

Operating Instructions

Glasswashing machine

EcoStar 430 F-MIKE

TRANSLATION OF THE "ORIGINAL OPERATING INSTRUCTIONS"

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



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1 Introduction and general instructions

Dear customer,

We are very pleased about your confidence in our products. Wishing you much pleasure when working with the products of Mssrs.

MEIKO, we are sure that they make your work a great deal easier and are of great service to you.

If you follow these instructions exactly, your dishwashing machine will always work to your entire satisfaction and have a long service life.

The cleaning and disinfection machine has been assembled by us at the factory and has undergone a thorough inspection. Thus making us sure and gives you the guarantee that you always get a perfected product.

Therefore we ask you to study these operating instructions carefully at first. Any further related operating instructions for accessories and incorporated third-party products must be strictly observed!

These operating instructions are designed to familiarise the owner/operator of this plant with its installation, modes of operation, use, safety instructions and servicing.

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 concomitant loss of productive work.

In the event of any damage caused by non-observance of these operating instructions, any guarantee claims are invalid. We accept no liability for any additional damage caused as a result.

MEIKO operates a policy of continuous development on all its appliances.

Please understand that we reserve the right to change the type, equipment and technical execution of the delivery at any time.

Information, illustrations and descriptions contained in this booklet may be superceded.

Should any further information be required or special problems arise which are not described in detail, please contact the responsible MEIKO organisation.

Further, we draw your attention to the fact that the content of these instructions makes not part of a former or existing agreement, promise or legal relationship and does not modify such a point.

All obligations of MEIKO result out of the resp. sales contract, which also contains the complete and only valid warranty regulation.

The contractual warranty regulations are neither extended nor limited through these instructions.

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

Mssrs. MEIKO wish you much pleasure and success!

1.1 Safe keeping

Always store the operating instructions close to the installation!
The operating instructions must always be kept ready to hand!

1.2 Name and address of manufacturer

In case of further questions, technical problems, etc. contact directly:

MEIKO Maschinenbau GmbH & Co. KG

Englerstr. 3
D - 77652 OFFENBURG
Phone + 49 / 781 / 203-0
Fax: +49 / 781 / 203 - 1121)
<http://www.meiko.de>
info@meiko.de

or:

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

(Enter company's stamp or address)

1.3 Designation of machine type

In case of questions and/or spare parts orders, please always indicate:

Type: _____

SN: _____



This information can be found on the plate.

2 Explanation of the safety symbols used

The following safety symbols will appear throughout these operating instructions. These symbols should draw the attention of the reader to the text next to the safety hints.



This symbol means: danger for life and health of persons.



This symbol means: danger for installation, material or environment.



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



Warning: dangerous electrical tension!



Warning: injuries to hand possible!



No splashing water: prohibits the use of a high pressure hose.



Danger of explosion: indicates a potential explosion hazard.



Non-potable water: The water is not for drinking. Health can be endangered by drinking.



Danger of burning: indicates possible hazard due to hot surfaces or media.

3 Determined use



This Glasswashing machine is intended for washing dishes, cutlery and glasses.



The Dish- and Glasswashing machine must be used only in accordance with regulations. Other uses are prohibited. The items to be cleaned must be suitable for washing in Multi washer.

The EcoStar 430 F-M machine is a technically-based piece of equipment (and is not a consumer product within the meaning of the provisions of the Equipment and Product Safety Act). It is intended solely for use in commercial (i.e. non-domestic) situations

4 EC declaration of conformity

EG- Konformitätserklärung

CE 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
 D-77652 Offenburg
 e-mail: info@meiko.de

Auftrag Nr.

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

Spülmaschine Typ	FV 28 G	FV 130 B	DV 80 T	DV 120.2	EcoStar 430 F	OR 50 H
Dishwasher model	FV 28 GiO	FV 250 B	DV 80.2	DV 200.2	EcoStar 430 F-M	GK 60
Lave-vaisselle modèle	FV 40.2	FV 130.2	DV 125.2	DV 200.2 PW	EcoStar 545 D-M	
Lavastoviglie modello	FV 40.2 G	FV 250.2		DV 270 B	EcoStar 545 D-M	
Lavavajillas modelo	FV 60.2			DV 270.2		
Modelo de lavavajillas	FV 70.2					
Vaatwasmachine model						

Konformitätserklärung

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

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

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

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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

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5 General safety rules

5.1 Operator's duty of care



The dishwashing machine was designed and constructed under consideration of a danger analysis and a careful selection of the harmonized standards to be observed as well as of further technical specifications. The system corresponds to the latest state of technique and guarantees maximum safety.

The safety can only be guaranteed during operation if all 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 especially make sure that...



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

In case of other use or operation, damages or danger may arise for which we decline any responsibility (cf. chapter „Determined use“).



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

The user loses all evtl. claims if the system was altered with others than original spare parts.



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



... staff is regularly trained in all questions relating to occupational safety and environmental protection and, in particular, that staff is familiar with the Operating Instructions as well as with the safety instructions they provide.



... 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.



... machines accessible only from behind may be operated only with rear panel cladding.



... the required necessary protective equipment for maintenance and repair personnel is available and worn.



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



... the operating instructions are always in a legible state and completely available directly at the system.



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



Once the washing 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 cleaning 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.



... equipment for optimising energy consumption must not be used to reduce essential operating temperatures, as set out in DIN 10511, 10512 and 10522. If you, the client, install equipment for optimising energy consumption, any possible reduction in the quality of the wash and hygiene is your responsibility. 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



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
- instructions



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 personnel“ is defined as follows:

- 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,
- - Persons who read the operating instructions (resp. the part concerning the work to be executed)



The machine operates with hot water. The machine operates with hot water (Temperature of wash water = 58-60 °C, by Cleaning and disinfection machine must be 74 °C). Do not touch the wash water. Danger of scald! The washed items as well as the components in contact with the wash water have the same temperature. Please observe appropriate protective measures.

Observe all the instructions posted on the machine.



Warning !

During the operation of electrical appliances, certain parts of the appliance are under hazardous voltages.

Before the machine's cover plates or an electrical device are opened it is imperative the entire machine is switched off completely via the on-site power disconnection device and that it is secured against reactivation by using appropriate measures.

Only specialist personnel may carry out repairs and rectification work on the electrical part of the machine. Respect the safety rules.

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



The machine may **not** be sprayed with a water hose or high-pressure cleaner.



The machine must only be operated under the supervision of instructed staff.



The water in the wash-up area is non-potable and can't be used for food preparation!



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



Do not place any solvents or other easily flammable substances in the wash-up area, as this increases explosion hazard



The appliance must not be used to transfer waste water from other sources into the drain.



Steel scrub pads are not to be used for the pre-scouring nor for cleaning the items to be washed.

Do not wash any metal items in the machine which are not made of stainless steel.

The in-coming of metal parts (especially iron, tinfoil, copper) must absolutely be avoided.

The appliance must not be used to transfer waste water from other sources into the drain (Warning: risk of corrosion and blockage).

Only use suitable products for cleaning the stainless steel surfaces, which do not attack the material, form any deposits, nor cause any discolorations. They must not attack the metal, form any deposits and cause discoloration.



Door and flaps **MUST** be closed.

Do not place anything on the open door of the appliance, resp. no heavy loads, as the machine could tip over!

Open the door very carefully during the programme cycle, as otherwise wash water could splash out.



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



Only detergents and rinse-aids suitable for the use in industrial dishwashers may be used. Please ask your chemical supplier for further information

Detergents and rinse agents can be injurious to health.

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



At the end of operation the machine is to be switched off completely with the on-site power disconnection device.

The accompanying Operating Instructions must be observed for accessory devices, e.g. water treatment installations.



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

5.2.1 Working on the electric fittings



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

Electric fittings must be regularly checked! Fix loose connections! Damaged lines/cables must be immediately exchanged!

6 Delivery, transport, installation and assembly

6.1 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.

Examine the appliance for possible transit damage.



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.



Damaged appliances must not be commissioned.

6.2 Transport, installation and assembly

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



- - Transport works must only be executed by qualified personnel under observance of the safety rules.
- Observe transport instructions on the packing.
- The appliance must be moved with great care.
- Unpack the machine.

For safe transport the appliance parts are laying on a special squared timber frame.

Incoming goods should only arrive on these wooden frames. 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 a pallet truck.

The enclosed technical sheet indicates the connection and consumption ratings of the appliance.



Small quantities of steam may escape from the door of the appliance. Furniture and equipment situated near the door must be protected.



An engineer from your local MEIKO Service Centre can install the appliance at the correct point and connect the tables - upon request. An engineer from your local MEIKO Service Centre can install the appliance at the correct point and connect the tables - upon request.

