



IT

Istruzioni per l'uso e la
manutenzione

USA

Instructions for Use and
Maintenance





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

Please, do follow the instructions carefully.

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

Your full satisfaction is our greatest reward.



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.

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WARNINGS

This instructions booklet must be kept with the machine for future consultations. If the 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 dishwasher shall be installed in accordance with local codes, or in the absence of local codes, installed in accordance with the applicable requirements in the National Electrical Code, NFPA 70, Canadian Electrical Code (CEC), Part 1, CSA C22.1, and Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, NFPA 96.

These warnings are provided to safeguard the user in conformity with technical standards UL 921 and NSF.

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

The user must comply with the following rules:

- Adaptation of the electrical and water system for dishwasher installation must be carried out by qualified operators only.
- The user shall not carry out any repair and/or maintenance operations.
- When the main switch is OFF, only qualified personnel can access the control panel.
- Servicing of this machine must be performed by authorized personnel only.

Note: 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 hose, but only new ones.**
- 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 keep off the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.
- **This machine is designed exclusively for washing dishes, glasses, trays, bowls and crockery with human food type of residue. DO NOT wash articles different from those stated above and fragile objects or materials not resistant to washing process.**
- **It is mandatory to install on the machine feeding line, exclusively dedicated for this unit:**
 - **A fuse protection system with the characteristics shown on the data-plate (or an equivalent system).**
 - **A suitable omni-polar switch, sized according to the absorption shown on the data plate, in order to disconnect the power network completely. Only such a switch grants a full warranty of a complete separation from the electric network and it has to be used, always and strictly, before any intervention on the electrical panel, and by qualified personnel only.**

- An omni-polar circuit-breaker switch is provided, in order to guarantee a complete disconnection of the branch circuit from the main circuit. This circuit-breaker switch must be used, always and strictly, to de-energize the machine at the end of the work session.
- Make sure the appliance is linked to an efficient ground connection.
- Do not open the machine doors when operating. After switching the machine off, wait for at least 15 seconds after the motors stop.



WARNING: IT IS FORBIDDEN TO INSERT HANDS AND/OR TOUCH INTERNAL PART WHEN THE MACHINE IS OPERATING AND/OR AT THE END OF THE WASH CYCLE.

- Before starting, the personnel shall know the position of the emergency button, the position of the omni-polar circuit-breaker switch, the position of the omni-polar switch that disconnected the machine from the electrical network, the position of the water connection shut-off valve and the procedures to switch off and secure the machine.
- Follow the instructions given in the manufacturer's booklet for cleaning operations (chap. 10).
- **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 tanks.
Disconnect the electrical supply by the omni-polar circuit-breaker switch.
Shut the water supply valve(s).
Disregarding the aforesaid prescriptions is a serious misuse and can cause damages and injures to property and people, and will relieve the manufacturer from whatever liability.
- Do not use water to extinguish fires on electrical parts.
- Do not cover the intake or dissipation grids.
- Water infeed to the machine 87PSI (600kPa) maximum.

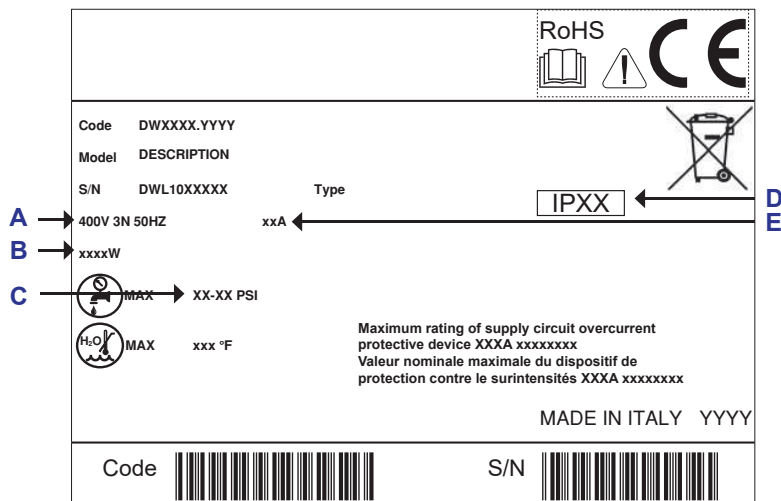
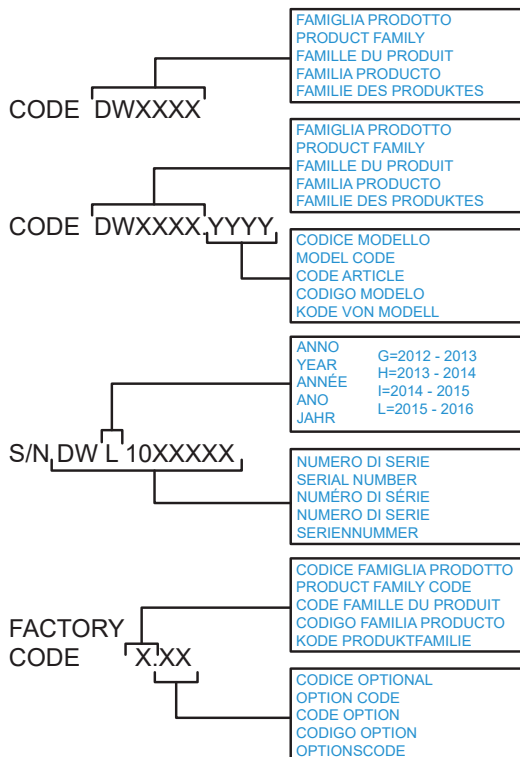


NOTICE: This machine must be operated with an automatic detergent dosing pump including a visual means to verify that detergents are delivered, or a visual or audible alarm to signal if detergents are not available for delivery to the washing system. Please see instructions for electrical and plumbing connections located in this manual and in the feeder equipment manual.

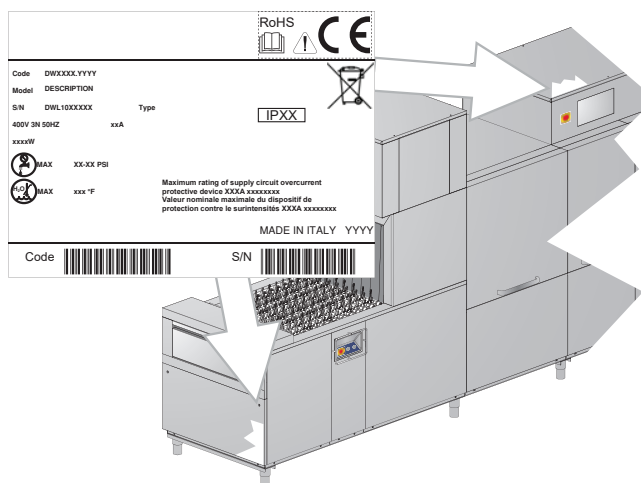
Note: The manufacturer declines any responsibility for accidents to people or any damage deriving from failure to observe the above listed instructions.

1. MACHINE INSTALLATION

1.1 Serial number data




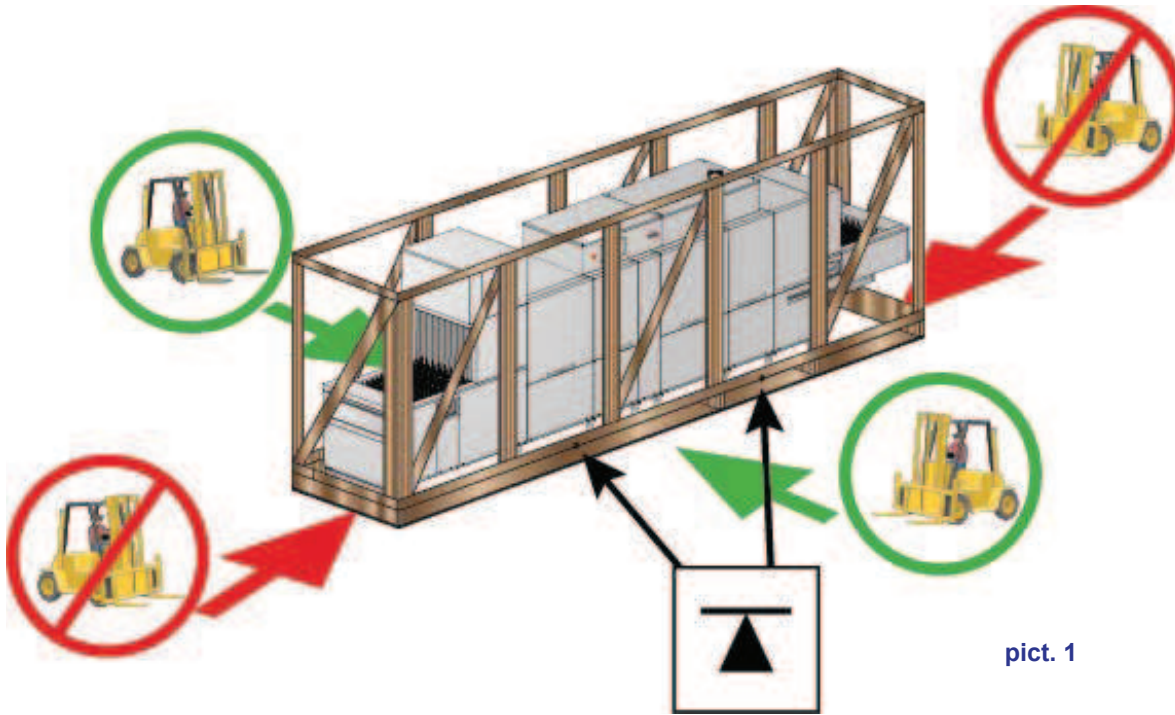
- A** Power source
- B** Total power installed
- C** Dynamic pressure
- D** Envelope protection degree
- E** Total electricity absorption




1.2 Handling

1.2.1 Handling the product

The machine must be handled strictly as shown in picture 1 regarding the grip points  indicated for the lifting with a lift truck. Latch the machine in a way that secures no vibrations or shocks during transportation. Suggested lifting points:



The machine barycentre is between the two symbols .

Use an anchoring system during the handling.

Do not proceed on inclined planes.

Proceed with low speed.

Do not incline the truckload.

Note: Slings with ropes not recommended.

1.2.2 Storage

Storage temperature: min. +40°F (+4°C) – max. +122°F (+50°C) - humidity <90%

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

Do not store the machine exposing it to atmospheric agents (rain, sun, cold, etc.). Do not place material on the packed machine. Do not rotate the machine in the storing phase (see pict. 2).



