

Operating and Installation Instructions

Dental Thermal Disinfector G 7881

To prevent accidents
and machine damage
read these instructions
before
installation or use.

en - US, CA

M.-Nr. 07 778 191

Contents

IMPORTANT SAFETY INSTRUCTIONS	4
Function of the Dental Thermal Disinfector	8
Guide to the Dental Thermal Disinfector	10
Before using for the first time	12
Opening and closing the door	13
Water softener	14
Programming the water softener	14
Filling the salt reservoir	16
Salt indicator	17
Rinse aid	18
Adding rinse aid	18
Rinse aid indicator	19
Setting the rinse aid dosage	19
Neutralizing agent	20
Adding neutralizer	20
Neutralizer indicator	21
Detergent	22
Loading the machine	24
Process validation	24
Water connection spring adapter	26
Height adjustable top basket	26
Effects of Processing Chemicals	27
Use	31
Turning on	31
Starting a program	31
Program sequence display	32
Changing a program	32
Canceling a program	33
End of a program	33
Turning off	33
Program guide	34

Programming functions	36
For all programming functions:	36
Activate the program mode	36
Saving the values and ending the program mode	36
Ending the program mode without saving	36
Dispensing liquid detergent with the DOS module	37
Setting the dosage	37
Priming the liquid detergent dispensing system	38
Dispensing neutralizer with the DOS module	39
Setting the dosage	39
Priming the neutralizer dispensing system.	40
Buzzer	41
Process documentation (optional)	42
Maintenance	43
Routine checks	43
Cleaning and Care	44
Frequently asked questions	50
Thermo switch	58
After sales service	59
Installation	62
Electrical connection	64
Plumbing	65
Technical Data	68
Help to protect the environment	69

IMPORTANT SAFETY INSTRUCTIONS

This machine conforms to current safety requirements. However, inappropriate use can lead to personal injury and property damage. Read the operating instructions carefully before using this machine.

Keep these instructions in a safe place for reference, and pass them on to any future user.

WARNING - To reduce the risk of fire, electric shock or injury:

Use

► This machine is designed for specialized applications only, as described in these Operating Instructions. Using it for purposes other than those for which it was designed would be unauthorized and could cause harm. Only clean instruments which are stated by the manufacturer as being suitable for cleaning and disinfecting in this type of machine. Please regard the notes from the instrument manufacturer.

Please pay attention to the following notes to maintain safe procedures.

- The machine should be installed, commissioned and maintained only by a certified Miele Service Technician. Repairs by unqualified persons could be dangerous.
- Do not install the machine in an area where a danger of explosion or freezing may be present.
- Be certain this appliance is properly installed and grounded by an authorized technician. To guarantee the electrical safety of this appliance, continuity must exist between the appliance and an effective grounding system. It is imperative that this basic safety requirement be met. If there is any doubt, have the electrical system checked by a qualified technician.
- A damaged or leaking machine is dangerous. Turn off the machine immediately at the main switch and call the Miele Service Department.
- Personnel operating the machine should be trained regularly. Children and untrained personnel must not be allowed access to the machine or its controls.

IMPORTANT SAFETY INSTRUCTIONS

- ▶ Take care when handling processing chemicals (detergents, softeners, neutralizers, etc.). These may contain irritant or corrosive ingredients. Wear protective gloves and goggles. With all chemical agents the manufacturer's safety conditions must be observed.
- ▶ The washer is only designed to operate with water and the recommended processing chemicals. The washer must NOT be operated with organic solvents or flammable liquids. This may cause an explosion or damage to rubber and plastic components, which in turn allows liquid substances to leak out.
- ▶ Do not stand, sit or lean on the opened machine door. This could cause the machine to tip over and could cause injuries and damage.
- ▶ Do not touch the heating elements during or directly after the end of a program, you could burn yourself. They remain hot for some time after the end of the program.
- ▶ The water in the machine must not be used as drinking water.
- ▶ Be careful when sorting items with sharp pointed ends. Position them in the machine in a way that you will not hurt yourself or create dangers for other operators.
- ▶ When using this machine regard the high temperatures and be especially careful not to scald or burn yourself. When opening the door bypassing the electrical lock, a danger of burning, scalding or corrosion exists or the possibility of inhaling toxic fumes. Let baskets and inserts cool. Empty any water from parts into the wash cabinet.
- ▶ If toxic chemical substances can form in the wash water during processing the door seal and, if applicable, the function of the steam condenser must be checked regularly. In that case, opening the washer door during a program interruption can be dangerous.
- ▶ If you are exposed to toxic vapors or processing chemicals, consult the manufacturer's material safety data sheets for emergency procedures.
- ▶ After drying with the drying unit open the door to allow the items and inserts to cool.
- ▶ Never clean the machine or near its vicinity with a water or high pressure hose.
- ▶ Avoid inhaling powder products. They can cause burning in the mouth and throat if swallowed, and can inhibit breathing.
- ▶ Before servicing, disconnect the power supply by either removing the fuse, unplugging the unit or manually "tripping" the circuit breaker.

IMPORTANT SAFETY INSTRUCTIONS

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

▶ Only use process chemicals that are approved by Miele for the application involved. Contact a Miele Application Technology specialist if in doubt.

▶ Disinfection programs must not be interrupted. This can have a limiting effect on the disinfection result. However, if this should be necessary the complete program must be restarted and completed.

▶ Use only Miele approved cleaning agents with this machine. Use of unsuitable cleaning agents could adversely affect the components of the machine. Damages resulting from using unsuitable cleaning agents are not covered by the warranty.

▶ Pre-treating (e.g. with cleaning agents), certain soiling and cleaning agents with a chemical interaction, can cause foam. For pre-treatment and/or cleaning only use low-sudsing detergents which have been approved by Miele.

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

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

▶ In order to prevent damage to the machine and any accessories through processing chemicals or dirt as well as any interaction between them, see "Effects of Processing Chemicals.

▶ The machine must only be operated with water and the recommended cleaning agents. Organic solvents must not be used in the machine as there is the danger, under certain circumstances, of explosion and damage to rubber and synthetic materials. Follow the dosage recommendations of the cleaning agent's manufacturer.

▶ In critical applications where very stringent requirements have to be met, it is strongly recommended that all the relevant factors for the process, such as detergent, quality of water, etc. are discussed with a Miele Application Technology specialist.

▶ If the cleaning result is subject to particularly stringent requirements, a regular quality control test should be carried out by the user to ensure that required standards of cleanliness are being achieved.

▶ The performance of the cycles was tested using Neodisher products. The use of other products is not discouraged but may not yield identical results. Please be aware that changes in formulation, storage conditions, etc. which may not be publicized by the chemical manufacturer can have a negative effect on cleaning results. and are not the responsibility of the machine manufacturer.

IMPORTANT SAFETY INSTRUCTIONS

▶ When using cleaning agents and specialized products, it is essential that the manufacturer's instructions are followed. Chemicals must only be used for the purpose they are designed and in the situation specified, to the exclusion of other chemicals. This will avoid such dangers as chemical reactions and material damage.

▶ The mobile units, baskets and special inserts should only be used for their specific application. Instruments with hollow parts must be flushed through with wash water.

▶ Empty any containers or utensils before arranging them in the machine.

▶ Do not allow any remains of acids, solvents or corroding ferrous material, and in particular hydrochloric acid or chloride solutions to get into the wash cabinet. The presence in compounds of any solvents should be minimal, (especially those in hazard class A1).

▶ To avoid any corrosion damage ensure that solutions or steam containing hydrochloric acid do not come in contact with the stainless steel casing of the machine.

▶ Please follow the installation advice in these instructions and the separate Installation Instructions.

Please note the following symbols on the machine:



Caution : See the Operating Instructions!



Caution : Danger of electric shock!

Using accessories

▶ Only specific additional equipment made by Miele should be connected to this machine. Consult a Miele Application Specialist on the type and application of such equipment.

▶ Only Miele mobile units, modules and inserts should be used. If equipment from another manufacturer is used, Miele cannot ensure the cleaning results. Damage or injury caused by this are excluded from the warranty.

Disposal of an old appliance

▶ When discarding your old machine, disconnect it from the power supply and cut off the power cord.

For environmental and safety reasons ensure the machine is completely drained of any residual water and cleaning agent. (Observe safety regulations and wear safety goggles and gloves).

Make the door lock inoperative or remove the door completely, so that children cannot accidentally shut themselves in. Make appropriate arrangements for the safe disposal of the machine.

SAVE THESE INSTRUCTIONS

Function of the Dental Thermal Disinfector

High-level disinfection

The G 7881 Dental Thermal Disinfector is suitable for automatic treatment of dental instruments and accessories. It cleans and in the disinfection program simultaneously thermally disinfects, at 200°F/93°C, instruments and accessories.

Areas of effectiveness are physical removal or thermal inactivation of vegetative bacteria including mycobacteria, fungi, fungal spores, and viruses. These categories include the Mycobacterium tuberculosis and the Enterococcus faecium.

Important: Only the programs labeled "Disinfection" disinfect! Only use this program when handling contaminated items. All other programs are designed to clean items without disinfecting them.

All relevant **safety procedures** should be obeyed. Relevant safety procedures include, but are not limited to, the Centers for Disease Control's Recommended Infection Control Practices for Dentistry and the OSHA Bloodborne Pathogens Standard.

The G 7881 Dental Thermal Disinfector achieves **high-level disinfection** as defined by the Spaulding categorization.

The Spaulding category high-level disinfection is the same type of means as in the sterilant category except that the use pattern is different. The sterilant is used as a high-level disinfectant by e.g. reducing the exposure time within its effective range of tuberculocidal, virucidal, and bactericidal action.

According to the **Centers for Disease Control's Recommended Infection Control Practices for Dentistry**, instruments should be classified in one of the following categories and be treated accordingly:

All **critical instruments** must be sterilized after treatment in the G 7881 Dental Thermal Disinfector. Critical instruments are used to penetrate soft tissue or bone, e.g. forceps, scalpels, bone chisels or scales.

Semicritical instruments should be sterilized after treatment in the G 7881 Dental Thermal Disinfector. If however, sterilization is not feasible because the instrument will be damaged by higher heat exposure, the instruments may be treated thermally in the G 7881 Dental Thermal Disinfector. Semicritical instruments do not penetrate soft tissues or bone but contact oral tissues, e.g. mirrors and amalgam placement instruments.

Noncritical instruments may be treated thermally in the G 7881 Dental Thermal Disinfector. Noncritical instruments or devices come into contact only with intact skin, e.g. external components of x-ray heads.

