

# UPster H 500 M2

Hood type dishwashing machine

## Original operating instructions



For the types in the series: M004DWHT10M2-20



**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://partnet.meiko-global.com>.

## 1.1 Product identification

These operating instructions apply to the following machine types:

**UPster H 500 T M2:**

M004DWHT10M2-20

## 1.2 Delivery contents

The delivery contents include:

- 1x Hood type dishwasher UPster H 500 M2
- Matching racks for glassware, crockery and containers, 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:

| <b>Operator<br/>(included in delivery contents)</b> | <b>Authorised service technician</b>   |
|---|--|
| 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:**

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## 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<br>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  |
|-------------------------------|---|---|--|
| <b>Transport and assembly</b> | Loading and unloading with forklift truck | Crushing/impact   | <ul style="list-style-type: none"> <li>Load-bearing capacity of the forklift truck must be adequate for the weight of the machine</li> <li>Please note the machine's centre of gravity</li> <li>Secure to prevent slipping</li> </ul>  |
|                               | Deposit at the installation site          | Crushing/impact   | <ul style="list-style-type: none"> <li>Ensure that the ground beneath is capable of taking the load</li> <li>Ensure that the machine cannot tip</li> </ul>   |
|                               | Incorporate into on-site table unit       | Shearing  | <ul style="list-style-type: none"> <li>Ensure that no shear points are created between the hood and the table</li> </ul>   |
|                               | Install freestanding machine              | Crushing  | <ul style="list-style-type: none"> <li>Ensure that the freestanding machine is secured to prevent it from tipping backwards</li> </ul>   |
|                               | Install electrical connections            | Electric shock  | <ul style="list-style-type: none"> <li>Adhere to the accident prevention regulations</li> </ul>  |
|                               | Install separate GiO MODULE (optional)    | Tripping/falling/crushing                                   | <ul style="list-style-type: none"> <li>We recommend fastening the GiO MODULE to the wall/table/machine</li> <li>Mount freestanding module using solid base</li> <li>If needed, run module at 90 degrees (lying)</li> </ul>   |
| <b>Commissioning</b>          | Fill with detergent/rinse aid             | Eye injury/health risks                                     | <ul style="list-style-type: none"> <li>Wear safety eyewear/gloves</li> <li>Avoid contact with skin and eyes</li> </ul>   |
|                               | Activities in the machine                 | Hand injuries on sharp edges                                | <ul style="list-style-type: none"> <li>Wear protective gloves</li> </ul>   |
| <b>Operation</b>              | Filling/heating                           | Contact with hot water                                      | <ul style="list-style-type: none"> <li>Do not set machine in operation without tank cover sieve</li> </ul>   |
|                               | Programme is running                      |   | <ul style="list-style-type: none"> <li>Do not open hood during cycle</li> </ul>  |
|                               | Loading and unloading the machine         | Trapping of hand  | <ul style="list-style-type: none"> <li>To close the hood, use the handle designated for this purpose</li> </ul>  |
|                               |   | Broken crockery causing cuts/severing                       | <ul style="list-style-type: none"> <li>Wash/clean washware in the specially designed rack in the machine</li> <li>Place small items in the appropriate rack inserts</li> <li>Washware must not come into contact with rotating parts of the machine</li> </ul>   |
|                               |   | Risk of snagging with loose clothing or items of jewellery  | <ul style="list-style-type: none"> <li>Wear suitable work clothing and sturdy shoes</li> <li>Do not wear rings, necklaces or other pieces of jewellery</li> </ul>  |
|                               |   | Slipping  | <ul style="list-style-type: none"> <li>Use non-slip floor coverings</li> </ul>   |
|                               |   | Contact with hot water                                      | <ul style="list-style-type: none"> <li>If necessary, allow washware to cool down</li> <li>If necessary, allow machine components to cool down before touching</li> <li>Do not remove tank cover sieve while appliance is in operation</li> <li>Protective gloves recommended</li> <li>Only ever use the hood handle or handles to open/close the hood</li> </ul> |
|                               | Other activities                          | Swallowing of water in the wash chamber                     | <ul style="list-style-type: none"> <li>Do not use the water in the wash chamber for food preparation or drink it</li> </ul>  |
|                               | Normal operation                          | Substandard wash performance due to failure of dosing units | <ul style="list-style-type: none"> <li>Monitor wash performance</li> <li>If appropriate, repeat the programme</li> </ul>   |
|                               | Refilling detergent/rinse aid             | Eye injury/health risks                                     | <ul style="list-style-type: none"> <li>Wear safety eyewear/gloves</li> <li>Avoid contact with skin and eyes</li> </ul>   |

| Phase                           | Activity                                  | Nature of the hazard                    | Avoidance measure   |
|---------------------------------|---|---|---|
| <b>Maintenance and cleaning</b> | Any maintenance work                      | Electric shock                          | <ul style="list-style-type: none"> <li>• Before opening the housing parts, ensure the mains switch has been disconnected and secured so that it cannot be turned on again</li> </ul>  |
|                                 | Cleaning or maintenance                   | Contact with hot water or machine parts | <ul style="list-style-type: none"> <li>• Allow machine components to cool down before touching</li> <li>• Wear protective gloves</li> </ul>   |
|                                 |   | Hand injuries on sharp edges            | <ul style="list-style-type: none"> <li>• Wear protective gloves</li> </ul>  |
|                                 | Cleaning                                  | Poisoning                               | <ul style="list-style-type: none"> <li>• Do not use aggressive cleaning or scouring agents</li> <li>• Only use descaling products suitable for commercial machines</li> <li>• Wear protective gloves</li> </ul>                             |
|                                 | GiO MODULE: replace filter cartridge      | Water escaping                          | <ul style="list-style-type: none"> <li>• Provide suitable vessel (e.g. base drip tray)</li> </ul>   |
| <b>Dismantling and disposal</b> | Dismantling                               | Eye injury/health risks                 | <ul style="list-style-type: none"> <li>• Wear safety eyewear/gloves</li> <li>• Avoid contact with skin and eyes</li> <li>• If needed, clean hoses, dosing system and machine parts with fresh water</li> </ul>                              |
|                                 | Loading and unloading with forklift truck | Crushing/impact                         | <ul style="list-style-type: none"> <li>• Load-bearing capacity of the forklift truck must be adequate for the weight of the machine</li> <li>• Please note the machine's centre of gravity</li> <li>• Secure to prevent slipping</li> </ul> |

### 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 H 500 M2 is a commercial hood type dishwasher with a square rack.

