

metos

Granule Machine

GR 300 PLUS

4246516

Installation and Operation Manual





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	28
INSTALLER SECTION	
1. MACHINE INSTALLATION	31
1.1 Receiving the machine	31
1.2 Water connection	31
1.3 Electrical connection	31
1.4 Rinse aid dispenser operation	32
1.5 Detergent dispenser installation	33
1.6 Booster pump/rinse	34
1.7 Emptying boiler and break tank (anti-freeze function)	34
2. CONTROL PANEL AND SYMBOLS	35
2.1 Function keys during normal operation	35
2.2 Function keys during programming	35
3. FEATURES	35
3.1 General features	35
4. MACHINE PROGRAMMING	36
4.1 Parameters selection	36
USER SECTION	
5. CONTROL PANEL AND SYMBOLS	39
5.1 Function keys during normal operation	39
6. FEATURES	39
6.1 General features	39
7. OPERATION	40
7.1 General operation	40
7.2 Machine preparation	40
7.3 Detergent use	41
7.4 Rinse aid use	41
7.5 Rack preparation	41
7.5.1 Equipment for machine with 735 mm Ø rack	41
7.5.2 Equipment for machine with 850 mm Ø rack	42
7.5.3 Mutual Equipment	43
7.6 Final check	43
7.7 Granule cleaning and collection	44
7.8 H.A.C.C.P. and hygiene regulations	44
7.9 Booster pump/rinse	44
7.10 Thermo-stop function	44
7.11 Conditions that inhibit the washing cycle	44
7.12 Conditions that inhibit the washing cycle start	45
8. MAINTENANCE	45
8.1 Routine maintenance	45
8.2 Extraordinary maintenance	45
9. ENVIRONMENTAL ASPECTS	46
9.1 Packaging	46
9.2 Disposal	46
10. ECOLOGICAL ASPECTS	47
10.1 Recommendations for optimal use of energy, water and additives	47
11. DETECTION AND DISPLAY OF ALARMS AND FAULTS	47
11.1 Fault display	47
11.2 Reset alarms or faults	47
11.3 Boiler overheating alarm	48
12. TROUBLESHOOTING	49

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.

These instructions are supplied to safeguard the users in compliance with Directive 2006/95/CE as amended and the “harmonized product Technical Standard” EN 60335-1 and EN 60335-2-58.

- THE CONNECTION TO THE ELECTRICAL AND WATER NETWORKS, FOR INSTALLING THIS UNIT, MUST BE CARRIED OUT BY QUALIFIED OPERATORS ONLY.
- 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.
- The appliance shall not be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.
- Children must be attended and shall stay away from this machine.
- Do not slam the door when opening and closing.
- 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.
- Do not use this appliance or any part of it as a stepladder or support as it has been designed exclusively to bear the weight of its rack, containing the items to be washed.
- **This machine is designed only and solely for washing trays, pots, tools and pans with human food type of residual. DO NOT** insert in the machine articles polluted with petrol, paint, chips of steel or iron, fragile objects or materials not resistant to the industrial 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 opened, thus preventing water spillage. Always switch the machine completely off and drain the water tank, before accessing inside.
- **The machine must be disconnected from the electrical supply after use at the end of the day or for any type of service/maintenance. Switch off the main switch located on the wall, which shall be installed by a professional installer. Shut the water supply valve(s).**
- The user shall not carry out any repair and/or maintenance operations. In any case contact qualified personnel.
- Servicing of this ware-washer must be performed by authorized personnel.
N.B.: Use genuine spare parts only. Non-genuine parts will invalidate the warranty and the manufacturer will take no responsibility for any damage.
- **Do not use old water hoses, but new ones only.**
- 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 barefoot;
 - 3) do not install the appliance in places exposed to water splashes.
- 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.
- Follow the instructions given in the manufacturer’s booklet for cleaning operations (chap. 8).
- 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.
- Only qualified personnel can access the control panel, when the main power switch is OFF.

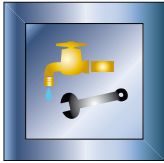
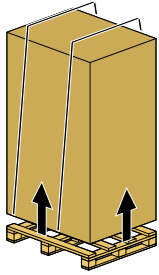
- The machine has an IPX5 rating for protection against accidental water splashes and is not protected against pressurized water jets. Pressure-cleaning systems shall not be used on this machine.

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

ATTENTION: INTERNAL CLEANING OF THE MACHINE SHALL BE CARRIED OUT AT LEAST 10 MINUTES AFTER THE POWER IS 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.



