



# Hood type dishwasher

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EN User Manual



PM00866-2025-6

## Foreword



The installation, use and maintenance manual (hereinafter Manual) provides the user with information necessary for correct and safe use of the 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 people. Make sure to periodically inform the 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 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 people, animals and property.



### IMPORTANT

- The manufacturer declines any liability for operations carried out on the appliance without respecting the instructions given in this manual.
- The manufacturer reserves the right to modify the appliances presented in this publication without notice.
- No part of this manual may be reproduced.
- This manual is available in digital form as follows:
  - contacting the dealer or reference customer care;
  - downloading the latest and up to date manual on the web site;
- The manual must always be kept in an easily accessed place near the machine. Machine operators and maintenance personnel must be able to easily find and consult it at any time.

## Contents


<b>A WARNING AND SECURITY INFORMATION.....</b>	<b>5</b>
A.1 General information.....	5
A.2 General security.....	5
A.3 Personal protective equipment.....	5
A.4 Water connection.....	7
A.5 Electrical connection.....	7
A.6 Machine cleaning and maintenance.....	7
A.7 Machine abandoned.....	8
<b>B WARRANTY.....</b>	<b>8</b>
B.1 Warranty terms and exclusions.....	8
<b>C GENERAL SECURITY RULES.....</b>	<b>8</b>
C.1 Introduction.....	8
C.2 Mechanical safety characteristics, hazards.....	8
C.3 Shield.....	9
C.4 Emergency switch (depending on model).....	9
C.4.1 Emergency switch recovery.....	9
C.5 Safety signs placed on or near the machine.....	9
C.6 Instructions for use and maintenance.....	9
C.7 Improper use that is reasonably foreseeable.....	9
C.8 End of use.....	9
C.9 Other hazards.....	9
<b>D GENERAL INFORMATION.....</b>	<b>10</b>
D.1 Introduction.....	10
D.2 defines.....	10
D.3 Identification data for machines and manufacturers.....	11
D.4 Device ID.....	11
D.4.1 How to identify technical data.....	11
D.4.2 How to understand the manufacturer's instructions.....	11
D.5 Responsibility.....	11
D.6 Copyright.....	11
D.7 Save the manual.....	11
D.8 Audiences for this manual.....	11
<b>E IS WORKING.....</b>	<b>12</b>
E.1 is used correctly.....	12
E.2 Be able to board the operator's requirements.....	12
E.3 Requirements for personnel trained for normal machine use.....	12
E.4 Qualified operator for normal use of the machine.....	12
<b>F PRODUCT OVERVIEW.....</b>	<b>12</b>
F.1 General description.....	12
<b>G TECHNICAL DATA.....</b>	<b>12</b>
G.1 Key technical features.....	12
G.2 Power features.....	13
<b>H TRANSPORT, HANDLING AND STORAGE.....</b>	<b>13</b>
H.1 Introduction.....	13
H.1.1 Transport: Instructions applicable to carriers.....	13
H.2 Handling.....	13
H.2.1 Handling procedures.....	13
H.2.2 Transportation.....	14
H.2.3 Place the load.....	14
H.3 Storage.....	14
<b>I INSTALLATION AND ASSEMBLY.....</b>	<b>15</b>
I.1 Customer's responsibility.....	15
I.2 Features of the machine installation site.....	15
I.3 Machine space limits.....	15
I.4 Positioning.....	15
I.5 Waste disposal of packaging materials.....	15
I.6 Pumping unit connection.....	16
I.6.1 Pipeline.....	16
I.6.2 Installation diagram.....	17
I.7 Electrical connection.....	20
I.8 Energy control arrangements.....	20
I.9 HACCP arrangement (optional).....	21
<b>J CONTROL PANEL DESCRIPTION.....</b>	<b>22</b>
J.1 Basic control key.....	23
<b>K STARTS.....</b>	<b>24</b>
K.1 Preliminary inspection, adjustment and operation tests.....	24
K.1.1 Electrical and plumbing checks.....	24
K.1.2 Check the positioning of the sink components.....	24
K.1.2.1 Check the filter.....	24
K.1.2.2 Wash arm accessory check.....	24
K.2 starts.....	24

K.3 Detergent / dryer dispenser and settings (optional).	24
K.4 Set the dispenser.	25
<b>L GENERAL SECURITY RULES</b>	<b>27</b>
L.1 Introduction.	27
L. 1.1 Protection installed on the machine	27
L.1.1.1 Shield.	27
L. 1.2 Safety signs displayed on or near the machine	27
L.2 Stop using.	27
L.3 Instructions for use and maintenance	27
L.4 Improper use.	27
L.5 Other hazards.	28
<b>M NORMAL MACHINE USE</b>	<b>29</b>
M.1 Use correctly.	29
M.2 Features of the on-board operator	29
M.3 First use.	29
M.4 Daily activation of the machine.	29
M.5 Washing cycle.	29
M.6 Operations.	29
M.7 Alarm.	30
M.8 Machine cleaning.	31
M.8.1 End of service and daily internal cleaning	31
M.8.2 External cleaning.	31
M.9 Long-term use.	32
M.10 Maintenance.	32
M.10.1 Preventive maintenance.	32
M.11 Machine abandoned.	32
M.12 Troubleshooting.	32


## A Warning and security information


### A.1 General information

To ensure safe use of the machine and a proper understanding of the manual it is necessary to be familiar with 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:


 **WARNING**  
Danger for the health and safety of operators..

 **WARNING**  
Danger of electrocution – dangerous voltage.

 **CAUTION**  
Risk of damage to the machine or the product.

 **IMPORTANT**  
Important instructions or information on the product

 Equipotentiality

 Read the instructions before using the appliance

 Clarifications and explanations






### A.2 General security

- The appliance must not be used by people (including children) with limited physical, sensory or mental abilities or without experience and knowledge of it, unless instructed in its use and supervised by those responsible for their safety..
  - Do not let children play with the appliance.
  - Keep all packaging and detergents away from children.
  - Cleaning and user maintenance shall not be made by children without supervision
- For suitable personal protection equipment, refer to chapter “A.3 Personal protection equipment “.
- 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 install the machine without the guards or with the protection devices deactivated.
- Do not remove, tamper with or make illegible the safety, danger and instruction signs and labels on the machine.
- Do not remove, tamper with or make the labels on the machine illegible.
- Do not remove or tamper with the machine’ s safety devices.
- Unauthorized personnel must not enter the work area.
- Remove any flammable products or items from the work area.

### A.3 Personal protection equipment

Summary table of the Personal Protection Equipment (PPE) to be used during the various stages of the machine’ s service life.

Step segment	protective clothing	Safety shoes	Glove	Spectacles	Safety helmet
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Transport	—	●	○	—	○
Handling	● —	●	○ ●	—	—
Unpacking	○ —	●	○ ●	—	—
Installation	○ —	●	● ○ <sup>1</sup>	— ●	—
Normal use	● — ○	● — ○	● <sup>2 3 4</sup> — ○	— ○	—
Adjustments	○ —	● ○	— ○	— ○	—
Routine cleaning	○ —	● —	● <sup>1</sup> ○ <sup>5</sup>	○ —	—
Extraordinary cleaning	○ ●	●	● <sup>1-5</sup> ○	○ ●	—
Maintenance	○ ●	●	○ ●	— ○ ●	—
Dismantling	○ ●	●	○ ●	○ ● —	—
Scrapping	○ ●	●	○ ●	○ ● —	—
<b>legend:</b>					
●	PPE REQUIRED				
○	PPE AVAILABLE OR TO BE USED IF NECESSARY				
—	PPE NOT REQUIRED				

1. Cut-resistant gloves must be worn during these operations. If the operator, professional, or user does not use personal protective equipment, there may be a risk of health damage( depending on the model).
2. During these operations, gloves must be used to protect the hand from damage to the freezer tray when removing it from the device. If the operator, professional, or user does not use personal protective equipment, there may be a risk of exposure to chemicals and may result in damage to health, depending on the model.
3. During these operations, hands must be protected with insulation gloves to avoid contact with high temperatures High-temperature parts of food or equipment, or when removing high-temperature items from the device. If the operator, professional, or user does not use personal protective equipment, there may be a risk of exposure to chemicals and may result in damage to health, depending on the model.

4. During these operations, gloves that are insulated and suitable for contact with water and substances used must be used (see the safety data sheet for the substances used for information on the required PPE). If the operator, professional, or user does not use personal protective equipment, there may be a risk of exposure to chemicals and may result in damage to health, depending on the model.
5. During these operations, gloves suitable for contact with the chemicals used must be used (see the substance safety data sheet for information on the required PPE). If the operator, professional, or user does not use personal protective equipment, there may be a risk of exposure to chemicals and may result in damage to health, depending on the model.

#### **A.4 Water connection**

- The operating hydraulic range (lowest and highest) must be between:
  - Between 50 kPa(0.5 bar) and 700 kPa(7 bar);
- Make sure that no visible signs of water seepage are seen during and after the first use of the machine.

#### **A.5 Electrical connection**

- Operation on the electrical system can only be carried out by professionals.
- If the power cord is damaged, it must in any case be replaced by a customer service center or by a professional to prevent any hazards.

#### **A.6 Machine cleaning and maintenance**

- For appropriate personal protective equipment, see *A.3 Personal Protective Products*.
- Put the machine in a safe state before starting maintenance operations. Disconnect the machine from the power supply and carefully unplug the power cord, if any.
- Depending on the type and type of electrical connection, the operator performing the work must keep the cables and plugs in a visible position during maintenance operations.
- Do not touch the machine when your hands and feet are wet or barefoot.
- Do not remove the safety guard.
- Use a ladder with proper protection when working on a machine that needs to be raised.
- Follow the requirements of individual routines and special maintenance operations. Non-compliance with instructions may pose a risk to personnel.
- Special maintenance, inspection and overhaul operations can only be performed by professionals or customer service centers and must be equipped with appropriate personal protective equipment (safety shoes and gloves), tools and aids.

#### **Daily maintenance**

- Do not spray the machine with water.
- Contact with chemicals (e.g. detergents, dryers, descaling agents, etc.) without appropriate safety measures (e.g. personal protective equipment) may put exposure to chemicals at risk and may be harmful to health. See label notes and safety information on the product you are using.

