Miele

Operating Instruction
LABORATORY GLASSWARE WASHER
PLW 8505

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

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1. GENERAL RULES

1.1 Limits of manufacturer’s liability

The manufacturer shall not be held liable for failures or problems which arise due to tampering and/or incorrect applications and/or improper use of the machine.

The user must comply with all instructions set forth in the user's manual:

- Always work within the allowable limits for the use of the machine
- Always carry out constant and diligent maintenance
- Allow use of the machine by persons with proper skills and abilities for their role and purpose who have been properly trained and instructed
- Use only manufacturer original spare parts

Any modifications, adaptation or the like which may be made to machines which are subsequently placed on the market do not oblige the manufacturer to intervene on previously supplied machines, nor to consider the machine and the related user's manual lacking and inadequate.

The installation, maintenance and operating instructions given in the following pages have been prepared to ensure the long life and outstanding performance of the appliance.

The instructions in this manual do not replace but rather are in addition to employer requirements to adhere to current legislation on standards of prevention and safety.

1.2 Manual validity, contents and conservation

It is important to keep this instruction manual with the machine for future reference.

If the machine is sold or transferred, the manual must be handed over to the new owners or user in order for them to become acquainted with its functioning and the relative warnings.

Read the warnings carefully before installing and using the machine.

2. PRODUCT INFORMATION

Before starting work, the user must be completely familiar with the functions and proper operation of the machine. The user must know the precise function of all command and control devices of the machine.

PLW 8505

2.1 Intended use, improper use

This laboratory glassware washer is designed for washing laboratory glassware and laboratory utensils with water based media. It is designed for use in laboratories in schools, colleges and universities.

The process includes cleaning, rinsing and drying.

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 cleaning in a laboratory glassware washer.

This will depend on its use and the type of soiling present. Please also observe information provided by the manufacturer of the laboratory glassware and laboratory utensils.

Laboratory glassware and laboratory utensils suitable for cleaning include, for example:

- Vessels such as test tubes, beakers, flasks, cylinders, etc.
- Measuring vessels such as measuring cylinders, volumetric flasks, etc.
- Dishes such as petri dishes, watch glasses, etc.
- Small items such as lids, spatulas, magnetic stirring rods, stoppers, etc.
- Other items such as funnels

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

Processing conditions must be suitable for the wash load and for the type of soiling.

Cleaning agents 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.

	WARNING
	**Inappropriate use can, however, lead to personal injury and material damage.**
	Miele cannot be held liable for damage caused by improper or incorrect use or operation of the machine.
	If the appliance is used in a manner not specified by the manufacturer, protection of the appliance may be compromised.

2.2 Safety instructions

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 where they are accessible to users at all times.

2.2.1 Correct application

- This lab washer 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 lab washer must only be used for cleaning laboratory glassware and utensils if the manufacturer has stated that they are suitable for machine cleaning.
  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 only.

2.2.2 Risk of injury

Please pay attention to the following notes to avoid injury

- 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 countertop which is firmly secured to adjacent units to improve stability.
- The electrical safety of this machine can only be guaranteed when correctly grounded. It is essential that this standard safety requirement is met. If in any doubt, please have the on-site wiring system tested by a qualified electrician. Miele cannot be held liable for the consequences of an inadequate grounding system (e.g., electric shock).
- A damaged or leaking machine could be dangerous and compromise your safety. Disconnect the machine from the power supply immediately and call the Miele Service Department or an authorized and trained service technician.
- Personnel operating the machine should be trained regularly. Untrained personnel should not be allowed to use the machine.
- Only use cleaning agents which have been approved by their manufacturer for use in the application you are using. The cleaning agent manufacturer is responsible for any negative influences on the material the load is made from and for any damage they may cause to the machine.
- Take care when handling cleaning agents. These may contain irritant, corrosive or toxic ingredients.
- Please observe the cleaning agent manufacturer's safety instructions and safety data sheets. Wear protective gloves and goggles.
- The machine is designed for operation with water and recommended additive cleaning agents only.

- Organic solvents and flammable liquid agents must not be used in the machine. This could cause an explosion, damage rubber or plastic components in the machine and cause liquids to leak out of it.
- The water in the cabinet must not be used as drinking water.
- 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 up and be damaged or cause an injury.
- Be careful when sorting items with sharp pointed ends and positioning them in the machine that you do 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 using this machine in the higher temperature ranges, be especially careful not to scald or burn yourself or come into contact with irritant substances when opening the door.
- Should personnel accidentally come into contact with toxic vapors or cleaning agents, follow the emergency instructions given in the manufacturer's safety data sheets.
- Mobile units, baskets, modules, inserts and the load must be allowed to cool down before they are unloaded. Any water remaining in containers could still be very hot. Empty them into the wash cabinet before taking them out.
- Never clean the machine or near vicinity with a water hose or a pressure washer.
- The machine must be disconnected from the power supply before any maintenance or repair work is carried out.

2.2.3 Quality assurance

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

- If it is necessary to interrupt a program, this may only be done by the designated user.
- The standard of cleaning should be routinely confirmed by the user.
- Make sure items being washed are suitable for machine cleaning and are in good condition. Plastic items must be thermally stable. Nickel-plated items and aluminium items can be machine processed using special procedures only.
  Items containing iron and soiling containing residual rust must not be placed in the cabinet.
- Cleaning agents can, in certain circumstances, cause damage to the machine. Always follow the recommendations of the cleaning agent manufacturer.
  In case of damage or doubt about compatibility, please contact Miele.
- Do not use bleach in the washer.
- Abrasive substances must not be placed in the machine as they could cause damage to the mechanical components of the water circuit. Any residues of abrasive substances on items to be washed must be removed without trace before cleaning in the machine.
- Pre-treatments with cleaning agents can create foam, as can certain types of soiling. Foam can have an adverse effect on the cleaning result.
- Foam can cause leakage and damage to the washer.Therefore do not use cleaning agents that foam and set up the processes such that no foaming occurs.

- Where a cleaning agent is recommended on technical application grounds (e.g., a cleaning agent), this does not imply that the manufacturer of the machine accepts liability for the effect of the chemical on the items being cleaned.
  Please be aware that changes in formulation, storage conditions, etc., which may not be advertised by the chemical manufacturer can have a negative effect on the cleaning result.
- When using a cleaning agent it is essential that the manufacturer's instructions are followed. The cleaning agent 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 explosive chemical reaction (e.g., an explosive oxyhydrogen gas reaction).
- Always follow the relevant manufacturer's instructions on storage and disposal of cleaning agents.
- In critical applications where very stringent requirements have to be met, it is strongly recommended that all the relevant factors for the process, such as cleaning agents, water quality, etc., are discussed with the Miele Application Technology specialists.
- The mobile units, baskets, modules and inserts that hold the 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 any containers or utensils before loading them.
- The amount of residual solvents and acids on items going into the cabinet should be minimal.
  There should be no more than a trace of any solvents with a flash point of below 70°F (21 °C).
- Ensure that solutions or steam containing chlorides or hydrochloric acid do not come into contact with the wash cabinet, accessories and stainless-steel outer casing of the machine in order to avoid any damage through corrosion
- After any plumbing work the water pipework to the machine will need to be vented. If this is not done, components can be damaged.
- The gaps between a built-in machine and adjacent cabinetry must not be filled, e.g., with silicone sealant as this could compromise the ventilation to the circulation pump.
- Follow the installation instructions in the operating and installation instructions.

2.2.4 Safety with children

- Children must be supervised in the vicinity of the machine. Do not allow children to play with the machine. They could get locked inside it.
- Children must not use the machine.
- Keep children away from cleaning agents. 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 cleaning agent in the cabinet. Observe the safety data sheets for the cleaning agent and seek medical advice immediately if a child has swallowed cleaning agent or got it in the eyes.

