

# Operating instructions

## TopClean for face masks

### Multiwasher and disinfection machine

Translation of the "Original operating instructions"



EN



**Read operating instructions before using the Multiwasher!**

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# 1 Introduction and general instructions

Dear customer,

We are delighted about the confidence you have shown in our products.

It is very important to us that you have a great deal of pleasure, ease of use and a number of benefits from MEIKO products and that they should make your work easier.

If you follow the instructions in this document carefully, your appliance will always work to your complete satisfaction and have a long service life.

After assembly at our factory, this appliance was put through a thorough inspection. This gives both you and us the assurance that you always receive a trouble-free product.

**We would therefore like to ask you to read these operating instructions carefully before use. Any further related operating instructions for accessories and integrated third-party products must be strictly observed!**

These operating instructions are designed to familiarise the owner/operator of this installation with its set-up, modes of operation, use, safety instructions and maintenance.

The notes help you to get to know the installation exactly and use it correctly. It will also enable you to possibly avoid repairs and the related loss of productive work.

In the event of any damage caused by non-observance of these operating instructions, any guarantee claims are invalid. We accept no liability for any additional damage caused as a result.

MEIKO operates a policy of continuous development on all of its devices.

As a result of this, please understand that we reserve the right to make changes to the scope of supply concerning the design, equipment and technical features at any time.

No claims may therefore be based on the details, the images or the descriptions contained in these operating instructions.

If you require any further information, or in the event that any particular problems should arise that are not dealt with in great detail in the operating instructions, you may contact the relevant MEIKO branch to obtain the information that you need.

All of MEIKO's obligations arise from the relevant purchase contract, which also contains the entire and only valid guarantee provisions.

The operating instructions must exist in the local language for each EU country. If this is not the case, the appliance must not be set into operation.

The original operating instructions in German and all operating instructions in all languages for EU countries can be downloaded from the following address:  
<https://partnet.meiko.de>

You can receive the entire technical documentation free of charge.  
Additional copies are available for a nominal fee.

These contractual guarantee rules shall be neither extended nor restricted as a result of any explanations given in the instructions.

MEIKO wishes you much pleasure and success.

### 1.1 Storage

Always store the operating instructions close to the installation!  
The operating instructions must always be kept within easy reach!

### 1.2 Authorisation for service partners' service technicians

MEIKO solely empowers its authorised service partners to perform commissioning, instructions, repairs, maintenance, assembly and installation of the corresponding product groups or MEIKO devices.

### 1.3 Designation of machine type

Please provide the following information on any query and/or when ordering spare parts:

Type:	_____
SN:	_____
	_____
<u>This information can be found on the type label.</u>	

### 1.4 Type label

The type label on the TopClean for face masks is on the inside of the front panel.

## 2 Explanation of the safety symbols used

The following safety symbols will appear throughout these operating instructions. These symbols are designed to draw the reader's attention to the text next to the safety instructions.



This symbol warns that there is danger to human life and health.



This symbol warns that there is danger to the installation, to material or to the environment.



This symbol denotes information that helps you to understand the installation's operations.



Warning of dangerous electric voltage!



Warning of hand injuries!



**No splashing water:** prohibits the use of a pressure cleaner.



**Danger of explosion:** indicates a potential explosion hazard.



**Non-potable water:** the water is not for drinking! Health can be endangered by drinking.



**Danger of burning:** indicates possible hazard due to hot surfaces or media



Eye protection must be used or protective glasses must be worn



Hand protection must be worn



Read the operating instructions

### 3 Intended use



The TopClean multi-washer and disinfection machine is designed exclusively for its intended use, that is, cleaning and disinfecting face masks.



The appliance must only be deployed and operated for its intended use. Any other use is not permitted. The items to be cleaned must be suitable for cleaning in a multi-washer and disinfection machine.

This appliance is intended solely for use in a commercial environment.

### 4 General safety instructions

#### 4.1 Operator's duty of care



The multi-washer and disinfection machine was designed and built following risk analysis and after careful selection of the applicable harmonised standards, as well as additional technical specifications. It is therefore state-of-the-art and guaranteed to provide maximum safety.

Safety can only be guaranteed during operation if all necessary measures are taken. The operator of the appliance has an obligation of care to ensure that these measures are planned for, and also to check that they are correctly implemented.

#### Measures to ensure safe operation of the appliance:

##### The operator must ensure in particular that...



... the appliance is only used as intended.

In case of other use or operation, damage or risks may arise for which we accept no liability (see the section on intended use).



... in order to guarantee functionality and safety, use only original parts supplied by the manufacturer when needed.

Any potential claims by the user shall be rendered void if the device was altered using parts other than original spare parts.



... only appropriately qualified and authorised personnel may use, maintain, and repair the appliance.



... personnel is regularly trained in all questions relating to occupational safety and environmental protection and, in particular, the staff is familiar with the operating instructions as well as the safety instructions that they contain.



... the appliance is only operated in perfect, functional condition, all protection devices and cover panels are installed, and, in particular, the safety systems and switch elements are regularly checked for their operational efficiency.



... appliances accessible only from behind may be operated only with rear panel cladding.



... the required personal protective equipment is made available to and used by maintenance and repair personnel.



... a functional test on all safety systems of the device/installation is carried out during all regular maintenance.



... the operating instructions are always in a legible state, complete and available at the installation's location of use.



... any necessary regular checks on supply parts are carried out. If required, more detailed information can be found in the relevant operating instructions.



After installation, commissioning and handing over of the appliance to the customer/operator, no modifications may be made (e.g. electrical system or location). Modifications to the appliance, and in particular, technical modifications carried out without the manufacturer's written authorization, or any modifications carried out by unauthorized persons, will lead to the complete loss of any guarantee claims and will invalidate any liability for the product.

## 4.2 Basic safety measures



Danger can arise from the improper use of the appliance if it is used for purposes for which it was not intended.

Parts carrying electric current as well as moving or rotating parts can cause

- dangers to the user's life and limb and
- material damage.



The appliance may only be operated by adequately qualified personnel who have been trained by the operating company and who have been trained about the hazard and safety instructions.



Qualified personnel, as defined by the operating instructions, are individuals:

- over 14 years of age,
- who have read and who observe the safety instructions,
- who have read and who observe the operating instructions (or the part applicable to the work to be carried out).



The appliance works with hot water. Avoid all contact with the rinse water. Danger of scalding! The wash ware as well as the sheet metal parts in contact with the wash water have the same temperature. Please observe appropriate safety precautions. Observe the instructions posted on the appliances.



### **Warning!**

When electrical devices are in operation, it is inevitable that some parts of these devices are live with dangerous current.

Before opening the cover panels of the appliance or electrical equipment, the entire appliance must be de-energised via the locally available main switch and secured against re-starting using suitable measures.

Work and troubleshooting on electrical parts of the appliance must only be performed by specialists. Observe accident prevention regulations.

The operator must not restart the appliance until **all cover panels** have been put back in place!



The appliance may **not** be sprayed with a water hose or high-pressure cleaner.



The appliance may only be operated under the supervision of trained personnel.



The water in the wash-up area is non-potable and must not be used for food preparation!



Do not use the appliance if you are unsure about system operation.



Do not place any solvents or other easily flammable substances in the cleaning chamber, as this increases the risk of explosion.



Steel wool pads must not be used for pre-cleaning or cleaning the items to be washed. Do not wash any metal items in the appliance that are not made of stainless chromium-nickel steel.

