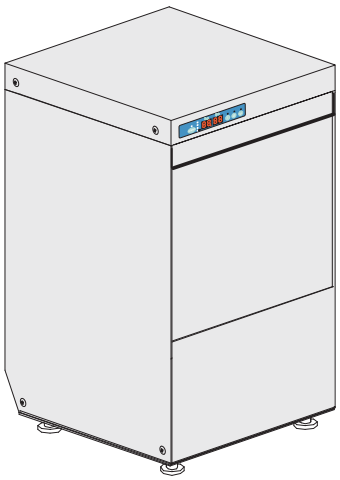
EN

Instructions for Use and Maintenance

109632
109633



COD.: 4400_U
Ed. 10 - 10/2019

APPLICARE ETICHETTA MATRICOLA



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 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.

READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLING THE MACHINE.

WARNING: FAILURE TO COMPLY, EVEN PARTIALLY, WITH THE PRESCRIPTIONS IN THIS MANUAL WILL RENDER THE PRODUCT WARRANTY NULL, AND THE MANUFACTURER SHALL NOT BE LIABLE.

CONTENTS Page

WARNINGS 25

1. MACHINE DESCRIPTION 27
1.1 Machine Description 27
1.2 Machine features 29
1.3 Dataplate 29
2. CONTROL PANEL AND RELATIVE SYMBOLS 30
3. OPERATION 30
3.1 Machine start-up 30
3.1.1 Start-up 30
3.1.2 Operation 30
3.1.3 Switching OFF 31
3.2 Cutlery and crockery loading 31
3.3 Detergent use 32
3.4 Rinse aid use 32
3.5 Drain pump system 32
3.6 Regeneration function (optional) 32
3.7 Additional Cooling Function (optional) 33

WARNINGS 33

4. ECOLOGICAL ASPECTS 34
4.1 Recommendations for optimal use of energy, water and additives 34
5. H.A.C.C.P. AND HYGIENE REGULATIONS 34
6. MAINTENANCE 34
6.1 Routine maintenance 34
6.2 Extraordinary Maintenance – by qualified Service Personnel 35
7. MACHINE INSTALLATION 35
7.1 Handling 35
7.1.1 Handling the product 35
7.1.2 Storage 35
7.2 Prepare for installation 36
7.2.1 Room features 36
7.2.2 Electrical connection - Characteristics 36
7.2.3 Water supply connection - Characteristics 36
7.2.4 Water supply characteristics 36
7.2.5 Steam evacuation 37
7.3 Installation 37
7.3.1 Positioning the machine 37
7.3.2 Electrical connection 37
7.3.3 Water connection 37
7.3.4 Start-up 38

8. SIGNALS AND ALARMS 38
8.1 Signals 38
8.2 Alarms 38
9. ENVIRONMENTAL ASPECTS 39
9.1 Packaging 39
9.2 Disposal 39
10. TROUBLESHOOTING 39
11. EU DECLARATION 41



WARNINGS

This instruction booklet must be kept with the machine for future consultation. If this machine is sold or transferred to other users, make sure the booklet always goes with the unit so that the new owner can have all the necessary information on operations and all relevant instructions.

The instruction booklet must be carefully read before installation and before starting the machine.

- **Adaptation of the electrical and water systems for dishwasher installation must only be carried out by qualified operarators.**
- The user shall not carry out any repair and/or maintenance operations. In any case contact qualified personnel.
- Only qualified personnel can access the control panel, when the main power switch is OFF.
- Servicing of this machine must be performed by authorized personnel only.
  N.B.: Use genuine spare parts only. Non-genuine parts will void the warranty and the manufacturer will take no responsibility for any damage.
- **Do not use old load pipe, but only new ones.**
- Follow the instructions given in the manufacturer's booklet for cleaning operations (chap. **6**).
- This machine must only be used by adults. This is a professional machine to be used by qualified personnel, installed and repaired exclusively by qualified Technical Personnel. The Manufacturer declines any responsibility for improper installation, 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.
- **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.

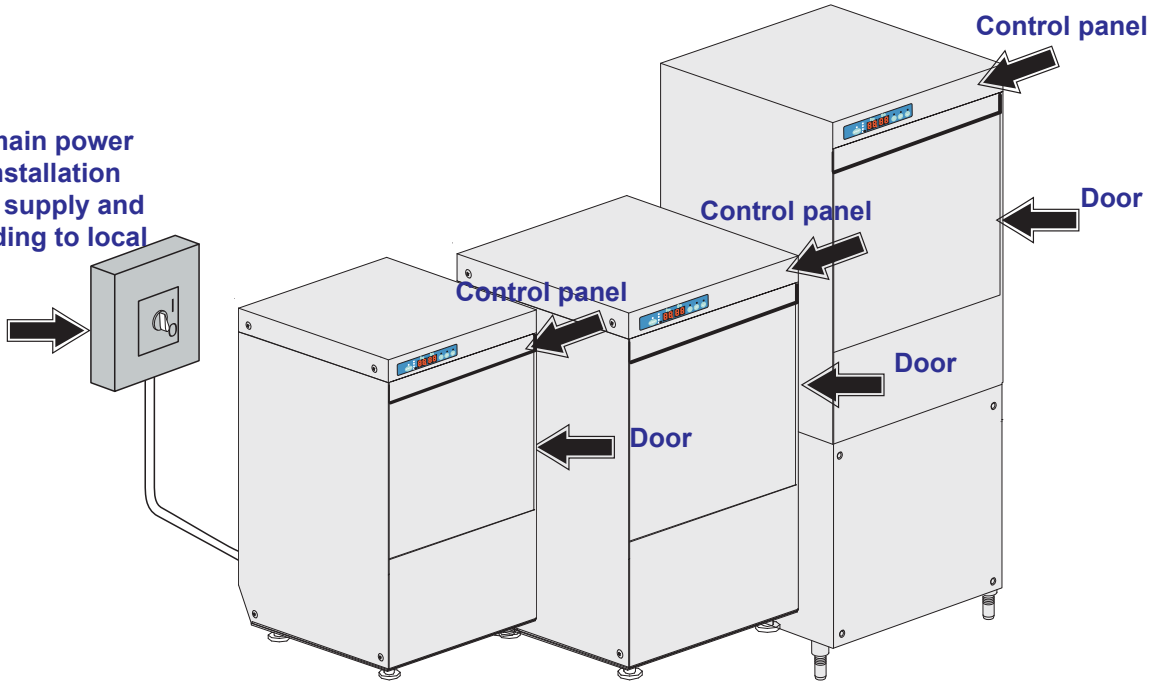
- **A suitable omni-polar one-way switch shall be installed and sized according to the absorption provided, in order to completely guarantee the disconnection from the supply mains, under “category III” overvoltage conditions.**
- **This switch shall be included in the power network solely and exclusively used for this purpose and installed in the immediate vicinity of the machine.**
- 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.

