Miele
PROFESSIONAL

Operating instructions

Washer disinfector G 7883 CD

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

AUS GB

M.-Nr. 05 803 620

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Description of the machine

The G 7883 CD washer disinfector is a front loading machine designed specifically for processing laboratory utensils and glassware.

In general these include glass, heat tolerant plastic, stainless steel and coated metal items such as containers (e.g. beakers, narrow necked and conical flasks, Erlenmeyer flasks, bottles, test tubes, separatory funnels etc.), measuring vessels (e.g. volumetric flasks, measuring cylinders, pipettes etc.), dishes (e.g. Petri dishes, mortars, watch glasses etc.) and small components (e.g. stoppers, spatula, stirrers etc.).

The main aim of processing laboratory utensils and glassware is to remove contaminations from both external and internal surfaces and to rinse off any cleaning and neutralising agents.

The G 7883 CD is designed to process one batch at a time. Items are loaded into inserts and mobile units which are then pushed into the wash cabinet. The door is then closed and the programme is started manually. At the end of the programme the operator opens the door, removes the mobile unit and inserts and unloads the items.

The G 7883 CD is a single cabinet system in which the whole process takes place, including the pre-wash, main wash, neutralisation, interim and final rinses. Drying can be selected as an additional function to complete the process. Each programme stage follows on automatically after the previous one.

The main wash, neutralising and rinse stages are all carried out using water based agents only. In other words using cold, hot or fully demineralised water with the addition of a suitable chemical agent (cleaning agent or neutralising agent). Other liquid agents such as organic solvents or combustible agents must not be used in this machine.

Before processing anything in this machine make sure that it is suitable for machine processing and that it is for example heat, acid and alkali tolerant.

It is the user's responsibility to decide whether items contaminated with substances such as micro biological material, pathogenic cells, facultative pathogenic cells, genetically modified material etc. should be sterilised before machine processing.

If sterilisation is not required prior to machine preparation, the user must also ascertain whether to use the "vario TD" programme for cleaning and disinfection to general hygiene requirements, or whether to use the "SPECIAL 93°C/10'" (§ 18 IfSG) for cleaning and disinfection in accordance with national Health and Safety regulations regarding the containing of epidemics. The disinfecting programme chosen will depend on the area of effectiveness required (bactericidal and/or virucidal) and on the thermal-stability of the instruments. Contaminated items, not requiring initial sterilisation, can be placed directly in the machine without pre-treatment (no soaking required).

The parameters for thermal disinfection in accordance with EN ISO 15883-1 are 80 °C (+ 5 °C, - 0 °C) with a 10 min. holding time or 90 °C (+ 5 °C, - 0 °C) with a 5 min. holding time for the inactivation of HBV.

In Germany, the parameters for disinfection of a temperature of 93 °C, with a holding time of 10 minutes, corresponding to effective areas A and B, have been adopted into the official list for disinfection of instruments in disinfectors and decontamination units, according to section 3.2.4. § 18 IfSG by the Robert Koch Institute (RKI) in Berlin (German Federal Institute for infectious diseases and non-communicable illnesses).

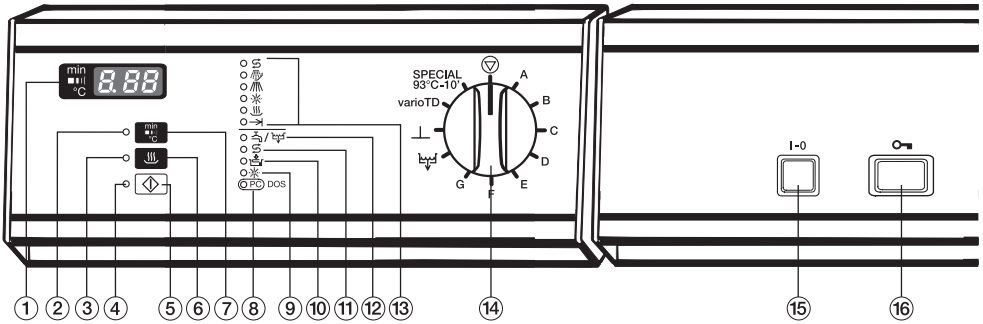
The effective areas are defined as follows:

A = suitable for the destruction of vegetative bacteria, including myco-bacteria, fungus and fungal spores.

B = suitable for the inactivation of viruses (including HBV and HIV).

The machine must not be used for cleaning/disinfection of products classed as medical products according to the MPG directive 93/42/EWG, Class IIa.

Guide to the machine



① Display

② Delay start indicator light

③ Drying indicator light

④ Programme start indicator light

⑤ Start button

⑥ Drying button

⑦ Button to toggle between the actual temperature, elapsed time and active washing block displays

⑧ Add (liquid) cleaning agent indicator light

Optical interface for service technician

⑨ Add rinsing agent indicator light

⑩ Add neutralising agent indicator light

⑪ Add salt indicator light

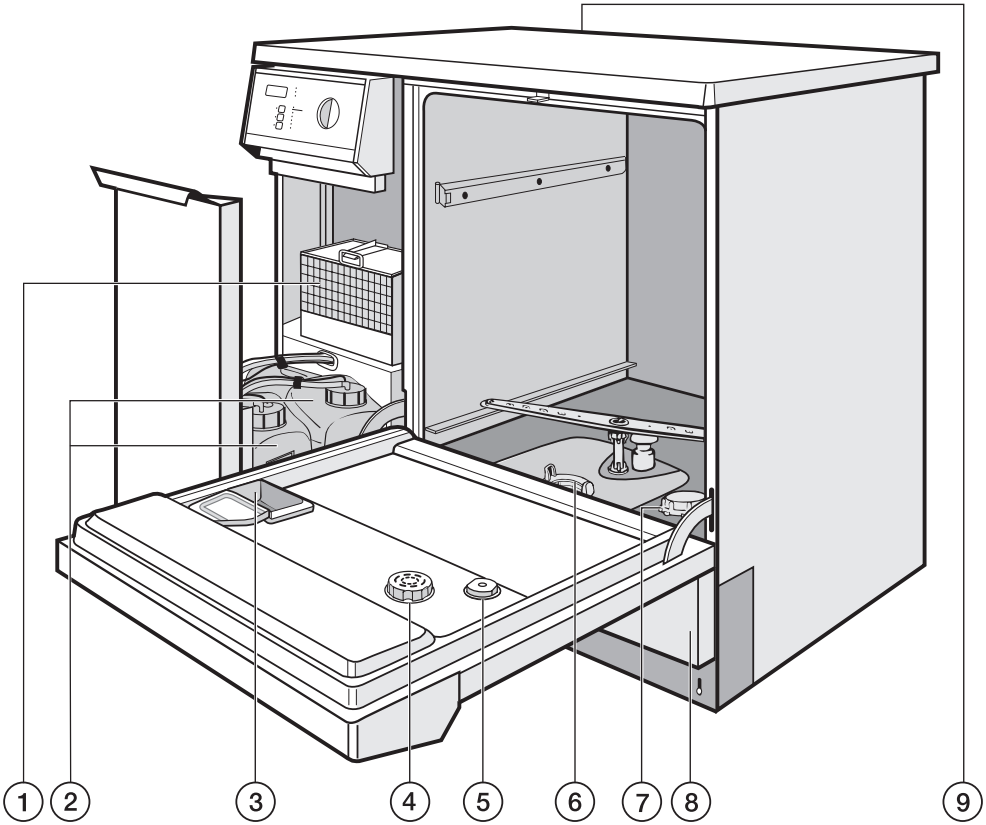
⑫ Water inlet / Drain indicator light

⑬ Programme sequence display

⑭ Programme selector

⑮ On/Off button (I-0)

⑯ Door release



① Drying unit (TA)

② Reservoir for neutralising agent (red) and liquid cleaning agent (blue)

③ Dispenser for powder detergent

④ Rinsing agent reservoir (with dosage selector)

⑤ Level indicator

⑥ Filter combination

⑦ Salt reservoir (for the water softener)

⑧ Service panel

⑨ Serial interface - at the back of the machine (top left behind the cover panel) -

This machine complies with all relevant legal safety requirements. Incorrect use can, however, lead to personal injury and damage to property.
Read the operating instructions carefully before starting to use this machine. This way you will avoid the risk of accidents and damage to the machine.
Keep these instructions in a safe place for reference, and pass them on to any future user.

Correct use

This machine is designed for commercial use and for specialised applications only, as described in these Operating Instructions. Alterations to the machine or using it for purposes other than those for which it was designed, would be unauthorised and could cause harm. The manufacturer cannot be held liable for damage caused by improper or incorrect use of the machine.

This equipment is not designed for maritime use or for use in mobile installations such as caravans, aircraft etc. However it may be suitable for such usage subject to a risk assessment of the installation being carried out by a suitably qualified engineer.

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

This machine should be commissioned and then maintained only by a Miele authorised and trained service technician or other suitably qualified and competent approved person. Repairs and other work by unqualified persons could be dangerous.

Do not install the machine in an area where a danger of explosion or of freezing conditions may be present.

The electrical safety of this machine can only be guaranteed if connected to a correctly installed earthing system on site. It is most important that this basic safety requirement is met and complies with local and national regulations. It should be checked by an expert if necessary. The manufacturer cannot be held liable for the consequences of an inadequate earthing system (e.g. electric shock).

A damaged machine is dangerous. Switch off at the mains immediately and call the Miele Service Department or an authorised and trained Miele Service Dealer or other suitably qualified and competent approved person.

Personnel operating the machine should be trained regularly.
Children and untrained personnel must not be allowed access to the machine or its controls.

Take care when handling liquid agents and additives. These may contain irritant or corrosive ingredients. Do not use organic solvents as these could cause an explosion. Wear protective gloves and goggles. With all chemical agents the manufacturer's safety conditions must be observed.

Avoid inhalation of powder cleaners.
They can cause burning in the mouth and throat if swallowed, or inhibit breathing.

The water in the machine must not be used as drinking water.

Do not sit or lean on an open door. The machine could tip up and be damaged or cause an injury.

Be careful when sorting items with sharp pointed ends and positioning them in the machine that you do not hurt yourself or create danger for other operators.

When using this machine in the higher temperature ranges be especially careful not to scald or burn yourself when opening the door! Baskets and inserts must be allowed to cool down before they are unloaded. Any water remaining in containers could still be very hot. Empty them into the wash cabinet before taking them out.

Do not touch the heating elements if you open the door during or directly after the end of a programme, you could burn yourself. They remain hot for some time after the end of the programme.

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

Before any maintenance or repair work is undertaken, the machine must be disconnected from the mains supply, by switching off at the mains isolator, or withdrawing the mains fuse.

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

If the machine is being used for disinfection in accordance with official regulations on the control of epidemics, the steam condenser and its connections to and from the wash cabinet must be cleaned and disinfected whenever any repairs are carried out or parts replaced.

When running a disinfecting programme in accordance with official regulations on the control of epidemics, the programme must not be interrupted once it has been started (see Cancelling a programme in an emergency).

The standard of disinfection in the disinfection programmes must be routinely confirmed by the user. The process should be regularly monitored using chemical indicators, and bacteriologically at intervals using bio-indicators, with full documentation.