The operator must reliably prevent metal parts (especially iron, tinfoil, copper) from entering the machine.

The appliance must not be used to transfer waste water from other sources into the waste water network (warning: risk of corrosion and blockage).

Only use suitable products for cleaning the stainless steel surfaces. They may not attack the material, form any deposits or cause any discolouration.



Always keep the door and hatches closed!

The door cannot be open during the programme sequence because it is locked during this time.



When the tank has been drained, the tank heating temperature may still be high. As a result, there is a risk of burns or scalding when manually cleaning the machine!



Only use disinfection and cleaning agents and rinse aids approved for the multi-washer and disinfection machines.

Please contact the manufacturers of these products for information.

Disinfectants and cleaning agents as well as rinse aid may contain hazardous substances.

Observe the manufacturers' hazard warnings on the original containers and safety data sheets.



At the end of operations, make sure the appliance is disconnected from the power supply using the locally available main switch.

Please note the accompanying operating instructions must be observed for accessory devices, e.g. water treatment systems.



**WE DO NOT ACCEPT ANY LIABILITY FOR DAMAGE OR INJURY ARISING FROM FAILURE TO OBSERVE AND ABIDE BY THESE SAFETY INSTRUCTIONS!!!**

#### 4.2.1 Working on the electrical equipment



Any repair work and troubleshooting on the appliance's electrical equipment must be carried out by a qualified electrician!

Check the electrical equipment regularly! Tighten any loose connections! Replace damaged lines/cables immediately!

## 5 Delivery, transport, installation and assembly

### 5.1 Delivery

Check that the delivery is complete immediately after receiving it by comparing it with MEIKO's contract confirmation and/or the delivery note.

If necessary, submit a claim for any missing parts immediately to the freight forwarder and notify MEIKO.

Check the entire delivery for any damage that may have occurred during shipping.



Should you suspect any damage has occurred during shipping, you should inform:

- the forwarding agency
- and MEIKO

in writing, and also send a photo of the damaged parts to MEIKO.

Damaged appliances must not be commissioned under any circumstances.



### 5.2 Transport, installation and assembly

In order to avoid damage or life-threatening injuries while shipping the installation, the following points must be observed:

- Transport work must be performed only by qualified persons observing the safety instructions.
- Observe any transport instructions on the packaging.
- Execute transport carefully.
- Unpack the appliance.



For safe transport, the machine parts are supported by a special square-timber frame.

The appliance must only be transported on the supplied wooden frame. The packaging is specifically designed to allow the appliances to be moved safely and securely using a pallet jack.

The enclosed dimensional drawing states the appliance's connected load and consumption values.

Small quantities of steam may escape through the appliance's door. For this reason, furniture and equipment near the door must be protected.



On request, a technician from your local MEIKO representative is available to install the appliance. This includes setting up the appliance at the location of use and connecting the tables as necessary.

Appliance installation steps:

- Level the complete unit in both directions using a water level.
- Compensate for an uneven floor by adjusting the feet.
- The table connections must be sealed with detergent-resistant sealing compound (e.g. silicone).

## 5.3 Operating conditions

It is assumed that the planning of the system, as well as installation, commissioning and maintenance works are executed by sufficiently instructed personnel and that this work is checked by responsible specialists. The indications on the appliance's type label must correspond to the dimensional drawing and the local connection conditions.

Prerequisites to be provided by the customer:

- Frost-free storage and installation area
- Electrical connection in accordance with the dimensional drawing
- Fresh water connection in accordance with the dimensional drawing
- Waste water connection in accordance with the dimensional drawing
- Anti-slip floor coverings should be provided in the work area around the appliance

### 5.3.1 Requirements for the installation area

- Ensure that the storage and installation area is permanently frost-free.

The appliance is only frost-proof in as-delivered state or if equipped with special features (option: frost drainage).

If the appliance is installed in an area where the surrounding temperatures are below the freezing point (0 °C), the water freezing inside can damage the internal water components (such as pump, solenoid valve, boiler, etc.).



## 5.4 Requirements for the electrical connection

Work on the electrical parts of the appliance must only be performed by specialists.

To ensure that the appliance can be connected, the following has to be provided by the customer:

- The correct voltage and type of current must be available.
- Safeguard the power supply according to regulations and provide it with a main switch in the fixed electrical installation.
- The appliance must be connected to a potential equalisation system!
- If an unearthed neutral conductor (N) is used with three-phase current, the power disconnection device must have 4 poles (with alternating current 2 poles).
- A 5-pole terminal strip (L1, L2, L3, N, PE) must be used for connection to a three-phase current.
- Electricity supply without a neutral conductor (N): when connecting to three-phase current, use a 4-pole clamping strip (L1, L2, L3, PE).
- Conductor colours: live conductor L1 = black/1, L2 = brown/2, L3 = grey/3, neutral conductor N = blue/4, ground wire conductor PE = green-yellow

Current applicable standards and requirements of local utility companies are to be adhered to with regard to protective measures and connection of the potential compensation system.

The products are intended for permanent connection to the locally available power supply and have been tested for the market accordingly. Any other form of electrical connection is to be established by a licensed electrician.

Do not connect any additional consumers to the fuse protecting the appliance.

- Re-tighten all terminal fixing screws before commissioning.

The wiring diagram is behind the appliance's front panel. The enclosed wiring diagram must remain in the appliance.



### **Note to the customer**

The multi-washer and disinfection machine is provided for the permanent connection to the electrical power supply and the connection to the on-site potential equalisation system and is accordingly equipped with a connection option.

The operator can decide at his/her own discretion and under his/her own responsibility to alternatively implement personal protection in collaboration with a licensed electrician company using:

- Fault current protection switch sensitive to universal current with max. 30 mA EN 62423

or

- Automatic shut-down of the supply when the protective earth conductor for the consistency is lost (EN 60204-1 Chap. 8.2.8.c)

## **5.5 Requirements for the fresh water connection**

The appliance is DVGW-compliant and does not require an extra safety valve in the water supply.

- The fresh water connection must be effected as per EN 1717 or local regulations.

**The appliance is equipped with an open discharge section (group A, model A as per DIN EN 1717).**

- The requirements for the clean water supply in the accompanying GiO module operating and service manual must be observed for appliances equipped with the GiO module.



The minimum flow pressure of the fresh water supply must be at least 0.6 bar, and in appliances with a GiO module, there must be at least 1 bar before the solenoid valve.

The maximum pressure must not exceed 5 bar.

- If the minimum flow pressure is not reached, increase the flow pressure with a booster pump; if the maximum pressure is exceeded, limit it with a pressure regulator.
- A water stop is integrated into the appliance's fresh water line. This, together with the leakage detector in the floor pan of the base, ensures that the clean water supply is shut off in the event of a leak.
- Suitable protective measures must be taken to ensure that no iron particles can enter the appliance via the mains water supply. Similarly, precautions must be taken to prevent the entry of other metal particles, such as copper turnings. Corresponding instructions are contained in the installation drawing. Appropriate measures must be taken.
- A dirt trap must be fitted into the clean water supply to protect the solenoid valve.

## **5.6 Requirements for the waste water connection**

- A waste water pump is integrated into the drain pipe.
- The drain hose must be connected to the locally available waste water pipe.
- The requirements for the waste water supply in the accompanying GiO module operating and service manual must be observed for appliances equipped with the GiO module.

## **5.7 Emergency off**

- Disconnect the appliance from the power supply using the locally available main switch.



