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II. DATAPLATE and TECHNICAL DATA

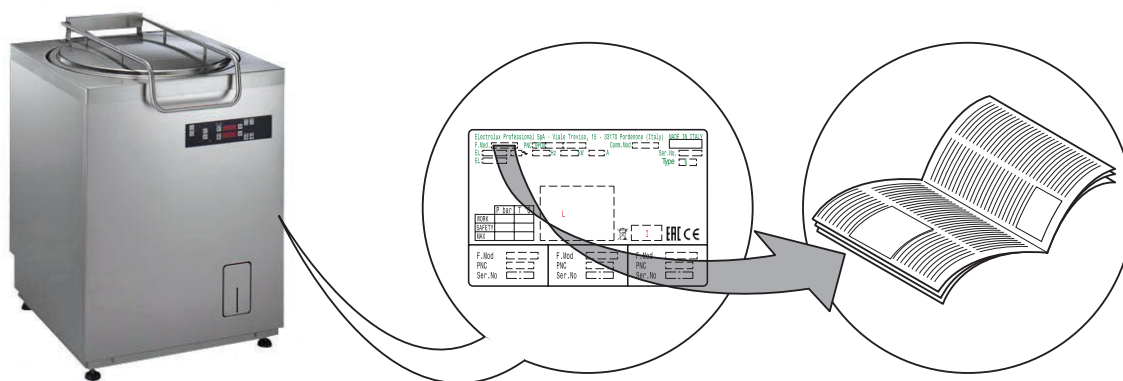


TABLE A - Electric appliance technical data		
TECHNICAL DATA		MODELS LVA100 660071 - 660072 - 601524
"Light" vegetables cycle loading	Kg	3
"Heavy" vegetables cycle loading	Kg	9
Cycle Duration	min.	4-12
Power supply voltage	V	230
Phases	No.	1+N
Electrical power absorbed	kW	0.9
Wash pump power	kW	1.55
Drum rotation motor power	kW	0.35
Centrifuge speed	rpm	300
Frequency	Hz	50
Power cable section	mm ²	1.5x5

III. FOREWORD



The installation, use and maintenance Manual (hereinafter Manual) provides the user with information necessary for correct and safe use of the machine (hereinafter “machine” or “appliance”). The following must not be considered a long and exacting list of warnings, but rather a set of instructions suitable for improving machine performance in every respect and, above all, preventing injury to persons and animals and damage to property due to improper operating procedures. All persons involved in machine transport, installation, commissioning, use and maintenance, repair and disassembly must consult and carefully read this manual before carrying out the various operations, in order to avoid wrong and improper actions that could compromise the machine’s integrity or endanger persons. Make sure to periodically inform the appliance user regarding the safety regulations. It is also important to instruct and update personnel authorised to operate on the machine, regarding its use and maintenance. The manual must be available to operators and carefully kept in the place where the machine is used, so that it is always at hand for consultation in case of doubts or whenever required. If, after reading this manual, there are still doubts regarding machine use, do not hesitate to contact the Manufacturer or the authorised after-sales service centre, to receive prompt and precise assistance for better operation and maximum efficiency of the machine. During all stages of machine use, always respect the current regulations on safety, work hygiene and environmental protection. It is the user’s responsibility to make sure the machine is started and operated only in optimum conditions of safety for persons, animals and property.

The manufacturer declines any liability for operations carried out on the appliance without respecting the instructions given in this manual. No part of this manual may be reproduced.

A reproduction of the marking or dataplate on the machine is given below:

EL.

Electrolux Professional SpA - Viale Treviso, 15 - 33170 Pordenone (Italy)		MADE IN ITALY												
F.Mod. [][]	PNC [][]	Comm.Mod [][]												
EL: [][]	Hz [][]	kW [][]												
EL: [][]	A [][]	Ser.No. [][]												
	Type [][]													
<table border="1"> <tr> <td></td> <td>P bar</td> <td>T °C</td> </tr> <tr> <td>WORK</td> <td></td> <td></td> </tr> <tr> <td>SAFETY</td> <td></td> <td></td> </tr> <tr> <td>MAX</td> <td></td> <td></td> </tr> </table>			P bar	T °C	WORK			SAFETY			MAX			<div style="border: 1px dashed black; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center;"> L </div>
	P bar	T °C												
WORK														
SAFETY														
MAX														
		I												
		ENI CE												
F.Mod [][]	F.Mod [][]	F.Mod [][]												
PNC [][]	PNC [][]	PNC [][]												
Ser.No [][]	Ser.No [][]	Ser.No [][]												

The meaning of the various information given on it is listed below:

- F.Mod. factory description of product
- Comm.Model commercial description
- PNC production number code
- Ser.No serial number
- El: power supply voltage+phase
- Hz: power supply frequency
- kW: max. power input
- A current absorption
- Power unit El.: power
- I dust and water protection rating
- CE CE marking
- AB gas safety certificate number
- N certification group
- 0051 notified body
- EN 203-1 EU standard
- L Logo IMQ/GS
- Cat Gas Category
- Pmbar Gas pressure

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 Viale Treviso, 15
 33170 Pordenone
 (Italy) Manufacturer

When installing the appliance, make sure the electrical connection is carried out in compliance with that specified on the dataplate.

IV. GENERAL INSTRUCTION

- Carefully read the instruction handbook before using the appliance.
- After installation keep the instruction handbook for future consultation.




- **FIRE HAZARD** - Keep the area around the appliance clear and free from combustible materials. Do not keep flammable materials in the vicinity of the appliance.



- Install the appliance in a well-ventilated place to avoid the creation of dangerous mixtures of unburnt gases in the same room
- Air recirculation must take into account the air necessary for combustion, 2 m³/h/kW of gas power, and also the “well-being” of persons working in the kitchen.
- Inadequate ventilation causes asphyxia. Do not obstruct the ventilation system in the place where this appliance is installed. Do not obstruct the vents or ducts of this or other appliances.