#### **Repairs and extraordinary maintenance**

- Repairs and special maintenance must be carried out by professional authorized personnel. The manufacturer refuses to be liable for any fault or

damage caused by the intervention of the manufacturer's unauthorized technician, and the original manufacturer's warranty will lapse.

#### **A.7 Machine abandoned**

- Operation on electrical equipment can only be carried out by a professional with the power off.
- Demolition operations must be carried out by qualified personnel.
- Cut off the power cable and any internal closure devices to make the used equipment unusable to avoid people getting trapped inside.
- For appropriate personal protective equipment, see *A.3 Personal Protective Products*.
- CE markings, this manual, and other documentation for the equipment must be destroyed when disassembling the machine.

### **IMPORTANT**



Please keep the above instructions in order for further consultation by all relevant operators.

## **B Warranty**

### **B.1 Warranty terms and exclusions**

If the purchase of this product includes warranty coverage,

warranty is provided in line with local regulations and subject to the product being installed and used for the purposes as designed, and as described within the appropriate equipment documentation.

Warranty will be applicable where the customer has used only genuine spare parts and has performed maintenance in accordance with Electrolux Professional user and maintenance documentation made available in paper or electronic format. Electrolux Professional strongly recommends using Electrolux Professional approved cleaning, rinse and descaling agents to obtain optimal results and maintain product efficiency over time.

The Electrolux Professional warranty does not cover:

- service trips cost to deliver and pick up the product;
- installation;
- training on how to use/operate;
- replacement (and/or supply) of wear and tear parts unless resulting from defects in materials or workmanship reported within one (1) week from the failure;
- correction of external wiring;
- correction of unauthorized repairs as well as any damages,
- failures and inefficiencies caused by and/or resulting from;
  - insufficient and/or abnormal capacity of the electrical systems (current/voltage/frequency, including spikes and/or outages);
  - inadequate or interrupted water supply, steam, air, gas (including impurities and/or other that does not comply with the technical requirements for each machine);
  - plumbing parts, components or consumable cleaning products that are not approved by the manufacturer;

- customer's negligence, misuse, abuse and/or non-compliance with the use and care instructions detailed within the appropriate equipment documentation;
- improper or poor: installation, repair, maintenance (including tampering, modifications and repairs carried out by third parties not authorized third parties) and modification of safety systems;
- Use of non-original components (e. g.: consumables, wear and tear, or spare parts);
- environment conditions provoking thermal (e. g. overheating/freezing) or chemical (e. g. corrosion/oxidation) stress;
- foreign objects placed in- or connected to- the product;
- accidents or force majeure;
- - transportation and handling, including scratches, dents, chips, and/or other damage to the finish of the product, unless such damage results from defects in materials or workmanship and is reported within one (1) week of delivery unless otherwise agreed;
- product with original serial numbers that have been removed, altered or cannot be readily determined;
- replacement of light bulbs, filters or any consumable parts;
- any accessories and software not approved or specified by Electrolux Professional.

Warranty does not include scheduled maintenance activities (including the parts required for it) or the supply of cleaning agents unless specifically covered within any local agreement, subject to local terms and conditions.

Check on Electrolux Professional website the list of authorized customer care..

## **C General security rules**

### **C.1 Introduction**

The machine is equipped with electrical and/or mechanical safety devices to protect the worker and the machine itself.

Therefore, users may not remove or modify these devices. The manufacturer is not responsible for any damage caused by modifying or not using them on its own.

### **C.2 Mechanical safety characteristics, hazards**



The machine has no sharp edges or protruding parts. The housings for moving and live components are screwed to the box to prevent accidental contact.

### C.3 Guards

The guards on the machine are:

- Secure housings (e.g. housings, covers, side panels, etc.) to the machine and/or frame with screws or quick connectors and can only be removed or opened with tools;
- Active shield (door) that can touch the inside of the machine after removal;
- The top access panel of the machine electrical equipment, made of panels that can be opened by means of tools. Do not open the panel when the machine is connected to the power supply.



### IMORITANT

Several illustrations in this manual show all or part of a machine that has not been removed without a shield or shield. It's just an explanation. Do not use the machine when the shield or protective device is deactivated.

### C.4 Emergency switch (depending on model).

Emergency switches are installed on the machine, but the operator is still required to exercise caution when using the machine.

The emergency switch is used to stop the equipment from running in an emergency.

- The operator must know the position of the emergency switch mounted on the machine.
- The path to and operation of the emergency switch must remain barrier-free.
- If anyone discovers a personnel safety hazard, one of the emergency shutdown measures must be implemented immediately. The same applies if there are any operational anomalies and/or damage to the parts of the machine that require an immediate shutdown.

#### C.4.1 Emergency switch recovery






When the emergency switch is pressed, the machine can only be restarted if:

- The cause of the need for emergency switching operation has been eliminated;
- Restart machine operation without any hazard involved.

If the emergency switch is pressed during the use of the machine, the entire machine will be deactivated. To resume machine operation, the steps are as follows:

- Release the previously pressed red emergency button, rotate or pull it to cut off its interlock;

### C.5 Safety signs placed on or near the machine

Prohibition	Meaning
	Do not oil, lubricate, repair and adjust moving parts
	Do not remove the safety device
	Do not use water to extinguish fires (place on electrical components)
Danger	Meaning
	danger of crushing hands
	caution, hot surface



Risk of electric shock (marked on electrical components and marked with voltage).

### C.6 Instructions for use and maintenance

Machines are primarily a risk of mechanical, thermal and electrical properties. Ways to eliminate risk:

- Eliminate directly with the right design.
- or indirectly eliminated through shields, protection and safety equipment.

Any anomalies are indicated by a signal on the control panel display.

Several risks remain in the maintenance process, as these cannot be eliminated and must be addressed through specific methods and precautions.

No inspection, cleaning, repair or maintenance of moving parts is carried out. Workers must be informed of taboos through clearly visible signs.

In order to ensure the efficiency and proper operation of the machine, regular maintenance must be carried out in accordance with the instructions in this manual. Make sure that all safety devices are operated correctly and that the power cables are insulated and must be replaced if damaged.

### C.7 Improper use that is reasonably foreseeable

Improper use means use that is inconsistent with the provisions of this manual. Other types of improper work or activity during machine operation, usually those that may pose a safety risk to the operator and damage to the equipment. Improper use that can reasonably be foreseen includes:

- Lack of machine maintenance, cleaning and regular inspection;
- change the structure of the machine or modify the operating process;
- Self-modified housings or safety devices;
- Operators, professionals and maintenance personnel are not using personal protective equipment;
- Not using suitable accessories (e.g. using inappropriate equipment or ladders);
- store flammable or flammable materials near the machine or, in any event, incompatible or related to work;
- The machine is installed incorrectly;
- placing in the machine any object or thing that does not match its use and may damage the machine and cause personal injury or pollution to the environment;
- Climbing on a machine;
- Does not meet the requirements for the correct use of the machine;
- Other actions that create risks that cannot be eliminated by the device manufacturer.



### WARNING

Prohibit the actions described earlier!

### C.8 End of use

If you no longer use the device, make it unavailable by removing the power cord.

### C.9 Other hazards

The machine is in danger that cannot be completely ruled out from a design point of view or with proper protective equipment in place. This manual will provide the operator with this hazard information and provide a detailed explanation of the personal protective measures that staff need to take. To reduce the risk, provide sufficient space when installing the device. In order to maintain these conditions, the area around the machine must:

- There are no obstacles (e.g. ladders, tools, containers, boxes, etc.);
- Clean and dry;
- The light conditions are good.

To provide customers with complete information, the remaining risks of the machine are identified below: these situations are considered improper and are therefore strictly prohibited.

<b>dangerous</b>	<b>Description of hazardous situations</b>
Slip or fall	The operator may slip due to water build-up on the ground
Hooked, towed, or bruised	While the machine is in operation, hook or tow the operator or other person who is moving due to the following improper behavior: Wear loose clothing (e.g. necklaces, scarves, shawls, ties, etc.) or have no long, well-tied hair, which may be twisted into moving parts.
Burns/scratches (e.g. heating elements, freezing trays, refrigeration circuit discs, and pipes).	The operator intentionally or unintentionally touches some components in the machine without using protective gloves.
stab	During machine cleaning, the operator intentionally or unintentionally touches components with sharp edges without using protective gloves.
scald	If the operator does not wear gloves or waits for the components to cool down, intentionally or unintentionally touch certain components inside the machine.

Cuts to the upper limbs	Remove panel components when the operator is not wearing a guard.
Electric shock	Touch the live part of the machine while the distribution cabinet is live for maintenance work
Drop from a height	The operator uses improper tools to reach the upper part of the machine (e.g. ladder) during service
Squeeze or injury	Professionals may not have installed the control panel correctly when accessing the technical grid. The panel may close unexpectedly
Crushing and cutting	There may be a risk of upper limb damage during the closure of the upper cover.
The load is turned over	Use inappropriate lifting systems or accessories to move the machine or package containing the machine, and the loaded goods are not balanced
Chemical products	Do not take adequate safety measures to come into contact with chemicals (e.g. cleaners, dryers, descaling agents, etc.). Refer to the label notes and safety information on the product you are using.



### **IMORITANT**

If there are significant faults (e.g. short circuits, wiring of terminal plates, motor faults, worn electrical cable sheaths, etc.) the operator must immediately deactivate the machine.

## **D General information**

### **D.1 Introduction**

Below is some information about the intended use and testing of this device, as well as a description of the symbol used (determining the type of warning), the definition of the terminology used in the manual, and information useful to the device user.

### **D.2 defines**

The definitions of the main terms used in this manual are listed below. It is recommended to read carefully before using it.

