

Operating instructions

TopClean 60

Type M2
Multiwasher



EN

For the types of the series: **M002CDUC10M2-30-MU**



Read operating instructions before using the Multiwasher!

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1 Notes on the operating instructions

The operating instructions are an integral part of the machine and must be passed on to all subsequent owners or users.

Please read these operating instructions through carefully before use. Please also take note of any additional operating instructions for accessories and integrated third party components.

Only through understanding these operating instructions can errors be avoided and trouble-free operation of the installation guaranteed. By paying attention to the operating instructions, hazards can be avoided, repair and breakdown costs reduced and the reliability and durability of the installation can be increased.

Retain these operating instructions for the entire lifetime of the installation. The storage location must be protected against moisture. Please store the operating instructions in a readily accessible location close to the installation.

Ensure that all persons who work with or on the machine have read and understood the operating instructions.

The operating instructions must be available in the local language for each EU country. If this is not the case, the washing machine must not be commissioned.

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

The entire technical documentation are available free of charge. Additional copies are available for a nominal fee.

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Notes on use of the operating instructions:

- A bullet point (•) designates an action step.
- Numerals (1.) designate several action steps that must be executed in the specified sequence.
- Position numbers in the text that refer to position numbers in figures are shown in parentheses:
(1) Position number 1 in the illustration
- The text is always below the figure and refers to it until a new image follows.

1.1 Product identification

These operating instructions apply to the following machine type:

Multiwasher **TopClean 60, Type M2:**

M002CDUC10M2-30-MU

1.2 Delivery contents

The delivery contents include:

- 1x Multiwasher TopClean 60 M2
- Connecting hoses for fresh water and waste water
- Documentation

Optionally available:

- Racks, according to rack range

1.3 Related documents

The following documents provide additional information to these operating instructions:

- Installation drawing
- Wiring diagram
- Installation instructions for optional components

2 Liability and warranty

All of MEIKO's obligations arise from the relevant purchase contract, which also contains the entire and only valid guarantee provisions. These contractual guarantee provisions shall be neither extended nor restricted as a result of any explanations given in the instructions.

If you follow the instructions in this operating manual carefully, your machine will always give you total satisfaction and will have a long service life.

The delivered system corresponds to the state of technology and safety regulations valid at the time of production/delivery.

The information, data and notes specified in the operating instructions correspond to the latest version at the time of printing. No claims for already delivered systems may be asserted based on these statements, illustrations and descriptions.

Claims must be reported to the manufacturer immediately after determination of the defect or error. Liability claims for personal injury or material damage as well as for operational problems are excluded if they are due to one or more of the following causes:

- Unintended use.
- Improper installation, commissioning, operation and maintenance.
- Operation of the machine or system with defective safety devices or improperly attached or non-functioning safety and protective devices.
- Noncompliance with the notes in the operating instructions regarding transport, storage, mounting, commissioning, operation and maintenance.
- Unauthorised design changes or settings on the machine or system beyond the intended purpose.
- Improper monitoring of parts subject to wear.
- Use of wear and replacement parts that are not from the manufacturer.
- Improperly performed repairs, inspections or maintenance.
- Catastrophes due to human-induced events or force majeure.

3 Safety

3.1 Symbol explanation

3.1.1 Notes in the instructions

In these operating instructions, important notes for safety are specially marked with symbols. Please always observe these notes to avoid accidents and damages to the system.

Warnings

Danger

Short description of the danger:

The signal word **DANGER** designates an immediately threatening danger.
Failure to observe this leads to very serious injuries or death

Warning

Short description of the danger:

The signal word **WARNING** designates a possible danger.
Failure to observe this can lead to very serious injuries or death.

Beware

Short description of the danger:

The signal word **BEWARE** designates a possible danger.
Failure to observe this can lead to minor to medium injuries.

Application information

Caution

Short description:

The signal word **Caution** designates a possible danger.
Failure to observe this can lead to damage to the machine or system.











Note

The signal word **Note** designates further information on the machine / system or its application.

3.1.2 Safety symbols in the instructions

The following note and danger symbols are used both in the document and on the machine. Observe these symbols and signs on the machine to avoid personal injury and material damage!

The symbols have the following meanings:

Symbol	Meaning
	Warning of hazardous areas
	Warning of dangerous electric voltage
	Warning of the danger of hand injuries Caution, keep hands away from parts that bear this warning symbol. The danger exists that hands can be crushed, pulled in or otherwise injured.
	Warning of hot surfaces and liquids
	Warning of the machine falling over
	Warning of environmental damage
	Do not spray with water
	No drinking water
	Access prohibited for persons with pacemakers
	Eye protection must be used or protective glasses must be worn
	Hand protection must be worn
	Read the operating instructions
	Disconnect before servicing or repair
	Potential equalisation connection

3.2 Requirements for the personnel

Commissioning, instructions, repairs, maintenance, assembly and installation of or on MEIKO machines must only be carried out/authorised by MEIKO-authorised service partners.

During operation it must be ensured that:

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

The required qualifications for performing specific work at the machine are determined by MEIKO.

Persons Activity	Trained operating staff	MEIKO authorised company tradesman	MEIKO authorised service technician
Installation/assembly			✓
Commissioning			✓
Operation, use	✓	✓	✓
Cleaning	✓	✓	✓
Check safety devices		✓	✓
Troubleshooting	✓	✓	✓
Troubleshooting, mechanical	✓	✓	✓
Troubleshooting, electrical		✓*	✓
Maintenance		✓	✓
Repairs		✓	✓

* with training as an electrician



Note

The instructions must be acknowledged in writing.

Qualified staff, as defined by the operating Instructions, are persons:

- over 14 years of age,
- due to their training, experience and instruction are able to perform the required activities,
- are authorised to perform the required activities by the person responsible for safety of the machine,
- who have been trained in first aid and in the on-site rescue arrangements,
- have read and understood the operating instructions and corresponding safety instructions and will follow them.

3.3 Residual risks

Phase	Activity	Nature of the hazard	Avoidance measure
Transport and assembly	Loading and unloading with forklift truck	Crushing/impact	<ul style="list-style-type: none"> • Load-bearing capacity of the forklift truck must be adequate for the weight of the machine • Please note the machine's centre of gravity • Secure to prevent slipping
	Deposit at the installation location	Crushing/impact	<ul style="list-style-type: none"> • Ensure that the ground beneath is capable of taking the load • Ensure that the machine cannot tip
	Install electrical connections	Electric shock	<ul style="list-style-type: none"> • Only skilled personnel may connect up the machine • Adhere to the accident prevention regulations
	Install separate GiO MODULE (optional)	Trips/falls/crushing	<ul style="list-style-type: none"> • We recommend fastening the GiO MODULE to the wall/table/machine • Mount freestanding module using solid base • Possibly run module at 90 degrees (lying)
Commissioning	Fill with detergent/rinse aid	Eye injury/health risks	<ul style="list-style-type: none"> • Wear protective eyewear/gloves • Avoid contact with skin and eyes
Operation	Wash cycle running	Scalding on inappropriate opening of door	<ul style="list-style-type: none"> • Do not open door during cycle
		Machine catching fire due to overload or blockage of pump motors	<ul style="list-style-type: none"> • Always use fine/coarse sieve when running machine to keep out foreign bodies • Pre-wash washware
	Loading and unloading the machine	Trapping of hand	<ul style="list-style-type: none"> • To close the machine door, use the handle designated for this purpose
		Broken washware causing cuts/severing	<ul style="list-style-type: none"> • Wash washware in the specially designed rack in the machine • Place small items in the appropriate rack inserts • Washware must not come into contact with rotating parts of the machine
		Risk of snagging with loose clothing or items of jewellery	<ul style="list-style-type: none"> • Wear suitable work clothing and sturdy shoes • Do not wear rings, necklaces or other pieces of jewellery

Phase	Activity	Nature of the hazard	Avoidance measure
Operation	Loading and unloading the machine	Slipping	<ul style="list-style-type: none"> • Use non-slip floor coverings
		Contact with hot water	<ul style="list-style-type: none"> • If necessary, allow washware to cool down • If necessary, allow machine components to cool down before touching • Do not remove tank cover sieve while machine is in operation • Protective gloves recommended
	Other activities	Injury through standing or sitting on the open machine door	<ul style="list-style-type: none"> • Ensure that nobody sits or stands on the door
		Swallowing of water in the rinsing area	<ul style="list-style-type: none"> • Do not use the rinse water for food preparation • Do not drink the rinse water
	Independent changes to chemical dosing	Breathing difficulties/suffocation	<ul style="list-style-type: none"> • Only allow specialist personnel to adjust dosing
	Refilling detergent/rinse aid	Tripping/falling over open dosing cover	<ul style="list-style-type: none"> • Close dosing cover as soon as refilling is complete
		Eye injury/health risks	<ul style="list-style-type: none"> • Wear protective eyewear/gloves • Avoid contact with skin and eyes
Maintenance and cleaning	Any maintenance work	Electric shock	<ul style="list-style-type: none"> • Before opening the covering panels, ensure the mains switch has been disconnected and secured so that it cannot be turned on again • Only specialist personnel may carry out maintenance work
	Cleaning or maintenance	Tripping/falling over open door	<ul style="list-style-type: none"> • Always close door after use
		Contact with hot water and hot machine parts	<ul style="list-style-type: none"> • Allow machine components to cool down before touching • Wear protective gloves
	Cleaning	Poisoning	<ul style="list-style-type: none"> • Do not use aggressive cleaning or scouring agents • Only use descaling products suitable for commercial machines • Wear protective gloves
	GiO MODULE: replace filter cartridge	Water escaping	<ul style="list-style-type: none"> • Provide suitable vessel (e.g. collecting pan)
Dismantling and disposal	Dismantling	Eye injury/health risks	<ul style="list-style-type: none"> • Wear protective eyewear/gloves • Avoid contact with skin and eyes • Where appropriate, clean hoses, dosing system and machine parts with fresh water
	Loading and unloading with forklift truck	Crushing/impact	<ul style="list-style-type: none"> • Load-bearing capacity of the forklift truck must be adequate for the weight of the machine • Please note the machine's centre of gravity • Secure to prevent slipping

3.4 Intended use

The appliance is intended exclusively for commercial use. The washware must be suitable for commercial multiwashers and disinfection devices.