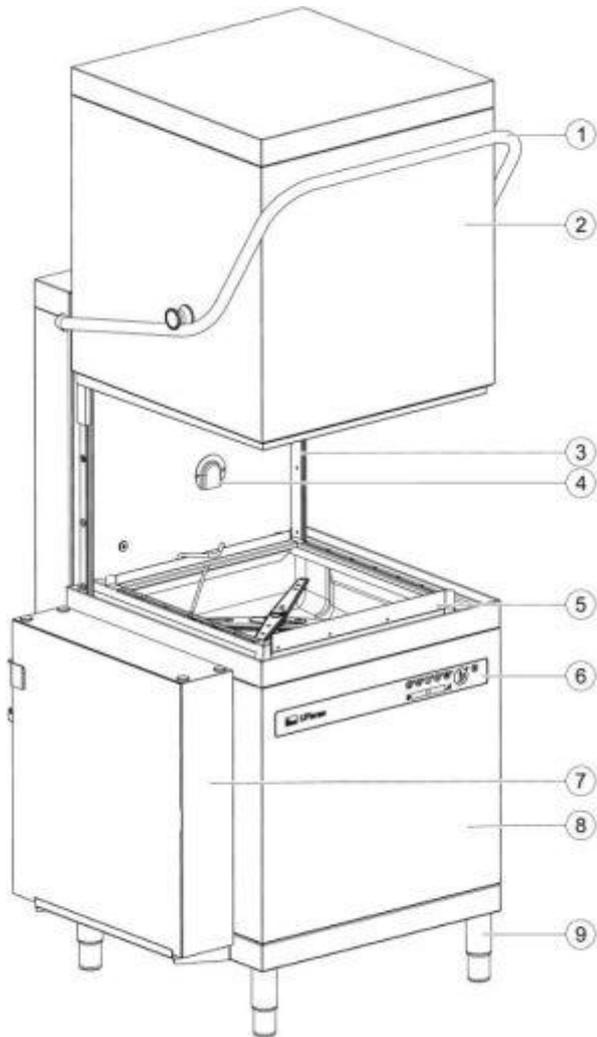
The machine has one wash and one final rinse cycle. A temperature regulator maintains the set wash temperature of between 58-60 °C. A rotary pump circulates the water from the wash tank into the wash nozzles. The water jets hit the washware from different directions. This ensures uniform washing results.

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

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.

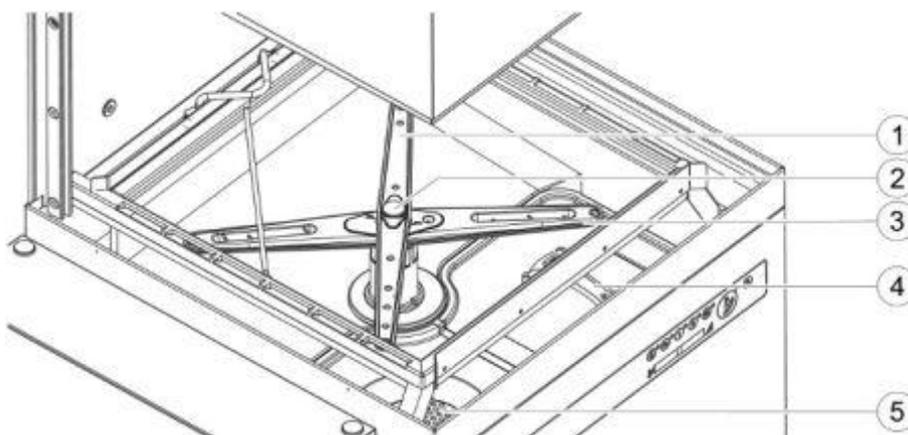
## 4.2 Overview illustration

### Exterior view



- 1 Hood
- 2 Hood handle
- 3 Hood guide rail
- 4 Overflow for fresh water system
- 5 Rack runner
- 6 Operating panel
- 7 Separate reverse osmosis module (GiO MODULE), optional
- 8 Lower section containing pumps, boiler and switch cabinet
- 9 Height-adjustable foot

### Interior view



- 1 Wash arm (final rinse system)
- 2 Retaining screw for wash arm
- 3 Wash arm (cleaning system)
- 4 Sieve cover with grip
- 5 Suction strainer

### 4.3 Membrane key pad

The dishwasher is equipped with a membrane key pad. For dishwashers with ActiveClean, it includes 5 operating keys and 6 control lights. Without ActiveClean, there are 2 fewer 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  |
|------------|--|
|            | <b>On/off key / programme termination</b>  |
|            | <b>Wash key with control light</b><br>Control light lit: wash programme is running<br>Control light flashing: self-cleaning programme / drain programme is running   |
|            | <b>Wash programme keys 1 – 3 with control lights</b><br>Control light 1, 2 or 3 lit: dishwasher ready to run / wash programme 1, 2 or 3 selected<br>Control light 1, 2 or 3 flashing: dishwasher is being made ready for operation |
|            | <b>Salt container control light (ActiveClean)</b><br>Control light lit: refill salt  |
|            | <b>Regeneration control light (ActiveClean)</b><br>Control light lit: regeneration active  |
|            | <b>Current wash temperature</b>  |
|            | <b>Current final rinse temperature</b>   |

### 4.4 Type label

The rating plate is located on the left side or right side in the lower rear section of the dishwasher. 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 dishwasher).

## 4.5 Blue operating concept



1 AktivPlus filter

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.

