Miele.

▶ For applications that demand especially stringent cleaning and rinsing results, the operator must ensure that quality control occurs on a regular basis to meet the standards involved.

▶ The carts, baskets, modules and inserts that hold the wash load must be used only as intended.
Hollow items must be thoroughly cleaned, internally and externally.

▶ 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 all containers and hollow utensils before loading them into the machine.

▶ 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 21°C.

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

▶ To avoid corrosive damage, make sure the stainless steel housing does not come into contact with solutions or steam containing hydrochloric acid.

▶ After any plumbing work the water pipework to the machine will need to be vented. 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 of the circulation pump.

▶ Follow the installation instructions in the operating instructions and in the installation instructions.

Safety with children

▶ Children must be supervised in the vicinity of the machine. Do not allow children to play with the machine. Among other hazards, they could get locked inside it.

▶ Children must not use the machine.

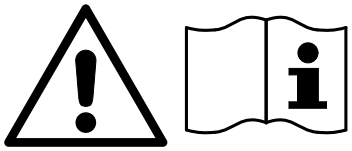
▶ Keep children away from process chemicals! These can cause burning in the mouth, nose and throat if swallowed, or inhibit breathing. Keep children away from the machine when the door is open. There could still be residual process chemicals in the cabinet. Observe the safety data sheets for the process chemicals and seek medical advise immediately if a child has swallowed process chemical or got it in the eyes.

Using accessories

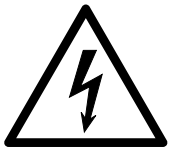
▶ Only Miele accessories should be connected to this machine for the appropriate application. Consult Miele for details on the type of equipment to use.

▶ Only use Miele wash carts, baskets, modules and inserts with this machine. Using wash carts, baskets and inserts made by other manufacturers, or making modifications to Miele accessories can cause unsatisfactory cleaning results, for which Miele cannot be held liable. Any resultant damage would not be covered by the warranty.

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!

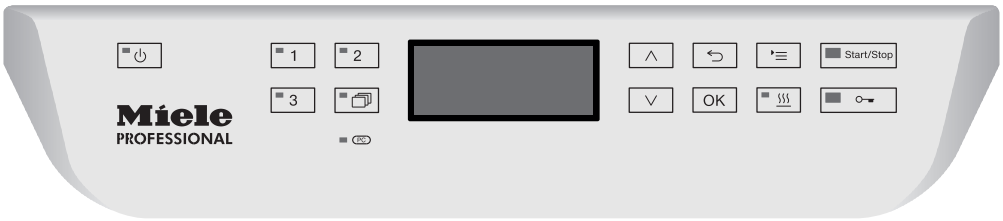
Disposing of your old appliance

▶ Please note that the machine may have contamination from blood, bodily fluids, pathogenic germs, facultative pathogenic germs, genetically modified material 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 cleaning chemicals. Observe safety regulations and wear protective eyewear and gloves.
Remove or destroy the door latch to prevent children from locking themselves in. Then make appropriate arrangements for its safe disposal.

Miele will not be held liable for damage caused by failure to comply with these Warning and Safety Instructions.

Control panel

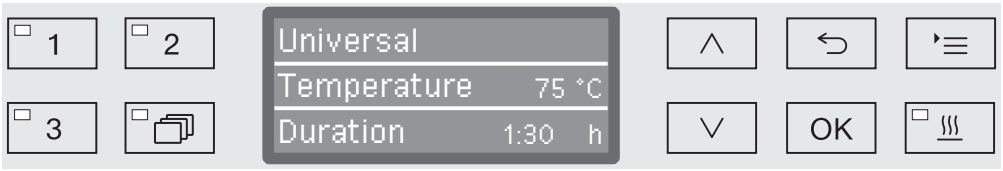
The machine is operated exclusively by the buttons located on the stainless steel surfaces either side of the display. The display is not a touch screen.



A light touch on the relevant button is sufficient to operate the functions. The buttons can also be pressed and held for approx. 20 seconds.

Display illustrations

All display illustrations shown in these operating instructions are examples which can be different from the actual display screens shown.



The control buttons are shown next to the display. The ⏻, 🔑 and *Start*/*Stop* buttons are not shown.

Switching on

The machine must be connected to the electrical supply.

■ Press the ⏻ button until the LED lights up.

After that, the display will show the following:

As soon as the machine is ready for operation, the display changes to show the last selected program, e.g.

If the machine is being used for the first time, or if the factory settings have been reinstated, some basic parameters, e.g. language, date, time of day, etc. must be set first. To enable this, the display automatically changes to the relevant screen.

Switching off

■ Press the ⏻ button.

Auto-Off function

To save energy, the machine has a function to switch off automatically (Auto-Off). If the machine has not been used for a specific time period, it switches itself off automatically; see "Further Settings/Switch off after".

■ Use the ⏻ button to switch the machine on again.

Ready for operation (standby)

When it is ready for use (standby), the machine remains switched on, the ⏻ button flashes and the time is shown on the display. Pressing any button reactivates the machine. Standby can be switched on and off as required (see "Further settings/Switch off after").

User interface in the display

The user interface of the machine is controlled by menus. The menus are displayed in a 3-line display on the control panel.

The name of the menu (top line) and up to two options are shown. The currently selected option is highlighted, e.g.

Menu operation

Settings button

For accessing the system settings menus.

∧ and ∨ **Arrow buttons**

The arrow buttons are used to navigate up and down by row within a menu. Press and hold the button to automatically scroll through the list to the end of the menu. Press the button again to continue navigating.
Parameter values can also be altered in defined increments using the arrow buttons. Instructions for this can be found in the relevant sections.

OK **OK button**

The *OK* button is used for confirming (acknowledging) a selection or for saving input. The display then moves to the next menu or, when entering parameter values, to the next input position. Instructions for this can be found in the relevant sections.

Cancel button

Before the *OK* button has been pressed, a process can be cancelled at any time by pressing the ⮌ button. The menu is then ended early and the display changes to the next menu level up. Any setting changes made will not be saved.

Settings in the menu

All menu descriptions in these operating instructions are structured as follows:

Input procedure

The input procedure describes the complete sequence required to reach a particular menu level. The menu options shown must be selected individually using the arrow buttons and then confirmed with *OK*.

Example:

≡ button
▸ Settings
▸ Time of day
▸ Time format

If a menu level is already displayed, the path does not need to be followed completely. If, for example, the Settings menu is already displayed, you do not need to press the ≡ button again. In this case, simply follow the sequence from Settings onwards.

Display view

When selecting a menu, the last menu used is generally pre-selected.

Example:

Extras

All available menu options are listed together with a short description.

Example:

– 12 h

Time of day display in 12-hour format (am/pm).

– 24 h

Time of day display in 24-hour format.

Method

Then further instructions are given.

Example:

- Select an option using the ∧ and ∨ arrow buttons.
- Press *OK* to save the setting.

Symbols in the display

Navigation arrows

If a menu consists of more than two options, two navigation arrows are shown at the side of the menu options.

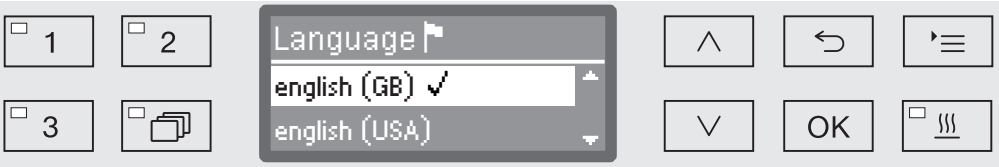
Use the ∧ and ∨ arrow buttons on the control panel to navigate through the menu.

Dotted line

If a menu contains more than two options, the end of the option list is marked by a dotted line. The last entry appears above the line, the first entry below it.

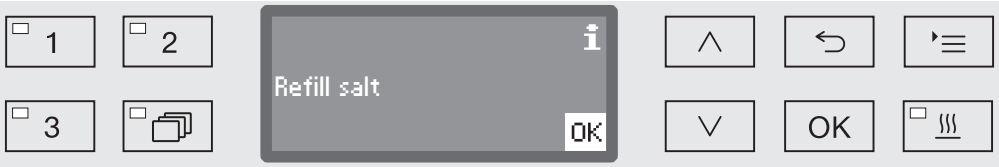
Check

If there are several options available, the current setting is marked with a check ✓.



System messages

The ℹ symbol denotes system messages. These give information, such as a notification of an excessively low level in the supply containers or a reminder for the next service.



System messages are displayed at the start and end of a programme and have to be confirmed (acknowledged) individually with *OK* or all together at the end of the programme by opening the door. If the ℹ symbol is shown on the display, the system messages can be opened by pressing the OK button.

Fault messages

In the event of a fault, a warning triangle is shown in place of the ℹ symbol. See "Problem solving guide" and "After sales service" for more information.

Installation and connection

Before commissioning the machine must be securely installed, and the water inlet and drain hoses and the mains cable correctly connected. See "Installation", "Plumbing connections" and "Electrical connection" and the installation plan supplied.

Procedure

During commissioning a set procedure is followed which must not be interrupted. The display will automatically guide you through the process.

All settings, except for selecting plumbing connections, can be retrospectively altered via the Settings and Additional settings menus.

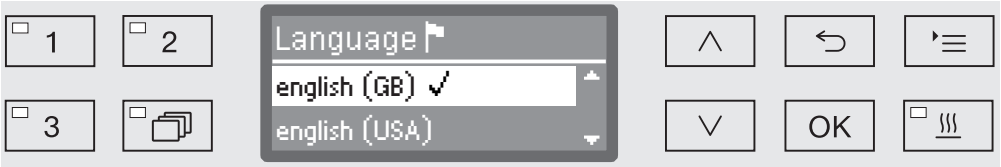
> The settings made during the commissioning process are only adopted after a complete program has been run.
> If the program is interrupted or if no program is started or the machine is switched off, the commissioning process must be carried out again.

Switching on

- Press the ⏻ button until the LED on the keypad lights up.

Select language

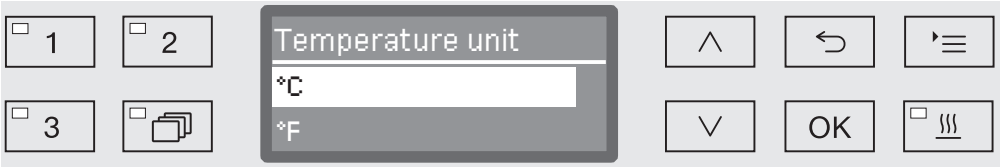
The commissioning process starts with selecting the language. For Canada select "English (CA)" or "Français (CA)".



- Use the ∧ and ∨ arrow buttons to select the language you want and touch *OK* to save.

Select temperature unit

The menu for selecting the temperature unit will then appear.



- Use the ∧ and ∨ arrow buttons to select the temperature unit you want and touch *OK* to save.

Selecting the date format

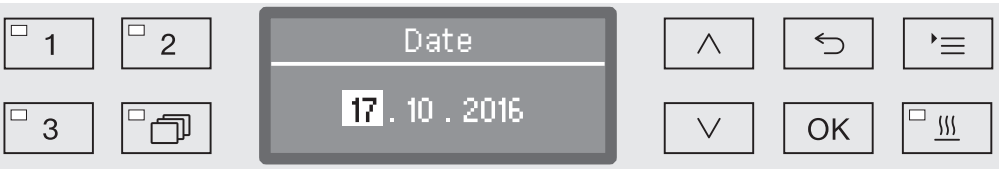
The menu for selecting the date format will then appear.

– DD = Day
– MM = Month, and
– YY = Year.

■ Use the ∧ and ∨ arrow buttons to select the date format you want and touch *OK* to save.

Setting the date

The menu for setting the date will then appear.



■ Use the ∧ and ∨ arrow buttons to set the day, month and year and touch *OK* to save each one.

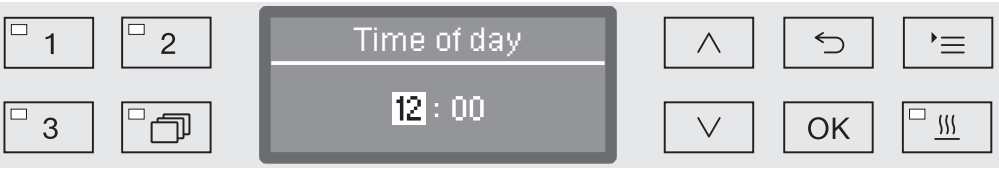
Select Clock display

The menu for selecting the clock format will then appear.

■ Use the ∧ and ∨ arrow buttons to select the format you want and touch *OK* to save.

Setting the time of day

The menu for setting the time of day will then appear.



■ Use the ∧ and ∨ arrow buttons to select the hours and minutes and touch *OK* to save each one.

Setting the water hardness level

The menu for setting the water hardness will then appear.

The possible range is shown in the bottom line of the display. Water hardness setting values can be found in the "Water softener/Settings" chart.

Your local water authority can give you information about the exact water hardness in your area.

With varying water hardness, always set the highest level. If the water hardness fluctuates between, for instance, 1.4 and 3.1 mmol/l (8 and 17 gr/gal), the water hardness must be set to 3.1 mmol/l (17 gr/gal).

- Set the water hardness using the arrow buttons ∧ (higher) and ∨ (lower) and press *OK* to save.
- Write down the water hardness as described in "Water softener/ Water hardness."

Select plumbing connections

The menu for setting plumbing connections will then appear.

Unused plumbing connections, e.g. if there is only one connection, can be deactivated here.

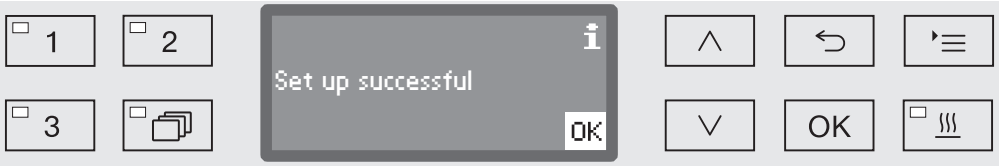
Following commissioning the plumbing connections can be reinstated by Miele Service.

The plumbing connection is set via multiple choice. A box ☐ is shown in the display next to all plumbing connections. If the connection is activated, a tick ☑ can be seen in it. Select to activate or deactivate the plumbing connections.

- Use the ∧ and ∨ arrow buttons to select the plumbing connection you want. Plumbing connections are activated or deactivated by touching *OK*.
- To save the selection, select the Accept option at the end of the list and confirm with *OK*.

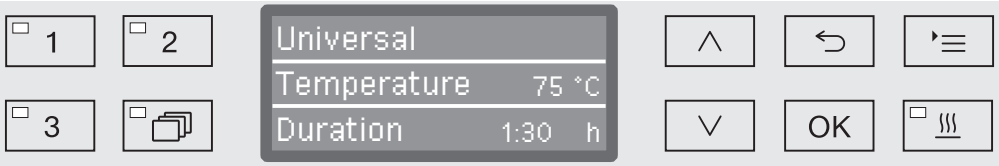
Commissioning completed

Commissioning is completed when the following message is displayed.



- Confirm the message with *OK*.

The machine is now ready for use.



The settings made during the commissioning process are only adopted after a complete program has been run.

- Select any program, e.g.: Drain.
- Press the *Start*/*Stop* button to start the program.

After commissioning every program starts with reactivation of the water softener.

Fault 420

If the program is canceled using Fault 420, all the plumbing connections are deactivated.

- Confirm the error message with *OK*.
- Switch the machine off using the ⏻ button.
- Wait approximately 10 seconds before switching the machine on again with the ⏻ button.

The commissioning procedure starts again.

- Perform commissioning and activate at least one plumbing connection; e.g. for cold water.

Electronic door locking

The machine is equipped with a Comfort door lock. When the door is closed, the Comfort door lock automatically pulls the door into the correct position, electronically locking the door.

Opening the door

An electronically locked door can only be opened if:

– the machine is connected to the electrical supply and is switched on (the LED for the ⏻ button is lit up),

– there is no program running,

– the temperature in the wash cabinet is less than 60 °C and

– the 🔑 LED is lit up.

■ Press the 🔑 button to open the door.

The Comfort door lock opens the door slightly. The LED goes out as soon as the door is unlocked.

The control panel of the machine is also a door handle.

■ Grasp the handle underneath the control panel and lower the door to open it.

Closing the door

■ Ensure that there are no objects or items in the load obstructing the door.

⚠ Do not put your hand inside the door as it is closing.
Danger of injury.

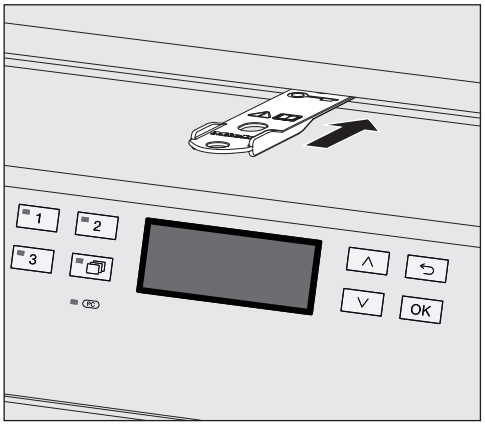
■ Lift the door until it engages with the door lock. The door is automatically pulled into the correct position by the Comfort door lock.

Opening the door using the emergency release

The emergency release may only be used when it is no longer possible to open the door normally, e.g. in the event of a power cut.

⚠ If the emergency release is operated during a program cycle, hot water and process chemicals can escape.
Risk of scalding, burning and chemical burns.

- Push against the door so that less force is needed to operate the emergency release.



- Push the tool supplied in the accessory pack horizontally into the gap between the door and the lid or worktop. The right-hand edge of the tool must align with the outer right-hand edge of the display.
- Press against the unlocking mechanism with the tool until you hear the door unlock. The door can now be opened.

If the machine is switched on, the activation of the emergency release will be recorded in the optional process documentation and the following message will appear in the display:

The message remains in the display until the door is closed. It is not recorded if the machine is switched off.

Water hardness

In order to achieve good cleaning results, the machine needs to operate with soft (low in calcium) water. Hard water results in the build-up of calcium deposits on the load and the machine.

Mains water with a water hardness of .7 mmol/l (4 gr/gal) must be softened. This occurs automatically in the built-in water softener. The water softener must be set to the exact hardness of the mains water (see "Water softener/Setting the water hardness").

Your local water authority can give you information about the exact water hardness in your area.
It is useful to know your water hardness so that you can provide the service technician with this information in the event of any subsequent service calls. For this reason, record the hardness of the mains water here:

_____mmol/l or gr/gal

The water softener must be reactivated at regular intervals. This requires special reactivation salt (see "Water softener/Filling the salt reservoir"). Reactivation is carried out automatically during a program sequence.

If the hardness level of your water is constantly less than .7 mmol/l (= 4 gr/gal), salt is not required for the water softener. The water hardness level must, however, still be set.

Setting the water hardness level

Water hardness can be set between 0 - 70 gr/gal.

- Open the menu as follows:

Button ☰

▸ Additional settings

▸ Water hardness

The bottom line of the display shows the possible input range. Water hardness input values can be found in the chart on the next page.

Where the water hardness fluctuates, e.g. between 8 - 17 gr/gal, always program the machine to the higher value, 17 gr/gal in this example.

- Set the water hardness level using the arrow buttons (∧ = higher and ∨ = lower).
- Press OK to save the setting.

