

UPster U 400 M2

Glass- and dishwasher

Original operating instructions



For the types in the series: M001DWUC10M2-10



Before using the machine, read carefully the operating instructions, the product description and the safety instructions.



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1 Notes on the operating instructions

The operating instructions as well as the applicable documents must be read before the first commissioning, kept for later use, and must be accessible to the operator at all times. Failure to observe the operating instructions may result in damage to persons and property.

These operating instructions can be downloaded via the following address:
www.meiko.com or <https://partnetnet.meiko-global.com>.

1.1 Product identification

These operating instructions apply to the following machine types:

UPster U 400 T M2:
M001DWUC10M3-10

1.2 Delivery contents

The delivery contents include:

- 1x glasswasher UPster U 400 M2
- Matching racks for glassware and dishes depending on machine model
- Connecting hoses for fresh water and waste water
- Documentation

1.3 Related documents

In addition to these operating instructions, there are other documents that are available depending on the authorisation:

Operator (included in delivery contents)	Authorised service technician
EC/EU declaration of conformity	Dimension sheet
Short operating instructions	Installation instructions
Wiring diagram	Installation instructions for optional components (e.g. GiO module separately)
	Service instructions

2 Declaration of conformity

This section reproduces the content of the EC/EU Declaration of Conformity for the product. The signed EC/EU Declaration of Conformity with serial number is enclosed with the product.

We hereby declare under our sole responsibility the conformity of the product with the essential requirements of this EC Directive:

- 2006/42/EC Machinery Directive, OJEU L157/24

Furthermore, we declare the conformity of the product with the following EU directives:

- 2014/30/EU Directive on Electromagnetic Compatibility, OJEU L96/79, 29/03/2014
- 2011/65/EU Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment, OJEU L174/88, 01/07/2011
- The safety objectives set out in the Low Voltage Directive 2014/35/EU (*OJEU L96/357, 29/03/2014*) were met in accordance with Annex I, No. 1.5.1 of the Machinery Directive.

Responsible for documentation:

Jan Ernst, MEIKO Maschinenbau GmbH & Co. KG, Englerstraße 3 77652 Offenburg

Responsible person:

Christoph Homburger, Head of Production and Technical Department, CTO MEIKO Group

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-authorized 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.

Activity	Persons	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 site	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
Commissioning	Fill with detergent/rinse aid	Eye injury/health risks	<ul style="list-style-type: none"> Wear safety eyewear/gloves Avoid contact with skin and eyes
	Activities in the machine	Hand injuries on sharp edges	<ul style="list-style-type: none"> Wear protective gloves
Operation	Programme is running	Contact with hot water	<ul style="list-style-type: none"> Do not open door during programme run
	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 crockery causing cuts/severing	<ul style="list-style-type: none"> Wash/clean 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
		Slipping	<ul style="list-style-type: none"> Use non-slip floor coverings
		Contact with hot water and hot machine parts	<ul style="list-style-type: none"> If necessary, allow washware to cool down If necessary, allow machine components to cool down before touching 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 wash chamber	<ul style="list-style-type: none"> Do not use the water in the wash chamber for food preparation or drink it
	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	Eye injury/health risks	<ul style="list-style-type: none"> Wear safety 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 housing parts, 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 	

Phase	Activity	Nature of the hazard	Avoidance measure
Dismantling and disposal	Dismantling	Eye injury/health risks	<ul style="list-style-type: none"> • Wear safety eyewear/gloves • Avoid contact with skin and eyes • If needed, 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 machine is intended exclusively for commercially washing dishes, cutlery, trays, glasses, kitchen utensils, baking trays and containers.

The washware must be suitable for use in commercial dishwashers and the associated stress caused by high temperatures and cleaning chemicals.

The washware must be suitable for use in commercial machines and the associated stress caused by high temperatures and cleaning chemicals.

Suitable cleaning chemicals and their dosing must be agreed with the chemical supplier.

The machine may only be operated by trained personnel.

Only operate the machine when it is in perfect working order.

Only operate the machine within the limits specified in the ambient conditions.

If servicing is required, only use original spare parts from the manufacturer. This is the only way to guarantee perfect function and safety.

The machine is not authorised for operation in a potentially explosive environment.

Setup, installation, repair and connection of an external dosing system may only be carried out by authorised specialists or by the dosing system supplier. This must not impair the safety of the machine. Other changes or conversions are not permitted.

3.5 Foreseeable misuse

- Washing electrical appliances.
- Washing textiles.
- Washing living creatures.
- Washing/preparing food.
- Washing items that must not come into contact with foodstuffs (e.g. ashtrays, candlesticks).
- Washing ferrous, non-corrosion-resistant objects (steel sponges, gratings, etc.).
- Only wash aluminium parts with a suitable detergent.
- Washing objects made of wood.
- Washing plastic parts that are not heat- and alkali-stable.
- Using hand dishwashing detergent for pre-cleaning.
- Filling the machine from an external source (e.g. with a shower).
- Disposing of dirty water via the machine (e.g. from a cleaning bucket).
- Standing or sitting on machine parts or using the machine as a climbing aid.

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 dishwashing machine itself.

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

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 dishwashing machine 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 dishwashing machine is not impaired by the subsequent installation of a dosage system.
- Only appropriately qualified and authorised personnel operate, maintain and repair the dishwashing machine.
- 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 that they contain.
- 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 dishwashing machine is only operated in perfect, functional condition, all protection devices and covers are installed.
- The safety and switching equipment is regularly tested to ensure it is functioning correctly.
- Dishwashers accessible from behind may only be operated with a rear cover.
- The required personal protective equipment is made available to and worn by maintenance and repair personnel.
- A functional test on all dishwashing machine safety systems is carried out at every regular maintenance appointment.
- None of the safety and warning notices affixed to the dishwashing machine 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 dishwashing machine to the customer/operator, no modifications are made (e.g. electrical or mechanical machine components).