## 4.6 Wash programmes

Programme table

| Wash programme no. | Setpoint boiler temperature<br>[°C] | Washing time setpoint |           |
|--------------------|-------------------------------------|-----------------------|-----------|
|                    |                                     | Washing [s]           | Total [s] |
| 1                  | 83                                  | 42                    | 60        |
| 2                  | 83                                  | 72                    | 90        |
| 3                  | 83                                  | 102                   | 120       |
| 4                  | 83                                  | 162                   | 180       |
| 5                  | 83                                  | 192                   | 210       |
| 6                  | 83                                  | 222                   | 240       |
| 7                  | 83                                  | 342                   | 360       |
| 8                  | 65                                  | 42                    | 60        |
| 9                  | 65                                  | 72                    | 90        |
| 10                 | 65                                  | 102                   | 120       |
| 11                 | 65                                  | 162                   | 180       |
| 12                 | 65                                  | 192                   | 210       |
| 13                 | 65                                  | 222                   | 240       |
| 14                 | 65                                  | 342                   | 360       |
| 15                 | 85                                  | 42                    | 60        |
| 16                 | 85                                  | 72                    | 90        |
| 17                 | 85                                  | 102                   | 120       |
| 18                 | 85                                  | 162                   | 180       |
| 19                 | 85                                  | 192                   | 210       |
| 20                 | 85                                  | 222                   | 240       |
| 21                 | 85                                  | 342                   | 360       |
| 22                 | 80                                  | 42                    | 60        |

|         |    |     |     |
|---------|----|-----|-----|
| 23      | 80 | 72  | 90  |
| 24      | 80 | 102 | 120 |
| 25      | 80 | 162 | 180 |
| 26      | 80 | 192 | 210 |
| 27      | 80 | 222 | 240 |
| 28      | 80 | 342 | 360 |
| 29      | 83 | 252 | 270 |
| 30      | 83 | 282 | 300 |
| 31      | 85 | 252 | 270 |
| 32      | 85 | 282 | 300 |
| 33 - 50 | 83 | 72  | 90  |



#### 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.

## 4.7 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 44.

#### 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 44.

#### 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 43.
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 Options

### 4.8.1 Exhaust heat recovery (AirConcept)

The **AirConcept** exhaust heat recovery system is installed behind the hood:

- Loss of steam into the surrounding area is reduced.
- Saves energy by targeted suction of hot vapour.
- Fresh water is heated in the heat exchanger.
- Not available for dishwashers that are supplied with hot water.

### 4.8.2 GiO-MODULE

The module works according to the principle of reverse osmosis. Drinking 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 permeate (clean water) is brought to the dishwashing machine; the concentrate (held back materials) is brought to the the drain.

### 4.8.3 ActiveClean built-in water softener

The ActiveClean water softener automatically regenerates itself without intervention by the operator. All that is needed is to refill salt when the control light for the salt container lights up. The wash tank does not need to be emptied during regeneration, and wash processes remain possible. The regeneration water is guided directly into the waste water. The maximum intake temperature of the fresh water is 50 °C.

The water softener is preset to 30° dH at the factory. This value is adapted to the actual water hardness during commissioning. Additionally, this parameter has to be changed by a service technician (MEIKO-authorized) if the water hardness changes.

#### Capacity of the water softener between two regenerations

| Hardness (° dH) | Capacity (l) |
|-----------------|--------------|
| 8               | 250          |
| 10              | 200          |
| 12              | 167          |
| 14              | 143          |
| 16              | 125          |
| 18              | 111          |
| 20              | 100          |
| 22              | 91           |
| 24              | 83           |
| 26              | 77           |
| 28              | 71           |
| 30*             | 67*          |
| 32              | 63           |
| 34              | 59           |
| 36              | 56           |
| 38              | 53           |
| 40              | 50           |
| 42              | 48           |

\* Factory setting

#### 4.8.4 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.

#### 4.8.5 Disinfection in accordance with the $A_0$ value process



##### Note

High water temperature and long programme durations can cause glass corrosion and detachment of decorative finishes. Only use dishes that are suitable for the high stress placed on them.

##### $A_0$ 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 dishwashing machine with  $A_0$  – control is the hygiene value  $A_0$  30:

- 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  $A_0$  30 is reached.
- The rinsing process runs until the end of the programme cycle time, but at least until the hygiene value is reached. After this comes a pause for draining and the final rinse.



The display shows the current  $A_0$  value.

#### 4.8.6 Disinfection in accordance with the Thermolabel or thermal disinfection process



##### Note

High water temperature and long programme durations can cause glass corrosion and detachment of decorative finishes. Only use dishes that are suitable for the high stress placed on them.

##### Thermolabel control

In a way which is similar to  $A_0$  control, machines with Thermolabel control have a disinfection process which uses moist heat. The dishwasher heats the rinse water to a higher temperature in order to eliminate germs. The efficacy of the disinfection can be tested using a measurement strip, the Thermolabel. The measurement strip changes colour after 4 seconds at 71 °C for a wash item.

- During washing, the tank temperature is heated up to 71° C and maintained at that temperature.

- 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.
- Washing at high temperatures and long spells in the wash tank can lead to glass corrosion and premature wear to decoration.

#### **Thermal disinfection - control**

Thermal disinfection works according to the same principle as Thermolabel control, but other requirements apply:

- The disinfection temperature is  $\geq 80^{\circ}\text{C}$ , which must be maintained on the washware for  $\geq 30\text{ s}$ .
- The rinsing process runs until the end of the programme cycle time, but at least until the temperature value and specified stop time are reached. After this comes a pause for draining, final rinse and a subsequent application time.

Thermolabel and thermal disinfection control offer a disinfection effect that exceeds the standard, such as for hospitals, care homes, requirements according to the ÖGSV Guideline.

## **5 Technical data**

| <b>Ambient conditions</b>                               |              |
|---|--------------|
| 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       |

| <b>Net weights</b>           |                |
|------------------------------|----------------|
| <b>Variant/options</b>       | <b>Machine</b> |
| UPster H 500 M2              | 110 kg         |
| + ActiveClean water softener | 9 kg           |
| + AirConcept heat recovery   | 20 kg          |
| + GiO MODULE reverse osmosis | 23 kg          |

| <b>Noise emission</b>                          |                         |
|--|-------------------------|
| Emission sound pressure level at the workplace | $\leq 70\text{ dB (A)}$ |

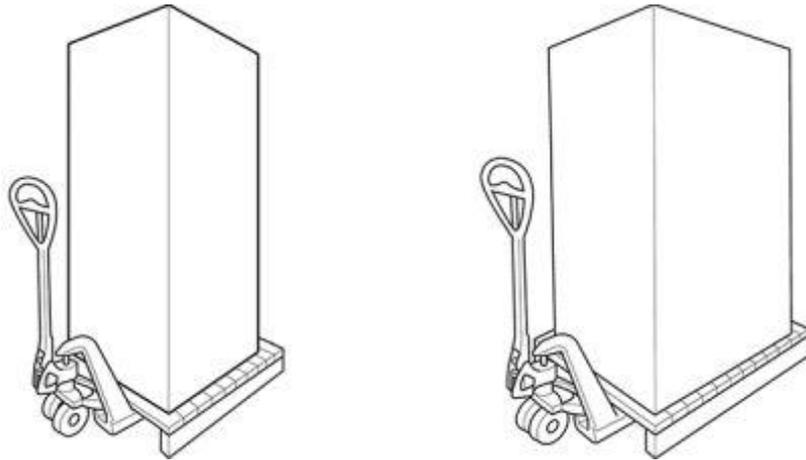
Further data should be taken from the MEIKO dimension sheet.