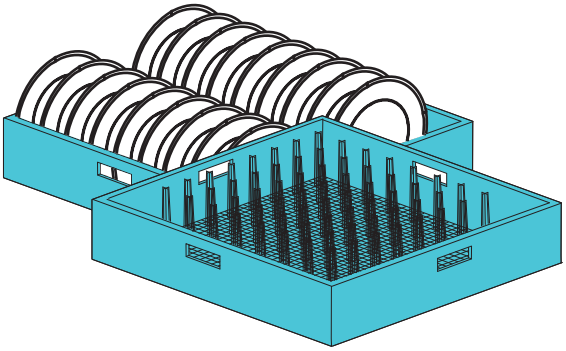
1. MACHINE DESCRIPTION

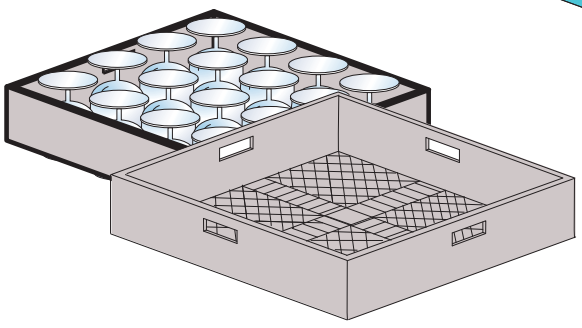
1.1 Machine Description

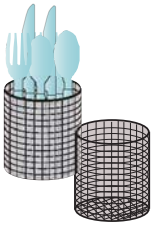
Wall-hung main power switch: at installation serviceman supply and care, according to local laws



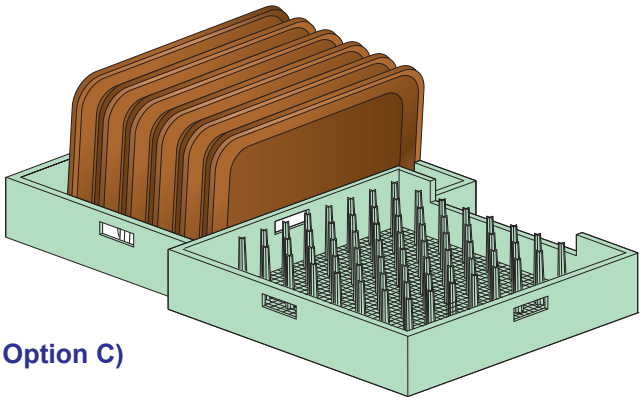
Standard equipment for machine with a 500mm rack:
nr. 1 glasses rack
and
nr. 1 plates rack 500x500mm
Capacity per plate rack:
12 soup plates or
18 flat plates
and
nr. 1 cutlery basket





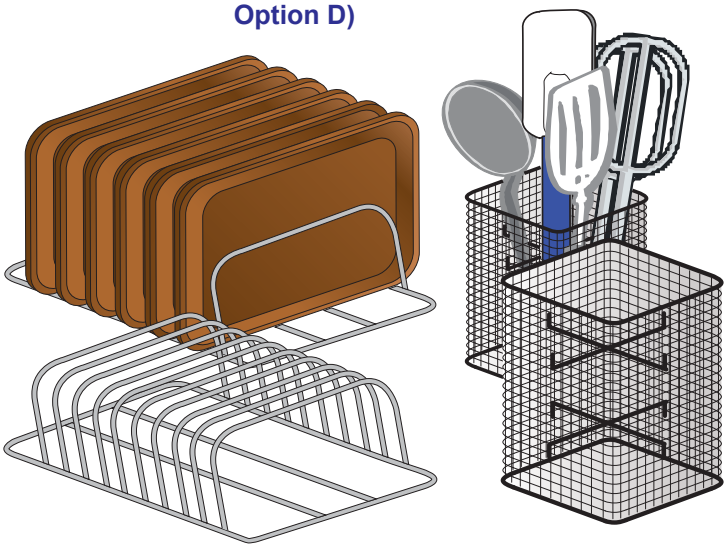


Other standard equipment for machine with a 500mm rack:
C) nr. 1 square trays rack 500x500mm
or
D) nr. 1 trays support 6 pcs
and
nr. 1 inox spatulas rack

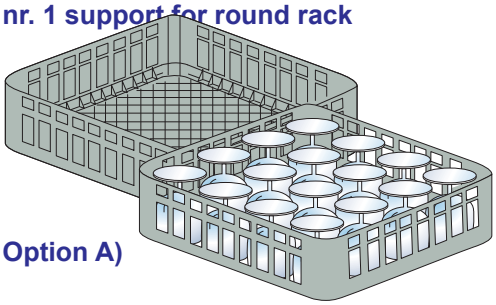


Option C)

Option D)

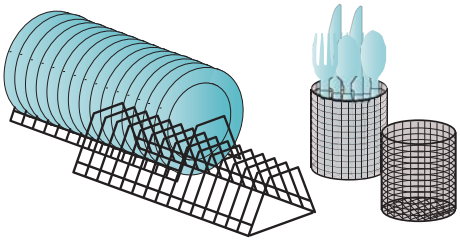


Standard equipment for machine with a 40mm rack:
option A) nr. 2 square glasses racks 400x400mm
or
option B) nr. 2 round racks Ø 400mm
nr. 1 support for round rack

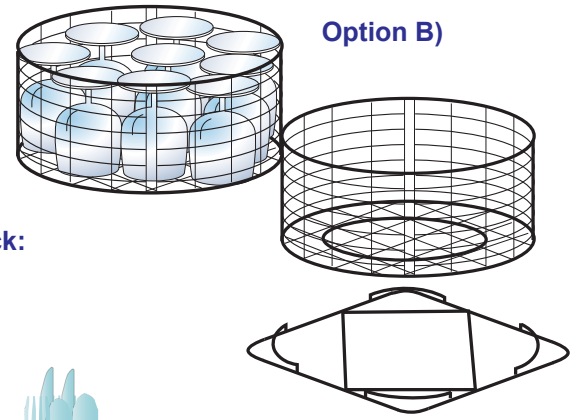


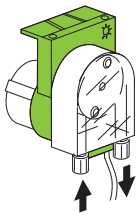
Option A)

Standard equipment for machine with a 40mm rack:
nr. 1 cutlery basket
and
nr. 1 saucers holder

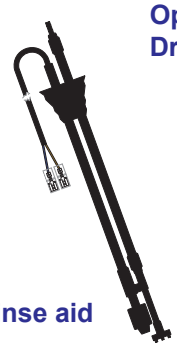


Option B)

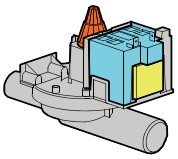




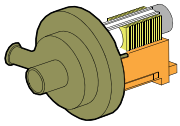
Optional:
Detergent dispenser

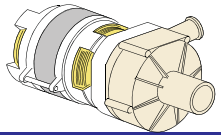


Optional:
Probe lack detergent/rinse aid



Optional:
Drain pump







Optional:
Water softener

To operate the machine, 3 connections are needed:

- Electrical;
- Water supply;
- Water drain.