TopClean 60 washware:

- Operating theatre boots
- Flower vases
- Trays

TopClean 60 washware for face masks (chemo-thermal disinfection process):

- Face masks

MEIKO does not accept any liability for damages resulting from improper use or incorrect operation. Any other use, conversions and modifications are not permitted and are dangerous

3.5 Foreseeable misuse

Any use which is not detailed in the section on "Intended use" is contrary to the intended use!

The Multiwasher must **not** be used for these foreseeable misuses:

- Kitchen utensils with electronic components
- Textiles, oven cloths or steel sponges
- Utensils that must not come into contact with foodstuffs (e.g. ashtrays, candlesticks, etc)
- Living creatures
- Food for subsequent consumption
- The preparation of foodstuffs
- Iron utensils
- Support grids of cooking hobs / gas hobs
- Not for the cleaning disinfection process chemo-thermal up to max. 60°C, suitable washware
- Introducing service water into the local waste water system
- Standing or sitting on the open machine door
- Processing of hazardous substances (hazardous, in particular toxic, highly flammable, highly flammable and explosive substances) in the machine
- Operation of the machine in potentially explosive atmospheres

3.6 Fundamental safety and accident prevention regulations



Note

The following safety instructions aim to protect operating personnel as well as third parties and the Multiwasher itself.

Please take note of the information in these instructions and the signs on the Multiwasher.

However, safety can only be guaranteed during operation if all necessary measures are taken.

The operator of the machine has an obligation of care to ensure that these measures are planned for and also to check that they are correctly implemented.

The operator must ensure in particular that:

- The Multiwasher is only used in accordance with its intended purpose. In the event of the machine being used or operated contrary to this, damage or risks may arise.
- In order to guarantee functionality and safety, only original spare parts supplied by the manufacturer may be used.
- The safety of the Multiwasher is not impaired by the subsequent installation of a dosage system.
- Only appropriately qualified and authorised personnel operate, maintain and repair the Multiwasher.
- No one sits or stands on the open door.
- Staff are regularly trained in all questions relating to occupational safety and environmental protection and are familiar with the operating instructions and, in particular, the safety information contained therein.
- The area around the machine is assessed with reference to the risk to other people, e.g. children; people with physical, sensory or mental impairments; people lacking in knowledge or experience. In case of doubt, special optional initiation functions other than conscious, intentional operation (i.e. operation from the screen) are to be deactivated.
- The Multiwasher is only operated in perfect, functional condition, all protection devices and cover panels are installed.
- The safety and switching equipment are regularly tested to ensure they are functioning correctly.
- Multiwasher which are accessible from the rear may only be operated with rear panel cladding.
- The required personal protective equipment is made available to and worn by maintenance and repair personnel.
- A functional test on all machine safety systems is carried out at every regular maintenance appointment.
- None of the safety and warning notices affixed to the Multiwasher itself are removed and all are legible.
- Upkeep (maintenance and inspection) is carried out on optional vendor parts according to the requirements in the corresponding instructions.
- Following installation, commissioning and handing over of the Multiwasher to the customer/operator, no modifications are made (e.g. electrical or mechanical machine components).
- Equipment for optimising energy consumption must not be used to lower the required operating temperatures, as set out in the standards DIN 10510, 10511 and 10512. If equipment for optimising energy consumption is nevertheless installed, MEIKO does not accept any responsibility for a possible reduction in the quality of the wash and hygiene.

Information on operating the Multiwasher:

- Only operate the Multiwasher under the supervision of trained personnel.
- Do not use the Multiwasher if you are unsure about its operation.
- Always close all doors and flaps.
- After use, turn off the machine at the mains isolator. This is located in the electricity supply for the machine.
- Wear suitable work clothing.
- When working on the Multiwasher, wear appropriate protective gloves.
- Allow machine components and washware to cool down before touching.

Information on use of detergent/disinfectant and rinse aid:

- Only use detergents/disinfectants and rinse aids that are suitable for the chemo-thermal cleaning disinfection process up to max. 60°C.
- Acquire information from the manufacturers of these products. Only use products authorised by the manufacturer of the respiratory protection technology.

Detergent and rinse aid may contain hazardous substances. The rinse water used during operation contains chemicals.

- Never drink the rinse water.
- Contact a doctor immediately if rinse water is swallowed.
- Pay attention to the manufacturers' hazard warnings on the original containers and safety data sheets.
- When handling chemicals, wear appropriate protective gloves and eyewear.
- Do not confuse detergent and rinse aid.
- Ensure that the suction connections for the Multiwasher are correctly connected to the containers.

Information on the use of descaling agents

Residue from descaling agents can cause damage to the plastic components and sealing materials in the machine.

- Acquire information from the manufacturers of these products.
- Please observe the manufacturer's hazard warnings.
- Thoroughly remove any residue after use.

Information on cleaning the machine

Foam can cause malfunctions in the Multiwasher and a poor wash.

- Do not use a foaming manual Multiwasher detergent for pre-cleaning or for cleaning the machine.
- Allow machine components and washware to cool down before touching.

Information on cleaning the surrounding area

When cleaning the surrounding area, the machine can be damaged by aggressive external influences (fumes, cleaning substances (detergents)) or the ingress of water.

- Do not use aggressive detergents (e.g. aggressive tile cleaner).
- If installed at ground level, never allow the surrounding area to flood.

Information on electrics and electronics

Depending on requirements, the Multiwasher is to be connected to a three-phase (400 V) earth wire system. There is a risk of fatal injury if exposed, electrically charged components or cables are touched.

- Please take note of the warning information in these instructions and the signs on the Multiwasher.
- For all work on electrical components in the machine, ensure that the electrical connections are physically secure.
- For all work on electrical components in the machine, check the wires and cables for any possible damage and replace, if necessary.

Incorrect cleaning can cause damage to the electronics.

- The Multiwasher, switch cabinets and other electrical components must never be sprayed with a hose or high pressure cleaner.
- Make sure that no water can enter the machine unintentionally.

Information on 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.

3.7 What to do in the event of an emergency

In emergency situations, rapidly switching off the machine will help prevent personal injury or material damage.



- Disconnect the Multiwasher from the power supply using the locally available mains switch.

4 Product description

4.1 Functional description

The TopClean 60 is a cleaning with a square rack.

The Multiwasher has one wash and one final rinse cycle. A temperature regulator maintains the set cleaning temperature.

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

The wash cycle is followed by a fresh water final rinse. The washware is rinsed with hot fresh water via a separate nozzle system. This heats up the wash ware for the following drying process.

At the same time, the final rinse water is used to regenerate the rinse water; this reduces the degree of soiling of the rinse water.

4.2 Type label

The rating plate is located on the inside of the front panel. Additional rating plates are located on the switch cabinet behind the front panel, and on the separate GiO MODULE (if it is part of the Multiwasher).



The following information can be found on the rating plate:

- 1 Name and address of manufacturer
- 2 Machine type
- 3 Model name
- 4 Serial number
- 5 Current type
- 6 Electrical connection
- 7 Rated power boiler
- 8 Water pressure
- 9 Boiler capacity
- 10 Steam connection
- 11 Year of manufacture
- 12 CE mark
- 13 IP protection rating

4.3 GiO-MODULE

The module works according to the principle of reverse osmosis. Raw water is pressed by a pump through a semi-permeable membrane. The membrane lets only water molecules through. The hardness components and salts (lime scale, etc.) contained in the water are held back. The clean water (permeate) is brought to the Multiwasher; the materials held back (concentrate) are brought to the drain.

4.4 Blue operating concept



1 AktivPlus filter

The parts of the Multiwasher that must be touched by the operator in operation and in daily use are blue. And so after a short briefing, operators know intuitively that they have to remove and clean the wash system, tank cover sieve and filter, for example.