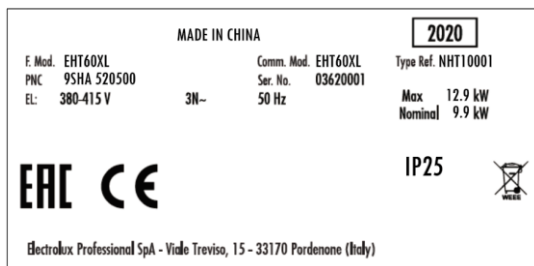
operator	Machine installation, regulation, use, maintenance, cleaning, repair and transport personnel.
manufacturer	Electrolux Professional SpA or any other service center authorized by Electrolux Professional SpA.
The operator who uses the machine normally	In normal machine use, the relevant tasks and dangerous operators have been informed and trained.
Customer Service Center or	A manufacturer-directed/trained operator, based on his expertise, experience and

professional and technical personnel	knowledge of fault prevention, is able to evaluate operations on the machine and identify and prevent any risks that may arise. His majors cover the fields of machinery, electricians and electronics
dangerous	Sources that may cause injury or harm to health.
Dangerous situation	Any situation in which the operator is exposed to one or more hazards
risk	A combination of the likelihood and risk of injury or harm to health in hazardous situations.
Protect the device	Safety measures to protect the operator from risk using specific technical tools (shields and safety devices).
guardrail	A component of a machine that provides isolation protection in a specific way of use.
Safety devices	Eliminate or reduce risk devices (except guardrails);

client	People who buy machines and/or manage and use them (e.g. companies, entrepreneurs, factories).
Emergency brake	A set of components for emergency shutdown functions that are activated through simple actions to prevent or reduce damage to people/machines/property/animal s.
Electric shock	An accident causes discharge to the human body.

### D.3 Identification data for machines and manufacturers

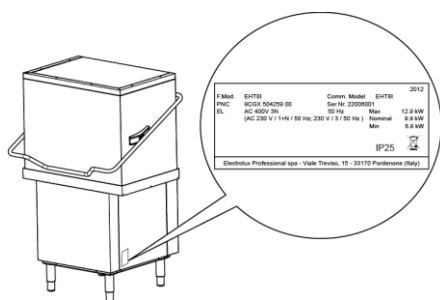
Examples of logos or nameplates on the machine are as follows:



Nameplates provide product identification and technical data;

F. Mod.	Factory model
Comm. Model	Commercial model
Ser. No.	Serial number
Type	Certified model
PNC	Product code
V	Rated voltage
kW	Rated input power
IP25	Level of protection
50/60	Rated frequency
A	Rated current
Class I	Insulation grade
Electrolux Professional SpA	manufacturer

The nameplate is located on the side panel of the device.



#### WARNING

Do not remove, tamper with, or make machine markings illegible



#### IMPORTANT

When the machine is abandoned, the logo must be destroyed.



Please note!

Refer to the data above the machine logo for manufacturer-related data (e.g. ordering spare parts, etc.).

### D.4 Appliance identification

#### D.4.1 How to identify technical data

- Please read the product (F. Mod.) factory instructions on the nameplate;

- identify the main machine data;
- Please review the "G.1 Main Technical characteristics" paragraph.

### D4.2 How to understand the manufacturer's instructions

The manufacturer's instructions on the nameplate have the following meanings (some examples are given below):

(1)	(2)	(3)	(4)	(5)	(6)
E	HT	60	XL	-JP	6

The description of the variable

(1) Brand	E=Electrolux Professional
(2) Product type	HT- Hood Type dishwasher
(3) Cleaning efficiency	60=60 basket /hour
(4) Hood type	XL- Large hood type
(5) special case	-JP=Japan
(6) frequency	/ = 50Hz 6 = 60Hz

### D.5 Responsibility

The manufacturer is not responsible for any damage or failure caused by:

- Does not conform to the instructions in this manual;
- Repair by unauthorized personnel and replacement with non-identified spare parts (installation and use of non-original spare parts and accessories can have a negative impact on machine operation and void the initial manufacturer's warranty);
- Operations performed by non-professionals;
- Unauthorized modification or operation;
- No maintenance or inadequate maintenance;
- Improper use of the machine;
- Unforeseen extraordinary events;
- The use of machines by unfamiliar and/or untrained personnel;
- The use of machines does not comply with the country's current regulations on workplace safety, hygiene and health.

The manufacturer is not responsible for any damage caused by any modification or modification by the user or customer.

Employers, workplace managers, or service technicians are responsible for identifying and selecting appropriate personal protective equipment for the operator to wear in accordance with current regulations in the country in which they are located.

The manufacturer is not responsible for possible inaccurate descriptions contained in the manual due to typographical or translation errors.

Any additions received by the customer from the manufacturer to the installation, use and maintenance manual will form an integral part of the manual and must therefore be kept with the manual.

### D.6 Copyright

This manual is for operator inspection only and must be authorized by Electrolux Professional to be made available to third parties.

### D.7 Keeping the manual

This manual must be kept for the entire life of the machine until it is scrapped. This manual must be kept at random in the event of a machine transfer, sale, lease, approval of use or lease.

### D.8 Recipients of the manual

This manual is intended for:

- The employer of the machine user and the manager of the workplace
- Operators who use the machine normally
- specialised technicians - Customer Service Center

## E NORMAL USE

### E.1 Correct use

The machine has been specially designed and refined to achieve superior performance and efficiency. This equipment must only be used for design purposes, i.e. to wash dishes with water and special detergents. Any other use is considered improper.

### E.2 Characteristics of personnel enabled to operate on the machine

The customer is responsible for ensuring that the person assigned to various responsibilities:

- Read and understand this manual;
- obtain appropriate training and their statement of duties to carry out their duties safely;
- Get specialized training in the correct machine use.

### E.3 Characteristics of personnel trained for normal machine use

Customers must ensure that the machine is operated by properly trained personnel who are aware of their responsibilities and that they and others are safe.

Customers must ensure that their personnel understand the instructions received, especially those relating to hygiene at work and safety for machine use.

### E.4 Operator qualified for normal machine use

Must have at least:

- Knowledge of the techniques and specific experience of operating the machine;
- Basic education, technical knowledge of reading and understanding the contents of this manual, including the correct interpretation of drawings, symbols and pictograms;
- Adequate technical knowledge of the responsibilities set out in the safety implementation manual;
- Knowledge of labour health and safety regulations.

If there are significant faults (e.g. short circuits, wiring of terminal plates, motor faults, worn electrical cable sheaths, etc.), operators using the machine properly must:

- Deactivate the machine immediately.
- Deactivate the machine immediately and disconnect all supplies (electricity, gas, water). Turn the switch cut-off to "0" or press the main emergency switch on the device and stop immediately;
- Turn off the tap and turn off the water supply to the machine.

## F Product Overview

### F.1 General description

Dishwashers are suitable for washing dishes, glasses, cups, cutlery, trays and plastic or steel containers for preparation, cooking and service, as well as a variety of ceramic or metal cookware. This machine is designed for these applications. Under no circumstances can the machine be used in other applications or in a manner not provided in this manual. This equipment is manufactured to meet the needs of a better working environment and economic benefits. These dishwashers can be used in restaurants, cafes, cooking centers and large institutions.

Special dish shelves, can be equipped with a variety of plug-ins, easy to use and practical, can achieve good washing results. The electronic system monitors the entire washing process. The control panel also has a display that displays operating parameters and signals any anomalies.

Dishes Pre-washing areas (e.g. manual pre-spraying systems) and sorting and placement areas on shelves must be arranged before the dishwasher.

## G technical data

### G.1 Key technical features

Brand		Electrolux Professional			Veetsan	Zanussi
Model		EHT60XL/ EHT60XL-ESD/ EHT60XLG/ EHT60XLG-ESD/	EHT60XL-JP	EHT60XL-JP6	VHT60XLG/ VHT60XL-ESD/ VHT60XLG-ESD/	ZHT60XLG/ ZHT60XL-ESD/ ZHT60XLG-ESD/
Supply voltage:	V	400V 3N	200V 3	200V 3	400V 3N	
- Convertable to	V	230V 3	/	/	230V 3	
- Convertable to	V	230V 1N	/	/	230V 1N	
frequency	Hz	50	50	60	50	
Maximum rated power	kW	12.9(*)	12.9(*)	12.9(*)	12.9(*)	
Rated power is <u>factory settings</u>	kW	9.9	9.9	9.9	9.9	
Boiler heating element power	kW	9.0	9.0	9.0	9.0	
Water tank heating element power	kW	3.0	3.0	3.0	3.0	
Water pressure	kPa [bar]	50-700 [0.5-7]	50-700 [0.5-7]	50-700 [0.5-7]	50-700 [0.5-7]	
The temperature of the water supply	°C	10-65	10-65	10-65	10-65	
The hardness of the water	° f/° d/ ° e	14/8/10 Max	14/8/10 Max	14/8/10 Max	14/8/10 Max	
Concentration of chlorides in water	ppm	<20	<20	<20	<20	
The conductivity of water	mS/cm	<400	<400	<400	<400	
Rinse water consumption	L	2.5	2.5	2.5	2.5	
Boiler capacity	L	12	12	12	12	

Brand		Electrolux Professional			Veetsan	Zanussi
Model		EHT60XL/ EHT60XL-ESD/ EHT60XLG/ EHT60XLG-ESD/	EHT60XL-JP	EHT60XL-JP6	VHT60XLG/ VHT60XL-ESD/ VHT60XLG-ESD/	ZHT60XLG/ ZHT60XL-ESD/ ZHT60XLG-ESD/
Tank capacity	L	24	24	24	24	
Cycle duration	sec.	60 (**) -90-150	60 (**) -90-150	60 (**) -90-150	60 (**) -90-150	
Legal noise level Leq	dB (A)	<68	<68	<68	<68	
Level of protection		IP25	IP25	IP25	IP25	
(*) = If activated by software, both the sink and the boiler heating element will be operated. (**) = The water supply temperature is 65oC / 149 degrees F. The standard cycle time may vary depending on the water feed temperature.						

Table 1 Main technical characteristics, performance, and consumption

	380-415V 3N		220-240V 3		220-240V 1N	
	C	S	C	S	C	S
9.9 kW 12.9 kW	5X2.5mm <sup>2</sup> 5X4mm <sup>2</sup>	20A 3P+N 32A 3P+N	4X6 mm <sup>2</sup> 4X10 mm <sup>2</sup>	32A 3P 50A 3P	3X10 mm <sup>2</sup> 3X10 mm <sup>2</sup>	60 A 1P+N 70 A 1P+N
	200V 3					
	C	S				
9.9 kW 12.9 kW	4X6 mm <sup>2</sup> 4X10 mm <sup>2</sup>	40A 3P 50A 3P				
C - Power supply cable S - On / Off Switch						

## G.2 Characteristics of Power supply

The AC power supply to the machine must meet the following conditions:

- max. voltage variation  $\pm 10\%$
- max. frequency variation  $\pm 1\%$  continuous  $\pm 2\%$  for a short period.

