



Operating and installation instructions

Commercial Washing Machine

PW 413

PW 418

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.

en-GB

The packaging is designed to protect 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.

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 centre 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.

Energy and water consumption

- To get the most out of your machine, load the **maximum** dry load for the programme you are using.
The most efficient use of energy and water is achieved when a full load is washed.

Detergent

- Do not exceed the amounts of detergent recommended by the manufacturer on the packaging.
- Reduce the amount of detergent for smaller loads.

When drying with a tumble dryer

Select the highest possible spin speed for the wash programme to save energy in the subsequent tumble dryer cycle.

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Warning and Safety instructions

This washing machine complies with all relevant current local and national safety requirements. Inappropriate use can, however, lead to personal injury and damage to property.

It is essential to read the operating instructions before using the washing machine for the first time. They contain important information on the safety, use and maintenance of the washing machine. This prevents both personal injury and damage to the washing machine.

If other persons are being shown how to operate the washing machine, they must be given or informed of these important safety instructions.

Keep these instructions in a safe place and pass them on to any future owner.

Correct use

- ▶ The washing machine is designed for commercial use.
- ▶ The washing machine is intended for installation in a commercial environment.
- ▶ If the machine is used in a commercial environment it may only be operated by instructed/trained personnel. If the machine is used in a publically accessible area, the supervisor must ensure that it can be operated safely without risk of danger.
- ▶ This washing machine is only intended for items of laundry which have not been impregnated with dangerous or inflammable substances.
- ▶ Only machine wash articles which have a care label stating that they are suitable for machine washing or for wet cleaning.
- ▶ This washing machine must be used as described in the operating instructions and must be checked on a regular basis to make sure it is functioning correctly. Maintenance must be carried out when necessary.
- ▶ The washing machine is not suitable for outdoor use.
- ▶ Do not install your washing machine in a room where temperatures below freezing may occur. Frozen hoses may burst or split. The reliability of the electronic control unit may be impaired at temperatures below freezing point.
- ▶ This washing machine must not be used in a non-stationary location (e.g. on a ship).
- ▶ This washing machine can only be used by people with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, if they are supervised whilst using it or have been shown how to use it in a safe way and understand and recognise the consequences of incorrect operation.
- ▶ Children under the age of eight must not be allowed near the washing machine unless they are constantly supervised.
- ▶ Older children may only use the washing machine without supervision if its operation has been clearly explained to them and they are able to use it safely. Children must be able to understand and recognise the possible dangers caused by incorrect operation.
- ▶ Children may not carry out cleaning or maintenance on the washing machine unsupervised.

Warning and Safety instructions

- ▶ Always supervise any children in the vicinity of the washing machine. Never allow children to play with the washing machine.
- ▶ Disinfection programmes must not be interrupted, as this can have a limiting effect on the disinfection result. It is the operator's responsibility to ensure that the standard of disinfection in thermal as well as chemo thermal procedures is maintained (in accordance with local and national health and safety regulations) by carrying out suitable validation tests.
- ▶ Any uses other than those listed above are prohibited. The manufacturer accepts no liability in such cases.

Preventing problems

► Do not use chemical cleaning agents such as those use for dry cleaning in this washing machine. There is a risk of **fire or explosion** with most cleaning agents, e.g. benzine.

► When washing with high temperatures, remember that the porthole glass becomes hot. Do not let children touch it during a wash programme.

Danger of burning!

► Always close the door after use. This is to avoid the risk of children trying to climb into the washing machine or hide things in it, and animals getting into the drum.

► Do not damage, remove or bypass the safety components or control elements of this washing machine.

► Machines with a damaged control panel, wires or cables must not be used until they have been repaired.

► Water used for washing in this machine is suds solution and not drinking water! It must be discharged into a proper drainage system.

► Always make sure that the drum is stationary before reaching in to remove laundry. Reaching into a moving drum is extremely dangerous. Danger of injury.

► Be careful not to put your hands in the gap between door and frame when closing the drum door.

Caution! The drum door is locked automatically as soon as the machine starts.

► If the detergent compartment drawer is open and any of the dispenser drawers are missing, there is a **danger of scalding from splashing water**. Do not operate the machine if any of its components are missing.

► It is particularly important to observe manufacturer's instructions when using a combination of cleaning agents and special application products. Products must only be used for applications approved by the manufacturer to avoid any material damage or the occurrence of strong chemical reactions.

Warning and Safety instructions

Technical safety

- ▶ Before setting up the washing machine, check it for any externally visible damage. Do not install or use a damaged machine.
- ▶ The electrical safety of this washing machine can only be guaranteed when correctly earthed. It is most important that this basic safety requirement is regularly tested, and where there is any doubt the on-site wiring system should be inspected by a qualified electrician. Miele cannot be held liable for the consequences of an inadequate earthing system (e.g. electric shock).
- ▶ Unauthorised repairs could result in unforeseen dangers for the user, for which the manufacturer cannot accept liability. Repairs should only be undertaken by a Miele approved service technician, otherwise any subsequent damage will not be covered by the guarantee.
- ▶ Do not make any alterations to the machine, unless authorised to do so by Miele.
- ▶ In the event of a fault or maintenance, the washing machine must be disconnected from the power supply. The washing machine is only electrically disconnected from the power supply, if
 - the plug has been disconnected from the socket, or
 - the mains fuse has been disconnected, or
 - the on-site screw-in fuse has been completely unscrewed.

See "Installation and connection - Electrical connection".

- ▶ This washing machine must only be connected to the on-site water supply using a new hose kit. Old hoses must not be re-used. Check the hose regularly for signs of wear. Change in good time to avoid the risk of leaks and subsequent damage.
- ▶ The cause of any leaks must be dealt with before the washing machine is restarted. Disconnect the washing machine immediately if any water leaks out.
- ▶ Steam heating malfunctions can result in high temperatures at the door, the dispenser and inside the drum (in particular at the edge of the drum). There is a risk of slight burns. This only applies to machines with steam heating.
- ▶ Faulty components must only be replaced by genuine Miele original spare parts. Miele can only guarantee the safety standards of the machine when Miele replacement parts are used.
- ▶ All relevant national provisions and regulations (DGUV in Germany) relating to accident insurance are applicable to this machine. It is recommended to carry out testing in accordance with the regulatory framework described in DGUV100-500 /Chapter 2.6/ Section 4. The test book required for the documentation is available from Miele.
- ▶ Please observe the instructions in "Installation and connection" and "Technical data".
- ▶ The plug for the washing machine must always be kept accessible so that the machine can be easily disconnected from the power supply.
- ▶ For hard-wired machines, an all-pole means of deactivation must be provided on site.

Warning and Safety instructions

► If the machine is to be hard-wired, there must be a means of disconnecting all poles from the power supply. The mains switch must be close to the washing machine and be clearly identifiable, unhindered and easily accessible at all times.

Warning and Safety instructions

Correct use

- ▶ The maximum dry laundry weight for PW 413 is 14 kg and for PW 418 is 20 kg. The maximum recommended loads for individual programmes are given in the Programme chart.
- ▶ Before using the machine for the first time, check that the transport safety panels at the rear of the machine have been removed (see "Installation and connection - Removing transport safety panels"). During spinning, a transport safety panel which is still in place may result in damage to both the machine and adjacent furniture or appliances.
- ▶ Never try to open the drum door of the washing machine using force. The door can only be opened when a corresponding message appears in the display.
- ▶ Do not push the suspended drum unit while the machine is running.
- ▶ When closing the door there is a danger of crushing and shearing between the door frame and the drum opening and also at the hinges. Exercise caution as the door locks automatically when the machine starts!
- ▶ Close the stopcock if the machine is to be left for any length of time (e.g. while on holiday), especially if there is no floor drain (gully) in the immediate vicinity.
- ▶ Take care to ensure that foreign objects (e.g. nails, pins, coins, paper clips) do not find their way into the machine with the laundry. These may damage components of the machine (e.g. suds container, drum). Damaged components can damage the laundry.
- ▶ If the correct amount of detergent is dispensed, the machine should not need to be descaled. If, however, you do wish to descale it, only use proprietary non-corrosive descaling agents and strictly observe the instructions on the packaging. Special descaling agent is available from Miele. Strictly observe the instructions for the descaling agent.
- ▶ Textiles which have been pre-treated in solvent based cleaning agents must be thoroughly rinsed in clean water before being washed in the machine.
- ▶ Never use solvent based cleaning agents, e.g. those containing benzene in this machine. Doing so may result in damage to component parts and create toxic fumes. **Risk of fire and explosion!**
- ▶ Benzene, petrol, paraffin, or any easily flammable liquid must not be stored or used near the machine. Do not use the machine lid as storage space.
Risk of fire and explosion!
- ▶ Do not store chemicals (liquid detergents, additives) on the machine lid. They may cause discolouration or lacquer damage. Accidentally spilled chemicals should be removed immediately with a wet cloth from the surface.
- ▶ There is a fan outlet on the back of the machine. Under no circumstances must this be blocked. Please observe the minimum distance on the installation diagram.
- ▶ Only use dyes specified by the manufacturer as being suitable for use in a washing machine. Always observe the manufacturer's instructions carefully.
- ▶ Colour run and dye removers contain sulphur compounds which can cause damage such as corrosion. Do not use these products in this machine.

Warning and Safety instructions

- ▶ Avoid contact of stainless steel surfaces with liquid cleaning and disinfecting agents which contain chlorine or sodium hypochlorite. These agents can have a corrosive effect on stainless steel. Aggressive vapours containing chlorine bleach can also be corrosive. Do not store open containers of these agents near the machine.
- ▶ Do not use a pressure washer or hose to clean the washing machine.

Warning and Safety instructions

Chlorine and component damage

► Frequent use of chlorine products increases the risk of damage to components.

Notes on using chlorine bleach and perchloroethylene (PCE)

The use of substances containing chlorine, such as sodium hypochlorite and chlorine bleach in powder form, can result in damage of the protective layer of stainless steel and corrosion on componentry, depending on the chlorine concentration, the exposure time and the temperature. For this reason, it is important to refrain from the use of such products, and use bleaches based on oxygen instead.

If, however, chlorine bleaches are used for special soiling, an anti-chlorine treatment must always be carried out. Otherwise, the washing machine and the load may suffer persistent and irreparable damage.

Anti-chlorine treatment

Anti-chlorine treatment must be carried out immediately after chlorine bleach has been used. The use of hydrogen peroxide or an oxygen based cleaning or bleaching agent is recommended and the laundry should not be drained in between.

Thiosulphates, another common chlorine removal product, can on the other hand result in gypsum-like deposits on both the laundry and on machine surfaces, particularly in combination with hard water. Treatment with hydrogen peroxide neutralises chlorine and is the preferred method of choice.

The exact quantity of additives and the treatment temperatures required must be set and tested on site in accordance with the dosage recommendations of the detergent and additive manufacturers. The laundry must also be tested to check whether it contains any active chlorine residues.

Accessories

► Accessory parts may only be fitted when expressly approved by Miele. If other parts are used, guarantee, performance and product liability claims will be invalidated.

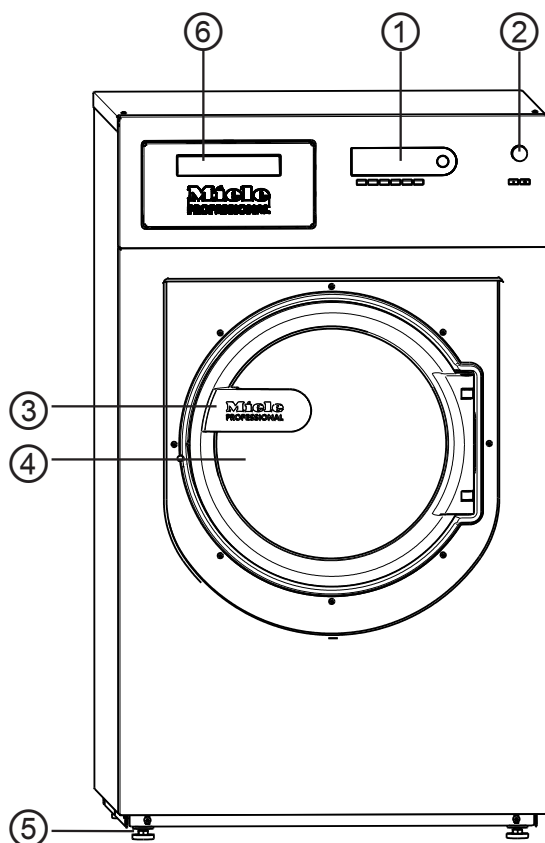
Disposal of your old machine

► Before disposing of an washing machine it is important to disable the door lock. This way you will prevent the risk of children accidentally locking themselves in and endangering their lives.

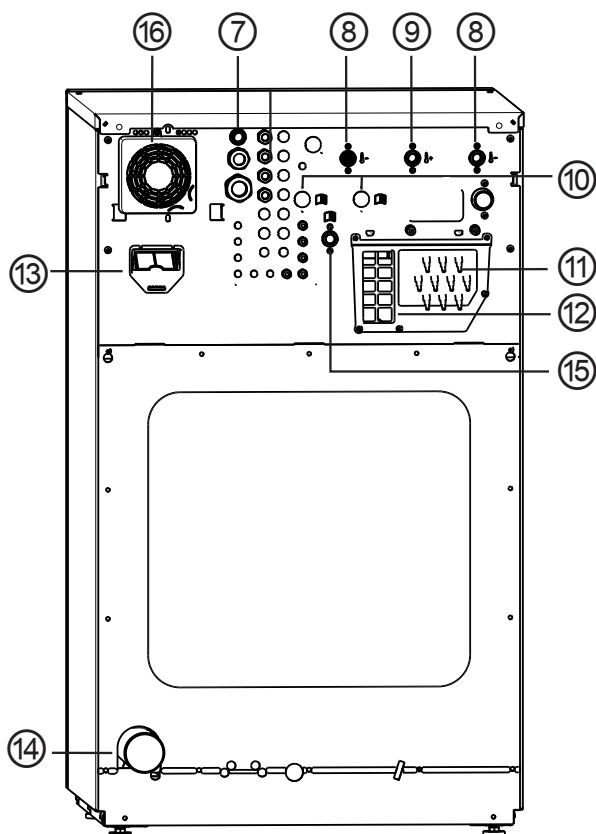
Miele cannot be held liable for damage caused by non-compliance with these Warning and Safety instructions.

Description of the machine (with detergent dispensing compartment)

Models with detergent dispensing compartment (WEK)



- ① **Display**
see "Control panel"
- ② **Emergency off switch**
see "Control panel"
- ③ **Door handle**
- ④ **Drum door**
- ⑤ **Four adjustable feet**
- ⑥ **Detergent dispensing compartment**
- ⑦ **Electrical connection**
- ⑧ **Cold water connection**

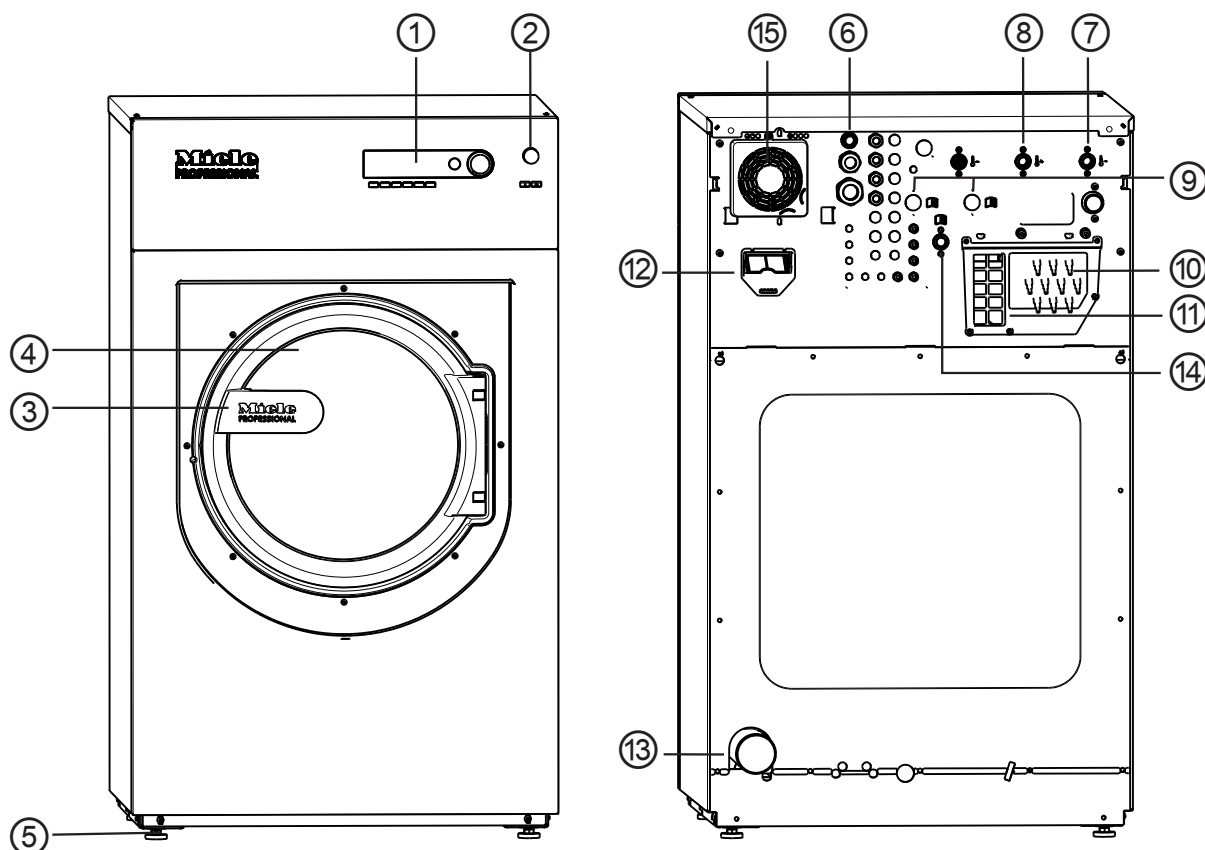


- ⑨ **Hot water connection**
- ⑩ **2 x hard water connection**
(Optional)
- ⑪ **Connections for external dispenser pumps**
- ⑫ **Vapour extraction / free outlet Type AB**
- ⑬ **Communication module slot**
The XKM RS232 communication module is available as an optional accessory.
- ⑭ **Dump valve**
- ⑮ **Cold water connection for liquid dispensing**
(Optional)
- ⑯ **Fan casing**

See "Installation and connection"

Description of the machine (without detergent dispensing compartment)

Models without detergent dispensing compartment (WEK)



- ① **Display**
see "Control panel"
- ② **Emergency off switch**
see "Control panel"
- ③ **Door handle**
- ④ **Drum door**
- ⑤ **Four adjustable feet**
- ⑥ **Electrical connection**
- ⑦ **Cold water connection**
- ⑧ **Hot water connection**

- ⑨ **2 x hard water connection**
(optional)
- ⑩ **Connections for dispenser pumps**
- ⑪ **Vapour extraction / free outlet Type AB**
- ⑫ **Communication module slot**
The XKM RS232 communication module is available as an optional accessory.
- ⑬ **Dump valve**
- ⑭ **Cold water connection for liquid dispensing**
- ⑮ **Fan casing**

See "Installation and connection"

Control panel



① Display

When the machine is switched on the welcome screen will appear briefly, followed by the first programme or the last programme started.