1.2.3 Receiving the machine

Pay special attention in choosing the lifting points and the machine barycentre during the loading and unloading operations (see paragraph 1.2 Handling).

Before accepting the machine, verify that all the data on the data-plate corresponds to the required ones (as shown on par. 1.1) and to the ones of the available electrical supply.

After unpacking, make sure the machine has not been damaged during transportation. If so, do notify the seller immediately about the problem. If the damage might question the machine safety, do not install it.

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

Adaptation of the electrical and water system for dishwasher installation must be carried out by only qualified operators.

See par. 11.2 for disposing the packing material.

1.2.4 Machine equipment

Use and maintenance manual

USB drive

Wiring diagrams

Connection diagram (lay-out)

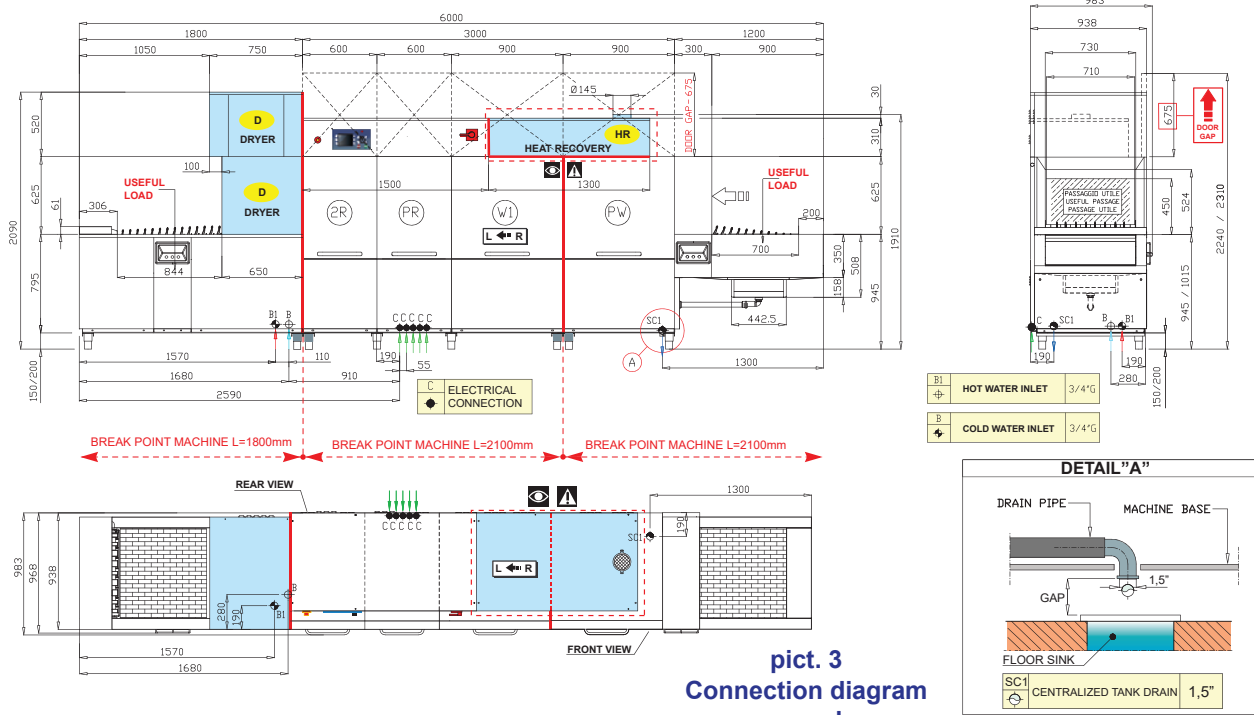
Plastic coated maintenance diagram

A copy of the wiring diagrams must be kept inside the electrical board with the USB drive.

1.2.5 Positioning the machine

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

This machine has to be used in a place with room temperature between 41°F (5°C) and 95°F (35°C) max. The room has to be dry and ventilated.



pict. 3
Connection diagram
example

1.3 Water connections

Water connections must be carried out in compliance with current local standards.

The Water system must have characteristics between the parameters specified in table 1.

Water supply characteristics	Min	Max
Static Pressure*	30PSI (~ 200kPa)	87PSI (~ 600kPa)
Dynamic Pressure	21PSI (~ 150kPa)	60PSI (~ 400kPa)
Cold water-supply temperature (machine with extra power)	110°F (~ 43°C)	175°F (~ 79°C)
Cold water-supply temperature – with Heat Recovery	50°F (~ 10°C)	59°F (~ 15°C)
Hot water-supply temperature	140°F (~ 60°C)	175°F (~ 79°C)
Capacity	4 gpm (~ 15 l/min)	

table 1

*If higher than 87PSI (600 kPa), **it is mandatory** to install a pressure reducer.

To improve the machine performance keep the temperature intervals indicated.

It has to be installed a water supply shut-off valve close to the machine in an accessible point.

Use only new flexible pipes for the water connections.

1.3.1 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.

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
Conductivity ⁵	200µS/cm	

table 2

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

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

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

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

⁵ For machines equipped with Heat Recovery System. Lower values are admitted only with stainless steel coils in the Heat Recovery System (optional).

It is recommended a water test once a year.

1.4 Electrical connection

Only qualified and properly trained personnel can operate on the electric board and connections.

Before the installation:

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

Make sure the line voltage matches the machine power and voltage indicated on the machine data-plate (as shown on par. 1.1).

Electrical connection must be carried out in compliance with the current local standards.

Refer to the data reported on the data-plate and on the labels found on the dishwasher to check sizings and electrical connections.




It is mandatory to install on the machine feeding line, exclusively dedicated for this unit:

- A fuse protection system with the characteristics shown on the data-plate (or an equivalent system).
- A suitable omni-polar switch, sized according to the absorption shown on the data plate, in order to disconnect the power network completely. Only such a switch grants a full warranty of a complete separation from the electric network and it has to be used, always and strictly, before any intervention on the electrical panel, and by qualified personnel only.

Make sure the appliance is linked to an 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 to it. An undersized or poor “ground connection” might lead to corrosion and/or pitting effect on the stainless steel plates, even to perforation.

The machine has a terminal on the back panel indicated by the symbol  is meant to link the metal structures of different appliances, to prevent electro-static shocks.

Note: Do not modify the protections or remove them. Only if the power supply is cut off from the main switch on the wall it is possible to work on the dishwasher electric circuits. Lock the main switch on the wall to signal the work in progress on the dishwasher’s electric circuits. **DANGER!**

1.5 Draining system

The draining system has to be installed considering the draining points and the data provided on the machine layout.

Minimum capacity 1.32 gps (5 l/sec).

1.6 Ventilation

Use extractor fans to guarantee a minimum ventilation of 300 CFM (500m³/h). Increase the ventilation rate to 1500m³/h if the machine is equipped with drying system.

It is suggested to position the extractor fans close to the machine entry and exit. The exhaust air shall not be vented into a wall, a ceiling or a concealed space of the building.

1.7 Dispensers connection

Rinse aid injector: It is placed on the hose connecting the boiler to the rinse duct.

Detergent injector: The injector is suitable for liquid detergents only. It is placed on one side of the tank, the closest to the rinse zone.

Kit dispenser connection: 3 terminals are available inside the electrical panel to connect kit dispenser with the following electric features:

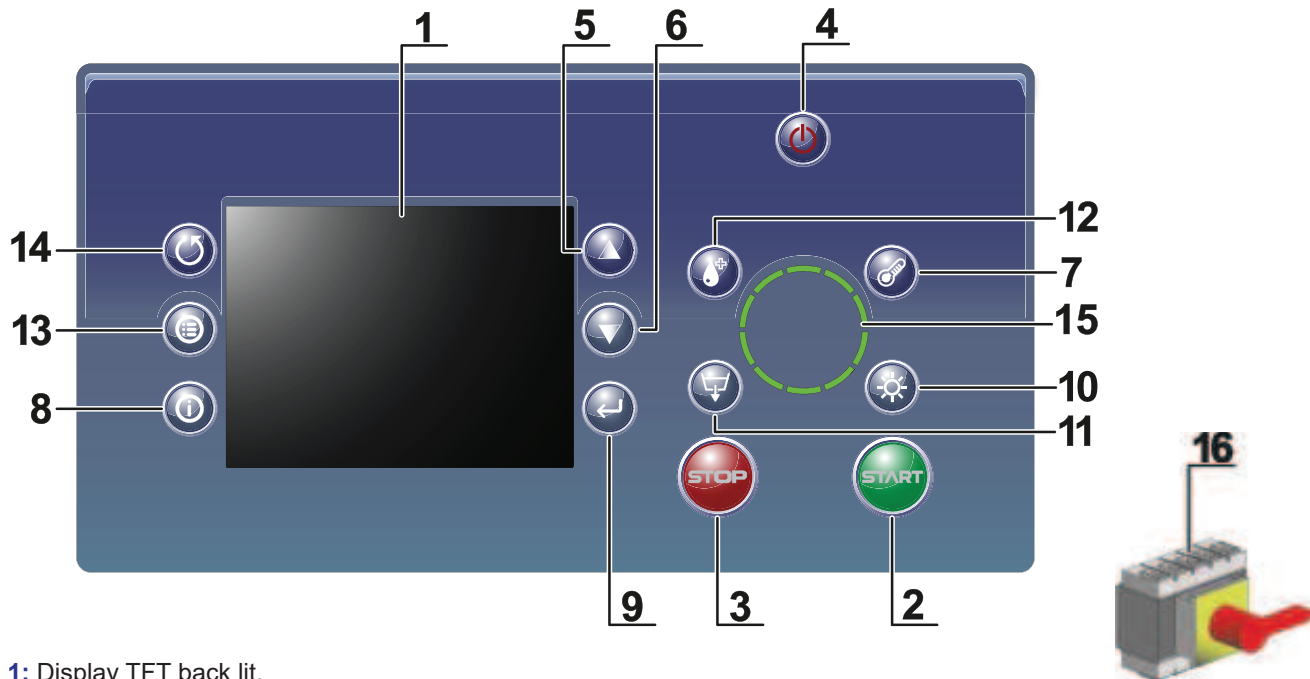
4-5 Power supply 24VA 50HZ MAX 20 WATT

13-5 Filling signal 24VA MAX 0.1A

12/A-5 Washing signal 24VA MAX 0.1A

Connect the unit following the wiring diagram attached to the machine.

