# DISHWASHING MACHINES 015/24L-dy / - L24-dy-plus L25-dy - L305-dy-CV



# INSTRUCTIONS MANUAL





#### **DECLARATION OF CONFORMITY**

The following:

LAMBER snc di Affaba F. e C. – Via Italia 6 – 26855 Lodi Vecchio (LO) ITALY

Declare under our responsibility that:

Apparatus:

DISHWASHER WITH PULL THROUGH RACK

Trademark: LAMBER

Manufacturer: LAMBER

Type / Model 015/24L / L24-ek / L25-ek / L305-CV matr.....

#### for which this declaration refers to the conformity of the following standards:

- Safety of household and electrical appliances General requirements EN60335-1(2012)
- Safety of household and electrical appliances Part 2<sup>^</sup> Particular requirements for commercial electric dishwashing machines EN60335-2-58 (2005) + A1 (2008) + A11 (2010).
- Household and similar electrical appliances Electromagnetic fields Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure EN 62233 (2008)
- Limits and methods of measurement of radio disturbance characteristics of electrical motor-operated and thermal appliances for households and similar purposes, electric tools and similar electric apparatus - EN 55014-1 (2006) + A1 (2009) + A2 (2011)
- Limits for harmonic current emissions (equipment input current ≤ 16 A per phase) EN 61000-3-2 (2006) + A1 (2009) + A2 (2009) or >16A and ≤ 75A EN 61000-3-12 (2011)
- Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current ≤ 16 A. EN 61000-3-3
   (2013) o >16A e ≤ 75A EN 61000-3-11 (2000)
- Immunity requirements for household appliances, tools and similar apparatus. Product family standard EN 55014-2 (1997) + A1 (2001) + A2 (2008)
- Safety of machinery Basic concepts, general principles for design Basic terminology, methodology-ISO 12100-1 (2009).
- Safety of machinery Basic concepts, general principles for design Technical principles-ISO 12100-2 (2009).

on the basis of what is foreseen by the Directives:

2004/108/CE, 2006/42/CE. 2004/108/EC, 2006/42/EC.

We decline any responsability for injuries or damage derived from machine misuse, abuse by others or improper machine maintenance or repairs.

(date) li 07/01/2015

The administrator

Ing. Affaba Roberto

AFFABA Roberto

technical file case manager : Ing Roberto Affaba address : via italia 6 – 26855 – Lodi Vecchio (LO) Italy

# WASTE OF ELECTRICAL AND ELECTRONIC EQUIPMENT DIRECTIVE (WEEE,RAEE in Italy) 2002/96/EC AND SUBSEQUENT 2003/108/EC

The marking shown below indicates that the product cannot be disposed of as part of normal household waste. Electrical and Electronic Equipment (EEE) can contain materials harmful to health and the environment, and therefore is subject to separate waste collection: it must be disposed of at appropriate waste collection points or returned to the distributor against purchase of new equipment of similar type or having the same functions.

The directive mentioned above, to which make reference for further details, provides for punitive actions in case of illegal disposal of such waste.



Lamber guarantees a percentage of recovery at least of **90%** in medium weight for each equipment. The **80%** - always as regards the medium weight- of recovered material is recycled or reused. LAMBER, manufacturer of this equipment, is enrolled in the Italian WEEE Register – the Register of Producers of Electrical and Electronic Equipment- from the 18<sup>th</sup> /02/2008 with the number **IT08020000000617**.

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#### GENERAL NORMS ENGLISH

Thank You for purchasing our Dishwashing Machine.

Perfect washing-up results as far as hygiene concerns and a correct operation of the dishwashing machine can be assured only in case the instructions reported in the present manual are carefully followed.

We hope the information reported in the present manual will be helpful to You.

They are based on data and on our best updated knowledge.

Carefully read the Instructions reported in the manual, recommendations and suggestions included. Carefully read the terms of sale too, even the ones limiting warranty.

This appliance in not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance (EN 60335-2-102/7.12).

# INTRODUCTION AND SAFETY NOTES

#### **ENGLISH**

#### INTRODUCTION

- The machines are Industrial Pass-through-dish-washing machines .
- Noise level of the machine: <u>015/24L-L24-ek</u> : Lpa=63,5 dB(A) / <u>L25-ek</u> : Lpa=59,5 dB(A) / <u>L305-CV</u> : Lpa=67 dB(A) (Norms EN ISO 4871 and EN ISO 11204)

#### PRELIMINARY OBSERVATION

Carefully read the instructions reported in the present user manual, as it gives important indications about safety of installation, operation and maintenance:

- carefully keep the present manual for further consultations;
- the illustrations and drawings showing the machine are intended for general reference only and are not necessarily accurate in every instance;
- the dimensions and characteristics of the machine, given in this Manual, are not to be considered binding and may be changed without prior notice;
- once removed the packing material, check that all the equipment is present. If there is any doubt, do not use it and contact qualified personnel. The packing elements (plastic bags, nails, etc.) should be kept away from children, because they are dangerous.

#### **GENERAL SAFETY REGULATIONS**

THIS SAFETY CODE HAS BEEN COMPILED IN YOUR INTEREST. Strict adherence to these rules will reduce the risks of injury both to yourself and to others;

Personnel working with this machine must adhere strictly to all statutory safety regulations as well as the specific rules listed below. Failure to do so may result in personal injury and damage to the machine;

- DO NOT attempt to move, install, set up or operate this machine until you have read and fully understood this Manual. If doubt persists, ask your supervisor;
- never leave tools, parts or other loose material on or in the machine;
- Before switching the equipment on, make sure that the model plate data conform to those of the electrical and water distribution network;
- remember that even with the mains indicator in the "OFF" position, the incoming cables are still live;
- BEFORE starting the machine or the cycle, after any maintenance or repair work, make sure all protective are correctly installed:
- be vigilant at all times, remember that your safety and that of your fellow workers depends on you;
- when moving or lifting the machine, care must be taken to comply with all the relevant regulations governing such operations;
- installation should be carried out by qualified personnel according to the manufacturer's instructions.
- this equipment should be destined to the use which it has been conceived for. Any other application should be considered improper and consequently dangerous;
- the equipment should only be used by personnel trained for its use;

#### SPECIAL SAFETY REGULATIONS

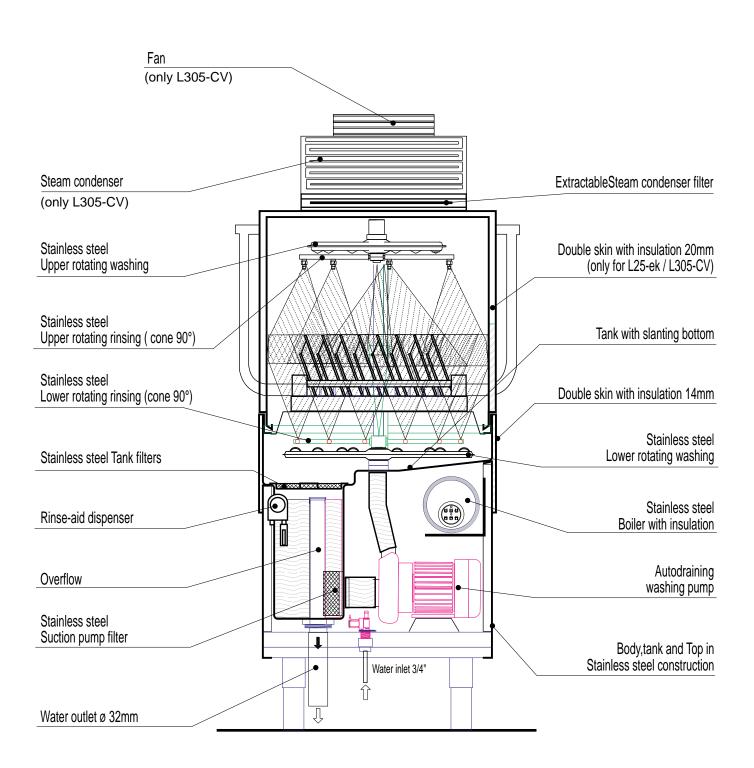
- adjustement and repairs must be carried out only by qualified personnel. Repair carried out by unskilled personnel may be dangerous;
- perfect washing-up results as regards hygiene and a correct operation of the washing machine can be assured only in case the instructions reported in the present handbook are carefully followed;
- the machine must be used only by authorized personnel who must comply with sanitary measures;
- do not leave the machine in an environment with temperatures lower than 0°C;
- <u>the machine protection degree is IP21</u>, therefore it should not be washed with direct high pressure jets of water;
- If the power cable is defective, it must be replaced by your manufacturer or by a technical assistance service or by a qualified technician in order to avoid risks.

#### **RESIDUAL RISKS**

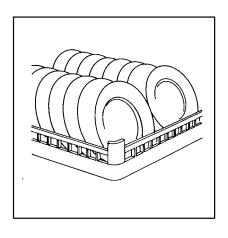
Although the appliance is equipped with the above-mentioned safety devices, danger of burns to upper limbs persists. Avoid dipping your naked hands into the soapy hot water present in the tanks. This can cause burns and skin irritations. In this case, immediately rinse them with plenty of water.

When the machine is working, do not open the inspection doors too quickly.