② Function buttons

These buttons can be allocated specific functions depending on the status of the machine. These appear in the display above the buttons and are highlighted when selected.

The first 6 programmes can be selected directly using buttons 1 - 6.

Further programmes can be selected by pressing and holding button 6 ►.

③ Start button

The light ring around the button flashes when a selected programme can be started. The selected programme starts when the start button is pressed. After a programme has been started, the display content can be shown again by pressing this button.

④ Optical interface PC

Using PC software, data can be transmitted to and from the controls to a PC.

The optical interface on the control panel provides the connection point.

⑤ Power On button

For switching the machine on

⑥ Power Off button

For switching the machine off

⑦ Emergency off switch

The emergency off switch puts the machine into a safe state in the event of danger or in order to prevent danger. The emergency off switch must be placed in such a way that the user can activate it immediately in an emergency. **Caution**, the machine is not disconnected from the power supply.

When the hazard has been removed, the switch is released by turning it clockwise.

When the "START" button is pressed again, the interrupted programme continues.

Function buttons

Stop/Finish

The right-hand function button is used as a finish button after a programme has been started.

After pressing the button the selected programme is stopped, if pressed again the programme is cancelled.

Block plus.

The corresponding programme block (e.g. Pre-wash) is added to the programme.

Starch stop

Press this button if the laundry is to be starched.

Without spin

Press this button if a final spin is not required after the final rinse.

Settings

Start time

When this button is pressed before starting the programme, information about selecting a start time will appear on the display.

Back Return to previous display page.

Information on next / previous line

Save

See "Access to supervisor level"

Water intake

Programme locked

If a programme is locked, after 1 minute it can no longer be stopped and cancelled with the finish button.

Programme unlocked

Data transfer

Tone (buzzer) off

Preparing for use

Commissioning

⚠ The machine should be commissioned by a Miele service technician or an authorised Miele Service dealer only.

- Open the supply valves for water and steam, depending on heating type.
- Switch the machine on at the on-site mains switch.
- Switch on the machine with the I "Power on" button.



The welcome screen will appear in the display.

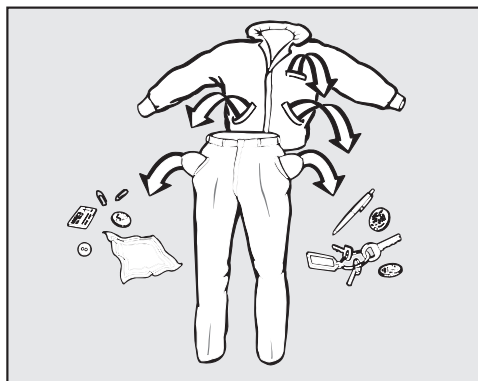
1	Cottons hygiene	13,0/13,0kg
60°C	Main wash	
	Rinses	1025 rpm
1	2	3
4	5	6

The display varies depending on the selected programme.

Tip: The first 6 programmes can be selected directly using buttons 1 - 6.

Further programmes can be selected by pressing and holding button 6 ►.

Preparing the laundry



- Empty all pockets.

⚠ Foreign objects (e.g. nails, coins, paper clips, etc.) can cause damage to fabrics and to components in the machine.

Max. load

(dry laundry)

PW 413	PW 418
max. 14 kg	max. 20 kg

Maximum load weights are given in the programme chart.


Loading the washing machine

- Switch on the washing machine with the **I** button.
- Pull the door handle to open the drum door.
- Unfold the laundry and load loosely into the drum. Mixing both large and small items gives better wash results and also helps distribute the load evenly during spinning.

The most efficient use of energy and water is achieved when a full load is washed. However, do not overload as this reduces cleaning efficiency and causes creases.

Closing the drum door

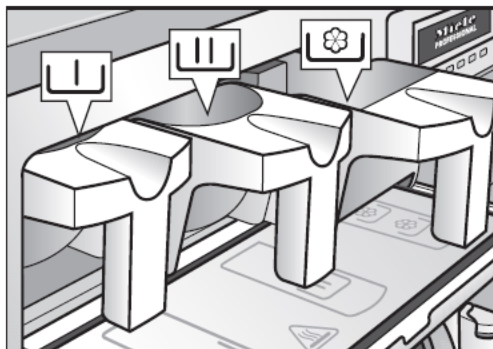
- Close the door by pressing it until the pre-latch engages.




 Make sure that no items are caught between the drum door and the seal.

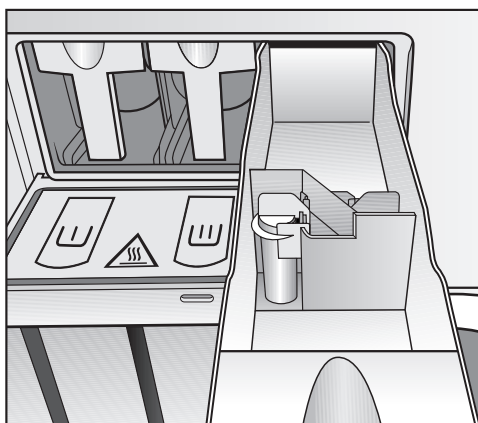
The drum door engages, but does not lock yet. The drum door locks automatically as soon as the machine starts.


Washing with dispenser compartment

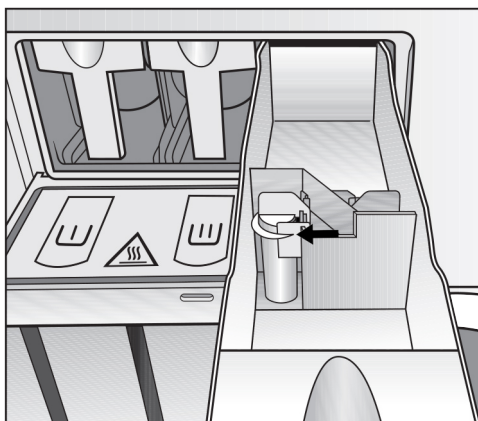
Adding detergent using the detergent dispenser compartment




- For standard wash programmes add the detergent for the main wash to the  drawer and if desired, add detergent for a pre-wash to the  drawer. Add fabric conditioner to the front of the  drawer.



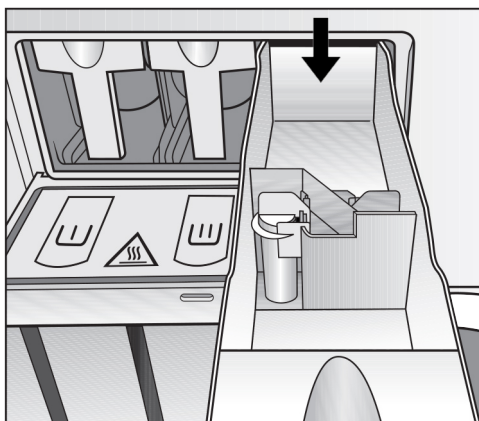
- Add any other liquid agents to the back of the  drawer (if this has been programmed).



Do not fill the  drawers above the level marker with liquid agents. Otherwise they will run straight through the siphon into the suds container.

Bleaching agent

Only use bleach on fabrics with the Δ symbol on the wash care label.



Liquid bleaching agents must only be dispensed through the designated dispenser drawer compartment. The agent will then be dispensed automatically during the 2nd rinse. Liquid bleaching agents should only be used on coloured textiles which have a wash care label stating that they are colour fast and suitable for bleaching.

⚠ Frequent use of chlorine products increases the risk of damage to components.

Dyes, dye removers and descaling agents

Proprietary dyes, dye removers and descaling agents may only be used in this machine if the manufacturer expressly states that they are suitable for use in a washing machine. Instructions on the packaging must be observed.

Washing without dispenser compartment

Amount to be dispensed

Please follow the detergent manufacturer's instructions.

It is particularly important to observe manufacturer's instructions when using a combination of cleaning agents and special application products. Products must only be used for applications approved by the manufacturer to avoid any material damage or the occurrence of strong chemical reactions. Confirmation must be sought from the detergent manufacturer that using the agent in the washing machine will not cause damage.

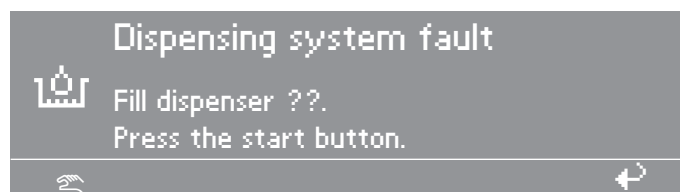
Correct dosage also depends on the viscosity of the liquid agent. It should therefore be allowed to settle to room temperature before being used.

Commissioning the dispensing pumps

Before the liquid dispensing pumps can be used the liquid agent must be drawn into the system and the amount to be dispensed set.

Continuing the programme after a "Dispensing system fault" message

When the dispenser is empty, the pump and the machine switch themselves off and the washing machine indicates a lack of liquid agent.



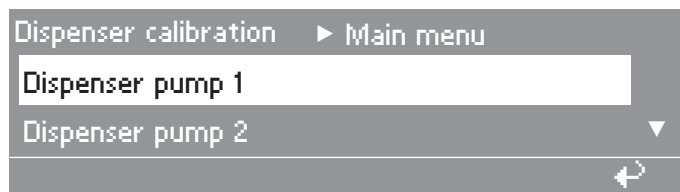
- Fill the dispenser container.
- Press the "Start" button to continue the programme.

Dispenser calibration

Dispensing calibration is used to measure the throughput of individual dispensing pumps.

To go directly to "dispenser calibration" when the machine is switched off:

- Press and hold multifunction button 2 and switch the machine on with Power on I.



Options:

- Dispenser pump 1 to 13

- Select a dispenser pump.

When a dispenser pump is selected, the following will appear in the display:



Tip: The dispensing amount can be set from 0 to 9999 ml in 1 ml increments.

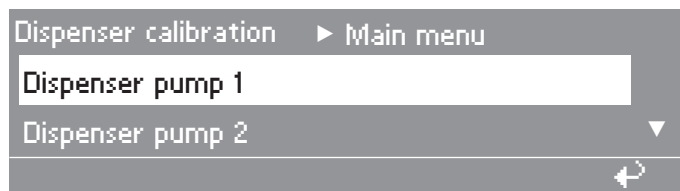
- Press multifunction button 0/1.

The dispensing hose will fill up.

- Stop the process by pressing button 0/1.
- Run the hose of the dispenser pump that is being checked upwards into a measuring vessel.

⚠ Irritant agents.
Skin and eye irritation.
Avoid contact with skin and eyes, wear protective clothing.

- Return to the main menu by pressing ↶ "Back".



- Select a dispenser pump.



Washing without dispenser compartment

Dispenser calibration ▶ Dispenser pump 1		
V: 100 ml	t: 0 s	P: No
0/1  		

- Press multifunction button 0/1.

Stop the pump by pressing button 0/1, or the pump will stop automatically after 60 seconds.

- Measure the required amount in the measuring vessel.

Dispenser calibration ▶ Dispenser pump 1		
V: 100 ml	t: 30 s	P: 200 ml/min
0/1  		

- Enter the amount measured in field "V:".

The throughput P is calculated in ml/min. by the controls.

- Press the "Save"  button.

The measured value is assigned to the pump.

- Reattach the hose.

Detergent dispensing

Avoid dispensing more than the required amount as this can cause excessive foaming.

- Only use low foaming detergents.
- Dispense according to the detergent manufacturer's recommendations.

The amount to dispense will depend on:

- the amount of laundry
- the water hardness level in your area
- the type and amount of soiling level in the laundry

Amount of detergent

Please dispense according to water hardness levels and follow the detergent manufacturer's instructions.

Water hardness levels

Hardness range	Hardness in mmol/l	German scale °dH
I (soft)	0 - 1.5	0 - 8.4
II (medium)	1.5 - 2.5	8.4 - 14
III (hard)	above 2.5	above 14

Check with your local water supplier if you do not know the water hardness in your area.

Selecting a programme

The first 6 programmes can be selected directly using buttons 1 - 6.

6	Delicates	13,0/13,0 kg
50 °C	Main wash	
	Rinses	1025 rpm
1	2	3
4▶	5	6▶

- Other programmes can be selected by pressing and holding button 6 ▶.

Tip: The same applies in other displays for buttons 12 and 18.

8	Separate rinse	13,0/13,0 kg
	Rinses	1025 rpm
◀7	8	9
10▶	11	12▶

- Select a programme by pressing one of the programme buttons.

The following (e.g.) will appear in the display:

6	Mops first wash	13,0/13,0 kg
50 °C	Main wash	
	Rinses	1025 rpm
1	2	3
4▶	5	6▶

Washing

Tip: When the programme button is pressed again, the additional functions will appear in the last line.

Additional functions

Selecting Pre-wash, Starch stop and Without spin additional functions

- Confirm your programme selection by pressing the programme button (e.g. 4).

The following (e.g.) will appear in the display:

4	Cottons universal	13,0/13,0 kg
30 °C	Main wash	
	RinSES	1050 rpm
+□	▨	⊗ ⊕ -OK+ ↩

- If required, add the Pre-wash programme block by pressing the +□ "Block plus" function button.

When the +□ "Block plus" function button is pressed, the following appears on the display:

1	Cottons hygiene	13,0/13,0 kg
40 °C	Pre-wash	
60 °C	Main wash	▼
+□	▨	⊗ ⊕ -OK+ ↩

The "+□" field is highlighted in the display.

Tip: The function can be de-selected by pressing the button again.

Tip: Press the ▨ "Starch stop" button to starch the laundry.

Tip: If you do not want a spin after the final rinse, press the ⊗ Without spin button.

If you do not want to make any further changes to the programme:

- Press the "START" button.

The wash programme will start.

Changes before starting the programme

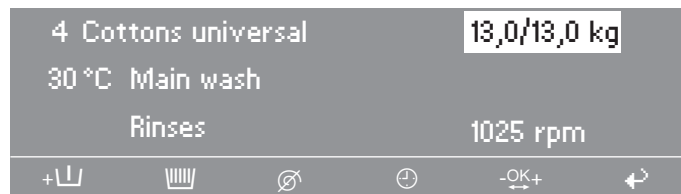
Load

Changes can be made before the start of the programme, e.g. load, temperature or spin speed:

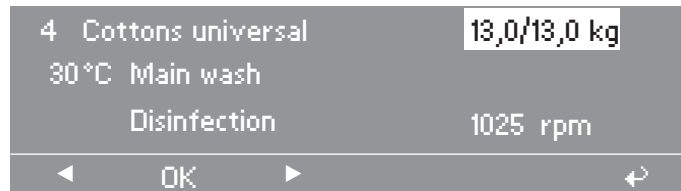
The load can be entered manually before the start of the programme.

4 Cottons universal		13,0/13,0 kg			
30 °C Main wash					
RinSES		1025 rpm			
1	2	3	4 ▶	5	6 ▶

- Press the programme button (e.g.).