**WARNING:**

Once installation is complete, it is recommended to detach and preserve the installer's guide section of this manual for future reference.

1. MACHINE INSTALLATION**1.1 Receiving the machine**

After removing the packaging, make sure that the machine was not damaged during transportation. Should this be the case, please notify the seller immediately. For packaging disposal see chap. 9.

1.2 Water connection

Pressure table	Min.	Max.
	kPa	kPa
Static pressure	250	400
Dynamic pressure	200	300
Hardness	2°f	10°f
Capacity	12 liters/minute	

table. 1

Connect the machine water supply with a stop valve that can quickly and completely shut the water flow.

Make sure that the water supply system is within the parameters showed on table 1. Should the water supply pressure be above 4 BAR (400 KPa), a pressure reducer is needed.

It is compulsory to install a water-softener, in case of water with average hardness above 10°f. Washed objects will be cleaner and the machine will last much longer.

Each machine is supplied with a rubber water load hose with a 3/4" threaded connection. It is recommended to connect the hose to a water supply that does not exceed 55°C. This machine needs a dual connection to the water supply: one for hot water supply for tank loading and one for cold water, to be linked to the heat recovery system and for the rinse circuit. Should the water connection be with cold supply only, the stand-by time to use the machine will increase.

Connect the supplied machine draining tube to the connector located under the tank, making sure that the water flows freely (giving, therefore, minimum slope). The drain tube shall always be connected to a siphon in order to prevent the release of odors. The MAXIMUM permitted drain height is 12cm.

1.3 Electrical connection

The electrical connection shall be carried out by qualified personnel, in accordance to the local laws in force.

Make sure that the supply voltage is the same as written on the machine plate. **Apply a suitable magneto-thermal omni polar switch, measured in accordance to absorption, equipped with a contact opening of at least 3 mm (always turn the machine off via this switch). This is the only model of switch that guarantees a total electrical disconnection.**

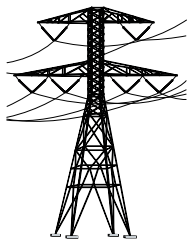
This switch shall be solely and exclusively used for this purpose and installed in the immediate vicinity of the machine.

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

Moreover, the machine has a clamp at the back indicated by the symbol (see pict. 1) that is used as equipotent connection among different apparatuses. To dimension supply cables and switches, please refer to the maximum power expressed in Watts (W) and Amperes (A) specified on the machine serial number plate

N.B.: On our machine cables type H05RN-F or H07RN-F (4mm² section for voltage 380-415V3~, and a 6mm² section for voltage 220-240V3~) must be used. In case of replacement, do meet the regulations of the Country where the machine is installed.

The replacement of the cable must be carried out by specialized personnel only.



pict. 1

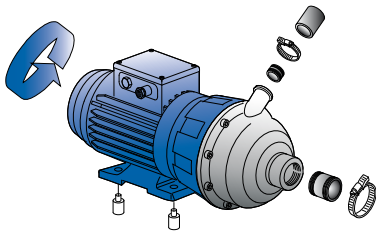


The installation engineer must adapt the supply cable isolation class to the actual working environment, respecting the Technical Regulations in force.

Attention: some machine versions can disperse more than 10mA to earth.

Proceed to the machine start-up and rinse aid dispenser calibration as follows:

- 1) Turn the main electrical switch ON and open the water valve.
- 2) Turn the machine ON by pressing the key "B" (**ON/OFF** - see chap. 2). The display and the "A" (**Start**) button, will backlit in red.
- 3) The machine begins to load water into the boiler and into the tank (important: to not open the door).
- 4) Once the water is loaded, it is pre-heated in the boiler and in the tank afterwards.
- 5) **It is mandatory to check immediately the pump's motor rotation when pressing the "A" (Start) button, before the cycle starts, as a three-phase motor might rotate on the wrong direction and damage the pump's components. In addition to the orientation arrows, a wrong rotation this is also indicated by excessive noise during the wash cycle (see pict. 2). Important: The wrong rotation of the pump causes the loosening of the impeller and water leakages from the mechanical seals. To adjust the pump motor rotation, operate on the main electrical supply cable only as all motors have been electrically aligned during the factory tests.**



pict. 2

- 6) The machine is ready to wash once the display will become green.

The machine's sound level is $L_{pA} = 82\text{dBA} \pm 2.5$. **

**test made according to EN 60335-2-58/A11

1.4 Rinse aid dispenser operation

Dispenser operation:

Activated by the rinse-pump pressure, the rinse-aid pump sucks the rinse-aid chemical from the canister and injects it into the boiler during the wash cycle.

