

metos

POTWASHER

Metos Master KP151EL

Instructions for Use and Maintenance

Manufacturers original documentation





Vi ringraziamo per aver acquistato un nostro apparecchio.

Le istruzioni per l'installazione e la manutenzione nonché il suo impiego, che troverete sulle pagine che seguono, sono state preparate per assicurare una lunga vita e un perfetto funzionamento del vostro apparecchio.

Seguite attentamente queste istruzioni.

Noi abbiamo ideato e costruito questo apparecchio secondo le ultime innovazioni tecnologiche. Voi ora dovrete averne cura.

La vostra soddisfazione sarà la nostra migliore ricompensa.

Thank you for choosing our machine.

The instructions for installation, maintenance and use found on the following pages have been prepared to ensure a long life and a perfect operation of your unit.

Please, do follow the instructions carefully.

We have designed and built this machine using the latest innovative technologies. Now you shall take good care of it.

Your full satisfaction is our greatest reward.

Nous vous remercions d'avoir choisi notre machine.

Les instructions pour l'installation, l'entretien et l'utilisation qui figure dans les pages suivantes ont été préparées pour assurer une longue durée de vie et un fonctionnement parfait de votre appareil.

S'il vous plaît, veuillez suivre attentivement les instructions.

Nous avons conçu cette machine, en utilisant les dernières technologies innovantes. Vous devrez maintenant en prendre soin.

Votre satisfaction est notre plus grande récompense.

Wir danken Ihnen für den Kauf dieses Gerätes.

Die Anleitungen zu Installation, Wartung und Betrieb des Gerätes, die Sie auf den folgenden Seiten finden, wurden erstellt, um Ihrem Gerät eine lange Lebensdauer und einen ordnungsgemäßen Betrieb zu gewähren.

Befolgen Sie diese Anweisungen aufmerksam.

Dieses Gerät wurde nach dem letzten Stand der Technik entwickelt und konstruiert. Diese Anleitung soll Ihnen dabei helfen, es gebührend zu pflegen.

Ihre Zufriedenheit ist für uns die beste Entlohnung.

Gracias por haber adquirido uno de nuestros productos.

Las instrucciones para la instalación y mantenimiento, así como su uso, que se encuentran en las páginas que siguen, se han preparado para asegurar una larga vida y un funcionamiento fiable de su unidad.

Sígalas atentamente.

La máquina ha sido proyectada y fabricada con las últimas innovaciones tecnológicas. Por favor, utilícela con cuidado.

Su satisfacción es nuestra mejor recompensa.

Благодарим Вас за выбор нашей продукции.

Инструкции по установке, использованию и обслуживанию, представленные в настоящем руководстве, были подготовлены для того, чтобы обеспечить долгую и исправную службу Вашего оборудования.

Пожалуйста, точно следуйте приведённым в руководстве указаниям и рекомендациям.

Мы разработали и изготовили это оборудование в соответствии с самыми последними техническими достижениями.

Теперь его судьба зависит от Вас.

Лучшая награда для нас - Ваше удовольствие от работы с нашим оборудованием.

Obrigado por adquirir um dos nossos aparelhos.

As instruções de instalação, manutenção e utilização que encontrará nas páginas seguintes foram preparadas para garantir uma longa duração e um perfeito funcionamento do seu aparelho.

Siga estas instruções escrupulosamente.

Idealizámos e construímos este aparelho segundo as últimas inovações tecnológicas. Agora, cabe-lhe a si cuidar dele.

A sua satisfação será a nossa melhor recompensa.

TRANSLATION OF THE ORIGINAL INSTRUCTIONS

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WARNINGS



This instruction booklet must be kept with the dishwasher for future consultation. If the dishwasher is sold or transferred to another user, make sure the booklet always goes with the appliance so that the new owner can have the necessary information on operation and the relative instructions.

The instruction booklet must be carefully read before installation and first use of the dishwasher.

The user must comply with the following rules:

- Adaptation of the electrical and water systems for dishwasher installation must only be carried out by qualified operators.
- This dishwasher must only be used by adults. This is a professional machine to be used by qualified personnel, and installed and repaired exclusively by a qualified technical assistance service. The Manufacturer declines any responsibility for improper use, maintenance or repair.
- This appliance can be used by trained youth aged from 15 years and above. It cannot be used by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.
- The user must not carry out any repair and/or maintenance operations. In any case contact qualified personnel.
- Accompany the hood in opening and closing.
- Servicing of this dishwasher must be performed by authorized personnel.

Note: Use original replacement parts only. Otherwise the product warranty is invalidated and the manufacturer is no longer responsible.

- The dishwasher is designed only and solely for washing plates, glasses and various pots and pans with human food type of residue. DO NOT wash articles polluted with petrol, paint, bits of steel or iron, fragile objects or material not resistant to the washing process. Do not use acidic corrosive chemical products or alkaline and solvents or chlorine based detergents.
- Make sure the dishwasher is not resting on the power cord or the filling and drain hoses. Level the machine by adjusting the support feet.

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- Do not use the appliance or any part of it as a stepladder or means of support as it has been designed exclusively to bear the weight of the dishrack containing dishes to be washed.
 - **The dishwasher is designed only and solely for washing plates, glasses and various pots and pans with human food type of residue. DO NOT wash articles polluted with petrol, paint, bits of steel or iron, fragile objects or material not resistant to the washing process. Do not use acidic corrosive chemical products or alkaline and solvents or chlorine based detergents.**
 - Do not open the machine door when operating. In any case, the machine has a special safety device which immediately stops the unit if the door is open, thus preventing water spillage. Always switch the machine completely off and drain the water tank, before accessing inside.
 - **This machine must be disconnected from the main electrical supply after use at the end of the day and for any service/maintenance operation following this procedure:**
 - Switch the machine off from the control panel.**
 - Drain the tank by removing the overflow pipe.**
 - Disconnect the electrical supply by the omni-polar switch (main switch located on the wall).**
 - Shut the water supply valve(s).**
 - Disregarding the aforesaid prescriptions is a serious misuse and can cause damages and injures to property and people, and will relieve the manufacturer from whatever liability.**
 - Do not use old load pipe, but only new ones.
 - The user must not carry out any repair and/or maintenance operations. In any case contact qualified personnel.
 - Do not use old load pipe, but only new ones.
 - Do not put material or objects on the machine.
 - Some important rules must be followed for using this appliance:
 - Never touch the appliance with wet hands or feet
 - Never use the appliance when barefoot
 - Do not install the appliance in places exposed to water sprays.
 - Do not dip bare hands into water containing detergent. If this should occur, wash them immediately with plenty of water.

-
-
- The washing and the rinsing water is not potable because of the presence of chemical additives. In case of contact with skin or eyes wash them immediately with plenty of water and check the safety instructions of the detergent manufacturer. If necessary, contact a doctor.
 - Only follow the instructions given in the manufacturer's booklet for cleaning operations (see chap. **5. MAINTENANCE**).
 - The machine has an IP (see serial number label on the machine) protection rating against accidental water splashes and is not protected against pressurized water jets. Pressure-cleaning systems shall, therefore, not be used on this machine.
 - This appliance is designed to work at room temperatures from 5 °C up to a max. 35 °C, in a suitable room.
 - Do not use water to extinguish fires on electrical parts.
 - Do not cover the intake or dissipation grids.
 - Water infeed to the machine 400 kPa maximum.

Note: The manufacturer declines any responsibility for accidents to people or any damage deriving from failure to observe the above listed instructions.



ATTENTION: DO NOT INSERT HANDS AND/OR TOUCH THE PARTS LOCATED AT THE BOTTOM OF THE WASH TANK AND/OR AT THE END OF THE WASH CYCLE.