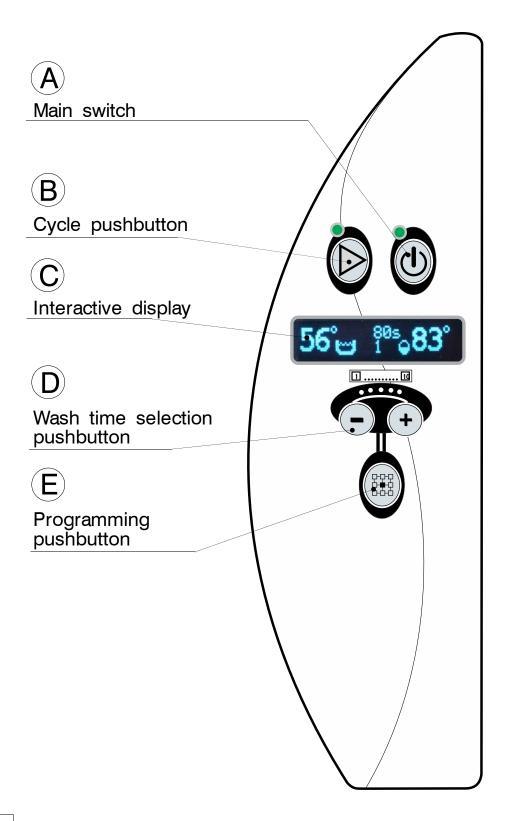
# Learn to use the appliance



# **INSTRUCTIONS FOR THE USER**



### **CONTROL PANEL**



Dis.1

#### First Section - FOR THE USER

#### **WORKING AND USE**

The dishwashing machine can wash up to 960/320 dishes per hour.

The machine protection degree is IP21, therefore it should not be washed with direct high pressure jet water; The correct placing of the objects is an essential condition for a good washing-up result:

We suggest to descale dishes, from time to time, in order to remove calcareous and/or starchy sediments by soaking it in suitable solutions suggested by your cleansing agent supplier.

If you need to buy new dishes remember the following:

Dishes and cups: preference must be given to china or non-porous pottery articles, with smooth surface. Glasses: choose a glass suitable to be washed in dish-washing machines. Surfaces must be smooth and bottoms as flat as possible.

#### **INSTRUCTIONS BEFORE WASHING**

BEFORE STARTING THE WORKING OPERATION MAKE SURE THAT:

- the cock is open;
- the filters and the overflow are in their housings;
- the wash arm and the rinse arm are free to pivot;
- rinse aid and washing powder dispenser containers are loaded.

THEN PROCEED:

1 - Open the hoor and put into the tank, possibly over the pump-filter, about 110 gr. of detergent in powder. Every 10 cycles add about 75 gr. of detergent.

If the machine is provided with an automatic dosing device, make sure that the detergent is in its container.



**CAUTION**: Observe the safety notes and dosage data for the use of chemicals. During the use of the chemical substance wear protective clothing, gloves and protective glasses. Do not mix different cleaning products.

# TURN ON THE MACHINE and operating state of emergency.

**2** - Turn on the power using the switch on the wall and press the switch "A" placed on the control panel (DIAGRAM.1).

You will see the serial number of the machine followed by the logo Lamber.

Close the hood of the dishwasher.



Press at this point the key switch "A" on the control panel (draw 1)



At this point the LED will turn green and the interactive display will show "Fill phase 1" that will signal the start of the filling phase of the tank.



The filling phase is implemented in two stages. In STEP 1 begins the load of the tank with water from the water mains; in STEP 2 continues the filling but also begins a warm-water washing.

Note: If the machine is equipped with water softener, during the FILLING PHASE 1 it will be made to one or more cycles of Regeneration and a subsequent Resins' Washing.

**Attention**: during tank filling don't open the hood of the dishwasher!!

#### Attention!

If during the loading phase, appears the message "BREAK TANK", this means that you're filling up with water the rear Break Tank.

If after 5 minutes the data is still flashing in alternation with the inscription FILLING PHASE 1, you will see the word ALARM BEREAK TANK and this will means that there may by a problem in the tank loading. (Call the Technical Assistance Service!)

At the end of the filling phase of the tank on the interactive display will appear the following information (from left to right):

- -Temperature of washing;
- -Time of washing;
- -Number of cycle;
- -Temperature of rinsing..

The data of the temperature Tank and Boiler, flashes slowly and increases in value, indicating the current warming of the water in the boiler. When temperature has reached, the data stops flashing.



#### Attention!

The machine is programmed at the factory so you can start the washing programm after filling the tank up to the required level.

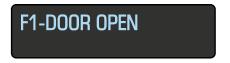
However, before you start the cycle, make sure that the machine has reached the ideal temperature range (55°C for washing and 85°C for rinsing):

In any case, the rinse will start only in temperature regime reached. The duration of the washing time chosen will then be continued until it reaches the set temperature ((Thermocontrol).

#### **WASHING**

**3** - Open the hood of the machine and insert the basket. .

N.b.The display informs you when the top of the dishwashers is open.



**4** - Place the dishes in the racks, making sure to first remove all the solid waste and fats.

Make a preventive soak to cutlery and possibly even to dishes if they are washed after a long time use. Do not overload the baskets, dishes should not overlap, the water must have a way of being able to invest directly in their entirety.

For a correct positioning of dishes see the specific paragraph on page 16...

**5** - Select the time of the washing cycle by pressing the time selection "**D**"



According to the following criteria:

- cycle 1 :short 1 minute ;
- cycle 2: intermediate 2 minutes;
- cycle 3 : long 3 minutes ;
- cycle 4: infinite 15 minutes;

The duration of the cycle must be chosen according to the type of dirt to be removed from the dishes.

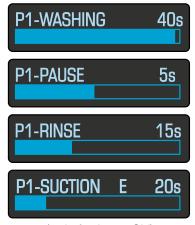
See paragraph specifically for custom programming, in the section dedicated to the installer.

#### **6** - Close the hood of the dishwasher.

Start at this point the washing cycle of the chosen duration comprising in addition to washing a rest period of 5 seconds, and a rinsing phase lasting 15 seconds with clear water at 85°÷90°C.

#### (only for L305-CV)

At the end of the washing phase there is the automatically activating of the fan for suction of the vapors. This aspiration continues for a programmable time from 0" a 60" beyond the end of the rinse seconds ( default 20") . A beep indicates the end of the cycle.



(only for L305-CV)

To temporarly pause the cycle, simply open the hood of the dishwasher. Closing it, the cycle will start again at exactly the point were it was interrupted.

It is possible at any time to stop the wash cycle by simply pressing the button again cycle "B"



When you restart the cycle, this will restart from the beginning.

(be carefull! During the cycle, at the opening of the hood is pressed also the fan for fume extraction for a maximum time of 20 seconds – only to L305-CV) **7** - At the end of the wash cycle, the message "END WASH" will appear followed by a short beep.

The LED turns off and the B button appear the temperature data and the data number and duration of the cycle.



Open the hood of your dishwasher.

Remove the basket and tilting it, shake it lightly to bring down the remaing drops. Allow to dry the dishes by evaporation, then remove them from the basket, taking care not to touch the inside edge of the same. Then put them on hygienic shelves.

To continue the wash load another basket and close the hood. The cycle will restart automatically.

If you want to change the wash cycle, before closing the hood, you will need to select the new cycle by pressing the time selection "D".

<u>Temperature data display</u>: to view temperature data during the wash cycle, it is necessary to

press the push-botton + You will see the temperature data for 3".

If you want to fix the values of temperature for the whole duration of the selected cycle, it is

necessary to press the button for 3". To re-display the data of the wash cycle, it is necessary to press the switch.

Attention! At the next cycle the temperature data will not be displayed automatically, but the data will appear in the wash cycle.

#### **ACHIEVEMENTS**

Any deficiency in the washing process is obvious when dirty residuals are visible. Any halos might be caused by an insufficient rinsing: in this case, check that the rinsing jets are clean and that there is a sufficient pressure in the water distribution network.

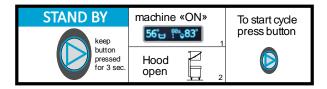
In case you find residuals, check that:

- the washing jets are clean
- there is some detergent
- the pump suction filter is clean
- objects in the rack are placed in a correct position.

#### STAND BY-ECONOMY

# (only available on a machine with automatic start!):

The stand-by function allows you to keep the machine closed at rest, keeping active heating functions.



**Stand-by**: with open hood and the machine is in "ON", press the cycle "B" push-button for 3 seconds, then closing the hood, the machine will not operate the wash cycle while maintaining active heating functions.

The display shows the word "ECONOMY". The temperature of the heater stabilizes at 60° reducing the consumption of energy.

Attention!: make sure, after you start the stand-by function to close the hood to keep the wash tank hot and not disperse heat!

To restart th cycle, put the top down and press the push-button "B".

<u>Automatic Stand-by:</u> after 10 minuters of nonuse of the machine, with the hood open, it automatically activates the STAND BY-ECONOMY, (the display shows the word ECONOMY P\*)

To restart the cycle, put the top down and press the push-button "B".

If the machine is not used for 1 hour, the same turns off completely (the machine "OFF", even turning off the heating elements).

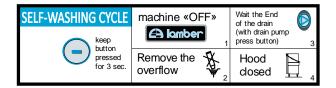
Turn on the machine by pressing the push-button"A".

To restart the cycle, put the top down and press the push-button "**B**".

#### **SELF-WASHING**

The function of **self-washing** allows you to make a cleansing cycle at the inside of the washing tank.

The inside of the washing tank is cleaned with water coming from water network.



- <u>Self-washing cycle</u>: with the machine "ON" do the following operations::
- -1 Put the machine OFF by pressing the push-button "A" (led off)
- -2 Remove the overflow of the tank and wait until same is empty:

<u>For machines equipped with drain pump,</u> see the instructions at the specific paragraph.

For machines without drain pump: Visually check that the tank is empty,

- -3 Close the hood of the dishwasher;
- -4 Hold the " button for 3 seconds.