The following must be observed during the installation of the dishwashing machine:

- The complete unit must be levelled in both directions using a water level.
- Compensate for an uneven floor by adjusting the feet.
- Table joints must be sealed with detergent-resistant sealing compound (e.g. silicone).

6.3 Operating conditions

It is taken for granted that the planning of the system, as well as installation, setting in operation and maintenance works are executed by sufficiently instructed staff and that these works are checked by responsible specialists. The indications on the name plate of the machine must correspond to the technical sheet and the local connection conditions.

Conditions to be provided by the customer:

- Frost free storage and installation area
- Electrical connection in accordance with the technical sheet
- Fresh water connection in accordance with the technical sheet
- Waste water connection in accordance with the technical sheet
- Anti-slip floor coverings should be provided around the washing appliance.

6.3.1 Requirements for the installation area

- Ensure that the storage and installation area is permanently frost free.

The machine is only frost-resistant in the state it is delivered or when provided with special features (option: frost drainage).

If the appliance is installed in an area where the surrounding temperatures are below freezing point, the water freezing inside can damage the internal water components such as pump, solenoid valve, boiler, etc.



6.4 Requirements for the electrical connection

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

The customer must guarantee the following points relating to the connection:

- The correct voltage and type of current must be available
- Safeguard the power supply cable according to regulations and provide it with a power disconnection device in the fixed electrical installation.
- The machine must be connected to the potential compensation system!
- If an unearthed neutral (N) is used with alternating current, the power disconnection device must have 4-poles (with alternating current 2-poles).
- For connection to three-phase current a 5-pole terminal strip (L1, L2, L3, N, PE) must be used.
- Electricity supply without neutral conductor (N): when connecting to three-phase current, use a 4-pole clamping strip (L1, L2, L3, PE).
- Conductor colors: live conductor L1 = black/1, L2 = brown/2, L3 = gris/3, neutral conductor N = blue/4, protective earthing conductor PE = green-yellow.

Current applicable standards and requirements of local utility companies are to be adhered to with regard to protective measures and connection of the potential compensation system.

The products are intended for permanent connection to the on-site power supply and have been tested for the market accordingly. Any other form of electrical connection is to be established by a licensed electrician.

Do not protect by fuses any additional consumers together with the dishwashing machine.

- Re-tighten all terminal fixing screws before the setting in operation.

The wiring diagram is behind the front panel, resp. front cladding of the appliance. The enclosed wiring diagram must remain in the appliance.



6.5 Requirements for the fresh water connection

Each appliance carries the DVGW test symbol and does not require an extra safety valve in the water feed.

- Fresh water connection must be made according to EN 1717 or according to local regulations.



The minimum flow pressure of the clean water supply upstream of the solenoid valve must be 2.5 bar.

The maximum pressure must not exceed 5 bar

- If the flow pressure is below the minimum, increase the flow pressure with a booster pump; if the maximum pressure is exceeded, limit it with a pressure reducer. Corresponding instructions are contained in the installation drawing. Therefore suitable measures must be taken.
- Suitable protective measures must be taken to ensure that no iron particles can enter the appliance via the mains water supply. Similarly, precautions must be taken to prevent the entry of other metal particles, for example copper turnings.

6.6 Requirements for the waste water connection

- Build an odour trap into the waste water connection if this is not already built-in (further information about this is in the Installation drawing / Technical Sheet).
- The drain hose must be connected to the waste water pipe in the building.
- A grease trap may be needed, depending on the machine application.

6.7 Emergency-off

- Switch the machine off completely via the on-site power disconnection device.

6.8 Chemicals for the operation of the appliance



Only alkali detergents and acid rinse agents suitable for use in commercial dishwashers may be used. This information to give the sellers of these products.

MEIKO recommends brand cleaning products from leading manufacturers.

- cleaning and hygiene products  are an excellent choice.

If unsuitable products are used, the life expectancy of the dosing units can be reduced considerably.

Observe the dosing instructions of the manufacturer.

Detergents and rinse-aids can present a health hazard if they are not correctly used. Please observe the manufacturers' instructions on the original packing and on the safety data sheets.

"Items for rinsing are tribologically influenced in particular by chemicals and increased temperatures during the process, as well as mechanical stresses caused by handling and transporting."

If a de-scaling agent is used, please strictly observe the manufacturer's instructions reg. handling and safety. After having used such an agent, the product must be completely removed from the machine, as even small residues are sufficient to destroy plastic parts and packing materials.

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.

6.9 Instructions for disposal of packing material

- The four-sided wooden frame consists of untreated, raw wood. 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 used as edge protection can also be recycled.
- The hoop-casing strip made of steel can be recycled together with the steel scrap.
- The plastic tensioning strap of plastic (PP) can be recycled.

7 Settings for initial commissioning by the service engineer

7.1 Setting in operation

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 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.
- - Read the chapter „General safety rules“.
- Instructions will be given by the service engineers installing the system, setting in operation will also be executed by them. The system can only be used by the operator after having been carefully instructed.



8 Washing with dish-washer

The appliance must not be used without a thorough knowledge of the "Operating Instructions". Incorrect operation could result in injuries to personnel or damage to the appliance.



8.1 Operating panel

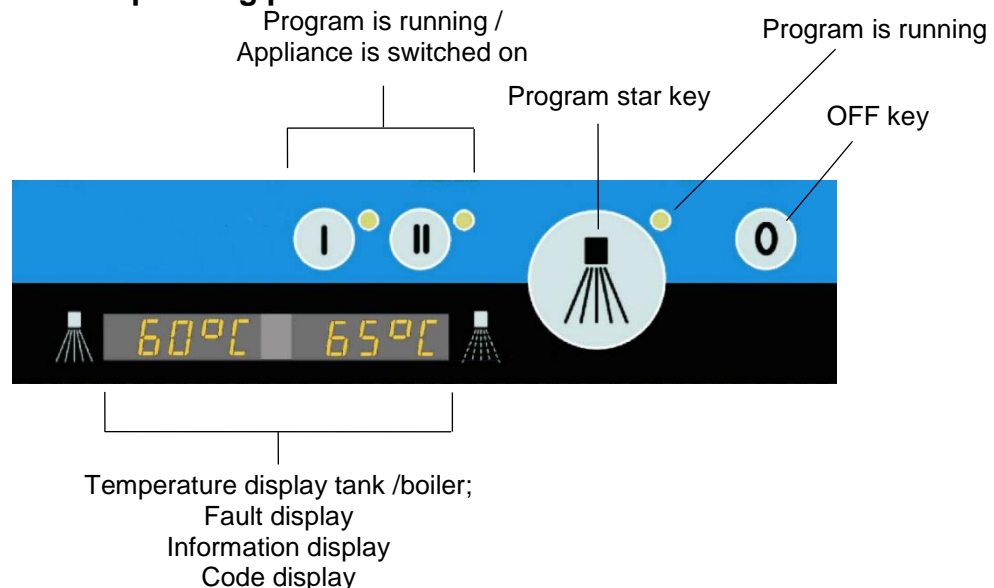


Illustration 1; Operating panel







Key / display	Meaning
	Short program – Wash programme I
	Normal program – Wash program II
	Wash temperature
	Final rinse temperature
	Program start Tank drain Self-cleaning cycle
	Switch off appliance / Cycle interruption

Table 1; Program key function / items to be washed

8.2 Preparation for washing and rinsing

The preparatory work described below must be carried out before each operation.



- Open the door.
- Place the screen and stand pipe in position.
- Close the door.



Caution! Danger of crushing.

Close the door with both hands.

- Switch on the appliance by pressing one of the program pre-selection keys.

During the filling and heating phase, the light above the pre-selection key will flash. When the light remains constantly lit, the machine is ready for operation.

The time until the operation readiness is reached depends on the temperature of the supplied water and the installed boiler, resp. tank heating capacity.

In the case of cold water supply, the time taken is: about 20 minutes.



8.3 Automatic dosing

The required detergent and rinse aid is moved from the containers into the tank or boiler via electronically controlled dosing units.

If unsuitable products are used, the life of the dosing equipment will be significantly shortened.

We therefore recommend that detergents should have a pH value greater than 7 and that rinse agents should have a pH value between 7 and 2.



CAUTION!

8.4 Operation during washing and rinsing cycle



The following fundamental principles must be observed when placing the items to be washed in the baskets:

- All hollow containers must always to be **loaded upside down**. Otherwise the water will be trapped inside and they will not dry to a brilliant finish.
- Plates should always stand at a slight angle **in the basket**. The inside faces pointing upwards.
- When using cutlery baskets, ensure that cutlery is always inserted handle down.
- Load the cutlery baskets with a **mixture** of spoons, knives and forks, as identical items of cutlery can be too close together.
- Do **not overload** the baskets.
- **Do not stack** the dishes in the wash basket directly on top of each other. As the wash water could not strike the items directly and unnecessarily long wash times would have to be selected. Short wash times with baskets which are not overloaded are much more economical.