Information on operating the dishwashing machine:

- Only operate the dishwashing machine under the supervision of trained personnel.
- Do not use the dishwashing machine if you are unsure about its operation.
- Always close all doors and flaps.
- Wear suitable work clothing.
- When working on the dishwashing machine, wear appropriate protective gloves.
- Allow machine components and washware to cool down before touching.

- At the end of operation:
 - Switch off the dishwashing machine at the on-site mains disconnection device. This is located in the electricity supply pipe for the machine.
 - Close the on-site stop valve in the fresh water supply line.

Information on use of detergent and rinse aid:

- Only use detergents and rinse aid suitable for commercial dishwashing machines.
- Acquire information from the manufacturers of these products.

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

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

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 dishwashing machine and a poor washing result.

- Do not use a foaming manual dishwashing detergent for precleaning 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 (steams, 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.

Notices on electrics and electronics

There is a danger to life if exposed parts and damaged supply lines under electrical voltage are touched.

- Please take note of the warning information in these instructions and the signs on the dishwashing machine.
- Whenever you are working on electrical components in the machine, ensure that electrical connections are physically secure.
- Whenever you are working on electrical components in the machine, check wires and cables for any potential damage and replace, if necessary.

Incorrect cleaning can cause damage to the electronics.

- The dishwashing machine, switch cabinets and other electrical components must never be sprayed with a hose or high pressure cleaner.
- Ensure that no water can enter the machine by accident.

Notice on non-ionising radiation



The dishwasher does not specifically generate non-ionising radiation. For technical reasons, only the electric appliances emit non-ionizing radiation.

In the immediate vicinity of the dishwashing machine, the influence of active implants (e.g. cardiac pacemakers, defibrillators) can be ruled out with a high degree of probability.

3.7 What to do in the event of an emergency



- In dangerous situations, disconnect from the power supply using the locally available mains isolator.

4 Product description

4.1 Functional description

The UPster U 400 M2 is a commercial glasswasher with a square rack.

The dishwasher has one wash and one final rinse cycle.

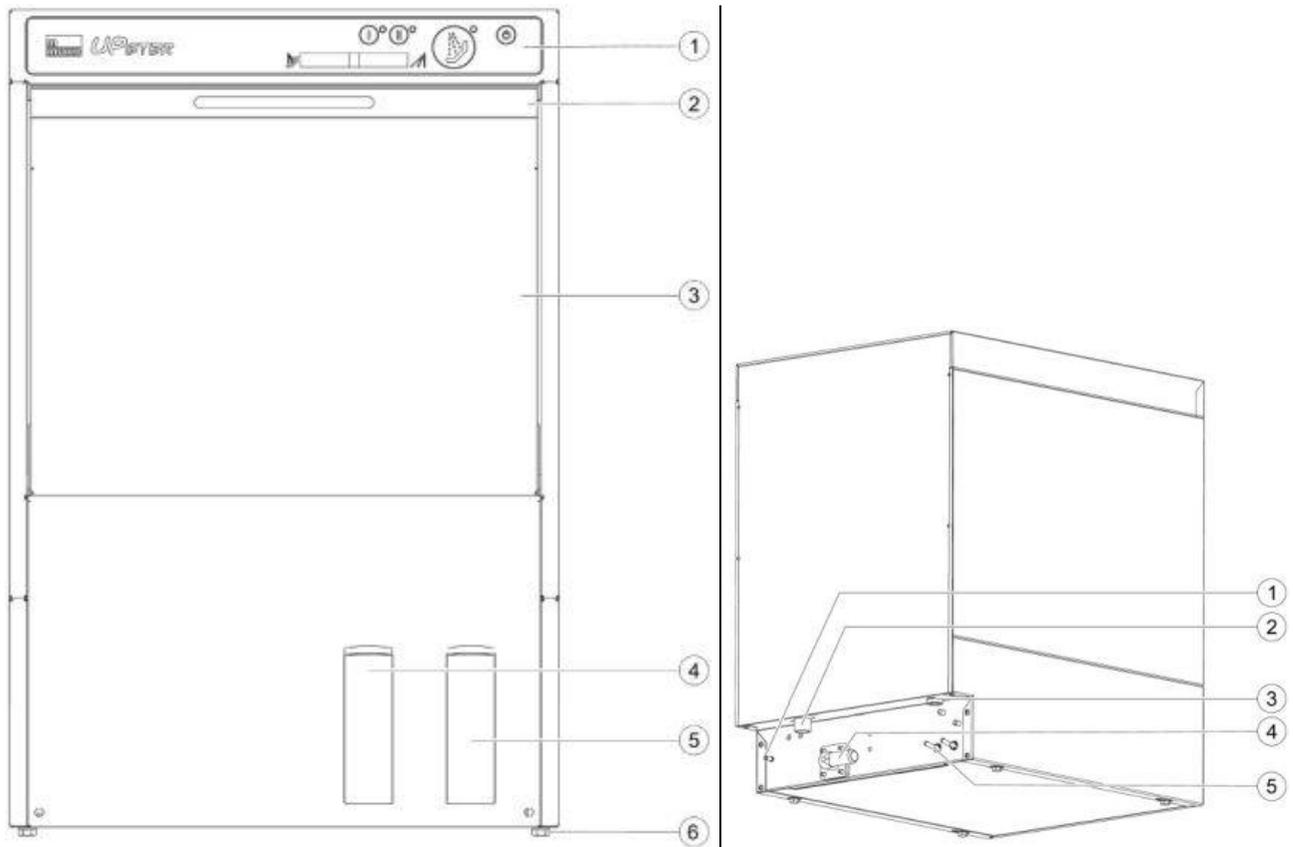
A temperature regulator maintains the set wash temperature of between 58-60 °C. A rotary pump circulates the water from the wash tank into the wash nozzles. The water jets hit the wash ware from different directions. This ensures uniform washing results.