4.5 Chemicals for operating the appliance



⚠ Warning

Risk of injury from contact with chemicals

- Observe the safety data sheets and dosing recommendations of the chemical manufacturers.
- Use eye protection.
- Wear protective gloves.
- Do not mix different chemical products.

⚠ Caution

- Only use dosing agents for cleaning or for water softening and final rinsing that have been approved for use in multiwashers and disinfection devices by MEIKO.
- Do not mix different cleaning products.

Approved products for:

TopClean 60:

Detergent:

Doyen RF90FMS

Rinse aid:

Etol GT500

TopClean 60 for face masks (chemo-thermal disinfection process):

Chemical disinfectant and detergent: EW 80 mat, EW 80 systems, Sekumatic FDR, Ecolab

Rinse aid: Etol GT500

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

Observe the manufacturers' dosing instructions. Disinfectants, detergents 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.

Washware is 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 detergent/disinfectant and rinse aid depend on the product used. The relevant chemical supplier can install the correct dosing.

4.5.1 Detergent dosing/disinfectant dosing

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

The liquid is delivered from the storage tank by means of a dosing unit through a hose line into the cleaning tank. The dosing unit is self-priming. Dosing occurs during each filling cycle and at the beginning of each programme cycle via time control.



TopClean 60 dosing:

We recommend a detergent dosing of 4 ml/l. Observe the chemical manufacturers' dosing instructions.



TopClean 60 dosing for face masks (special application):

We recommend a dosing quantity of approx. 2 ml/l alkaline detergent for disinfection using the A_0 control system and approx. 10 ml/l disinfectant for chemo-thermal disinfection. Observe the chemical manufacturers' dosing instructions.

4.5.2 Rinse aid dosing

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

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



We recommend a rinse aid dosing of 0.25 ml/l for TopClean 60 and a dosing of 0.2 ml/l for TopClean 60 for face masks. The correct dosing leads to an even water film. In case of overdosing, bubbles and stripes will form, which means that the dosing needs to be reduced. In case of under-dosing, water drops remain on the washware which means that the dosage needs to be increased.

The dishwashing machine is equipped by default with dosing units for dosing liquid detergent/rinse aid. Manual dosing with powder cleaner is not intended.

Optionally, the dishwashing machine can be equipped with or prepared for an external dosing system. In this case, further information can be found on the wiring diagram and in the External dosing document.

4.6 Disinfection control

MEIKO offers two types of machine with thermal disinfection for institutions with additional hygiene requirements. Both versions have greater heating performance in the wash tank than standard machines.

4.6.1 A_0 control

The term A_0 refers to a way of measuring how microorganisms are eliminated by moist heat disinfection methods. By using a moist heat disinfection method, it is expected that a specific temperature over a period of time has the effect of eliminating a predictable number of microorganisms with a particular resistance.

The standard setting for a dishwasher with A_0 – control is the hygiene value A_0 60:

- The tank temperature during washing is up to 74° C.
- For tank temperatures of 65° C or higher, each tank temperature is assigned a factor.
- Using the measured tank temperature, a value is determined and added every second until the hygiene value A_0 60 is reached.
- The rinsing process runs until the end of the programme cycle time, but at least until the temperature value is reached. After this comes a pause for draining and the final rinse.



The display shows the current A_0 value.

4.6.2 Chemo-thermal disinfection process (TopClean 60 for face masks)

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 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. If the cleaning time set in the programme has already been reached or exceeded, the dripping phase begins and then the final rinse starts with approx. 60°C hot fresh water.



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

5 Technical data

MEIKO has created a dimensional drawing that shows machine dimensions as well as connection and consumption values.

Further data should be taken from the MEIKO dimensional drawing.

Net weights

Versions		Weight approx.
TopClean 60, Type M2		73 kg
+	GiO module reverse osmosis	23 kg

Noise emission

Workplace noise level $L_{pA} \leq 70$ dB (A).

5.1 EC-/EU-Declaration of Conformity

See separate EC-/EU-Declaration of Conformity

6 Assembly

Warning



Danger of injury due to entry into 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 qualified persons should perform work at and with the machine.
- Remove unauthorised persons from the danger zone.
- Block off danger area and mark it for third parties.
- Never remove or disable safety devices on the machine.

6.1 Prerequisites for assembly

6.1.1 Checking the condition at delivery

- Check that the delivery is complete immediately after receiving it by comparing it with MEIKO's order confirmation and/or the delivery note.
- If applicable, submit a claim for any missing parts immediately to the freight forwarder and notify MEIKO.
- Check the machine for transportation damage.



Note

If there is any suspicion of transportation damage, the shipping company and MEIKO must be informed immediately in writing. Photograph any damaged parts and send the pictures to MEIKO.

6.1.2 Requirements for the installation area

The Multiwasher is only frost-proof in as-delivered state or if equipped with special features (optional: frost removal).

Installation of the Multiwasher in an area where the ambient temperature is below 0° C can result in damage to the internal water circuit components (e.g. pump, solenoid valve, boiler, etc.).

- Ensure that the storage and installation locations are always frost free.

There is a danger of slipping in the working area due to the use of water.

- After assembly, put in place non-slip floor coverings in the working area based on the general/location-specific safety regulations.

6.1.3 Requirements for the waste water connection

A waste water pump is integrated into the drain pump.

- Connect the drainage hose to the locally available waste water pipe.
 - **For Australia only:**
The drain hose needs to have a water tight connection to a waste fitting complying to AS 1589 AS 2887, a sanitary plumbing pipe or fitting complying with AS/NZS 1260.
- Depending on the machine application, a grease trap may be included, based on the general/location-specific regulations.
- For Multiwasher with GiO MODULE, the maximum drain height must be considered (see dimensional drawing).

6.1.4 Requirements for the fresh water connection

Fresh water connections and their components must be carried out in accordance with local regulations, e.g. EN 1717/DIN 1988-100. The fresh water must be of the same quality as drinking water in microbiological terms. This also applies to processed water.

The basic model of the Multiwasher features an air gap (type AA or AB as per EN 1717 or EN 61770). In the case of SVGW (Switzerland) and other countries, a type EA safety device is also required in front of the connecting hose, depending on the machine version. Installation components and materials must be suitable and permitted in accordance with the locally valid regulations. A solenoid valve is integrated into the Multiwasher's fresh water line. This, together with the leakage detector in the floor tray in the frame, ensures that the fresh water inlet within the machine is shut off in the event of a leak.

Pressure range of the fresh water supply flow pressure in front of the solenoid valve:

- Machines with no GiO MODULE:
0.6–5 bar (60–500 kPa)
- Machines with GiO MODULE or ActiveClean water softener:
1–5 bar (100–500 kPa)

Maximum pressure

- The maximum pressure of 5 bar (500 kPa) must not be exceeded.

Measures to ensure correct water pressure:

- If the minimum flow pressure is too low, increase the pressure using a pressure booster pump.
- If the maximum pressure is exceeded, limit the pressure using a pressure regulator.

Other measures:

- Ensure that no rogue iron particles can enter the appliance via the mains fresh water connection. The same also applies for contamination by other metal particles (e.g. copper shavings). Corresponding instructions are contained in the installation drawing.
- A dirt trap must be fitted in the fresh water supply to protect the solenoid valve.
- After the Multiwasher has been unused for an extended period of time, drain the connection line and rinse it before putting the machine back into operation.
- When replacing an old machine with a new one, make sure that the existing feed hose is exchanged for the new feed hose supplied with the machine.

6.1.5

Requirements to the electrical connection



⚠ Warning

Danger to life from electric shock

Contact with live electrical parts can lead to serious injury or death.

- Work at or repairs to the electrical system must be conducted by a qualified electrician who complies with the electrotechnical rules.
- Disconnect the machine from the power supply before working on the electrical system. To do this, turn the local mains switch to **OFF** and ensure that it can't be switched back on again.

Note

The wiring diagram is located behind the front panel of the Multiwasher. This must remain in the machine!

The type plate with the electrical connected values is located inside the front panel.

Other dangers

Danger of death by electric shock: contact with live electrical parts can lead to serious injury or death.

Who may connect it?

The Multiwasher must be connected by a (MEIKO authorised) electrician in accordance with the locally applicable norms and regulations.

Local earth wire system

The electrical safety of this machine is only ensured if it is connected to a properly installed protective conductor system. It is very important to verify this fundamental safety feature. If in doubt, have the building wiring checked by an electrician.

Voltage and frequency

The machine may only be operated with the data provided on the descriptive plaque (see chapter "Type label" on page 15).

Power cable/fixed connection:

Recommended connection with protective equipotential bonding

The machine and accessory appliances are intended for permanent connection to the locally available power supply and the locally available protective equipotential bonding and have been tested accordingly before being brought to market.

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 wire (N): When connecting to three-phase current, use a 4-pole clamping strip (L1, L2, L3, PE).

