

Operating instructions  
Washer-disinfector  
G 7825 / G 7826

---

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



# Contents

---

<b>Description of the machine</b> . . . . .	4
<b>Guide to the machine</b> . . . . .	6
<b>Warning and safety instructions</b> . . . . .	11
<b>Opening and closing the door</b> . . . . .	16
<b>Automatic mobile unit recognition (Optional)</b> . . . . .	17
Mobile unit coding . . . . .	18
Setting mobile unit coding . . . . .	19
<b>Areas of application</b> . . . . .	21
Loading the machine . . . . .	22
Surgical instruments (OP) . . . . .	23
Anaesthetic instruments (AN) . . . . .	24
Baby bottles (BC) . . . . .	25
Operating theatre shoes (OS) . . . . .	26
Laboratory glassware (LG) . . . . .	27
Transfer trolley for loading and unloading the machine . . . . .	28
<b>Dispensing liquid chemical agents</b> . . . . .	30
Preparing the DOS dispensers . . . . .	31
Fill the containers with the relevant agent . . . . .	31
Venting the dispensing system . . . . .	33
Dispensing system maintenance . . . . .	33
External Dispensing systems . . . . .	33
<b>Operation</b> . . . . .	34
Master switch . . . . .	34
Switching on . . . . .	34
To change operating level . . . . .	34
Starting a programme . . . . .	35
Programme sequence . . . . .	36
Switching off . . . . .	37
Cancelling a programme . . . . .	37
Interrupting a programme . . . . .	38
<b>Data transfer</b> . . . . .	39

<b>Maintenance</b> . . . . .	40
Periodic checks . . . . .	40
Process validation . . . . .	41
Routine checks . . . . .	41
Cleaning the filters in the wash cabinet. . . . .	42
Cleaning the fine filter . . . . .	42
Cleaning the flat filter . . . . .	42
Cleaning the filters for the circulation pump. . . . .	43
Sprühharme reinigen . . . . .	44
Cleaning the control panel. . . . .	45
Cleaning the front of the machine . . . . .	45
Cleaning the wash cabinet . . . . .	45
Cleaning the door seals. . . . .	45
Protein test . . . . .	45
Mobile units, modules and inserts. . . . .	46
Printer (optional) . . . . .	47
Renewing the paper roll . . . . .	47
Renewing the colour cassette . . . . .	47
<b>After sales service</b> . . . . .	48
<b>Converting the type of heating</b> . . . . .	49
Converting from steam to electric heating or from electric to steam . . . . .	49
<b>Electrical connection</b> . . . . .	50
<b>Plumbing</b> . . . . .	51
<b>Technical data</b> . . . . .	52
<b>Special features - OXIVARIO</b> . . . . .	53
Description of the machine . . . . .	53
Areas of application . . . . .	53
Warning and Safety instructions . . . . .	54
Connecting the H <sub>2</sub> O <sub>2</sub> solution container . . . . .	54
<b>Disposal of your old appliance or machine</b> . . . . .	55

# Description of the machine

---

This Miele washer-disinfector is capable of cleaning a wide range of medical and laboratory products, and disinfecting them either thermally in temperatures up to 95 °C or chemothermally in temperatures up to 65 °C with the addition of a suitable chemical agent in accordance with general standards of hygiene and those required for the containing of epidemics.

Medical products include e. g. surgical and minimally invasive instruments, instruments and utensils used in anaesthetics and intensive care, etc. Laboratory products include e.g. wide and narrow necked flasks, conical flasks, measuring cylinders, pipettes, beakers, Petri dishes etc.

Follow medical and laboratory product manufacturer's instructions on how to process their items by machine. The DESIN vario TD programme provides optimum protection for rigid fibre optics, patient systems and surgical motor systems which have been declared by their manufacturers as being suitable for machine processing. Optional drying with sterile filtered hot air is also available.

## Areas of application:

- surgical instruments,
- minimally invasive instruments can be processed shortly after use,
- anaesthetic and intensive care instruments,
- baby bottles and teats,
- stainless steel and aluminium containers (including anodised aluminium),
- operating theatre shoes,
- laboratory products used in research and production as well as in all areas of analysis and specimen taking, including micro-biology and biotechnology.

Instruments should preferably be cleaned and then thermally disinfected using the DESIN vario TD programme. The parameters for thermal disinfection in accordance with prEN 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.

## Description of the machine

---

In the U.K. reference should be made to your local infection control officer for guidelines of disinfection temperatures and holding times at temperature in accordance with HTM 2030.

In Germany, the parameters for disinfection of a temperature of 93 °C, with a holding time of 10 minutes, correspond to effective areas A and B. These have been adopted into the official list for disinfection of instruments in washer-disinfectors and decontamination units, according to section 3.2 § 18 IfSG by the Robert Koch Institute (RKI) in Berlin (institute for infectious diseases and non-communicable illnesses). (Programme DESIN-BSG-93/10).

The effective areas are defined as follows:

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

B = Suitable for inactivating viruses (including HBV and HIV).

The cleaning programme must be chosen according to the type of soiling and product requiring processing in order to ensure that disinfection is carried out correctly, no residues are left behind and that subsequent sterilisation can take place. Medical devices are best reprocessed using the DESIN vario TD programme, or the OXIVARIO programme where applicable.

This washer-disinfector is programmed to carry out the final rinse with mains water or AD water (aqua destillata = purified or de-ionised water (VE), H<sub>2</sub>O pure, demineralised water or distilled water where the application requires this standard).

The water quality is of particular importance for applications requiring analytically clean laboratory glassware. The type of chemical agents used will depend on the analysis or analytical methods being used.

### Optional extras

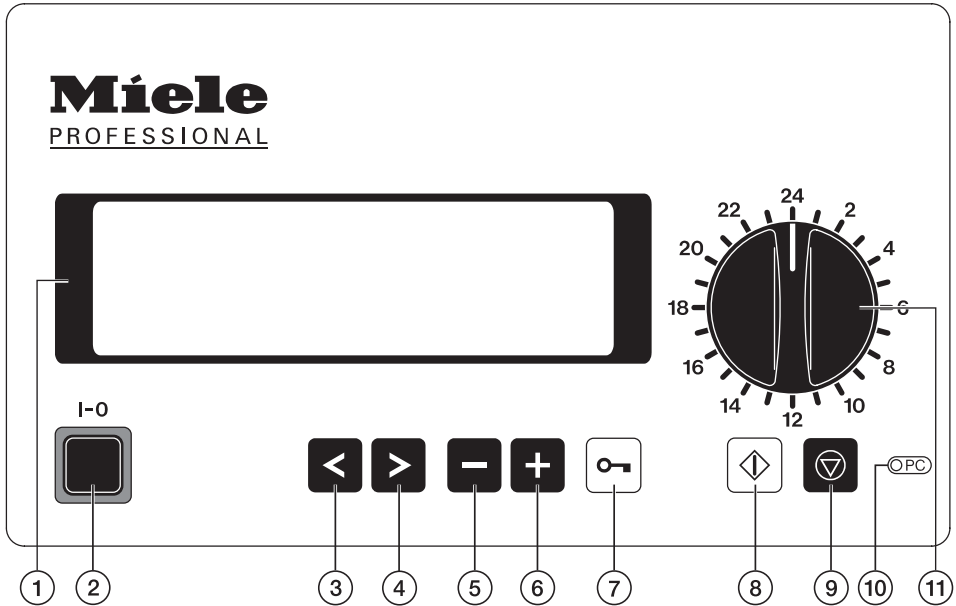
- Drying unit (TA)
- Steam condenser (DK)
- Report printer (PRT)
- Dispensing systems DOS 2 and DOS 4
- OXIVARIO kit

### Water softener

If the mains water hardness level is more than 70 mg/l (4°d), a water softening system should be provided on site, such as the Miele G 7897 "Aqua-Soft system" which is effective up to approx 720 mg/l (40°d).

# Guide to the machine

## Electronic controls



### ① Display

with screen saver;  
i.e. background lighting switches off  
automatically after 15 mins.  
Press any button to switch the  
display back on again.