Harmonic distortion, unbalanced three-phase supply voltage, voltage pulses, interruption, dips and the other electric characteristics must respect the provisions of point 4.3.2 of Standard EN 60204-1 (IEC 60204-1).



### IMPORTANT!

The machine's power supply must be protected against overcurrents (short circuits and overloads) by fuses or suitable thermal magnetic circuit breakers.

These must be fitted on an omnipolar disconnection system having a contact gap of at least 3 mm.



### IMPORTANT!

For protection against indirect contacts (depending on the type of supply provided for and connection of earths to the equipotential protection circuit) refer to point 6.3.3 of EN 60204-1 (IEC 60204-1) with the use of protection devices that ensure automatic cut-off of the supply in case of isolation fault in the TN or TT systems or, for IT systems, the use of isolation controllers or differential current protection devices to activate automatic power disconnection (an isolation controller must be provided for indicating a possible first earth fault of a live part, unless a protection device is supplied for switching off the power in case of a such a fault. This device must activate an acoustic and/or visual signal which must continue for the entire duration of the fault).

For example: in a TT system, a differential switch with cut-in current (e.g. 30 mA) coordinated with the earthing system of the building where the machine is located must be installed ahead of the supply.



### IMPORTANT!

Customers are requested to follow these instructions, otherwise the Manufacturer does not guarantee the machine for continuous operation and/or against faults.

## H Transport, handling and storage

### H.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 equipment of adequate capacity. The machine must only be transported, handled and stored by qualified personnel, who must have:

- specific technical training and experience;
- knowledge of the safety regulations and applicable laws in the relevant sectors;
- knowledge of the general safety provisions;
- the ability to recognize and avoid any possible hazard.

#### H.1.1 Transport: Instructions for the carrier

#### WARNING!

Do not stand under suspended loads during the loading/unloading phases.

Unauthorized personnel must not access the work zone.

### IMPORTANT!

The machine's weight alone is not sufficient to keep it steady.

The transported load can shift:

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

### H.2 Handling

Arrange a suitably flat area for machine unloading and storage operations.

#### H.2.1 Handling procedures

For correct and safe lifting operations:



- use the type of equipment most suitable for characteristics and capacity (e.g. lift trucks or electric pallet truck);
- cover sharp edges;
- check the forks and lifting procedures according to the instructions given on the packing.

Before lifting:

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

#### **CAUTION!**

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

### **H.2. 2 Transportation**

Operators must:

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

### **H.2. 3 Placing the load**

Before placing the load make sure the path is free and that the floor is flat and can take the load.

### **H.3 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 of 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.



#### **IMPORTANT!**

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



#### **IMPORTANT!**

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

## I Installation and assembly

### IMPORTANT!

Machine installation must be carried out by a professional technician equipped with all appropriate personal protective equipment (safety shoes, gloves, glasses, work clothes, etc.), tools, appliances and aids.



### I.1 Customer's responsibility

Customers must prepare for:

- Install a cut-off switch, a 30mA leakage circuit breaker, and an current overload device (thermally cut off by manual reset or fuse) between the device and the power outlet with at least the electrical capacity described in the technical data sheet. The unit you have selected must be locked in the open position during maintenance.
- Install a suitable power supply in front of the machine, according to the technical specifications of the equipment (G2 "power characteristics");
- The electrical system in the workplace is connected to the potential of the metal structure of the unit by a copper cable with the appropriate components (see parameter I 6.2 "EQ" location of the "installation diagram");
- Electrical connections between electrical panels and equipment in the workplace;
- Table 1 and parameter I 6 Water supply and drainage connections and other connections as shown in Pumping Unit Connections.

### I.2 Features of the machine installation site

This machine is designed for installation in a professional, rather than home-style, kitchen facility. Drain wells/ metal grilles must be arranged on the floor of the machine drainage (see section E6.2 "Installation diagram") and may be replaced by a single water trap with a flow rate of at least 3 liters per second.

### I.3 Machine space limits

Proper space (for easy operation, repair, etc.) must be left around the machine. The channel that allows the operator to operate must be at least 50 cm wide, except at the rear of the machine.

If other equipment or tools are used or transferred, or if there must be an exit route in the workplace, the width of the channel must be increased.

### I.4 Positioning

The machine must be installed in the installation position and the packaging soleplate must be removed only when the machine is installed.

#### IMPORTANT

Do not place the dishwasher near heat sources such as fryers, ovens or heating plates.

Set up the machine:

Wear protective gloves and remove the machine packaging (Figure 5).

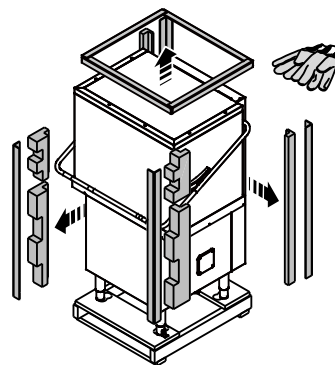


Figure 5 Unpacking

Use a forklift to lift the device, remove the soleplate, and position the device where it is to be installed (Figure 6).

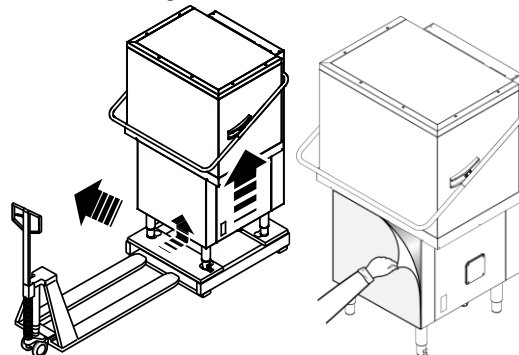


Figure 6 Machine positioning Figure 7

Remove the packaging film

Be careful to remove the protective film from the outer plate, but do not tear it to avoid leaving traces of glue (Figure 7).

Turn the special adjustable foot adjustment device to ensure that it is perfectly level vertically and horizontally (Figure 8).

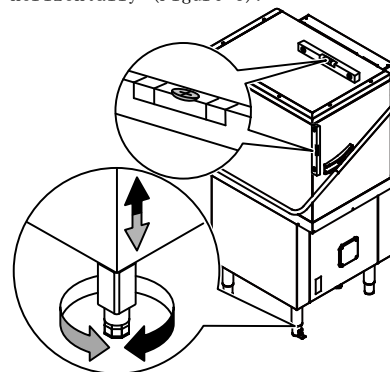


Figure 8 foot adjustment

The device must be secured to the floor by using two included clips (Figure 9).

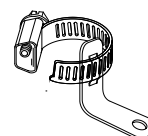


Figure 9 Machine clip

Touch the base plate of the device.




Install the clip on the feet as shown in the supplied technical data sheet.

Use the hole clip to secure the device smoothly to the floor.

### I.5 Waste disposal of packaging materials



All the materials used in the packaging are environmentally friendly. They must be safely stored, recycled or sent to a dedicated incinerator station for incineration. The plastic parts that can be recycled are marked as follows:

	<b>polyethylene:</b>	<b>outer wrapping, instruction booklet bag.</b>
	<b>polypropylene:</b>	<b>roof packing panels, straps.</b>
	<b>polystyrene foam:</b>	<b>corner protectors.</b>

Waste of wood and cardboard components must comply with existing regulations in the country in which the machine is used.

## I.6 Pumping unit connection

### IMPORTANT

The installation of the watermarker must comply with THE PCA&AS/NZS 3500.2 standard decide.

Install the inlet pipes and drains of the machine according to the pipes and installation diagrams given below water pipe.

Put the device water pipe "WI" (see I. . 6.2 Installation figure section ) is connected to the main tube and the truncation valve, the filter provided and the pressure gauge are installed between the equipment and the main tube (Figure 10).

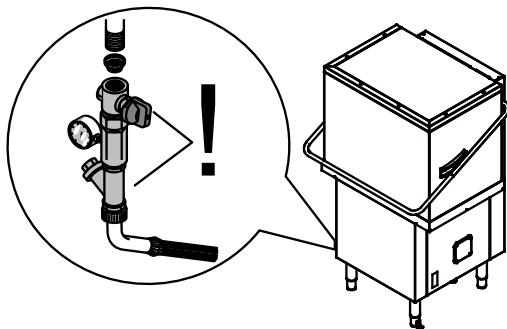


Figure 10 Connection of the inlet pipe

Check the dynamic water supply pressure, i.e. the measurement between the equipment and the mains, **between 50 and 700kPa** (tested when the dishwasher sink or boiler is filled with water).

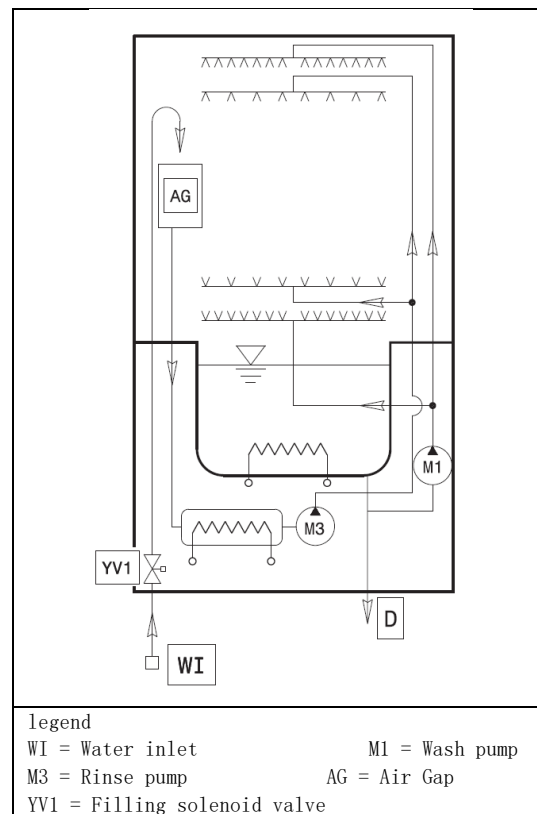
**If the pressure is too high, install a proper pressure relief valve on the inlet pipe.**

Put the drain "D" (see I.6.2 Installation Figure Section 1) Connect to the main pipe drain pipe, install the elbow or place the drain pipe in the S-shaped elbow on the floor.