Disinfection programmes must not be interrupted, as this can have a limiting effect on the disinfection result. However, should this be necessary, the complete programme must be repeated.

For thermal disinfection, use temperatures and operating parameters to achieve the required infection prophylaxis in accordance with current health and safety regulations.

Only use Miele approved cleaning agents in this machine. Using unsuitable cleaning agents could adversely affect items being cleaned as well as the components of the machine.

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

Where a chemical additive is recommended on technical application grounds (e.g. a cleaning agent), this does not imply that the manufacturer of the machine takes responsibility for the effect of the chemical on the items being cleaned.
Please be aware that changes in formulation, storage conditions etc. which may not be publicised by the chemical manufacturer, can have a negative effect on the cleaning result.

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

The machine is designed only for operation with water and additive cleaning agents. Organic solvents must not be used in this machine, as there is the danger under certain circumstances of explosion. They can also cause damage to components in the machine such as those containing plastics and elastomers.

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

If the cleaning result is subject to particularly stringent requirements (e.g. chemical analysis, specialised processes), a regular quality control test must be carried out by the user to ensure that required standards of cleanliness are being achieved.

The mobile units and special inserts should only be used for their specific application. Hollow instruments must be throughly cleaned, internally and externally.

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

Do not allow any remains of acids or solvents, and in particular hydrochloric acid or chloride solutions to get into the wash cabinet. Similarly avoid any materials with a corrosive effect. The presence in compounds of any solvents should be minimal, (especially those in hazard class A1).

Ensure that solutions or steam containing hydrochloric acid do not come into contact with the steel outer casing of the machine, to avoid any corrosion damage.

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

Using accessories

Only use genuine Miele accessories with this machine. Consult Miele on the type and application of such equipment.

Disposal of your old machine

Before disposing of your old machine first make it unusable. Disconnect, cut off the cable and any plug from the cable.
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, so that children cannot accidentally shut themselves in. Then make appropriate arrangements for the safe disposal of the machine.

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

Disposal of the packing material

The transport and protective packing has been selected from materials which are environmentally friendly for disposal and can normally be recycled.

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

Rather than just throwing these materials away, please ensure that they are recycled.

Disposal of your old machine

Old machines contain materials which can be reclaimed or recycled. Please contact your dealer, your waste collection centre or scrap merchant about potential recycling schemes.

Ensure that the machine presents no danger to children while being stored for disposal.

See the appropriate section in the Warning and Safety instructions.

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 sections of these Operating Instructions.

Set the water softener unit

The water softener unit must be set for the water hardness level in your area.

The salt reservoir also has to 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 reservoir for rinsing agent with cleaning agent (including liquid cleaning agents and washing up liquid) will cause serious damage to the reservoir.

Only use designated cleaning agents for special applications.

Do not use cleaning agents 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 cleaning agent

Follow the cleaning agent manufacturer's recommendations on dosage.

The amount required will depend on the type of cleaning agent and the programme chosen.
Make sure you read the notes on dosing given in the programme chart.

Cleaning results may vary from brand to brand. If you are not satisfied with the results from one brand try another quality brand before contacting Miele for advice.

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

Regular checking and cleaning is essential.

Electric door lock

The machine is equipped with an electric door lock.

The door can only be opened when:

- the electricity supply to the machine is switched on and:
- the master switch **I-0** is pressed in.

To open the door

- Press the door release button in as far as it will go, and at the same time, grip the handle and open the door.

Do not touch the heating elements if you open the door during or directly after the end of a programme, you could burn yourself. They remain hot for some time after the end of the programme.

To close the door

- Lift the door upwards and push until it clicks shut. Do not press the release catch whilst shutting the door!

After the first intake of water, it is no longer possible to open the door, except in the (PRE-RINSE) and (DRAIN) programmes. The machine can be programmed to open during drying (additional programme).
The door remains locked and cannot be opened until the end of the programme.

To cancel a programme

If a programme has to be cancelled in an emergency, e.g. when articles in the machine jostle against each other or the programme has been interrupted because of a fault, the door will have to be opened manually:

- Turn the programme selector to the position (the programme is cancelled after approx. 2 secs.).

Important
It is essential to follow procedures, particularly with regard to regulations on preventing the spread of epidemics, as described in "Operation - cancelling a programme".

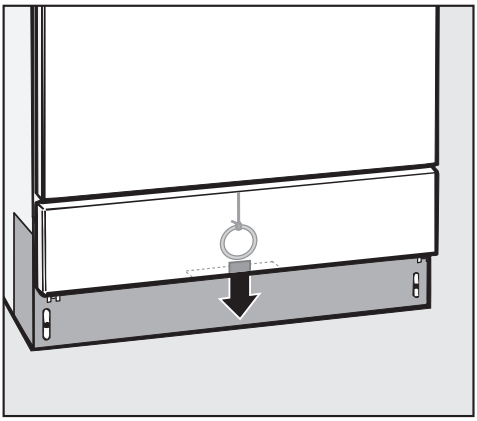
To open the door with the emergency release

The emergency release should only be used when the door cannot be opened normally, e.g. in the event of a power failure.

Important

It is essential to follow procedures, particularly with regard to regulations on preventing the spread of epidemics, as described in "Operation - cancelling a programme".

- Turn the programme selector to ⓥ.
- Press **I-0** to switch the machine off.



- The emergency release cable is located at the bottom of the machine behind the service panel. Pull it downwards to open the door.

Water softener

The water needs to be softened to avoid calcium deposits building up on instruments and utensils and in the machine itself.

To ensure a steady supply of soft water the water softener unit must always be:

1. correctly set (programmed) and
2. the salt reservoir must be filled. (If the water hardness level is below 0.7 mmol/l (4 °d - German scale) the reservoir does not need to be filled with reactivation salt.)

The machine is set at the factory for a water hardness level of 3.4 mmol/l (19 °d).

If the water supply is harder or softer than this (including below 0.7 mmol/l or 4 °d) the factory setting will need to be changed following the instructions in "Setting the water softener". See chart on the next page for settings.

Your local water authority will advise you on the water hardness in your area.

For fluctuating levels (e.g. 1.4 - 3.1 mmol/l or 8 - 17 °d) set the water softener to the highest setting (in this example to 3.1 mmol/l or 17 °d).

Important
The built-in water softener has settings from 0.2 - 10.8 mmol/l or 1 °d - 60 °d.

Settings

°d (German scale)	mmol/l	°f	**Setting**
1	0.2	2	**1**
2	0.4	4	**2**
3	0.5	5	**3**
4	0.7	7	**4**
5	0.9	9	**5**
6	1.1	11	**6**
7	1.3	13	**7**
8	1.4	14	**8**
9	1.6	16	**9**
10	1.8	18	**10**
11	2.0	20	**11**
12	2.2	22	**12**
13	2.3	23	**13**
14	2.5	25	**14**
15	2.7	27	**15**
16	2.9	29	**16**
17	3.1	31	**17**
18	3.2	32	**18**
19 *)	3.4	34	**19**
20	3.6	36	**20**
21	3.8	38	**21**
22	4.0	40	**22**
23	4.1	41	**23**
24	4.3	43	**24**
25	4.5	45	**25**
26	4.7	47	**26**
27	4.9	49	**27**
28	5.0	50	**28**
29	5.2	52	**29**
30	5.4	54	**30**
31	5.6	56	**31**
32	5.8	58	**32**
33	5.9	59	**33**
34	6.1	61	**34**
35	6.3	63	**35**
36	6.5	65	**36**
37	6.7	67	**37**
38	6.8	68	**38**
39	7.0	70	**39**
40	7.2	72	**40**
41	7.4	74	**41**
42	7.6	76	**42**
43	7.7	77	**43**
44	7.9	79	**44**
45	8.1	81	**45**
46	8.3	83	**46**
47	8.5	85	**47**
48	8.6	86	**48**
49	8.8	88	**49**
50	9.0	90	**50**
51	9.2	92	**51**
52	9.4	94	**52**
53	9.5	95	**53**
54	9.7	97	**54**
55	9.9	99	**55**
56	10.1	101	**56**
57	10.3	103	**57**
58	10.4	104	**58**
59	10.6	106	**59**
60	10.8	108	**60**

***)** factory setting

Setting the water softener

- Switch off the machine.
- Turn the programme selector to the STOP position ⏚.
- Press min °C and ◈ at the same time, hold them in and, whilst doing so, switch the machine on with the I-0 button.
  The current programme status "P..." will show in the display.
  The indicator light 🚰 / 🚰↓ will come on.
- Press ♨ once, E01 for programming level 1 will appear in the display.
- Turn the programme selector one switch position clockwise (1 o'clock position).
  The number 19 appears in the display (the factory water hardness setting in °d), (equivalent to 3.4 mmol/l).
- Press min °C as many times as is necessary, or hold it in until the required value (hardness level in °d) appears in the display.
  Once the number 60 has been reached, the counter will begin again at 0.
- Press the ◈ button. SP will appear in the display.
- Press ◈ again. The setting will now be stored in memory. The display will go out.
- The machine is now ready for use.

For future servicing it is useful to make a note of your water hardness level.

- Enter your water hardness level here:
  _____ °d (German scale) or

  _____ mmol/l

Filling the salt reservoir

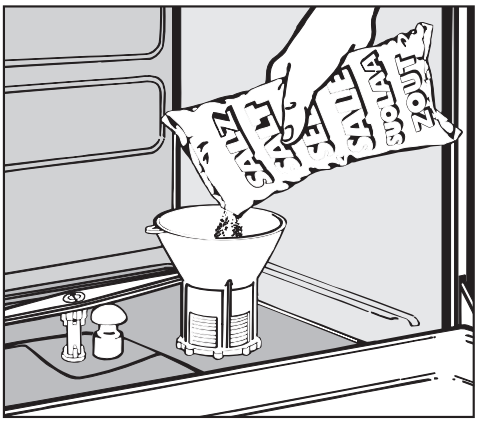
Please only use special coarse grained reactivation salt with granules of approx. 1-4 mm. Do not use other types of salt, e.g. table salt, agricultural or gritting salt. These could contain components which are insoluble in water which could result in damage to the water softener. If in doubt consult your Miele Professional Department.

The salt reservoir holds approx. 2.5 kg of salt.

⚠ Inadvertently filling the salt reservoir with cleaning agent will damage the water softener.
Before filling the salt reservoir make sure that you have picked up the right packet of reactivation salt.

- Remove the bottom basket from the machine.
- Unscrew the salt reservoir cap.

Before filling the salt reservoir with reactivation salt for the first time fill it with approx. 2.5 litres of water.

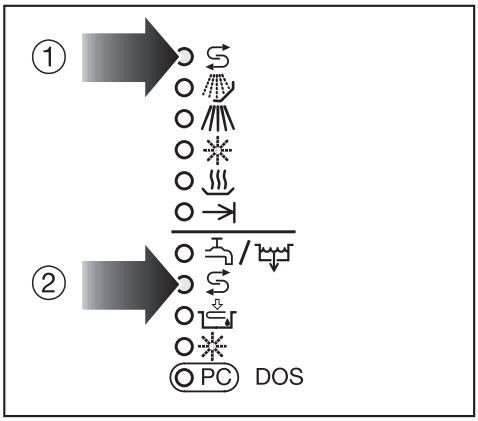


- Place the funnel provided in place.
- Fill carefully with salt, (as it is filled displaced water will run out).
- Wipe any residual salt off the screw threads on the socket.
- Screw the cap on firmly.
- Immediately after this: Run the PRE-RINSE programme ⍊ to remove any traces of salt from the cabinet.