2. CONTROL PANEL AND RELATED SYMBOLS

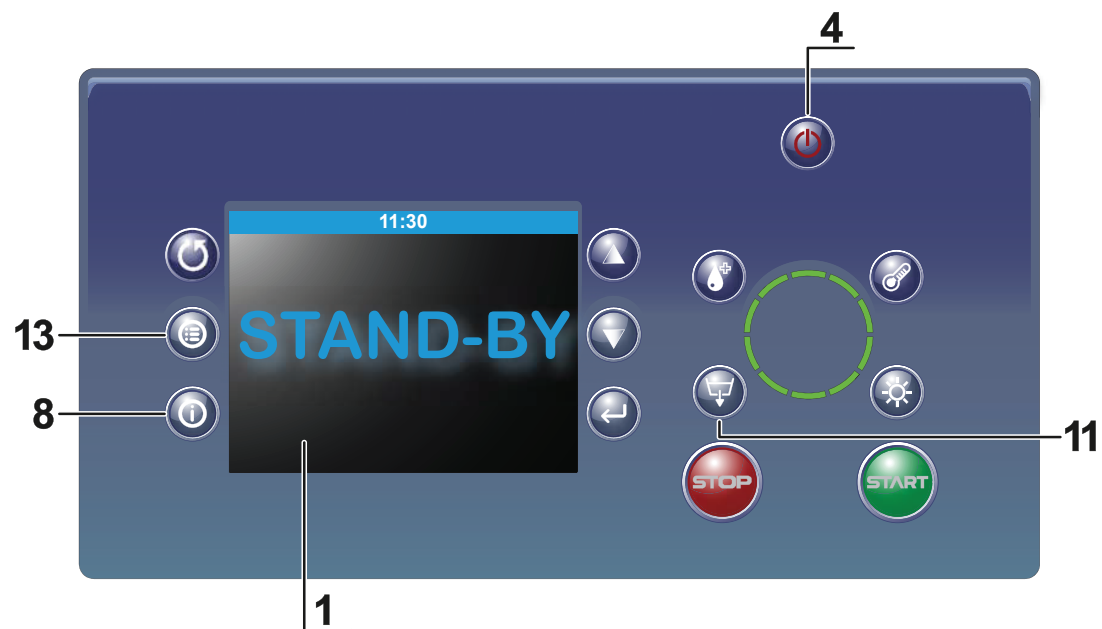


- 1: Display TFT back lit.
- 2: **START** key green backlit (not backlit: stand-by mode)
- 3: **STOP** key red backlit
- 4: **ON / OFF** key.
- 5 and 6: Scrolling keys (▼ / ▲, - / +).
- 7: **TEMPERATURES** key
- 8: **INFO** key.
- 9: **CONFIRMATION** key
- 10: **DRYER ON/OFF** key
- 11: **TANKS' DRAINING** key
- 12: Unused key
- 13: **MENU** key
- 14: **RETURN** key
- 15: **BELT SPEED** selector switch (from 1 to 5).
- 16: **CIRCUIT-BREAKER SWITCH**: position 0 = machine not powered - position I = machine powered.

Backlit keys only if it is possible to activate the corresponding function:

- 7: **TEMPERATURES** key. Temperature quick adjustment. It allows the working temperature adjustment of the single modules.
- 8: **INFO** key. It provides additional information about the current status of the machine. In case of alarm it allows to have more details.
- 9: **CONFIRMATION** key.
- 10: **DRYER ON/OFF** key. Enable or disable the drying heating elements (if present the **DRYER** optional). It allows to enable or to disable the **DRYER** heatings. See paragraph 4.1.2 for more information.

MACHINE IN STAND-BY MODE



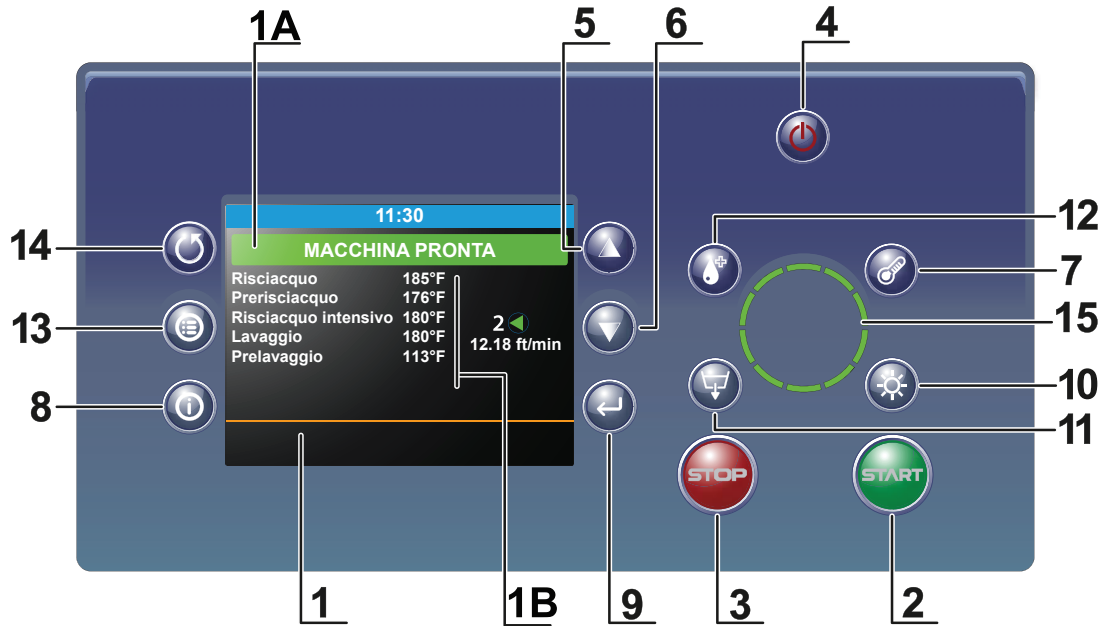
4: ON / OFF key with **ON** function. To turn the machine ON.

8: INFO key. Provides additional information about the current status of the machine.

11: DRAINING key. Automatically drains all the tanks.

13: MENU key. Provides to access to menus and related work parameters.

MACHINE READY OR IN OPERATION



1: Notice area.

1A: Status of the machine.

1B: Measured temperatures for single modules.

2: **START** key back lit. When the machine is ready, it allows the start. The washing is activated by pressing this key.

3: **STOP** key back lit in red. When the machine is running, allows stopping and putting in ready mode. The belt is stopped by pressing this key.

4: **ON / OFF** key with **OFF** function. Allows putting the machine in **STAND-BY** mode.

5 and 6: Scrolling keys (▼ / ▲, - / +). When in the menu either scrolls the items or modifies all adjustable parameter (increase and/or decrease)

Backlit keys only if it is possible to activate the corresponding function:

7: **TEMPERATURES** key. Temperature quick adjustment. It allows the working temperature adjustment of the single modules.

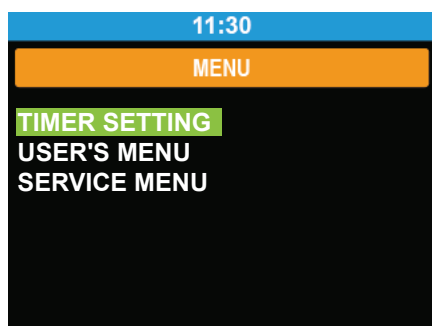
8: **INFO** key. It provides additional information about the current status of the machine. In case of alarm it allows to have more details.




9: **CONFIRMATION** key.

10: **DRYER ON/OFF** key. Enable or disable the drying heating elements (if present the **DRYER** optional). It allows to enable or to disable the **DRYER** heatings. See paragraph 4.1.2 for more information.


3. PROGRAMMING

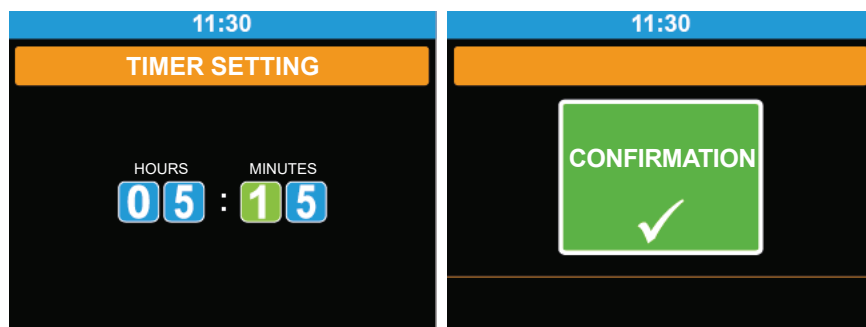
Some parameters can be adjusted according to the user requirements.
Position on **I** the circuit-breaker switch **16** to power the machine.




When the machine is in stand-by or ready, press **MENU** key **13** .
It appears the available menu list: **TIMER SETTING, USER'S MENU, SERVICE MENU**.
Use keys **5 ▲** (increase) and **6 ▼** (decrease) to scroll the menu items. Confirm the selection by pressing key **9 CONFIRMATION** .
Press key **14 RETURN**  to exit without saving the settings.



3.1 Timer setting menu

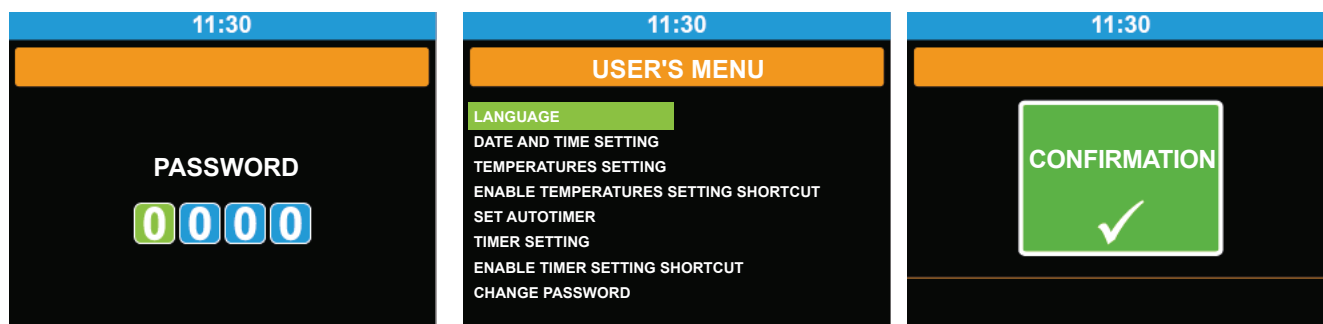
Displayed when enabled from USER'S MENU. See parag. **3.2.6**.
It allows to program the filling and heating of the tank. When the tank reaches the value set (hours and minutes) the machine automatically starts the tanks filling and the subsequent heating.
The **Programming** parameter is disabled by default.
Use keys **5 ▲** (increase) and **6 ▼** (decrease) to set the missing time (in hours and minutes) to the scheduled time to switch on the machine. Confirm the selection of every digit by pressing key **9 CONFIRMATION** .
The display shows a screen which confirms the modification.