Hydraulic connection (for replacement only):

- 1) Use the rubber hose installed on the machine to hook up the dispenser to its connector (B) with the special connector located nearby the boiler (injector).
- 2) The green hose, on the other side, which comes out of the suction connector (C), shall be inserted with a small filter and relevant ballast, in the rinse aid product canister (during the machine use).

The connector (A) shall be hooked up to the rinse circuit with a (T) connection.

Priming:

To prime the pump simply start the machine and carry out a few wash and rinse cycles.

Setting:

During each cycle the dispenser sucks an adjustable quantity of rinse-aid product from 0 to 4 cm³ equivalent to the suction length in the tube from 0 to 30 cm.

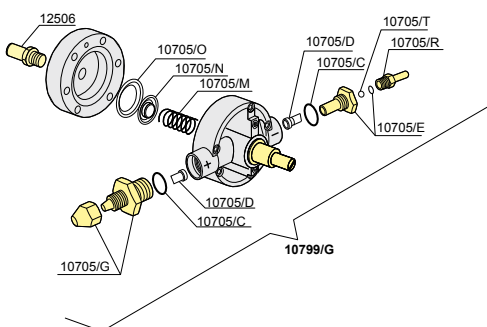
The minimum flow is obtained by completely rotating the regulation screw (D) clockwise, while maximum flow is obtained by rotating the regulation screw with about 20 counter-clockwise rotations.

For proper chemical product dosage see the chemical-product manufacturer recommendations (see also par. 7.4).

N.B.: for each screw rotation the rinse product dosage varies by 1,6 cm pulled into the hose, equal to 0,2 cm³/rotation (about 0,21 g/rotation with product density of 1,05 g/cm³).

The rinse aid dispenser cannot function properly if there is a slope of over 40 cm between the bottom of the machine and the canister.

THE DISPENSERS ARE PRE-CALIBRATED AT A SUCTION OF 5 CM FOLLOWING OPERATIONAL VERIFICATION AND INSPECTION. THIS PARAMETER SHALL BE MODIFIED UPON RINSE-AID TYPE AND WATER HARDNESS.



pict. 4

PROBLEM	CAUSES AND REMEDY
Water leaks from rinse aid suction hose.	The suction valve 10705/D and the delivery valve do not seal, due to consumption or foreign bodies (dirt) in the clamping seats. Clean valves 10705/D, check if the rinse aid suction filter is present. Make sure there are no crystals or solid pieces inside the canister, which could appear on old chemicals.
The dispenser does not suck up rinse aid.	a) The flow valve 10705/D does not seal due to foreign bodies in the clamping seats. Clean the valve 10705/D, check if the rinse aid suction filter is in place.
	b) The piston washer 10705/O does not seal because it is damaged. Replace the washer 10705/O with an original.
	c) Check that the membrane 10705/O is intact.

table 2

1.5 Detergent dispenser installation

Electrical connection:

Read the electric diagram, enclosed with the machine.

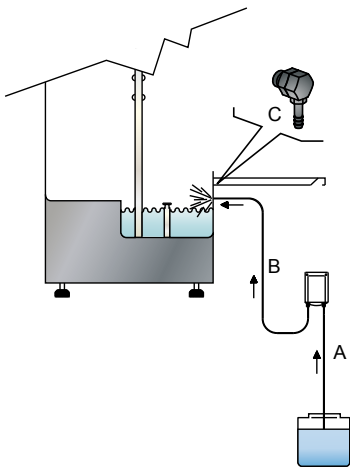
Water connection:

- Properly assemble the injector (C), using the appropriate gaskets.
- Connect the suction hose to the dispenser suction attachment (see fig 5 point A).
- Connect the flow hose to the other dispenser attachment and the to flow connector (see pict. 5 point B).
- Insert the hose with filter into the detergent canister.
- Prime the detergent and proceed with the dosage phase.

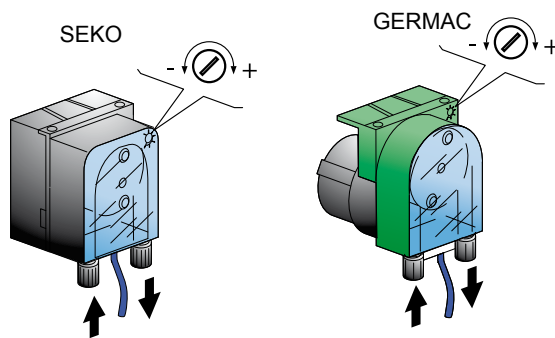
Dosage:

The detergent dosage flow can be adjusted with a screwdriver as indicated in pict. 6. Each 2 cm of product, sucked into the tube, corresponds to 0,25 cm³ equal to 0,3 g (with 1,2 g/cm³ density). See also par. 7.3.