This is a cycle machine comprising a 55°C wash cycle with detergent, a 82°C rinse cycle with injection of rinse-aid in the boiler hull.

This machine is designed exclusively for washing dishes, 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.

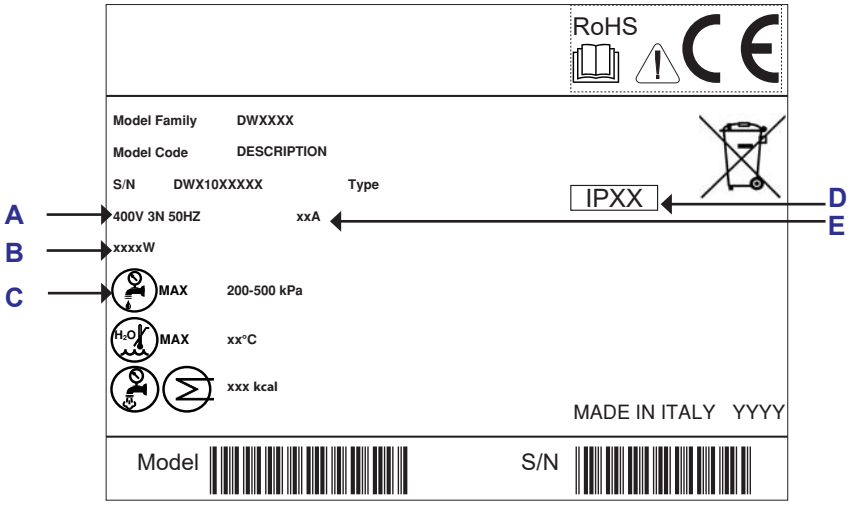
The drain pump optional is used to keep the correct water level in the wash tank.

To drain completely the wash tank at the end of the day, see par. **3.5 Drain pump system**.

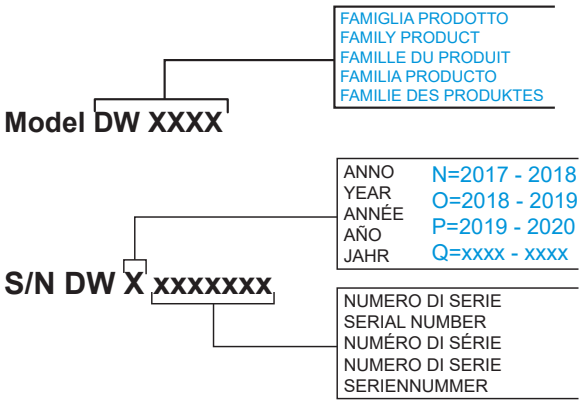
1.2 Machine features

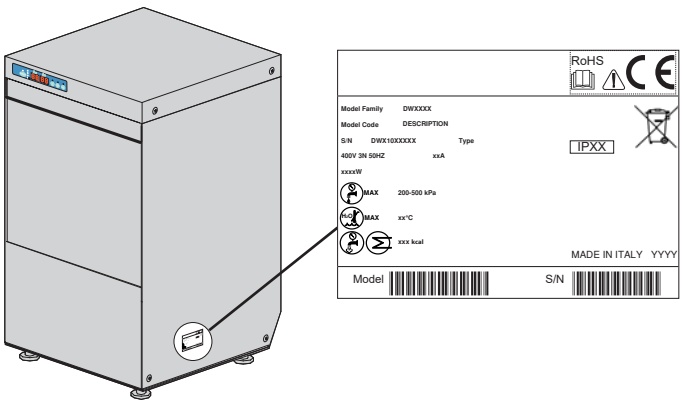
The machine has a noise level below 65 dB(A).

1.3 Dataplate

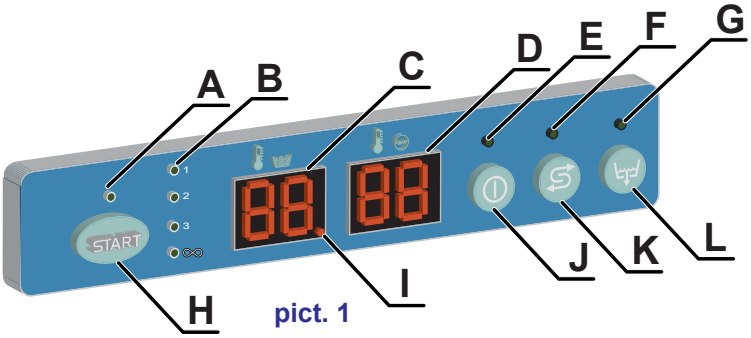


A Power source
B Total power installed
C Dynamic pressure
D Envelope protection degree
E Total electricity absorption





2. CONTROL PANEL AND RELATIVE SYMBOLS



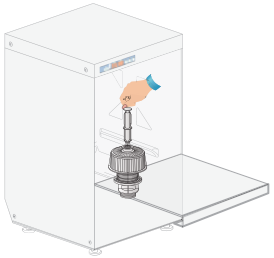
pict. 1

A) Cycle light indicator
B) Selected cycle indicator
C) Tank temperatur display
D) Boiler temperature display
E) ON / OFF indicator
F) Regeneration indicator
G) Drain indicator
H) START push-button to start up cycle / select cycle
I) Cool extra indicator
J) Switching – On / STAND BY button
K) Regeneration push-button (optional)
L) Drain push-button (optional)

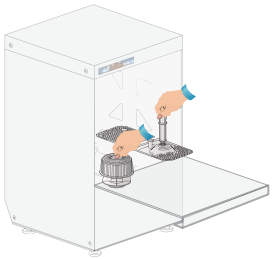
3. OPERATION

3.1 Machine start-up

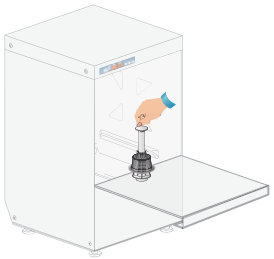
3.1.1 Start-up

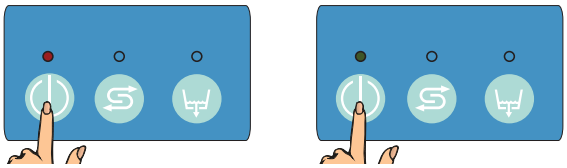


- Insert the overflow pipe in the special seat inside the tank. Make sure all the filters are properly fitted in their seats (see pict. 2). The filters must be cleaned every 30-40 wash cycles and whenever necessary.
  Do not operate the machine without filters and in particular the pump suction filters.