The wash cycle is followed by a fresh water final rinse. The items being washed are rinsed with hot fresh water at 80-83 °C (65 °C for the glass programme) via a separate nozzle system. This heats up the wash ware for the following drying process.

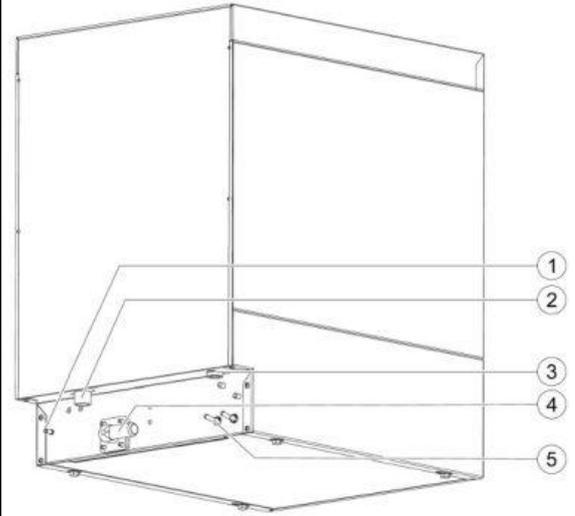
At the same time, the final rinse water is used to regenerate the rinse water; this reduces the degree of soiling of the rinse water.

4.2 Overview illustration

Exterior view

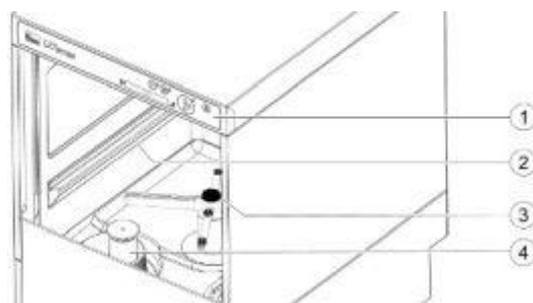


- 1 Operating panel (see page 15)
- 2 Door handle
- 3 Door
- 4 Detergent storage tank (option)
- 5 Storage tank for rinse agent (option)
- 6 Height-adjustable foot



- 1 Potential equalisation connection
- 2 Fresh water connection G $\frac{3}{4}$ "
- 3 Electrical connection
- 4 Waste water connection
- 5 Connections for detergent and rinse aid

Interior view



- 1 Operating panel
- 2 Rack runner
- 3 Rotating arm wash system
- 4 Filter with stand pipe

4.3 Membrane key pad

The dishwasher is equipped with a membrane key pad. It includes 4 operating keys and 3 control lights. 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 and, if applicable, necessary and active regeneration.

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: dishwasher ready to run / wash programme 1, 2 or 3 selected Control light 1, 2 or 3 flashing: dishwasher is being made ready for operation
	Current wash temperature
	Current final rinse temperature

4.4 Type label

The rating plate is located on the left side or right side in the lower rear section of the dishwasher. An additional rating plate is located on the switch cabinet behind the front panel.

4.5 Wash programmes

Programme table

Wash programme no.	Setpoint boiler temperature [°C]	Wash time setpoint	
		Washing [s]	Total [s]
1	83	44	60
2	83	74	90
3	83	104	120
4	83	134	160
5	83	164	180
6	83	194	210
7	83	224	240
8	83	254	270
9	83	284	300
10	83	344	360
11	65	44	60
12	65	74	90
13	65	104	120
14	65	134	160
15	65	164	180
16	85	44	60
17	85	74	90
18	85	104	120
19	85	134	150
20	85	164	180
21	85	194	210
22	85	224	240
23	85	254	270
24	85	284	300
25	85	344	360
26	75	44	60
27	75	74	90
28	75	104	120
29	75	134	150
30	75	164	180
31	75	194	210
32	75	224	240
33	75	254	270
34	75	284	300
35	75	344	360
36	65	224	240
37–48	80	104	120
49	65	74	80
50	83	104	120



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.

4.6 Blue operating concept



1 Filter

2 Stand pipe

3 Nozzle cap

4 Retaining screw for wash system

The parts of the dishwasher 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.

4.7 Detergent and rinse aid



⚠ 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 products that are suitable and approved for commercial dishwashers. MEIKO recommends MEIKO ACTIVE detergent and rinse aid. MEIKO ACTIVE products are optimally adapted to MEIKO dishwashing machines.
- Do not mix different cleaning products.

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.

4.7.1 Detergent

Detergents are alkaline (pH value should be > 7) and are needed to dissolve soiling from the washware. The standard setting is 2 ml of detergent per litre of tank water. If necessary, the concentration can be adjusted depending on the water quality, washware and degree of soiling. This setting is made during commissioning by a service technician authorised by MEIKO or the chemical supplier.

Change dosing quantity, see page 38.

4.7.2 Rinse aid

Rinse aids are acidic (pH value should be between 2 and 7) and accelerate the drying of the washware by reducing the surface tension of the water so that it can run off the washware quickly.

The correct dosage is achieved when the water drips evenly from the washware and depends on the available water quality on-site. This setting is made during commissioning by a service technician authorised by MEIKO or the chemical supplier.

Change dosing quantity, see page 38.