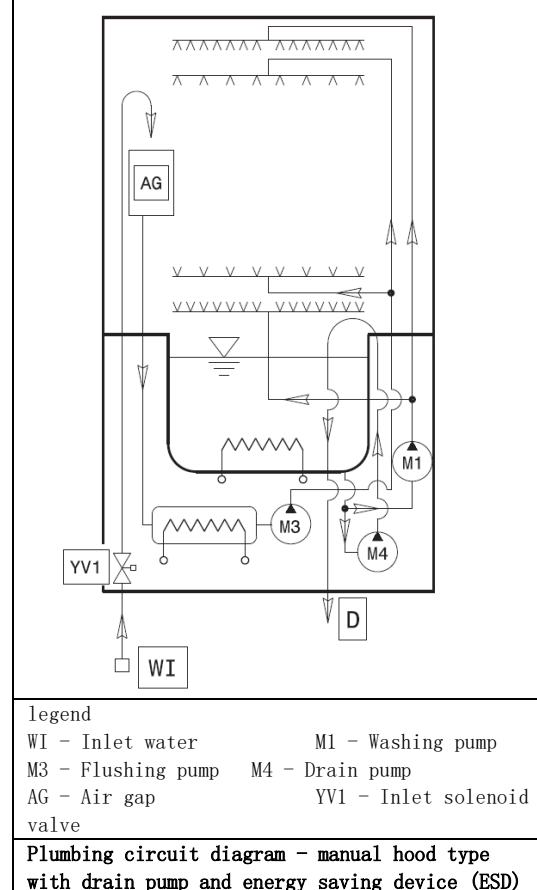
If you have any other problems with the installation, please contact Electrolux Professional after-sales service center.

### I.6.1 Pipeline

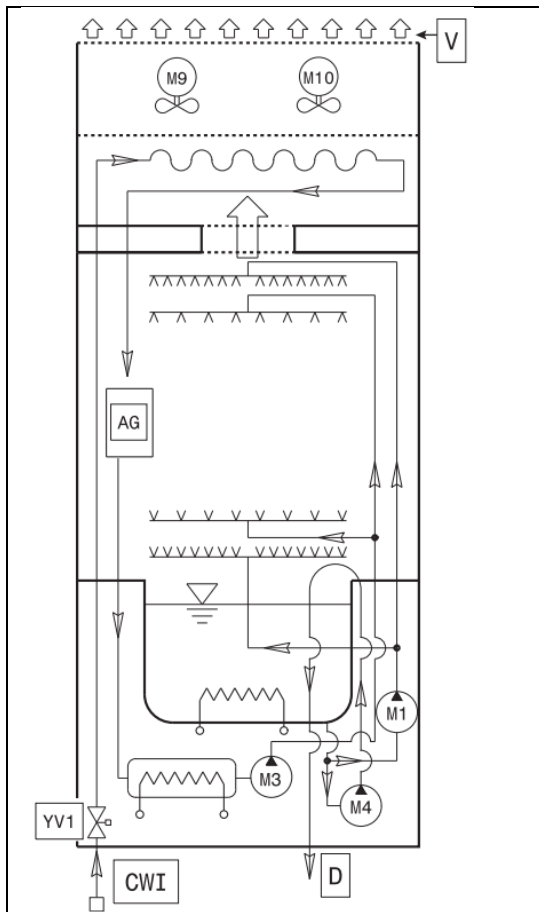
Plumbing circuit diagram - manual hood type without drain pump



Plumbing circuit diagram - manual hood type with drain pump







legend	
CWI - Cold Inlet water	M1 - Washing
pump	M4 - Drain
M3 - Rinse pump	pump
M9 ESD fan motor	M10 ESD fan
motor	
AG - Air gap	YV1 - Inlet
solenoid valve	
V Ventilation	

#### I.6.2 Installation diagram

The installation diagram below shows the overall size of the machine and the location of the water and electricity connection.



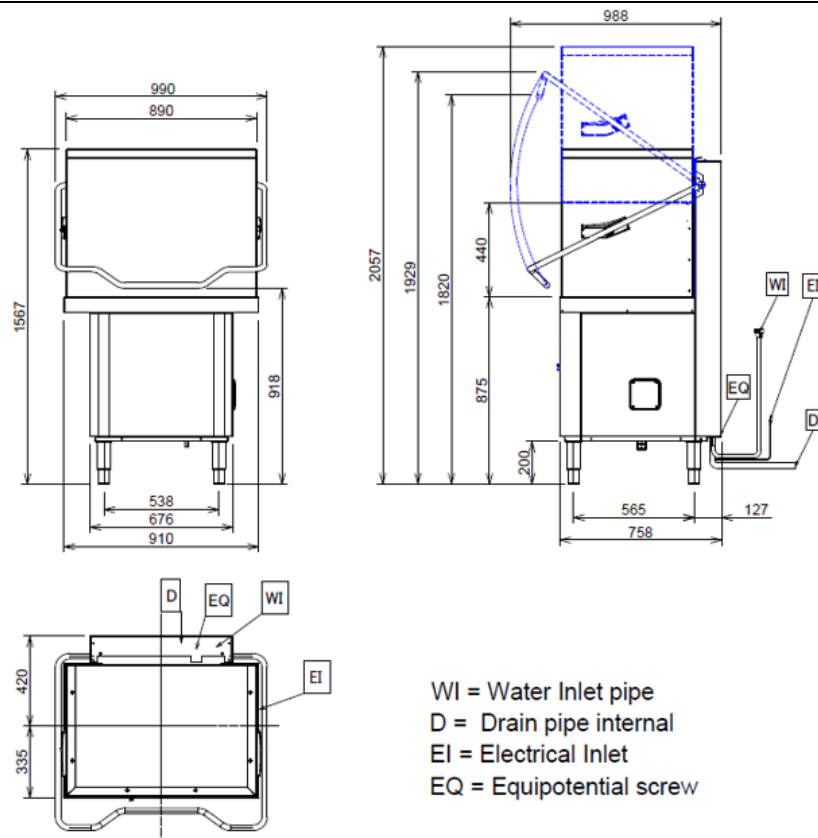
#### IMPORTANT!

Make sure that the hood is installed to eliminate steam generated by the machine.

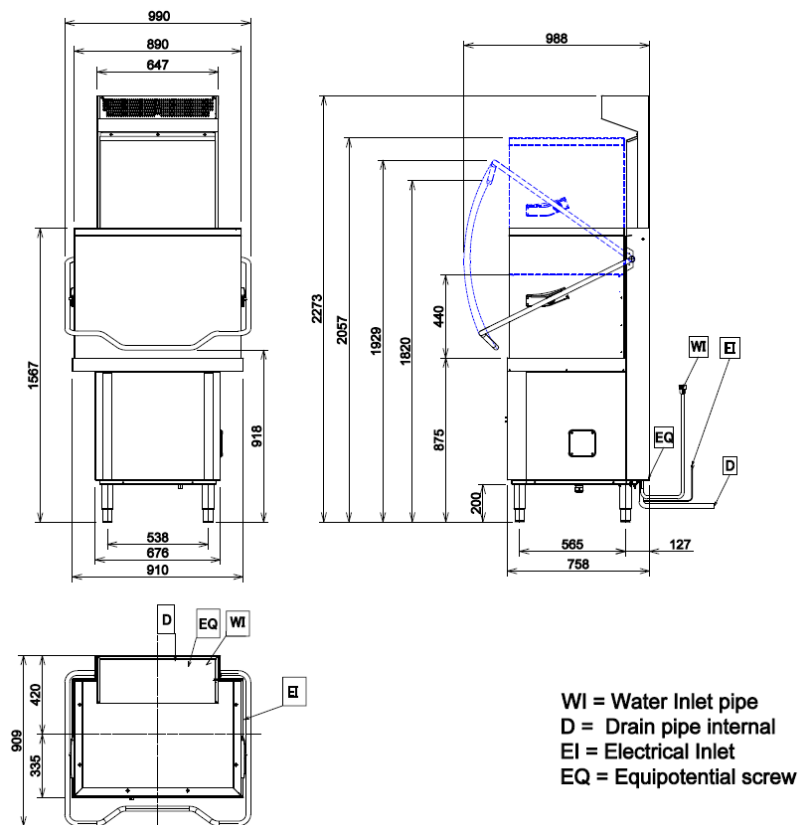
The calculation of the air flow must take into account the type of installation of the machine and the working environment in which it is installed.

In any case, it is recommended that the air flow rate be between 1000 m<sup>3</sup>/h and 1500 m<sup>3</sup>/h.