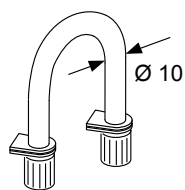
N.B.: To save chemicals, a dispenser with a conductivity probe in the tank is recommended.



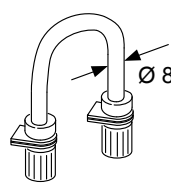
pict. 5



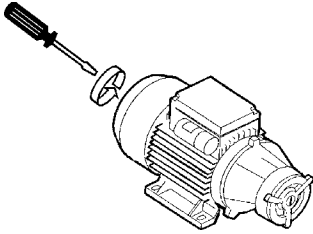
pict. 6



15108/E



15185



pict. 7

1.6 Booster pump/rinse

After a period of inactivity of the machine, check if the rinse booster pump rotates freely. If blocked, move the pump shaft, by inserting a screwdriver in the notch, rotating clockwise and counter-clockwise (see pict. 7).

This operation may be necessary when the "Failure in rinsing" alarm sounds (B4 - see chap. 11.2).

1.7 Emptying boiler and break tank (anti-freeze function)

This function permits the draining of the boiler and the break tank for any extraordinary maintenance or emptying function.

- Press key "B" (**Stand By**) and make sure that the tank is empty.
- Press the "A" (**Start**) button for 3 seconds and the boiler e break tank draining will activate. The message "**Boiler draining**" will appear on the display and the "A" (**Start**) button will flash in blue light. Should the wash-tank be full, the system will not start the draining phase of the boiler and the display will show "**Drain the wash-tank!**".
- Once emptying is complete, the machine can be turned back on with key "B" (ON), but is frozen until the tension is removed and replaced **by the general wall switch**.

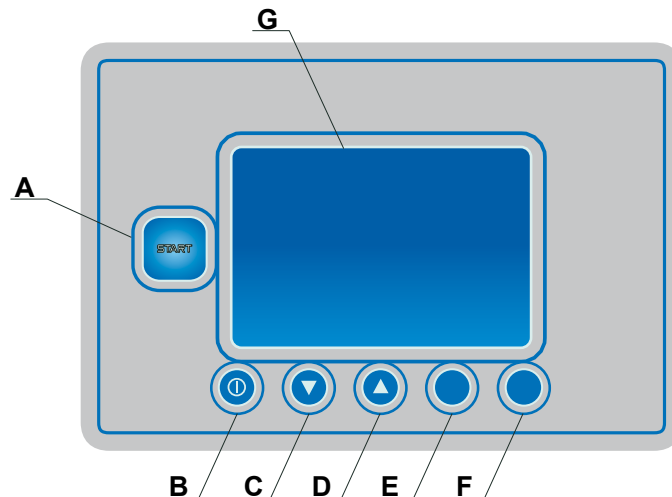


2. CONTROL PANEL AND SYMBOLS

The following specifications are intended as a functional description of the display. To simplify the description of each function, the control panel display, with function control keys, is represented here-below.

2.1 Function keys during normal operation

pict. 8



- A:** Cycle Start/Stop.
Multi-chromatic button:
Firm red light: machine filling/heating;
Flashing red light: alarm signal (check the code on the alarm chart chap. 11);
Green light: machine ready. Select cycle;
Firm blue light: machine in operation;
Flashing blue light: machine in stand-by (boiler drainage).
- B:** Machine power ON/OFF (in stand-by only).
C: Cycle Selection;
D: Cycle Selection;
E: Cut out;
F: Cut out;
G: LCD Display.

2.2 Function keys during programming

- A:** Programming: The white light signals program the machine.
B: Exit.
C: Decrease.
D: Increase.
E: Cut out.
F: Cut out.

3. FEATURES

3.1 General features

The control unit, managed by a microprocessor, controls the following:

- boiler water load;
- tank water load;
- boiler temperature setting;
- tank temperature setting;
- function cycles;
- fault detection and display.