- Place emergency telephone numbers in a visible position.
- Installation and maintenance must only be carried out by qualified personnel authorised by the manufacturer. For assistance, contact an authorised technical centre. Demand original spare parts.
- This appliance is designed for washing fruit and vegetables. It is intended for industrial use. Any use different from that indicated is improper.
- This appliance must not be used by minors and adults with limited physical, sensory or mental abilities or without adequate experience and knowledge regarding its use. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
- Personnel using the appliance must be trained and instructed regarding the risks involved.
- Do not leave the appliance unattended when operating.
- Turn the appliance off in case of fault or poor operation.
- Do not use products (even if diluted) containing chlorine (sodium hypochlorite, hydrochloric or muriatic acid, etc.) to clean the appliance or the floor under it. Do not use metal tools to clean steel parts (wire brushes or Scotch Brite type scouring pads).
- Do not allow oil or grease to come into contact with plastic parts.
- Do not allow dirt, fat, food or other residuals to form deposits on the appliance.
- Do not clean the appliance with direct jets of water.
- Do not spray water or use steam to clean the equipment.

- The weighted sound pressure level emitted A does not exceed 70 dB (A).
- This instruction booklet is available in digital format by contacting the dealer or customer care.
- Install a safety circuit breaker ahead of the appliance. The contact opening distance and max. leakage current must comply with the regulations in force.
- The appliance must be earthed; it must be included in an equipotential node by means of the screw located under the appliance frame at the back right hand side. The screw is marked with the symbol .

- It is advisable to have the appliance inspected by an authorised person at least every 12 months. For this purpose, it is advisable to stipulate a servicing contract.



- The symbol  given on the product indicates that it should not be considered domestic waste, but must be correctly disposed of in order to prevent any negative consequences for the environment and the health of persons. For further information regarding the recycling of this product, contact the product agent or local dealer, the after-sales service or the local body responsible for waste disposal.

Failure to observe the above can compromise the safety of the appliance. Failure to observe the above invalidates the warranty.

V. INSTALLATION

1. GENERAL INFORMATION

1.1. INTRODUCTION

Given below is some basic information regarding the machine's intended use, its testing, and a description of the symbols used (that identify the type of warning), the definitions of terms used in the manual and useful information for the appliance user.

1.2. INTENDED USE AND RESTRICTIONS

Install the appliance in compliance with the current regulations and laws regarding installation of electric and gas appliances.

ATTENTION: The machine is not suitable for installation outdoors and/or in places exposed to atmospheric agents (rain, direct sunlight, etc.).

The manufacturer declines any liability for improper use of the product.

1.3. TESTING AND INSPECTION

Our appliances are designed and optimised, with laboratory testing, in order to obtain high performance and efficiency. The product is shipped ready for use. Passing of the tests (visual inspection - electrical/gas test - functional test) is guaranteed and certified by the specific enclosures.

1.4. DEFINITIONS

Listed below are the definitions of the main terms used in the manual. Carefully read them before using the manual.

Operator

machine installation, adjustment, use, maintenance, cleaning, repair and transport personnel.

Manufacturer

Electrolux Professional SPA or any other service centre authorised by Electrolux Professional SPA.

Operator for normal machine use

an operator who has been informed and trained regarding the tasks and hazards involved in normal machine use.

Technical assistance or specialised technician

an operator instructed/trained by the Manufacturer and who, based on his professional and specific training, experience and knowledge of the accident-prevention regulations, is able to appraise the operations to be carried out on the machine and recognise and prevent any risks. His professionalism covers the mechanical, electrotechnical and electronics fields.

Danger

source of possible injury or harm to health.

Hazardous situation

any situation where an operator is exposed to one or more hazards.

Risk

a combination of probabilities and risks of injury or harm to health in a hazardous situation.

Protection devices

safety measures consisting of the use of specific technical means (guards and safety devices) for protecting operators against risks.

Guard

an element of a machine used in a specific way to provide protection by means of a physical barrier.

Safety device

a device (other than a guard) that eliminates or reduces the risk; it can be used alone or in combination with a guard.

Customer

the person who purchased the machine and/or who manages and uses it (e.g. company, entrepreneur, firm).

Electrocution

an accidental discharge of electric current on a human body.

1.5. TYPOGRAPHICAL CONVENTIONS

For best use of the manual, and therefore the machine, it is advisable to have good knowledge of the terms and typographical conventions used in the documentation. The following symbols are used in the manual to indicate and identify the various types of hazards:



**ATTENTION!
RISK FOR THE HEALTH AND SAFETY
OF OPERATORS.**



**ATTENTION!
DANGER OF ELECTROCUTION -
DANGEROUS VOLTAGE.**



**ATTENTION!
RISK OF DAMAGE TO THE MACHINE.**

Words further explaining the type of hazard are placed next to the symbols in the text. The warnings are intended to guarantee the safety of personnel and prevent damage to the machine or the product being worked. The drawings and diagrams given in the manual are not in scale. They supplement the written information with an outline, but are not intended to be a detailed representation of the machine supplied. The numerical values given on the machine installation diagrams refer to measurements expressed in mm.



ATTENTION!
Do not remove, tamper with or make the machine “CE” marking illegible.



ATTENTION!
Refer to the data given on the machine “CE” marking for relations with the Manufacturer (e.g. when ordering spare parts, etc.).



ATTENTION!
When scrapping the machine, the “CE” marking must be destroyed.

1.6. APPLIANCE IDENTIFICATION

This manual contains instructions relevant to various appliances.

See the appliance dataplate located under the control panel to identify the appliance product code.

1.7. COPYRIGHT

This manual is intended solely for consultation by the operator and can only be given to third parties with the permission of Electrolux Professional SPA.

1.8. RESPONSIBILITY

The Manufacturer declines any liability for damage and malfunctioning caused by:

- non-compliance with the instructions contained in this manual;
- repairs not carried out in a workmanlike fashion, and replacements with parts different from those specified in the spare parts catalogue (the fitting and use of non-original spare parts and accessories can negatively affect machine operation and invalidates the warranty);
- operations by non-specialised technicians;
- unauthorised modifications or operations;
- inadequate maintenance;
- improper machine use;
- unforeseeable extraordinary events;
- use of the machine by uninformed and untrained personnel;
- non-application of the current provisions in the country of use, concerning safety, hygiene and health in the workplace.