4.7.3 Dosing equipment

The components of the dosing units are subject to high demands and must therefore be regularly maintained and, if necessary, replaced in accordance with the maintenance specification.

The service life of the dosing units and other components of the dishwashing machine depends on the use of suitable chemical products. MEIKO recommends MEIKO ACTIVE detergent and rinse aid. MEIKO ACTIVE products are optimally adapted to the dishwashing machine.

4.7.4 Suction lances



Suction lances with level monitoring for rinse aid (blue) and detergent (grey)

Suction lances ensure that the liquid chemical product is sucked in correctly. Suction lances are inserted vertically into the canisters and are optionally equipped with level monitoring. When the canister is running low, a message will appear on the machine display.

4.7.5 Change of products

⚠ Caution

When changing the detergent product (even to a product from the same manufacturer), crystallisation may occur, which can lead to failure of the dosing system.

- When changing the detergent product, flush the dosing system with warm water.

Procedure for changing the detergent product:

1. Provide a suitable container with warm water and insert the suction lance.
2. Thoroughly flush the dosing system several times by **venting the lines**, see page 37.
3. Wipe the suction lance and put it into the canister with the other detergent product.
4. Refill the dosing system by **venting the lines**.

For dishwashers with an internal reservoir, have the system flushed by a service technician authorised by MEIKO.

4.8 Energy optimisation

Energy optimisation can switch off the heating of the tank or boiler as required. A connected, on-site power optimisation system switches off the heating of the tank or boiler. The maximum permissible switch-off time is 15 s per minute.

The machine reacts to the heating being switched off by increasing the wash time if necessary.



Note

According to the EN 17735 hygiene standard, an uninterrupted energy supply is required for proper operation of a dishwasher. Use of an on-site performance optimisation system is not permitted in accordance with EN 17735, as switching off water heaters leads to temperature reductions and it cannot be guaranteed that the washing and hygiene result will be achieved.

5 Technical data

Ambient conditions	
Operating temperature	5°C ... 40°C
Relative humidity	< 95%
Storage temperature	5°C ... 40°C
Maximum height of the installation site above sea level	2000 m

Net weight	
Version	Machine
UPster U 400 M2	73 kg

Noise emission	
Emission sound pressure level at the workplace	≤70 dB (A)

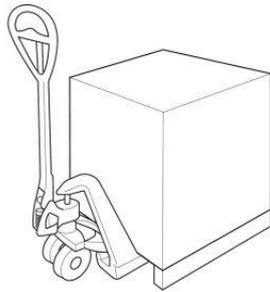
Further data should be taken from the MEIKO dimension sheet.

6 Transport

WARNING – danger of injury due to machine tipping

- Only qualified personnel may carry out transport works.
- Please note safety notices on the packaging.
- Always transport the machine on a wooden frame only.
- Wear protective gloves and safety 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 dishwashing machine is supported by a special square-timber frame.



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

6.1 Disposal of packaging materials

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

- Square timber frame
- Plastic sheeting (PE film)
- Foam material
- Cardboard packaging (edge protection)
- Packaging strap (steel strip)
- Packaging strap (plastic (PP))
- If needed, transport safety bracket (stainless steel)

7 Assembly

Warning

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!



7.1 Prerequisites for assembly

7.1.1 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.

7.1.2 Requirements for the installation area

Installation of the dishwashing machine 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.).

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

The storage and installation location must be frost-free at all times.

Install anti-slip floor coverings in the work area due to the risk of slipping.

7.1.3 Securing in a niche that is not level with the floor or pull-out system

When installed in a niche that is not level with the floor and/or on a pull-out system provided by the customer, the load-bearing capacity of the niche floor and/or pull-out system must be matched to the weight of the machine.

Secure the machine on a niche that is not level with the floor to prevent it from being pulled out unintentionally.

Secure the machine on a pull-out system in such a way that the machine cannot tip over or slide down when the pull-out system is extended.

7.1.4 Requirements for the waste water connection

A waste water pump is optionally integrated into the drain pump.

- Connect the drainage hose to the locally available waste water pipe.

– For Australia only:

The drainage hose needs to have a watertight connection to a waste fitting complying with AS 1589 AS 2887, a sanitary plumbing pipe or fitting complying with AS/NZS 1260.

- Depending on the dishwasher application, a grease trap may be included, based on the general/location-specific regulations.

7.1.5 Requirements for the fresh water connection

For Australia and New Zealand only:

All work carried out must be in accordance with AS/NZS 3500.1!

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 dishwashing machine is equipped with a safety device against backflow in accordance with DIN EN 60335-2-58 or with an air gap (type AA in accordance with EN 1717 or EN 61770). In the case of SVGW (Switzerland) and other countries, a type EA safety device (at least) is also required in front of the connection hose, depending on the machine version.

An on-site stop valve must be built into the fresh water supply for the operating staff. Installation components and materials must be suitable and permitted in accordance with local regulations. A solenoid valve is integrated into the dishwashing machine's fresh water line.

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

- Machines with air gap or pressure booster pump:
60 – 500 kPa (0.6 – 5 bar)
- Machines with a safety device to prevent backflow:
250 – 500 kPa (2.5 – 5 bar)

Maximum pressure

- Do not exceed maximum pressure of 500 kPa (5 bar).

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 foreign iron particles can enter the appliance via the fresh water connection. The same also applies for contamination by other metal particles (e.g. copper shavings). Corresponding instructions are contained in the assembly plan.
- A dirt trap must be fitted in the fresh water supply to protect the solenoid valve.
- After the dishwashing machine has been unused for longer periods of time, drain the connection line and wash it before placing the machine in operation again.
- 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.

7.1.6 Requirements to the electrical connection



Note

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

The rating plate with the electrical connected loads is located inside the front panel.