Wire colours: live wire L1 = black/1, L2 = brown/2, L3 = grey/3, neutral wire N = blue/4, protective earth conductor PE = green-yellow

Alternative connection without protective equipotential bonding

The operator can decide at his/her own discretion and under his/her own responsibility to connect the electrical supply using customer resources in collaboration with a professional electrician:

1. Fixed connection without protective equipotential bonding
2. Plug connection according to EN 60309 (CEE plug connection)



Note

Where discharge currents exceed 10 mA, the use of an RCD/FI is not recommended. False alarms restrict machine availability.

MEIKO expressly excludes any liability for damages caused by improper connection of the machine.

This includes any work in connection with services due to said connection, e.g. processing complaints or claims due to:

- Triggered RCD/FI
- Automatic shut-down of the supply when consistency is lost in the protective earth conductor (EN 60204-1 Chap. 8.2.8.c)

Local mains isolator

The power supply must be fused in accordance with the regulations and a lockable mains isolator provided in the local electrical installation.

If an unearthed neutral conductor (N) is used with three-phase current, the mains isolator must have 4 poles (with alternating current 2 poles).

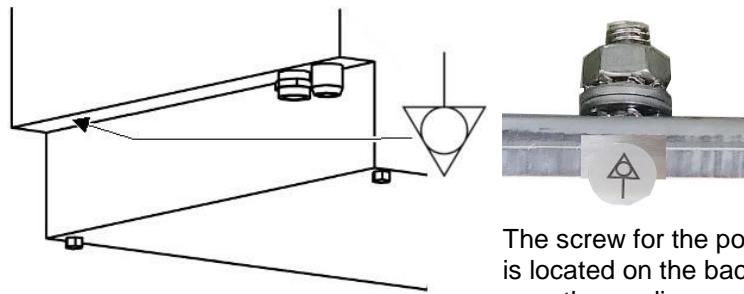
If the neutral wire (N) is not earthed, you must use a 4-pole mains switch. Mains power cables must be oil-resistant, shielded, flexible cables no lighter than an H07RN-F cable.

Local fuse protection

The machine must be fused appropriately for the rated current shown on the descriptive plaque. The electrical connection must be fused as a separately fused circuit (final circuit). Take note of the connection variant.

The requirements for limiting voltage changes, fluctuations and flicker in accordance with DIN EN 61000-3-11 for the Multiwasher TopClean 60 M2 are fulfilled if the network has a current-carrying capacity of ≥ 100 A.

Protective equipotential bonding



The screw for the potential equalisation is located on the back of the machine near the media connections.

The potential equalisation connection must be carried out in accordance with the requirements of the local electricity supply companies and all applicable local regulations (in Germany VDE 0100 Part 540). Incorporate the machine and any conductive substructures and table systems into the local potential equalisation system.

6.2 Transport

Warning



Danger of injury from the machine falling over

The machine can fall over if transported incorrectly. People can be injured as a result.

- Transport work must be performed only by qualified persons.
- Please note safety instructions on the packaging.
- Always transport the machine only on the supplied wooden frame.
- Wear protective gloves and shoes.

The packaging is specifically designed to allow the appliances to be moved safely and securely using a pallet jack or a sack truck. For safe transport, the Multiwasher is supported by a special square-timber frame.



- Execute transport carefully.
- Open packaging using a suitable tool.
- Unpack the Multiwasher only after transport is completed.

6.3 Perform assembly



⚠ Warning

Danger of injury due to machine tipping

If machine is freestanding and not secured, it could fall over and cause crushing.

- If machine is freestanding, it must be secured long term to prevent tipping.
- Wear protective gloves and safety shoes.

⚠ Beware

Improper fresh water connection

Backsiphonage of non drinking water into the water supply system

- Have the fresh water connected by a qualified professional and in accordance with local regulations.

Caution

Material damage due to ingress of pressurised media

- Shut off the fresh water supply at the main valve prior to installation works.
- Check that all lines are securely connected.

Caution

Material damage due to steam escape

Small quantities of steam may escape through the Multiwasher's door area. It is possible that adjacent furniture can swell up.

- Protect adjacent furniture from swelling up.
- If possible, avoid installing the machine in an area close to sensitive furniture.



Note

Assembly may be performed **only** by a licensed and authorised service technician!

Assembly must be carried out in accordance with the installation drawing.



- Ensure the machine is level in both directions by using a water level.
- Compensate for an uneven floor by adjusting the foot studs (1).
- Table joints must be sealed with detergent-resistant sealing compound (e.g. silicone).
- Check that the machine is stable.

For disposal of packaging materials, see chapter "Dismantling and disposal" on page 50!

7 Commissioning



Warning

Danger of injury due to entry into 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 qualified persons should perform work at and with the machine.
- Remove unauthorised persons from the danger zone.
- Block off danger area and mark it for third parties.
- Never remove or disable safety devices on the machine.

7.1 Check prerequisites for commissioning

Caution

Material damage due to steam escape

Small quantities of steam may escape through the Multiwasher's door area. It is possible that adjacent furniture can swell up.

- Protect adjacent furniture from swelling up.
- If possible, avoid installing the machine in an area close to sensitive furniture.

Prerequisites to be provided by the customer:

- Consistently frost free storage and installation area.
- Anti-slip floor coverings installed in the work area around the Multiwasher
- 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.

7.2 Perform commissioning



Note

Instruction and initial commissioning may be performed **only** by an authorised service technician! The operator must not use the Multiwasher before completing training.

To avoid damage to the appliance or dangerous injuries during commissioning of the machine, please note the following points:

- Check supplier parts (e.g. external water processing devices or heating pumps). More detailed information can be found in the relevant operating instructions.
- Ensure that all tools and foreign parts are removed from the machine.
- Make sure that any escaped fluids have been removed.
- Before commissioning, activate all safety systems and door switches (on under-counter machines).
- Check all screw connections sit securely.
- For Multiwasher with GiO MODULE, attention must be paid to the "Commissioning certificate for GiO MODULE and the instructions adhered to accordingly.

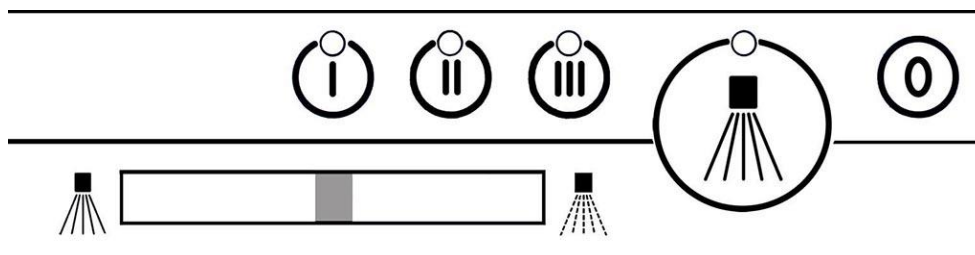
8 Operation/use


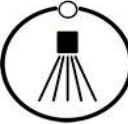



8.1 Operating panel

The Multiwasher is equipped with a membrane key pad.

A display reports the current temperatures of the wash and rinse water and displays information messages and error codes, if applicable. Control lights with the keys show readiness to operate, the active wash programme, the current wash cycle.

The meaning of each of the keys and symbols is described below.



Key/symbol	Meaning
	On/off key / programme termination
	Wash key with control light Control light lit: wash programme is running Control light flashing: self-cleaning programme / drain programme is running
	Wash programme keys 1 – 3 with control lights Control light 1, 2 or 3 lit: Multiwasher ready to run / wash programme 1, 2 or 3 selected Control light 1, 2 or 3 flashing: Multiwasher is being made ready for operation
	Current wash and disinfection temperature
	Current final rinse temperature

8.1.1

Prepare Multiwasher



Warning

Danger of injury from contact with chemicals

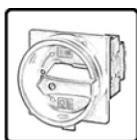
Detergent and rinse aid result in damage to health if in contact with skin or eyes or if swallowed.

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

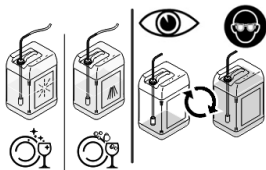
System operators must be very familiar with the Operating Instructions of the Multiwasher. Incorrect operation may result in personal injury or material damage.



1. Ensure the water supply is available.



2. Switch on the local mains switch.



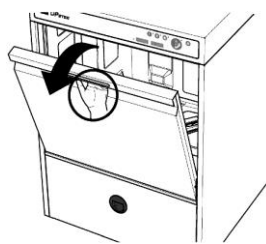
3. Check detergent and rinse aid and top up, if required, see chapter "Fill consumables" on page 38.

4. Ensure that the hoses are fed down to the base of the container.

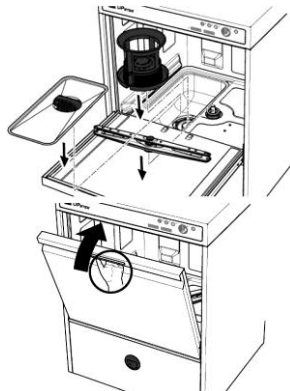


Note

If there is air in the hoses, the automatic dosing will not function correctly. The relevant pipe must be ventilated, see chapter "Ventilating the pipes" on page 47.