The Manufacturer declines any liability for damage caused by arbitrary modifications and conversions carried out by the user or the Customer. The employer, workplace manager or service technician are responsible for identifying and choosing adequate and suitable personal protection equipment to be worn by operators, in compliance with regulations in force in the country of use.

Electrolux Professional SPA declines any liability for any inaccuracies contained in the manual, if due to printing or translation errors.




Any supplements to the installation, use and maintenance manual the Customer receives from the Manufacturer will form an integral part of the manual and therefore must be kept together with it.

1.9. PERSONAL PROTECTION EQUIPMENT

Given below is a summary table of the Personal Protection Equipment (PPE) to be used during the various stages of the machine's service life.

Stage	Protective garments 	Safety footwear 	Gloves 	Glasses 	Safety helmets 
Transport					
Handling					
Unpacking					
Assembly					
Normal use					
Adjustments					
Routine cleaning					
Extraordinary cleaning					
Maintenance					
Dismantling					
Scrapping					

Key:

	PPE REQUIRED
	PPE AVAILABLE OR TO BE USED IF NECESSARY
	PPE NOT REQUIRED

During **Normal use**, gloves protect hands from contact with hot food or hot parts of the appliance.

1.10. KEEPING THE MANUAL

The manual must be carefully kept for the entire life of the machine, until scrapping.

The manual must stay with the machine in case of transfer, sale, hire, granting of use or leasing.

1.11. RECIPIENTS OF THE MANUAL

This manual is intended for:

- the carrier and handling personnel;
- installation and commissioning personnel;
- the employer of machine users and the workplace manager;
- operators for normal machine use;
- specialised technicians - after-sales service.

2. TRANSPORT, HANDLING AND STORAGE

2.1. INTRODUCTION

Transport (i.e. transfer of the machine from one place to another) and handling (i.e. transfer inside workplaces) must occur with the use of special and adequate means.



ATTENTION!

Given their size, the machines can be stacked on top of each other during transport, handling and storage by complying with that specified on the slip placed on the packing;

The machine must only be transported, handled and stored by qualified personnel, who must:

- have specific technical training and experience in the use of lifting systems;
- have knowledge of the safety regulations and applicable laws in the relevant sector;
- have knowledge of the general safety rules;
- ensure the use of personal protection equipment suitable for the type of operation carried out;
- be able to recognise and avoid any possible hazard.

2.2. TRANSPORT: INSTRUCTIONS FOR THE CARRIER



ATTENTION!

Do not stand under suspended loads during loading/unloading operations. Unauthorised personnel must not enter the work area.



ATTENTION!

The machine's weight alone is not sufficient to keep it steady. The transported load can shift:

- when braking;
- when accelerating;
- in corners;
- on rough roads.

2.3. HANDLING

Arrange a suitable area with flat floor for machine unloading and storage operations.

2.4. PROCEDURES FOR HANDLING OPERATIONS

For correct and safe lifting operations:

- use the type of equipment most suitable for characteristics and capacity (e.g. electric pallet truck or lift truck);
- cover sharp edges;

Before lifting:

- send all operators to a safe position and prevent persons from entering the handling area;
- make sure the load is stable;
- make sure no material can fall during lifting. Manoeuvre vertically in order to avoid impacts;
- handle the machine, keeping it at minimum height from the ground.



ATTENTION!

For machine lifting, do not use movable or weak parts such as: casings, electrical raceways, pneumatic parts, etc.

2.5. TRANSLATION

The operator must:

- have a general view of the path to be followed;
- stop the manoeuvre in case of hazardous situations.



ATTENTION!

Do not push or pull the appliance to move it, as it may tip over.

2.6. PLACING THE LOAD

Before placing the load, make sure the way is free and that the floor is flat and can take the load. Remove the appliance from the wooden pallet, move it to one side, then slide it onto the floor.

2.7. STORAGE

The machine and/or its parts must be stored and protected against damp, in a non-aggressive place free of vibrations and with room temperature between -10°C and 50°C. The place where the machine is stored must have a flat support surface in order to avoid any twisting of the machine or damage to the support feet.



ATTENTION!

Machine positioning, installation and disassembly must be carried out by a specialised technician.



ATTENTION!

Do not make modifications to the parts supplied with the machine. Any missing or faulty parts must be replaced with original parts.

Warnings

- Do not store or use gasoline or other flammable vapours, liquids or items in the vicinity of this or any other appliance.
- Do not spray aerosols in the vicinity of this appliance while it is in operation.
- Never check for leaks with an open flame.
- The appliance is not suitable for a marine environment.

3. INSTALLATION AND ASSEMBLY

To ensure correct operation of the appliance and maintain safe conditions during use, carefully follow the instructions given below in this section.



ATTENTION!

The operations described below must be carried out in compliance with the current safety regulations, regarding the equipment used and the operating procedures.



ATTENTION!

Before moving the appliance make sure the capacity of the lifting equipment used is suitable for its weight.

3.1. CUSTOMER'S RESPONSIBILITIES

The Customer must:

- prearrange a high-sensitivity manual-reset differential thermal-magnetic switch. For information regarding the electrical connection, refer to par. 5.2 "Electrical connection";
- check the flatness of the surface on which the machine is placed.
- prearrange a device lockable in the open position for the connection to the power supply.
- prearrange the connection to a suitable earthing system (par. 5.2.3)
- install a rapid gas shutoff valve ahead of each individual appliance. Install the valve in an easily accessed place.

3.2. MACHINE SPACE LIMITS

A suitable space must be left around the machine (for operations, maintenance, etc.). This space must be increased in case of use and/or transfer of other equipment and/or means or if exit routes are necessary inside the workplace.