2.2.5 Using accessories

- Only designated accessories should be connected to this machine. They must be suitable for the application they are required for. Consult Miele for details on the type of accessories that can be used.
- Only use designated mobile units, baskets, modules and inserts with this lab washer. Using mobile units, baskets, modules and inserts made by other manufacturers, or making modifications to the original accessories can cause unsatisfactory cleaning results, for which Miele cannot be held liable. Any resultant damage would not be covered by the guarantee.

2.2.6 Disposing of your old machine

- For environmental and safety reasons ensure the machine is completely drained of any residual water, chemical residues and cleaning agent. Observe safety regulations and wear safety goggles and gloves.
  Make the door lock inoperable so that children cannot accidentally shut themselves in.
  Then make appropriate arrangements for its safe disposal.

2.2.7 Safety signal used

To inform personnel operating on the machines of obligations of behavior and residual risks, adequate safety signals (as set forth by 92/58 EEC) are applied to the machine and near the workplace.

GENERIC SAFETY SIGNALS:

In particular, labels with signals of obligation, prohibition and danger contained in this manual and pertinent to this machine and most commonly used are:

Warning
Danger of electrical shock!

Warning
Observe the operating instructions

Warning
Hot Surface

PERSONAL PROTECTIVE EQUIPMENT:

The evaluation of risks for the health and safety of users carried out in the workplace and on any equipment used, as well as the evaluation of residual risks as indicated, allow the employer to evaluate the need to adopt the individual protection gear which is most suitable and appropriate to be provided to users.

Considering the type of machine, it is felt that the individual protection gear should be provided to staff.

SAVE THESE INSTRUCTIONS

Miele cannot be held liable for damage caused by non-compliance with these safety instructions.

2.3 Recommendations for proper operation

- The machine may never be left unattended while in operation.
- When the machine is running do not interrupt the cycle.
- Use recommended detergents and cleaning agents only. The use of other products may damage the machine.
- Do not introduce any items with substances that must not be discharged in sewage system (in accordance with local legislation).
- Recommending cleaning agents does not make the manufacturer responsible for any damage to the materials and cleaned items.
- Check that type of cleaning agent is suitable for the specific washing program used.
- Follow the manufacturer's instructions when using cleaning agents and use them for the foreseen use only.
- Follow the manufacturer’s instructions and local and national requirements and guidelines, on how to clean their items by machine.
- The machine was designed for use with water and cleaning agents.
- Do not use organic or other types of solvents as this may result in the risk of explosion or the rapid deterioration of certain machine parts.
- Acids, particularly hydrochloric acid, can damage steel. Contact should be avoided.
- Use original accessories only.
- Never use powder detergents.
- Never use foaming detergent.
- Accessories which are not approved by the manufacturer may compromise the results achieved as well as user safety.
- Never use cleaning agents based on chlorides and hypochlorites (bleaches, sodium hypochlorite, hydrochloric acid and so on). These kinds of cleaning agents irreparably damage the machine and jeopardize the integrity of materials and objects treated.
- The user must carry out a general check-up and clean the appliance regularly as indicated in the maintenance chapter.
- Connection to the water supply should be easily accessible so that the water supply can be turned off when necessary.

The manufacturer declines all responsibility for personal injury or material damage resulting from non-compliance with the above rules.

2.3.1 Training

Instructions for use of the machine will be provided by Miele Service or an authorized representative during machine commissioning.

It will be the duty of the employer to check that the degree of staff training is suitable for assigned duties.

2.3.2 User profiles

Depending on the difficulty of certain installation operations and of the operation and maintenance of the system, user profiles are identified as follows:

SERVICE	Installation and repair technican.
ADMIN	Responsible authority for the machine in the workplace: More advanced tasks, e.g., interrupting or canceling a program, require more detailed knowledge about the machine cleaning of laboratory glassware and laboratory untensils. Alterations or adaptations of the lab washer, e.g., accessories used or on-site conditions require additional specific knowledge of the lab washer.
USER	Machine user: We recommend only designated qualified personnel be allowed to operate the washer.

3. INSTALLATION

3.1 Water connection

3.1.1 Inlet water quality

The quality of the water used in all the cleaning stages is important to have good results.

The water used in each stage must be compatible with:

- The material of which the machine is made.
- The chemicals used in the process.
- Process requirements for the various stages of the process.

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

If the mains water hardness level is more than 7 °fH (0.7 mmol/l or 4°dH), a water softening system should be provided on site.

Note: It is the user's responsibility to supply the machine with suitable water.

	ATTENTION
	Water from the wash cabinet must not be consumed.

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

The water used must be drinking-water quality. If the water supply has a high iron content there is a danger of corrosion occurring on items being cleaned in the lab washer, as well as the appliance itself. If the chloride content of the water exceeds 100 mg/l the risk of corrosion to items being cleaned in the lab washer will be further increased.

In certain regions (e.g., mountainous areas) the water composition may cause precipitates to form, requiring the use of softened water in the steam condenser.

The lab washer is supplied as standard for connection to cold water (blue coded) and hot water up to max. 140 °F (red coded). Connect the inlet hoses to the **water** valves for cold and hot water.

If there is no hot water supply available, the inlet hose coded **red** must also be connected to the cold water supply.

The **minimum flow pressure** for cold water, hot water and for DI water connection is 14.5 psi (100 kPa).

Recommended flow pressure for cold and hot water connections is ≥ 29 PSI pressure and for DI water connection ≥ 29 PSI pressure, to avoid excessively long water intake times.

The **maximum permissible static water pressure** is 116 psi (800 kPa) pressure.

- If it is below 14.5 psi (100 kPa) dynamic pressure, you will need to install a pressure increase pump. If the pressure is higher than 145 psi (1000 kPa) a pressure reducer must be installed.

If the water pressure does not fall into the stated range, contact Miele Service or an authorized and trained service technician for advice.

A water valve with a ¾" threaded union 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.

IMPORTANT

Do not overtighten the threaded unions on the hoses!

3.1.2 Information

- The back flow prevention system is already installed inside the machine according to IEC61770;
- If the connection of hot and cold water is not available, the two corresponding supply pipes must be connected together;
- The manufacturer declines all responsibility for damage or injury caused by improper installation.
- If you do not comply with the conditions above, the deriving damages will not warranty.

ATTENTION

When the machine is not in operation, always close the water valves.

3.2 Electrical connection

	ATTENTION
	Connection of the machine to the electrical to the electrical supply must be made by qualified, skilled personnel.

- Make sure that the power supply voltage reading corresponds to the voltage indicated on the data tag
- Check that the power supply voltage does not differ by more than 10% from its nominal value.
- The frequency of the power supply voltage must not differ by more than 1% of its value.
- Connection of the machine to the power supply must be provided with a ground connection and an equipotential circuit as set forth by current standards.
- Make sure that the electrical systems are efficiently grounded.
- The ground conductor is to be connected to the ground terminal identified by the standard symbol.

- The machine is equipped with a terminal identified by the relative symbol for equipotential connections between appliances (see rules for electrical plants).

- Connect the machine and the relative dedicated disconnection device (not supplied) by using a power cable compatible with the electrical characteristics of the machine.
- In case of prolonged take up of the machine it is recommended that you execute the disconnection procedure of the electrical connection by placing the dedicated disconnection device in "OFF" state.
- The upstream electrical power line must be dimensioned and protected in accordance with current local regulations.

	ATTENTION
	Please refer to the installation plan provided.

3.3 Adding and dispensing cleaning agents

The dosing system of cleaning agents is composed of:

- 1 dosing pump for detergent
- 1 dosing pump for neutralizing agent
- Level sensor cleaning agent

3.3.1 Presence sensor of cleaning agent

Each dosing pump is combined with a sensor that confirms the presence of cleaning agent inside the container. In case of product lack, the electronic control system of the machine indicates a message in the display.

3.4 Replacement or refill of cleaning agent

To replace the cleaning agent container perform the following procedure:

- Have a new container with cleaning agents ready.
- Take the empty container.
- Remove the siphon and place it on a chemical-resistant and easy-to-clean surface.
- Insert the siphon into the new container.
- Wipe up any spillages.
- Place the cleaning agent container in the area for the storage of chemical substances.
- Venting Dosing System by execute the Fill DOS1 program for detergent or Fill DOS2 program for neutralizer.