Important: If after starting the PRE-RINSE programme ⍊ the machine does not start for a few minutes this is not a fault. The water softener is being reactivated.

Water softener

Salt indicator



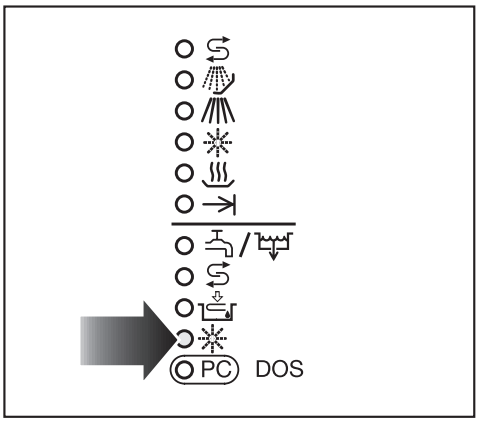
When the salt reservoir is empty the ⇆ indicator light ② comes on to remind you to fill the reservoir.

Reactivation takes place automatically during a programme.
The programme sequence indicator light ⇆ ① lights up whilst this is happening.

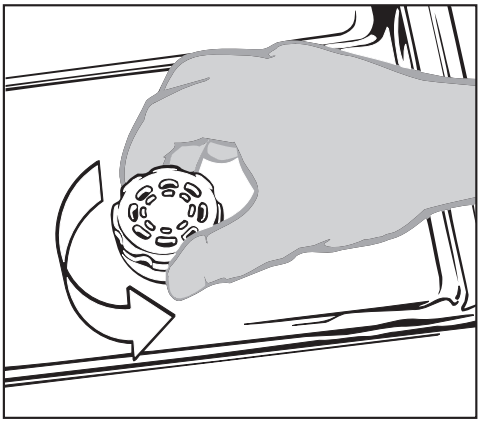
If rinsing agent is required the rinsing agent reservoir in the machine will first need to be activated by a Miele Service technician.

Rinsing agent helps water run off items so that no droplets are left behind and improves drying results. However, because rinsing agent is dispensed during the final rinse some of its ingredients will remain on the surfaces of your laboratory glassware etc. It should therefore only be used if it does not have an adverse effect on the application the glassware or utensils are being used for.
If used, it is poured into the rinsing agent reservoir in the door and the amount set is then automatically dispensed during the final rinse.
The rinsing agent reservoir holds approx. 180 ml.

⚠ Inadvertently filling the rinsing agent reservoir with cleaning agent (including liquid cleaning agent) will damage the reservoir.
Make sure you use a rinsing agent which is suitable for use in washer disinfectors.

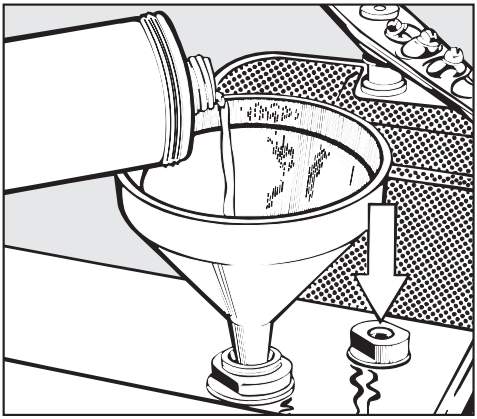


- The reservoir must be filled with rinsing agent when the ✳ indicator light comes on.
  There is also a level indicator for the rinsing agent reservoir on the inside of the door (see illustration).
- Open the door fully.



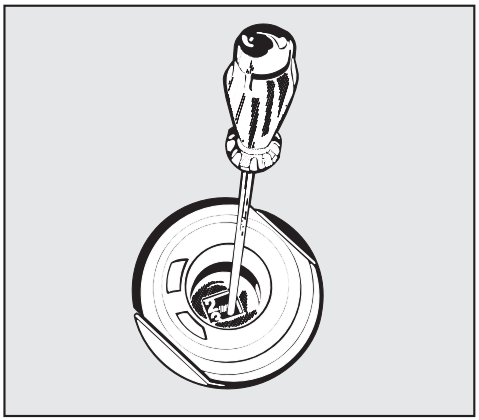
- Undo the screw cap.

Rinsing agent



- Pour rinsing agent into the reservoir until the level indicator is dark (see arrow in the illustration). Use a funnel if necessary.
- Screw the cap back on and mop up any spilt rinsing agent. This prevents over-foaming occuring during the next programme.
- Wait until the indicator light ✳ on the control panel lights up again before adding any more rinsing agent.

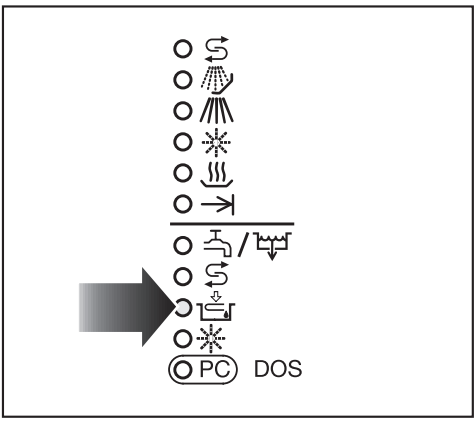
Setting the dosage



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

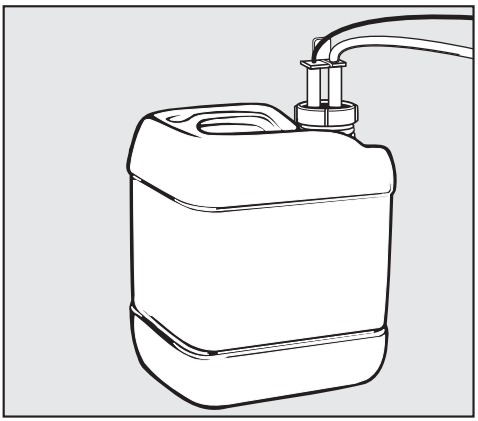
- Use a higher setting if spots are left after drying.
- If the surface becomes cloudy and streaky, use a lower setting.

Neutralising agent (pH-level: acidic) neutralises residues of alkaline cleaning agents on the surface of instruments and utensils.
It is automatically dispensed in the "Rinse" following the main wash.
In programme **B** "INORGANIC" neutralising agent is also dispensed for an acidic "Pre-Rinse".



When the Add neutralising agent indicator light on the control panel lights up:

- Open the door on the control unit to access the liquid supply containers.



- Remove the siphon from the red container and refill the container with neutralising agent, or change it for a new container. Then:
- Insert the siphon tube into the container (observe the colour code).

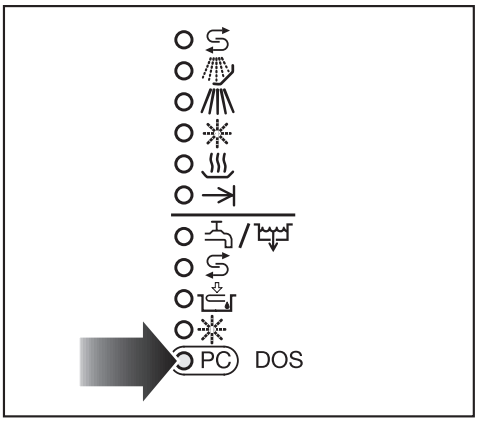
Please remember to fill the container in good time, it should not be allowed to empty completely.

Setting the dosage

See "Programming special functions" for setting the dosage amount and venting the dispensing system

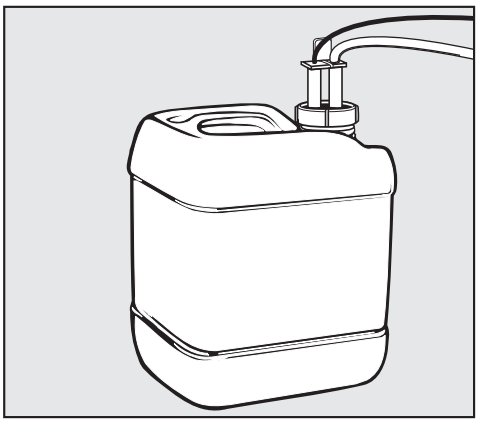
Adding (liquid) cleaning agent

You can use either liquid or powder cleaning agent
(see separate chapter for dispensing powder detergent).



On first commissioning or when the **DOS** indicator light on the control panel lights up:

- Open the door on the control unit to access the liquid supply containers.



- Remove the siphon from the blue container and refill the container with liquid cleaning agent, or change it for a new container. Then:
- Insert the siphon tube into the container (observe the colour code).

Please remember to fill the container in good time, it should not be allowed to empty completely.

Setting the dosage

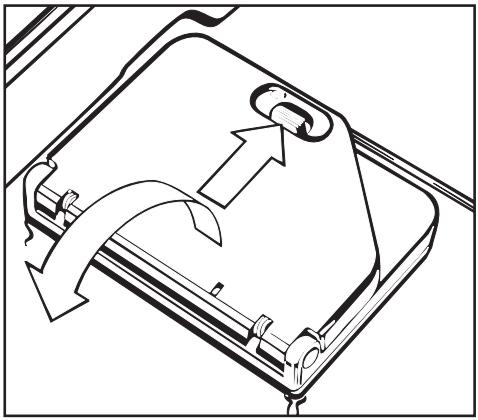
See "Programming special functions" for setting the dosage amount and venting the dispensing system

⚠ Only use cleaning agents suitable for washer disinfectors. Do not use detergents formulated for domestic dishwashers.

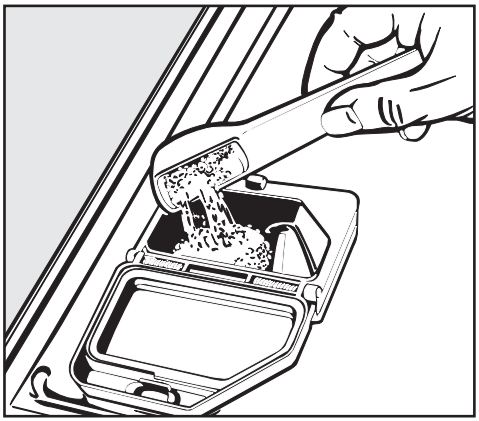
We recommend using a mildly alkaline liquid cleaning agent. See "Adding (liquid) cleaning agent"

The **C** "ORGANIC" programme must only be run using liquid cleaning agent.

If liquid cleaning agent is not being used, powder cleaning agent must be placed in the detergent dispenser before every programme (except with PRE-RINSE ⍊ and DRAIN ⍦).
For the SPECIAL 93°C-10' programme see the notes in the "Programme chart".



■ Press the opening catch on the container (see arrow) forwards. The flap will spring open. (The flap is always open at the end of a programme).