ATTENTION: INTERNAL CLEANING OF THE MACHINE SHALL BE CARRIED OUT AT LEAST 10 MINUTES AFTER THE POWER SWITCH HAS BEEN TURNED OFF.

1. MACHINE INSTALLATION

1.1 Dataplate

- A Power source
- B Total power installed
- C Dynamic Pressure
- D Envelope protection degree
- E Total electricity absorption

Model Family	DWXXXX		Type	IPXX	
Model Code	DESCRIPTION				
S/N	DWX10XXXXX				
	400V 3N 50HZ		xxA		
	xxxxW				
	MAX	xxx-xxx kPa			
	MAX	xx°C			
	MAX	xx°C			
	MAX	xxkPa			
MADE IN ITALY YYYYY					
Model			S/N		

Model DW XXXX

FAMIGLIA PRODOTTO
FAMILY PRODUCT
FAMILLE DU PRODUIT
FAMILIA PRODUCTO
FAMILIE DES PRODUKTES
СЕРИЯ ПРОДКТА

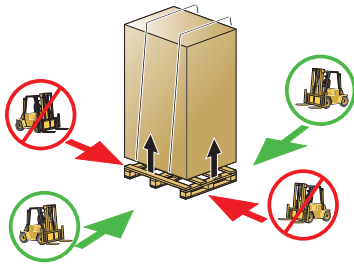
S/N DW X xxxxxxxx

ANNO YEAR N=2017 - 2018
 ANNÉE YEAR O=2018 - 2019
 AÑO YEAR P=2019 - 2020
 JAHR YEAR Q=xxxx - xxxx
 ГОД ВЫПУСКА YEAR Q=xxxx - xxxx

NUMERO DI SERIE SERIAL NUMBER
 NUMÉRO DI SÉRIE SERIAL NUMBER
 NUMERO DI SERIE SERIAL NUMBER
 SERIENNUMMER SERIAL NUMBER
 СЕРИЙНЫЙ НОМЕР SERIAL NUMBER

Model Family	DWXXXX		Type	IPXX	
Model Code	DESCRIPTION				
S/N	DWX10XXXXX				
	400V 3N 50HZ		xxA		
	xxxxW				
	MAX	xxx-xxx kPa			
	MAX	xx°C			
	MAX	xx°C			
	MAX	xxkPa			
MADE IN ITALY YYYYY					
Model			S/N		

1.2 Handling the product



Pict. 1

The machine must be handled strictly as shown in **Pict. 1** regarding the grip points indicated for the lifting with a lift truck.

Latch the machine in a way that secures no vibrations or shocks during transportation.

Note: Slings with ropes not recommended.

1.3 Reception of the appliance

Before accepting the machine, verify that all the data on the data-plate corresponds to the required ones and to the ones of the available electrical supply (see paragr. **1.1 Dataplate**).

After removing the packing, ensure that the appliance has not been damaged in transport. If so, do notify the seller immediately about the problem. If the damage might question the machine safety, do not install it.

The installation and the starting of the machine must be carried out by trained operators only, even if the machine is coming from another site and it has been used, already.

For disposal of the packing see chap. **8. ENVIRONMENTAL ASPECTS**.

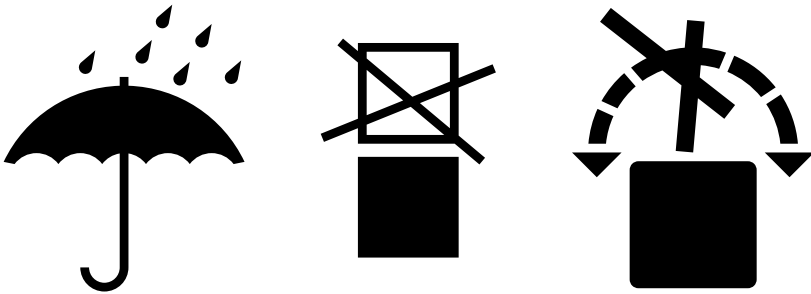
1.4 Storage

Storage temperature: min. +4 °C – max. +50 °C – humidity <90%.

The stored parts should be checked periodically to detect any sign of deterioration.

Do not store the machine exposing it to atmospheric agents (rain, sun, cold, etc.). Do not place material on the packed machine.

Do not rotate the machine in the storing phase (see **Pict. 2**).



Pict. 2

1.5 Prepare for installation

This is just a guide-line for the machine installation.

The installation must be performed by a qualified engineer.

1.6 Room features

Install the machine, in a room closed to weather and with a guaranteed temperature-range between 5 °C and 35 °C.

The machine is equipped with thermostatic sensors to manage the temperatures. To guarantee a proper functionality these sensor shall not operate at a room temperature below 5 °C.

For this reason, it is fundamental that before starting the machine reaches the room temperature.

1.7 Steam evacuation

In accordance with regulations of environmental hygiene, for the proper functioning of the machine and a healthy environment for the operator who working in there, it should be at least 10 air volume changes per hour in the room where the machine is installed.

For small wash rooms we recommend at least 15 air volume changes per hour.

1.8 Electrical connection - Characteristics

Electrical connection must be carried out in compliance with the legislation in force and the relevant technical standards. Make sure that the supply voltage is the same as reported on the machine plate and that the network can stand the needed power absorption shown on the same plate.



It is necessary to install a suitable omni-polar automatic fuse switch sized according to the absorption that assures the complete disconnection from the network in an overvoltage category III condition. This switch must be incorporated in the supply network, dedicated only and exclusively to this circuit and installed in the immediate vicinity. The machine has to be absolutely turned off by this switch: only this switch gives the full warranty of complete detachment from the electric network. Make sure the appliance is linked to an efficient ground connection.



ATTENTION: Check very carefully if the “ground connection” of the machine is properly sized and fully efficient, and that not too many units are connected to it. An undersized or poor “ground connection” might lead to corrosion and/or pitting effect on the stainless steel plates, even to perforation.

1.9 Water supply connection - Characteristics

Water connections must be carried out in compliance with the legislation in force and the relevant technical standards. The water system must have characteristics between the parameters specified in **Tab. 1**

Water characteristics table	Min	Max
Static Pressure	200 kPa	400 kPa
Dynamic Pressure	150 kPa	350 kPa
Water hardness*	2 °f	8 °f
Cold water-supply temperature**	5 °C	50 °C
Hot water-supply temperature***	50 °C	60 °C
Capacity	10 l/min	

Tab. 1

Connect the machine's water supply with an interrupt valve capable of quickly and completely shutting off water intake.

*For water with average hardness greater than 8°f, a water softener **must be used**. This will result in cleaner dishes and longer life of the appliance.

By request, the machine can be equipped with a water softener. If the machine is equipped with a water-softener, a regeneration of the resins shall be done on regular basis (see par. **Regeneration device**).

In those machines equipped with “water softener” the water supply temperature shall not exceed 40 °C, to avoid damages to the filters resins.

Note: Any damage caused by limestone (calcareous water higher-up than 8 °f and without water-softener) will not be covered by warranty.

A periodical check of the supplied water hardness is highly recommended.

In order to ensure the optimum performance, the water supply temperature must come within the range given in table **Tab. 1**.

**Machines shall be made with extra power in case of cold water infeed.

***The water supply temperature shall never exceed 55 °C.

1.10 Water supply characteristics

The machine water supply must be potable, in compliance with the legislation in force.

The inlet water must also meet the parameters given in the **Tab. 2**.

Water parameters table	Min	Max
Chlorine ¹		2 mg/l
pH	6,5 ¹	8,5 ³
Water hardness		8 °f ²⁻³
Iron ³		0,2 mg/l
Manganese ⁴		0,05 mg/l

Tab. 2

¹ Out of range values might lead to corrosion and jeopardize the life of the machine.

² Should the water hardness is higher it is compulsory to install a water softener and check periodically its operation.

³ Out of range values might lead scaling and sediments with a consequent lower performance, functionality, and expected life of the machine.

