MEIKO M-iClean H

Hood type dishwashing machine

Original operating instructions

For the types in the series: M008DWHT10M2-**
M008DWHT10M3-**

EN

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

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Contents

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://partnernet.meiko-global.com.

1.1 Product identification

These operating instructions apply to the following machine types:

M-iClean H Type M2:	**M-iClean H Type M3:**
M008DWHT10M2-20	M008DWHT10M3-20
M008DWHT10M2-30	M008DWHT10M3-30
M008DWHT10M2-40	M008DWHT10M3-40

1.2 Delivery contents

The delivery contents include:

- 1x hood type dishwashing machine: M-iClean H
- Matching racks for glassware, crockery and containers, depending on machine model
- Connecting hoses for fresh water and waste water
- Key to change pre-filter (only with GiO option)
- Documentation

1.3 Related documents

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

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

2 Declaration of conformity

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

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

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

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

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

Responsible for documentation:

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

Responsible person:

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

3 Safety

3.1 Symbol explanation

3.1.1 Notes in the instructions

Warnings

⚠ Danger

Short description of the danger:

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

⚠ Warning

Short description of the danger:

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

⚠ Beware

Short description of the danger:

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

Application information

Caution

Short description:

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

▶ **Note**

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

3.1.2 Safety symbols in the instructions

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

The symbols have the following meanings:

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

3.2 Requirements for the personnel

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

During operation it must be ensured that:

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

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

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

* with training as an electrician

Note

The instructions must be acknowledged in writing.

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

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

3.3 Residual risks

Phase	Activity	Nature of the hazard	Avoidance measure
Transport and assembly	Loading and unloading with forklift truck	Crushing/impact	• Load-bearing capacity of the forklift truck must be adequate for the weight of the machine • Please note the machine's centre of gravity • Secure to prevent slipping
	Deposit at the installation site	Crushing/impact	• Ensure that the ground beneath is capable of taking the load • Ensure that the machine cannot tip
	Incorporate into on-site table unit	Shearing	• Ensure that no shear points are created between the hood and the table
	Install freestanding machine	Crushing	• Ensure that the freestanding machine is secured to prevent it from tipping backwards
	Install electrical connections	Electric shock	• Adhere to the accident prevention regulations
	Install separate GiO MODULE (optional)	Tripping/falling/crushing	• We recommend fastening the GiO MODULE to the wall/table/machine • Mount freestanding module using solid base • If needed, run module at 90 degrees (lying)
Commissioning	Fill with detergent/rinse aid	Eye injury/health risks	• Wear safety eyewear/gloves • Avoid contact with skin and eyes
	Activities in the machine	Hand injuries on sharp edges	• Wear protective gloves
Operation	Filling/heating	Contact with hot water	• Do not set machine in operation without tank cover sieve
	Programme is running		• Do not open hood during cycle
	Loading and unloading the machine	Trapping of hand	• To close the hood, use the handle designated for this purpose
		Broken crockery causing cuts/severing	• Wash/clean washware in the specially designed rack in the machine • Place small items in the appropriate rack inserts • Washware must not come into contact with rotating parts of the machine
		Risk of snagging with loose clothing or items of jewellery	• Wear suitable work clothing and sturdy shoes • Do not wear rings, necklaces or other pieces of jewellery
		Slipping	• Use non-slip floor coverings
		Contact with hot water	• If necessary, allow washware to cool down • If necessary, allow machine components to cool down before touching • Do not remove tank cover sieve while appliance is in operation • Protective gloves recommended • Only ever use the hood handle or handles to open/close the hood
	Other activities	Swallowing of water in the wash chamber	• Do not use the water in the wash chamber for food preparation or drink it
	Normal operation	Substandard wash performance due to failure of dosing units	• Monitor wash performance • If appropriate, repeat the programme
	Refilling detergent/rinse aid	Eye injury/health risks	• Wear safety eyewear/gloves • Avoid contact with skin and eyes

Phase	Activity	Nature of the hazard	Avoidance measure
Maintenance and cleaning	Any maintenance work	Electric shock	• Before opening the housing parts, ensure the mains switch has been disconnected and secured so that it cannot be turned on again
	Cleaning or maintenance	Contact with hot water or machine parts	• Allow machine components to cool down before touching • Wear protective gloves
		Hand injuries on sharp edges	• Wear protective gloves
	Cleaning	Poisoning	• Do not use aggressive cleaning or scouring agents • Only use descaling products suitable for commercial machines • Wear protective gloves
	GiO MODULE: replace filter cartridge	Water escaping	• Provide suitable vessel (e.g. base drip tray)
Dismantling and disposal	Dismantling	Eye injury/health risks	• Wear safety eyewear/gloves • Avoid contact with skin and eyes • If needed, clean hoses, dosing system and machine parts with fresh water
	Loading and unloading with forklift truck	Crushing/impact	• Load-bearing capacity of the forklift truck must be adequate for the weight of the machine • Please note the machine's centre of gravity • Secure to prevent slipping

3.4 Intended use

The machine is intended exclusively for commercially washing dishes, cutlery, trays, glasses, kitchen utensils, baking trays and containers.

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

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

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

The machine may only be operated by trained personnel.

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

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

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

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

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

3.5 Foreseeable misuse

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

3.6 Fundamental safety and accident prevention regulations

Note

The following safety instructions aim to protect operating personnel as well as third parties and the dishwashing machine itself.
Please take note of the information in these instructions and the signs on the dishwashing machine.

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

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

- The dishwashing machine is only used in accordance with its intended purpose. In the event of the machine being used or operated contrary to this, damage or risks may arise.
- In order to guarantee functionality and safety, only original spare parts supplied by the manufacturer may be used.
- The safety of the dishwashing machine is not impaired by the subsequent installation of a dosage system.
- Only appropriately qualified and authorised personnel operate, maintain and repair the dishwashing machine.
- No one sits or stands on the open door.
- Staff are regularly trained in all questions relating to occupational safety and environmental protection and are familiar with the operating instructions and, in particular, the safety information that they contain.
- The area around the machine is assessed with reference to the risk to other people, e.g. children; people with physical, sensory or mental impairments; people lacking in knowledge or experience. In case of doubt, special optional initiation functions other than conscious, intentional operation (i.e. operation from the screen) are to be deactivated.
- The dishwashing machine is only operated in perfect, functional condition, all protection devices and covers are installed.
- The safety and switching equipment is regularly tested to ensure it is functioning correctly.
- Dishwashers accessible from behind may only be operated with a rear cover.
- The required personal protective equipment is made available to and worn by maintenance and repair personnel.

- A functional test on all dishwashing machine safety systems is carried out at every regular maintenance appointment.
- None of the safety and warning notices affixed to the dishwashing machine itself are removed and all are legible.
- Upkeep (maintenance and inspection) is carried out on optional vendor parts according to the requirements in the corresponding instructions.
- Following installation, commissioning and handing over of the dishwashing machine to the customer/operator, no modifications are made (e.g. electrical or mechanical machine components).
- 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.

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 eyewear.
- 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 M-iClean H is a hood type dishwashing machine with a square basket.

The dishwasher has one wash and one final rinse cycle.

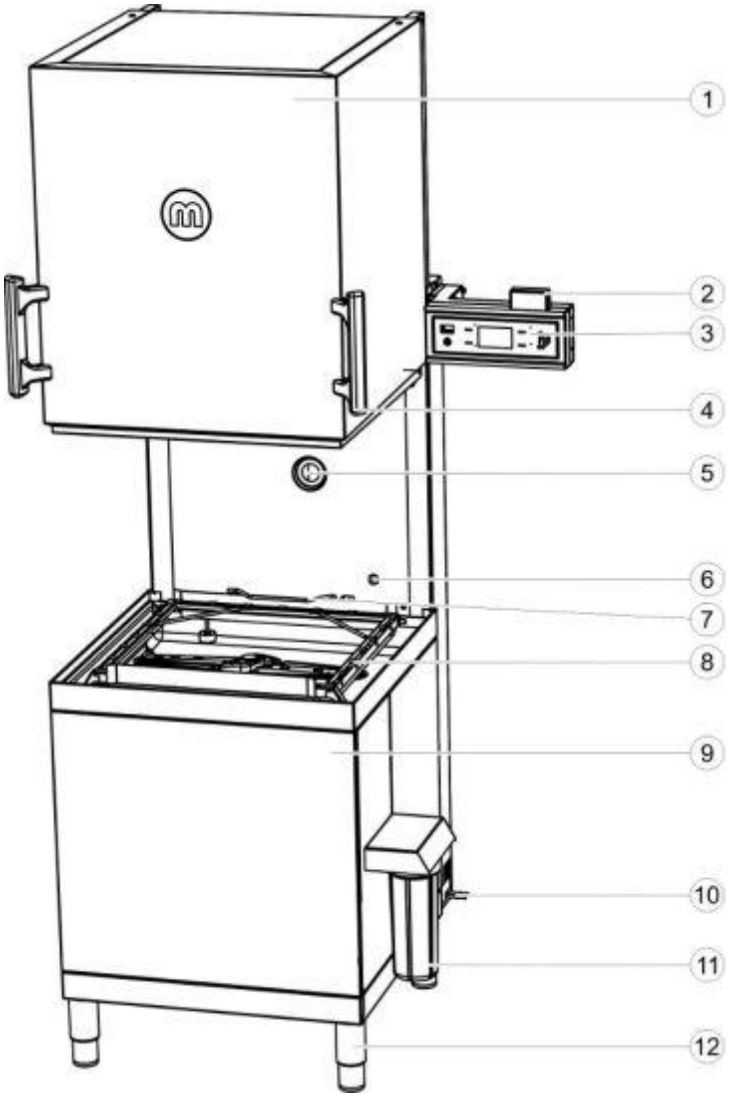
A temperature regulator maintains the set wash temperature of between 58-60 °C. A rotary pump circulates the water from the wash tank into the wash nozzles. The water jets hit the wash ware from different directions. This ensures uniform washing results.