Function of the Dental Thermal Disinfector

Instruments suitable for processing in the thermal disinfector

In general, only high quality stainless steel instruments are suitable for processing in the G 7881. All instruments, accessories and other items to be cleaned and disinfected in the machine should have the following properties:

- heat resistance to a temperature of up to 95°C / 203°F.
- corrosion resistance in the presence of heat and alkalinity.

The heat retention capacity of stainless steel allows for fast drying. Plastic has a lower heat retention capacity, thus requiring a longer drying time. In this case, a slightly extended waiting period of 5-15 minutes may be necessary after the disinfection cycle.

Aluminum instruments may discolor during the cleaning process. Aluminum has only a limited suitability for processing in this system.

Carbon steel and chrome-plated instruments may corrode during the cleaning process. Processing these types of instruments in the G 7881 is **not** recommended.

Hand pieces, drill bits, grinders, root canal instruments or other rotating instruments are not suitable for the thermal disinfector. Do not process them in the thermal disinfector.

Do not clean fiberoptics or electrical equipment and components in the thermal disinfector.

Rhodium coated mirrors must be arranged so that their surfaces do not suffer any mechanical damage. Not all specula with glass are suitable for machine treatment.

If you have questions regarding whether an instrument is suitable for processing in the G 7881 Dental Disinfector, please seek the advice of the instrument manufacturer.

Water quality

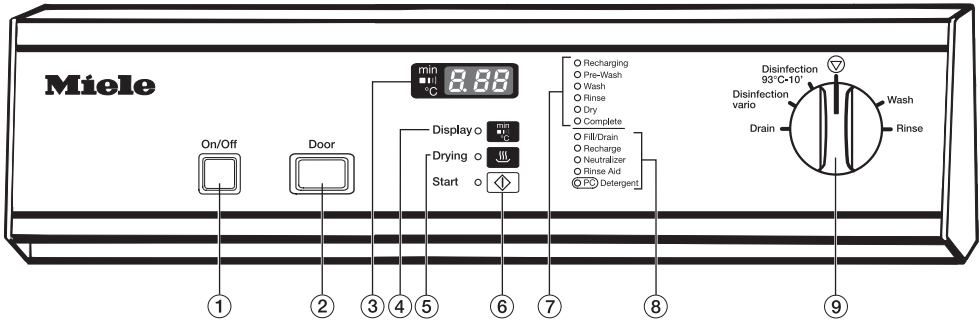
Good water quality is essential for processing instruments in the dental washer disinfector. Otherwise, instrument corrosion may result.

Poor water quality consists of, but is not limited to, high concentrations of chlorides (over 50 ppm). High chloride levels will cause even high quality stainless steel instruments to rust when processed in the machine. Other effects that may be noticed are tarnishing or "blueing" of instruments due to dissolved minerals in the water.

If you notice any of the above symptoms in your instruments, please contact a **Miele Applications Specialist** at:

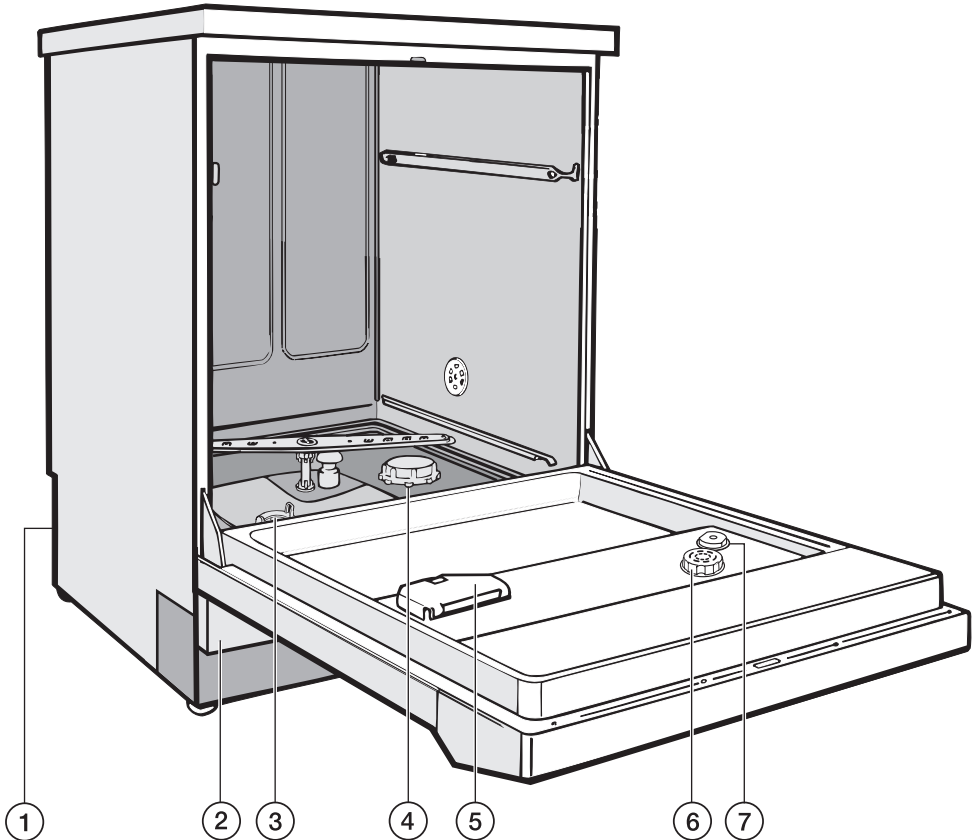
(800) 991-9380

Guide to the Dental Thermal Disinfecter



- ① "On/Off" button
- ② "Door" button
- ③ Display
- ④ "Display" button with indicator
(toggles between the elapsed time,
active wash blocks and actual
temperature displays)
- ⑤ "Drying" button with indicator
- ⑥ "Start" button with indicator
- ⑦ Program sequence display
- ⑧ Check / Refill indicators
- ⑨ Program selector

Guide to the Dental Thermal Disinfector



① Connection for DOS module G 60 at the rear of the machine (Optional dispenser pump for liquid detergent).

② Service panel

③ Triple filter system

④ Salt reservoir

⑤ Compartment for powder detergent

⑥ Rinse aid reservoir with dispensing selector

⑦ Level indicator for rinse aid

At the rear of the machine:

– Serial interface plug RS 232

– Siphon tube for external container of neutralizer

Before using for the first time

Before using for the first time please pay special attention to the following points:

Detailed information on these points can be found in the relevant section of the Operating Instructions.

Set the water softener

The water softener must be set to the water hardness level of your area.

Contact your local water authority to find your hardness level, in parts per million (ppm) or grains per gallon (gr/gal).

The salt reservoir must be filled first **with water** and then **with reactivation salt**.

Filling the salt reservoir with cleaning agent by mistake will cause serious damage to the water softener. Please check every time before refilling that the package contains reactivation salt.

Add rinsing agent

Inadvertently filling the rinsing agent reservoir with cleaning agent (including liquid cleaning agents and dishwashing soap) will cause serious damage to the reservoir.

Only use detergents suitable for use in disinfecting washers.

Do not use detergents formulated for use in domestic dishwashers.

Load the machine carefully

Arrange the load so that water will come into contact with all surfaces. Concealed surfaces will not be cleaned.

The spray arms must not be blocked by any items.

Adding detergent

Follow the dosage recommendations of the cleaning agent manufacturer.

The filter combination at the base of the wash cabinet and the spray arms must be clean.

Regular checking and cleaning is essential.

Opening and closing the door

Electric door lock


The machine is equipped with an electric door lock.

The door can only be opened if:

- the machine is connected to the electrical supply,
- the ON/OFF button is pressed.

To open the door

- Press the "Door" button, hold the door grip and open the door.

 Do not touch the heating elements directly after the end of a program, you could burn yourself. They remain hot for some time after the end of the program.

The door cannot be opened after the start of the program and remains locked until the program end.

Exception: During the programs "Rinse" and "Drain" the door can be opened.

The Technical Service Dept. can program the door to be opened during the program cycle "Drying".


To close the door

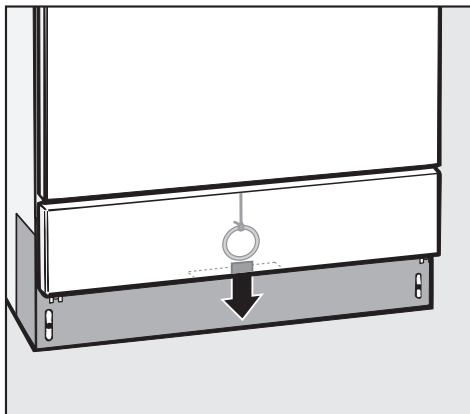
- Lift the door upwards and push until it clicks shut. Do not press the "Door" button while shutting the door.

Opening the door during a power failure

The emergency release should only be used when the door cannot be opened normally, e.g. in the case of a power failure. Caution during "Disinfection" programs - see "IMPORTANT SAFETY INSTRUCTIONS"!

Use caution when bypassing the door lock, danger of burns or scalding!

- Turn the program selector to .
- Turn the machine off with the "On/Off" button.



- Reach behind the service panel from below and pull the ring of the emergency release downwards.

Water softener

To obtain good cleaning results, the disinfectant needs soft water. Hard tap water results in calcium deposits on the instruments and machine.

If your tap water hardness is above 4°d, the water should be softened. This takes place by properly programming the unit's integrated water softener.

- The water softener must be filled with salt for reactivation.
- The disinfectant must be programmed to correspond to the water hardness in your area.
- The local water authority can advise you of the water hardness in your area or your sales representative can assist you.

For fluctuating levels (e.g. 7 - 13 gpg) set the water softener to the highest setting (in this example to 13 gpg).

The built-in water softener has settings from 1 - 60 gr/gal or 20 - 1080 ppm.

Enter the water hardness to have it available for service calls (if needed):
_____ gpg (ppm)

Programming the water softener

- Turn the machine off with "On/Off".
- Turn the program selector to \odot .
- Press and hold the "Display" and "Start" button and **at the same time** turn the machine on with the "On/Off" button.

The display shows the current program version *P...*

The "Fill/Drain" indicator lights.

- Press the "Drying" button once.

The display shows *ED1*.

- Turn the program selector to the 1-o'clock-position.
- The display shows *13* (factory setting of water hardness in °d).
- Press and hold the "Display" button until the desired value (water hardness in °d) is displayed.

Water hardness information in °d, ppm and °gpg are shown in the table on the next page.

Once the number *ED* is reached the counter starts again with *D*.