Settings table

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**
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**

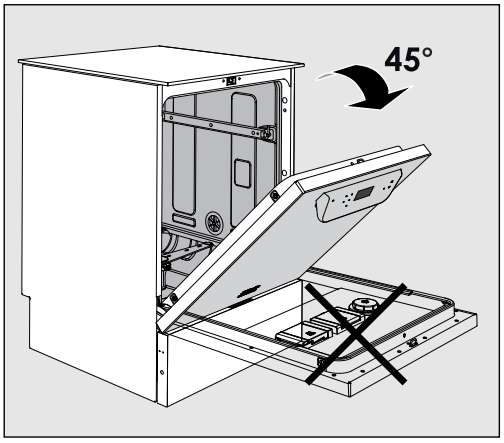
gr/gal	ppm $CaCO_3$	mmol/l	**Display**
36	650	6.5	**36**
37	670	6.7	**37**
38	680	6.8	**38**
39	700	7.0	**39**
40	720	7.2	**40**
41	740	7.4	**41**
42	760	7.6	**42**
43	770	7.7	**43**
44	790	7.9	**44**
45	810	8.1	**45**
46	830	8.3	**46**
47	850	8.5	**47**
48	860	8.6	**48**
49	880	8.8	**49**
50	900	9.0	**50**
51	920	9.2	**51**
52	940	9.4	**52**
53	950	9.5	**53**
54	970	9.7	**54**
55	990	9.9	**55**
56	1000	10.0	**56**
57	1020	10.2	**57**
58	1040	10.4	**58**
59	1060	10.6	**59**
60	1070	10.7	**60**
61	1090	10.9	**61**
62	1110	11.1	**62**
63	1130	11.3	**63**
64	1150	11.5	**64**
65	1160	11.6	**65**
66	1180	11.8	**66**
67	1200	12.0	**67**
68	1220	12.2	**68**
69	1240	12.4	**69**
70	1250	12.5	**70**

*) Factory default setting

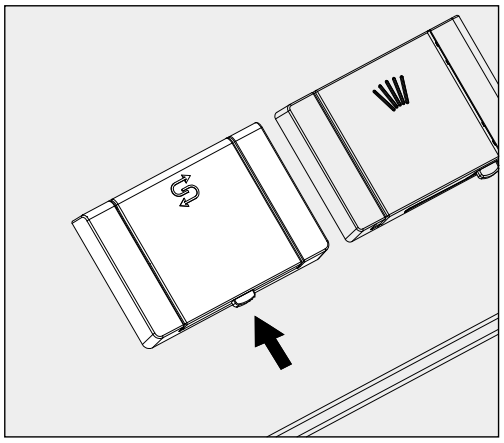
Filling the salt reservoir

Use only special, coarse-grained reactivation salt with a granule size of approx. 1 - 4 mm. Suitable water softener salt is available from Miele Professional.
Do not under any circumstances use other types of salt such as table salt, agricultural or gritting salt. These may contain insoluble additives which can impair the functioning of the water softener.

⚠ Inadvertently filling the salt reservoir with cleaning detergent will cause serious damage to the water softener.
Before filling the salt reservoir make sure that you have picked up the right package of reactivation salt.

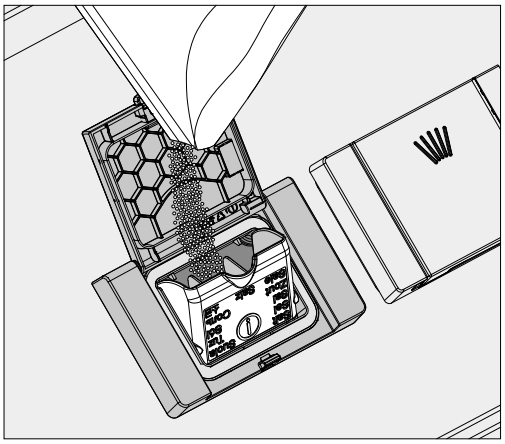


- Open the door to an angle of approx. 45°. This ensures that the salt flows into the reservoir more easily.



- Press the yellow button with the ⇆ symbol on the salt reservoir in the direction of the arrow. The flap will spring open.
- Lift up the funnel.

The reservoir takes approx. 1.4 - 2 kg (3 - 4.4 lbs) of salt, depending on the type of salt and how much is remaining in the reservoir.



⚠ Do not fill the reservoir with water.
The reservoir could overflow when filled with salt.

- Add salt only until the funnel of the salt reservoir is full, so that it can close properly. Do not add more than 2kg of salt.

As the salt reservoir is being filled, displaced water (saline solution) may run out.

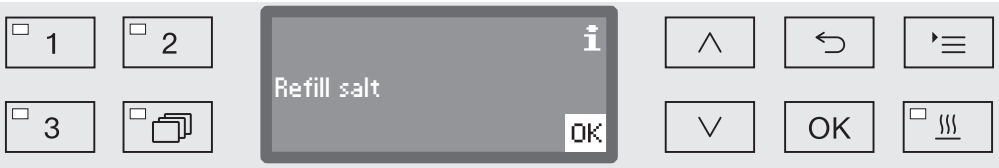
- Clean any excess salt from the area around the reservoir opening and especially from the seal. **Do not** use running water as this can cause the salt reservoir to overflow.
- Close the reservoir.
- Run the Rinse program after refilling salt.

This will ensure that any traces of salt and saline solution are dissolved and rinsed away.

Salt and saline solution which has overflowed can cause severe corrosion damage to the wash chamber if they are not rinsed away.

Add salt reminder

If the salt level in the reservoir is low, the following reminder will appear:



- Confirm the message with the *OK* button and
- fill the reservoir as described.

When the message first appears, there may be sufficient salt for a further program, depending on the water hardness level set.

If there is no saline solution left in the water softener, a relevant message will appear in the display and the machine will be locked for further use.
The machine can be used again a few seconds after the salt has been refilled.

Wash carts, baskets, modules and inserts

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

Select 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 wash carts, baskets, modules and inserts (if available).

For all areas of application defined in "Intended use" Miele offers suitable accessories such as wash carts, baskets, modules, inserts and special fittings. Contact Miele for more information.

Water supply

Wash carts and baskets with spray arms are equipped with one or more connection points to the water supply. When loading baskets, wash carts, etc. into the machine, connect these to the water connection points in the back panel of the wash cabinet. The wash carts and baskets are held in place by the wash cabinet door when closed.
Any free connections in the back panel are closed mechanically.

Older models of wash carts and baskets

Only use older models of wash carts and baskets in this machine in consultation with Miele. In particular wash carts and baskets with water supply pipes for spray arms and injector manifolds must be converted to the new type of water connector.
Conversion must be carried out by Miele Service and is only available for selected models.

⚠ The assembly of connectors for the water supply of wash carts and baskets must be carried out by Miele Service.
Fitting faults on wash carts and baskets can cause damage to the machine.

Following conversion, wash carts and baskets can no longer be used in older models of the machine.

Upper basket height adjustment

Height-adjustable upper baskets can be adjusted between three positions with 2 cm between each position to accommodate items of different heights.

To adjust the height, the brackets with rollers on the sides 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 two screws. The water connector consists of the following components:

– A stainless steel plate with 2 openings,

– a plastic connection piece and

– 6 screws

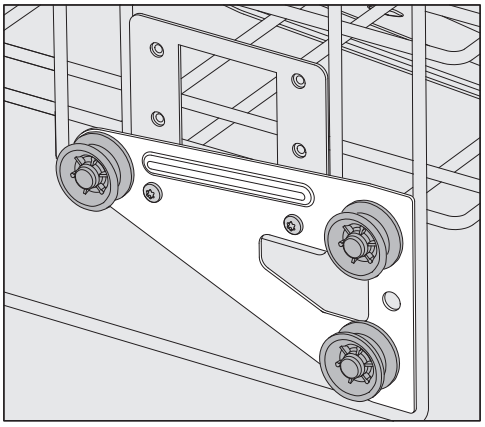
Only adjust the upper basket horizontally. The baskets are not designed to be positioned on a slant (one side up, one side down). Altering the height will alter loading heights for both the upper and lower baskets.

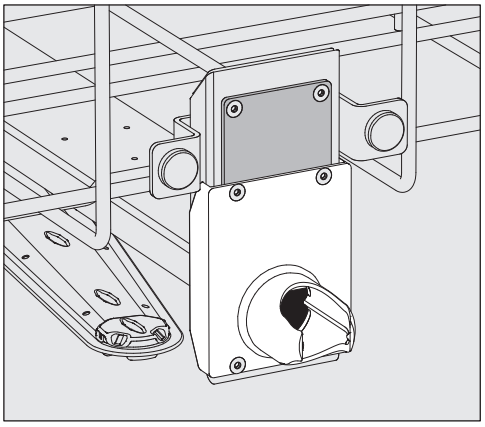
To adjust the upper basket:

- 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.

To adjust the upper basket to the ...

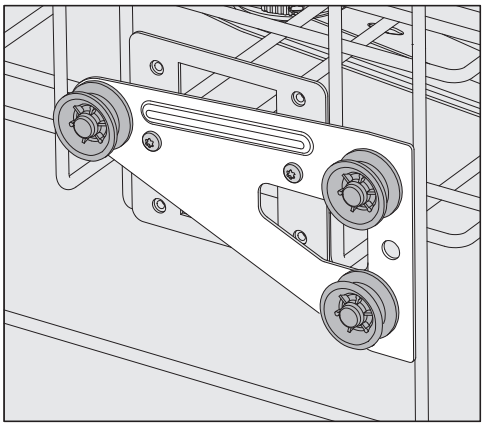
... upper position:

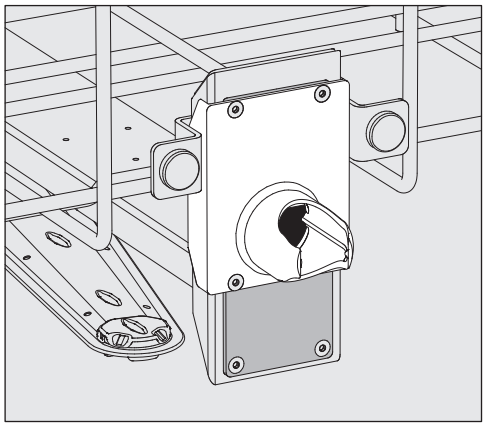




- Move the roller brackets on both sides to the lowest position and secure them firmly.
- Position the stainless steel plate over the openings in the water supply pipe so that the upper opening is covered. Secure the stainless steel plate at the top with 2 screws. Place the water connector in the lower opening of the stainless steel plate so that the middle opening is covered. Secure the water connector with 4 screws.

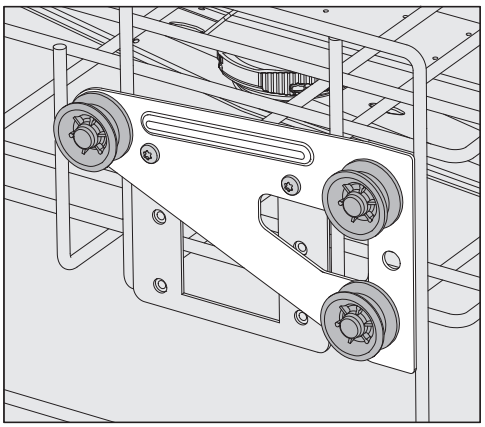
... middle position:

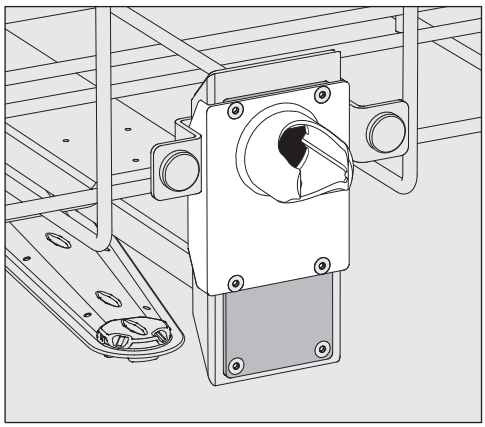




- Move the roller brackets on both sides to the middle position and secure them firmly.
- Position the stainless steel plate over the openings in the water supply pipe so that one of the outer openings is covered. Secure the stainless steel plate at the top or bottom with 2 screws. Place the water connector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

... lower position:





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

Then check:

- Replace the upper basket on the rails and push it in carefully to check that the water connection is positioned correctly.

Loading the machine

⚠ Only 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.

Special injector nozzles, irrigation sleeves or adapters may be required for appropriate internal cleaning, depending on the load. These, together with other accessories, are available from Miele.

– Arrange the load so that water can access all surfaces. This ensures that it gets properly cleaned.

– Do not place items to be cleaned inside other pieces where they may be concealed.

– Hollow items must be thoroughly cleaned, internally and externally.

– Ensure that items with long narrow hollow sections can be flushed through properly before placing them in a fitting or when connecting them to a water connection.

– Hollow vessels should be inverted and placed in the correct mobile units, baskets, modules and inserts to ensure that water can flow in and out of them unrestricted.

– Deep-sided items should be placed at an angle to make sure water runs off them freely.

– Tall, narrow, hollow items should be placed in the centre of the basket. This will ensure better water coverage.

– Take apart any items which can be dismantled according to the manufacturer's instructions and process the individual parts separately from each other.

– Lightweight items should be secured with a cover net (e.g. an A 6) and small items placed in a mesh tray to prevent them blocking the spray arms.

– The spray arms must not be blocked by items which are too tall or which hang down in their path.

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

– Nickel and chrome plated items and items made of aluminium require special procedures and are not generally suitable for machine reprocessing. They require special processing conditions.

– With items which are made entirely or partly of plastic, observe the maximum thermal stability for the items and select an appropriate program or adjust the temperature of the program.

Observe the further information given in the following sections as necessary depending on area of application.

Preparing the load

- Empty all items before loading into the machine (pay particular attention to relevant regulations).
- Remove non-water soluble residues such as paint, adhesives and polymer compounds using appropriate solvents.
- Rinse wash load items which have been in contact with solvents, chloride solutions or hydrochloric acid thoroughly with water and drain well before loading in the machine.

⚠ 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 21°C.

⚠ Chloride solutions, in particular hydrochloric acid, or corrosive iron materials must not be placed in the cabinet.

- Scoop nutrient media (Agar) out of petri dishes.
- Shake out any blood residues and remove any clots.
- If necessary rinse the wash load briefly with water to avoid introducing coarse soiling into the machine.
- Remove all stoppers, corks, labels, sealing wax residue, etc.
- Small items such as stoppers and taps, should be secured in suitable baskets for small parts.

It may be necessary in individual cases to check whether extremely stubborn contamination e.g. vacuum grease, paper labels, etc. which could affect the cleaning result, must be removed in advance.

It must be determined whether wash load items which are contaminated with microbiological material, pathogenic germs, facultative pathogenic germs, genetically modified material etc. need to be sterilized prior to machine reprocessing.

Carry out a visual check before starting a program:

– Is everything correctly loaded/connected for cleaning?

– Was the recommended loading template followed?

– Can the lumen / narrow sections of hollow items be accessed by the wash fluid?

– Are the spray arms clean, and can they rotate freely?

– Are the filters clean?
Remove any coarse soiling and clean the filters if necessary.

– Are the removable modules, injector nozzles, irrigation sleeves and other rinsing fittings securely connected?

– Are the baskets and modules or wash carts correctly connected to the water supply and are the water connectors undamaged?

– Are all chemical containers sufficiently filled?

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

– Carry out a visual check of the load for cleanliness.

– Check that all hollow items are still securely located on their injector nozzles.

⚠ Any hollow items that have become disconnected from their adapters during reprocessing must be re-processed.

– Check that the lumen of hollow items are free of obstruction.

– Check that injector nozzles and connectors are securely held in position in the baskets or inserts.

Wash load...

...wide necked

Wash load items with wide necks, e.g. beakers, wide necked Erlenmeyer flasks and petri dishes, or cylindrical items, e.g. test tubes, can be cleaned inside and out by rotating spray arms.
To do this the wash load is positioned in full, half or quarter inserts and placed in an empty lower basket or upper basket with a spray arm.

...narrow necked

Wash load items with narrow necks, e. g., narrow necked Erlenmeyer flasks, round-bottomed flasks, measuring cylinders and pipettes, require injector wash carts or baskets with special injector modules.

The injector wash carts and modules come with their own operating instructions.

When loading please note:

- Place petri dishes or similar items in the appropriate insert with the dirty side facing towards the middle.
- Place pipettes with the pointed end facing downwards.
- Quarter segment inserts should be positioned at a minimum 3 cm distance from the edge of the upper or lower basket.
- Position quarter segment inserts for test tubes around the middle to leave the corners of the upper or lower basket free.
- Use a cover net to avoid breakages if required.

In this section you will find a description of the causes of common chemical reactions which can occur between different types of soiling, processing 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 processing, or if you have any queries on this subject, please seek advice from Miele.

General notes	
Problem	**How to resolve it**
If elastomers (seals and hoses) and plastic components in the machine are damaged for example, by swelling, shrinking, hardening or brittleness of materials or the development of tears and cracks, components can then not function correctly and this generally leads to leaks.	– Find and correct the causes of the damage. See also the information on "Process chemicals", "Soiling" and "Reactions between processing chemicals and soiling".
Heavy foaming during a program affects cleaning and rinsing results. Foam escaping from the wash cabinet can cause damage to the machine. Cleaning processes cannot be regulated where there has been a build-up of foam.	– Establish the cause of the foam and rectify it. – Check the process used regularly to monitor foaming levels. See also the information on "Process chemicals", "Soiling" and "Reactions between processing chemicals and soiling".
Corrosion to stainless steel in the wash cabinet and to accessories has various appearances: – rust formation (red spots / discolouration), – black spots / stains, – white spots / discolouration (etched surface). Corrosive pitting can lead to the machine not being water-tight. Depending on application corrosion can influence cleaning and rinsing results (laboratory analysis) or cause corrosion to stainless steel items in the cabinet.	– Establish the cause of the corrosion and rectify it. See also the information on "Process chemicals", "Soiling" and "Reactions between processing chemicals and soiling".

Chemical processes and technology

Connected process chemicals	
Problem	**How to resolve it**
The ingredients in process chemicals have a strong influence on the longevity and functionality (throughput) of the dispensing system.	– Only use process chemicals supplied and approved by Miele in this machine. The instructions and recommendations of the process chemicals must be observed. – Carry out a regular visual check of the dispensing system (suction lances, hoses, dispensing containers etc.) for any damage. – Regularly check the flow rate of the dispensing system. – Ensure that the regular cycle of maintenance is observed. – Please contact Miele Service for advice.
Process chemicals can damage elastomers and plastics in the machine and accessories.	– Only use process chemicals supplied and approved by Miele in this machine. The instructions and recommendations of the process chemicals must be observed. – Carry out a regular visual check of any accessible elastomers and plastics for damage.
Hydrogen peroxide can release large amounts of oxygen.	– Use only certified processes. – The wash temperature must be lower than 70°C when using hydrogen peroxide. – Please contact Miele Service for advice.
The following process chemicals can cause large amounts of foam to build up: – cleaning and rinsing agents that contain tensides. Foam can occur: – in the program block in which the process chemical is dispensed, – in the subsequent program block due to carry-over, – in the case of rinse aid, in the subsequent program due to carry-over.	– 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. – Observe the instructions of the manufacturer of the process chemicals.

Connected process chemicals	
Problem	**How to resolve it**
De-foaming agents, particularly silicone-based de-foaming agents, can cause the following: – deposits to build up in the wash cabinet, – deposits to build up on the load, – damage to elastomers and plastics in the machine, – damage to certain plastics (e.g. polycarbonate and plexiglass) in the load being processed.	– De-foaming agents should be used in exceptional cases only, for instance when absolutely essential for the process. – The wash cabinet and accessories should be periodically cleaned without a load and without de-foaming agent using the Organic program. – Please contact Miele Service for advice.

Soiling	
Problem	**How to resolve it**
The following substances can damage elastomers (hoses and seals) and plastics in the machine: – Oil, wax, aromatic and unsaturated hydrocarbons, – emollients, – cosmetics, hygiene and care products such as creams (analytical applications, filling).	– Depending on usage wipe the lower door seal on the machine periodically with a lint-free cloth or sponge. Clean the wash cabinet and accessories without a load using the Inorganic program. – Process the load using the Oil program program (where this is available) or use a special program that dispenses emulsifiers.
The following substances can lead to heavy built-up of foam during washing and rinsing: – some disinfection agents and dishwashing detergents. – reagents for analysis, e.g. for microtiter plates, – cosmetics, hygiene and care products such as shampoos and creams (analytical applications, filling). – active foaming agents such as tensides.	– Thoroughly rinse items in water beforehand. – Select a cleaning program with at least one short pre-rinse in cold or hot water. – Depending on application use antifoaming agents that do not contain silicone oils.

Chemical processes and technology

Soiling	
Problem	**How to resolve it**
The following substances can cause corrosion of the stainless steel in the wash cabinet and the accessories: – hydrochloric acid, – other substances containing chlorides such as sodium chloride etc., – concentrated sulphuric acid, – chromic acid, – iron particles and shavings.	– Thoroughly rinse items in water beforehand. – Put the drip-dry items to be washed into the wash carts, baskets, modules and inserts and start a program as soon as possible after placing in the machine.

Reaction between process chemicals and soiling	
Problem	**How to resolve it**
Natural oils and fats can be emulsified with alkaline process chemicals. This can lead to a heavy build-up of foam.	– Use the Oil program. – Use a special program that dispenses emulsifiers (pH neutral) in the pre-rinse. – Depending on application use de-foaming agents that do not contain silicone oils.
Soiling containing high protein levels such as blood can cause a heavy build-up of foam when processed with alkaline process chemicals.	– Select a wash program with one or more short pre-rinses with 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).	– Observe the instructions of the manufacturer of the process chemicals.