Press key **14 RETURN**  to exit without saving the settings.

3.2 User's Menu

Use keys **5 ▲** (increase) and **6 ▼** (decrease), to select the user password (**default 0000**) and set the single digits. Confirm the selection of every digit by pressing key **9 CONFIRMATION** .
Both the user password and the technician password allow to enter the **USER'S MENU**.
Use keys **5 ▲** (increase) and **6 ▼** (decrease), to scroll the menu items. Confirm the selection by pressing key **9 CONFIRMATION** .
The display shows a screen which confirms the modification.



Press key **14 RETURN**  to exit without saving the settings.

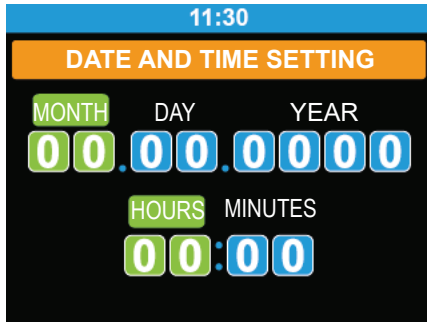


3.2.1 Language

Use keys **5 ▲** (increase) and **6 ▼** (decrease), to select the desired language (**ITALIAN, ENGLISH, FRENCH, SPANISH, ...**). Confirm the selection by pressing

key **9 CONFIRMATION**

Press key **14 RETURN** to exit without saving the settings.



3.2.2 Setting time and date

Once entered the time and date settings the machine proposes the month field modification.

Use keys **5 ▲** (increase) and **6 ▼** (decrease), to select the numerical value desired.

Confirm the selection of every digit by pressing key **9 CONFIRMATION** and move to the following field. Set the other values (day, year, hour, minutes) in the same way.

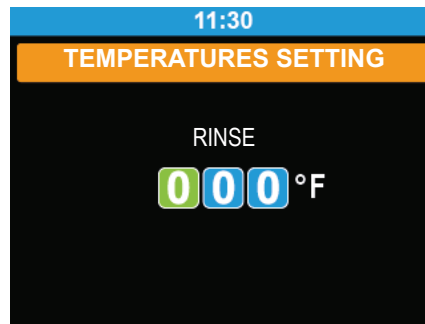
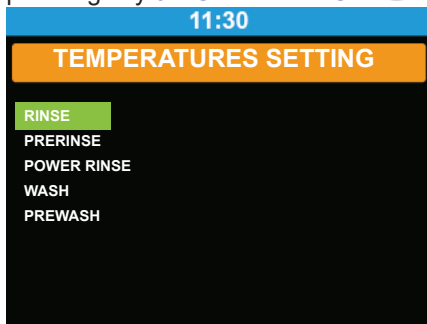
Press key **14 RETURN** to exit without saving the settings.

3.2.3 Setting temperatures

Use keys **5 ▲** (increase) and **6 ▼** (decrease), to select the temperatures set desired. Confirm the selection of every digit by pressing key **9 CONFIRMATION** .

Once entered the programming of the parameter it is possible to:

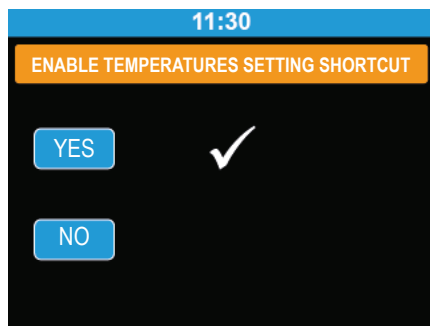
Use keys **5 ▲** (increase) and **6 ▼** (decrease), to select the numerical value desired. Confirm the selection of every digit by pressing key **9 CONFIRMATION** .



Set the other values in the same way.

TEMPERATURES	DEFAULT
RINSE	188°F
PRERINSE	180°F
POWER RINSE	180°F
WASH	180°F
PREWASH	113°F

Press key **14 RETURN** to exit without saving the settings.



3.2.4 Enable temperature quick-select key

It allows activating the key **7 TEMPERATURES** dedicated to the temperature settings on the control panel. In this way the operator can access to the working temperature settings without going through the user menu.


The quick-select key is deactivated by default.

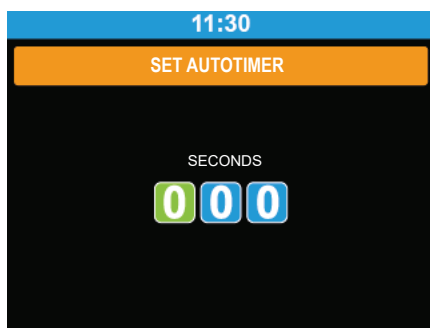
Use keys **5 ▲** (increase) and **6 ▼** (decrease), to select one of the two following parameters:

YES (enable TEMPERATURE QUICK-SELECT KEY)

NO (disable TEMPERATURE QUICK-SELECT KEY)

Confirm the selection by pressing key **9 CONFIRMATION** .

Press key **14 RETURN**  to exit without saving the settings.




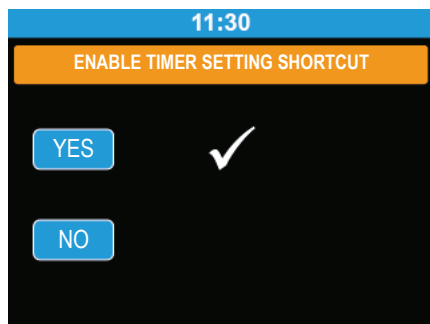
3.2.5 Autotimer

The **Autotimer** parameter is enabled at 300 seconds by default.

Use keys **5 ▲** (increase) and **6 ▼** (decrease), to select the numerical value desired.

Confirm the selection of every digit by pressing key **9 CONFIRMATION** .

Press key **14 RETURN**  to exit without saving the settings.



3.2.6 Programming quick-select menu

It allows the operator can program the filling and subsequent heating of the tank (see par. **3.2.1**) without going through the user menu.


The **Programming quick-select menu** is disabled by default (NO).

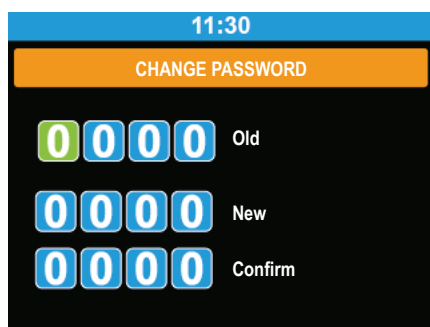
Use keys **5 ▲** (increase) and **6 ▼** (decrease), to select one of the two following parameters:

YES (enable PROGRAMMING QUICK-SELECT MENU)

NO (disable PROGRAMMING QUICK-SELECT MENU)

Confirm the selection of every digit by pressing key **9 CONFIRMATION** .

Press key **14 RETURN**  to exit without saving the settings.




3.2.7 Change password

The **Change password** parameter allows to personalize the password in the **USER** menu.


If the user loses his password, the technician can access with his password (**default 1111**) to the **USER'S MENU** and create a new one.

Use keys **5 ▲** (increase) and **6 ▼** (decrease), to select the numerical value desired.

Confirm the selection of every digit by pressing key **9 CONFIRMATION**  and move to the following field. Set the other values in the same way.

Use keys **5 ▲** (increase) and **6 ▼** (decrease), to recreate the same password with the same modalities as in the previous point. Confirm the selection of every digit by

pressing key **9 CONFIRMATION** .

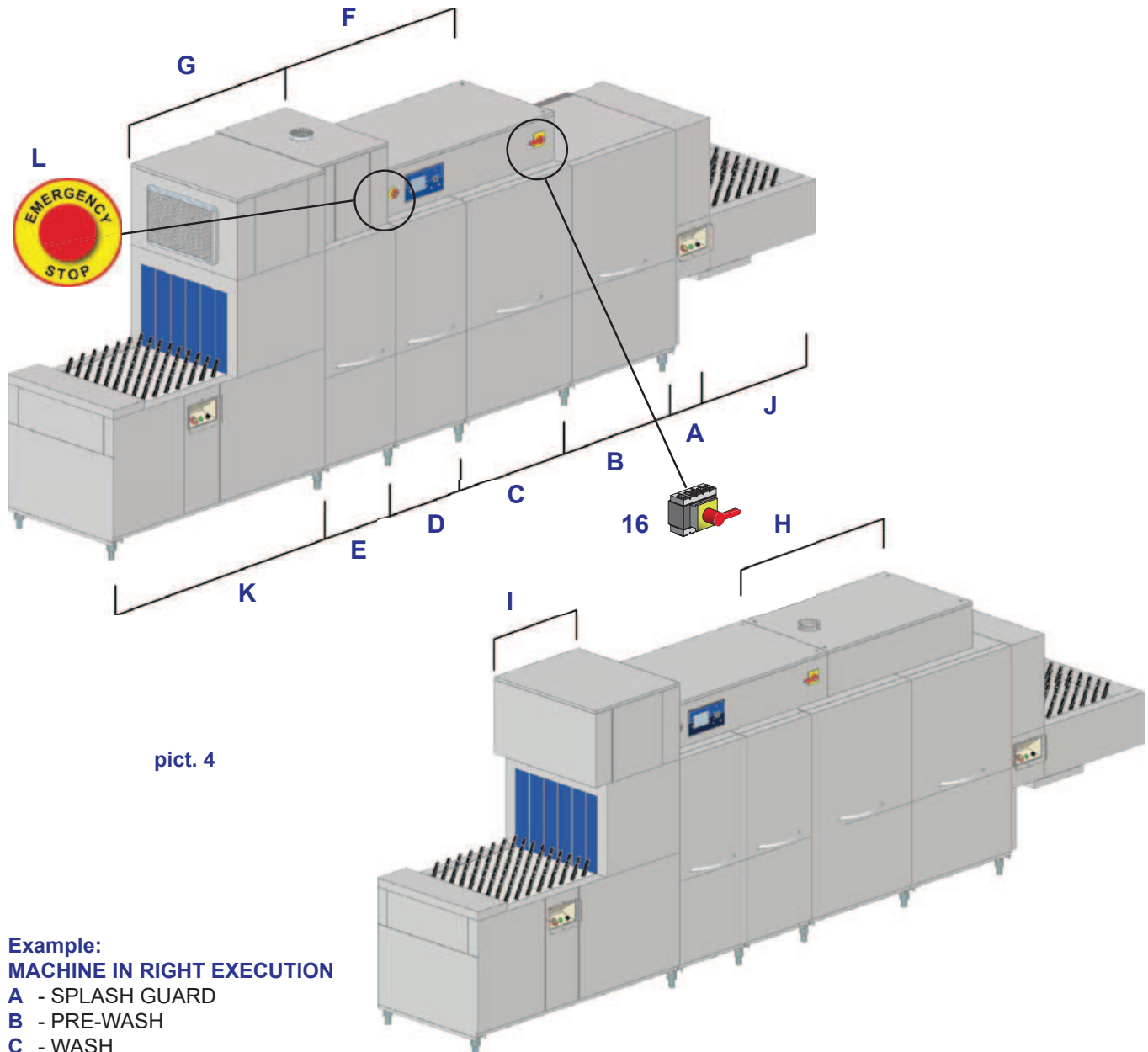
Press key **14 RETURN**  to exit without saving the settings.