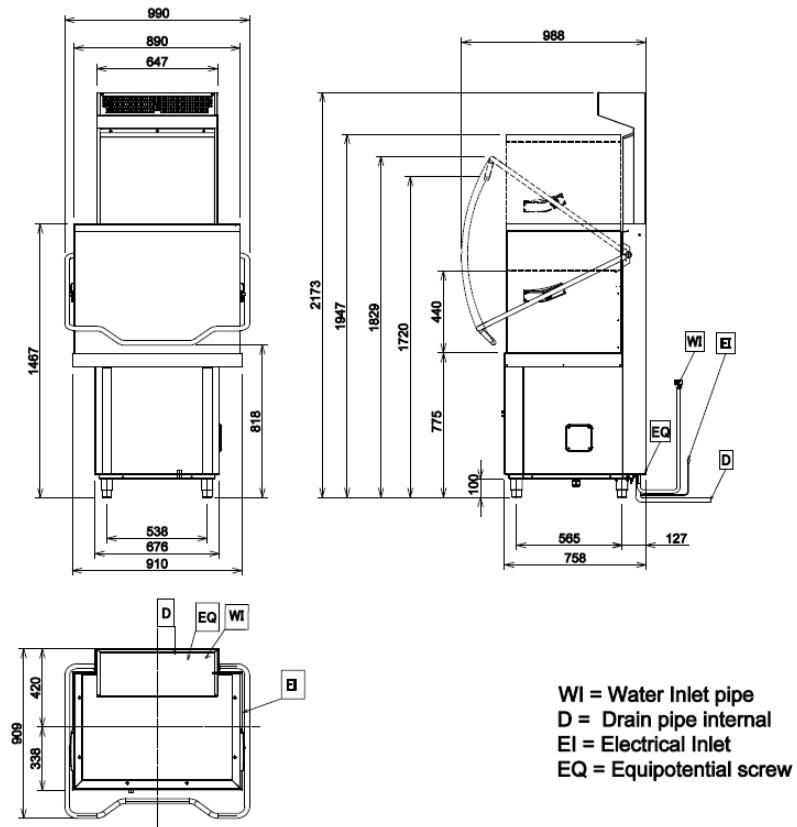
Installation diagram - manual hood with drainage pump



Installation diagram - manual hood with drainage pump(with ESD)



Installation diagram - manual hood with drainage pump(with ESD)-100mm feet



## I.7 Electrical connection

The connection of the power supply must comply with the existing regulations and regulations of the country in which the machine is used.



### IMPORTANT!

Operation on the electrical system can only be carried out by qualified electricians.

Make sure that the machine supply voltage indicated on the nameplate matches the grid voltage.

Ensure that the system power supply arrangements are able to withstand the actual load current and are carried out in a professional construction manner in accordance with existing regulations in the country in which the machine is used.

The ground line at the end of the terminal must be longer than the phase line (up to 20mm). Connect the ground wire of the power cord to a valid ground point. The device must also be included in the

single potential system by marking the "V" sign of the screw "EQ" (see I. 6.2 Installation Figure Section ) Connections. Single-potential wires must have a 10mm<sup>2</sup> cross-section.

**Power 380-415V 3N**  
(Standard)

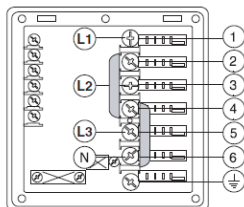


Figure 11 380-415V 3N

Turn on the power terminal board and insert the jumper as follows: two jumpers between terminals 2 and 4 and two jumpers between terminals 4 and 6.

Use the appropriate power cord (see technical data sheet) to connect the three phases to terminals 1, 3, and 5, the neutral wire to terminal 6, and the ground wire to the terminal.

**Power 220-240V 3**

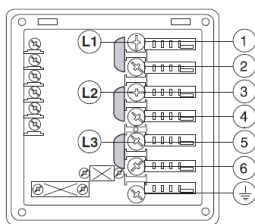


Figure 12 220-240V 3

Turn on the power terminal board and insert the jumper as follows: at terminals 1 and 2, one between terminals 3 and 4 and another between terminals 5 and 6. Use a suitable power cord (see technical data sheet), connect the three phases to terminals 1, 3, and 5, and connect the ground wire to the terminals.

**Power 220-240V 1N**

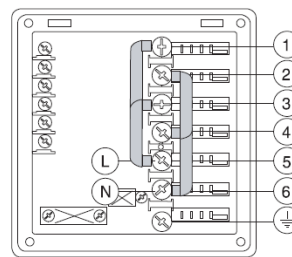


Figure 13 220-240V 1N

Turn on the power terminal board and insert the jumper as follows: at terminals 1 and 2

Insert two jumpers between 3 and 4 and two jumpers between terminals 2 and 4

Insert a jumper between terminals 3 and 5 and between terminals 4 and 6

into the other two jumpers.

Use a suitable power cord (see technical data sheet) to divide the phase and center lines

Do not connect to terminals 5 and 6 and connect the ground wire to the terminals.

**Power 200V 3**

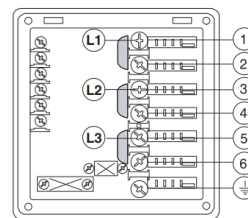


Figure 14 200V 3

Open the power supply terminal board and insert the jumpers provided as follows: one jumper between terminals 1 and 2, one between terminals 3 and 4 and another between terminals 5 and 6. Using a suitable power supply cable (see technical data table), connect the three phases to terminals 1, 3 and 5 and the earth wire to the terminal.

## I.8 Energy control arrangements

The arrangement of the machine is used for external control of energy consumption.

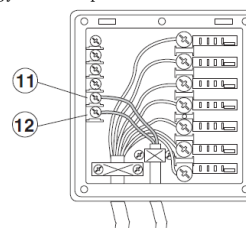


Figure 15 Energy Control

Connect the energy peak controller between terminals 11 and 12 (Figure 15).

### CAUTION

The normally open (N.O.) of the controller The contacts must be connected to terminals 11 and 12. When this contact is closed, the boiler heating element is disconnected. Using the dishwasher in these states may increase cycle times.

### Safety devices

The automatic reset thermal protection device combined with the electric pump winding will cut off the power supply in the event of a failure.

In the event of a water supply main failure, a device prevents water from the boiler from flowing back to the main tube.

The overflow pipe, connected to the drain outlet, keeps the water level in the sink constant.

**Failure to comply with safety rules and regulations will relieve the manufacturer of all liability.**

### **I.9 HACCP arrangement (optional).**

In some models, the machine does not have a HACCP connection scheduled;

When the machine has a HACCP connection scheduled, it is necessary to order a network connection cable.

Terminals 2 and 3 of connector X4 that connect HACCP's network connections.

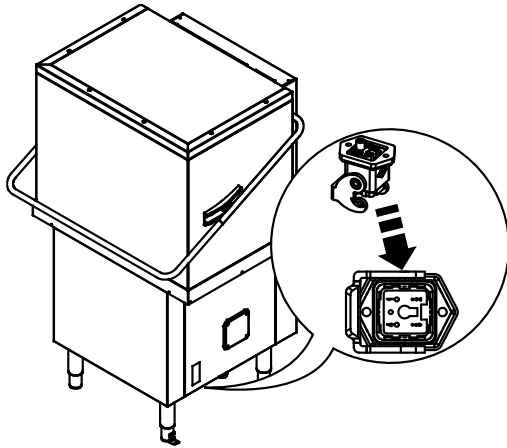
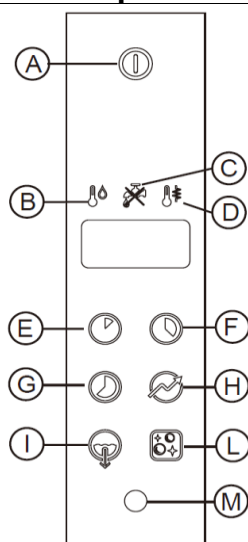


Figure 16 HACCP connection location

## J control panel description



### illustrate

A - On /Off key

B - Wash Temperature indicator

C - Water shortage indicator

D - Rinse Temperature indicator

E - Washing procedure 1

F - Washing procedure 2

G - Washing procedure 3 (this procedure is activated by a technician).

H - Efficient wash and high temperature wash switch (light on for efficient washing) (this procedure is activated by a technician).

I - Draining/self-cleaning procedure

L - Descaling program (this program is activated by a technician).

M - Activate / Wash safety light

### IMPORTANT

THE GUARANTEED RINSE SYSTEM (GRS, GUARANTEED WATER SYSTEM) IS COMBINED IN THE ACTIVE/WASH SAFE CONTROL (ENABLE/CLEAN SAFETY CONTROL) MODEL (SEE LED "M"). GRS is an automatic water crossing time/temperature control system.

Here's what to do:

In the washing cycle, the indicator is off;

In the water cycle, the light lights up to green;

At the end of the water cycle, if the overwater temperature and time follow the procedure, the indicator will remain green, otherwise the light will turn red;

When the cover is opened, the light goes out.

**If the light turns red, such as disabling the boiler wait time, wait a few minutes and repeat the washing cycle.**

If the indicator "B" is on, the temperature shown on the display is the temperature of the sink, and if the indicator "D" is on, the temperature displayed on the display is the temperature of the boiler. The sink temperature is displayed during the washing cycle and the boiler temperature is displayed during the water cycle.

Table 2 Control Panel

All the single keys and functions of the various control panel models described above are listed below. Some features are common to all models, while others are available on only a few models.

## J. 1 Basic control key

On /off



This key shows the status of the device: on or off. This key is on when the device is plugged in.

Wash cycle 1



This button starts washing cycle 1. This cycle is recommended for washing dishes that are not too dirty.

Wash cycle 2



This button starts washing cycle 2. This cycle is recommended for washing ordinary dirty dishes.

Wash cycle 3



This button starts washing cycle 3. This cycle is recommended for washing extremely dirty dishes.

High efficiency or NSF/Ansi 3 compliant



This button is used to switch between efficient mode and NSF/Ansi 3 compliant mode. Some machine may didn't have this function.

Draining / automatic cleaning cycle



This button starts the Drain / Automatic Cleaning Cycle.

Descale cycle(optional)



This button is used to run the machine waterway descale cycle with vinegar. When a loop is selected, the corresponding button lights up.

This function is optional and needs to be equipped with the corresponding descaling kit

## K starts

### K. 1 Preliminary inspection, adjustment and operation tests



#### IMPORTANT!

These operations must be carried out by professional and technical personnel equipped with appropriate personal protective equipment (e.g. safety shoes, gloves, glasses, etc.), tools and suitable ancillary equipment.

#### K.1.1 Electrical and plumbing checks

Before starting the machine:

Check the correct connection of the machine feed wires; Ensure that the supply voltage and frequency comply with the data given in Table 1;

Check the correct connection between the water supply and drainage pipes (see I. 6" pumping unit

Connect the section ;

Ensure that all housings and safety equipment are in place and in place.

#### K.1.2 Check the positioning of the sink components

##### IMPORTANT!

The following operations must be carried out by an operator equipped with appropriate personal protective equipment (e.g. protective gloves, etc.) under cold and shutdown conditions.

##### K.1.2.1 Check the filter

In the absence of an additional filtration system (FS) model, ensure that the pump's suction filter "1" and flat filter "2" are installed correctly (Figure 17).