Using process chemicals

⚠ Only use process chemicals designed specifically for use in this machine and follow the manufacturer's instructions on their application. Please observe carefully any instructions relating to non-toxic residues.
Miele recommends the use of Miele process chemicals to ensure maximum cleaning performance, material compatibility and machine longevity. The use of other process chemicals might result in discoloration or other material compromises, excess foaming or premature equipment failure.

⚠ Caution when using process chemicals. Some agents may be corrosive and irritant.
The relevant safety regulations and the process chemical manufacturer's safety data sheets must be observed.
Wear protective goggles and gloves.

Contact Miele for information about suitable process chemicals.

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

Dispensing systems

The machine is equipped with a number of internal dispensing systems for process chemicals:

– Neutralisation agent
  This is dispensed using a suction lance.

– Liquid cleaning detergent
  This is dispensed via a suction lance.

Labelling of the suction lances

Liquid process chemicals from external containers are dispensed by suction lances. Colour coding the suction lances can be helpful for correct dispensing.

Miele uses and recommends the following:

– Blue: for cleaning detergent

– Red: for neutralizing agent

– Green: for chemical disinfection agents or an additional second cleaning detergent

– White: for acidic process chemicals

– Yellow: for free choice

DOS modules

If required, up to two additional, external dispensing modules (DOS modules) for liquid process chemicals can be fitted retrospectively.

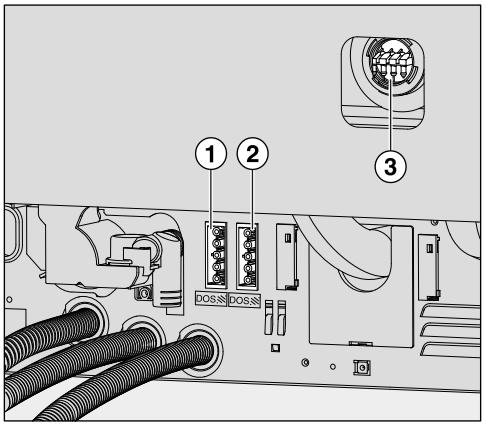
External DOS modules are fitted by Miele Service. Internal dispensing systems cannot be retrospectively fitted.

Connecting DOS modules

DOS modules are supplied with their own installation instructions.

⚠ Before fitting the DOS modules, compare the connection data (voltage and frequency) on the data plates of the modules with that on the data plate of your machine. If the data does not match, the modules could sustain damage. If in any doubt, consult an electrician.

2 DOS module connections

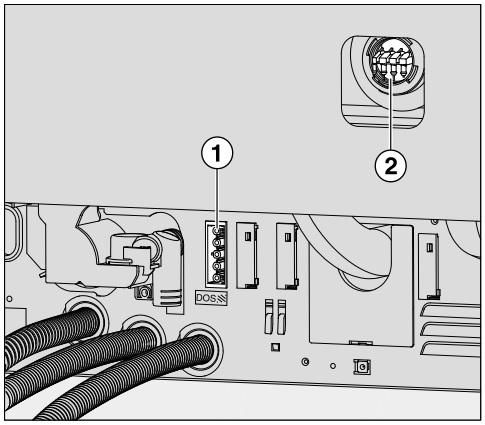


① Power supply for DOS 1, detergent.

② Power supply connection for DOS 4, rinse aid.

③ Connections for dispensing hoses.

1 DOS module connection



① Power supply connection for DOS 4, rinse aid.

② Connection for dispensing hose.

- Connect the module to the machine's power supply.
- To connect the dispensing hose, release the hose clip on a free connector and remove the safety cap.
- Push the dispensing hose onto the connector and secure it with a hose clip.

Unused connectors must be blanked off with safety caps to prevent the leakage of wash fluid.

Dispensing liquids

For adjusting dispensing concentration, see "Further settings/ Dispensing systems."

Neutralizing agent

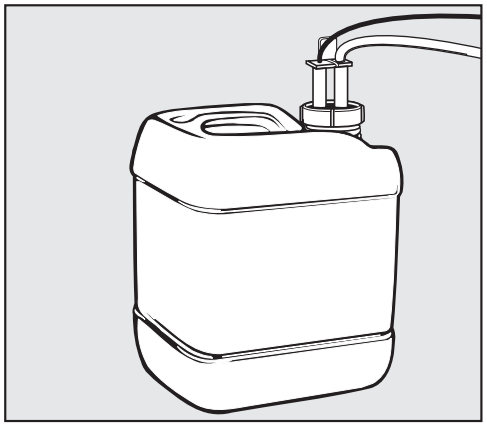
Neutralizing agent (pH setting: acidic) neutralizes any residues of alkaline cleaning agents on the surface of the load and protects the wash chamber from deposits and discoloration.

Neutralizing agent is dispensed automatically in the Rinse phase after the main wash (see Program charts). The neutralizing agent container must be filled and the dispensing system vented for this to occur.

In the Inorganic program neutralizing agent is dispensed additionally for an acidic pre-wash.

Refilling neutralizing agent

- Place the neutralizing agent container (red marking) on the open cabinet door or on a surface which is robust and easy to clean.
- Unscrew and remove the suction lance. Place the suction lance on the
  open cabinet door.
- Replace the empty container with a full one.



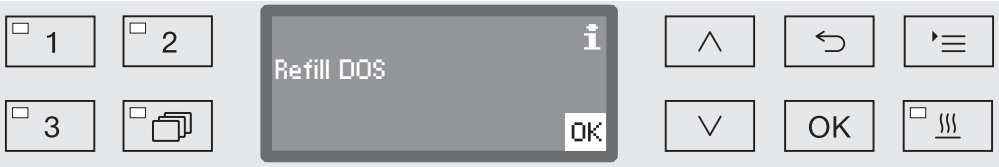
- Push the suction lance into the opening of the container and screw it on tightly. Observe the colour coding.
- Wipe up any spilled process chemical thoroughly.
- Place the container on the floor next to the machine or in an adjacent cupboard. The container must not be placed on top of or above the machine. Make sure that the dispensing hose is not kinked or trapped.
- The dispensing system must then be vented (see "Settings ⚑ / Venting DOS").

Checking consumption

Check consumption regularly by checking the fill levels in the supply containers and replace containers in good time to avoid the dispensing system being sucked completely dry.

Refill indicator

When the fill level is low in the DOS 3 supply container for neutralizing agent you are reminded to refill it.



- Confirm the message shown with *OK* and
- Refill the neutralising agent as described.

If it has run out, the machine will be locked for further use.
It will be ready for use again when the supply container has been replaced.

Dispensing neutralizing agent

For adjusting dispensing concentration, see "Further settings/ Dispensing systems."

Detergent

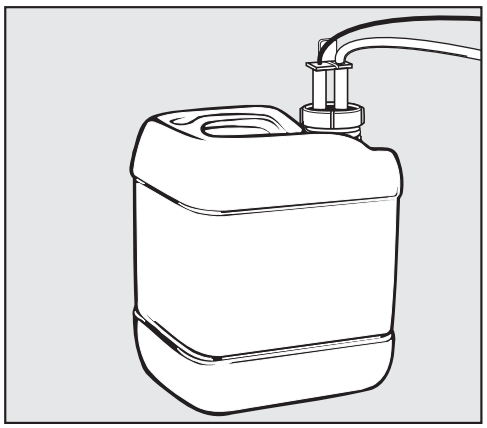
⚠ Only use cleaning detergent which is suitable for this type of machine. Consult Miele for available detergents from Miele.
Do not use detergent for domestic dishwashers.

The machine is designed exclusively for use with liquid cleaning detergent. The liquid cleaning detergent is dispensed from an external supply container via a suction lance.

Refilling liquid cleaning detergent

Liquid cleaning detergent is dispensed from an external canister.

- Place the liquid cleaning detergent container (blue marking) on the open cabinet door or on a surface which is robust and easy to clean.
- Unscrew and remove the suction lance. Place the suction lance on the
  open cabinet door.
- Replace the empty container with a full one.



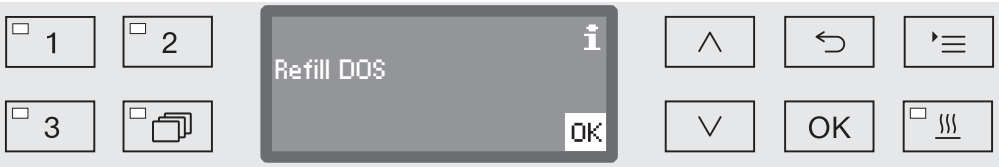
- Push the suction lance into the opening of the container and screw it on tightly. Observe the colour coding.
- Wipe up any spilled process chemical thoroughly.
- Place the container on the floor next to the machine or in an adjacent cupboard. The container must not be placed on top of or above the machine. Make sure that the dispensing hose is not kinked or trapped.
- The dispensing system must then be vented (see "Settings ⚑ / Venting DOS").

Checking consumption

Check consumption regularly by checking the fill levels in the supply containers and replace containers in good time to avoid the dispensing system being sucked completely dry.

Refill indicator

When the fill level is low in the DOS 1 supply container for liquid cleaning detergent you are reminded to replenish it.



- Confirm the message shown with *OK* and
- refill the liquid cleaning detergent as described.

If the liquid cleaning detergent has run out, the machine will be locked for further use.
It will be ready for use again when the supply container has been replaced.

Dispensing liquid process chemicals

For adjusting dispensing concentration, see "Further settings/ Dispensing systems."

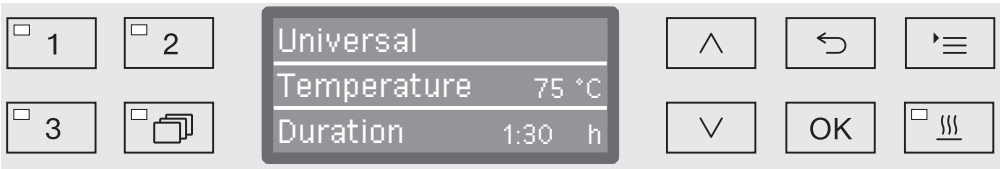
Selecting a program

... using the program selector buttons

- Select a program using program selection buttons 1, 2 or 3.

... from the program list

- Press the button and
- use the ∧ and ∨ arrow buttons to highlight a program and confirm your selection with *OK*.



The LED in the button selected will light up and the relevant program will appear in the display. The LED in the *Start*/*Stop* button also starts to flash.

Another program can be selected at any time before a program has started. Once it has started, program selection is locked.

Always select the program depending on the type of load and degree and type of soiling, or on infection prevention issues.
The programs and their areas of application are described in the Program overview at the end of these operating instructions.

Starting a program

- Close the door.
  When the door is closed, the LED in the button will light up.
- Press the *Start*/*Stop* button.
  The LED in the *Start*/*Stop* button will light up constantly and the LED in the button will go out.

Starting a program using delay start

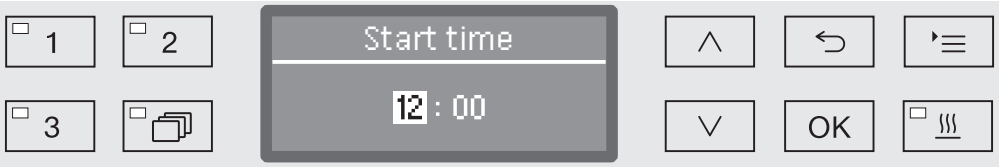
The start of a program can be delayed; for example, to benefit from economy rates of electricity or to clean the wash chamber before it is used the next day. Starting from the programmed time, a delay start time between 1 minute and 24 hours can be selected in one minute increments (see "Settings/Time of day").

Delay start must be switched on in the Settings menu (see "Settings/Delay start").

If soiling is left to dry on the load for longer, the processing result can be adversely affected. There is also a risk of corrosion for stainless steel items.

Setting the start time

- Select a program.
- Press the *OK* button before starting the program.



- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the hours and confirm your selection with the *OK* button.

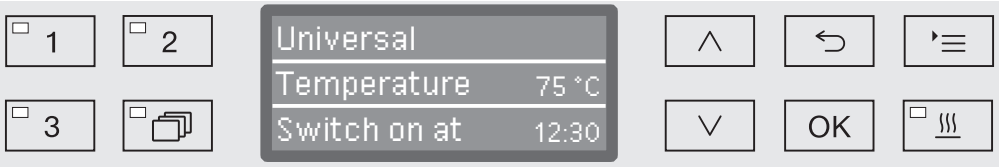
Each press of the *OK* button takes the highlighting to the next input position automatically. You cannot go back to the previous entry. If a mistake is made, the process must be canceled using the ⮌ button and repeated.

- Set the minutes using the arrow buttons ∧ (higher) and ∨ (lower) and save your entry with *OK*.

The start time is now saved and can be changed as described at any time up to activation of delay start.

Activating delay start

- Delay start is activated with the *Start*/*Stop* button.



The selected program with the set start time set is then shown on the display. If automatic deactivation has been selected (see "Further settings/Switch off after"), the machine will switch itself off after the set time until the program start time set is reached.

Deactivating delay start

- Press the ⮌ button or switch the machine off using the ⏻ button.

Drying assistance

The additional "Drying assistance" function accelerates the drying process at the end of the program.

If drying assistance has been activated, the door will automatically open a few centimetres at the end of the program to release steam from the cabinet. The load will then be dried using passive heat given off by the residual heat in the cabinet.

The drying function can be preselected for all programs with a drying phase or can be retrospectively switched on or off every time a program is selected (see "Settings ⚑/Drying").

Drying is activated or deactivated prior to program start by pressing the ⌇⌇⌇ button. The LED in the button ⌇⌇⌇ indicates whether the additional function is on or off. The drying time of the program can also be changed.

When the drying function is activated, the program runs approx. 2 minutes longer.

Activating and deactivating drying

- Select a program.
- Press the ⌇⌇⌇ button before the program start. The LED in the button indicates whether drying is on or off.

Program sequence indicator

After the program has started, the program sequence can be followed in the three-line display.

Top line

– Program name.

Middle line

The following parameters can be checked using the arrow buttons ∧ and ∨:

– Current program block, e.g. Main wash 1,

– Actual or required temperature
(depending on the display set, see "Further settings/Display: Temperature"),

– A_0 value,

– Cycle number,

Bottom line

– Time left (in hours; under an hour, in minutes)

End of program

A program is usually finished when the following parameters and messages are shown in the display:

Top line

– Program name.

Middle line

Continuously alternating between:

– Parameter met/not met,

– A_0 value

– Cycle number,

Bottom line

– Program finished.

In addition, the LED in the *Start*/*Stop* buttons goes out and the LED in the ⊶ button begins to flash. In the factory default state, an acoustic tone also sounds for approx. 10 seconds (see "Settings⚑/Volume").

Cancelling a program

⚠ If a program is cancelled, the items in the machine must be reprocessed again.

⚠ Be careful when opening the door.
The wash load could be hot. Danger of scalding, burning, and chemical burns.

Program cancelled due to a fault

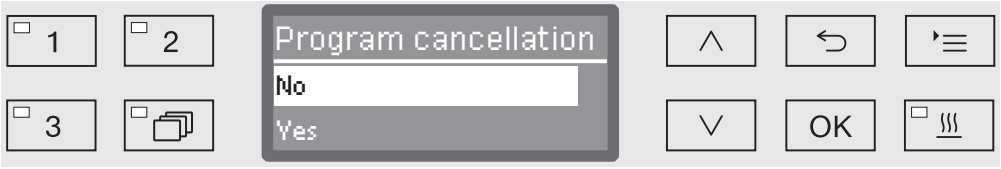
The program stops prematurely and an error message appears in the display.

Take appropriate steps to resolve the fault, depending on its cause (see "Problem-solving guide").

Cancelling a program manually

A program which is already running should only be cancelled if strictly necessary, e.g. if the wash load is moving about significantly.

- Press and hold the *Start*/*Stop* button until the display changes to the following view:



- Use the ∧ and ∨ arrow buttons to select Yes.
- Pressing the *OK* button interrupts the program. Entry of a code may also be required (see "Further settings/Code").

If no button is pressed for several seconds, or if the process is cancelled using the ⮌ button, the display will revert to the program sequence display.

Restarting the program

- Start the program again or select a new program.

The structure of the Settings menu is shown below. The menu incorporates all relevant functions to support daily routine tasks.

In the structure overview all options which can be permanently selected have boxes ☐ beside them. Factory settings are indicated by a tick ☑. You will find an explanation of how to change settings after the overview.

Settings

- Delay start
  - No ☑
  - Yes ☐
- Drying
  - No ☐
  - Yes ☑
- Priming DOS system
  - DOS_
- Filter maintenance
  - Filter combination
    - Reset (Yes/No)
    - Interval ⇨ 10
- Language
  - deutsch ☐
  - english (GB) ☑
  - ... ☐
- Time of day
  - Set
  - Display
    - On ☐
    - "On" for 60 seconds ☐
    - Do not display ☑
  - Time format
    - 12 h ☐
    - 24 h ☑
- Volume
  - Keypad tone
  - Buzzer tones
    - Program end
    - Warning

Delay start

This setting must be activated for Delay start to be available for use.

■ Open the menu as follows:

Button ☰

▸ Settings

▸ Delay start

– No

Delay start is deactivated.

– Yes

Delay start is activated and can be used for all programs.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

Drying

The drying function can be preset or deactivated for all programs with a drying phase (see Program charts).

The additional "Drying assistance" function accelerates the drying process at the end of the program.

If drying assistance has been activated, the door will automatically open a few centimetres at the end of the program to release steam from the cabinet. The load will then be dried using passive heat given off by the residual heat in the cabinet.

- Open the menu as follows:

Button ☰

▸ Settings

▸ Drying

– No

The drying function is automatically deactivated for all programs.

– Yes

The drying function is activated for all programs. The program duration is lengthened if the drying function is activated.

- Select an option using the ∧ and ∨ arrow buttons.
- Press *OK* to save the setting.

DOS venting

The dispensing system for liquid process chemicals can only dispense reliably if the system has been purged of air.

The DOS system must only be vented:

– if the dispensing system is being used for the first time,

– if the process chemical container has been replaced,

– the dispensing system has been sucked completely dry.

Before venting, ensure that the liquid process chemical container is sufficiently full and the suction lance are securely screwed to the containers. Only one DOS system can be vented at a time.

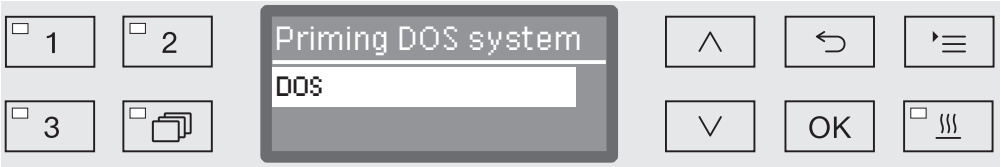
■ Open the menu as follows:

Button

▸ Settings

▸ Priming DOS system

▸ DOS... (name of dispensing system)

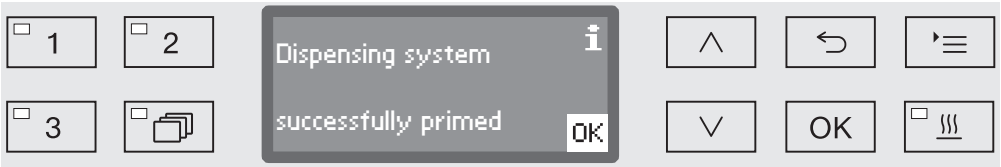


Automatic venting will start when the dispensing system is selected. Once started, the automatic venting process can no longer be cancelled.

■ Select a dispensing system using the ∧ and ∨ arrow buttons.

■ Press *OK* to start the venting process.

Automatic venting is successfully completed when the following message appears in the display:



Filter maintenance

Cleaning the filters in the wash chamber

The filters in the wash chamber must be checked and cleaned daily, see "Maintenance/Cleaning the filters in the wash chamber".
A counter in the controls can be activated to remind you of the required cleaning at regular intervals.

Activating and setting the interval

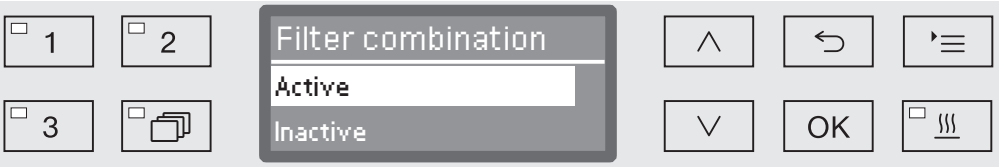
■ Open the menu as follows:

Button ☰

▸ Settings

▸ Filter maintenance

▸ Filter combination



– Active

The cleaning interval is activated.
The Active selection allows you to reset the counter or set the cleaning interval.