4. MACHINE DESCRIPTION

4.1 Description of the machine, its accessories and its guards

4.1.1 Machine description

Refer to annexes for the technical data of the machines.



pict. 4

Example:

MACHINE IN RIGHT EXECUTION

- A - SPLASH GUARD
- B - PRE-WASH
- C - WASH
- D - POWER RINSE
- E - PRE-RINSE AND RINSE MODULE
- F - CONTROL PANEL
- G - HEAT RECOVERY + DRYER
- H - HEAT RECOVERY
- J - INLET SHELF
- K - OUTLET SHELF
- I - DRYER
- L - EMERGENCY BUTTON
- 16 - CIRCUIT-BREAKER SWITCH

Module	Dimension		
	Width	Height*	Depth
A - SPLASH GUARD	11.81" (300 mm)	62.6" (1590 mm)	41.46" (1053 mm)
B - PRE-WASH	35.43" (900 mm)		
C - WASH	35.43" (900 mm)		
D - POWER RINSE	23.62" (600 mm)		
E - PRE-RINSE AND RINSE MODULE	23.62" (600 mm)		
F - CONTROL PANEL	59.06" (1500 mm)	74.8" (1900 mm)	
G - HEAT RECOVERY + DRYER	23.62" (600 mm)	82.68" (2100 mm)	
H - HEAT RECOVERY	51.18" (1300 mm)	75" (1905 mm)	
J - INLET SHELF	47.24"/70.87"/86.61"/106.3" (1200/1800/2200/2700 mm)	37.2" (945 mm)	
K - OUTLET SHELF	47.24"/70.87"/86.61"/106.3" (1200/1800/2200/2700 mm)	37.2" (945 mm)	
I - DRYER	29.53" (750 mm)	82.68" (2100 mm)	

***with 6" (150mm) feet**

This machine is built with high quality materials in particular AISI 304 stainless steel (AISI 316 for boilers and tanks) and in high thickness to ensure a longer lifetime.

The machine is built in different sections:

Pre-wash module B: a preliminary rough washing is carried out with low temperature thermostatically controlled to melt the alimentary residuals and avoid the proteins denaturation.

Wash module C: a proper washing of the crockery is performed with temperature thermostatically controlled.

Power rinse module D: a power pre-rinse is performed with high temperature thermostatically controlled.

Rinse module E: a pre-rinse is performed, then a final rinse is performed with high temperature thermostatically controlled.

The initial tanks filling occurs in several phases:

- Phase 1: prerinse, power rinse and wash filling.
- Phase 2: filling interruption. Water heating using the heating elements until a proper pre-wash temperature is reached (factory-set)
- Phase 3: resume and filling conclusion
- Phase 4: resume and heating conclusion.

Autotimer: the Autotimer function (activated by default) allows stopping the machine if it is in start-mode but not operating at the moment.

It can happen in two cases:

1. The machine is working in vain (it is in operation but it is not used).
2. The machine is in operation but an objects accumulation exiting the machine causes the limit switch SQ1 to trip (F1).

In these cases, the timer set by default at 300 seconds trips. When the time is over the energetic saving mode turns on.

By inserting some objects, clearing the exit or closing the drawer the machine restarts automatically to operate.

Automatic drain:

Each tank is provided with dedicated motorized valve. The end work draining occurs when the machine is in stand-by by pressing the dedicated key and without having to open the doors and getting in touch with the washing solution.

It is possible to drain only the pre-wash tank and then to ensure the pre-wash tank regeneration (where most of the residuals accumulate) and to keep an efficient and low consumption washing.

4.1.2 Optionals disponibili

Dryer I:

It conveys hot and dry air that creates the ideal conditions for the rinse aid action.

Depending on his/her needs the operator can turn on or off the dryer module heating power, during the work.

Based upon needs, it is possible to set maximum power, or partial power, or fan only, or turn the dryer completely off.

Heat recovery F:

The goal is the recovery of the steam heat exiting the machine that otherwise would be dispersed, and use it to pre-heat the water entering the boiler.

The machine must have a cold water supply for the rinse.

Heat recovery + Dryer G:

It is a low consumption and high efficiency dryer thanks to the dedicated Heat Recovery. It conveys hot and dry air that creates the ideal conditions for the rinse aid action. Clean the filter periodically to ensure the dryer efficiency (see chap. **10 Maintenance**).

Depending on his/her needs the operator can turn on or off the dryer module heating part using the dedicated key, during the work.

The optional includes the Heat Recovery: the goal is the recovery of the steam heat exiting the machine that otherwise would be dispersed, and use it to pre-heat the water entering the boiler.

The machine must have a cold water supply for the rinse.

The machine autonomously arranges for the exchanger cleaning at every complete tanks draining.



WARNING:

It is strictly forbidden to connect the machine's vent directly with the outdoor!

Cold weather conditions might seriously damage the Thermal Recovery system F or G.

5. FUNCTIONING OF THE MACHINE

5.1 Machine start-up

Check if the pump filters and surface filters are in their seats. Check that the washing and rinsing arms are properly inserted, as well as the curtains

Note: the long and narrow curtains are to be put at the entry and exit; the wide and short ones go inside the machine. Close the doors.

Open the water valve(s).

Position on **I** the circuit-breaker switch **16** (see chap. **2**)

Turn on the machine using the control panel.

Wait for the filling and pre-heating operations to be completed. During the pre-heating the machine suspends the tanks filling. In this phase the display always shows the message **TANKS FILLING**.

Once filling of all the tanks is finished, the complete heating of the machine starts. In this phase the display shows the message **HEATING**.

To ensure a proper washing, the start is not possible until the set temperatures are reached.


To modify the temperature settings, refer to the chap. **3**.

The several phases are represented on the display with specific icons.

When heating is finished, it is possible to proceed with the washing.

The working temperatures can be seen on the display.

5.2 Washing

To set the desired working speed, use the **BELT SPEED** selector switch **15** turning it to the right or to the left to set a suitable speed for the type of work to be carried out. Confirm the selection by pressing key **9 CONFIRMATION** .

There are five possible settings:

Speed 1: intensive wash.

Speeds 2 and 3: dedicated to the washing of the average dirt.

Speeds 4 and 5 (MAX).

Press the **START 2** key to start the wash pumps.

Press the **B** white key on shelf panel (see photo 1) to start the belt conveyor.



photo 1
A = STOP
B = START
C = EMERGENCY STOP

Carry out the cleaning off.

Put the dishes/trays inside the conveyor belt with their interiors facing the machine in such a way that they couple with the belt's teeth.

Glasses and cups are placed upside-down in a rack put above the belt.

Place the cutlery in the dedicated rack.

Place the baskets to be washed upside-down.

The washing sequence is the following:

- ▶ Low temperature pre-wash **B**.
- ▶ Thermostatically controlled temperature wash **C**.
- ▶ Thermostatically controlled temperature power prerinse **D**.
- ▶ Pre-rinse **E**.
- ▶ Final rinse **E** carried out with clean water coming from the hydric network and thermostatically controlled and eventually rinse aid.
- ▶ Drying (**F** - if there is the optional module).
- ▶ Objects exit zone equipped with a limit switch.


Push the **A STOP** black key on shelf panel (see photo 1), to stop the conveyor belt.
 Push the **STOP 3** key (see chap. 2), to stop the wash.

N.B.: It is recommended to change the tank's water by new filling, when very dirty or, at least, twice a day. Change water in the tanks whenever necessary, at least every 2-4 hours of operation with full load. Follow the instructions in par. 5.1/5.3. If an object reaches the end of the belt, the advancement stops and can be re-started by removing the object.


It is forbidden to remove the objects from the machine before they have come out of the tunnel and to insert hands or arms inside the machine when it is in movement.

Note: Always turn the machine off before inserting your hands or arms inside the tunnel.

To stop/re-start the machine, press the button STOP 3 (see chap. 2).



WARNING: In case a dangerous situation occurs, push the emergency button **L** (see pict. 4). The belt conveyor system and the absorptions turn off. Before restarting the appliance, check if the emergency is over. The emergency button rearmament does not start the machine but it positions the appliance in stand-by.



The emergency button does not have to be used as usual machine switch off system.

Note: Each model has the AUTOTIMER installed. If the machine does not wash objects for more than 5 minutes (the timing can be changed by the installer), the machine stops any optional installed (dryer, heat recovery, etc.) to cut down consumption.

Note: The machine is equipped with automatic economizers to cut consumption down, if the machine does not work continuously. If the objects to be washed are placed discontinuously, the wash pumps not involved are turned off.

5.3 End washing operations

Press **STOP 3** key.

Press **ON / OFF 4** key.

Drain the tanks. press **TANKS' DRAINING 11** key. The machine will start automatically the draining of the tanks.


Once the draining is ended, turn off the machine positioning on **0** the circuit-breaker switch **16**.


Shut the water supply valve(s).

Start the cleaning of the machine (see chap. 10 Maintenance).


5.4 Select DRYER (option)

When the machine is in Ready or in Running mode, if present the optional **DRYER**. It allows enabling or disabling the DRYER's heating elements.