8.4.1 Start the wash cycle

Program start key



- Place the items in the basket.
- Place the basket in the appliance.
- Close the door.
- Press the program start key.

The appliance cleanses and rinses automatically and switches off the wash program after completion. The program cycle is indicated by a light on the program start key.



The wash time can differ from the set program time if the boiler heating capacity is not sufficient for heating up the fresh water to the pre-set boiler temperature during the program time. In this case, the automatic wash time extension is activated.

8.4.2 Remove the cleaned items

- When the light goes out, open the door and remove the basket..

9 Shutting down the dishwasher

"Off" key



- Press the "0"key (OFF key). The machine is switched off when all the lights are out
- Remove the stand-pipe.

Program start key



- Press the program start key to drain the tank.
- The tank interior is sprayed with clean hot water after the tank water has been drained. The door must remain closed. The waste water pump switches off automatically.

10 Maintenance and care

10.1 Care, general

The appliance has been designed to minimise the need for cleaning, care and maintenance.



However, for a reliable, safe and permanent function of the appliance and in the interest of hygiene and cleanliness a correct care and maintenance is necessary.

To facilitate this procedure, a maintenance contract can be concluded with the manufacturer or the manufacturer's agent.



Works/repairs which were not correctly executed and the use of unauthorised parts by unqualified personnel endanger both operators and the appliance, and will invalidate the warranty.

10.2 Refilling of detergent

There are two different types of detergent containers:

Incorporated container

The storage container is translucent white in colour and is located in the lower part of the stationary dishwashing machine. The lid can be opened after the container has been removed from its position.

- Re-fill the container marked "detergent" if necessary.

External container

The container is located next to the appliance.

- Check the filling level of the container and if necessary, replace it by a full one.

Only non-foaming alkali detergents (pH > 7) suitable for commercial dishwashers and glass washers may be used.

Detergent dosing units must be checked to see if they are functioning properly if there is reason to believe that they are malfunctioning. Carry out a visual inspection!



10.3 Refilling with rinse aid

There are two different types of rinse aid containers:

Incorporated container

The storage container is translucent blue in colour and is located in the lower part of the stationary dishwashing machine. The lid can be opened after the container has been removed from its position.

- Re-fill the container marked "rinse-aid" if necessary.

External container

The container is located next to the appliance.

- Check the level and, if necessary, replace the container by a full one.

Only non-foaming acid rinse aid (pH < 7) suitable for commercial dish/ and glasswashers may be used.

Rinse aid dosing units must be checked to see if they are functioning properly if there is reason to believe that they are malfunctioning. Carry out a visual inspection!



10.4 Cleaning

After the tank has been drained, proceed as follows:

- 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.
- Food residues sticking to the tank, tank heating element and sieves must be removed with a brush.
- Dismantle the wash arms and rinse them under running water.
- Wash nozzles must be cleaned daily.
- The cleanliness of final rinse nozzles must be checked weekly and if necessary clean under running water.



The inserts for the final rinse nozzles must be inserted with the prongs facing the water flow.

10.4.1 Safety rules for cleaning



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



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

10.5 Maintenance of stainless steel surfaces



The appliance is made of high-quality stainless steel. Nevertheless, under special circumstances, corrosion may occur.

To maintain stainless steel surfaces permanently free from corrosion use

- only cleaning products which are properly.



Use only products which do not attack the material, build up a film or cause discoloration.

11 Basic information on the appliance



Each dishwashing machine is manufactured acc. to the latest state of the art technology. Operation is safe.



Dangers could arise from this model, if it is not correctly operated by unsuitable operating staff or if it is not used acc. to its purpose.

Liability

We accept no responsibility for damage of the appliance and other objects caused by operating faults, resp. non-observance of the operating instructions. Any modifications to the appliance - especially technical modifications inside - undertaken by unauthorised persons without the written permission of the manufacturer will invalidate the warranty.

11.1 General description of the washing machine

11.1.1 Execution

Stationary square basket, 400x400 mm

11.1.2 Wash principle

The appliance has one wash and one final rinse cycle.

A centrifugal pump circulates the water out of the cleaning tank into the clean nozzles. The water jets reach the items to be cleaned out of differing directions. Therefore an even cleaning result can be guaranteed.

The cleaning cycle is followed by the fresh water final rinse. The items are rinsed via a separate nozzle system with hot fresh water at approx. 65° C for glass and at approx. 83° C for dishes and cutlery. Thus heating up the items for the following drying process. At the same time the final rinse water serves for the regeneration of the wash water, the level of soil of the wash water thus being reduced.

11.1.3 Detergent dosage

The detergent dosing unit is designed for the automatic addition of liquid alkaline detergent to the clean water. The detergent is transported out of the container into the clean tank by means of a hose line. The dosing unit is self-priming. The dosing is effected during each filling cycle and at the beginning of each programme cycle using timer control.



Normally, a dosing of approx. 2 ml of detergent per liter of tank water is the correct concentration. This can be increased/reduced acc. to the water quality, items to be washed and degree of soiling to 5 ml/l or to 1 ml/l.

Please observe dosing's instructions of manufacture's detergent!

11.1.4 Dosing of rinse aid

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

The rinse aid is transported out of the container into the fresh water supply line by means of a hose line. The dosing unit is self-priming. The dosing takes place during each filling cycle using timer control.



The correct dosing results in a smooth, even water film.

In case of overdosing, there are bubble and stripe formations - reduce dosing.

In case of under-dosing, water drops remain on the washed items - increase dosing.

11.2 Noise emission

Work place noise level LpA £ 70 dB

11.3 Data reg. the electrical and hydraulic equipment

See attached technical sheet

11.4 Dimensions, technical data, installation instructions

See enclosed documentation papers.

12 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).

13 Tips for self-help in the case of faults

Faults:	Possible cause
Machine does not fill.	<ul style="list-style-type: none"> • No water present • Fine filter blocked • Level switch defective • Solenoid valve faulty • Door safeguard defective
Rinse water does not spray!	<ul style="list-style-type: none"> • No water present • Fine filter blocked • Solenoid valve faulty
Stripes and smears on the dishes!	<ul style="list-style-type: none"> • Rinse water mineral content too high • Unsuitable rinse aid products or wrong dosage quantity
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 is carried out with foaming cleansing agents which afterwards enter the machine. • Improve pre-wash, as too much food residue is entering the tank. Alternatively, empty wash tanks between uses. • Rinse water quantity too low • Detergent or rinse aid product not suitable • Temperatures too low < 40°C

14 The responsibilities of the personnel must be clearly determined, reg. operation, maintenance and repair.

Only trained and instructed personnel are allowed to work on the dishwashing machine. The responsibilities of the personnel must be clearly determined, reg. operation, maintenance and repair.

Any personnel undergoing training are only allowed to work on the dishwashing machine installation under the supervision of an experienced person.

Persons Work	Trained operating personnel	Trained trained persons	Trained in-house technician or installation engineer
Installation and assembly			◆
Setting in operation			◆
Operation, use	◆	◆	◆
Cleaning	◆	◆	◆
Check safety fittings	◆	◆	◆
Trouble shooting		◆	◆
Troubleshooting, mechanical		◆	◆
Troubleshooting, electrical			◆
Maintenance			◆
Repair works		◆	◆

The instructions should be acknowledged in writing.

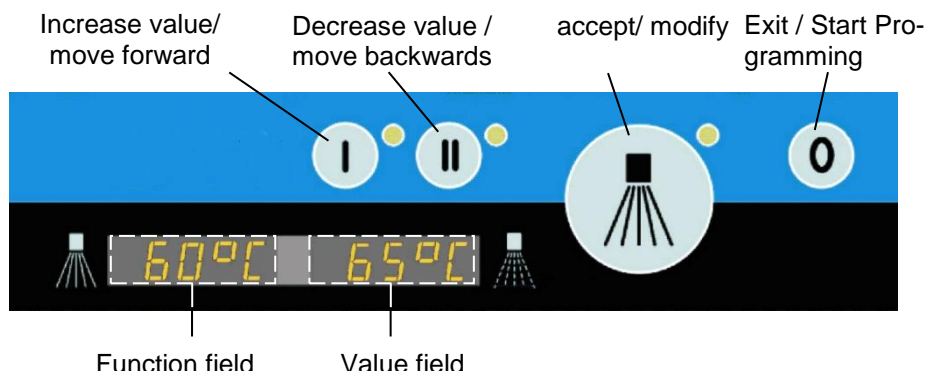
15 Authorized user of this documentation

The works described in this booklet (chapter 16 - 19) may only be carried out by specialists of the manufacturer, the responsible agency or an authorized dealer.