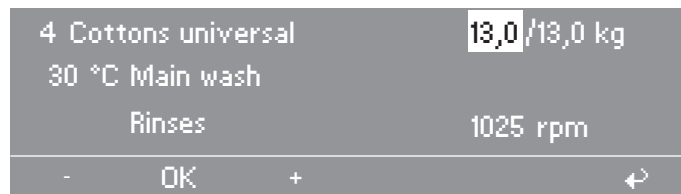
- Press the **-OK+** button.



The load display is selected.

- Press the **OK** button to confirm.

You can now make changes to the display options or input fields.

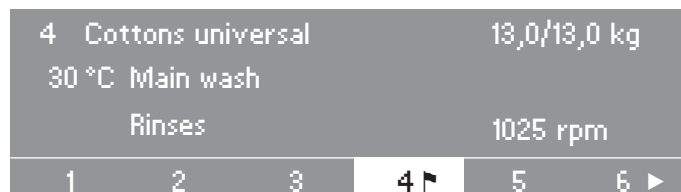


- Change the load by pressing **-** or **+**.

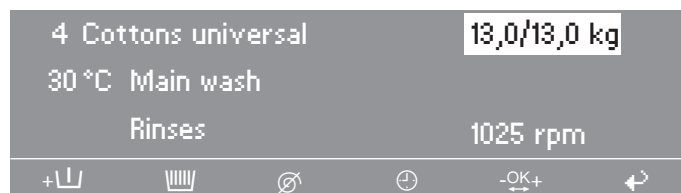
Press the **OK** button to confirm display options or input field after making a change.

Temperature

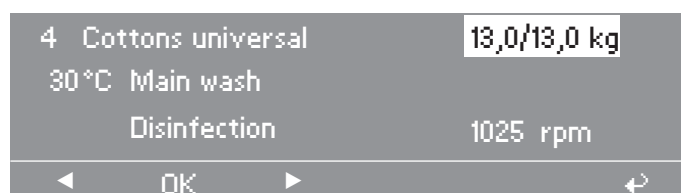
Before the programme starts, the temperature can be set in 1 °C increments from cold to the maximum temperature.



- Press the programme button (e.g. 4).



- Press the **OK** button.

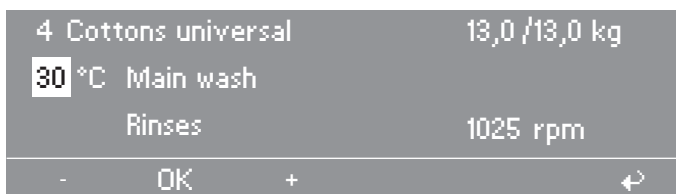


- Press button **►** once to select the temperature display.

- Press the **OK** button to confirm.

Washing

You can now make changes to the display options or input fields.

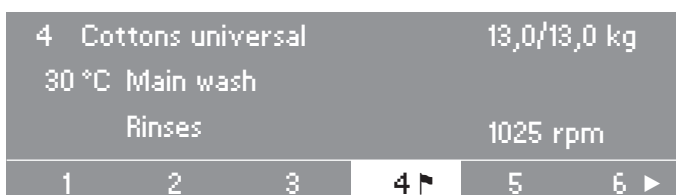


- Change the temperature by pressing – or +.

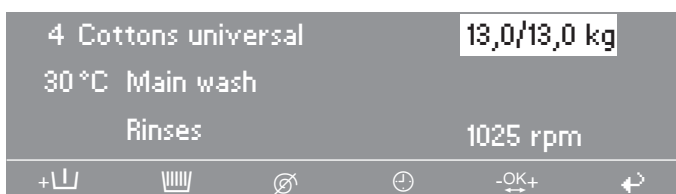
Press the **OK** button to confirm display options or input field after making a change.

Spin speed

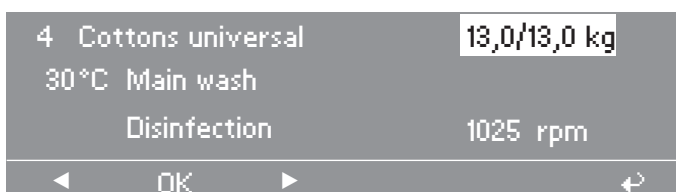
Before the programme starts, the spin speed can be set in 25 rpm increments from 300 to the maximum spin speed.



- Press the programme button (e.g. 4).

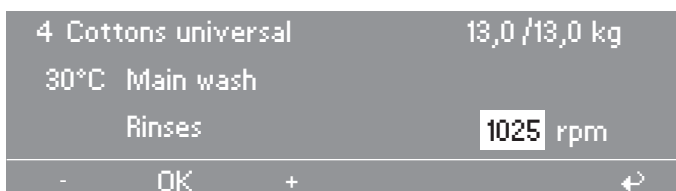


- Press the **OK** button.



- Press the ▶ button twice to select the spin speed display.
- Press the **OK** button to confirm.

You can now make changes to the display options or input fields.



- Change the spin speed by pressing – or +.

Press the **OK** button to confirm display options or input field after making a change.

Maximum spin speeds

PW 413	PW 418
1025 rpm	950 rpm

The maximum spin speeds depend on the programmes selected.

Starting a programme

- Press the "START" button.

The wash programme will start.

After the programme has started, the programme sequence is shown in the display.

1	Mops standard	
	40°C Pre-wash	20 °C
	60°C Main wash	Finish at 12:35

In the 2nd line of the display, in this case pre-wash, the current suds temperature is shown.

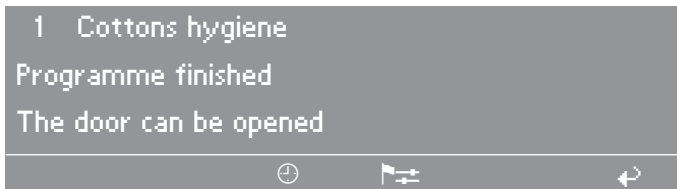
1	Mops standard	
	60°C Main wash	60 °C
	Rinses 1	Finish at 12:35

If the pre-wash programme block is finished, the main wash programme block will appear in the second line of the display with the current suds temperature. The next programme block, in this case rinse 1, is shown below.

Tip: The "programme finished" display on the right shows the time that the programme will finish.

Opening the drum door after the programme has finished

At the end of the programme, when the drum has stopped rotating and no water is left in the machine, the following (for example) appears on the display:



At the same time, a buzzer sounds for 5 seconds at the end of the programme.

The door is unlocked automatically.

- Pull the door handle to open the drum door.

The door catch must be disengaged.

Never use force to open the door!
If the door cannot be opened, follow the instructions in "Opening the door in an emergency".

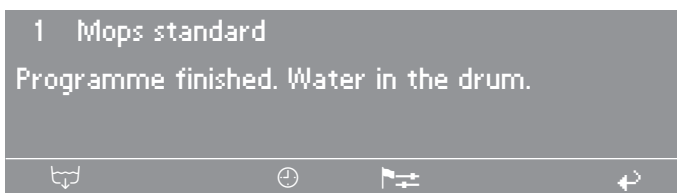
- Remove the laundry.


Procedure in the event of a programme interruption during operation:

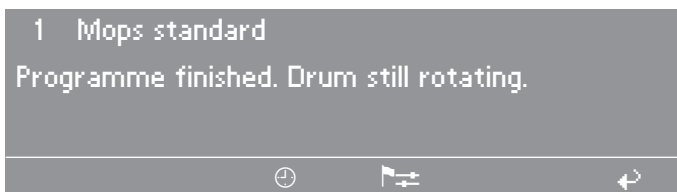
If the programme has been cancelled whilst there is still water in the machine, during spinning or at a high wash temperature, the drum door will not open.

The door is locked.
Do not attempt to open it using force.

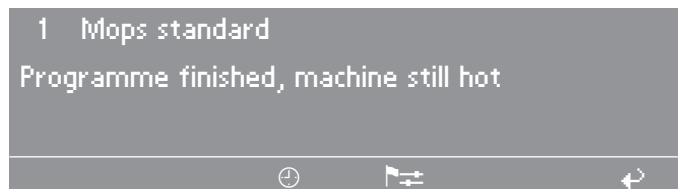
The display can, e.g. show the following:



- Press the "Drainage"  button or select the "Separate spin" programme and press "START".



- Wait until the drum has stopped rotating.



- Wait until the laundry has cooled down.


The door can then be opened.

If no further wash programmes are planned:

- Switch off the machine with the 0 "Power Off" button.
- Switch off at the on-site mains electricity switch.
- Close the on-site supply valves for water and steam.

Programme chart - BASIC VERSION

Cottons




Cottons 90 °C		Fill ratio/Load size
Material	Cotton, linen and mixed fibre fabrics, for example bed linen and towelling	1:10 - 1:9
Programme sequence	+  Pre-wash 40 °C, optional Main wash 90 °C, Cool down can be activated 2 rinses Last rinse hot* Final spin	PW 413 13 - 14 kg PW 418 18 - 20 kg

* The standard programmes **Cottons 90 °C** and **Cottons 60 °C** are programmed for hot water rinse. If hot water is available, we recommend using hot water for the final rinse.

- There is less residual moisture in the laundry after spinning.
- The laundry is already warmed.
- This saves time and energy if the laundry is immediately either dried in a tumble dryer or ironed with a rotary ironer.

Programme chart - BASIC VERSION

Cottons programmes / Eco short 50 °C

Cottons 60 °C		Fill ratio/Load size
Material	Normally soiled cotton, linen and mixed fibre fabrics, for example bed linen and towelling	1:10 - 1:9 PW 413 13 - 14 kg PW 418 18 - 20 kg
Programme sequence	+  Pre-wash 30 °C, optional Main wash 60 °C (selectable range cold to 60 °C) 2 rinses Last rinse hot* Final spin	
Cottons Eco short 50 °C		
Material	Lightly soiled cotton, linen and mixed fibre fabrics, for example bed linen and towelling	
Programme sequence	+  Pre-wash 30 °C, optional Main wash 50 °C 2 rinses Final spin	
Cottons 30 °C		
Material	Normally soiled cotton, linen and mixed fibre fabrics, for example bed linen and towelling	
Programme sequence	+  Pre-wash 30 °C, optional Main wash 30 °C (selectable range cold to 30 °C) 2 rinses Final spin	

* The standard programmes **Cottons 90 °C** and **Cottons 60 °C** are programmed for hot water rinse. If hot water is available, we recommend using hot water for the final rinse.


- There is less residual moisture in the laundry after spinning.

- The laundry is already warmed.

- This saves time and energy if the laundry is immediately either dried in a tumble dryer or ironed with a rotary ironer.

Programme chart - BASIC VERSION

Minimum iron programme

Minimum iron 60 °C		Fill ratio/Load size
Material	Normally soiled synthetic and mixed fibre fabrics	1:20 PW 413 - 6.6 kg PW 418 - 9 kg
Programme sequence	+  Pre-wash 30 °C, optional Main wash 60 °C (selectable range cold to 60 °C) 2 rinses Final spin	

Delicates and Woollens programmes

Delicates30 °C		Fill ratio/Load size
Material	Synthetic and artificial fibre fabrics	1:25 PW 413 - 5.2 kg PW 418 - 7.2 kg
Programme sequence	Main wash 30 °C Wash rhythm "gentle" 2 rinses Final spin	
Woollens30 °C		
Material	Machine washable woollens and wool mixtures with a woollens care label	
Programme sequence	Main wash 30 °C Wash rhythm "very gentle" 2 rinses Final spin	

Separate rinse programme

Separate rinse		
Material	Fabrics that only need to be rinsed and spun	
Programme sequence	1 rinse Final spin	

Separate spin programme




Separate spin		
Material	Items which have been washed and only need to be spun in the machine	
Programme sequence	Final spin	

Separate drain programme

Separate drain		
Material		
Programme sequence	Water drainage	

Starch programme

Starch		
Material	For starching freshly laundered items such as table cloths, serviettes and workwear	
Programme sequence	1 rinse Final spin	


* Starch concentrates can be added to the front right or back right dispenser drawer compartment  before the programme starts. Large quantities of starch solution can be added manually with the water using the dispenser compartments  or .

Programme chart - BASIC VERSION

'Clean machine' programme

For cleaning the detergent dispenser drawer, the drum, the suds container and the drainage system.

- Carry out the "Clean machine" programme regularly if you frequently use disinfection programmes or low temperature programmes, or to get rid of coarse soiling.

Clean machine*		
Material	Without load	
Programme sequence	+  Cleaning 70 °C, optional 2 rinses	

* The **Cleaning** block which takes water in through all inlets and has the temperature increased to 70 °C. can be selected with this programme by pressing the Block Plus button. If the Cleaning block is included in the Maintenance programme, detergent needs to be dispensed.

Contract cleaning programmes




These programmes are suitable for washing, disinfection and conditioning (at different humidity levels) of mops of cotton, blended or microfibre fabric, entrance mats, polishing pads and cleaning cloths used in facility management.

To avoid recontamination, the water for the rinse cycles in the disinfection programmes is not supplied via the detergent dispensing compartment.

Mop programmes

Avoid coarse soiling in the machine.

- Shake out the mops before putting them in the machine.

Mops standard* 60 °C / 90 °C		Fill ratio/Load size
Material	Cotton, viscose, polyester and microfibre mops	1:10 PW 413 - 13 kg PW 418- 18 kg For number, see "Mops per load" chart
Programme sequence	Pre-spin Pre-rinse +  2nd pre-rinse, optional Main wash 60 °C (selectable: cold to 90 °C), Cool down can be activated 2 rinses Final spin	
Mops thermal disinfection*  ** 90 °C		
Material	Cotton, viscose, polyester and microfibre mops	
Programme sequence	Pre-spin Pre-rinse +  2nd pre-rinse, optional Disinfection 90 °C, 10 min., Cool down can be activated 3 rinses Final spin	

* The **Cooldown** block can be activated if required, e.g. for gently cooling down microfibre mops.

** Programme locked. If a programme is locked, after 1 minute it can no longer be stopped and cancelled with the finish button.

*** The disinfection parameters for **chemo-thermal disinfection** (temperature, temperature holding time, and dosages) must be set on site to suit cleaning agents and disinfectants.

Programme chart - MOPSTAR

Mops chemo-thermal dis- 60 °C infection***🔒**		Fill ratio/Load size
Material	Cotton, viscose, polyester and microfibre mops	1:10 PW 413 - 13 kg PW 418- 18 kg For number, see "Mops per load" chart
Programme se- quence	Pre-spin Pre-rinse +🔒 2nd pre-rinse, optional Disinfection*** 60 °C, 20 min. 3 rinses Final spin	
New mops* 60 °C / 90 °C		
Material	For washing new mops	
Programme se- quence	Main wash 60 °C (selectable range cold to 90 °C), Cool down can be activated 2 rinses Final spin	
Mops standard + finish* 60 °C / 90 °C		
Material	Cotton, viscose, polyester and microfibre mops	
Programme se- quence	Programme sequence as for Mops standard, then: Finishing agent, damp or activate block: Damp, wet, dripping wet	
Mops thermal disinfec- 90 °C tion + finish* 🔒**		
Material	Cotton, viscose, polyester and microfibre mops	
Programme se- quence	Programme sequence as for Mops thermal disin- fection, then: Finishing agent, damp or activate block: Damp, wet, dripping wet	

* The **Cooldown** block can be activated if required, e.g. for gently cooling down microfibre mops.

** Programme locked. If a programme is locked, after 1 minute it can no longer be stopped and cancelled with the finish button.

Programme chart - MOPSTAR

Mops chemo-thermal dis- 60 °C infection + finish***🔒**		Fill ratio/Load size
Material	Cotton, viscose, polyester and microfibre mops	1:10 PW 413 - 13 kg PW 418- 18 kg For number, see "Mops per load" chart
Programme se- quence	Programme sequence as for Mops thermal disin- fection, then: Finishing agent, damp or activate block: Damp, wet, dripping wet	
Finish mops		
Material	Cotton, viscose, polyester and microfibre mops	
Programme se- quence	1 rinse Finishing agent, damp or activate block: Damp, wet, dripping wet	

* The **Cooldown** block can be activated if required, e.g. for gently cooling down microfibre mops.

** Programme locked. If a programme is locked, after 1 minute it can no longer be stopped and cancelled with the finish button.

*** The disinfection parameters for **chemo-thermal disinfection** (temperature, temperature holding time, and dosages) must be set on site to suit cleaning agents and disinfectants.

Information on Mops...+ finish programme

With the **Mops . . . + finish** programme the mops are ready to use and already impregnated with cleaning agent and disinfectant. To achieve this, following washing or disinfection there is a finishing stage and then a final spin.

Dosage amounts must be set on site and the standard of disinfection must be checked.

Information on Finish mops programme

The **Finish mops** programme is suitable for the subsequent finishing of clean and dry mops. A disinfecting agent is applied during finishing.

Dosage amounts must be set on site and the standard of disinfection must be checked.