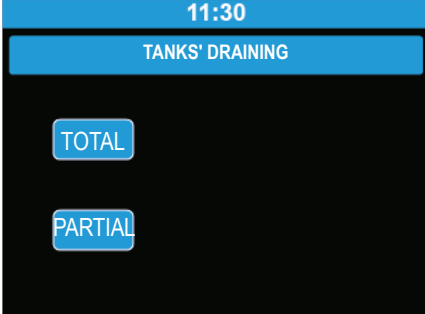
Press key **10 DRYER ON/OFF** .

Use keys **5 ▲** (increase) and **6 ▼** (decrease) to select one of the following parameters:
ONLY FAN ON: enables only the fan(s) (heating elements disabled)
TOTAL POWER: enables the dryer(s) (fan(s) and heating elements enabled)
PARTIAL POWER: enables the dryer(s) partially (fan(s) enabled and heating elements partially enabled)
DRYER OFF: dryer completely disabled.

Confirm the selection by pressing key **9 CONFIRMATION** .

The lower banner shows the icon of the selected mode.


Press key **14 RETURN**  to exit without saving the settings.



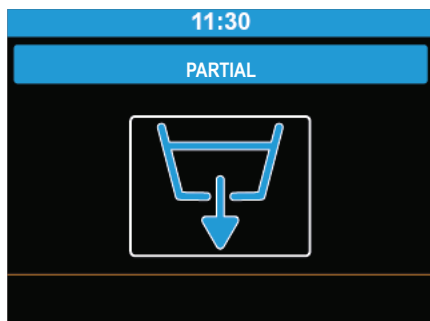
5.5 Select TANKS' DRAINING

When machine is in Ready or in Stand-by or in Running mode. It allows enabling of the **TANKS' DRAINING** function.

When machine is in ready or running mode:

Press key **11 DRAINING** .

Use keys **5 ▲** (increase) and **6 ▼** (decrease) to select one of the following parameters:



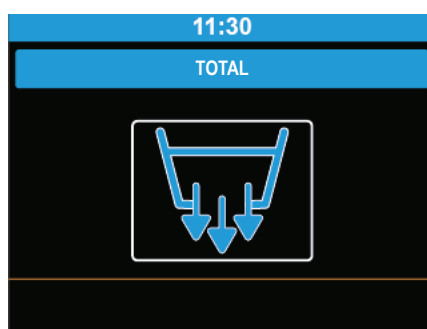
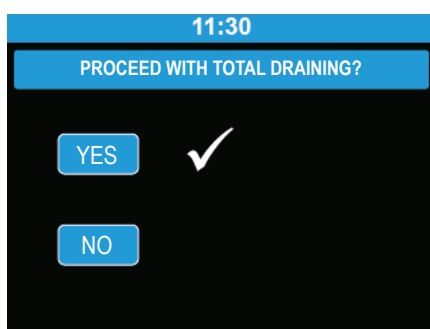
PARTIAL: the pre-wash tank is drained. At the end of the partial draining, the prewash tank is filled and the machine turns to Ready or in Running mode, if it was already.

TOTAL: the prewash and wash tanks are drained.

Use keys **5 ▲** (increase) and **6 ▼** (decrease) to select one of the following two parameters:

NO: the machine turns to Ready mode

YES: prewash and wash tanks' total draining starts. At the end of the total draining, the tanks are filled and heated and the machine turns to Ready mode.



When the machine is in stand-by mode:

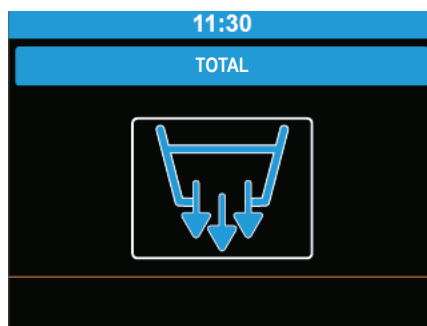
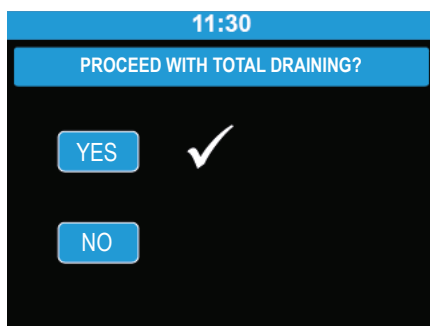
Press key **11 DRAINING**

Use keys **5 ▲** (increase) and **6 ▼** (decrease) to select one of the following two parameters:

NO: the machine turns to Stand-by mode

YES: prewash and wash tanks' total draining starts. At the end of the total draining, the tanks are filled and heated and the machine turns to Stand-by mode.

Note: During the total draining, the machine automatically feeds cold water in the prewash section to cool the drain water.



5.6 Dishes and cutlery loading

Before loading the dishes it is necessary to carry out a proper cleaning off of the food residuals.



WARNING: Do not wash items contaminated by petrol, paint, pieces of steel or iron, ash, sand, wax, lubricating grease. These substances damage the machine. Do not wash fragile items or made of material that do not stand the washing process.

It is not necessary to rinse the dishes with water before the loading.

Follow these tips:

- Crockery and cutlery must not lie inside one another, covering each other.
- Place the dishes so that all the surfaces can be reached by the water; otherwise the dishes cannot be washed properly.
- Make sure that the dishes are placed in a stable position and that the empty containers (cups, glasses, bowls, etc.) do not turn upside down.
- Place all the empty containers like cups, glasses, etc., **upside down**.
- Place in tilted position the dishes with deep hollows, so that the water can drain.
- Make sure that the smaller dishes do not fall from the belt.
- Check that the dishes are not too tall or protruding.
- Do not wash trays horizontally.

Some food, like carrots, tomatoes, ketchup, may contain natural colorant substances that may alter the dishes and plastic parts if they are in large quantity.

The eventual color alteration does not mean that the plastic is not thermo-resistant.

Dishes to not wash in a dishwasher

Dishes not suitable to be washed in a dishwasher:

- Wooden crockery and cutlery or with wooden parts; wood wraps and loses its characteristics if it is exposed to high temperatures. In addition the glues used are not suitable for dishwashers; a consequence may be the handles detachment.
- Hand-made objects, valued vases or decorated glasses.
- Plastic dishes not thermo-resistant.
- Copper, brass, pewter or aluminum objects can discolor or become opaque.
- The decorations on glass can lose sparkle after a certain number of washes.
- Fragile glass or crystal objects can become opaque if washed many times.

It is suggested to purchase only crockery and cutlery suitable for washing in dishwashers.

Glasses can become opaque after many washes.

If after the washing the dishes are not clean or they have washing residuals (glasses, cups, bowls, etc., with liquid on the inside) it is mandatory to repeat the procedure.



photo 2
inlet



photo 3
outlet

loading belts examples (machine outlet):



dishes standard belt



glasses



trays

WARNINGS:

- Do not slam the doors when opening and closing.
- Do not put material or objects on the machine.
- The water used for the washing and the rinsing is not potable because of the presence of chemical additives. In case of contact with skin or eyes wash them immediately with plenty of water and check the safety instructions of the detergent manufacturer. If necessary, contact a doctor.
- Some important rules must be followed for the use of 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.
- **This machine must be disconnected from the main electrical supply after use at the end of the day and for any service/maintenance operation. Switch off the circuit-breaker switch 16 located on the control panel. Shut the water supply valve(s).**
- In case an obstacle stops the belt, first turn off the circuit-breaker switch **16** (position **0** = machine not powered) and then remove the cause of the block.

WARNING: INTERNAL CLEANING OF THE MACHINE SHALL BE CARRIED OUT AT LEAST 10 MINUTES AFTER IT 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.

WARNING: DO NOT TOUCH THE CONVEYOR WHILE IT IS WORKING.

6. DETERGENTS

6.1 Using detergent

The detergent must be of good quality, of NON-FOAMING type, specific for the mechanical washing of dishes. The use of liquid detergents is recommended.

The dosing has to be done following the recommendations of the detergent manufacturer and in accordance with the water and dishes characteristics.

The detergent has to be inserted only in the wash tank.

Note: It is forbidden to use detergents with chlorine-based reagents.

6.2 Using rinse aid

It is possible to use the rinse aid to get quicker drying and polishing.

The dosing has to be done following the recommendations of the rinse aid manufacturer and in accordance with the water characteristics.

Note: too much chemicals produces foam that reduces the effectiveness and lifetime of the washing pump. Too much chemicals might leave residuals on the dishes.

6.3 Using sanitizing

It is forbidden to use sanitizing products with chlorine-based reagents.

Detergents and sanitizing products used to clean the machine must be properly prewashed.

It is forbidden to use generic detergents to clean the machine.

7. EMISSIONI DI RUMORE AEREO

The machine has an average sound pressure between 70dB(A) and 80dB(A) depending on its configuration.

Machine without dryer optional	72dB(A)±2.5 dB(A)
Machine with dryer optional	74dB(A)±2.5 dB(A)

8. OBSERVANCE OF THE RULES OF HYGIENE AND H.A.C.C.P. AND NSF

In order to meet the correct H.A.C.C.P. procedures remember to prepare a sheet with tables where the shift operator enters the date and time the washing starts, the time the washing ends, the tanks and boilers temperatures and any other note/alarms that have tripped and what he/she has done to ensure sanitary safety.


This is the reason why the machine is equipped with:


- Temperature gauges that indicate the boiler (rinse), pre-rinse and tank (wash) temperature.
- Malfunctioning gauges.
- Possibility to consult the washing parameters.
- Before starting the wash, it is recommended to wait the foreseen temperatures are reached.
- Check if the rinse pressure is 13÷17 PSI.
- Remove solids from the crockery, not clog filters, nozzles and pipes.
- Drain the wash tank and clean the filters at least twice a day.
- Check that detergent and rinse aid dosing is correct as recommended by the supplier.
- Keep the tables surfaces clean.