4. MACHINE PROGRAMMING

To access programming:

- simultaneously press push-buttons **"A"** and **"B"**, making sure to press push-button **"B"** (**ON/OFF**) just a little before, for about 5 seconds, after which the message **"Key"** shall be displayed;
- set the key parameter at **"15"** using the push-buttons **"C"** and **"D"** "↑" "↓";
- confirm the key by pressing push-button **"A"**; if your password is correct, the access to parameters is granted, if incorrect the message **"Wrong key"** will be displayed for about 4 seconds.

Note: To enter the programming, the machine should not be in wash-cycle mode. If you try to enter the programming during the wash cycle, the warning message **"no Prg"** will be displayed and the machine will continue its wash cycle.

The machine will exit the programming mode automatically after 20s the last key has been pressed.

Note: to reset the display, turn off the main switch on the wall for 10 seconds, and then turn the main wall switch on again.

4.1 Parameters selection

Once in program mode, all modifiable parameter will be displayed.

SERVICE MENU	Min	Max	U.d.M.	Default	Note
Set rinse temp.	70	90	°C	85°C	
Set wash temp.	50	70	°C	55°C	
Language				ENGLISH	
Door start	SI	NO		NO	

table 3

At this stage, it will be possible to:

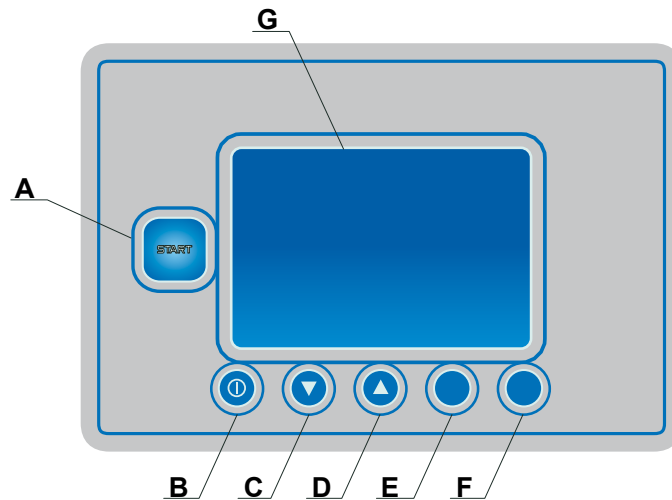
- Confirm by the **"A" (Start)** button the selection. Enter in the selection to see all options or default parameters.
- Select or modify the parameters in the menu by the **"C"** and **"D"** "↑" "↓" keys.
- Confirm by the **"A" (Start)** button the selected parameter.
- Press the key **"B" (ON/OFF)** to exit.

5. CONTROL PANEL AND SYMBOLS

The present specifications are intended as a functional description of the display. To simplify function description the control panel display with function control keys is represented here-below.

5.1 Function keys during normal operation

pict. 8



- A:** Cycle Start/Stop.
Multi-chromatic button:
Firm red light: machine filling/heating;
Flashing red light: alarm signal (check the code on the alarm chart chap. 11);
Green light: machine ready. Select cycle;
Firm blue light: machine in operation;
Flashing blue light: machine in stand-by (boiler drainage).
- B:** Machine power ON/OFF (in stand-by only).
- C:** Cycle Selection;
- D:** Cycle Selection;
- E:** Cut out;
- F:** Cut out;
- G:** LCD Display

6. FEATURES

6.1 General features

The control unit managed by a microprocessor manages the following:

- boiler water load;
- tank water load;
- boiler temperature setting;
- tank temperature setting;
- function cycles;
- fault detection and display.



7. OPERATION

7.1 General operation

To be ready to operate, the machine needs 3 connections:

- Electrical;
- Water supply;
- Water drain.

The machine consists in a wash chamber, inside which there is:

- A rack support, connected to a clutch equipped gear, where the rack is placed to rotate during the wash cycle.
- Two interchangeable wash arms where water and granules flow from.
- A rinse arm connected to a booster pump, fed by the boiler, guaranteeing constant temperature rinse ("Plus" system).
- A filter located under the chimney to prevent particles from rising and getting stuck in the fan located at the end of the chimney.

A double tank is made under the wash chamber, containing water only in one half and water mixed with granules in the other half. The part containing water only shall always be covered by blind covers to avoid granules penetration.

The part containing the granules in water mixture shall always be covered by the perforated filters. To recover the granules, the collection strainer with special side compensatory chutes (see chap. 7.7).