### ② On/Off button (I-0)

### ③ Cursor button: left ◀

Moves the cursor to the left:  
- to the previous menu point  
- to the previous parameter  
- to the previous input position

### ④ Cursor button: right ▶

Moves the cursor to the right:  
- to the next menu point  
- to the next parameter  
- to the next input position

### ⑤ Minus button -

- Selects programmes from position 24 upwards
- Scrolls back page by page in menus
- Is used for entering numbers and letters
- Alters pre-settings e.g. service parameters

### ⑥ Plus button +

- Selects programmes from position 24 upwards
- Scrolls forward page by page in menus
- Is used for entering numbers and letters
- Alters pre-settings e.g. service parameters

### ⑦ Door switch

## ⑧ **Start button**

- Starts programmes
- Activates input mode
- Confirms activated values and settings
- Confirms menu points for entry into the relevant sub-menu

## ⑨ **Stop button**

- Cancels a programme
- Exits from input screen without saving
- Exits from menu screen

## ⑩ **Service interface**

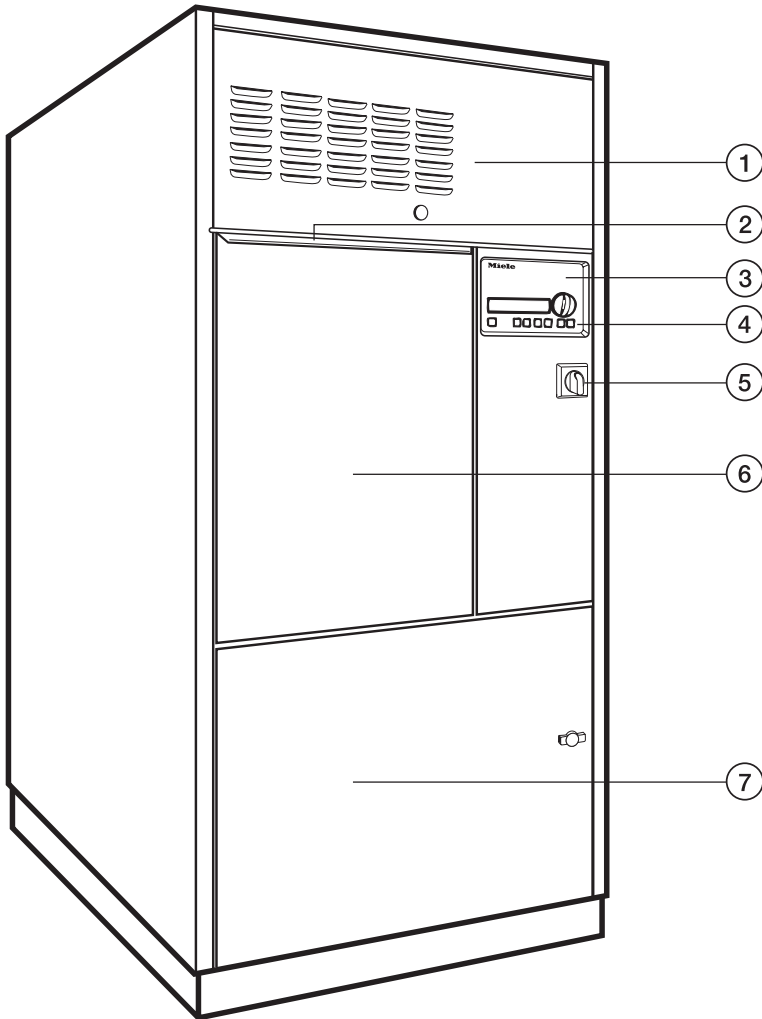
### ⑪ **Programme selector**

Selects programme places 1-23

# Guide to the machine

---

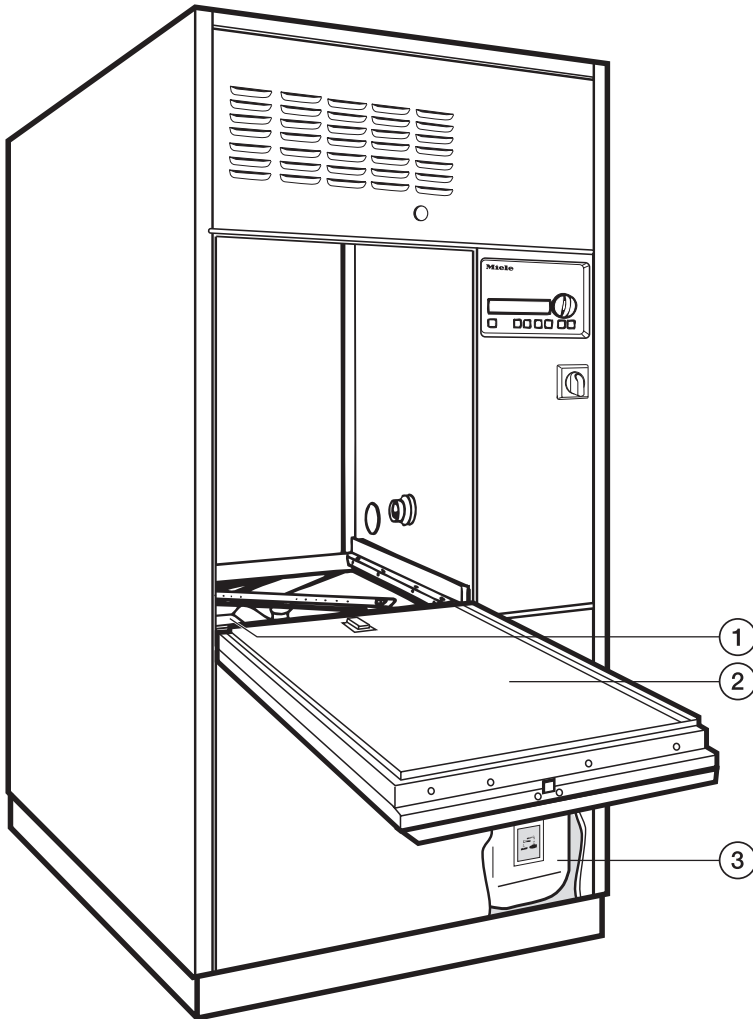
## Unclean side



- ① Hot air drying unit TA (optional)
- ② Handle
- ③ "Profitronic" electronic controls (see also Programming Manual)
- ④ Controls
- ⑤ Master switch (with emergency cut-off function for service work)
- ⑥ Drop-down door (closed)
- ⑦ Service panel



## Unclean side

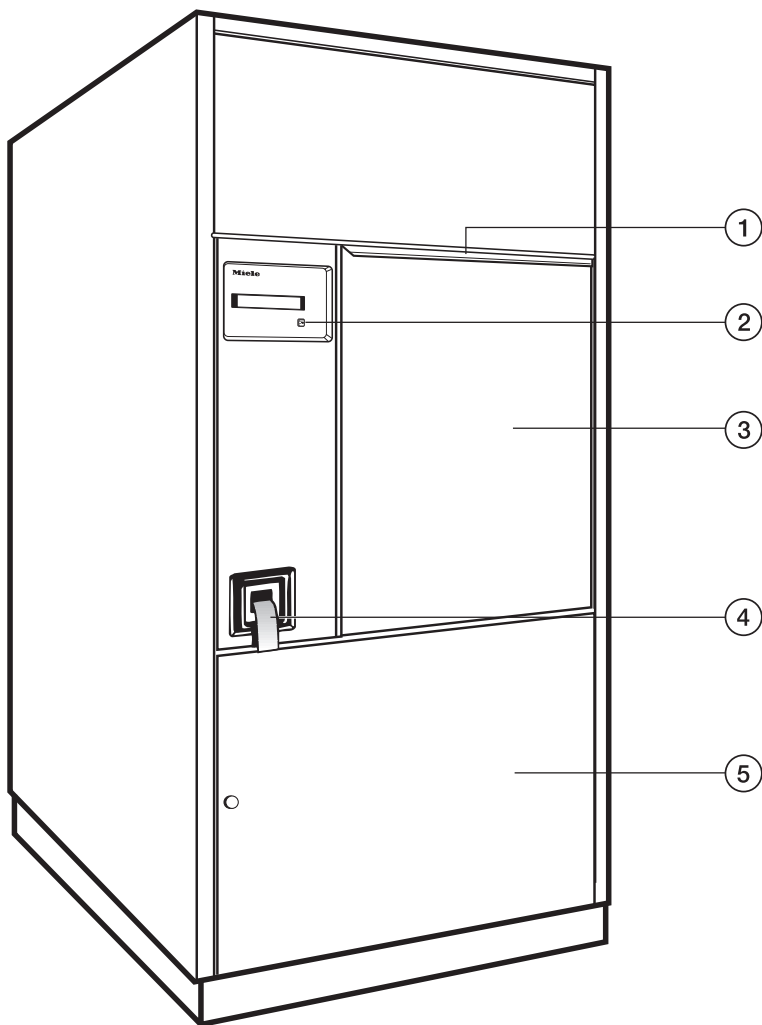


- ① Filter combination
- ② Drop-down door (open)
- ③ Containers for dispensing systems  
DOS 1 / DOS 3  
(DOS 2 / DOS 4 optional)

# Guide to the machine

---

## Clean side (G 7826 only )



① Handle

② Door release

③ Drop-down door (closed)

④ Printer (optional)

G 7825: on the unclean side

⑤ Service panel

# Warning and safety instructions

---

This machine complies with all relevant legal safety requirements. Incorrect use can lead to personal injury and damage to property. Read these 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 washer-disinfector is designed for commercial use and for specialised applications only, as described in these operating instructions. Alterations or conversions to the machine or using it for purposes other than those for which it was designed are not permitted and could be dangerous.

This machine must only be used for cleaning and disinfecting instruments or medical products and laboratory ware if the manufacturer has stated that they are suitable for machine processing. Manufacturer's cleaning and maintenance instructions for instruments etc. must also be observed.

The manufacturer cannot be held liable for damage caused by improper or incorrect use of the machine.

■ This equipment may only be used in mobile installations such as ships if a risk assessment of the installation has been carried out by a suitably qualified engineer.

## Please pay attention to the following notes to avoid injury and damage.

■ The machine should be commissioned and then maintained only by a Miele authorised and trained service technician. To ensure compliance with the Medical Devices Directive a Miele service contract is recommended. Repairs and other work by unqualified persons could be dangerous.

■ Do not install the machine in an area where there is any danger of explosion or of freezing conditions.

■ 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 tested regularly, and where there is any doubt the electrical system should be inspected by a qualified electrician.