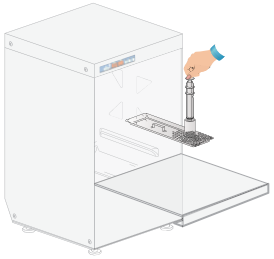


- Close the door.
- Turn the water valve “open”.
  Turn the main power switch ON.
  Turn the button **J** (see pict. 1).
  The machine start will be active when the **E** indicator will light green. After a few seconds the tank filling phase starts. Should the machines be equipped with the WRAS certified Break Tank, the tank filling phase is extended.



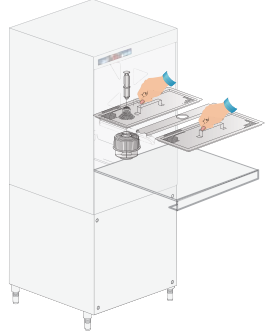


- After filling, the machine automatically starts the heating phase.





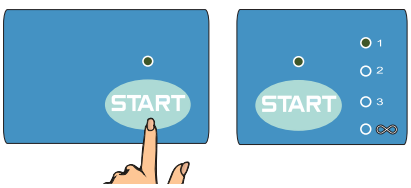
• The machine will be ready for washing only when the boiler and tank thermometers **C** and **D** indicate that the required temperatures have been reached, which are 82°C for boiler and 55°C for the tank.
• Insert the special green rinse aid dispenser tube in the liquid rinse aid container and check that the quantity is sufficient for the daily requirement.
The transparent tube (if present) must be inserted in the detergent container.

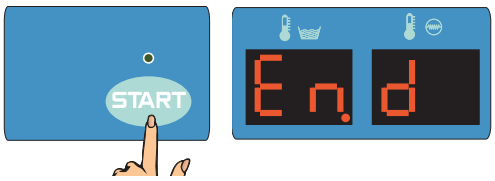


pict. 2

3.1.2 Operation

- Insert the rack filled with dishes to wash. The plates must be correctly placed in the rack (see par. **3.2**).
  Close the door.
- Select the wanted washing cycle (1, 2, 3, ∞) by pushing the button **H** (see pict. 1). The display will show in sequence all available programs.
  Once the wanted program is displayed, do release the button.
  The green LED **B** of the selected cycle lights up (1, 2, 3, ∞).



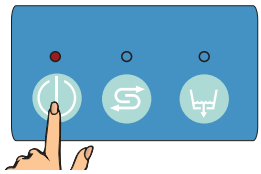


• Start the cycle by pushing the button **H** for not more than 1sec (see pict. 1). Starting of the cycle is signalled by the indicator of the selected cycle flashing. At the end of the cycle the indicator stops flashing and the message **END** appears on the display.
• The machine is ready for a new wash.

It is advisable to change the tank water, by means of another filling, at least every 40-50 washes or twice a day.

N.B.: the machine does not accept other cycles until the door is opened or the button **H** is pressed twice (see pict. 1).

The cycles (1, 2, 3, ∞) are factory-set.

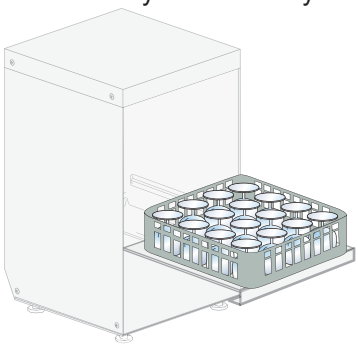


3.1.3 Switching OFF

• Turn the button **J**. The machine will turn in **STAND-BY** mode (the red LED **E** comes ON).
• Drain completely the wash-tank. Take off the overflow pipe. For machines equipped with drain pump see par. **3.5**.
• Switch the main power switch OFF.
• Shut the water valve.
• At the end of the day, clean the machine (see chap. **6 Maintenance**).

3.2 Cutlery and crockery loading

Before cutlery and crockery loading in the machine, coarsely clean them from the leftover food.

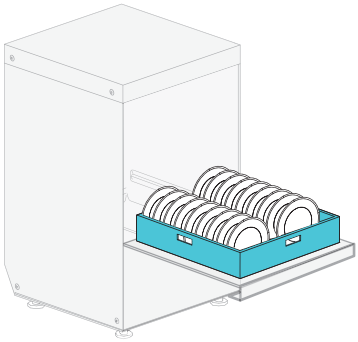


pict. 3

It isn't necessary to rinse the cutlery an crockery under water.

ATTENTION: 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.

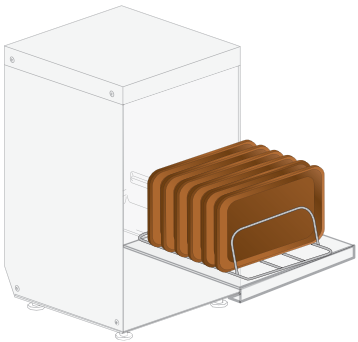


pict. 4

Some foods, such as carrots, tomatoes, and others, may contain some natural dyes substances, that in large amounts, can alter the crockery 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 crockery.
• 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.



pict. 5

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).

3.3 Detergent use

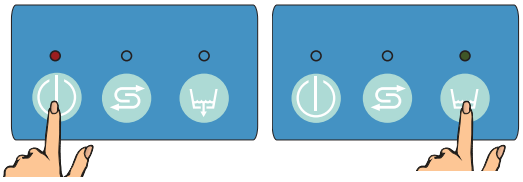
The detergent shall be the NO FOAM type, suitable for industrial dishwashers.
The use of good quality liquid detergents is recommended.
The detergent must be introduced in the tank. The amount is recommended by the manufacturers according to the water hardness.
By request the dishwasher can be equipped with an electric detergent dispenser (always recommended).
1cm. of the product drawn into the tube is equal to about 0.15 g. A correct amount of detergent is very important for a successful wash.
Should the detergent lack, the display will show **NO DE** (only with optional "Sensor for Chemicals Low Level").

3.4 Rinse aid use

The machine has a standard rinse aid dispenser. The machine automatically sucks the product.
The rinse-aid chemical, shall be suitable for professional glass and dishwashers.
Should the detergent lack, the display will show **NO RI** (only with optional "Sensor for Chemicals Low Level").

3.5 Drain pump system

The cycle drain pump works in an automatic and independent way.
At the end of the day, to completely empty the tank:



Press the button **J**. The machine will turn in **STAND-BY** mode (LED lights up).
Remove the overflow.
Close the door. Press the button **L**; the green tank drain indicator comes ON for the programmed set time.
After emptying the machine will turn in **STAND-BY** mode.
If a alarm appears, see chap. **8**.

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

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

3.6 Regeneration function (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. During this phase, the regeneration key indicator **F** lights up.

