

Operating Instructions

MEIKO - Dishwashing machine modell K 160 MIKE 3 - CE

TRANSLATION OF THE "ORIGINAL OPERATING INSTRUCTIONS"

The original operating instructions can be downloaded from: <https://partnetnet.meiko.de>



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1 Introduction and general information

Dear Customer,

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

It is very important to us that you should obtain significant use from MEIKO products and that they should make your work easier.

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

The dishwashing machine has been assembled by us at the factory and has undergone a thorough inspection. This provides us with the certainty and you with the guarantee that you will receive a fully developed product.

We would therefore ask you to read these operating instructions carefully before using the installation. Any further associated operating instructions for accessories and integrated third-party products must be strictly observed!

These operating instructions inform users of this installation about the installation, its operating methods, its use, the safety instructions and the maintenance.

This information will help you to get to know the installation fully and to use it properly. It will also enable you to avoid repairs and the related loss of operational time.

In the event of any damage caused by non-observance of these operating instructions, any guarantee claims are invalid. This information will help you to use the installation properly.

MEIKO is constantly working on the further development of all its models.

We would therefore ask you to understand that because of this, we must reserve the right to make modifications at any time to any items covered by the contract in terms of their shape, fittings and technical characteristics.

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

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

We should also like to inform you that the contents of these instructions do not form part of or amend any earlier or existing agreement, statement, or legal position.

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

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

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

The complete technical documentation is issued to you free of charge. Additional copies will be charged at cost.

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

MEIKO very much hopes that you will enjoy our product and use it successfully.



1.1 Storage

Always store the operating instructions close to the installation!

The operating instructions must always be kept within easy reach!

When contacting us, always have the Operating Instructions open in front of you so that our staff can refer to them.

1.2 Name and address of manufacturer

Please address any queries, technical problems etc. directly to:

MEIKO Maschinenbau GmbH & Co. KG

Englerstraße 3

D - 77652 OFFENBURG

Telefon +49 / 781 / 203-0

Telefax +49 / 781 / 203-1121

<http://www.meiko.de>

info@meiko.de

or:

Name and address of the MEIKO branch, manufacturer's agent or dealer.

(Insert company stamp or address)

1.3 Description of the type of equipment

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

Type: _____

SN: _____



These information can be found on the plate in the electrical switch cabinet

2 Explanation of the safety symbols used

The following safety symbols will appear throughout these operating instructions. The purpose of these symbols is to draw the reader's attention to the text of the adjacent safety information.



IMPORTANT!

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



DANGER!

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



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



Warning of dangerous electrical current!



Warning of possible hand injuries!

3 General description and use for the Purpose Intended

3.1 General description

This machine is a basket pass-through warewashing machine for washing dishware and common kitchen utensils. The machine consists of a wash and rinse aid tank and can be expanded by one wash tank and also a drying zone.

Tables or conveyors can be put on the feeding or discharge side of the machine for loading and unloading dishware baskets.

The dishware to be cleaned is put into baskets, preferably made of plastic, and is transported through the warewashing machine on a transport unit that moves back and forth.

The dishware is then cleaned in a heated cleaning agent circulation tank. The final rinse of the dishware involves fresh water sprayed through fine nozzles.



3.2 Use for the Purpose Intended



The dishwashing machine must be used only in accordance with regulations. This dish-washing machine is intended for washing cutlery, crockery and commonly used kitchen utensils.

Other special dishware is described in the job confirmation.

The items to be washed must be suitable for washing in dish-washing machines.

If in doubt with regard to suitability, consult Meiko about the size, version, essential suitability for warewashers ...) (info@meiko.de).

Kitchen utensils with electronic components must not be cleaned in the machine.

Any other use is not considered intended.

This machine is intended solely for use in a commercial environment!



4 CE-Declaration of Conformity

A Declaration of Incorporation is provided with the machine if it is not supplied in fully operational state, that is, as a partially completed machine pursuant to the Machine Directive.

An EC Declaration of Conformity is provided with the machine if it is supplied in fully operational state as a complete machine.



4.1 CE-Declaration of Conformity

Muster / Example / Exemple / Esempio / Ejemplo / Voorbeeld

EG-Konformitätserklärung

EC Declaration of Conformity / Déclaration de conformité CE / Dichiarazione di conformità CE / Declaración de conformidad CE / CE-conformiteitsverklaring

Firma / Company / Société / Ditta / Empresa / Fabrikant:
Adresse / Address / Adresse / Indirizzo / Dirección / Adres:

MEIKO Maschinenbau GmbH & Co. KG
Englerstraße 3
77652 Offenburg
Germany

Kontakt / Contact / Contact / Contatto / Contacto / Contact

Internet: www.meiko.de
E-mail: info@meiko.de
Telefon: +49(0)781/203-0

Auftrag Nr.

Order no. / No. de commande / No. d'ordine / No. de pedido / Opdracht nr.:

Spülmaschine Typ

Dishwasher model / Lave-vaisselle modèle / Lavastoviglie modello /
Lavavajillas modelo / Vaatwasmachine model

Konformitätserklärung

Declaration of Conformity / Déclaration de conformité / Dichiarazione di conformità / Declaración de conformidad / Conformiteitsverklaring:

Hiermit bescheinigen wir in alleiniger Verantwortung die Konformität des Erzeugnisses mit den grundlegenden Anforderungen der folgenden EG-Richtlinien, harmonisierten Normen, nationalen Normen.

We hereby declare at our sole responsibility that the product conforms to the essential requirements of the following EC Directives, harmonized standards, national standards.

Par la présente nous certifions sous notre seule responsabilité la conformité du produit avec les exigences fondamentales des directives CE, normes harmonisées et normes nationales suivantes.

Con la presente dichiariamo sotto la nostra responsabilità la conformità del prodotto con i regolamenti basilari delle seguenti direttive CE, normative armonizzate e normative nazionali.

Por la presente declaramos bajo nuestra sola responsabilidad que nuestros productos están en conformidad con las exigencias básicas de las siguientes directivas de la CE, normas homologadas y normas nacionales.

Hiermee verklaren wij onder geheel eigen verantwoordelijkheid de conformiteit van het product met de fundamentele en gestelde eisen volgens EG-richtlijnen, geharmoniseerde normen en nationale normen.

EG-Richtlinie / EC Directive / Directive CE / Regolamento CE / Directiva CE / EG-richtlijn

2006/42/EG / 2006/95/ EG / 2004/108/EG

Dokumentationsverantwortlicher: Responsible for documentation / Responsable de la documentation / Responsabile della documentazione/
Responsable de la documentación / Voor deze documentatie verantwoordelijk

Daniel Ratano
MEIKO Maschinenbau GmbH & Co. KG, Englerstr. 3 – 77652 Offenburg - Germany

Unterschrift / Signature / Signature / Firma / Firma / Handtekening

Konstruktion / Design Engineering Department / Dpt. Construction / Reparto Costruzione / Depto. de diseño / Constructie

MEIKO Maschinenbau GmbH & Co. KG

ppa.
(per procura)

Dr. Thomas Peukert
(Leiter Entwicklung und Konstruktion)
Head of Development / Design / Responsable Développement / Construction / Direttore Sviluppo /
Costruzione / Jefe de la sección de desarrollo y diseño / Chef Ontwikkeling/Constructie



4.2 Declaration of Incorporation

Muster / Example / Exemple / Esempio / Ejemplo / Voorbeeld

Einbauerklärung

Declaration of incorporation / Déclaration de montage / Dichiarazione di montaggio / Declaración de montaje / Inbouwverklaring



Firma / Company / Société / Ditta / Empresa / Fabrikant:
Adresse / Address / Adresse / Indirizzo / Dirección / Adres:

MEIKO Maschinenbau GmbH & Co. KG
Englerstraße 3
77652 Offenburg / Germany

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Auftrag Nr. / Order no. / No. de commande / No. d'ordine / No. de pedido / Opdracht nr.

Maschinentyp

Machine type / Modèle machine / Tipo di macchina / Tipo de máquina / Machinemodel

Einbauerklärung für eine unvollständige Maschine

Declaration of incorporation for partly completed machinery / Déclaration de montage pour une machine incomplète / Dichiarazione di montaggio per una macchina incompleta / Declaración de montaje de incorporación para una máquina incompleta / Inbouwverklaring voor een onvolledige machine

Hiermit bescheinigen wir:

We herewith certify / Nous certifions par la présente / Con la presente attestiamo / Por la presente certificamos / Hiermee verklaren wij:

dass die zum Einbau in Maschinen vorgesehenen Produkte oder Baugruppen mit den grundlegenden Sicherheits- und Gesundheitsschutzanforderungen nach Anhang I der Maschinenrichtlinie 2006/42/EG übereinstimmen. Die speziellen technischen Unterlagen gemäß Anhang VII B (für unvollständige Maschinen) wurden erstellt und werden der zuständigen Behörde auf Verlangen in elektronischer Form übermittelt.

that the product or sub-assemblies that are intended for installation in machines complies with the fundamental health and safety requirements in accordance with Annex I of the Machine Directive 2006/42/EG. The special technical documents have been created according to Annex VII B (for partly completed machinery) and shall be transferred to the responsible authority in electronic format when requested.