⁴ Desired value: Out of range values might lead stainless steel blackening/tarnishing.

It is recommended a water test once a year.

1.11 Positioning the machine

Remove the packing with care.

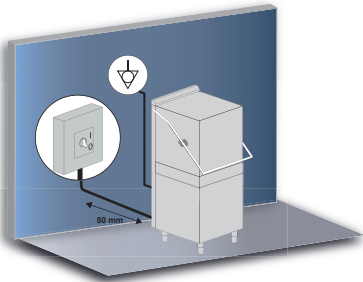
Lift the machine as described in chap. **1.2 Handling the product**.

Position the machine as shown on the installation diagram (lay-out) approved at the time of the offer.

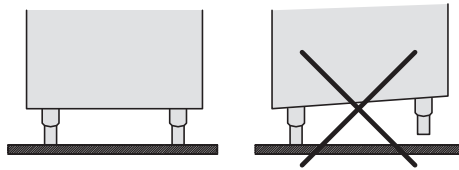
Maintain a minimum distance of about 50 mm from the walls, so that motors are ventilated (see **Pict. 3**). Install suction hoods to assure proper ventilation of the room, in order to eliminate steam and excessive humidity.

Check that the machine is properly levelled, by adjusting the legs (see **Pict. 4**).

Make sure the machine is not standing on the power cable or on the filling/drain hoses. Level the machine by adjusting the support feet.



Pict. 3




Pict. 4

1.12 Electrical connection

Electrical connection must be carried out in compliance with the legislation in force and the relevant technical standards.

Make sure that the voltage is the same as reported on the data-plate.

The machine is also provided with a terminal (marked with the symbol ) placed on the back end. It shall be used to bond different appliances via the external bonding conductor, in order to avoid the risk of electric shock.

The electrical supply cable must be new, flexible, and according to "har" H07RN-F or a local valid equivalent.

The cable size is dimensioned according to the power.

Should the electrical supply cable get damaged it shall be changed by the Manufacturer, or his Authorized Service, or other technician with equivalent qualification, to prevent any risk.

If the machine is fitted with a three-phase pump, check the correct motor rotation (right rotation as per arrow on the casing).

1.13 Hydraulic connection

Connect the water in-feed hose, given with the machine, to a 3/4" water supply tap.

Hood: Connect the outlet draining hose, given with the machine, at the bottom, laterally (on the right or on the left side - see Pict. 3).

The emptying tube should always be connected to a siphon to prevent odor back-up from the screen.

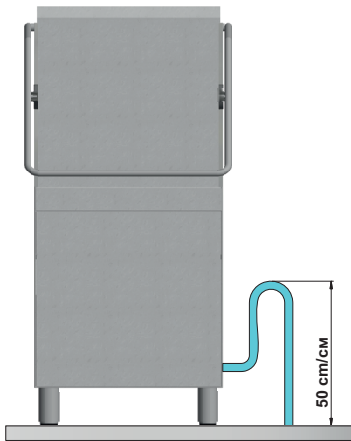
To do in such a way that water flows freely (therefore ensuring a minimum slope). If the water cannot be discharged to a level below the machine drain, it is advisable to install a drain pump (supplied on request). Maximum drain height = cm. 50 (see Pict. 3).

Connect the water in-feed hose, given with the machine, to a 3/4" water supply tap.

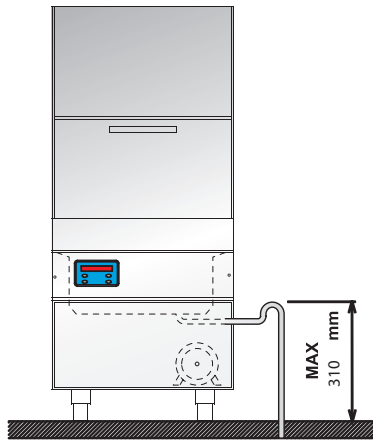
Warewasher: Connect the emptying tube, supplied with the appliance, to the union elbow located under the tub (see Pict. 3).

The emptying tube should always be connected to a siphon to prevent odor back-up from the screen.

To do in such a way that water flows freely (therefore ensuring a minimum slope). If the water cannot be discharged to a level below the machine drain, it is advisable to install a drain pump (supplied on request). Maximum drain height = cm. 31 (see Pict. 3.)



Pict. 3



Pict. 4

In those machines equipped with "water softener" the water supply temperature shall not exceed 40 °C, to avoid damages to the filters resins.

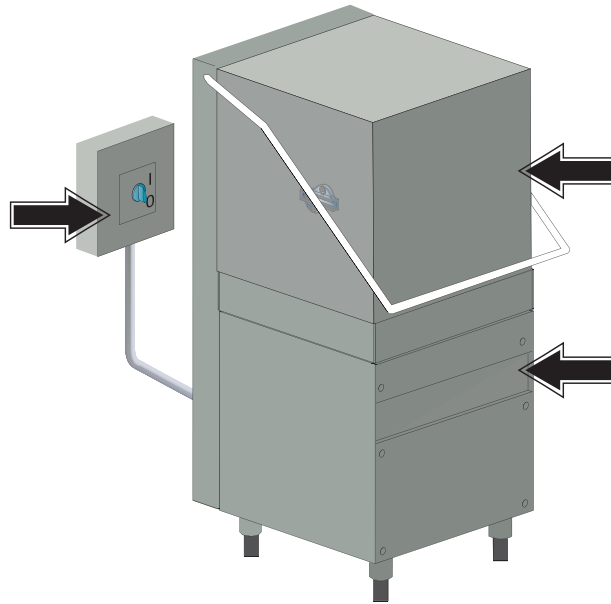
1.14 Starting

At installation engineer's care.

2. MACHINE DESCRIPTION

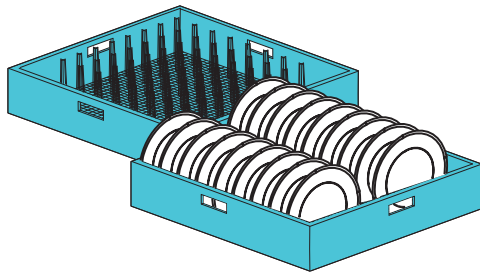
2.1 Machine description

Wall-hung main power switch:
at installation
serviceman supply and
care, according to local
laws

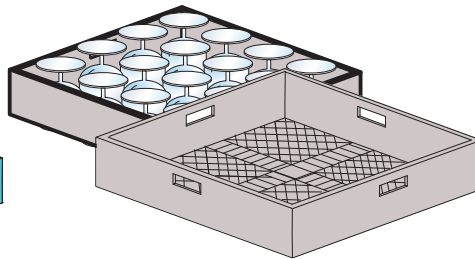


Hood

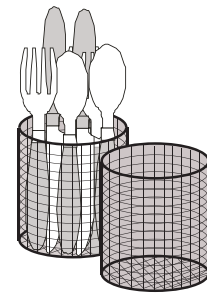
Control panel



nr. 2 500x500 mm plates rack
Capacity per plate rack:
12 soup plates or
18 flat plates
Max Ø 410 mm