■ Add powder cleaning agent to the compartment.

Dosage: Approx. 3 g/l, or 30 g per batch. Approx. 10.5 litres of water are used in the wash programme sequence (or 16 litres in the AN-Programme, depending on model).

Follow detergent manufacturer's instructions if they differ.

■ Close the dispenser lid.

Adding (liquid/powder) cleaning agent

Taking the effect on the environment into consideration, please bear the following points in mind when selecting a cleaning agent:

- What level of alkalinity is required to achieve the correct level of cleaning?
- Is active chlorine required for disinfection or oxydation (pigment removal)?
- Are tensides required, in particular for dispersal and emulsification?
- A suitable mild alkaline detergent, which does not contain active chlorine, should be used for thermal disinfection programmes.

Some types of soiling may require different combinations of cleaning agents and other additives. The Miele Professional Department will be pleased to advise you.

Maintenance of the dispensing system / General notes

To ensure trouble-free operation the following regular maintenance should be carried out by a Miele approved service technician.

Every 12-18 months:

Change the hoses in the dispensing system or in the DOS modules.

Take care when handling liquid agents and additives. These may contain irritant or corrosive ingredients.
Follow the manufacturer's safety instructions and relevant Health and Safety procedures carefully.
Wear protective gloves and goggles.

This washer disinfector normally requires a top and bottom basket or a mobile (injector) unit.
Various inserts and special baskets are also available for a wide variety of instruments and utensils.
The diversity of inserts and baskets means that it is not possible to illustrate them all or give detailed instructions on their use here. For instance there are inserts for direct injection of narrow necked flasks, butyrometers, pipettes etc.
Standard laboratory glassware such as beakers, Erlenmeyer flasks, Petri dishes, test tubes etc. can be placed in a variety of full, half and quarter inserts in the upper or lower basket.

The following instructions relate only to basic preparation and loading of glassware.

Loading the machine

Preparation

- Empty all glassware before loading into the machine (paying particular attention to regulations regarding epidemics).

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

- Remove all agar residues from Petri dishes.
- Remove blood clots and residues from test tubes, etc.
- Remove all stoppers, corks, labels, sealing wax residues, etc.

Note

- Load items so that water will come into contact with all surfaces. This ensures that they will be properly cleaned.
- Do not place items to be cleaned inside other pieces where they may be concealed.
- Hollow vessels should be inverted and placed in the correct inserts. The water must be able to access them unhindered.
  A cover net can be used to reduce the risk of movement during the wash process and prevent glass breakages.
- Petri dishes and similar should be placed in the correct insert with the soiled side facing the centre.
- Pipettes should be placed with the mouthpiece facing upwards.
- Deep based items should be placed at an angle to ensure good coverage of water.
- Tall, narrow pieces should be placed in the centre of the baskets This ensure good coverage of water.
- Mobile units with adapters must engage correctly (see next page).
- The spray arms must not be blocked by items which are too tall or which hang down in their path. If necessary, manually rotate the arms to test.

Important:

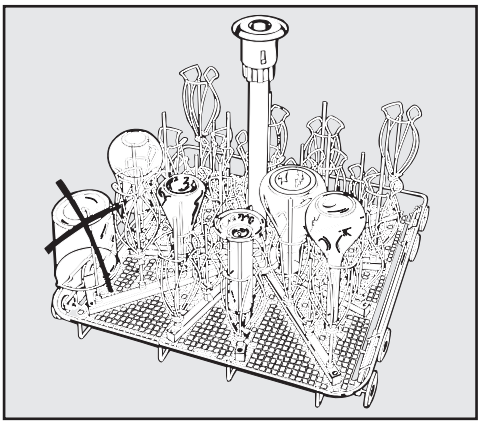
Make sure that the water connection spring adapter engages correctly when a basket or injector unit is inserted in the machine. It must be 4-5 mm higher than the water connection inlet in the machine. If it is not:

- Loosen the lock ring.
- Push up the adapter (4-5 mm higher than the water connection inlet in the machine) and tighten up the lock ring.

Select baskets and inserts which are appropriate for the application.

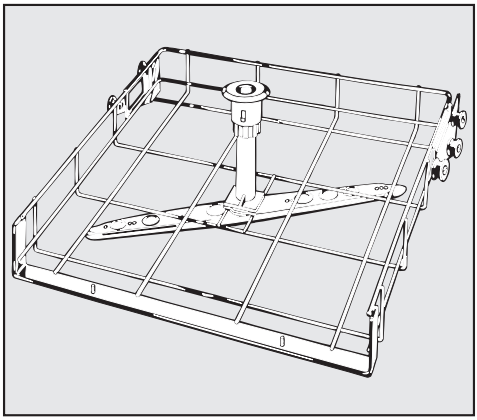
See examples on the following pages

Loading examples:



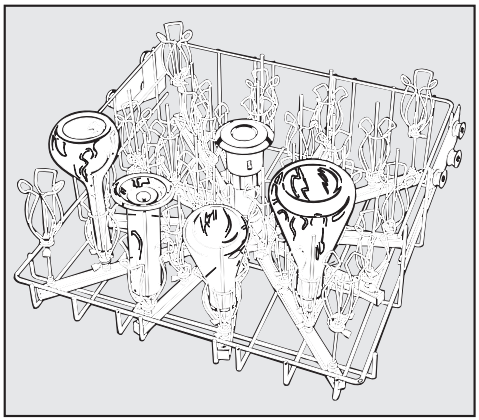
E 350
Mobile unit "Intermiel"

For narrow necked glassware, complete with 15 jets 4x1 mm/160 mm high, 18 jets 6x1 mm/220 mm high and 33 MIELAVA clips.



O 188 Upper basket/carrier (empty)

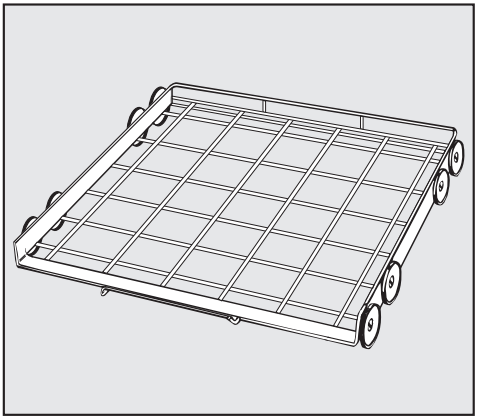
For various inserts



O 187
Mobile unit

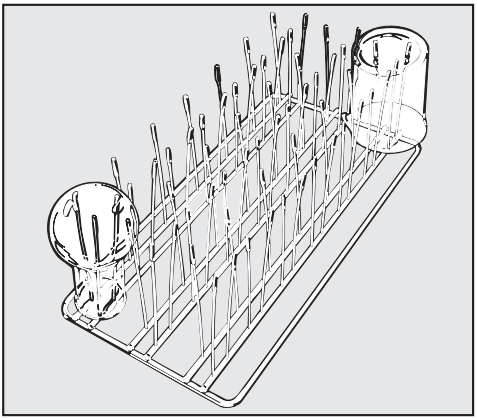
(Upper basket) for direct injection of narrow necked glassware, 34 jets 4x1 mm/ 160 mm with MIELAVA clips.

Note:
When using O 187 with powder cleaning agent this must be placed on the inside of the door only (this applies to programmes without a pre-wash). Otherwise use a liquid cleaning agent.



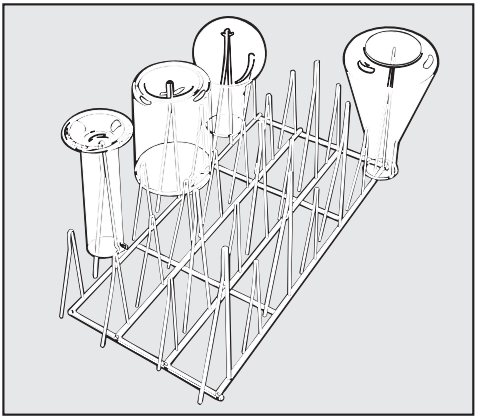
U 874 Bottom basket/carrier (empty)

For various inserts



E 109

Stainless steel half insert for 21 beakers up to 250 cm^3, Erlenmeyer flasks, conical flasks etc.



E 106

Stainless steel half insert with 28 spring clips in 2 different heights to accommodate a variety of laboratory glassware such as narrow necked flasks, measuring cylinders, medicine bottles etc.

Adjusting the top basket

The top basket can be adjusted above and below the middle position by 2 cm.

Depending on the position of the top basket, the baskets can accommodate vessels and instruments of the following heights:

Example: Top basket O 188/1 and bottom basket U 874

Top basket position	Top basket height (cm)	Bottom basket height (cm)
Top	max. 15.5 *)	max. 28.5 *)
Middle	max. 17.5 *)	max. 26.5 *)
Bottom	max. 19.5 *)	max. 24.5 *)

*) without inserts

To adjust the top basket:

- Pull out the top basket until a resistance is felt, lift from the runners and remove.
- Unscrew the knurled nuts (roller bearings) on both sides of the basket with a suitable spanner, reposition as required.

Choose your programme according to the type of instruments or utensils being cleaned and the degree of soiling.

The different programmes and their uses are described overleaf in the **Programme chart**.

Programme chart

Programme	When to use	Cleaning agent (when not using liquid cleaning agent) **Follow manufacturer's instructions**
A	For adapting to customer specific problems.	30 grammes in the cleaning agent dispenser
B INORGANIC	For the removal of inorganic residues; general analysis and water analysis, suitable for low to medium soiling levels and for medium to high quality rinse requirements (3 AD rinses).	30 grammes in the cleaning agent dispenser
C ORGANIC	For the removal of organic residues such as oil, grease, wax, and agar. Suitable for preparation and analytical applications with medium to high levels of soiling and medium quality rinse requirements (3 rinses, two of which are with AD water). Connection should be to cold, hot and AD water.	Liquid cleaning agent (preferably alkaline)
D STANDARD	Suitable for a variety of soil types, which do not denaturate or break down in alkalis. Suitable for preparation and analytical applications with low levels of soiling and average rinse requirements (2 AD rinses).	30 grammes in the cleaning agent dispenser
E UNIVERSAL	For the removal of organic residues such as protein, oil, grease and for inorganic residues (pH 7 water soluble metal salts). Suitable for preparation and analytical applications with low to medium levels of soiling and medium quality rinse requirements (3 rinses, two of which are with AD water).	30 grammes in the cleaning agent dispenser

To the person responsible for the machine:

- These pages **should be pulled out** and placed near the machine where they can be seen by all users.
- Ensure that all users are trained in the use of the machine and are familiar with the Warning and Safety instructions.

This machine complies with all relevant legal safety requirements. Incorrect use can, however, lead to personal injury and damage to property.
Read the operating instructions carefully before starting to use this machine. This way you will avoid the risk of accidents and damage to the machine.
Keep these instructions in a safe place for reference, and pass them on to any future user.

Correct use

This machine is designed for commercial use and for specialised applications only, as described in these Operating Instructions. Alterations to the machine or using it for purposes other than those for which it was designed would be unauthorised and could cause harm.
The manufacturer cannot be held liable for damage resulting from improper or incorrect use of the machine.