que les produits et modules destinés au montage dans des machines satisfont aux exigences fondamentales en matière de sécurité et de santé conformément à l'annexe I de la directive sur les machines 2006/42/CE. Les dossiers techniques spécifiques conformément à l'annexe VII B (pour les machines incomplètes) ont été rédigés et seront transmis sur demande aux autorités responsables sous forme électronique.

che i prodotti o gruppi di componenti previsti per il montaggio in macchine corrispondono ai requisiti essenziali di sicurezza e di tutela della salute secondo l'allegato I della Direttiva Macchine 2006/42/CE. La documentazione tecnica speciale secondo allegato VII B (per macchine incomplete) è stata creata e sarà trasmessa su richiesta e in forma elettronica all'ente responsabile.

que los productos o grupos previstos para la incorporación en máquinas cumplen con los requisitos básicos de seguridad y protección de la salud, conforme al anexo I de la directiva de máquinas 2006/42/CE. Se han confeccionado los documentos técnicos especiales conforme al anexo VII B (para máquinas incompletas), que se entregarán a las autoridades competentes en forma y por vía electrónica, en caso de solicitarlo las mismas.

dat de voor inbouw in de machine bestemde producten of bouwgroepen voldoen aan de fundamentele eisen met betrekking tot de veiligheid en bescherming van de gezondheid conform bijlage I van de machinerichtlijn 2006/42/EC. De speciale technische documentatie is conform bijlage VII B (voor onvolledige machines) opgesteld en wordt desgewenst in elektronische vorm ter beschikking gesteld aan de verantwoordelijke instanties.

die Konformität mit den Bestimmungen folgender weiterer EG-Richtlinien:

the conformity with the provisions of the following additional EC Directives: / la conformité avec les dispositions des directives européennes supplémentaires suivantes: / la conformidad con las disposiciones de las siguientes directivas de la CE adicionales: / de conformiteit met de bepalingen van de volgende aanvullende EC-richtlijnen:

2006/95/EG / 2004/108/EG

Die vorgenannten speziellen technischen Unterlagen können angefordert werden bei:

The above mentioned technical documentation can be requested from: / Les documents techniques spécifiques précités peuvent être demandés auprès de: / La suddetta documentazione tecnica speciale può essere richiesta presso: / Los documentos técnicos especiales reseñados con anterioridad se pueden solicitar a: / De bovengenoemde speciale technische documentatie kan worden opgevraagd bij:

Dokumentationsverantwortlicher

Responsible for documentation / Responsable de la documentation / Responsabile della documentazione / Responsable de la documentación / Voor deze documentatie verantwoordelijk

Daniel Ratano
MEIKO Maschinenbau GmbH & Co. KG
Englerstr. 3 - 77652 Offenburg - Germany

Die Inbetriebnahme ist so lange untersagt, bis festgestellt wurde, dass die Maschine oder Anlage, in welche die o.a. unvollständige Maschine eingebaut werden soll, den Bestimmungen der Maschinenrichtlinie 2006/42/EG entspricht.

Commissioning is prohibited until it has been determined that the machine or system into which the partially completed machinery specified above is to be incorporated also complies with the provisions of the Machinery Directive 2006/42/EC.

La mise en service de la machine est interdite jusqu'à ce qu'il ait été déterminé que la machine ou l'installation dans laquelle la machine incomplète susmentionnée doit être montée respecte les dispositions de la directive relative aux machines 2006/42/CE.

La messa in funzione è vietata fino a che non sia stato accertato che la macchina o l'impianto, in cui deve essere installata la suddetta macchina incompleta, risponda alle disposizioni della Direttiva Macchine 2006/42/CE.

La puesta en marcha estará prohibida hasta que no se haya determinado que la máquina o instalación en la que se pretenda incorporar la máquina incompleta indicada arriba cumpla las disposiciones de la directiva de máquinas 2006/42/CE.

De inbedrijfstelling is niet toegestaan voordat is vastgesteld dat de machine of installatie waarin de o.a. onvolledige machine moet worden ingebouwd aan de bepalingen van de machinerichtlijn 2006/42/EC voldoet.

MEIKO Maschinenbau GmbH & Co. KG

ppa. (per procura)

Dr. Thomas Peukert

Leiter Entwicklung und Konstruktion / Head of Development-Design / Responsable Développement-Construction / Direttore Sviluppo-Costruzione / Jefe de la sección de desarrollo y diseño / Chef Ontwikkeling-Constructie

5 General safety information

5.1 Operator's duty of care



The dishwashing machine has been constructed based on a risk analysis and after careful selection of the applicable harmonized standards, as well as additional technical specifications. It therefore corresponds to the latest technology and is guaranteed to provide maximum safety.

This level of safety can only be achieved in practice, however, if all the necessary measures are taken. The operator of the installation has an obligation of care to ensure that these measures are scheduled, and also to check that they are correctly executed.

Measures to ensure the safe machine operation

The operator must ensure in particular that ...



... the dishwashing machine is only used in accordance with the regulations.

Should it be used in any other way, damage or danger may occur, for which we accept no liability (see the chapter on "Use for the Purpose Intended").

... in order to preserve the operational and safety guarantees, whenever required, only original parts supplied by the manufacturer are used.

the user will lose the right to any possible claims if the appliance is modified using any parts other than original parts.



... only appropriately qualified and authorized personnel use, maintain, and repair the installation.



... the relevant personnel is regularly trained in all questions relating to safety at work and environmental protection and, in particular, that they are familiar with the operating instructions as well as with the safety information provided in them.



... the installation is only operated in perfect, operationally efficient condition, all safeguards and cladding panels are installed, and, in particular, that the safety systems and switch elements are regularly checked for their operational efficiency.



... the required personal protective equipment is made available to maintenance and repair personnel, and is worn by them.



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



... the operating instructions are always kept in legible, complete condition at the place where the installation is installed, and are always at hand.



... all the safety, warning and operating instructions provided are not removed and are legible.



... any necessary initial tests to parts supplied by sub-suppliers, such as heat pumps or other equipment, must be carried out. More detailed information, if required, can be found in the relevant Instructions for Use.

**IMPORTANT!**

Once the dishwashing machine has been installed, put into service and handed over to the customer/operator, no modifications (electrical or location modifications, for example) may be made. Modifications to the dishwashing machine, and in particular technical modifications carried out without the manufacturer's written authorization, or any modifications carried out by unauthorized persons, will lead to the complete loss of any guarantee claims and will invalidate any liability for the product.

**IMPORTANT!**

... equipment for optimising energy consumption must not be used to reduce essential operating temperatures, as set out in DIN 10510, 10511 and 10512. If you, the client, install equipment for optimising energy consumption, any possible reduction in the quality of the wash and hygiene is your responsibility.

5.2 Basic safety measures

**IMPORTANT!**

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



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

- Dangers to the user's life and limb and
- Material damage

**IMPORTANT!**

The machine may only be operated by adequately qualified staff who have been trained by the operating company and who have been trained about the Hazard and Safety Instructions.

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

- who are over 14 years of age,
- who, because of their training, experience, instruction and knowledge of the relevant standards, regulations, accident prevention instructions and operating conditions, have been authorised by the person responsible for the safety of the machine to carry out the necessary activities, and who therefore are aware of the possible dangers and how to avoid them,
- who have been trained in first aid and in the on-site rescue arrangements,
- who have read and who observe the safety instructions,
- who have read and who observe the Operating Instructions (or the part applicable to the work to be carried out).

**IMPORTANT!**

The machine operates with hot water. Avoid all contact with the rinse water. There exists therefore the danger of scalding. As a result, the dishes etc being washed are at high temperature. Please observe appropriate protective measures.

Observe all the instructions posted on the machine.



Warning !

When electrical equipment is in operation, it is inevitable that certain parts carry a dangerous current.

ALL current to the whole machine MUST be switched off before the machine's cladding or electrical equipment is opened.

PLACE THE MAIN SWITCH IN THE "OFF" POSITION and install suitable security measures to prevent the switch from being switched on.

Only specialist personnel may carry out repairs and rectification work on the electrical part of the machine. The Health and Safety Regulations must be observed.

The machine may be used again only after **all cladding panels** have been installed by the user of the machine.

**IMPORTANT!**

The machine, switch cabinets and other electrical components must NOT be sprayed with a hose or a high pressure cleaner.



The dish-washer may only be operated under the supervision of trained personnel.



If you are unsure about the operation of the machine, the machine must not be used.



Doors and flaps **MUST** be closed.



Because of the danger of entrapment by the conveyor and the dishes when the conveyor is in motion, operating staff must not wear tight-fitting clothing; they must also remove rings, bracelets and similar articles. We also recommend wearing safety shoes with steel toe caps!



The tank heating elements may still be hot after the tank has been emptied. There is therefore the danger of burns when the machine is cleaned manually.



Rectification work and work of any kind on the steam installation must only be carried out by specialist staff.



Only detergents and rinse-aids suitable for the use in industrial dishwashers may be used.

Corresponding information is submitted by the manufacturers of such products.

Detergents and rinse agents can be injurious to health.

The manufacturers hazard instructions on the original packaging and in the safety data sheets must be observed.



The main switch must be turned off when operation has finished.



WE ACCEPT NO LIABILITY FOR DAMAGE OR INJURY ARISING FROM FAILURE TO OBSERVE AND ABIDE BY THESE SAFETY INSTRUCTIONS!!!



5.2.1 Working on electrical equipment

Any repair work and repairs to the power supply on the installation's electrical equipment may only be carried out by a qualified electrician!