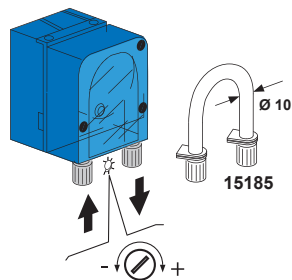
nr. 1 500x500 mm glasses rack



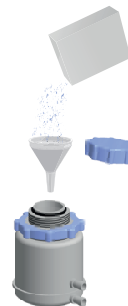
nr. 1 cutlery basket



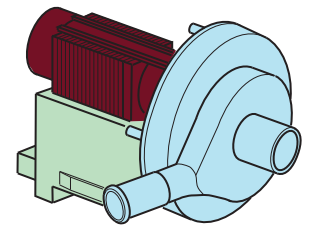
Probe rack detergent /
rinse aid



Detergent dispenser

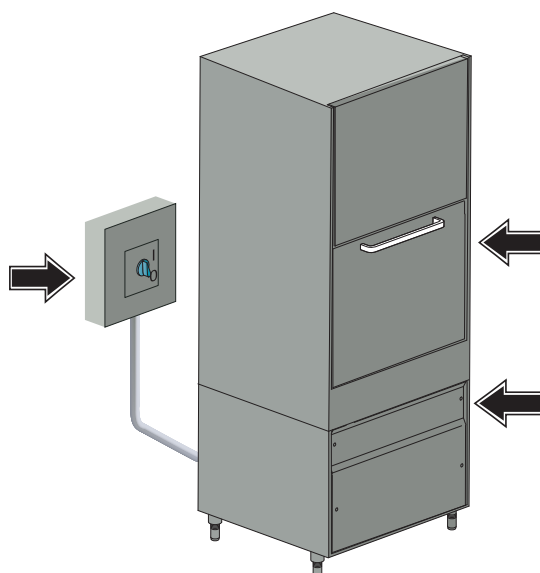


Water softener



Drain pump

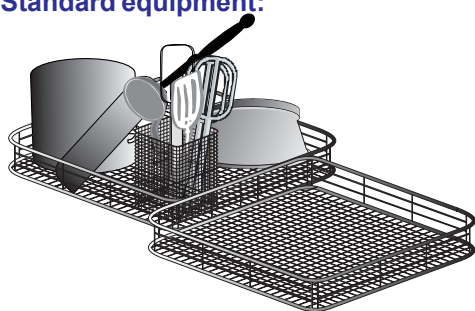
Wall-hung main power switch:
at installation
serviceman supply and
care, according to local
laws



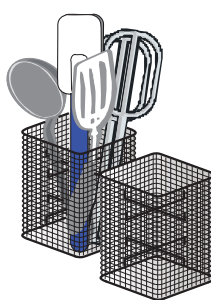
Door

Control panel

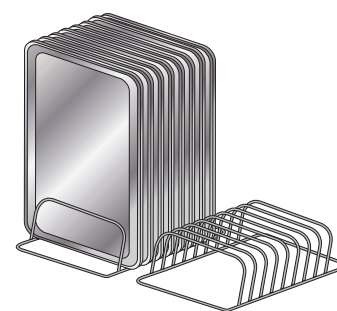
Standard equipment:



nr. 1 Stainless steel rack



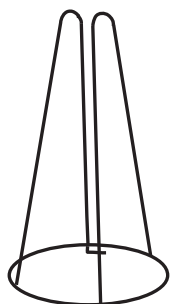
nr. 1 Inox spatulas rack



nr. 1 Trays support 8 pcs

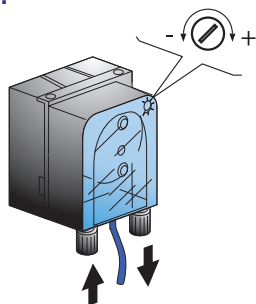


550x550mm grid

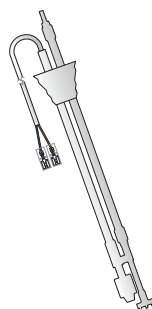


Sac à Poche support

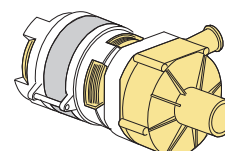
Optional:



Detergent dispenser



Probe lack detergent / rinse aid



Drain Pump

To operate the machine, 3 connections are needed:

- Electrical;
- Water supply;
- Water drain;

This is a cycle machine comprising a wash cycle with detergent and a rinse cycle with injection of rinse-aid.

Warewasher

The dishwasher is designed only and solely for washing plates, glasses and various pots and pans with human food type of residue.

Hood

The dishwasher is designed only and solely for washing plates, glasses and various pots and pans with human food type of residue.

Any other use is deemed improper.

Do not wash articles polluted with petrol, paint, chips of steel or iron, fragile objects or material not resistant to the washing process.

Do not use acidic corrosive chemical products or alkaline and solvents or chlorine based detergents.

Do not open the machine door when operating.

In any case, the machine has a special safety device which immediately stops the unit if the door is open, thus preventing water spillage

Always switch the machine completely off and drain the water tank, before accessing inside.

The drain pump optional is used to keep the correct water level in the wash tank. To drain completely the wash tank at the end of the day (see paragr. **4.5 Drain pump system**).

2.2 Machine features

The machine has a noise level below 70 dB(A).

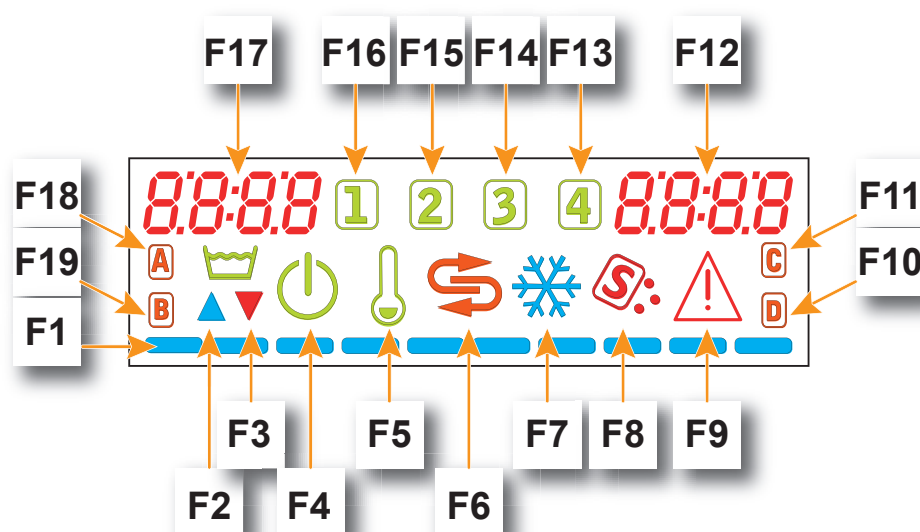
3. CONTROL PANEL AND RELATIVE SYMBOLS

3.1 Key



- A) START key to start up cycle / select cycle
- B) Regeneration START button (optional)
- C) Inactive
- D) Drain key (optional)
- E) Switching – On / STAND BY key
- F) Display

3.2 Display



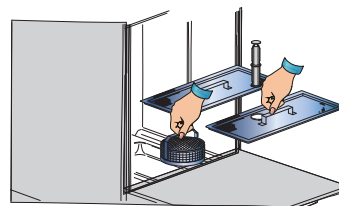
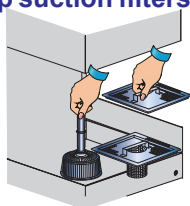
- F1) Scrolling bar
- F2) Tank filling indicator
- F3) Tank draining indicator
- F4) Stand by indicator
- F5) Heating elements enabled indicator
- F6) Regeneration Indicator (optional)
- F7) Inactive
- F8) Salt shortage indicator (optional)
- F9) Alarm indicator
- F10) Detergent level indicator (optional)
- F11) Inactive
- F12) Boiler temperature indicator
- F13) Cycle # 4 running indicator
- F14) Cycle # 3 running indicator
- F15) Cycle # 2 running indicator
- F16) Cycle # 1 running indicator
- F17) Tank temperature indicator
- F18) Self-cleaning cycle running indicator
- F19) Rinse-aid level indicator (optional)

4. OPERATION

4.1 Machine start-up

4.1.1 Start-up

Insert the overflow pipe in the special seat inside the tank. Make sure all the filters are properly fitted in their seats (see Pict. 5). The filters must be cleaned every 20 wash cycles and whenever necessary. **Do not operate the machine without filters, and in particular the pump suction filters.**



Pict. 5

Close the dishwasher door/hood.