– Inactive

The cleaning interval is deactivated.

■ Select an option using the ∧ and ∨ arrow buttons and confirm your selection with *OK*.

Resetting the counter

The counter for the cleaning interval may be reset only after cleaning has been completed.

– Yes

The counter is reset.

– No

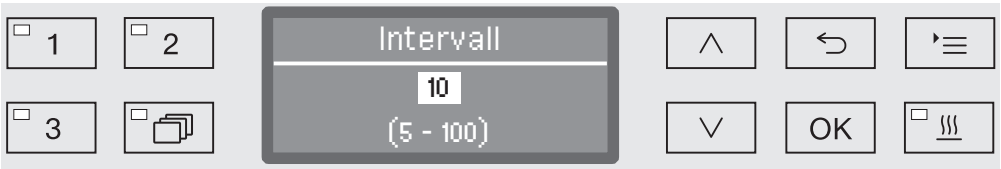
The counter will not be reset.

■ Select an option using the ∧ and ∨ arrow buttons and confirm your selection with *OK*.

Setting the interval

The interval depends on the number of programs sequences and must be set on the basis of usage and the expected number of particles/solids in the soiling.

Example:
For weekly cleaning with 2 program sequences per day and 5 workdays in the week, this yields an interval of 10 (2 x 5 = 10). With a higher incidence of particles, a shorter interval should be selected in order to clean the filters several times weekly.



The setting value is entered in increments of 5. The possible range is shown in the bottom line of the display.

■ Use the arrow buttons ∧ (higher) and ∨ (lower) to set the Interval.

■ Press *OK* to save the setting.

Language

The language set will be used in the display.

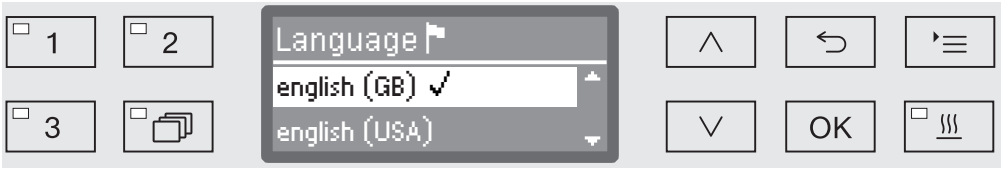
■ Open the menu as follows:

Button ☰

▸ Settings

▸ Language

The flag symbol after the Settings and Language menu options acts as a guide if a language which you do not understand has already been set before.



A list will appear in the display with all the languages available. The currently selected language has a tick ✓ beside it.

The factory default language is set as english (GB). For Canada select "English (CA)" or "Français (CA)".

■ Use the ∧ and ∨ arrow buttons to select the language you want.

■ Press *OK* to save the setting.

The display will change immediately to the language selected.

Time of day

The time of day is required for process documentation, Delay start, the machine log book and the display. The date format and the current time of day have to be set.

There is no automatic adjustment between summer time (daylight savings) and winter time.
You need to make this adjustment yourself as necessary.

Select Clock display

To set the format for the time of day in the display:

■ Open the menu as follows:

Button ☰

▸ Settings

▸ Time of day

▸ Time format

– 12 h

Time of day display in 12-hour format (am/pm).

– 24 h

Time of day display in 24-hour format.

■ Use the ∧ and ∨ arrow buttons to select the date format you want.

■ Press *OK* to save the setting.

Set the time of day

To set the format for the time of day:

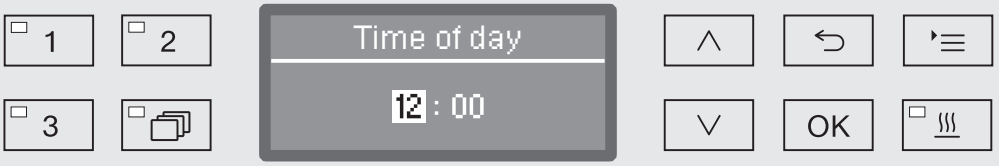
- Open the menu as follows:

Button ☰

▸ Settings

▸ Time of day

▸ Set



- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the hours and confirm your selection with the *OK* button.

When the *OK* button is pressed, the display jumps automatically to the next input position. You cannot go back to the previous entry. If a mistake is made, the process must be cancelled using the ⮌ button and repeated.

- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the minutes and press the *OK* button to save the time of day.

The time of day will be saved when the *OK* button is pressed for the last time.

Display

If necessary, the machine can set to standby for use during breaks in operation.

– An option to display the time of day must be selected for this purpose.

– Additionally, automatic shutdown must be activated and a standby duration set in "Additional settings/Switch off after".

Once the set standby time elapses, the machine is activated for use. During standby, the machine remains switched on and the time is shown on the display. Pressing any button reactivates the machine.

■ Open the menu as follows:

Button

▸ Settings

▸ Time of day

▸ Display

– On

Once the set standby time elapses, the machine is permanently activated for use and the time appears on the display.

– "On" for 60 seconds

Once the set standby time elapses, the machine is activated for use for 60 seconds. After the 60 seconds have elapsed, the machine switches off. The time appears on the display while the machine is in standby.

– Do not display

After the standby time has elapsed, the machine switches off. The time no longer appears on the display.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

Volume

A buzzer which is integrated into the control panel can give an acoustic signal in the following situations:

– When buttons are pressed (keypad tone)

– End of program

– System messages (information)

■ Open the menu as follows:

Button ☰

▸ Settings

▸ Volume

– Buzzer tones

Setting the buzzer volume for program end and system messages (information).

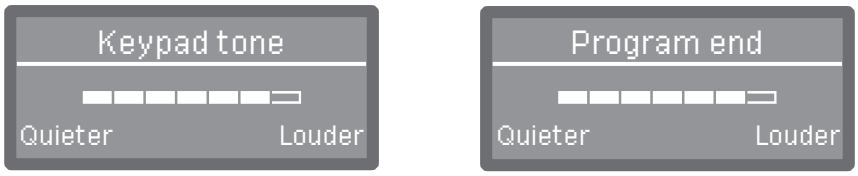
– Keypad tone

Setting the buzzer volume for keypad tone.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Confirm your selection with *OK*.

When Keypad tone has been selected, you can adjust the volume immediately. When Buzzer tones has been selected, you must first select for which tone, Warning or Program end, you would like to adjust the volume.



The volume level is represented by a bar chart. On the lowest setting the buzzer tone is switched off.

■ Use the arrow buttons ∧ (Louder and ∨ (Quieter) to set the volume.

■ Press *OK* to save the setting.

Additional settings

The Additional settings menu incorporates all administrative processes and settings.

The Additional settings menu can only be accessed by using a PIN code. The standard PIN code is "8000" and can be changed to a custom 4-digit code.
If you do not have the PIN code, contact a user with appropriate access rights or cancel the process using the ⮌ button.

In the structure overview all options which can be permanently selected have boxes ☐ beside them. Factory settings are indicated by a tick ☑. You will find an explanation of how to change settings after the overview.

Additional settings

- Code
  - Program cancellation
    - Code required ☐
    - Code not required ☑
  - Change code
- Date
  - Date format
    - DD:MM:YY ☑
    - MM:DD:YY ☐
  - Set
- Log book
  - Consumption: Water
  - Consumpt.:Cleaning agent
  - Consumpt.: Rinse aid
  - Consumpt.: Neutralizer
  - ...
  - Operating hours
  - Program cycle counter
  - Service interval
- Report
  - Short ☑
  - Long ☐
- Temperature unit
  - °C ☑
  - °F ☐
- Program settings
  - Change program
    - ...
  - Reset program
    - ...
- Release program
  - All ☑
  - Selection
    - ... ☐
- Move program
  - 1 Universal
  - 2 Standard
  - 3 Intensive
- Dispensing system
  - DOS_
    - Active
    - Inactive
    - Priming DOS system
    - Concentration
    - Change name
- Test program
  - No
  - Laboratory
  - Validation
- Interface
  - Ethernet
    - Module status
    - DHCP
  - RS232
    - Print reports
    - Language ⚑
    - Mode
    - Baud rate: 9600 ☑
    - Parity: none ☑
- Water hardness ⇨ 19

- Display view
  - Actual temperature ☐
  - Required temperature ☑
- Display
  - Contrast
  - Brightness
- Switch off after
  - Yes ☑
  - No ☐
- Factory default
  - Reset
    - Program settings only
    - All settings
    - No
- Software version
  - EB ID XXXXX
  - EGL ID XXXXX
  - EZL ID XXXXX
  - EFU ID XXXXX
  - LNG ID XXXXX

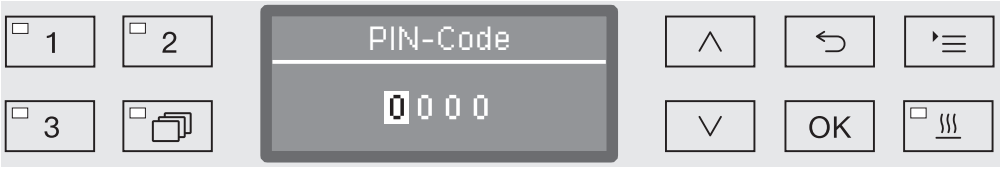
PIN code

The Additional settings menu incorporates relevant functions and system settings which require an enhanced knowledge of machine reprocessing. Access to the menu can therefore be protected by a four digit PIN code. The standard PIN code is "8000" and can be changed to a custom 4-digit code.
It is not possible to block individual options or the inputting of multiple PIN codes at the same time.

⚠ If a PIN code is lost, a new code must be issued by Miele Service.

Entering the PIN code

If access to the Additional settings menu is blocked, you will be prompted to enter the PIN code when it is selected.



If you do not have the PIN code, contact a user with appropriate access rights or cancel the process using the ⮌ button.

- Use the arrow buttons ∧ (higher) and ∨ (lower) to enter the relevant digits.
- Confirm each digit individually with the *OK* button.

When the *OK* button is pressed, the display jumps automatically to the next input position. You cannot go back to the previous entry. If a mistake is made, the process must be cancelled using the ⮌ button and repeated. Entered digits are replaced by a * symbol.

If all digits are entered correctly, the menu will be released.

If an incorrect entry is made, an error message will appear.

- Confirm the message with *OK*.

Access remains blocked and the display reverts to the menu selection.

To block cancellation of a program

A program which is already running should only be cancelled if strictly necessary, e.g. if the wash load is moving about significantly. Access to the option of cancelling a program can be blocked using the PIN code.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Code

▸ Program cancellation

– Code required

A program can only be cancelled by entering the PIN code.

– Code not required

All users can cancel running programs at any time.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

Change the PIN code

The code consists of a four digit number and is set by the user. Each digit can be programmed freely between 0 and 9.

⚠ When a new PIN code is entered, the old code is overwritten and is permanently deleted. Therefore it cannot be reinstated.
If a PIN code is lost, a new code must be issued by Miele Service.

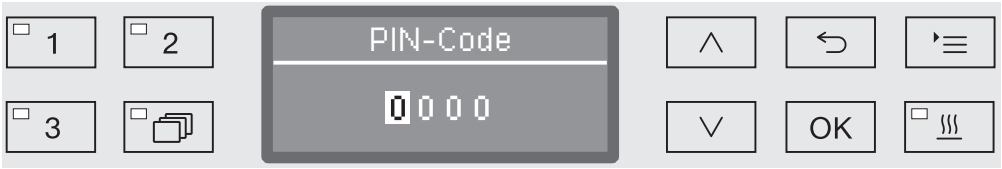
- Open the menu as follows:

Button ☰

▸ Additional settings

▸ Code

▸ Change code



- Use the arrow buttons ∧ (higher) and ∨ (lower) to enter the relevant digits.
- Confirm each digit individually with the *OK* button.

When the *OK* button is pressed, the display jumps automatically to the next input position. You cannot go back to the previous entry. If a mistake is made, the process must be cancelled using the ⮌ button and repeated. Entered digits are replaced by a * symbol.

The PIN code is saved to memory once you have confirmed the last digit.

Date

The date is required e.g. for process documentation. The date format and the current date have to be set.

Select the date format

The selected date format appears in the display and in the process documentation.

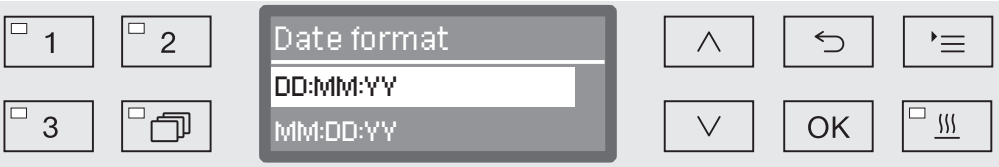
■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Date

▸ Date format



– DD = Day

– MM = Month, and

– YY = Year.

■ Use the ∧ and ∨ arrow buttons to select the date format you want.

■ Press *OK* to save the setting.

Setting the date

The current date will be set in the selected date format.

- Open the menu as follows:

Button ☰

▸ Additional settings

▸ Date

▸ Set

- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the day/month and confirm your entry using the *OK* button.

When the *OK* button is pressed, the display jumps automatically to the next input position. You cannot go back to the previous entry. If a mistake is made, the process must be cancelled using the ⮌ button and repeated.

- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the day/month and confirm your entry using the *OK* button.
- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the year and press the *OK* button to save the date.

The date will be saved when the *OK* button is pressed for the last time.

Log book

The entire life cycle of the machine, including consumption data for water and process chemicals, as well as operating hours and program cycles are recorded in the log book.

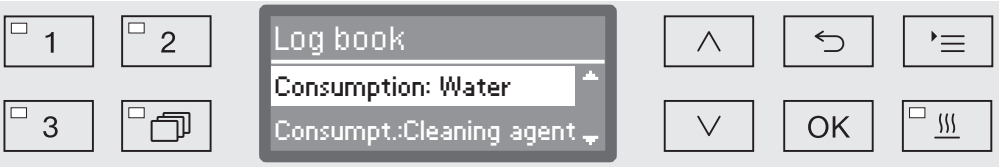
Miele Service can also use the log to calculate a recommendation for service intervals.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Log book



– Consumption: Water

Display the total amount of water used in litres (L).

– Consumpt.:Cleaning agent

Display the total amount of liquid cleaning detergent used in litres (l).

– Consumpt.: Rinse aid

Display the total amount of rinse aid used in litres (L).

– Consumpt.: Neutralizer

Display the total amount of neutralizing agent used in litres (L).

– Operating hours

Display the total number of operating hours.

– Program cycle counter

Total of all completed programs. There is no breakdown of individual programs. Cancelled programs are not included.

– Service interval

Date of the next service (entered by Miele Service).

■ Select an option using the ∧ and ∨ arrow buttons and confirm your selection with *OK*.

Values in the machine log book cannot be altered.

■ Press the ⮌ button to exit the menu.

Report

You can choose between two different report formats of process reports for the purpose of archiving.

More information on selecting these can be found in "Process documentation".

Temperature unit

During a program the temperature display is refreshed every 2 to 5 seconds depending on the program stage. The temperature can be displayed in degrees Celsius (°C) or Fahrenheit (°F).

The temperature unit is set at the factory to °C.

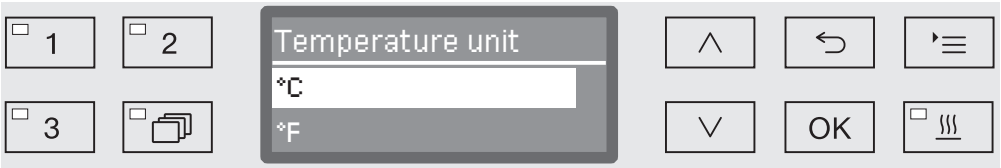
If the temperature unit is changed to °F, the temperature displayed is automatically recalculated.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Temperature unit



– °C

Display temperature in degrees Celsius.

– °F

Display temperature in degrees Fahrenheit.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

Program settings

You can use this menu to customize the current program to suit technical requirements and the wash load or to reset all additional functions to the factory default settings.

Additional specialist knowledge is required to alter program settings and this should therefore be undertaken only by experienced users or by Miele Service.

More information can be found in "Program settings".

Program release

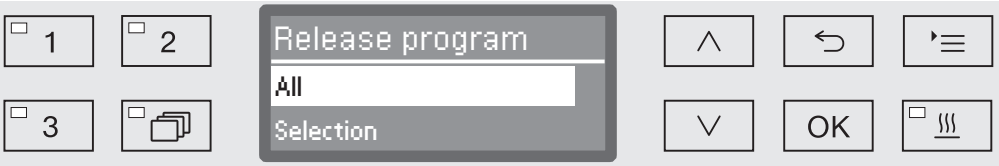
It is possible to block access to individual programs. Blocked programs are not available for selection, so for example it can be ensured that only validated programs are used.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Release program



– All

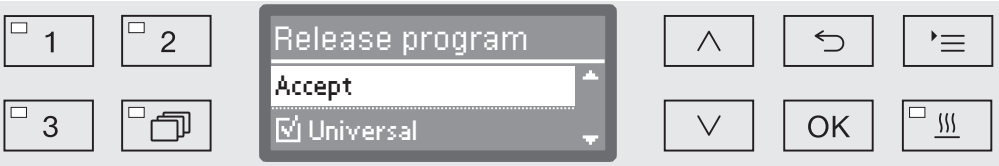
All programs are released for use.

– Selection

A selection of programs are available for use.

■ Select an option using the ∧ and ∨ arrow buttons and confirm your selection with *OK*.

The Selection option displays a list of all programs.



Programs are selected by multiple choice. A box ☐ is shown next to all programs in the list. If a program is released, there is a tick ☑ in the box. An empty box indicates a blocked program.

■ Programs can be released or blocked using the arrow buttons ∧ and ∨ and by confirming with *OK*.

■ To save the selection, select the Accept option at the end of the list and confirm with *OK*.

Moving a program: allocating program selection buttons

You can sort the program selection list to suit your requirements and therefore also allocate the program selection buttons 1, 2 and 3.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Move program

All enabled programs are shown in the program list (see "Further settings/Enabling programs"). A program's position in the program list is the determining factor for assigning the program selection buttons. Programs are numbered from 1 - n. The first three programs in the list are assigned to the program selection buttons; for example:

– 1. Universal on program selection button 1

– 2. Standard on program selection button 2

– 3. Intensive on program selection button 3

– 4. Inorganic

– 5. Organic

– etc.

■ Use the ∧ and ∨ arrow buttons to select the program you would like to move.

■ Confirm your selection with *OK*.

Now you can move this program within the list.

■ Use the ∧ and ∨ arrow buttons to move the program to the position you want.

■ Press *OK* to save the program to the selected position.

The program which was previously saved to this position and all subsequent programs are moved down by one position.

The process can be repeated as often as you wish.

■ Press the ⮌ button to exit the menu.

Dispensing systems

Up to two process chemicals can be dispensed in each wash block. Using the following menu you can activate and vent the dispensing system, change the name if necessary and set the dispensing concentration for all programs.

Activating dispensing systems

Individual dispensing systems can be activated or deactivated for all programs as follows.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Dispensing system

▸ DOS... (name of dispensing system)

– Active

The selected dispensing system is activated. Dispensing will only occur in the appropriate wash blocks (see Program charts).

– Inactive

The selected dispensing system is deactivated for all programs.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

DOS venting

The dispensing system for liquid process chemicals can only dispense reliably if the system has been purged of air.

The DOS system must only be vented:

– if the dispensing system is being used for the first time,

– if the process chemical container has been replaced,

– the dispensing system has been sucked completely dry.

Before venting, ensure that the liquid process chemical container is sufficiently full and the suction lance are securely screwed to the containers. Only one DOS system can be vented at a time.

■ Open the menu as follows:

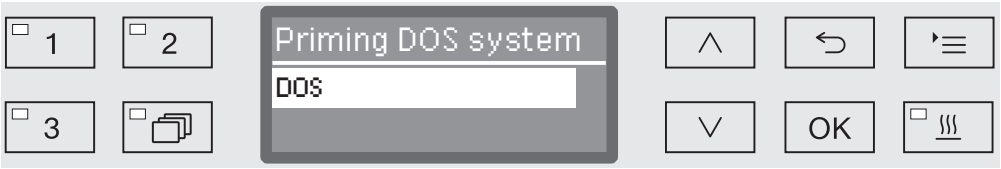
Button ☰

▸ Additional settings

▸ Dispensing system

▸ DOS... (name of dispensing system)

▸ Priming DOS system

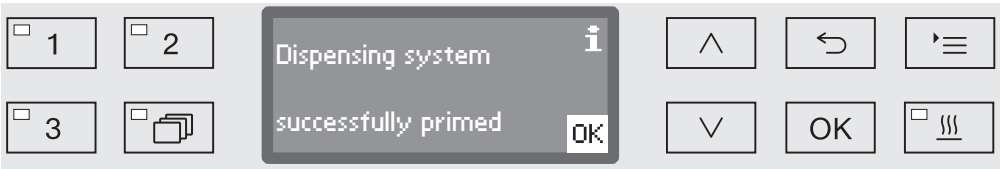


Automatic venting will start when the dispensing system is selected. Once started, the automatic venting process can no longer be cancelled.