5. Open door.



6. Insert filter, tank cover sieve and wash systems.

7. Close door.

8.2 Start up the machine

➡ The Multiwasher is closed and does not have a rack inside.

① 1. Press **on/off key**.



The Multiwasher is filling and heating up. During this time, the control light flashes over the selected wash programme key. The time required for the machine to be ready to operate depends on the temperature of the water supply and the installed boiler or tank heating capacity.



When the machine is ready to operate, the control light above the selected wash programme key is lit permanently.

8.3 Washing

8.3.1 Inserting the washware



The following fundamental principles must be observed when placing the washware in the racks:

TopClean 60



All hollow containers must always be **loaded upside down**. Otherwise the water will not be drained from the washware and brilliant drying will not be possible.

Do not stack cleaning parts in the rack. Direct access to the wash water would be more difficult and the cleaning times would have to be unnecessarily long. Shorter cleaning with racks which are not overfilled is more economical.

TopClean 60 for face masks (chemo-thermal disinfection process)



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

8.3.2 Select wash programme



1. Press the desired wash programme key.

The wash chamber door is locked during the program sequence.



The control light of the selected wash programme key is lit.

Cleaning pro-gram	Meaning	Wash items
	Short programme – Cleaning programme I	Lightly soiled washware
	Normal programme – Cleaning programme II	Normally soiled washware
	Water change programme – Cleaning programme III	Heavily soiled washware

Programme configuration

Depending on the machine type and the electricity and water supply, the programme configuration can vary. The programme configuration is shown in the following table.

Programme table TopClean 60

Wash programme no.	Setpoint boiler temperature	Wash time setpoint	
		Washing	Total
	[°C]	[s]	[s]
1	83	71	90
2	83	101	120
3	83	221	240
4	65	71	90
5	83	141	160
6	83	161	180
7	83	191	210
8	83	341	360
9	65	101	120
10	65	141	160
11	65	161	180
12	65	191	210
13	65	221	240
14	65	341	360
15	85	71	90
16	85	101	120
17	85	141	160
18	85	221	240
19	85	341	360
20	83	251	270
21	83	281	300
22	83	311	330
23	83	341	360
24	83	371	390
25	83	401	420
26	83	431	450
27	83	461	480
28	83	491	510
29	83	521	540

30	83	71	90 (WW)
31	83	101	120 (WW)
32	83	131	150 (WW)
33	83	161	180 (WW)
34	83	191	210 (WW)
35	83	221	240 (WW)
36	83	251	270 (WW)
37	83	281	300 (WW)
38	83	311	330 (WW)
39	83	341	360 (WW)
40	83	371	390 (WW)
WW = Water change programme			

Programme table TopClean 60 for face masks

Cleaning programme no.	Boiler temperature target value	Cleaning time set value	
		Cleaning	Total
	[°C]	[s]	[s]
Chemo-thermal disinfection process			
1	59	335	360
2	59	515	540
3	59	655	720 (WW)
Disinfection process with the A₀ control system			
23	83	341	360
27	83	461	480
39	83	341	450 (WW)



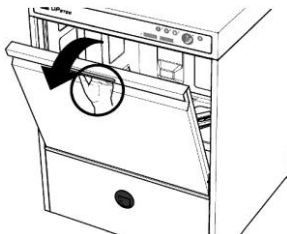
Note

The concentration of the rinse aid in the water remains constant: if the rinse time is changed, the dosage amount of the rinse aid changes correspondingly.

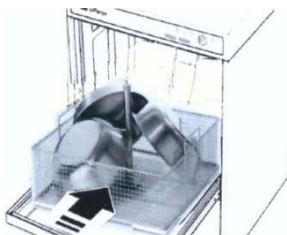
8.3.3 Start wash cycle



1. Clear the washware
2. Put the washware into the rack.



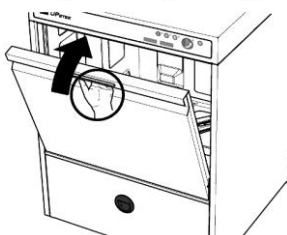
3. Open door.



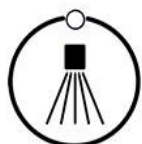
4. Insert the rack into the Multiwasher.



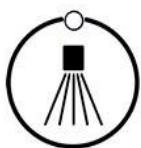
5. Ensure that the correct programme has been selected, see chapter "Select wash programme" on page 28.



6. Close door.



7. Press the **wash key**.



The control light above the wash key is lit. The machine washes automatically and switches the programme off after completion.

The wash cycle time may differ from the set programme running time if the programme running time is not sufficient to heat up the boiler and tank water to the pre-set temperature. In this case, the cycle time is automatically extended. This means that the dishwasher runs until the required temperatures are reached, but max. 5 minutes.



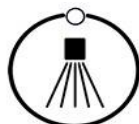
The cleaning programme starts and runs fully automatically until the end of the programme.

The wash chamber door is locked during the programme sequence.

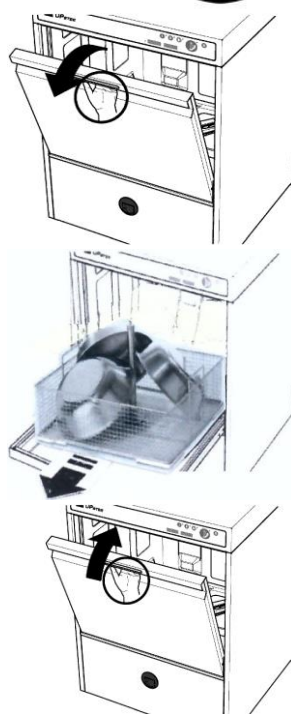
Beware

Danger due to hot rinse water, washware and machine parts

- Wear protective gloves if necessary.
- Let the washware cool down before emptying, if necessary.
- Let the machine cool down before touching machine parts, if necessary.
- Never open the machine door or hood during a wash cycle.
- Only open and close the hood/door using the designated handle(s).



After the programme ends, the control light above the wash key turns off and an acoustic signal sounds.




1. Open door.

2. Carefully remove the rack.

3. Close door.

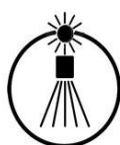
8.4 Shutting down the Multiwasher

 The Multiwasher is closed and does not have a rack inside.



Press the **Off button**. All control lights turn off.

The self-cleaning programme with subsequent forced draining is started.



The control light on the wash key is flashing. The rinse water is pumped out and the wash chamber is sprayed with hot fresh water. After the programme ends, the control light turns off.



After the end of the process, clean the machine, see chapter “Daily cleaning” on page 53.

8.5 Fill consumables



Warning

Danger 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 (rinse water) are swallowed.

8.5.1

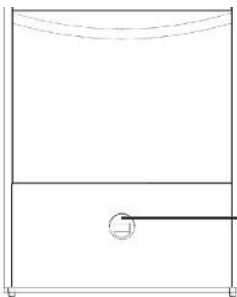
Refill of internal storage container



Rinse aid low



Detergent low



The machine indicates the shortage of detergent and/or rinse aid on the display. The internal storage containers must be topped up. The storage tanks are located on the inside of the lower front panel.

1. Open front panel by lifting slightly on the handle (1).



Dosing recommendation

2. Pour the appropriate chemical for dosing into a measuring cup.

Maximum filling quantity	TopClean 60 M2
Detergent	1000 ml
Rinse aid	150 ml



3. Use the loading chute to pour the chemical carefully into the machine until the storage container is full. Check fill level from outside.
 - Blue: rinse aid
 - Transparent: detergent
4. Rinse the loading chute and measuring cup.
5. Close lower front panel.

8.5.1 Replacing the external storage container



Rinse aid low



Detergent low



Note

The storage containers for detergent and rinse aid are located in close proximity to the Multiwasher.

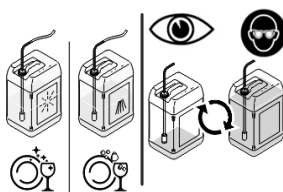


Note

When using a suction lance which detects whether a storage container is empty, a shortage of detergent/disinfectant or rinse aid will be indicated on the display.



A storage container is empty.



1. Remove the suction lance from the empty container and insert it into a full container.

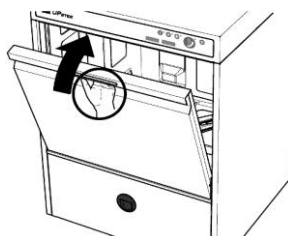
2. If necessary, ventilate the pipelines, see chapter “Ventilating the pipes” on page 47.

8.6 Water change programme (option)

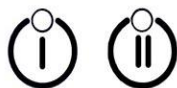
A water change programme can be assigned to the wash programme keys. In the standard setting, the water change programme is stored at the wash programme key III (if present).

The Multiwasher washes normally and empties the tank. The fresh water final rinse follows. The water from the fresh water final rinse is already used for refilling the wash tank. The control light above the wash key goes out.

The following options now exist:



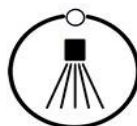
- Open door, remove rack, close door.



- Press wash programme key I or II, if the following programme is to be without a complete water change.