Programme chart - MOPSTAR

Mop loads (cotton)






Mop size/ weight	40 cm 190 g/ mop	50 cm 220 g/ mop	60 cm 280 g/ mop	80 cm 360 g/ mop	110 cm 510 g/ mop	130 cm 610 g/ mop	160 cm 720 g/ mop
PW 413	Qty. 68	Qty. 59	Qty. 46	Qty. 36	Qty. 25	Qty. 21	Qty. 18
PW 418	Qty. 95	Qty. 82	Qty. 64	Qty. 50	Qty. 35	Qty. 30	Qty. 25

Tip: When using microfibre mops, the load size is higher due to the lower mop weight.

Mop loads (microfibre)

Mop size/weight	40 cm 120 g/mop	50 cm 170 g/mop
PW 413	Qty. 108	Qty. 76
PW 418	Qty. 150	Qty. 106



Cleaning cloth programmes

Cloths standard 60 °C		Fill ratio/Load size
Material	Cotton, viscose, polyester and microfibre cleaning cloths	1:20 PW 413 16 g/cloth approx. 415 cloths = 6.6 kg 22 g/cloth approx. 300 cloths = 6.6 kg PW 418 16 g/cloth approx. 565 cloths = 9 kg 22 g/cloth approx. 409 cloths = 9 kg
Programme sequence	Pre-rinse +  Pre-wash 30 °C, optional Main wash cold to 60 °C, 10 min. 2 rinses Final spin	
Cloths thermal disinfection*  ** 90 °C		
Material	Cotton, viscose, polyester and microfibre cleaning cloths	
Programme sequence	Pre-rinse +  Pre-wash, optional Disinfection 90 °C, 10 min., Cool down can be activated 3 rinses Final spin	
Chemo-thermal disinfection***  ** 70 °C		
Material	Cotton, viscose, polyester and microfibre cleaning cloths	
Programme sequence	Pre-rinse +  Pre-wash, optional Disinfection 70 °C, 10 min. 3 rinses Final spin	

* The **Cooldown** block can be activated if required.

** Programme locked. If a programme is locked, after 1 minute it can no longer be stopped and cancelled with the finish button.

Programme chart - MOPSTAR

Cloths standard+finish 60 °C		Fill ratio/Load size
Material	Cotton, viscose, polyester and microfibre cleaning cloths	<div>1:20</div> <div>PW 413 16 g/cloth approx. 415 cloths = 6.6 kg 22 g/cloth approx. 300 cloths = 6.6 kg</div> <div>PW 418 16 g/cloth approx. 565 cloths = 9 kg 22 g/cloth approx. 409 cloths = 9 kg</div>
Programme sequence	Programme sequence as for Cloths standard, then: Finishing agent, damp or activate block: Damp, wet, dripping wet	
Cloths thermal disinfection+finish*  ** 90 °C		
Material	Cotton, viscose, polyester and microfibre cleaning cloths	
Programme sequence	Programme sequence as for Cloths thermal disinfection, then: Finishing agent, damp or activate block: Damp, wet, dripping wet	
Cloths chemo-thermal disinfection + finish***  ** 70 °C		
Material	Cotton, viscose, polyester and microfibre cleaning cloths	
Programme sequence	Programme sequence as for Cloths chemo-thermal disinfection. Disinfection, then: Finishing agent, damp or activate block: Damp, wet, dripping wet.	
Finish cloths		
Material	Cotton, viscose, polyester and microfibre cleaning cloths	
Programme sequence	1 rinse Finishing agent, damp or activate block: Damp, wet, dripping wet	

* The **Cooldown** block can be activated if required.

** Programme locked. If a programme is locked, after 1 minute it can no longer be stopped and cancelled with the finish button.

*** The disinfection parameters for **chemo-thermal disinfection** (temperature, temperature holding time, and dosages) must be set on site to suit cleaning agents and disinfectants.

Information on Cloths standard programme

The programme **Cloths Standard** is suitable for cleaning cloths that are not to be used immediately after washing, but are to be stored after drying.

Information on Cloths ... + finish programme

With the **Cloths . . . + finish** programme the cloths are ready to use and already impregnated with detergent and disinfectant. To achieve this, following washing or disinfection there is a finishing stage and then a final spin.


Dosage amounts must be set on site and the standard of disinfection must be checked.

Information on Finish cloths programme

The **Finish cloths** programme is suitable for the subsequent finishing of clean and dry cloths. A disinfecting agent is applied during finishing.

Dosage amounts must be set on site and the standard of disinfection must be checked.

Pads programme

Pads 40 °C / 60 °C		Fill ratio/Load size
Material	Polishing pads	1:50 PW 413 - 2.6 kg PW 418 - 3.6 kg
Programme sequence	Pre-rinse +  2nd pre-rinse, optional Main wash 40 °C (selectable range: cold to 60 °C) 3 rinses Final spin	


Mats programme

Mats 40 °C		Fill ratio/Load size
Material	Door mats	1:15 PW 413 max. 8.8kg PW 418 max. 12kg
Programme sequence	Pre-rinse Main wash 40 °C 3 rinses Final spin	

Tip: The number of mats per load may vary depending on the size, stiffness and thickness of the mats.




Programme chart - MOPSTAR

Curtains programme


Curtains 40 °C		Fill ratio/Load size
Material	Synthetic and artificial fibre fabrics	1:25 - 1:20 PW 413 - 5.8 kg PW 418- 8 kg
Programme sequence	+  Pre-wash 30 °C, optional Main wash 40 °C 3 rinses Final spin	

Programme without spin, curtains

Curtains programme, programme without spin

- Press the  "Without spin" button.
- End the programme in "Without spin" mode with water still in the machine by pressing the  "Stop/Finish" button.
- Press the  "Drain" button.

Cottons 60 °C programme

Cottons 60 °C		Fill ratio/Load size
Material	Normally soiled cotton, linen and mixed fibre bed linen and towels	1:10 PW 413 - 13 kg PW 418 - 18 kg
Programme sequence	+  Pre-wash 30 °C, optional Main wash 60 °C 2 rinses Last rinse hot Final spin	

Separate rinse programme

Separate rinse		
Material	Fabrics that only need to be rinsed and spun	
Programme sequence	1 rinse Final spin	

Separate spin programme

Separate spin		
Material	Items which have been washed and only need to be spun in the machine	
Programme sequence	Final spin	

Separate drain programme


Programme chart - MOPSTAR

Separate drain		
Material		
Programme sequence	Water drainage	

'Clean machine' programme

For cleaning the detergent dispenser drawer, the drum, the suds container and the drainage system.

- Carry out the "Clean machine" programme regularly if you frequently use disinfection programmes or low temperature programmes, or to get rid of coarse soiling.

Clean machine*		
Material	Without load	
Programme sequence	+  Cleaning 70 °C, optional 2 rinses	

* The **Cleaning** block which takes water in through all inlets and has the temperature increased to 70 °C. can be selected with this programme by pressing the Block Plus button. If the Cleaning block is included in the Maintenance programme, detergent needs to be dispensed.

Programme chart - SLUICE

Sluice programmes

The sluice programmes are for extremely heavily soiled personal clothing, as well as heavily soiled towels and bed linen.
Disinfection according to provisions of British National Health Service (GB). There are two different disinfection options: 65 °C for 10 min or 71°C for 3 min.

Sluice sensitive 65 °C		Fill ratio/Load size
Material	Heavily soiled personal clothing, towelling and bed linen	1:10 PW 413- 13 kg PW 418 - 18 kg
Programme sequence	2 pre-rinses Pre-wash 60 °C, 5 min. Disinfection 65 °C, 10 min. 3 rinses Final spin	
Sluice 71 °C		
Material	Heavily soiled personal clothing, towelling and bed linen	
Programme sequence	2 pre-rinses Pre-wash 60 °C, 5 min. Disinfection 71 °C, 3 min. 3 rinses Final spin	

Sluice programme sequence

Sluice Sensitive 65 °C					
Programme stage	Suds ratio *	Thermostop	Temperature	Temperature holding time (wash time 2)	Programmed wash time approx.
Pre-wash 1	1:7	No	Cold	-	5 min
Pre-wash 2	1:7	No	Cold	-	4 min
Pre-wash	1:7	Yes	60 °C	5 min	-
1 minute spin					
Disinfection	1:5	Yes	65 °C	10 min	- **
2 minute spin					
Rinse 1	1:5	No	Cold	-	5 min
1 minute spin					5 min
Rinse 2	1:5	No	Cold	-	5 min
1 min spin at max. speed					
Rinse 3	1:4	No	Cold	-	5 min
5 min spin at max. speed					
Sluice 71 °C					
Pre-wash 1	1:7	No	Cold	-	5 min
Pre-wash 2	1:7	No	Cold	-	4 min
Pre-wash	1:7	Yes	60 °C	5 min	-
1 minute spin					
Disinfection	1:5	Yes	71 °C	3 min	- **
2 minute spin					
Rinse 1	1:5	No	Cold	-	5 min
1 minute spin					
Rinse 2	1:5	No	Cold	-	5 min
1 min spin at max. speed					
Rinse 3	1:4	No	Cold	-	5 min
5 min spin at max. speed					

* Depending on load and fabric type



** Depending on heating type and, with hot water connection, the hot water temperature

Programme chart - SLUICE

Disinfection programmes

All programmes are **locked**. After 1 minute into a programme, the programme can therefore no longer be cancelled, stopped or parts skipped.

To avoid recontamination, the water for the rinse cycles in the disinfection programmes is not supplied via the detergent dispensing compartment.


Chemo-therm. Disinfection 60 °C		Fill ratio/Load size
Material	Cotton, linen e.g. bed linen, towelling	1:10 PW 413 - 13 kg PW 418 - 18 kg
Programme sequence	+  Pre-wash 40 °C, optional Disinfection 60 °C, 20 min. 2 rinses Final spin	
Chemo-therm. Disinfection 40 °C		
Material	Cotton, mixed fibre up to 40 °C	
Programme sequence	+  Pre-wash 30 °C, optional Disinfection 40 °C, 20 min. Wash rhythm "gentle" 2 rinses Final spin	

* The disinfection parameters for chemo-thermal disinfection (temperature, temperature holding time, and dosages) must be set on site to suit cleaning agents and disinfectants.

'Clean machine' programme

For cleaning the detergent dispenser drawer, the drum, the suds container and the drainage system.

- Carry out the "Clean machine" programme regularly if you frequently use disinfection programmes or low temperature programmes, or to get rid of coarse soiling.


Clean machine*		
Material	Without load	
Programme sequence	+  Cleaning 70 °C, optional 2 rinses	

* The **Cleaning** block which takes water in through all inlets and has the temperature increased to 70 °C. can be selected with this programme by pressing the Block Plus button. If the Cleaning block is included in the Maintenance programme, detergent needs to be dispensed.

Separate drain programme

Separate drain		
Material		
Programme sequence	Water drainage	

Cottons


Cottons 90 °C		Fill ratio/Load size
Material	Cotton, linen and mixed fibre fabrics, for example bed linen and towelling	1:10 PW 413 - 13 kg PW 418 - 18 kg
Programme sequence	+  Pre-wash 40 °C, optional Main wash 90 °C, Cool down can be selected 2 rinses Last rinse hot* Final spin	

* The standard programmes **Cottons 90 °C** and **Cottons 60 °C** are programmed for hot water rinse. If hot water is available, we recommend using hot water for the final rinse.

- There is less residual moisture in the laundry after spinning.
- The laundry is already warmed.
- This saves time and energy if the laundry is immediately either dried in a tumble dryer or ironed with a rotary ironer.

Programme chart - SLUICE


Minimum iron programme

Minimum iron 60 °C		Fill ratio/Load size
Material	Normally soiled synthetic and mixed fibre fabrics	1:20 PW 413 - 6.6 kg PW 418 - 9 kg
Programme sequence	+  Pre-wash 30 °C, optional Main wash 60 °C (selectable range cold to 60 °C) 2 rinses Final spin	

Delicates programmes

Delicates 30 °C		Fill ratio/Load size
Material	Synthetic and artificial fibre fabrics	1:25 PW 413 - 5.2 kg PW 418 - 7.2 kg
Programme sequence	Main wash 30 °C Wash rhythm "gentle" 2 rinses Final spin	

Curtains programme

Curtains 40 °C		Fill ratio/Load size
Material	Synthetic and artificial fibre fabrics	1:25 - 1:20 PW 413 - 5.8 kg PW 418 - 8 kg
Programme sequence	+  Pre-wash 30 °C, optional Main wash 40 °C 3 rinses Final spin	

Separate rinse programme

Separate rinse		
Material	Fabrics that only need to be rinsed and spun	
Programme sequence	1 rinse Final spin	




Separate spin programme

Separate spin		
Material	Items which have been washed and only need to be spun in the machine	
Programme sequence	Final spin	

Programme chart - Launderette

These programmes are suitable for washing all machine-washable fabrics in the commercial laundry sector.

Cottons programmes

Cottons		60 °C	Fill ratio/Load size	
Material	Normally soiled cotton, linen and mixed fibre fabrics, for example bed linen and towelling		1:10 PW 413 - 13 kg PW 418 - 18 kg	
Programme sequence	+  Pre-wash 30 °C, optional Main wash 60 °C (selectable range cold to 60 °C) 2 rinses Last rinse hot* Final spin			
Cottons				40 °C
Material	Normally soiled cotton, linen and mixed fibre fabrics, for example bed linen and towelling			
Programme sequence	+  Pre-wash 30 °C, optional Main wash 40 °C 2 rinses Final spin			
Cottons				30 °C
Material	Normally soiled cotton, linen and mixed fibre fabrics, for example bed linen and towelling			
Programme sequence	+  Pre-wash 30 °C, optional Main wash 30 °C (selectable range cold to 30 °C) 2 rinses Final spin			

* The standard programme **Cottons 60 °C** is programmed for hot water rinses. If hot water is available, we recommend using hot water for the final rinse.

- There is less residual moisture in the laundry after spinning.
- The laundry is already warmed.
- This saves time and energy if the laundry is immediately either dried in a tumble dryer or ironed with a rotary ironer.

Programme chart - LAUNDERETTE

Cottons 60 °C intensive + pre-wash		Fill ratio/Load size
Material	Heavily soiled cotton, linen or mixed fibre, e.g. bed linen and towelling	1:10 PW 413 - 13 kg PW 418 - 18 kg
Programme sequence	Pre-wash 30 °C Main wash 60 °C 2 rinses Last rinse hot* Final spin	



* The standard programme **Cottons 60 °C** is programmed for hot water rinses. If hot water is available, we recommend using hot water for the final rinse.

- There is less residual moisture in the laundry after spinning.
- The laundry is already warmed.
- This saves time and energy if the laundry is immediately either dried in a tumble dryer or ironed with a rotary ironer.

Bedding programmes

These programmes are suitable for washing down, natural fibre and synthetic quilts, un-quilted and quilted duvets.

These wash programmes are only suitable for washing fabrics with a care label stating that they are suitable for machine washing.

Down duvets 40 °C		Fill ratio/Load size
Material	Normally soiled down and feather filled duvets and pillows	see "Bedding load sizes"
Programme sequence	Deflation +  Pre-wash 30 °C, optional Main wash 40 °C 2 rinses Final spin	
Synthetic duvets 40 °C		
Material	Normally soiled synthetic duvets and pillows	
Programme sequence	+  Pre-wash 30 °C, optional Main wash 40 °C 2 rinses Final spin	

Bedding load sizes

The maximum loads are set out in the chart below. The loads given are approximate only and vary depending on the size and thickness of the bedding.

Model	Quantity*
PW 413	3 pillows or 1 pillow + +1 single duvet
PW 418	4 pillows or 2 pillows + +1 single duvet or 2 single duvets

* A single duvet is equal to approx. 2 pillows.

Tip: Unquilted duvets must be tied a few times to keep imbalance to a minimum and ensure good wash results.

Additional functions

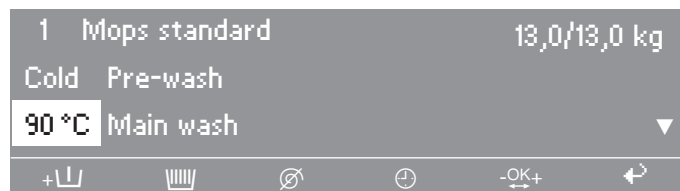
Start time

Setting a start time

A later wash start time can be allocated to a programme using the ⌚ "Start time" button.

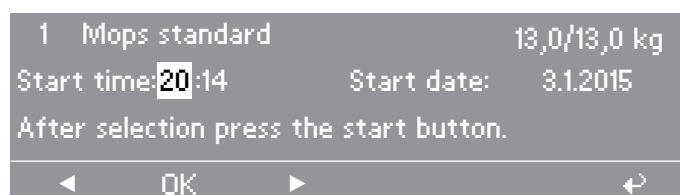
- Select the programme required.

When a programme has been selected, the display shows (e.g.):



- Press the ⌚ Start time button.

The following (e.g.) will appear in the display:



The current time and date always appear. The entry field for hours is highlighted.

- Press **OK** .

The entry field for hours will be enabled.

- Press the - or + button to change the hours.
- Press **OK** to confirm your entry.
- Press ► to select the "Minutes" field, and confirm with **OK**.
- Press the - or + button to change the minutes.
- Press ► to select the "Start day" field, and confirm with **OK**.
- Press the - or + button to change the day.
- Change the month and year in the same way if required.
- Once you have set the start time, press "START".