■ Select a dispensing system using the ∧ and ∨ arrow buttons.

■ Press *OK* to start the venting process.

Automatic venting is successfully completed when the following message appears in the display:



Setting the dispensing concentration for liquid agents

The dispensing concentration for liquid process chemicals, e.g. in the case of a change of process chemicals, can be adjusted for all programs at once.

The dispensing concentration must be set in accordance with the manufacturer's instructions or with the required processing result.

The consumption of liquid agents is recorded in the log book (see "Further settings/Log book").

Changing program parameters on a validated machine will necessitate a renewed performance validation.

- Open the menu as follows:

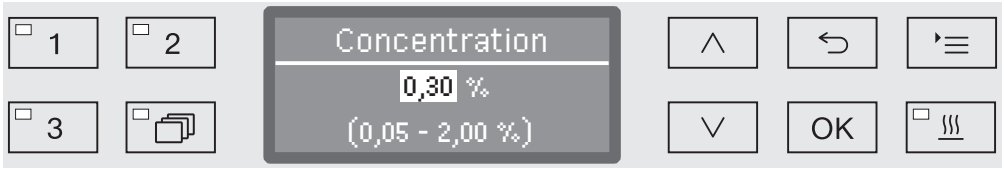
Button ☰

▸ Additional settings

▸ Dispensing system

▸ DOS_

▸ Concentration



Dispensing concentration can be adjusted in increments of 0.01. The possible range is shown in the bottom line of the display.

- Set the concentration using the arrow buttons ∧ (higher) and ∨ (lower).
- Press *OK* to save the setting.

Renaming a dispensing system

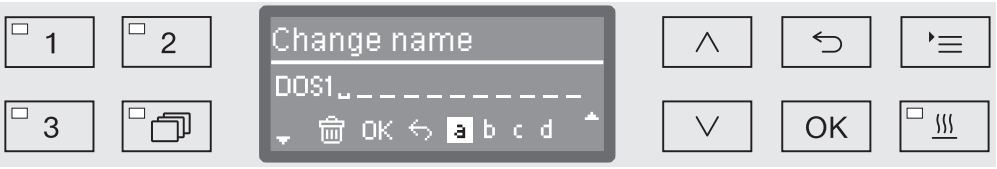
If required the name of the dispensing system "DOS1" etc. can be extended to include additional information e.g. "DOS1 cleaning agent". The name "DOS" and the accompanying number cannot be changed.

Document all changes of factory settings in case of a subsequent Service call.

If the option

– Change name

has been selected, the display changes to the following view:



The current name is shown on the second line of the display. This can be changed using the options shown in the bottom line. The top line shows which option has been selected from the bottom line.

Names may consist of up to 15 characters including spaces. The following options are available:

– Letters from A to Z,
each new word will start with a capital letter.

– Numbers from 0 to 9.

– Space ␣.

– Use the 🗑 symbol to delete the last position.

– The name is saved when the OK symbol in the display is selected. The display will then revert to the initial menu.

– The ⮌ symbol in the display or the ⮌ button end the process without saving the name change. The display reverts to the initial menu.

■ Use the arrow buttons ∧ (right) and ∨ (left) to move the cursor to the option you require.

■ Confirm each entry with *OK*.

Test program

Various programs are available for monitoring cleaning performance in routine testing.

See "Maintenance" for more information on these programs.

Interface

With Miele washer-disinfectors, cleaning processes can be documented. To enable this, Miele washer-disinfectors are equipped with a module slot on the back to take a Miele communication module. The communication module is available from Miele. The modules come with their own operating instructions.

Only use devices (computers, printers, etc.) which comply with EN/IEC 60950 and CAN/CSA-C22.2 No. 60950-1 or UL 60950-1.

Contact Miele for more information on communication modules, software and suitable printers.

Ethernet

The XKM 3000 L Med communication module enables the establishment of an Ethernet interface for digital archiving of process data via external software.

The module can be connected to a WLAN network via an existing wireless access point.

RS232

An XKM RS232 10 Med communication module is required for direct connection to a report printer.
The XKM RS232 10 Med module can also be used for connection to a terminal or terminal emulator. The data are transmitted in ASCII code.

Configuring the interface

⚠ The interface must be configured only by qualified and competent persons.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Interface

– Ethernet

Configuration of an Ethernet interface.

– RS232

Configuration of a serial RS232 interface

■ Select the type of interface and confirm your selection with *OK*.

The parameters for the interface must be configured next.

Ethernet

– Module status

Connection status displayed (Active/Inactive)

– Address status

List of interface parameters, e.g. IP address, Subnet mask etc.

– DHCP

The Ethernet interface can either be implemented via a Dynamic Host Configuration Protocol (DHCP) or by setting the following parameters:

– IP address
– Subnet mask
– Standard gateway
– DNS Server - automatic
– DNS Server 1
– DNS Server 2
– Port type
– Port

RS-232

– Print reports

Subsequent selection of cycle reports (see "Process documentation").

– Language

Any one of the following languages can be set for the RS232 interface:
German, English (GB), French, Italian, Spanish, Portuguese, Swedish or Russian.

– Mode

– Terminal

Connection to a terminal or terminal emulator.
Cyrillic characters are not available as ASCII code. When Russian is selected as the language, the information appears in English (GB).

– Printer

Connection to protocol printer

– Baud rate

Transfer speed of the interface.

– 2400, 9600, 19200, 38400, 57600, 115200.

– Parity

Ensuring data transmission. The parity of the sender and receiver must match.

– none, even, odd.

Following parameters are preconfigured:

Baud rate	9600
Bit	8
Parity	none
Stop bits	1

Water hardness

You can use this menu to set the water softener to the water hardness of the mains supply.

For more information see "Water softener".

Display: Temperature

The wash cabinet temperature can be viewed during a program. Either the current actual temperature or the required temperature which has been preset for the current wash block is displayed.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Display view

– Actual temperature

Display the current actual temperature in the wash cabinet.

– Required temperature

Display the required temperature which has been preset for the current wash block. If a temperature has not been set, a dotted line --- is shown.

During a program both settings are displayed as Temperature. There is no breakdown of actual and required temperature.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

Display: brightness and contrast

You can use this menu to adjust the brightness and contrast of the display.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Display

– Contrast

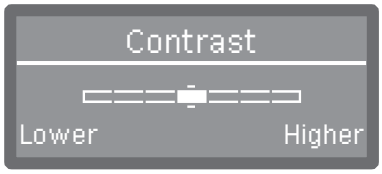
Set the contrast.

– Brightness

Set the brightness.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Confirm your selection with *OK*.



Contrast and brightness are shown as a bar chart in the display.

■ Use the arrow buttons ∧ (Higher/Brighter) and ∨ (Lower/Darker) to set the brightness and contrast you want.

■ Press *OK* to save the setting.

Switch off after

If the machine has not been used for a specific time period, it can be set to standby or switched off automatically.

Ready for operation (standby)

During standby, the machine remains switched on and the time is shown on the display. Pressing any button reactivates the machine.

- To activate standby, the Auto-Off function must be enabled under Additional settings/Switch off after and a standby time set.
- In addition, an option to display the time of day must be selected in Settings ⚑/Time of day/Display.

Once the set standby time elapses, the machine is activated for use.

Auto-Off function

To save energy, the Auto-Off function can be activated. If the machine has not been used for a specific time period, it switches itself off automatically.

- To activate the Auto-Off function, it must first be enabled under Additional settings/Switch off after and a standby time set.
- Then, the option Do not displaymust be selected under Settings ⚑/ Time of day/Display.

After the standby time has elapsed, the machine switches off automatically.

- Use the ⏻ button to switch the machine on again.

Switching off after activating

■ Open the menu as follows:

Button ‣≡

‣ Additional settings

‣ Switch off after

– Yes

The Auto-Off function is activated. A duration must be set after which automatic switch-off should occur.

– No

The Auto-Off function is deactivated.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

Setting the standby duration

If the Yes option has been selected, the standby duration after which automatic switch-off should occur must be set next.

The standby duration can be adjusted in 5 minute increments. The possible range is shown in the bottom line of the display.

■ Use the ∧ (higher) and ∨ (lower) arrow buttons to set the standby duration.

■ Press *OK* to save the setting.

Factory default

All parameters which have been altered can be reset to their default settings. Control parameters and program settings are reset separately.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Factory default

▸ Reset

– No

Altered parameters are maintained.

– Program settings only

All program settings are reset.

Programs saved on free memory locations remain unchanged.

– All settings

All control parameters including dispensing quantities and water hardness will be reset.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Confirm your selection with *OK*.

The machine is restarted.

All settings

When All settings is selected and the machine is restarted, you will be prompted to re-enter basic parameters such as the language, date, time, water hardness, etc.

■ Enter the language, date, time, and so on.

When the last entry is made, all the parameters are saved and the factory default settings have been reset. The display changes and shows the last selected program.

Software version

You can use this menu to call up the software versions of individual elements, e.g. when contacting Miele Service.

For more information see "Service".

Adjusting program settings

The program settings should be adjusted to suit technical requirements and the load.

Additional specialist knowledge is required to alter program settings and this should therefore be undertaken only by experienced users or by Miele Service.

Changing program parameters on a validated machine will necessitate a renewed performance validation.

Program structure

Each program is subdivided into program blocks which run one after another. A program consists of at least one and a maximum of 11 program blocks. Each block can occur only once in a program.

The so-called program header is placed above the program blocks and contains general program settings. Individual wash block parameters are also globally activated or deactivated here.

Program header

– Spray arm monitoring

  It is possible to monitor spray arm rotation in selected wash blocks.

– Water volume change

  The water intake quantity can be increased or reduced in each program. The setting is then valid for all program blocks including water intake.

– Drainage time

  If the on-site drainage system is insufficient to drain the waste water from the wash cabinet within the time allocated, the drainage time can be increased.

Program settings

Program blocks

Wash block sequence is predefined and is the same as in the program chart (see "Program chart").

– Pre-wash 1 to 3

  Pre-washing removes coarse soiling and foam-building substances.

– Main wash 1 and 2

  Depending on the wash load, cleaning generally occurs at temperatures between 50°C and 85°C (104 - 140°F) with the addition of an appropriate cleaning detergents.

– Rinse 1 to 4

  In the interim rinse stages the process chemicals from the previous wash blocks are rinsed away and neutralized by the addition of neutralizing agents.

– Final rinse 1 to 2

  To avoid deposits on the wash load demineralized water (DI) should preferably be used if available for the final rinse.

– Drying

  Adequate drying reduces the residual moisture on the load.

Opening the menu

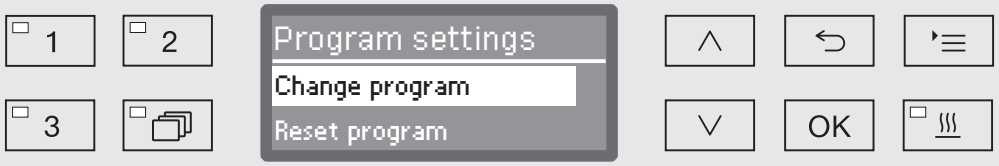
The menu for program settings is locked for users by factory default. If required this can be released by Miele Service.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Program settings



– Change program

Programs can be adapted to suit specific technical requirements.

– Reset program

Reset a program to factory default settings. Programs newly installed by Miele Service will be deleted with this option.

Resetting a program

Programs can be individually reset to factory default.

Programs stored on a free memory location are irretrievably deleted.

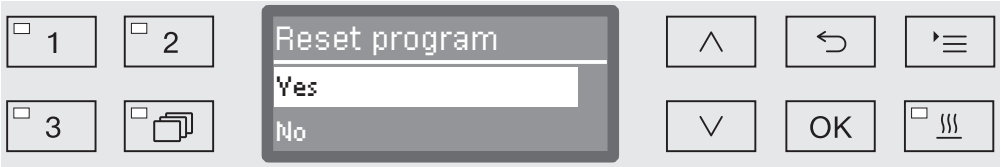
...

▸ Program settings

▸ Reset program

All programs are then listed in the display.

■ Use the ∧ and ∨ arrow buttons to select the program and confirm your selection with *OK*.



– Yes

The program will be reset to factory default.

– No

Program parameters will not be changed.

■ Use the ∧ and ∨ arrow buttons to select an option and confirm your selection with *OK*.

Altering a program

You can alter all parameters which are identified as changeable in the program charts. Other settings can only be altered by Miele Service.

A program setting is altered in two steps:

– First the wash blocks must be reallocated to the program or the existing allocation confirmed again. Only allocated program blocks can be parameterized.

– Then the program parameters can be altered.

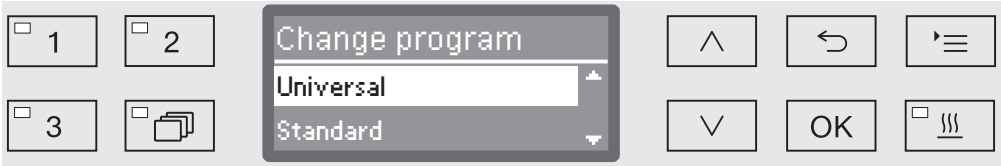
Document all changes of factory settings in case of a subsequent Service call.

Changing program parameters on a validated machine will necessitate a renewed performance validation.

...

▸ Program settings

▸ Change program



■ Select the program you want to alter.

For more information see "Allocating wash blocks".

Allocating wash blocks

For every program change the wash blocks must first be allocated.

Allocation is by multiple choice. A box is shown next to all wash blocks in the display. If a wash block is allocated to the program, there is a tick ☑ in the box. This wash block is allocated to the program by ticking the box or the allocation can be removed by removing the tick.

- The wash blocks can be selected or deselected using the ∧ and ∨ arrow buttons and confirming with *OK*.
- To save the selection, select the Accept option at the end of the list and confirm with *OK*.
- If you want to adopt the preset wash blocks without any changes, you can confirm the Accept option immediately with *OK*.

The further setting options will then follow. You can edit these in any order you want.

Spray arm monitoring

The cleaning result depends on the wash water reaching all surfaces and cavities of the wash load. To do this the wash water is distributed throughout the wash chamber by the rotation of the machine, basket and cart spray arms.

It is possible to monitor the rotation speed of the spray arms during a program.

The rotation speed is determined using special magnetic spray arms. The sensors of this machine cannot detect the magnetic spray arms of older basket and mobile unit models and therefore these cannot be monitored.

If the rotational speed detected is not within a preset range, this is an indication of blockage due to loading errors or build-up of foam in the water circulation system.

The rotation speed range depends on the area of application, the program and the wash cart or basket used.

Switching on spray arm monitoring

Spray arm monitoring is switched on and off for all wash blocks.

...

▸ Spray arm monitoring

– Off

Spray arm monitoring is switched off.

– Off for basket

Only the machine spray arms are monitored. The sensors for the basket and cart spray arms are deactivated.

– On

All spray arms are monitored.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

The action desired at different spray arm rotational speeds is set in each wash block.

...

▸ Select wash block, e.g.: Main wash 1

▸ Spray arm monitoring

– On -> Stop

A program in operation is interrupted if the rotational speed deviates. The interruption is shown on the display and noted in the cycle report.

– On -> Warning

The program continues to run normally if the rotational speed deviates. Only a message appears on the display and the deviation is noted in the cycle report.

– Off

No message appears and the program continues to run normally.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

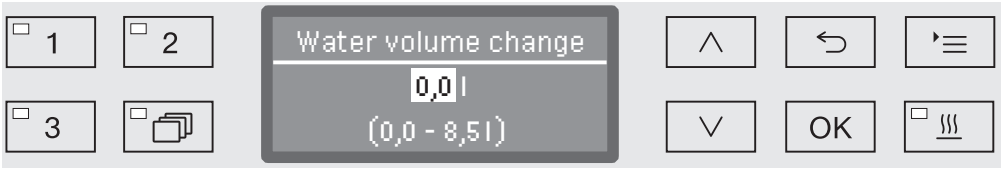
Changing water quantity

Increasing the water level is advisable if a large amount of water clings to items due to the structure of the wash load or if a heavy build-up of foam might occur due to the type of soiling (e.g. blood) and the process chemicals used. The additional amount of water required depends on the type of basket or wash cart used, the type of soiling and the load.

If a lightly soiled load is being reprocessed which does not hold much water, the amount of water can be reset to the factory default amount to save water and energy.

...

▸ Water volume change



The water quantity can be increased in 0.5 l increments, or set back to the factory default amount. The possible range is shown in the bottom line. The setting "0 l" equates to the factory default setting.

- Use the arrow buttons ∧ (higher) and ∨ (lower) to alter the water quantity.
- Press *OK* to save the setting.

Increasing drainage time

If there is still water remaining in the wash cabinet at the end of a wash block, because e.g. the on-site drainage system is inadequate, the following error message will be displayed to enable water to be drained out of the wash cabinet within the designated time:

In this case, the drainage time can be increased.

...

▸ Drainage time

– Standard

The standard drainage time setting applies.

– Extended

Drainage time is increased by a strictly preset increment. Program duration will increase with this setting.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

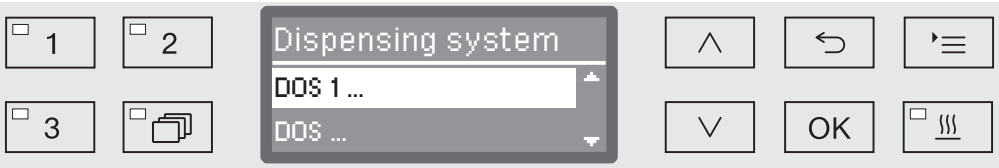
Setting the concentration level

Up to two process chemicals can be dispensed in each wash block. It is also possible to use the same dispensing system twice.

...

▸ Dosage 1 or Dosage 2

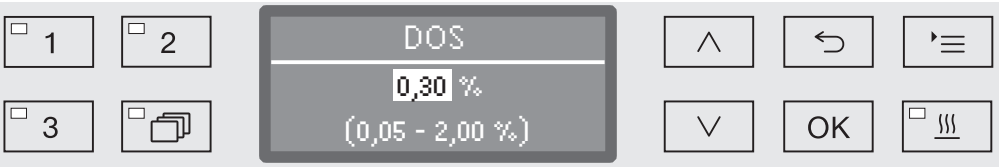
▸ Dispensing system



The number of dispensing systems can vary according to model and the number of connected DOS modules.

- Select an option using the ∧ and ∨ arrow buttons and save your choice with *OK*.

Then you can set the dispensing concentration in % (percent).



Adjustment is in 0.01% increments. The possible range is shown in the bottom line. Please observe the concentration recommendations of the process chemicals manufacturer.

- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the dispensing concentration.
- Press *OK* to save the setting.

Set wash block temperature

The wash block temperature is reached by heating up the wash water. The temperature must be suited to the requirements of the task.

At temperatures over 55°C, protein denaturing occurs which can cause the soiling to fix.
Infection prevention requirements must be observed as appropriate.

...

▸ Wash block temperature

– Without heating

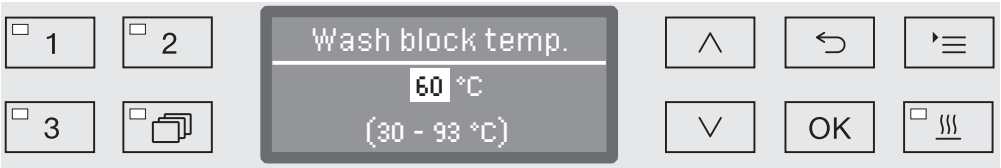
The wash water is not heated up. The temperature in the wash cabinet is the result of the temperature of the previous wash block and the the incoming tap water temperature.

– Set

Setting a wash block temperature.

- Select an option using the ∧ and ∨ arrow buttons.
- Press *OK* to save the setting.

When Set is selected the wash block temperature must then be entered.



Adjustment is in increments of 1. The possible range is shown in the bottom line.

Dispensing of process chemicals occurs at a default dispensing temperature set at the factory. If process chemicals are to be dispensed in this wash block, the lowest temperature that can be set will be the dispensing temperature. It is not possible to set a lower value.

- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the wash block temperature.
- Press *OK* to save the setting.

Setting the holding time

The holding time is the duration in which the wash block temperature is kept constant.

...

▸ Holding time

The duration can be set in 1 minute increments. The possible range is shown in the bottom line.

If process chemicals are to be dispensed in this wash block, the holding time will equal at least to the dispensing (DOS) contact time. It is not possible to set a lower value.

- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the holding time.
- Press *OK* to save the setting.

Drying assistance

The additional "Drying assistance" function accelerates the drying process at the end of the program.

If drying assistance has been activated, the door will automatically open a few centimetres at the end of the program to release steam from the cabinet. The load will then be dried using passive heat given off by the residual heat in the cabinet.

Wash chamber cool down phase

A cool down pause follows the wash phase. During this pause, water vapor is extracted from the wash chamber and condensed by the steam condenser. This reduces the moisture level in the wash chamber, which promotes drying. In addition, this cools the wash chamber slightly.

...

▸ Cabinet cooling down time

The setting value is entered in increments of 1 minute. The possible range is shown in the bottom line of the display.

- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the cooling down duration.
- Press *OK* to save the setting.

Drying time

After the cool down time, the comfort door closing aid opens the door slightly to allow the moisture and heat remaining in the wash chamber to dissipate. At this point, the door is unlocked and can be opened at any time. After the drying time elapses, the message Program finished appears on the display. Opening the door before the drying time elapses ends the program prematurely.

...

▸ Drying time

The setting value is entered in increments of 1 minute. The possible range is shown in the bottom line of the display.

- Use the arrow buttons ∧ (higher) and ∨ (lower) to set the drying time.
- Press *OK* to save the setting.

Documenting processes

Processes are documented per cycle. Required and actual values are always recorded.

During a program sequence the following data is recorded, among other things:

- Machine type and serial no.
- Date
- Program start and program name
- Cycle number,
- Blocks used
- Dispensing system, dispensing temperature and required dispensing quantity
- Required values for temperatures and exposure times
- Maximum and minimum temperature during exposure time
- Wash pressure measuring results
- All error messages
- End of program
- System messages, e.g. refill salt

Further data can be incorporated into the report as required. Contact Miele for more information on this.

Memory

Depending on scale, between 10 and max. 20 cycle reports are stored in an internal power failure safe memory within the machine. In the event of e.g. network or printer problems these can be subsequently recalled. If the memory is full, the oldest report is overwritten.

Raw data for a graphic output of process data from the last program is also stored. These can be converted into graphics by external documentation software. The transmission of raw data requires an Ethernet interface. Graphic representations in the display or as output to a directly connected printer are not possible. There is no power failure safe memory for graphic information.

Adding cycle number

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

Communication module for external archiving

A module slot is integrated into the back of the machine for a Miele communication module for permanent archiving of cycle reports. The module enables the installation of an Ethernet interface for documentation using documentation software or an RS-232 interface for connection to a report printer.

Please contact Miele for further information on software for process documentation and suitable printers.

Only use devices (computers, printers, etc.) which comply with EN/IEC 60950 and CAN/CSA-C22.2 No. 60950-1 or UL 60950-1.

The communication modules are available from Miele as an accessory and can be retrofitted at any time. The modules are supplied with their own installation instructions.
The interface must be configured only by qualified and competent persons. Follow the instructions in "Further settings/Interface".

Process documentation using external software (option)

For digital archiving the process data is transmitted to external process documentation software via an Ethernet interface.
Transmission can optionally occur continuously during the process or as a single data packet at the end of the process. The settings for this are modified by Miele Service.

Information on wash pressure, A_0 value, conductivity and temperature in the wash cabinet can be archived graphically if required.

Installation of an Ethernet interface requires the retrospective fitting of an XKM 3000 L Med communication module.
For connection to a WLAN network the module can be connected via a cable to an existing wireless access point.

Problems with data transmission

If there is a network problem during a running process, e.g. due to a loose cable, a relevant fault message is displayed.

The process running will be continued without interruption and the process data will be saved in the meantime in the internal memory.

In the event of network or report software problems contact your system or network administrator.

Process documentation using a report printer (option)

Process reports are printed via a directly connected report printer and archived on paper. Graphic representations are not included. An XKM RS232 10 Med communication module is required for direct connection.

Report formats

You can choose from two different report formats for paper archiving:

– In long format all recorded data is included.

– Short format includes only selected parameters.

The report format has no effect on the data stored in the machine. All the data required for a long report is stored, so the report format can be changed for each new cycle.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Report

– Short

Print in short format

– Long

Print in long format

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to save the setting.

Retrospective output of cycle reports

Internally stored reports can be output retrospectively from the machine.

External software

Data can be retrieved directly via the process documentation software using an existing network connection. It is not necessary to input entries at the machine itself.

Report printer

The following options are available for printing reports retrospectively.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Interface

▸ RS232

▸ Print reports

– Last report

Output of the last cycle report.

– Current work day

Output of all cycle reports for the current working day.

– Last working day

Output of all cycle reports for the previous working day.

– All

Output of all saved reports.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Data transmission is started by pressing the *OK* button.

Data transmission runs in the background so the machine can go on being used.

Service

The machine should be serviced **every 1000 hours of operation, or at least once a year** by Miele Service.

Maintenance covers the following:

– electrical integrity

– Door mechanism and door seal

– Any screw connections and connectors in 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 wash carts, baskets, inserts, and modules

– Steam condenser

– Wash pressure sensor

If there is a communication module:

– Connected printer

– Network connection

External documentation software and the computer network will not be tested by Miele.

The following operational tests will be carried out within the framework of the maintenance:

– A program test run

– Seals will be tested for water tightness

– All relevant measuring systems will be safety tested, including fault displays, thermo electrical measurements will be taken

– Safety features

Routine checks

Before each day's use, the operator must conduct a series of routine checks. A routine checklist is supplied with the machine.

The following items must be checked:

– All filters in the wash cabinet

– The spray arms in the machine and on any wash carts or baskets

– The wash cabinet and the door seal

– The dispensing systems and

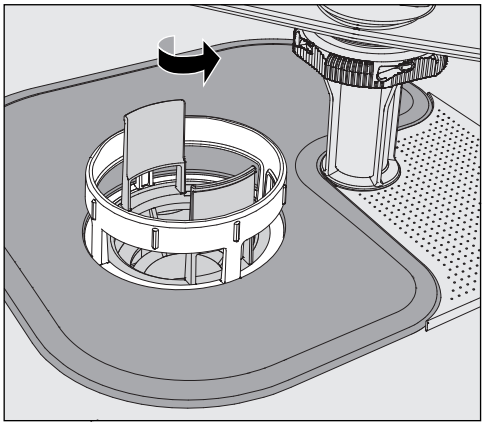
– All wash carts, baskets, inserts, and modules.

Cleaning the filters in the wash cabinet

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

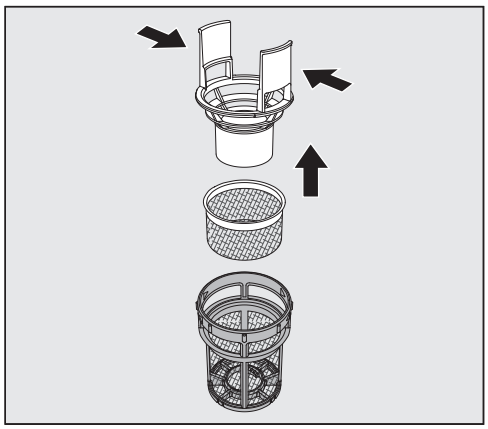
⚠ This machine must not be used without all the filters in place.

In the controls, it is possible to set a cleaning interval for the filters in the wash chamber, see "Settings ⚑/Filter maintenance".
The cleaning interval is not a substitute for the daily routine check of the filters in the wash chamber!

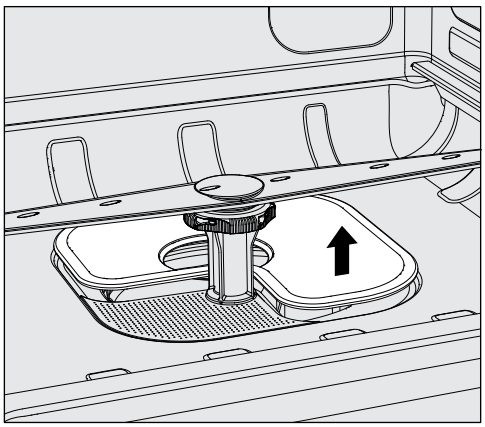


⚠ Danger of injury from glass shards, needles etc. which are retained in the filters.

■ Turn the microfine filter 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 upwards 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. Ensure ...

– ... that the flat filter sits flat in the base of the wash chamber.

– ... that the coarse filter has securely clicked into place in the microfine filter.

– ... that the microfine filter is tightly screwed in as far as it will go.

If a cleaning interval was set for the filters in the wash chamber, this interval must be reset after cleaning; see "Settings ⚑/Filter maintenance.

Cleaning the spray arms

The spray arms 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 fluid circulation.

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

- To do this remove the wash carts and the baskets.
- Visually check the spray arms for soiling and blocked jets.
- 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

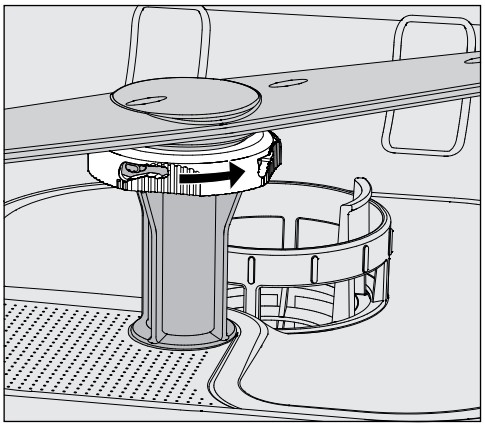
The spray arms in the machine as well as in the wash carts and baskets must be fully dismantled for cleaning:

- Remove the wash cart or baskets from the machine.

The upper spray arm of the machine is connected by a push-fit connector.

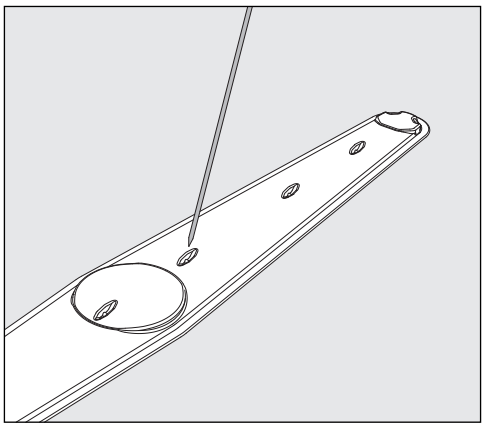
- Pull the upper spray arm of the machine downwards to remove it.

The lower spray arm of the machine and the spray arms in the wash carts and baskets are secured with bayonet fittings.



- To release the knurled bayonet fittings, turn them in the direction of the arrow as far as they will go.
- Then the spray arms can be removed by pulling them upwards or downwards.

Wash cart and basket spray arms with knurled nuts:
The spray arms of older types of wash carts and baskets are secured with knurled nuts. These must be unscrewed and the spray arms pulled downwards to remove them.
Metal knurled nuts have a left-hand thread.
Ceramic knurled nuts have a right-hand thread.



- 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 stick to the magnets on the spray arms.
Any metallic objects on the magnets can cause a false reading of spray arm rotation speed.
Remove all metallic 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 freely after they have been fitted.

The spray arms and baskets each have a number e.g. 03, which is also embossed on the water supply pipes near the bayonet fittings. When refitting, ensure that the numbers on the spray arms correspond with the numbers on the water supply pipes.

Cleaning the machine

⚠ Never clean the machine or surrounding area 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.

Cleaning the control panel

Do not use any abrasive materials or general-purpose cleaners to clean the control panel.
These can cause considerable damage to the glass and plastic surfaces and to the onset control buttons.

- Clean the control panel with a damp cloth and a solution of dishwashing liquid or with a non-abrasive stainless steel cleaner.
- Proprietary glass or plastic cleaning agents can also be used to clean the display.
- For surface disinfection only use low-level surface disinfectants. Do not use high-level disinfectants such as Hydrogen Peroxide and Paracetic Acid.

Cleaning the door and the door seal

- Wipe the door seal regularly with a damp cloth to remove soiling. Have damaged or leaking door seals replaced 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 largely self-cleaning. However, if deposits should start to build up, contact Miele Service.

Cleaning the front

- To clean the stainless steel front, use a damp cloth with a solution of dishwashing liquid and hot water, or with a non-abrasive cleaning agent for use on stainless steel. For surface disinfection only use low-level disinfectants. Do not use high-level disinfectants such as Hydrogen Peroxide and Paracetic Acid.

Preventing re-soiling

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

Checking wash carts, baskets, modules and inserts

Wash carts, baskets, modules and inserts should be checked daily to make sure they are functioning correctly. The machine is supplied with a check list.

Check the following points:

– Are the wash cart or basket rollers in good condition, and are they securely attached to their wash carts or baskets?

– Are the water connectors present and undamaged?

– Are height-adjustable water connectors adjusted to the correct height and securely fixed?

– Are all injector nozzles, irrigation sleeves and hose adaptors securely attached to wash cart, basket or module?

– Are all injector nozzles, sleeves, and hose adapters clear so that wash fluid can flow through unhindered?

– Are all caps, covers, and fasteners securely attached to the spray sleeves?

– Are end caps present and securely located for all modules and injector manifolds?

– Are the locking caps in the water connectors of wash carts and baskets working properly?

Where applicable:

– Do the spray arms rotate freely?

– Are the spray jets blocked? See the section on "Cleaning the spray arms".

– Are the magnets integrated into the spray arms free of any metallic objects sticking to them?

– Need the tubular filters to be cleaned or filter plates, e.g. in an E 478/1, to be replaced?

Maintenance of wash carts, baskets, modules and inserts

The machine should be serviced **every 1000 hours of operation, or at least once a year** by Miele Service.

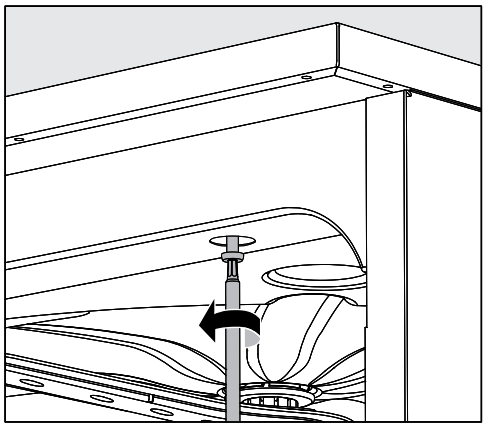
Performance check

Adequate processing performance must be regularly confirmed by the user.

Test point for measuring sensors

The sensor test point for validation is located at the front right on the top of the machine under 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.



- Unscrew the retaining screws.
- Then remove the safety screws on the back of the machine from the **lid** and lift the **lid** to remove it.

Or

- Pull the machine out by approx. 6" (15 cm) from under the **countertop**.

Test programs

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

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

After the time period elapses, the program sequence continues automatically. 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.

The following test programs can be selected:

– Laboratory

  The program sequence can be paused in each wash block immediately before the wash fluid is drained away.

– Validation

  The program sequence is interrupted at the following points:

  – before the chamber washer solution is drained away in the final wash block,
  – after the interim rinse before the chamber washer solution is drained away, and
  – after water intake and before draining in the final rinse block.

Activating a test program

Test programs are valid for only one program sequence each time. A test program must be selected again for further tests.

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Test program

– No

The menu is exited without selecting a program.

– Laboratory

Activates the Laboratory test program.

– Validation

Activates the Validation test program.

■ Select an option using the ∧ and ∨ arrow buttons.

■ Press *OK* to activate the test program for the next program start.

You can now start the performance test.

■ Select and start a program using the program selection buttons or via the program list.

The program will be identified in the bottom line as Test program during the program sequence.

If you want to deactivate the test program before the performance test you need to go to the next menu level up and select the No option.

Problem solving guide

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

⚠ Repairs may only be carried out by Miele Service.
Repairs and other work by unqualified persons could be dangerous for the user.

To avoid unnecessary service call-outs, check that the fault has not been caused by incorrect operation when an error message first appears.

Technical faults and messages

Problem	Possible cause and remedy
The display is dark and all LEDs are out.	The machine is not switched on. ■ Switch the machine on using the ⏻ button.
	A breaker is defective or has tripped ■ Refer to the minimum fuse rating on the data plate. ■ Reset the trip switch. ■ If the mains breaker trips again, call Miele Service.
	The machine is not plugged in. ■ Insert the plug.
The machine has switched itself off.	This is not a fault. The Auto-Off function switches the machine off automatically after a pre-set duration to save energy. ■ Switch the machine on again using the ⏻ button.
The time appears on the display.	This is not a fault. The machine is ready for use. ■ Press any button to reactivate the machine.
Power failure during operation	If a temporary power failure occurs during a program cycle, no action is required. The program which was running continues from the point of interruption. If the temperature in the wash cabinets falls below a minimum valie required for the program block at the time of the power failure, the program block is repeated. When a power failure lasts ≥ 20 hours, the entire program will be repeated. Each power failure is being documented in the process documentation.
Next service due on:	This is not a fault. Miele Service has recommended a date for the next service visit. ■ Please contact the Miele Service Department to arrange a service visit.

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 remedy
Refill DOS	During a program sequence a low level of liquid process chemical in a container has been identified. ■ Replace the empty container with a full one.
Prog. start not possible. Prime dispenser pump DOS	A program cannot be started because ... ... there is air in the dispensing system. ... the dispensing system has been sucked completely dry. ■ Check the fill level in the supply container. Replace the empty container with a full one if needed. ■ Vent the dispensing system.
Dispensing system DOS priming	This is not a fault. The dispensing system will now be automatically vented. Wait until the venting process is finished.
Priming DOS canceled. Priming must be repeated	Priming of the dispensing system was canceled because an insufficient flow rate was identified. A dispensing hose may be kinked or the siphon blocked. ■ Check the dispensing hose for kinks and leaks. Position it so that it cannot become kinked. ■ Check the suction opening of the siphon for blockages and remove them as necessary. ■ Start the priming process again.
	Contact Miele Service if there are leaks in the dispensing hose or a fault with the suction lance.

Problem	Possible cause and remedy
Check container/lance DOS	Little or no flow has been identified. ■ Check the level in the supply container. Replace an empty container with a full one, if necessary. ■ Check the suction aperture of the suction lance for deposits. ■ Prime the dispensing system.
	The dispensing hose is kinked. ■ Remove any kinks from the dispensing hose. Position it so that it cannot become kinked. ■ Check the dispensing hose for leaks. ■ Prime the dispensing system.
	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 dispenser monitoring and lead to inaccurate data. In this instance please contact Miele Professional Service for advice.

Insufficient salt/water softener

Problem	Possible cause and remedy
Refill salt	Salt is running low in the water softener. ■ Refill the reactivation salt before starting the next program.
Machine locking soon Insufficient salt	Salt in the water softener is completely used up and reactivation is no longer possible. The machine is locked for further use. ■ Refill with reactivation salt.
Salt container empty, Program locked	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 few seconds after the salt reservoir is refilled. Reactivation will occur automatically during the next program sequence.
Salt container lid not closed correctly	The salt container is not closed properly. ■ Close the container properly.
	Salt residues are preventing it from closing. ■ Remove the residues from the refilling funnel, the lid and the seal. **Do not use** running water as this can cause the salt container to overflow. ■ Close the container properly.
	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.

Cancel with fault code

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

In the event of a program being cancelled and a fault number being shown:

- Switch the machine off using the ⏻ button.
- Wait approximately 10 seconds before switching the machine on again with the ⏻ button.
- Acknowledge the fault code by entering your PIN code.
- Start the previously selected program again.

If the same message appears again:

- Make a note of the fault message.
- Switch the machine off using the ⏻ button.
- Contact Miele Professional Service.

Please also read the notes regarding the following fault numbers:

Problem	Possible cause and remedy
Fault 403-405	A program has been canceled because water intake by the machine was insufficient or severely restricted. ■ Turn on the faucets fully. ■ Follow the further information provided in the Check water intake message.
Fault 406-408	A program was canceled because the water inlet volume is insufficient. ■ Check whether the faucets are fully turned on. ■ Refer to the information regarding minimum flow pressure in "Connection to the water supply" and "Technical data." ■ Check the filter in the water inlet. ■ Contact Miele Technical Service for advice.
Fault 412-414	A program was canceled because the water intake volume is too high. ■ Refer to the information regarding recommended maximum flow pressure and maximum permitted static water pressure in "Connection to the water supply" and "Technical data." ■ Contact Miele Technical Service for advice.
Fault 433	Protruding wash load items or other objects are preventing the door from being closed properly by the Comfort lock. ■ Remove all objects and sort the wash load so that it does not obstruct the door. ■ Close the door.