## 5.8 Chemicals for the operating the appliance

Only use dosing agents for cleaning or for water softening and final rinsing that have been approved for use in multi-washers and disinfection devices by MEIKO.

### Products approved for chemo-thermal disinfection procedures:

Rinse aid:	Etol GT500
Chemical disinfectant and cleaning agent:	EW 80 mat, EW 80 systems Sekumatic FDR, Ecolab

Using unsuitable products can considerably reduce the service life of the dosing units.

Observe the manufacturers' dosing instructions. Disinfectants, cleaning agents and rinse aids can present a health hazard if they are not used as intended. Observe the manufacturers' indications on the original containers and safety data sheets.

Items for rinsing are tribologically influenced in particular by chemicals and increased temperatures during the process, as well as mechanical stresses caused by handling and transporting.

If a descaling agent is used, please strictly observe the manufacturer's handling and safety instructions. After such an agent has been used, the product must be completely removed from the appliance, as even small residues are capable of destroying plastic parts and sealing materials.

### Chemical product settings

The correct settings for the disinfectant and rinse aid depend on the product used. The relevant chemical supplier can install the correct setting.

## 6 Settings for initial commissioning by the service technician

### 6.1 Commissioning

In order to avoid injury and death or damage to the installation when commissioning the appliance, please observe the following points:

Perform any required initial checks on supplied parts. If required, more detailed information can be found in the relevant operating instructions.



- The appliance may only be commissioned by suitably qualified individuals observing the safety instructions.
- Before the first start, check to make sure that all tools and foreign parts have been removed from the appliance.
- Make sure that any escaped fluids have been removed.
- Activate all safety systems and door switches before commissioning.
- Check all bolt fittings for proper seating.
- Please also read the section on general safety instructions.
- Commissioning and training will be handled and provided by MEIKO-trained service technicians. The operator must not use the installation before completing training.
- The "Commissioning certificate for GiO modules" must be observed for appliances equipped with a GiO module and the instructions adhered to accordingly.

## 7 Cleaning with the multi-washer



The appliance may not be used without thorough knowledge of the operating instructions. Incorrect operation may result in personal injury or material damage.

### 7.1 Operating panel

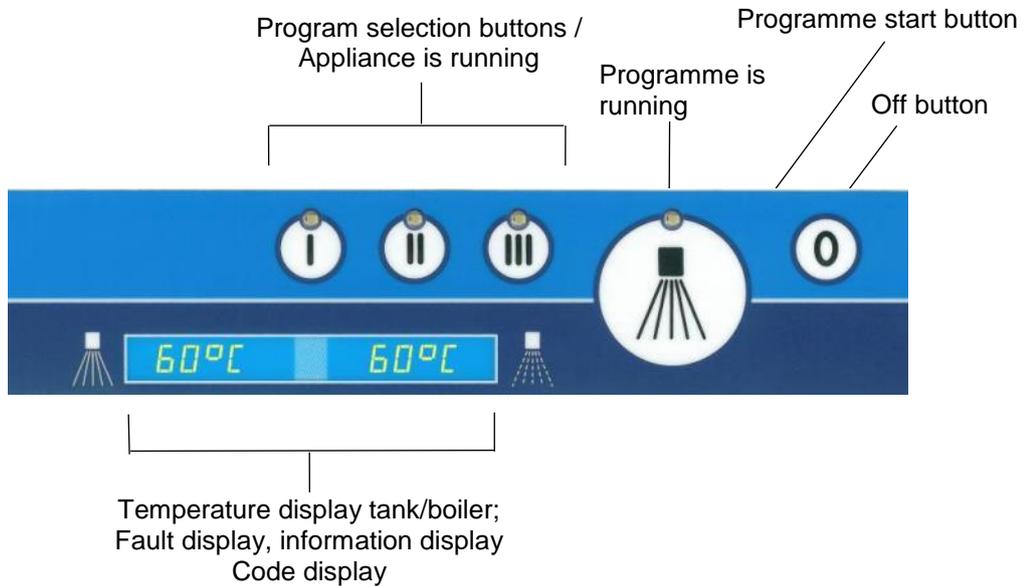


Figure 1; Operating panel

Button/display	Meaning
	Short programme - Cleaning programme I
	Normal programme - Cleaning programme II
	Water change programme - Cleaning Programme III
	Disinfecting temperature / Disinfection
	Final rinse temperature
	Programme start Drain tank Self-cleaning programme
	Switch off appliance / Interrupt programme

Table 1; Programme key / components to be cleaned

## 7.2 Preparing for cleaning

The preparatory work described below must be carried out before each commissioning.



- Open the door.
- Insert the sieve.
- Close the door.



**Caution!** Danger of crushing!  
Close the door with both hands!



- Switch on the appliance by pressing one of the programme preselection buttons.  
During the filling and heating phase, the light above the preselection button will flash. When the light remains constantly lit, the appliance is ready for operation.  
The time required to reach operation readiness depends on the supply water temperature and the installed boiler or tank heating capacity.  
If using a cold water connection, this process takes approx. 18 minutes.

## 7.3 Automatic dosing

The required disinfectant and cleaning agent, as well as the rinse aid, is fed from the storage tanks into the tank or boiler by electronically-controlled dosing equipment. Dosing occurs automatically based on the requirements of the cleaning process.

Use of unsuitable products will significantly impact the service life of the dosing equipment.



## 7.4 Operation during cleaning

The following fundamental principles must be observed when placing the face masks in the baskets:



- Special baskets are provided for the masks.
- Place the masks and the small items in the intended positions in the baskets.

### 7.4.1 Start the programme

Programme start  
button



- Place the basket in the appliance, ensuring that it is correctly centred in the basket holder.
- Close the door.
- Press the programme start button.

The appliance cleans and disinfects automatically and switches off the wash programme after completion. The programme sequence is shown by the indicator at the programme start button.



The cleaning time can differ from the set programme running time if the boiler heating capacity or tank heating capacity is not sufficient to heat up the fresh water flowing into the boiler or the tank water to the required temperature during the programme time.

### 7.4.2 Remove the basket

- When the light goes out, open the door and remove the basket.

Off button



Programme start button



## 8 Shutting down the appliance

- Press the "0" button (off button). The machine is switched off when all the lights are out.
- To empty the tank, press the programme start button if the emptying and self-cleaning programme is not automatically started by turning off the machine.
- After the tank water has been drained, the tank is flushed with clean hot water. The door must remain closed. The drain pump is switched off automatically.

## 9 Maintenance and care

### 9.1 Care, general

The appliance has been designed to keep the need for cleaning, care and maintenance to a minimum.



However, for reliable, safe and long-term function of the machine, and in the interest of hygiene and cleanliness, correct care and maintenance is necessary. To facilitate this effort, a maintenance contract can be concluded with the manufacturer or its representative.



Incorrectly performed procedures, the use of unauthorised parts, and repairs by unqualified personnel endanger both the operators and the machine and will void your warranty.

### 9.2 Refilling chemical disinfectants and cleaning agents

The container is located in the immediate vicinity of the appliance.

Check the filling level of the container and if necessary, replace it with a full one.



Only non-foaming, approved disinfectants, cleaning agents and rinse aids that are authorised for disinfection machines may be used. (see the section on chemistry for the operation of the appliance)

If a functional defect is suspected, check the dosing equipment for the chemical disinfectants and cleaning agents. Visual inspection!

### 9.3 Refilling with rinse aid

The container is located in the immediate vicinity of the appliance.

Check the level and, if necessary, replace the container with a full one.