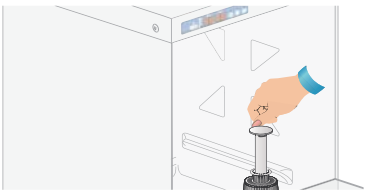
If needed the Regeneration cycle can be activated even during the wash-tank loading. If the activation happens during the wash-cycle, this will be elongated.
The circuit board is designed to call periodically for a 20 min. manual regeneration cycle (according with the water hardness adjusted). This regeneration cycle can also be activated by the user, should the rinse quality be dissatisfactory.
The key indicator **F** will start flashing.

IMPORTANT:
Before starting a regeneration cycle check if there is salt in the special container (max 0,500kg).
Fill the special salt container with tank empty and machine off.
Rinse the tank immediately if salt is spilled in it.



When displaying **NO SA** (alternated to the tank and boiler temperatures and with machine on stand-by mode) add salt in the container in the wash-tank (only with optional water softener).
To start the regeneration cycle, switch the machine off with the key **J**.
The red LED lights up.
Empty the tank. Remove the overflow.



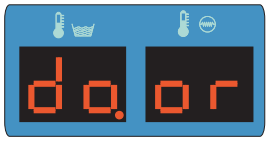






For machines equipped with drain pump see par. **3.5**.
Press the **K** button; the display will show **rege**.
The regeneration LED lights up and the machine carries out with the various phases.
The cycle is finished when the indicator **F** goes off, after around 20 minutes.

Note: Regeneration times will be blocked only if the door is opened.
The optional regeneration is not allowed in the following conditions:

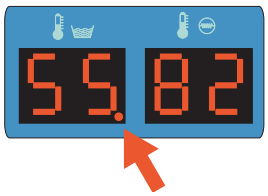


- during programming.
- during the wash cycle.
- during manual draining.
- if the door is open; in this case the message **DOOR** will be displayed for about 4sec.
- if the machine is ON.

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

3.7 Additional Cooling Function (Optional)

This function can only be enabled if the machine is installed with the optional **Additional Cooling** function.
Machine ON. Press the button **K** for at least 3 sec.
After the hot rinse is completed, an additional fresh-water rinse can be made.
During the wash cycle or manual draining the type of rinse selected cannot be changed.



The Additional Cooling selection is displayed with the decimal point of the second display lighting up.

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

WARNINGS:

- Do not slam the door when opening and closing.
- Do not put material or objects on the machine.
- The machine has an IPX3 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. Check the safety instructions on the detergent container.
- Some important rules must be followed for using this appliance:
  1) never touch the appliance with wet hands or feet;
  2) never use the appliance when barefooted;
  3) do not install the appliance in places exposed to water splashes.
- Do not cover the intake or dissipation grids.
- Do not use water to extinguish fires on electrical parts.

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

WARNING: 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.

4. ECOLOGICAL ASPECTS

4.1 Recommendations for optimal use of energy, water and additives

Salt dosing: A pre-set (by the manufacturer) quantity of salt is injected in the resins at each regeneration cycle. It is important to observe the number of regeneration cycles recommended in paragraph **3.6 Regeneration device** in order to avoid salt spills or lime deposits.

Use the machine fully loaded when possible: This shall prevent detergent, rinse aid, water and energy consumption waste.

Detergent and rinse-aids: Use detergents and rinse-aid chemicals with high biodegradability, to best respect the environment. Verify proper dosage in relation to water hardness at least three times a year. Excess product pollutes rivers and seas while an insufficient dose results in unsatisfactory dish washing and/or hygiene.

Boiler and Wash-Tank temperatures: The boiler and tank temperatures are set by the manufacturer in order to obtain the best washing results with detergents on the market. The temperatures can be reset by the installer in relation to your detergent.

Pre-washing: Carefully pre-wash with a moderate amount of water at room temperature to facilitate the removal of animal fats. To remove encrusted materials warm water soaking is recommended.

Note: Wash objects as soon as possible to avoid deposits from drying and compromise effective washing.
For effective washing routine dishwasher cleaning and maintenance is advised (see chap. **6**).

Disregarding the points listed above and of any the information contained in this manual can cause energy, water and detergent waste with a subsequent increase in running costs and/or performance reduction.

5. H.A.C.C.P. AND HYGIENE REGULATIONS

- 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.
- Remove carefully all solids from the objects to be washed, to avoid obstruction of filters, nozzles and piping.
- Drain the wash tank and clean the filters at least twice a day.
- Check if the detergent and rinse-aid dosage are correct (as recommended by the manufacturer). In the morning, before starting the machine, check that the quantity of chemicals in the canisters is enough for daily supply.
- Keep your working tables clean.
- Extract the rack with clean hands or gloves to avoid finger marks.
- Do not dry or polish the washed objects with cloths, brushes or rags that are not sterile.

6. MAINTENANCE

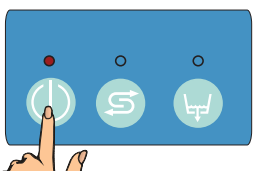
6.1 Routine maintenance

WARNING: The machine is not protected against pressurized water jets. Do not use pressure cleaning system against the machine.

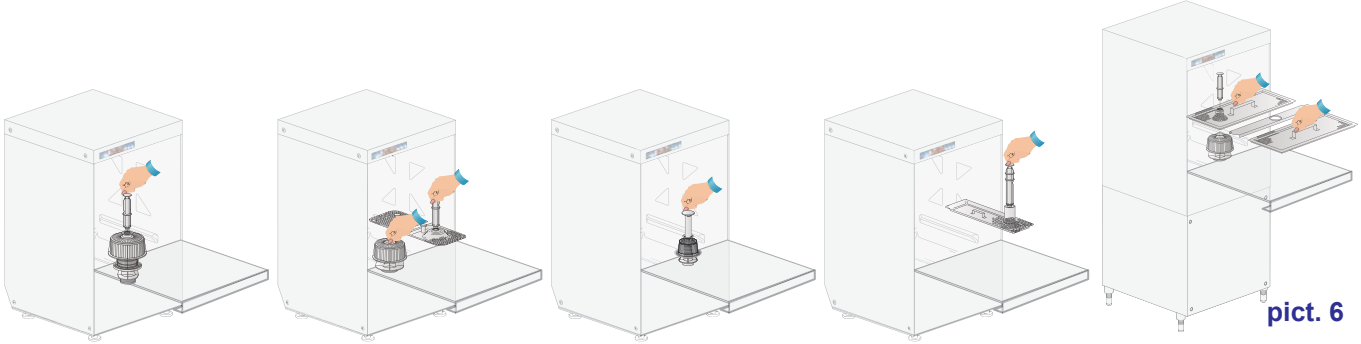
It is recommended to contact the seller of chemicals for proper cleaning instructions, in order to have detailed indications on methods and products for the correct periodical machine sanitation.

Do not use bleach or chlorine based detergents.