- Press "Start".

SP is displayed.

- Press "Start" again.

The desired value is stored. The display goes out.

The machine is ready for use.

Settings

°d	ppm	gpg	Value displayed	°d	ppm	gpg	Value displayed
1	20	1	1	40	720	41	40
2	40	2	2	41	740	42	41
3	50	3	3	42	760	43	42
4	70	4	4	43	770	44	43
5	90	5	5	44	790	45	44
6	110	6	6	45	810	46	45
7	130	7	7	46	830	47	46
8	140	8	8	47	850	49	47
9	160	9	9	48	860	50	48
10	180	10	10	49	880	51	49
11	200	11	11	50	900	52	50
12	220	12	12	51	920	53	51
13	230	13	13	52	940	54	52
14	250	14	14	53	950	55	53
15	270	15	15	54	970	56	54
16	290	16	16	55	990	57	55
17	310	17	17	56	1010	58	56
18	320	18	18	57	1030	59	57
19	340	19	19 *)	58	1040	60	58
20	360	20	20	59	1060	61	59
21	380	21	21	60	1080	62	60
22	400	22	22				
23	410	23	23				
24	430	25	24				
25	450	26	25				
26	470	27	26				
27	490	28	27				
28	500	29	28				
29	520	30	29				
30	540	31	30				
31	560	32	31				
32	580	33	32				
33	590	34	33				
34	610	35	34				
35	630	36	35				
36	650	37	36				
37	670	38	37				
38	680	39	38				
39	700	40	39				


*) Factory setting

Water softener

Filling the salt reservoir

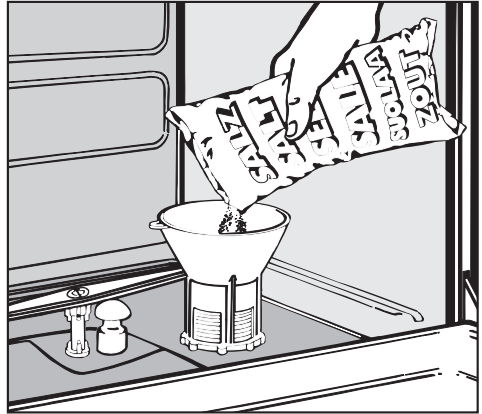
Only special, coarse-grained reactivation salt should be used in this machine, available from Miele's Professional Department. Please see back page for contact information. Other salts may contain insoluble additives which can impair the water softener. These could contain components which are insoluble in water and could damage the water softener. If in doubt consult Miele's Professional Department.

The salt reservoir holds about 2.5 kg of salt.

 Inadvertently filling the salt reservoir with **detergent will damage the water softener!** Make sure that only water softener reactivation salt is used.

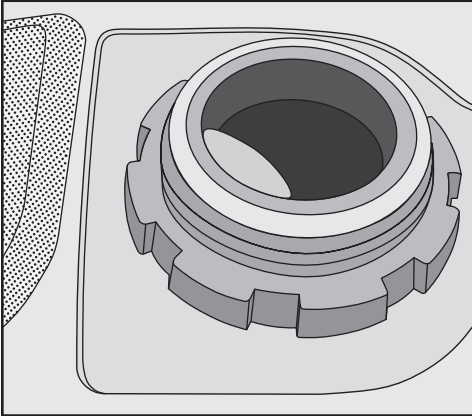
- Remove the lower basket.
- Unscrew the salt reservoir cap.

Before filling the salt reservoir with reactivation salt for the first time, fill it with approx. 2.5 liters of water. Water does not have to be added with subsequent refills.



- Place the funnel provided in place.
- Carefully fill the reservoir with the reactivation salt.

Some displaced water will run out - this is normal.



- Clean any excess salt from the threads and seal of the container opening.
- Screw the cap on securely.
- Immediately run the "Rinse" program to remove any traces of salt from inside the wash cabinet.

It is not a fault if the start is delayed for a few minutes after selecting the "Rinse" program. The water softener is being reactivated.

Salt indicator


- | | | |
|---|--|---|
| ① | | <input type="radio"/> Recharging |
| | | <input type="radio"/> Pre-Wash |
| | | <input type="radio"/> Wash |
| | | <input type="radio"/> Rinse |
| | | <input type="radio"/> Dry |
| | | <input type="radio"/> Complete |
| ② | | <input type="radio"/> Fill/Drain |
| | | <input checked="" type="radio"/> Recharge |
| | | <input type="radio"/> Neutralizer |
| | | <input type="radio"/> Rinse Aid |
| | | <input type="radio"/> PC Detergent |

The reactivation of the water softener takes place automatically during a program cycle.

During this process the, ①, "Recharging" indicator lights.

- Refill reactivation salt when the, ②, "Recharge" indicator lights.

Rinse aid


 Use only special processing chemicals for dental thermal disinfectors and observe the manufacturer's recommendations for use. In particular, always observe the manufacturer's instructions regarding residual amounts that do not pose any toxicological risk.

Adding rinse aid

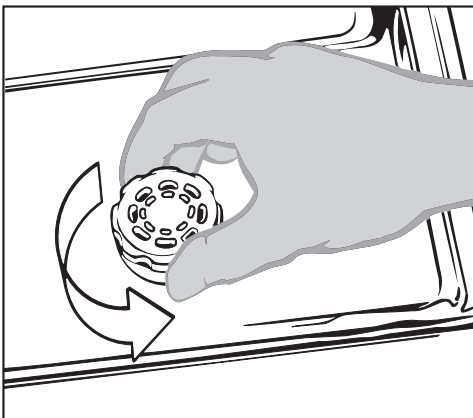
Rinse aid is necessary to allow for easy water run-off from items.

The rinse aid will be filled in the storage container and dispensed automatically.

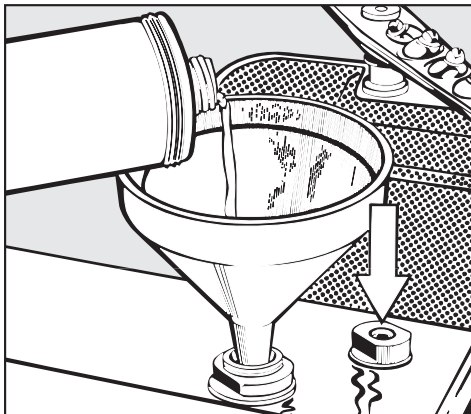
The rinse aid reservoir holds approx. 180 ml.

 Only fill rinse aid for cleaning and disinfecting machines in the rinse aid container. Do not fill with detergents. They will damage the rinse aid container.

- Open the door fully.

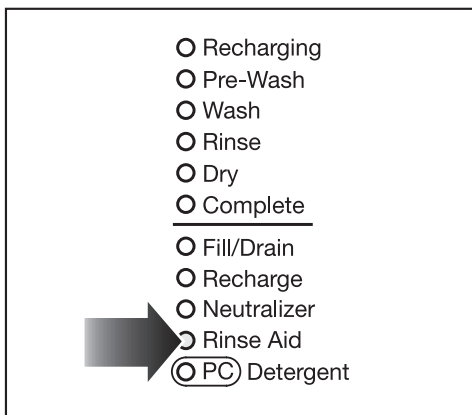


- Unscrew the cap.



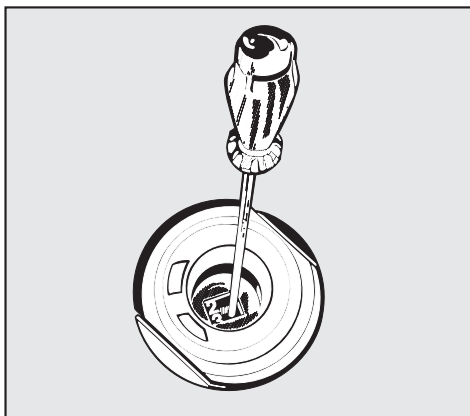
- Pour rinse aid into the storage container until the level indicator is dark (see arrow in the illustration). Use a funnel if necessary.
- Screw the cap back on.
- Clean up any spilled rinse aid to prevent over-foaming during the next program.

Rinse aid indicator



- Refill rinse aid when the rinse aid indicator lights.

Setting the rinse aid dosage



The dosage adjuster in the opening has settings adjustable from 1 to 6 (1-6 ml). It is set to 3 by default.

- Use a higher setting if spots appear on dry items.
- Use a lower setting if streaking appears on items.

Neutralizing agent

Adding neutralizer

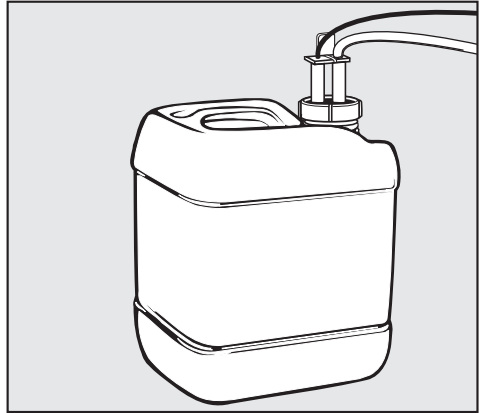
Neutralizer causes remains of alkaline detergents on the items surface to be neutralized.

The neutralizer is automatically dispensed in the program after the main wash.

The container of the dispensing system must be filled and primed.

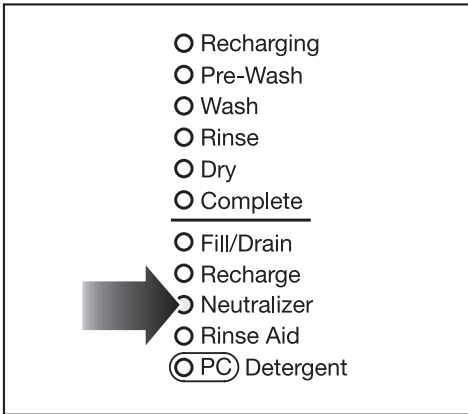
See "Programming functions" for priming the dispensing system and setting the dispense amount.

- Place the neutralizer container (red) on the floor next to the machine or in an adjacent cabinet.



- Insert and secure the siphon tube in the container (observe the color code).

Neutralizer indicator



- Refill the container for neutralizer or replace it with a new one when the "Neutralizer" indicator lights.

Remember to refill the container in time to avoid being completely emptied.

- The indicator light should go out.
- If the container has been allowed to run dry, the light will not go out until the priming process is performed.

Detergent

Liquid Option

As a separate option, this machine can also be fitted with a dispenser pump for automatic liquid detergent dispensing (DOS-Module G 60). This is connected externally. Contact Miele or your authorized Miele distributor for details.