Only non-foaming acidic rinse aids (pH < 7) that are approved for disinfection machines may be used (see the chapter "Chemicals for operating the machine").

If you suspect a malfunction, check the final rinse dosing unit for proper function. Visual inspection!

### 9.4 Cleaning

After emptying the tank, proceed as follows:

- Do not use a foaming detergent for pre-cleaning in the vicinity of the unit. In appliances, foam can cause unit malfunctions and a poor wash.
- Residues sticking to the tank, tank heating element and sieves must be removed with a brush.
- Remove the rotating arms and rinse them using running water.
- Clean the cleaning nozzles daily.
- Check the rinse aid nozzles weekly for cleanliness and rinse them using running water, if required.

### 9.4.1 Safety instructions for cleaning



When the tank has been drained, the tank heating temperature may still be high. As a result, there is a risk of burns or scalding when manually cleaning the appliance!



Appliance, switch cabinet and other electrical components may not be sprayed with a water hose or high-pressure cleaner.

### 9.5 Care of stainless steel surfaces

We recommend cleaning the stainless steel surfaces only when needed with cleaner and care products suitable for stainless steel.

Lightly soiled parts can be wiped with a (possibly damp) cloth or sponge.

Be sure to wipe it dry after cleaning to avoid traces of limescale. Use demineralised water if possible.

Do not use aggressive cleaning or scouring agents.

The care products must not attack the stainless steel, form deposits, or cause discolouration.

Never use cleaning agents that contain hydrochloric acid or chlorine-based bleaches.

Never use cleaning equipment that you have previously used on non-stainless steel in order to avoid external corrosion.

Aggressive external influences due to cleaning and care products that evaporate in the vicinity of the dishwashing machine, or are caused by direct application, can lead to machine damage and put the material at risk (e.g. aggressive tile cleaners).

#### Caution!

Observe the manufacturers' hazard warnings on the original containers and safety data sheets.

### 9.6 De-scaling

If the appliance was operated with hard water, the boiler and wash tank could have lime scale deposits. De-scaling the tank interior, boiler housing, tank heating, boiler heating and the cleaning and final rinse system then become necessary.



For de-scaling, only use products suitable for industrial appliances. Please observe the product manufacturers' instructions.

After de-scaling:

- Completely flush the de-scaling agent out of the appliance. To do so, perform 1 or 2 rinse cycles with fresh water.



Even residues of scale remover products are enough to destroy plastic parts and sealing materials! If the appliance is heavily scaled, you should ask a service engineer from the agency responsible to de-scale the boiler.

## 10 Basic information about the appliance



The appliance is manufactured using the latest state-of-the-art technology. It is reliable.



Dangers can arise from this appliance if it is not operated correctly, operated by untrained personnel, or not used for its intended purpose.

### Liability

We accept no responsibility for damage of the appliance and other objects caused by operating faults, resp. non-observance of the operating instructions. Modifications to the appliance, and in particular, technical modifications carried out without the manufacturer's written authorization, or any internal modifications carried out by unauthorized persons, will lead to the complete loss of any guarantee claims and will invalidate any liability for the product.

### 10.1 General description of the appliance

#### 10.1.1 Execution

Four-cornered basket device with a fixed basket

#### 10.1.2 Cleaning principle

The appliance has a cleaning and a final rinse cycle.

A rotary pump circulates the water from the cleaning tank into the cleaning nozzles. The water jets hit the wash items from different directions. This ensures uniform cleaning results.

The cleaning cycle is followed by a fresh water final rinse. The items are rinsed with hot fresh water via a separate nozzle system. This heats up the wash items for the following drying process. At the same time, the final rinse water is used to regenerate the wash water, which reduces the degree of soiling of the rinse water.

#### 10.1.3 Chemo-thermal disinfection process



With a chemo-thermal disinfection process, disinfection is based on the implementation of a special cleaning and disinfectant in a specific concentration, as well as on a special disinfection temperature and time. It is cleaned with a disinfectant at a tank temperature of approx. 60° C . During the cleaning, the tank heating is active and keeps the disinfectant solution between 60 and 61° C. Starting at 60° C during the wash, in the cleaning tank, the time is added up until the adjusted required disinfection time of, for example, five minutes, is reached. The dripping phase and, following that, the final rinse begin when the cleaning time with hot water of approx. 60° C that has already been set in the programme is reached or exceeded.



The tank temperature falls when the programme begins, depending on the items being cleaned. The set programme cycle time can be exceeded by the time it takes to reach the prescribed disinfection parameters.

### 10.1.4 Disinfection procedures with the A<sub>0</sub> control system

The standard factory setting is A<sub>0</sub> = 60.

It is cleaned at a tank temperature of up to 74° C. The tank heating is active during the cleaning. After every second as of 65° C in the cleaning tank, the measured tank temperature is allocated one factor (the higher the temperature, the higher the factor). These factors are continually added until the desired hygiene value, e.g. A<sub>0</sub> **60**, has been reached. The dripping phase and, following that, the final rinse begin when the cleaning time with hot water of approx. 83° C that has already been set in the programme is reached or exceeded.

The A<sub>0</sub> value is shown on the display.



The tank temperature falls when the programme begins, depending on the items being cleaned. The set programme cycle time can be exceeded by the time it takes to reach the prescribed disinfection parameters.

### 10.1.5 Water change programme

A water change programme can be assigned to the programme pre-selection buttons. In the standard setting, this is only assigned to button III.

After completing the cleaning programme, all of the water is pumped out of the tank. A fresh water final rinse follows and this water is pumped out as well. After that, the programme has ended and the light in the programme start button goes out.

The following options now exist:

1. Press the "0" button (Off button), and the appliance stays off.
2. Open the door, remove the basket, close the door; the machine is then ready for operation (tank filling, heating)
3. Switch to program 1 or 2; the machine is then ready for operation (tank filling, heating)
4. Press the Start button, and the machine is then ready for operation (tank filling, heating); the cleaning and disinfection program starts directly after that.

### 10.1.6 Detergent dosing / Disinfectant dosing

The dosing equipment is designed to automatically add liquid alkaline detergent or disinfectant to the wash water.

The liquid is transported from the storage tank to the wash tank with a pump via a hose conduit in the cleaning tank. The dosing equipment is self-priming. Dosing occurs during each filling cycle and at the beginning of each program cycle via timer control.



We recommend the dosage of approx. 2 ml/l alkaline detergent for disinfection using the A<sub>0</sub> control system and approx. 10 ml/l disinfectant for chemo-thermic disinfection.

Observe the chemical manufacturers' dosing instructions.

### **10.1.7 Rinse aid dosing**

The rinse aid dosing unit is designed to automatically add liquid and clean final rinse aid into the fresh water.

The rinse aid is pumped out of the storage tank into the fresh water supply line through a hose conduit. The dosing equipment is self-priming. Dosing takes place during each filling cycle.



We recommend rinse aid dosing of 0.2 ml/l.

The correct dosage leads to an even water film.

In case of overdosing, bubbles and stripes will form, which means that the dosage needs to be reduced.

In case of under-dosing, water drops remain on the washed items - increase dosing.

### **10.2 Noise emission**

Work place noise level  $L_{pA} \leq 70$  dB

### **10.3 Data on electrical and hydraulic equipment**

See the attached dimensional drawing

### **10.4 Dimensions, technical data, installation instructions**

See the enclosed documentation

### **10.5 EC-/EU-Declaration of Conformity**

See separate EC-/EU-Declaration of Conformity

## **11 Non-ionising radiation**

Non-ionising radiation is not produced intentionally but unfortunately comes about due to electrical operating equipment (e.g. electrical motors, high-voltage cables and magnetic coils).