Daily cleaning is needed to ensure that the machine runs perfectly. The following shall be carried out:

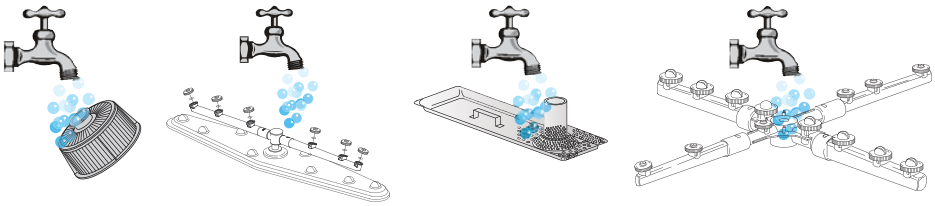


- Turn the machine in **STAND-BY** mode, by pressing the push-button **J** of the control panel.
- Remove the surface filters and clean them under running water (see pictures 6). Drain the sump water (see par. **3.1.3**).
- Remove the pump filter and clean with a brush and a water shower.
- Remove the arms by loosening the fixing screws, and thoroughly clean them, and the nozzles under running water.

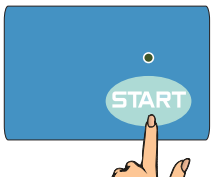


pict. 6

- Reassemble the parts and reposition the wash pipes firmly in place. 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 tank very carefully, using a water shower.
- It is recommended to leave the machine door open at the end of the day.
- Shut the water valve.
- Turned off the machine by switching the main power switch OFF.

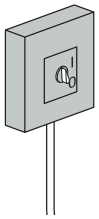


Automatic cycle of machine self-cleaning/rinsing: recommended at each day end.

- The machine should be in **STAND-BY** mode (without filter, without overflow pipe and machine door closed). Push **Start** button **H**; an automatic cycle of 60 seconds will start, after this the machine will be in **STAND-BY** mode.
- Shut the water valve.
- Turned off the machine by switching the main power switch OFF.



6.2 Extraordinary Maintenance – by qualified Service Personnel



Once or twice a year have the machine inspected by a qualified technician, in order to:

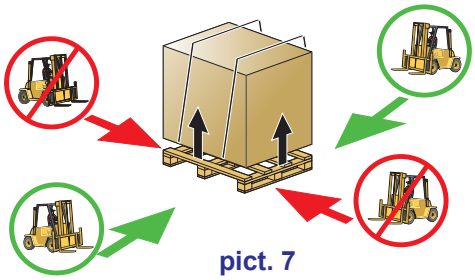
1 Clean the solenoid-valve(s) filters;
2 Remove scale from the heating elements;
3 Control the status of the seals;
4 Control for components integrity and/or consumption;
5 Control the dispenser(s) efficiency.

A qualified electrician, should check all electric connections inside the machine, at least once a year.

7. MACHINE INSTALLATION

7.1 Handling

7.1.1 Handling the product



pict. 7

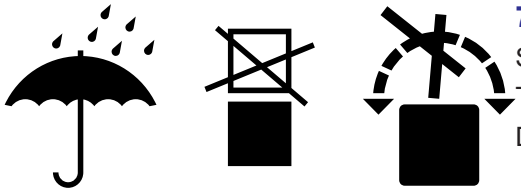
The machines must be handled strictly as shown in pict. 7 regarding the grip points indicated for lifting with a lift truck.
Latch the machine in a way that secures no vibration or shocks during transportation.

N.B.: Slinging with ropes not recommended.

After unpacking, make sure the appliance has not been damaged due to transportation. If it has been, do notify the seller about this problem. If the damage might question the machine's safety, do not install the appliance.

Double check the firm tightness of all hose-clamps on piping, nuts and bolts, and fasteners, that might come loose with the transport, to prevent water dripping or leakages, or other damages, during the machine's operation.

See chapter **9** for disposal of the packing material.



pict. 8

7.1.2 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 put anything on the machine, even if packed in its box.

7.2 Prepare for installation

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

The installation must be performed by a qualified engineer.

7.2.1 Room features

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

7.2.2 Electrical connection - Characteristics

The electrical connection to network shall be carried out in accordance to the local laws in force.
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.



A suitable omni-polar one-way switch shall be installed and sized according to the absorption provided, in order to completely guarantee the disconnection from the supply mains, under "category III" overvoltage conditions.

This switch shall be included in the power network solely and exclusively used for this purpose and installed in the immediate vicinity of the machine. Always turn the machine off via this switch.

This is the only model of switch that guarantees a total electrical power disconnection.

Make sure that the facility is equipped with efficient ground connection.



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

7.2.3 Water supply connection - Characteristics

Fresh water supply features:

Table 1

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

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

***It is compulsory to install a water-softener, in case of water with average hardness above 8°f**. Washed objects will be cleaner and the machine will last much longer.

The machine can be equipped with a water softener, on request. If the machine is equipped with a water-softener, a regeneration of the resins shall be done on regular basis (see par. **3.6**).

N.B.: 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.

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

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

7.2.4 Water supply characteristics

The machine water supply must be potable, in compliance with Directive 98/83/EC.

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

Table 2

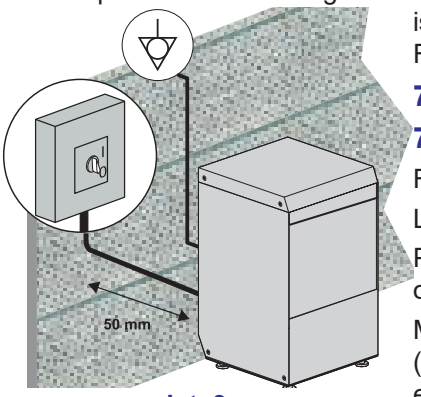
Water parameters table	Min	Max
Chlorine [1]		2mg/l
pH	6,5 [1]	8,5 [3]
Water hardness		8°f [2-3]
Iron [3]		0,2 mg/l
Manganese [4]		0,05 mg/l

[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 softner 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.

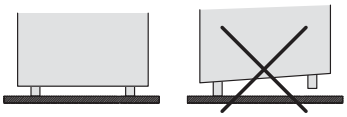
It is recommended a water test once a year.

7.2.5 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



pict. 9


pict. 10

7.3 Installation

7.3.1 Positioning the machine

Remove the packing with care.

Lift the machine as described in par. **7.1.1 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. 9). 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. 10).

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

7.3.2 Electrical connection

The electrical connection shall be carried out in accordance to the local laws in force.

The machine has a connection at the back, indicated by the symbol , that is meant to link the steel structure and masses among different apparatuses, to prevent electro-static electrical shocks.

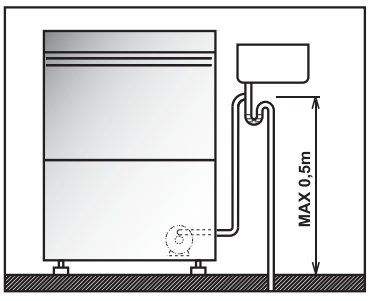
The electrical supply cable must be new, flexible, and according to "har" H07RN-F or a local valid equivalent. The cable size is dimensioned according to the power.