The display shows the current time and date and the start time.



Tip: If the drum door is opened again, the "START" button must be pressed again. Opening the door clears the start time set.

Cancelling the start time

- Press the ⌚ "Start time" or ↶ "Back" button.

The changes will not be saved.

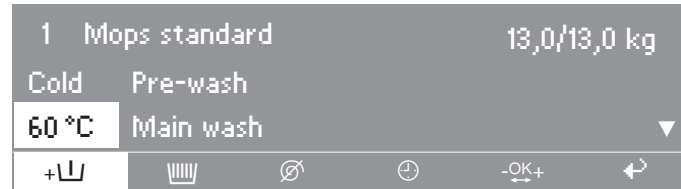
With Pre-wash

Selecting pre-wash

In programmes with a pre-wash option, a pre-wash can be added for heavily soiled laundry before the programme has started.

- Press the + "Block plus" button.

The following will appear in the display:




The "+" field is highlighted in the display.

Tip: The function can be de-selected by pressing the button again.

Starch

Adding via the detergent compartment

Starching can be selected before the programme starts by pressing the  "Starch stop" button.


- Press the  "Starch stop" button.

The "" field will be highlighted in the display.

Tip: The function can be de-selected by pressing the button again.



When programme stage "Starch stop" is reached, "Starch stop" will flash in the display.

- Prepare the starch according to manufacturer's instructions and add to the front of compartment drawer .

The wash time will automatically be increased by 4 minutes.

Tip: Dilute the starch with water if necessary.

- Press the "START" button to continue the programme.

Adding directly into the drum

The "Starch stop" stage has been reached.

- Open the drum door and add the starch prepared according to the manufacturer's instructions.
- Close the drum door.

The following message appears in the display:

Additional functions



- Press the "START" button to continue the programme.

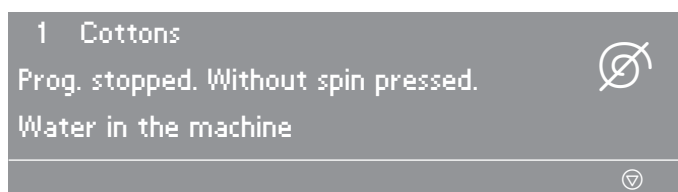
Without spin

Without spin can be selected before the programme starts .


- Press the "Without spin" button.

The "" field will be highlighted in the display.

Tip: The function can be de-selected by pressing the button again.



When programme stage "Without spin" is reached, "Without spin" will flash in the display.

- End the programme without a spin and with water still in the machine by pressing the  "Stop/Finish" button.

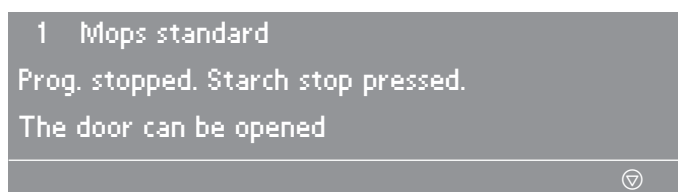
Tip: The programme can be continued with a spin by pressing the "START" button.

Programme stop

Stops the programme.

- Press the  "Stop/Finish" button to end the programme.


The programme is stopped.



Tip: Press the "START" button to continue the programme.

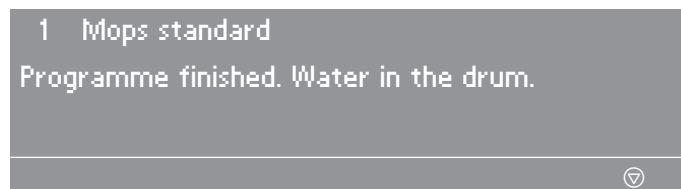
Programme cancellation

The programme can be cancelled as follows.

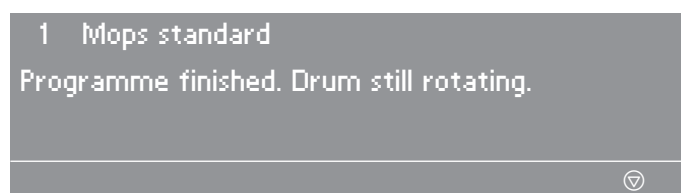
- Press the  "Stop/Finish" button twice in succession.


The programme will be cancelled.

If the programme is interrupted when there is water remaining in the machine or during a spin, the following (e.g.) will appear in the display:



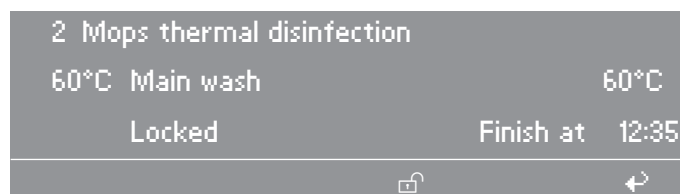
or



Tip: To open the door, press the  "Drain" button or select the Separate spin programme and press the "START" button.

Cancelling a locked programme

It is not possible to stop or cancel a locked programme.

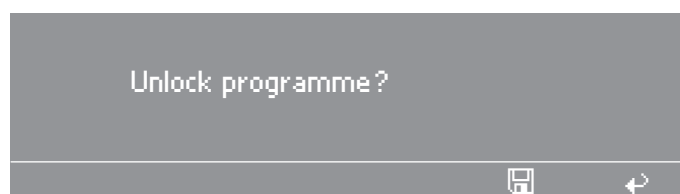


The display will show the locked state if an attempt is made to cancel the programme by pressing the ⏏ "Stop/Finish" button.

Tip: The programme can be unlocked by pressing the 🔓 "Unlock" button and entering the password.

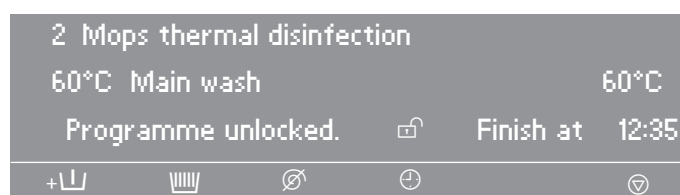
- Press the 🔓 "Unlock" button and enter the password.

When the password is entered, the following appears in the display:



- Press the 💾 "Save" button.

The normal display content will appear and the programme can now be cancelled.



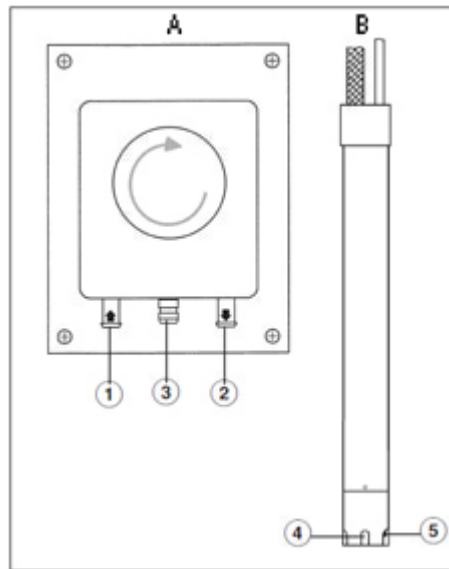
Communication module

The machine can be connected to a PC (personal computer) using the communication module.

The slot for the module is located on the back of the machine.

An Editor programme is available for this from Miele.

Liquid dispensing (optional for machines with dispenser compartment)



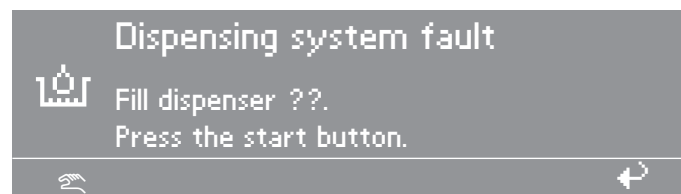
A Dispenser pump

B Siphon

- ① Hose connection (suction side)
- ② Hose connection (pressure side)
- ③ Leakage outlet
- ④ Suction inlet opening
- ⑤ Empty indicator. When the dispenser is empty the pump and the machine switch themselves off.

Continuing the programme after a "Dispensing system fault" message

When the dispenser is empty, the pump and the machine switch themselves off and the washing machine indicates a lack of liquid agent.



- Fill the dispenser container.
- Press the "Start" button to continue the programme.

Optional modules:

Amount to be dispensed

Please follow the detergent manufacturer's instructions.

It is particularly important to observe manufacturer's instructions when using a combination of cleaning agents and special application products. Products must only be used for applications approved by the manufacturer to avoid any material damage or the occurrence of strong chemical reactions. Confirmation must be sought from the detergent manufacturer that using the agent in the washing machine will not cause damage.

Correct dosage also depends on the viscosity of the liquid agent. It should therefore be allowed to settle to room temperature before being used.

Cleaning and maintenance of the dispensing system

Avoiding blockages and corrosion in the dispensing system.

- Rinse out the siphons with water.
- Put the siphons in a container of warm water (40-50 °C).
- Use dispenser calibration to activate each pump until the dispensing system is rinsed through.
- Check the connection points, hoses, dispensing sockets and washers for leaks.

Rinse the dispensing system through with hot water every 2 weeks, or before shutting the dispenser pumps down for any length of time, to avoid the system getting clogged up and corroded.

Commissioning the dispensing pumps

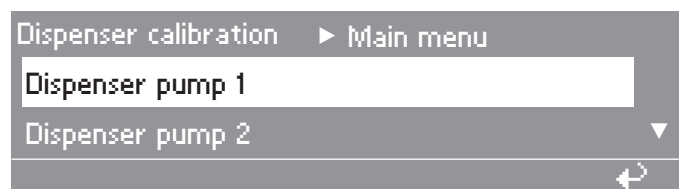
Before the liquid dispensing pumps can be used the liquid agent must be drawn into the system and the amount to be dispensed set.

Dispenser calibration

Dispensing calibration is used to measure the throughput of individual dispensing pumps.

To go directly to "dispenser calibration" when the machine is switched off:

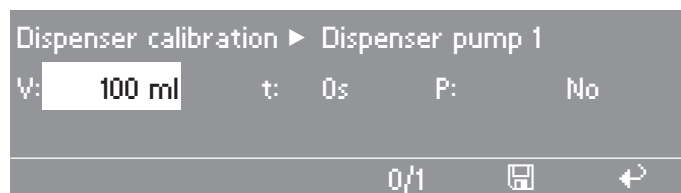
- Press and hold multifunction button 2 and switch the machine on with Power on I.



Options:

- Dispenser pump 1 to 13
- Select a dispenser pump.

When a dispenser pump is selected, the following will appear in the display:



Tip: The dispensing amount can be set from 0 to 9999 ml in 1 ml increments.

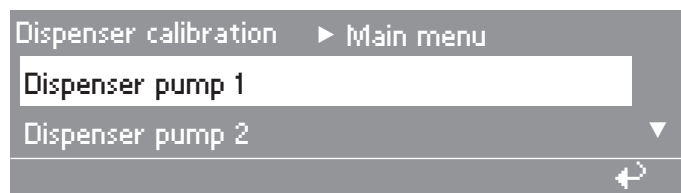
- Press multifunction button 0/1.

The dispensing hose will fill up.

- Stop the process by pressing button 0/1.
- Run the hose of the dispenser pump that is being checked upwards into a measuring vessel.

⚠ Irritant agents.
Skin and eye irritation.
Avoid contact with skin and eyes, wear protective clothing.

- Return to the main menu by pressing "Back".



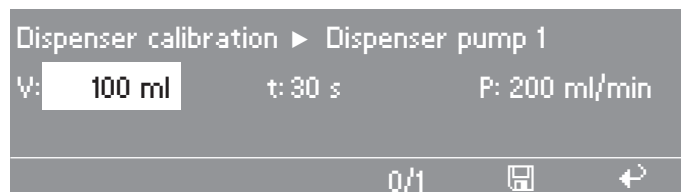
- Select a dispenser pump.



- Press multifunction button 0/1.

Stop the pump by pressing button 0/1, or the pump will stop automatically after 60 seconds.

- Measure the required amount in the measuring vessel.



- Enter the amount measured in field "V:".

The throughput P is calculated in ml/min. by the controls.

- Press the "Save" button.

The measured value is assigned to the pump.

- Reattach the hose.

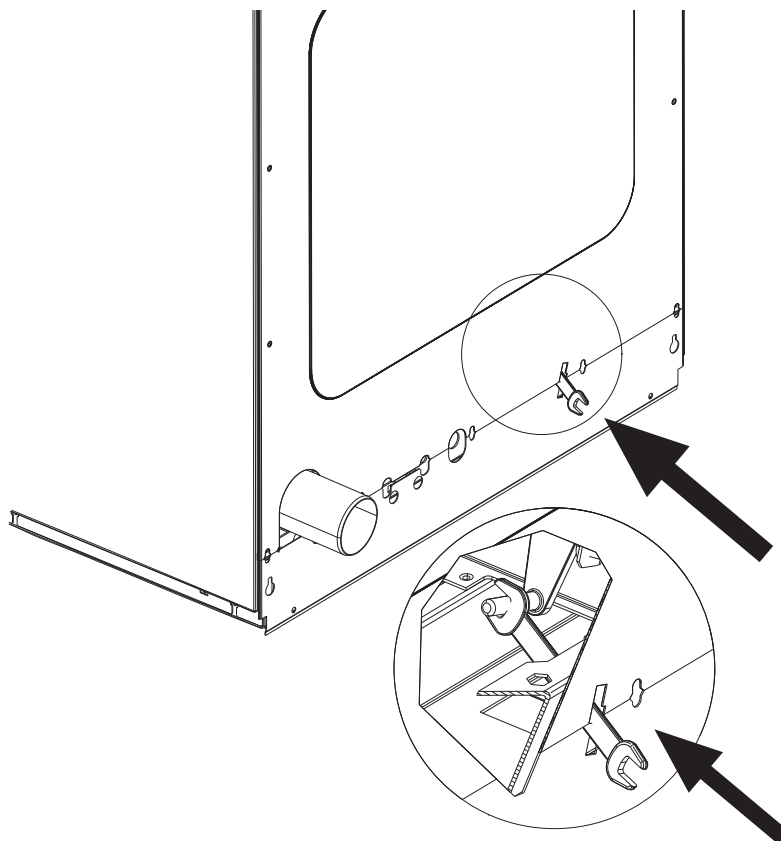
Troubleshooting

Opening the door and drain valve in an emergency

Power failure during the washing process

- Switch the machine off.
- Switch off at the on-site mains electricity switch.
- Close the supply valves for water or steam.

To remove the laundry, first the drain valve must be opened manually and then the drum door manually unlocked.



- Insert a spanner (max. wrench size SW 10/11) through the slot on the back of the machine.
- Open the drain valve by pressing the lever behind the back panel of the machine.
- Keep pressing on the lever until the suds have drained away completely.

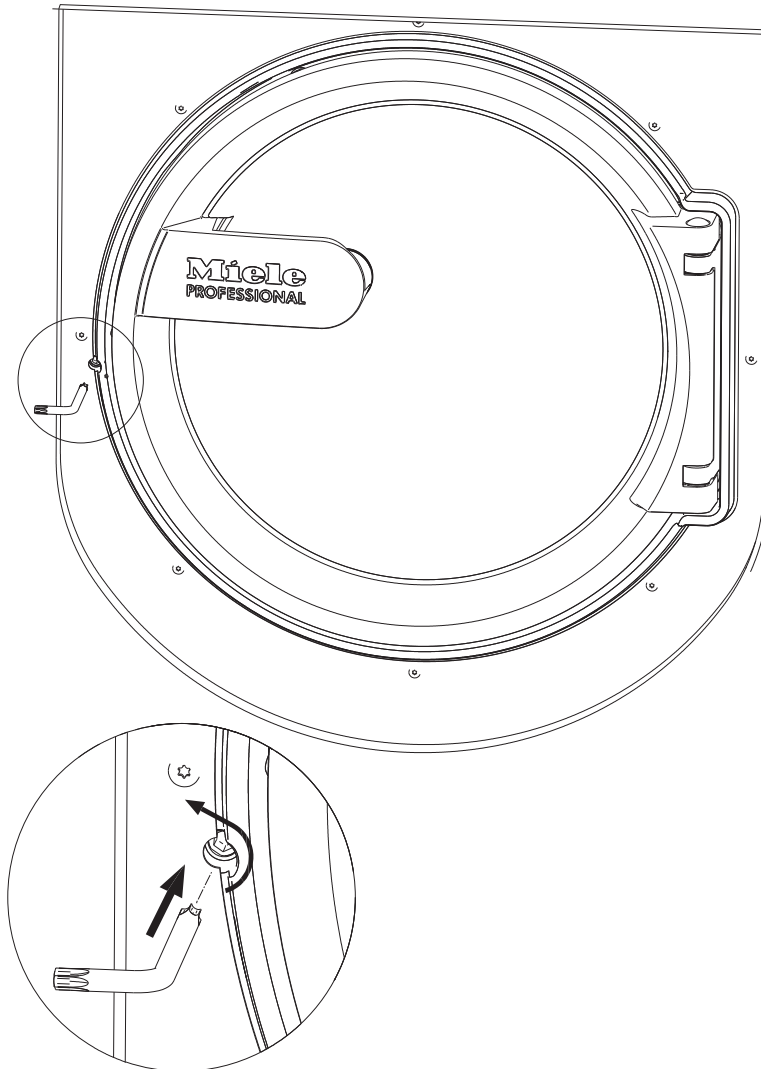
The suds will drain away.