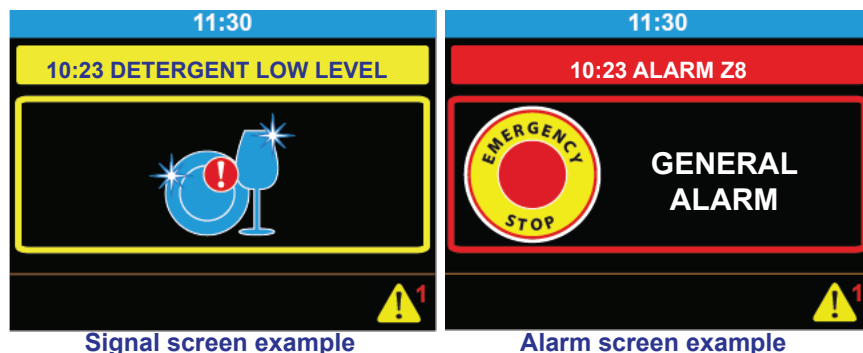
9. SIGNALS AND ALARMS

During the operation, the machine signals other situations in addition to alarms that need the operator attention.

In any case the relative information automatically appears on the display and remains visible until the operator execute the necessary actions.

To display the alarm/signal screen during the machine operation, press the **8 INFO**  key.

Press the **14 RETURN**  key to go back to the main screen.



9.1 Signals

The signal messages are displayed and signalized with a beep.

When **DETERGENT LOW LEVEL** appears on the display it means that the detergent is over.

When **RINSE AID LOW LEVEL** appears on the display it means that the rinse aid is over.

When **DOOR OPEN** appears on the display it means that you are trying an operation that cannot be done with the door opened or that you opened the door and interrupted a cycle in progress.

When **PLEASE DRAIN THE TANKS** appears on the display it means that you are trying an operation that cannot be done with the tanks full.

When **ENSURE THAT OUTLET IS CLEAR** appears on the display it means that it is necessary to remove the objects from the exiting shelf to continue the operation.

When **PERIODIC MAINTENANCE SUGGESTED** appears on the display it means that it is suggested to contact a technician for the periodical check of the machine.

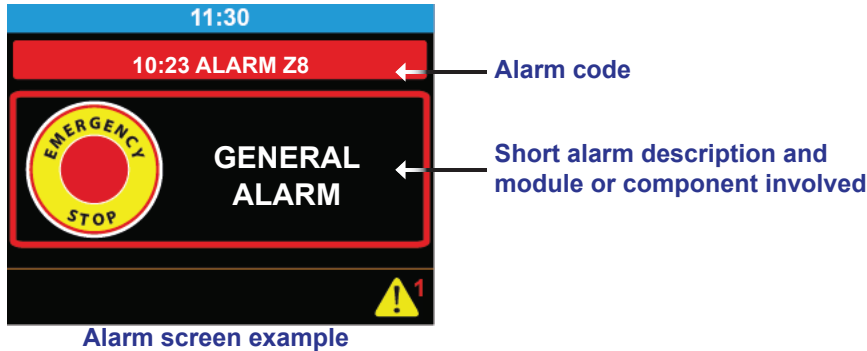
When **ENERGY SAVING MODE** appears on the display it means that the machine is in energetic saving mode (see par. **4.1.1**).

When **REDUCED FUNCTIONALITY** appears on the display it means that, for technical reasons, the automatic economizers system is disabled. In **REDUCED FUNCTIONALITY** mode pumps are active independently from objects on the conveyor.

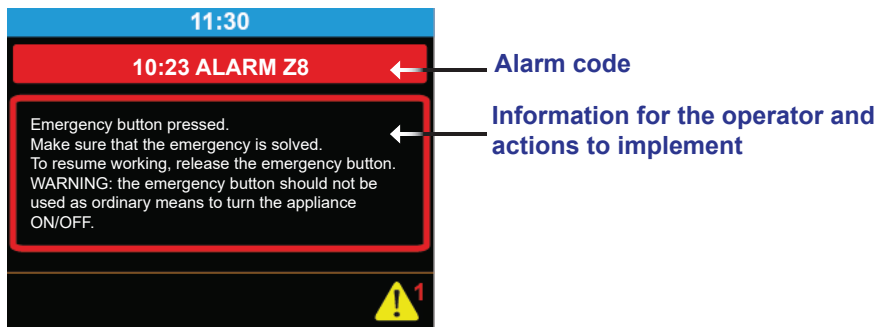
9.2 Alarms

The alarms are displayed on a dedicated screen that overlap the current display at the time the alarm occurs. Each alarm screen gives precise information about the meaning of the alarm and which are the operation the operator can run.

Alarm screen example:



It is possible to have more information about the current alarm by pressing the **8 INFO** key.



If the alarm does not block the machine it is possible to continue the operation by pressing **14 RETURN** key. The machine will continue to signal the alarm until the resolution of the problem by:

- The symbol is shown in the state of the machine.
- The **8 INFO** key. In this case by pressing the **8 INFO** key the current alarm is displayed.

If the alarm block the machine the operator will be able to carry out only two actions:

- Press the **8 INFO** key to have more information
- Press the **4 ON/OFF** to position the machine in stand-by.



9.3 Alarms description

Alphanumeric abbreviation	Alarm description
ALARM B2	BOILER 1 PROBE FAILURE (RINSE)
ALARM B3	BOILER 1 HEATING FAILURE (RINSE)
ALARM B5	BOILER 1 OVERTEMPERATURE (RINSE)
ALARM B10	BOILER 1 LOW TEMPERATURE (RINSE)
ALARM C1	PRE-RINSE FILLING FAILURE
ALARM C2	PRE-RINSE PROBE FAILURE
ALARM C3	PRE-RINSE HEATING FAILURE
ALARM C4	PRE-RINSE LOW TEMPERATURE
ALARM C5	PRE-RINSE OVERTEMPERATURE
ALARM C6	PRE-RINSE DRAINING FAILURE
ALARM C7	PRE-RINSE PUMP THERMAL PROTECTION
ALARM C12	POWER RINSE PROBE FAILURE
ALARM C13	POWER RINSE HEATING FAILURE
ALARM C14	POWER RINSE LOW TEMPERATURE
ALARM C15	POWER RINSE OVERTEMPERATURE
ALARM C17	POWER RINSE PUMP THERMAL PROTECTION
ALARM E1	WASH FILLING FAILURE
ALARM E2	WASH PROBE FAILURE
ALARM E3	WASH HEATING FAILURE
ALARM E4	WASH LOW TEMPERATURE
ALARM E5	WASH OVERTEMPERATURE
ALARM E6	WASH DRAINING FAILURE
ALARM E7	WASH PUMP THERMAL PROTECTION
ALARM M1	PRE-WASH FILLING FAILURE
ALARM M2	PRE-WASH PROBE FAILURE
ALARM M3	PRE-WASH COOLING FAILURE
ALARM M5	PRE-WASH OVERTEMPERATURE
ALARM M6	PRE-WASH DRAINING FAILURE
ALARM M7	PRE-WASH PUMP THERMAL PROTECTION
ALARM U3	EXTRACTOR MOTOR THERMAL PROTECTION
ALARM U4	BLOWER MOTOR THERMAL PROTECTION
ALARM U10	OPTIONAL MOTORS THERMAL PROTECTION
ALARM W1	INVERTER THERMAL PROTECTION
ALARM Z8	GENERAL ALARM
ALARM Z17	RINSE WATER SUPPLY FAILURE

ALARM B2 BOILER 1 PROBE FAILURE

Rated temperature cannot be reached.
It's recommended to suspend the washing.
Please contact the Technical Service.

ALARM B3 BOILER 1 HEATING FAILURE

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds.
Should the alarm persists, please contact the Technical Service.

ALARM B5 BOILER 1 OVERTEMPERATURE

It is recommended to turn **OFF** the appliance and contact the Technical Service.

ALARM B10 RINSE LOW TEMPERATURE

Please make sure that rinse arms and nozzles are in the right position.
Should the alarm persists, please contact the Technical Service.

ALARM C1 PRE-RINSE FILLING FAILURE

Please check that water inlet connection is working.

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds.
Should the alarm persists, please contact the Technical Service.

ALARM C2 PRE-RINSE PROBE FAILURE

Rated temperature cannot be reached.
It's recommended to suspend the washing.
Please contact the Technical Service.

ALARM C3 PRE-RINSE HEATING FAILURE

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds.
Should the alarm persists, please contact the Technical Service.

ALARM C4 PRE-RINSE LOW TEMPERATURE

Check the correct position of the pre-rinse arms and nozzles.
Should the alarm persists, please contact the Technical Service.

ALARM C5 PRE-RINSE OVERTEMPERATURE

It is recommended to turn **OFF** the appliance and contact the Technical Service.

ALARM C6 DRAINING FAILURE

Please check that the drain of the tank is not clogged.

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds.
Should the alarm persist, please contact the Technical Service.

ALARM C7 PRE-RINSE PUMP THERMAL PROT.

Rinse results may be affected.
Please contact the Technical Service.

ALARM C12 POWER RINSE PROBE FAILURE

Rated temperature cannot be reached.
It's recommended to suspend the washing.
Please contact the Technical Service.

ALARM C13 POWER RINSE HEATING FAILURE

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds.
Should the alarm persist, please contact the Technical Service.

ALARM C14 POWER RINSE LOW TEMPERATURE

Washing results may be affected.
Please check if the curtains are properly placed and that dishes are well-positioned in the racks.
It is recommended to suspend washing until the right temperature is reached.
Should the alarm persists, please contact the Technical Service.

ALARM C15 POWER RINSE OVERTEMPERATURE

It is recommended to turn **OFF** the appliance and contact the Technical Service.

ALARM C17 POWER RINSE PUMP THERMAL PROTECTION

It's recommended to suspend the washing. Please contact the Technical Service.

ALARM E1 WASH TANKS FILLING FAILURE

Please check that water inlet connection is working.

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds. Should the alarm persists, please contact the Technical Service.

ALARM E2 WASH PROBE FAILURE

Rated temperature cannot be reached. Washing results may be affected. Please contact the Technical Service.

ALARM E3 WASH HEATING FAILURE

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds. Should the alarm persists, please contact the Technical Service.

ALARM E4 WASH LOW TEMPERATURE

The washing results may be affected.

Please check if the curtains are properly placed and that dishes are well-positioned in the racks.

It is recommended to suspend washing until the right temperature is reached.

Should the alarm persists, please contact the Technical Service.

ALARM E5 WASH OVERTEMPERATURE

It is recommended to turn **OFF** the appliance and contact the Technical Service.

ALARM E6 WASH DRAINING FAILURE

Please check that the drain of the tanks is not clogged.

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds. Should the alarm persist, please contact the Technical Service.

ALARM E7 WASH PUMP THERMAL PROTECTION

It's recommended to suspend the washing. Please contact the Technical Service.