16 Settings / modifications / on-site adaptation

16.1 Using the keyboard for programming



Access codes for various user-levels have been defined. Once the complete code has been entered, the entered code is compared with the internal code table. Depending on the code entered, the corresponding user level will be accessed.

2 access codes are available for each user level; the first is for restricted access, i.e. no modification of parameters is possible (viewing mode), and the second gives access to the entire range of functions (viewing and modification).

In the short programming instructions accompanying every machine in the series, this is described in condensed form.

For control programming, the power supply must be available but the machine must be completely switched off (no LED must be illuminated).

Code entry:

View service data:	CODE 10000
Modify service data:	CODE 10001
View configuration data:	CODE 20000

The code numbers for the further levels can be found in the Service Manual.

16.2 Code entry

To get into the code entry mode, you should keep the key "0" pressed (for around 3 seconds) until you see



on the display unit..

By pressing the key "0" once again you can leave the programming area at any time.

The digit to be modified will flash.

Press the "I" key to increase the value/code indicated on the display unit, or press the "II" key to decrease it, or press the "accept" key to save it. The next value will then flash and will be the only one visible.



If your entry is incorrect you will exit the code entry procedure, and the information code 122 will be displayed.



If you enter all the digits correctly you will arrive at the chosen level, either service, configuration or machine data.

16.3 Service level

The list of service parameters can be found on this level (parameter numbers 1xx). Here you can view these or modify them, or you can also call up the ventilation of the rinse and wash hoses.

On the service level, you will first see the display below:



This corresponds to the viewing/modifying parameters (see 16.3.1)



This corresponds to rinse aid inlet ventilation (see 16.3.2)



This corresponds to detergent inlet ventilation (see 16.3.3)

Press the "I" key to move forwards or the "II" key to move backwards or the "accept" key to make a selection. You are now at the current level.

You can leave this level by pressing the "0" key.

16.3.1 View/modify parameters

Indication



this display by pressing the "accept" key.

Now, the first parameter will be displayed with a value.



Press the "I" key to go forwards and the "II" key to go backwards, until the parameter you require is displayed.

Confirm the parameter to be modified by pressing the "accept" key, the value will flash. Increase the value using the "I" key or reduce it using the "II" key and confirm with the "Accept" key.

You can leave this level by pressing the "0" key.

See 16.4 for list of parameters

16.3.2 Ventilating the rinse aid inlet



this display by pressing the “accept” key.

Now the dosage pump will be activated and the remaining running time will be indicated.



You can leave this level by pressing the “0” key. The ventilation will be interrupted off.

16.3.3 Ventilating the detergent inlet



this display by pressing the “accept” key.

Now the dosage pump will be activated and the remaining running time will be indicated.



You can leave this level by pressing the “0” key. The ventilation will be interrupted off.

Should the ventilation process be insufficient, repeat the process.

16.3.4 Configuration level

You can find the list of configuration parameters on this level (parameter numbers 2xx). Here you can view these and modify them. You can also call up the status of the inputs and outputs, or set the outputs for testing.

In der Konfigurationsebene wird zuerst



this corresponds to the viewing/modifying parameters. (see 16.3.5)



This corresponds to viewing the status of inputs. (see 16.3.6)



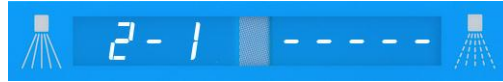
This corresponds to viewing and setting the status of outputs. (see 16.3.7)

Press the “I” key to move forwards or the “II” key to move backwards or the “accept” key to make a selection. You are now at the current level.

You can leave this level by pressing the “0” key.

16.3.5 Viewing / modifying parameters: (depending on the code entered)

Indication



this display by pressing the "accept" key.

Now, the first parameter will be displayed with a value.



Press the "I" key to move forwards or press the "II" key to move backwards, until the parameter you require is displayed.

Confirm the parameter to be modified by pressing the "accept" key, the value will flash. Increase the value using the "I" key or reduce it using the "II" key and confirm with the "Accept" key.

You can leave this level by pressing the "0" key.

See 16.4 for list of parameters

16.3.6 Viewing input status:

Indication



this display by pressing the "accept" key.

Now, the first digital input will be shown, with status.



Use the "I" to go forward and the "II" to go backward until the desired input is displayed

Display: input set



Display: input not set



You can leave this level by pressing the "0" key.



The direct value (here the boiler temperature) is displayed for the analog inputs. Use the "I" to go forward and the "II" to go backward until the desired input is displayed

Assignment details for the inputs are given on the assignment list for each machine. (see 16.5)

16.3.7 Viewing / modifying output status (according to code entered)

Indication



this display by pressing the “accept” key.

Viewing:

Now, the first output will be shown, with status.



Press the “I” key to move forwards and the “II” key to move backwards, until you reach the output you require.

Modifying:

Press the “accept” key to confirm the modification of the output, the value will flash.

Press the “I” key to modify the value and press the “accept” key to save it.

The output is now set.



You can leave this level by pressing the “0” key.

Assignment details for the outputs are given on the assignment list for each machine.
(see 16.5)

16.4 Parameter list

Par. No.	Configuration options	Use as	value range	Unit	Factory setting	Note
101	Wash program Key 1	Parameter	1 ... 50	-	3	Allocate the wash program to the key I Assignment adjustable
102	Wash program Key 2	Parameter	1 ... 50	-	11	Allocate the wash program to the key II Assignment adjustable
103	Wash program Key 3	Parameter	1 ... 50	-	13	Assign rinse programme -no. of the key I+II pressed together; Assignment adjustable
104	Rinse agent Dosing quantity	Parameter	0.10 ... 1.00	ml/Liter water	0.2	Value can be read from the rinse aid container label (dependant on water quality)
105	Detergent Dosing quantity	Parameter	0.1... 20.0	ml/Liter water	2.0	Value can be read from the detergent container label (dependant on water quality)
107	Beep ON/OFF	Parameters	0/1	-	1	Switch on/off acoustic ready message
111	Total Operation time Indication	Indication	5 figures	h		Operation time query only
112	Total number of wash cycles Total number of wash cycles	Indication	5 figures	-		Wash cycles/loads, query only
113	Total number of wash cycles since last reset	Indication	5 figures	-		Wash cycles/loads, re-setting possible
114	Serial number	Indication	8 figures	-		Option for calling the serial number
119	Beep ON/OFF	Parameter	0/1	-	1	It is possible to shut off communication via IR interfaces. (0)
120	Total number of wash cycles Indication	Parameter	0/1	-	0	Effective only upon power supply reset ON/OFF Attention! All changes to service parameters will be reversed. Power supply reset must be carried out within 5 minutes, otherwise factory settings will not be loaded. Without power supply reset, the information 123 will be displayed.
201	Machine type	Parameter	101 ... 104	-	101	101: EcoStar E/A1 (with FA, EW) 102: EcoStar E/A2 (minimal) 103: EcoStar E/A1 (with new dosing technology / ADT) 104: EcoStar with TL or A0 Caution! Only assignment list and machine sequences change – no parameter

Par. No.	Configuration options	Use as	value range	Unit	Factory setting	Note
202	Must be-tank temperature	Parameter	10 ... 82	°C	60	Standard for all the rinse programs on one appliance! Output dependent on definition.
203	Pre-rinse time	Parameter	0 ... 8	sec.	0	See pre-rinse process step
204	Post-rinse time	Parameter	4.0 ... 25.0	sec.	10.0	Duration of final rinse time, running time limited by P306!!
205	Operation indicator	Parameter	0 ... 10	-	1	Definition of the information which is to be switched via the potential-free contact 0 – no information 1 – Filling/Heating, ready for washing/washing or draining 2 – Filling/Heating, ready for washing/washing 3 - Filling / Heating 4 - ready for washing 5 - Washing 6 - Draining 7 - Error 8 – Not status machine OFF and draining 9 - EW active 10 - not status Machine OFF
218	Shortage of rinse aid	Parameter	0/1	-	0	Monitoring Indication
219	Shortage of detergent	Parameter	0/1	-	0	Monitoring Indication
224	Power supply mode rinse aid dosing pump	Parameter	0 ... 3	-	1	Definition: Energizing rinse aid pump: 0 – no signal 1 – energizing according to calculated running time 2 - energize as final rinse 3 - energize as wash pump
225	Power supply mode detergent dosing pump	Parameter	0 ... 4	-	1	Definition: Energizing detergent pump: 0 – no signal 1 – energizing according to calculated running time 2 - energizing as final rinse 3 - energize as wash pump 4 – Option – detergent pump using negative pressure dosing ADT
240	Detergent pump activation mode	Parameter	0/1	-	0	Effective only upon power supply reset ON/OFF Attention! All changes to service parameters will be reversed. Power supply reset must be carried out within 5 minutes, otherwise factory settings will not be loaded. Without power supply reset, the information 123 will be displayed.