This equipment is not designed for maritime use or for use in mobile installations such as caravans, aircraft etc. However it may be suitable for such usage subject to a risk assessment of the installation being carried out by a suitably qualified engineer.

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

This machine should be commissioned and then maintained only by a Miele authorised and trained service technician or other suitably qualified and competent approved person. Repairs and other work by unqualified persons could be dangerous.

Do not install the machine in an area where a danger of explosion or of freezing conditions may be present.

The electrical safety of this machine can only be guaranteed if connected to a correctly installed earthing system on site. It is most important that this basic safety requirement is met and complies with local and national regulations. It should be checked by an expert if necessary.
The manufacturer cannot be held liable for the consequences of an inadequate earthing system (e.g. electric shock).

A damaged machine is dangerous. Switch off at the mains immediately and call the Miele Service Department or an authorised and trained Miele Service Dealer or other suitably qualified and competent approved person.

Personnel operating the machine should be trained regularly.
Children and untrained personnel must not be allowed access to the machine or its controls.

Take care when handling liquid agents and additives. These may contain irritant or corrosive ingredients. Do not use organic solvents as these could cause an explosion. Wear protective gloves and goggles. With all chemical agents the manufacturer's safety conditions must be observed.

Avoid inhalation of powder cleaners.
They can cause burning in the mouth and throat if swallowed, or inhibit breathing.

The water in the machine must not be used as drinking water.

Do not sit or lean on an open door. The machine could tip up and be damaged or cause an injury.

Be careful when sorting items with sharp pointed ends and positioning them in the machine that you do not hurt yourself or create danger for other operators.

When using this machine in the higher temperature ranges be especially careful not to scald or burn yourself when opening the door! Baskets and inserts must be allowed to cool down before they are unloaded. Any water remaining in containers could still be very hot. Empty them into the wash cabinet before taking them out.

Do not touch the heating elements if you open the door during or directly after the end of a programme, you could burn yourself. They remain hot for some time after the end of the programme.

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

Before any maintenance or repair work is undertaken, the machine must be disconnected from the mains supply, by switching off at the mains isolator, or withdrawing the mains fuse.

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

If the machine is being used for disinfection in accordance with official regualtions on the control of epidemics, the steam condenser and its connections to and from the wash cabinet must be cleaned and disinfected whenever any repairs are carried out or parts replaced.

When running a disinfecting programme in accordance with official regulations on the control of epidemics, the programme must not be interrupted once it has been started (see"Cancelling a programme" in an emergency).

The standard of disinfection in the disinfection programmes must be routinely confirmed by the user. The process should be regularly monitored using chemical indicators, and bacteriologically at intervals using bio-indicators, with full documentation.

Disinfection programmes must not be interrupted, as this can have a limiting effect on the disinfection result. However, should this be necessary, the complete programme must be repeated.

For thermal disinfection, use temperatures and operating parameters to achieve the required infection prophylaxis in accordance with current health and safety regulations.

Only use Miele approved cleaning agents in this machine. Using unsuitable cleaning agents could adversely affect items being cleaned as well as the components of the machine.

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

Where a chemical additive is recommended on technical application grounds (e.g. a cleaning agent), this does not imply that the manufacturer of the machine takes responsibility for the effect of the chemical on the items being cleaned.
Please be aware that changes in formulation, storage conditions etc. which may not be publicised by the chemical manufacturer, can have a negative effect on the cleaning result.

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

The machine is designed only for operation with water and additive cleaning agents. Organic solvents must not be used in this machine, as there is the danger under certain circumstances of explosion. They can also cause damage to components in the machine such as those containing plastics and elastomers.

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

If the cleaning result is subject to particularly stringent requirements (e.g. chemical analysis, specialised processes), a regular quality control test must be carried out by the user to ensure that required standards of cleanliness are being achieved.

The mobile units and special inserts should only be used for their specific application. Hollow instruments must be throughly cleaned, internally and externally.

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

Do not allow any remains of acids or solvents, and in particular hydrochloric acid or chloride solutions to get into the wash cabinet. Similarly avoid any materials with a corrosive effect. The presence in compounds of any solvents should be minimal, (especially those in hazard class A1).

Ensure that solutions or steam containing hydrochloric acid do not come into contact with the steel outer casing of the machine, to avoid any corrosion damage.

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

Using accessories

Only use genuine Miele accessories with this machine. Consult Miele on the type and application of such equipment.

Disposal of your old machine

Before disposing of your old machine first make it unusable. Disconnect, cut off the cable and any plug from the cable.
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, so that children cannot accidentally shut themselves in. Then make appropriate arrangements for the safe disposal of the machine.

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

Programme sequence							
Pre-wash	Main wash 1 1)	Main wash 2 1)	Rinse	Rinse	Rinse	Final rinse 2 1) 2)	Drying (Additional function)
KW		WW DOS 1 80°C/3’	WW DOS 3	WW	AD	AD 75°C/1’	(X) 99°C-25’ (70°C-5’)
KW DOS 3 50°C		WW DOS 1 75°C/3’	WW DOS 3	AD	AD	AD 70°C/1’	(X) 99°C-25’ (70°C-5’)
	WW DOS 1 65°C/3’	WW DOS 1 85°C/3’	WW DOS 3	WW	AD	AD 80°C/1’	(X) 99°C-25’ (70°C-5’)
		WW DOS 1 75°C/3’	WW DOS 3		AD	AD 75°C/1’	(X) 99°C-25’ (70°C-5’)
KW		WW DOS 1 80°C/3’	WW DOS 3	WW	AD	AD 75°C/1’	(X) 99°C-25’ (70°C-5’)

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

2) Rinsing agent can be dispensed via- DOS 2 - (has to be activated by a Miele Service technician).

DOS 1 = For dispensing cleaning agent

DOS 3 = For dispensing neutralising agent

AD (Aqua destillata) = Fully demineralised water, pure H_2O, demineralised water, Aqua purificata or distilled water (optional).

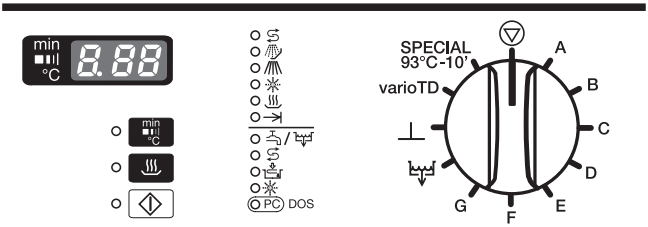
KW = Cold water

WW = Hot water

Programme chart

Programme	When to use	Cleaning agent (when not using liquid cleaning agent) **Follow manufacturer's instructions**
F INTENSIVE	For the removal of organic residues such as protein, oil, cell and tissue culture, oils and grease (pH 7 water soluble metal salts). Suitable for preparation and analytical applications with medium to high levels of soiling and medium to high quality rinse requirements (3 AD rinses).	30 grammes in the cleaning agent dispenser
G PLASTIC	For temperature sensitive laboratory equipment e.g. plastic bottles, (temperature resistant to at least 55ºC). Suitable for preparation and analytical applications with low to medium levels of soiling and medium quality rinse requirements (3 rinses, two of which are with AD water).	30 grammes in the cleaning agent dispenser
SPECIAL 93°C-10'	For cleaning and thermal disinfection at 93°C with a 10-minute holding time. Area of effectiveness A/B (fungicidal, bactericidal and virucidal disinfection) according to §18 IfSG (German Institute for the prevention of the spread of epidemics). For low to medium levels of soiling and lower level rinse requirements (1 AD rinse).	30 grammes on the right hand side door interior
varioTD	For general hygiene requiremnts with low to medium levels of soiling and medium quality rinse results (2 rinses, of which 1 is with AD water). This programme meets the requirements of prEN ISO 15883-1 90 °C (+ 5 °C, - 0 °C) with a 5 min holding time.	30 grammes in the cleaning agent dispenser
DRAIN	For draining water out of the machine, e.g. when a programme has been interrupted. Turn the programme selector to the STOP position ⓥ first! If applicable observe regulations on containing the spread of epidemics - see "Cancelling a programme ".	
PRE-RINSE	For rinsing heavily soiled items (e.g. for removing soiling or disinfectant residue or to prevent soiling drying on to dishes when a complete programme does not yet need to be run).	

Programme sequence							
Pre-wash	Thermal disinfection and/or main wash 1)	Rinse	Rinse	Rinse	Final rinse 1 1) 2)	Final rinse 2 1) 2)	Drying (Additional function)
KW	WW DOS 1 85°C/3’	WW DOS 3		AD	AD - / 1’	AD 80°C/1’	(X) 99°C-25’ (70°C-5’)
KW	KW DOS 1 55°C/5’	KW DOS 3	KW	AD	AD 55°C/1’		(X) 65°C-5’ (55°C-35’)
	KW DOS 1 93°C/10’	WW DOS 3				AD 75°C/3’	(X) - / - (99°C-35’)
KW	WW DOS 1 45°C/3’	WW DOS 3	WW			AD 93°C/5’	(X) - / - (99°C-35’)
		KW					



Switching on

- Close the door.
- Open the stopcocks (if turned off).
- Press the **I-0** button.

When the programme selector is at the STOP position ⓥ a point lights up in the display field.

Starting a programme

- Turn the programme selector clockwise or anti-clockwise to the required programme.
  The first wash temperature of the selected programme is shown in the display field, except with ⊥ (PRE-RINSE) and (DRAIN).
  The indicator light next to the start button ⍾ starts flashing.
- Select additional function DRYING if required (see "Selecting an additional function").
- Press the Start button ⍾. The actual temperature will appear in the display.
  The indicator light next to the Start button ⍾ will light up constantly.

Once the programme has started all other programmes are blocked. If the programme selector is then turned to another programme, the values shown in the display go out. The values can be seen again if the programme selector is turned back to the position of the programme currently in operation.

- During a programme, the min °C button can be used to toggle between displaying the actual time, the elapsed time and the active wash block*).

*)
1 = Pre-wash 1
2 = Pre-wash 2
3 = Main wash 1
4 = Main wash 2
5 = Chemical disinfection
6 = Rinse 1
7 = Rinse 2
8 = Rinse 3
9 = Rinse 4
10 = Final rinse 1
11 = Final rinse 2
12 = Drying 1
13 = Drying 2

Changing a programme

Provided the "Start" button has not yet been pressed, a wrongly selected programme may be changed as described below (if it has been pressed, see "Cancelling a programme"):

- Turn the programme selector to the required programme.
- Select additional function DRYING again if required (see "Selecting an additional function").
- Press the Start button.

Selecting an additional function

The following additional function can be selected:

- DRYING
  may be selected for a period of between 5 and 95 minutes as an additional function as soon as the programme has been selected (except with PRE-RINSE). The display shows the last drying time programmed. Pressing the DRYING button will advance the drying time in 5 minute increments. After pressing the "Start" button the value selected for the programme will be stored in memory.

Important:
If at the end of a programme additional drying is required:

Run the DRAIN programme (duration approx. 1 minute only) together with the additional DRYING programme (see above).

Programme sequence display

The indicator light for the active programme stage lights up during the programme.