The manufacturer cannot be held liable for damage or injury caused by the lack of or inadequacy of an effective earthing system (e.g. electric shock).

# Warning and safety instructions

---

■ A damaged machine is a safety hazard. Switch off at the mains immediately and call the Miele Service Department or an authorised and trained Miele Service Dealer.

■ Personnel operating the machine should be trained regularly. Untrained personnel must not be allowed access to the machine or its controls.

This machine is not a toy! To avoid the risk of injury never allow children to play on or near the machine, or to operate it.

■ Take care when handling chemicals such as cleaning agent, neutralising agent, rinsing agent etc. These may contain irritant or corrosive ingredients. Do not use organic solvents as these could cause an explosion.

Follow all relevant safety procedures carefully. Wear protective gloves and goggles. With all chemical agents, the manufacturer's safety instructions must be observed.

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

■ Be careful when sorting items with sharp pointed ends and positioning them in the machine that you do not hurt yourself or create a danger for others. Sharp knives etc. should be placed in baskets with the pointed ends facing downwards.

■ When using this machine in the higher temperature ranges be especially careful not to scald or burn yourself or come into contact with irritant substances when opening the door. Where disinfecting agents are used there is a danger of inhaling toxic fumes. Baskets, inserts and utensils 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.

■ After using the hot air drying unit open the door to allow everything in the cabinet from the load itself to the mobile units, modules and inserts to cool down.

■ Do not touch the heating elements (under the wide area filter) during or directly after the end of a programme. You could burn yourself. The elements remain hot for some time after the end of the programme.

■ If the boiler has been programmed to "BOILER READY", be particularly careful of hot water and steam when opening the door. Danger of burning or scalding. The inlet to the wash cabinet is located, as viewed from the unclean side, underneath the basket runner on the left hand side.

■ Steam heating is permissible up to a pressure of 1000 kPa (10 bar). This corresponds to a water steam temperature of 179 °C.

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

# Warning and safety instructions

---

■ The machine must be disconnected from the mains electricity supply before any maintenance or repair work is carried out. Do not reconnect it until the maintenance or repair work has been successfully completed.

**The following points should be observed to assist in maintaining quality standards for processing medical instruments and sensitive laboratory glassware, and to avoid injury to patients or damage to equipment.**

■ 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.

■ For decontamination in accordance with official regulations, the programme must not be interrupted by pressing the I-0 button to switch off after START has been pressed. Interrupting any other programmes should also be avoided as this will reduce cleaning, disinfection and the final rinse results. If it is opened the programme should be completely repeated.

■ The standard of cleaning and disinfection programmes must be routinely confirmed by the user. The process should be thermally electrically monitored on a regular basis and checked against documented control results. Chemo thermal procedures should also be monitored using chemo or bio indicators.

■ For thermal disinfection, use temperatures and temperature holding times to achieve the required infection prophylaxis in accordance with current health and safety regulations.

■ Disinfection programmes which use a chemical disinfecting agent at moderate temperatures such as 65 °C or lower are not recognised by §18 IfSG for disinfection. They should only be used for items which cannot withstand the higher temperatures used by thermal disinfection. The range of effective disinfection is based on claims made by the producer of the disinfecting agent. Their instructions on handling, use and effectiveness must be observed. The use of chemo-thermal disinfection procedures is the responsibility of the operator.

# Warning and safety instructions

---

■ If there are toxic or chemical substances in the suds solution (e.g. aldehyde in the disinfecting agent) you must be particularly vigilant of the risks these carry should you need to interrupt a programme and open the door. The door seals and correct functioning of the steam condenser should be regularly monitored.

■ Theatre (OP) shoes should only be cleaned and disinfected in a machine installed specifically for this purpose.

■ Only use chemical agents formulated for special processes and approved by Miele for use with this machine. Use of unsuitable agents could adversely affect the components of the machine. Any resultant damage would invalidate the machine guarantee.

■ Pre-treatments with cleaning or disinfecting agents can create foam, as can certain types of soiling and chemical 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 accepts liability for the effect of the chemical on the items being cleaned. Please be aware that changes in formulation, storage conditions etc. which may not be 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. Only use the product for the application described by the manufacturer, to avoid any material damage or the occurrence of strong chemical reactions.

■ The machine is designed for operation with water and additive chemical agents only. Organic solvents must not be used in this machine, as there is the danger under certain circumstances of fire or explosion. Although this is not the case with all organic solvents, other problems could arise with their use, for example damage to rubber and synthetic materials.

■ 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 chemical agents, water quality etc. are discussed with the Miele Application Technology specialists.

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

■ Mobile units, modules and inserts should only be used for the purpose they are designed for. Hollow instruments must be thoroughly cleaned, internally and externally.

# Warning and safety instructions

---

■ 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.

■ Only use Miele mobile units, baskets and inserts in this machine. Using accessories made by other manufacturers, or making modifications to Miele accessories can result in unsatisfactory cleaning and disinfecting results, for which Miele cannot be held liable. Any resultant damage would also invalidate the machine guarantee.

## Disposal of your old machine

■ Before throwing an old machine away it must first be made unusable. Disconnect from the mains and cut off the cable as close to the machine as possible.

Please note that the machine may have contamination from blood or other bodily fluids in it and must be decontaminated before disposal. For environmental and safety reasons ensure the machine is completely drained of any residual water, chemical residues and cleaning agent. Observe safety regulations and wear safety goggles and gloves.

Make the door lock inoperable, and block or disable the door in such a way that children cannot accidentally shut themselves in the cabinet. Then make appropriate arrangements for the safe disposal of the machine. For tank system machines ensure that any water is emptied out of the tank before it is moved.

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

# Opening and closing the door

---


The door can only be opened if:


- the electricity supply to the machine is switched on,
- the red (emergency cut out) master switch is in the **I-ON** position,
- the **I-0** On-Off button is pressed in and
- a cleaning or disinfection programme is not in progress.

The door on the **clean side** (G 7826) can only be opened if:

- DESIN (disinfection) programmes have been correctly completed,
- or
- the door locking function is active (see "Machine function/Door locking" in the Programming Manual).

## To open the door

- Press the  door button, and holding onto the door grip open the door.

 Do not touch the heating elements under the wide area filter during or directly after the end of a programme. You could burn yourself. They remain hot for some time after the programme has finished.

If the boiler has been programmed to BOILER READY, be particularly careful of hot water and steam when opening the door. Danger of burning or scalding. The inlet to the wash cabinet is located, as viewed from the unclean side, underneath the basket runner on the left hand side.

## To close the door

- Lift the door upwards and push until it clicks shut.



## Automatic mobile unit recognition (Optional)

---


In operating level C the automatic mobile unit recognition system (AWK) allocates programme places from 1 - 15 to mobile units with the correct coding.

The unit coding (on the mobile unit) and the programme place with the corresponding programme (in the electronic control unit) have to match each other.

To do this:

- Each mobile unit must be coded before being used for the first time (see "Coding the mobile unit"), and
- The programme for which the mobile unit is coded must be allocated to the correct programme place.

See "System function - Selector switch organisation" in the Programming manual for information on how to change programme positions.

 Before starting a programme it is **absolutely essential** that you check that the programme shown in the display is the correct one for the mobile unit being used. Otherwise inadequate cleaning or disinfection could be the result. Please make sure, that the places assigned for the programmes using Automatic mobile unit recognition are not changed around arbitrarily.


# Automatic mobile unit recognition (Optional)

## Mobile unit coding

The automatic mobile unit recognition feature assigns a programme place to a mobile unit. The mobile units must be coded with a magnetic strip (via a Bit combination).

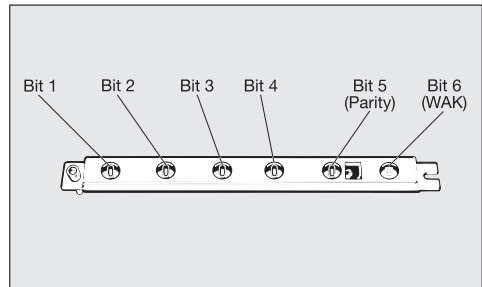
In operating level C, the only programme available for a coded mobile unit is the one assigned to the corresponding programme place.

After a coded mobile unit has been put into the machine and the door closed, the automatic mobile unit recognition system will select the allocated programme.

 Make sure that there are no small metallic objects or instrument parts attracted to the magnetic strip, in particular to the underside of it. Any metallic objects on the strip can result in the coding being incorrectly read.

Press  to start the programme.

Coding is effected through 5 Bits:



- Bits 1 to 4 define the mobile unit code,
- Bit 5 serves as a control (Parity Bit).

Bit 6 controls the volume of inflowing water and the circulation pump for mobile units with side coupling (WAK). Its settings cannot be altered. Mobile units without side coupling are coded with tracks which do not contain Bit 6.

# Automatic mobile unit recognition (Optional)

## Mobile unit coding strip

15 different codes can be set. They are assigned to programme places 1 to 15.

Under "System function, Selector switch organisation" the matching programmes have to be put into the first 15 programme places.

Programme place	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5 Parity Bit
-	0	0	0	0	0
1		0	0	0	
2	0		0	0	
3			0	0	0
4	0	0		0	
5		0		0	0
6	0			0	0
7				0	
8	0	0	0		
9		0	0		0
10	0		0		0
11			0		
12	0	0			0
13		0			
14	0				
15					0

The coded total must be an even number.