Machine is made ready for operation.



- Open door, remove rack, close door and press wash key.



Machine is made ready for operation and the wash programme is started.



- Press the off key.



The self-cleaning programme with subsequent emptying of tank and boiler is started in order to take the Multiwasher subsequently out of operation.

8.7 Malfunctions

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.

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

Common malfunctions

Malfunction	Possible cause	Remedy
Multiwasher doesn't fill up	No water present	Open the stop valve
	Dirt trap clogged	Clean the dirt trap
	Open door/hood	Close door/hood
Final rinse does not spray	No water present	Open the stop valve
	Dirt trap clogged	Clean the dirt trap
	Insert for rinse nozzle incorrectly inserted (UPster/DV/FV)	Check rinse arm
Streaks / smears on the washware	Unsuitable rinse aid	Change product
	Incorrect dosing quantity	Adjust dosing quantity
	Regeneration time incorrect (UPster/DV/FV)	Set regeneration time outside wash cycle times.
	Water pre-treatment defective	Check water pre-treatment
Strong formation of foam in the wash tank	Dirt level too high	Prepare the washware more thoroughly/change tank water more frequently
	Manual detergent used	Do not use a foaming manual detergent for pre-cleaning or for cleaning the machine. Foam can cause malfunctions in the Multi-washer and a poor wash.
	Unsuitable detergent	Change product
	Unsuitable rinse aid	Change product
Door remains locked	Power failure	Restore power. Re-start the programme. The door unlocks at the end of the program.
Programme termination	Programme already started was cancelled. Wash chamber door remains locked.	Re-start the programme.

As a rule, faults that are not described here require assistance from an authorised service technician. Please contact your subsidiary or authorised dealer.

8.7.1 Messages



When a malfunction occurs, an information or error message (**INFO/ERR**) is displayed.


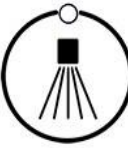


- Information messages (**INFO**) can be acknowledged with the wash key. If the cause has been remedied (see table), operation can be continued.
- Error messages (**ERR**) usually require the deployment of an authorised service technician!


INFO	Description	Possible cause	Measures / remedial action
120	Emergency programme active	<ul style="list-style-type: none"> • No boiler/tank heating • No fresh water supply 	<ul style="list-style-type: none"> • Continued work possible at limited capacity • Call a service technician!
121	Door/hood not closed	<ul style="list-style-type: none"> • Door/hood open • I/O circuit board is defective • Microswitch defective • Microswitch not correctly set 	<ul style="list-style-type: none"> • Close door/hood • Call a service technician!
122	Incorrect password/no authorization	<ul style="list-style-type: none"> • Code incorrectly entered 	<ul style="list-style-type: none"> • Enter code again
123	Factory setting parameter list	<ul style="list-style-type: none"> • Switch supply voltage on/off 	<ul style="list-style-type: none"> • No intervention by the operator is necessary • Message disappears after 5 min.
126	Maintenance required	<ul style="list-style-type: none"> • The set operating hours (P 122) or batch number (P 123) has been reached 	<ul style="list-style-type: none"> • Continued work possible • Call a service technician!
420	Lack of rinse aid (with integrated fill-level detection)	<ul style="list-style-type: none"> • Storage tank empty • Suction lance not correctly introduced 	<ul style="list-style-type: none"> • Replace empty storage tank • Check suction lance • Possibly Bleed pipes
520	Lack of detergent (with integrated fill-level detection)		

ERR	Description	Possible cause	Measures / remedial action
001	EEPROM error	<ul style="list-style-type: none"> EEPROM <ul style="list-style-type: none"> Not present/defective Installed incorrectly Incorrect data/empty 	<ul style="list-style-type: none"> Continued work not possible Call a service technician!
111	Leakage in floor tray	<ul style="list-style-type: none"> There is a leak 	<ul style="list-style-type: none"> Continued work not possible Call a service technician!
117	Door not locked	<ul style="list-style-type: none"> The pin of the lifting magnet is not correctly in the locking device The magnetic coil of the lifting magnet is damaged Signal of door locking is not correct 	<ul style="list-style-type: none"> Check pin of the lifting magnet Continued work not possible Call a service technician!
201	Boiler level not reached during first filling (with integrated pressure booster pump)	<ul style="list-style-type: none"> Fresh water inlet insufficient (water tap closed) Supply hose kinked/disconnected/leaks Inlet filter soiled Solenoid valve defective Boiler switch defective 	<ul style="list-style-type: none"> Check water supply Check supply hose Check pre-filter/sieve and clean, if necessary Possibly Call a service technician!
202	Boiler level not reached on time during filling (with integrated pressure booster pump)		
203	No change detected by the boiler level switch when emptying (with integrated pressure booster pump)	<ul style="list-style-type: none"> Pressure booster pump defective Plug connections disconnected (e.g. pressure booster pump) Start capacitor defective Boiler level switch defective No signal to or from pressure booster pump and I/O circuit board No signal boiler full - from I/O circuit board 	<ul style="list-style-type: none"> Continued work not possible Call a service technician!
204	No change yet detected by the plug connector (with integrated pressure booster pump installed) after the rinse time expired		
205	Boiler temperature not reached after max. heat time (P310)	<ul style="list-style-type: none"> Boiler heating defective/heating element thermal fuse Temperature sensor defective, incorrect installation position Boiler protection defective, output switch triggered No signal from I/O circuit board 	<ul style="list-style-type: none"> Continued work not possible Call a service technician!
206	Wash time increase	<ul style="list-style-type: none"> Boiler not ready for rinse aid on time (temperature or level not reached) Boiler heating defective (thermal fuse) Temperature sensor defective Boiler protection defective, output switch triggered No signal from I/O circuit board 	<ul style="list-style-type: none"> Acknowledge message, continued work possible Let programme run without intervention by the operator If it occurs frequently, call a service technician!
210	Boiler temperature sensor short-circuit	<ul style="list-style-type: none"> Sensor defective Sensor position not correct Plug contact not connected properly 	<ul style="list-style-type: none"> Continued work not possible Call a service technician!
211	Boiler temperature sensor interruption		
212	"Actual" boiler temperature too high (>95°C)	<ul style="list-style-type: none"> Contactor sticking Incorrect sensor/defective sensor 	<ul style="list-style-type: none"> Continued work not possible Call a service technician!

ERR	Description	Possible cause	Measures / remedial action
301	Number of circulatory pumping cycles for tank filling exceeded Tank level analysis disrupted	<ul style="list-style-type: none"> Feeding water pressure too low Inlet filter soiled Rinse nozzles dirty Air trap dirty Condensate in level pipe Supply hose kinked/disconnected/leaks 	<ul style="list-style-type: none"> Check water supply Check supply hose Clean inlet filter Clean rinse nozzles Call a service technician!
302	While drain pumping during the wash programme, tank level 1 is not fallen below on time (with integrated drain pump)	<ul style="list-style-type: none"> Drain pump output too low Drain pump dirty/defective Impeller loose Drain pump plug connection open Start capacitor defective Tank level analysis disrupted Aquastop does not close correctly No signal from I/O circuit board 	<ul style="list-style-type: none"> Continued work not possible Call a service technician!
303	While drain pumping during the wash programme, tank level 3 is not fallen below on time (with integrated drain pump)		
304	Tank temperature not reached after max. heat time (P314)	<ul style="list-style-type: none"> Tank heating defective/thermal fuse radiator Temperature sensor defective, incorrect installation position Tank protection defective, output switch triggered 	<ul style="list-style-type: none"> Continued work not possible Call a service technician!
305	Number of boiler fills insufficient for rinsing. Tank level 2 not reached	<ul style="list-style-type: none"> Feeding water pressure too low Inlet filter soiled Rinse nozzles dirty Air trap dirty Condensate in level pipe Supply hose kinked/disconnected/leaks Level sensor defective Plug contact not connected properly 	<ul style="list-style-type: none"> Check water supply Check supply hose Clean inlet filter Clean rinse nozzles Call a service technician!
306	Max. tank level exceeded Tank level analysis disrupted.	<ul style="list-style-type: none"> Air trap dirty Condensate in level pipe Level sensor defective Plug contact not connected properly 	<ul style="list-style-type: none"> Empty Multiwasher and refill Call a service technician!
307	Tank level sensor defective	<ul style="list-style-type: none"> Connection plug loosened Sensor or I/O circuit board defective 	<ul style="list-style-type: none"> Call a service technician!
310	Temperature sensor short-circuit	<ul style="list-style-type: none"> Sensor defective Sensor position not correct Plug contact not connected properly 	<ul style="list-style-type: none"> Continued work not possible Call a service technician!
311	Temperature sensor interruption		
312	Actual tank temperature too high (>85°C)	<ul style="list-style-type: none"> Contacting sticking Incorrect sensor/defective sensor 	<ul style="list-style-type: none"> Continued work not possible Call a service technician!