7.2 Machine preparation

- Prepare the right amount of granules by filling the strainer to the indicated level (see photo 1).
- Pour the contents into the right-hand side of the tank.
- Place the overflow pipe in the dedicated seat, at the tank bottom (see photo 2).
- Insert the two cover-filters above the water-only area (left side of the tank) and the two perforated filters above the granule area (right-side of the tank).
- The filters shall be cleaned every 15-20 cycles and whenever necessary. **Do not use the machine without filters.**
- Make sure that the wash and rinse arms are properly and firmly placed.
- Make sure that the rack support is inserted properly.
- If the machine is equipped with a detergent dispenser, insert the transparent hose into the detergent caniste.
- Insert the special green rinse-aid chemical container and check that the quantity available is sufficient for the workload of the day.
- Shut, gently, the door.
- Open the water valve (or the 2 water valves if the machine is separately connected to cold and hot water supply), activate the main wall switch and proceed with turning on the machine by pressing the push-button **"B" (ON/OFF)** - see pict. 8). The display will light, indicating the software update and the **"A" (Start)** button will be in white light. After a few seconds, the display and the **"A" (Start)** button will become red, indicating the refilling phase.
- After water-filling, the machine will automatically activate the heating stage. The **"A" (Start)** button will be lightened in red and the display will indicate the heating phase.
- Till the set temperatures in the boiler and in the wash tank will not be reached, it will not be possible to start any wash cycle. The machine will be ready to wash only when the **"A" (Start)** button and the display will be green.
- Insert the rack with the various objects to wash (see chap. 7.5) and shut, gently, the door.
- Before beginning the wash cycle, insert the proper detergent into the tank (if the machine is not equipped with an automatic dispenser).
- Select the wash cycle by the **"C/D"** (see pict. 8) buttons. The display will show the selected cycle.
- Start the cycle by pressing the push-button **"A" (Start)** - see pict. 8). The actual cycle start will be signaled by the change in color of the display and the **"A" (Start)** button, that will switch from blue to green light. At the end of the cycle, the **"A" (Start)** button will flash (green/blue) and the display will show **"CYCLE ENDED"**.



photo 1



photo 2

- The machine is ready for a new wash cycle.
- It is recommended to replace the tank water with new water at least after 30 wash cycles or 2-3 times a day.

N.B.: The machine does not accept other cycles until the door is opened or the "A" (see pict. 8) is pressed twice.

The pre-adjusted factory settings are not modifiable. The settings are 4 - 6 - 8 - 10 - 12 - 15 minutes with water only and 4 - 6 - 8 - 10 - 12 - 15 minutes with granules.

7.3 Detergent use

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

WARNING: for washing aluminium-ware, please use specific detergents.

The detergent shall be placed in the tank. Follow manufacturer recommendations for dosage. The machine can be ordered with an adjustable automatic detergent dispenser.

Lack or poor quality of detergent, in this machine will cause bad wash results and clogging.

7.4 Rinse aid use

The machine has a standard rinse aid dispenser. The machine automatically sucks the product. The quantity can be regulated with the micrometric dispenser screw. The amount is decreased with clockwise rotation and increased with counter-clockwise rotation.

N.B.: Excessive amount of chemicals or foam will reduce wash pump efficiency.

7.5 Rack preparation

In order to obtain the best performance of the machine and optimise its running costs, we do recommend to load the machine properly, also balancing weights as much as possible on the whole surface.

Note: All objects are to be inserted in the rack "dirty face out". Having a machine with lateral wash and rinse arms, an object must not be placed in front of another or else the one behind will not be washed.

NO



photo 3

NO



photo 4

7.5.1 Equipment for machine with 735 mm Ø rack

The machine is equipped with:

- A round rack. On the round rack, one can put : 6 GN 1/1 or 6 GN 2/3 or 6 GN 1/2 or 12 GN 1/3.



photo 5

On the round rack one can put also: 2 GN 2/1 or 1 GN 2/1 and 3 GN 1/ 1.



photo 6



photo 7

photo 8



b) A tray-stand for service trays (see photo 8). The tray stand allows the washing of 10 trays max 40mm depth. While using this stand, other objects may not be introduced, as they would interfere with the wash result.

This stand is not recommended for oven trays, but for service-trays with light dirt only.

c) Four stands for cooking trays. (see photo 9). The four tray-stands allow the washing of bakery trays of various depths.

It is also possible to prepare a rack mixing the above components.

photo 9



photo 10



photo 11



photo 12

7.5.2 Equipment for machine with 850 mm Ø rack

The machine is equipped with:

a) A round rack and 4 vertical supports. On the round rack by inserting the supports, one can put: 8 GN 1/1, or 4 GN 2/1, or 4 GN 1/1 and 2 GN 2/1, or 1 GN 2/1 and 6 GN1/1, or 3 GN 2/1 and 2 GN 1/1.



photo 13



photo 14

photo 15



b) 3 supports for 800x600 mm trays. Each tray support allows the wash of one 800x600 tray, up to three pieces.