In addition, the machine has no strong permanent magnet. There is a high possibility of eliminating any influence on active implants (e.g. pacemakers, defibrillators) by maintaining a safety distance of 30 cm (distance of the field source to the implant).

## 12 Self-help in event of malfunctions

Malfunction:	Cause
<b>Appliance does not fill!</b>	<ul style="list-style-type: none"> <li>• No water present</li> <li>• Dirt trap clogged</li> <li>• Level switch defective</li> <li>• Solenoid valve faulty</li> <li>• Door fastener defective</li> </ul>
<b>Final rinse does not spray!</b>	<ul style="list-style-type: none"> <li>• No water present</li> <li>• Dirt trap clogged</li> <li>• Solenoid valve faulty</li> <li>• Booster pump has failed</li> <li>• Final rinse system is scaled</li> </ul>
<b>Streaks and smears on the wash items!</b>	<ul style="list-style-type: none"> <li>• Excessive mineral content of the final rinse water</li> <li>• Water pre-treatment defective or not carried out</li> <li>• May also be different water, depending on the waterwork</li> <li>• Unsuitable rinse agent or incorrect quantity dispensed</li> </ul>
<b>Heavy formation of foam in the wash tank!</b>	<ul style="list-style-type: none"> <li>• Manual dishwashing detergent enters the wash tank on pre-cleaned parts</li> <li>• Daily cleaning is carried out with foaming cleaning agents which later enter the appliance.</li> <li>• Final rinse water quantity too low</li> <li>• Unsuitable detergent or rinse aid</li> </ul>

### 13 Personnel training

Only trained and instructed personnel are allowed to work on the appliance. Personnel responsibilities for operation, maintenance and repairs must be clearly defined. Any personnel undergoing training are only allowed to work on the appliance under the supervision of an experienced person.

Individuals	Trained operating staff	Trained in-house maintenance worker	Qualified in-house maintenance worker or installation technician
<b>Activity</b>			
Installation and assembly			◆
Commissioning			◆
Operation, use	◆	◆	◆
Cleaning	◆	◆	◆
Check safety systems	◆	◆	◆
Troubleshooting		◆	◆
Troubleshooting, mechanical		◆	◆
Troubleshooting, electrical			◆
Maintenance			◆
Repairs		◆	◆

The instructions should be acknowledged in writing.

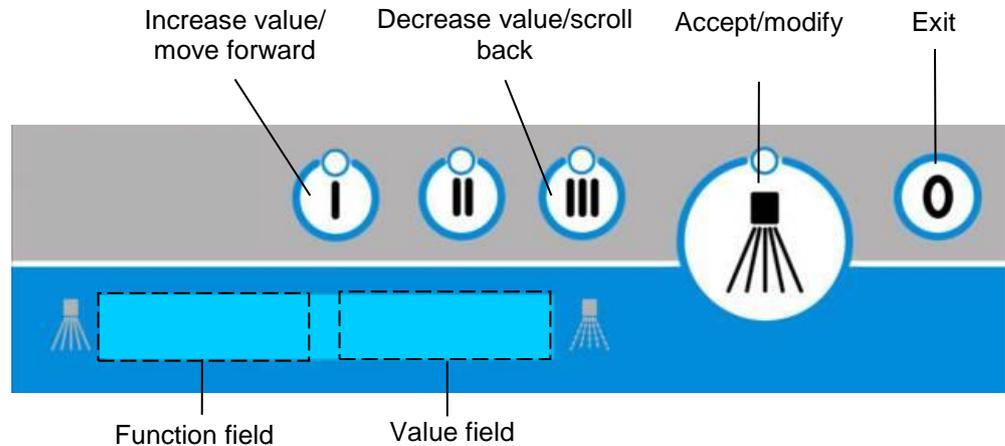
### 14 Authorised users of this documentation



The works described in this booklet (sections 15 - 18) may only be carried out by manufacturer specialists, the responsible agency or an authorized dealer.

## 15 Settings/modifications/on-site adaptation

### 15.1 Using the keyboard for programming



Various access codes were defined for the various user levels. After the complete code has been entered, it is compared to an internal code table. The corresponding user level is then granted, depending on the code that has been entered.

Two access codes are available for each user level; the first is for restricted access, i.e. no modification of parameters is possible (viewing mode), and the second gives access to the entire range of functions (viewing and modification).

In the short programming instructions accompanying every appliance in the series, this is described in condensed form.

For control system programming, the power supply must be available and the appliance must be completely switched off (no LED is illuminated).

#### Code input:

View service data:	CODE 10000
Modify service data:	CODE 10001
View configuration data:	CODE 20000
View dosing technology data:	CODE 40000
Modify dosing technology data:	CODE 40044

The code numbers for the additional levels can be taken from the service manual.

### 15.2 Code input

To access code input mode, hold down the "0" button (for about 3 seconds) until you see



in the display.

Pressing the "0" button again lets you quit programming at any time.

The digit being changed flashes.

Press the "I" button to increase the value/code indicated on the display unit, or press the "III" button to decrease it, and press the "accept" button to save it. The next value will then flash and will be the only one visible.



If it is entered incorrectly, the code entry is cancelled, and the information code 122 is displayed.



If you enter all the digits correctly, you will arrive at the chosen level, either service, configuration or machine data.

### 15.3 Service level

You will find a list of service parameters at this level (parameter numbers 1xx). You can view or modify the parameters here, or you can access the rinse aid and cleaner hose ventilation feature.



is first shown at service level. This is equivalent to view/modify parameters (see 15.3.1)



this is equivalent to ventilate rinse aid inlet (see 15.3.2)



this is equivalent to ventilate detergent supply (see 15.3.3)

Press the “I” button to move forwards or the “III” button to move backwards, and the “accept” button to make a selection. You are now at the current level.

You can leave this level by pressing the “0” button.

### 15.3.1 View/modify parameters

Confirm the



display by pressing "Accept".

Now the first parameter is displayed with a value.



Press the "I" button to go forwards and the "III" button to go backwards until the parameter you require is displayed.

Press the "Accept" button to confirm the modification of the parameter; the value flashes. Press the "I" button to increase the value, the "III" button to decrease the value, and "accept" to save the value.

You can leave this level by pressing the "0" button.

See 15.4 for a list of parameters.

### 15.3.2 Ventilating the rinse aid inlet



press the "Accept" button to confirm.

This actuates the dosing pump; the remaining running time is indicated.



You can leave this level by pressing the "0" button. Ventilation is cancelled.

### 15.3.3 Ventilating the disinfection and cleaning agent line



press the "Accept" button to confirm.

This actuates the dosing pump; the remaining running time is indicated.



You can leave this level by pressing the "0" button. Ventilation is cancelled. If the ventilation process is not sufficient, repeat the process.

### 15.3.4 Configuration level

You will find a list of configuration parameters at this level (parameter numbers 2xx). You can view and modify the parameters. You can also access the input and output states or set outputs for testing.

In the configuration level, first



is shown. This is equivalent to view/modify parameters. (see 15.3.5)



this is equivalent to viewing input status. (see 15.3.6)



this is equivalent to view and set output states. (see 15.3.7)

Press the “1” button to move forwards or the “III” button to move backwards, and the “accept” button to make a selection. You are now at the current level.

You can leave this level by pressing the “0” button.