3.3. POSITIONING

Handle the equipment with care in order to avoid damage or danger to people. Use a pallet for handling and positioning. The installation diagram provided in this instruction manual gives the appliance dimensions and the position of connections (electricity, water). Check that they are available and ready for making all the necessary connections.

The appliance must be installed separately.

The appliances are not designed for built-in installation.

Ensure a space of 200 cm at the back of the appliance for accessing the water recirculating pump. Maintenance is normally performed from the front of the appliance.

Suitably insulate surfaces that are at distances less than those recommended.

Maintain an adequate distance between the appliance and any combustible walls. Do not store or use flammable materials and liquids near the appliance.

Check and if necessary level the appliance after positioning. Incorrect levelling can cause appliance malfunctioning.

Arranging the machine:

- position the machine in the required place;
- adjust the height and levelling with the adjustment feet, also checking correct door closing
- wear protective gloves and unpack the machine, carrying out the following operations:
 - cut the straps and remove the protective film, taking care not to scratch the surface if scissors or blades are used;
 - remove the polystyrene corners and the vertical protection pieces. For appliances with stainless steel cabinet, remove the protective film very slowly without tearing it, to avoid leaving glue stuck to the surface. Should this happen, remove the traces of glue with a non-corrosive solvent, rinsing it off and drying thoroughly; it is advisable to go over all the stainless steel surfaces with a rag soaked in paraffin oil in order to create a protective film.

3.4. DISPOSAL OF PACKING

The packing must be disposed of in compliance with the current regulations in the country where the appliance is used. All the packing materials are environmentally friendly. They can be safely kept, recycled or burnt in an appropriate waste incineration plant. Recyclable plastic parts are marked as follows:



PE

PE

polyethylene: outer wrapping, instruction booklet bag



PP

PP

polypropylene: straps



PS

PS

polystyrene foam: corner protectors

The parts in wood and cardboard can be disposed of, respecting the current regulations in the country where the machine is used.

4. CONNECTIONS

Refer to the appliance dataplate for the product code.

See the installation diagrams for the position of connections on the appliance:

- ELECTRICITY
- WATER SUPPLY
- WATER DRAIN

4.1. BEFORE CONNECTING

- Clean the pipes to remove any dust, dirt or foreign matter which could block the supply.
- Do not use connection pipes of smaller diameter than that for which the appliance is arranged.
- A rapid shut-off cock must be installed ahead of every appliance in an easily accessible place.

4.2. ELECTRICAL CONNECTION (Fig. 4A-Tab.A).

IMPORTANT! Before connecting, make sure the mains voltage and frequency match that given on the dataplate.



ATTENTION!

Work on the electrical systems must only be carried out by a qualified electrician.



Before carrying out any cleaning or maintenance operation, disconnect the appliance from the power supply and carefully unplug it.

IMPORTANT! Before connecting **make sure:**

- the mains voltage and frequency match that given on the dataplate and that there is an efficient earth contact.
- the system power supply is arranged and able to take the actual current absorption and that it is correctly executed according to the regulations in force in the country of use;
- a differential thermal-magnetic switch suitable for the input specified on the dataplate, with contact gap enabling complete disconnection in category III overvoltage conditions and complying with the regulations in force, is installed between the power cable and the electric line. For the correct size of the switch, refer to the absorbed current specified on the appliance dataplate.
- the mains voltage and frequency match that given on the dataplate.
- To access the terminal board just remove the front panel.
- Connect the power cable to the terminal board as shown in the wiring diagram accompanying to the appliance.
- Secure the power cable with the cable gland.

IMPORTANT! The manufacturer declines any liability if the safety regulations are not respected.

- After making the connection, with the machine working check that the power supply does not fluctuate by $\pm 10\%$ the rated voltage.
- Installation requires the inclusion of a device lockable in the "open" position during maintenance

4.2.1. POWER CABLE

Unless otherwise specified, our appliances are not equipped with a power cable. The installer must use a flexible cable having characteristics at least equivalent to H07RN-F rubber-insulated type. Protect the cable section outside the appliance with a metal or rigid plastic pipe.



If the power cable is damaged, it must be replaced by the after-sales service or in any case by qualified personnel, in order prevent any risk.



The manufacturer declines any liability for damage or injury resulting from breach of the above rules or non-compliance with the electrical safety regulations in force in the country where the machine is used.

4.2.2. CIRCUIT BREAKER

Install a circuit breaker ahead of the appliance. Contact opening distance and maximum leakage current must comply with current regulations.

- Appliance max. leakage current is 1 mA/kW.

4.2.3. EQUIPOTENTIAL NODE AND EARTH CONNECTION

- The appliance must be connected to an efficient earth. There is a screw with symbol "PE" located near the connection terminal block for connecting the earth wire. Connect the appliance to an earth; then include it in an equipotential node by means of the screw located near the front left foot under the frame. The screw is marked with the symbol

4.3. WATER CONNECTION

The appliance must be supplied with drinking water at a pressure of 1.5 - 3 bar.

Important! If the water pressure is higher than that specified, use a pressure reducer to avoid damaging the appliance. For correct installation, the water inlet pipe must be connected to the mains using a mechanical filter and a shutoff cock. Before connecting the filter, allow a certain amount of water to flow in order to clear the pipe of any waste matter.

4.3.1. DRAIN

Discharge water must be removed by means of a suitable receptacle.

VI. INSTRUCTIONS FOR OPERATOR FOR NORMAL MACHINE USE

This appliance is designed and manufactured for use in various applications, but always and only concerning the washing of fruit and fresh vegetables. Use the appliance in conformity with the technical data.

IMPORTANT:

- **Do not centrifuge heavy products.**
- **Never start the vegetable washer without water in tank.**
- The degree of dirtiness due to chemical contaminants, soil, etc., present on the vegetables can vary considerably. For correct use of the vegetable washer, do not wash products that are excessively dirty with such contaminants and soil.
- The vegetable washing process essentially consists of removing the substances (dirt) present on the surface of the products.