The optional DOS Module G 60 is supplied with its own installation and connection instructions.

The liquid detergent is automatically dispensed in the wash step of the program.

- Place the container of detergent next to the machine.

See "Programming functions" to prime the dispensing system and set the dispensing amount.


When using liquid detergent the use of the optional DOS-Module is recommended.

Refilling the liquid detergent

- Replace the current detergent container with a full one.
- The indicator light should go out.

If the container has been allowed to run dry, the light will not go out until the priming process has been performed.

Powder detergent

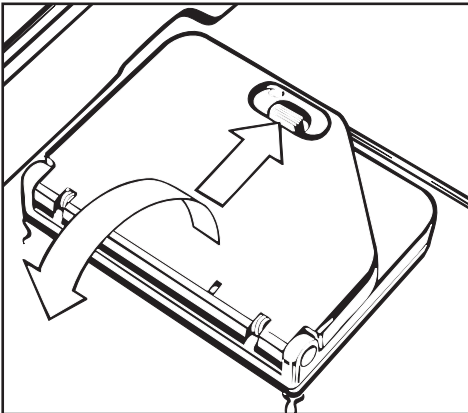
 Avoid inhaling cleaning agents in powder form. If processing chemicals are ingested, they can cause chemical burns in the mouth and throat or suffocation.

- Place powder detergent in the detergent compartment (except for the programs "Rinse" and "Drain").

Dispensing example

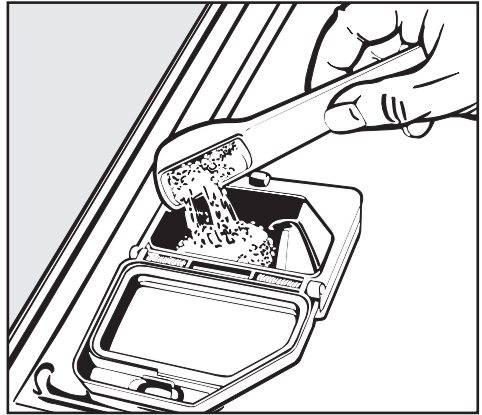
The program sequence "Main wash" takes about 10.5 liters of water. At a detergent concentration of about 3 grams/liter this equals about 30 grams of detergent.

Follow the manufacturer's instructions if they differ.



- Press the latch button. The flap will spring open.

The flap is always open at the end of a program.



- Add powder detergent into the compartment.
- Close the compartment lid.


Loading the machine

The disinfectant can be equipped with a lower and upper basket which can be fitted with different inserts, depending on the type and form of items to be disinfected. The baskets can also be exchanged with special baskets.

Select appropriate baskets and inserts for the application.

Removing excess soils

- Empty all containers before loading into the machine. Pay particular attention to regulations regarding infectious diseases.

 Ensure that no acid or solvent residues, especially hydrochloric acid or chlorides get into the wash cabinet.

Preparing instruments for cleaning

Contaminated instruments should be loaded in the disinfectant without pre-treatment.


Before every program start, conduct the following visual inspection:

- Are the items properly loaded and secured in the machine?
- Are the hollow vessels properly loaded so that all cavities and channels will be flushed clean?
- Are the spray arms clean, and can they rotate freely?

- Is the filter combination free of coarse debris (remove any coarse material and clean the coarse, fine, flat, and micro-fine filters as needed)?
- Is the basket adapter properly connected to the water supply for the spray arms and nozzles?
- Are the chemical dispensers filled?

After every program completion, conduct the following visual inspection:

- Inspect the labware for cleanliness.
- Has any hollowware been dislodged from its proper position on the nozzles?

 Any items that were dislodged from the adapters during a program cycle must be washed again.

- Are the cavities and channels in any hollow vessels cleaned through?
- Are the nozzles and connections firmly attached to the baskets/inserts?

Process validation

As a rule, it is the responsibility of the user to ensure that items cleaned in the machine meet the required standards.

Loading the machine

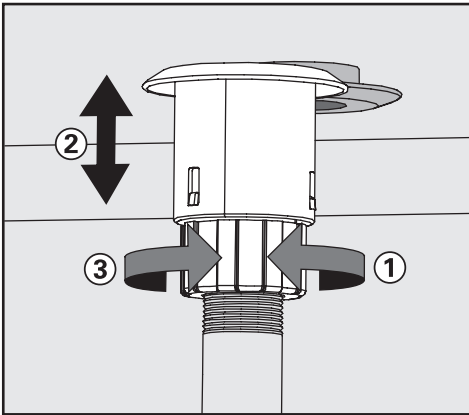
- Load the items to be washed so that water can access all surfaces.
- Do not place items inside other pieces.
- Water must flow through hollow instruments.
- Prior to loading the machine or connecting to the machine ensure that vessels with long, narrow cavities they can be completely flushed.
- Hollow vessels should be inverted and placed in the correct inserts so that water can flow in and out unrestricted.
- Deep based items should be placed at an angle to allow water to run off easily.
- To ensure good water coverage, tall, narrow and hollow items should be placed in the center of the baskets rather than in the corners. Do not obscure them with larger items below.
- Secure light loads with netting and place small items in a mesh tray/basket so that they do not obstruct the spray arms.
- Mobile units and baskets with an adapter must engage correctly.
- The spray arms must not be blocked by tall items or items which hang in their path.
- Use only instruments made from high-grade stainless steel to avoid corrosion.
- Nickel plated instruments and colored aluminum instruments are not suitable for machine treatment.
- Plastic items must be thermally stable.
- Do not wash disposable instruments in this machine.
- If discoloration or corrosion stains show over time on the instruments please contact the Technical Service Dept.
- To avoid injury due to sharp items, it is recommended to load the machine starting at the rear and unload in the reverse order.

Loading the machine

Water connection spring adapter

The spring adapter for water connection must engage correctly when a basket or injector unit is inserted in the machine. It must be 4-5 mm higher than the water connection inlet in the machine.

If it is not, adjust the adapter accordingly.



- Loosen the lock ring, ①.
- Push up the adapter (4-5 mm higher than the water connection inlet in the machine), ②.
- Tighten the lock ring, ③.

Height adjustable top basket

The upper basket can be adjusted above and below the middle position by 13/16" (2 cm).

Depending on the position of the upper basket and usage of an insert, items of the different heights can be accommodated in the baskets.

To adjust the upper basket

- Pull out the top basket, lift from the runners and remove.
- Unscrew the knurled nuts (roller bearings) on both sides of the basket with a suitable wrench reposition if required.

Effects of Processing Chemicals

General information

Effects	Action
<p>Damage to elastomer (seals and hoses) or plastic components of the machine may cause the materials to swell, shrink, harden or become brittle, possibly causing cracks to form in the materials. This will impair their function, which will generally lead to leaks.</p>	<ul style="list-style-type: none"> - Find and correct the causes of the damage. <p>See "Connected processing chemicals", "Soiling" and "Reactions between processing chemicals and soils" for more information.</p>
<p>Strong foaming during the program prevents proper cleaning and rinsing of the load. Foam escaping from the wash compartment can result in damage to the machine.</p> <p>If foaming occurs, the cleaning process is not standardized and not validated.</p>	<ul style="list-style-type: none"> - Find and correct the cause of the foaming. - The process must be checked regularly in order to detect any foaming. <p>See "Connected processing chemicals", "Soiling" and "Reactions between processing chemicals and soils" for more information..</p>
<p>Stainless steel corrosion in the wash compartment and/or accessories may appear in various ways:</p> <ul style="list-style-type: none"> - rust formation (red spots / stains), - black spots / stains, - white spots / stains (smooth surface is slightly corroded). <p>Corrosion that forms holes can result in leaks in the machine. Depending on the application, the corrosion may impair the cleaning and rinsing results (laboratory analysis) or cause corrosion of the load (stainless steel).</p>	<ul style="list-style-type: none"> - Find and correct the cause of the corrosion. <p>See "Connected processing chemicals", "Soiling" and "Reactions between processing chemicals and soils" for more information.</p>

Effects of Processing Chemicals

Connected processing chemicals

Effects	Action
<p>The ingredients of the processing chemicals have a considerable effect on the durability and functionality (feed performance) of the metering systems. The metering systems (feed hoses and pump) are designed for a specific type of processing chemicals.</p> <p>General categories:</p> <ul style="list-style-type: none">– alkaline to neutral pH products,– acid to neutral pH products,– hydrogen peroxide.	<ul style="list-style-type: none">– Use only those processing chemicals recommended by Miele.– Perform regular visual inspections of the metering system.– Regularly check the feed performance of the metering system.
<p>The processing chemicals can damage the elastomer and plastic components of the machine and its accessories.</p>	<ul style="list-style-type: none">– Use only those processing chemicals recommended by Miele.– Perform regular visual inspections of all visible elastomer and plastic components.

Effects of Processing Chemicals

Connected processing chemicals

Effects	Action
<p>The following processing chemicals can result in excessive foaming:</p> <ul style="list-style-type: none">– cleaning and rinsing agents that contain tensides,– emulsifiers. <p>The foaming can occur:</p> <ul style="list-style-type: none">– in the program block in which the processing chemical is added,– in the subsequent program block due to carry-over,– in the case of rinsing agents, in the subsequent program due to carry-over.	<ul style="list-style-type: none">– The process parameters of the wash program, e.g. metering temperature, metering concentration, etc. must be set so that the overall process creates little or no foam.– Observe the instructions of the manufacturer of the processing chemicals.
<p>Antifoaming agents, particularly silicone-based antifoaming agents, can cause the following:</p> <ul style="list-style-type: none">– deposits in the wash compartment,– deposits on the wash load,– damage to the elastomer and plastic components of the machine,– attack certain plastics (e.g. polycarbonates, plexiglass, etc.) in the wash load.	<ul style="list-style-type: none">– Use antifoaming agents only in exceptional cases or when they are absolutely necessary for the process.– Periodic cleaning of the wash compartment and accessories without a load and without an antifoaming agent using the Disinfection 93°C 10' program.– Consult Miele.

Effects of Processing Chemicals

Soiling

Effects

The following substances can cause excessive foaming during washing and rinsing:

- agents such as disinfection agents, dish detergents, etc.
- reagents for analysis, e.g. for microtitration plates,
- cosmetics, hygiene and skin care products such as creams (analysis and filling sections).
- foaming substances in general, for instance tensides.

Action

- First rinse the load with a sufficient quantity of water.
- Select a wash program with one or more short pre-rinses with cold or warm water.
- Taking the specific application into account, add an antifoaming agent, one without silicone oils if possible.