Par. No.	Configuration options	Use as	value range	Unit	Factory setting	Note
241	Air gap (FA) incorporated?	Parameter	0/1	-	0	0: FA not available, final rinse over Y1 Measure conductance VE (optional)
242	Drain pump (LP) incorporated?	Parameter	0/1	-	1	0: LP not incorporated 1: LP incorporated
321	Rinse agent pump output	Parameter	0.1 ... 10	l/h	1.3	Rinse agent pump. Output definition.
322	Detergent pump output	Parameter	0.1 ... 20	l/h	8.5	Detergent pump Output definition.
326	pipe vent time Rinse agent	Parameter	0 ... 255	sec.	180	Activate rinse agent pump temporarily to remove air from pipe.
327	pipe vent time Detergent	Parameter	0 ... 100	sec.	30	Activate detergent pump temporarily to remove air from pipe.
346	Indication LED 2 or LED 1	Parameter	0/1	-	1	0: LED2 with LEDs 1: LED1 with temperature display

16.5 Assignment list

View inputs / control outputs

Indication			Input / output / other	Conditions
Left	Right			
dIn 1	0/1	Door closed		none
dIn 2	0/1	Boiler level		none
dIn 3	0/1	Tank level		none
dIn 9	0/1	Level rinse aid (option)		none
dIn 10	0/1	Level detergents (option)		none
Aln 1	83°C	Boiler temperature		none
Aln 2	60°C	Tank temperature		none
out 1.1	0/1	Wash pump		No leak water
out 1.2	0/1	Booster Pump		No leak water
out 1.3	0/1	Drain pump		No leak water
out 2.1	0/1	Rinse aid – dosage pump		No leak water
out 2.2	0/1	Detergent – dosage pump		No leak water
out 2.3	0/1	Tank heating		No leak water
out 3.1	0/1	Filling valve		No leak water
out 3.2	0/1	Soft starter valve		No leak water
out 3.3	0/1	Boiler heating		No leak water
out 3.4	0/1	Operation indicator		No leak water

Leak water switch condition: Leak water switch must not have operated.

16.6 Rinse program parameter update: 01.06.2012

Program no.:	Boiler temperature target value	Wash time target value	
		Washing	total
1	65	44	60
2	65	74	90
3	65	104	120
4	83	164	180
5	83	194	210
6	83	224	240
7	83	344	360
8	83	44	60
9	83	74	90
10	83	104	120
11	65	164	180
12	65	194	210
13	65	224	240
14	65	344	360
15	85	44	60
16	85	74	90
17	85	104	120
18	85	164	180
19	85	194	210
20	85	224	240
21	85	344	360
22	80	74	90



The dosage times will be adapted to the rinse time, so that the correct concentration remains if the rinse time is modified.

17 Operating errors

Despite being expertly designed, the machine may develop minor faults which are usually easy to eliminate. This section explains a number of possible problems and how you can deal with them yourself.



Before carrying out work on the open appliance, it **MUST** be disconnected from the power supply. Switch the machine off completely via the on-site power disconnection device.

Should any of the operational faults described arise repeatedly, their cause must be established in each case.



Faults not described here can in general only be eliminated by a technician or electrician. Please contact the agency responsible or the authorised dealer.

17.1 Information reporting and troubleshooting



Figure 2: Information display

Information displays can be cleared by pressing the confirmation key.

Provided that the machine function is restored, the next program sequence will begin.

The information display can also be deleted by pressing the "Off" key.

Information indicator (extract)

Info No.	Description	Possible cause
120	Emergency program active Restricted washing possible.	No boiler / tank heating No fresh water supply Check system
121	Door not closed	Check connection S1 Change microswitch Check microswitch adjustment Replacing a defective I/O circuit board
122	Incorrect password / no authorization	Enter code once again
123	Factory setting parameter list	Switch power supply ON/OFF within 5 and set parameters back to factory settings. This will be rejected and parameters will be re- Information 123 will disappear
420	Shortage of rinse aid	If the machine is ready for operation, a shortage of rinse agent will be signalled (only if there is a built-in warning sys- tem).
520	Shortage of detergent	If the machine is ready for operation, a shortage of detergent will be signalled (only if there is a built-in warning sys- tem).

Table 2: Information displays

17.2 Error messages and troubleshooting



Figure 3: Error messages

Error messages will disappear automatically when the fault has been rectified.

Error messages (extract)

ERR.-No.	Description	Possible cause
001	EEPROM plug-in fault.	EEPROM not available / incorrectly defective Empty or incorrect EEPROM Replace EEPROM with correct parameter set
205	Boiler temperature not reached after max. Heat time (P.310)	Boiler heating defective / thermal fuse radiator Temperature sensor defective, incorrect installation position Boiler contactor defective, performance switch loosened No signal from ON/OFF circuit boards
210	Temperature sensor short circuit boiler	Check sensor cable (plug contacts) Replace sensor Install sensor correctly
211	Temperature sensor interruption boiler	Check sensor cable (plug contacts) Replace sensor Install sensor correctly
212	Actual boiler temperature too high(>95°C)	Contactor sticking Incorrect sensor / defective sensor Check sensor / cable
301	Number of final rinse cycles for tank filling exceeded Tank level analysis disrupted	Feeding water pressure too low Sieve in feeding valve is dirty Rinse jets soiled Air trap soiled Condensate in level pipe Hose kinked / loose / not watertight
302	During the self-cleaning programme the tank level (S3) does not fall on time. (Only with built-in drain pump.)	Fresh water supply insufficient (water faucet closed) Drain pump soiled / defective Rotor loose Drain pump plug connector loose Start capacitor defective Tank level analysis disrupted No signal from ON/OFF circuit boards
304	Tank temperature not reached after max. heat time (P.314)	Tank heating defective / thermal fuse Radiator Temperature sensor defective, incorrect installation position Tank protection defective, performance switch loose

ERR.-No.	Description	Possible cause
310	Temperature sensor short circuit tank	Check sensor cable (plug contacts) Replace sensor Install sensor correctly
311	Temperature sensor interruption tank	Check sensor cable (plug contacts) Replace sensor Install sensor correctly
312	Actual Tank temperature too high (>85°C)	Contactor sticking Incorrect sensor / defective sensor Check sensor / cable

Table 3: Error messages

Should information or fault numbers not shown in the tables be indicated, or should the suggested measure not lead to the elimination of the fault, please notify a customer service technician.

18 Maintenance

Maintenance work should only be conducted if the machine has been switched off completely via the on-site power disconnection device.

Existing safety protections must not be disassembled!



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.

18.1 Basic safety measures during normal operation

Observe the maintenance intervals prescribed in the operating instructions!

Observe the maintenance instructions for the individual components!



Close the access to the working area for unauthorized persons before executing maintenance or repair works. Attach or put up a sign drawing the attention to the maintenance or repair works!



Before implementing any maintenance or repair work the machine must be switched off completely via the on-site power disconnection device and secured against reactivation by using appropriate measures (e.g. via a padlock whose key is in the possession of the person conducting the maintenance or repair work)!

Failure to observe these precautions can result in severe injury or damage to property.



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 cleaning products that could harm the environment!

18.1.1 Before setting in operation - after maintenance and repair works



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".



18.1.2 Observe 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, 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!

18.2 Dosing units

The dosing units themselves are maintenance free in principle but the working life of the wearing parts (peristaltic tube) is largely dependent on the chemical used.

18.2.1 Change of products

Change of product means that one rinse aid or detergent product is replaced by another. The use of differing products alongside each other can result in break-downs.

- Hose lines and dosing units must always be rinsed out with warm water.