ATTENTION: before your press the "-", button, make sure that the display shows the logo lamber " Lamber",

In case it is off, turn the machine on by pressing the switch "A" and then pressing it again to to turn off again the push button "A"

The logo Lamber will reappear and will then be able to start the function SELF-WASHING holding down the

select push button " for 3 seconds

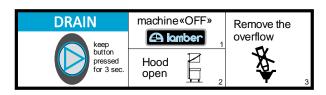
On the display you will see the words "SELF-WASHING" with the time bar that indicates the icrease for the duration of the cycle of 5 or 10 minutes depending on the time of rinse set by default

If you want **to stop** the cycle SELF-WASHING, it is sufficient to press the switch "A"

#### **DRAIN PUMP INSTRUCTIONS (optional)**

(only for machines with drain pump)

The pump discharge function allows you to automatically download the wash tank at the end of the workday.



The operation of the discharge pump is automatic only during the cleaning cycle to drain the excess water that enters during the rinsing phase

At the end of the working day, to discharge the tank completely, you must perform the following steps:

- Put the machine OFF by pressing the switch "A" (the display shows LAMBER logo);
- Open the hood of the dishwasher;
- -3 Remove the OVERFLOW from the tank
- 4- Then press the "B" cycle-button for  $\underline{3}$  seconds

Alternately flash the words "DRAIN" and "REMOVE OVERFLOW"

(N.B. The word "REMOVE OVERFLOW" will disappear only to the closing of the hood)

The discharge stops automatically after about 5 minutes.

The discharge can be interrupted at any time by pressing the cycle-button "B"

After draining, the machine will turn off completely (display OFF).

Replace the overflow into place and close the hood.

#### **DESCALING** (optional)

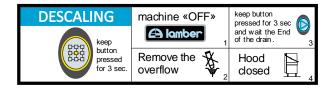
(only for machine with drain pump and dispenser)

The descaling function is a cycle that leads descaling liquid in the pipelines of rinsing, in the washing tank and boiler allowing the removal of limescale deposits from the water products.

The cycle lasts about 35 minutes.

For an average water limestone is recommended cycle activation at least once a week.

The frequency may vary depending on type of water.



To make the cycle do the following operations:

- -1 Punt the machine OFF by pressing the switch "A" (led off)
- -2 Remove the OVERFLOW from the tank;

- -3 Press the "B" button for 3 seconds and wait for the complete emptying of the tank;
- Close the hood of the dishwasher;
- -5 Then press the "E" button for <u>3</u> seconds

At the end of the descaling cycle (approx. 35 minutes) will appear on the LED the words "END OF THE DESCALING CYCLE".

#### **List of automatic MESSAGES**

On the display may appear some messages to inform about the status of the cycle start of abnormalities. Below is the eXplanation of some MESSAGES that appear on the display automatically.

#### 1-BREAK TANK:

This indicates that the tank of Break Tank is filling of water to reach the required level.

#### 2-ALLARME BREAK TANK:

This indicates a fault in the operating system: lack of water mains, valve not functionning: Call Customer Service!

#### 3-ECONOMY:

After 10 minutes of non-use of the machine with hood open, it appears the word ECONOMY. The temperature of the heater stabilizes at 60° reducing the consumption of energy.

#### 4-OFF

If no button is pressed in 1 hour, the message "OFF" will appear and the machine turns off.

#### 5-THERMOCONTROL:

This indicates that the washing cycle will be extended to reach the ideal temperature for rinsing

This message is accompanied by the value of the temperature. This gives flashes and increments until it reaches the programmed temperature, at which may start the rinsing phase.

#### **6-REMOVE OVERFLOW:**

This indicates that the overflow has to be removed to perform the selected operations (self-washing, descaling or discharge of the tank)

The data is highlighted even if in reality you have already removed the overflow, but will disappear automatically after 10 seconds after you close the hood of the dishwasher.

#### 7-REGENERATION IN PROGRESS:

(only for machines with built-in water softener). It indicates that a cycle of regeneration of the resins varying from 30" to 90" seconds is in progress.

#### 8- WASH OF THE RESINS:

(only for machines with built-in water softner). It indicates that a washing cycle of the resins of the duration of 10" seconds is in progress..

#### 9-SALT:

(only for machines with built-in water softener) It indicates that there is a lack of salt into the container. Add big pads of salt into the container as per the specifications given to you by your provider.

#### 10-SERVICE:

It lindicates that you need to do maintenance work. The scheduled maintenance service allows you to control all the devices and efficiently maintain your dishwasher over the time. Normal functioning is still guaranteed. It is well worth however not to wait too long to make the intervention.

#### List ALARMS!

**Alarm: A3-TEMP.SENSOR:** this message indicates that the probe of the tank temperature thermostats or boiler is defective. <u>Call the Technical Support Service!!</u>

**Alarm: A2-HIGH TEMP.:** this message indicates that the temperature in the boiler is greater than 105°C. <u>Call the Technical Support Service!</u>

Alarm: BOILER PROBE FAILURE. : this message indicates that the probe of the boiler is not working properly. In this case the functioning of the resistance of the boiler and the Thermocontrol are disabled.

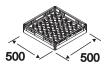
Call the Technical Support Service!

Alarm: TANK PROBE FAILURE: this message indicates that the probe of the washing tank is not working properly. It is disabled in this case the functioning of the washing tank resistance. Call the Technical Support Service!

#### **DISHES POSITIONING**

#### Warning!

Only use the baskets supplied with the dishwasher!





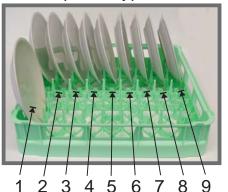
To achieve optimal cleaning results, make sure that tableware is correctly stored

inside the dishwasher. Dishes must be placed in the plastic baskets, concave side up.

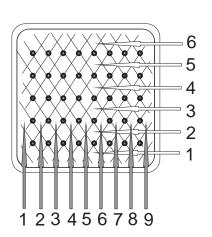
PP12-18 cod.CC00024 (1x: mod.L24-dy-PLUS

2x: mod.015/24L-dy-L25-dy-L305-dy-CV)

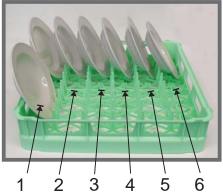
dinner plates type"1"



Dinner plates type " 1" should be positioned concave side up and on the side of the rack with 9 storage compartments - that is a maximum storage capacity of 18 flat plates, as shown in the above picture

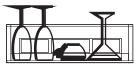


dinner plates type"2"



Dinner plates type " 2" should be placed concave side up and on the side of the basket with 6 storage compartments that is a maximum storage capacity of 12 deep plates, as shown in the above picture

Glasses, bowls and cups should be positioned face down into the proper compartment as shown below.



Put the cutlery into the small baskets, handles down. Avoid overlapping it (see picture above).

CPR-50G cod.CC00011 (1x) (1x: mod. L24-dy-PLUS L25-dy-L305-dy-CV)

Insert the baskets

inside the

dishwasher with the

plates in the direction shown in

the picture.



CB cod.CC00019 (1x)



G cod.CC00045 (2x)



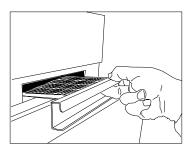
# CLEANING AND PREVENTIVE MAINTENANCE

# PRECAUTION AND CLEANING INSTRUCTIONS

- IMPORTANT: Before carrying out the cleaning and maintenance operations, disconnect the equipment from the mains power supply:
- Follow the directions on the maitenance in this guide;
- Wear protective clothing and gloves when challenged elements are impregned with clearing solution;
- high temperatures can be reached inside the machine (90°C). After power supply has been removed, wait until the machine has reached room temperature, before working on it.
- never leave tools, parts or other loose material in or on the machine;
- Chek that there are no rusting foreign bodies, because of the material "stainless steel" could begin to rust. Rust particles can come from non- stainless steel dishes or damaged wire baskets.
- Do not wash the machine and the area surrounding it with fire hydrants, steam jets of high-pressure cleaners;
- When clearing the floor be careful not to saturate the base of the machine, in order to avoid a prolonged stagnation of water;
- To clean the inside of the machine, use a brush or a soft cloth;
- To clean the machine do not use abrasive cleaners:
- BEFORE starting machine or cycle, after any maintenance or repair work, make sure all protectives are correctly installed;

#### DAILY MAINTENANCE

- Turn off the machine by pressing the switch "A" and drain the water from the tank by removing the overflow;
- Wait until the water is drained and there is no debris on the bottom of the tank.
- Proceed to the specific operation of daily clearing as described on the next page
- (only for L305-CV) Clean the filter of the steam condenser that is placed in the upper part of the hood;



- If there is an extended downtime is advisable to prevent the formation of unpleasant odors and leave the hood raised.
- When the machine is to remain idle for a long time, drain all the water from the boiler (the drain plug is located on the lower side of the boiler) and from the electropump. Also leave the wash tank open.

NEVER WASH THE EXTERNAL PART OF THE MACHINE WITH A WATER JET

#### DAILY CLEANING OF THE INTERIOR OF THE DISHWASHER

Attention. Before carrying out cleaning the inside of the machine, make sure that there are no foreign objects that could damage the rusty steel inside the tank. The eventual rust particles could come from non-stainless steel dishes, from baskets or damaged water pipes not rust-proof.



Open the hood of the dishwasher



Unscrew the reel rinse lower



Remove the washing lower reel



Unscrew the reel rinse top.



Remove the reel clearing top



Remove the filter drawer



Remove the basket guide



Remove the filter tank



Remove the filter suction pump



Remove the overflow pipe

Remove from the tank by means of a brush or cloth if any, residual dirt.



Clean the pump inlet filter by means of a brush



Clean the filter tank top



Clean the filter drawer



Clean the washing reel. Check for any debris inside.