### 15.3.5 Viewing/modifying parameters (depending on the code entered)

Confirm the



display by pressing "Accept".

Now, the first parameter is displayed with a value.



Press the “1” button to go forwards and the “III” button to go backwards, until the parameter you require is displayed.

Press the “Accept” button to confirm the modification of the parameter; the value flashes. Press the “1” button to increase the value, the “III” button to decrease the value, and “accept” to save the value.

You can leave this level by pressing the “0” button.

See 15.4 for a list of parameters.

### 15.3.6 Viewing input status

Confirm the



display by pressing "Accept".

The first input is shown with a status of



Use the "I" button to go forward and the "III" button to go backward until the desired input is displayed.

Display: input set



Display: input not set



You can leave this level by pressing the "0" button.

Input assignments are given in the assignment list for each machine (see 15.5).

### 15.3.7 Viewing/modifying output status (depending on code input)

Confirm the



display by pressing "Accept".

**View:**

Now, the first output is shown with its status.



Use the "I" button to go forward and the "III" button to go backward until the desired input is displayed.

**Modify:**

Press the "Accept" button to confirm the modification of the output; the value flashes.

Press the "I" button to modify the value and press the "accept" button to save it.

The output is now set.



You can leave this level by pressing the "0" button.

Output assignments are given in the assignment list for each machine. (see 15.5)

### 15.3.8 Viewing/modifying the dosing technology level

Entering a code of 40000 (read only) or 40044 (read/write) gives the user access to the new 4th parameter level which groups all the dosing technology parameters:

P104, P105, P218, P219, P224, P225, P321, P322, P326, P327.

See 15.4 for list of parameters

## 15.4 Parameter list

Par. Nr.	Configuration options	Use as	Value range	Unit	Note
101	Wash programme Button 1	Parameters	1 .. 50	-	Allocate the wash programme to the 1 button; Assignment adjustable
102	Wash programme Button 2	Parameters	1 .. 50	-	Allocate the wash programme to the 2 button; Assignment adjustable
103	Wash programme Button 3	Parameters	1 .. 50	-	Allocate the wash programme to the 3 button; Assignment adjustable
104	Rinse aid Dosing quantity	Parameters	0.10 .. 1.00	ml/litre water	The value can be read from the rinse aid container label (depends on the water quality)
105	Detergent Dosing quantity	Parameters	0.1...20.0	ml/litre water	Value can be read from the detergent container label (depends on the water hardness)
106	Degree of hardness	Parameters	0 .. 50	°dH	The quantity of soft water available between two regenerations depends on the water hardness
107	Beep on/off	Parameters	0/1	-	Switch acoustic ready message on/off
108	Mode empty display	Parameters	0/1	-	Empty indicator 0: Via INFO 420, 520 1: Output of special characters
109	Partial/full demineralisation available?	Parameters	0,1,2	-	Partial/full demineralisation available? 0: No 1: Partial demineralisation (PD) 2: Full demineralisation (FD)
110	Hardness litres per cartridge type	Parameters	0 .. 250	1000 L	"Replace cartridge" is displayed when the cartridge's capacity is reached (hardness litres/degree of hardness) (INFO 725) is displayed (only in the case of PD)
111	Total operating time display	Display	5 digits	H	Operating time, query only
112	Total number of wash cycles	Display	5 digits	-	Wash cycles/loads, query only
113	Total number of wash cycles since last reset	Display	5 digits	-	Wash cycles/loads, resetting possible
114	Serial number	Display	8 digits	-	Option to query factory parameters
115	Condition of remaining cartridge capacity	Display	0 .. 100	%	Only for partial/full demineralisation: PD: Indication in % FD: 100 = OK; 0 = Replace
119	IR communication	Parameters	0/1	-	It is possible to shut off communication via IR interfaces. (0)

Par. Nr.	Configuration options	Use as	Value range	Unit	Note
120	Load factory setting for service parameters	Parameters	0/1	-	Effective only upon power supply reset ON/OFF. <b>Caution!</b> All changes to service parameters are reset. Power supply reset must be carried out within 5 minutes, otherwise factory settings will not be loaded. Without the power supply reset, information 123 will be displayed.
201	Machine type	Parameters	1 - 9	-	1: FV 40.2 / FV 60.2 / FV28 GiO-M 2: FV 130.2 / FV 250.2 / DV 270.2 3: DV 80.2 / DV 200.2 4: DV 120.2 / DV 125.2 / DV 200.2PW 5: FV 70.2D / FV 40.2TL / TopClean60 6: FV 130.2 TL / FV 250.2 TL / DV 270.2 TL 7: DV 80.2 TL / DV 200.2 TL 8: DV 120.2 TL / DV 125.2 TL / DV 200.2 TL PW <b>Caution!</b> Only changes the assignment list and appliance sequences - not the parameters
202	Set tank temperature	Parameters	10 ... 80 (50 .. 176)	°C/°F	Standard for all the wash programmes of one device! Output dependent on definition
203	Pre-rinse time	Parameters	0 ... 8	Sec.	See pre-rinse process step
204	Rinse time	Parameters	4 ... 30	Sec.	5: FV 40.2/TopClean 60 6: FV 60.2 Energizing duration for the booster pump (Running time limited by P306!)
205	Indication of operation	Parameters	0 .. 8	-	Definition of the information which triggers the potential-free contact 0 – no information 1 – filling/heating, ready for washing/washing, draining 2 – filling/heating, ready for washing/washing 3 – filling/heating 4 – ready for washing 5 – washing 6 – draining 7 – error 8 – not status machine OFF and draining 9 – reserve 10 – not status machine OFF
211	Fine adjustment Rinse time	Parameters	0.0..0.9	Sec.	0.7.: FV 40.2/TopClean 60 0.5: FV 60.2 Figures after the decimal point in P204
218	Lack of rinse aid	Parameters	0/1		Monitoring display
219	Lack of detergent	Parameters	0/1		Monitoring display

Par. Nr.	Configuration options	Use as	Value range	Unit	Note
224	Actuation mode final rinse pump	Parameters	0 .. 4	-	Definition: activation of final rinse pump: 0 – final rinse pump = 0; no signal 1 – final rinse pump; activate according to calculated running time 2 – final rinse pump = booster pump; energizing as booster pump 3 – final rinse pump = wash pump; energizing as wash pump 4 – free
225	Actuation mode detergent pump	Parameters	0 .. 4	-	Definition: activation of detergent pump: 0 – detergent pump; no signal 1 – detergent pump; energizing according to calculated running time 2 – detergent pump = booster pump, energize as pressure increasing pump 3 – detergent pump = wash pump; Activate as wash pump 4 – option – detergent pump using negative pressure dosing
228	Water softener present?	Parameters	0/1	-	In case of incorporated water softener set to 1
240	Load factory settings for configuration data	Parameters	0/1	-	Effective only upon power supply reset ON/OFF. <b>Caution!</b> All changes to service parameters are reset. Power supply reset must be carried out within 5 minutes, otherwise factory settings will not be loaded. Without the power supply reset, information 123 will be displayed.
241	A <sub>0</sub> value	Parameters	0 ...60	-	Only in connection with disinfection machine nos. 5-9 in parameter 201
321	Final rinse pump output	Parameters	0.1 ...10	L/h	Final rinse pump Output definition
322	Detergent pump output	Parameters	0.1 ...20	L/h	Detergent pump Output definition
326	Rinse aid vent time	Parameters	0 ... 255	Sec.	Activate the dosing pump for rinse aid temporarily to remove air from the pipe
327	Detergent vent time	Parameters	0 ... 100	Sec.	Activate the dosing pump for detergent temporarily to remove air from the pipe
347	Disinfection temperature	Parameters	10 ...80	°C/°F	Only in connection with disinfection machine nos. 5-9 in parameter 201
348	Disinfection holding time	Parameters	0 ...900	Sec.	Only in connection with disinfection machine nos. 5-9 in parameter 201