ATTENTION
Only use cleaning agents designed specifically for use in the machine and follow the manufacturer's instructions on their application.
Caution when using cleaning agents. Some agents may be corrosive and irritant. The relevant safety regulations and the cleaning agent manufacturer's safety data sheets must be observed. Wear protective goggles and gloves.

3.5 Warning

- For the maximum amount of cleaning agent which can be used per washing cycle, follow the instructions for the cleaning agent you are using.
- To ensure the efficiency of the chemical dosing system it is recommended to consider the table of routine maintenance tasks; see the “Maintenance” chapter.
- Use liquid cleaning agents only. Do not use powder detergent.
- Always follow the relevant manufacturer's instructions on storage and disposal of cleaning agents.
- Check that the type of cleaning agents is suitable for the specific washing program used.

	**ATTENTION**
	Before undertaking any sort of movement of the machine, ensure the machine is completely drained of any residual water, chemical residues and cleaning agent if necessary.
	This procedure must be carried out, in order to prevent contact of the cleaning agents with body parts and machine components that can be damaged.

3.6 Connecting the drain hose

- The drain hose connection should be checked carefully.
- The machine is equipped with a drain hose with a diameter indicated on the installation plan.
- The choice of materials relating to the ventilation circuit for drainage operations must take into account the same requirements as for piping that comes into direct contact with drain fluids; it must be taken into consideration that these may give off harmful (corrosive, toxic, etc.) vapors that may involve the output/input point of the duct.

	**CAUTION**
	If the drain system is clogged take great care when processing the water and avoid contact with hands, eyes, etc., in the case of contact rinse the parts concerned with plenty of water.

The drain hose is connected to the sewer network in the following manner:

- Identify the drain pipe and relative fittings, and assemble them.
- Make sure the seal gasket is installed correctly.
- Identify the drain manifold and connect the hose via the union and ring nut. Tighten the ring nut firmly.
- Insert the drain hose and clamp it in place.
- Insert the other end of the hose into the drain unit, installing it properly and locking it in position.

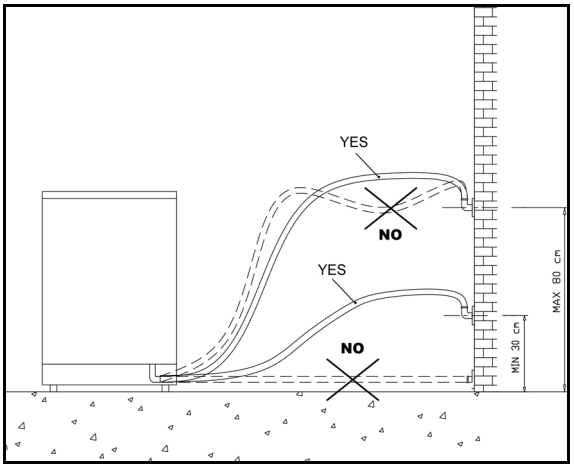
It is necessary to follow these instructions for drain connection:

- Drain hose must be connected by using a clamp.
- Drain hose must not present angles or irregular curving in its course.
- Drain point must be placed at the same height of the machine drain point or on the floor.

Carefully follow these instructions as a wrong drain connection can cause the block of machine.

- The diameter of main drain must be as indicated on the installation plant.
- Avoid drain pipe extension.

	**ATTENTION**
	Drainage must be done following international rules. The manufacturer cannot be held responsible if an inaccurate if inaccurate machine use causes pollution.
	If the drain system is clogged take great care when processing the water and avoid contact with hands, eyes, etc. In the case of contact rinse the parts concerned with plenty of water.
	When the machine is connected to an exhaust ventilation system, the drain hose should be positioned outside the building, protected from any animal access, and make sure that it not causes any hazard.



3.6.1 Drain cooling

The machine is equipped by a system of drain cooling, which can be useful in order to reduce the temperature from the standard temperature of 200° to 140°F (93° to 60°C).

3.7 Ambient ventilation requirements

During normal operation, the machine warms up itself dispersing heat and humidity. Therefore, in order to guarantee a comfortable environment with good temperature and humidity for the user, it is necessary to prepare an air conditioning or air circulation system capable to balance the emissions reported in the installation plan.

Only when toxic detergents are used and/or it is expected that it is not possible to guarantee acceptable levels of temperature and humidity in the installation environment, the air exhaust of the equipment must be connected to a venting system.

The air that is expelled from the chamber must not be re-circulated so as to protect the user from any undesired emissions produced by the machine or by the chemical products present within the work area.

The machine connections are shown in detail on the installation plan and electrical wiring diagram.

4. CHECKS PRIOR TO START-UP

4.1 Introduction

The preliminary adjustments and controls are performed by a skilled technician who has been specifically trained for this purpose.

4.2 Checks of safety systems

Indicative list of adjustments and checks of safety systems and devices to be carried out:

- Check the mains supply voltage
- Check the efficiency of the emergency and machine shutdown devices (circuit breaker)
- Check the efficiency of the door opening safety microswitch
- Check the operation of machine controls, especially the **START** and **STOP** commands

4.3 General controls

Indicative list of general adjustments and checks to be made:

- Check proper execution of general supplies of the machine (electrical and plumbing)
- Ensure that the user is trained for its use
- Check that the motors installed on the machine rotate in the correct direction (only for machines equipped with three-phase power supply motors)

5. USING THE MACHINE

5.1 Checking consumption

Check consumption regularly by checking the fill levels in the supply containers and replace containers in a timely manner before they are completely empty. Otherwise the dispensing system will need repriming.

- Wear appropriate individual protection gear (personal protection equipment).
- Follow the instruction in the „ADDING AND DISPENSING CLEANING AGENTS" section.

	ATTENTION
	**Take care when handling cleaning agents. These may contain irritating, corrosive or toxic ingredients.** **Prior to use, carefully read the safety information provided by the cleaning agent supplier and the label applied to the package.**

5.2 Opening and closing the door

Pull on handle to open door.

The glass door is insulated, however it may be hot. Use caution when opening not to touch it.

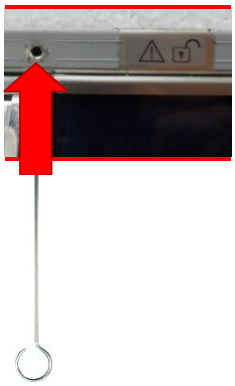
	ATTENTION
	**Keep hold of the door during opening and closing. Jerking the door open or slamming it shut may break the glass.**
	Insert the basket with care into the wash chamber to avoid the risk of breaking glass.
	Before opening the door, check that the opening area is free from obstacles.

The machine is equipped with an electric door lock in order to prevent it from being opened when the machine is running.

5.2.1 Opening the door using the emergency release device

	ATTENTION
	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 failure.
	If the emergency release is operated during a program cycle, hot water and cleaning agents can escape. **There is a risk of burning, scalding or chemical burns.**
	If a program is cancelled, the items in the lab washer must be cleaned again.

1. An emergency release device is located above the door, labelled accordingly.
2. Insert the tool into the emergency release opening.
3. Keep pushing the tool. In this moment the door is unlocked and it is possible to open it.
4. To close the door, keep pushing the tool as described above while pushing the door at the same time.



5.3 Switching on and off

The machine is switched on and off by turning the main switch at the bottom right

5.4 Preparation

- Make sure that the items can be cleaned inside the machine and verify the compatibility with the cleaning agents used during the cycles.
- Place the items to be washed inside the machine and position them carefully on the holder and in the rack.
- Items should not overlap.
- Items should be positioned so that liquids can flow out easily.
- Tall or heavy items should be placed towards the middle of the basket if possible to facilitate washing.
- Make sure that nothing is blocking the arms and that they turn freely.
- Place the load uniformly in the basket.
- The mobile units, baskets, modules and inserts that hold the load must be used only as intended.
- Empty any containers or utensils before loading them.
- Take apart any items which can be dismantled according to the manufacturer's instructions and process the individual parts separately from each other.
- Do not place items to be cleaned inside other pieces where they may be concealed. Do not place items so close together that cleaning is hampered.
- Arrange the load so that water can access all surfaces.
- Only clean small items and micro components in special inserts, mesh trays with lids or mesh inserts.
- Plastic items must be thermally stable.