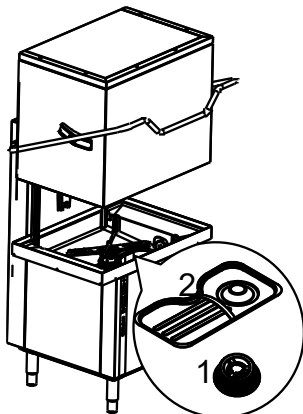


Figure 17 filter

##### K.1.2. 2 Wash arm accessory check

Make sure that the upper and lower wash arms and flushing arms are properly installed (Figure 18).

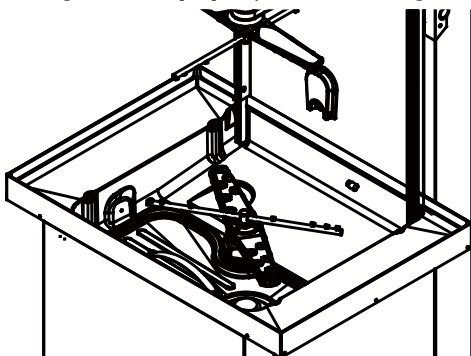


Figure 18 Main wash and spray arms

## K.2 starts

Open the water supply valve.

Turn the main switch of the machine to "I".

Press on/off key Table 2 ("A" - "Control Panel").

### K.3 Detergent / rinse-aid dispenser and settings (optional).

If the device is connected to a soft water or penetration device, contact the detergent supplier for a specific product.

If the peristaltic pump dispenser is installed in the machine, the detergent/drying agent is automatically distributed according to the desired concentration. The concentration of detergent/drying agent depends on the type of product and the hardness of the water supply (check the characteristics on the product label).

#### IMPORTANT

The pipes in the peristaltic pump dispenser (detergents and rinse-aids) and the rinse-aid dispenser require regular maintenance (at least once or twice a year) or after prolonged non-use of the machine.

#### 1. Dishwasher with built-in detergent dispenser (Figure 19).

When the equipment is filled with water for the first time in a day, the pump "R" distributes a washing dose of 2 g/l in the sink. To change this value, you can access the parameter **δlv** (see K.4 Setting Dispenser).

In each cycle, the pump "R" distributes a wash with a concentration of 2 g/l in the sink

Polyester dose. To change this value, you can access the parameter **δEt** (see K.4 setting dispenser).

Insert the supplied hose into the detergent container.

#### 2. Dishwasher with built-in peristaltic pump rinse-aid dispenser (Figure 19).

When the equipment is filled with water for the first time in a day, the pump "S" is divided in the boiler

With a drying agent concentration of 0.1 g/l.

To change this value, you can access the parameter **plv**

(see K.4 Set dispenser).

In each cycle, the pump "S" distributes a concentration of 0.1 g/l in the boiler

Washing dose. To change this value, you can access the parameter **pA1** (see K.4 dispenser).

Insert the supplied hose into the drying agent container.

The connection of the automatic detergent dispenser (Figure 19).

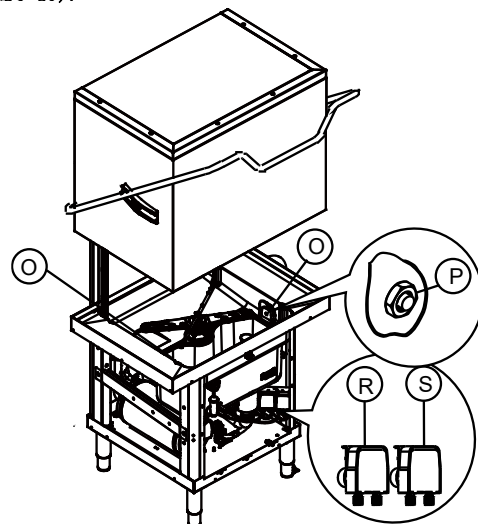


Figure 19 Auto-dispenser arrangement

There are two holes (plug-in) "O" used in the lead-in detergent (Ø 5 mm) These holes can be buried from the outside through the outer panel

Hole marks are easily identified.

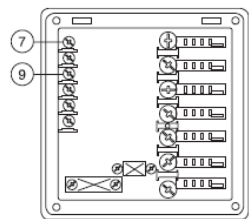
In the sink there is a hole "P" closed with a stopper, which is 22 mm

It can be used to install detergent injectors.

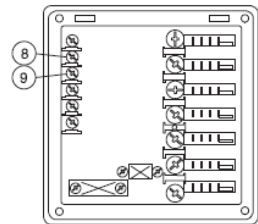
The power connection of the automatic detergent and the drying agent dispenser.



The power supply terminal board is available for voltage 220-240 V, maximum power 30 VA works on the external distributor's power connection terminals.



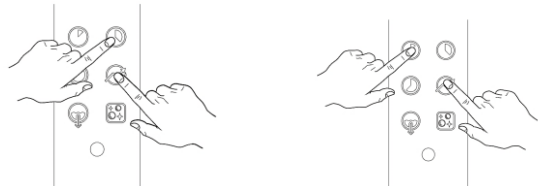
**Figure 20 Detergent dispenser terminal row**  
Connect the detergent dispenser between terminals 7 and 9. These connection points remain active at the set time during the tank filling and washing cycle start -up (see section K.4 Setting Dispenser).



**Figure 21 Drying agent distributor terminal row**  
Connect the rinse-aid distributor between terminals 8 and 9. These connections Points are guaranteed at the set time during the tank injection and the end of the water cycle hold activation (see the K.4 Set dispenser section).

**Activate manually**

Whenever the detergent container is replaced, it may be necessary to activate the dispenser manually  
Fill the hose and remove air. Press the button at the same time, as shown in the following image. Repeat this operation several times if necessary.



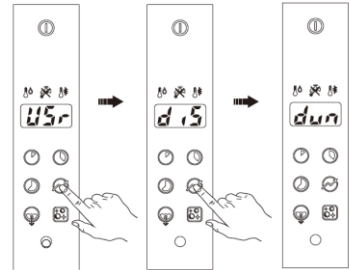
DETERGENT DISPENSER      RINSE-AID DISPENSER

**K.4 Set the dispenser**

All operations must be carried out in a state where the device is started, the cover is open, and the loop is not selected.  
Press the on/off button ("A" - Table 2 "Control Panel" ) and the "Wash Cycle 1" button (Table 2 "Control Panel") for 5 seconds at the same time, enter programming mode, and display the parameter "ΥΣρ".



Press the button (- Table 2 "Control Panel" ) twice to access Detergents and rinse-aids regulate the parameters.



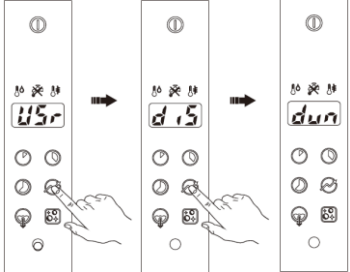
The display shows the first parameter of the dispenser, "δuv":

Description of the parameters		The value of the value
Dispenser unit of measure (X-A- g / liter or ΣEXs seconds).	δuv	X-A
The initial washing dose	δ1v	2.00 g/l
The initial amount of the drying agent	ρ1v	0,12 g/l
Washing dose during circulation	δEt	2,00 g/l
The amount of the drying agent during the cycle	ρA1	0,12 g/l
(*) The values given in the table indicate the plant settings.		

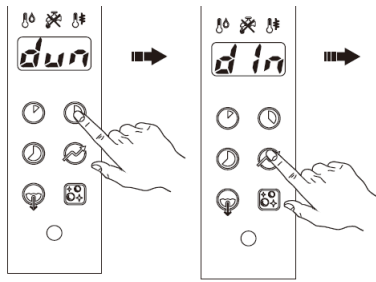
1. Use the Wash Cycle 1 (Table 2 Control Panel) and Wash Cycle 2 (Table 2 Control Panel) buttons to select the parameters to change.
  2. Press the button (Table 2 Control Panel) to change the parameter values.
  3. Press the Washing Cycle 1 (Table 2 Control Panel) and Washing Cycle 2 (Table 2 Control Panel) buttons respectively to reduce/ increase the value.
  4. Press the button (Table 2 Control Panel) to save the settings and return to the parameter selection (see point 1).
- For example, to adjust parameter **δ1v**, you can do the following:  
Enter programming mode



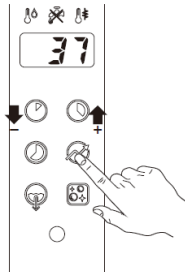
Access to the dispenser



Select parameter **δ1v**



Change the parameter value



Press the button (Table 2 Control Panel) to save the settings.

Exit programming mode and press the Wash Cycle 3 button (Table 2 Control Panel).



#### External dispenser adjustment

For external dispensers, it may be more useful to represent parameters in seconds, setting the  $\delta v$  parameter to  $\Sigma EX$ . In this way, the parameter value represents the time in seconds.

The following are the special values that are available when the external dispenser is connected to the device:

- If  $\delta Et=181$ , the detergent dispenser is operated only when the washing pump is operated and the terminals of the main terminal plate 7-9 will be powered on at the same time.
- If  $\delta Et=182$ , the detergent dispenser operates only when the water injection solenoid valve is operated to restore the boiler level, and the terminals of the main terminal plate 7-9 will be energized at the same time.
- If  $pA1=61$ , the drying agent dispenser operates only when the water injection solenoid valve is operated to restore the boiler level, and the terminals of the main terminal plate 8-9 will be energized at the same time.
- If  $pA1$  is 622, the drying agent dispenser is operated only when the washing pump is operated;

For connections, see the wiring diagram.

#### Example 1:

Assuming that the external detergent dispenser is connected to the sink concentration measurement sensor, the standard settings may be as follows:

Dun  $\Sigma EX$  parameter values are expressed in seconds.

The  $\delta 1v=0$  dispenser is not activated when the sink is filled.

The  $\delta Et=181$  dispenser is activated during the operation of the washing pump and the correct washing dose is distributed according to the detergent concentration measured by the sensor.

#### Example 2:

Suppose the external rinse-aid dispenser is connected to the sink concentration measurement sensing standard settings may look like this:

Dun  $-\Sigma EX$  parameter values are expressed in seconds.