The following substances can cause corrosion of the stainless steel in the wash compartment and accessories:

- hydrochloric acid,
- other substances that contain chloride, e.g. sodium chloride, etc.
- conc. sulphuric acid,
- chromic acid,
- iron particles and chips.

- First rinse the load with a sufficient quantity of water.
- Let the load drip dry before putting it on the carts, baskets and inserts and placing in the machine.

Reactions between processing chemicals and soils

Effects

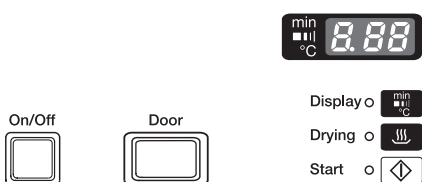
In combination with alkaline processing chemicals, loads with soiling that contains proteins, e.g. blood, can cause excessive foaming.

Action

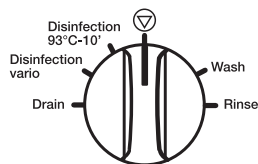
- Select a wash program with one or more short pre-rinses with cold water.

In combination with very acidic or alkaline processing chemicals, base metals such as aluminum, magnesium and zinc can release hydrogen (detonating gas).

- Observe the instructions of the manufacturer of the processing chemicals.



- Recharging
- Pre-Wash
- Wash
- Rinse
- Dry
- Complete
- Fill/Drain
- Recharge
- Neutralizer
- Rinse Aid
- (PC) Detergent



Turning on

- Close the door.
- Press the "On/Off" button.

If the program selector is in the position an indicator lights in the display.

Starting a program

- Turn the program selector clockwise or counterclockwise to the desired program.

The display shows the first wash temperature of the selected program (except in "Rinse" and "Drain"). The "Start" indicator flashes.

Selecting the optional drying function

The additional function "Drying" can be selected immediately after a program was selected (except "Rinse" and "Drain").

- Press the "Drying" button.

Drying is phased over 10 minutes. The total running time of the program lengthens accordingly.


- Press the "Start" button.

The display shows the current temperature.

The "Start" indicator lights.

All other programs are locked during the program cycle. If the program selector is turned to a different program, the display goes out. The values appear again if the program selector is turned back to the running program.

Use

During a program, the "Display"  button can be used to toggle between the:

- actual temperature
- elapsed program time and
- active wash block (depending on model):
 - 1 = Pre-rinse 1
 - 2 = Pre-rinse 2
 - 3 = Main wash 1
 - 4 = Main wash 2
 - 5 = not applicable
 - 6 = Interim rinse 1
 - 7 = Interim rinse 2
 - 8 = Interim rinse 3
 - 9 = Interim rinse 4
 - 10 = Final rinse 1
 - 11 = Final rinse 2
 - 13 = Drying

Program sequence display

The indicator for the active program sequence lights during the program.

Recharging

Pre-Wash 1 + 2

Wash 1 + 2 *

Rinse 1 - 4 / Final rinse 1 + 2

Dry



Complete


(Program parameter achieved)

Changing a program


A wrongly selected program may be changed as described below.

If the "Start" button has not yet been pressed

- Turn the program selector to the required program.
- Select the "Drying"  function if required (see "Drying").
- Press the "Start"  button.

If "Start"  has already been pressed, see "Canceling a program".

Canceling a program

 If a program is canceled it must be run again to be complete.

Canceling a program because of an interruption

The program is stopped prematurely and a Fault message appears in the display.

Depending on the cause the appropriate measures must be taken to correct the fault. See "Frequently asked questions".


Manually canceling a program

Once a program is running it should only be canceled in extreme cases, e.g. when items in the machine rattle or bump against each other and have to be rearranged.

- Turn the program selector to .

The program is canceled after 2 seconds.

- Open the door.

 Caution! Water and items in the machine may be hot. There is a danger of burning or scalding.


- Rearrange the items securely. Wear protective gloves where necessary, and observe appropriate health and safety regulations relating to infectious diseases.
- Replenish powder detergent if necessary.
- Close the door.

- Start the "Drain" program.

The water will be drained away.

- Select and start the program.

End of a program

If the "Complete" indicator lights and the "Start" indicator goes out, the program has ended. The middle of the display shows a , all other indicators show a running light.

A buzzer sounds for a maximum of 30 seconds by default.

The buzzer function can be changed, see "Programming functions".

- Use the "Display" button to see the total running time of a program or the actual temperature.
- Partially open the door of the machine for 10 to 15 mins immediately after the program has finished. A good drying result is achieved by the residual heat.

At the end of the program


- Check the cleaning results of the items.

Turning off

- Press and release the "On/Off" button.
- Because of the electric door lock, the door can only be opened if the "On/Off" button is pressed (see "Opening and closing the door").

Program guide

Choose your program according to the types of instruments or utensils being cleaned and the degree of soiling.

Programs (fixed)	Program Description
Wash	Wash program without disinfection.
Rinse (cold)	Rinse only. To rinse items before a wash program, to avoid excessive foam.
Drain	For draining water out of the machine, e.g. when a program has been interrupted or the "Drain/Fill" indicator illuminates. (Turn the program selector to the "Stop"  position first).
Disinfection vario	Recommended program for protein soils such as blood and tissue. For cleaning and thermal disinfection at 93°C with 10 minutes holding time for stainless steel instruments.
Disinfection 93°C-10'	For thermal disinfection and cleaning of stainless steel instruments at 93°C with 10 minutes holding time.

Program Sequence					
1. Pre-wash	2. Cleaning and/or thermal disinfection and/or cleaning ¹⁾	3. Interim rinse I with Neutralization	4. Interim rinse II	5. Final rinse ¹⁾ and/or disinfection	6. Drying (extra program)
X	X Cleaning 60°C/3'		X	X Rinse 65°C/1' (DI) DOS 2	(X)
		X			
X	X Cleaning 55°C/5'	X DOS 3	X	X Rinse and Disinfection 93°C/10' (DI) DOS 2	(X)
	X Disinfection 93°C/10'	X DOS 3		X Rinse 75°C/3' (DI) DOS 2	(X)

X = Sections included in a program (with temperature/temperature holding time)

¹⁾ To change a temperature or temperature holding time, see "Programming special functions".

DOS 2 = For dispensing rinse aid


DOS 3 = For dispensing neutralizer

DI = Deionized water.

Programming functions




Note any adjustments of the factory settings in the provided field in case a service call is necessary.

General notes



- Non occupied program selector positions are displayed with a bar (-) in the middle of the display.
- Turn the program selector to the  position to display the programming level, shown as *E.* in the display.

For all programming functions:

Activate the program mode

Step	Display / Result
■ Turn the program selector to  .	
■ Turn off the machine.	
■ Press and hold the "Display"  and "Start"  buttons at the same time press the "On/Off" button.	The display shows the current program version <i>P.</i> will appear in the display. The "Fill/Drain" indicator lights.

Saving the values and ending the program mode

■ Press the "Start"  button.	The display shows <i>SP</i> .
■ Press the "Start"  button again.	The change has been saved.



Ending the program mode without saving

■ Turn the machine off with "On/Off".	The change was not saved.
---------------------------------------	---------------------------

Dispensing liquid detergent with the DOS module

Setting the dosage

The dispensing concentration for liquid detergent must be set. It must be set according to the manufacturer's specifications or the requirements. When dispensing powder detergent via the door dispensing system, the value must not be changed.

Step	Display / Result
<ul style="list-style-type: none"> Press "Drying"  until E02 appears in the display. 	<i>E02</i>
<ul style="list-style-type: none"> Turn the program selector to "Wash". 	
without connected DOS module	<i>10</i> = 10 seconds dispensing time
with connected DOS module	<i>1.000</i> = 1.0 % dispensing concentration
<ul style="list-style-type: none"> Press and hold "Display"  until the desired value appears in the display, e.g. 0.5. 	<i>0.50</i>
	The dispensing time / dispensing concentration level has now been set.

Dispensing concentration set: _____

Setting	Dosage	Setting	Dosage
.10	20 ml	.60	70 ml
.20	30 ml	.70	80 ml
.30	40 ml	.80	90 ml
.40	50 ml*	.90	100 ml
.50	60 ml	1.0	110 ml





* Recommended dosage for neodisher™ FA

Programming functions

Priming the liquid detergent dispensing system

The dispensing system needs to be primed:

- when the dispensing concentration is set for the first time,
- if the liquid detergent container runs out and is not filled in time.

Step	Display / Result
■ Press "Drying"  until E02 appears in the display.	<i>E02</i>
■ Turn the program selector to the 1-o'clock-position.	<i>do1</i>
■ Press the "Display"  button.	The dispensing system will be primed automatically. "0" will appear in the display when priming is finished.
■ Press the "Start"  button.	"SP" appears in the display.
■ Press "Start"  again.	The change has been recorded.



Every time the dispensing system has been **primed**:

- Run the "Rinse" program to dilute and drain away any agents that may remain in the wash cabinet.

Dispensing neutralizer with the DOS module

Setting the dosage

The dispensing concentration for neutralizer must be set according to the manufacturer's specifications or the requirements.

Step	Display / Result
■ Press "Drying"  until E02 appears in the display.	<i>E02</i>
■ Turn the program selector to the 1-o'clock-position.	The dispensing concentration which has been set will appear in the display, e.g. <i>0.10</i> = 0.10%
■ Press and hold "Display"  until the desired value appears in the display, e.g. 0.20.	<i>0.20</i> The dispensing concentration level has now been set.

Dispensing concentration set: _____





Setting	Dosage	Setting	Dosage
.10	20 ml	.60	70 ml
.20	30 ml	.70	80 ml
.30	40 ml	.80	90 ml
.40	50 ml*	.90	100 ml
.50	60 ml	1.0	110 ml

Programming functions

Priming the neutralizer dispensing system

The dispensing system needs to be primed:

- when the dispensing concentration is set for the first time,
- if the neutralizer container runs out and is not filled in time.

Step	Display / Result
■ Press "Drying"  until E02 appears in the display.	<i>E02</i>
■ Turn the program selector to the 5-o'clock-position.	<i>"d03"</i> appears in the display
■ Press the "Display"  button.	The dispensing system will be primed automatically. <i>"0"</i> will appear in the display when priming is finished.
■ Press the "Start"  button.	<i>"SP"</i> appears in the display.
■ Press "Start"  again.	The change has been recorded.

Every time the dispensing system has been **primed**:

- Run the "Rinse" program to dilute and drain away any agents that may remain in the wash cabinet.