Clean the reel rinse



Wipe with a cloth the tank and check for any debris on the bottom.



Insert the overflow



Insert the filter pump suction



Insert the filter tank in its place



Insert in its place the filter drawer



Replace the baskets guide



Replace the lower washing arm



Screw the lower rinse arm



Mount the upper washing arm



Keeping with a hand the washing arm in place, screw the rinse arm.



Check that the wash and rinse arms are free to rotate (upper and lower)



Completely close the hoot the the dishwasher. If there is an extended downtime, it is advisable to leave the hood open.



(only for L305-CV) Clean the filter of the steam condenser that is placed in the upper part of the hood;

#### **DETERGENT and RINSE-AID**

Attention. During the use of chemicals is advisable to wear appropriate clothing, such as gloves and protectives glasses.

It's therefore important to consider some factors.

Firsf of all, it is necessary to use only strongly anti-foaming Alkali and Chlore Products specific for industrial dishwasher, manufactured by Companies recognized as seriousness. By way of illustration, we list a few: Ecolab-Soilax; Henkel; Lever; Diversey; Relativ.

#### Detergent

The detergent s needed to remove dirt and food from the dishes.

The detergent may by determined in various ways:

- Manually if powder
- Automatically from one external box via a dosing device embedded or external.

The mean concentration of powder detergents should be of 1,5÷2,5 g/liters For dosing instructions refer to the initial notices before washing.

If automatic, always check the presence of liquid in the tanks and set the dosages by the installer.

The mean concentration of liquid detergents should be of 2÷4 g/liters.

In order to avoid corrosion and scalling, the placing of the detergent must be made above the water level in the area closest to the pump suction filter, so that it enters immediately in solution and does not deposit on the tank bottom.

The detergent dispenser is not standard on all the machines.

Then check the presence of it in the order data.

#### Periodically check the presence of product in external tanks!

#### Rinse-aid

To ensure proper rinsing and fast drying and prevent scale deposits on the dishes, you need to add to the water an additive such as a surfactant (Rinse-Aid)

The rinse-aid is dosed automatically and its dosage is set by the authorized service technician.

The average concentration of use is of 0.15 g/liter.

The supplier of detergent will be able to recommend the most suitable product.

The machine is equipped with rinse-aid dispenser.

Periodically check the presence of the products in the external tanks!

### PROBLEMS - CAUSES - SOLUTIONS

PROBLEMS	CAUSES	SOLUTIONS
The machine doesn't catch	Main switch is switched off;	Turn ON the main switch;
	Power plug is not inserted	Insert the power plug
The water doesn't go in	Water cock closed;	Open water cock;
	The Overflow is not in place;	Reassemble the Overflow in place
	The water inlet hose is blocked	Change the water inlet hose
Insufficient Washing	Wrong detergent or dosage	Use anti-foam detergent in the right dosage and never with cold water;
	Detergent is inappropriate	Use a non-foaming detergent and never in cold water;
	Low temperature in the tank;	Wait until the water gets hot and wait for the achievement of the ideal temperature indicator light stop blilnking
	Dirty wash filter;	Clean filter;
	The washing arms are not free to	Check the presence of obstacles or
	rotate	the correct positioning of the dishes
Insufficient Rinsing	Rinsing nozzles blocked;	Unscrew and clean nozzles under running water;
	Hydraulic pressure lower than 1	Wait until the pressure is on or buy a
	bar - 100 kPa;	booster pump;
The dishwasher will not drain	Drain hose obstructed	Check and remove any obstruction
	The filter of the drain pump (if included) is obstructed	Clean the filter of pump suction
The dishes are not dry	Rinse-aid has not been used or it has been used only in small	Set the dosage according to the manufacture directions
	quantity	Check that the dosing tubes are not blocked
		Clean the detergent suction filters placed in the tanks
		Also check the entry of the water from the mains and clean the filter may be clogged
On the dishes it forms a layer	If there is a layer of limestone, the water is too hard	Check for the presence of operation of water treatment system external or embedded
	In the case of a film of starch, high temperatures during the prewashing	Not perform manual pre-washing with temperatures above 30°C
The display shows A3-TEMP.SENSOR	Boiler temperature detector or tank are faulty	Call the Technical Service!
The display shows A2-HIGH TEMP.	Boiler temperature > 105°C	Call the Technical Service!

CAUTION! FOR ANY OTHER TROUBLE, CALL SERVICE

#### **DESCALING**

When hard water is used you can find inside the machine and also on dishes calcareous sediments which must be removed both for hygienic and operating reasons by a descaling operation.

Operating process and frequency of this intervention are suggested by your cleansing agent supplier who has suitable products, generally containing phosphoric acid.

In order to avoid damage to the machine do not increase the quantities and once operations end rinse abundantly.

#### **SANIFICATION**

At least each 30 days it would be useful to do this operation which guarantees the complete hygienic conditions of the machine. We suggest to contact your cleansing agent supplier who will give you quantity and name of the most suitable product you can use and that is generally an active chloride powder (100÷200 ppm).

In order to avoid damage to the machine do not increase the quantities and once operations end rinse abundantly.



**ATTENTION**: Observe the safety notes and dosage data for the use of chemicals. During the use of the chemical substance wear protective clothing, gloves and glasses. Do not mix different cleaning products.

#### **USEFUL HINTS FOR STAINLESS STEEL MAINTENANCE**

Stainless steel is so called because it is not affected by oxidation; this dues its resistance to a thin molecular layer of oxide on the surface which protects againts further oxidation. There are, however, substances which can modify or destroy this layer, giving rise to corrosion: besides preventing the protective film of oxide from reforming, these substances corrode the stainless steel itself and can cause irreparable damage. It is therefore necessary to prevent this by choosing correct cleaning products and by complying with the following simple recommendations: never forget that when using these appliances, the first and fundamental rule is to guarantee that the cleaning products are both non-toxic and hygienic.

Before using any detergent to clean either the stainless steel or the immediate and sorrounding floor area, always ask your supplier for the most suitable product which does not cause corrosion on the steel itself; the onset of rust is most commonly caused by the use of unsuitable cleaning materials (strongly acid chlorate based detergents) or on inadequate maintenance.

Our appliances are made of stainless steel AISI 304 (18-10 type) for exterior panelling, upper tops, tanks etc. Comply with the following instructions when cleaning and servicing parts in stainless steel.

#### Ordinary daily maintenance

Carefully and frequently clean the surfaces using a damp cloth; use soap and water or normal detergents, so long as these do not contain abrasives or chlorine based substances such as sodium hypochlorite (bleech) ,hydrochloric acid or other such solutions: These products quickly and irreparably corrode stainless steel. When cleaning floors underneath or near the appliances, never use the above mentioned products as vapours or splashes could subject the steel to similar destructive effects.

Only ever rub in the direction of the satining, then thoroughly rinse with clean water and carefully dry.

**Rust**: water supply pipes, inevitably convey particles of rust dissolved in the water especially in new installation plants or when taps are opened after a period of inactivity. These iron deposits must not be allowed to remain on the stainless steel since they produce rust by contamination.

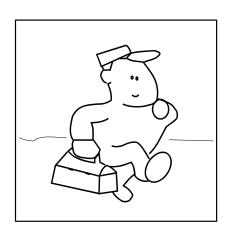
Use suitable products to remove any rust marks, from companies which produce detergents for industrial use. After application, thoroughly rinse with clean water, neutralizing the action of the product with an alkaline detergent normally used to clean such appliances or with another specific product.

#### DO NOT USE METAL MATS TO CLEAN THE STAINLESS STEEL

## **INSTRUCTIONS FOR THE INSTALLER**

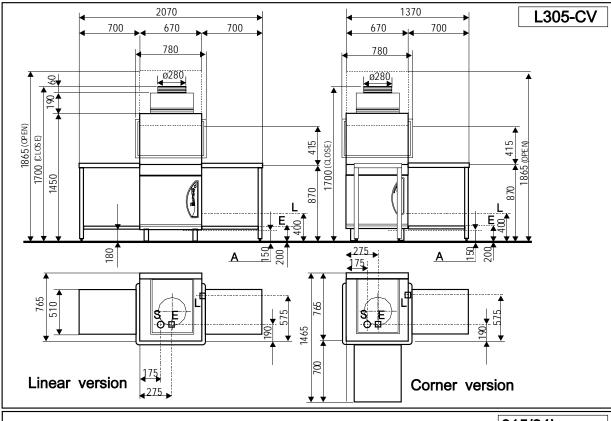
The following instructions are addressed to a qualified personnel, the only one authorised to carry out checks and repair, if any.

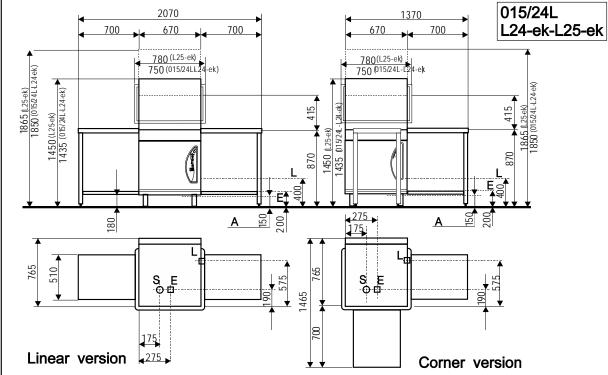
The Manufacturer declines any responsibility in the case of interventions made by a non qualified personnel.





### **INSTALLATION**





	Α	Maximum height for di	rain to wall		L	Electric input	400 V3N∼50Hz	
Γ	П	Water inlet	015/24L L24-ek-L25-ek	L305-CV	_	Drain	00 4    4 /4 0	
		3/4" G	50÷55°C	15+18°C	<u> </u>	Dialii	32 mm - 1"1/4 G	

sca-125-ek-display-2014

#### Second Section - FOR THE INSTALLER

During the installation, carry out a good machine levelling, which is a prerequisite for a correct operation.