## 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. For safe transport, the dishwashing machine is supported by a special square timber frame.



- Transport with care.
- Observe the instructions for safe transport on the packaging.
- Open packaging using a suitable tool.
- Unpack dishwashing machine only once 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 Requirements for the waste water connection

A waste water pipe is integrated into the drain pump.

- Connect the drain hose to the on-site waste water pipe.

#### – For Australia and New Zealand only:

The drain hose must be connected so that it is waterproof with a drain fitting in accordance with AS 1589 AS 2887 and a sanitary waste water pipe or sanitary waste water fitting in accordance with AS / NZS 1260.

- Depending on the dishwashing machine application, a grease trap may be included, based on the general/location-specific regulations.
- Observe maximum drain heights above the finished floor.

### 7.1.4 Requirements for the fresh water connection



#### Note

Where the water conductivity is  $\sigma < 100 \mu\text{S}/\text{cm}$ , the stainless steel variant of Air-Concept must be used. This is the case when using a reverse osmosis (GiO) or demineralisation system, for example.

#### 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 treated water.**

The basic model of the dishwashing machine 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 (at least) is also required in front of the connection hose, depending on the machine version. 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. This, together with the leakage detector in the base drip tray in the subframe, ensures that in the event of a leak within the machine, the fresh water inlet is shut off.

**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).

**Flow rate in the solenoid valve**

- Machines with built-in water softener: With flow regulator limited to 3 l/min.

**Measures to ensure correct water pressure:**

- If the minimum pressure flow is too low, increase the pressure using a 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 into the clean 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.

**7.1.5 Requirements to the electrical connection****Note**

The wiring diagram is located in the switch cabinet of the dishwasher. This must remain in the dishwasher!

The rating plates with the electrical connection values are located on the switch cabinet behind the front panel, outside on the lower left or lower right, and on the separate GiO MODULE (if it is part of the machine).

**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.
- The requirements for limiting voltage changes, fluctuations and flicker in accordance with IEC 61000-3-11 are fulfilled for this machine if the network has a current-carrying capacity of  $\geq 100$  A.

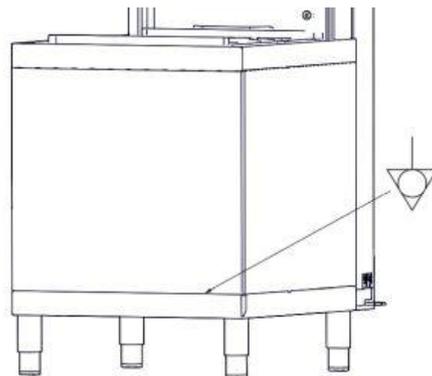
### Main switch/mains connection cable

- 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.

### Position of the protective equipotential bonding



The screw for the equipotential bonding is located behind the cover on the front of the machine.

## 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 escaping steam

Small quantities of steam may escape through the dishwashing machine's hood area. It is possible that adjacent furniture may warp.

- Protect adjacent furniture from warping.
- If possible, avoid installing the machine in an area close to furniture susceptible to warping.



#### Note

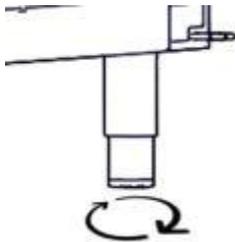
When installing non-MEIKO tables on the hood type machine, ensure that no risks arise at the joint with the hood, such as danger of crushing or shearing.



#### Notice

Assembly may be performed **only** by an authorised service technician.

- Assembly must be carried out in accordance with the installation drawing.
- Machine is intended for installation in front of a wall.
  - Otherwise, the machine must be secured against tipping.
  - A screw-on base is available for freestanding installation.
- Machine is intended for installation with table installation.
- Ensure the machine is level in both directions by using a spirit level.
- Compensate for an uneven floor by adjusting the feet.
- Table joints must be sealed with a detergent-resistant sealant (e.g. silicone).
- Check that the machine is stable.



**Disposal of packaging materials, see page 51!**

## 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 escaping steam**

Small quantities of steam may escape through the dishwashing machine's hood area. It is possible that adjacent furniture may warp.

- Protect adjacent furniture from warping.
- If possible, avoid installing the machine in an area close to furniture susceptible to warping.

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.

#### **Caution**

##### **Danger of crushing**

Body parts could be crushed when closing hood.

- When the hood is moving downwards, ensure that no body parts are between the hood and objects located underneath.
- Close the hood with both hands on the hood handle.



#### **Beware**

##### **Danger of injury or material damage due to storing items on the hood**

Items may fall down when hood moves.

- Ensure that no items are to be found on top of the hood.

#### 9.1.1 Putting the machine into operation



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



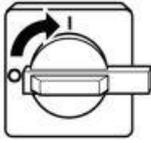
1. Press **on/off key**.



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.



1. Switch on the power.



2. Turn on the tap.

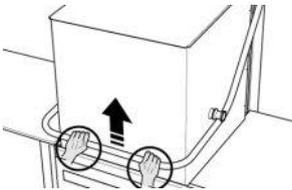


3. Check the canister fill level.

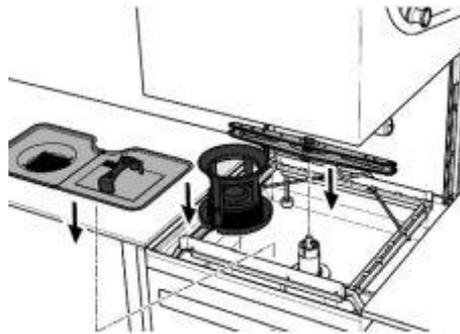


**Note**

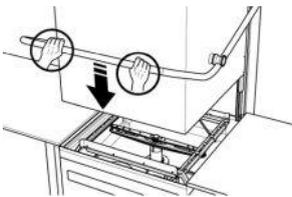
If there is air in the hoses, the automatic dosing will not function correctly. The relevant pipe must be vented, see page 43.