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

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

4.2 Overview illustration

Exterior view



1 Hood

2 Indicator light

3 Glass control panel

4 Hood handle (blue)

5 Overflow for fresh water system

6 Ventilation for wastewater system

7 Rack detection switch (optional)

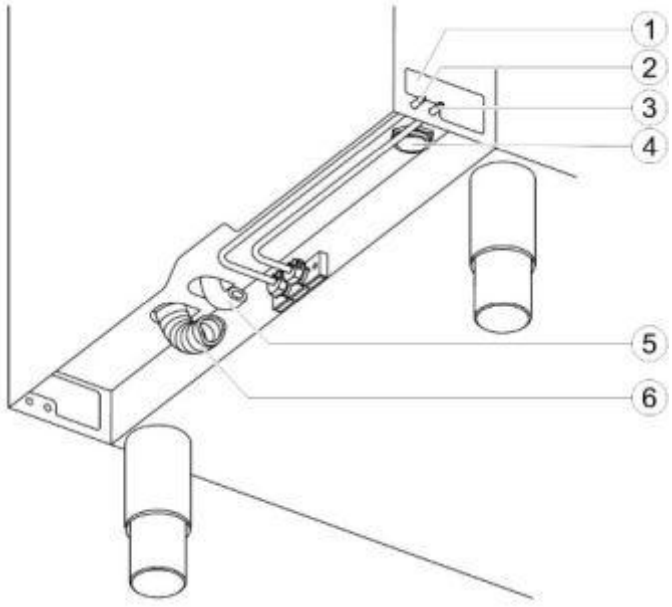
8 Wash chamber with rack guide

9 Lower section containing pumps, boiler and switch cabinet

10 Knockout opening for utility connections and detergent/rinse aid

11 Pre-filter for GiO MODULE

12 Height-adjustable base



1 Optional opening on right/left for relocating connection line

2 Connection nozzles for rinse aid

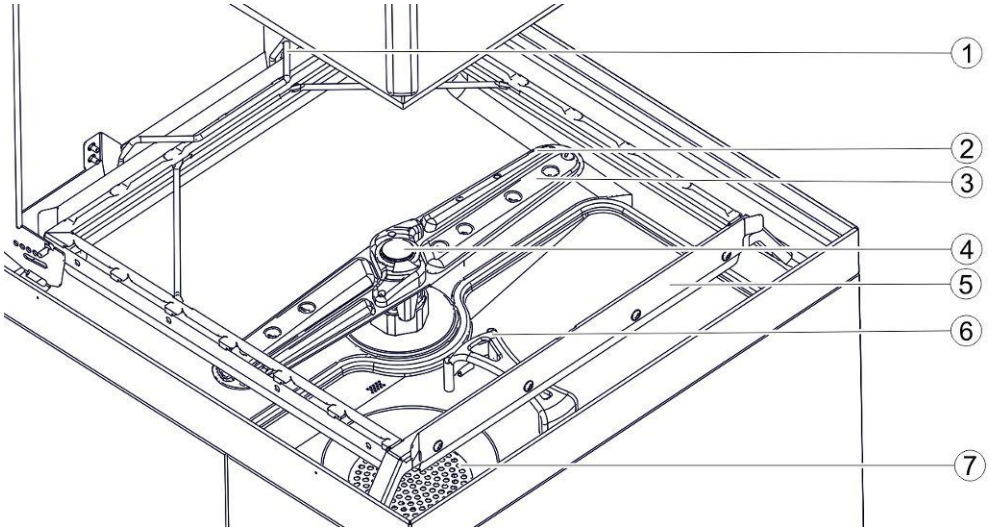
3 Connection nozzles for detergent

4 Electrical supply

5 Fresh water supply

6 Drain connection line (internally routed in machine as siphon)

Interior view

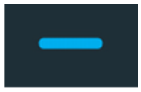


1 Rack detection switch (optional)
2 Wash arm (final rinse system)
3 Wash arm (cleaning system)
4 Retaining screw for wash arm
5 Rack guide
6 Sieve cover
7 Suction strainer

4.3 Glass control panel

The machine is equipped with an operation panel. This includes a total of 7 keys which are used to operate the machine. A display in the centre of the operation panel provides information about the machine's current operational status. In addition, depending on which of the 4 confirmation keys next to the display is pressed, further information and menus are displayed. Inactive confirmation keys are not illuminated.

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

Button/symbol	Meaning
	**On/off key**
	Filling/heating on or machine off
	**Confirmation key**
	Meaning/function is shown on the display next to the relevant key
	**Wash key**
	Flashing blue: filling/heating active
	Flashing green: filling/heating active / memory start
	Illuminated blue: machine is ready for operation
	Illuminated green: washing active
	**Service access key/wake-up key**
	i-menu
	Action menu
	Self-cleaning/drainage menu
	Open/close hood

Key/symbol	Meaning
	Programme: cutlery
	Programme: cups
	Programme: crockery
	Programme: pans
	Programme: glassware - gentle
	Programme: glassware - normal
	Programme: glassware - intensive
	Programme: glassware - gentle + cold water rinse
	Programme: glassware - normal + cold water rinse

4.4 Type label

The rating plate is located on the left or right-hand side in the lower rear section of the machine. Additional rating plates are located on the electrical box behind the front panel and on the housing of the glass operating panel.

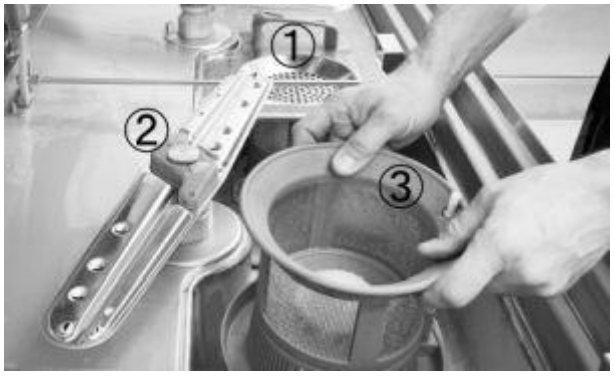
The dishwashing machine can be connected to the power provided a power supply is locally available. The connection variant currently available is labelled ●.

4.5 Illuminated programme start key

	
Blue	**Green**
Ready for operation	**Programme is running**

4.6 Blue operating concept

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.



1 Blue handle on tank cover sieve
2 Blue handle on wash arm
3 Blue filter

4.7 Wash programmes

Programme assignment

The programme assignment varies depending on the machine type, electrical connection and water supply. The programme assignment is shown in the following tables.

Voltage	**Variant**	**M-iClean HM**			**M-iClean HL**			**M-iClean HXL**		
Programme position		**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
3 N PE 380–415 V Cold or hot water connection	**Glass**	3	6	11	3	6	11	3	6	11
	Dishes	7	9	12	7	9	12	7	9	12
	Thermolabel*	17	18	20	17	18	20	17	18	20
	A_0 30*	19	22	24	19	22	24	19	22	24
Cold water connection	**Cold water final rinse***	15	16	2	15	16	2	15	16	2

*A reinforced tank heater may be required for these wash programmes.

4.7.1 M-iClean HM-PW/HXL-PW

Programme number	Programme runtime	Boiler temperature	Tank temperature	Pressure level	Rinse water volume	Programme symbol
	[s]	[°C]	[°C]	[1-3]	[l]	
1	60	65	60	1	2.4/4.8	
2	60	65	60	2	2.6/5.2	
3	90	65	60	1	2.4/4.8	
4	90	65	60	2	2.6/5.2	
5	60	65	60	3	2.4/4.8	
6	120	65	60	2	2.6/5.2	
7	60	81	60	1	2.4/4.8	
8	90	81	60	2	2.4/4.8	
9	90	81	60	2	2.6/5.2	
10	120	81	60	1	2.6/5.2	
11	120	81	60	2	2.6/5.2	
12	210	81	60	3	2.6/5.2	
13	210	81	60	3	2.6/5.2	
14	240	81	60	3	2.6/5.2	
15	90	2	55	1	3.5/7.0	
16	120	2	55	2	3.5/7.0	
17	180	81	74	1	2.4/4.8	
18	240	81	74	2	2.6/5.2	
19	240	81	74	1	2.4/4.8	
20	300	81	74	3	2.6/5.2	
21	240	81	74	3	2.6/5.2	
22	300	81	74	2	2.6/5.2	
23	360	81	74	3	2.6/5.2	
24	360	81	74	3	2,6/5,2	
25	60	65	60	1	2.4/4.8	

Programme assignment, see page 19.

4.7.2 M-iClean HM/HXL

Note

If necessary, the washing pressure can be reduced by MEIKO Service (e.g. if the washware falls over).