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

Always keep the switch cabinets closed! Access is only allowed to qualified persons with the appropriate key / tool!

6 Assembly instructions (for a partially completed machine)

These apply where the MEIKO product is a partially completed machine in the sense of the Machinery Directive (Directive 2006/42/EC).

Observe the following items when connecting MEIKO products to an existing installation:

- The components must be aligned with one another, connected in an appropriate manner, and fastened so that safe operation is assured. (Choose conditions and fasteners on site in line with this).
- Dangers (e.g: drawing in, crushing, shearing or cutting) that potentially arised due to the connection must be safeguarded appropriately.
- The electrical connection to the supply grid on site, and any necessary electrical connections must be implemented in line with the enclosed wiring diagram.
- During installation, make sure that you avoid damage, in particular to the electrical installation.
- After completing the works, check the system for damage.
- Safety and functional tests must be performed in the scope of testing the complete system at the latest.
- The system is supplied with slide rails to optimise the transition point where applicable.

Working on the electric fittings



DANGER!

Risk of injury due to electric shock

Work or repairs to the electrical equipment of the system must be conducted by a qualified electrician!

The wiring diagram for the partially completed machine delivered contains all necessary operational shut-offs known to the manufacturer MEIKO, as well as other known, necessary shut-offs and electrical connections. The connectors are clearly indicated in the wiring diagram. Always make sure that these connections are implemented prior to commissioning the machine, and that they work reliably.

If any unknown sources of danger that are not described by MEIKO arise due to connecting system parts, you must eliminate them; this may potentially mean that you must operate the machine.

7 Delivery, shipping, installation and assembly

7.1 Delivery

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

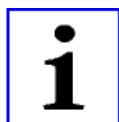
If necessary, complain about any missing parts immediately to the shipping company and notify MEIKO.

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

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

- the shipping company,
- and MEIKO

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



7.2 Transport and installation

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

- The shipping operations may only be carried out by qualified persons who observe the safety instructions.

In order to ensure safe shipping, the installation parts are placed on a special four-sided wooden frame.

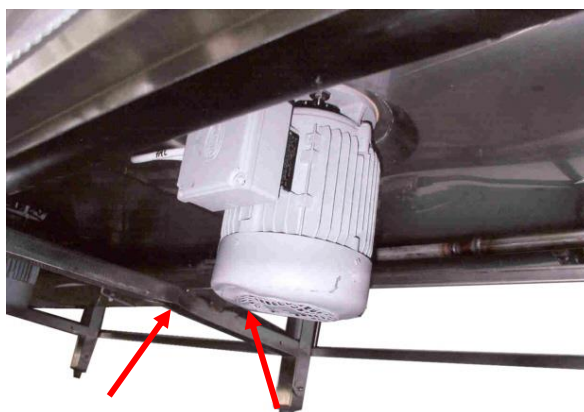
Incoming goods should only arrive on these wooden frames. **The packing is specifically designed to allow the appliances to be moved safely and securely using two pallet trucks.**



Move only with pallet trucks !!!

It is possible to negotiate gentle curves if the pallet trucks are not positioned completely under the wooden bearers.

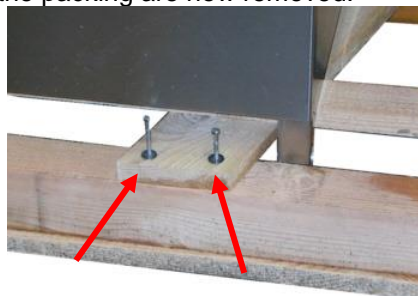
Electric motors may project downwards from the underside of the appliance. Care must always be taken not to damage these.



Severe damage to motor & frame!!!

The forks of the pallet trucks are lowered when the desired position of the appliance is reached (but must remain under the bearers). The machine is standing on the wooden bearers of the packing. There is no load on the foot cleats.

All the screws and bolts of the packing are now removed.



e.g. Remove these and other screws and bolts.

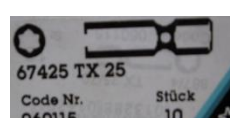
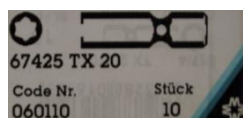
Leave for the moment all the wooden bearers under the machine.

The following screw-drivers and sockets are needed.

Torx TX 20

Torx TX 25

10 mm socket



These screw drivers and sockets are available in all tool shops.

A reversible electric drill with a lockable chuck is also necessary.

When all the fasteners on the transport packing have been removed, the appliance is again lifted on both sides with the pallet truck.

All the large bearers running along the length of the appliance can now be easily withdrawn.



The appliance is next lowered onto the floor. The pallet trucks are removed. **You must take great care to ensure that the appliance is not jolted when it is lowered otherwise the foot cleats could be damaged beyond repair.**

Please also ensure that the cleats are extended uniformly so that one set of cleats is not loaded more than the others. You can check the loading by means of the force needed to turn the cleats with a spanner.



You can check the loading by means of the force needed to turn the cleats with a spanner. An open-ended 27 mm spanner is needed to adjust the cleats of the appliance.

If it is necessary to move the appliance along a wall, the appliance can be pushed along the wall on its cleats for a limited distance.
(Be careful of gratings in the floor and changes in height!)

The appliance can also be easily moved flush to the wall by leaving the small longitudinal bearers under the appliance and moving the appliance backwards as shown in the picture.

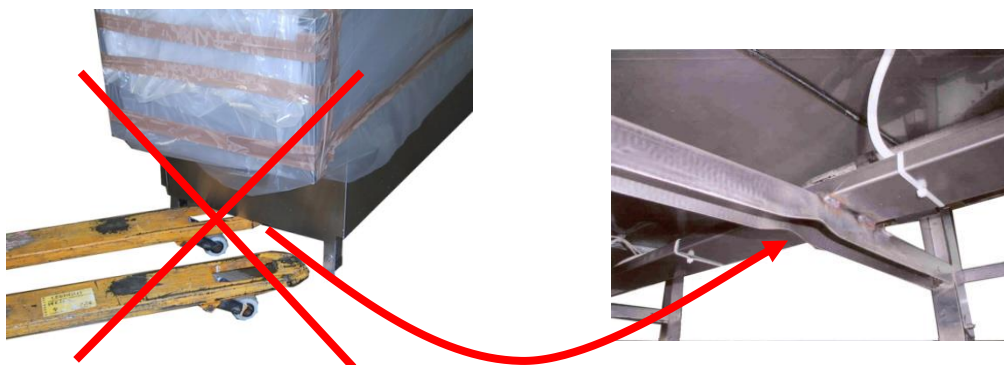


Position the pallet truck close to the frame.

If it is not possible to move the appliance with a pallet truck as described earlier, the longitudinal bearers can be removed by gently tilting the appliance after all the fasteners in the transport packing have been removed.



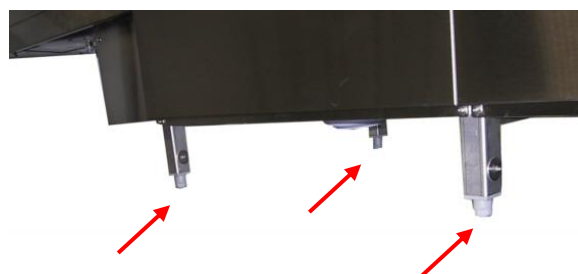
Important: Never move the appliance like this.



Lifting the appliance by the middle of the appliance frame will inevitably damage the appliance. A wooden batten should always be used to distribute the weight.

When the appliance is finally positioned, you must ensure that all the cleats carry approximately the same weight. An uneven distribution of weight can cause individual cleats to break.

You can check the loading by means of the force needed to turn the cleats with a spanner.



An open-ended 27 mm spanner is needed to adjust the cleats of the appliance!



Important:

Horizontal adjustment of the machine by means of the vertically adjustable feet (spanner/wrench size 27) must be done with care to ensure that the weight of the machine is evenly distributed on the cleats. This is absolutely essential in order to avoid displacement or stresses caused by loading on one side. These stresses can cause, for example, the vertical doors to jam or can prevent them from being water-tight when closed.

- Please also read the chapter on "General safety instructions".

7.3 Installation and assembly

MEIKO has prepared an assembly diagram showing the machine dimensions and the connected loads in detail. Assembly is completed by reference to the assembly diagram and, in general, by following the instructions of a trained MEIKO engineer.

The installation must only be connected by suitably qualified personnel.

We accept no liability for connections carried out by unqualified personnel.



IMPORTANT!

After unpacking, position the appliance as indicated in the assembly diagram and as the dimensions allow. The appliance must be level and straight when erected. If the machine is delivered divided in a number of parts, the joints must be thoroughly treated with P819 activator (MEIKO ordering no. 9503233) and sealed on the inside with silicone (Sista F 108 – MEIKO ordering no. 0870001 or M509, MEIKO ID no. 9518385; in paint shops Sikaflex 260 – MEIKO ordering no. 0870030).



Sista P 819 activator

order no.
9 503 233



Sista F 108
Special Silicon
adhesive

order no.
0 870 001



Sista M 509
Special Silicon adhesive

order no.
9 518 385



Sikaflex - 260
strong adhesive

order no.
0 870 030

A sealing strip must be applied to the exterior. It should be recessed by about 1 mm and is intended to improve the optical appearance.