Open the water valve.

Turn the main power switch ON.

The machine is on **stand-by**. In the display are shown: the date (dd/mm on the riGht) and time (hh/mm on the left).



Turn the button **E**.

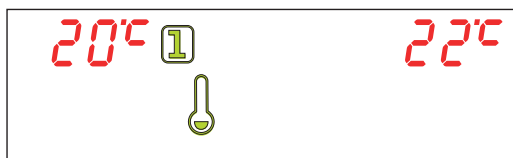
The machine start will be active when the key Start **A** flashes. After a few seconds the tank filling phase starts. The **F2** indicator and the **F1** temporizer light on (left to right).



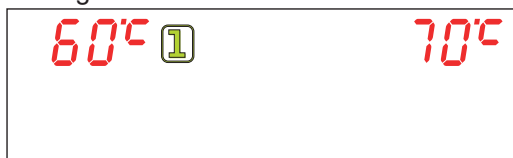
Should the machines be equipped with the WRAS certified Break Tank or fed by an osmotic-water device, the tank-filling phase will be longer.

Not available on machines with a 550 x 665 mm basket.

After filling, the machine automatically starts the heating phase. The phase is displayed by the Start **A** key flashing (green). The tank and boiler indicators **F17** and **F12** switch on. The indicator **F5** switches on.



The machine is ready to wash when the set temperatures are reached. The indicator **F5** switches off. The Start **A** key stops flashing.



Insert the special green rinse aid dispenser tube in the liquid rinse aid container and check that the quantity is sufficient for the daily requirement. The transparent tube (if present) must be inserted in the detergent container.

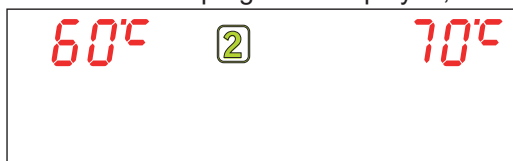
4.1.2 Start the wash cycle

Insert the rack filled with dishes to wash (see paragr. **4.2 Cutlery and crockery loading**). The plates must be correctly placed in the rack.

Close the dishwasher door/hood.

To select the wash cycle (1, 2, 3, 4) keep pressed the key Start **A**. The display will show in sequence the available programs.

Once the wanted program is displayed, do release the button



Available programs:

Hood

Cycle code	Cycle name	Total time (*) (#)	Wash temperature (°C) (#)	Rinse temperature (°C) (#)
1	Cycle 1	50 s	55	85
2	Cycle 2	90 s	55	85
3	Cycle 3	120 s	55	85
4	Cycle 4	180 s	55	85
4+	Cycle 4 HYGIENE+	620 s	70	90

(*): Timing calculated without the intervention of the Thermostop device.

(#): The cycles (1, 2, 3, 4) are a customizable cycles according to the user's needs, to be set by a technician during the machine installation.

(+): This cycle is available on the **HYGIENE+** version only (upon request).

The difference from the standard version is that the 4th washing time cycle is 600 seconds, counting after the 70 °C tank temperature is reached. Furthermore the rinse temperature is set at 90 °C.

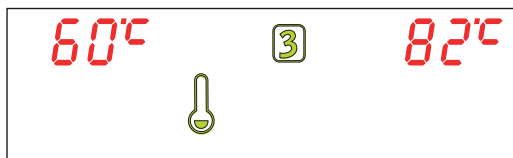
Warewasher

Cycle code	Cycle name	Total time (*) (#)	Wash temperature (°C) (#)	Rinse temperature (°C) (#)
1	Cycle 1	120 s	55	70
2	Cycle 2	240 s	55	70
3	Cycle 3	360 s	55	85
4	Cycle 4	480 s	55	85

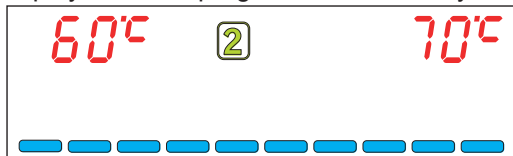
(*): Timing calculated without the intervention of the Thermostop device.

(#): The cycles (1, 2, 3, 4) are a customizable cycles according to the user's needs, to be set by a technician during the machine installation.

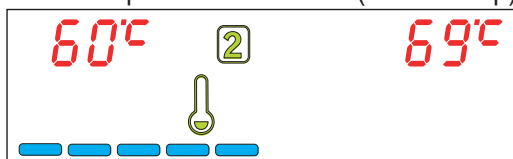
The indicator **F5** switches on.



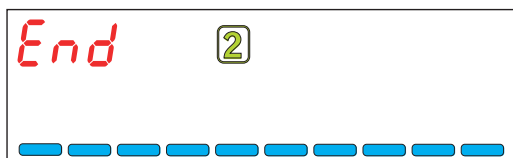
Start the cycle by pressing the key Start **A** (for 1 s maximum). The key Start **A** turns blue on (steady light). The **F1** totalizer displays the time progression from the cycle start.



If during the selected cycle the boiler temperature (indicator F12) drops below the set value, the machine keeps washing until the set temperature is reached (Thermostop).



At the end of the cycle the key Start **A** alternatively flashes in blue/green. The display shows **END** message. The **F1** totalizer is completed.



The appliance is now ready for a new wash.

Note: It is advisable to change the tank water, by means of another filling, at least every 30 washes or twice a day. An alarm flashes when this operation is needed.

Note: The machine does not accept other cycles until the door is opened or the key Start **A** is pressed for two seconds.

4.1.3 Switching OFF

Turn the button **E**. The machine is on **stand-by** (**F4** steady red indicator).

Drain the wash-tank. Take off the overflow pipe. For machines equipped with drain pump: see paragr. **4.5 Drain pump system**.

At the end of the day, clean the machine (see chap. **5. MAINTENANCE**).



Shut the water valve.

Switch the main power switch OFF.

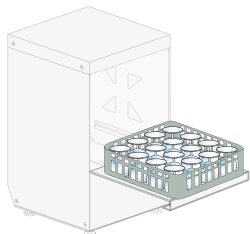
4.2 Cutlery and crockery loading

Before cutlery and crockery loading in the machine, coarsely clean them from the leftover food. It isn't necessary to rinse the cutlery and crockery under water.

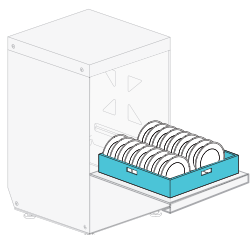


WARNING: Do not wash articles polluted with petrol, paint, chips of steel or iron, ash, sand, wax, lubricant grease. These substances damage the machine. Do not wash fragile objects or material not resistant to the washing process.

Note the following recommendations:



- Crockery and cutlery should not be inserted inside one another, covering each other.
- Place the crockery in order to all surfaces can be reached by water; otherwise the dishes are not washed.
- Make sure all the crockery are in a stable position and that the hollow containers don't overturn (cups, glasses, bowls, etc.).
- Place in the rack all the hollow containers such as cups, glass, etc. **upside-down**.
- Place the crockery with deep hollow with upper face downwards, so that water can flow out.
- Make sure the smaller crockery do not fall from the rack.
- Check all the wash arms runs freely and they are not blocked by too tall or too prominent crockery. Eventually, run a manual rotation of the arms to check it.



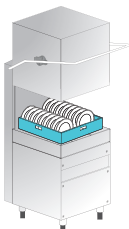
Some foods, such as carrots, tomatoes, and others, may contain some natural dyes substances, that in large amounts, can alter the objects and plastic parts colors.

Any discoloration does not mean that the plastic is not heat resistant.