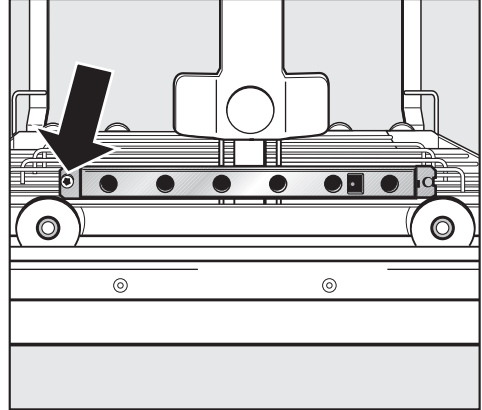
The settings on Bit 6 (WAK) are not included in this calculation.

If the coded total gives an odd number, the message CHECK MOBILE UNIT RECOGNITION appears.

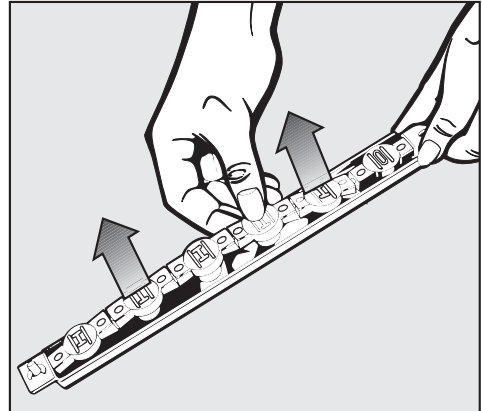
If the mobile unit code equals 0, the message NO MOBILE UNIT RECOGNITION appears. In neither case can the programme be started, The mobile unit recognition function must be re-set.

## Setting mobile unit coding

To set or alter the coding of a mobile unit with automatic recognition (AWK), proceed as follows:

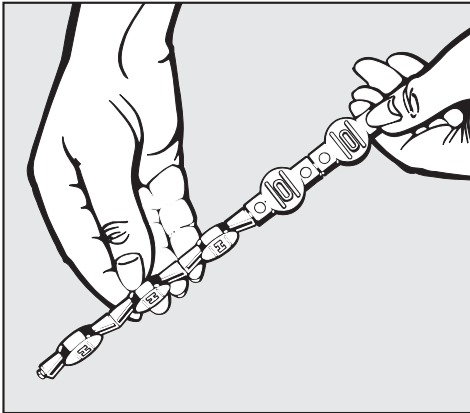


- Unscrew the track with AWK (using an allen key) and remove from the retainer.

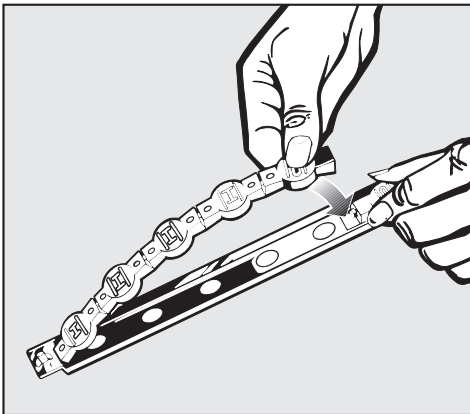


- Remove the magnetic strip from the track.

## Automatic mobile unit recognition (Optional)

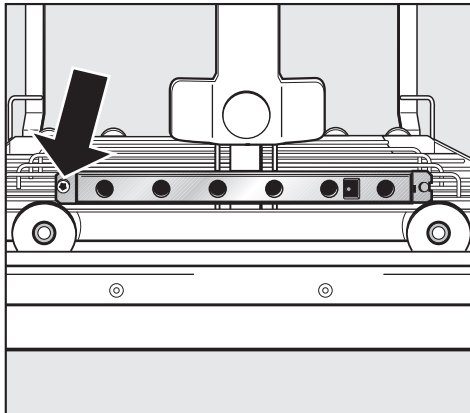


- Set the programme place coding.



- Put the magnetic strip back in the track.

The magnetic strip must be placed in the track such that the Bit coding set out in the chart is visible through the round windows in the track.



- Place the track in the holder in the mobile unit and screw firmly in place.

Bit 6 (WAK) is not a component part of the modifiable magnetic strip. Make sure that you code mobile units with side connection with a track where Bit 6 is set to I. Mobile units without side coupling must be coded with a track without Bit 6.

The magnetic strips on G 7823 / G 7824 / G 7825 / G 7826 must have **grey** magnets.

The magnetic strips on G 7827 / G 7828 must have **black** magnets.

This washer-disinfector can be fitted with a variety of mobile units, which can be equipped with a variety of modules and inserts depending on the type and shape of items requiring cleaning and disinfection.

Select mobile units, modules and inserts which are appropriate for the application.


Notes on the individual areas of application and examples of loading are given on the following pages.

### **Before starting a programme you should carry out a visual check on the following:**

- Is everything correctly loaded/connected for cleaning?
- Are the spray arms clean and do they rotate freely?
- Are the filters clean? Remove any coarse soiling and clean them properly if necessary.
- Is the adapter connecting the water supply to the spray arms/jets correctly connected?
- Are all chemical containers sufficiently filled?

### **At the end of each programme:**

- Carry out a visual check of the load for cleanliness.
- Carry out a protein test on a sample batch of items, e.g. with the Miele test kit.
- Check that all hollow shafted instruments are still securely located on their jets.

 Any hollow instruments that have become disconnected from their adapters during processing must be re-processed.

- Check that the lumen of hollow instruments are free of obstruction.
- Check that jets and connectors are securely held in position in the baskets or inserts.


# Areas of application

---

## Loading the machine


- Arrange the load so that water can access all surfaces. This ensures that it gets properly cleaned.
- Do not place items to be cleaned inside other pieces where they may be concealed.
- Hollow instruments must be thoroughly cleaned, internally and externally.
- Please check that instruments with long narrow hollow sections can be flushed through properly before placing them in inserts or connecting them to jets.
- Hollow vessels should be inverted and placed in the correct mobile units, modules and inserts to ensure that water can flow in and out of them unrestricted.  
A cover net can be used to reduce the risk of glass breakage during the wash process.
- Lightweight items should be secured with a cover net (e.g. an A 2) and small items placed in a mesh tray to prevent them blocking the spray arms or being attracted by the magnetic strip on the automatic mobile unit recognition system.
- Deep-sided items should be placed at an angle to make sure water runs off them freely.
- Tall, narrow pieces should be placed in the centre of the baskets. This ensures good water coverage.

- Mobile units with an adapter must engage correctly.
- Modules must be correctly connected in the mobile unit.
- The spray arms must not be blocked by items which are too tall or which hang down in their path. If in doubt, test for free movement by manually rotating the spray arms.
- It is advisable to use only instruments made of special application steel which are not susceptible to corrosion.
- Instruments which cannot withstand high temperatures should be chemically disinfected.

 Disposable instruments must not be put into the machine for processing.

## Preparing the load

Empty all containers before loading into the machine (paying particular attention to regulations regarding infectious diseases and epidemics).

 Ensure that acids and residual solvents, especially hydrochloric acid or chlorides, cannot get into the wash cabinet.

## Unloading instruments

Instruments should be unloaded dry ready for further processing.

### Surgical instruments (OP)

Surgical instruments should be stored for as short a time as possible before machine processing.

The OXIVARIO programme is recommended for instruments where there is a long delay between the time they are used and the time they can be reprocessed. See "Special features" at the end of this booklet.

Disinfection of surgical instruments, and of those used for minimal invasive surgery should preferably take place thermally.

De-ionised water should be used for the final rinse whenever possible to ensure no marks are left on the load and to avoid corrosion. If the water used contains more than 100 mg chloride/litre there is danger of corrosion.

**OP-containers** can be disinfected thermally in the CONTAINER programme, or chemo-thermally. If anodised aluminium containers are used the final rinse must be carried out with de-ionised water. These containers **must not** be processed with an alkaline cleaning agent in a 93 °C programme with 10 minutes holding time (according to § 18 IfSG).

When cleaning **narrow lumen instruments e.g. those used for minimally invasive surgery**, an intensive internal cleaning result is imperative. The **Vario-TD** and **OXIVARIO** programmes are the only ones which offer a thorough enough level of cleaning for this. It is essential that instruments are loaded as directed and that the cleaning agent used is suitable for the programme and for the sensitive instruments being processed. The final rinse must be carried out using fully demineralised water with a conductivity level of ~15 µS/cm (microsiemens per centimeter).

Mobile units for surgical instruments and containers are supplied with their own operating instructions.

# Areas of application

---

## Anaesthetic instruments (AN)

Anaesthetic instruments should be thermally disinfected using the DES-VAR-TD-AN programme.

If this is not possible, they can be processed using a chemo-thermal programme. The water level in the machine should be increased when using a chemical disinfection programme. To establish the effectiveness of chemo-thermal disinfection, consult the manufacturer of the disinfecting agent being used.

If the process is not to be followed by sterilisation, the load should be dried completely to avoid the development of water-borne bacteria.

A sufficient drying time is, therefore, absolutely essential.

Mobile units for anaesthetic instruments are supplied with their own operating instructions.



### **Baby bottles (BC)**

For example, 95 baby bottles can be accommodated in 5 x E 135 containers and 72 wide-necked teats in an E 364 or 72 screw connection teats in an E 458 in one batch.