- Reactivation
- Pre-wash
- Wash and disinfection if applicable
- Interim rinse / Final rinse and disinfection if applicable
- Drying (additional function)
- End of programme (Programme parameters have been reached)

Programme end

The programme has ended when → lights up constantly in the programme sequence display and the Start indicator light has gone out. A 0 will appear in the middle of the display. All the other indicator lights come on and go out in sequence. The buzzer will sound at the same time for a max. of 30 seconds (standard setting). The buzzer can be changed (see "Programming special functions").

Use the min °C button to call up the total running time of a programme or the actual temperature.

Switching off

- Press and release the **I-0** button.

Note:
As the machine is fitted with an electric door lock, the door can only be opened if the **I-0** button is pressed in (see "Opening and closing the door").

To cancel a programme

Once a programme is running it should only be cancelled in extreme cases, e.g. when articles in the machine rattle or jostle against each other and have to be rearranged. See notes in next section regarding the control of epidemics.

- Turn the programme selector to the ⊽ position (the programme is cancelled after approx. 2 secs.).
- Open the door ⊶.

⚠ Caution. Water and items in the machine may be hot. Danger of burning or scalding.

- Arrange the load 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.
- Select the DRAIN Programme ⍈, (wash liquor is pumped away).
- Select and start the programme again.

The following procedure should be followed when dealing with official cases of infectious diseases using the SPECIAL 93°C-10' or SPECIAL AN 93°C-10 programme (depending on model):

- Turn the programme selector to ⊽ (the programme is cancelled).
- Open the door ⊶.

⚠ Caution. Water and items in the machine may be hot. Danger of burning or scalding.

- Arrange the load 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.
- Select and start the programme again (the contaminated water must not be pumped away before this). The display will show the temperature holding time required counting downwards.

For future servicing work, please document any alterations to the standard factory settings.
Enter any alterations in the field "Value set:_____".

General notes:

– Switch positions that have not been allocated a function are indicated in the middle part of the display by a bar (-).

– The programming level is called up via the STOP position ⏚.

– A number of **global parameters** and **programme specific parameters** can be altered.
Setting and altering global parameters (concentration levels: DOS 1 and DOS 2) **applies to all programmes**, in which this parameter is found.
Setting and altering programme specific parameters (wash/rinse temperatures and temperature holding times: Main wash 1 and 2; Final rinse 1 and 2) **only applies to the programme**, in which this parameter is found.

1. Setting the dosage concentration and venting the dispensing system

■ Turn the programme selector to the STOP position ⏚.

■ Switch off the machine.

■ Press and hold min °C and ◇ at the same time, and whilst doing so, switch the machine on with the **I-0** button.
The current programme status "P..." will appear in the display and the / indicator light will come on.

■ Press ♨ twice, "E02" (programming level 2) will appear in the display.

1.1 DOS 1 (liquid cleaning agent)

1.1.1 Setting the dosage concentration (global parameter):

Set the concentration level according to the cleaning agent manufacturer's recommendations.

Example: If the manufacturer recommends a concentration level of 0.5% set the value to 0.50.

- Turn the programme selector to **B**. The display will show either the dosage time in seconds for cleaning agent dispensed via the compartment for powder detergent in the door, or the dosage concentration for liquid cleaning agent as a %:
  10 = Dosage via the door compartment (10 sec) or 0.10 - 1.00 = 0.1 % - 1 % dosage concentration.
- Press min/c as many times as necessary or hold it pressed in until the required value appears.
  The dosage time / dosage concentration is now set.

Value set:_____

1.1.2 Venting the dispensing system:

a) After setting the cleaning agent concentration:

- Turn the programme selector to the **A** position. "do1" appears in the display.
- Press min/c.
  The dispensing system will be vented automatically. 0 will appear in the display when venting is finished.

Having changed a value or all values:

- Press the ◇ button. SP appears.
- Press ◇ again. The change has been recorded.

b) If only venting is required (e.g. because the dispensing system has been allowed to empty by mistake)

- Select programming level 2 (see **1.**).

Then proceed as follows:

- Turn the programme selector to the **A** position. "do1" appears in the display.
- Press min/c.
  The dispensing system will be vented automatically. 0 will appear in the display when venting is finished.
- Switch the machine off with the **I-0** button.

Every time the dispensing system has been vented:

- Run the PRE-RINSE programme ⊥ so that after venting any agents in the wash cabinet are diluted before being drained away.

1.2 DOS 3 (Neutralising agent)

1.2.1 Setting the dosage concentration (global parameter):

Set the dosage concentration according to the neutralising agent manufacturer's recommendations.

Example: If the manufacturer recommends a concentration level of 0.3 % set the value to 0.30.

- Turn the programme selector to the **F** position. The dosage concentration set will appear as a % in the display: 0.05 - 0.50 = 0.05 % - 0.5 % dosage concentration.
- Press min/c as many times as necessary or hold it pressed in until the required value appears.
  The dosage concentration is now set.

Value set:_____

1.2.2 Venting the dispensing system:

a) After setting the dosage concentration:

- Turn the programme selector to the **E** position. "do3" appears in the display.
- Press min/c.
  The dispensing system will be vented automatically. 0 will appear in the display when venting is finished.

Having changed a value or all values:

- Press the ◇ button. SP appears.
- Press ◇ again. The change has been recorded.

b) If only venting is required (e.g. because the dispensing system has been allowed to empty by mistake)

- Select programming level 2 (see **1.**).

Then proceed as follows:

- Turn the programme selector to the **E** position. "do3" appears in the display.
- Press min/c.
  The dispensing system will be vented automatically. 0 will appear in the display when venting is finished.
- Switch the machine off with the **I-0** button.

Every time the dispensing system has been vented:

Run the PRE-RINSE programme ⁞ so that after venting any agents in the wash cabinet are diluted before being drained away.

2. Altering the wash temperature and/or the temperature holding time in the Main wash (except with the SPECIAL 93°C-10' programme and Final rinse programme stages

Please make a note of any changes to the temperature and / or the temperature holding time in the appropriate section of the programme chart.

The programme chart shows the factory settings for the Main wash temperature together with temperature holding times and the Final rinse temperature with its temperature holding times.
The special functions can be used to alter the temperatures of the main wash and of the final rinse from 30 °C - 93 °C and the temperature holding time from 1-15 minutes.

- Turn the programme selector to the STOP position ▽.
- Switch off the machine.
- Press and hold min °C and ◇ at the same time, and whilst doing so, switch the machine on with the **I-0** button.
  The current programme status "P..." will appear in the display and the / indicator light will come on.

Main wash temperature (programme specific parameter):

- Main wash 1:
  Press as often as necessary or hold it pressed in until "E09" (programming level 9) appears in the display.
  Main wash 2:
  Press as often as necessary or hold it pressed in until "E12" (programming level 12) appears in the display.
- Turn the programme selector to the programme which needs to be changed. The current value appears in the display after **°C**.
- Press min °C or hold pressed in, until the required value appears in the display.

Note:
Temperatures above 55° C cause blood denaturation and possibly fixation.

Main wash temperature holding time (programme specific parameter):

- Turn the programme selector to the STOP position ▽.
- Main wash 1:
  Press the button repeatedly or keep it held in until "E10" (programming level 10) appears in the display.
  Main wash 2:
  Press the button repeatedly or keep it held in until "E13" (programming level 13) appears in the display.

- Turn the programme selector back to the programme which needs to be changed. The current value appears in the display after **min**.
- Press min °C or hold pressed in, until the required value appears in the display.

Final rinse temperature (programme specific parameter):

- Turn the programme selector to the STOP position ▽.
- Final rinse 1:
  Press the button repeatedly or keep it held in until "E22" (programming level 22) appears in the display.
  Final rinse 2:
  Press the button repeatedly or keep it held in until "E25" (programming level 25) appears in the display.
  Then:
- Turn the programme selector to the programme which needs to be changed. The current value appears in the display after **°C**.
- Press min °C or hold pressed in, until the required value appears in the display.

Note:
When using the vario TD programme observe the requirements relating to the appropriate infection prophylaxis.

Final rinse temperature holding time (programme specific parameter):

- Turn the programme selector to the STOP position ▽.
- Final rinse 1:
  Press the button repeatedly or keep it held in until "E23" (programming level 23) appears in the display.
  Final rinse 2:
  Press the button repeatedly or keep it held in until "E26" (programming level 26) appears in the display.
  Then:
- Turn the programme selector back to the programme which needs to be changed. The current value appears in the display after **min**.
- Press min °C or hold pressed in, until the required value appears in the display.

Having changed a value or all values:

- Press the ◇ button. SP appears.
- Press ◇ again. The change has been recorded.

3. Setting the drying temperature and time

Note:
Parameters for Drying 1 "E28" and "E29" can only be set for programmes with active drying blocks (see "Programme chart").

- Turn the programme selector to the STOP position ⊽.
- Switch off the machine.
- Press and hold min °C and ◇ at the same time, and whilst doing so, switch the machine on with the **I-0** button.
  The current programme status "P..." will appear in the display and the / indicator light will come on.

Selecting the drying temperature:

- Drying 1:
  Press the button repeatedly or keep it held in until "E28" (programming level 28) appears in the display.
  Drying 2:
  Press the button repeatedly or keep it held in until "E31" (programming level 31) appears in the display.
- Turn the programme selector to the programme which needs to be changed. The actual value appears in the display field after **°C**.
- Press min °C or hold pressed in, until the required value appears in the display.

Selecting a drying time:

- Turn the programme selector to the STOP position ⊽.
- Drying 1:
  Press the button repeatedly or keep it held in until "E29" (programming level 29) appears in the display.
  Drying 2:
  The drying time for T2 can also be changed using the button. See "Selecting an additional function".
  Press the button repeatedly or keep it held in until "E32" (programming level 32) appears in the display.
- Turn the programme selector back to the programme which needs to be changed. The current value appears in the display after **min.**
- Press min °C or hold pressed in, until the required value appears in the display.

Having changed a value or all values:

- Press the ◇ button. SP appears.
- Press ◇ again. The change has been recorded.

4. Audible tone (Buzzer)

This special function allows you to programme a buzzer (lasting up to a maximum of 30 seconds) for the following functions:

– Programme end = Constant buzzer

– Fault warning = Buzzer at one second intervals

– Removing a test item from the final rinse water (this function has to be programmed by a Miele service engineer)
= 3 x short beeps followed by 2 second pause, then 3 short beeps etc.

■ Turn the programme selector to the STOP position ⊽.

■ Switch off the machine.

■ Press and hold min °C and ◈ at the same time, and whilst doing so, switch the machine on with the **I-0** button.
The current programme status "P..." will appear in the display and the 🚿 / 🚰 indicator light will come on.

■ Press ♨ four times. "E04" (programming level 4) appears in the display.

■ Turn the programme selector to **B**. A number from 20 to 27 will appear in the display.
20 = Buzzer switched off
21 = Buzzer at end of programme (standard setting)
22 = Fault indication
23 = Fault indication and buzzer at end of programme
24 = Reminder to remove a test item
25 = Buzzer at end of programme and for removing a test item
26 = Fault indication and buzzer for removing a test item
27 = Buzzer for all functions (Programme end, Fault indication, Removing a test item).