7.4 Floor load from the dish-washing machine

The floor load per foot (with a loaded surface of D=30 mm per foot) is:

- for dish-washers without a heat pump: approximately 150 kg
- for dish-washers with a heat pump: approximately 200 kg

7.5 Instructions for the disposal of the packaging material

- The four-sided wooden frame consists of untreated, raw pine / spruce. Special country-specific import regulations may also stipulate the use of wood which has been treated against pests.
- The plastic sheeting (PE sheeting) may be recycled.
- The cardboard packaging material used to protect the edges can also be recycled.
- The steel tensioning strap made of strip steel may be recycled with the steel scrap.
- The plastic tensioning strap of plastic (PP) can be recycled.

7.6 Connection to the electricity supply

Work on the electrical part of the machine may only be undertaken by specialist personnel.

The wiring diagram is located in the switch cabinet. This wiring diagram is part of the machine and therefore must not be removed!

The manufacturer's plate with the connected electrical loads is located inside the switch cabinet.

General Electrical Regulations must be observed when connecting the machine to the power supply.



Important:

The fuses on site must be selected to suit the local conditions and the appliance's nominal current in such a way that back-up protection is guaranteed (Germany: VDE 0100). The mains supply cables must be provided with fuses in accordance with regulations and must have a main switch (accessible on site or inside the appliance for operating personnel). If the neutral conductor (N) is not grounded, a 4 phase main switch must be used. Cables connecting to the main power supply must be oil-resistant and sheathed and must not be lighter than an H 07 RN-F cable. The potential equalisation connection must be carried out in accordance with the requirements of the local electricity supply company and all applicable local regulations (in Germany VDE 0100 Part 540 must be observed). Where VDE 0160 / EN 50178 applies, there is a requirement that in areas of electrical equipment where line-side residual current protective circuit breakers (FI) are planned or installed, an FI type B device sensitive to all types of currents must be installed before the FI type A. For the supply connection use a 5-pole terminal strip (L1, L2, L3, N, PE).

The electrical connection data, voltage, type of current, output can be seen on the manufacturers' plates on the machine. Please check the voltage.

All electrical connections must be made inside the electrical switch cabinet by means of marked screwed cable glands as in the circuit diagram and connected to the terminals and the fuses provided.

7.7 Fresh water connection

The water-carrying pipes and components are not frost-proof.

If the temperature of the place where the appliance has been installed can fall below 5°C, suitable precautions for protection against frost must be taken.

Information on nominal widths, cross sections etc. relate to the appliance.

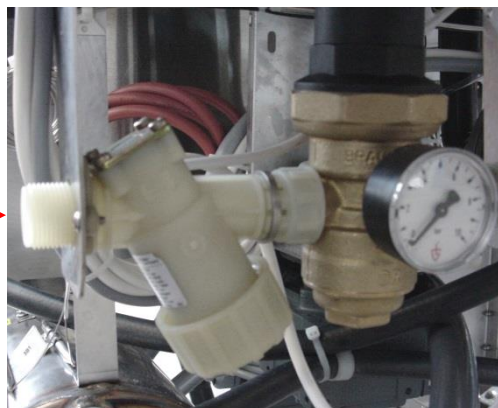
Installations on site must be dimensioned to match local conditions (e. g. cable arrangements, access lengths).

The terminal positions of media and energy connections to the machine depend on the method of construction (normally at a distance from the connection points on site). The connections must be made by approved technicians.

All parameters for the media and energy supplies must be maintained at a constant level during all the operations.

Fresh water connections must be carried out in accordance with the requirements of the local regulations (e.g. Germany DIN 1988). A stop tap must be installed in all ingoing water supply pipes and must be accessible to operating personnel. A tap capable of isolating the appliance from the mains (in Germany in accordance with EN1717) installed. Fresh water connections must be carried out in accordance with the requirements of the local regulations (e.g. Germany DIN 1986).

The water supply to the appliance is normally to be found under the discharge.



It is possible to clean the dirt screens without turning off the main water supply.

The water supply is automatically cut off when the lower component in which the screen is located is unscrewed. This enables the screen can be easily cleaned during maintenance.

(This cut-off function can also be used as a stop-cock when servicing the machine.)

Information on the water quantities, quality and temperatures needed can be found in the installation plan.

The water quality must also comply with the requirements of the Commercial Dish-Washing Association. (**Fehler! Hyperlink-Referenz ungültig.**)

Most appliances are equipped with heat regeneration or with a heat pump.

In order for this equipment to operate at optimum efficiency the inlet temperature of the rinse water supply must be maintained at a low a level as possible (ideally about 10°C). Fluctuant water supply temperatures (summer/winter) must be avoided.

Water supply at a higher temperature not only detracts from the efficiency of the heat regeneration and the heat pump, but also impairs conditions relating to the appliance's exhaust air.

If valves on the appliance are also controlled by fresh water, a minimum flow pressure is necessary. See "Regulations and Standard Values" for the necessary pressures and quantities.

7.8 Waste water connection

The waste water connection must be carried out in accordance with the requirements of DIN 1986 and all applicable local regulations.



All discharge pipes for water from the machine must be connected to the kitchen waste water system via an adequately dimensioned odour trap.

When selecting materials for pipes, sealants etc, you must bear in mind that the temperature of the water discharged from the machine can be 70 - 75° C. Furthermore, the pH values can lie between 3 and 12 depending on the nature and concentration of the detergent; in other words, the materials must be resistant to both acids and alkalis. Connect waste pipes on site in accordance with the instructions on the installation plan.

7.9 Exhaust air connection of the appliance

Air control equipment must be designed to comply with local regulations (for example, in Germany VDI 2052) and must in all cases be water-tight and corrosion resistant.

The values indicated for exhaust air temperature and humidity can increase under certain operating conditions (e.g. standby).

The discharge air connection must be connected into the building's exhaust air system as in the installation plan.



Important !

The exhaust air connection must be made in such a way that the parts containing water are not damaged in frosty weather. If this is not possible, frost protection must be installed.

The hot, moist air from the machine must be removed from the washing-up kitchen. In order to achieve efficient extraction, you must ensure that the overpressure on the machine ducts or the negative pressure of the building is adequate.

8 Machine settings for initial commissioning by the service engineer

8.1 Commissioning

In order to avoid damage to the installation and the injury and death of persons when commissioning the installation, the following points must be observed without fail:

Any necessary initial tests to parts supplied by sub-suppliers, such as heat pumps or other equipment, must be carried out. More detailed information, if required, can be found in the relevant Instructions for Use.



- The installation may only be commissioned by suitably qualified persons observing the safety instructions.
- Before initial startup, check that any tools and parts not belonging to the installation have been removed.
- Check whether any escaping liquid is removed.
- Activate all the safety systems and door switches before commissioning.
- Check that all screw connections are tight.
- Please also read the chapter on "General safety instructions".

Commissioning and instructions will be provided by technicians specially trained by Meiko. The operator may only use the installation after training has been provided.

8.2 Chemical product settings

The correct settings for the quantity of detergent and rinse agent depend on the product used.

The relevant chemical supplier can install the correct setting.

8.3 Works to be carried out before initial commissioning

All the points in this section must be observed before initial commissioning!

- Water-carrying pipes
All pipes must be thoroughly flushed out. The heating system must not be switched on when this is done (remove the fuses) in order to prevent the heating elements from operating when the system is dry. All dirt collectors must be cleaned afterwards.
- Steam pipes
All pipes must be thoroughly flushed out. When doing so, all control valves must be fully open and all condensate traps removed. All dirt collectors must be cleaned afterwards.
- Connection to the electricity supply
 - Tighten all electrical terminals in the switch cabinet; check that electrical plugs/jacks are firmly in position.
 - All motors must be checked for the correct direction of rotation.
 - Carry out a visual check on all electrical equipment (e.g. switches, cables, housings, covers).
 - Carry out functional tests on all electrical switches.
- Internal regions of the machine
Ensure that there are no foreign bodies inside the machine (e.g. cleaning rags, loose bolts/washers/nuts, tools, packaging materials etc.).



Important

Ensure that friction cannot occur where moving parts pass close to fixed parts. (e.g. rails, water deflectors and others).

Ensure that all wash pipes, wash systems, rinse arms, screens and filters, tank covers, waste pipes, waste screens and swing valves on the inlet and waste pipes are installed. Ensure that all the parts are correctly installed!

9 Washing dishes with the dish-washer

Once all installation work (electrical, water, waste water, hot steam, exhaust air) is complete and all settings (wash tank, clear rinse water and drying temperatures, clean rinse water quantity, monitoring times for the tank fillings, transport overload switch activation) have been entered by trained specialists (see chapter 3) the machine can be commissioned.

- electronic control "MIKE 3 - CE"



A detailed description of the operation of the control "MIKE 3 - CE" can be found in the relevant additional operating instructions "MIKE 3 - CE" for MEIKO dishwashers.

10 Preparation – Operation

10.1.1 Basic safety measures during normal operation

The installation may only be operated by trained and authorized persons who are familiar with the operating instructions and who are capable of working in accordance with them!



IMPORTANT!

Before switching the installation on, check and ensure that

- Only authorized persons are present in the installation's operating area.
- Nobody will be injured when the installation starts!

Before commissioning, each time

- Inspect the installation for any visible damage and ensure that it will only be operated in a perfect condition!
Report any defects to the foreman immediately!
- Remove any materials or objects not required for the operation of the installation from the installation's operating area!
Remove any materials or objects not required for the operation of the installation from the installation's operating area!
- Check and ensure that all the safety equipment is operating perfectly!