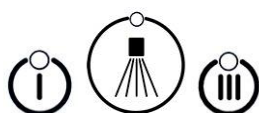
8.8 Change authorisation level

Key/symbol	Meaning
	On/Off button Start programming
	Wash key Confirm entry and jump to next position in the code
	Wash programme key 1 Increase value by one
	Wash programme key 3 Decrease value by one

-  1. Press and hold the on/off key for approximately three seconds.







2. Enter the service code for the required authorisation level.





After entry of the correct code, the desired authorisation level (1, 4) is displayed in the left field on the first digital position. If the entry is false, the message **Info 122** appears.

Authorisation level 1 – service level

Read service data (**service code: 10000**)

The operator can view the service data.

Read / modify service data (**service code 10001**)

The operator can carry out all functions required for normal operation and configure the settings.

Authorisation level 4 – dosing equipment level




Read settings (**service code: 40000**)

The operator can view the data for the dosing equipment.

Read / modify settings (**service code 40044**)

The operator can view/edit all the relevant parameters for the dosing equipment.

8.9 Service level

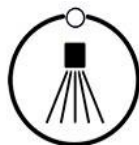
Code display	Meaning
	View parameters, see page 46.
	Ventilating the pipes, see page 47.
	Ventilating the pipes, see page 47.

8.9.1 View parameters

1. Switch to security authorisation level 1 **Service level (10000)**, see chapter “Change authorisation level” on page 45.



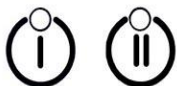
2. Choose the entry 1–1.



3. Confirm the selection.



The first parameter is displayed.



4. Scroll through and view the parameters with the wash programme keys.



- The service level can be departed with the **on/off key**.

8.9.2 Parameter list

Par. No.	Configuration options	Use as	value range	Unit	Factory setting	Note
101	Wash programme Key 1	Indication	1 .. 50	-	23	Allocate the wash programme to the key 1 Assignment adjustable
102	Wash programme Key 2	Indication	1 .. 50	-	27	Allocate the wash programme to the key 2 Assignment adjustable
103	Wash programme Key 3	Indication	1 .. 50	-	39	Allocate the wash programme to the key 3 Assignment adjustable
104	Rinse agent Dosing quantity	Indication	0.10 .. 1.00	ml/liter water	0.2	Value can be read from the rinse aid container label (dependant on water quality)
105	Detergent Dosing quantity	Indication	0.1... 20.0	ml/liter water	2.0	Value can be read from the detergent container label (dependant on water quality)

Par. No.	Configuration options	Use as	value range	Unit	Factory setting	Note
106	Hardness degree	Parameters	0 .. 50	[°dH]	0	The quantity of soft water available between two regenerations depends on the hardness of the water.
107	Beep ON/OFF	Parameters	0/1	-	1	Switch on/off acoustic ready message
108	Mode "Clear" display	Parameters	0/1	-		"Clear" display 0: via INFO 420, 520 1: display of special characters
109	Partial / full desalination available?	Parameters	0,1,2	-		Partial / full desalination available? 0: NO 1: partial demineralisation (TE) 2: full desalination (VE)
110	Hardness litres per cartridge type	Parameters	0 .. 250	1000 l		When the cartridge's capacity is reached (hardness litres/degree of hardness), "Replace Cartridge" will be displayed (INFO 725) (only in the case of TE)
111	Total Operation time Display	Display	5 figures	h		Operation time query only
112	Total number of wash cycles	Display	5 figures	-		Wash cycles/loads, query only
113	Total number of wash cycles since last reset	Display	5 figures	-		Wash cycles/loads, re-setting possible
114	Serial number	Indication	8 figures	-		Option for calling up works parameters
115	Condition Remaining cartridge capacity	Indication	0 .. 100	%		Only for partial / full desalination TE: indication in % VE: 100 = OK; 0 = replace
119	IR-communication	Parameters	0/1	-	1	It is possible to shut off communication via IR interfaces. (0)
120	Total number of wash cycles Indication	Parameters	0/1	-	0	Definition: Activation detergent pump: ATTENTION! All changes to service parameters will be reversed. Power supply reset must be carried out within 5 minutes, otherwise factory settings will not be loaded. Without power supply reset, the information 123 will be displayed.

Par. No.	Configuration options	Use as	value range	Unit	Factory setting	Note
201	Machine type	Parameters	1 - 9	-	6	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 Attention! Only assignment list and machine sequences change – no parameters
202	Must be-tank temperature	Indication	10 ... 80 (50 .. 176)	°C/°F	74	Standard for all the rinse programmes on one appliance! Output dependent on definition.
203	Pre-rinse time	Parameters	0 ... 8	sec.	0	See pre-rinse process step
204	Rinse time	Parameters	4 ... 30	sec.	5	5: FV 40.2/TopClean 60 6: FV 60.2 Energizing duration for the pressure increasing pump (running time limited by P306!!)
205	Indicator lamp	Parameters	0 .. 8	-	1	Definition of the information which is to be switched via the potential-free contact 0 – no information 1 – filling/Heating, ready for washing/washing or pumping out 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	Parameter	0,0..0.9	sec.	0.7	0,7: FV 40.2 0,5: FV 60.2 Figures after the decimal point in P204
218	Shortage of rinse aid	Parameters	0/1		0	Monitoring Indication
219	Shortage of detergent	Parameters	0/1		0	Monitoring Indication

Par. No.	Configuration options	Use as	value range	Unit	Factory setting	Note
224	Activation mode rinse agent pump.	Parameters	0 .. 4	-	1	Definition: Energizing rinse aid pump: 0 – rinse pump = 0; no signal 1 – rinse aid pump; energizing according to calculated running time 2 – rinse aid pump = pressure increasing pump; energizing as pressure increasing pump 3 – rinse aid pump = wash pump; energizing as wash pump 4 - free
225	Energizing mode detergent pump	Parameters	0 .. 4		4	Definition: Energizing detergent pump: 0 – detergent pump; no signal 1 – detergent pump; energizing according to calculated running time 2 – detergent pump = pressure increasing pump; energize as pressure increasing pump 3 – detergent pump = wash pump; energize as wash pump 4 – option – detergent pump using negative pressure dosing
228	Water softener incorporated?	Parameters	0/1	-	0	In case of incorporated water softener set to 1
240	Load factory settings for configuration data	Parameters	0/1	-	0	Effective only upon power supply reset ON/OFF ATTENTION! All changes to service parameters will be reversed Power supply reset must be carried out within 5 minutes, otherwise factory settings will not be loaded. Without power supply reset, the information 123 will be displayed.
241	A ₀ -value	Parameters	0 ...60	-	60	Only with disinfection machine no. 5 - 9 in parameter 201
321	Rinse agent pump output	Parameter	0.1 ... 10	l/h	1.3	Rinse agent pump. Output definition.
322	Detergent pump output	Parameter	0.1 ... 20	l/h	8.5	Detergent pump Output definition.
326	Pipe vent time rinse agent	Parameters	0 ... 255	sec.	200	Activate rinse agent pump temporarily to remove air from pipe.
327	Pipe vent time detergent	Parameters	0 ... 100	sec.	0	Activate detergent pump temporarily to remove air from pipe.
347	Disinfection temperature	Parameters	10 ...80	°C/°F	0	Only with disinfection machine no. 5 - 9 in parameter 201
348	Disinfection temperature	Parameters	0 ...900	sec.	0	Only with disinfection machine no. 5 - 9 in parameter 201

8.9.3 Ventilating the pipes

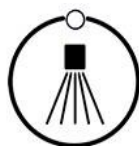
The detergent/disinfectant or rinse aid pipes must be bled if air is sucked in from the dosing equipment. This occurs if a storage tank is completely emptied during operation, or if one of the suction lances is not carried to the base of the container.

1. Switch to security authorisation level 1 **Service level (10001)**, see chapter “

Change authorisation level” on page 45.



2. Select the entry 1–2 for venting the detergent line, entry 1–3 for the rinse line.



3. Confirm the selection.



Venting of the respective line is running, and the remaining time in seconds is displayed. If necessary, repeat venting.



Venting can be cancelled with the **on/off key**.

8.10 Dosing system level

1. Switch to security authorisation level 4 dosing system level (40000 or 40044), see chapter “

Change authorisation level” on page 45.



The parameters relevant for the dosing system are displayed and can be changed.

Code display	Meaning	Adjusting range
P104	Rinse aid dosing amount	0.10–1.00 ml/L
P105	Detergent dosing amount	0.10–20.0 ml/L
P218	Rinse aid low	1/0 = Display on/off
P219	Detergent low	1/0 = Display on/off
P224	Activation mode rinse aid dosing pump	0 = Do not activate 1 = Activate through calculated running time 2 = Activate like rinse aid pump 3 = Activate like wash pump
P225	Detergent dosing pump activation mode	0 = Do not activate 1 = Activate through calculated running time 2 = Activate like rinse aid pump 3 = Activate like wash pump
P321	Final rinse pump output	0.10–10 L/h
P322	Wash pump output	0.10–20 L/h
P326	Bleed time rinse aid line	0–255 s
P327	Bleed time detergent line	0–100 s

9 Maintenance and cleaning



⚠ Warning

Danger to life from electric shock

Contact with live electrical parts can lead to serious injury or death.