■ Press min °C or hold pressed in, until the required value appears in the display.

■ Press the ◈ button. SP appears.

■ Press ◈ again. The change has been recorded.

Value set:_____

Note:
The buzzer can be switched off early by

– turning the programme selector to the STOP position ⊽,

– pressing the min °C button, or

– interrupting the power supply (e.g. by opening and closing the door).

5. Resetting the "Coarse filter" operating hours counter

- Turn the programme selector to the STOP position ⓥ.
- Switch off the machine.
- Press and hold min/c and ◈ at the same time, and whilst doing so, switch the machine on with the **I-0** button.
  The current programme status "P..." will appear in the display and the 🚰 / 🚰 indicator light will come on.
- Press ♨ four times. "E04" (programming level 4) appears in the display.
- Turn the programme selector to the **F** position. The current number of hours the coarse filter has been used for will appear in the display.
- Press the min/c button to reset the counter to zero. "000" will show in the display).
- Press the ◈ button. SP appears.
- Press ◈ again. The change has been recorded.

6. Re-setting all parameter changes back to the factory settings.

- Turn the programme selector to the STOP position ⓥ.
- Switch off the machine.
- Press and hold min and ◇ at the same time, and whilst doing so, switch the machine on with the **I-0** button.
  The current programme status "P..." will appear in the display and the 🚿 / 🚰 indicator light will come on.
- Press ♨ as often as necessary or hold it pressed in until "E33" (programming level 33) appears in the display.
- Turn the programme selector to any switch position (except STOP).
  00 or PP will appear in the display.
  00 = factory setting (Electronics have not been re-programmed).
  PP = Electronics have been re-programmed.
- If PP is displayed, press min to change from PP to 00.
- Press the ◇ button. SP appears.
- Press ◇ again. All values which had been changed have now been now reset to the factory settings.

If the hardness level setting in the water softener had been changed this will reset to the factory setting of 340 mg/l (19 °d). This will need to be reset to suit the hardness level in your area.

Programme changes made to Programme A, B or C (freely programmable programmes) cannot be reversed.

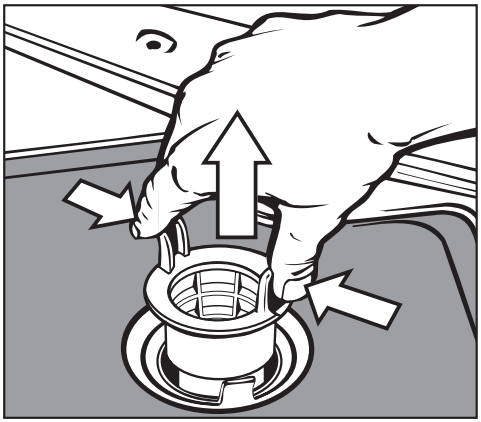
Cleaning the filters in the wash cabinet

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

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

⚠ Caution
Watch out for glass splinters which could cause injury.

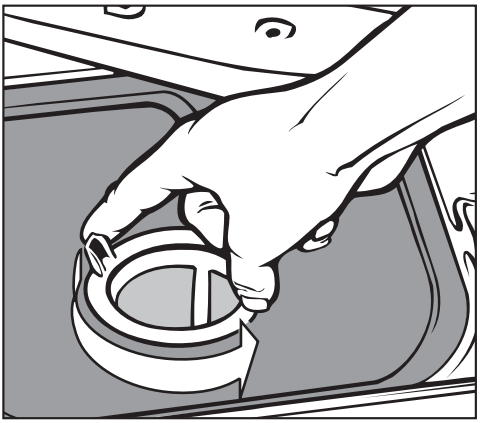
Cleaning the coarse filter



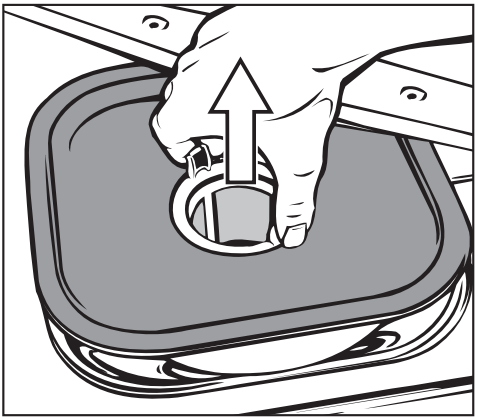
- Press the two lugs together, remove and clean the coarse filter.
- Put the clean filter back in position and press until it clicks in place.

Cleaning the fine, flat and micro-fine filters

- Remove the coarse filter.
- Remove the fine filter (if fitted) from between the flat and the micro-fine filters.



- To unscrew the micro-fine filter, take hold of the two lugs and turn twice in an anti-clockwise direction.



- Then remove together with the flat filter.
- Clean the filters.
- Replace the filter combination by carrying out the above steps in the reverse order. Ensure that the flat filter sits flat in the base of the wash cabinet.

Cleaning the spray arms

Waste particles can lodge in the spray arm jets.
It is therefore important to inspect the spray arms regularly.

- Use a sharp pointed object to push particles into the spray arm jets and rinse well under running water.

Remove the spray arms as follows:

- Unscrew the **upper** spray arm.
- Remove the **middle** spray arm by unscrewing the nut which secures it to the upper basket.

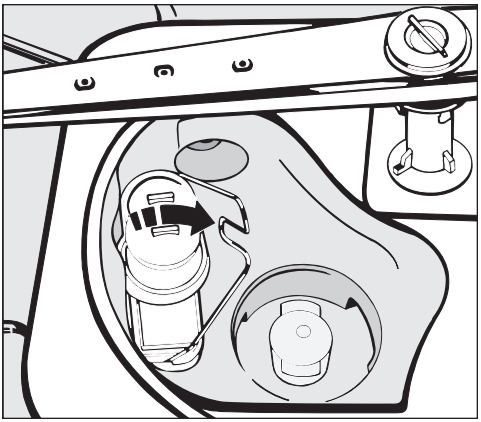
  Important: The nut has a left hand thread and has to be turned clockwise to unscrew it.
- Loosen the knurled thumb nut to unscrew the **lower** spray arm.
  You will first need to take the bottom basket out of the machine.

Important:
After replacing the spray arms, check that they rotate freely.

Cleaning the drain pump and non-return valve

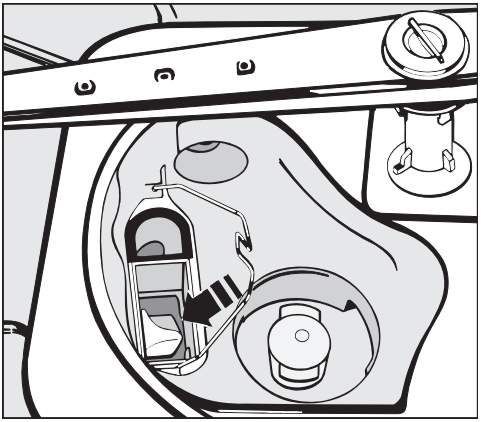
If water has not been pumped away at the end of a programme the drain pump or the non-return valve might be blocked. They are however, easy to clean.

- Take the filter combination out of the wash cabinet.



- Release the locking clamp.
- Lift up the non-return valve and rinse under running water.

The drain pump is situated under the non-return valve (see arrow).



- Before replacing the non-return valve check that the drain pump is free of obstructions.
- Carefully replace the ron-return valve and secure with the locking clamp.

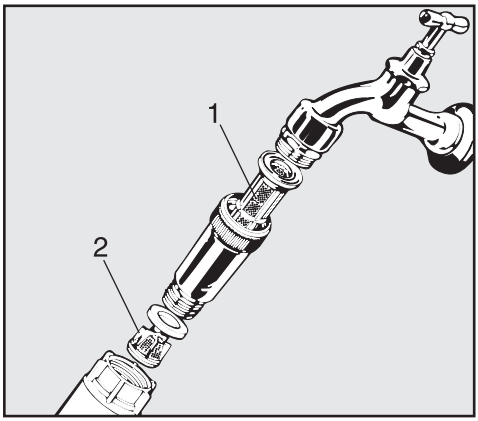
Cleaning the filters in the water inlet

Filters are incorporated in the screw connection of the water inlet hose to protect the water inlet valve. If these filters get dirty they need to be cleaned, otherwise insufficient water flows into the wash cabinet.

⚠ The plastic housing of the water connection contains an electrical component. It must not be dipped in water.

To clean the filters

- Disconnect the machine from the mains supply (switch off at the mains and pull out the plug, switch off the appropriate circuit in the fuse box or withdraw the mains fuse).
- Turn off the stopcock and unscrew the water inlet hose.



- Clean the large area filter (1) and fine filter (2), and replace with new filters if necessary.
- Replace filters and the seal. Make sure they are sitting correctly.
- Reconnect the hose to the water inlet, making sure that it goes back on straight.
- Open the stopcock carefully.
  If there is a leak, screw the connections on more tightly.

Cleaning the control panel

- This should only be cleaned with a damp cloth or a suitable cleaner for use on plastic materials, or with a disinfectant tested and recognised as suitable for this use.

⚠ Do not use abrasive cleaners, glass cleaners or all-purpose cleaners!
Because of their chemical composition they could cause serious damage to plastic components.

Cleaning the front of the machine

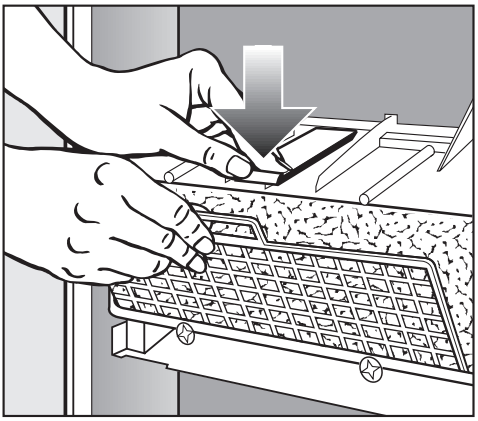
- Clean using a proprietary cleaning agent designed for the type of front the machine is fitted with.

⚠ Do not use cleaning agents containing ammonia or thinners.

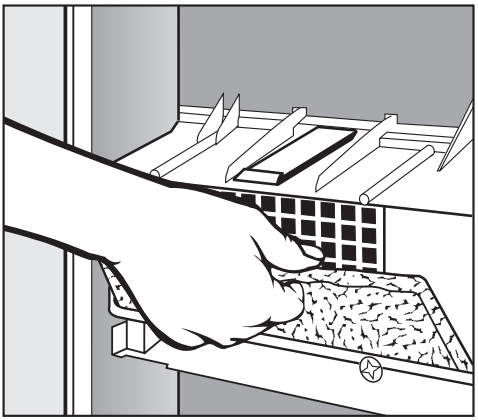
Changing the Coarse filter

The coarse filter should be changed when it is soiled or when "**SF1**" flashes in the display (after approx. 100 operating hours). When the programme selector is at the STOP position ⏚ the warning message will light up constantly in the display.

- Open the door to the control unit cabinet.



- Take out the drying unit perforated panel.