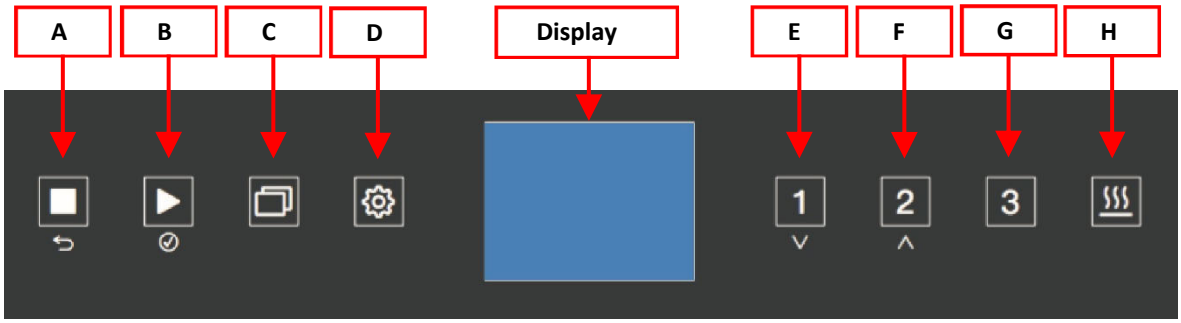
	**ATTENTION**
	The maximum load for each cycle is 44lbs (20 kg) (basket included). **Never use the machine without basket.**

Before starting to use the machine, please make sure that all the routine checks have been made. Verify the wash arms and their rotation.

	**ATTENTION**
	Never empty any solid waste into the machine. **This will block the drain system with pump and destroy the machine.**
	Noncompliance, even in part, of the rule here indicated, can cause dangerous leakage of water from the door.

6. CONTROL PANEL AND SYMBOLS USED

The control panel with liquid crystal display is illustrated in the image.
This panel makes the machine easy to use, as it indicates the cycle phases in progress and the temperature reached during each cycle phase; besides, it displays any error messages.



6.1 Buttons

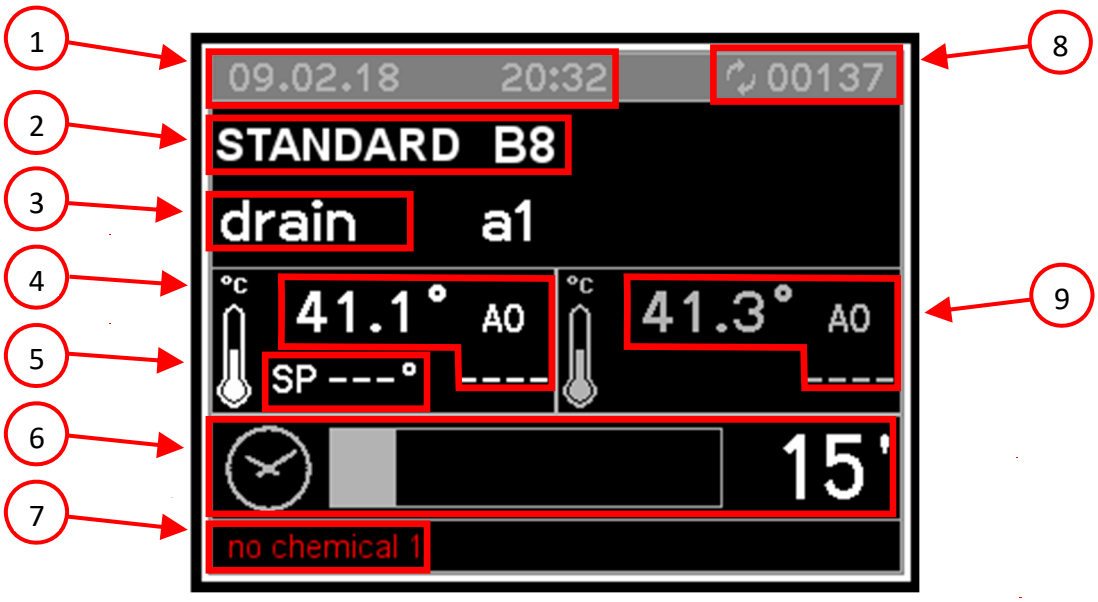
The buttons of the glass display are touch-sensitive and backlit (LED). There are 8 buttons available with the following functions:

BUTTON		DISCRIPTION	
A	■	**STOP**	One press for interrupting a program. The display advices the disinfection lack and the "manual stop" message appears, the door remains locked and, if necessary, it indicates the temperature inside the chamber. By pressing START, the machine restarts the cycle execution from the point, in which it had been stopped. Two presses for canceling a program. The machine returns to the stand-by condition and the door is unlocked.
	⮌	(cancel)	For canceling a process.
B	▶	**START**	Starting a program.
	✓	(confirm)	For selecting or confirming entries in the user interface.
C	❐	**P+**	For accessing the list of all additional programs.
D	⚙	**PRG**	The menu incorporates all relevant functions. During standby: Press the button for 5 seconds to access the menu.
E	1	**P1**	Short program
	∨	(down)	For navigating within the display.
F	2	**P2**	Standard program
	∧	(up)	For navigating within the display.
G	3	**P3**	Intensive program
H	≋	**DRY**	Drying function. Before starting a program, it is possible to add additional drying time or to deactivate the drying function. The standard drying setting is 20 minutes on each program. By pressing the button once, an additional 5 minutes is added to the drying time, for a total drying time of 25 minutes. By pressing the drying button twice, the drying step will be deactivated.

6.1.1 BUZZER

The buzzer sounds each time a button is pressed and intermittently in the case of a machine shutdown (see “MALFUNCTION” section).

6.2 Display



PIC.1

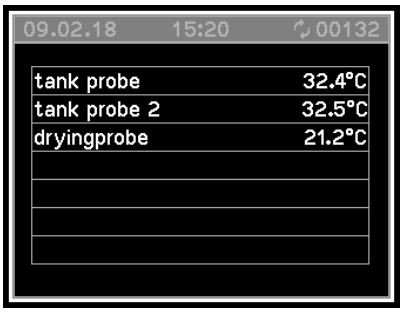
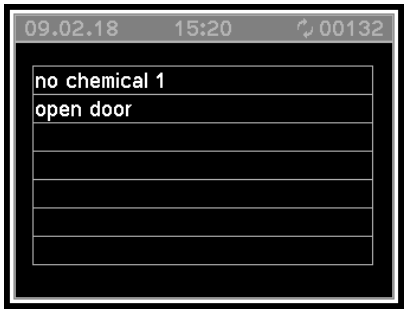
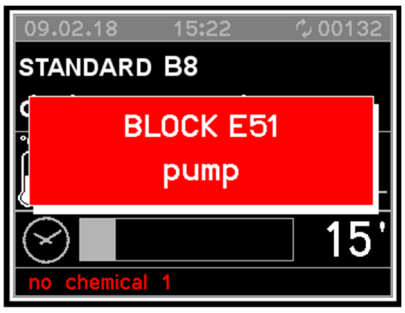
Display the following information:

1. Date and time
2. Selected program and program position
3. Current program phase
4. Temperature in chamber (Sensor 1) with A0 value
5. Target temperature for current program phase
6. Remaining time
7. Warning message
8. Cycle counter
9. Temperature in chamber (Sensor 2) with A0 value

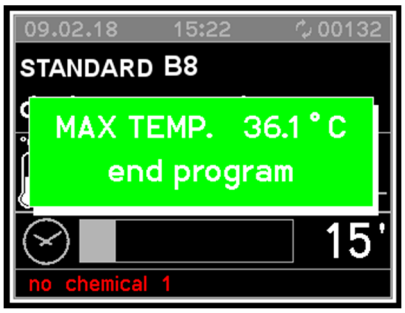
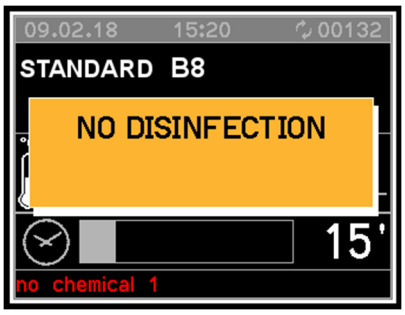
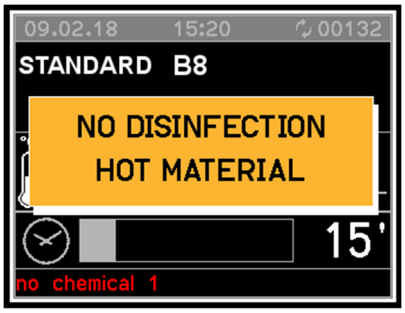
At the beginning, while the machine is in the stand-by status, it displays the type of program selected, temperature, date and time.