- Ensure the level marker on the bottles is machine-washable.
- After use, if there is a delay (e.g. 4 hours or more) before washing the bottles, fill them with water to prevent residues drying on before the bottles are washed.

If the process is not to be followed by sterilisation, the load should be dried completely to avoid the development of water-borne bacteria.

A sufficient drying time is, therefore, absolutely essential.

Inserts for baby bottles and teats are supplied with their own operating instructions.

## Areas of application

---

### Operating theatre shoes (OS)

Polyurethane operating theatre shoes, and/or insoles should be cleaned and chemo-thermally disinfected at 60 °C. These can only be thermally disinfected (using programme SHOE-TD-75/2) if the manufacturer states that they are made of a suitably heat-resistant material.

To establish the effectiveness of chemical disinfecting agents for chemo-thermal disinfection consult the manufacturer.

Theatre shoes should be cleaned and disinfected **in a machine installed specifically for this purpose only.**

Moble unit E 775-2 with a suitable insert e. g. E 930, can be used for this purpose.

A large amount of fluff can build up in the machine when cleaning theatre shoes. The filters in the wash cabinet should therefore be checked regularly, and cleaned when necessary. See "Cleaning and care".

## Laboratory glassware (LG)


Wide-necked laboratory glassware, e. g. beakers, wide-necked Erlenmeyer flasks and Petri dishes, and cylindrical shaped items e. g. test tubes, can be cleaned and rinsed, internally and externally, by the action of the rotating spray arms. They can be arranged in full, half and quarter inserts in an empty bottom or top basket with spray arms. Narrow-necked items such as narrow-necked Erlenmeyer flasks, conical flasks, measuring flasks and pipettes, require mobile injector units or injector modules.

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

## Loading the machine

### Removing excess soiling

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

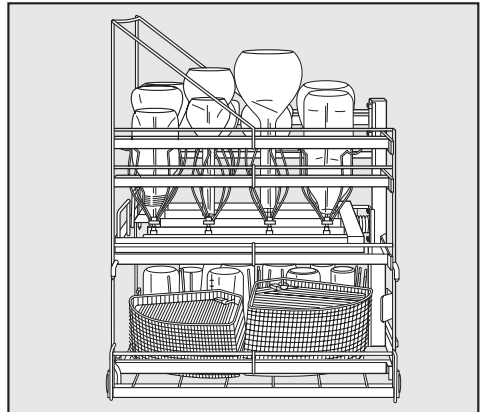
 Ensure that no acid or solvent residues, especially hydrochloric acid or chlorides, get into the wash cabinet.

- 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.
- Small parts - such as stoppers and taps - should be secured in suitable basket inserts.

### Please note

- 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.
- Quarter inserts should be placed in the mobile unit with at least 3 cm between them and the edge of the mobile unit.




### E 741 Mobile injector unit

With appropriate modules for wide-necked and/or narrow-necked laboratory glassware on 1-3 levels.

## Areas of application

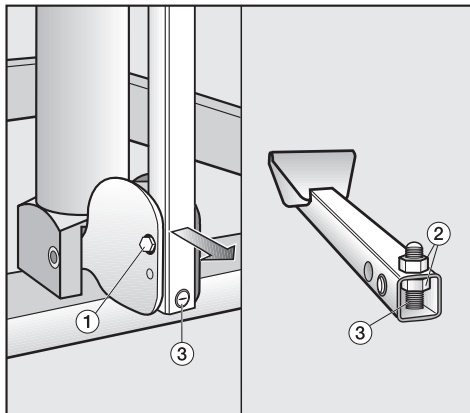
### Transfer trolley for loading and unloading the machine

 When a disinfection process is being carried out according to nationally laid down hygiene standards (e.g. § 18 IfSG), the contaminated surfaces of the trolley must be disinfected, after the machine has been loaded, using a spray disinfectant in accordance with national health and safety regulations and § 18 IfSG. Disinfecting agents listed on DGHM (German institute for microbiology and hygiene) are also suitable.

The height of the transfer trolley can be adjusted using the feet.

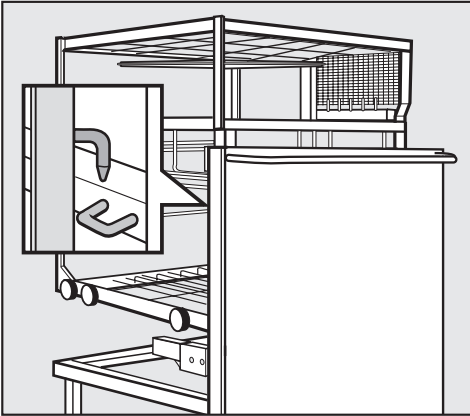
The height should be set so that the open machine door is held underneath the side catches on the transfer trolley.

If the machine is not fitted on a plinth the position of the foot pedal on the transfer trolley may need to be changed.

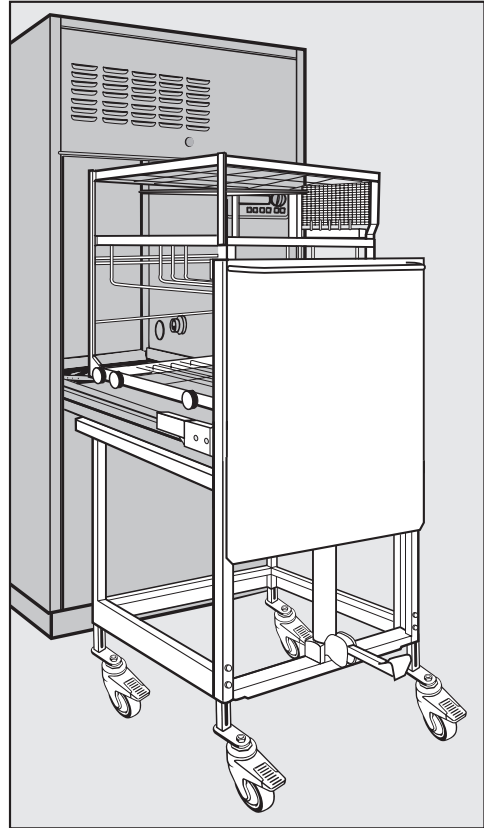


- Unscrew foot pedal ①.
- Loosen counter nut ② on adjusting screw ③.
- Screw adjusting screw ③ further into the foot pedal, so that the stopping point is reached earlier.
- Re-secure the adjusting screw.
- Screw the foot pedal back on.

## Areas of application




- Hang the mobile unit into the locating slots on the transfer trolley using both hooks.
- To lift the mobile unit step down on the transfer trolley foot pedal.
- Push the transfer trolley under the open door on the washer-disinfector as far as it will go. The mobile unit will then sit over the door.
- Secure the brakes on the wheels.



- To lower the mobile unit step right down on the foot pedal.
- At the end of the programme push the transfer trolley up to the washer-disinfector making sure that the door of the machine is held underneath the side catches on the transfer trolley.
- Then pull the mobile unit out as far as it will go onto the open door, so that it can be lifted up and taken away by the transfer trolley.

# Dispensing liquid chemical agents

---

 Only use agents formulated specifically for use in washer-disinfectors and make sure you follow the manufacturer's instructions.

This machine is fitted with 2 dispensers as standard:

- Dispensing system DOS 1 (blue) to dispense liquid cleaning agent. It can dispense up to 120 ml/min.
- Dispensing system DOS 3 (red) to dispense acid media such as neutralising agent or rinsing agent. It can dispense up to 20 ml/min.

## Additional optional DOS modules:

- Dispensing system DOS 2 (white) to dispense acid media such as neutralising agent / conditioning agent. It can dispense up to 20 ml/min.
- Dispensing system DOS 4 (green) for low-foaming disinfecting agents suitable for machine use, or for an additional cleaning agent. It can dispense up to 120 ml/min.

The correct amount of liquid agent etc. required for the application chosen will then be dispensed through these dispensing systems.

## OXIVARIO kit:

This washer-disinfector can be set up or retro-fitted to use the OXIVARIO programme by adding an additional dispenser pump and a special buffer tank for hydrogen peroxide ( $H_2O_2$  solution) .

The hose for  $H_2O_2$  solution is marked with a black sticker.

The DOS 2 dispenser is used for dispensing the  $H_2O_2$  solution.

Further information regarding the OXIVARIO programme and connection of the  $H_2O_2$  solution container can be found at the end of this booklet under "Special features OXIVARIO".

# Dispensing liquid chemical agents


## Preparing the DOS dispensers

The agents can be filled into 10 l plastic containers, which are colour coded for the relevant dispensing system.

When first commissioning, or when the message FILL DOS 1 CONTAINER and/or FILL DOS 2, 3 or 4 CONTAINER flashes in the display after switching on or at the end of a programme, replace the storage containers with new ones, or refill them with the relevant agent. If the message CHECK DISPENSING SYSTEM 1 and/or CHECK DISPENSING SYSTEM 2, 3 or 4 flashes in the display, check the storage containers, dispensing tubes and hoses. Then replace the storage containers with new ones, or refill them with the relevant agent.