The Manufacturer cannot assume any responsability for any damage to persons or property deriving from the non-observance of the above-specified norms.

For a correct installation see draw page 26.

#### **ELECTRICAL CONNECTION**



WARNING:: Danger to life due to live components!

During all electric operation, disconnect the machine from the network and verify the absence of power.

The machine and its accessories must be connected in accordance with local regulations, by a Company specialized in electrical installations and authorized by competent authorities.

Before connecting the machine, make sure that the voltage outlet of the mains is the same as the voltage specified on the data label of the machine.

A main switch must be installed between the mains and the machine. This safety measure also requires that the minimum distance between the switch contacts is at least 3 mm and the disconnection on all poles according to **EN 60204 (VDE 113)**.

Fuses on the main switch must be 16 A.

The mains must be wired to be able to handle the current drawn by the machine. The system must also be provided with a proper ground lead in accordance with the existings norms. The electric cable must be of the following type **H07RN-F**.

For the right choice of the cross section area refer to the following table:

Cross Section area	Total loading	
mm²	Α	
0,75	< 6	
1	6 ÷ 10	
1,5	10 ÷ 16	
2,5	16 ÷ 25	

The electrical safety of this equipment is only assured if it is connected as follows.

It is necessary to connect the equipment to an effective ground installation, as specified by the electrical safety rules in force.

Check that this basic requirement is complied with and, in case of doubt, ask for a careful check of the installation by a qualified personal.

In addition, the equipment shall be part of an equipotential system, the effectiveness of which should be checked according to the regulations in force.

The connection should be made at the screw marked by the respective label

placed on the equipment back side ( $^{\heartsuit}$  ).

THE MACHINE SHALL BE CONNECTED WITH AN EFFECTIVE GROUND CLAMP.

#### ATTENTION!

In case of THREE-PHASE FEEDING, please check that the motor direction of rotation is the same as the arrow on it.

The manufacturer declines any responsibility for any damages caused by lack of an effective ground installation.

#### WATER CONNECTIONS

Carefully comply with any national or regional regulations in force.

Water installation must have the following characteristics:

Temperature: 55°C

#### **Dynamic Pressure:**

-  $2 \div 4$  bar  $(200 \div 400 \text{ kPa})$ ;

-for machines with incorporated Water-softener:

**Dynamic Pressure:**  $3 \div 4$  bar  $(300 \div 400)$ 

kPa).

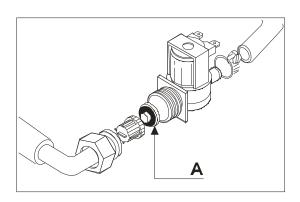
Temperature: 10÷12 °C.

ATTENTION!: do NOT connect to

softened water.

#### **WARNING!**

If the water pressure is higher than 4 bar, fit the pressure reducer "A" supplied into the solenoid valve as shown in the drawing.



If the dynamic pressure is lower than specified on the data plate of the machine, it is advisable to install a Booster Pump.

Hardness: between 7,2 and 12,5 °French.

If the hardness values are higher than those mentioned above, it is advisable to install a water-softener.

In case of higher hardnesses it is required the softener; failing this device, it will be necessary to often proceed with the operation of scaling and increase the concentration of the detergent.

It is recommended to use only softeners to "lon Exchange" or "Reverse Osmosis". The

procedure based on magnetic field or electromagnetic radiation are completely useless for the specific use in dishsashers.

**DUCT**: Provide to bring close to the machine a water duct with the above characteristics, terminating with a gate valve and with a male thread of <sup>3</sup>/<sub>4</sub>" Gas.

#### **WORKS TEMPERATURES**

Water temperature 55°÷60°C

Rinse temperature 80°÷85°C

n.b.: To help a correct working of the thermocontrol system, do NOT adjust the thermostat during the washing cycle.

# DO NOT TAMPER WITH THE THERMOSTAT CALIBRATION

#### WATER DRAIN

According to the dimensions of the drawing; water drain and feeding pipe should have the same diameter as the water inlet of the machine.

It must be furnished with a siphon and have a right slope.

The machine is provided with a flexible pipe for the connection with the water-work. Make sure there are no throttlings along the pipe.

Carefully comply with any national or regional regulations in force.

# DETERGENT DISPENSER, RINSE-AID DISPENSER AND LIMESCALE:

#### **PROGRAMMING**

For programming see section <u>CONFIGURATION</u> <u>USER TECHNICAL-PROGRAMMING</u> The control acts on the percentage values from 0% to 100% with the logic time/pause according to the values shown in the following table:

0% always OFF

10% 0,5s ON and 4,5s OFF

20% 1,0s ON and 4,0s OFF

30% 1,5s ON and 3,5s OFF

40% 2,0s ON and 3,0s OFF

50% 2,5s ON and 2,5s OFF

60% 3,0s ON and 2,0s OFF

70% 3,5s ON and 1,5s OFF

80% 4,0s ON and 1,0s OFF...

90% 4.5s ON and 0.5s OFF

100% always ON

#### Example:

Adjusting the rinse aid dispenser with 40% rinsing time 20 s

The operating times will be:

2s ON + 3s OFF + 2s ON + 3s OFF + 2s ON + 3s

OFF + 2s ON + 3s OFF

For a fotal of 20 seconds onf rinsing.

Set the percentage based on the capacity of the pump installed and rinsing time selected, taking into account that the pump is running simultaneously with the step of rinsing.

If there is the detergent pump installed by Lamber, data are as follows:

Capacity: 1cc/SEC=3,6 Lit/H

Voltage: 230/50-60Hz

#### **DETERGENT DISPENSER**

# INSTALLATION AND CONNECTION OF THE DETERGENT DISPENSER



**CAUTION**: Observe the safety notes and dosage data for the use of chemicals. During the use of the chemical substance wear protective clothing, gloves and glasses. Do not mix different cleaning products.

If the machine is not fitted as standard, must be accompanied by detergent dispensers oft he suppliers of those products.

Entering DETERGENT WASHING LIQUID must be carried out using the hole provided on the front of the washing tank (see photo below)



The mean concentration of the liquid detergent should be 2-4 g/liter. In any case it is however necessary that the detergent manufacturer regulates in an appropriate dosage depending on the characteristics of the installation.

For the installation of the dispenser inside the machine, you can use the free support next to the rinse dispenser installed as standard on the dishwasher (see next photo)



The suction tube of liquid detergent has to be passed through the opening spot on the right side of the machine (see next photo)



The choice of a suitable cleansing agent is an essential condition if you want to obtain extremely good washing results as regards hygienic results. That's why it's important to consider some points. First of all only highly alkaline and chlorine-active antifoam products, especially made for industrial dish-washing

machines, must be used and they must be produced by well-known reliable Firms. Mean concentration of the cleansing agents in powder must be 1,5÷2,5 g/lt. Mean concentration of liquid cleansing agents must be 2÷4 g/lt.

In order to avoid scales and corrosions, put cleansing agent above water level on the nearest area of the sucking pump filter, in this way it will immediately dilute and will not deposit on the tank bottom.

# ELECTRICAL CONNECTION OF DETERGENT DISPENSER



## WARNING: Danger to life due to live components!

During all electrical operations, disconnect the machine from the network and verify the absence of power.

The machine and its accessories must be connected in accordance with local regulation, by a company that is specialized in electrical installation authorized by the competent authorities.

For the <u>electrical connection</u> of the dispenser, refer to the red terminals inside the electrical cabinet (see photo below) and refer to the wiring diagram sheet 3.



To prevent damages to the electrical components of the machine is mandatory the use of these terminals to avoid flying connections in other parts of the installation (valves, etc.)

N.B. For the cables using the cable gland provided in the electrical control box and identified with a lebel..

#### **DESCALING CYCLE:**

# For programming, see section <u>CONFIGURATION</u> USER TECHNICAL-PROGRAMMING

The descaling cycle has a duration of about 35 minutes and takes place according to the steps listed below:

- 1. pump dispenser rinsing and descaling until the tank is full
- 2. heating phase until the boiler temperaturer >50°Cand tank> 45 °C
- 3. wash pumps for 1 minute
- 4. 1 minute rest
- 5. wash pump for 1 minute
- 6. rinsing pump and limestone dosing for 15 seconds
- 7. 1 minute rest
- 8. wash pump for 1 minute
- 9. 1 minute rest
- 10. wash pump for 1 minute
- 11. rinsing pump and limestone dosing for 15 seconds
- 12. 1 minute rest
- 13. wash pump for 1 miunute
- 14. 1 minute rest
- 15. washing pump for 1 minute
- 16. rinsing pump for 15 seconds
- 17. heating boiler off
- 18. 1 minute rest
- 19. washing pump for 1 minute
- 20. 1 minute rest
- 21. washing pump for 1 minute
- 22. rinsing pumps for 15 seconds
- 23. 1 minute rest
- 24. drain pump until the tank is empty and for another 2 minutesi
- 25. rinsing pump up to full tank
- 26. washing pump for 5 seconds
- 27. drain pump until the tank is empty and for another 2 minutes

#### List ALARMS!

#### Alarm: A3-TEMP.SENSOR

This message indicates that the probe temperature thermostats of hot water heater is broken or short-circuited!
Replace the probe.

#### Alarm: A2-HIGH TEMP.

This message indicates that the temperature in the boiler is greater than 105°C.

Chek for the presence of water in the boiler or the operation of the heating element!