By pressing one of the program button (P1 [1] , P2 [2] or P3 [3]), the display shows the program associated to the key and at the left bottom the following message: "press start" or "door open".

By pressing the P+ button, it is possible to scroll all the available programs.

PIC. 2	During the cycle, by pressing the PRG ⚙ button it is possible to display the screen showing the various machine temperatures (Pic. 2).
	
PIC. 3	By pressing PRG ⚙ button twice a screen with alarms and warnings is displayed (Pic. 3).
	
PIC. 4	In case of an error, a window appears indicating the identification alarm code and a brief description as shown in Pic.4.
	
In case of failure, which does not lead to a block (such as lack of chemical) a message is shown at the left bottom of the screen (Pic.1 point 7) or by pressing twice the PRG ⚙ button as shown in Pic.3.	

CONTROL PANEL AND SYMBOLS USED

PIC. 5	
	At the end of the cycle, a window appears as displayed in Pic.5.
PIC. 6	
Pic.6.A 	In case a cycle was interrupted, a window appears with a message warning the disinfection lack (Pic.6.A). In case of cycles without desinfection, this window appears by pressing STOP ■ only once.
Pic.6.B 	If the temperature in a cancelled program was 149°F (65°C) or lower, the message shown in Fig. 6.A is displayed. If the temperature was above 149°F (65°C), the message shown in Fig. 6.B is displayed.

7. PROGRAMS

7.1 Program blocks

- **Drain**
  For draining wash water.
- **Pre-wash**
  A pre-wash removes coarse soiling and foaming agents.
- **Main wash**
  Depending on load, cleaning generally occurs at temperatures between 113°F (45 °C) and 149°F (65 °C) with the addition of appropriate cleaning agent.
- **Interim rinse**
  In the interim rinse stages, the cleaning agents from the previous wash blocks are rinsed off and neutralized where necessary by the addition of appropriate neutralizing agents.
- **Final rinse**
  To avoid deposits and corrosion on the load, demineralized (AD) water should preferably be used, if available, for the final rinse.
- **Drying**

7.2 Program chart

Block		Wash	Wash	Wash	Wash	Wash	Wash	Wash	Wash	Wash	Drying
Function		Pre-wash 1	Pre-wash 2	Main wash 1	Main wash 2	Neutrali-zation 1 Interim rinse 1	Neutrali-zation 2	Interim rinse 2	Interim rinse 3	Interim rinse 4	Final rinse 1	Final rinse 2	Drying
Program	Button												
Short	1			HW DOS1 122°F (50°C) 3 Min		HW DOS2 2 Min						DI 140°F (60°C) 1 Min	
Standard	2	CW 2 Min		HW DOS1 140°F (60°C) 3 Min		HW DOS2 3 Min						DI 140°F (60°C) 1 Min	
Intensive	3	CW 2 Min		HW DOS1 140°F (60°C) 3 Min	HW DOS1 158°F (70°C) 3 Min	HW DOS2 2 Min		HW 1 Min				DI 140°F (60°C) 1 Min	
Analytic		CW 2 Min		HW DOS1 149°F (65°C) 3 Min		HW DOS2 1 Min		DI 1 Min				DI 140°F (60°C) 1 Min	
Plastic				HW DOS1 131°F (55°C) 3 Min		HW DOS2 2 Min		HW 1 Min				DI 140°F (60°C) 1 Min	

Block		Wash	Wash	Wash	Wash	Wash	Wash	Wash	Wash	Wash	Drying
Function		Pre-wash 1	Pre-wash 2	Main wash 1	Main wash 2	Neutrali-zation 1 Interim rinse 1	Neutrali-zation 2	Interim rinse 2	Interim rinse 3	Interim rinse 4	Final rinse 1	Final rinse 2	Drying
Program	Button												
Microbiol.				DI DOS1 194°F (90°C) 3 Min		DI DOS2 1 Min		HW 1 Min				DI 167°F (75°C) 1 Min	
Prewash		CW 5 Min											
Customer specific 1 *)		CW 2 Min		HW DOS1 122°F (50°C) 3 Min		HW DOS2 1 Min						DI 140°F (60°C) 1 Min	
Customer specific 2 *)		CW 2 Min		HW DOS1 149°F (65°C) 3 Min		HW DOS2 1 Min		DI 1 Min				DI 140°F (60°C) 1 Min	

Block		Wash	Wash	Wash	Wash	Wash	Wash	Wash	Wash	Wash	Wash	Wash	Drying
Function		Pre-wash 1	Pre-wash 2	Main wash 1	Main wash 2	Neutrali-zation 1 / Interim rinse 1	Neutrali-zation 2	Interim rinse 2	Interim rinse 3	Interim rinse 4	Final rinse 1	Final rinse 2	Drying
Program	Button												
Fill DOS1	⧉			HW DOS1 10 s		HW 10 s							
Fill DOS2	⧉			HW DOS2 10 s		HW 10 s							
Fill DOS3	⧉			HW DOS 3 10 s		HW 10 s							

CW = Cold water
HW = Hot water
DI = Demineralized water, fully demineralized water, demineralized water
Min = Holding time in minutes
DOS1 = Detergent
DOS2 = Neutralizer

**) Customizable programs with pre-set vaules to be adjusted.*

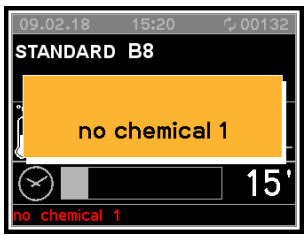
7.3 Start the program

In order to start, follow the procedure as described below:

- Select a program.
- Press START ▶ button.

8. MACHINE STATUS

8.1 Ready for operation

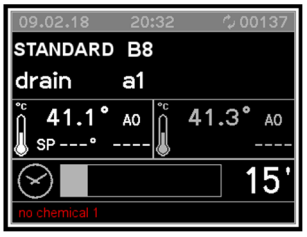


The machine is ready for operation.

The diagnostics are active. If necessary the display indicates that the door is open or it gives warning messages: lack of chemicals, memory full (historical data) or high temperature inside chamber.

When the machine is ready for operation and the door is closed, it is possible to press the START ▶ button.

8.2 Program status



The cycle performs a defined series of program stages.

The user interface displays the current program stage in progress and the temperature in the chamber.

The display indicates that the door is open as appropriate or it issues warning messages, e.g. lack of chemicals.

8.3 Power failure

In the event of a brief power failure during a running program, the current program phase is repeated and the program continued.

8.4 Reset procedure

In the event of a malfunction during a cycle in progress, the door remains closed and locked. To acknowledge the error message, it is necessary to carry out a procedure on the keyboard as follows:

- Press the STOP ■ and START ▶ buttons together and keep pressed for 5 seconds.
- Press the program P2 [2] button followed by the program P1 [1] button.
- The machine is reset and returns to ready for operation and it's possible to open the door.