18.3 Maintenance plan

Maintenance procedures	FV 28G / FV28GIO EcoStar 430 F EcoStar 530 F-M	FV 40.2 / FV 60.2 / FV 70.2 D	GK 60	OR 50 H	EcoStar 545D / DV 80.2 / DV 120.2 / DV 125.2 / DV 200.2 / DV 200.2 PW	DV 270 B FV 130.2 – FV 250.2 / DV 270.2	Component Ok	Component faulty	Component re-
1. Pumps									
Check pumps for watertightness, pump rotor noise, rotation di- rection and function									
Check pump suction									
Check pump sieves correctly fitting and operating correctly									
Check sliding ring washer/contra-rotation ring									
2. Wash system									
Check water level in tank									
Check that wash water pipe is watertight									
Check washing system is complete and produces correct spray pattern									
Check wash arm hubs									
3. Fresh water rinse									
Check flow water pressure									
Check rinsing system is complete and produces correct spray pattern									
Check that system is watertight									
4. Housing and mounting parts									
Check housing, tank, sheet metal cover, hood, doors and cover- ing of machine base for damage and correct operation									
Check tank cover sieves									
Check boiler, hoses, clamps, plastic parts and seals									
Check operation of raising and lowering equipment									
5. Fresh water installation									
Check level regulation									
Check valves, clean dirt trap									
Check that all connections (incl. hand spray) are watertight									
Check settings of built-in water softener (if fitted)									
Check operation of complete/partial water softener or osmosis (if fitted)									
Check water hardness									
6. Waste water installation									
Check if watertight									
Check pressure hose position and operation of drain pump									
7. Electrical installation									
Check of all fuses									
Tighten all electrical connections									
Check tank and boiler heating									
Check thermostat and stop switch									
8. Detergent dosing									
Check dosage, adjust if necessary									
9. Rinse aid dosing									

Maintenance procedures	FV 28G / FV28GIO EcoStar 430 F EcoStar 530 F-M	FV 40.2 / FV 60.2 / FV 70.2 D	GK 60	OR 50 H	EcoStar 545D / DV 80.2 / DV 120.2 / DV 125.2 / DV 200.2 / DV 200.2 PW	DV 270 B	FV 130.2 – FV 250.2 / DV 270.2	Component OK	Component faulty	Component re-
Check dosage, adjust if necessary										
10. Operation check of the complete machine										
Check machine for correct interaction of all functions										
11. Test run										
Check results of test wash and rinse										
brief instruction for new personnel										

19 Environmentally acceptable measures, Disposal of the installation

Each discarded appliance is to be made immediately unserviceable - to avoid later accidents.

- Switch the machine off completely via the on-site power disconnection device. When you eventually dispose of the installation (dismantlement/scraping), the parts and their corresponding materials should preferably be re-used.

Below a list of all materials arising frequently with a disassembly:

- Chromium nickel steel
- Aluminum
- Copper
- Brass
- Electrical and electronical parts
- PP and other synthetic materials

20 Documentation

Installation drawing / technical sheet

Technical data sheet

Wiring diagram / Programming instructions

Installation regulations - general information



Das Programm auf einen Blick

Spülautomaten mit stationärem Waschverfahren

Geschirrspülautomaten, Topf- und Behälterspülautomaten, Gläserspülautomaten, Universalspülautomaten, Salat- und Gemüsewaschautomaten

Spülautomaten mit Durchlaufsystem

Geschirrspülautomaten mit automatischem Bandtransport, Geschirrspülautomaten mit automatischem Korbtransport

Spezialspülanlagen

Vollautomatische Spülanlagen für Geschirr, Tablett und Besteck, Flight-Catering-Anlagen zur Entsorgung, Reinigung und Wiederbereitstellung von Geschirr und Gerätschaften der Bordverpflegung im Luftverkehr, Industriespülautomaten für spezifisches Waschgut, Trolley-, Behälter- und Transportwagenspülautomaten

Förderanlagen

Tablett- und Geschirrtransportbänder, Geschirrsortier- und Stapleinrichtungen, Vertikalförderer

Speisereste-Anlagen

Maschinen und Anlagen zur Behandlung von Speiseresten für eine umweltgerechte Entsorgung

Großkücheneinrichtungen

Geräte und Mobiliar für Relais- und Stationsküchen; Transportwagen, Tablett- und Tellerstapler, Tische, Schränke und Regale aus Edelstahl, diverse Organisationsmittel

MEIKOLON Reinigungs- und Hygieneprodukte

für Gläser-, Geschirr- und Universalwaschautomaten

Reinigungs- und Desinfektionsgeräte für Krankenhäuser und Heime

Reinigungs- und Desinfektionsautomaten für Steckbecken und andere Pflegegeschirre als Stand-, Wand- und Einbaugeräte, Pflegekombinationen, Installationsblocks für die Sanitärzone im Krankenzimmer, Komplettausstattungen für unreine Arbeitsräume

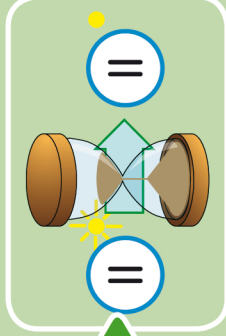
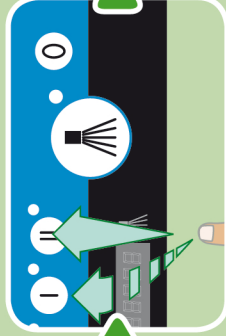
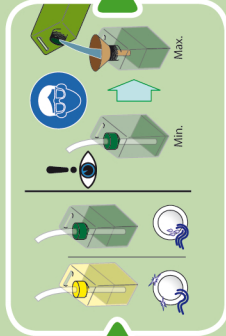
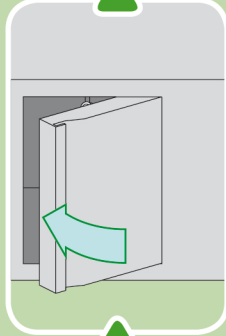
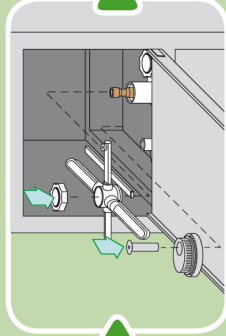
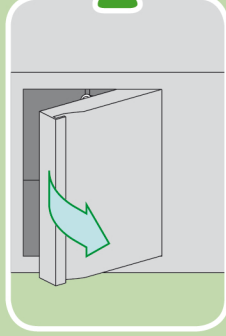


Gemäß der Hygieneanforderung der DIN 10511-H für gewerbliches Gläserspülen, DIN 10510 für gewerbliches Geschirrspülen und DIN 10522 für gewerbliches Spülen von Mehrwegkästen, -behältnissen.

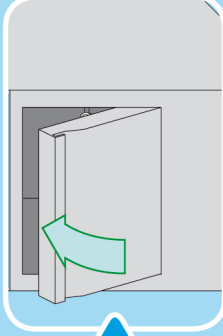
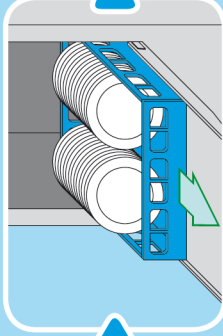
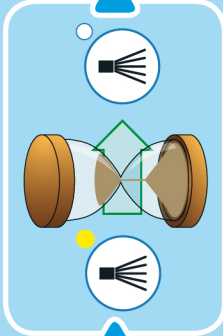
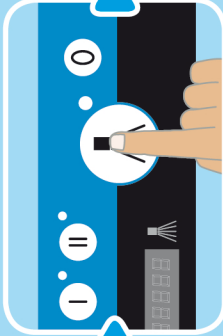
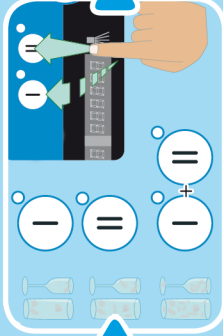
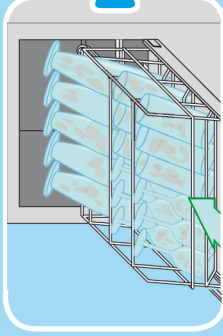
EcoStar 430 F



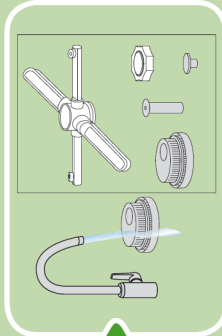
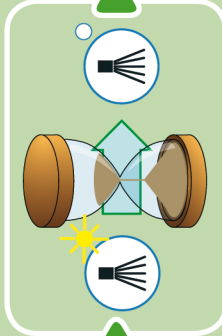
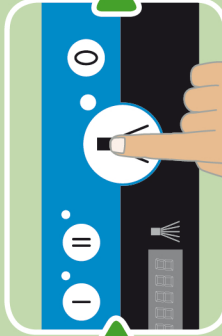
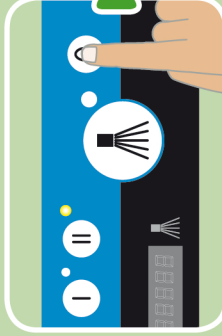
START



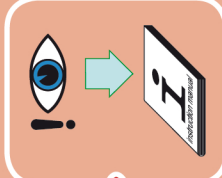
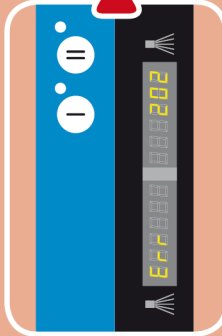
CLEAN