Washing quality mainly depends on the following factors:

- quantity of product to be washed (do not exceed the maximum values given in the technical data table),
- intensity of water recirculation,
- washing time, presence or not of pump activation pauses during washing,
- frequency of tank emptying (partial or total). With average "dirt", the tank should be emptied every 1 or 2 wash cycles.
- Before and after washing, the vegetables must be kept in places having suitable hygienic characteristics.

Description of control panel:

A description of the functional components of the appliances is given in fig. 2-3.

1. VEGETABLE WASHER/DRYER USE

1.1. STARTUP (660071 - fig.2)

Appliance operation provides for the following sequential work cycles:

- loading with even distribution of the product inside the drum,
- lid closing,
- selection of operating mode:

AUTO - automatic

MAN. - manual managed by the operator.

1.1.1. STARTING

Press key 1 to switch the appliance on. A display test is carried out. At the end, the LED "I" (indicating selection of low water pump speed), the left LED above key 4 (indicating washing with automatic cycle without using sanitising product) and the LED between the On/Off keys (pos.1) remain on.

The display shows the message "Cyc1": indicating that automatic cycle 1 is selected.

1.1.2. OPERATION WITH AUTOMATIC CYCLE:

1.1.2.1 SELECTIONS:

The appliance is in automatic cycle mode when one of the two LEDs above key 4 is lit. If both are off, press key 4. The left LED lights up: an operation mode with automatic cycles without the use of sanitising product is selected. To introduce the sanitising stage, press key 4 again: the LED lit becomes that on the right. Select the pump speed by pressing key 3.

The choice of pump speed depends on the type of product to be washed and how dirty it is:

- delicate leafy vegetables: pump speed I (LED "I" on)
- heavy vegetables: pump speed II (LED "II" on).

Press key 5 to avoid the centrifuge stage: the corresponding LED lights up, indicating centrifuge inhibited.

Always inhibit the centrifuge for heavy products.

Use the keys 10 (Fig. 2) to select the cycle number:

CYc.1, Cyc.2, Cyc.3, Cyc.4;

Wash cycle "I" (immersion wash), with:

- filling of water in tank up to the max. level (100 l - level 2 fig. 4)
- washing for 30 seconds in one direction and 30 sec. in the other,
- complete draining;
- centrifuge for 20 seconds, with drain open,
- automatic restoration of water to the min. level (30 l - level 1 fig. 4),
- spray wash for 30 seconds in one direction and 30 seconds in the other,
- complete draining;
- centrifuge for 30 seconds with drain open.

The centrifuge stage can be inhibited with button 5 - Fig.2

Wash cycle "II", with:

- filling of water in tank to the min. level, (30 l.);
- spray wash for 30 seconds in one direction and 30 seconds in the other.
- complete draining;
- centrifuge for 20 seconds.
- automatic restoration of min. water level (30 l.);
- spray wash for 30 seconds in one direction and 30 seconds in the other
- complete draining;
- centrifuge for 30 seconds.

Wash cycle "III", with:

- filling of water in tank up to the max. level (100 l.),
- wash for 60 seconds, 30 sec. in one direction and 30 in the other
- complete draining
- centrifuge for 20 seconds with drain open,
- automatic restoration of water to min. level (30 l.)
- spray wash for 60 seconds, 30 in one direction and 30 in the other;
- centrifuge for 30 seconds.

Cycle "IV" (tank cleaning), with:

- filling of water in tank to the min. level (30l),
- spray wash for 60 seconds, 30 in one direction and 30 in the other
- complete draining,
- centrifuge for 20 seconds.

1.1.3. OPERATION WITH AUTOMATIC CYCLE

1.1.3.1 START OF WASH

Press the **START** key to start the wash cycle according to the selections made. The corresponding key LED lights up. The wash cycle can start only if the lid is closed. During washing, keys 4 and 10 do not work.

During operation the LED flashes.

Press the **START** key again to stop the cycle and return to SELECTION status.

Press **START** again and the cycle restarts from the beginning. If the lid is opened during the cycle, the cycle stops (STANDBY) and resumes from where it was stopped only when the lid is closed. In this status the LED flashes.

When the cycle ends, the LED flashes and the bottom display shows End.

1.1.3.2 AUTOMATIC SANITISING FUNCTION

The wash with sanitising product option is enabled by pressing button 4 in order to light up LED IV. This option can only be associated with automatic cycles.

Its selection involves putting 2.2 ml of sanitising product in the tank at the start of the cycle.

The sanitising product is drawn from the can located behind the openable door (S, fig. 1). To load the sanitising product press the bottom part of the door: loading is from the top. The can holds 0.5 l.

IMPORTANT: Can emptying is only possible through the tank. A different concentration of sanitising product will be obtained according to the cycle selected:

CYCLE I, III	20 ppm
CYCLE II, IV	65 ppm

Recommended sanitising product: Sodium hypochlorite.

1.1.4. OPERATION WITH MANUAL CYCLES (Fig. 2)

The required manual cycle is selected when one of the following keys is pressed:

- IMMERSION WASH (key 6)
- SPRAY WASH (key 7)
- CENTRIFUGE (key 8)
- DRAIN (key 9).

The LED of the corresponding key lights up. The top display shows the message Man.

The Automatic cycle LEDs are off.

Use the keys 10 (fig.2) to select the duration of the stage (in steps of 5 sec.):

- Starting from "cont" status, press the "up" key. The display shows 0.05. If pressed again the display shows 0.10 and so on (the max. is 5.00 minutes).
- The "down" key decreases the time; under 0.05 the display shows "cont" (continuous).

Select the wash pump speed with key 2 (like for automatic cycle operation). Press **START** to start the selected manual cycle. The cycle will end when the set time on the display has elapsed. If "cont" mode was selected, the cycle does not stop until the START-STOP button is pressed again.

1.2. STARTUP (660072 - 601524 - fig. 3)

Appliance operation provides for the following work cycles:

- load the drum with even distribution of the product,
- close the lid.
- Press the key to switch the appliance on.
- Select the required automatic or manual cycle, pressing key 3 several times.