- Work at or repairs to the electrical system must be conducted by a qualified electrician who complies with the electrotechnical rules.
- Disconnect the machine from the power supply before working on the electrical system. To do this, turn the local mains switch to **OFF** and ensure that it can't be switched back on again.



⚠ Warning

Danger to life from electric shock if cover panels are open

If the machine is operated without cover panels, electrified parts are freely accessible. Contact with these parts can lead to serious injury or death.

- Disconnect the machine from the power supply before opening the cover panels. To do this, turn the local mains switch to **OFF** and ensure that it cannot be switched back on again.
- Attach all cover panels before placing the machine back in operation.



⚠ Warning

Danger of injury due to entry into 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 qualified persons should perform work at and with the machine.
- Remove unauthorised persons from the danger zone.
- Block off danger area and mark it for third parties.
- Never remove or disable safety devices on the machine.



⚠ Beware

Danger due to hot rinse water, washware and machine parts

- Wear protective gloves if necessary.
- Let the washware cool down before emptying, if necessary.
- Let the machine cool down before touching machine parts, if necessary.
- Never open the machine door or hood during a wash cycle.
- Only open and close the hood/door using the designated handle(s).



⚠ Beware

Danger of crushing

Body parts can be crushed when the door is closed.

- Close the door using the blue handle.

Caution



Environmental damage due to improper disposal of liquids

Environmentally hazardous liquids (e.g. grease and oils, hydraulic oils, coolants, cleaning agents containing solvents etc.) may be used during work on and with the machine. Improper disposal of these liquids can damage the environment.

- Always capture, store and transport liquids in suitable containers.
- Never mix liquids.
- Dispose of liquids properly in accordance with local requirements.

9.1 Maintenance



Note

Maintenance work must only be carried out by an authorised in-house technician or an authorised service technician.

Cleaning work and changing pre-filter in Multiwasher 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.

The Multiwasher 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 are necessary.

We recommend concluding a maintenance contract with our subsidiary in order to ensure a long service life of the Multiwasher.

A functional test on all safety systems of the machine is carried out during every regular maintenance.

- Comply with the maintenance intervals prescribed in these operating instructions.
- Please note the maintenance instructions for the individual components in these operating instructions.
- Carefully dispose of any cleaning products that could harm the environment.

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.

9.2 Maintenance table



Note

Maintenance work must **only** be carried out by MEIKO authorised staff!

Maintenance work	Checked	Cleaned	Replaced	Maintenance requirement
Visual inspection				
1. Electrical installation				
Re-tighten all screw connections (e.g. heating contactors, control fuse), check plug/terminal connections				Annually
Visual check of all electrical equipment (e.g. switches, cables, plugs, etc.)				Annually
Check tank and boiler heating				Annually
2. Pumps				
Check pumps for leaks and any visible damage				Annually
Check pumps for pump rotor noise and function				Annually
3. Wash tank, wash and final rinse system				
Functional and visual test of washing and final rinse arms				Annually
Replace sealing rings on wash arms				Annually
Check air trap and clean, if necessary				Annually
Check tank level control is sealed				Annually
Check sieves and filters				Annually
Check that wash and final rinse systems are not leaking				Annually
Check water level in tank				Annually
4. Casing				
Check casing, tank and cladding for damage and correct operation				Annually
5. Fresh water installation				
Check valves, clean dirt trap				Annually
Check that the boiler level control/air trap are not leaking				Annually
Check that boiler, hoses, clamps and plastic parts do not leak				Annually
Check that boiler drainage system does not leak				Annually
6. Wastewater installation				
Replace flap on ventilation valve				Annually
Check operation of drain pump during drainage				Annually
Check that pumps, hoses are not leaking				Annually

Maintenance work					Checked	Cleaned	Replaced	Maintenance requirement
Visual inspection								
7. Disinfectant and cleaning agent dosing								
Replace peristaltic tube and seals on the nozzles								Annually
Check that disinfectant and cleaning agent dosing system is working and not leaking								Annually
8. Rinse aid dosing								
Replace peristaltic tube and seals on the nozzles								Annually
Check that rinse aid dosing system is working and not leaking								Annually
9. Test run to test function of whole machine								
Check filling and heating until it is ready for operation								Annually
Visual inspection of the entire machine for leaks								Annually
Check results of test wash and rinse								Annually
Brief training for new personnel								Annually
10. Options								
Integrated reverse osmosis system (if present)								
Visually check whole system for leaks								Annually
Change pre-filter								Every six months
Check fine sieve insert and throttle in concentrate pipeline								Annually
Check concentrate outlet for deposits and correct operation								Annually
Fill in separate log, "Certificate of Commissioning"								Annually
Partial demineralisation (PD)/Full demineralisation (FD) (if present)								
Functional testing								Annually
11. Water quality, temperature								
Raw water	°C	°dH	°KH	µS/cm				Annually
Water quality after water treatment (if available)	°C	°dH	µS/cm					Annually
12. Electrical safety check (certificate is optional)								
Visual inspection								Annually
Check earth wire								Annually
Measure insulation resistance								Annually
Measure earth leakage current								Annually

9.3 Daily cleaning

Caution

Material damage due to water ingress

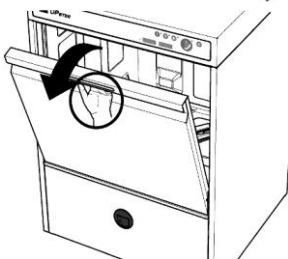
Electrical cables and electronic components can be damaged if they come into contact with water.

- The Multiwasher, switch cabinets and other electrical components must **never** be sprayed with a hose or high pressure cleaner.
- Make sure that no water can enter the machine unintentionally.
- If installed at ground level, **never** flood the surrounding room.

Note

Do not use a foaming detergent for dish-washing by hand for pre-cleaning or cleaning the Multiwasher. Foam causes malfunctions and results in poor wash results.

The machine is emptied, see chapter "Shutting down the Multiwasher" on page 37.



1. Open door.



2. Remove tank cover sieve, filter, wash systems top and bottom. All parts to be cleaned are blue or have a blue handle.
3. Remove all food residues sticking to the tank, the tank heater and the filters using a brush.
4. Remove the wash and rinse arms and rinse thoroughly under running water. When doing this, pay particular attention to the nozzles!
5. Clean filter under running water.
6. Reinstall all parts in reverse sequence.

9.4 Cleaning the stainless steel surfaces

Caution

Material damage due to incorrect cleaning

Cleaning of parts made of stainless steel with unsuitable cleaning agents, care products and cleaning utensils leads to damage, deposits or discolourations on the machine.

- Never use aggressive cleaning or scouring agents.
- Never use cleaning agents that contain hydrochloric acid or bleaches based on chlorine.
- Do not use cleaning utensils previously used to clean non-stainless steel.

Caution

Material damage due to aggressive cleaning products

The use of aggressive cleaning and care products near the machine can cause damage to the machine due to their fumes.

- Make sure that the cleaning and care products cannot have direct contact with the machine.
- Do not use aggressive cleaning agents (e.g. aggressive tile cleaner) to clean the surrounding area.
- Please observe the notes on the product packaging.
- In case of uncertainty, request information from the suppliers of these products.

We recommend that, when required, the stainless steel surfaces are cleaned exclusively using cleaning and care products that are suitable for stainless steel.

- Lightly soiled parts can be cleaned with a soft and possibly damp cloth or sponge. For moistening we recommend only using demineralised water.
- In order to prevent limescale, we recommend wiping the surfaces thoroughly dry after cleaning.

9.5 De-scaling



Warning

Danger of injury from contact with acids

Descaling agents can cause damage to health if they come into contact with skin or eyes or are swallowed.

- Use eye protection.
- Wear protective gloves.
- Contact a physician immediately if chemicals or water containing chemicals (rinse water) are swallowed.
- Please take note of the manufacturer's safety instructions.

Caution

Destruction of plastic parts and seals from residues of de-scaling agent

Completely flush the de-scaling agent out of the Multiwasher.


Operating the machine using hard water can result in the build up of lime scale deposits in the boiler and the tank interior. If this occurs, it is necessary to de-scale the tank interior, boiler housing, tank heating, boiler heating and the washing and rinse systems.

Notes on conducting de-scaling:

- For de-scaling, only use products suitable for industrial machine. Observe the manufacturer's instructions!
- Completely flush the de-scaling agent out of the Multiwasher. To do so, perform 1–2 wash cycles with fresh water.
- Possibly assign Customer Service the task of de-scaling the boiler.

9.6 Spare parts

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

Type:
SN:


(This information can be found on the type plate, see chapter “Type label” on page 18.

10 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.

10.1 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.

10.2 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.



- 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.

11 Abbreviations

Abbreviation	Meaning
GiO	GiO MODULE, integrated reverse-osmosis system
pH	The pH value denotes the acidity of liquids
LpA	LpA denotes the emission sound pressure levels at the workplace
dB	Decibel, unit of sound pressure level.

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13 Notes

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