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). This is not needed if the pump is a single-phase model (standard).

7.3.3 Water connection

Connect the water in-feed hose, given with the machine, to a ¾" water supply tap.



pict. 11

Connect the machine draining pipe to the connection located at rear, under the back-panel, 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. 11).

The drain tube shall always be connected to a siphon in order to prevent the release of odors.

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

7.3.4 Start-up

At installation engineer's care.



8. SIGNALS AND ALARMS

8.1 Signals

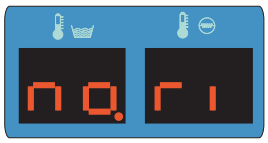
The signals messages are visualized, based upon their meaning.



When on the display the LED **F** above the **K** key flashes, a total regeneration is needed (only with optional water softener).



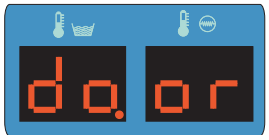
When flashing **NO DE** (alternated to the tank and boiler temperatures and with machine on stand-by mode), add detergent in the detergent tank (only with optional "Sensor for Chemicals Low Level").



When flashing **NO RI** (alternated to the tank and boiler temperatures and with machine on stand-by mode) add rinse-aid chemical in the rinse-aid tank (only with optional "Sensor for Chemicals Low Level").



When displaying **NO SA** (alternated to the tank and boiler temperatures and with machine on stand-by mode) add salt in the container in the wash-tank (only with optional water softener).



When displaying **DOOR** means that the open door does not allow the maneuver tried, or a wash cycle was in progress, when lifting the door.

8.2 Alarms

The alarms messages are visualized, based upon their meaning.

TYPE OF ALARM	CAUSE	REMEDIES
B1	BOILER FILLING FAIL	Open the water supply valve and verify a proper water supply flow. Contact Technical Service
B2	BOILER PROBE FAIL.	Contact Technical Service
B3	BOILER HEAT. ALARM	Contact Technical Service
B4	RINSING FAILED TIME OUT RINSE	Contact Technical Service
B5	BOILER OVERHEATING	Contact Technical Service
E1	WATER LOAD FAILED	Open the water supply valve. Contact Technical Service
E2	TANK PROBE FAIL.	Contact Technical Service
E3	TANK HEATING ALARM	Contact Technical Service
E5	TANK OVERHEATING	Contact Technical Service
E6	TANK DRAINING FAIL.	Check the overflow pipe. Contact Technical Service
Z6	TANK LOW LEVEL	Drain and load the tank. Contact Technical Service
Z9	REGENERATION FAIL	Contact Technical Service
Z10	ALARM SL8 - BREAK TANK HIGH LEVEL *	Contact Technical Service
	ALARM SL8 - BREAK TANK FILLING FAILURE **	Contact Technical Service

*** On atmospheric boiler versions only** **Table 3**

**** On pressure-boilers only**



9. ENVIRONMENTAL ASPECTS

9.1 Packaging

Packaging is made of the following components:

- a wooden pallet;
- a nylon sack (LDPE);
- a multi-layer carton;
- polystyrene (PS) strips;
- polypropylene (PP) banding.

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



9.2 Disposal

The symbol WEEE/RAEE used on this product indicates that it cannot be treated as domestic waste. Proper disposal of this product contributes to protecting the environment. For more information on product recycling, contact the local authorities, domestic waste authorities or the dealer where the product was purchased.
For product or parts disposal, follow the Council directives 2011/65/UE and 2012/19/UE as amended and/or application legislative decrees.
The present product or parts cannot be disposed of as urban waste but shall be collected in separate containers (see the waste bin on wheels symbol with an “X” on the product).
At the time of product disposal, the user shall refer to the waste electrical and electronic equipment (WEEE/RAEE) specification.
The manufacturer guarantees the absence of dangerous substances in the EEA used in conformity to the directive 2011/65/UE.
If the user does not comply with the regulations he/she shall be subject to the penalties foreseen by each member state.
Disconnect electricity and water before disposal.
Cut away 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.

10. TROUBLESHOOTING

Type of Problem	Possible Causes	Cure
The machine does not turn on	Main switch not ON.	Turn switch ON.
The machine does not load water.	Water valve shut.	Open the hot and/or cold water valve.
	Rinse area nozzles or solenoid-valve filter blocked and/or scaled with limestone.	Clean the rinse arm nozzles, piping and solenoid-valve filter. Check that the water hardness is <10°f.
	Defective pressure-switch.	Replace pressure-switch.
The water drains very slowly from the machine	Scarce water supply pressure	Check the water supply pressure
	Rinse booster pump blocked (if installed)	Call for Service
START button **A** flashing (red colour)	See chapter **8 Alarms**.	---
Washing results are unsatisfactory.	The washing nozzles are obstructed or the rack does not rotate.	Clean the nozzles carefully, and check the right positioning of the wash-arm, tightening firmly.
	Foam is present.	Use no-foam detergents or reduce the dose in use. Check the rinse-aid dosage.
	Fats or starches not removed.	Insufficient detergent concentration.
	Filters are dirty.	Remove filters, clean with brush under a jet of water and replace in original position.
	Check tank temperature (which must be between 55°C and 60°C).	Adjust the thermostat or check correct heating element operation.
	Wash time insufficient for the type of dirt.	Select a longer wash-cycle, if possible, otherwise repeat the wash cycle.
	Wash water is dirty.	Drain the tank water, clean the filters; refill the tank and replace the filters correctly.

Type of Problem	Possible Causes	Cure
Glasses or dishes are not properly dried.	Not enough rinse aid.	Increase dosage by turning the dispenser screw (call for Service).
	The rack is not suitable for the pots or the tools.	Use the suitable rack which gives the pots and tools 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 pots and tools so that they can dry more quickly in the air.
	Rinse temperature under 80°C.	Check the boiler thermostat temperature.
	Surface of dishes and glasses too rough or porous for material wear.	Replace type of dishes and glasses used. If the dirt on the dishes is dry and old, soak before washing.
Streaks and spots on glasses and dishes.	Streaks and spots on glasses and dishes.	Ridurre la concentrazione di brillantante agendo sulla vite micrometrica del dosatore
	Acqua con troppo calcare	Verificare la qualità dell'acqua Ricordiamo che l'acqua non deve avere una durezza superiore ai 5-8°f
	Per macchine con depuratore: poco sale nell'apposito contenitore oppure non sono state rigenerate correttamente le resine	Riempire il contenitore di sale (sale grosso: grani da 1-2 mm) e fare più spesso la rigenerazione delle resine. Se si nota presenza di calcare anche sulla carrozzeria, far controllare la funzionalità del depuratore da personale qualificato.
	Presenza di sale nella vasca della macchina	Pulire e risciacquare bene la macchina ed evitare, durante il riempimento del contenitore del sale, la fuoriuscita del prodotto
The machine suddenly stops during operation.	The machine is connected to an overload device.	Connect the machine on a own overload device (call for Service).
	A machine safety device was triggered.	Check the electrical devices (call for Service).
The machine stops during the wash stage and starts refilling water.	The previous day's water was not changed.	Drain the tank totally and refill.
	Excessive water temperature in tank.	Call for Service to check thermostat and pressure-switch.
	Defective pressure switch.	
The washing pump doesn't work	The pump is blocked	Call the Technical Assistance service

N.B.: For any other question, please contact your Service provider.
The manufacturer has right to modify any technical characteristics without prior notice.