10.1.2 Operation

Open the stop valve in the water pipe.

Switch on the power supply from the building.

Ensure that all wash pipes, wash systems, rinse arms, screens and filters, tank covers, waste pipes, waste screens and swing valves on the inlet and waste pipes are installed. Ensure that all the parts are correctly installed!

Close the doors.

The wash tanks can be automatically filled and heated by means of the "Fill/Heat" button.

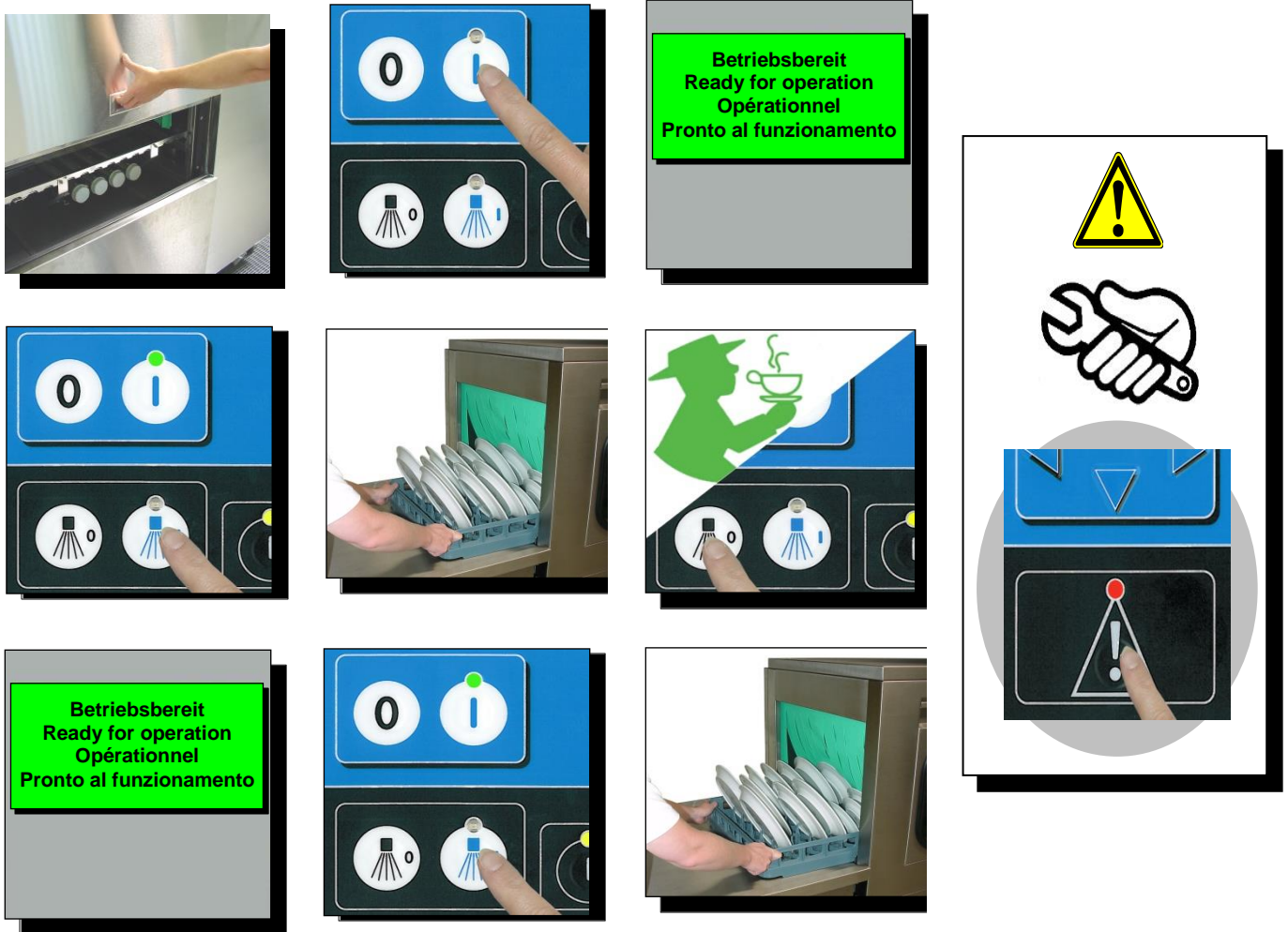
Once the wash tanks are filled and have been heated to washing temperature, the machine is started with the "Start" button. The transport and the wash pumps now operate so that the washing process can begin. The machine is normally equipped with rinse water conservation; in other words the rinse process is not in operation continuously.

All other functions, e.g. temperature monitoring or wash tank water level checks are performed by the machine control; thus no other manual operations or checks are needed.

Washing can be temporarily interrupted with the "Pause" button; the wash pumps and transport are switched off. However, the tank heating elements are not switched off with the result that the machine remains ready for operation and washing can recommence when the button "OPERATION" is pressed.

The machine is switched completely off with the "Shut down" button.
(Important: Clean the machine after operation.)

10.1.3 Short operating instructions



11 Shutting down the appliance

This appliance must be shut down at the end of operations or if the premises in which it is located are not regularly under surveillance by staff!



Switch off the machine.

Clean the appliance; see the chapter headed "Cleaning".

Switch the power supply from the building off.

The dish-washer is now voltage free.

In the case of appliances with:

- automatic regeneration of water softeners
 - frost protection
 - integrated reverse osmosis equipment
 - automatic tank filling and heating of the wash-tank by means of a time switch
- automatic operation may only be activated if the premises in which the appliance is located is under regular surveillance by staff.

12 Cleaning

12.1 Safety instructions for cleaning



The tank heating elements may still be hot after the tank has been emptied. There is therefore the danger of burns when the machine is cleaned manually!

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

12.2 Cleaning after operation

It is recommended that you maintain the machine in good condition not only for reasons of hygiene but also to keep your dish-washing machine in full working order and to be able to recognise damage more easily. Observe the following points after operation!

Clean and check that the machine is in working order:

- Tank cover screen
- Side screen supports
- Pump screen (suction side)
- Spray protection curtains
- Wash pipe jets
- Wash tanks
- Rinse arm jets

Any cladding panels removed to undertake this work must be replaced in their original position after completion of the work. Ensure that all the parts are correctly installed!

12.3 Cleaning instructions – daily

Do not use a high pressure cleaner!!!



Switch off the machine.



Open the doors.



Spray the machine's internal chamber and the rear side of the vertical door with a hose



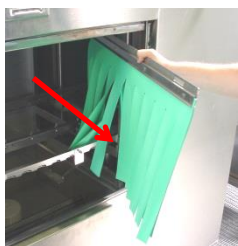
Remove the tank cover screens.



Remove the screen supports.



Remove the wash systems.



Remove and clean the spray protection curtains.



Remove the pump rinse arms.



Open the outlet.



Remove the pump suction sieve.



Clean the pump screen



Open the little outlet.



Remove the pump suction sieve.



Clean the pump screen



Clean the complete inner chamber of the tank with a hose.



Remove the outlet screen.



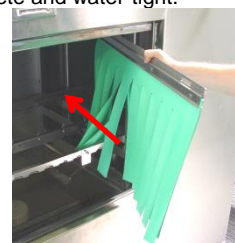
Clean the outlet screen.



Clean the wash and rinse arms and their jets. Use a nylon brush to clean the jets. Check that the wash arms and end caps are complete and water-tight.



Clean all screens.



When you have cleaned the machine, replace all the parts; check that you have replaced them all and that they are in the correct position. Check that all wash arms are properly secured. Check that all wash arm end caps are water-tight. Replace the outlet stand-pipes and curtains.



Close the door.



The machine, switch cabinets and other electrical components must NOT be sprayed with a hose or a high pressure cleaner.

12.4 Care of stainless steel surfaces

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

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

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

Do not use aggressive cleaning or scouring agents.

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

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

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

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

Caution!

Respect the safety rules of the manufacturers on the original packing as well as on the safety data sheets.

12.5 Check list after cleaning

After cleaning the machine ensure that all parts have been replaced correctly.

Check that the following parts are present and in the correct position:

- Side screen supports
- Tank cover screens
- Outlet stand-pipe
- Pump rinse pipes
- Curtains
- Check that the correct number of wash pipe end caps is present
- Pump suction side sieves

Close the outlet valve.

The dish-washer is now ready for the next shift.

IMPORTANT!!!



Do not use a foaming detergent for dish-washing by hand for pre-cleaning close to the dish-washer. Foam can cause malfunctions in the dish-washer and a poor wash.