#### DETERGENT REPLACEMENT AND CLEANING OF THE DETERGENT PUMP HOSES

Guidelines to be followed when replacing detergent:

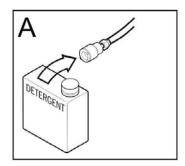
- If you leave the machine without detergent, crystallization arises due to the formation of air bubbles
- Set up again detergent pump hose anytime you use a new detergent
- The whole system consists of a container, dosage hoses and detergent pump hoses and must be cleaned before using a new detergent.
- Call on your authorized technical assistance to fulfil the necessary operations to obtain a good cleaning result.
- You are recommended to proceed with the cleaning of the dosage hoses and the detergent pump with water once a month.

Failure to comply with these guidelines will render this guarantee invalid. Lamber disclaims any liability for consequential damage on the product.

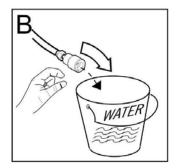
You can clean yourself the dosage hoses and the detergent pump with water.

#### **Guidelines:**

A - Disconnect the suction hose from the detergent can.

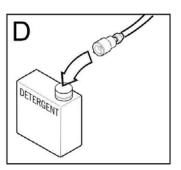


B - Connect the suction hose to a new water recipient.



C - Switch **the Self-cleaning cycle** on (see paragraph page 22)

D – Once self-cleaning is finished, connect the suction hose to the detergent can.



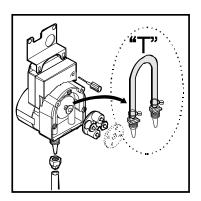


**WARNING**: Respect security and chemical dosage guidelines.

When using chemical products you must wear personnal protection equipment, gloves and protection glasses. Do not mix different detergents together.

#### Attention!

Replace **every 6 months** the peristaltic pumps suction pipe !



### **KEYBOARD INTERACTIVE MEMBRANE**

Machine OFF ON/OFF push-button "A" for 1 second when the machine is ON (logo LAMBER appears) (with the machine empty the display will show off after 10" seconds) (just with machine full)

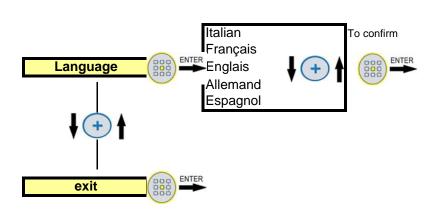
Machine ON ON/OFF push-button "A" for 1 second when the machine is in OFF with the machine empty the display will indicate "door open" or "closed door" (just with machine full)

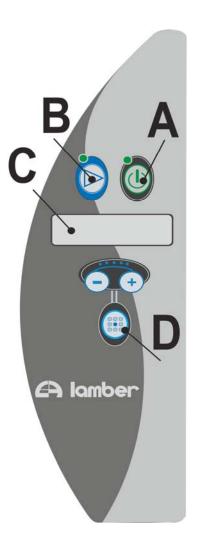
Select the washing program	Key "+" while the machine is ON
Select the washing program	Key "-" while the machine is ON
START Washing Program	Key "B" while the machine is ON

**USER SET-UP** 

Button "+" for 5 seconds while the machine is in OFF

N.B. At the end of the programming operations the machine turns off. Press push-button "A" for 1 second to turn the machine on.





#### **USER TECHNICAL-CONFIGURATION PROGRAMMING**

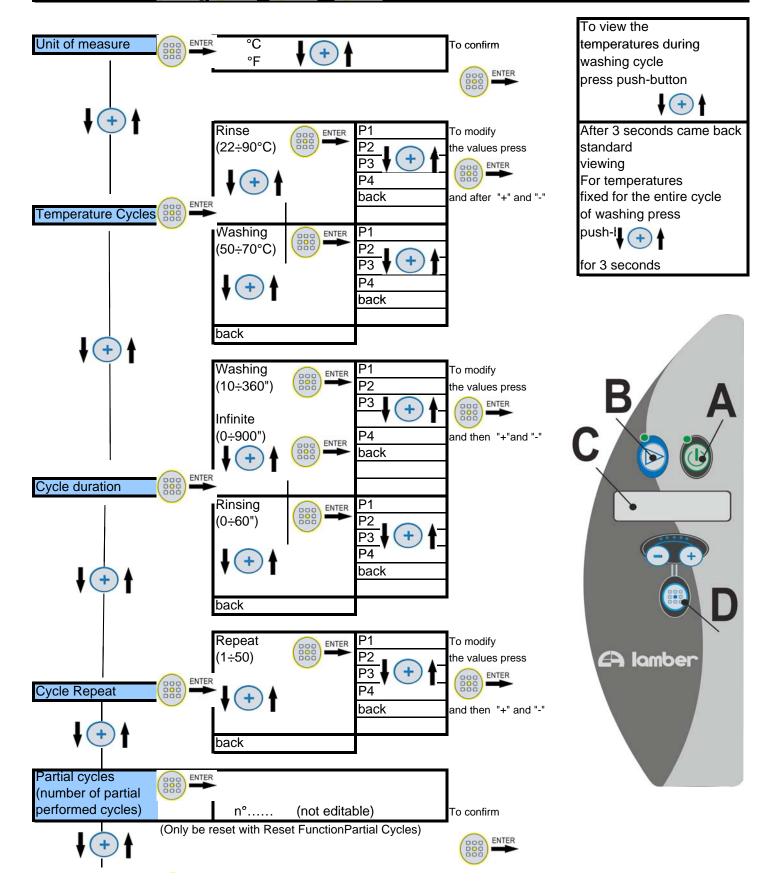
Push-button "+" and push-button enter "D" for 5 second with the machine FF and hood open