It is also possible to prepare a rack mixing the above components.



photo 16

7.5.3 Mutual Equipment

- a) Rack/utensil pyramidal insert. The pyramidal stand fixed to the centre of the rack supports the cutlery racks as well as pots without handles.



photo 17

- b) Utensil rack
c) Pan stand. The pan rack stand allows washing pans of any size with handles. The upper telescopic part offers easy insertion and removal.



photo 18



photo 19

- d) Pot stand. The pot stand allows washing any pot with handles.



photo 20



photo 21

- e) 1 support for containers GN 1/1 - 2/3 - 1/3 - 1/2. This support allows the wash of 1 container 1/1. or 1 container 2/3 and 1 container 1/3, or 3 container 1/3, or 2 container 1/2

photo 22



photo 23



photo 24



7.6 Final check

When the message “**Cycle ended**” appears on the display, the machine has finished the cycle and it is possible to open the door and remove the rack.

ALWAYS CHECK WASHING RESULTS. MAKE SURE THAT NO GRANULES ARE ON THE WASHED OBJECTS. IF SO, REMOVE THEM.

7.7 Granule cleaning and collection

To collect the granules in the tank:



photo 25

- Remove the two filters.



photo 26



photo 27



photo 28

- Replace with the strainer and two lateral compensation chutes.

Once this operation is complete, simply select cycle 1 granule mode and with the door shut press the push-button **"A" (Start)**. Once the cycle is finished, the granules shall be found in the collection strainer. To clean, simply place the strainer in a sink and wash from above.

On this occasion, check granule consistency and quantity (see photo 1).

If they are too small and spherical, replace; if they are too few, add to level.

Excessive amount or lack of granule can result in unsatisfactory results, when using the granule mode.

7.8 H.A.C.C.P. and hygiene regulations

- The machine is equipped with temperature displays that indicate boiler and tank temperature. It is recommended to warm the machine up, until the set 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 3 times 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

7.9 Booster pump/rinse

After a period of inactivity of the machine, the rinse booster pump might get blocked, due to oxidation. Should this problem occur the alarm **B4 - "Failure in rinsing"** - (see chap. 11.1) will appear. Call a Service Technician to unblock the pump.

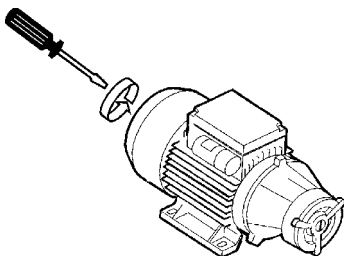
7.10 Thermo-stop function

This function is always active at the end of each wash-cycle. If the boiler did not reach the right rinse temperature, the wash cycle will continue till the correct rinse water temperature is reached.

7.11 Conditions that inhibit the washing cycle

The washing cycle is annulled and brought to stop position under the following conditions:

- a fault is detected;
- the "B" (ON/OFF - see pict. 8) push-button is held for more than 2 seconds.



pict. 9

7.12 Conditions that inhibit the washing cycle start

The cycle is inhibited under the following conditions:

- the door is open: in this situation the display shall read "Door open" for 4 seconds;
- water is lacking; in this situation the display shall read "Loading water in the wash-tank" for 4 seconds;
- when the alarm sounds;
- during tank loading and during the boiler and tank heating.



8. 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 seller for 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.

8.1 Routine maintenance

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

- Granules recovery (see chap. 7.7).
- Turn the machine in stand-by mode, by pressing the push-button "B" of the control panel (see pict. 8).
- **Switch off the main switch installed on the wall.**
- Drain the water by removing the overflow pipe.
- Remove the filters and chutes and clean with a brush and a water shower.
- Remove the wash and rinse pipes. Carefully clean the nozzles under running water.
- Clean the tank and wash chamber very carefully, using a water shower. Wash well in the conduct of the washing circuit, injecting water under pressure in the clutch of the wash arms.
- Reassemble the rinse nozzles as originally assembled.
- Reassemble the parts and reposition the wash and rinse pipes firmly in place.
- It is recommended to leave the machine door open at the end of the day.