For Australia and New Zealand only:

All work carried out must be in accordance with AS/NZS 3000!

Electrical connection must be carried out in accordance with the locally applicable regulations (e.g. HD 60364-1/IEC 60364-1/VDE 0100-100) so the machine can be connected to the mains supply in accordance with the installer's regulations. However, national installer's regulations may differ. The machine and accessory appliances are intended for permanent connection to the on-site power supply and the on-site protective equipotential bonding and have been tested accordingly before being brought to market.

Fuse protection

- Set up the machine according to the local conditions and according to the rated current (see rating plate) as a separately fused circuit (final circuit). Take note of the available connection variants.

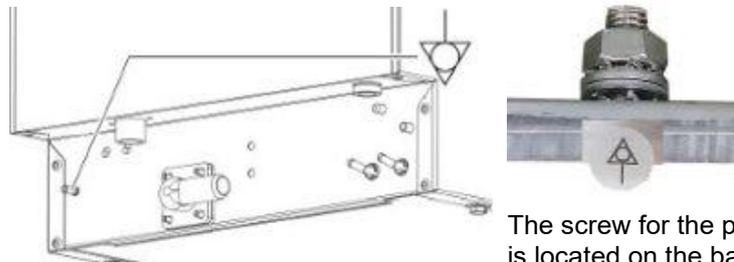
Main switch/mains connection cable

- Install a main switch with all-pole disconnection from the mains in accordance with the installer's regulations in the permanently installed on-site installation.
- The main switch must be easily accessible for the operating personnel.
- The contact opening width must correspond to overvoltage category III in each pole.
- Mains power cables, unless part of the standard product scope of supply, must be oil-resistant, sheathed, flexible cables no lighter than a normal polychloroprene-sheathed cable (or other equivalent synthetic elastomer) with the marking 60245 IEC 57.
- Mains connection cables may only be replaced by persons trained by MEIKO.

Electrical safety

- 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.
- Carry out the protective measures as well as the connection of the equipotential bonding in accordance with the regulations of the local power supply companies as well as the locally applicable regulations.
- As an alternative to equipotential bonding, the operator can, acting on its own responsibility, use a mains-side residual current device (RCM or RCD) for personal protection. A type "A" according to IEC 60755 is sufficient.

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.

7.2 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 dishwashing machine'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 page 45!

8 Commissioning



⚠ Warning

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!

8.1 Check prerequisites for commissioning

Caution

Material damage due to steam escape

Small quantities of steam may escape through the dishwashing machine'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 dishwashing machine.
- 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.

8.2 Perform commissioning



Note

Instruction and initial commissioning may be performed **only** by an authorised service technician! The operator must not use the dishwashing machine 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 dishwashing machines with GiO Module, attention must be paid to the "Commissioning certificate for GiO Modules" and the instructions adhered to accordingly.

9 Operation/use

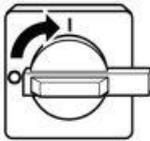
9.1 Prepare dishwasher

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.



1. Switch on the power.



2. Turn on the tap.



3. Check the canister fill level.

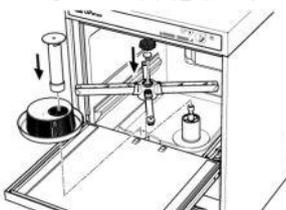


Note

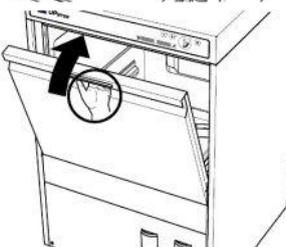
If there is air in the hoses, the automatic dosing will not function correctly. The relevant pipe must be vented, see page 37.



4. Open door.



5. Insert filter, stand pipe and wash systems.



6. Close door.

9.1.1 Putting the machine into operation



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



1. Press **on/off key**.



The dishwasher 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.



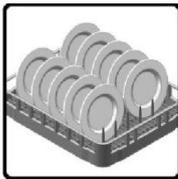
When the machine is ready to operate, the control light above the selected wash programme key is lit permanently.

9.2 Washing

9.2.1 Putting away washware



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



- Place plates, trays and dishes into the baskets at an angle. The inner surfaces face upwards.

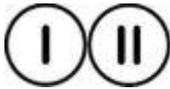


- If cutlery holders are used, always insert the cutlery pieces with the handles down.
- Mix up the spoons, knives and forks as much as possible in each cutlery basket, since similar cutlery pieces may nest together.
- Do not put too many cutlery pieces into the individual cutlery baskets.

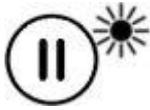


- Do not stack crockery items on top of each other in the basket. Direct access to the wash water would be more difficult and the washing times would have to be unnecessarily long. Shorter washing with baskets which are not overfilled is more economical.

9.2.2 Select wash programme



1. Press the desired wash programme key.



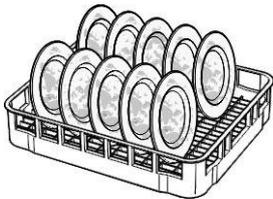
The control light of the selected wash programme key is lit.

Wash programme	Meaning	Washware
	Short programme•	Lightly soiled washware
	Standard programme,	Normally soiled washware
	Intensive programme f	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.

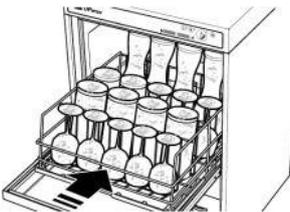
9.2.3 Start wash cycle



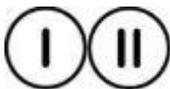
1. Clear the washware (removing any large food residues, napkins, tooth picks, lemon peel etc.).
2. Put the washware into the rack.