Buzzer

A buzzer can be programmed for the following functions:

- End of program, constant tone,
- Fault, tone in 1 second rhythm,
- Signal to take a sample, 3 x short with 2 seconds break

The sample extraction must be programmed by the Miele Technical Service Dept.

The displayed numbers conform with the following settings.


- 20* Buzzer turned off
- 21* End of program (factory setting)
- 22* Fault message
- 23* End of program + fault message

Step	Display / Result
■ Press "Drying" until E04 appears in the display.	<i>E04</i>
■ Turn the program selector to "Wash".	<i>21</i>
■ Press and hold "Display" until the desired value appears in the display.	<i>26</i>

Value set: _____

The buzzer sounds during the specified setting for 30 seconds.

To turn it off prematurely:

- Turn the program selector to .
- Press the "Display" button.
- Cut the power, e.g. open the door.

Process documentation (optional)

This machine offers the ability to document the cleaning process (process documentation)

The documentation process can be completed either by an external software or an external printer.

The machine is equipped with a serial interface at the back of the machine.

The configuration of the interface is completed by Miele Technical Service.

Process documentation via external software

To digitally archive the process documentation to the external software.

Process documentation via printer

The process protocol is sent directly to a printer and archived in paper form.

During the program sequence the follow data is logged:

- Date and machine number
- Program start and program name
- Wash blocks used
- Dispensing system with dosage temperature and if applicable dosage target quantity
- Target values for temperature and effective times
- Minimum temperature during the effective time
- All faults, (e.g. Water inlet blocked),
- End of a program
- Warnings, e.g. to refill reactivation salt

The protocol can be printed in English, German, Spanish, French and Italian.

For more information on printers and software solutions available contact Miele.

Periodic maintenance for this appliance is recommended every 1,000 hours or annually.

Routine checks


The routine checks must be done daily by the user before using the machine. For the routine checks a checklist is supplied with the washer.

Check the following points:


- the filters in the base of the wash cabinet must be empty,
- the spray arms in the machine and at the baskets should be clear,
- the wash cabinet and the door gasket should be clear,
- the dispensing systems, and
- the baskets and inserts.

When using powder detergent the temperature at the time of dosing must be checked every 2 weeks. The dosing temperature is found under Validation in the Validation Protocol.

The temperature review must be completed during a running program, when the container lid can be heard opening. The temperature in the display can be compared with that shown in the validation protocol.

 If the temperature is found to be more than 2° plus or minus the required temperature, please contact Miele.

Cleaning and Care

 Wear protective gloves and goggles when cleaning this machine.

Filter combination

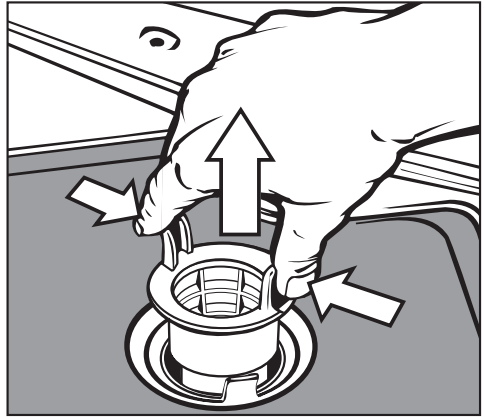
The machine must not be used without all the filters in place. The filters protect the circulation pump from damage caused by foreign objects.

The filter combination in the base of the wash cabinet should be inspected regularly and cleaned, if necessary.

Caution!

Watch out for sharp objects which could cause injury.

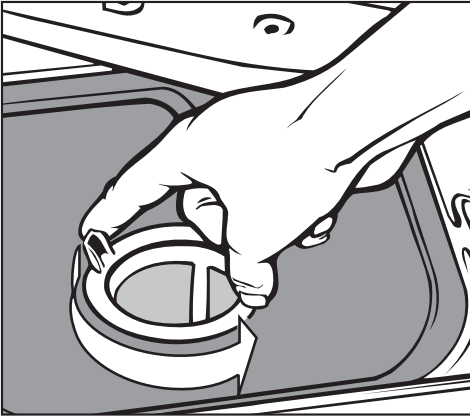
Cleaning the coarse filter



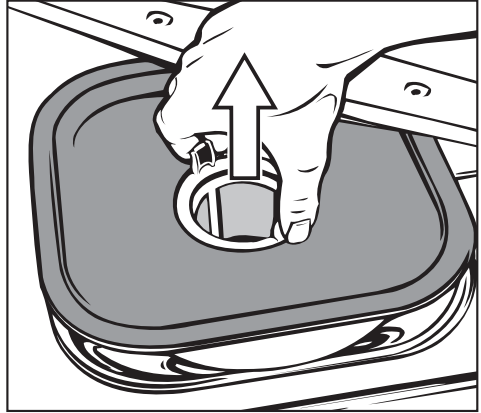
- Press the two tabs together, remove and clean the coarse filter.
- Put the clean filter back in position and press until it clicks in place.

Cleaning the fine, flat and micro-fine filters

- Remove the coarse filter.
- Remove the fine filter from between the flat and micro-fine filters.



- To unscrew the micro-fine filter, grasp the two tabs and turn twice counterclockwise.



- Then remove together with the flat filter.
- Clean the filters.
- Replace the filter combination in reverse order. The flat filter must lie flat in the base of the wash cabinet.

Cleaning and Care

Cleaning the spray arms

The spray arms can get clogged. Check daily and clean if necessary.

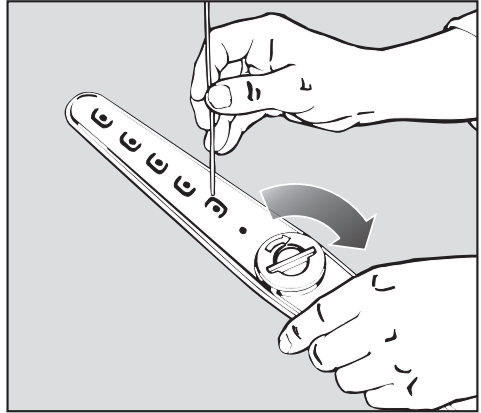
Remove the spray arms as follows:

- Remove the baskets.

Spray arm at the upper basket or mobile unit (if available):

- Loosen the knurled nut and remove the spray arm.

Metal knurled nuts have a left-hand thread. Ceramic knurled nuts have a right-hand thread.



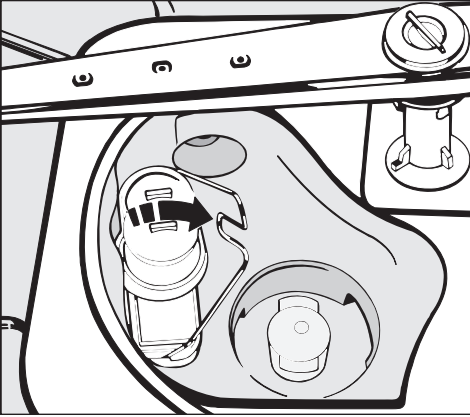
- Unscrew the upper spray arm.
- Loosen the knurled nut of the lower spray arm and remove.
- Use a sharp pointed object to push particles into the spray arm jets and rinse thoroughly under running water.
- Refit the spray arms in reverse order after cleaning.

After replacing the spray arms check that they can rotate freely.

Cleaning the drain pump and non-return valve

If water has not been pumped away at the end of a program the drain pump or the non-return valve may be blocked.

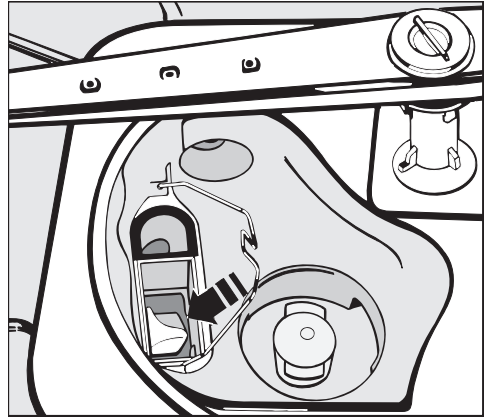
- Turn off the washer.
- Remove the filter combination from the wash cabinet.



- Tilt the locking clamp to the side.
- Pull out the non-return valve and rinse well under running water.

 Use proper eye protection when removing the non-return valve.

The drain pump is located beneath the non-return valve (see arrow).




- Before returning the non-return valve, check that the drain pump is not blocked. Spin the propeller several times in both directions to check for obstructions.
- Carefully refit the non-return valve and secure it with the locking clamp. Refit and lock the filter in place.

For safety reasons the load should be washed again.

Cleaning and Care

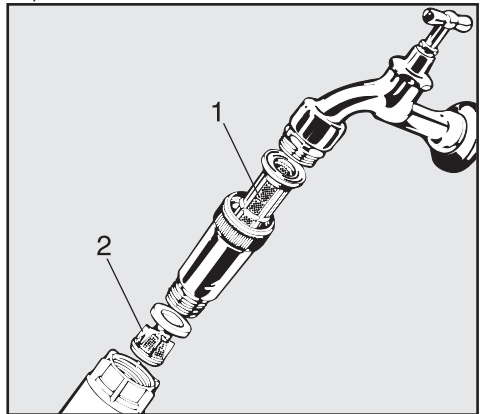
Cleaning the water inlet filters

To protect the water inlet valve, filters are incorporated in the intake hose attached to the water faucet. If the filters are soiled they must be cleaned to ensure sufficient water intake to the wash cabinet.

 The plastic valve housing on the intake hose contains electrical components and should not be immersed, or run through water.

Cleaning the filters


- Disconnect the machine from the main electrical supply.
- Close the water supply and unscrew the water inlet valve.
- Carefully remove the rubber seal.
- Take out the filters with needle nose pliers.



- Rinse the large area filter, 1, and fine filter, 2, under running water, and replace if necessary.
- Return filters and seal. Make sure they are seated correctly.
- Screw the water inlet valve on to the water faucet. checking that it is not cross-threaded.
- Open the water faucet.
- Check for leaks.


Cleaning the control panel


- The control panel should only be cleaned with a damp cloth or a suitable cleaner for use on plastic materials.

 Do not use abrasive cleaners, glass cleaners or all-purpose cleaners! They **will** damage the control panel.

Cleaning the exterior

- Stainless steel surfaces can be cleaned using a non-abrasive stainless steel cleaner or dishwashing detergent and warm water.
- To help prevent resoiling, a conditioner for stainless steel can also be used. Apply sparingly with even pressure.

 Do not use thinner or ammonium cleaner. They will damage the surface.