Note:
If the machine shutdown persists due to a fault in one of its components (e.g., faulty probe, etc.), the door is released and the machine remains inactive.
In case this situation happens, seek technical assistance.

9. MENU

The menu incorporates all administrative processes and settings. The menu can only be accessed by using a password, which is issued by Miele Service or an authorized service technician.

The programming access and the menu are protected by two password levels:

- **1st level:** *Machine user (USER) password* – allow the access to the program and time selection, historical and USB menu access (view and printing, not historical deletion)
- **2nd level:** *Responsible Authority (ADMIN) password* – allow the access to all menus but with limited modification possibility

If the password is lost, contact Miele Service or an authorized service technician.

9.1 Accessing the menu

- To access the menu keep the PRG ⚙ button pressed for 5 seconds
- Press the P1 ∨ and P2 ∧ buttons to scroll through the menu
- Press START ⓥ button to confirm selection
- Press STOP ⮌ button to exit the menu and return to “Ready for operation” or “Malfunction” mode

Main Menu

↳ **Basic Programs**
Allows the pre-set programs to be viewed and copied

↳ **Customer programs**
Allows the creation of new customized programs

↳ **Program selection**
Allows the activation and deactivation of memorized programs

↳ **Setting**
Allows access to all programming functions

9.2 Entering password

If a selected function is password-protected, a window appears in the display. This window contains a series of asterisks.

Each asterisk represents a character of the password.

- Use buttons P1 ∨ and P2 ∧ to select symbols and press START ⓥ to confirm individual entries.
  - ➢ The protected menu appears once the correct password is entered.
  - ➢ An error message appears in the display if the password entered is incorrect. This error message must be confirmed by pressing STOP ⮌. The error message window then disappears.

9.3 Buzzer volume setting

- Hold PRG ⚙ pressed for 5 seconds.
- Use buttons P1 ∨ and P2 ∧ to scroll through the menu to the following options. Each value must be confirmed individually by pressing START ⓥ:

  ↳ 'Setting'

  ↳ "Parameter"

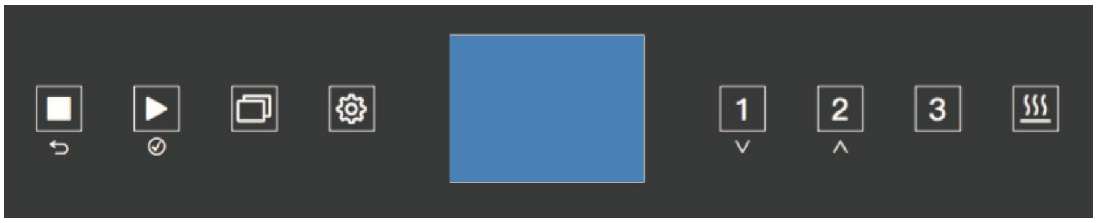
➢ Entering password

  ↳ 'System'

- Select one of the following parameters using buttons P1 ∨ and P2 ∧:
  - Parameter 1.07:
    Keypad tone volume
  - Parameter 1.08:
    Buzzer volume at end of program
  - Parameter 1.09:
    Warning ringtone volume
- Confirm selection by pressing START ⓥ.
- Use buttons P1 ∨ and P2 ∧ to select the volume. Select '0' to switch off the buzzer.
- Save the selected volume by pressing START ⓥ.
- Exit the menu by pressing STOP ⮌.

9.4 Date and time setting

The controls have a real-time clock. Times are saved to historical data.



- Hold PRG ⚙ pressed for 5 seconds.
- Use buttons P1 ∨ and P2 ∧ to scroll through the menu to the following options. Each value must be confirmed individually by pressing START ✓:

  ↳ 'Setting'

  ↳ 'Clock'

➢ Entering password

- The hours, minutes and the date can be set using buttons P1 ∨ and P2 ∧.
- Each value must be confirmed individually by pressing START ✓.
- Exit the menu by pressing STOP ⮌.

9.5 Selecting a language

Use the following parameters to select the display output language.

- Hold PRG ⚙ pressed for 5 seconds.
- Use buttons P1 ∨ and P2 ∧ to scroll through the menu to the following options. Each value must be confirmed individually by pressing START ✓:

  ↳ 'Setting'

  ↳ "Parameter"

➢ Entering password

  ↳ 'System'

- Select one of the following parameters using buttons P1 ∨ and P2 ∧:
  - Parameter 2.04: Language selection
- Confirm selection by pressing START ✓.
- Use buttons P1 ∨ and P2 ∧ to select a language and press START ✓ to confirm. The language will be changed immediately.
- Exit the menu by pressing STOP ⮌.

9.6 Changing user name

User names can be changed using the following parameters. Contact Miele Service to administer user profiles.

- Hold PRG ⚙ pressed for 5 seconds.
- Use buttons P1 ∨ and P2 ∧ to scroll through the menu to the following options. Each value must be confirmed individually by pressing START ✓:

  ↳ 'Setting'

  ↳ "Parameter"

➢ Entering password

  ↳ 'System'

- Select the following parameters using buttons P1 ∨ and P2 ∧:
  - Parameter 1.01:
    User name selection
- Confirm selection by pressing START ✓.
- Use buttons P1 ∨ and P2 ∧ to select a user and press START ✓ to confirm.
- User names can consist of up to 16 characters. Each character must be selected individually with buttons P1 ∨ and P2 ∧ and confirmed by pressing START ✓.
  A user name can consist of numbers, letters and spaces.
- Exit the menu by pressing STOP ⮌ after entering the last character.

9.7 Parameter overview

CATEGORY	SECTION	PARAMETER	DESCRIPTION	MIN.	MAX.	UDM
SYSTEM DATA						
MACHINE	1	01	User name (16 characters)	,	~	CHAR_STR
PRINTOUT	1	04	Graphic printout at the end of the cycle (0: No print out, 1: Graphic printout 2: Tabular printout, 3: Print to USB)	0	3	NUM
PRINTOUT	1	05	Printout of results of current cycle; 0=disabled 1=enabled	0	1	SEL
KEYBOARD	1	07	Buzzer volume - loading side (0: buzzer switched off)	0	50	NUM
KEYBOARD	1	08	Buzzer volume - end of cycle	0	50	NUM
KEYBOARD	1	09	Buzzer alarm volume (0: buzzer switched off)	0	50	NUM
KEYBOARD	1	13	Show A0 value in display 0=disabled 1=enabled	0	1	SEL
KEYBOARD	1	16	Historical cycles memory full (0=no warning, 1=warning, 2=warning and it is not possible to start a cycle)	0	2	SEL
MACHINE DATA						
KEYBOARD	**2**	**04**	Selecting a language	0	7	SEL

10. CLOCK

- The control has a real-time clock.
- Time reading is also used when recording historical data.

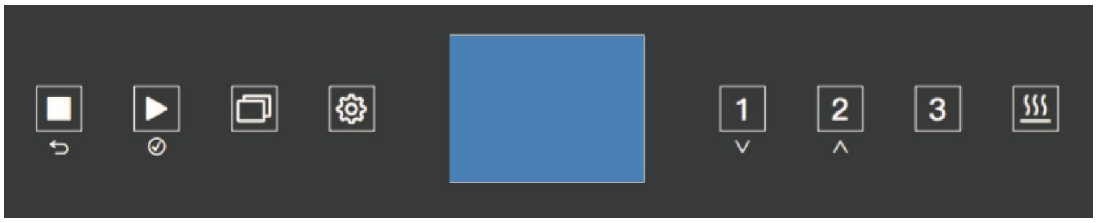
11. HISTORICAL DATA

During the working cycle, the machine memorizes all working data of the wash cycles that have been performed on a card.

- The card is able to record the fields described below for up to max. 200 cycles in the permanent memory.
- The fields given in the example below are recorded for each cycle:

DATE	START TIME	PROGRAM	MAX °F (°C)	HOLD >185°F (85°C)	FAULTS
12/12/2018	12.00	Short	140°F (60°C)	60 seconds	01
12/12/2018	13.05	Standard	140°F (60°C)	180 seconds	01

When 95% of the memory is full the dump memory message appears on the display.
To deactivate the recurring message follow the steps below.