4. Open hood with both hands.



5. Insert filter, tank cover sieve and wash systems (top and bottom).



6. Close hood with both hands.

## 9.2 Washing

### 9.2.1 Manual detergent dosing

If no detergent dosing pump is present, the detergent has to be added manually to the wash water.

For a detergent concentration of 2g/l, a pre-dosage of 40 g is required. Perform the pre-dosage immediately after readiness to operate is achieved. Add 30 g after every 5 wash cycles.

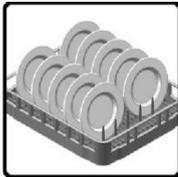
Scatter powdered detergent evenly on the tank water or add it dissolved, in order to prevent discolouration on stainless steel parts.

Rinse aid is automatically dosed!

### 9.2.2 Putting away washware



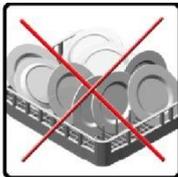
- All hollow containers must always be loaded upside down. Otherwise the water will not be drained from the wash ware and brilliant drying will not be possible.



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



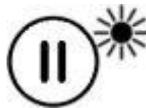
- If cutlery holders are used, always insert the cutlery pieces with the handles down.
- Mix up the spoons, knives and forks as much as possible in each cutlery basket, since similar cutlery pieces may nest together.
- Do not put too many cutlery pieces into the individual cutlery baskets.



- 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.

### 9.2.3 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 <i>f</i> | Heavily soiled washware<br>pots, containers, kitchen utensils |

#### 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.

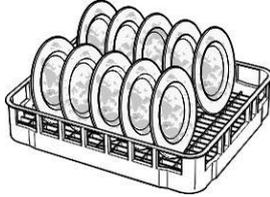
## 9.2.4 Start wash cycle

### ⚠ Caution

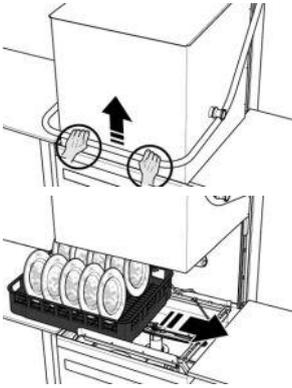
#### Danger of crushing

Body parts could be crushed when closing hood.

- When the hood is moving downwards, ensure that no body parts are between the hood and objects located underneath.
- Close the hood with both hands on the hood handle.



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

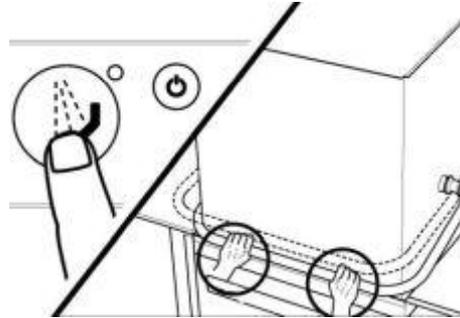


3. Open hood with both hands.



4. Insert the rack into the dishwasher.
5. Centre the rack correctly in the rack holder.

6. Ensure that the correct programme has been selected, see page 31.



7. Close hood with both hands.
8. Push handle down briefly or press **wash key**.

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



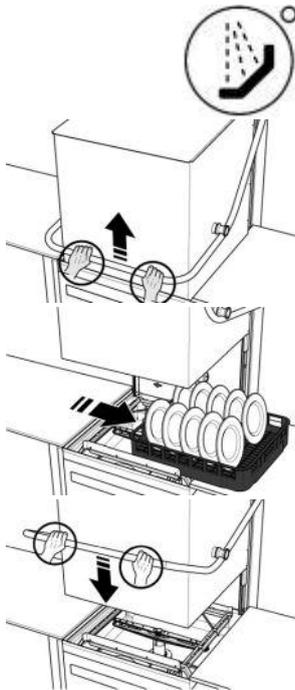
The wash cycle time may differ from the set programme running time if the programme running time is not sufficient to heat up the boiler and tank water to the pre-set temperature. In this case, the cycle time is automatically extended. This means that the dishwasher runs until the required temperatures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

### 9.2.5 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 hood with both hands.
2. Carefully remove the rack.
3. Close hood with both hands.

### 9.3 Shutting down the dishwasher

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



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



2. 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 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 page 48.

## 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 Replacing the canister



#### Note

Information on cleaning chemicals, see page 17.



#### Note

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

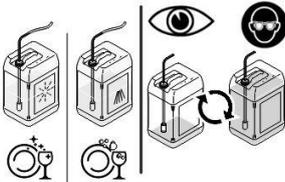


#### Note

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 43.

## 9.4.2 Fill salt container

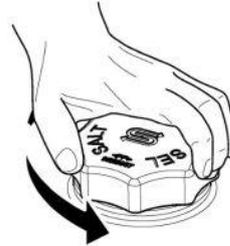
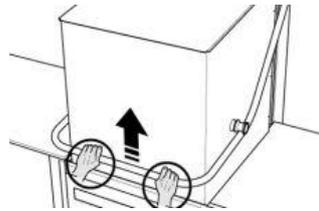
### Caution

#### Damage to water softener if salt container is not filled

Fill empty salt container promptly if **salt container control light is red!**



If the capacity of the installed water softener is largely exhausted, the red control light above the symbol for the salt container lights up.

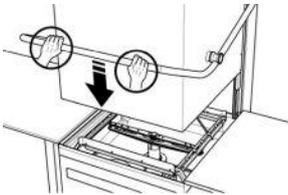


1. Open hood with both hands and fill salt solution container with 2.2 kg of regeneration salt (sodium chloride with a grain size of 0.3 - 1 mm). If possible, use a loading chute!

➔ During filling, water and salt particles may overflow from the salt container!



2. Clean the seal and thread of the salt solution container and close tightly. The ingress of wash water can cause capacity loss in the water softener!



3. Close hood with both hands.



4. Start the self-cleaning programme (if necessary, switch off the dishwasher using the on/off key and then press the wash key) to dissolve any salt particles that have escaped and pump them out of the tank. If the salt remains in the wash tank for a long time, this can result in corrosion, and even pitting, in the tank bottom.

➔ Regeneration starts automatically once machine is ready for operation, see page 28 and on the next page.

## 9.5 Regeneration of the built-in water softener

The **ActiveClean** water softener automatically regenerates itself without intervention by the operator.



The control light shows the ongoing regeneration (duration: approx. 8 minutes). The dishwasher can be used for a programme run as normal. If a second programme run is started during the regeneration time, the wash time is lengthened until regeneration is completed. Then the pause for draining and fresh water rinse follow.