STOP



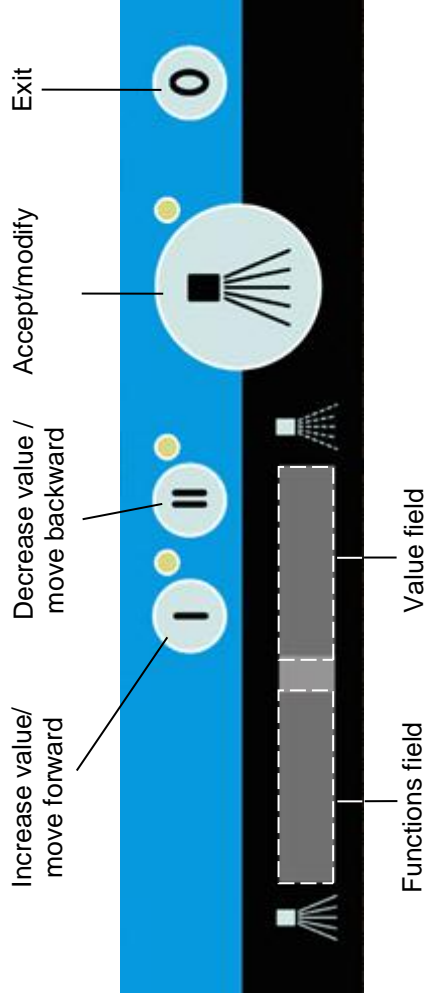
ERROR



Quick programming instructions

EcoStar 430 F-MIKE

Using the keyboard for programming



General:

For control programming, the power supply must be available but the machine must be completely switched off (no LED must be illuminated).

Code entry:

View service data:

CODE 10001

CODE 10000

Modify service data:



To get into the code entry mode, you should keep the "0" key pressed (for around 3 seconds) until you see Code 1---- on the display unit.

By pressing the key "0" once again you can leave the programming area at any time. The digit to be modified will flash. Using the key "I" will increase the display unit values, which will be accepted by using the "accept" key. You should select each of the digits in this way one after the other, until the code has been completely entered. If your entry is incorrect, you will leave the code entry procedure, and the information code 122 will be displayed. If you enter all the digits correctly, you will arrive at the service level.

You can move forwards using the "I" key, and backwards using the "II" key.

The following main positions are available on the service level:

1-1 ----- View/modify parameters

1-2 ----- Ventilate rinse aid inlet

1-3 ----- Ventilate detergent inlet

1-5 ----- Reset indication partial demineralisation

1-6 ----- First-time-filling of boiler after emptying the boiler

View parameters:



1-1 ----- Accept the position using the "accept" key, or use the "I" or "II" keys to select the parameters. On the left, the parameter Pxxx will be displayed, and on the right, the value belonging to it.

You can use the "0" key to go back one level.

Modify parameters:

1-1 ----- Choice of parameters as when viewing, but access is via code for "modify service data".

To modify one of the parameters, select it by using the "accept" key – the value will flash. Select the value by using the "I" key or the "II" key, and save using the "accept" key. You can leave the current level and go back to the previous level by using the "0" key.

Ventilate rinse aid inlet

1-2 -----

Ventilating the detergent inlet

1-3 -----



Select the position you require. The selected dosing pump will be energized and the remaining running time will be displayed.

Exit the ventilation programme by using the "exit" key.

Information/ error display:



If you receive an information message, you must follow the instructions. The rinse operation will still be possible.



If you receive an error message, no further rinse operation is usually possible. Notify customer service.

Parameter mode

Attention: the modification of factory set parameters may cause the restricted overall operation of the machine. In case of arbitrary modification of parameters by unauthorized personnel, guarantee claims will become invalid.

Par. No.	Service parameters	Use as	Value range	Unit	Factory setting	Note
101	Rinse programme / key 1	Parameter	1 .. 50	-	3*	Assign rinse programme no. to key 1; verification adjustable
102	Rinse programme / key 2	Parameter	1 .. 50	-	11*	Assign rinse programme no. to key 2; verification adjustable
103	Rinse programme / key 3	Parameter	1 .. 50	-	13*	Assign rinse programme no. to key 1+2 pressing at the same time; verification adjustable
104	Rinse aid dosing quantity	Parameter	0.10 .. 1.00	ml/Liter water	0.2	Value must be set approximately according to manufacturer's information, then it must be corrected depending on the water hardness and the rinse result.
105	Detergent dosing quantity	Parameter	0.1 ... 20.0	ml/Liter water	2.0	Value must be set approximately according to manufacturer's information, then it must be corrected depending on the water hardness and the rinse result.
106	Hardness degree	Parameter	0 .. 50	[°dH]	30	The quantity of soft water available between two regenerations depends on the hardness of the water.
107	Switch beep on / off	Parameter	0/1	-	1	Switch on/off acoustic "beep" ready message
109	Partial / full desalination available?	Parameter	0, 1, 2	-	0	Partial / full desalination available? 0: NO 1: partial demineralisation (TE) 2: full desalination (VE)
110	Hardness litres per cartridge type	Parameter	0 .. 250	1000 L		When the cartridge's capacity is reached (hardness litres/degree of hardness), "Replace Cartridge" will be displayed (INFO 725) (only in the case of TE)
111	Total Operation time Indication	Indication	5 figures	h	0	Operating time, query only
112	Total number of wash cycles Total number of wash cycles	Indication	5 figures	-	0	wash cycles / loads, query only
113	Total number of wash cycles since last reset	Indication	5 figures	-	0	wash cycles / loads, resetting possible
114	Serial number	Indication	8 figures	-	Serial number	Possibility of querying factory settings Attention: the first 5 digits will be displayed in rotation with the last 3 digits!

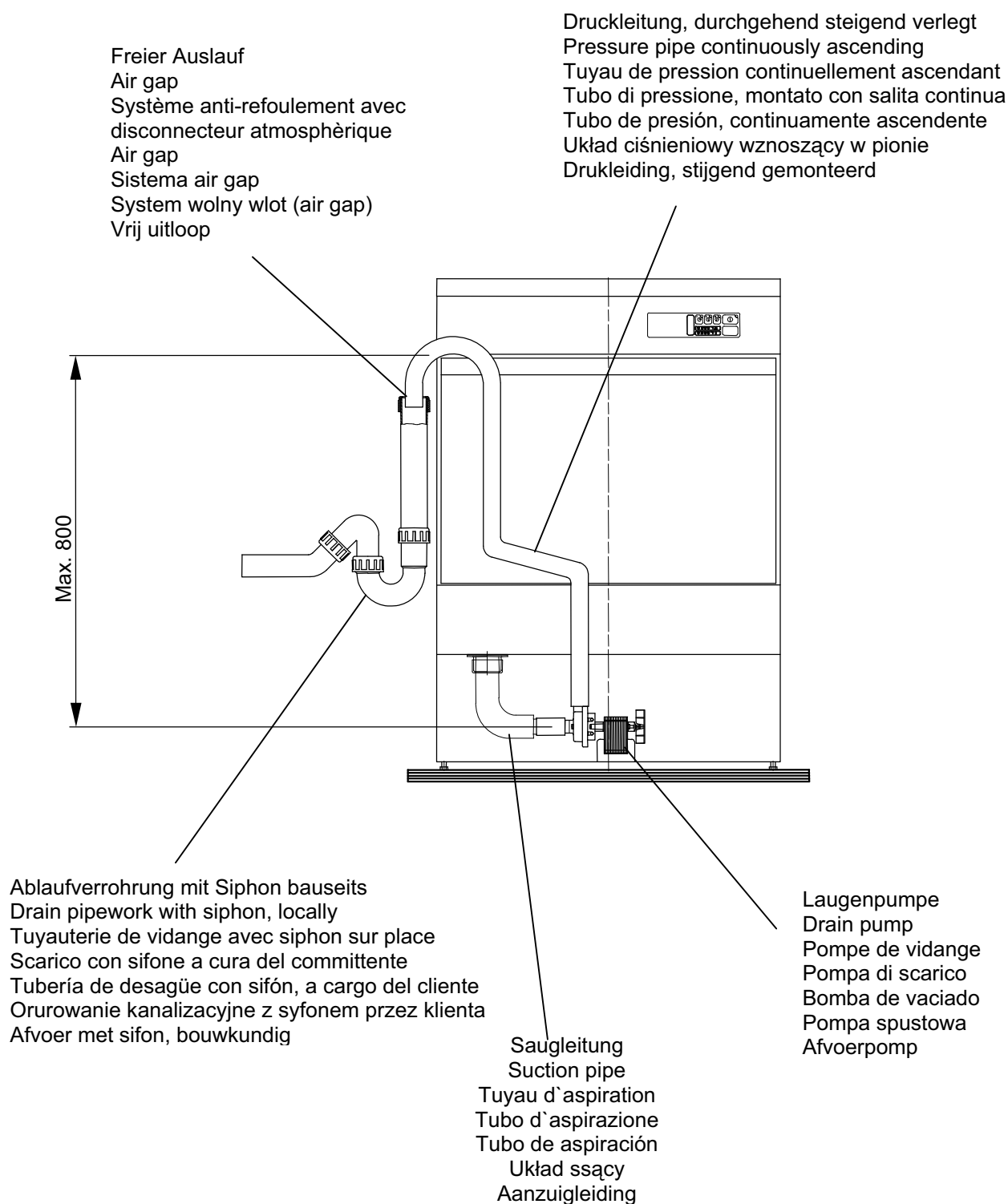
Par. No.	Service parameters	Use as	Value range	Unit	Factory setting	Note
115	Condition Remaining cartridge capacity	Indication	0 .. 100	%		Only for partial / full desalination: TE : indication in %, VE: 100 = OK; 0 = replace
119	Beep ON/OFF	Parameter	0/1	-	1	It is possible to shut off communication via IR interfaces. (0)
120	Load factory setting service parameters	Parameter	0/1	-	0	Effective only upon power supply reset ON/OFF Caution! All changes to service parameters will be reversed. Power supply reset must be carried out within 5 minutes, otherwise factory settings will not be loaded. Without power supply reset, the information 123 will be displayed.