LED 4 on: The automatic spray wash cycle is selected (consumption: 30 l)

- water filling to level 1 (fig. 4)
- wash for 30 seconds in one rotation direction and 30 seconds in the other with pump at speed 1
- water draining
- centrifuge for 30 seconds.

LED 5 on: The automatic immersion wash cycle is selected (consumption: 100 l)

- water filling to level 2 (fig. 4)
- wash for 30 seconds in one rotation direction and 30 seconds in the other with pump at speed 2.
- water draining
- centrifuge for 30 seconds

LED 6 on: The automatic immersion wash with sanitising product cycle is selected (consumption: 130 l)

- water filling to level 2 (fig. 4) with injection of sanitising product (2.2 ml)
- wash for 30 seconds in one rotation direction and 30 seconds in the other with pump at speed 2.
- complete water draining
- centrifuge for 20 seconds
- water filling to level 1 (fig. 4)
- spray wash with pump at speed 1, for 30 seconds in one rotation direction and 30 seconds in the other direction;
- centrifuge for 30 seconds.

LED 7 on: manual draining

LED 8 on: manual centrifuge.

After making the required selection, press the START-STOP key to start the selected cycle.

During operation the LED above the "START-STOP" button flashes. Opening the lid during a cycle immediately stops it. When the lid is closed the cycle resumes from where it was stopped, and is completed. If a manual draining stage is being carried out, the lid can be opened to allow emptying of the wash water during tank cleaning.

Pressing the "START-STOP" key during a cycle stops it without the possibility of resuming its execution. Press the "START-STOP" button again and the cycle restarts from the beginning. The sanitising product to be put in the tank (recommended: SODIUM HYPOCHLORITE) during the "immersion wash with sanitising product" cycle, must be loaded in the can on the front panel of the appliance (capacity: 500 ml).

The flow automatically introduced upon execution of the cycle corresponds to a concentration of 20 ppm.

1.3. AT END OF SERVICE

- Turn off the electrical switch installed ahead of the appliance.
- Remove the filter from the lower part of the tank, making sure there are no visible traces of dirt or soil on the bottom; if necessary, clean with a spray or by pouring a moderate quantity of water on it.

VII. CLEANING AND MAINTENANCE

1. GENERAL SAFETY RULES



ATTENTION!
Machine maintenance operations must only be carried out by specialised Technicians provided with suitable personal protection equipment (safety shoes, gloves, glasses, overalls, etc.), tools, utensils and ancillary means.



ATTENTION!
Never operate the machine, removing, modifying or tampering with the guards, protection or safety devices.



ATTENTION!
Before carrying out any operation on the machine, always consult the manual which gives the correct procedures and contains important information on safety.

1.1. INTRODUCTION

The machines are provided with electric and/or mechanical safety devices for protecting workers and the machine itself. Therefore the user must not remove or tamper with such devices.

The Manufacturer declines any liability for damage due to tampering or their non-use.

1.2. PROTECTION DEVICES INSTALLED ON THE MACHINE

1.2.1. GUARDS



The guards on the machine are:

- fixed guards (e.g. casings, covers, side panels, etc.), fixed to the machine and/or frame with screws or quick-release connectors that can only be removed or opened with tools;
- machine electrical equipment access doors made from hinged panels openable with tools, with the machine disconnected from the power supply.



ATTENTION!
Several illustrations in the manual show the machine, or parts of it, without guards or with guards removed. This is purely for explanatory purposes. Do not use the machine without the guards or with the protection devices deactivated.

1.2.2. SAFETY SIGNS TO BE PLACED ON THE MACHINE OR NEAR ITS AREA

DANGER	MEANING
	DANGER OF ELECTROCUTION (placed on electrical parts with indication of voltage).
	DANGER OF CRUSHING



ATTENTION!
Do not remove, tamper with or make illegible the safety, danger and instruction signs and labels on the machine.

1.2.3. CEASED USE

When the appliance is no longer to be used, make it unusable by removing the power supply wiring.

1.2.4. INSTRUCTIONS FOR USE AND MAINTENANCE

Risks mainly of a mechanical, thermal and electrical nature are present in the machine.

Where possible the risks have been neutralised:

- directly, by means of adequate design solutions,
 - indirectly by using guards, protection and safety devices.
- During maintenance several risks remain, as these could not be eliminated, and must be neutralised by adopting specific measures and precautions.

Do not carry out any checking, cleaning, repair or maintenance operations on moving parts.

Workers must be informed of the prohibition by means of clearly visible signs. To guarantee machine efficiency and correct operation, periodical maintenance must be carried out according to the instructions given in this manual. In particular, make sure to periodically check correct operation of all the safety devices and the insulation of electrical cables, which must be replaced if damaged.

1.2.5. REASONABLY FORESEEABLE IMPROPER USE

Improper use is any use different from that specified in this manual. During machine operation, other types of work or activities deemed improper and that in general can involve risks for the safety of operators and damage to the appliance are not allowed.

Reasonably foreseeable improper use includes:

- lack of machine maintenance, cleaning and periodical checks;
- structural changes or modifications to the operating logic;
- tampering with the guards or safety devices;
- failure to use personal protection equipment by operators, specialised technicians and personnel for normal use;
- failure to use suitable accessories (e.g. use of unsuitable equipment or ladders);
- keeping combustible or flammable materials, or in any case materials not compatible with or pertinent to the work, near the machine;
- wrong machine installation;
- climbing on the machine;
- non-compliance with the requirements for correct machine use;
- other actions that give rise to risks not eliminable by the Manufacturer.



ATTENTION!
The previously described actions are prohibited!

1.2.6. RESIDUAL RISKS

The machine has several risks that were not completely eliminated from a design standpoint or with the installation of adequate protection devices. Nevertheless, through this manual the Manufacturer has taken steps to inform operators of such risks, carefully indicating the personal protection equipment to be used by them.