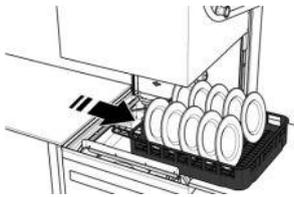
Regeneration can be started manually, if necessary, see page 43.

## 9.6 Changing water

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 dishwasher 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 hood, remove rack, close hood.



Machine is made ready for operation.



- Press wash program key I or II.



Machine is made ready for operation.



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



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



- Press the on/off key and then the wash key.



The self-cleaning programme is started in order to take the dishwasher subsequently out of operation.

## 9.7 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  |
|   | Open hood                         | Close hood   |
| 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.

## 9.7.1 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!
- 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"> <li>• No boiler/tank heating</li> <li>• No fresh water supply</li> </ul>   | <ul style="list-style-type: none"> <li>• Possible to continue work at limited capacity</li> <li>• Call a service technician!</li> </ul>  |
| 121  | Door/hood not closed                                     | <ul style="list-style-type: none"> <li>• Door/hood open</li> <li>• I/O circuit board defective</li> <li>• Microswitch defective</li> <li>• Microswitch not correctly set</li> </ul> | <ul style="list-style-type: none"> <li>• Close door/hood</li> <li>• Call a service technician!</li> </ul>  |
| 122  | Incorrect password/no authorisation                      | <ul style="list-style-type: none"> <li>• Code incorrectly entered</li> </ul>  | <ul style="list-style-type: none"> <li>• Enter code again</li> </ul>   |
| 123  | Factory setting parameter list                           | <ul style="list-style-type: none"> <li>• Switch supply voltage on/off</li> </ul>  | <ul style="list-style-type: none"> <li>• No intervention by the operator is necessary</li> <li>• Message disappears after 5 min.</li> </ul>  |
| 126  | Maintenance necessary                                    | <ul style="list-style-type: none"> <li>• The set operating hours (P 122) or batch number (P 123) has been reached</li> </ul>  | <ul style="list-style-type: none"> <li>• Possible to continue working</li> <li>• Call a service technician!</li> </ul>   |
| 420  | Lack of rinse aid (with integrated fill-level detection) | <ul style="list-style-type: none"> <li>• Canister empty</li> <li>• Suction lance not correctly introduced</li> </ul>  | <ul style="list-style-type: none"> <li>• Replace empty canister</li> <li>• Check suction lance</li> <li>• Where appropriate, ventilate pipes</li> </ul>  |
| 520  | Lack of detergent (with integrated fill-level detection) |   |  |
| 720  | Regeneration is running                                  | <ul style="list-style-type: none"> <li>• Regeneration programme has been started and is running</li> </ul>  | <ul style="list-style-type: none"> <li>• Let regeneration programme run to completion</li> <li>• Regeneration programme cannot be interrupted</li> <li>• Possible to continue working</li> </ul> |
| 721  | Regeneration not possible                                | <ul style="list-style-type: none"> <li>• Salt container empty</li> </ul>  | Fill salt container  |
| 722  | Salt container empty                                     | <ul style="list-style-type: none"> <li>• No salt present</li> <li>• No water in the salt container</li> </ul>   | Fill salt container<br><ul style="list-style-type: none"> <li>• Where appropriate, Fill water in the salt container</li> </ul>   |

| ERR | Description  | Possible cause  | Measures / remedial action  |
|-----|--|---|---|
| 001 | EEPROM error   | <ul style="list-style-type: none"> <li>EEPROM <ul style="list-style-type: none"> <li>Not present/defective</li> <li>Installed incorrectly</li> <li>Incorrect data/empty</li> </ul> </li> </ul>  | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>  |
| 111 | Floor pan leakage  | <ul style="list-style-type: none"> <li>There is a leak</li> </ul>   | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>  |
| 118 | Signal of the two door contact switches unequal  | <ul style="list-style-type: none"> <li>Malfunction/defect door contact switch</li> </ul>  | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>  |
| 201 | Boiler level not reached during first filling (with integrated pressure booster pump)  | <ul style="list-style-type: none"> <li>Fresh water inlet insufficient (water tap closed)</li> <li>Feed hose kinked/disconnected/leaks</li> </ul>  | <ul style="list-style-type: none"> <li>Check water supply</li> <li>Check feed hose</li> <li>Check pre-filter/sieve and clean, if necessary</li> <li>Where appropriate, call a service technician!</li> </ul>                |
| 202 | Boiler level not reached on time during filling (with integrated pressure booster pump)  | <ul style="list-style-type: none"> <li>Inlet filter soiled</li> <li>Solenoid valve defective</li> <li>Boiler switch defective</li> </ul>  |   |
| 203 | No change detected by the boiler level switch when emptying (with integrated pressure booster pump)                              | <ul style="list-style-type: none"> <li>Pressure booster pump defective</li> <li>Plug connections disconnected (e.g. pressure booster pump)</li> <li>Start capacitor defective</li> <li>Boiler level switch defective</li> </ul>   | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>  |
| 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"> <li>No signal to or from pressure booster pump and I/O circuit board</li> <li>No signal boiler full - from I/O circuit board</li> </ul>  |   |
| 205 | Boiler temperature not reached after max. heat time (P310)   | <ul style="list-style-type: none"> <li>Boiler heating defective/melting beads, heating element</li> <li>Temperature sensor defective, incorrect installation position</li> <li>Boiler protection defective, output switch triggered</li> <li>No signal from I/O circuit board</li> </ul>                                      | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>  |
| 206 | Wash time increase   | <ul style="list-style-type: none"> <li>Boiler not ready for final rinse on time (temperature or level not reached)</li> <li>Boiler heating defective (melting beads)</li> <li>Temperature sensor defective</li> <li>Boiler protection defective, output switch triggered</li> <li>No signal from I/O circuit board</li> </ul> | <ul style="list-style-type: none"> <li>Acknowledge message, continued work possible</li> <li>Let programme run without intervention by the operator</li> <li>If it occurs frequently, call a service technician!</li> </ul> |
| 210 | Boiler temperature sensor short-circuit  | <ul style="list-style-type: none"> <li>Sensor defective</li> <li>Sensor position not correct</li> </ul>   | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>  |
| 211 | Boiler temperature sensor interruption   | <ul style="list-style-type: none"> <li>Plug contact not connected properly</li> </ul>   |   |
| 212 | "Actual" boiler temperature too high (>95°C)   | <ul style="list-style-type: none"> <li>Contacting sticking</li> <li>Incorrect sensor/defective sensor</li> </ul>  | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>  |