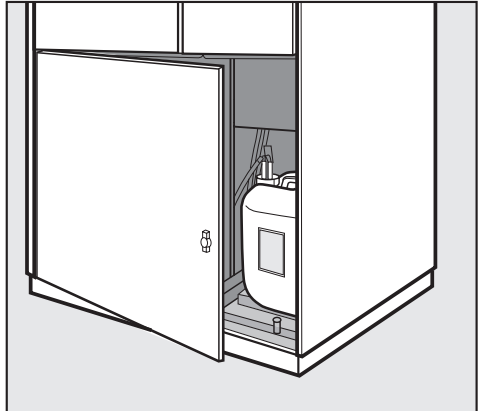
The programme will stop automatically.

When first commissioning or when the message CHECK DISPENSING SYSTEM... appears, start the DOS-FILL Programme to vent the dispensing system (see "Venting the dispensing system").

 Take great care when handling liquid agents and additives. These may contain irritant or corrosive ingredients. Please follow the manufacturer's safety instructions. Wear protective gloves and goggles.

## Fill the containers with the relevant agent

- Switch the machine off using the master switch.



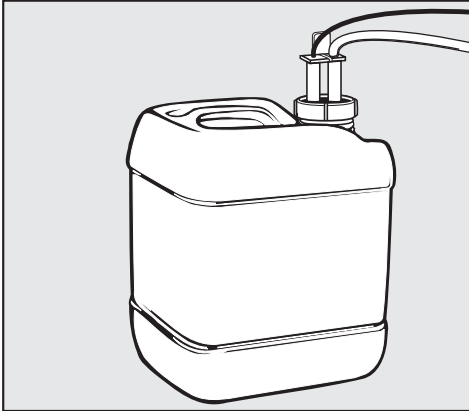
- Open the service panel out from the right hand side, and swing it out to the left.



- Take the storage containers out, open them and fill with the agent required, (observe the colour code).

## Dispensing liquid chemical agents

---



- Insert the siphon tube into the container and screw on securely (observe the colour code).

Once the storage containers have been filled the relevant message goes out.


Please remember to refill containers in good time. Do not let them get empty. It is best to refill as soon as the FILL DOS 1, 2, 3 or 4 message appears in the display.

If a container is not being used, the level query for the unused dispensing system can be turned off to avoid the error message (see "Machine functions, container query..." in the Programming Manual supplied with the washer-disinfector).



## Venting the dispensing system

Before the washer-disinfector is first commissioned, and later on if one or more containers has been allowed to run dry, the dispensing system(s) for liquid media will need to be vented. To do this:

- Press the **I-0** button.
- Select operating level B.
- Select as required:
  - Programme DOS1-FILL
  - Programme DOS2-FILL
  - Programme DOS3-FILL
  - Programme DOS4-FILL.(See "Operation/B. Free programme selection).
- Press the Start button .

The DOS-FILL Service Programmes are allocated to programme places 58-61 ex works, but can be re-allocated to other programme places, if preferred.

## Dispensing system maintenance

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

### Every 12-18 months

Replace the hoses in the dispensing system(s).

## External Dispensing systems

If external pumps are to be used for dispensing liquid agents, please inform the Miele Service Department. The instructions given in the Programming Manual under "Machine functions" will need to be observed.

# Operation

---

## Master switch

The master switch with "emergency cut-off function" is set to **I-ON**.

There are four operating levels available on this machine:

- A = Fixed and free access programmes
- B = Free programme selection
- C = AWK – Automatic mobile unit recognition (programme selection via mobile unit coding) - optional -
- D = Programming / free programme selection / change code (see Programming Manual)

## Switching on

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

In operating levels A, B and D the most recently selected PROGRAMME NAME appears in the display and in operating level C AUTOMATIC MOBILE UNIT RECOGNITION is displayed.

## To change operating level

- Press **◀** and **▶** at the same time. Operating levels A B C D are shown in the display.
- Select the operating level you want using the **◀** or **▶** buttons.
- Press **⏏** to confirm selection.
- Enter code when requested by the display. The code is set ex-works to >0000<. To enter the code:
  - Press the start button **⏏**, [0000] will appear.
  - Enter numbers using the **+** and **-** buttons.
  - Select number position with the **◀** or **▶** button.
  - To confirm code press **⏏**.

If you enter the wrong code: FALSE CODE, ENTER AGAIN will appear in the display.

- Close the door.

### Selecting or changing your own code

The factory default code can be changed. See "System functions" in the Programming Manual.


Code 1 for levels ABC  
Code 2 for levels ABCD

## Starting a programme

See the Programme charts in the Programming Manual supplied with the machine for detailed information and important notes on the standard Miele programmes.

### A. Fixed programme



Set up fixed programme(s) once in operating levels B or D and for free access in operating level A (see "System functions, Programmes under A free access" in the Programming Manual).

- Select operating level A.
- Check in the display that the programme shown is the one required.  
If several fixed programmes have been made freely accessible, select the one required using the programme selector.
- Press the Start button .

### B. Free programme selection






- Select operating level B.
- In operating level B there are three ways of selecting a programme.
1. Programme places 1 - 23 can be selected using the Programme selector.
    - Turn the programme selector to the required programme.  
The programme name will appear in the display.

2. Programmes above place 24 are selected using the  and  keys.

- Turn the programme selector to 24.
- Press  (scrolls forwards) until the required programme is shown.
- Press  (scrolls back) until the required programme is shown.


3. The PROGRAMME SURVEY menu lists all stored programmes. A programme can be selected from this menu.

To do so:

- Select Programme Survey with  and confirm with .
- Select a programme using  or .
- Press  to confirm selection.

This exits the Programme Survey, and the selected programme is shown in the display.

After selecting one of the three options above:


- Press the start button . The programme proceeds.

For further information on programme selection see "Operating Level B" in the Programming Manual.


# Operation

## C. AWK – Automatic mobile unit recognition

- Select operating level C.
- Push the coded mobile unit into place.

 Make sure that there are no small metallic objects or instrument parts attracted to the magnetic strip, in particular to the underside of it. Any metallic objects on the strip can result in the coding being incorrectly read.

- Close the door.

 Before starting a programme it is **absolutely essential** to check that the programme shown in the display is the correct one for the mobile unit being used. Otherwise inadequate cleaning or disinfection could be the result. Please make sure, that the places assigned for the programmes using Automatic mobile unit recognition are not changed around arbitrarily.

- Press the Start button .

When processing medical devices, any changes made to programmes or dispensing systems must be documented in a log book kept with the machine (in accordance with the Medical Devices directive 93/42/EWG). The machine's cleaning and disinfecting standards must also be re-validated.


## Programme sequence

The programme will start automatically as soon as the Start button has been pressed. It is finished when PROGRAMME-END appears in the display and the background lighting flashes (press any button to switch off the flashing lights).

See "System functions" in the Programming Manual for further information on switching off the flashing signal.

Detailed information on programme sequences is given in the appendix of the Programming Manual.

The display background lighting goes out automatically after approx. 15 mins. To bring it back on again press one of the buttons.

 On machines with a built-in printer you must not change the colour ribbon cartridge or the paper roll whilst a programme is in progress.

## Switching off

- Press and release the **I-0** button.
- Turn off the stopcocks.

## Cancelling a programme


A programme can only be cancelled in operating level B or D.



When testing to EN ISO 15883 or HTM 2030 standards, the programme must not be interrupted or cancelled.

### In operating levels B or D

- Press the Stop button .

The programme is interrupted. CANCEL or >CONTINUE< will appear in the display.

 With established decontamination programmes any contaminated water must be decontaminated using a disinfecting agent before it is discharged into the sewerage system. The door on the unclean side of the machine can be opened to do this.

- Use cursor  to select >CANCEL<, the > < cursors will start flashing.
- Press the Start button . The programme is cancelled and the water pumped away.

DRAIN WATER appears in the display.

- After the water has been pumped away the required programme can be selected and started again.

# Operation

## Interrupting a programme

A programme can only be interrupted in operating level B or D.

If you absolutely have to open the door, e.g. because the load is obviously unstable (conscious intervention):

After interrupting a DESIN disinfection programme, if you wish to continue it please check the message in the display at the end of the programme. If the message PROCESS PARAMETERS NOT MET is displayed, it means the door was opened **after** the disinfection part of the programme and the DESIN parameters were not fulfilled. If necessary the programme must be repeated.

### In operating levels B or D


- Press the Stop button .


The programme is interrupted. CANCEL or >CONTINUE< will appear in the display.

- Open the door.

**On barrier machines** please note: If the machine is set to WITHOUT DOOR INTERLOCK - YES the doors on either the clean or unclean side can be opened. If it is set to WITHOUT DOOR INTERLOCK - NO only the door on the unclean side can be opened at this stage.

Washer-disinfectors used as medical devices (in accordance with EN ISO 15883) should always be set to WITHOUT DOOR INTERLOCK NO.

 Caution. Water and items in the machine may be hot. Danger of burning or scalding. Where a chemical disinfection programme has been used, be aware that steam may contain high quantities of disinfecting agent.

- Rearrange the load. Follow infection control regulations and wear protective gloves.
- Close the door.
- Press the Start button .

The programme will continue.

Each machine is supplied with a 5 m long interface cable for data transfer between the Profitronic system and an external report printer or PC.

The interface cable is rolled up inside the machine and must only be connected by an authorised Service Dealer or the Miele Service Dept.

The serial interface is RS 232 compatible.

For the interface configurations see "PC/Printer Function" in the Programming manual.