11. EU DECLARATION

The machine purchased is in compliance with the norms stated in the EU declaration attached to the machine in original. Please find attached below the facsimile of this declaration, with the general data of the machine purchased. For the absorption data refer to the data-plate on the machine.

DICHIARAZIONE DI CONFORMITA' UE
EU DECLARATION OF CONFORMITY
DÉCLARATION EU DE CONFORMITÉ
EU-KONFORMITÄTSERKLÄRUNG
DECLARACIÓN EU DE CONFORMIDAD
DECLARAÇÃO EU DE CONFORMIDADE

Il sottoscritto (1), autorizzato dall'azienda (2), dichiara che la lavastoviglie elettrica per uso collettivo (3) è stata progettata e costruita in conformità alle norme armonizzate (4) secondo quanto prescritto dalle seguenti direttive e successivi emendamenti (5) e in applicazione a quanto previsto dalle direttive citate, è stata dotata di Marcatura CE e sono stati predisposti i fascicoli tecnici presso la nostra sede (2). Tale dichiarazione riguarda esclusivamente la macchina nello stato in cui è stata immessa sul mercato, escludendo i componenti aggiunti e/o le operazioni effettuate successivamente dall'utente finale. Declina ogni responsabilità per sinistri a persone, a cose o ad animali derivanti da manomissione della macchina da parte di terzi, ovvero da carenze di manutenzione, di riparazione o di installazione della stessa da parte di personale non qualificato.(*)

The undersigned (1), autorized by the company(2), hereby declares that the commercial electric dishwashing machine (3) is in compliance with the harmonised standards (4) according to the following directives and further amendments (5) and pursuant of the above mentioned directives, the CE Marking have been applied. Furthermore, adeguate technical files have been prepared and are available at our offices (2). This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the final user. Declines all responsibility for damages to people, properties and animals resulting from bad servicing of the machine by third parties as from inadequate maintenance or repairs or installation by unskilled technicians.

Le soussigné (1), désigné par la societé (2), déclare que le lave-vaisselle électrique à usage collectif (3) est conforme aux normes harmonisées (4) selon les prescriptions et directives suivantes et les amendements successifs (5) et en application des directives citées, il porte le Marquage CE. Les dossiers techniques sont déposés dans notre siège (2). Cette déclaration concerne exclusivement la machine dans l'état dans lequel elle a été mise sur le marché et exclut les composants ajoutés et/ou les opérations effectuées par la suite par l'utilisateur final. Décline toute responsabilité pour tout sinistre à personnes, choses ou animaux résultant de l'endommagement de la machine par un tiers, c'est-à-dire dû à une maintenance, des réparations ou une installation inadéquates effectuées par du personnel non-qualifié.

Der Unterzeichenete (1) berechtigt von der Firma (2), erklärt, daß die elektrischen Spülmaschinen für den gewerblichen Gebrauch (3). In Übereinstimmung mit den harmonisierten Normen ist (4) gemäß folgender Richtlinien und deren nachfolgenden Änderungen (5) und daß in Übereinstimmung mit den erwähnten Richtlinien die CE-Kennzeichnung angebracht wurde und daß die relevanten technischen Unterlagen zusammengestellt wurden (2). Diese Erklärung bezieht sich nur auf die Maschine in dem Zustand, in dem sie in Verkehr gebracht wurde; vom Endnutzer nachträglich angebrachte Teile und/oder nachträglich vorgenommene Eingriffe bleiben unberücksichtigt. Jede Verantwortung für an Personen, Sachen und Tieren verursachten Schäden, die durch die Manipulation seitens Dritten, beziehungsweise auf mangelhafte Wartung und Reparaturarbeiten oder Installation von unqualifiziertem Personal zurückzuführen sind, werden abgelehnt.

Quien subscribe (1), elegido de la empresa (2), declara que el lavavajilla eléctrico de uso colectivo (3) es conforme a las normas armonizadas (4) como la prescripción de la siguientes directivas y sucesivas enmiendas (5) y, conforme con lo previsto en las citadas directivas, han recibido el Marcado CE. Existe asimismo los especifico expediente técnico relativo disponible en nuestro domicilio (2). Esta declaración se refiere únicamente a las máquinas en el estado en que se comercialicen, con exclusión de los elementos añadidos y/o de las operaciones que realice posteriormente el usuario final. Declina toda responsabilidad por daños a personas, cosas o animales producidos del mal servicio de la máquina por terceras partes asi como por reparaciones o mantenimiento indadecuados o de instalaciones por parte del personal no cualificado.

O abaixo-assinado (1), autorizado pela empresa (2), vem por este meio declarar que a máquina de lavar louça para uso comercial (3) esta de acordo com as normasharmonizadas (4) de acordo com o previsto pelas seguintes diretivas e posteriores alterações (5) a Marcação CE foi aplicada no seguimento das diretivas mencionadas. Os processos técnicos estão preparados e adequados e encontram-se disponíveis na nossa sede (2). Esta declaração diz respeito apenas à máquina tal como se encontra no momento da colocação no mercado, excluindo-se os componentes adicionados e/ou as operações efectuadas posteriormente pelo utilizador final. Declina toda e qualquer responsabilidade por danos causados a pessoas, bens e animais, resultantes do mau manuseamento da máquina por parte de terceiros assim como manutenção incorrecta ou reparações inadequadas ou instalação por pessoal não qualificado.

(*) Lingua originale / Original language / Originalsprache / Langue originale / Idioma original / Idioma original

2)	3)
4) EN 60335-1:2012; EN 60335-2-58:2005; EN 55011:2009; EN55014:2006; EN 61000 3-2:2006; EN 61000 3-3:2008; EN61000 3-11:2000; EN 61000 3-12:2005; EN 61000 4-2:2009; EN61000 4-4:2010; EN 61000 4-5:2006; EN 61000 4-6:2009; EN61000 4-11:2004	5) 2014/30/EU; 2006/42/EC; 2011/65/EU; 2012/19/EU
1) Preposto/Person in Charge	Firmato in originale e conservato presso la nostra sede (2). Original document signed and available at our office (2). Dieses Dokument ist im Original unterzeichnet und bei uns aufbewahrt (2). Signé en original et gardé à notre siège (2). Firmado en original y conservado en nuestro domicilio (2). Original assinado e armazenado na nossa sede (2).