| ERR | Description  | Possible cause   | Measures / remedial action   |
|-----|--|--|--|
| 301 | Number of circulatory pumping cycles for tank filling exceeded<br>Tank level analysis disrupted                      | <ul style="list-style-type: none"> <li>Feeding water pressure too low</li> <li>Inlet filter soiled</li> <li>Rinse nozzles dirty</li> <li>Air trap dirty</li> <li>Condensate in level pipe</li> <li>Feed hose kinked/disconnected/leaks</li> </ul>  | <ul style="list-style-type: none"> <li>Check water supply</li> <li>Check feed hose</li> <li>Clean inlet filter</li> <li>Clean rinse nozzles</li> <li>Call a service technician!</li> </ul> |
| 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"> <li>Drain pump output too low</li> <li>Drain pump dirty/defective</li> <li>Impeller loose</li> <li>Drain pump plug connection open</li> </ul>   | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>   |
| 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"> <li>Start capacitor defective</li> <li>Tank level analysis disrupted</li> <li>Aquastop does not close correctly</li> <li>No signal from I/O circuit board</li> </ul>  |  |
| 304 | Tank temperature not reached after max. heat time (P314)   | <ul style="list-style-type: none"> <li>Tank heating defective/melting beads, heating element</li> <li>Temperature sensor defective, incorrect installation position</li> <li>Tank protection defective, output switch triggered</li> </ul>   | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>   |
| 305 | Number of boiler fills insufficient for rinsing. Tank level 2 not reached  | <ul style="list-style-type: none"> <li>Feeding water pressure too low</li> <li>Inlet filter soiled</li> <li>Rinse nozzles dirty</li> <li>Air trap dirty</li> <li>Condensate in level pipe</li> <li>Feed hose kinked/disconnected/leaks</li> <li>Level sensor defective</li> <li>Plug contact not connected properly</li> </ul> | <ul style="list-style-type: none"> <li>Check water supply</li> <li>Check feed hose</li> <li>Clean inlet filter</li> <li>Clean rinse nozzles</li> <li>Call a service technician!</li> </ul> |
| 306 | Max. tank level exceeded Tank level analysis disrupted.  | <ul style="list-style-type: none"> <li>Air trap dirty</li> <li>Condensate in level pipe</li> <li>Level sensor defective</li> <li>Plug contact not connected properly</li> </ul>  | <ul style="list-style-type: none"> <li>Empty dishwashing machine and refill</li> <li>Call a service technician!</li> </ul>   |
| 307 | Tank level sensor defective  | <ul style="list-style-type: none"> <li>Connection plug loosened</li> <li>Sensor or I/O circuit board defective</li> </ul>  | <ul style="list-style-type: none"> <li>Call a service technician!</li> </ul>   |
| 310 | Temperature sensor short-circuit   | <ul style="list-style-type: none"> <li>Sensor defective</li> </ul>   | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>   |
| 311 | Temperature sensor interruption  | <ul style="list-style-type: none"> <li>Sensor position not correct</li> <li>Plug contact not connected properly</li> </ul>   |  |
| 312 | Actual tank temperature too high (>85°C)   | <ul style="list-style-type: none"> <li>Contacting sticking</li> <li>Incorrect sensor/defective sensor</li> </ul>   | <ul style="list-style-type: none"> <li>Not possible to continue working</li> <li>Call a service technician!</li> </ul>   |

## 9.8 Change authorisation level

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



1. Press and hold the On/Off key for about three seconds.

Code 1----

Code -0---



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

1-1-----

Info 122

After entry of the correct code, the desired authorisation level (1, 4) is displayed in the left field in the first digital position. If the entry is incorrect, 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 technology.

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

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

## 9.9 Service level

| Code display  | Meaning  |
|---|--|
|  | View parameter, see page 42.   |
|  | Vent rinse pipe, see page 43.  |
|  | Vent detergent line, see page 43.  |
|  | Manually start regeneration, see page 43.  |
|  | Reset the counter for replacing the partial desalination cartridge, see page 43. |

### 9.9.1 View parameters

1. Switch to authorisation level 1 **Service level (10000)**, see page 41.



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**.

### 9.9.2 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 41.



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**.

### 9.9.3 Start regeneration manually

1. Switch to authorisation level 1 **Service level (10001)**, see page 41.



2. Select the entry 1–4.



3. Confirm the selection.



Regeneration begins.



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

### 9.9.4 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 41.



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**.

## 9.10 Dosing system level

1. Switch to authorisation level 4, Dosing technology level (40000 or 40044), see page 41.



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<br>1 = Activate through calculated running time<br>2 = Activate as per pressure booster pump<br>3 = Activate as per wash pump |
| P225         | Detergent dosing unit activation method | 0 = Do not activate<br>1 = Activate through calculated running time<br>2 = Activate as per pressure booster pump<br>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).

### **⚠ Beware**

#### **Danger of crushing**

Body parts could be crushed when closing hood.

- When the hood starts to move downwards (manually or automatically operated hood), ensure that no body parts are between the hood and objects located underneath.
- Close manually operated hoods using the blue handle.



### **⚠ Beware**

#### **Danger of injury or material damage due to storing items on the hood**

Items may fall down when hood moves.

- Ensure that no items are to be found on top of the hood.