Rinse programme no.:	Boiler temperature target value	Wash time target value	
		Washing	total
3	65	104	120
11	65	164	180
13	65	224	240

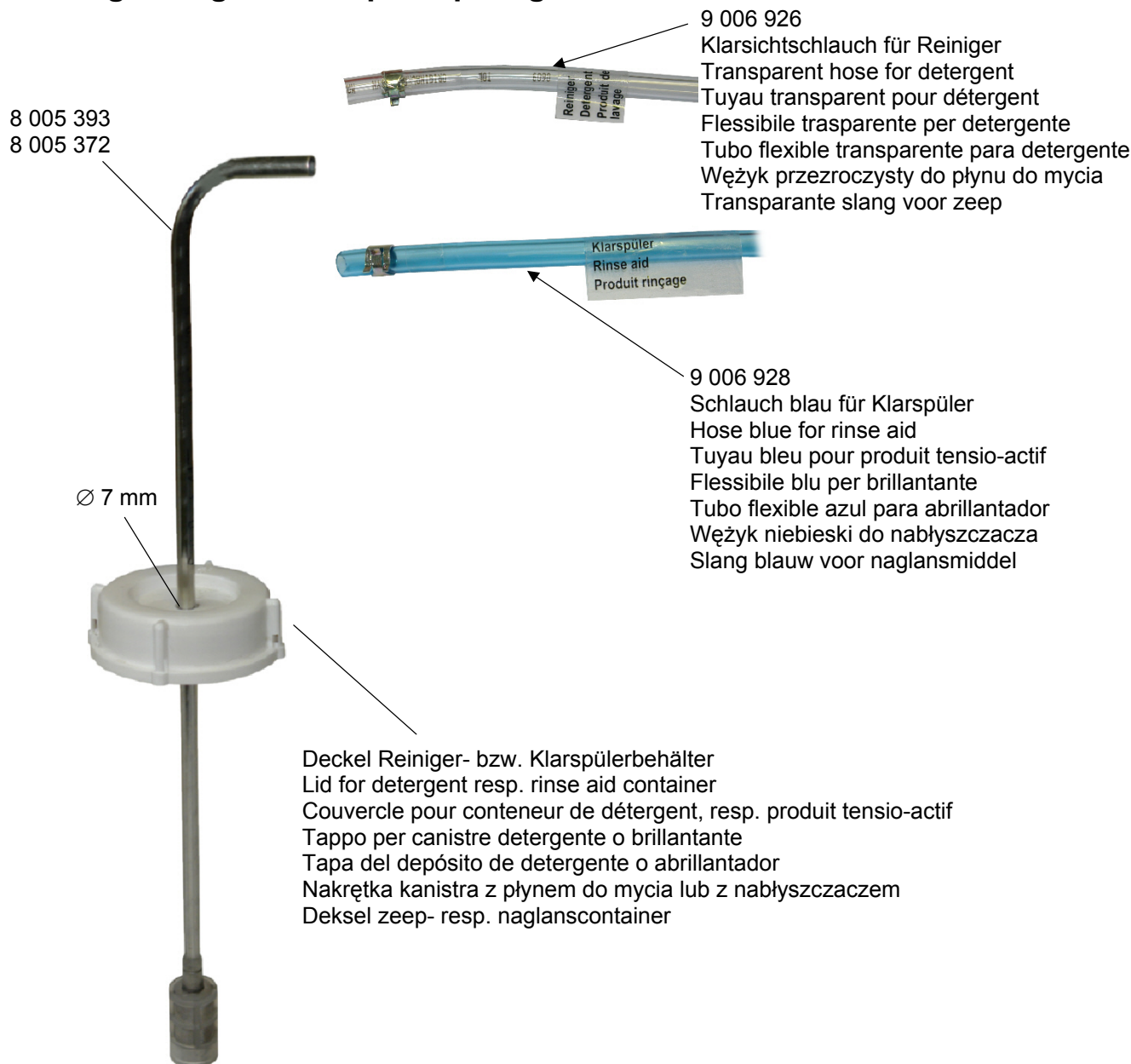
(*) Depending on the installed heating power and the infeed temperature, there can be a difference between the factory settings of the rinsing programs and the values listed above.

Details of further pre-defined rinse programmes are given in the Service Instructions, chapter 16.6.

Anschlussvorschrift für Laugenpumpe
Connection prescription for drain pump
Prescription de connexion pour pompe de vidange
Prescrizioni di collegamento per la pompa scarico
Prescripciones para la conexión de la bomba de vaciado
Reguła instalacji pompy spustowej
Aansluitschema voor machine met afvoerpomp



Saugleitung für Reiniger bzw. Klarspüler
Suction line for detergent resp. rinse aid
Conduite d'aspiration pour détergent, resp. produit tensio-actif
Tubo d'aspirazione per detergente e brillantante
Tubo de aspiración para detergente y abrillantador
Układ ssący płynu do mycia lub nabłyszczacza
Aanzuigleiding voor zeep- resp. naglansmiddel



ACHTUNG!

Saugleitung von Wärmequellen fernhalten!

ATTENTION!

Keep away suction line from heating sources!

ATTENTION!

Ecartez la conduite d'aspiration de toute source de chaleur!

ATTENZIONE!

Tenere il tubo d'aspirazione lontano da fonti di calore!

¡ATENCIÓN!

¡Mantenga el tubo de aspiración alejado de las fuentes de calor!

UWAGA!

Układ ssący należy trzymać z dala od źródeł ciepła!

LET OP!

Aanzuigleiding van warmtebronnen verwijderd houden!

Geschirrspülautomaten
Gläserspülautomaten
Topfwaschautomaten
Universalwaschautomaten
Salat- u. Gemüsewaschautomaten
Vollautomatische Spülanlagen

Sonderwaschanlagen
Förderanlagen
Speisereste-Anlagen
Kücheneinrichtungen
Pflegeeinrichtungen
Reinigungs- und Desinfektionsautomaten



Original / Original / Original / Originale / Original / Origineel

EG-Konformitätserklärung

Datum: 2012-01-13 (Update)

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

Firma / Company/Société / Ditta / Empresa / Fabrikant:

MEIKO Maschinenbau GmbH & Co. KG

Adresse / Address / Adresse / Indirizzo / Dirección / Adres:

Englerstraße 3
D-77652 Offenburg
E-mail: info@meiko.de

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
Vaattwasmachine model

FV 28 G

FV 28 GiO

FV 40.2

FV 40.2 G

FV 60.2

FV 70.2

FV 130 B

FV 250 B

FV 130.2

FV 250.2

DV 80 T

DV 80.2

DV 125.2

DV 120.2

DV 200.2

DV 200.2 PW

DV 270 B

DV 270.2

EcoStar 430 F

EcoStar 530 F-M

EcoStar 545 D-M

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

Offenburg, 10.04.2012

Dokumentationsverantwortlicher:

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

Daniel Ratano

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Unterschrift / Signature / Signature / Firma / Firma / Handtekening

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

MEIKO Maschinenbau GmbH & Co. KG

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(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



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