Crockery and cutlery not suitable for dishwasher

Not suitable for dishwasher:

- Wooden crockery and cutlery or with wooden parts; water at high temperature causes deformation to wood. Also the adhesives used are not suitable for treatment in the dishwasher; a consequence could be the handles detachment.
- Crafts, precious vases or decorated glasses.
- Not heat-resistant plastic objects.
- Copper, brass, pewter or aluminum objects: they may become discolored or opaque.
- The decorations on glass, after a certain number of washes, can lose gloss.
- Fragile glasses or crystal items, if often washed, can become opaque.



We recommend to buy exclusively crockery and cutlery suitable for dishwashing.

After several washes, the glass can become opaque.

It is mandatory to repeat the washing cycle if at the end of the cycle the crockery are not well clean or if there are washing residues (glasses, cups, bowls, etc. with liquid inside).



4.3 Use of detergent

By request the dishwasher can be equipped with an electric detergent dispenser (always recommended). The machine automatically sucks the detergent.

The detergent shall be the NO FOAM type, suitable for industrial dishwashers. The use of good quality liquid detergents is recommended.

The correct amount will be suggested by the product manufacturer according to the water hardness.

A correct amount of detergent is very important for a successful wash.

Should the detergent lack the **F10** indicator on the display flashes (only with optional "Sensor for Chemicals Low Level").

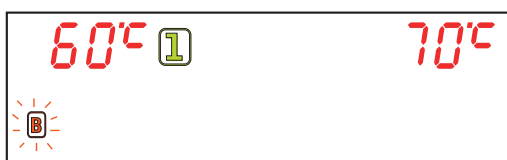


4.4 Use of rinse aid

The machine is equipped with a rinse aid dispenser. The machine automatically sucks the detergent.

The rinse-aid chemical, shall be suitable for professional glass and dishwashers. It is advisable to rely on specialized retailers in the sector.

Should the rinse-aid chemical lack the **F19** indicator on the display flashes (only with optional "Sensor for Chemicals Low Level").



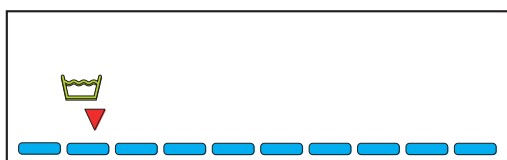
4.5 Drain pump system (optional)

The cycle drain pump works in an automatic and independent way.

At the end of the day, to completely empty the tank:

Remove the overflow.

Close the door. Turn the button **D**. The tank draining indicator **F3** and the totalizer turn on for the time set by the Program.



After the draining is complete, the machine turns automatically in **stand-by** mode.

This operation is also possible with machine in stand by-mode. Once finished, the machine returns to the initial mode.

if an alarm appears. see chap. **9.2 Alarms**.

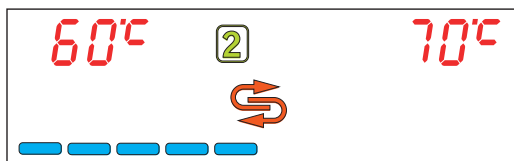
Note: The machine must not be switched ON during the emptying phase.

IMPORTANT: Always turn the main wall switch off and close the water valve at the end of use.

4.6 Regeneration device (optional)

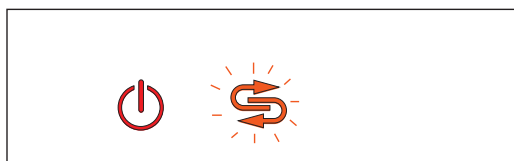
Should the machine be equipped with a water-softener circuit, this will be fully automatic.

When needed, a 120" regeneration cycle will automatically activate (machine ON). During this phase the indicator **F6** switches on (steady).



If needed the cycle can be activated even during the wash-tank loading. **If the activation is made during the wash-cycle, this will be longer.**

The circuit board is designed to call periodically for a 20 min. manual regeneration cycle (according with the water hardness adjusted). This regeneration cycle can also be activated by the user, should the rinse quality be dissatisfactory. The indicator **F6** flashes.



IMPORTANT: Before starting a regeneration cycle check if there is salt in the special container.

When the indicator **F8** flashes on the display it means that the salt level in the bowl is low (only on machines equipped with the optional Water Softener).



To add salt, open the machine door and unscrew the salt container plug inside the tank.

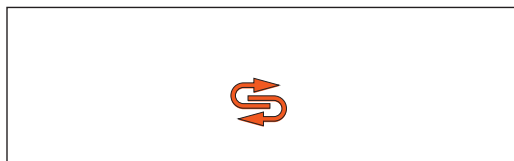
Fill the special container with specific coarse salt for regeneration (coarse salt: 0,500kg - 1-4 mm grains), being careful not to spill it into the tank. A strong concentration of salt can negatively affect the correct functioning and service life of the machine and generate rust and the steel corrosion. After filling with salt, lock the plug tightly.

To start a complete regeneration cycle it is needed to switch off the machine with the key **E**.

The indicator **F4** turns on.

Drain the wash-tank. Take off the overflow pipe. For machines equipped with drain pump: see paragr. **4.5 Drain pump system**.

Turn the button **B**. The indicator **F6** turns on. The machine carries out with the various phases.



The cycle is finished when the indicator **F6** goes off after around 20 minutes.

The machine returns to stand by-mode (indicator **F4** lighted).

Note: Regeneration times will be blocked only if the door is opened.

The optional regeneration is not allowed in the following conditions:

- During programming.
- During the wash cycle.
- During manual draining.
- If the tank is filled: in this case the message **drAln tAnk** will be displayed for about 4 seconds.
- If the machine is ON.



WARNING: In the case of water hardness above 35 °f it is advisable to install an external water softener

4.7 Extra cold rinse function (optional)

This function can only be enabled if the machine is equipped with the optional **Cold rinse function**.

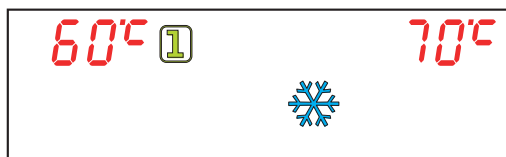
Machine switch ON. Turn the button **C**.

After the normal rinse cycle an extra cold rinse is made for few seconds with tap water.

During the wash cycle or manual draining the type of rinse selected cannot be changed.

The Extra cold rinse function selection is displayed by the **F7** indicator lighting.

Note: The Additional Cooling selection is not memorized. It must be set every time the machine is switched off and then on again (if this function is required).



4.8 Inlet water temperature probe (optional)

The machine can be equipped with a built-in inlet water probe that allows verifying the boiler inlet water-temperature.

With machine in ready-mode, by pressing both the key **A** and **C** it is possible to visualize the temperature.



WARNINGS

- Accompany the hood in opening and closing.
- Do not put material or objects on the machine.
- The machine has an IP (see serial number label on the machine) protection rating against accidental water splashes and is not protected against pressurized water jets. Pressure-cleaning systems shall, therefore, not be used on this machine.
- Do not dip bare hands into water containing detergent. If this should occur, wash them immediately with plenty of water.
- Some important rules must be followed for using this appliance:
- Never touch the appliance with wet hands or feet
- Never use the appliance when barefoot
- Do not install the appliance in places exposed to water sprays.



This machine must be disconnected from the main electrical supply after use at the end of the day and for any service/maintenance operation. Switch off the main switch located on the wall, which shall be installed by a professional installer. Shut the water supply valve(s).

- Do not cover the intake or dissipation grids.
- Do not use water to extinguish fires on electrical parts.

ATTENTION: INTERNAL CLEANING OF THE MACHINE SHALL BE CARRIED OUT AT LEAST 10 MINUTES AFTER THE POWER SWITCH HAS BEEN TURNED OFF.

ATTENTION: DO NOT INSERT HANDS AND/OR TOUCH THE PARTS LOCATED AT THE BOTTOM OF THE WASH TANK AND/OR AT THE END OF THE WASH CYCLE.