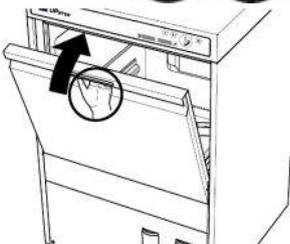
3. Open door.



4. Insert the rack into the dishwasher.



5. Ensure that the correct programme has been selected, see 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.

9.2.4 Emptying the washware

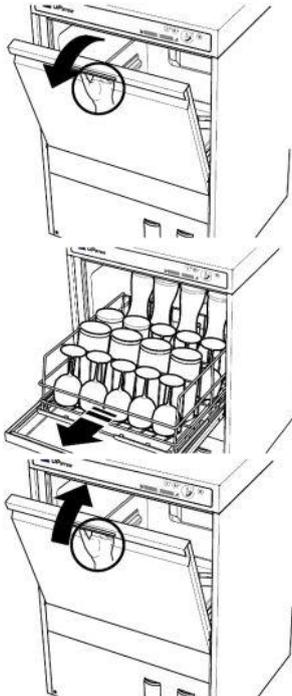
⚠ Caution

Danger from hot wash 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.

9.3 Shutting down the dishwasher

➡ The dishwashing machine does not have a rack inside.



1. Press **On/Off button**. All control lights turn off.

2. Remove the stand pipe and close the door.



For dishwashing machines without drain pump, water runs into the drain. For dishwashing machines with drain pump, pressing the wash key starts the drain pump process.



3. Press the **wash key** to start the self-cleaning programme.



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



4. Close stop valve.



After the end of the process, clean the machine, see page 42.

9.4 Fill consumables

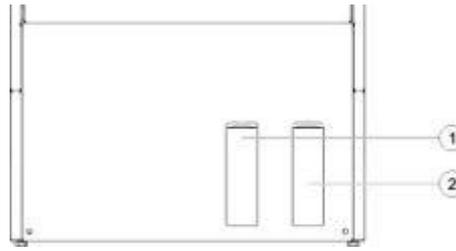
Warning



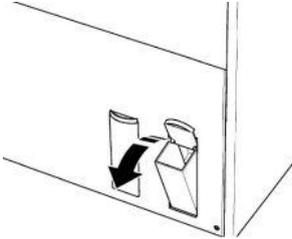
Risk of injury from contact with chemicals

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

9.4.1 Refill of internal storage container



The storage tanks are located on the front of the lower front panel. The fill level can be read from the front. The detergent tank (1) is transparent, the rinse aid tank (2) is blue.



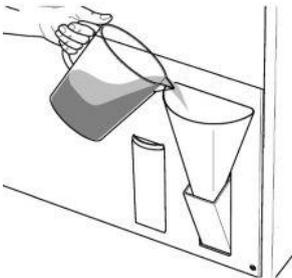
1. Swing the corresponding tank down for filling and open the cover.



Dosing recommendation

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

Maximum filling quantity	UPster U 400 M2
Detergent / rinse aid	480 ml



3. Use the loading chute to pour the chemical carefully into the tank until full. Check fill level.
4. Rinse the loading chute and measuring cup.
5. Close the cover of the storage tank and swing it up.

9.4.2 Replacing the canister



Rinse aid low



Detergent low



Note

The canisters for detergent and rinse aid are located in close proximity to the dish-washing machine.

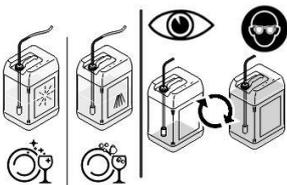


Note

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



A canister is empty.



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

2. If necessary, ventilate the pipelines, see page 37.

9.5 Changing water



The dishwasher does not have a rack inside.



1. Press **on/off key**. All control lights turn off.

2. Remove the stand pipe and close the door.



For dishwashers without drain pump, water runs into the drain. For dishwashers with drain pump, pressing the wash key starts the drain pump process.



3. Press the **wash key** to start the self-cleaning programme.



The control light on the wash key is flashing. The rinse water is pumped out, if necessary, and the wash chamber is sprayed with hot fresh water.

4. Replace the stand pipe and close the door.



5. Place the dishwasher into operation by pressing a wash programme key.

9.6 Malfunctions

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

Occasional malfunctions

Malfunction	Possible cause	Remedy
Dishwashing machine doesn't fill up	No water present	Open the shut-off valve
	Dirt trap clogged	Clean the dirt trap
	Door open	Close door
Final rinse does not spray	No water present	Open the shut-off valve
	Dirt trap clogged	Clean the dirt trap
Streaks / smears on the washware	Unsuitable rinse aid	Change product
	Incorrect dosing quantity	Adjust dosing quantity
	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 dishwashing detergent used	Do not use a foaming manual dishwashing detergent for precleaning or for cleaning the machine. Foam can cause malfunctions in the dishwashing machine and a poor washing result.
	Unsuitable detergent	Change product
	Unsuitable rinse aid	Change product

As a rule, malfunctions that are not described here require assistance from a service technician authorised by MEIKO. Please contact your market organisation or an authorised dealer.