Programme number	Programme runtime	Boiler temperature	Tank temperature	Rinse water volume	Programme symbol
	[s]	[°C]	[°C]	[l]	
1	60	65	60	2,4/4,8	
2	60	65	60	2,6/5,2	
3	90	65	60	2,4/4,8	
4	90	65	60	2,6/5,2	
5	60	65	60	2,4/4,8	
6	120	65	60	2,6/5,2	
7	60	81	60	2,4/4,8	
8	90	81	60	2,4/4,8	
9	90	81	60	2,6/5,2	
10	120	81	60	2,6/5,2	
11	120	81	60	2,6/5,2	
12	210	81	60	2,6/5,2	
13	210	81	60	2,6/5,2	
14	240	81	60	2,6/5,2	
15	90	2	55	3,5/7,0	
16	120	2	55	3,5/7,0	
17	180	81	74	2,4/4,8	
18	240	81	74	2,6/5,2	
19	240	81	74	2,4/4,8	
20	300	81	74	2,6/5,2	
21	240	81	74	2,6/5,2	
22	300	81	74	2,6/5,2	
23	360	81	74	2,6/5,2	
24	360	81	74	2,6/5,2	
25	60	65	60	2,4/4,8	

Programme assignment, see page 19.

4.7.3 M-iClean HL

Note

If necessary, the washing pressure can be reduced by MEIKO Service (e.g. if the washware falls over).

Programme number	Programme runtime	Boiler temperature	Tank temperature	Rinse water volume	Programme symbol
	[s]	[°C]	[°C]	[l]	
1	60	65	60	3,0	
2	60	65	60	3,5	
3	90	65	60	3,0	
4	90	65	60	3,5	
5	60	65	60	3,0	
6	120	65	60	3,5	
7	60	81	60	3,0	
8	90	81	60	3,0	
9	90	81	60	3,5	
10	120	81	60	3,5	
11	120	81	60	3,5	
12	210	81	60	3,5	
13	210	81	60	3,5	
14	240	81	60	3,5	
15	90	2	55	4,0	
16	120	2	55	4,0	
17	180	81	74	3,0	
18	240	81	74	3,5	
19	240	81	74	3,0	
20	300	81	74	3,5	
21	240	81	74	3,5	
22	300	81	74	3,5	
23	360	81	74	3,5	
24	360	81	74	3,5	
25	60	65	60	3,0	

Programme assignment, see page 19.

4.7.4 M-iClean HL PW

Programme number	Programme runtime	Boiler temperature	Tank temperature	Pressure level	Rinse water volume	Programme symbol
	[s]	[°C]	[°C]	[1-3]	[l]	
1	60	65	60	1	3,0	
2	60	65	60	2	3,5	
3	90	65	60	1	3,0	
4	90	65	60	2	3,5	
5	60	65	60	3	3,0	
6	120	65	60	2	3,5	
7	60	81	60	1	3,0	
8	90	81	60	2	3,0	
9	90	81	60	2	3,5	
10	120	81	60	1	3,5	
11	120	81	60	2	3,5	
12	210	81	60	3	3,5	
13	210	81	60	3	3,5	
14	240	81	60	3	3,5	
15	90	2	55	1	4,0	
16	120	2	55	2	4,0	
17	180	81	74	1	3,0	
18	240	81	74	2	3,5	
19	240	81	74	1	3,0	
20	300	81	74	3	3,5	
21	240	81	74	3	3,5	
22	300	81	74	2	3,5	
23	360	81	74	3	3,5	
24	360	81	74	3	3,5	
25	60	65	60	1	3,0	

Programme assignment, see page 19.

4.8 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.

4.8.1 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 an service technician authorised by MEIKO or the chemical supplier.

Change dosing quantity, see page 55.

4.8.2 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 an service technician authorised by MEIKO or the chemical supplier.

Change dosing quantity, see page 55.

4.8.3 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.

4.8.4 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.

4.8.5 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 60.
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.

4.9 Options

4.9.1 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.

4.9.2 Drying table/drying unit

The drying table dries washware with room air. To do this, the washware is placed in a suitable dishwasher rack and centred on the drying table above the air outlet nozzles. A blower is used to blow air over the washware for a defined period of time. The drying table starts immediately after the end of the connected dishwashing machine's programme.

The drying unit works on the same principle as the drying table, but also has a blower hood that also dries from above.

4.9.3 Automatic hood system

The hood is fitted with an electric motor, removing the need for physical effort when opening and closing.

Features:

- Closes hood when wash key is pressed
- Closes hood with optional **basket detection**
- Opens and closes hood when hood handle is tapped
- Opens hood when cycle is finished (setting)

4.9.4 Rack detection (Intelli-Start) (option)

Rack detection is an additional function available with the **automatic hood system** option. When the rack is pushed into the machine, the hood closes after 3 seconds (default settings) and the chosen wash programme starts automatically, see page 44.

4.9.5 PowerWash

Electronic regulation of wash performance to be optimally adjusted to the washware and degree of soiling:

- Three pressure levels depending on the wash programme
- Soft start
- Integrated into the following models: HM-PW, HL-PW, HXL-PW

4.9.6 Disinfection control

Caution

Glass corrosion and loss of decorations due to high water temperatures and long wash cycle times

- Make sure that the dishes and glassware used are suitable for the high stress placed on them.

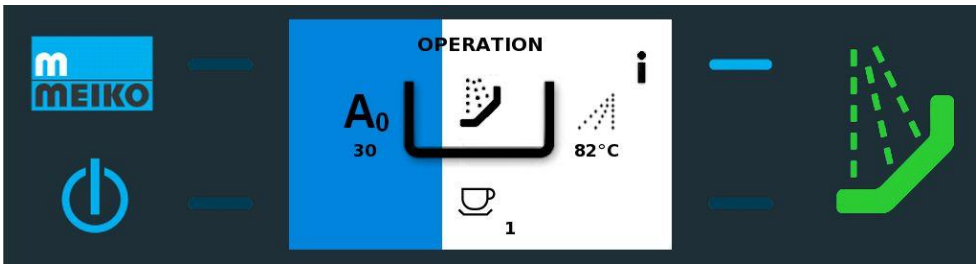
MEIKO offers two types of machine with thermal disinfection for institutions with additional hygiene requirements. Both versions have greater heating performance in the wash tank than standard machines.

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.

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.

4.9.7 Heat retention

The heat retention setting closes the back of the hood when the hood is open.

- Loss of steam into the surrounding area at the end of the cycle is reduced.
- Saves energy by retaining steam.

Available:

- ONLY in conjunction with automatic hood system
- NOT in conjunction with AirConcept

4.9.8 Exhaust heat recovery (AirConcept)

The exhaust heat recovery system is installed on the back of the hood:

- Loss of steam into the surrounding area is reduced.
- Saves energy by targeted suction of hot steam through a fresh water heat exchanger.
- Heated water is available for the next wash cycle.

Available:

- NOT in conjunction with warm water
- NOT in conjunction with heat retention

4.9.9 Wastewater heat recovery

Hot wastewater is pumped through a metal pipe into a stainless steel heat exchanger:

- The fresh water in the metal chamber of the heat exchanger is heated.
- Saves energy because the boiler can heat less.

4.9.10 Daily protocol with MEIKO Connect

Data on operational times, consumption values and events can be read out via Bluetooth with the MEIKO Connect app and exported as a PDF. MEIKO Connect is available for Android in the Google Play Store and Huawei App Gallery. The Windows version is available at www.meiko.info (search term MEIKO Connect).

4.9.11 Operation on a power optimisation system

Energy optimisation can switch off the heating of the boiler and tank as required. A connected, on-site power optimisation system sends the control signals to the machine.

If the energy optimisation switches off the heating, the message 500 **Energy optimisation active** appears on the display. The energy optimisation symbol also appears on the display.

The energy optimisation function is set by an authorised service technician. The following settings are available:

- Inactive
- Boiler only
- Boiler and tank

If the machine performs a teach-in run to adjust the boiler temperature control, active energy optimisation is briefly interrupted so that the full heating performance is available for the adjustment.

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.

4.10 WLAN and Bluetooth

This product is network-compatible and can be connected to the local network or a mobile device to use functions via MEIKO software.

The function of this software is dependent on the availability of local radio module approval.

Information on availability in your country can be found on the website: www.meiko.com/Connectivity.

The Bluetooth interface is used by the MEIKO-authorised service technician to connect to the machine and change settings.

The WLAN interface allows the operator to integrate the machine into the on-site WLAN network and retrieve data from the machine using software provided by MEIKO (e.g. MEIKO Assist Pro).

The MEIKO Assist Pro app can be downloaded from the Google Play Store or the Apple App Store.

4.11 Automatic standard functions

4.11.1 Eco mode

During periods of inactivity (pauses), the machine displays a leaf symbol to show that energy is being saved and components are being protected.

	Active following	Description
ECO MODE I	60 seconds	Rinse water temperature is lowered.
ECO MODE II	180 minutes	Additionally wash water temperature is reduced.
ECO MODE III	8 hours	Additionally the boiler is switched off and emptied.
ECO MODE IV	14 hours	Machine is drained and shut down.

Note

The wash cycle times are factory settings and can only be adjusted by a service technician. Emptying is only possible when the door/hood is closed.

4.11.2 Forced drainage

If the wash tank and boiler have been full for 24 hours, they will be force drained. The water in the wash tank and boiler is pumped out.

Forced drainage takes place depending on operational status:

- **MACHINE OFF**: when machine is switched on
- **ECO MODE**: either after 24 hours or upon start of Eco mode III or IV, .
- As soon as the door or hood is closed for the first time after 24 hours have passed.

5 Technical data

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

Net weights	
Version	**Machine**
M-iClean HM	145 kg
M-iClean HL	162 kg
M-iClean HXL	230 kg

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

Technical data of the radio module:	
Frequency band	2412–2484 MHz
WLAN standard	IEEE 802.11 b/g/n
Max. transmission power	20 dBm

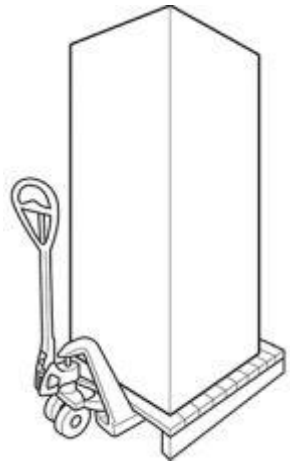
Further data should be taken from the MEIKO dimension sheet.