5. MAINTENANCE

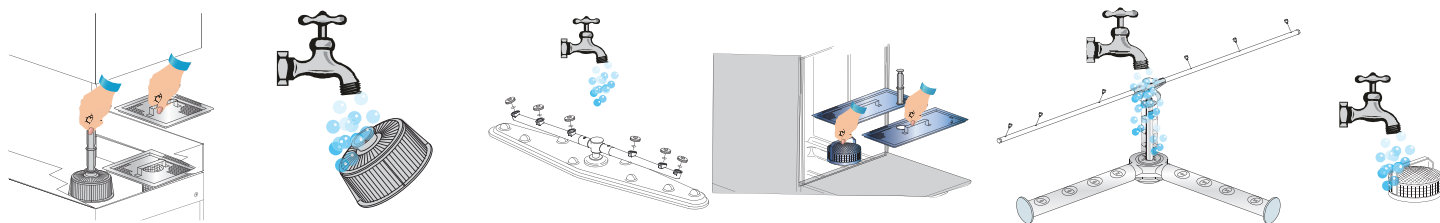
WARNING: The machine is not protected against water jets, therefore do not use pressure cleaning systems. Contact your cleaning products retailer for detailed instructions on the methods and products to use for periodic sanitizing of your appliance.

DO NOT use bleach or chlorine-based detergents for cleaning the appliance.

5.1 Regular Maintenance

In order to ensure perfect performance, the appliance must be completely cleaned at least once a day in the following way:

- Turn the machine in **STAND-BY** mode, by pressing the key **E** (see chap. **3. CONTROL PANEL AND RELATIVE SYMBOLS**).
- Remove the surface filters and clean them under running water. Drain the sump water (see paragr. **4.1.3 Switching OFF**).
- Remove the pump filter and clean with a brush and a water shower (see **Pict. 6**).
- Remove the arms by loosening the fixing screws, and thoroughly clean them, and the nozzles under running water (see **Pict. 6**).



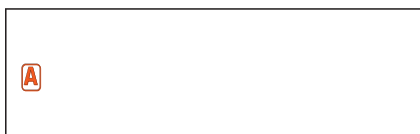
Pict. 6

- Refit all the parts and arrange the impellers in their seats, securing them with the relative fixing screw. Take extreme care to re-assemble the nozzles in the right position (open and / or closed nozzles) and that the arms are installed with the right axial angle.
- Clean the tub thoroughly using specific products.
- At the end of the day, it is advisable to leave the dishwasher door open.
- Turn off the water tap.
- Turned off the machine by switching the main power switch OFF.

Automatic cycle of machine self-cleaning/rinsing: recommended at each day end.

The machine should be in **STAND-BY**-mode (without filter, without overflow pipe and machine door closed). An automatic cycle of 1 minute will start, after this the machine will be **STAND BY**-mode.

- Turn off the water tap.
- Turned off the machine by switching the main power switch OFF.



5.2 Special Maintenance

Once or twice a year have a **qualified technician** inspect the machine:

1 Clean the electrovalve filter.

2 To remove residual deposits.

3 To check the watertight of the seals for water loading and unloading connections.

4 Check the perfect state and/or wear of the components. If a component is damaged or oxidized replace it immediately with genuine spare parts only

5 Check the efficiency of the dispensers

6 Check the efficiency of the door safety switch.

7 Tighten firmly all electrical connections.

Pay attention to do not wet the motor or any electric part.

Perform maintenance with the wall-mounted main switch turned OFF.

Every 3-4 years of machine use, double-check the tightening and the efficiency of all electrical contacts, with special attention to the contacts of starters and relays.

Increase controls frequency if the machine is operating in heavy or intensive conditions.

6. COMPLIANCE WITH HYGIENE REGULATIONS AND H.A.C.C.P.

- When starting the machine ON, no wash-cycle will be starting until the set boiler and wash-tank temperatures are reached. During operation, the machine will not start the rinse cycle till the set boiler temperature is reached.
- Scrape food from the dishes carefully in order not to clog the filters, nozzles and pipes.
- Unload the wash tub and clean the filters at least twice a day.
- Check that the amount of detergent and rinse aid dispensed is correct (as suggested by the supplier of the product). In the morning, before starting the machine, check that the quantity of chemicals in the canisters is enough for daily supply.
- Always clean the support floor of the dishes.
- Extract the rack with clean hands or gloves to avoid finger marks.
- Do not dry or polish the dishes with non-sterilized cloths, brushes, or dusters.

7. ECOLOGICAL ASPECTS

7.1 Recommendations for optimum use of energy, water and additives

Dispensing of salt: A pre-set quantity (by the manufacturer) of salt is injected in the resins every regeneration cycle. It is important to observe the number of regeneration cycles recommended in paragraph **4.6 Regeneration device (optional)** in order to avoid salt spills or lime deposits..

If possible, use the machine at full load: This will avoid wasting detergent, rinse aid, water and energy.

Detergents and rinse aids: Use detergents and rinse aids having the highest biodegradability so that the environment is better respected. Have the correct dosage according to the water hardness checked at least once a year. An excess of product pollutes rivers and seas, whereas an insufficient amount compromises dish washing and/or hygiene.

Tank and boiler temperatures: The temperatures of the tank and boiler are set by the manufacturer so as to get the best washing results with the majority of detergents on the market. These can be reset by the installer according to the detergent used..

Cleaning off: Carefully clean off the kitchenware using water at ambient temperature with moderation so as to make removal of animal fats easier. To remove encrusted matter, soaking in hot water is recommended.

Notes: Wash the objects as soon as possible in order to prevent the deposits from drying and jeopardizing the effectiveness of the washing.

To get an efficient wash, it is advisable to regularly clean and maintain the dishwasher (see chap. **5. MAINTENANCE**).

Non-compliance with the above recommendations or with any and all information within the manual could result in a waste of energy, water, and detergent, further causing an increase in user costs and/or a reduction in performance.

8. ENVIRONMENTAL ASPECTS

8.1 Packing

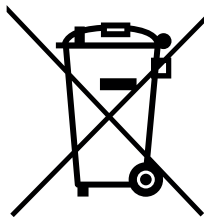
The packing consists of the following:

- a wood pallet;
- a nylon bag (LDPE);
- multi-layered cardboard;
- polystyrene foam (PS);
- polypropylene support (PP).

All above materials, shall be disposed and treated in accordance with the Local Laws in force.

8.2 Disposal

The equipment is marked with the symbol (see Pict. 7).



The symbol indicates that the product should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling in compliance with the legislation in force.

An efficient waste disposal procedure contributes to avoiding any potential environmental or health hazards as well as promoting the recycling and re-utilization of materials from which our appliances are constructed. If the user does not comply with the regulations he/she shall be subject to the penalties foreseen by each member state.

Pict. 7

Disconnect electricity and water before disposal.

Cut the electrical cable to ensure that further use is impossible.

All metal parts are recyclable as they are made of stainless steel.

Recyclable plastic parts are marked with the plastic material symbol.



9. SIGNALS AND ALARMS

9.1 Signals

The signals messages are displayed, based upon their meaning.

Machine in stand-by mode:



Total regeneration warning (option).

When the **F6** indicator flashes on the display it means that a total regeneration is needed (only on machines equipped with the optional Water Softener).



Drain tank warning.

When **drain tank** scrolling message appears on the display it means that you are trying an operation that cannot be done with the wash tank full.

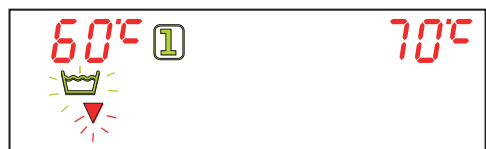
Machine switched on or in stand-by mode:



Door open warning.