9.6.1 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!
- If the machine displays an info or error message not listed in the following tables, contact your 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"> • Possible to continue work 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 defective • Microswitch defective • Microswitch not correctly set 	<ul style="list-style-type: none"> • Close door/hood • Call a service technician!
122	Incorrect password/no authorisation	<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 necessary	<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"> • Possible to continue working • Call a service technician!
420	Lack of rinse aid (with integrated fill-level detection)	<ul style="list-style-type: none"> • Canister empty • Suction lance not correctly introduced 	<ul style="list-style-type: none"> • Replace empty canister • Check suction lance • Where appropriate, ventilate pipes
520	Lack of detergent (with integrated fill-level detection)		
720	Regeneration is running	<ul style="list-style-type: none"> • Regeneration programme has been started and is running 	<ul style="list-style-type: none"> • Let regeneration programme run to completion • Regeneration programme cannot be interrupted • Possible to continue working
721	Regeneration not possible	<ul style="list-style-type: none"> • Salt container empty 	Fill salt container
722	Salt container empty	<ul style="list-style-type: none"> • No salt present • No water in the salt container 	Fill salt container <ul style="list-style-type: none"> • Where appropriate, Fill water in the salt container

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"> Not possible to continue working Call a service technician!
111	Floor pan leakage	<ul style="list-style-type: none"> There is a leak 	<ul style="list-style-type: none"> Not possible to continue working Call a service technician!
118	Signal of the two door contact switches unequal	<ul style="list-style-type: none"> Malfunction/defect door contact switch 	<ul style="list-style-type: none"> Not possible to continue working 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) Feed hose kinked/disconnected/leaks 	<ul style="list-style-type: none"> Check water supply Check feed hose Check pre-filter/sieve and clean, if necessary Where appropriate, call a service technician!
202	Boiler level not reached on time during filling (with integrated pressure booster pump)	<ul style="list-style-type: none"> Inlet filter soiled Solenoid valve defective Boiler switch defective 	
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 	<ul style="list-style-type: none"> Not possible to continue working Call a service technician!
204	No change yet detected at the boiler level switch (with integrated pressure booster pump installed) after the rinse time expired	<ul style="list-style-type: none"> No signal to or from pressure booster pump and I/O circuit board No signal boiler full - from I/O circuit board 	
205	Boiler temperature not reached after max. heat time (P310)	<ul style="list-style-type: none"> Boiler heating defective/melting beads, heating element 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"> Not possible to continue working Call a service technician!
206	Wash time increase	<ul style="list-style-type: none"> Boiler not ready for final rinse on time (temperature or level not reached) Boiler heating defective (melting beads) 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 	<ul style="list-style-type: none"> Not possible to continue working Call a service technician!
211	Boiler temperature sensor interruption	<ul style="list-style-type: none"> Plug contact not connected properly 	
212	"Actual" boiler temperature too high (>95°C)	<ul style="list-style-type: none"> Contacting sticking Incorrect sensor/defective sensor 	<ul style="list-style-type: none"> Not possible to continue working 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 Feed hose kinked/disconnected/leaks 	<ul style="list-style-type: none"> Check water supply Check feed 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 	<ul style="list-style-type: none"> Not possible to continue working 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)	<ul style="list-style-type: none"> Start capacitor defective Tank level analysis disrupted Aquastop does not close correctly No signal from I/O circuit board 	
304	Tank temperature not reached after max. heat time (P314)	<ul style="list-style-type: none"> Tank heating defective/melting beads, heating element Temperature sensor defective, incorrect installation position Tank protection defective, output switch triggered 	<ul style="list-style-type: none"> Not possible to continue working 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 Feed hose kinked/disconnected/leaks Level sensor defective Plug contact not connected properly 	<ul style="list-style-type: none"> Check water supply Check feed 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 dishwashing machine 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 	<ul style="list-style-type: none"> Not possible to continue working Call a service technician!
311	Temperature sensor interruption	<ul style="list-style-type: none"> Sensor position not correct Plug contact not connected properly 	
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"> Not possible to continue working Call a service technician!

9.7 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 2 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.

9.8 Service level

Code display	Meaning
	View parameter, see page 37.
	Vent rinse pipe, see page 37.
	Vent detergent line, see page 37.
	Reset the counter for replacing the partial desalination cartridge, see page 38.

9.8.1 View parameters

1. Switch to authorisation level 1 **Service level (10000)**, see page 36.



2. Select the entry 1–1.



3. Confirm the selection.



The first parameter is displayed.

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



The service level can be exited with the **On/Off key**.

9.8.2 Ventilating the pipes

The ventilation of the detergent or rinse pipes must be performed if air is sucked in from the dosing units. This occurs if a canister is completely emptied during operation, or if one of the suction lances is not threaded through to the base of the canister.

1. Switch to authorisation level 1 **Service level (10001)**, see page 36.



2. Select the entry 1–3 for ventilating the detergent pipe, and entry 1–2 for the rinse pipe.



3. Confirm the selection.



The respective pipes are being ventilated, and the remaining time in seconds is displayed. If necessary, repeat ventilation.



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

9.8.3 Replace counter for partial desalination cartridge (optional)

For dishwashers with a partial desalination cartridge and activated end-of-service indicator, the counter must be reset after changing the partial desalination cartridge.

1. Switch to authorisation level 1 **Service level (10001)**, see page 36.



2. To reset the counter, select entry 1-5.



3. Confirm the selection to reset the value.



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

9.9 Dosing system level

1. Switch to authorisation level 4, Dosing technology level (40000 or 40044), see page 36.



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

Code display	Meaning	Adjusting range
P104	Rinse aid dosing quantity	0.10 - 1.00 ml/L
P105	Detergent dosing quantity	0.10 - 20.00 ml/L
P218	Lack of rinse aid	1/0 = Display on/off
P219	Lack of detergent	1/0 = Display on/off
P224	Rinse aid dosing unit activation method	0 = Do not activate 1 = Activate through calculated running time 2 = Activate as per pressure booster pump 3 = Activate as per wash pump
P225	Detergent dosing unit activation method	0 = Do not activate 1 = Activate through calculated running time 2 = Activate as per pressure booster pump 3 = Activate as per wash pump
P321	Rinse aid dosing unit output	0.10 - 10 L/h
P322	Detergent dosing unit output	0.10 - 20 L/h
P326	Rinse pipe bleed time	0 - 255 s
P327	Detergent pipe bleed time	0 - 100 s

10 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 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!