13 Tips for self-help in the case of faults

| Fault: | Remedy |
|------------------------|--|
| Machine does not fill. | <ul style="list-style-type: none"> No water available Dirt trap blocked Air trap for level control soiled Solenoid valve defective |

| Fault: | Remedy |
|-----------------------------|--|
| Rinse water does not spray! | <ul style="list-style-type: none"> No water available Dirt trap blocked Solenoid valve defective If the appliance has automatic water conservation is defective Fresh water rinse system furred Built-in reverse osmosis installation broke down |

| Fault: | Remedy |
|-----------------|--|
| Vapours drains! | <ul style="list-style-type: none"> Extraction broke down Curtains missing Temperatures too high Wash arms, drying nozzles, air guide plates bent or not correctly inserted |

| Fault: | Remedy |
|-----------------------------------|--|
| Stripes and smears on the dishes! | <ul style="list-style-type: none"> Rinse water mineral content too high (see operating instructions) If this is observed only at particular times, check water softener for regeneration. This must not be carried out during the dishwashing operation. Water pre-treatment defective or not carried out Different water type depending on the waterworks Unsuitable rinse aid products or wrong dosage quantity Incorrectly fitted or missing curtains Oversize containers previously washed causing detergent to be transferred into following tanks Too fast transport speed |

| Fault: | Remedy |
|--|---|
| Formation of a significant amount of foam in the wash tank! | <ul style="list-style-type: none"> • Detergent for dish-washing by hand enters the wash tank because of pre-cleaning the dishes • Daily cleaning of the machine is carried out with foaming cleansing agents which afterwards enter the machine. • Improve pre-wash, as too much food residue is entering the tanks Alternatively, empty wash tanks between uses. • Rinse water quantity too low • Detergent or rinse aid product not suitable • Temperatures too low < 50°C |

14 Staff training

Only trained and instructed personnel are allowed to work on the dishwashing machine. Staff responsibilities for the installation's operation, maintenance and repair must be clearly defined. Any personnel undergoing training are only allowed to work on the dishwashing machine installation under the supervision of an experienced person.

| persons \ Activity | Trained operating personnel | Trained in-house technician | Trained in-house technician or installation engineer |
|-----------------------------|-----------------------------|-----------------------------|--|
| Installation and assembly | | | ◆ |
| Commissioning | | | ◆ |
| Operation, use | ◆ | ◆ | ◆ |
| Cleaning | ◆ | ◆ | ◆ |
| Checking safety devices | ◆ | ◆ | ◆ |
| Fault finding | | ◆ | ◆ |
| Troubleshooting, mechanical | | ◆ | ◆ |
| Troubleshooting, electrical | | | ◆ |
| Maintenance | | | ◆ |
| Repairs | | ◆ | ◆ |

Training should be recorded in writing.

15 Disposal of the installation

When you eventually dispose of the installation (dismantlement/scraping), the parts and their corresponding materials should preferably be re-used.

Here is a list of the materials that most frequently occur when dismantling:

- Chrome-nickel-steel
- Aluminium
- Copper
- Brass
- Electrical and electronic parts
- PP and other synthetic materials

16 Non-ionizing radiation

Non-ionizing radiation is not produced intentionally but unfortunately comes about due to electrical operating equipment (e.g. electrical motors, high-voltage cables and magnetic coils). In addition the machine has no strong permanent magnet. There is a high possibility of eliminating the influence of active implants (e.g. pacers, defibrillators) by maintaining a safety distance of 30 cm (distance of the field source to the implant).

17 Noise level

See „Regulations and Standard Values“ for noise levels in the workplace.

18 Regulations and Standard Values

Standards referred to, important standards, regulations and Institutions:

DIN 10510 Commercial Dish-Washing With Multi-Tank Conveyor Dish-Washing Machines

DIIN 10512 Commercial Dish-Washing With Single Tank Dish-Washing Machines

DIN 1988 Technical Rules For Drinking Water Installations

DIN 1717 Protection Of Drinking Water Against Contamination – Safety Equipment

DIN 2052 Technical Equipment For Kitchen Atmospheres

DVGW German Gas and Water Industry Association <http://www.dvgw.de>

<http://www.dvgw.de>

VGG The Industrial Dish-Washing Association [http:// www.vgg-online.de](http://www.vgg-online.de))

Water quality limits as determined by the Industrial Dish-washing Association

Total hardness: up to 3 °dH

Chloride content Max. 50 mg/l water
(to avoid pitting corrosion in low alloy cutlery steels)

Heavy metals: 0.1 mg iron and 0.05 mg manganese per litre
of water should be regarded as the maximum. As little as 0.05 mg copper per litre of
water can lead to discolouration
of the dishes and the dish-washer.

Total salt content Max. 400 µS/cm (bezogen auf Porzellan und Opalglas)
max. 100 µS/cm (bezogen auf Glas)
max. 80 µS/cm (bezogen auf Edelstahl)
(gemessen über Leitfähigkeit).

Machine temperatures set out in DIN 10510 and DIN 10512

| | Without disinfectants | With disinfectants |
|----------------------------|-----------------------|--------------------|
| Clean water pre-washing | 25°C - 40°C | |
| Pumped water pre-washing | 40°C - 50°C | |
| Detergent circulation tank | 60°C - 65°C | 55°C - 65°C |
| Pumped water rinsing | 60°C - 70°C | |
| Clean water rinsing | 80°C - 85°C | |

Control media for valves:

| | |
|--|---|
| Pressures | Pressures Min. 3.5 bar, max. 8 bar (no pressure surges) |
| Usage of one control valve per switching operation | Approx. 0.01 litre at 3 bar |

Noise level:

The acoustic power level from the acoustic pressure measurement was determined in accordance with the casing surface process on the basis of DIN EN ISO 3744 precision class 2

| | |
|------------------------------|---|
| Noise level in the workplace | $L_{pA} \leq 74\text{dB}$ (measurement uncertainty +/- 1.5 dB) |
|------------------------------|---|

19 Maintenance

Maintenance work may only be carried out when the dishwashing machine is shut down. In addition, the dishwashing machine main power switch must be in the OFF position and locked in this position.

Existing safety systems may not be removed!

Note:

Exchange the wearing parts designated „V“ from the spare parts list.



IMPORTANT!

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

We recommend that you take out a maintenance contract with our manufacturer's agent in order to ensure a long service life.

19.1 Basic safety measures during normal operation

Observe the maintenance periods prescribed in the operating instructions!

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



IMPORTANT!

Before carrying out any maintenance or repair work, prohibit access to the operating area to any unauthorized persons! Provide or display a sign drawing attention to the maintenance or repair work!



Before carrying out any maintenance and repair work, switch off the electrical power at the main electrical power switch and secure the switch with a padlock! The key for this lock must be kept in the hands of the person carrying out the maintenance and repair work! Failure to observe these precautions can result in severe physical injury or damage to property.



IMPORTANT!

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

Carefully dispose of any lubricating, cooling or cleaning products that could harm the environment!



IMPORTANT!

19.1.1 Before starting operations following maintenance or repair work

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



IMPORTANT!

19.1.2 Observe the environmental protection regulations

Legal obligations relating to the avoidance of waste materials and to their recycling/removal in accordance with applicable regulations must be observed!

In particular, during installation, repair and maintenance work, materials that could pollute water such as:

- Grease and oils
- Hydraulic oils
- Coolants
- Cleaning fluids containing solvents

must not pollute the ground or run into the sewerage system! These materials must be stored, shipped, collected and disposed of in suitable containers!

20 Maintenance recommendation

| | Service step | | | |
|---|-----------------------------|----------------------|---|---|
| | ① | ② | ③ | ④ |
| <u>Maintenance</u> | Cleaning works Daily | min. 1x quarterly | min. 1x or twice a year but every 1000 h | min. 1x yearly but every 2000 h |
| PLEASE NOTE: Whenever any electrical components are disconnected and reconnected, replaced or repaired, a safety test must be conducted, at least on these components!!! | | | | |



Note:

Exchange the wearing parts designated „V“ from the spare parts list.

1. Basket transport

| | | | | |
|---|--|---|---|---|
| Check drive motor | | | | |
| Check drive motor for exterior damage | | | ◆ | ◆ |
| Check drive motor for quiet running | | | ◆ | ◆ |
| Check current consumption (IN see wiring diagram) | | | ◆ | ◆ |
| Check ventilation grid for cleanliness | | | ◆ | ◆ |
| Transport overload switch activation | | | | |
| Check the transport cradle guide blocks and the link block of the drive plate for wear. | | | ◆ | ◆ |
| Check the transport overload switch by simulating an overload. Correct the pre-tension on the spring if required. | | ◆ | ◆ | ◆ |
| Check that the transport cradle moves easily | | | | ◆ |

2. Wash pumps

| | | | | |
|--|---|---|---|---|
| Check pump motor | | | | |
| Check motor for exterior damage | | | ◆ | ◆ |
| Check current consumption (IN see wiring diagram) | | | ◆ | ◆ |
| Check motor for quiet running (bearing damage) | | | ◆ | ◆ |
| Check ventilation grid for cleanliness | | | ◆ | ◆ |
| Check wash pump | | | | |
| Check sliding ring seal for watertightness (external visual check) | | ◆ | ◆ | ◆ |
| Replace sliding ring seal | | | | Approx. every 2 years approx. every 3000 h |
| Check pump impeller for damage | | | | ◆ |
| Check pump housing for damage | | ◆ | ◆ | ◆ |
| Pump screen (suction side) | | | | |
| Check pump screen condition | | ◆ | ◆ | ◆ |
| Thoroughly clean inside of pump screen | | | | ◆ |
| Clean outside of pump screen | ◆ | ◆ | ◆ | ◆ |

| | Service step | | | |
|---|--------------------------------------|----------------------|---|---|
| | ① | ② | ③ | ④ |
| <u>Maintenance</u> | Reinigungs- arbeiten Daily | min. 1x quarterly | min. 1x or twice a year but every 1000 h | min. 1x yearly but every 2000 h |
| PLEASE NOTE: Whenever any electrical components are disconnected and reconnected, replaced or repaired, a safety test must be conducted, at least on these components!!! | | | | |