- Hold PRG ⚙ pressed for 5 seconds.
- Use buttons P1 ∨ and P2 ∧ to scroll through the menu to the following options. Each value must be confirmed individually by pressing START ✓:

  ↳ 'Setting'

  ↳ "Parameter"

➢ Entering password

  ↳ “System”

- Select one of the following parameters using buttons P1 ∨ and P2 ∧:
  - Parameter 1.16
- Confirm selection by pressing START ✓.
- Select one of the following options with buttons P1 ∨ and P2 ∧:
  - 0 = No warning
    If the memory is full, the oldest report is overwritten
  - 1 = Warning
  - 2 = Warning and it is not possible to start a cycle
- Confirm selection by pressing START ✓.
- Exit the menu by pressing STOP ⮌.

12. ALARMS AND EVENTS LIST

12.1 Description of alarm messages

During machine operation, the user is aided by **ALARMS** or **ALARM MESSAGES** which make use of visual signals on the operator display panel to advise of possible anomalies in progress and machine alarms which have intervened.

Intervention of an ALARM during operation of the system is signaled to the user by a message on the operator panel.

The alarm which appears on the panel remains active until the cause of intervention is removed.

The intervention of an alarm stops the wash cycle currently in progress.

12.2 List of alarm messages

Possible alarms which may intervene during a work cycle are shown on the control panel display.

The message includes the number of the alarm that has intervened and its name.

A complete list of possible alarm messages follows.

ALARM	DISPLAY MESSAGE	DESCRIPTION
E 2	open load. door	Door open and/or unlocked during cycle.
E 4	load.door fail.	Door blocked but open (discrepancy).
E 7	unblock.door 1	Door problems: • Overtime lock door. • During block door, the door has been opened.
E 9	unlocking 1fail.	Overtime unlock door.
E11	no cold water	Timeout cold water filling level
E12	no hot water	Timeout hot water filling level
E13	no demin. water	Timeout demineralized water filling level
E23	drain problem	Timeout minimum water level during the drain.
E26	prewash max°C	Chamber temperature exceeded selected value during pre-wash.
E27	tank probe lim°C	Chamber temperature above maximum value.
E30	tank probe	Temperature sensor defective - Operation sensor (sensor 1)
E31	tank probe 2	Defective temperature sensor - Redundant sensor (sensor 2)
E34	check temp.	Appears when all the following conditions are met: • Chamber temperature above selected value. • Temperature difference between the two probes is greater than 35.6°F (2°C). • Chamber heating failure.

E35	Serial 1 load	No connection between master PCB and loading control panel PCB.
E37	CAN serial	No connection between master and slave PCB (CANbus).
E39	no tank heating	No heating in chamber. No temperature increase during allocated time.
E44	levels steamcond	Max steam condenser level enabled and min steam condenser level disabled.
E45	pump steam cond.	Max and min steam condenser level enabled: probable drain pump failure.
E46	pump	Circulation pump ON; Pressure switch close-circuited. Circulation pump rotates in wrong direction.
E60	Time	Maximum time exceeded in main wash

12.3 List of warning messages

DISPLAY MESSAGE	DESCRIPTION
press start	It is possible to start a cycle during a stand-by state.
no chemical 1	The cleaning agent associated to dosing pump 1 is used up. Diagnostics with dosing pump enabled: Pressure switch state with pressure switch presence;
no chemical 2	The cleaning agent associated to dosing pump 2 is use up. Diagnostics with dosing pump enabled: Pressure switch state with pressure switch presence;
no chemical 3	The cleaning agent associated to dosing pump 3 is used up. Diagnostics with dosing pump enabled: Pressure switch state with pressure switch presence;
open door	Indicates that door is open.
wait	Generic warning to wait before a new action.

13. USB PORT

Testing and transmission point for Miele Technical Service.

14. MAINTENANCE

14.1 General recommendations on maintenance

Maintenance operations for the machine described in this manual can be divided into "**Routine Maintenance**" and "**Special Maintenance**".

14.1.1 Machine status

The machine must be turned off and the dedicated disconnection device must be in the OFF position. The person performing the task must ensure that there is no-one around the machine during this operation.

14.2 Maintenance request

The machine displays the "**MAINTENANCE**" warning after a specified time or after a specified number of working hours.This warning does not affect the normal use of the machine.

14.3 Routine maintenance

Routine maintenance includes all the operations aimed at keeping various parts of the machine clean and functional. It must be performed on a regular basis or when it is considered necessary due to incorrect performance of a washing cycle.

Since these are simple cleaning operations, they are normally performed by the machine user on his own liability. The following table shows the various routine maintenance tasks, their frequency, who is to perform them and the reference to the specific intervention form.

Each single task is fully explained in the single reference forms.

14.4 Table of routine maintenance tasks

CLEANING AND CHECKING OPERATIONS		
FREQUENCY	**ACTION**	**OPERATOR**
EVERY DAY	- Cleaning the filters in the wash cabinet - Check the fill level of the chemical containers regulary based on the usage, at least once a day	**USER**
EVERY WEEK	- Spray arms: Check for free rotation. Open the cleaning caps and wash inside. Check and, if necessary, clean the nozzle	**USER**

Note:

Routine maintenance tasks must be performed within the intervals set forth in the table and in accordiance to the daily routine controls check list.

It is however advisable to carry out single cleaning tasks anytime you feel they may be necessary.

WARNING

Never clean the machine or and its immediate surrounding area with a water hose or a pressure washer.

CLEANING THE EXTERNAL BODY OF THE MACHINE		
	Operator: **USER**	Frequency: **once a day**

METHOD OF CLEANING EXTERNAL BODY:

Use a damp cloth to clean the external body of the machine. Only use neutral detergents. Do not use abrasive detergents or solvents and/or thinners of any kind.

METHOD OF CLEANING CONTROL PANEL:

Clean the control panel using only a soft cloth dampened with a product for the cleaning of plastic materials.

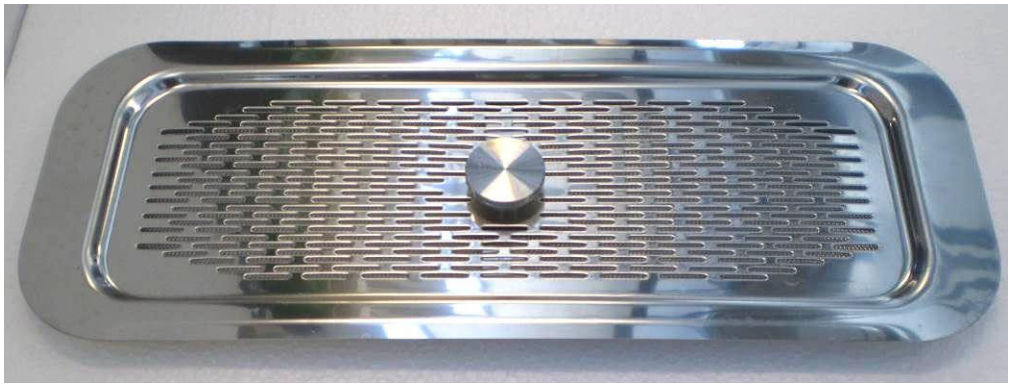
CLEANING OF FILTERS IN THE WASH CABINET		
	Operator: **USER**	Frequency: **every day**

METHOD OF INTERVENTION:
Clean the washing chamber drain filters in the following manner:

- Open the washing chamber door and remove the basket.

Warning:
Hot surface

- Remove the drain water filtering assembly from the chamber.



- Unscrew the threaded pin and remove the cover of the drain water filter basket.


- Clean the drain water filter basket. Remove residues deposited during various washing cycles.
- Remove and clean any deposits and incrustations from the washing chamber drain.