- Change the coarse filter
  - the smooth side of the filter must face the rear -.
- Replace the perforated panel and push it upwards to secure it.

Important:
After changing the coarse filter the internal operating hours counter for the SF1 warning message needs to be reset (see "Programming special functions").

Exchanging the HEPA filter

The HEPA filter will need to be replaced approx. every 500 operating hours or when "**SF2**" flashes in the display. When the programme selector is at the STOP position ⏚ the warning message will light up constantly in the display.

This filter should only be changed by a Miele Service technician.

The smooth operating of the machine can only be achieved if original "Miele" HEPA filters are used (classification 12/13).

Important:
After changing the HEPA filter the internal operating hours counter for the SF2 warning message needs to be reset (see "Programming special functions").

With the aid of the following explanatory notes, minor faults can be corrected without contacting the Miele Service Dept.

Any work on the electrical components of the machine should only be carried out by a suitably qualified and competent person in accordance with local and national safety regulations. Unauthorised repairs could be dangerous.

Faults / possible causes

The machine does not start

– The door is not properly closed.

– The plug is not properly inserted in the socket.

– The fuse is defective / has blown.

A few minutes after switching on, the / indicator light flashes (fault code F..E appears in the display)

– The stopcocks are closed.

– The filters in the water inlet hose are dirty.

– The water pressure is too low.

■ Turn the programme selector to the STOP position (the fault code goes out).

■ Switch the machine off (press **I-0).**

■ Open the stopcocks or clean the filters (see "Cleaning and Care").

■ Switch the machine on again and reselect the programme.

The wash cycle finishes too early and the / indicator light flashes (fault code F A appears in the display)

– The drain hose is kinked.

– The drain pump is blocked

■ Turn the programme selector to the STOP position (the fault code goes out).

■ Switch the machine off (press **I-0).**

■ Straighten the hose and check/clean the drain pump.

■ Switch the machine on again, drain the water away and start the programme again (see DRAIN and "Switching on").

Water in the wash cabinet does not heat up; the programme takes too long (fault code: F01 - F03, F18, F19 appears in the display).

This machine has a resettable heater limiter which will switch off the heaters if they over-heat. This could be caused for example, by large articles covering the heating elements or if the filters in the wash cabinet are blocked.

■ Remove the cause of the fault.

■ Take off the service panel (see "Electrical connection").

■ Press the reset button on the heater limiter (reddish brown) located on the left- hand side of the plinth.

If this switch trips again contact the Miele Service Department.

After sales service

Important:
When a fault first occurs, please check that the fault has not been caused by incorrect operation. This will help avoid an unnecessary service call-out. To do this:

- Turn the programme selector to the STOP position ⓥ (the fault code goes out).
- Switch the machine off (press **I-0).**
- Switch the machine on again and reselect the programme.

If you still have difficulties or if a fault code "F..." appears in the display, please contact your authorised Service Dealer or the Miele Service Department. See back cover for addresses. Please quote the fault code as well as the model type and number of your machine which is given on the data plate inside the door (see also "Electrical connection").

Please refer to the installation diagram supplied with the machine.

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

The machine must be installed correctly and levelled.

Any unevenness in the floor level can be compensated for and the height of the machine raised or lowered by adjusting the four screw feet.

When the feet are screwed in, the machine can be moved backwards and forwards on rollers.

The machine can be installed in the following ways:

- Free-standing. *)
- Slot-in or at the end of a row: *)

The machine can be installed next to other machines or furniture or in a suitable niche. The niche must be at least 90 cm wide and 70 cm deep.

*) a machine lid is essential with this type of installation (available as a special accessory).

- Built-under:

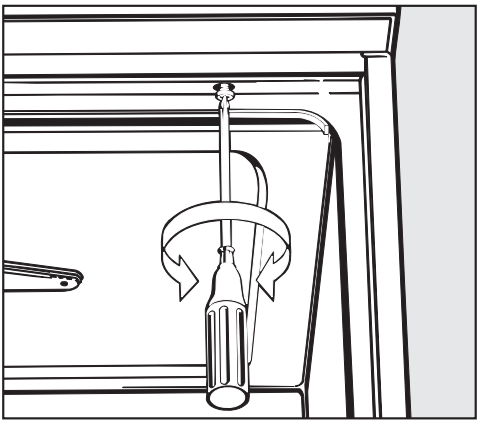
The machine can be installed under a continuous worktop or sink drainer. The recess must be at least 90 cm wide, 70 cm deep and 82 cm high.

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

To prevent damage by steam to the worktop, the self adhesive protective foil supplied (25 x 58 cm) must be stuck in place underneath the worktop near the steam condenser.

Position and secure the machine

To ensure stability the machine must first be aligned and then screwed to the worktop.



- Open the door. Secure the machine to the front edge of the worktop using screws through the holes on the left and right hand sides of the front trim.
- Do not use silicone sealant to seal the gaps between the machine and any neighbouring units as this would hinder ventilation to the circulation pump.

Depending on the requirements for building under, the following kit can be ordered from the Miele Spares Dept.:

Cover plate (protects the worktop)

The underside of the worktop is protected against water damage by a stainless steel plate.

⚠ All electrical work must be carried out by a suitably qualified and competent person 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.
- For extra safety it is advisable to install a residual current device with a trip current of 30 mA (in accordance with DIN VDE 0664).

WARNING

THIS APPLIANCE MUST BE EARTHED

- Equipotential bonding should be carried out.

Bonding connection

There is a screw connection point marked with the earth symbol (⏚) at the back of the machine, to which the earth lead must be connected.

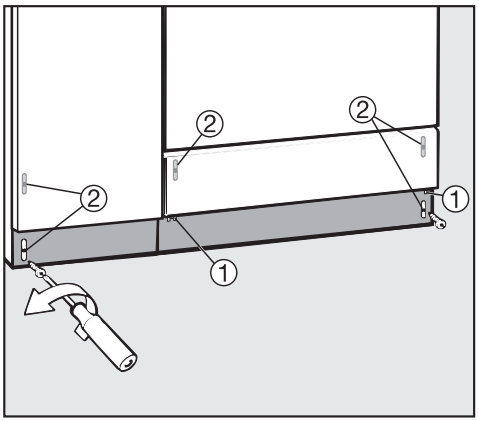
- For technical data see data plate or wiring diagram supplied.

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

The data plate with test certification (VDE, DVGW etc.) is located on the rear of the machine, and on the plinth (behind the service panel).

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

To remove the service panel and plinth:



Disconnect the machine from the mains electricity supply.

- Remove fixing screws ① from the service panel.
- Take hold of the service panel at both sides and pull upwards.
- Unscrew plinth facing (screws ②).
- Remove the plastic protective cap.

To re-assemble:

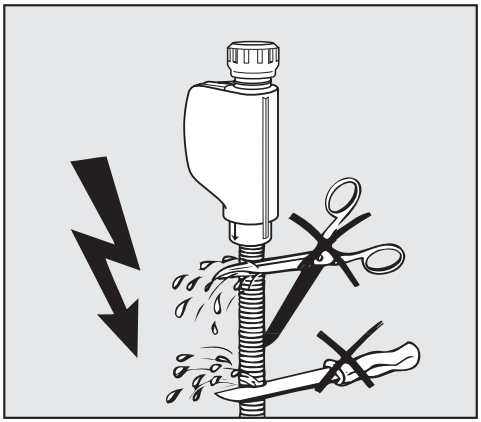
- Refit the plastic protective cap, plinth facing and service panel in the reverse order to which they were removed.

See also the installation diagram supplied.

Connection to the water inlet

⚠ Water in the machine is not suitable for drinking.

- The machine must be connected to the water supply in accordance with local and national regulations (WRC in the U.K.).
- This machine is constructed to comply with German gas and water regulations (DVGW) and may be connected to a suitable supply without an extra non-return valve if national regulations permit this.
- The water pressure (flow rate) must be a minimum of 0.5 bar (50 kPa).
  If the water pressure (flow rate) is below 2 bar (200 kPa) the fill time is automatically extended.
  The max. permitted static pressure is 10 bar (1000 kPa).
  If the water pressure is not in the range of 0.5 to 10 bar (50-1000 kPa) the / indicator light may come on and the fault code "F..E-." show in the display. Contact the Miele Service Department for advice.
- The machine is supplied as standard for connection to a cold (coded blue) and a hot (coded red) water supply up to a max. temperature of 70 °C.
  The inlet hoses should be connected to the stopcocks for the hot and cold water supplies.
  If a hot water supply is not available, the inlet hose marked red should also be connected to the cold water stopcock.
  The inlet hose for the optional steam condenser (this hose does not have the Waterproof system) should be connected to the cold water stopcock.
  See the next page for an AD water connection (H_2O pur).
- Stopcocks with 3/4 BSP 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.
- The DN 10 inlet hose is approx. 1.7 m long terminating in a 3/4 inch female thread. On no account must the inlet filters be removed.
- Large surface area filters are enclosed in the kit supplied with the machine for installing between the stopcock and the inlet hose (see illustration in "Cleaning and Care Water inlet").
  The large surface area filter for AD water is made from chrome nickel steel and can be recognised by the matt top surface.



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

See also the installation diagram supplied.

AD water connection
> 1.5 - 10 bar (150 - 1000 kPa) over pressure

The machine is supplied as standard for connection to an AD water supply of 1.5 - 10 bar (150 - 1000 kPa).

- The AD pressure tested hose (marked "H_2O pur") with a 3/4" threaded union must be connected to the on-site AD stopcock for purified water.

If the AD water connection is not going to be used, the electronics will need to be reprogrammed by a Miele Service Technician. The inlet hose will remain on 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 on-site.
  If separate drainage is not available contact your Miele application specialist for professional advice.
  The on-site drain connection point should be sited between 0.3 m and 1 m above the lower edge of the machine.
  If it is lower than 0.3 m lay the hose in a curve at a height of at least 0.3 m.
  The drainage system must be able to take a minimum drainage flow of 16 l/min.
- The inlet hose is approx. 1.4 m long, is flexible and has an internal diameter of 22 mm. It must not be shortened.
  Hose clips are supplied for securing it in position.
- A longer drain hose (up to 4 m long) is available to order from the Miele Spare Parts Dept.
- The drainage system must not exceed 4 metres.

See also the installation diagram supplied.

Technical data

Height:	85 (82) cm
Width:	90 cm
Depth:	70 cm
Voltage: Rated load: Fuse rating:	see data plate see data plate see data plate
Mains connection cable:	approx. 1.8 m
Water pressure (flow rate):	0.5 - 10 bar (50 - 1000 kPa)
Cold / hot water inlet connections:	up to max. 70 °C
AD-water connection	> 150 - 1000 kPa (1.5 - 10 bar)
AD-water connection (non-pressurised)	Optional
Delivery head:	min. 0.3 m, max. 1 m
Drainage length:	max. 4 m
Inlet hose:	approx. 1.7 m
Drain hose:	approx. 1.4 m
Steam condenser:	Optional
Ventilation of the wash cabinet at the rear	Optional
Noise level in dB (A): Sound level LpA	 Free standing: <70 Built under: <70
Test marks:	VDE, interference suppression, DVGW, RKI listing, in accordance with § 18 IfSG (applied for)

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