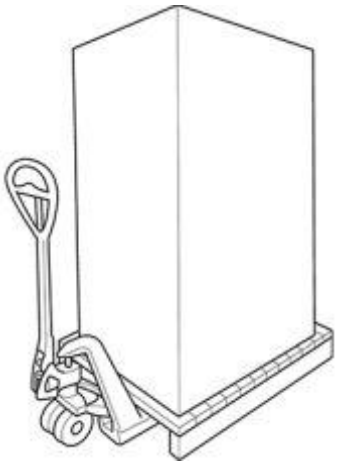
6 Transport

⚠ **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.).

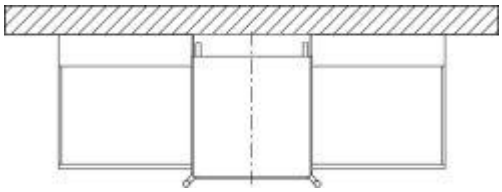
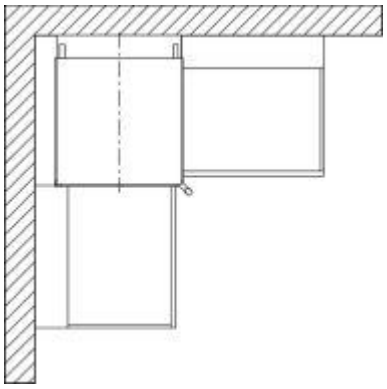
The dishwashing machine is only frost-proof in as-delivered state or if equipped with special features (optional: frost removal).

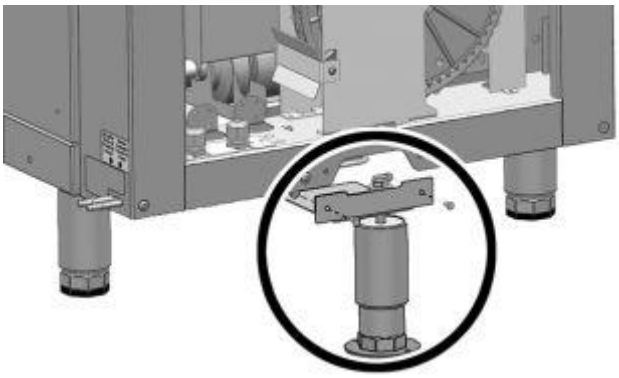
The storage and installation location must be frost-free at all times.

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

7.1.3 Possible installation variants

The machine can be placed on the wall and in the corner. For free-standing installation, an additional foot must be attached, which is fixed to the floor with two 6 mm screws. In addition, a rear panel suitable for the machine size must be fitted with splash guard edges.

Installation on the wall	Installation in a corner
	

Free-standing installation	
	
Additional foot that can be screwed to the floor	Rear wall with splash guard

7.1.4 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.

Drain height above finished floor

Version	Max. drain height
All machine variants	700 mm

7.1.5 Requirements for the fresh water connection

Note

Where the water conductivity is σ < 100 µS/cm, the stainless steel variant of AirConcept 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).
- Special national conditions: Do not exceed a maximum pressure of 1,000 kPa (10 bar) for Denmark, Norway, Sweden and Finland.

Flow rate in the solenoid valve

- M-iClean HM/HL without GiO MODULE: With flow regulator limited to 5 l/min.
- M-iClean HXL without GiO MODULE: With flow regulator limited to 7.5 l/min.
- M-iClean HM/HL/HXL with GiO MODULE: With flow regulator limited to 7.5 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.

Table: fresh water requirements for the operation of a reverse osmosis module

Designation	Value
Conductivity	70–1000 µS/cm
Water hardness	0–28 °dH
Feed water temperature	Min. 1 °C to max. 35 °C (cold water connection)
Minimum flow pressure	100 kPa (1 bar)
Maximum pressure	500 kPa (5 bar)
Free from particles	> 10 µm
Iron	< 0.1 mg/l
Manganese	< 0.04 mg/l
Chlorine (free chlorine)	< 0.1 mg/l (standard membrane)
Chlorine (free chlorine)	≥ 0.1 to ≤ 2.0 mg/l (more chlorine resistant membrane)
Potassium permanganate	< 10 mg/l
Silicic acid	< 10 mg/l

7.1.6 Requirements to the electrical connection

Notice

The wiring diagram is located in the switch cabinet of the dishwashing machine. This must remain in the dishwashing machine!
The rating plates with the electrical connection values are located on the switch cabinet behind the front panel and on the display.

Note

The machine complies with IEC 61000-3-12 provided that the short circuit power S_{SC} at the point where the customer's system connects to the public grid is greater than or equal to **1.4 MVA**. The installer or machine operator is responsible for ensuring that this machine is only connected at a connection point with an S_{SC} value greater than or equal to **1.4 MVA.** If necessary, they must consult the grid operator first.

MEIKO offers a line choke as a retrofit component for customers who do not have the necessary short circuit power at the connection point.

For Australia and New Zealand only:
All work carried out must be in accordance with AS/NZS 3000!

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

Fuse protection

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

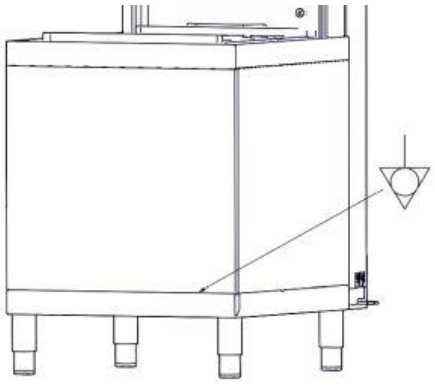
Main switch/mains connection cable

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

Electrical safety

- The electrical safety of this machine is only ensured if it is connected to a properly installed protective conductor system. It is very important to verify this fundamental safety feature. If in doubt, have the building wiring checked by an electrician.
- Carry out the protective measures as well as the connection of the equipotential bonding in accordance with the regulations of the local power supply companies as well as the locally applicable regulations.
- As an alternative to equipotential bonding, the operator can, acting on its own responsibility, use a mains-side residual current device (RCM or RCD) for personal protection.
  For M-iClean HM PW/HL/HXL PW, a type “B” (30 mA) is required due to the built-in frequency converter. For M-iClean HM/HXL, a type “A” (30 mA) 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 if 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.

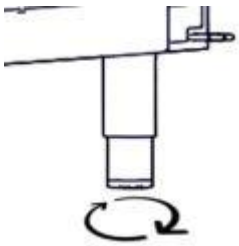
Note

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.

Note

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 backwards.
- 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 30!

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 undercounter 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.

Beware

Danger of crushing

Body parts could be crushed when closing hood.

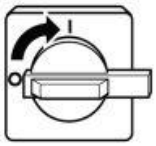
- When the hood starts to move downwards (manually or automatically operated hood), ensure that no body parts are between the hood and objects located underneath.
- Close manually operated hoods using the blue handle.

Beware

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

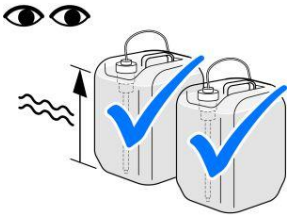
Items may fall down when hood moves.

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



1. Switch on the power.

2. Turn on the tap.



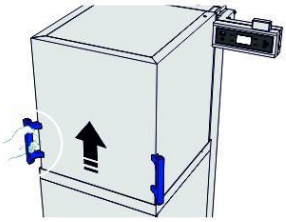
3. Check the canister fill level.

Note

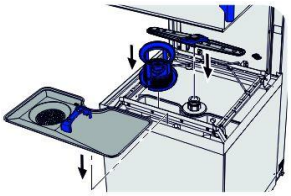
If there is air in the hoses, the automatic dosing will not function correctly. The relevant pipe must be vented, see page 60.

4. If the display is dark, press the Wake-up key to activate the display.

5. a) Open hood with the relevant operation key **arrow upwards**.

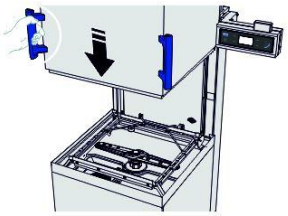


b) Open hood by tapping it.



6. Insert filter, sieve and wash systems.

7. a) Close hood with the relevant operation key **arrow downwards**.



b) Close hood by tapping it.

9.1.1 Putting the machine into operation

If the display is dark, press the Wake-up key or move the door / hood.

1. Turn on the machine by pressing and holding the on/off key (for one second).

The machine is filling and heating up. The display changes depending on the process stage. The wash key is flashing.

- The display indicates **FILLING**.
- The display indicates **FILLING / HEATING**.
- When ready to operate, the display indicates **READY FOR OPERATION** and the wash key lights up permanently blue.

Note

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.

9.2 Washing

9.2.1 Putting away washware

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

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

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

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

9.2.2 Select wash programme

The dishwashing machine is in **READY FOR OPERATION** mode **ECO MODE I-III**.

1. Select the desired wash programme using the confirmation key.

The symbol for the selected wash programme is displayed reversed against the background.

If the wash programme is changed, after approx. 3 seconds the runtime will be briefly displayed. This makes it possible to check that the correct wash programme has been selected.