- Place back the clean filter on the washing chamber drain.
- Put the cover for the drain water filter back in place. Lock it in position with the threaded pin.
- Put the drain water filter group back in the wash chamber.

CLEANING OF WASHING CHAMBER THERMOSTAT PROBE		
	Operator: **USER**	Frequency: **6 months**

METHOD OF INTERVENTION:

Clean the washing chamber thermostat probe in the following manner:

- Open the wash chamber door and remove the basket.

- Visually check the washing chamber thermostat probe.
- If deposits or lime incrustations can be seen clean thermostat probe using a damp cloth and an appropriate detergent.

Take care not to damage or move the probe.

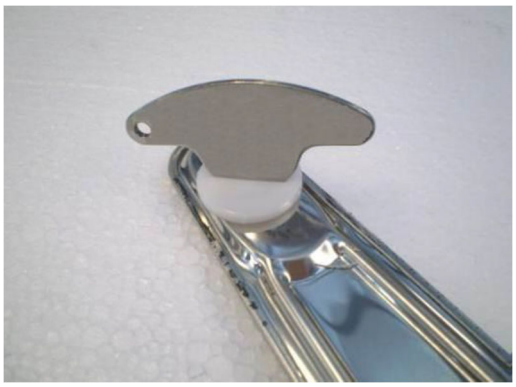
CLEANING OF SPRAY ARMS		
	Operator: **USER**	Frequency: **every week**

METHOD OF INTERVENTION: clean the spray arms as follows:

- Open the wash chamber door and remove the basket.

Warning:
Hot surface


- Unscrew the fastening pin of the two rotors and remove them from the chamber.


- Unscrew the closure plug of the rear part of the nozzle and remove it.
- Carefully clean and remove any incrustations from the washing rotor nozzles using appropriate detergents.
- Put the plugs back in place at the ends of the spray arms.
- Make sure the gasket is properly positioned and in good condition. Replace it if necessary.
- Put the rotors back in the machine.
- Lock them in place with the previously removed fastening pin.

14.5 Special maintenance

All special maintenance work is to be performed only by qualified, skilled personnel.

If your machine shows a functional anomaly so as to require a special maintenance, please contact Miele Service.

14.5.1 Table of special maintenance tasks

Cleaning and checking operations		
Frequency	**Action**	**Operator**
Special maintenance tasks must be carried out by Miele Service after **1000 operating hours or every 12 months**	• Water solenoid filters: Check, clean and in case replace them. • Maintenance of dosing systems. • Temperature probes • Safety thermostat: sensor verfication. • Water solenoid valves: Check for any leakage. • Drain pump: Check for any leakage. • Check of pressure switches. • Check of piping and seals.	**SERVICE**

15. PROBLEMS – CAUSES – REMEDY

15.1 Introduction

This chapter includes possible problems which may occur during machine operation, along with their cause and solution.

If the inconveniences continue or take place frequently even after having carried out all the instructions stated in this chapter, please contact Miele Service.

15.2 Problems (P.) – Causes (C.) – Remedy (R.)

P. MACHINE WILL NOT START:

C. Circuit breaker de-activated.

R. Place it in the "ON" working position.

C. Main switch de-activated

R. Place it in the "ON" working position

P. WASHING CYCLE DOES NOT START:

C. The door is not correctly closed or locked.

R. Check door closure. Check that the door microswitch is properly activated.

C. Microswitch failure

R. Check operation and replace as necessary

C. No detergent in tank.

R. Turn the machine off and fill the tank.

P. MACHINE DOES NOT REACH SET TEMPERATURE FOR THE SELECTED WASHING CYCLE:

C. The thermostat probe of the washing chamber is dirty or covered with lime.

R. Clean the thermostat probe of the washing chamber, performing the routine maintenance described in “MAINTENANCE” chapter of this manual.

P. MACHINE DOES NOT PROPERLY RUN WASH CYCLE:

C. The nozzles of the spray arms are clogged with limescale.

R. Clean the nozzles or spray arms by carrying out the routine maintenance set forth in “MAINTENANCE” chapter of this manual.

C. Water required for proper washing does not arrive.

R. Ensure that the water is supplied at the correct pressure and that there are no obstructions.

C. The correct amount of water required for correct washing cycle does not arrive.

R. Completely close the tap for connection to the plumbing system located upstream from the machine and clean the filter (by the technician (SERVICE)).

P. DETERGENT FILLING PHASE DOES NOT OCCUR CORRECTLY:

C. Chemical dispensing pump is not working properly.

R. Perform the routine maintenance set forth in “MAINTENANCE” chapter of this manual.

C. Chemical dispensing pump failed.

R. Contact Miele Service.

16. TECHNICAL DATA

Description	Standard	Metric
Max height	31.5“	800 mm
Max altitude of operation		2000 m SLM
ELECTRICAL		
Voltage	115V/1PH+N+GR / 60Hz	115V/1PH+N+GR / 60Hz
Power supply	1.6 kW/ 15A	1.6 kW / 15A
Fuse rating	1 x 20A	1 x 20A
Cable and min.section	3 x AWG 12	3 x AWG 12
COLD WATER		
Connection	¾” male	DN 20
Max flow rate	3.2 gpm	12 lt/min
Min flow pressure	14.5 PSI g	100 kPa
Max pressure	116 PSI g	800 kPa
Max temperature	59°F	15°C
Max hardness	70 ppm CaCO3	7°f
Max conductivity/ph	n.a./7...8 pH	n.a./7...8 pH
WARM WATER		
Connection	¾” male	DN 20
Max flow rate	3.2 gpm	12 lt/min
Min flow pressure	14.5 PSI g	100 kPa
Max pressure	116 PSI g	800 kPa
Max temperature	140°F	60°C
Max hardness	70 ppm CaCO3	7°f
Max conductivity/ph	n.a./7...8 pH	n.a./7...8 pH
DEMI WATER		
Connection	¾” male	DN 20
Max flow rate	3.2 gpm	12 lt/min
Min flow pressure	14.5 PSI g	100 kPa
Max pressure	116 PSI g	200 kPa
Max temperature	140°F	60°C
Max hardness	15 ppm CaCO3	1.5°f
Max conductivity/ph	30 µs/cm/5...8 pH	30 µs/cm/5...8 pH
MAIN DRAIN		
Connection	½” 15DN	Ø 22 mm Hose L=2 m (78.7”)
Peak flow rate	3.5 gpm	13 lt/min
Max height	31.5”	0.80 m
Max temperature	200°F	93°C
PRINTER CONNECTION		
Type	RS232	

TECHNICAL DATA

ENVIRONMENT		
Temperature	+41…+104°F	+5…+40°C
Relative humidity	20…90% no condensing	20…90% no condensing
Eq. noise pr. Lev. (Leq)	<70 dB (A)	<70 dB (A)
WEIGHTS		
Total Net	143 lb	65 daN (kg)
Total Gross	160 lb	73 daN (kg)
Max on working	264 lb	120 daN (kg)
Floor load	3559 lb/ft“	15 daN/m“ (kg/m“)
Foot support area	2.8 in“	18 cmq
HEAT EMISSIONS		
Max. from frames	1126 BTU	330 W
Max. from trolley (122°F)	1194 BTU	350 W
Overvoltage category (according to IEC EN 60664 rule)		II
UL mark	61010-1	
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 address	Steelco S.p.A. Via Balegante, 27 31039 Riese Pio X - Italy	

17. DISPOSING OF YOUR OLD MACHINE

For environmental and safety reasons ensure the machine is completely drained of any residual water, chemical residues and cleaning agents. Observe safety regulations and wear safety goggles and gloves.

Make the door lock inoperable, so that children cannot accidentally shut themselves in. Then make appropriate arrangements for its safe disposal.

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

Please dispose of it at your local community waste collection / recycling center for electrical and electronic appliances, or contact your dealer or Miele for advice. You are also responsible (by law, depending on country) for deleting any personal data that may be stored on the appliance being disposed of. Please ensure that your old appliance poses no risk to children while being stored prior to disposal.

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

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