Problem	Possible cause and remedy
Fault 440	The float switch in the base of the machine has not been activated. The switch might be blocked. ■ Remove the filter combination. ■ Check the float switch to make sure it moves freely. The float switch is located in the base of the machine behind the spray arm.
Fault 460-462	A program was interrupted due to the spray arm speed dropping below the set value because: - items are obstructing the machine or basket spray arms. ■ Arrange the load so that the spray arms can turn easily and start the program again. - wash pressure is too low due to a heavy build-up of foam. ■ Follow the instructions regarding foam build-up in "Chemical processes and technology".
Fault 492, 504	A programme has been cancelled because there is not enough water pressure. The filters in the wash chamber may be blocked. ⚠ Danger of injury from glass shards, needles etc. which are retained in the filters. ■ Check and clean the filters in the wash chamber (see "Maintenance/Cleaning the filters in the wash chamber").
Fault 518-521	No flow was detected when dispensing from an external supply container. ⚠ 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. ■ Check the level in the containers and replace empty ones with filled ones. ■ Check the suction openings of the suction lance and remove any deposits. ■ Check the hose connections on the suction lance, the machine and any DOS modules. ■ 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 system.
	If you identify any leaks in the dispensing hoses or defects on the suction lances contact Miele Service.

Problem solving guide

Problem	Possible cause and remedy
Fault 526	The supply pressure has dropped below the minimum value. - The water pressure is too low due to a heavy build-up of foam. Spilled rinse aid may not have been cleaned up after being added. ■ Follow the instructions regarding foam build-up in "Chemical processes and technology". ■ Start the Rinse program to clean the wash chamber. - The carriers were loaded incorrectly or overloaded. ■ Use only carts, baskets, modules and inserts suitable for the particular application. ■ Arrange hollow or deep-sided wash load items so that water runs off them freely. - The water lines are clogged or leaking. ■ Check and clean the filters in the wash chamber and spray arms. ■ Check the injector bars for possible leaks, e.g.: – Are all caps and end caps in place? – Are all connections fitted with nozzles, irrigation sleeves, hose adapters or other washing attachments? – Are installed silicone hoses undamaged? ■ Check the washer's water connectors in the back panel of the wash cabinet to ensure that they are attached tightly and remove any blockages. - The amount of water may be insufficient for the application. ■ Increase the amount of water (see "Program settings"). If necessary, consult Miele Professional Service.
Fault 550	The waterproof system has been activated. There might be a leak in one of the water inlet hoses. ■ Close the water taps. ■ Contact Miele Professional Service.
Fault 555	Too much water has accumulated in the steam condenser. ■ Restart the machine. Excess water is pumped out automatically.

Problem	Possible cause and remedy
Fault 559	There is a problem with the process documentation interface. The machine has detected a module for an Ethernet interface, but only a serial interface is activated in the controls (RS232). Deactivate the RS232 interface: ■ Open the menu for configuring the interface Additional settings/Interface and then select Ethernet. ■ Wait approx. 90 seconds. The Ethernet module XKM 3000 L Med needs this time for initialization. It may be necessary to reconfigure the interface. Or ■ Replace the Ethernet module XKM 3000 L Med with a XKM RS232 10 Med module to set up a serial interface.
Fault 578	The peak-load cut-out has lasted longer than 3 hours. ■ Have your electrical system and your energy management system tested by a suitably qualified person.

Process-related faults and messages

Problem	Possible cause and remedy
Drying during program deactivated	Drying cannot be selected at the start of a program because drying is not available for the selected program. ■ Start the program without drying. or ■ Have the drying parameters for this program adjusted by Miele Service.
Wrong code entered	The PIN code entered is not the same as the code saved. ■ Enter the PIN code again. ■ Report the loss of the PIN code to Miele Service.
Test program: Test object can now be removed	This is not a fault. A test program is running to check performance. At certain points in the program the sequence is interrupted so that samples can be taken. ■ Take a sample. or ■ Wait. The program will continue automatically in approx. 30 seconds. or ■ Continue the program without delay by pressing the *Start*/*Stop* button.
Program cancelled	This is not a fault. A program which was running was cancelled by the user. ⚠ The wash cabinet interior can be very hot. When the door is opened, hot steam and process chemicals can escape. Protective measures for personal safety must be observed.
Program continued	This is not a fault. The process of cancelling a program was not completed. The program which was running continued without interruption.
Peak load cut-out	This is not a fault. Individual components of the machine are paused while there is a peak load signal from your energy management system.
All settings reset	This is not a fault. A user has restored factory default settings. ■ Confirm the message with *OK*.
All program settings reset	This is not a fault. A user has restored the factory default setting for the program. ■ Confirm the message with *OK*.

Door

Problem	Possible cause and remedy
The door is open a fraction and cannot be closed using the ⊶ button.	This is not a fault. The Comfort door lock has opened the door slightly at the end of the program. ■ Open the door. The door can now be closed completely again using the ⊶ button.
Door not closed properly	Slamming the door can result in problems with the Comfort door lock. ■ Open and close the door.
	If the same message appears again: ■ Contact Miele Professional Service.
Warning! Cabinet hot. Open anyway?	When the ⊶ 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 necessary.
Door blocked	Protruding wash load items or objects are blocking the door, e.g. towels. ■ Remove all objects and sort the wash load so that it does not obstruct the door.
	The door seal sticks. ■ Clean the door seal.
	Heavy objects in front of the machine can impede the automatic opening of the door by the Comfort lock. ■ Do not place heavy objects in front of the door of the machine.
	The Comfort door lock is blocked. ■ Try to open the door carefully (without using force) by pulling on the door handle. If the door is still blocked: ■ Open the door using the emergency release. ■ Close the door and try to open it again using the ⊶ button. If it is still blocked: ■ Contact Miele Professional Service.

Problem	Possible cause and remedy
Obstruction sensor	Protruding wash load items or objects are blocking the door, e.g. towels. The door was closed before the door lock rail was fully retracted. ■ Open the door. ■ Remove all objects and sort the wash load so that it does not obstruct the door. ■ The door lock rail must be fully retracted before you close the door again.
Emergency release	The door was opened using the emergency release. ■ See "Opening the door using the emergency release".

Unsatisfactory cleaning and corrosion

Problem	Possible cause and remedy
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 demineralized water (DI) with a low conductivity. ■ If the machine is connected to a water demineralization cartridge, check the conductivity level and replace resins as necessary. If the machine is connected to a DI water purification system, consult the manufacturer of the purification system.
	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.

Spray arm monitoring/wash pressure

Problem	Possible cause and remedy
Spray arm monitoring - upper spray arm: Spray arm blocked or excessive foaming **or** Spray arm monitoring - lower spray arm: Spray arm blocked or excessive foaming **or** Spray arm monitoring - mobile unit spray arm 1 - : spray arm blocked or excessive foaming	The rotation speed set has not been reached. - items are obstructing the machine or basket spray arms. ■ Arrange the load so that the spray arms can turn easily and start the program again.
	- the relevant spray arm is blocked. ■ Clean the spray arm. ■ Check whether the filters in the wash cabinet are clean and correctly inserted. ■ Start the program again.
	- wash pressure is too low due to a heavy build-up of foam. ■ Follow the instructions regarding foam build-up in "Chemical processes and technology". ■ Start the Rinse program to clean the wash chamber. ■ After that, reprocess the load.
Spray pressure exceeds tolerance	The wash pressure differs from the reference value. Possible causes of fluctuations in the wash pressure include: - defective water connections, - open adapters, - foam build-up. ■ Identify and resolve the cause of this. ■ The program is not interrupted. Nevertheless, the wash load must be reprocessed.
Spray pressure fluctuating too much	A program was interrupted because of severe fluctuations in the wash pressure. Possible causes of fluctuations in the wash pressure include: - defective water connections, - open adapters, - foam build-up. ■ Identify and resolve the cause of this. ■ Reprocess the load again.

Water inlet and drainage

Problem	Possible cause and remedy
Check water intake	One or more faucets are turned off. ■ Turn on the faucets.
	There was insufficient water in the machine. ■ Clean the water intake filters. ■ Turn on the faucets fully.
	Water flow pressure is too low. Refer to the technical data. ■ Contact a qualified plumber.
Check drainage	A program was canceled because the water in the wash chamber is only being pumped away slowly or not at all. - The drain hose is blocked. ■ Remove any kinks or large loops in the drain hose. ■ Start the program again. - The filters in the wash chamber are blocked. ■ Clean the filters in the wash chamber. ⚠ Danger of injury from glass shards, needles etc. which are retained in the filters. ■ Start the program again. - The drain pump or non-return valve is blocked. ■ Clean the supply line to the drain pump and the non-return valve. ■ Start the program again. - The drainage system cannot accommodate the water because it is blocked. ■ Contact a qualified plumber.

Noises

Problem	Possible cause and remedy
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 "Cancelling a program". ■ Arrange the wash load so it cannot obstruct the spray arms. ■ Make sure the spray arms can rotate freely. ■ Re-start the program.
Rattling noise in the wash cabinet.	Items are insecure in the wash cabinet. ■ Cancel the program. To do this follow the instructions in "Cancelling a program". ■ Rearrange the load so that items are secure. ■ Re-start the program.
Knocking noise in the water pipes.	This may be caused by the on-site installation or the cross-section of the piping. It has no influence on the function of the machine. ■ Contact a suitably qualified plumber.

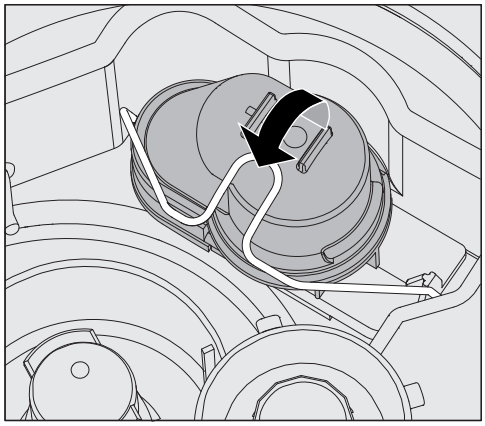
Printer/serial interface

Problem	Possible cause and remedy
Serial printer fault: no paper	The printer has run out of paper. ■ Replenish the paper.
Serial printer fault: offline	The machine cannot connect to the printer. ■ Switch the printer on. ■ Check the connection between the machine and the printer. ■ If in doubt, have the configuration of the interface checked by a qualified person. If the printer has been replaced, the printer type must be adjusted in the interface configuration.
Serial printer fault: general fault	The printer is not ready for operation. ■ Check the printer for fault messages. ■ Change the printer cartridge if necessary.
Network down	The communication module has identified a network interruption or cannot establish a connection. ■ Consult your network administrator. If the problem cannot be resolved: ■ Contact the Miele Service Department.

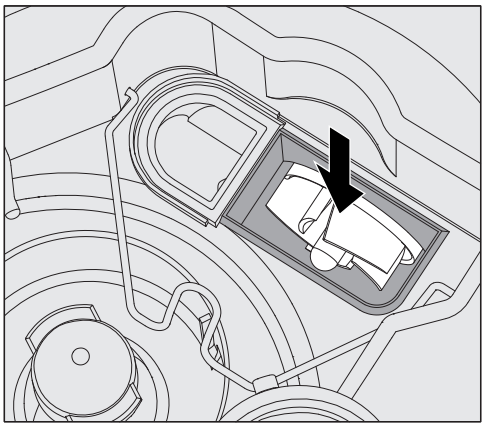
Cleaning the drain pump and non-return valve

If water has 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.

- Take the filter combination out of the wash chamber (see Maintenance/Cleaning the filters in the wash chamber").



- 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 (see arrow).

- Check the impeller for blockages and remove them if necessary before refitting the non-return valve.
- Carefully replace the non-return valve and secure it with the clamp.

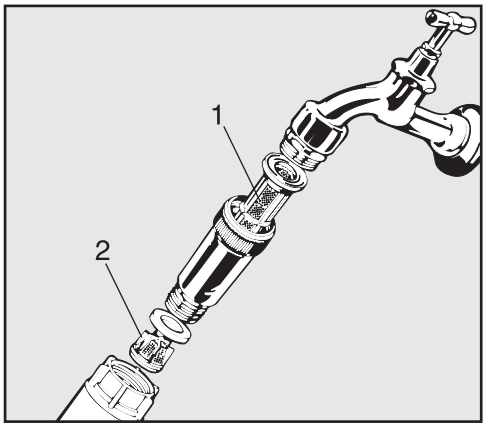
Clean the water intake filters

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 immersed in water.

To clean the filter

- Disconnect the machine from the mains (switch the machine off, unplug it or disconnect or disable the breaker).
- Turn off the tap.
- Unscrew the water inlet valve.



- Carefully pull the large surface area filter 1 out.
- Take the seal ring out of the screw connection.
- Withdraw fine filter 2 using pointed pliers.
- Clean the filters or replace them with new ones if necessary.
- Replace the filters and seals, making sure they are sitting correctly.
- Reconnect the hose to the water tap, making sure the union goes on straight and not cross-threaded.
- Turn the tap back on. If the connection leaks it might be too loose or cross-threaded. Unscrew and reconnect the water inlet valve correctly before tightening it.

Contacting Miele Service

⚠ Repairs should only be carried out by Miele Service. Unauthorized or incorrect repairs could cause personal injury or damage the machine.

To avoid unnecessary service call-outs, check that the fault has not been caused by incorrect operation when an error message first appears. Please refer to the information in "Problem solving guide".

If, having followed the advice in the operating instructions, you are still unable to resolve a problem, please call Miele Service (see the end of this booklet for contact details).

Contact details can be found at the end of this manual.

When contacting Miele Professional Service, please quote the model number and serial number of your machine. These are shown on the data plates: one on the side of the door and another on the back of the machine.

Please tell Miele Service the fault message or code shown in the display.

Software version

When contacting Miele Professional Service you may need the version number of individual components of control software. These can be called up as follows:

■ Open the menu as follows:

Button ☰

▸ Additional settings

▸ Software version

The software units are listed in the display. XXXXX stands for the relevant version number:

– EB Id: XXXXX

  Software version of the control and display units in the control panel.

– EGL Id: XXXXX

  Software version of the control board.

– EZL Id: XXXXX

  Software version of the relay board.

– EFU Id: XXXXX

  Software version of the frequency converter.

– LNG Id: XXXXX

  Language package version.

You cannot change any settings in this menu.

Software updates und upgrades may only be done by Miele Professional Service.

■ Exit the menu with the *OK* or ⮌ buttons.

Installation and levelling

Please refer to the installation diagram provided.

⚠ 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.

The machine must be stable and horizontal.

You can compensate for any unevenness in the floor level and height of the machine by adjusting the four feet. The feet can be screwed out to a maximum of 60 mm.

⚠ Do not lift the machine by protruding parts such as the control panel.
They could be damaged or torn off.

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

⚠ For transport by means of a hand truck, the machine must be in its original packaging or placed on a stable, continuous support. Otherwise, components in the base of the machine can be damaged.

The machine is suitable for the following types of installation:

– Freestanding.

– Slot-in:

  The machine can be installed beside other appliances or furniture or in a suitable niche. The niche must be at least 600 mm wide and 600 mm deep.

– Built-under:

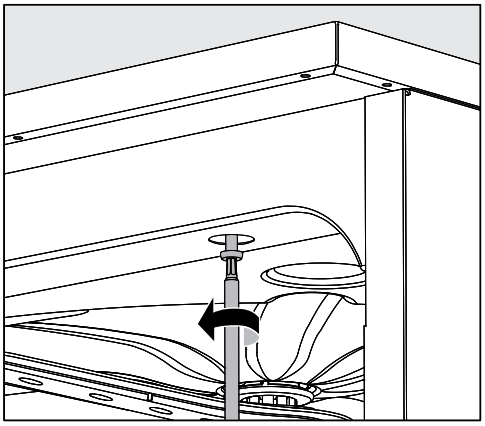
  The machine can be built under a continuous worktop. The space provided must be at least 600 mm wide, 600 mm deep and 820 mm high.

Building under a continuous worktop

Removing the lid

To build the machine under a continuous worktop the lid must be removed as follows:

- Unscrew both securing screws from the lid at the back of the machine.
- Open the door.



- Unscrew the left and right fixing screws.
- Lift the lid off.

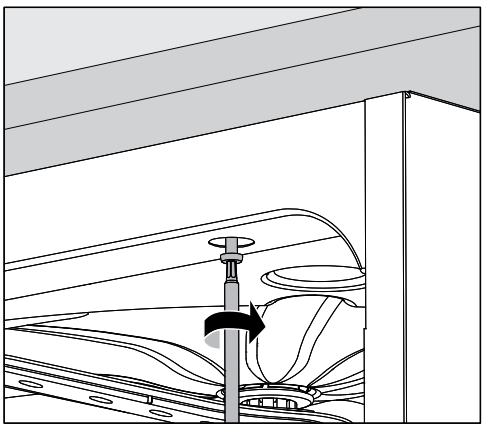
Steam condenser

To avoid steam damage to the worktop, the protective foil supplied (25 x 58 cm, self-adhesive) must be applied underneath the worktop in the area of the steam condenser.

Securing to the worktop

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

- Open the door.



- Screw the machine to the continuous worktop through the holes in the front trim on the left and right.

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

Venting the circulation pump

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

Cover plate/ Countertop protector

A cover plate/countertop protector is available from Miele and may be advisable, depending on installation location.

The cover plate protects the lower edge of the countertop from steam damage.

Electromagnetic compatibility

The machine has been tested for electromagnetic compatibility in accordance with EN 61326-1 and is suitable for operation in commercial environments, such as hospitals, medical practices and laboratories and other similar environments which are connected to the mains power supply.

The machine's HF emissions are very low and are therefore unlikely to interfere with other electronic appliances in the vicinity.

Flooring in the installation area must be wood, concrete or tiled. Synthetic flooring must be able to withstand a relative humidity level of 30 % to minimise the risk of electrostatic discharges.

The quality of the power supply should comply with that found in a typical commercial or hospital environment and should deviate from the nominal voltage by a maximum of +/- 10 %.

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

– The electrical installation must be in compliance with current local and national safety regulations.
– The plug connection must comply with national regulations, the socket must be accessible after the machine has been installed. This is to facilitate access for safety checks, for example when the machine is being commissioned or serviced.
– For hard-wired machines, connection should be made via a suitable mains switch with all-pole isolation. The contact opening between all open contacts must be at least 3 mm wide and the mains switch must be lockable in the open position.
– An equalization of the potentials should be carried out.
– For technical data, see the data plate or the attached wiring diagram!
– For increased safety, it is recommended to protect the machine with a 30 mA residual current device (RDC).
– If replacing the power cord, use only original Miele replacement parts or a suitable cord with core cable ends.

Further notes on electrical connection are given on the Installation diagram supplied with the machine.

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

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

A **data plate** can be found on the inside of the door and another on the back of the machine.

The **wiring diagram** is supplied with the machine.

WARNING

THIS APPLIANCE MUST BE GROUNDED

Equipotential bonding connection

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

Peak-load cut-out

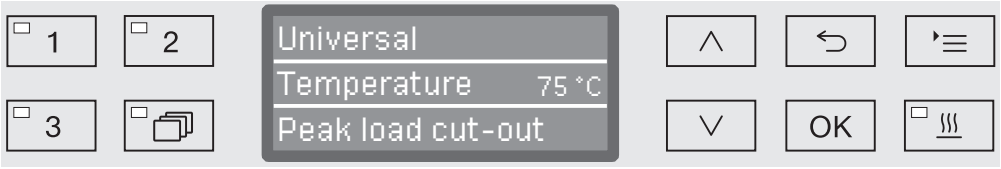
The machine is suitable for use in an energy management system. For this purpose, it must be technically adapted and the controls reset by Miele Professional Service.

Please contact Miele Professional Service for further information.

Peak-load management

In the event of a peak load cut-out, some machine components such as the heater element will be switched off for a while. The machine will remain on during this period and the current program will not be interrupted. If one of the components that is switched off is needed during the current program stage, the program duration will simply increase for the duration of the load cut-out.

The third line of the display will alert you to the peak load; for example:



Connecting the water supply

⚠ Water from the wash cabinet must not be consumed.