9.2.3 Start wash cycle

⚠ Beware

Danger of crushing

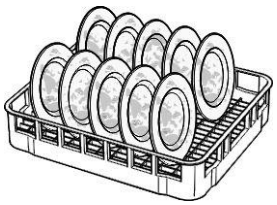
Body parts could be crushed when closing hood.

- 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.

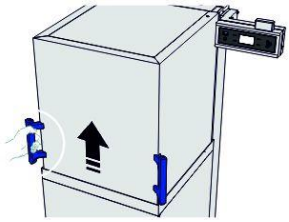
The M-iClean H features 3 different options for starting a wash cycle (initiation functions):

- Wash key
- Touch operation
- **Intellistart** basket detection

The following 3 action steps are to be carried out before using any of the 3 options.



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



3. Open hood.

9.2.4 Operation using wash key

4. Insert the basket into the dishwashing machine.
5. Centre the basket correctly in the basket holder.

6. Ensure that the correct programme has been selected, see page 41.

7. Press the wash key.

The machine's hood will close. The wash cycle will start automatically.

The machine washes automatically and switches the programme off after completion. The display indicates the programme's progress.

The cycle time may differ from the set programme running time if the programme running time is not sufficient to heat up the fresh water to the pre-set temperature. In this case, the cycle runtime is automatically extended.

9.2.5 Touch operation

⚠ Beware

Special initiation function

Danger of injury to children; people with physical, sensory or mental impairments; people lacking in knowledge or experience

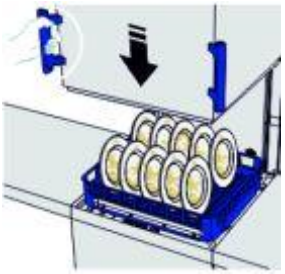
- Ensure that no persons from the above groups are to be found in the area surrounding the machine.
- Only qualified persons should perform work at and with the machine.
- If in doubt, deactivate special initiation functions which do not require conscious, intentional action (i.e. operation from the display).

Note

If chosen, the machine can be set so that the wash cycle starts as soon as the hood is closed. Otherwise, the wash key must be pressed.

1. Insert the basket into the dishwashing machine.
2. Centre the basket correctly in the basket holder.

3. Ensure that the correct programme has been selected, see page 41.



4. Tap the machine hood.

The machine's hood will close. The wash cycle will start automatically or on pressing the wash key.

The machine washes automatically and switches the programme off after completion. The display indicates the programme's progress.

The cycle time may differ from the set programme running time if the programme running time is not sufficient to heat up the fresh water to the pre-set temperature. In this case, the cycle runtime is automatically extended.

9.2.6 Rack detection (Intelli-Start) (option)

⚠ Beware

Special initiation function

Danger of injury to children; people with physical, sensory or mental impairments; people lacking in knowledge or experience

- Ensure that no persons from the above groups are to be found in the area surrounding the machine.
- Only qualified persons should perform work at and with the machine.
- If in doubt, deactivate special initiation functions which do not require conscious, intentional action (i.e. operation from the display).

Note

If chosen, the machine can be set so that the wash cycle starts 3 sec after inserting the basket. Otherwise, the hood must be tapped or the wash key pressed.
A wash cycle may be started by pressing the wash key when there is no basket in the machine (e.g. for cleaning).

1. Ensure that the correct programme has been selected, see page 41.

2. Insert the basket into the dishwashing machine.
3. Centre the basket correctly in the basket holder.

The machine detects the basket automatically.

- Either: the hood will close after 3 sec.
- Or: tap the hood (configuration setting).
- Or: press the wash key (configuration setting).

The wash cycle will start automatically.

The machine washes automatically and switches the programme off after completion. The display indicates the programme's progress.

The cycle time may differ from the set programme running time if the programme running time is not sufficient to heat up the fresh water to the pre-set temperature. In this case, the cycle runtime is automatically extended.

9.2.7 Emptying the washware

⚠ Caution

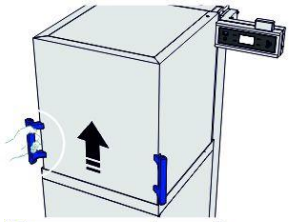
Danger from hot wash water, washware and machine parts

- 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).

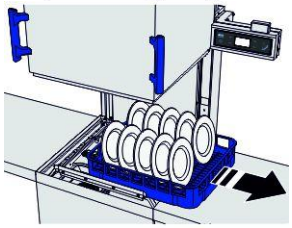
At the end of the programme, the wash key changes colour from green to blue.

The hood opens immediately (depending on parameter settings) and the display shows as ready for operation.
With closed hood:

1. a) Open hood with the relevant operation key **arrow upwards**.



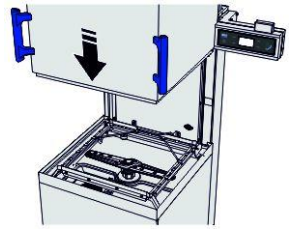
b) Open hood by tapping it.



2. Carefully remove the basket.

a) New wash cycle: insert fresh basket and start wash cycle.

3. b) Close hood with no wash cycle: close with the relevant operation key arrow downwards.



The hood closes, saving energy, or a further wash cycle runs.

9.2.8 Closing the hood without triggering automatic wash start

Option 1: automatic wash start has not been activated, see page 54.

The wash cycle does not start after pressing the **Close hood** button, touching the hood or manually closing it.

Additionally: wash start will not work on dishwashing machines with rack detection depending on the configuration ordered and the rack inserted.

Option 2: automatic wash start has been activated, see page 54.

The wash cycle does not start when the **Close hood** button is pressed. When manually operating the hood, it must be closed within 10 s of pressing **Close hood**.

Additionally: wash start will not work on dishwashing machines with rack detection depending on the configuration ordered and the rack inserted.

9.2.9 Prevent rinsing start on machines without automatic hood system

The hood should be closed without starting a programme. After the last wash cycle has been carried out, the **Stop programme start** icon is displayed.

When the corresponding confirmation button is pressed in the upper right corner, the **Close hood** symbol is shown in the display. The operator can now close the hood within 10 seconds without starting the programme. The key must then be pressed again. If necessary, running i-menu sessions must be terminated beforehand with the service access key, see page 52!

9.3 Malfunctions

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

Occasional malfunctions

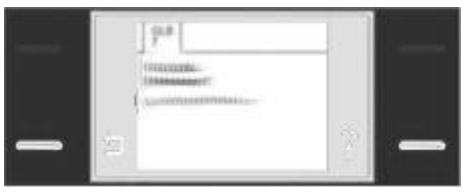
Malfunction	Possible cause	Remedy
Dishwashing machine doesn't fill up	No water present	Open the shut-off valve
	Dirt trap clogged	Clean the dirt trap
	Open hood	Close hood
Final rinse does not spray	No water present	Open the shut-off valve
	Dirt trap clogged	Clean the dirt trap
Streaks / smears on the 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
Hood no longer opens/closes automatically	see page 51	

Rare malfunctions

Malfunction	Possible cause	Remedy
Hood remains in an open position and can no longer be easily moved by hand	Fault with hood spring	Not possible to continue working. Call a service technician!

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.

9.3.1 Messages



When a malfunction occurs, a grey or red message is shown on the display depending on the nature of the malfunction.

- Grey messages can be acknowledged using the relevant confirmation key.
- Red messages usually require the deployment of an authorised service technician.
- When these messages occur:
  - 1, 21, 100, 102, 104, 107, 108, 109, 110, 150, 201, 203, 204, 206, 207, 208, 209, 330, 420, 425, 427, 621-626, 651-656, 818, 819, 848, 849, 880, 901/902, 931-945, 960.

    Not possible to continue working
  - Switch off on-site power supply
  - Close on-site water supply
  - Call a service technician!

No.	Display text	Measures/remedial action
6	Programme interrupted prematurely	• Start wash cycle again
11	Carry out maintenance	• Possible to continue working • Call a service technician!
12	Code entry wrong!	• Enter correct entry code
15	Heat recovery cancellation	• Allow the heat recovery process to run to completion.
16	Hood not closed	• Close hood.
17	Emptying / Closing the hood	
18	Water change / Close hood	
19	"Lower" hood switch indicators do not match up: S7: "1"; S8: "0"	• Open/close hood • Able to continue working at limited capacity • Call a service technician!
20	"Lower" hood switch indicators do not match up: S7: "0"; S8: "1"	
101	Drainage level not reached	• Check the drainage sieve, clean if necessary • Call a service technician if needed
103	Tank temperature not reached	• Possible to continue working • Call a service technician
106	Wash time increase insufficient	• If this message reoccurs, call a service technician
111	Water loss in wash tank	• If this message reoccurs, call a service technician
112	Forced drainage due to permanently filled wash tank	• Change the water or drain the machine at least once a day
113	Left fine/coarse filter missing	• Correctly insert fine/coarse sieve • If this message reoccurs, call a service technician
114	Fine/coarse sieve missing	
115	Drain pump active after triggering of the safety level	• Possible to continue working
116	Refill error in wash tank	• If this message reoccurs, call a service technician
117	Top wash system blocked/missing	• Ensure wash arm system can move freely • If applicable, insert wash arm system
118	Bottom wash arm system blocked/missing	