Sufficient spaces are provided for during the machine installation stages in order to limit these risks.

To preserve these conditions, the areas around the machine must always be:

- kept free of obstacles (e.g. ladders, tools, containers, boxes, etc.);
- clean and dry;
- well lit.

For the Customer’s complete information, the residual risks remaining on the machine are indicated below: such actions are to be considered incorrect and therefore strictly forbidden.

RESIDUAL RISK	DESCRIPTION OF HAZARDOUS SITUATION
Slipping or falling	The operator can slip due to water or dirt on the floor.
Burns/ abrasions (e.g. heating elements)	The operator deliberately or unintentionally touches some components inside the machine without using protective gloves.
Electrocution	Contact with live parts during maintenance operations carried out with the electrical panel powered.
Sudden closing of the lid	The operator for normal machine use could suddenly and deliberately close the lid
Tipping of loads	When handling the machine or the packing containing it, using unsuitable lifting systems or accessories or with the load unbalanced.

2. NORMAL MACHINE USE

2.1. CHARACTERISTICS OF PERSONNEL TRAINED FOR NORMAL MACHINE USE

The Customer must make sure the personnel for normal machine use are adequately trained and skilled in their duties, as well as ensuring their own safety and that of other persons. The Customer must make sure his personnel have understood the instructions received and in particular those regarding work hygiene and safety in use of the machine.

2.2. CHARACTERISTICS OF PERSONNEL QUALIFIED TO OPERATE ON THE MACHINE

The Customer is responsible for ensuring that persons assigned to the various duties:

- read and understand the manual;
- receive adequate training and instruction for their duties in order to perform them safely;
- receive specific training for correct machine use.

2.3. OPERATOR FOR NORMAL USE

He must have at least:

- knowledge of the technology and specific experience in operating the machine;
- adequate general basic education and technical knowledge for reading and understanding the contents of the manual;
- including correct interpretation of the drawings, signs and pictograms;
- sufficient technical knowledge for safely performing his duties as specified in the manual;
- knowledge of the regulations on work hygiene and safety. In case of a significant fault (e.g. short circuits, wires coming out of the terminal block, motor failures, worn electrical cable sheathing, etc.), the operator for normal machine use must:
 - immediately deactivate the machine.

3. MACHINE CLEANING AND MAINTENANCE



ATTENTION!

Before carrying out any cleaning or maintenance operation, disconnect the appliance from the power supply by means of the device lockable in open position.



ATTENTION!

During maintenance, the cable and plug must be kept in a visible position by the operator carrying out the work.



ATTENTION!

Do not touch the appliance with wet hands or feet or when barefoot. DO NOT remove the safety guards.



ATTENTION!

Use suitable personal protection equipment (protective gloves).

3.1. ROUTINE MAINTENANCE

Frequently check the state of the power cable and, if necessary, request the assistance of the specialised technician to replace it; have the appliance checked periodically (at least once a year).



ATTENTION!

Disconnect the power supply before cleaning the appliance.

3.2. PRECAUTIONS FOR MAINTENANCE

Routine maintenance operations can be carried out by non-specialised personnel, carefully following the instructions given below. **The manufacturer declines any liability for operations carried out on the machine without following these instructions.**

3.3. CLEANING THE APPLIANCE AND ACCESSORIES



Before using the appliance, clean all the internal parts and accessories with lukewarm water and neutral soap or products that are over 90% biodegradable (in order to reduce the emission of pollutants into the environment), then rinse and dry thoroughly. Do not use solvent-based detergents (e.g. trichloro-ethylene) or abrasive powders for cleaning. It is advisable to go over the stainless steel surfaces with a rag moistened with paraffin oil in order to create a protective film.



ATTENTION!

Do not clean the machine with jets of water.

3.4. PRECAUTIONS IN CASE OF LONG IDLE PERIODS

If the appliance is not going to be used for some time, take the following precautions:

- Close the valves or main switches ahead of the appliances.
- Go over all the stainless steel surfaces vigorously with a rag moistened with paraffin oil in order to create a protective film.
- Have the appliance checked before using it again.
- To prevent too rapid evaporation of accumulated moisture with consequent breakage of elements, switch electric appliances on at minimum heat for at least 45 minutes before reuse.



ATTENTION!

Put the machine in safe conditions before starting any maintenance operation.

After carrying out maintenance, make sure the machine is able to work safely and, in particular, that the protection and safety devices are efficient.



ATTENTION!

Respect the requirements for the various routine and extraordinary maintenance operations. **Non-compliance with the instructions can create risks for personnel.**

3.5. EXTERNAL PARTS

SATIN-FINISH STEEL SURFACES (daily)

- Clean all steel surfaces: dirt is easily removed when it has just formed.
- Remove grime, fat and other cooking residuals from steel surfaces when cool using soapy water, with or without detergent, and a cloth or sponge. Dry the surfaces thoroughly after cleaning.
- In case of encrusted grime, fat or food residuals, go over with a cloth or sponge, wiping in the direction of the satin finish and rinsing often: rubbing in a circular motion combined with the particles of dirt on the cloth/sponge could spoil the steel's satin finish.
- Metal objects can spoil or damage the steel: damaged surfaces become dirty more easily and are more subject to corrosion.
- Restore the satin finish if necessary.

3.6. SCALE

STEEL SURFACES (when necessary)

Remove any scale (stains or marks) left by hard water on steel surfaces using suitable natural (e.g.: vinegar) or chemical (e.g.: "STRIPAWAY" produced by ECOLAB detergents).

3.7. OTHER SURFACES

Clean the appliance tanks or containers using boiled water, adding soda (degreasing) if necessary. Use the accessories (optional or supplied) specified in the list to eliminate encrustations or food deposits.

IMPORTANT – With electrical equipment, make sure no water comes into contact with electrical components: water entering can cause short circuiting and dissipation, tripping the protection devices.

3.8. INTERNAL PARTS (every 6 months)

IMPORTANT! Operations to be carried out only by specialised technicians.