## 15.5 Assignment list

### View inputs/control outputs

Display		Input/output/other	Conditions	
Left	Right			
In	1	0/1	Door closed	None
In	2	0/1	Boiler level	none
In	3	0/1	Leakage detector switch - floor	none
In	4	0/1	Not occupied	none
In	5	0/1	Not occupied	none
In	6	0/1	Not occupied	none
In	7	0/1	ADT impulse sensor (vacuum dosing)	none
In	8	0/1	Not occupied	none
In	9	0/1	Not occupied	None
In	10	0/1	Not occupied	None
In	12	0/1	Not occupied	None
In	13	0/1	Threshold tank level 1	None
In	14	0/1	Threshold tank level 2	None
In	15	0/1	Threshold tank level 3	None
In	16	0/1	Tank level 4 (Option)	None
In	17	0 .. 255	Without function	None
In	18	0 .. 255	Without function	None
In	19	Xxx	Boiler temperature in °C or °F	None
In	20	Xxx	Tank temperature in °C or °F	None
In	21	Xxx	Tank level (1 mm unit)	None
In	22	0 .. 255	Without function	None
Ou	1	0/1	Wash pump	No leak water
Ou	2	0/1	Booster pump	No leak water
Ou	3	0/1	Drain pump	No leak water
Ou	4	0/1	Rinse aid dosing pump	No leak water
Ou	5	0/1	Detergent dosing pump/ADT valve	No leak water
Ou	6	0/1	Indication of operation	No leak water
Ou	7	0/1	Filling valve	No leak water
Ou	8	0/1	SASm soft starter system	No leak water
Ou	9	0/1	Boiler heating	No leak water
Ou	10	0/1	Tank heating	No leak water
Ou	11	0/1	Not occupied	None
Ou	12	0/1	Not occupied	None

Leak water switch condition: Leak water switch must not have operated.

## 15.6 Cleaning programme parameters

Status: 01 August 2016

Cleaning programme no.:	Boiler temperature target value	Cleaning time set value	
		Cleaning	Total
<b>Chemo-thermal disinfection process</b>			
1	59	335	360
2	59	515	540
3	59	655	720 (WW)
<b>Disinfection procedure with the A<sub>0</sub> control system</b>			
23	83	341	360
27	83	461	480
39	83	341	450 (WW)

WW = Water change programme



The dosing times are adjusted to the rinse time so that the concentration is maintained if the rinse time changes.

## 16 Operational problems

Despite careful construction, minor malfunctions may occur, which are usually easy to fix. Possible errors and troubleshooting measures for the operator are described in the following.



Always de-energise the system before carrying out work on the open appliance. To do this, disconnect the appliance from the power supply, using the locally available main switch.

If the described operational problems occur repeatedly, the cause must be identified.



Operational problems not described here can generally only be resolved by a technician or electrician. Please contact your factory representative or authorised dealer.

## 16.1 Information reporting and troubleshooting



Image 2: information display

Information displays can be deleted using the confirmation button.

Provided that the appliance function is restored, the next programme sequence will begin. By pressing the off button, the information display is also deleted.

Information display (excerpt)

INFO no.	Description	Possible cause
120	Emergency programme active Restricted washing possible	No boiler/tank heating No fresh water supply Check system
121	Door not closed	Check S1 connection Change microswitch Check microswitch adjustment Replacing a defective I/O circuit board
122	Incorrect password/no authorization	Enter code once again
123	Factory setting parameter list	Switch the power supply on/off within five minutes to reset parameters to factory settings. After that, this will be rejected and parameters will be retained Information 123 has disappeared
126	Maintenance required	The set operating hours (P122) or batch number (P123) has been reached. Inform the service department and perform maintenance. Reset the maintenance counter (P124)
420	Lack of rinse aid	If the appliance is ready for operation, a lack of rinse agent will be signalled (only if there is a built-in warning system)
520	Lack of disinfectant	If the appliance is ready for operation, a lack of disinfectant will be signalled (only if there is a built-in warning system)

Table 2: information displays

## 16.2 Error messages and troubleshooting



Figure 3: fault display

Error messages will disappear automatically after the fault has been rectified.

Error messages (extract)

ERR.-no.	Description	Possible cause
001	EEPROM plug-in fault	EEPROM not available/incorrectly plugged in/defective Empty or incorrect EEPROM Replace EEPROM with correct parameter set
111	Bottom pan leakage	Leak inside the appliance Pump sump/motor/etc. Defective leakage detector Repair error, remove water
117	Door not locked	The pin of the lifting magnet is not correctly in the locking device. The magnetic coil of the lifting magnet is damaged. Door locking query is not correct.
201	Level not reached during 1st filling	Fresh water inlet insufficient (water tap closed) AquaStop hose kinked Inlet filter soiled AquaStop defective Boiler switch defective
202	Level not reached early enough during filling	See 201
203	No change detected by the level switch during emptying	Boost pump defective Booster pump plug connector loose Start capacitor defective Plug connector loose Plug connector defective No DSP signal on - from I/O circuit board No signal boiler full - from I/O circuit board Check boost pump/S2 using manual control
204	Still no change detected by the level switch at the end of the rinse time	See 203
205	Temperature increase not reached	Boiler heating defective/heating element thermal fuse Temperature sensor defective, incorrect installation position Boiler protection defective, performance switch loose No signal from I/O circuit board

<b>ERR.-no.</b>	<b>Description</b>	<b>Possible cause</b>
206	Wash time increase	Boiler not ready for rinsing in time (Boiler level/boiler temperature) Boiler heating defective/heating element thermal fuse Temperature sensor defective Boiler protection defective, performance switch loose No signal from I/O circuit board
210	Temperature sensor short-circuit	Check sensor cable (plug contacts) Replace sensor Install sensor correctly
211	Temperature sensor interruption	See 210
212	Actual boiler temperature too high	Contacting sticking Incorrect sensor/defective sensor Check sensor/cable (plug-in contact MIKE II XA5)
301	Number of circulatory pumping cycles exceeded. Tank level analysis disrupted	Booster pump output too low Rinse jets dirty Air trap dirty Booster pump rotor defective Condensate in level pipe Hose kinked/loose/leaky
302	It does not fall below level 1 when draining during the wash programme	Drain pump output too low Drain pump dirty/defective Impeller loose Drain pump plug connector loosened Start capacitor defective Tank level analysis disrupted AquaStop system not closing completely No signal from I/O circuit board
303	Level does not drop below level 3 after time (drain pump ON)	See 302
304	Temperature increase not reached	Tank heating defective/thermal fuse radiator Temperature sensor defective, incorrect installation position Tank protection defective, performance switch loose
305	Number of boiler contents insufficient for rinsing. Level 2 not reached	See 301 Level switch defective Plug connector loose
306	Max. level value exceeded Tank level sensor malfunction	Ventilation valve dirty Check tank level Level sensor air catch/check hose
307	Tank level sensor defective	Connection plug loosened Sensor defective Replace I/O circuit board
310	See 210	See 210
311	See 211	See 211
312	See 212	See 212
502	Lack of disinfectant	If the appliance is ready for operation, a lack of disinfectant will be signalled (only if there is a built-in warning system)

Table 3: error messages

If information or fault numbers occur that are not shown in the tables, or if the suggested measure does not lead to the elimination of the fault, please notify a customer service technician.