The emergency drain closes automatically when the spanner is removed from the slot.

Opening the door in an emergency in case of a power cut

The drum door cannot be opened.

⚠ Caution! Danger from rotating drum and danger of scalding. Before inserting the Torx wrench, make sure that the machine is disconnected from the power supply, the drum has stopped and there is no water in the machine.



- Turn the release element with the inner hexagon with a Torx wrench T 40 two whole revolutions **anti-clockwise (left)**.

Tip: Pushing on the door at the same time makes it easier to turn the emergency unlock mechanism.

The release element is located opposite the door catch at the same height as the handle (see illustration).

The emergency release must not be turned to the right.
Danger of damage to the door lock.

The turn resistance will noticeably reduce. When the emergency release element moves freely, the door is unlocked.

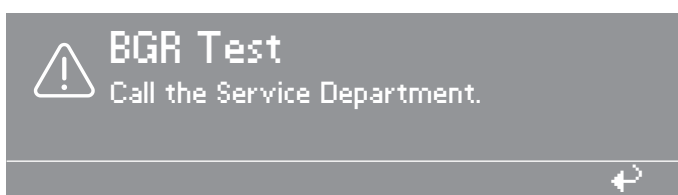
Tip: It is not necessary to screw the emergency release back up.

Troubleshooting

The door can now be opened.

Service interval and BGR display

If the following message appears after "Power On" in the machine display, either a service or the annual BGR check must be carried out.



The display will go out after 5 seconds.

Fault messages

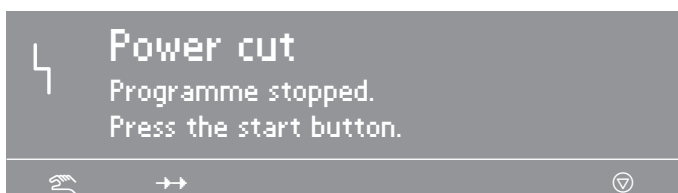
⚠ Repairs to electrical, gas and steam heated machines should only be undertaken by a suitably qualified service technician to ensure safety. Unauthorised or incorrect repairs and other work by unqualified persons could be dangerous.

Malfunctions occurring before or after the start of a programme will be shown in the display.

The display remains dark. There is no power to the machine.



- Check the plug connectors, mains switch and (on-site) fuses.



- When the power has been restored press "START".

Tip: This error message can mean: The motor thermo-switch of the drive motor has been triggered.

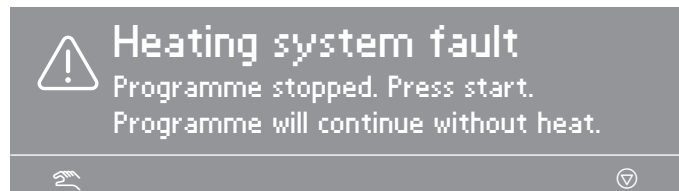
- Allow the motor to cool down.



- Check the stopcock and press the "START" button.



- If the door lock fault occurs again after a restart, proceed as described in "Opening the door in an emergency". Call the Service Department if restart does not work.



- Press the "START" button to continue the programme without heating.

Tip: Disinfection programmes will be cancelled if this fault message appears.

- Call the Service Department.



- Allow the motor to cool down.

Too large an imbalance. The imbalance switch has been triggered.



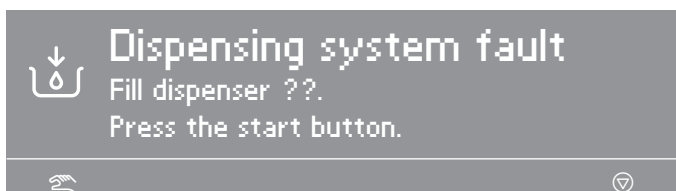
- Switch the machine off and back on again and press "START".



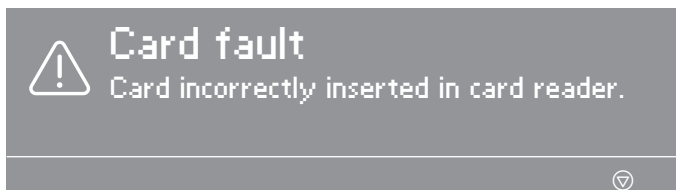
- Check on-site drain system and press "START".

A defective drain valve must only be repaired by Miele Service.

Troubleshooting



- Change the dispenser container.



- Insert the card into the card reader correctly.

Miele Service

In the event of a any faults please call Miele Service.

When contacting your dealer or the Service Department, please quote the model and serial number of your machine. These can be found on the data plate:

Model			
SN:	/ 0 0 0 0 0 0 0 0 0		
Art.-Nr.		Mat -Nr.	
IBN			

visible above the porthole glass when the drum door is open, or on the back of the machine at the top.


Please also pass on the error message appearing in the machine display to the Service Department.

Use only genuine Miele original spare parts. The Service department will also require model, serial number(SN) and material number (M-nr.) when ordering.

Problem solving guide

With the help of the following notes, minor faults in the performance of the machine, some of which may result from incorrect operation, can be put right without contacting the Service Department. This will save time and money.

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


 Repair work to electrical appliances should only be carried out by a suitably qualified person in strict accordance with current local and national safety regulations. Unauthorised or incorrect repairs and other work by unqualified persons could be dangerous.

The programme does not start




Problem	Cause and remedy
The display remains dark	<p>There is no power to the machine.</p> <ul style="list-style-type: none"> ■ Check whether the washing machine is switched on. ■ Check whether the washing machine is connected to the power supply. ■ Check whether the main fuse or circuit breaker has tripped.
A fault message appears in the display	<p>A programme cannot be started while there is a fault message in the display.</p> <ul style="list-style-type: none"> ■ Note the information in the display. ■ Press the multifunction selector to confirm the message. The fault message is deleted.
The display is dark and the <i>Start</i> button indicator light is flashing slowly.	<p>The display has switched off automatically to save energy (Standby mode).</p> <ul style="list-style-type: none"> ■ Press a button. Standby comes to an end.

Problem solving guide

An unsatisfactory wash result

Problem	Cause and remedy
Liquid detergent does not give the required result.	<p>Liquid detergents usually contain no bleaching agents. They do not remove fruit, coffee and tea stains.</p> <ul style="list-style-type: none">■ Use a general purpose powder detergent containing a bleaching agent.■ Pour stain removers into drawer  in the dispenser compartment and liquid detergent into a dispenser ball.■ Never put stain removers and liquid detergent together in the dispenser drawer.
Grey, greasy particles cling to washed laundry.	<p>Insufficient amounts of detergent were used. to break down the particles of grease in heavily soiled laundry.</p> <ul style="list-style-type: none">■ Use more detergent.■ Before washing the next load run a 60 °C programme with powder detergent but without a load.
White residues which look like powder detergent are seen on dark textiles after washing.	<p>The detergent contained compounds (zeolites) to aid water softening which are not soluble in water. These have ended up on the laundry.</p> <ul style="list-style-type: none">■ Try and brush off the residues with a soft brush once the laundry is dry.■ Wash dark textiles using a detergent which contains no zeolites. Liquid detergents usually contain no zeolites.
Textiles with particularly greasy soiling are not getting clean.	<ul style="list-style-type: none">■ Select a programme with pre-wash. Use liquid detergent for the pre-wash.■ Continue to use universal powder detergent for the main wash.
	<p>The use of heavy-duty detergent is recommended in the main wash for very heavily soiled work clothing. Please seek advice from the detergent manufacturer.</p>

General problems with the washing machine

Problem	Cause and remedy
The machine vibrates during the spin cycle.	The machine feet are not level. ■ Level the machine and adjust the feet.
Fabric softener is not completely dispensed or too much water remains in the  compartment.	The siphon tube is not correctly positioned or is clogged. ■ Clean the siphon, see "Cleaning and care - Cleaning the detergent dispenser compartment".
The display is in a different language.	A different language has been selected in "Settings  " "Language  ". ■ Set the language you want. The flag symbol serves as a guide.
The pillow programme is taking longer than the time originally displayed.	The pillow cover fabric has swelled up and the air cannot escape. ■ Reduce the wash temperature and stuff the pillow into a narrow washing bag, or tie it with a piece of string.
The door will not open.	There is no power to the machine. ■ Check whether the machine is switched on. ■ Check whether the machine is connected to the power supply. ■ Check whether the main fuse or circuit breaker has tripped.
	Power failure ■ Open the drum door as described in the next section.
	There is still water in the drum and the machine is unable to drain. ■ Check whether the drainage system is blocked. Clean the drainage system as described in the next section.
	For safety reasons the drum door cannot be opened if the suds temperature is higher than 50 °C.

To continue a programme after an interruption to the power supply

If a running programme is interrupted, e.g. by a power cut, the programme can be continued when power is restored.

- Switch on the washing machine with the **I** button.
- Then press *Start*.

The programme will then continue with the next programme stage.

Problem solving guide

Possible reasons for increased levels of foaming

Problem	Cause and remedy
Excessive foaming	Detergent type <ul style="list-style-type: none">■ Only use detergent formulated for use in commercial washing machines. Domestic laundry detergent is not suitable.
	Overdosing of detergent <ul style="list-style-type: none">■ Dispense detergent following the instructions on the packaging and in accordance with local water hardness levels.
	Detergent creates too much foam <ul style="list-style-type: none">■ Use a lower foaming detergent or contact your detergent application specialist.
	Very soft water <ul style="list-style-type: none">■ In areas with hardness level 1 dispense less detergent in accordance with the detergent manufacturer's instructions.
	Soiling level of the laundry <ul style="list-style-type: none">■ For lightly soiled laundry dispense less detergent in accordance with the detergent manufacturer's instructions.
	Residues, e.g. detergent left on laundry <ul style="list-style-type: none">■ Run an additional pre-wash without detergent and without selecting a temperature. Laundry which has been pre-treated before washing must be thoroughly rinsed before running a wash programme.
	Small loads <ul style="list-style-type: none">■ Reduce the amount of detergent accordingly.
	Drum speed too high during the wash <ul style="list-style-type: none">■ Reduce the drum speed and wash rhythm.

Large items stretched

Problem	Cause and remedy
Stretching of large items during spinning	■ Please contact Miele Service.
	Large items can get stretched during spinning.

Cleaning and care

- Carry out cleaning and maintenance of the machine after use if possible.

Do not use a pressure washer or hose to clean the machine.

- Clean the **machine casing, control panel and plastic parts** with a mild non-abrasive cleaning agent or with a damp cloth only. Wipe dry with a soft cloth.

Scouring agents will scratch the surface.

- Clean stainless steel casing with a proprietary stainless steel cleaner.
- Remove any deposits from the door seal with a damp cloth.

Penetration of cleaning agents into electrical components.

- When disinfecting the surfaces, use a damp cloth only to clean the front and around the door lock. Do not spray any liquids.
- Clean stainless steel casing with a proprietary stainless steel cleaner.
- Remove any deposits from the door seal with a damp cloth.

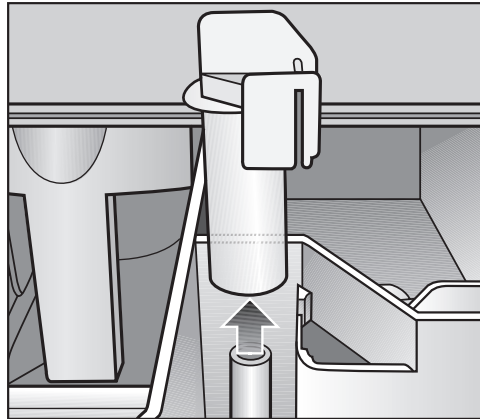
Tip: Heavy deposits of dust around the fan housing should be removed with a vacuum cleaner. The fan housing is located on the back of the machine.

Build-up of rust

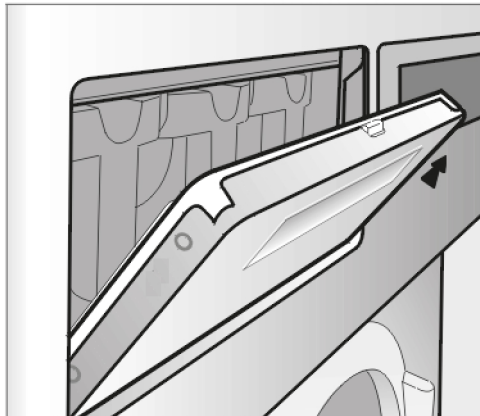
The drum is manufactured from rust-free stainless steel. Water or foreign objects containing ferrous substances (e.g. paper clips, metal buttons or metal swarf) which are placed in the machine with the laundry can cause a build-up of rust in the drum. Clean the drum regularly in this case and if rust occurs, remove it immediately with a proprietary stainless steel conditioner. Check the door seals for metal objects and clean thoroughly as described above. This must be carried out regularly.

Cleaning the detergent compartment, detergent drawers and siphons

- After use the detergent compartment and the detergent drawers should be cleaned with warm water to remove any detergent residues.
- If the machine is not going to be used for a longer time, leave the flap of the detergent compartment open.
- Also clean the siphons in the detergent drawers.



- Remove the siphons, clean with hot water and replace.



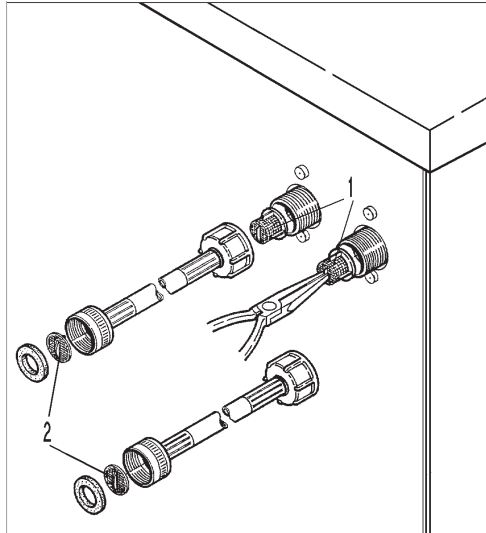
Cleaning the drip channel and siphon

- Pull the flap of the detergent compartment on the right hand side down to 45°.

If the drip channel and its drain connector are blocked, then these should be cleaned.

- Check the ventilation grille on the rear of the machine for soiling from time to time and clean when necessary.

Cleaning and care



- The filters in the water inlet valves (1) and the inlet hoses (2) must be checked for soiling from time to time and cleaned as necessary.

Installing the washing machine

The washing machine must be installed by Miele Service or by an authorised dealer. Please observe the information on the installation diagram.

This washing machine is only intended for items of laundry which have not been impregnated with dangerous or inflammable substances.

- To avoid the risk of frost damage, the machine must not be located in rooms which may be subject to very low temperatures.
- Transport the machine on a trolley inside the room.

Machines with feet must not be pushed to move them. This could damage them.

- Remove the packaging carefully with a suitable tool.
- Lift the machine off the pallet using a lifting device.

General operating conditions

This washing machine is intended only for use in a commercial environment and must only be operated indoors.

Ambient temperature in installation room: 0 °C to 40 °C

Relative humidity: non-condensing

Depending on the nature of the installation site, sound emissions and vibration may occur.

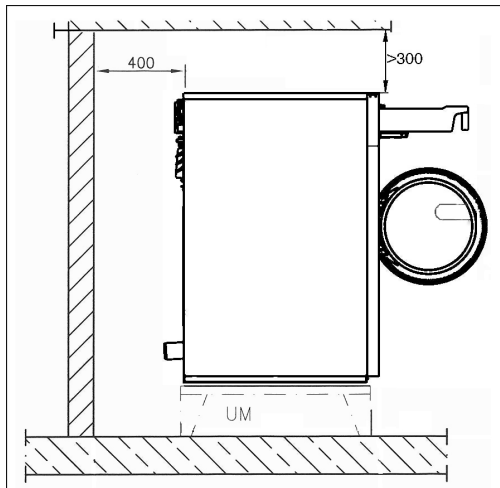
Tip: Have the installation site inspected and seek the advice of a professional in instances where increased noise may cause a nuisance.

Installation and connection

For easy maintenance

For ease of future maintenance and servicing, the minimum dimensions and distance to the wall must be observed to enable access.

- The minimum dimensions and distance to the wall must be observed.



Minimum distance to the wall approx. 400 mm to allow for maintenance.