- Check the internal parts.
- Remove any deposits of grime inside the appliance.
- Check and clean the drain system.
- Remove any bits of vegetables left in the drum or tank.
- Do not use aggressive detergents to clean the appliance. In particular, do not use chlorine-based products to clean the appliance or the floor under it, as substances able to damage its components could form.
- At the end of washing, carry out thorough rinsing by activating the appliance and allowing water to flow in order to remove any traces of detergents from the pipes inside it.
- "Sanitise" the equipment using products that are not based on chlorine (e.g. based on "quatery ammonium salts" distributed by ECOLAB) after periods of disuse or washing vegetables having considerable amounts of contaminants, following the product manufacturer's instructions. Rinse immediately. It is advisable to carry out this operation weekly.

NB! In particular ambient conditions (e.g.: intensive use of the appliance, salty environment, etc.) the above cleaning should be more frequent.

3.9. EXTRAORDINARY MAINTENANCE.



**ATTENTION!
USE SUITABLE PERSONAL PROTECTION EQUIPMENT WHEN CARRYING OUT ANY EXTRAORDINARY MAINTENANCE OPERATION.**

Extraordinary maintenance must be carried out by specialised personnel, who can ask the manufacturer to supply a servicing manual.

There must be free air circulation above the appliance. There must be no obstructions caused by trays, cardboard boxes, jars or other materials; otherwise they must be immediately removed.

3.9.1. MAINTENANCE INTERVALS

The inspection and maintenance intervals depend on the actual machine operation conditions and ambient conditions (presence of dust, damp, etc.), therefore precise time intervals cannot be given. In any case, to minimise interruptions of the service, careful and periodical machine maintenance is advisable.

3.9.2. MAINTENANCE FREQUENCY

In order to guarantee constant machine efficiency, it is advisable to carry out the checks with the frequency given in the following table:

MAINTENANCE, INSPECTIONS, CHECKS AND CLEANING FREQUENCY

Routine cleaning Daily

General cleaning of machine and surrounding area

Cleaning internal parts Every six months
Check condition, and for any deformation, loosening or removed parts.

Control Yearly

Check mechanical part, for any breakage or deformation, tightening of screws. Check readability and condition of words, stickers and symbols and restore if necessary.

Machine structure Yearly

Tightening of main bolts (screws, fixing systems, etc.) of machine.

Safety signs Yearly

Check readability and condition of safety signs.

Electrical connection cable and plug Yearly

Check the connection cable (replace it if necessary).

Extraordinary machine maintenance Yearly

Check all gas components

The machine is designed and built for a duration of about 10 years. After this period of time (from machine commissioning) the machine must undergo a general overhaul. Some examples of checks to be carried out are given below.

- check for any oxidised electrical components or parts; if necessary, replace them and restore the initial conditions;
- check the structure and welded joints in particular;
- check and replace bolts and/or screws, also checking for any loose components;
- check the electrical and electronic system;
- check the functionality of safety devices;
- check the general condition of protection devices and guards.

**ATTENTION!**

Machine maintenance, checking and overhaul operations must only be carried out by a specialised Technician or the After-Sales Service, provided with suitable personal protection equipment (safety shoes and gloves), tools and ancillary means.

**ATTENTION!**

Work on the electrical equipment must only be carried out by a specialised electrician or the After-Sales Service.

3.9.3 DISASSEMBLY

If the appliance has to be disassembled and then reassembled, make sure the various parts are assembled in the correct order (if necessary mark them during disassembly).

Before disassembling the machine, make sure to carefully check its physical condition, and in particular any parts of the structure that can give or break. Before starting disassembly:

- remove all the pieces (if present) in the machine;
- disconnect the power supply;
- enclose the work area;
- display a sign indicating that the machine is undergoing maintenance and not to carry out manoeuvres;
- carry out the disassembly operations.

**ATTENTION!**

All scrapping operations must occur with the machine stopped and cold and all the energy sources (water, gas electricity) disconnected.

**ATTENTION!**

To carry out these operations, appropriate PPE must be used.

**ATTENTION!**

During disassembly and handling of the various parts, the minimum height from the floor must be maintained.

3.9.4. DECOMMISSIONING

If the machine cannot be repaired, carry out the decommissioning operations, signalling the failure with a suitable sign, and request assistance of the manufacturer's after-sales service.

4. MACHINE DISPOSAL**ATTENTION!**

DISMANTLING OPERATIONS MUST BE CARRIED OUT BY QUALIFIED PERSONNEL.

**ATTENTION!**

WORK ON THE ELECTRICAL EQUIPMENT MUST ONLY BE CARRIED OUT BY A QUALIFIED ELECTRICIAN, WITH THE POWER SUPPLY DISCONNECTED.

4.1. WASTE STORAGE

At the end of the product's life-cycle, make sure it is not dispersed in the environment.

Special waste materials can be stored temporarily while awaiting treatment for disposal and/or permanent storage. In any case, the current environmental protection laws in the country of use must be observed.

4.2. PROCEDURE REGARDING APPLIANCE DISMANTLING MACRO OPERATIONS

Before disposing of the machine, make sure to carefully check its physical condition, and in particular any parts of the structure that can give or break during scrapping.

The machine's parts must be disposed of in a differentiated way, according to their different characteristics (e.g. metals, oils, greases, plastic, rubber, etc.). Different laws are in force in the various countries, therefore comply with the provisions of the laws and competent bodies in the countries where scrapping takes place. In general, the appliance must be taken to a specialised collection/scrapping centre. Dismantle the appliance, grouping the components according to their chemical characteristics, remembering that the compressor contains lubricant oil and refrigerant fluid which can be recycled, and that the refrigerator components are special waste assimilable with urban waste.

**ATTENTION!**

Make the appliance unusable by removing the power cable.

**ATTENTION!**

When scrapping the machine, the "CE" marking, this manual and other documents concerning the appliance must be destroyed.

5. ENCLOSED DOCUMENTATION

- Set of test and inspection documents
- Wiring diagram
- Installation diagram