## 17 Maintenance, servicing

MEIKO recommends having the machine serviced by an authorised service technician at least once a year. As part of the maintenance, an electrical safety inspection is also carried out in accordance with DIN VDE 0701-0702 / DGUV Regulation 3. Wear parts are checked and replaced, if necessary, and the machine tested.

Cleaning work and changing pre-filters in machines with GiO MODULE must be carried out by trained operators.

Have reverse osmosis (GiO MODULE) (option) disinfected in the case of downtimes of more than 6 months.

Regular maintenance is a prerequisite for the long-term reliable and safe operation of a warewashing machine. Maintenance which is neglected or improperly carried out increases the residual risk of unforeseen damage to property and persons, for which no liability will then be assumed.

Maintenance work should only be performed when the washing machine has been completely disconnected from the power supply via the locally available main switch.

### Existing safety systems must not be removed!



A functional test of all safety systems of the device/installation is carried out during every regular maintenance.

We recommend concluding a maintenance contract with our authorised agency in order to ensure safe functioning and a long service life of the appliance.

### 17.1 Basic safety measures during maintenance

Observe the maintenance intervals prescribed in the operating instructions!

Observe the maintenance instructions for the individual components in these operating instructions!



#### Danger of injury from entering a danger zone

Unauthorised persons might be in or enter the danger zone during transport, assembly, commissioning, maintenance and repair work. This can lead to injuries.

- Only permit qualified persons to perform work at the machine.
- Remove unauthorised persons from the danger zone.
- Cordon off danger zone and signpost it for third parties.
- Never remove or disable safety devices on the machine.
- Always wear cut-resistant protective gloves when removing housing parts and when working inside the machine!



Before performing any maintenance or repair work, the washing machine must be switched off completely via the locally available main switch and secured against re-start by using appropriate measures (e.g. via a padlock, the key for which is in the possession of the person performing the maintenance or repair work)!

Failure to observe these precautions can result in serious bodily injury or damage to property.



Before carrying out any maintenance and repair work, ensure that all the parts of the machine that may be touched have cooled down to room temperature!

Carefully dispose of any cleaning products that could harm the environment!

#### 17.1.1 Before commissioning after maintenance or repair work



Before starting operations following maintenance or repair work, all initial tests must be carried out as described in "Machine Settings for Initial Commissioning by the Service Engineer".



### 17.1.2 Observe environmental protection regulations

For all work on or with the appliance, observe legal requirements relating to the avoidance of waste materials and to their recycling/removal!

In particular, during installation, repair and maintenance work, materials that could pollute water such as grease and oils or cleaning fluids containing solvents, must not pollute the ground or run into the sewerage system! These materials must be stored, shipped, collected and disposed of in suitable containers!

## 17.2 Dosing equipment

The dosing equipment itself is principally maintenance-free; however, the peristaltic tubes built into the dosing equipment are not. The lifetime of dosing equipment depends on the chemicals used. We recommend regularly replacing it during maintenance work.

### 17.2.1 Change of products

Change of product means that one rinse aid or disinfectant is replaced by another. If these different products are mixed, it can lead to unwanted occurrences, such as precipitations.

- Always flush hoses and dosing units with warm water.

## 17.3 Maintenance instructions



### NOTE

Maintenance should **only** be conducted by authorised MEIKO personnel.

<b>Maintenance</b>	TopClean 60 / TopClean-M	Part OK	Part faulty	Part exchanged
<b>1. Pumps</b>				
Check pumps for leak tightness, pump rotor noise, rotation direction and function				
Check pump suction				
Check the seat/function of the pump sieves				
Check sliding seal/counter rotation ring				
<b>2. Wash systems</b>				
Check water level in tank				
Check the wash water line for leak tightness				
Check that the washing system is complete and produces the correct spray pattern				
Check the rotation arm centre				
<b>3. Fresh water final rinse</b>				
Check flow water pressure				
Check that the final rinse system is complete and produces the correct spray pattern				
Check that system is watertight				
<b>4. Housing and built-in components</b>				
Check housing, tank, sheet metal body, hood, doors and the covering of the machine base for damage and correct operation				
Check tank cover screens				
Check boiler, hoses, clamps, plastic parts and seals				
Check operation of raising and lowering devices				
<b>5. Fresh water installation</b>				
Check level regulation				
Check valves, clean dirt trap				
Check that all fittings (incl. hand sprayer) are watertight				
<b>For built-in water softener:</b> Check settings				
<b>For complete/partial water softener:</b> Check functioning				
<b>For the GiO module:</b> Change the pre-filter (every 6 months at the latest)				
Check water hardness				

<b>Maintenance</b>	TopClean 60 / TopClean-M	Part OK	Part faulty	Part exchanged
<b>6. Waste water installation</b>				
Check if watertight	■			
Check pressure hose position on the drain pump and operation of drain pump	■			
<b>7. Electrical installation</b>				
Check all fuses	■			
Tighten all electrical connections	■			
Check tank and boiler heating	■			
Check temperature control and final switch	■			
<b>8. Electrical safety check (certificate is optional)</b>				
Visual inspection	■		at least 1 x year	
Check the protective earth conductor	■		at least 1 x year	
Insulation resistance measurement	■		at least 1 x year	
Protection conductor current measurement	■		at least 1 x year	
<b>9. Detergent dosing</b>				
Check dosage, adjust if necessary, change the peristaltic tube if necessary	■			
<b>10. Rinse aid dosing</b>				
Check dosage, adjust if necessary, change the peristaltic tube if necessary	■			
<b>11. Operational check of the complete appliance</b>				
Check appliance for correct interaction of all functions	■			
<b>12. Test run</b>				
Complete a test wash and check the cleaning results	■			
Brief instruction for new personnel	■			

## 18 Dismantling and disposal

In addition to valuable raw materials and recyclable materials, the packaging and the old device may also contain substances that are harmful to health and the environment and were required for the function and safety of the old device.

Please do not dispose of your old device in residual waste. Instead, contact your dealer or the collection points set up in your community for information regarding the disposal of your old device.

### 18.1 Disposal of packaging materials

All the packaging materials are recyclable. The following materials are used:

- Square timber frame
- Plastic sheeting (PE film)
- Cardboard packaging (edge protection)
- Packaging strap (steel strip)
- Packaging strap (plastic (PP))



#### Note

The square timber frame consists of untreated raw pine / spruce. In order to guard against pests, country-specific import regulations may also stipulate the use of treated wood.

### 18.2 Dismantling and disposal of the old device

#### Warning



#### Risk of injury from contact with chemicals

Detergent and rinse aid result in damage to health if in contact with skin or eyes or if swallowed.

- Use eye protection.
- Wear protective gloves.
- Contact a physician immediately if chemicals or water containing chemicals (wash water) are swallowed.

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- Where appropriate, rinse machine components, containers, dosing units and hoses with fresh water to remove chemical residues. Wear suitable clothes (gloves, safety glasses) for this.



The device is marked with this symbol. Please observe the local regulations for proper disposal of your old device.

The components should be separated by material for recycling.

## 19 Documentation

Installation drawing/dimensional drawing

Technical data

Wiring diagram/programming instructions

Installation regulations - general information





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