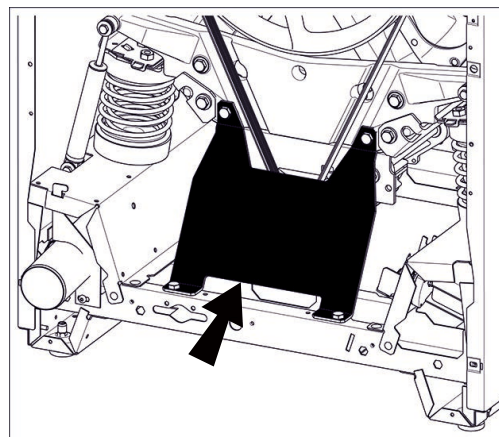
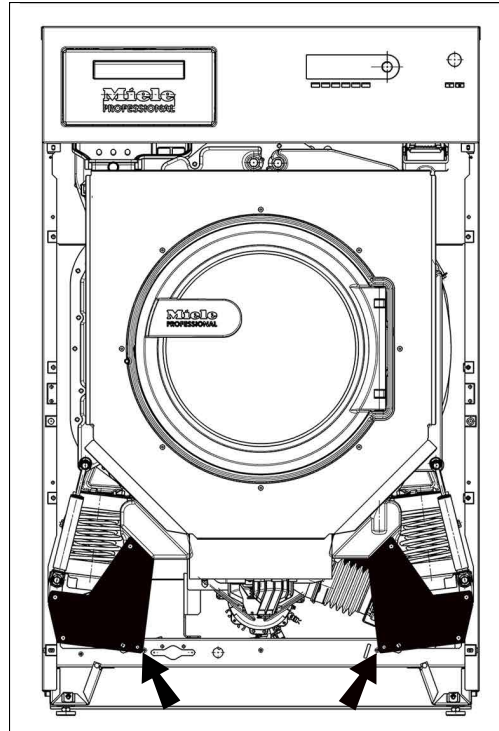
- Adjust the washing machine screw feet until the machine is level.

The machine must be completely level to ensure smooth operation.

Installation on a raised plinth

When installed on a raised plinth, the machine must be secured to the plinth. When installed on a concrete base the machine must be secured to the base. The plinth must be secured to the floor.

Transport safety panels



Removing the transport safety panels

The 2 transport safety panels at the front are each secured with 3 hexagon screws. The transport safety panels at the back are each secured with 4 hexagon screws. The transport safety panels must only be removed when the machine is in place, before it is commissioned.

- Remove the front and back panel:
- Unscrew the screws at the bottom of the front panel and remove the panel.

Installation and connection

- Unscrew the screws at the bottom of the back panel and remove the panel.
- Loosen the hexagon screws to remove the transport safety panels.

Retain the transport safety panels. They need to be refitted should the machine ever need to be moved again.

Plumbing

Water pressure (flow pressure) of a minimum 1 bar (100 kPa) / maximum 10 bar (1000 kPa) is required to guarantee problem free programme operation.

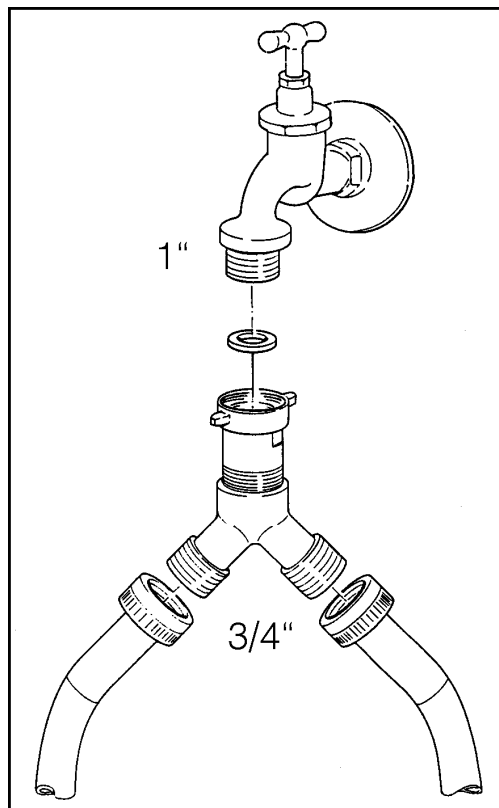
The machine must be connected to the water supply using the inlet hoses provided.

Hoses must be replaced with hoses tested for a burst pressure of at least 70 bar (7000 kPa) and for water temperatures of a minimum of 90 °C.

This also applies for associated connection fittings. Miele original replacement parts fulfil these requirements.

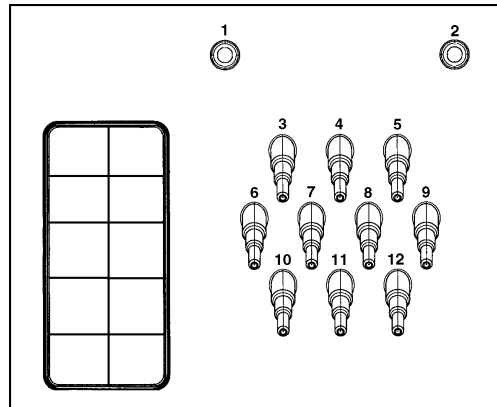
Tip: The hot water supply must not exceed a maximum temperature of 60 °C.

Connection to the cold water supply

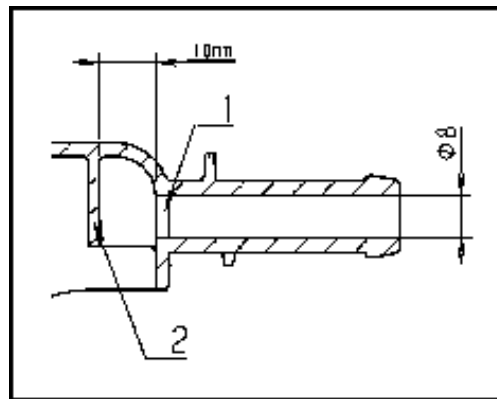


The Y-piece is supplied with the machine.

Dispensing agent connection to the liquid dispensing mixing compartment



Connections **1** and **2** are provided for viscous agents. These connections are sealed and need to be drilled open using an 8 mm drill bit.



Care must be taken to drill through the first wall (1) only, as there is a deflecting wall (2) 10 mm behind it.

If the drilled out connections are no longer required, they must be re-sealed.

Connections **3** to **12** are provided for liquid dispensing. These connections are sealed and must be cut to suit the diameter of the hose with a suitable hacksaw. If opened connections are no longer required, they must be resealed.

Water drainage

AV machines: DN 70 on the machine, DN 70 sleeve on-site. Through-flow rate 200 l/min.

If the slope for drainage is extremely steep, the piping must be vented to prevent formation of a vacuum in the machine's drain system.

Foam and vapour venting kit **BWS**

If excessive suds form, foam may escape from the vapour vent. To remove the foam, an optional vapour venting kit (BWS) can be used.

Electrical connection

The electrical connection must only be carried out by a qualified electrician who must ensure that all electrical work is carried out in accordance with applicable electrical regulations and standards (BS 7671 in the UK).

► This washing machine must be connected to an electrical mains supply that complies with local and national regulations. Please also observe your insurance and energy supplier's regulations as well as any health and safety at work regulations.

► The required voltage, connected load and fusing rating can be found on the data plate on the washing machine. Before connecting the machine to the power supply, please ensure that the mains supply voltage complies with the values given on the data plate.

Connection to a supply voltage other than the one quoted on the data plate can lead to functional faults and damage the washing machine!

If more than one voltage is quoted on the data plate, the washing machine can be converted for connection to the voltages stated.

► Conversion to a different voltage must only be carried out by a Miele Service engineer or by an authorised Service Dealer. The wiring instructions given on the wiring diagram must be followed.

The machine can either be hard-wired or connected using a plug-and-socket connection in accordance with IEC 60309-1. For a hard-wired connection an all-pole isolation device must be installed on site.

Tip: We recommend connection to the power supply via a suitably rated plug and socket which must be easily accessible for servicing and maintenance work after the machine has been installed. An electrical safety test must be carried out after installation and after any service work.

For hard-wired machines connection should be made via a suitable mains switch with all-pole isolation which, when in the off position, ensures a 3 mm gap between all open contacts. These include circuit breakers, fuses and relays (IEC/EN 60947).

If the mains supply cannot be permanently disconnected, the isolator switch (including plug and socket) must be safeguarded against being switched on either unintentionally or without authorisation.

Emergency switch-off

⚠ For washing machines without a separate emergency off switch, there must be a central emergency shut-off at the installation site!

The emergency switch-off puts the machine into a safe state in the event of danger or in order to prevent danger. The emergency switch-off must be placed in such a way that the user can activate it immediately in an emergency.

► If it is necessary to install a residual current device (RCD) in accordance with local regulations, a residual current device type B (sensitive to universal current) must be used.

An existing type A residual current device, (RCD) must be exchanged for a type B RCD.

► If necessary, equipotential bonding with good galvanic contact must be guaranteed in compliance with all applicable local and national installation specifications.

Equipotential bonding must have an earth current rating $> 10 \text{ mA}$
Accessories for equipotential bonding are not supplied and need to be ordered separately.

Connecting the dispensing pumps

Connection terminals for 4 time-controlled dispenser pumps, which can be operated without a multifunction module, are located behind the cover adjacent to the electrical connection. See enclosed wiring diagram.

Once the machine has been successfully installed and connected, replace all the housing parts that were removed.

Control panel



① **Display**

See the following pages for more information.

② **Short cut buttons**

For selecting an individual wash programme quickly. These buttons can be re-programmed to select your favourite wash programmes instead of the pre-set ones.

③ **Start button**

④ **Optical interface PC**

This is used by Miele service technicians during servicing work for testing purposes and for updating the machine.

⑤ **Power On button**

⑥ **Power Off button**

⑦ **Emergency off switch**

(Not part of all machine versions, see **Availability of emergency stop / emergency off devices**)

Function buttons

⏏ **Stop/Finish**

The right-hand function button is used as a finish button after a programme has been started.

After pressing the button the selected programme is stopped, if pressed again the programme is cancelled.

+⏏ **Block plus.**

The corresponding programme block (e.g. Pre-wash) is added to the programme.

||||| **Starch stop**

Press this button if the laundry is to be starched.

⊘ **Without spin**

Press this button if a final spin is not required after the final rinse.

⚙ **Settings**

⌚ **Start time**

When this button is pressed before starting the programme, information about selecting a start time will appear on the display.

 **Back** Return to previous display page.

 **Information on next / previous line**

 **Save**

See "Access to supervisor level"

 **Water intake**

 **Programme locked**

If a programme is locked, after 1 minute it can no longer be stopped and cancelled with the finish button.


 **Programme unlocked**

 **Data transfer**

 **Tone (buzzer) off**



General information

Overview of function levels

Operator	Supervisor	
Entry with Power On.	Access via  "Settings" button and password.	
Programme start for all programmes	Menu options in main menu	
Programme start only after insertion of coins or with pre-paid card	Language Choice of user language for the duration of a programme	Time/Date Set date and time
	Dispensing Change dispensing data for individual programmes	Change password
	Settings Memory function Buzzer Seconds unit Hours unit Mass unit Pressure unit Max. temperature selection Display standby Contrast setting Time of day Date display Dispensing calibration Dispensing throughput (D1 to 13) Dispensing correction factor (D1 to D13) Dispenser level reminder (D1 to 13) Password Medium water pressure Heater rating Customer details: - Sector - Last name - First name - Street - House number - Town/city - Postcode - Telephone - System address - Installation date Currency Temperature unit Minute unit Length unit Volume unit Speed unit	

Password

The supervisor level is accessed by entering a four-digit password from the character set provided. It can only be selected at the start or end of a programme.

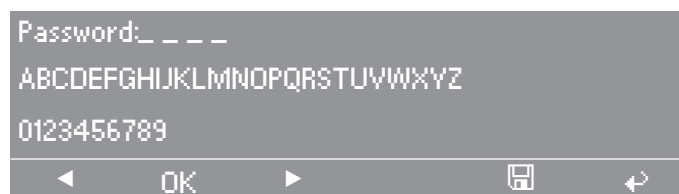
- Press the  button until the symbol changes to .
- Press the button again.

The following will appear in the display:




Select "Supervisor level" and press **OK**. The password entry screen will appear.

The first time you access the supervisor level, enter the password "M1LE".

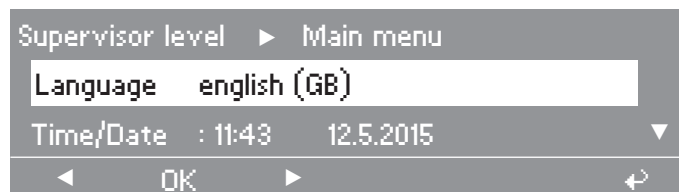



- Select a letter or digit and confirm your entry with the **OK** button.

When **OK** is pressed, the character selected will appear in the corresponding position.

- Press the  "Save" button once you have entered all four characters.

The supervisor level will open once you have entered the password.



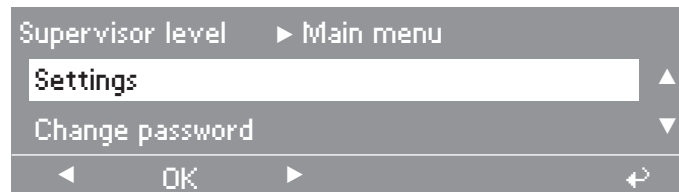
If no function is carried out within 30 seconds, if the  button is pressed, or if an incorrect password is entered, the same display content will be shown as after a power interruption.

Access to Supervisor level / changing the password

Change password

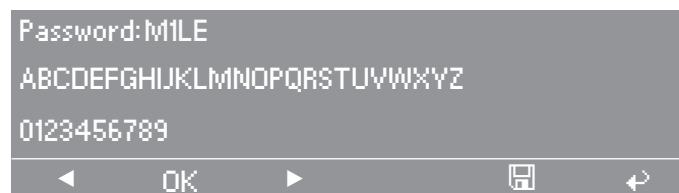
You can change the password with this menu option.

- Select supervisor level / main menu.



- Select "Change password" and confirm your entry with the **OK** button.


When "Change password" is selected and **OK** is pressed, the following will appear in the display:

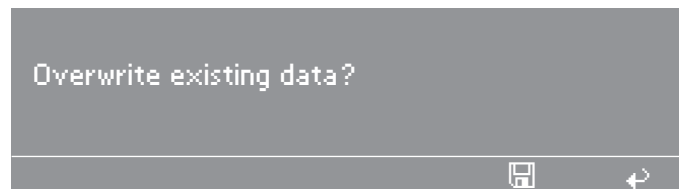


- Select a letter or digit and confirm your entry with the **OK** button.

When **OK** is pressed, the character selected will appear in the corresponding position.

- Confirm your entry with the  "Save" button.

Once you have entered the password and pressed  "Save", the confirmation prompt will appear.



- Press the  "Save" button.

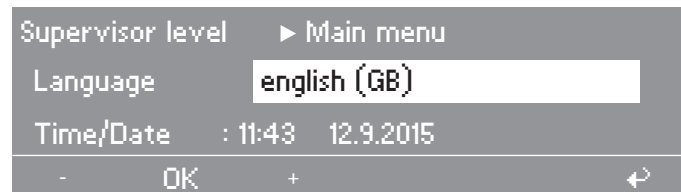
Main menu options

- Language
- Time/Date
- Dispensing
- Settings
- Change password

Language option

Select the required language.


- Select the language menu option.



When the country language is set the display immediately changes to this language to ensure that the display is instantly legible for all users. It then returns to the main menu.

Options:

- deutsch - english (GB) - english (USA) - espanol - francais - italiano
- nederlands - norsk - portugues - griechisch - russisch

If after 30 seconds in Supervisor level "Language" you have not pressed any buttons or selected "Save" , the display will return to the main menu.

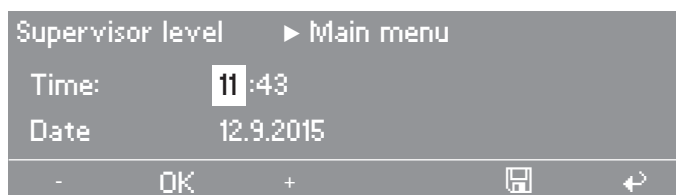
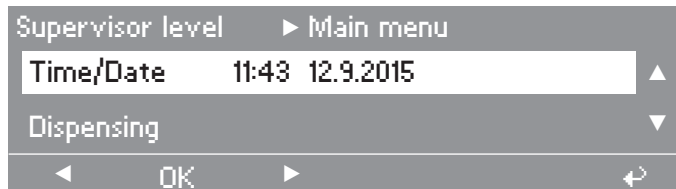
Time of day, Date option

This menu option is used to set the current date and time.

In the event of a power cut these are retained for approx. 6 weeks. After this time they will need to be reset.


- Select the Time, Date menu option:

After selection, the following appears in the display:



- Press the  "Save" button

The setting is adopted once the ?? "Save" button has been pressed and the display has returned to the main menu.

If after 30 seconds in Supervisor level "Time/Date" you have not pressed any buttons or selected  "Save", the display will return to the main menu.

Dispensing option

This menu option allows you to change individual dispensing settings.



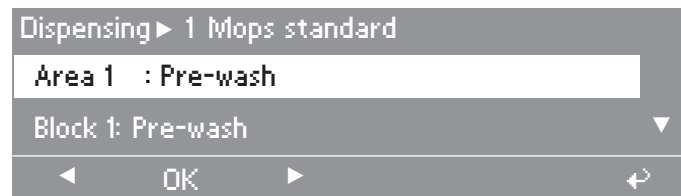
- Select "Dispensing".