3. Wash systems

| | | | | |
|---|---|---|---|---|
| Check ascending pipe for watertightness | | | | |
| - Pump / ascending pipe connection | | ◆ | ◆ | ◆ |
| - ASCENDING PIPE | | ◆ | ◆ | ◆ |
| - Ascending pipe / wash system connection | | ◆ | ◆ | ◆ |
| - Wash system seating | | ◆ | ◆ | ◆ |
| Check wash system | | | | |
| Check wash system for damage | | ◆ | ◆ | ◆ |
| Check nozzles for cleanliness | ◆ | ◆ | ◆ | ◆ |
| Check that the correct number of wash pipe end caps is present | ◆ | ◆ | ◆ | ◆ |
| Check the spray pattern (the whole width of the belt must be covered by the spray). The pressure from the lower spray must be controlled so that the lightest dish does not rotate | | ◆ | | |

4. Clean water rinse system

| | | | | |
|--|---|---|---|---|
| Check motor power switch (if present) | | | | |
| Check motor for exterior damage | | | ◆ | ◆ |
| Check current consumption (IN see wiring diagram) | | | ◆ | ◆ |
| Check motor for quiet running (bearing damage) | | | ◆ | ◆ |
| Check ventilation grid for cleanliness | | | ◆ | ◆ |
| Check pump power switch (if present) | | | | |
| Check sliding ring seal for watertightness (external visual check) | | ◆ | ◆ | ◆ |
| Replace sliding ring seal | | | | Approx. every 2 years approx. every 3000 h |
| Check pump impeller for damage | | | | ◆ |
| Check pump housing for damage | | ◆ | ◆ | ◆ |
| System | | | | |
| Check the complete system for damage and watertightness | | ◆ | ◆ | ◆ |
| Check nozzles for cleanliness | ◆ | ◆ | ◆ | ◆ |
| Check water quantity (use the water meter or measure manually) | | | ◆ | ◆ |
| Clean the inlet tank | | | | ◆ |
| Check float switch function | | | ◆ | ◆ |

| | Service step | | | |
|---|--------------------------------------|----------------------|---|---|
| | ① | ② | ③ | ④ |
| <u>Maintenance</u> | Reinigungs- arbeiten Daily | min. 1x quarterly | min. 1x or twice a year but every 1000 h | min. 1x yearly but every 2000 h |
| PLEASE NOTE: Whenever any electrical components are disconnected and reconnected, replaced or repaired, a safety test must be conducted, at least on these components!!! | | | | |

5. Pumped water rinse system

| | | | | |
|--|---|---|---|---|
| Check motor (if present) | | | | |
| Check motor for exterior damage | | | ◆ | ◆ |
| Check current consumption (IN see wiring diagram) | | | ◆ | ◆ |
| Check motor for quiet running (bearing damage) | | | ◆ | ◆ |
| Check ventilation grid for cleanliness | | | ◆ | ◆ |
| Check pump (if present) | | | | |
| Check sliding ring seal for watertightness (external visual check) | | ◆ | ◆ | ◆ |
| Replace sliding ring seal | | | | Approx. every 2 years approx. every 3000 h |
| Check pump impeller for damage | | | | ◆ |
| Check pump housing for damage | | ◆ | ◆ | ◆ |
| Check pump screen (suction side) (if present) | | | | |
| Check pump screen condition | | ◆ | ◆ | ◆ |
| Thoroughly clean fixed pump screen internally | | | | ◆ |
| Clean removable pump screen internally/externally | ◆ | ◆ | ◆ | ◆ |
| System | | | | |
| Check the complete system for damage and watertightness | | ◆ | ◆ | ◆ |
| Check nozzles for cleanliness | ◆ | ◆ | ◆ | ◆ |

Chemical Super Save System

| | | | | |
|--|--|---|---|---|
| Check motor (if present) | | | | |
| Check motor for exterior damage | | | ◆ | ◆ |
| Check current consumption (IN see wiring diagram) | | | ◆ | ◆ |
| Check motor for quiet running (bearing damage) | | | ◆ | ◆ |
| Check ventilation grid for cleanliness | | | ◆ | ◆ |
| Check pump (if present) | | | | |
| Check sliding ring seal for watertightness (external visual check) | | ◆ | ◆ | ◆ |
| Replace sliding ring seal | | | | Approx. every 2 years approx. every 3000 h |
| Check pump impeller for damage | | | | ◆ |
| Check pump housing for damage | | ◆ | ◆ | ◆ |

| | Service step | | | |
|---|--------------------------------------|----------------------|---|---|
| | ① | ② | ③ | ④ |
| <u>Maintenance</u> | Reinigungs- arbeiten Daily | min. 1x quarterly | min. 1x or twice a year but every 1000 h | min. 1x yearly but every 2000 h |
| PLEASE NOTE: Whenever any electrical components are disconnected and reconnected, replaced or repaired, a safety test must be conducted, at least on these components!!! | | | | |

| | | | | |
|---|---|---|---|---|
| Check pump screen (suction side) (if present) | | | | |
| Check pump screen condition | | ◆ | ◆ | ◆ |
| Thoroughly clean fixed pump screen internally | | | | ◆ |
| Clean removable pump screen internally/externally | ◆ | ◆ | ◆ | ◆ |
| System | | | | |
| Check the complete system for damage and watertightness | | ◆ | ◆ | ◆ |
| Check nozzles for cleanliness | ◆ | ◆ | ◆ | ◆ |
| Check recirculation system cyclones and pipes for cleanliness | | | ◆ | ◆ |
| Check function and cleanliness of water by-pass. Clean pipes | | | ◆ | ◆ |

| | | | | |
|--|---|---|---|---|
| 7. Heat pump (if present) | | | | |
| Check motor | | | | |
| Check circulating pump motor for external damage | | | ◆ | ◆ |
| Check circulating pump current consumption (IN see wiring diagram) | | | ◆ | ◆ |
| Check circulating pump motor for quiet running (bearing damage) | | | ◆ | ◆ |
| Check circulating pump motor ventilation grid for cleanliness | | | ◆ | ◆ |
| Check condenser motor current consumption (IN see wiring diagram) | | | ◆ | ◆ |
| Check condenser motor for quiet running (bearing damage) | | | ◆ | ◆ |
| Check pump | | | | |
| Check sliding ring seal for watertightness (external visual check) | | ◆ | ◆ | ◆ |
| Replace sliding ring seal | | | | Approx. every 2 years approx. every 3000 h |
| Check pump impeller for damage | | | | ◆ |
| Check pump housing for damage | | ◆ | ◆ | ◆ |
| Pump screen (suction side) | | | | |
| Check pump screen condition | | ◆ | ◆ | ◆ |
| Thoroughly clean fixed pump screen internally | | | | ◆ |
| Clean removable pump screen internally/externally | ◆ | ◆ | ◆ | ◆ |
| Heat exchanger | | | | |
| Check heat exchanger for cleanliness | | | ◆ | ◆ |
| Clean heat exchanger with hot water | | | | ◆ |
| Check heat exchanger watertightness | | | | ◆ |

| | Service step | | | |
|---|--------------------------------------|----------------------|---|---|
| | ① | ② | ③ | ④ |
| <u>Maintenance</u> | Reinigungs- arbeiten Daily | min. 1x quarterly | min. 1x or twice a year but every 1000 h | min. 1x yearly but every 2000 h |
| PLEASE NOTE: Whenever any electrical components are disconnected and reconnected, replaced or repaired, a safety test must be conducted, at least on these components!!! | | | | |

| | | | | |
|---|--|---|---|---|
| Airbox / Airbox-Plus | | | | |
| Check the Airbox / Airbox-Plus for cleanliness and clean if necessary. Clean adjusting plates / drip guards. | | | ◆ | ◆ |
| System | | | | |
| Check the complete system for damage and watertightness | | ◆ | ◆ | ◆ |
| Check circulation pipes for cleanliness and function. Clean pipes and coaxial heat exchanger | | | ◆ | ◆ |
| Determine if a regular heat pump check is necessary. (See heat pump Operating Instructions attached) | | | ◆ | ◆ |
| | | | | |

8. Drying

| | | | | |
|--|--|---|---|---|
| Fan | | | | |
| Check fan for exterior damage | | | ◆ | ◆ |
| Check current consumption (IN see wiring diagram) | | | ◆ | ◆ |
| Check fan for quiet running (bearing damage) (visual and noise check) | | | ◆ | ◆ |
| Check suction side grid for cleanliness | | | ◆ | ◆ |
| Damper register (steam or hot water) | | | | |
| Check damper register for cleanliness | | | ◆ | ◆ |
| Clean damper register with hot water | | | | ◆ |
| Check damper register for watertightness (heating medium) | | | | ◆ |
| Blowing box | | | | |
| Check fan system nozzles for damage. | | ◆ | ◆ | ◆ |
| Function check | | | | |
| The suction side temperature must not exceed $x_1^{\circ}\text{C}$. | | | | ◆ |
| Check internal drying chamber for cleanliness | | | ◆ | ◆ |
| Clean internal drying chamber with hot water (remove greases and oils) | | | | ◆ |
| X1 see later | | | | |

| | Service step | | | |
|---|--------------------------------------|----------------------|---|---|
| | ① | ② | ③ | ④ |
| <u>Maintenance</u> | Reinigungs- arbeiten Daily | min. 1x quarterly | min. 1x or twice a year but every 1000 h | min. 1x yearly but every 2000 h |
| PLEASE NOTE: Whenever any electrical components are disconnected and reconnected, replaced or repaired, a safety test must be conducted, at least on these components!!! | | | | |