When **door** appears on the display it means that you are trying an operation that cannot be done with the open door.

Machine switched on:



Draining tank warning.

When the **F3** indicator flashes on the display it means that it is necessary to change the tank water.



Salt level warning (option).

When the **F8** indicator flashes on the display it means that the salt level in the bowl is low (only on machines equipped with the optional Water Softener).



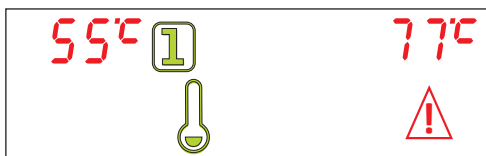
Detergent level warning (option).

When the **F10** indicator flashes on the display it means that the detergent is over (only on machines equipped with the optional "Chemicals level Sensor").



Rinse-aid level warning (option).

When the **F19** indicator flashes on the display it means that the rinse-aid is over (only on machines equipped with the optional "Chemicals level Sensor").



Flowmeter failure warning (option).

When the **F9** symbol appears on the display it means that no passage of water is detected and the inlet water temperature probe is damage or is disconnected (only on machines equipped with the optional "Flowmeter" installed and enabled, after the water filling or the rinse). By pressing both the key **A** and **C** for about 10 seconds the message **Err FLuS** appears.

Not available on machines with a 550 x 665 mm basket.



Water probe failure (optional).

By pressing both the key **A** and **C** for about 3 seconds it is possible to check the machine inlet water temperature (only on machines equipped with the optional "Loading water probe" installed and enabled). If the water probe is damage or disconnected the message **FAIL 000°C** appears.

Not available on machines with a 550 x 665 mm basket.



9.2 Alarms

The alarms are displayed, based upon their meaning.

If an alarm occurs the machine stops.

TYPE OF ALARM	CAUSE
B2	BOILER SENSOR FAILURE
B3	BOILER NOT HEATED
B4	FAILURE IN RINSING
B5	BOILER OVERTEMPERATURE
B9	BOILER SAFETY THERMOSTAT
E1	WASH-TANK NOT FILLED
E2	WASH-TANK SENSOR FAILURE
E3	WASH-TANK NOT HEATED
E5	WASH-TANK OVERTEMPERATURE
E6	TANK DRAINING FAILURE
E8	TANK SAFETY THERMOSTAT
Z6	TANK LOW LEVEL:
Z9	REGENERATION FAILED

Tab. 5



B2. BOILER PROBE FAILED:

Cause: The circuit board does not detect the boiler sensor.
Remedies: Contact Technical Service.



B3. BOILER HEATING ALARM:

Cause: The factory-set boiler temperature was not achieved in the maximum foreseen time limit.
Remedies: Contact Technical Service.



B4. FAILURE IN RINSING (on machines equipped with the BREAK TANK):

Cause: The Break Tank water was not used during the rinse cycle.
Remedies: Contact Technical Service.



B5. BOILER OVERHEATING:

Cause: The water temperature in the boiler exceeded 105 °C.
Remedies: Contact Technical Service.



B9. BOILER SAFETY THERMOSTAT

Cause: The boiler safety thermostat is tripped.
Remedies: Contact Technical Service.



E1. WATER LOAD FAILED:

Cause: The machine wash-tank was not filled in the maximum foreseen time limit.
Remedies: Open the water supply valve and verify a proper water supply flow.
Contact Technical Service.



E2. TANK PROBE FAILED:

Cause: The circuit board does not detect the wash-tank sensor.
Remedies: Contact Technical Service.



E3. TANK HEATING ALARM:

Cause: The factory-set wash-tank temperature was not achieved in the maximum foreseen time limit.
Remedies: Contact Technical Service.



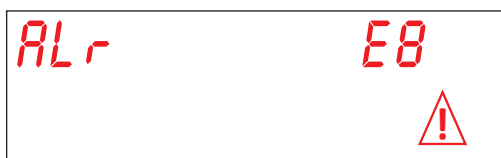
E5. TANK OVERHEATING:

Cause: The wash-tank temperature exceeded 90 °C.
Remedies: Contact Technical Service.



E6. TANK DRAINING FAILED:

Cause: The draining of the wash-tank was not completed within the maximum foreseen time limit.
Remedies: Contact Technical Service.



E8. TANK SAFETY THERMOSTAT

Cause: The tank safety thermostat is tripped.
Remedies: Contact Technical Service.



Z6. TANK LOW LEVEL:

Cause: The tank pressure-switch detects a too low level of water in the tank.
Remedies: Check the overflow pipe. Contact Technical Service.



Z9 REGENERATION FAILED (on machines equipped with the optional Water Softener):

Cause: The salt sensor does not work properly.
Remedies: Check if there is salt in the special container. Contact Technical Service.

10. TROUBLESHOOTING

Type of Problem	Possible Causes	Cure
The appliance does not start	The main switch is turned off	Turn on the switch
The appliance does not draw water	The water tap is closed	Open the water tap
	The rinsing arm nozzles or the electrovalve filter are clogged and/or caked with lime deposits	Clean the rinsing arm nozzles, the pipes and the electrovalve filter. If the machine has a water softener check the salt content or regenerate the resins more often
	Faulty pressure switch	Replace the pressure switch (call the Technical Assistance service)
The machine loads water very slowly	Scarce water supply pressure	Check the water supply pressure
	Rinse booster pump blocked (if installed)	Call the Technical Assistance service
Unsatisfactory washing results	The washing nozzles are clogged or the washing arms do not rotate	Unscrew and clean the nozzles and the rotating column, refit them correctly in their seats
	Unremoved grease or starch	Detergent concentration too low
	The filters are too dirty	Remove and clean the filters with a brush under a jet of water then refit them in their seats
	Check tank temperature (which must be between 50 °C and 60 °C).	Adjust the thermostat or check correct heating element operation
	Length of washing cycle inadequate for type of grime build-up	Choose a longer cycle if possible, otherwise repeat wash cycle
Presence of foam	Wash water too dirty	Empty water from the tub, clean filters; refill the tub and correctly reposition the filters
	Use of unsuitable products	Use no-foam detergents or reduce the dose in use.
	Tub temperature too low	Adjust the thermostat or check correct heating element operation

Type of Problem	Possible Causes	Cure
The objects are not dried properly	Insufficient rinse aid	Check the dosage of rinse aid and increase it if necessary (contact the Technical Assistance)
	The rack is not suitable for the objects.	Use the suitable rack which gives the objects an inclined position so that water can rinse away.
	The washed items may have been sitting in the wash chamber too long.	As soon as the cycle stops, remove the rack with the objects so that they can dry more quickly in the air.
	Rinse water temperature is less than 75 °C - 80 °C	Check the temperature of the boiler thermostat
	Surface of objects too rough or porous for material wear	Replace type of the objects used.
Streaks or smears on the objects	Too much rinse aid	Reduce the concentration of rinse aid (contact the Technical Assistance)
	The water is too hard	Check the water quality. Water must not exceed 8 °f (5 °d) in hardness
	For appliances with conditioners: too little salt in the salt container or the resins have not been properly regenerated	Fill the salt container (coarse salt: 1-2 mm grains) and regenerate the resins more often. If lime deposits are also observed on the body of the machine, have a qualified technician check the operation of the water softener
	Salt present in dishwasher tub	Thoroughly clean and rinse the appliance, and avoid spilling salt when filling the container
The appliance suddenly stops during the cycle	The appliance is connected to an overloaded circuit	Connect the appliance separately (call the Technical Assistance service)
	A safety device has been activated	Check safety devices (call the Technical Assistance service)
The washing pump doesn't work	The pump is blocked	Call the Technical Assistance service

**Note: For any other problems, contact the Technical Assistance service.
The manufacturer reserves the right to alter the technical characteristics without prior notice.**



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