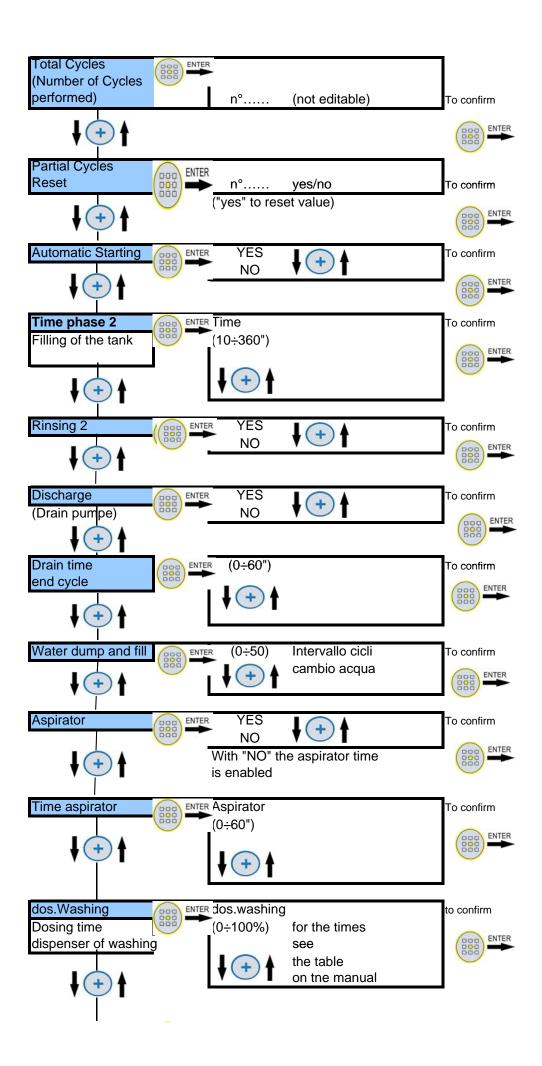
cod. PIN 1000

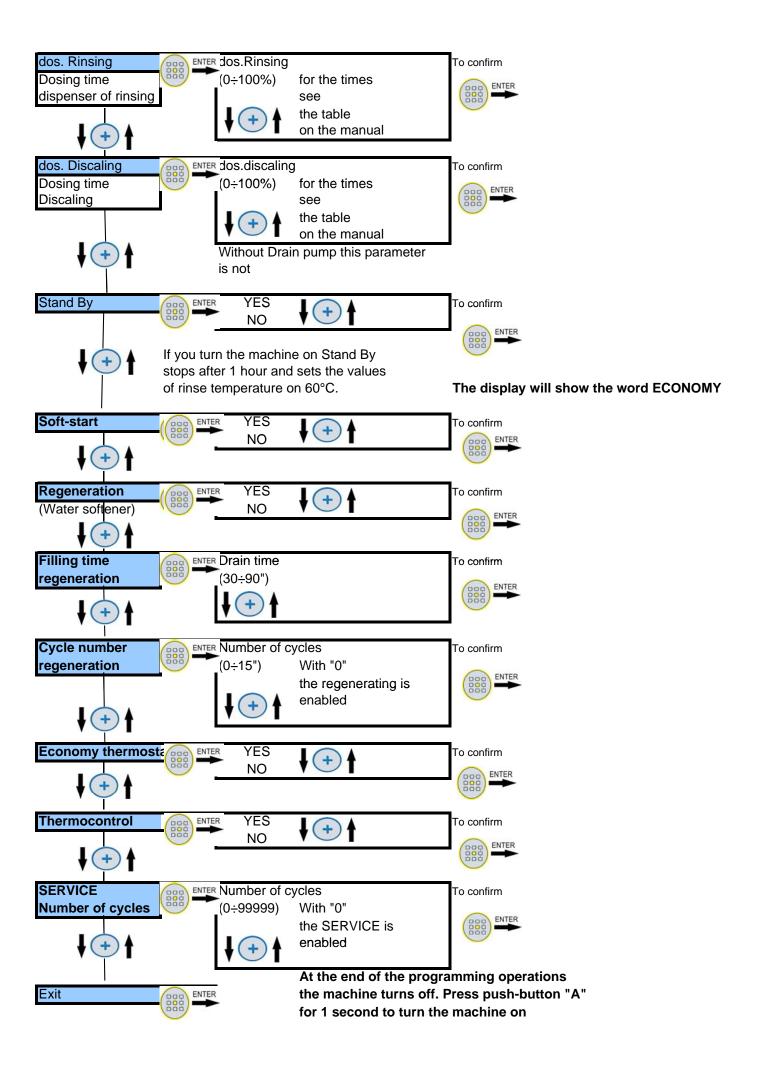










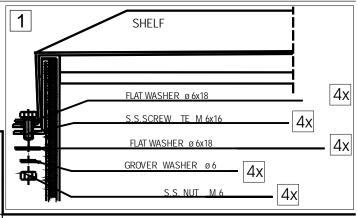


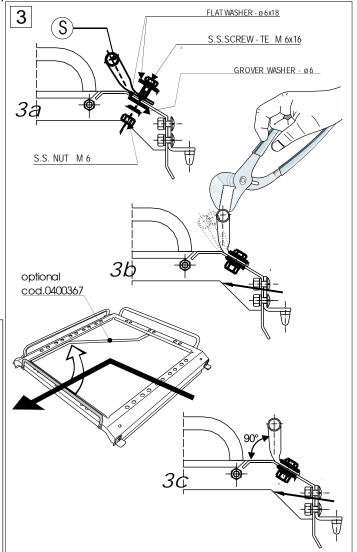
### TABLES FITTING PLAN

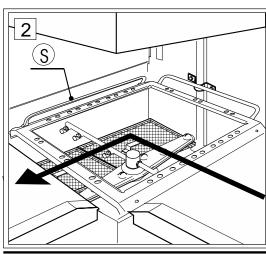
To fix the side tables please see drawing above.

#### **Corner version**

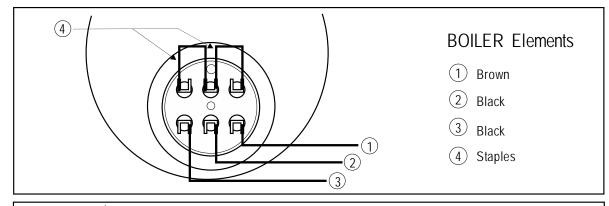
With corner versions unscrew the basket lock "S" and screw it in the position by drawing "2", fixing it to the existing holes (see drawing "3A"). Then bend the support by using the apposite key, as shown in drawing "3B", up to the position indicated in "3C".

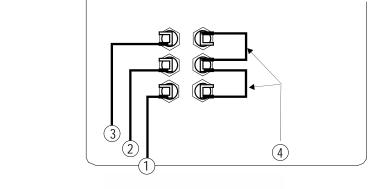






#### **CONNECTIONS SCHEME**



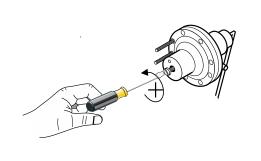


#### TANK Elements

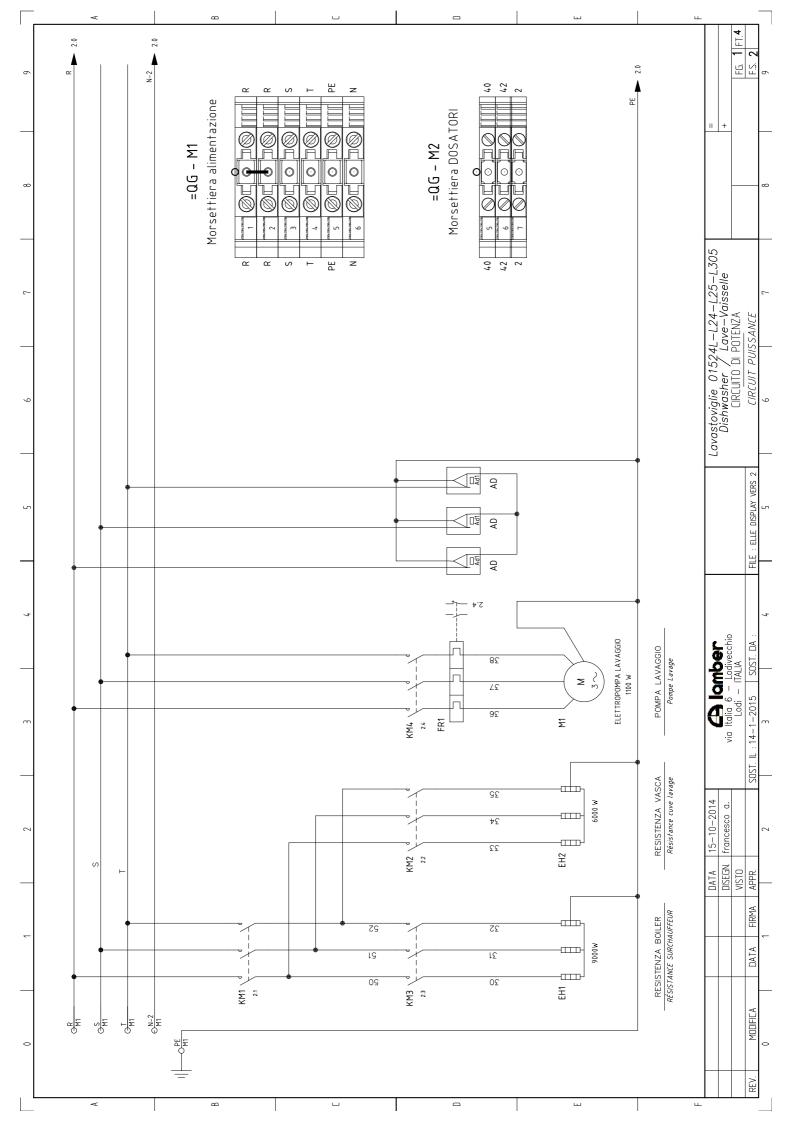
- 1 Brown
- 2) Black
- 3 Black
- 4 Staples

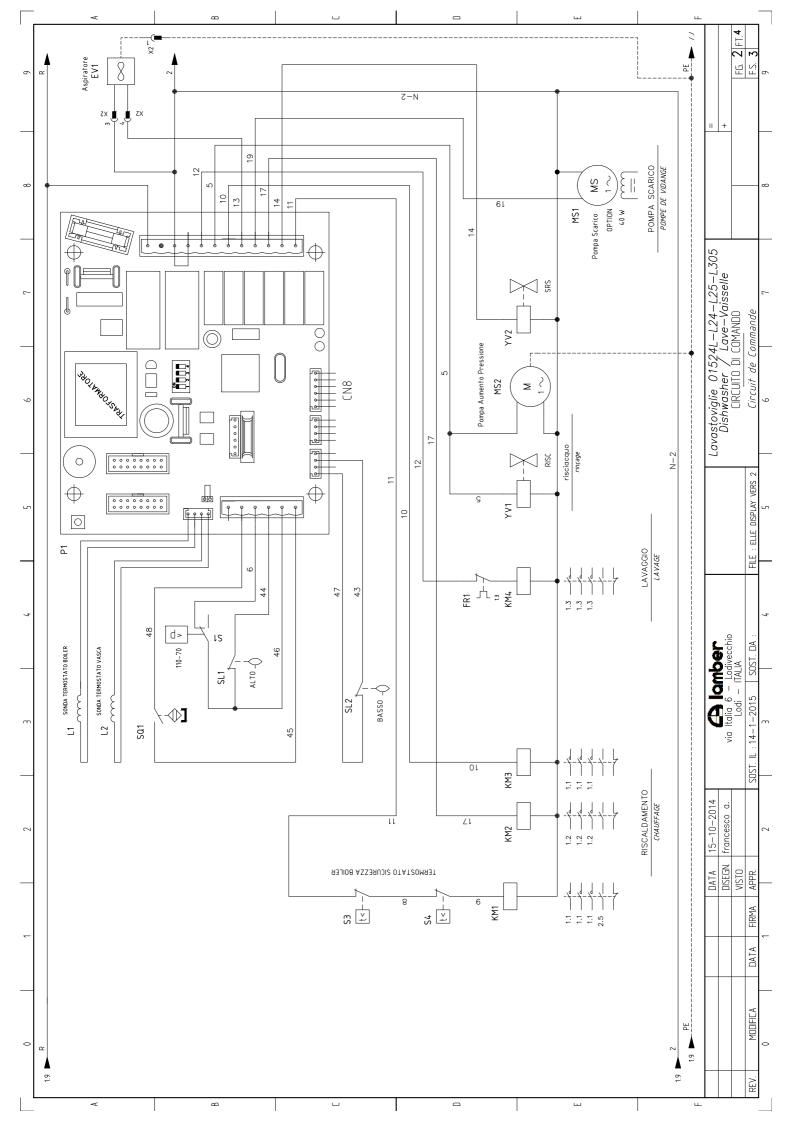
# Hydraulic Rinse aid dispenser (only 015/24l-dy - L25-dy)