No.	Display text	Measures/remedial action
120	Top-left wash system blocked/missing	• Where appropriate, remove dirt particles and ferrous metal particles from the magnet
121	Bottom-left wash arm system blocked/missing	
127	Temperature increase not reached	• If this message reoccurs, call a service technician
151	Hood hit an obstacle	• Remove obstacle
153	Hood hit an obstacle while opening	
154	Error moving away from lower hood limit switch	• Call a service technician • Possible to continue work at limited capacity
155	Error approaching lower hood limit switch	
156	Hood motor not working	• Remove obstacle • Where appropriate, call a service technician
157	Error moving away from upper hood limit switch	• Call a service technician • Possible to continue work at limited capacity
158	Error approaching upper hood limit switch / Hood drive pulse generator error	
159	Open hood	• Open and close hood
160	Upper/lower hood limit switches activated simultaneously	• Open and close hood • Possible to continue working • Call a service technician!
161	Automatic operation deactivated Manual operation active	• Possible to continue work at limited capacity • see page 51
162	Automatic operation is possible again Activate?	• Confirm message
163	Activation of automatic hood operation performed. Restricted operation ended when hood is operated manually.	• No action required • Possible to continue working
200	Boiler level not reached on time during filling	• Open the local water supply • Check pre-filter/sieve and clean, if necessary
205	Maximum final rinse cycles insufficient	• Sort washware correctly • Possible to continue working
212	Forced drainage due to permanently filled boiler	• Change the water or drain the machine at least once a day
213	Pressure booster pump or air catch defective	• Check the rinse system and clean, if required • If this message reoccurs, call a service technician
301	Lack of rinse aid	• Replace canister • If necessary, check and clean the position of the suction lances
311	Lack of detergent	
406	Advance report: cartridge nearing end of life	• Have a replacement cartridge ready • Replace when notification 407 appears
407	Change demineralisation cartridge	• Change demineralisation cartridge
408	Change osmosis system pre-filter	• Replace pre-filter
410	Water supply reverse osmosis module disturbed	• Open water inlet valve • Check pre-filter/sieve and clean or replace, if applicable
421	Insufficient water in holding tank	• Open water inlet valve • Where appropriate, call a service technician
422	Max. level not reached in holding tank	
423	Water feed into holding tank insufficient	

No.	Display text	Measures/remedial action
426	Osmosis membrane blocked/dirty	• Possible to continue work at limited capacity • Check pre-filter and replace if necessary • Call a service technician!
500	Energy optimisation active	• No action required
501	Energy optimisation active Tank temperature not reached	• Possible to continue working • Call a service technician!
502	Energy optimisation active Wash time increase in tank insufficient	• Possible to continue working • If this message reoccurs, call a service technician
503	Energy optimisation active Temperature increase not reached	• If this message reoccurs, call a service technician
504	Energy optimisation active Final rinse temperature not reached	• Call a service technician!
505	Energy optimisation active Wash time increase on final rinse insufficient	• If this message reoccurs, call a service technician
601 (631)	Power supply fault, frequency converter (undervoltage) (frequency converter 2)	• Do not interrupt the power supply when the frequency converter is switched on • Possible to continue working • If this message reoccurs, call a service technician
610 (640)	Reduced Mode active (frequency converter 2)	• Possible to continue working • If this message reoccurs, call a service technician
611 (641)	Overtemperature, frequency converter (frequency converter 2)	• Select a wash programme with a lower pressure level or a shorter programme runtime. • If this message reoccurs, call a service technician
892	Communication with SMART WIRE node addr. 13	• Possible to continue working • Call a service technician!
963	Bluetooth access error	• Confirm message • Possible to continue working • Call a service technician!
969	Low battery	• Confirm message • Able to continue working at limited capacity • Call a service technician!
971	Operating panel re-initialising	• If this message reoccurs, call a service technician

For error messages that are not in this list, please contact customer service.

9.3.2 Restricted operation

In case of a malfunction of the automatic hood system, the machine switches to restricted operation. The dishwashing machine can still be used for rinsing, but the hood must be opened and closed manually as far as it will go. The programme can only be started via the wash key.

During restricted operation, message 161 is permanently displayed. The cause of the fault (messages 19, 20, 157, 158 and 160) lies in contradictory or non-existent signals concerning the upper and lower hood position.

Troubleshooting

Normally, it is sufficient to perform a complete hood drive (open/closed/open) at moderate speed for calibration. If successful, a message 162 to be acknowledged may appear, and if the software is newer, a message 163 not to be acknowledged. The machine then resumes normal operation.

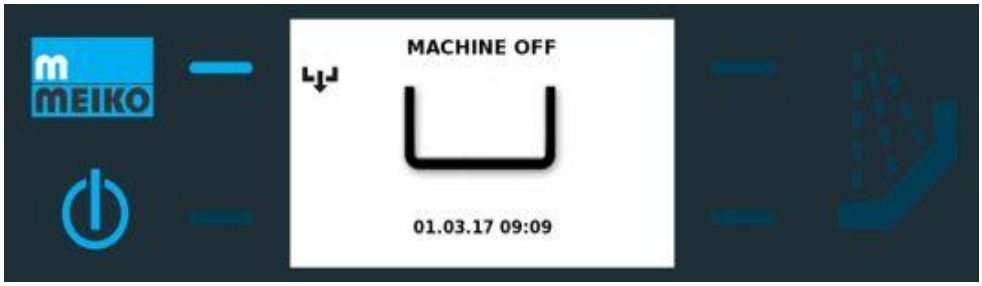
It is also possible to disconnect the machine completely from the power supply (no emptying is necessary). After initialisation, all functions are available again.

9.4 Shutting down the dishwasher

1. Press on/off key.

2. Confirm request with the relevant confirmation key.

➡ The dishwashing machine will self clean.

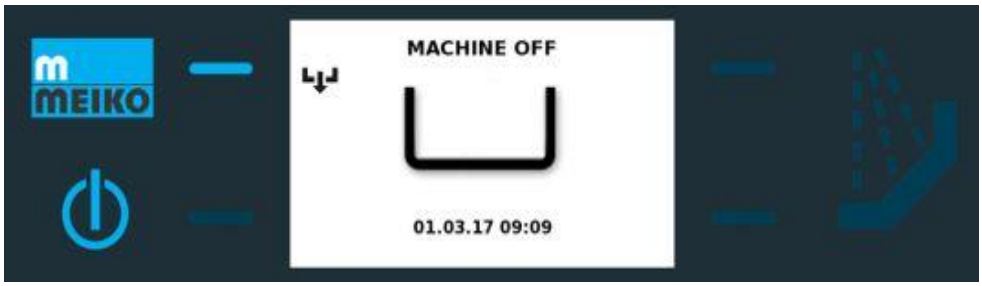


➡ Once the self-cleaning process is complete, the dishwashing machine will switch to **MACHINE OFF** mode.

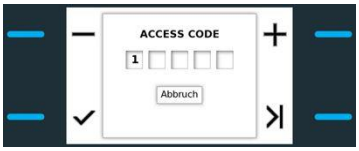
9.5 Change authorisation level

Note

The dishwashing machine must be in **MACHINE OFF** mode.



1. Press and hold the Service access key for approximately three seconds.



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

3. Confirm the message.

Authorisation level 1 – user configuration level

Read settings (**service code: 10000**)
The user can view the user settings.

Read/modify settings (**service code 10001**)
The user can carry out all functions required for normal operation and configure the settings.

Authorisation level 4 – extended configuration level

Read settings (**service code: 40000**)
The user can view the extended settings.

Read/modify settings (**service code 40044**)
In addition to the functions and settings for authorisation level 1, the operator can view/edit all the relevant parameters for the dosing equipment. The i-menu shows all variable parameters in the corresponding tabs (dosing system, wash programs).

Note

Certain menu functions in i-menu and the action menu have to be enabled by an authorised service technician before the operator can use them (reset counter, etc.).

i-menu

	Symbol	Level	Description
Languages		1, 4	Set display language
Hood movement		1, 4	Lift/lower hood and view status
Wash tank		1, 4	Set automatic hood opening and descaling parameters View status
Final rinse		1, 4	View status
Chemicals		1	Set dosing quantity for detergent and rinse aid
Water treatment		1	Set degree of hardness and treatment parameters
Heat recovery		1	No user settings
Energy optimisation		1, 4	No user settings
Frequency converter		1, 4	No user settings
Global		1	Set wash programme channels and Bluetooth communication
Operating times		1,4	View batches, operational times, etc.
Daily protocol		1,4	View archived operational times, events, etc.
Wash programmes		4	Set quantity of rinse aid and fine tune dosing
Settings		1,4	Set date/time, reset counter, display settings
General		1,4	View software version, machine serial number, machine type
Dosing system		4	Dosing parameters for the dosing technician

Action menu

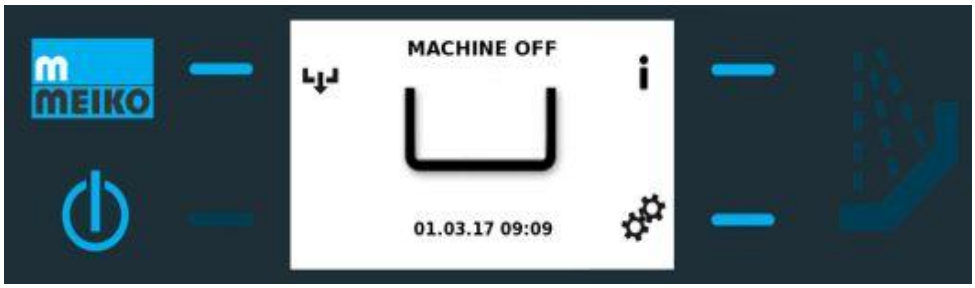
	Symbol	Level	Description
Ventilate detergent pipe		1, 4	Starts detergent or rinse aid dosing pump to ventilate the transport pipes when required, e.g., when the canisters are empty during operation.
Ventilate rinse pipe		1, 4	
Automatic wash start		1, 4	Active: hood closes on touch, then wash starts Inactive: hood closes on touch, but wash does not start
Manually start water change		1, 4	If automatic wash tank water regeneration with fresh water is insufficient, an additional water change may be necessary.
Descaling		1, 4	Starts descaling programme.
Reset counter		1, 4	Reset the interval for the pre-filter change of the reverse osmosis module.