Various printers can be used as external printers:

- Epson-compatible (contact Miele for a list of suitable models).
- HP Laserjet.

Pin configuration in the 9-pole sub-D connector on the interface cable:

5	GND (base)
3	TXD (transmit)
2	RXD (receive)
1-4-6	(linked)
7-8	(linked)

A standard null-modem or laplink cable can be connected.

The extension cable to the printer/PC must not exceed 10 m in length.

Please note the following when connecting a printer or PC:

- Only use an industry-standard PC or printer (e.g. in Germany TÜV, or VDE approved).
- The size of the printer or PC must be taken into account when installing the machine.

The report printer settings are described in detail in the Programming manual under "PC/Printer function".

# Maintenance

---

## Periodic checks

This washer-disinfector should be inspected in accordance with local and national safety regulations after every 1000 operating hours, or every 6 months by a Miele approved service technician.

This maintenance will cover the following:

- Electrical safety tests
- Door mechanism and door seal
- Any screw connections and connectors in the wash cabinet
- Water inlet and drainage
- Internal and external dispensing systems
- Spray arms
- Filter combination
- Sump including drain pump and non-return valve
- Steam condenser
- All mobile units, modules and inserts

and where applicable:

- The drying unit
- Any printer connected to the machine

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

- A programme will be run as a test run
- Thermo electrical measurements will be taken
- Seals will be tested for water tightness
- All relevant measuring systems will be safety tested including error message displays.



## Process validation

The standard of disinfection in the disinfection programmes must be confirmed by the user as a routine matter.

In the UK safety checks must be carried out to the machine every 3 months by a Miele approved service technician in accordance with EN ISO 15883 and HTM 2030.

## Routine checks

Before the start of each working day the user must carry out a number of routine checks. A check list is supplied with the machine for this purpose.

The following need to be inspected:


- All filters in the wash cabinet
- The spray arms in the machine and in any mobile units or modules
- The wash cabinet and the door seal
- Mobile units, modules and inserts


# Maintenance

## Cleaning the filters in the wash cabinet

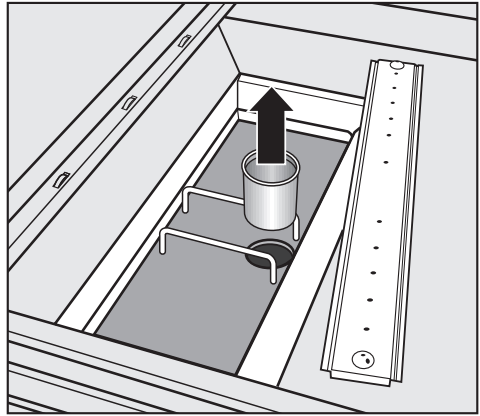
The filters in the base of the wash cabinet are designed to prevent coarse soiling getting into the circulation system.

A build-up of coarse soiling can cause the filters to clog up. They should, therefore, be checked daily and cleaned if necessary.

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

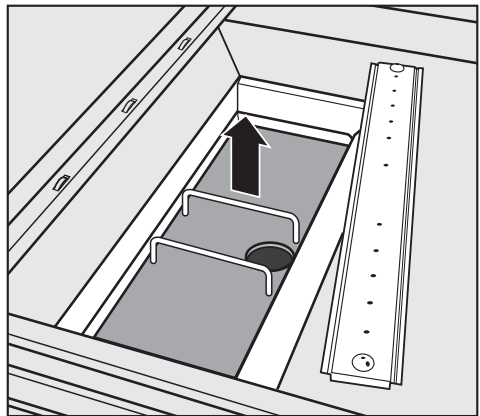
 Watch out for glass splinters which could cause injury.

## Cleaning the fine filter



- Remove the filter and clean it.

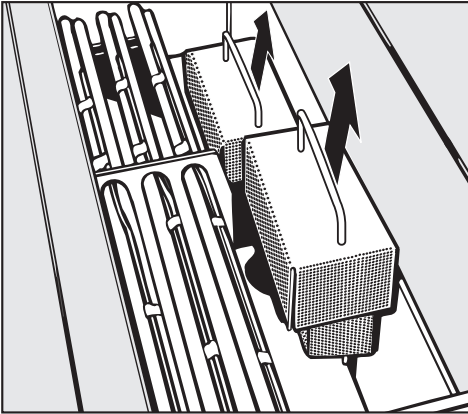
## Cleaning the flat filter



- Remove the flat filter and clean it.

## Cleaning the filters for the circulation pump

There are two filters located underneath the flat filter to the right of the heating element block to protect the circulation pump.



- Pull them up and out of their holders, and clean them.
- Replace the filters by carrying out the above steps in the reverse order.

# Maintenance

---

## Cleaning the spray arms

The spray arm jets can get blocked by particles inside them.

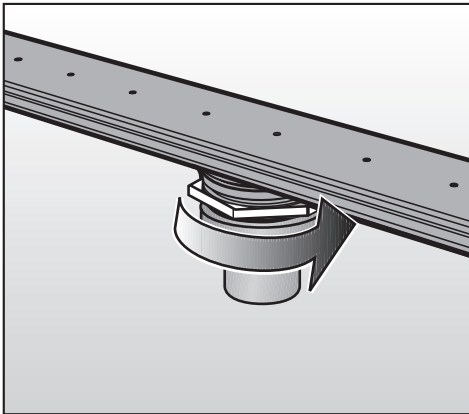
The spray arms should, therefore, be checked daily.

- 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:

- Take any mobile units out of the wash cabinet.

Spray arms in the wash cabinet:



- Use an SW 60 spanner to loosen the connection and then pull the spray arm upwards or downwards.


Spray arms in mobile units/modules:

- Turn the nut (left hand thread) together with the spray arm clockwise and then pull the spray arm downwards and off.
- After cleaning the spray arms screw them back into position.

After replacing the spray arms rotate them to make sure they move freely.


## Cleaning the control panel

- The control panel should only be cleaned using a damp cloth or with a proprietary cleaning agent for glass or plastic surfaces.  
An approved and listed disinfecting agent can be used to wipe surfaces.

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

## Cleaning the front of the machine

- The front should be cleaned using a damp cloth and a little washing-up liquid, or with a non-abrasive proprietary cleaning agent designed for use on stainless steel.
- To help prevent fingermarks etc. a stainless steel conditioning agent, e.g. Neoblank (available from the Miele Spare Parts Department) can also be used.

 Do not use any cleaning agents containing ammonia or thinners as these can damage the surface material.

## Cleaning the wash cabinet

The wash cabinet is generally self-cleaning.

However, should a build-up of deposits occur in the cabinet please contact the Miele Service Department for advice.

## Cleaning the door seals

The door seals should be cleaned regularly with a damp cloth to remove any soiling.

Seals which are no longer tight or which have suffered damage must be replaced with new ones by the Service Department.

## Protein test

Cleaning results should be subjected to period protein tests, e.g. with the Miele test kit.

# Maintenance

---

## Mobile units, modules and inserts

Mobile units, modules and inserts should be checked daily to make sure they are functioning correctly. The washer-disinfector is supplied with a check list.

The following need to be inspected:

- Check that rollers on mobile units/ inserts are free of hindrance and that they are secure.
- Check that the mobile unit connector is at the correct height and screwed on correctly.
- Check that jets, sleeves and hose adapters are securely held in position in mobile units/inserts.
- Check that wash liquor can flow unhindered through all jets, sleeves and hose adapters.
- Make sure caps and closures on sleeves are correctly located.

and where applicable:

- Make sure that the spray arms rotate freely.
- Make sure the spray arm jets are free of any blockages. See "Cleaning the spray arms".
- Make sure the magnetic strip on mobile units with automatic mobile unit recognition is correctly screwed into position.

## Printer (optional)

### Renewing the paper roll

Renew the paper roll when the red indicator lights up in the printer.

To do this:

- Open up the front flap on the printer and then open it downwards.
- Take the empty roll together with its spindle from the roller holder, fit the new roll on the spindle and put back in place.
- Guide the paper upwards onto the paper feed roller (slit behind the colour cassette), ensuring that the green paper feed button is kept pressed in until the paper emerges above the cassette.
- Guide through the slit in the front flap, then close the front flap.

Replacement paper rolls (58 mm wide, outer diameter approx. 50 mm) can be purchased from the Miele Spare Parts Department or from an office stationery supplier.


### Renewing the colour cassette

- Open up the front flap on the printer and then open it downwards.
- Pull the colour cassette (above the paper roll) forward and out of its holder, then put in a new one. Ensure the paper still passes between the colour ribbon and the cassette.
- Turn the little wheel for manual colour ribbon feed on the right in a clockwise direction until the ribbon is taut.
- Cut the paper at an angle and guide through the slit in the front flap then close the front flap.

Replacement colour ribbon cassettes can be bought from the Miele Spare Parts dept or from an office stationery supplier.

## After sales service

---

 Repairs should only be carried out by a suitably qualified and trained person in accordance with local and national safety regulations. Unauthorised or incorrect repairs could cause personal injury or damage the machine.

To avoid unnecessary service call-outs, check that the fault has not been caused by incorrect operation.

An overview of all **error messages** that can appear in the display are given in the Programming manual under "Messages".

If, having followed the advice in the operating instruction manual and in the programming manual, you are still unable to resolve a problem please call the Miele Service Department (see back cover for contact details).