9. Heat recovery

| | | | | |
|---|--|--|---|---|
| Exhaust fan | | | | |
| Check fan for exterior damage | | | ◆ | ◆ |
| Check current consumption (IN see wiring diagram) | | | ◆ | ◆ |
| Check fan for bearing noise (damage to bearing) | | | ◆ | ◆ |
| Check protection grid for cleanliness | | | ◆ | ◆ |
| Heat exchanger | | | | |
| Check heat exchanger for cleanliness | | | ◆ | ◆ |
| Clean heat exchanger with hot water | | | | ◆ |
| Check heat exchanger watertightness | | | | ◆ |

10. Machine housing and built-in components

| | | | | |
|--|---|---|---|---|
| Check machine housing, tank, sheet metal body, door, sub-structure cladding, entry and discharge sections for watertightness | | | ◆ | ◆ |
| Check machine housing, tank, sheet metal body, doors, sub-structure cladding, entry and discharge sections as well as flaps for damage and for correct position. Check that all are complete and correctly inserted. | ◆ | ◆ | ◆ | ◆ |
| Check the splash curtains for damage and correct position and if they are complete | | ◆ | ◆ | ◆ |
| Check tank covering screens and screen box for damage and correct position and if they are complete | | ◆ | ◆ | ◆ |
| Check door guide rails | | ◆ | ◆ | ◆ |
| Check door roller springs (exchange all even if only one is defective) | | ◆ | ◆ | ◆ |
| Check electrical door control switch function | | ◆ | ◆ | ◆ |
| Check door control switch for mechanical damage | | ◆ | ◆ | ◆ |

11. Equipment area

| | | | | |
|--|--|--|---|---|
| Checks on operating temperature and water consumption | | | | |
| Measure tank water temperatures (x_2), rinse water temperatures (x_3) and drying temperatures (x_4) and compare with values in the documentation | | | ◆ | ◆ |
| x_2, x_3, x_4 , see later | | | | |
| Heating system | | | | |
| Check the complete system for watertightness | | | | ◆ |
| Clean dirt trap | | | ◆ | ◆ |
| Check function of the valves | | | ◆ | ◆ |

| | Service step | | | |
|---|--------------------------------------|----------------------|---|---|
| | ① | ② | ③ | ④ |
| <u>Maintenance</u> | Reinigungs- arbeiten Daily | min. 1x quarterly | min. 1x or twice a year but every 1000 h | min. 1x yearly but every 2000 h |
| PLEASE NOTE: Whenever any electrical components are disconnected and reconnected, replaced or repaired, a safety test must be conducted, at least on these components!!! | | | | |

| | | | | |
|---|---|---|---|---|
| Clean water system | | | | |
| Check the complete system for watertightness | | | | ◆ |
| Clean dirt trap | | | ◆ | ◆ |
| Check function of the valves | | | ◆ | ◆ |
| Clean level control | ◆ | ◆ | ◆ | ◆ |
| Check level control function | | | ◆ | ◆ |
| Check water supply quality – water hardness (according to the installation plan) | | | ◆ | ◆ |
| Check machine and all components for lime-scale deposits. Descale, if necessary | | | ◆ | ◆ |
| Check water supply quality – conductivity x5 for demineralised water or reverse osmosis water | | | ◆ | ◆ |
| Check water supply quality – temperatures (according to the installation plan) | | ◆ | ◆ | ◆ |
| x5 see later | | | | |
| 12. Waste water equipment | | | | |
| Check if outlet screens are present | ◆ | ◆ | ◆ | ◆ |
| Check outlet screens function (bayonette) | | ◆ | ◆ | ◆ |
| Check drain cocks and standpipes for watertightness | | | ◆ | ◆ |
| 13. Electrical installation | | | | |
| Check power consumption of all heating elements (IN see wiring diagram) | | | | ◆ |
| Tighten all screwed fuses and connections | | | | ◆ |
| Check all switches for correct operation and damage (see electrical wiring diagram) | | | | ◆ |
| Carry out a visual check on all electrical equipment (e.g. switches, cables, housings, covers). | | | | ◆ |
| Check the switch cabinet ventilator entry and discharge filters (if present) | | | ◆ | ◆ |
| 14. Detergent dosing | | | | |
| Check function (if possible, coordinate with chemical supplier) | | | ◆ | ◆ |
| 15. Rinse agent dosage | | | | |
| Check function (if possible, coordinate with chemical supplier) | | | ◆ | ◆ |
| 16. Function test on the complete machine | | | | |
| Check machines for the interaction of all functions | | | ◆ | ◆ |
| Dishwashing test | | | ◆ | ◆ |
| Check cleaning results, drying results | | | | |
| if necessary take a view on the starch levels and discuss with the chef. | | | ◆ | ◆ |

| | Service step | | | |
|---|--------------------------------------|----------------------|---|---|
| | ① | ② | ③ | ④ |
| <u>Maintenance</u> | Reinigungs- arbeiten Daily | min. 1x quarterly | min. 1x or twice a year but every 1000 h | min. 1x yearly but every 2000 h |
| PLEASE NOTE: Whenever any electrical components are disconnected and reconnected, replaced or repaired, a safety test must be conducted, at least on these components!!! | | | | |

| | | | | |
|--|---|---|---|---|
| Air compressors (if present) | | | | |
| Check oil level | | ◆ | ◆ | ◆ |
| Remove condensation water from reservoir tank | | ◆ | ◆ | ◆ |
| Observe the manufacturer's operating instructions in all cases | | | | |
| Booster pump installation (if present) | | | | |
| Check for watertightness | | | ◆ | ◆ |
| Check the admission pressure into the expansion chamber | | | ◆ | ◆ |
| 17. Visual check on the machine environment | | | | |
| Foaming detergents must not be used close to the machine area and not in connection with the machine | ◆ | ◆ | ◆ | ◆ |
| Water treatment installation (if present) | | | | |
| Reverse osmosis installation (visual check); inform customers on the necessity of installation maintenance | | | ◆ | ◆ |
| Demineralisation installation (visual check); inform customers on the necessity of installation maintenance. | | | ◆ | ◆ |
| Observe the manufacturer's operating instructions in all cases | | | | |
| Air gap according to WRC (if present, i.e. for England) | | | | |
| Check the spray pattern for the perlator nozzle (on the water discharge) | | ◆ | ◆ | ◆ |
| Clean / descale the perlator nozzle (on the water discharge) | | | | ◆ |

x1 Maximum suction temperature fan 0 550 056 75°C
Maximum suction temperature fan 0 550 050 75°C

x2 Pump pre-cleaning temperature according to DIN 10510 40°C to 50°C
Detergent circulation tank temperature according to DIN 10510 55°C to 65°C

x3 Clean water rinse temperature according to DIN 10510 80°C to 85°C

x4 Dryin temper according to DIN 10510 not specified (see x1)

x5 Minimum water quality according to the VGG
Total salt content: max 400 ±S/cm for porcelain and opal glass
max. 100 ±S/cm for glass
max. 80 ±S/cm for stainless steel (cutlery)

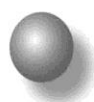
The service steps Servicestufen ① - ④ must be carried out by personnel trained for this purpose.

- ① trained operating personnel
- ② company tradesman after instruction
- ③ trained company tradesmen or installation engineers
- ④ installation engineers trained by MEIKO

You can document the completed maintenance work on the following pages. Meiko recommends that you enter the half-yearly service steps (③), and the annual service steps (④).

[illegible]

Product range overview



Washing machines with stationary wash process

Dishwashing machines, pot and container washing machines, glass washing machines, universal washing machines, salad and vegetable washing machines



Washing machines with transport systems

Dishwashing machines with automatic conveyor transport, dishwashing machines with automatic basket transport



Special washing systems

Fully automatic washing systems for dishware, trays, and cutlery. Flight catering systems for disposing, cleaning, and preparing dishware and equipment for providing onboard meals while in flight; industrial washing machines for specific types of washware; washing machines for trolleys and containers



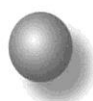
Conveyor systems

Tray and dishware transport conveyors, dishware sorting and stacking equipment, vertical conveyors



Food waste systems

Machines and systems for handling food waste for environmentally friendly disposal



Industrial kitchen equipment

Equipment and furnishings for central and local kitchens; trolleys, tray and dish stackers, tables, cabinets, and shelves made of high-grade steel, diverse organisational items



Cleaning and disinfection equipment for hospitals and homes

Cleaning and disinfection machines for bedpans and other medical washware in the form of floor-mounted, wall-mounted, and built-in equipment; sluice units, installation units for sanitary areas in hospital rooms, complete furnishings for unclean workrooms.



MEIKOLON cleaning and hygiene products

for glass, dishwashing machines and universal dishwashers as well as for cleaning and disinfection machines.



Complies with the hygiene requirements of DIN 10511-H for commercial class washing, DIN 10510 for commercial dishwashing and DIN 10522 for commercial washing of reusable crates and containers.