9.6 Reset the counter

Note

In order to be able to reset counters in security access level 1, this function must be separately enabled by an authorised MEIKO service technician. Resettable counters:

- Maintenance counter
- Reverse osmosis (UO) filter insert



1. Switch to security authorisation level 1 u**ser configuration level**, see page 52.
2. Call up the i-menu using the relevant confirmation key.
3. Switch to the **Settings** tab page.
4. Select the item **reset counter**.
5. Confirm the selection.

6. Select the counter to be reset.
7. Confirm the selection to reset the values.

Note

The counters for the water treatment options can also be reset via security authorisation level 4 **Extended configuration level**, see page 52.

9.7 Adjust dosing quantity

1. Switch to security authorisation level 1 user configuration level, see page 52.
2. Call up **i-menu** using the relevant confirmation key.
3. Select the **CHEMICAL PRODUCT** tab
4. Select and confirm the **Parameter** item.
5. Select and confirm the **Rinse aid dosing quantity** or **Detergent dosing quantity** item.
6. Change the value with **+/-** and confirm.

9.8 Setting up WLAN and Bluetooth connections

9.8.1 Enabling WLAN

1. Switch to level 1, see page 52.
2. Open the i-menu.
3. Switch to the **Global** tab.
4. Select and confirm **Parameters**.
5. Select and confirm **Enable WLAN**.
6. Select and confirm **Yes**.

WLAN is enabled, the WLAN tab is now visible in the i-menu.

9.8.2 Selecting a WLAN network (SSID)

To be able to see the WLAN tab, WLAN must be enabled (see above).

1. Switch to level 1, see page 52.
2. Open the i-menu.
3. Switch to the **WLAN** tab.
4. Select and confirm **WLAN Parameters**.
5. Select and confirm **SSID Search**.

   The available WLAN networks (SSID) are displayed.
6. Select and confirm the desired WLAN network.

The WLAN network is selected. The password must be entered for a successful connection. MEIKO recommends that you do not use words or character strings that refer to persons for the SSID and password.

9.8.3 Entering the password

The WLAN tab is open.

1. Select and confirm **Password**.
2. Use the bottom right soft key to switch to **+/-** input in order to enter the WLAN network key.
3. Use the **+/-** soft keys to enter the individual digits of the network key. After approx. 2 s without input, the cursor jumps to the next position. Use the bottom right soft key to switch to the direction arrows to check individual digits and correct them if necessary. If you have entered too many or too few digits, you can switch to delete/insert mode using the bottom right soft key.
4. Check individual digits of the entire key before confirming.
5. Confirm the entry.

The WLAN network is configured. Press the **Back** soft key to return to the WLAN tab. If the network key was entered correctly, the successful connection is displayed here.

9.8.4 Setting up the WLAN connection with the MEIKO NetConfig app

As an alternative to setting up the connection on the glass operating panel, the machine can be connected to the WLAN much more conveniently using the "MEIKO Netconfig" app. The app is only available in the Google Play Store. Bluetooth must be switched on at the machine for setup.

1. Open the MEIKO NetConfig app.
2. Select **Machine with Bluetooth**.
   ↳ A consent prompt for the use of Bluetooth appears.
3. Grant consent.
   ↳ After a scan, the available machines are displayed.
4. Select the desired machine.
   ↳ After a short wait time, a prompt appears on the machine display asking whether the machine should be connected via Bluetooth.
5. Confirm the prompt.
   ↳ The configuration screen appears in the app, where you can switch on the WLAN and enter the network parameters. By touching the QR code symbol, a network QR code can be scanned and the parameters transferred directly.
6. **After completing the entry, touch Configure machine**.
   ↳ After a short wait time, **Machine successfully configured** appears.

The machine is connected to the WLAN.

9.8.5 Enabling Bluetooth

1. Switch to level 1, see page 52.
2. Open the i-menu.
3. Switch to the **Global** tab.
4. Select and confirm **Parameters**.
5. Select and confirm **Enable Bluetooth**.
6. Select and confirm **Yes**.

The Bluetooth interface is switched on. The machine can now be located with its name and serial number via Bluetooth and can be paired with a smartphone, for example.

9.8.6 Connecting to the machine via Bluetooth

The Bluetooth function must be enabled on the machine.

1. Search for Bluetooth devices on the end device.
2. Select the desired machine and pair with it.
3. Complete the pairing process by entering the displayed pairing code 0000.

The machine is paired with the end device.

9.9 Connecting the machine to MEIKO Assist Pro

Note

The MEIKO Assist Pro app can be downloaded from the Google Play Store or the Apple App Store.

The machine is connected to the same WLAN network as the end device or paired with the end device via Bluetooth.

1. Touch the MEIKO soft key for 2 s to enter the code.
2. Touch the MEIKO soft key again for 2 s to display the session key. This is located in the first line.
3. Enter the session key in the MEIKO Assist Pro app.

The machine is connected to MEIKO Assist Pro. The machine data can now be displayed.

9.10 Private Label 2.0

If desired, one or more individual motifs can be shown on the dishwashing machine operating panel. The user can choose between a screen saver during operation (slide show) and/or a welcome screen when the supply voltage is switched on.

The option can be selected directly when ordering the machine, or can be ordered later from the dealer/service partner.

The welcome screen is just displayed for a few seconds after switching on the power supply.

The screen saver will be displayed after 6 minutes of no user action if the machine is in the READY FOR OPERATION/ ECO MODE status. The uploaded images are displayed in a slide show (interval of 5 seconds). The interval can be changed via Settings - Display - Single image display duration. The screen saver can be left by means of any user action.

1. Have the machine's serial number ready. It can be found on the rating plate or can be read off the operating panel by pressing (3 s) the service access key.

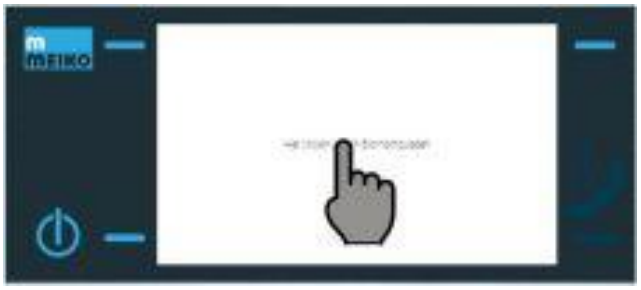
2. Send the serial number in the e-mail subject to privatelabel@meiko-global.com and receive a voucher code in response. This only works if you order the option in advance!

3. Go to the https://privatelabel.meiko-global.com website.

4. Click on the "Create new graphics set" button.

The selection menu for uploading the welcome screen and screen saver appears.

+ can be used to upload two additional screen saver motives, if required.



5. Click in the display to upload.

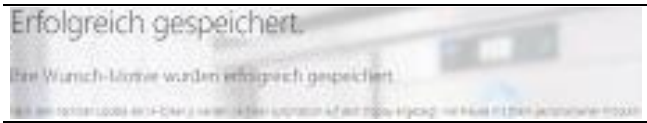
6. Select file.

7. Adjust the size and position, rotate if necessary. Confirm by ticking the checkbox.

8. Assess the result, edit or discard if necessary. Repeat steps 5-7 for more motives.

9. Tick the checkbox before saving.

10. Enter the serial number and voucher code.



That's all! Your Private Label will be transferred to the machine during the service technician's next visit.

9.10.1 Setting waiting time for Private Label

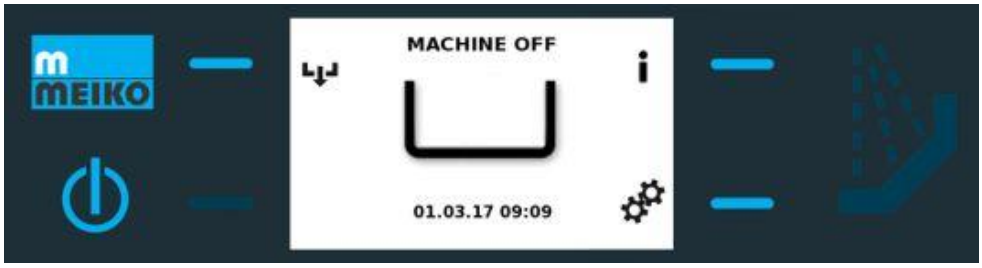
1. Switch to authorisation level 1, see page 52.
2. The waiting time can be changed in the i menu under **Settings- Display- 2nd waiting time until Start Private Label (0 means: always ON= no screen protector or 2nd waiting time deactivated)**.
3. Press the MEIKO key for 3 seconds and confirm the request to log off from the current session.

9.11 Setting the waiting time for dimming the display brightness

1. Switch to authorisation level 1, see page 52.
2. The waiting time until dimming can be changed in the i-menu under **Settings- Display- Waiting time until TFT 50% reduced (0 means: always ON= no dimming)**.
3. Press the MEIKO key for 3 seconds and confirm the request to log off from the current session.

9.12 Ventilating the pipes

The detergent or rinse aid pipes must be ventilated, if air is sucked in from the dosing equipment. This occurs if a storage container is completely emptied during operation, or if one of the suction lances is not positioned right down to the base of the container.