N.B.: It is recommended to change the water in the wash-tank at least every 30 wash cycles or 2-3 times a day. **Do not use metal-wool for cleaning and/or corrosive products that will damage the machine.**

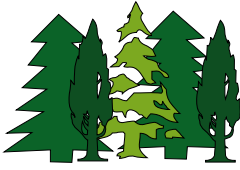
8.2 Extraordinary maintenance

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

- Clean the solenoid-valve(s) filters;
- Remove scale from the heating elements;
- Control the status of the seals;
- Control for components integrity and/or consumption;
- Control the dispenser(s) efficiency;
- A qualified electrician, should check all electric connections inside the machine, at least once a year.



photo 29



9. ENVIRONMENTAL ASPECTS

9.1 Packaging

Packaging is made of the following components:

- a wooden pallet and a cage;
- 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 2002/95/EC and 2002/96/EC 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 2002/95/EC.

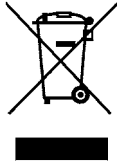
If the user does not comply with the regulations he/she shall be subject to the penalties foreseen by each member state.

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. ECOLOGICAL ASPECTS

10.1 Recommendations for optimal use of energy, water and additives

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. 8).

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.

11. DETECTION AND DISPLAY OF ALARMS AND FAULTS

11.1 Fault display

Fault signals are displayed with the message  followed by the fault code and by a short description of the fault.

11.2 Reset alarms or faults



FAULT CODE	TIPE OF FAULT	SOLUTION
B2	Boiler sensor failure	Replace boiler sensor
E2	Wash-tank sensor failure	Replace wash-tank sensor
B5	Boiler overtemperature	Sensor fault/Control unit fault.Call Service.
E5	Wash-tank overtemperature	Sensor fault/Control unit fault.Call Service.
B3	Boiler not heated	Check boiler sensor or heating element.Call Service. Control and reset safety thermostat to 105°C.
E3	Wash-tank not heated	Check wash-tank sensor or heating element. Call Service.
E1	Wash-tank not filled	Water valve shut or not connected to water supply system.
E7	Wash pump thermal relay	Objects stuck in the pump's impeller or wrong rotation direction.Check pump's control function. Call Service.
B1	Boiler not filled	Water valve shut or not connected to water supply system.Defective boiler pressure-switch or water in the pressure switch hose.
B4	Failure in rinsing	Rinse pump damaged.Call Service.
Z7	Rotation motor thermal relay	Objects stuck in the rotating base. Check the motor protection of the rack rotation gear. Call Service.

table 4

Resetting of alarms or faults is done by pressing key "B" for about 3 seconds. By doing that, the machine goes into stand-by mode signalled by the message "**Stand-by**".

To restart the machine, key "**B**" must be pressed again.

If the fault hasn't been repaired the alarm message shall reappear.

11.3 Boiler overheating alarm

When the boiler temperature exceeds 105°C, this alarm activates.

Boiler cooling is also activated as follows:

- 17" filling of cold water via the rinse solenoid valve;
- 43" stand-by.

This procedure is repeated until the boiler temperature goes below 105°C.

The cooling function is not performed or is suspended if the door is opened.

12.TROUBLESHOOTING

Trouble	Possible causes	Solution
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, conductors and solenoid-valve filter. Check that the water hardness is <10°f.
	Defective pressure-switch.	Replace pressure-switch.
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 50°C and 60°C).	Program display parameter or check heating element for proper functioning
	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
Granules: insufficient quantity or too consumed.		Add or substitute granules up to the filter dispenser level.
Pots and tools are not properly dried.	Not enough rinse aid.	Increase dosage by turning the dispenser screw (see par. "Rinse aid dispenser").
	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. Set the proper parameter, if needed.
	The rinse water is cold or not enough.	Check the boiler and the rinse pump efficiency.
Streaks or spots on washed items.	Too much rinse-aid chemical.	Reduce the rinse aid amount by turning the micrometric dispenser screw (see par. 1.4 "Rinse aid dispenser").
	Too hard water.	Check the water quality. Water must not exceed 10°f in hardness.
The machine suddenly stops during operation.	The machine is connected to an overload device.	Connect the machine on a own overload device (call Service).
	A machine safety device was triggered.	Check the electrical devices (call 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 Service to check thermostat and pressure-switch.
	Defective pressure switch.	
	Overflow pipe improperly positioned.	Remove and reposition the overflow pipe properly.
The machine does not wash and the wash pump is noisy.	The pump rotation is reverse due to improper connection of electrical cables.	Check pump rotation and properly place the electrical supply cables.

N.B.: For any other question, please contact your Service provider.

The manufacturer has right to modify any technical characteristics without prior notice