### **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   | U= U 500 M2<br>H= H 500 M2 | Checked | Cleaned | Replaced | Maintenance requirement                           |
|--|----------------------------|---------|---------|----------|---|
| <b>Visual inspection</b>   |                            |         |         |          |   |
| <b>1. Error memory</b>   |                            |         |         |          |   |
| Check error memory for unusual events using M-Commander 2.7                                      | U/H                        |         |         |          | annually  |
| <b>2. Pumps</b>  |                            |         |         |          |   |
| Check pumps for leaks and any visible damage   | U/H                        |         |         |          | annually  |
| Check pumps for pump rotor noise and function  | U/H                        |         |         |          | annually  |
| <b>3. Wash tank, wash and rinse system</b>   |                            |         |         |          |   |
| Functional and visual tests of wash and rinse arms   | U/H                        |         |         |          | annually  |
| Replace the ring, nut, bearing and spacer washer on the wash and rinse arms                      | U/H                        |         |         |          | annually  |
| Check air trap on tank and clean if necessary  | U/H                        |         |         |          | annually  |
| Check tank level control for leaks   | U/H                        |         |         |          | annually  |
| Check sieves and filters   | U/H                        |         |         |          | annually  |
| Check rack holder/guide for damage   | U/H                        |         |         |          | annually  |
| Check wash and rinse systems for leaks   | U/H                        |         |         |          | annually  |
| Check water level in tank  | U/H                        |         |         |          | annually  |
| Check door seal  | U                          |         |         |          | annually  |
| Check tank and boiler heating  | U/H                        |         |         |          | annually  |
| <b>4. Casing</b>   |                            |         |         |          |   |
| Check casing, tank and covers for damage and correct operation                                   | U/H                        |         |         |          | annually  |
| Check door and door counter balance for correct operation  | U                          |         |         |          | annually  |
| <b>5. Hood and hood counterbalance</b>   |                            |         |         |          |   |
| Check hood for ease of movement  | H                          |         |         |          | annually  |
| Check hood handle bearings visually and for correct operation                                    | H                          |         |         |          | annually  |
| Clean hood guide and back wall seal  | H                          |         |         |          | annually  |
| Check life span of springs   |                            |         |         |          | annually  |
| • Replacement  | H                          |         |         |          | annually<br>after 650,000<br>loads or 12<br>years |
| <b>6. Fresh water installation</b>   |                            |         |         |          |   |
| Check valves, clean dirt trap  | U/H                        |         |         |          | Annually  |
| Check that boiler level control/air gap does not leak  | U/H                        |         |         |          | Annually  |
| Check that boiler, hoses, clamps and plastic parts do not leak                                   | U/H                        |         |         |          | Annually  |
| Check boiler drainage system does not leak   | U/H                        |         |         |          | Annually  |
| Check the free discharge section for cleanliness and tightness of the connections (visual check) | U/H                        |         |         |          | Annually  |
| <b>7. Wastewater installation</b>  |                            |         |         |          |   |
| Replace flap on ventilation valve  | U/H                        |         |         |          | annually  |

|  |     |     |     |            |     |                    |
|--|-----|-----|-----|------------|-----|--------------------|
| Check operation of drain pump during drainage                                    | U/H |     |     |            |     | annually           |
| Check that pumps, hoses are not leaking  | U/H |     |     |            |     | annually           |
| <b>8. Detergent dosing</b>   |     |     |     |            |     |                    |
| Replace peristaltic hose   | U/H |     |     |            |     | annually           |
| Check detergent dosing system is working and not leaking                         | U/H |     |     |            |     | annually           |
| <b>9. Rinse aid dosing</b>   |     |     |     |            |     |                    |
| Replace peristaltic hose   | U/H |     |     |            |     | annually           |
| Check rinse aid dosing system is working and not leaking                         | U/H |     |     |            |     | annually           |
| <b>10. Test run with function test of whole machine</b>                          |     |     |     |            |     |                    |
| Check filling and heating until it is <b>ready for operation</b>                 | U/H |     |     |            |     | annually           |
| Visual inspection of the entire machine for leaks                                | U/H |     |     |            |     | annually           |
| Carry out test wash and check results  | U/H |     |     |            |     | annually           |
| <b>11. Options</b>   |     |     |     |            |     |                    |
| <b>ActiveClean water softener (if applicable)</b>                                |     |     |     |            |     |                    |
| Check water hardness setting   | U/H |     |     |            |     | annually           |
| Check the seal on the lid of the salt container                                  | U/H |     |     |            |     | annually           |
| Start and check the regeneration process manually                                | U/H |     |     |            |     | annually           |
| <b>Integrated reverse osmosis system (if applicable)</b>                         |     |     |     |            |     |                    |
| Visually check whole system for leaks  | U/H |     |     |            |     | annually           |
| Pre-filter change standard membrane (< 0.1 mg/l)                                 | U/H |     |     |            |     | every six months   |
| Change pre-filter, chlorine-resistant membrane ( $\geq 0.1$ and $\leq 2.0$ mg/l) | U/H |     |     |            |     | every three months |
| Check fine sieve insert and choke in concentrate pipeline                        | U/H |     |     |            |     | annually           |
| Check correct function of concentrate drain and check for deposits               | U/H |     |     |            |     | annually           |
| Fill in separate log: <b>Certificate of Commissioning, GiO</b>                   | U/H |     |     |            |     | annually           |
| <b>Partial demineralisation (PD)/full demineralisation (FD) (if applicable)</b>  |     |     |     |            |     |                    |
| Check operation  | U/H |     |     |            |     | annually           |
| <b>Exhaust air heat recovery (if applicable)</b>                                 |     |     |     |            |     |                    |
| Check operation of fan   | H   |     |     |            |     | annually           |
| Check operation of solenoid valve  | H   |     |     |            |     | annually           |
| Carry out visual inspection and check for leaks                                  | H   |     |     |            |     | annually           |
| <b>12. Water quality, temperature</b>  |     |     |     |            |     |                    |
| Drinking water   | °C  | °dH | °CH | $\mu$ S/cm | U/H | annually           |
| Water quality after water treatment (if applicable)                              | °C  | °dH |     | $\mu$ S/cm | U/H | annually           |
| <b>13. Electrical safety check (certificate is optional)</b>                     |     |     |     |            |     |                    |
| Carry out the visual inspection  | U/H |     |     |            |     | annually           |
| Check the protective earth conductor   | U/H |     |     |            |     | annually           |
| Insulation resistance measurement  | U/H |     |     |            |     | annually           |
| Measure current on protective earth conductor                                    | U/H |     |     |            |     | 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.

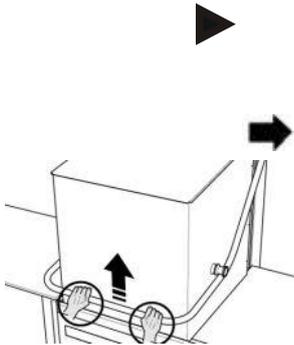


- The dishwashing machine, switch cabinets and other electrical components must **never** be sprayed with a hose or high pressure cleaner.
- Make sure that no water can enter the machine unintentionally.
- If installed at ground level, **never** flood the surrounding room.

#### Note

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

The machine is emptied, see page 33.



1. Open hood with both hands.



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.

## 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 33.
- 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 28.

## 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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