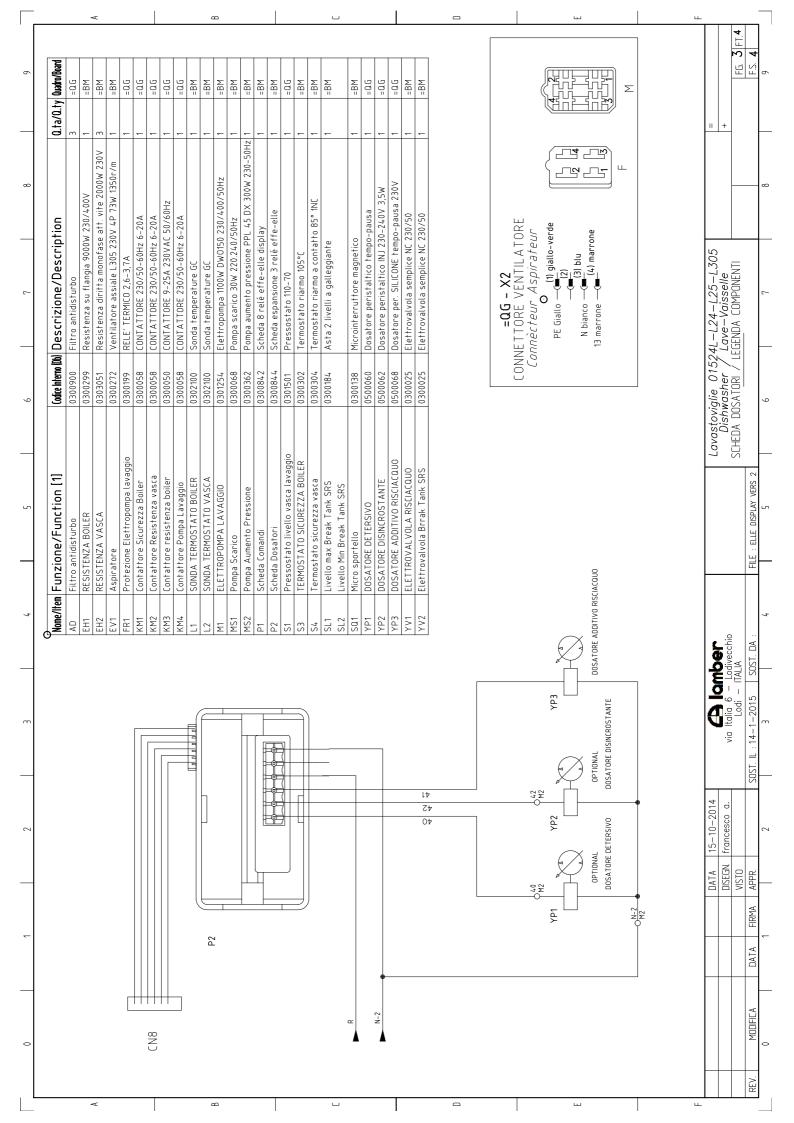
- To increase the detergent turn Anti-CW the regulation screw



Dosatore additivo di risciacquo Doseur de proudit pour rinçage Rinse aid dispenser Nachspülmitteldosiergerät

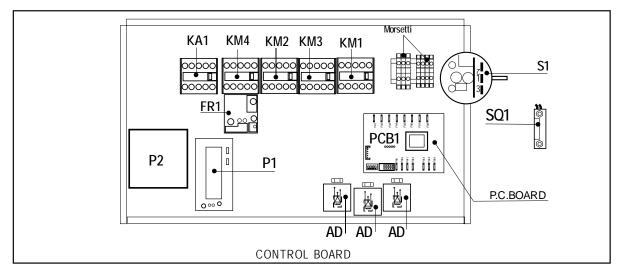


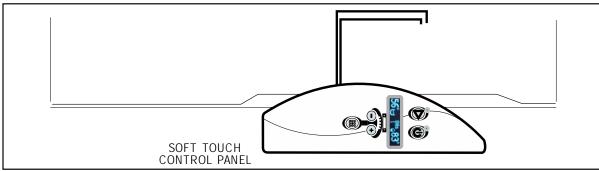


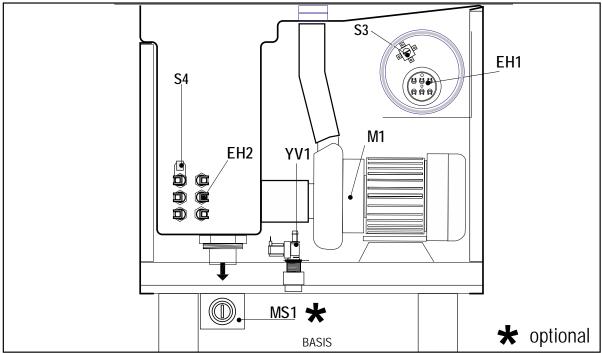


	AD = αG = BM = B		c   Coymic		110710001100 1701	E /	-	T LEGHT / LIPIN	Junging/ Hop Type	
	EH1 = BM EH2 = RM	Filtro antidisturbo	<b>3</b> %	- 8 - 8 - ×	ELETTROPOMPA LAVAGGIO		11160 - 1160 - 11		DOSATORE DETERSIVO	
	EH2 -RM	RESISTENZA BOILER	( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	MS1 = BM	Pompa Scarico OPTION	1 1		YP2 D=aG	DOSATORE DISINCROSTANTE OPTIONAL	
8	<u> </u>	RESISTENZA VASCA	∑ < _	MS2 =BM	Pompa Aumento Pressione			YP3 D=0G	DOSATORE ADDITIVO RISCIACQUO	
_	EV1 =BM	Aspiratore		P1 =BM	Scheda Comandi			YV1 =BM E	ELETTROVALVOLA RISCIACOUO RISC	
	= aG	Profezione Eleffropompa lavaggio		P2 =BM 3	Scheda Dosatori			YV2 =BM E	Elettrovalvola Brrak Tank SRS SRS	
	KM1 = a G	Contattore Sicurezza Boiler	d v	S1 =aG	Pressostato livello vasca lavaggio 110–70					
	KM2 =aG	Contattore Resistenza vasca	t<	S3 =BM	TERMOSTATO SICUREZZA BOILER					
	KM3 =QG 2	Contattore resistenza boiler	t<	S4 =BM	Termostato sicurezza vasca					
	KM4 =aG	Contattore Pompa Lavaggio		SL1 =BM	Livello max Break Tank SRS ALTO					
	L1 =BM 2	SONDA TERMOSTATO BOILER		SL2 =BM 2	Livello Min Break Tank SRS BASSO					
	L2 =BM 2	SONDA TERMOSTATO VASCA	\ <b>\</b>	SQ1 =BM 2	Micro sportello					_
REV. MODIFICA		DATA   15-10-2014   via	via Italia 6 – Lodivecchio Lodi – ITALIA :14-1-2015   SOST. DA :	Iber odivecchio ALIA SOST. DA:	LC FILE : ELLE DISPLAY VERS 2 4 5	Lavastoviglie 01524L—L24—L25—L305 Dishwasher / Lave—Vaisselle LEGENDA FUNZIONI 6	524L-L24 Lave-1	4–L25–L Vaisselle	305	FG. 4 FT.4 F.S. /

### COMPONENTS







Cnp-L25-ek-display-2014

Mod.	015/24L-dy	L24-dy-plus	L25-dy	L305-dy-CV	
GB					
SPECIFICATIONS					
DIMENSIONS Ixwxh	670X765X1460	670X765X1460	670X765X1450	670X765X1700	mm
WASHING CAPACITY dishes/H	1080-540-360 (1440)	1080-540-360 (1440)	1080-540-360 (1440)	1080-540-360 (1440)	Nr.
baskets/H	60-30-20	60-30-20	60-30-20	60-30-20	Nr.
WASH CYCLE	60"-120"-180"	60"-120"-180"	60"-120"-180"	60"-120"-180"	Sec.
BASKET SIZE	50 x 50	50 x 50	50 x 50	50 x 50	cm
DISHES PER BASKETS	12÷18 (24)	12÷18 (24)	12÷18 (24)	12÷18 (24)	Nr.
WORK HEIGHT	890	890	890	890	mm
PLATES CLEARANCE	415	415	415	415	mm
VOLTAGE	400 V3N~50Hz	400 V3N~50Hz	400 V3N~50Hz	400 V3N~50Hz	V
ELECTRIC PUMP	1100	1100	1100	1100	W
RINSING ELECTRIC PUMP	otpion	option	option	385	
WASH TANK ELEMENTS	3000	6000	6000	6000	W
RINSE TANK ELEMENTS	9000	9000	9000	9000	W
TOTAL RATING	10100	10100	10100	10100	W
MAX CURRENT INTENSITY	16	16	16	16	Α
TANK CAPACITY	34	34	34	34	Lt
BOILER CAPACITY	8	8	8	8	Lt
RINSE AID DISPENSER	YES	YES	YES	YES	
WASH AID DISPENSER	OPTION	YES	OPTION	OPTION	
SCALE REMOVER PUMP	OPTION	YES	OPTION	OPTION	
DRAIN PUMP	OPTION	30 W	OPTION	OPTION	W
WATER CONNECTION	45 ÷ 55	45 ÷ 55	45 ÷ 55	10 ÷ 12	°C
PUMP DELIVERY	480	480	480	480	I./min
WATER CONSUMPTION PER CYCLE	2.80	2.80	2.80	2.80	ı
WATER CONSUMPTION PER HOUR	56-84-168	56-84-168	56-84-168	58-89-117	I
WATER PRESSURE	2 ÷ 4	2 ÷ 4	2 ÷ 4	2 ÷ 4	Bar
WATER HARDNESS	5 ÷ 10	5 ÷ 10	5 ÷ 10	5 ÷ 10	°F
RINSING WATER TEMPERATURE	80 ÷ 90	80 ÷ 90	80 ÷ 90	80 ÷ 90	°C
WATER INLET	3/4"	3/4"	3/4"	3/4"	"G
WATER OUTLET	32 mm ÷ 1"1/4	"G			
NET WEIGHT	133	133	145	178	kg
GROSS WEIGHT	151	151	164	200	kg
PACKING DIMENSIONS	800x930x1610	800x930x1610	800x930x1610	830x930xh1870	mm
NOISE	63,5	63,5	59,5	<67	dB(A)
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