⚠ Caution

Danger from hot wash 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).

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.



10.1 Maintenance



Note

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.

Neglected or improper maintenance increases the residual risk of unforeseen damage to property and persons, for which no liability will be assumed.

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 detergents that could harm the environment.

10.2 Maintenance table



Note

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

Maintenance work	Checked	Cleaned	Reconditioned	Maintenance requirements
Visual check				
1. Error memory				
Check error memory for unusual events using M-Commander 2.7				
2. Wash tank, wash and rinse system				
Functional and visual check of washing and rinse arms				Annually
Check rotating arm hubs and replace if necessary				Annually
Clean and check rinse nozzles and swirl plates				Annually
Check air gap of tank and clean if necessary				Annually
Check tank level control for leaks				Annually
Check sieves and filters				Annually
Check rack guide for damage				Annually
Check wash and rinse systems for leaks				Annually
Check water level in tank				Annually
Check tank and boiler heating				Annually
3. Casing				
Check casing, tank and cladding for damage and function				Annually
4. Fresh water installation				
Check valves				Annually
Check boiler level switch for leaks				Annually
Check boiler, hoses and clamps for leaks				Annually
Check the free discharge section for cleanliness and tightness of the connections (visual check)				Annually
5. Wastewater installation				
Check stand pipe				Annually
Check operation of drain pump during drainage				Annually
Check pumps, hoses for leaks				Annually
6. Detergent dosing				
Replace peristaltic hose				Annually
Check detergent dosing system is working and not leaking				Annually

Maintenance work					Checked	Cleaned	Reconditioned	Maintenance requirements
Visual check								
7. Rinse aid dosing								
Replace peristaltic hose								Annually
Check the rinse aid dosing system is working and not leaking								Annually
8. Test run with functional test of whole machine								
Check filling and heating until it is ready for operation								Annually
Visual check of entire machine for leaks								Annually
Check sample rinsing and washing results								Annually
9. Water quality, temperature								
Fresh water	°C	°dH	°KH	µS/cm				Annually
10. Electrical safety check (certificate is optional)								
Perform visual check								Annually
Protective earth conductor check								Annually
Insulation resistance measurement								Annually
Protective earth conductor current measurement								Annually

10.3 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 dishwashing machine, 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.

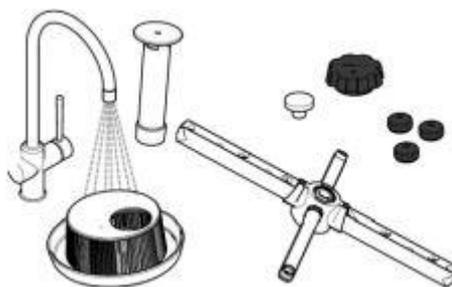
Note

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

→ The machine is emptied, see page 30.



1. Open door.



2. Remove filter, wash systems below and rinse arm above. All parts to be cleaned are blue or have a blue handle.
3. Remove all food residues sticking to the tank, the door and tank heater using a brush.
4. Rinse wash and rinse arms thoroughly under running water. When doing this, pay particular attention to the nozzles! The platelets in each nozzle must be correctly inserted!
5. Clean filter under running water.
6. Reinstall all parts in reverse sequence.

10.4 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.

10.5 Basic cleaning

MEIKO offers the M-5900PCL dishwasher cleaner for regular basic cleaning of the machine. The dishwasher cleaner reduces cleaning effort and eliminates unpleasant odours.

The dishwasher cleaner can be used as required. MEIKO recommends quarterly use. The MEIKO dishwasher cleaner is available from MEIKO service partners.

10.6 Descaling



⚠ 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 machine.

Operating the dishwashing machine with hard water can result in the build up of lime scale deposits in the boiler and the tank interior. In this case, descale the following components:

- Inner chamber of tank
- Boiler casing
- Tank heating
- Boiler heating
- Wash and rinse system

Notes on conducting descaling:

- For descaling, only use products suitable for commercial dishwashing machines. Follow the manufacturer's instructions.
- Completely flush the de-scaling agent out of the dishwashing machine. To do so, perform 1–2 wash cycles with fresh water.
- Where necessary, assign Customer Service the task of descaling the boiler.

10.7 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 page 15.)

11 Non-use for several days

11.1 Break in operation (e.g. seasonal operation)

- Run self-cleaning programme and clean the machine, see page 30.
- Close the on-site shut-off valve.
- Switch off on-site mains isolator.
- Manually open a gap in the front door or hood to prevent germ formation and odours.
- Frost protection: If necessary, have the machine frost-proofed by the authorised service technician. Dishwashing machines of the M-iClean U series without GiO MODULE can be frost-proofed by yourself.

11.2 Commissioning after break in operation

- Set up the machine for 24 h at 25°C if it is not frost-free. Have an authorised service technician commission the machine again.
- Have reverse osmosis (GiO MODULE) (option) disinfected in the case of downtimes of more than 6 months.
- Open the on-site shut-off valve and switch on the main switch.
- Put machine into operation, see page 27.

12 Dismantling and disposal

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

12.1 Dismantling and disposal of the old device

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.

If applicable, wash machine components, containers, dosing units and hoses with fresh water to remove chemical residues. Wear suitable clothes (gloves, safety glasses) for this.



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

The components should be separated by material for recycling.

When disposing of the old appliance, the battery contained in the control system must be removed and disposed of separately.

13 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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The clean solution



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