 Never clean the machine near or with a water or high pressure hose.

Cleaning the wash cabinet

The wash cabinet is mostly self cleaning.

If deposits have built, call Miele for info.

Cleaning the door seal

Clean the door seal regularly with a damp cloth to remove soiling.

To replace damaged or leaking door seals please contact Miele's Technical Service Dept.

Dispensing systems

Check the consumption of the used chemicals regularly to notice irregularities of the dispensing.


Frequently asked questions

The following guide can be used to help address minor problems without a service call.

Repairs should only be performed by Miele Technical Service. Work performed by unqualified persons can place the user at considerable risk of harm.




To help avoid unnecessary service calls, please be sure to check first whether an error message is due to operator error.

To do this:



- Turn the program selector to , the fault code goes out.
- Turn the machine off with the On/Off button.
- Turn the machine on again and reselect the program.
- In the event of any faults which cannot be remedied, please contact the Miele Service Department.
- Please have the fault code number "F..." ready when calling.

What if ...	Possible fault	Solution
The program does not start.	The door is not properly closed.	Close the door firmly.
	The machine is not plugged in.	Insert the plug.
	The fuse has tripped.	Reset the circuit breaker. See data plate for minimum fuse protection.
	The washer is not turned on.	Press the On/Off button and select a program.
The machine is not ready for use.	Fault code F 04 - F 17, F 20 - F - -	Contact the Miele Technical Service Department.
	Fault code F 31 - 33	Dosing system faulty. Contact Miele Technical Service.



Frequently asked questions

What if ...	Possible fault	Solution
Before starting a program, the indicator  Detergent flashes. A program cannot be started.		Before fixing the fault: <ul style="list-style-type: none"> – Turn the program selector to , the fault code goes out. – Turn the machine off with the On/Off button.
	Fault code Fdo : The container for liquid detergent is empty.	Refill or replace the liquid detergent container.
		After the program has finished <ul style="list-style-type: none"> – Turn the machine on. – Restart the program.
The "Detergent" indicator flashes a few minutes after the program start, the program was canceled.		Before fixing the fault: <ul style="list-style-type: none"> – Turn the program selector to , the fault code goes out. – Turn the machine off with the On/Off button.
	Fault code Fdo : Error at the dispensing of liquid detergent.	Refill or replace the liquid detergent container. Prime the dispensing system, see "Programming functions".
		After the program has finished <ul style="list-style-type: none"> – Turn the machine on. – Restart the program.



Frequently asked questions

What if ...	Possible fault	Solution
<p>Before starting a program, the "Neutralizer" indicator flashes. A program cannot be started.</p>		<p>Before fixing the fault:</p> <ul style="list-style-type: none"> – Turn the program selector to , the fault code goes out. – Turn the machine off with I-O.
	<p>Fault code Fdo: The container for neutralizing agent is empty.</p>	<p>Refill or replace the liquid detergent container.</p>
		<p>After the program has finished</p> <ul style="list-style-type: none"> – Turn the machine on. – Restart the program.
<p>The "Neutralizer" indicator flashes a few minutes after the program start, the program was canceled.</p>		<p>Before fixing the fault:</p> <ul style="list-style-type: none"> – Turn the program selector to , the fault code goes out. – Turn the machine off with I-O.
	<p>Fault code Fdo: Error at the dispensing of neutralizing agent.</p>	<p>Refill or replace the neutralizer container. Vent the dispensing system, see "Programming functions".</p>
		<p>After the program has finished</p> <ul style="list-style-type: none"> – Turn the machine on. – Restart the program.

Frequently asked questions

What if ...	Possible fault	Solution
The "Recharge" indicator flashes.	The water softener has run out of salt.	Refill the salt reservoir.
The indicator  flashes a few minutes after the program start, the program was canceled.		Before fixing the fault: <ul style="list-style-type: none"> – Turn the program selector to , the fault code goes out. – Turn the machine off with I-0.
	Fault code F..E : Water intake fault	<ul style="list-style-type: none"> – The water supply may be interrupted. Check to see that the water supply is turned on and flowing. – Clean the water inlet filters. – The water pressure is too low. Contact the Miele Service Department.
		After the program has finished: <ul style="list-style-type: none"> – Turn the machine on. – Restart the program.

Frequently asked questions

What if ...	Possible fault	Solution
<p>The program was canceled, the indicator</p> <p> flashes.</p>		<p>Before fixing the fault:</p> <ul style="list-style-type: none"> – Turn the program selector to , the fault code goes out. – Turn the machine off with the On/Off button.
	<p>Fault code F..A: Drain fault</p>	<ul style="list-style-type: none"> – Clean the triple filter system. – Clean the drain pump. – Clean the non-return valve. – The drain hose is kinked or the loop stands up too high.
		<p>After the program has finished</p> <ul style="list-style-type: none"> – Turn the machine on. – Drain the water. – Start the program again.
<p>Water in the wash cabinet is not heated; the program sequence takes too long.</p>	<p>Fault code F01 - F03, F18, F19</p> <p>This machine has a resettable thermo switch which shuts off the heating elements in the event of over-heating. Overheating can be caused by large articles covering the heating elements or if the filters in the wash cabinet are blocked.</p>	<p>To fix the fault:</p> <ul style="list-style-type: none"> – Clean the triple filter system. – Rearrange items. – Turn the thermo switch on again. See "Frequently asked questions - Thermo switch".

Frequently asked questions

What if ...	Possible fault	Solution
Detergent is left in the dispenser at the end of a program.		<ul style="list-style-type: none"> – Remove any detergent residue. – Prepare dishes again.
	The dispenser was damp when detergent was added.	Dry the dispenser before adding detergent.
	The detergent lid was blocked by items.	Arrange items so that the detergent lid is not blocked.
The powder detergent lid cannot be closed properly.	Detergent residue is blocking the catch.	Remove the residue.
Knocking noise in the wash cabinet.	A spray arm hits an item.	Cancel the program and rearrange the items. See "Canceling a program" .
Rattling noise in the wash cabinet.	Items are not secure in the wash cabinet.	Cancel the program and rearrange the items securely. See "Canceling a program" .
Knocking noise in the water pipes.	This may be caused by the installation or the diameter of the pipe.	Contact a plumber.
Instruments show corrosion.	The instruments cannot be washed in a machine.	Only wash instruments made from high-grade stainless steel in the dental disinfectant.

Frequently asked questions

What if ...	Possible fault	Solution
Instruments show corrosion.	There is too much chloride in the water.	Have the water analyzed. Probable need for external water treatment and usage of DI (deionized) water for the final rinse.
The items show white residues.	The water softener is programmed too low.	Check the water hardness and program the water softener to the correct value.
	The salt container is empty.	Refill the salt reservoir.
	The salt reservoir cap was not screwed on properly.	Reseat and screw the cap on firmly.
	The rinse aid dispense amount is too low, water stains show.	Increase the dispense amount for rinse aid.
	The instruments show tooth cement residues.	Remove tooth cement residues from the instruments before it hardens.

Frequently asked questions

What if ...	Possible fault	Solution
The items have stains.	The rinse aid dosage is set too low.	Increase the dispense amount for rinse aid.
	The container for rinse aid is empty.	Refill rinse aid.
Poor cleaning results	Baskets and Inserts were loaded faulty or too full.	Rearrange items. Do not overload the baskets and inserts.
	The soiling dried on the items.	Do not allow dirty instruments to sit for over 6 hours before running the Disinfection Vario cycle.
	A spray arm is blocked.	Arrange the items so they do not block the spray arms.
	Spray arm jets or jets at the inserts are clogged.	Check and clean the spray jets.
	The basket or insert is not properly connected to the water connection.	Adjust the water intake connection of the basket or insert properly.

Frequently asked questions


Thermo switch

This machine has a resettable heater limiter which will shut off the elements in the event of over-heating. This could be caused for example, if large articles cover the heating elements or if the filters in the wash cabinet are blocked.


If the following fault shows: **F01 - F03, F18, F19** (Water in the wash cabinet is not heated, the program cycle takes too long). Please proceed as follows.


- Remove the cause of the problem.
- Remove the service plinth.
- Press the reset button on the temperature sensor on the right side.

If this switch trips repeatedly, contact the Miele Technical Service Department.

 This machine must be installed, maintained and repaired by an authorized Miele service technician. Maintenance and repair work performed by unqualified persons can place the user at risk.

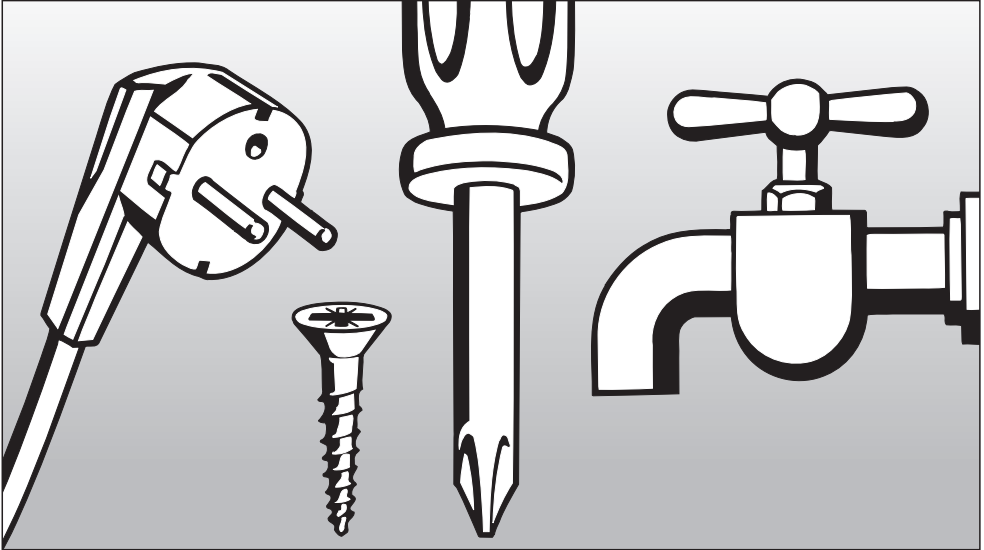
In the event of a fault which you cannot correct yourself please contact the Miele Technical Service Department

 1-800-991-9380
techserv@mieleusa.com

 1-800-565-6435
service@miele.ca

- Please quote the model of your machine. This information can be found on the front panel.


Miele



INSTALLATION INSTRUCTIONS

Installation

Please refer to the installation diagram included with the machine.

 Furniture and fittings installed near the machine must be of a commercial standard, able to withstand the effects of steam.