- When contacting the your Dealer or the Miele Service Department, please quote the model and serial number of your machine

These are located on the data plate (see "Electrical connection").



## Converting from steam to electric heating or from electric to steam

If your machine is convertible, you can use the STEAM>>ELECTRO or ELECTRO>>STEAM service programme to switch from one type of heating method to the other.

- Select STEAM>>ELECTRO or ELECTRO>>STEAM (see Operation / B. Free programme selection).
- Press the Start button .  
When the Service programme has ended, a message will appear in the display.
- To >CONTINUE< press .

# Electrical connection

---

All electrical work must be carried out by a suitably qualified and competent person in accordance with local and national safety regulations (BS 7671 in the UK).

- Connection should be made via a suitable isolator with an on-off switch which is easily accessible for servicing after the machine has been installed.
- For extra safety it is advisable to install a residual current device (RCD) with a trip current of 30 mA (in accordance with DIN VDE 0664, VDE 0100 Section 739).
- Check that the phase rotation is correct when connecting the machine. Failure to do so could have an adverse effect on the circulation pump and impair the wash quality.
- Equipotential bonding should be carried out.
- 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**.

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

The **data plate** showing relevant test marks (VDE, DVGW etc.) is located on the cover located behind the service panel on the unclean side of the machine.

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

**WARNING**  
**THIS APPLIANCE MUST BE**  
**EARTHED**

 This machine should be connected to the mains water supply and to the drainage system in accordance with local and national water regulations. Please refer to the installation diagram supplied with the machine.

- If the water supply has a high iron content there is a danger of corrosion occurring on items being processed in the machine, as well as in the machine itself.  
If the chloride content of the water exceeds 100 mg/l the risk of corrosion to items being processed in the machine will be further increased.

## Technical data

---

Height:	200 cm (minimum room height without steam condenser) 260 cm (minimum room height with steam condenser)
Width:	90 cm
Depth:	75 cm
Weight (net):	approx. 505 kg
Operating weight:	approx. 665 kg
Voltage:	see data plate
Rated load:	see data plate
Fuse rating:	see data plate
Compressed air connection:	600 kPa (6.0 bar) required for steam operation
Steam connection (with electric TA):	250 - 1000 kPa (2.5 - 10 bar) / 140 - 180 °C
Steam connection (with steam TA):	250 - 600 kPa* (2.5 - 6 bar) / 140 - 164 °C
Water pressure (flow rate):	200 - 1000 kPa (2 - 10 bar) pressure
Hot, cold and de-ionised (AD) water:	up to max. 70 °C
Ambient temperature	from 5 °C to 40 °C
Altitude	Max. 1500 m #
Noise level in dB (A):	
Sound level LpA	for the cleaning cycle: <70 for the drying cycle: <70
Test marks:	VDE, interference suppression, DVGW
CE mark:	MPG-Guidelines 93/42/EWG, Class IIa

\* if the steam pressure lies between 250 - 300 kPa (2.5 – 3.0 bar) the steam drying unit (TA) will only reach a max. drying temperature of 90 - 100 °C.

# If installed at altitudes above 1500 m the boiling point of the suds solution will be lower. Disinfecting temperature parameters should be lowered and the holding time increased (A<sub>0</sub> value).

## Description of the machine

This washer-disinfector can be set up or retro-fitted to use the OXIVARIO programme by adding an additional dispenser pump together with a buffer tank for hydrogen peroxide  $H_2O_2$  solution. The DOS 2 dispenser is used for the  $H_2O_2$  solution.

Two special programmes are available for this cleaning process, OXIVARIO PLUS and OXIVARIO. The machine is supplied with these two programmes allocated to programme places 51 and 52.

The cleaning process releases active oxygen under alkaline conditions. The cleaning agent used must be tenside free and have a pH value of between 11 and 11.5.

## Areas of application

The OXIVARIO process uses an alkaline cleaning agent and is recommended for processing surgical instruments where particularly stringent levels of cleanliness are required. It is particularly suitable for surgical instruments such as those used in HF (high frequency) surgery, bone surgery and for instruments which have dried out because of the length of time that has elapsed between using them and reprocessing them. It is also suitable for antiseptic circumstances.

The cleaning process is suitable for the careful handling of minimally invasive instruments, including fibre optics, where the manufacturer has declared that they are suitable for processing with an alkaline cleaning agent.

It is not suitable for anodised aluminium.


Be aware that items made from alloys containing titanium such as some implants, do not always state the material's compatibility. Processing such items can result in colour changes, rendering any coding on them ineffective. If in doubt please consult the manufacturer of the item.


Instruments processed using the OXIVARIO PLUS or OXIVARIO programmes must be very carefully handled afterwards.


# Special features - OXIVARIO


---


## Warning and Safety instructions


 These warning and safety instructions are in addition to those given at the beginning of this booklet.

 H<sub>2</sub>O<sub>2</sub> solution must only be used in the special containers and adapters supplied by the Ecolab and Dr. Weigert companies.

 Important: observe the manufacturer's safety instructions as given on their safety data sheet.

 Be especially careful when handling H<sub>2</sub>O<sub>2</sub> solution. It is an irritant chemical. Observe all current safety instructions pertaining to its use. Wear protective gloves and goggles.

 Empty containers must be disposed of in accordance with the manufacturer's instructions.

 H<sub>2</sub>O<sub>2</sub> solution must not be mixed with other chemicals. This could cause a serious chemical reaction, e. g. the release of harmful vapours or gases.

## Connecting the H<sub>2</sub>O<sub>2</sub> solution container

The connection hose for the H<sub>2</sub>O<sub>2</sub> solution container is identified by a black label. It is supplied without an adapter because the system for drawing the solution out of the container varies depending on supplier.

- Connect the supplier's adapter to the connection hose (black).
- Then connect this to the H<sub>2</sub>O<sub>2</sub> solution container.
- Then start the DOS2-FILL programme.

Unlike with other chemical agents, the H<sub>2</sub>O<sub>2</sub> solution container must be fully emptied before it is exchanged for a new one.

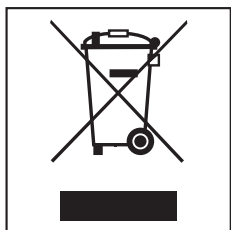
Do not replace the H<sub>2</sub>O<sub>2</sub> solution container with a new one until the FILL DOS 2 CONTAINER message is displayed. After connecting the new container you must run the DOS2-FILL programme.

If the message CHECK DISPENSING SYSTEM 2 appears in the display you must check the container and all dispensing tubes and hoses. The programme will stop automatically.

## Disposal of your old appliance or machine

---

Electrical and electronic appliances / machines often contain materials which, if handled or disposed of incorrectly, could be potentially hazardous to human health and to the environment. They are, however, essential for the correct functioning of your appliance or machine. Please do not therefore dispose of your old machine or appliance with your household waste.



Please dispose of it at your local community waste collection / recycling centre and ensure that it presents no danger to children while being stored for disposal.

It should be unplugged or disconnected from the mains electricity supply by a competent person. The plug must be rendered useless and the cable cut off directly behind it to prevent misuse. See the "Warning and Safety" section of this booklet for further details.

**United Kingdom:**

Miele Co. Ltd.  
Fairacres, Marcham Road  
Abingdon, Oxon, OX14 1TW  
tel. Abingdon (01235) 554455  
Service Office: (01235) 554466  
fax (01235) 554477  
Internet: [www.miele.co.uk](http://www.miele.co.uk)

**Ireland:**

Miele Ireland Ltd.  
Broomhill Road, Tallaght, Dublin 24  
Tel: (01) 46 10 710, Fax: (01) 46 10 797  
Email: [info@miele.ie](mailto:info@miele.ie)  
Internet: <http://www.miele.ie>

**Australia:**

Miele Australia Pty. Ltd.  
A.C.N. 005635398  
1 Gilbert Park Drive  
Knoxfield, VIC 3180  
Telephone: (03) 9764 7100  
Fax: (03) 9764 7129  
Internet: [www.miele.com.au](http://www.miele.com.au)

**Distributor New Zealand:**

Steelfort Engineering Company. Ltd.  
500 Rangitikei Street  
Palmerston North, Priv. Bag 11045, NZ  
Telephone: (06) 350 1350  
Fax: (06) 356 1507

**South Africa:**

Miele (Pty) Ltd  
63 Peter Place  
Bryanston 2194  
P.O. Box 69434  
Bryanston 2021  
Tel.: (011) 548 1900  
Telefax (011) 548 1935  
Internet: [www.miele.co.za](http://www.miele.co.za)  
E-mail: [info@miele.co.za](mailto:info@miele.co.za)

**Singapore:**

Miele Southeast Asia  
Miele Pte. Ltd.  
163 Penang Road  
# 04 - 02/03 Winsland House II  
Singapore 238463  
Tel : +65-67351191  
Fax: +65-67351161  
Email: [infosea@miele.com.sg](mailto:infosea@miele.com.sg)  
Internet: [www.miele.sg](http://www.miele.sg)

**Hong Kong:**

Miele (Hong Kong) Limited  
AIA Plaza, 24<sup>th</sup> Floor  
18 Hysan Avenue  
Causeway Bay  
Hong Kong  
Tel.: (852) 2610 1331  
Fax: (852) 2610 1013  
E-mail: [mielehk@miele.com.hk](mailto:mielehk@miele.com.hk)