After selection, the following appears in the display:

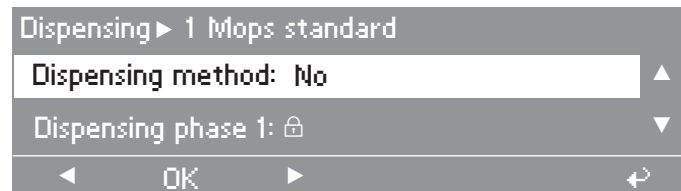


- Select the relevant programme.

When the corresponding programme is selected, only the dispensing data parameters will appear.



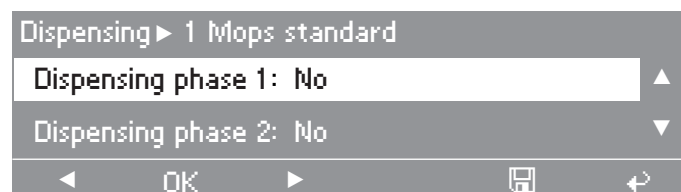
- Select the required range and block.



The options will appear:

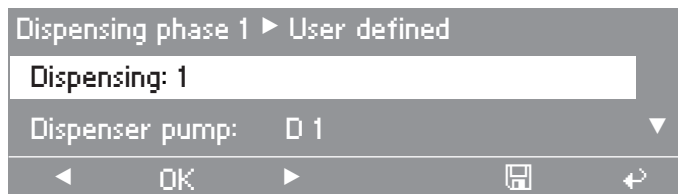
- No
- Qty. in ml
- Concentration ml/l
- Concentration ml/kg

In "Dispensing method: No" setting, dispensing phases 1 and 2 are locked.



In "Amount and concentration" setting, in dispensing phases 1 and 2 either "No" or "User defined" can be selected.


Dispensing option



Dispensing phase 1 ► User defined

Dispensing: 1

Dispenser pump: D 1

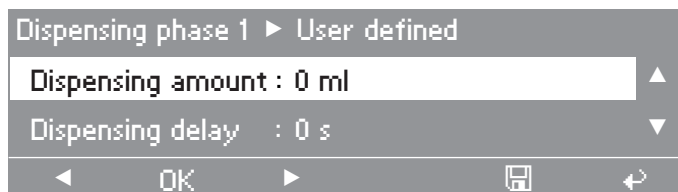
◀ OK ▶  ↶

Options:

- Dispensing 1 to 6

Dispenser pump:


- No
- D1 to D13



Dispensing phase 1 ► User defined

Dispensing amount : 0 ml

Dispensing delay : 0 s



◀ OK ▶  ↶

Dispensing amount: 0 to 9999 depending on dispensing method:

- ml
- ml/l
- ml/kg

Dispensing delay:

- No
- 0 to 999 s

- Select  "Save" with the multifunction selector and save the modified dispensing settings,
or
press  to return to the programme list without saving your changes.

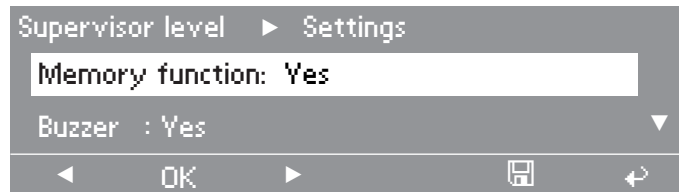
Return to programme list with or without saving your changes to the dispensing settings.

Tip: If the correction factor is changed, it must be corrected as necessary.

Access the Settings option.



■ Use the arrow buttons to access the following content:




Sub-menu options:

- Memory function
- Buzzer
- Unit - temperature
- Unit - seconds
- Unit - minutes
- Unit - hours
- Unit - length
- Unit - mass
- Unit - volume
- Unit - pressure
- Unit - drum rotation
- Max. temperature
- Display standby
- Contrast setting
- Clock display
- Date display
- Dispenser calibration
- Dispensing throughput (D1 to D13)
- Dispensing correction factor (D1 to D 13)
- Dispenser level reminder (D 1 to D 13)
- Password required
- Medium water pressure
- Heater rating
- Customer data


Settings option

- Currency

Save the specified parameters.

- Specify the parameters.
- Press the  "Save" button to save the specified parameters.

The parameters are saved and the display switches back to the sub-menu.

Tip: When  is pressed, or if after 30 seconds no button has been pressed, the settings are not saved and the display returns to the main menu.

Memory function

The Temperature and Spin speed programme parameters for those programmes which can be changed before the programme start, are saved after the start of the programme. In addition, the button functions are not reset at the end of the programme. These appear again with each new programme selection.

Options:

- No
- Yes

Unit options

According to the set language when "auto" is set, the appropriate unit for temperature, second, minute, hour, length, mass, volume, pressure or revolutions is used.

Temperature - unit

Options:

- auto
- °C
- °F

Seconds - unit

Options:

- auto
- s
- sec
- sg
- sek

Minutes - unit

Options:

- auto
- min

- mn

Hours - unit

Options:

- auto
- h
- timer
- tim
- uur
- time
- hr

Length - unit

Options:

- auto
- mm
- inches

Mass - unit

Options:

- auto
- kg
- l

Volume unit

Options:

- auto
- l
- USA gal
- CDN gal

Pressure - unit

Options:

- auto
- bar
- psi

Speed - drum rotation

Options:

- auto
- U/min
- T/min
- rpm

Settings option

- t/mn
- giri/min
- kierr/min
- r/min
- omdr/min
- v/min
- o/min

Buzzer

If "Yes" is programmed, the buzzer is activated along with the programme stop signal 1 and 2, the block end signal and the fault stop signal. The buzzer frequency is increased with the fault stop signal. The buzzer is switched off after 5 minutes or when a button is pressed.

If "No" is programmed, the buzzer is switched off.

Options:

- No
- Yes

Maximum temperature selection

This value can be set from cold to 95 °C / 203 °F in 1 °C / °F increments and limits all temperature settings in the programmes to the selected value. This means that when 60 °C is selected, for example, the water will not be heated to more than 60 °C in any programme even if a higher temperature is programmed for the selected programme.

Options:

- Cold
- 15 to 95 °C

Display standby

If the "Display Standby: yes" setting is selected, the display is switched on by pressing any button. If no further buttons are pressed after 10 minutes, the machine returns to "Standby". The start button light ring flashes to inform you of this. When a button is pressed the display is switched on again and the last active screen appears.

When "Display standby: No" is set, the display is permanently on.

■ Choose from the following options:

- Yes
- No

Contrast setting

The display contrast can be altered from 1 to 10. This allows the display to be optimised for specific working conditions. When it is altered, the contrast is changed immediately.

Options:

- 1 to 10

Clock display

You can select either the 24-hour or 12-hour clock for the display.

Options:

- 24 h
- 12 h

Date display

Various different display formats are used in accordance with the language set.

- Select the date format from the chart below.

■

Country	Format
Deutschland, England, Niederlande, Frankreich, Italien, Finnland, Portugal, Spanien, Dänemark, Norwegen, Griechenland	Day/Month/Year
Sweden	Year / Month / Day
USA	Month/Day/Year

Tip: The date format can be changed in accordance with the country.

Options:

- auto
- Day/Month/Year
- Year / Month / Day
- Month/Day/Year

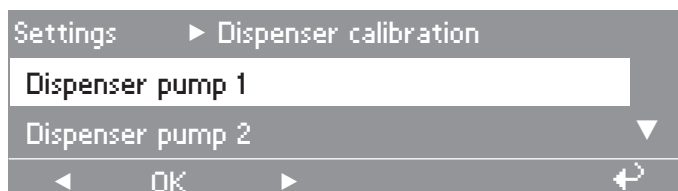
Dispenser calibration

Dispensing calibration is used to measure the throughput of individual dispensing pumps.

- Press and hold multifunction button 2 and switch the machine on with "Power On".

To go directly to "dispenser calibration" when the machine is switched off:

Settings option



Options:

– Dispenser pump 1 to 13

■ Select a dispenser pump.

When a dispenser pump is selected, the following will appear in the display:



Tip: The dispensing amount can be set from 0 to 9999 ml in 1 ml increments.


■ Press multifunction button 0/1.

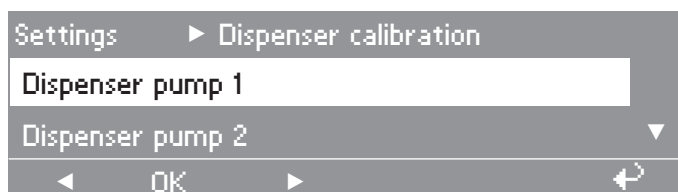
The dispensing hose will fill up.

■ Stop the process by pressing button 0/1.

■ Run the hose of the dispenser pump that is being checked upwards into a measuring vessel.

⚠ Irritant agents.
Skin and eye irritation.
Avoid contact with skin and eyes, wear protective clothing.

■ Return to the main menu by pressing  "Back".



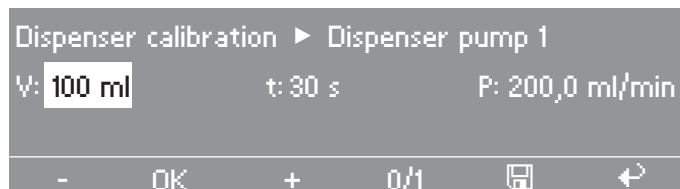
■ Select a dispenser pump.



■ Press multifunction button 0/1.

Stop the pump by pressing button 0/1, or the pump will stop automatically after 60 seconds.

■ Measure the required amount in the measuring vessel.



- Enter the amount measured in field "V:".

The throughput P is calculated in ml/min. by the controls.

- Press the  "Save" button.

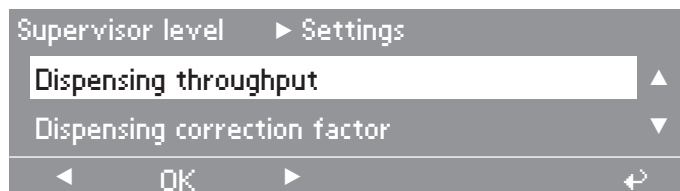
The measured value is assigned to the pump.

- Reattach the hose.

Dispensing throughput (D1 to D13)

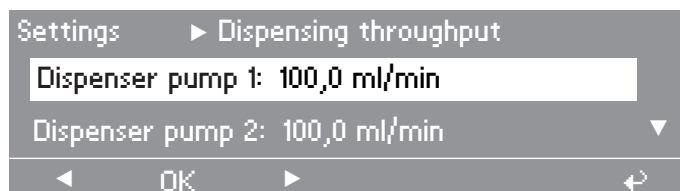
The throughput of the connected dispensing pumps can be set from 0 ml/min to 9999 ml/min in 1 ml/min steps.

- Access the following content:



- Select "Dispensing throughput".

The following will appear on the display:



Options:

- No
- 1 to 9999.0 ml/min

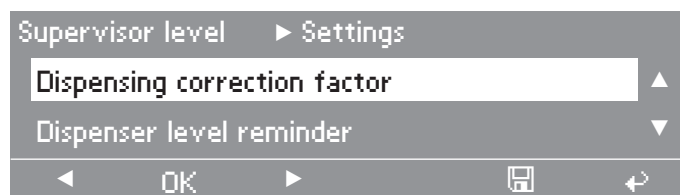
Dispensing correction factor (D1 to D 13)

The correction factor can be used if an adjustment is made to the liquid dispensing. If, e.g. the dispensing agent for Dispensing pump D 1 were altered (to a higher concentration), a rapid modification can be made with the correction factor.

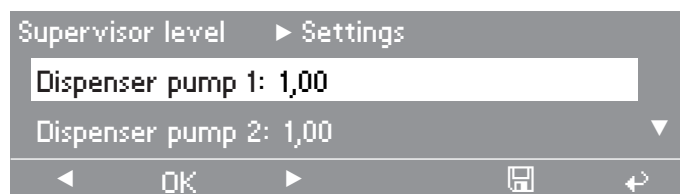
- Calculate the correction factor using the following formula:

$$\text{Correction factor D1} = \frac{\text{New quantity Dos-p. D1}}{\text{Current quantity Dos-p. D1}}$$

- Access the following content:



- Select "Dispensing correction factor".



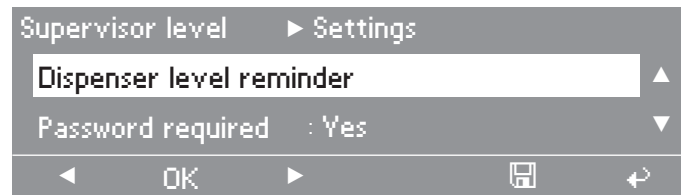
You have the following options:

- 0.01 to 1.99
- 2

Once you exit the supervisor level, the new dispensing amounts are used in the programmes but the programming is not changed.

Dispenser level reminder (D 1 to D 13)



The machine must be programmed if a container level reminder is required.



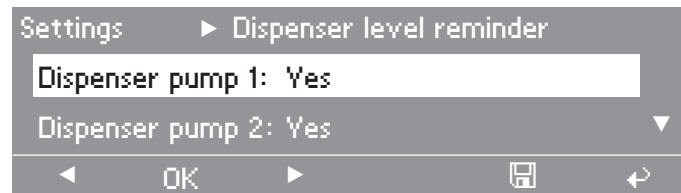
Supervisor level ► Settings

Dispenser level reminder ▲

Password required : Yes ▼

◀ OK ▶  



- Select "Dispenser level reminder".



Settings ► Dispenser level reminder

Dispenser pump 1: Yes

Dispenser pump 2: Yes ▼

◀ OK ▶  

Options:

- Yes
- No

Settings option


Password required

The use of a password can be selected here.

- Set whether or not you want to use a password.

Options:

- Yes
- No

However, if a password has already been assigned and the operator then selects "No", they will be prompted to enter the current password when they press .

Medium water pressure

Medium water pressure must be set in order to calculate consumption data. This is used, among other things, for calculating water quantities in individual blocks or for a whole programme.

Options:

- 0.1 to 50 bar
- 1 to 800 psi

Heater rating

The heater voltage is required to calculate heater output.

Options:

- 0.0 to 999.9 kW

Customer data

Customer details can be entered here.

Options:

- | | |
|----------------|---------------------|
| - Sector | - Location |
| - Name | - Postcode |
| - First name | - Telephone |
| - Street | - System address |
| - House number | - Installation date |

Location

A sector can be selected here.

Options:

- Care home
- Medical practice
- Nursing home

- Fire brigades/rescue services
- Restaurant / Café
- Commercial laundry
- Small businesses
- Hotel/guesthouse
- Industry
- Youth hostel
- Hospital
- Riding stables
- School
- Dry cleaners
- Housing associations
- Other:
 - Surname, First name
 - Street, House number
 - Town, Postcode
 - Telephone
 - System address: a 10-digit system address for the machine can be entered here.
 - Installation date

Currency

Options:

- | | |
|--------|----------------------------------|
| - auto | (in line with selected language) |
| - EUR | Euro |
| - GBP | pounds sterling |
| - CHF | Swiss francs |
| - USD | American dollars |
| - RUB | Russian roubles |
| - CAD | Canadian dollars |
| - CZK | Czech krone |
| - DKK | Danish krone |
| - PLN | Polish zloty |
| - SEK | Swedish krone |
| - TRL | Turkish lira |
| - SKK | Slovakian krone |

Technical data

PW 413 machine data

Electrical connection

Voltage	see data plate
Frequency	see data plate
Total connected load	see data plate
Current draw	see data plate
Fuse rating	see data plate
Heater rating	see data plate

Installation dimensions

Casing width (without add-on components)	795 mm
Casing height (without add-on components)	1350 mm
Casing depth (without add-on components)	897 mm
Overall machine width	799 mm
Overall machine height	1352 mm
Overall machine depth	1010 mm
Minimum width of transport opening	805 mm
Minimum distance between wall and machine front	1350 mm

Weight and floor load

Net weight	see installation plan
Max. floor load in operation	see installation plan

Emissions data

Sound pressure level emission in workplace in accordance with EN ISO 11204/11203	<70 dB(A) re 20 µPa
Sound power level EN ISO 9614-2	<80 dB(A)

Product safety

Product safety standard	IEC 60335-1, IEC 60335-2-7 EN 60335-1, EN 50571
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PW 418 machine data

Electrical connection

Voltage	see data plate
Frequency	see data plate
Total connected load	see data plate
Current draw	see data plate
Fuse rating	see data plate
Heater rating	see data plate

Installation dimensions

Casing width (without add-on components)	920 mm
Casing height (without add-on components)	1450 mm
Casing depth (without add-on components)	857 mm
Overall machine width	924 mm
Overall machine height	1452 mm
Overall machine depth	950 mm
Minimum width of transport opening	930 mm
Minimum distance between wall and machine front	1250 mm

Weight and floor load

Net weight	see installation plan
Max. floor load in operation	see installation plan

Emissions data

Sound pressure level emission in workplace in accordance with EN ISO 11204/11203	<70 dB(A) re 20 µPa
Sound power level EN ISO 9614-2	<80 dB(A)

Product safety

Product safety standard	IEC 60335-1, IEC 60335-2-7 EN 60335-1, EN 50571
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