ALARM M1 PREWASH FILLING FAILURE

Please check that water inlet connection is working.

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds. Should the alarm persists, please contact the Technical Service.

ALARM M2 PREWASH PROBE FAILURE

Washing results may be affected. Please contact the Technical Service.

ALARM M3 PREWASH COOLING FAILURE

Please check that the cold water inlet connection is working.

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds. Should the alarm persists, please contact the Technical Service.

ALARM M5 PREWASH OVERTEMPERATURE

Washing results may be affected.

Please check that the cold water inlet connection is working.

Should the alarm persists, please contact the Technical Service.

ALARM M6 PRE-WASH DRAINING FAILURE

Please check that the drain of the tanks is not clogged.

Please turn **OFF** the appliance, by pressing the **ON/OFF 4**  button, and turn it **ON** again, after a few seconds. Should the alarm persist, please contact the Technical Service.

ALARM M7 PREWASH PUMP THERMAL PROT.

Washing results may be affected. Please contact the Technical Service.

ALARM U3 EXTRACTOR MOTOR THERMAL PROT.

It's recommended to suspend the washing.

Please contact the Technical Service.

ALARM U4 BLOWER MOTOR THERMAL PROT.

Please contact the Technical Service.

ALARM U10 OPTIONAL MOTORS THERMAL PROT.

Please contact the Technical Service.

ALARM W1 INVERTER THERMAL PROTECTION

Please contact the Technical Service.

ALARM Z8 GENERAL ALARM

Emergency button pressed.

Make sure that the emergency is solved.

To resume working, release the emergency button.

WARNING: the emergency button should not be used as ordinary mean to turn the appliance **ON/OFF**.

ALARM Z17 RINSE WATER SUPPLY FAILURE

Please check if the water supply is working and make sure that rinse arms and nozzles are in the proper position.

Please turn **OFF** the appliance, by pressing the **ON/OFF 4** button, and turn it **ON** again, after a few seconds.

Should the alarm persists,

please contact the Technical Service.

10. MAINTENANCE

WARNING: The machine is not protected against pressure water jets, therefore avoid the use of this type of cleaning system on the cabinet.

It is also suggested to contact cleaning product dealers for detailed information about methods and products for a periodical sanitizing of the machine.

Do not use bleach or chlorine-based detergents to clean the machine.

10.1 Routine maintenance

The perfect operation of the machine **depends on a careful cleaning that is necessary at least once a day** with the following procedure:

- Turn off the machine as explained in the par. 5.3.
- With empty tank, extract the filters of the tanks and the pumps (see photos from 4 to 8). Be careful that the washing residuals in the filters do not fall in the tanks. Clean the filters with a rigid brush underneath a powerful water jet.

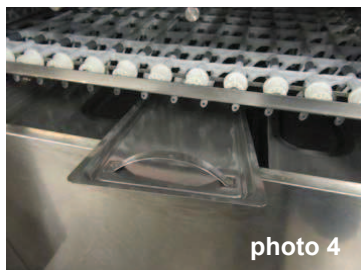


photo 4



photo 5

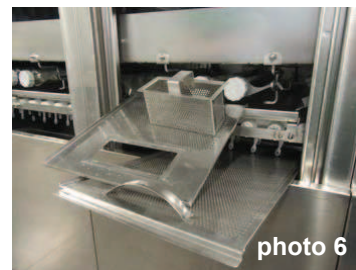


photo 6



photo 7



photo 8

- Extract the wash (see photo 9) and the rinse arms and carefully clean the nozzles underneath running water.
- Carefully clean the tanks avoiding the use of chlorine-based detergents.
- Clean the shutters (long on the outside, short on the inside).
- Clean the entry and exit shelves.
- If the machine is equipped with Heat Recovery + Dryer, clean the extractable filter (see pict. 10).



photo 9



photo 10

- Reassemble all the parts and replace the arms in their seats.
- It is suggested to leave the doors of the machine open at the end of the day.

Do not use a metal scouring pad and/or corrosive products to clean the dishwasher.

Do not use pressure cleaning systems.

10.2 Extraordinary Maintenance – by qualified Service Personnel only

Once or twice per year, the machine should be checked by qualified Service Personnel:

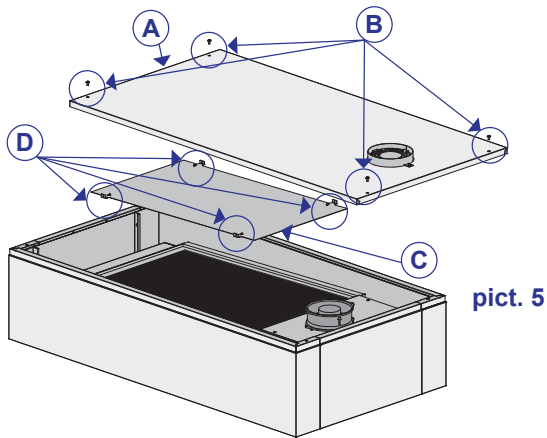
- Remove scaling from the heating elements
- Check the status and the tightness of all gaskets
- Check the perfect state and/or wear of the components
- Check the efficiency of the dispensers
- Tighten firmly all electrical connections at least once per year
- Clean the intake filter of the solenoid valve
- Check the state of the safety devices of the doors/boilers, limit switches
- Check the calibration of the clutch.

Pay attention to do not wet the motor or any electric part. Perform maintenance with the circuit-breaker switch 16 and the main switch turned OFF (both in 0 position).

10.2.1 Extraordinary Maintenance - Heat Recovery

Every three months the Heat Recovery should be checked by qualified Service Personnel to:

- Clean the finned exchanger inside the Heat Recovery.



pict. 5



11. ENVIRONMENTAL ASPECTS

11.1 Packing

The packing consists of the following:

- a wooden crate;
- extensible belt in nylon (LDPE);
- polystyrene foam (PS).

Please dispose of the materials listed above, according to the current regulations.

11.2 Disposal

The machine must be disposed of according to current regulations: contact the Municipalized Firm responsible for collection of urban solid waste.

Before disposing of the appliance, disconnect all water and electrical connections.

Cut the electrical cable in such a way as to prevent further use.

As all metal parts are stainless steel, they are therefore recyclable.

Recyclable plastic parts are identified by the plastic symbol.

12. ECOLOGICAL ASPECTS



12.1 Recommendations for optimal use of energy, water and additives

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

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

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

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

Notes: Wash the objects as soon as possible in order to prevent the deposits from drying and jeopardizing the effectiveness of the washing. To get an efficient wash, it is advisable to regularly clean and maintain the dishwasher (see par. 10).

Non-compliance with the above points and all the information described in this manual could determine a waste of energy, water and detergent, with consequent increase in operating costs and/or decrease in performance.



13. MACHINE PROBLEMS, CAUSES AND CURES

Type of problem	Possible causes	Cure
The machine does not start	Main switch turned off	Turn on the main switch
	Card transformer fuse blown	Contact the Technical Assistance to replace the fuse
The machine does not load water	Water supply valve closed	Open the water supply valve
	Shortage of supply water pressure	Turn off and turn back on when the pressure increases or install a booster pump
	Solenoid valve filter clogged with sand	Contact the Technical Assistance to clean the filter
Inadequate washing results	The washing nozzles are clogged	Clean the nozzles and correctly reposition the arms in the proper seats
	Wrong detergent concentration	Have the detergent dosage checked
	Filters too dirty	Remove and clean the filters with a brush under a jet of water, then replace them in their seats
	Presence of foam	Always use a non-foaming detergent. Have the detergent and rinse aid dosages checked
	Check the tank temperature	Adjust the temperature set for the washing. Contact the Technical Assistance to check the correct operation of the heating element
	Washing duration not sufficient for the type of dirty	Select the lowest speed or repeat the washing cycle
	Washing water too dirty	Drain the water of the tanks, clean the filters. Reload the tank and replace the filters properly
The objects are not dried properly/bene	The machine doesn't rinse	Contact the Technical Assistance
	Wrong rinse aid concentration	Have the rinse aid dosage checked
	Baskets unsuitable for the objects	Use a basket suitable for the objects
Streaks or smears on the objects	Rinse water temperature too low	Check the temperature of the water entering the system
	Wrong rinse aid concentration	Have the rinse aid dosage checked
During the operation the machine suddenly stops	Water too hard	Check the water quality. The water hardness must not be higher than 8°f
	The machine is connected to an overloaded system	Contact the Technical Assistance to connect the machine separately
During the washing phase the machine stops and replenishes the water	A machine safety device tripped	Contact the Technical Assistance to check the security devices
	The water of the previous day has not been changed	Empty the tank and carry out a new filling
	Faulty pressure switch	Contact the Technical Assistance
	Overflow pipe positioned incorrectly	Remove and correctly reposition the overflow pipe
	A tank emptied due to excess of foam or lack of curtains/splash guards	Have the detergent and rinse aid dosages checked or correctly reposition the curtains or the other guards that may have been removed
Wash arms incorrectly positioned	Check and correctly reposition the wash arms	

Type of problem	Possible causes	Cure
The machine does not wash and the pump is noisy on machines with three-phase pump	The pump direction is inverted due to incorrect connection of the power supply cable	Contact the Technical Assistance
	The level of water inside the tank is too low	Remove and correctly replace the overflow pipe
		Correctly reposition the curtains or the other guards that may have been removed
		Check and correctly reposition the wash arms
The suction of the pump is clogged	If the level of water continues to fall, contact the Technical Assistance	
	Check if the suction filters of the pump (placed in the tanks) are clogged. If the problem persists contact the Technical Assistance.	

14. OPTIONAL PROBLEMS, CAUSES AND CURES

14.1 Heat Recovery

Type of problem	Possible causes	Cure
Low boiler temperature	Dirty steam coil	Should the alarm persists, please contact the Technical Service to clean the Heat Recovery
	The ventilation motor is damaged	Contact the Technical Assistance
The objects are not dried properly	Wrong rinse aid concentration	Have the rinse aid dosage checked
	The basket is not suitable to the objects	Use basket suitable for the objects
	Dirty steam coil	Should the alarm persists, please contact the Technical Service to clean the Heat Recovery

14.2 Dryer

Type of problem	Possible causes	Cure
The objects are not dried properly	Cold air is emitted	Contact the Technical Assistance
	The fan direction is inverted due to incorrect power cable connection	Contact the Technical Assistance

N.B.: For any other problems, contact Technical Service. The Manufacturer reserves the right to modify the technical characteristics without prior notice