– The machine must be connected to the water supply in strict accordance with current local and national water authority regulations.

– The water supply must at least meet the standards for drinking water. If the water supply has a high iron content, there is a danger of corrosion occurring on stainless steel items being cleaned in the machine, as well as the machine itself. If the chloride content in the water exceeds 100 mg/l, the risk of corrosion to stainless steel items being cleaned is greatly increased.

– In certain regions (e.g. mountain regions) the water composition may cause precipitates to form, requiring the use of softened water for the steam condenser.

– The machine is equipped with a safety system for the protection of drinking water and may be connected to the water supply without a non-return valve, if national regulations permit.

– The machine is supplied as standard for connection to cold water (blue coded hose) and optionally to hot water up to max. 65°C (red coded hose). Connect the inlet hoses to the water shut off valves for cold and hot water.

– If there is no hot water supply available, the inlet hose coded **red** must be connected to the cold water supply or alternatively has to be deactivated by a Miele Service technician.

– The intake hose without water protection device for the steam condenser is connected to the cold water tap.

– The **Minimum flow pressure** for cold water is 14.5 psi (100 kPa) pressure, for hot water 5.8 psi (40 kPa) pressure and for DI water connection is 4.4 psi (30 kPa) pressure.

– **Recommended flow pressure** for cold and hot water connections is ≥ 29 psi (200 kPa) pressure and for DI water connection ≥ 29 psi (200 kPa) pressure, to avoid excessively long water intake times.

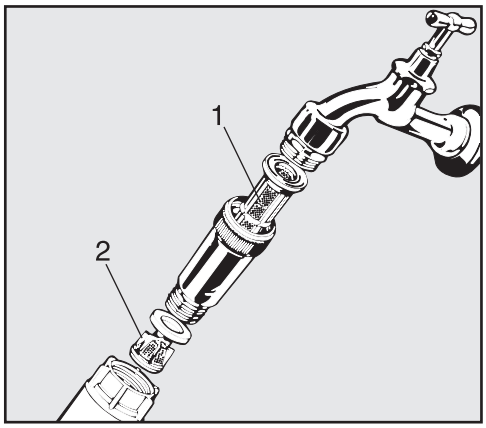
– The **maximum permissible static water pressure** is 145 psi (1,000 kPa).

– If the water pressure does not fall into the stated range, contact Miele Service for advice.

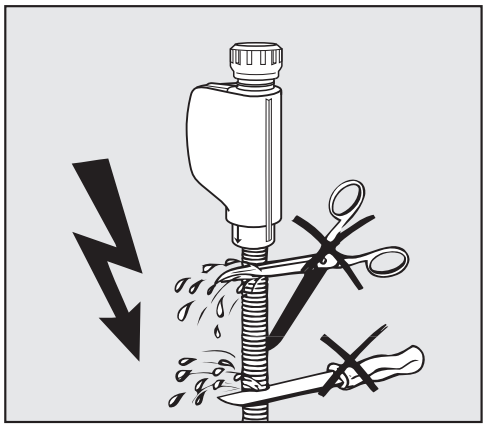
– More information on DI water connection can be found at the end of this section.

– A tap valve with a ¾", garden hose thread and male connection, must be provided on site. It should be easily accessible so that the water supply can be turned off when the machine is not in use.

– The inlet hose is approx. 1.7 m long (5.5 ft) terminating in a ¾" female garden hose thread. On no account may the inlet filter be removed.



– Install the filter (supplied in accessory pack) between the stopcock valve and the inlet hose. The filter for DI water is made of chromium-nickel steel and can be recognized by its dull surface and green label.



⚠ Do **NOT** shorten or otherwise damage the inlet hoses.

See installation diagram supplied.

Pressurized DI water connection (30-1,000 kPa) - depending on version

Depending on the version, the machine can be connected to pressurized DI water with a pressure between 30-1,000 kPa (4.4-145 psi). If the water pressure is below 200 kPa (29 psi) the water intake time will be automatically increased.

- The pressure tested hose for DI water, coded green, has a ¾ inch female connection with garden hose thread and is connected to the onsite DI water tap.

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

Non-pressurized (gravity feed) DI water connection (8.5-60 kPa) - depending on version

If DI water is supplied from a DI water reservoir with gravity feed or low pressure, a machine version with DI booster pump is required. The pressure for gravity feed or low pressure ranges between 8.5-60 kPa (1.3 - 8.7 psi). The machine can be converted from pressurized to non-pressurized or vice-versa. The conversion must only be carried out by Miele Service.

For non-pressurized DI water reservoirs the connection point to the machine must be at least as high as the top of the machine. See installation instructions.

Demineralized water ring line

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

Please contact Miele Professional Service for further information.

Connecting the water drain

– A non-return valve is incorporated into the drain system in the machine to prevent drainage water flowing back into the machine via the drain hose.

– The machine drainage hose should be connected to a **separate** drain for the machine only. If no separate drain is available, we recommend connecting it to a dual-chamber siphon.

⚠ Typically, the drain water of the machine will reach temperatures greater than 60°C (140°F).
Some on-site drain material may not be compatible with the discharge temperature.
The operator is responsible to verify the compatibility of all utility services including drainage, however Miele offers as an optional effluent cool down kit to reduce the drain temperature to 60°C (140°F).

– The on-site connection point, **measured from the lower edge of the machine**, should be positioned at a height between 0.3 m and 1.0 m (1-3.2 ft). If it is lower than 0.3 m, the drain hose must be laid in a coil at a height of at least 0.3 m.

– The drainage system must be able to accommodate a minimum drainage flow of 16 l/min.

– The drainage hose is approx. 1.4 m (4.6 ft) long and flexible with an internal diameter of 22 mm (7/8"). Hose clips for the connection are supplied.

– The drain hose must not be shortened.

– The drain hose can be extended using a connection piece to attach a further length of hose up to 4.0 m (13 ft) long. The drainage length must not exceed 4.0 m.

– Drainage noise can be considerably reduced if the drainage hose is positioned in an arc at a minimum height of 0.6 m and a max. height of 1.0 m (2-3.2 ft) measured from the bottom edge of the machine.

See installation diagram supplied.

	Imperial	Metric
Height with machine lid Height without machine lid	32 7/8" 32 5/16"	835 mm 820 mm
Width	23 9/16"	598 mm
Depth Depth with door open	23 9/16" 47 1/4"	598 mm 1,200 mm
Wash cabinet dimensions: height: width: depth:	 20 9/16" 21 1/8" 20 9/16"	 520 mm 530 mm 520 mm
Weight (net)	163 lbs	74 kg
Max. load capacity of open door	81.6 lbs	37 kg
Voltage, rated load, fuse rating	See data plate	See data plate
Power cable length	Approx. 5' 9" ft.	Approx. 1.8 m
Water temperature water connection: Cold water / Steam condenser Hot water (optional) / DI water (optional)	 max. 68 °F max. 149 °F	 max. 20 °C max. 65 °C
Static water pressure	max. 145 psi	max. 1,000 kPa
Minimum supply pressure water connection: Cold water / steam condenser Hot water DI water	 14.5 psi 5.8 psi 4.4 psi	 100 kPa 40 kPa 30 kPa
Recommended flow pressure water connection: Cold water / hot water / Steam condenser DI water (optional)	 29 psi 29 psi	 ≥ 200 kPa ≥ 200 kPa
DI water connection without pressure (optional)	1.3-8.7 psi	8.5-60 kPa
Drainage pumping height	min. 11 3/4" ft, max. 3' 3" ft	min. 0.3 m, max. 1.0 m
Drain hose length	max. 13' 1" ft	max. 4.0 m
Operation: Ambient temperature Relative humidity maximum linear decreasing to	40 °F to 104 °F 80 % for temperatures up to 88 °F 50 % for temperatures up to 104 °F	5 °C to 40 °C 80 % for temperatures up to 31 °C 50 % for temperatures up to 40 °C
Storage and transport conditions: Ambient temperature Relative humidity Air pressure	 - 4 °F to 140 °F 10 % to 85 % 7.25 psi to 15.37 psi	 - 20 °C to 60 °C 10 % to 85 % 500 hPa to 1060 hPa
Altitude above sea level	up to 4,921 ft*	up to 1,500 m*
Ingress protection (as per IEC 60529)	IP21	
Degree of soiling (as per IEC/EN 61010-1)	2	
Overvoltage category (according to IEC 60664)	II	
Noise level in dB (A), sound pressure LpA during cleaning and drying phases	< 59	
Certifications	CAN/CSA-C22.2 No. 61010-1-04, CAN/CSA-C22.2 No. 61010-2-040, UL Std. No. 61010-1 (2nd Edition), IEC 61010-2-040:2006	
Manufacturer's address	Miele & Cie. KG, Carl-Miele-Strasse 29, 33332 Gütersloh, Germany	

* If installed above 4,921 ft (1,500 m) the boiling point of water will be lower. In this case the disinfecting temperature and the holding time will need to be reset.

Free memory

New program name:

Application:
Programmable program for special applications. Please contact Miele Service to have the program set up.

Program header	
▸ Water volume change [l] _____	Spray arm monitoring
Drainage time	▸ ☐ On
▸ ☐ Standard	▸ ☐ Off for basket
▸ ☐ Extended	▸ ☐ Off

		Wash block	Pre-wash		
Parameters			1	2	3
Water quality					
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]					

Drying	
▸ Cabinet cooling down time [Min]	_____
▸ Drying time [Min]	_____

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Free memory

New program name:

Application:
Programmable program for special applications. Please contact Miele Service to have the program set up.

Program header	
▸ Water volume change [l] _____	Spray arm monitoring
Drainage time	▸ ☐ On
▸ ☐ Standard	▸ ☐ Off for basket
▸ ☐ Extended	▸ ☐ Off

		Wash block	Pre-wash		
Parameters			1	2	3
Water quality					
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]					

Drying
▸ Cabinet cooling down time [Min] _____
▸ Drying time [Min] _____

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Program guide

Universal

Application:
For removing organic residues and certain inorganic residues.

Program header			
▸ Water volume change [l]		Spray arm monitoring	
Drainage time		▸ ☐ On	
▸ ☑ Standard		▸ ☑ Off for basket	
▸ ☐ Extended		▸ ☐ Off	

		Wash block	Pre-wash		
		Parameters	1	2	3
Water quality			CW50		
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]			1		

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

– For preparative and analytical applications, – for light to medium levels of soiling, – For normal wash result requirements.

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
HW		HW	HW	DI		DI	
DOS 1		DOS 3					
0.3		0.1					
167°F/ 75°C						167°F/ 75°C	
3		2	1	1		1	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Program guide

Standard

Application:
Simple program for a range of soil types. Not suitable for denatured and acid soluble residues such as protein, metallic salts and amines.

Program header	
▸ Water volume change [l]	Spray arm monitoring
Drainage time	▸ ☐ On
▸ ☑ Standard	▸ ☑ Off for basket
▸ ☐ Extended	▸ ☐ Off

		Wash block	Pre-wash		
Parameters			1	2	3
Water quality					
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]					

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

– For light soiling,
– For low wash result requirements.

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
CW50		HW	DI			DI	
DOS 1		DOS 3					
0.4		0.1					
158°F/ 70°C						158°F/ 70°C	
3		2	1			1	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Program guide

Intensive

Application:
For removing organic residues and certain inorganic residues.

Program header	
▸ Water volume change [l]	Spray arm monitoring
Drainage time	▸ ☐ On
▸ ☑ Standard	▸ ☑ Off for basket
▸ ☐ Extended	▸ ☐ Off

		Wash block	Pre-wash		
Parameters			1	2	3
Water quality			CW50		
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]			1		

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

– For preparative and analytical applications, – for normal to heavy soiling, – for normal to high wash result requirements.

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
HW		HW	DI	DI		DI	
DOS 1		DOS 3					
0.4		0.1					
176°F/ 80°C						167°F/ 75°C	
3		2	1	1		1	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Program guide

Inorganic

Application:
For removal of inorganic residue

Program header			
▸ Water volume change [l]	_____	Spray arm monitoring	
Drainage time		▸ ☐ On	
▸ ☑ Standard		▸ ☑ Off for basket	
▸ ☐ Extended		▸ ☐ Off	

		Wash block	Pre-wash		
		Parameters	1	2	3
Water quality					
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]					

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

– General program for analysis and water analysis and for water based cultures with acid-soluble metallic salts such as Ca^{2+} and Mg^{2+} etc.
– for light to medium levels of soiling,
– for normal to high wash result requirements.

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
CW50	HW	HW	DI	DI		DI	
DOS 3	DOS 1	DOS 3					
0.3	0.4	0.1					
122°F/ 50°C	167°F/ 75°C					158°F/ 70°C	
2	3	2	1	1		1	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Program guide

Organic

Application:
For removal of concentrated organic residues such as oils, fats, waxes, etc. Not suitable for acid-soluble residues e.g. metallic salt, amine, etc.

Program header	
▸ Water volume change [l]	Spray arm monitoring
Drainage time	▸ ☐ On
▸ ☑ Standard	▸ ☑ Off for basket
▸ ☐ Extended	▸ ☐ Off

		Wash block	Pre-wash		
Parameters			1	2	3
Water quality					
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]					

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

– For normal to heavy soiling,

– for normal to high wash result requirements.

Liquid process chemicals required, hot and DI water connection recommended.

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
HW	HW	HW	HW	DI		DI	
DOS 1	DOS 1	DOS 3					
0.4	0.3	0.1					
149°F/ 65°C	185°F/ 85°C					167°F/ 75°C	
3	3	2	1	1		1	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Injector Plus

Application:
Program with increased water pressure and increased water levels for the following basket combinations: – Upper basket with one spray arm and lower basket with 2 injector modules. – Upper and lower baskets with a total of 4 injector modules.

Program header			
▸ Water volume change [l]		Spray arm monitoring	
Drainage time		▸ ☐ On	
▸ ☑ Standard		▸ ☑ Off for basket	
▸ ☐ Extended		▸ ☐ Off	

		Wash block	Pre-wash		
Parameters			1	2	3
Water quality			CW50		
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]			1		

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

Use as described for the Universal program

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
HW		HW	HW	DI		DI	
DOS 1		DOS 3					
0.3		0.1					
167°F/ 75°C						167°F/ 75°C	
3		2	1	1		1	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Program guide

Pipettes

Application:
For pipettes.

Program header			
▸ Water volume change [l]		Spray arm monitoring	
Drainage time		▸ ☐ On	
▸ ☑ Standard		▸ ☑ Off for basket	
▸ ☐ Extended		▸ ☐ Off	

		Wash block	Pre-wash		
		Parameters	1	2	3
Water quality			CW50		
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]			1		

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
HW		HW	DI	DI		DI	
DOS 1		DOS 3					
0.4		0.1					
158°F/ 70°C						158°F/ 70°C	
3		2	1	1		1	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Plastics

Application:
For heat-sensitive loads, such as plastic flasks (**temperature resistance: at least 131°F/55°C**).

Program header	
▸ Water volume change [l] _____	Spray arm monitoring
Drainage time	▸ ☐ On
▸ ☑ Standard	▸ ☑ Off for basket
▸ ☐ Extended	▸ ☐ Off

		Wash block	Pre-wash		
Parameters			1	2	3
Water quality			CW		
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]			1		

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

– For preparative and, conditionally, analytical applications, – for light to medium levels of soiling, – For normal wash result requirements.

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
CW		CW	CW	DI		DI	
DOS 1		DOS 3					
0.3		0.1					
131°F/ 55°C						131°F/ 55°C	
3		2	1	1		1	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Program guide

Short

Application:
Short program for lightly soiled items and loads that do not require intensive cleaning.

Program header			
▸ Water volume change [l]		Spray arm monitoring	
Drainage time		▸ ☐ On	
▸ ☑ Standard		▸ ☑ Off for basket	
▸ ☐ Extended		▸ ☐ Off	

		Wash block	Pre-wash		
		Parameters	1	2	3
Water quality					
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]					

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
HW		HW				DI	
DOS 1		DOS 3					
0.3		0.1					
140°F/ 60°C						140°F/ 60°C	
3		2				1	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Oil program

Application:
For heavy oil soiling (crude oil, synthetic oils/lubricants, fuels and partially natural oils).

Program header			
▸ Water volume change [l]	_____	Spray arm monitoring	
Drainage time		▸ ☐ On	
▸ ☑ Standard		▸ ☑ Off for basket	
▸ ☐ Extended		▸ ☐ Off	

		Wash block	Pre-wash		
		Parameters	1	2	3
Water quality			HW		
Dosage	1	Dispensing system	DOS 4		
		▸ Concentration [%]	0.5		
	2	Dispensing system	DOS 1		
		▸ Concentration [%]	0.3		
▸ Wash block temperature			113°F/ 45°C		
▸ Holding time [Min]			1		

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

Liquid process chemicals required, hot and DI water connection recommended.

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
HW	HW	HW	HW	DI		DI	
DOS 4	DOS 1	DOS 3					
0.4	0.3	0.1					
DOS 1							
0.4							
149°F/ 65°C	185°F/ 85°C					167°F/ 75°C	
2	3	2	1	1		1	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Special 93°C-10'

Application:
For cleaning at 200°F / 93°C with 10 minutes temperature holding time (exposure time).

Program header	
▸ Water volume change [l] _____	Spray arm monitoring
Drainage time	▸ ☑ On
▸ ☑ Standard	▸ ☐ Off for basket
▸ ☐ Extended	▸ ☐ Off

		Wash block	Pre-wash		
Parameters			1	2	3
Water quality					
Dosage	1	Dispensing system			
		▸ Concentration [%]			
	2	Dispensing system			
		▸ Concentration [%]			
▸ Wash block temperature					
▸ Holding time [Min]					

Drying	
▸ Cabinet cooling down time [Min]	0
▸ Drying time [Min]	0

Cleaning		Rinse				Final rinse	
1	2	1	2	3	4	1	2
CW70		HW	HW			DI	
DOS 1		DOS 3					
0.6		0.1					
200°F/ 93°C						167°F/ 75°C	
10		1	1			3	

▸ = Customizable parameters

CW = cold water
HW = hot water
CWxx = CW proportion in mixed water as percentage (CW70 = 70 % CW + 30 % HW)
DI = aqua destillata, fully demineralised water, demineralized water

Min = Holding time in minutes

DOS 1 = cleaning detergent
DOS 3 = neutralizing agent
DOS 4 = DOS module

Demineralized rinse

Application:
Rinse with demineralized water (fully demineralized water, pure(st) water, demineralized water), holding time: 3 Min.

Rinse

Application:
Cold water rinse, holding time: 1 Min. For flushing out saline solution (see "Water softener"), rinsing heavily soiled loads, e.g for pre-rinsing soiling, residual disinfecting agent, or to prevent items drying out and to prevent incrustation before running a full load.

Drain

Application:
For draining chamber washer solution e.g. after a program cancellation (see Operation/ Canceling a program").

Program selection depending on the accessories used

Program	Amount of water	Lower basket		Upper basket	
		2 injector modules	Lower basket for various inserts	2 injector modules	Lower basket with spray arm for various inserts
Universal, Standard , Intensive, Inorganic, Organic, Plastics, Short, Oil program			X		X
			X	X	
				X	X
		X			
	+ 2.0 to 2.5 l	X			X
Injector Plus		X		X	
Pipettes		A 303 (+ 1 module)			

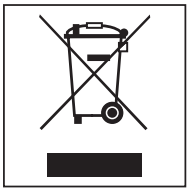
Disposal of the packing material

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.

Recycling the packaging reduces the use of raw materials in the manufacturing process and also reduces the amount of waste in landfill sites..

Disposing of your old appliance

Old electrical and electronic equipment often still contain valuable materials. However, they may also include harmful substances that were essential for proper functioning and safe use. Improperly disposing of these items in your household waste can be harmful to your health and the environment. Therefore, please do not dispose of your old appliance in your regular household waste.



Instead, use your local community waste collection and recycling centre for electric and electronic appliances. Contact your dealer for more information.

Ensure that your old appliance does not pose a danger to children while being stored for disposal.

Miele
PROFESSIONAL

Canada

Importer
Miele Limited

Professional Division
161 Four Valley Drive
Vaughan, ON L4K 4V8
Phone: 1-888-325-3957
Fax: 1-800-803-3366
www.mieleprofessional.ca
professional@miele.ca

Miele Professional Technical Service
Phone: 1-888-325-3957
Fax: 1-800-803-3366
serviceprofessional@miele.ca

Germany
Manufacturer
Miele & Cie. KG
Carl-Miele-Straße 29
33332 Gütersloh

 M.-Nr. 10 607 140 / 00

CE