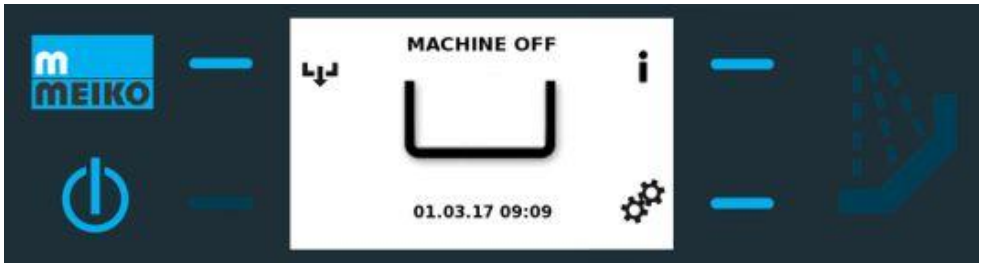
1. Switch to authorisation level 1 **User configuration level**, see page 52.

2. Call up the action menu using the relevant confirmation key.

3. Select the required submenu.

4. Start the ventilating procedure by using the relevant confirmation key.

9.13 Changing water



1. Switch to authorisation level 1 **User configuration level**, see page 52.
2. Call up the action menu using the relevant confirmation key.

3. Select the required submenu.
4. Start the water change by using the relevant confirmation key.

9.14 Replace canister

⚠ 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.

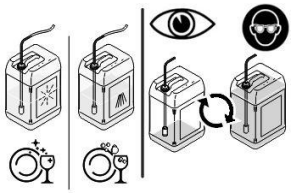
Note

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 60.

10 Maintenance and cleaning

⚠ Warning

Danger to life due to electric shock if housing parts are opened

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

- Work on 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 opening the casing parts. To do this, turn the local main switch to **OFF** and ensure that it cannot be switched back on again.
- Due to undischarged capacitors, observe the switch-off time of 10 minutes before disconnecting the motor and mains plugs at the frequency converter during repairs.
- Attach all casing parts 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

Maintenance work Visual inspection	U= M-iClean U H=M-iClean H	Checked	Cleaned	Replaced	Maintenance requirement
1. Error memory					
Check error memory for unusual events	U/H				annually
2. Pumps					
Check pumps for leaks and any visible damage	U/H				annually
Check pumps for pump rotor noise and function	U/H				annually
3. Wash tank, wash and rinse system					
Functional and visual tests of wash and rinse arms	U/H				annually
Replace sealing rings on wash 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 seal on coarse sieve/drain pump	U				annually
Check tank and boiler heating	U/H				annually
4. Casing					
Check casing, tank and covers for damage and correct operation	U/H				annually
Check door and door counter balance for correct operation	U				annually
5. Hood and hood counterbalance					
Check hood movement for running noise	H				annually
Remove bearing block • Check rollers in bearing block • Clean drain hole in hood	H				annually
Visually check hood mounting	H				annually
Clean hood guide rails and back wall seal	H				annually
Check handles sit firmly and, if necessary, tighten screws	H				annually
Check life span of springs and chains • Replacement • HM/HL and EcoTemp ET 15.1/17.1: replace guide block for protective rod and mounting plate for springs • HXL: replace guide block, only replace mounting plate if necessary	H				annually after 650,000 loads or 12 years
Clean running surfaces on square tubing	H				annually
6. Fresh water installation					
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
7. Wastewater installation					
Replace flap on ventilation valve	U/H				annually
Check operation of drain pump during drainage	U/H				annually
Check pumps, hoses and wastewater heat exchangers (optional extra) are not leaking	U/H				annually

8. Detergent dosing									
Replace peristaltic hose and seals on the nozzles					U/H				annually
Check detergent dosing system is working and not leaking					U/H				annually
9. Rinse aid dosing									
Replace peristaltic hose and seals on the nozzles					U/H				annually
Check rinse aid dosing system is working and not leaking					U/H				annually
10.Test run including functional test of whole machine									
Check filling and heating until it is ready for operation					U/H				annually
Visual inspection of the entire machine for leaks					U/H				annually
Check results of test wash and rinse					U/H				annually
11.Options									
Integrated reverse osmosis system (if applicable)									
Visually check whole system for leaks					U/H				Annually
Change pre-filter (standard membrane (<0.1 mg/l))					U/H				Every six months
Change pre-filter (chlorine-resistant membrane (≥ 0.1 and ≤ 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, "Certificate of Commissioning, GiO"					U/H				Annually
Partial demineralisation (PD) / Full demineralisation (FD) (if available)									
Functional test					U/H				Annually
Heat retention system (if applicable)									
Visually check lever arm					H				Annually
Check sheeting for damage					H				Annually
Functional test					H				Annually
Exhaust air heat recovery (if applicable)									
Functional test of fan					U/H				Annually
Functional test of solenoid valve					U/H				Annually
Visual inspection and leak test					U/H				Annually
Thermal disinfection (if available)									
Replace hood seal profile (HL)					H				Annually
12. Water quality, temperature									
Drinking water	°C	°dH	°CH	µS/cm	U/H				annually
Water quality after water treatment (if applicable)		°C	°dH	µS/cm	U/H				annually
13. Electrical safety check (certificate is optional)									
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 Change pre-filter on reverse osmosis module (GiO MODULE)

Dishwashing machines with reverse osmosis (GiO MODULE) contain a pre-filter which must be changed by the operator every 6 months (for a standard membrane (< 0.1 mg/l)) or every 3 months (for a chlorine-resistant membrane (≥ 0.1 and ≤ 2.0 mg/l)). The spare parts pack contains a new filter, seal, label and description. A key to unscrew the pre-filter is included in the delivery of the dishwashing machine.

➡ A message will appear on the display when it is time to change the pre-filter (Message no. 408 "Change pre-filter on osmosis system").

- Disconnect the dishwashing machine from both the power and water supplies.
- Provide a suitable container to drain remaining water, e.g. base drip tray.

- Thoroughly rinse the new filter cartridge inside and out with clean water.

Replace filter cartridge (dishwashing machine is disconnected from power and water supply)

1. Use key to unscrew casing by turning clockwise. Position base drip tray!

2. Empty water and remove used filter cartridge.

3. Thoroughly clean and rinse the filter housing. Remove deposits.

4. Replace old sealing ring.

5. Insert the new filter cartridge, which has already been thoroughly rinsed, both inside and out. Check if the seals sit correctly.

6. Keep the casing vertical and screw back on by hand.

7. Check seal: connect water and power supply. Fill machine or run a cycle.

8. Mark date label and apply to filter unit.

9. Replace any covers removed.

10. Reset exchange interval in the controller, see page 55.

Mark the label

1. Remove old label (if present).
2. Apply new label to casing so that it is clearly visible.

3. "Show" the next date to change the filter, in 6 months' time with a standard membrane (< 0.1 mg/l), in 3 months' time with a chlorine-resistant membrane (≥ 0.1 and ≤ 2.0 mg/l). Use a permanent marker or similar for this. The picture shows an example of a filter change date in July (marked: 7) 2014 (marked: 14)

10.4 Daily cleaning

Caution

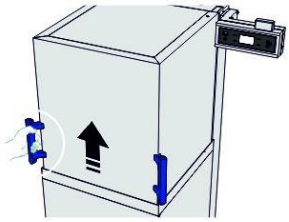
Material damage due to water ingress

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

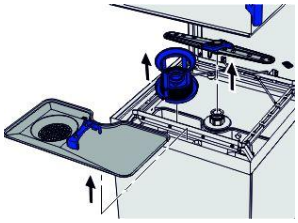
- The dishwashing machine, switch cabinets and other electrical components must **never** be sprayed with a hose or high pressure cleaner.
- Make sure that no water can enter the machine unintentionally.
- If installed at ground level, **never** flood the surrounding room.

When machine is drained, see page 51.

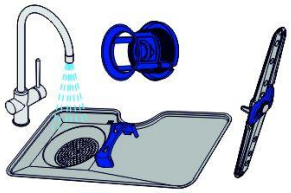
1. a) Open hood with the relevant operation key **arrow upwards**.



b) Open hood by tapping it.

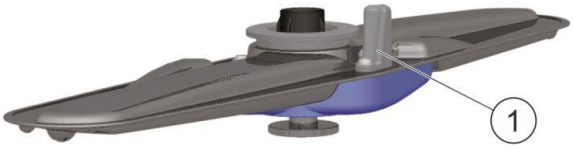


2. Remove sieve, filter and wash system.



3. Remove all food residues sticking to the tank, the tank heater and the filters using a brush.
4. Remove the wash and rinse arm and rinse thoroughly under running water. When doing this, pay particular attention to the nozzles!
5. Clean filter under running water.

Do not use a foaming manual dishwashing detergent for pre-cleaning or for cleaning the machine. Foam causes malfunctions and results in poor wash results.



6. To ensure that the sensor detects the rotation of the washing arm, remove all dirt particles and ferrous particles sticking to the magnet (1).
7. Reinstall all parts.

10.5 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.

10.6 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.

10.7 Descaling

Warning

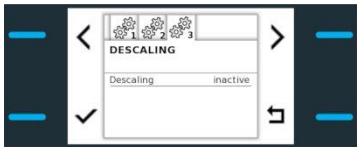
Danger of injury from contact with acids

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.

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

Using service code "40044" you can reach authorisation level 4 (see page 52). Here the "descale" function (for the wash tank) can be selected from the pull-down menu.



The descaling time and temperature can be adjusted in the i-Menu under the tab "Dosing technology".

- For descaling only use products suitable for industrial dishwashing machines.

10.8 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 18.)

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 51.
- 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 down-times of more than 6 months.
- Open the on-site shut-off valve and switch on the main switch.
- Put machine into operation, see page 39.

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.

14 Index

15 Notes

The clean solution

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