The machine must be in a stable and level horizontal position.

Use the front screw feet to compensate for unevenness in the floor, or to adjust the height of the machine.

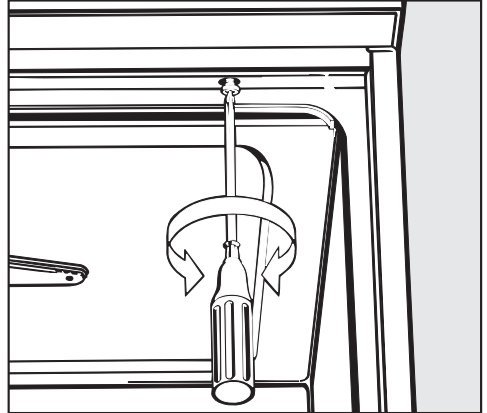
Installation options:

- **Free-standing**
- **Slide-in:**
Next to other machines or furniture, or in a suitable space. The space must be at least $23 \frac{5}{8}$ " (60 cm) wide and $23 \frac{5}{8}$ " (60 cm) deep.
- **Undercounter:**
The machine can be installed under a continuous countertop or sink drainer.
The recess must be at least $23 \frac{5}{8}$ " (60 cm) wide, $23 \frac{5}{8}$ " (60 cm) deep and $32 \frac{5}{16}$ " (82 cm) high.

Undercounter installation

To install the machine under a continuous countertop, the machine lid must be removed, as follows:

- Open the door.

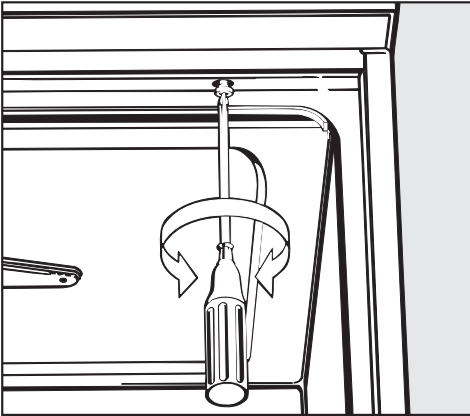


- Remove the fixing screws on the left and right hand sides.
- Pull the machine lid forward approx. $\frac{1}{4}$ " (5 mm) lift it upwards and remove.

Positioning and securing the machine

To ensure stability the machine must first be aligned and then secured to the countertop.

- Open the door.



- Screw the machine to the countertop through the left and right holes in the front trim.

Do not use silicone sealant to seal the gaps between the machine and any neighboring cabinets/appliances. This will block ventilation to the circulation pump.

Protecting the countertop

Important for machines with steam condenser (depending on model):


To prevent steam damage to the countertop, adhere the protective foil $9 \frac{13}{16}'' \times 22 \frac{13}{16}''$ (25 x 58 cm) underneath the countertop near the steam condenser.

Depending on the requirements for installation, the following **kit** can be ordered from the Miele Technical Service Department.

Cover plate (protects the countertop)

The underside of the countertop is protected from steam damage by a stainless steel plate.

Electrical connection

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

- Connection should be made via a suitable isolator, with an on-off switch which should be easily accessible for servicing work.
- If the machine is hard wired to a main switch, the switch must have a contact gap of more than 3 mm and the ability to be locked in a neutral position. Only then is the switch valid as a separator. All components must be CSA or UL approved.
- The electrical connection is made through a receptacle according to national requirements. The receptacle has to be easily accessible after installation.
- To increase the security it is recommended to install a protective switch (30 mA) before the machine.
- For technical data see data plate or wiring diagram supplied.

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

The machine can be **converted** according to the supplied **converting diagram** and **wiring diagram**.

The data plate is located at the rear of the machine and behind the plinth on the plastic cover.

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

See also the supplied installation diagram.

A damaged power cord must only be replaced with a genuine Miele cord by a Miele service technician.

WARNING **THIS APPLIANCE MUST BE GROUNDED**


Grounding connection

- The ground lead must be connected to the screw connection point (marked with the ground symbol \downarrow) at the back of the machine.

The machine must only be operated with the voltage, frequency and fusing shown on the **data plate** located on the rear of the machine, and on the plinth (behind the service panel).

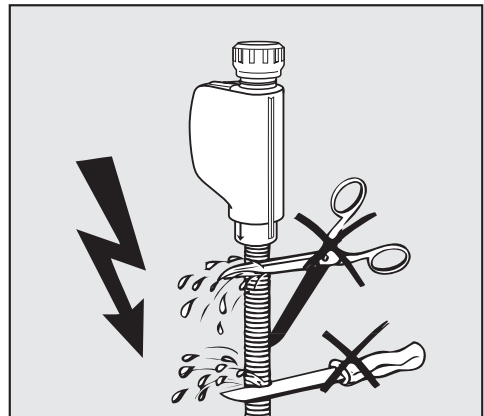
The **conversion diagram** and the **wiring diagram** is secured to the inner side of the service panel.


Connection to the water inlet

 Water in the machine is not suitable for drinking.

- For technical application reasons, the machine is supplied as standard for connection to **cold water only**. The inlet hoses (water inlet and steam condenser) must only be connected to the cold water inlets. See also "DI water connection" (hose marked H₂O pur).
- The machine must be connected to the water supply in accordance with local and national regulations.
- High iron content can leave a rust film on stainless steel labware and the machine itself. When the chloride content in the domestic water supply is above 100mg/l, the risk of corrosion damage to stainless steel labware is greatly increased.
- In certain regions (e.g., mountainous areas) the water composition may cause condensate to form, requiring the use of softened water in the steam condenser.
- Acceptable water pressure (flow rate): 10 - 147 psi
Recommended water pressure (flow rate): 25 - 60 psi
- If the water pressure is not in the range listed above, the "Fill/Drain" indicator may come on and the fault code "F..E" will appear in the display. If this occurs, contact the Miele Technical Service Department for advice.

- Connections with a $\frac{3}{4}$ " GHT male thread are to be provided on site. They should be easily accessible so that the water supply can be turned off when the machine is not in use.
- All inlet hoses are approx. 5 ft. (1.5 m) long, ending with a $\frac{3}{4}$ " GHT female thread. Under no circumstances should the inlet filters be removed.
- Large surface area filters are enclosed with the machine for installing between the inlet and the inlet hose. (see "Machine care - Cleaning the filters in the water inlet").



 The inlet hose must **not** be shortened or damaged in any way (see illustration).

- See the supplied installation diagram.

Plumbing

DI water connection

If required the machine can be connected as standard to a DI water supply of:

Acceptable water pressure

(flow rate): 10 - 147 psi

Recommended water pressure

(flow rate): 25 - 60 psi

- The DI pressure-tested hose (marked "H₂O pur") with a $\frac{3}{4}$ " (19 mm) GHT female hose thread must be connected onsite to the DI inlet for purified water.

If the machine has a DI water connection which is not going to be used, the electronics will need to be reprogrammed by a Miele technician. The inlet hose will remain at the rear of the machine.

Drainage

- The drainage system is fitted with a non-return valve which prevents dirty water from flowing back into the machine via the drain hose.
- The machine should preferably be connected to a **separate** drainage system onsite.
If separate drainage is not available contact your Miele application specialist for advice.
The onsite drain connection point should be located between 1 ft. (0.3 m) and 3 ft. (1 m) **above the lower edge of the machine.**
If it is lower than 1 ft. (0.3 m), lay the hose in a curve at a height of at least 1 ft. (0.3 m).
The drainage system must be able to take a minimum drainage flow of 16 l/min.
- The drain hose is approx. 5 ft. (1.5 m) long, is flexible and has an internal diameter of $\frac{7}{8}$ in. (22 mm). It must not be shortened. Hose clamps are supplied for securing it in position.
- A longer drain hose (up to 13 ft. [4 m] long) is available to order from Miele.
- The drainage system must not exceed 13 ft. (4 meters).
- See the supplied installation diagram.

Technical Data

Height:	
with lid	33 7/16" (85 cm)
without lid	32 5/16" (82 cm)
Width:	23 5/8 " (60 cm)
Depth:	23 5/8 " (60 cm)
Depth with the door open	47 1/4" (120 cm)
Net weight:	154 lbs (70 kg)
Voltage/Fuse:	see data plate
Power cord	approx. 5' 11" (1.8 m)
Static water pressure:	max. 145 psi (10 bar)
Hot and Cold Water Connection:	
Acceptable water pressure (flow rate)	10 - 147 psi (.7 - 10 bar)
Recommended water pressure (flow rate)	25 - 60 psi (1.72 - 4.13 bar)
DI Water Connection:	
Acceptable water pressure (flow rate)	10 - 147 psi (.7 - 10 bar)
Recommended water pressure (flow rate)	25 - 60 psi (1.72 - 4.13 bar)
Delivery head:	min. 1 ft. (0.3 m), max. 3.3 ft. (1 m)
Surrounding temperature:	from 40°F (5°C) to 104°F (40°C)
Height above sea level	up to 1640 yds (1500 m)*
Noise level in dB (A): Sound pressure level LpA during washing and drying	<70
Test marks:	CSA
CE-mark:	MPG-Guidelines 93/42/EWG, Class IIb
Manufacturer's address	Miele & Cie. KG, Carl-Miele-Straße 29, 33332 Gütersloh, Germany

Disposal of the packing material

The protective packing materials are environmentally safe and can be recycled.

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

Danger of suffocation!

Disposal of the appliance

Appliances contain materials which can be recycled. Please contact your local authorities about recycling in your area.

Ensure that the machine presents no danger to children while being stored for disposal. See "Important Safety Instructions".

**Please have the model and serial number
of your appliance available before
contacting Technical Service.**



**U.S.A.
Miele, Inc.**

National Headquarters

9 Independence Way
Princeton, NJ 08540
Phone: 800-991-9380
609-419-9898
Fax: 609-419-4241
www.mieleusa.com

**Technical Service & Support
Nationwide**

Phone: 800-991-9380
Fax: 800-220-1348
proservice@mieleusa.com

Germany
Miele & Cie. KG
Carl-Miele-Straße 29
33332 Gütersloh

**Canada
Miele Limited**

National Headquarters

Professional Division
161 Four Valley Drive
Vaughan, ON L4K 4V8
Phone: 1-888-325-3957
905-660-9936
Fax: 905-532-2295
www.miele.ca
professional@miele.ca

MieleCare National Service

Phone: 1-888-325-3957
905-532-2272
Fax: 905-532-2292
customercare@miele.ca
(general and technical enquiries)