The  $pA1-61$  is activated in each washing cycle and the water injection solenoid valve is operated. This avoids modifying the wiring of the machine.

**Recommendation:** To check the effectiveness of the drying agent, observe the freshly washed glass under the light. Residual droplets on the glass indicate insufficient doses, and stripes indicate excessive dosages.

#### Change the type of detergent/detergent.

If you change the use of different types of detergents / rinse-aids (even if from the same manufacturer), you are connecting new different detergents / overwater. The suction and pressure hoses must be flushed before the brightener container.

#### IMPORTANT

Mixing of different types of detergents/rinse-aids will cause crystallization, which may cause the metering pump to fail. Failure to comply with this condition voids the warranty and product liability.

## L General security rules

### L.1 Introduction

The machine is equipped with electrical and/or mechanical safety devices to protect the worker and the machine itself. Therefore, users may not remove or modify these devices.

Manufacturers do not suffer any loss from modifying themselves or not using them charge.

#### L. 1.1 Protection installed on the machine

##### L.1.1.1 Shield

The housings on the machine are:

- Secure the guard (e.g. housing, cover, side panel, etc.) to the machine and/or frame with screws or a quick release coupling and can only be removed with tools or open;
- Interlocking the active housing (front panel) to enter the inside of the machine;
- Access doors for machine electrical equipment, made of hinge plates that can be opened with tools Yes.

If there is a device in this door that becomes dangerous under activation or pressure, This door cannot be opened while the machine is running.



#### IMPORTANT!

Several illustrations in this manual represent all or part of a machine that has not been removed without a shield or shield. This is purely to explain the requirements. Do not operate a machine that is not covered or deactivated by a safety device.

### L. 1.2 Safety signs displayed on or near the machine

		MEANING
P R O H I B I T I O N		Do not oil, lubricate, repair and adjust moving parts.
		Do not remove the safety devices.
		Do not use water to extinguish fires (shown on electrical parts).
D A N G E R		DANGER OF CRUSHING HANDS
		DANGER OF BURNS
		DANGER OF ELECTROCUTION (shown on electrical parts with indication of voltage).



#### WARNING!

Do not remove, tamper with, or make the machine's labels difficult to discern recognize.

### L.2 Stop using

When the machine is no longer in use, remove the power feeder and water connections, rendering the machine unusable.

### L.3 Instructions for use and maintenance

Machines are primarily a risk of mechanical, thermal and electrical properties.

Where possible, the risks can be:

Direct lifting with the appropriate design,

or indirect contact through protective covers, protective and safety equipment.

Any anomalies are indicated by a signal on the control panel display.

During the repair process, several risks remain, as these cannot be eliminated and must be removed through specific actions and precautions.

Do not carry out any inspection, cleaning, repair or maintenance of the moving parts.

Workers must be informed of the ban through clearly visible signs.

In order to ensure the efficiency and proper operation of the machine, regular maintenance must be carried out in accordance with the instructions in this manual.

In particular, make sure that all safety devices are operated correctly and that the power cables are insulated on a regular basis and that they must be replaced if damaged.



#### IMPORTANT!

Machine maintenance operations must be carried out by professional technicians equipped with all appropriate personal protective equipment (safety shoes, gloves, glasses, work clothes, etc.), tools, appliances and aids.



#### WARNING!

Do not operate the machine by removing, changing or tampering with the shield and the protective or safety devices.



#### IMPORTANT!

Before performing any operation on the machine, be sure to consult the manual that gives the correct procedures and contains important safety information.

### L.4 Improper use

Improper use means a purpose different from that specified in this manual. Other types of work or activities that are considered improper and may normally pose a safety risk to the operator and damage to the system are not permitted while the machine is in operation.

Improper uses include:

- failure to disconnect the power supply with the main switch in "0" off position before carrying out adjustment, cleaning, resetting and maintenance operations;
- failure to disconnect the power supply with the main switch in off position "0" at the end of the day;
- 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, specialized technicians and maintenance personnel;
- failure to use suitable accessories (e.g. use of equipment, ladders, etc., unsuitable for carrying out maintenance on equipment positioned inside the machine);
- keeping combustible or flammable materials, or in any case materials not compatible with or pertinent to the work, near the machine;
- incorrect machine installation (see chapter E "Installation and assembly");

- placing in the machine any objects or things not compatible with washing or that can obstruct/damage the machine or persons or pollute the environment;
- non-compliance with the requirements for correct machine use;
- other actions that can cause risks not eliminable by the Manufacturer.

#### L.5 Residual risks

The machine is in danger that cannot be completely ruled out from a design point of view or with proper protective equipment in place.

This manual will provide the operator with this hazard information and provide a detailed explanation of the personal protective measures that staff need to take. During the installation of the machine, prepare sufficient space to limit these hazards.

In order to achieve these conditions, the areas and channels around the machine must:

- There are no obstacles (e.g. ladders, tools, containers, boxes, etc.);
- Need to be clean and dry;
- Requires good lighting conditions.

For complete customer information, the remaining risks of the machine are given below;

**APPLICATION PHASE:**I- installation, U-normal use, M-maintenance, P-cleaning.

Table 3 Residual risks

other dangers	Description of the hazardous situation
<b>Slipping or falling</b> [ U - M ]	The operator can slip due to water or dirt on the floor.
<b>Burns</b> [ U - M - P ]	The operator deliberately or unintentionally touches some components inside the machine or dishes at the outfeed without using gloves or without allowing them to cool.
<b>Electrocution</b> [ M ]	Contact with live parts during maintenance operations carried out with the electrical panel powered. The operator intervenes (with a power tool or without disconnecting the power to the machine) lying down on the wet floor.
<b>Falling from above</b> [ I - U - M ]	The operator intervenes on the machine using unsuitable systems to access the upper part (e.g. rung ladders, or climbs on it).
<b>Tipping of loads</b> [ I - M ]	During maintenance on the machine or the packing containing the machine with the use of unsuitable accessories or lifting systems or with load unbalanced.
<b>Chemical</b> [ I - U - M - P ]	Contact with chemical substances (e.g. detergent, rinse aid, scale remover, etc.) without taking adequate safety precautions. Therefore always refer to the safety cards and labels on the products used.
<b>Crushing and shearing</b> [ I -U - M ]	Possible risk of injury to upper limbs during the hood closing operation.

## M Normal machine use

### M.1 Correct use

This equipment has been specially designed and refined to achieve superior performance and efficiency. This equipment must only be used for clearly designed purposes, i.e. to wash dishes with water and special detergents. Any other use is considered improper.

### M.2 Features of the on-board operator

Operators who are eligible to use the machine properly must have at least:

Knowledge of the techniques and specific experience of operating the machine;

Appropriate general basic education and technical knowledge to read and understand the contents of this manual;

The ability to understand drawings, signs and icons correctly;

Adequate technical knowledge of the functions specified in the safety implementation manual;

Knowledge of labour health and safety regulations. If there are significant faults (e.g. short circuits, wiring of terminal plates, motor faults, worn electrical cable sheaths, etc.), operators qualified to use the machine properly must:

Turn the main switch to "0" and stop the machine immediately;

Turn off the tap and turn off the water supply to the machine.

### M.3 First use

Perform two cycles without a bowl and rinse any industrial grease that is left in the drain sink and water pipe.

### M.4 Daily activation of the machine

Make sure that filters, cleaning arms, and overflow tubes such as Chapter K 1.2 "Check the positioning of the sink components" and I 8 The Energy Control Arrangements are installed correctly as shown.

Open the water supply valve.

Turn the main switch to "I" to activate it.

Power on the dishwasher by pressing the button.



Lift the cover and check that all components are in the correct position.

Close the cover

The button "A" lights up (Table 2" Control Panel) to indicate that the dishwasher is powered on and water and heating has been introduced.

The word "FILL" is displayed on the display throughout the water injection and heating phase:



Warning, this dishwasher fills the sink for the first time through several continuous hot water flushing cycles, while the display displays information FILL.

The system saves up to 30 percent of the time compared to traditional model numbers.

If the cover is opened during this phase, the display will have a "CLOSE" message.



When the display shows the temperature of the sink, the water injection and heating phase is completed:



To display the boiler temperature when the sink is heated, open the cover and press the button "B" (Table 2 "Control Panel").



### IMPORTANT

If the light "C" (see Table 2 "Control Panel") lights up, check that the tap is turned on (see M. Section 7 "Alarm").

### M.5 Washing cycle

Washing cycles include washing with hot water and detergent at a temperature of at least 55 degrees C, and flushing with hot water and brighteners (at least 82 degrees °C).

When the machine is set to NSF/Ansi 3 compliant mode, the parameters are guaranteed to be "NSF/Ansi 3 compliant" test requirements (see schedule).

### timetable

Standard cycle time, water supply in "high efficiency" mode:

I	II	III
60 (***)	90	150

The continuation of the standard cycle of water supply in accordance with the NSF/Ansi 3 standard mode Time:

I	II	III
60 (***)	90	150

The water temperature is 65 °C.

If the water in the boiler does not reach the minimum temperature required for proper water crossing, the equipment will extend the cycle time.

Cycle times and temperatures can be tailored (e.g. increased overwater times and temperatures). Cycle times can only be set by professional engineers.

### M.6 Operations

When the display shows the temperature of the sink, the water injection and heating phase is completed:



The device is ready for use:

Open the cover.

Add the desired detergent to the sink at dose (in models without automatic dispensers).

Drain tableware from baskets to avoid decorative dishes, silverware from contact with other metals during washing, or drying of residual food on dishes.

### IMPORTANT

Remove large volumes of food from the bowl to avoid clogging the filter.

Pre-wash by spraying the bowl with cold or warm water without using any detergent.

Insert baskets with dirty dishes.

Close the cover and select the appropriate washing cycle, the appropriate light will light up and the washing cycle will begin:

**Available washing cycles:**

– Cycle I

For lightly soiled dishes: Press the button (see Table 2" Control pannel).



#### - Cycle II (recommended).

Normal dirty dishes: Press the button (see Table 2 "Control Panel").



#### - High efficiency or NSF/Ansi 3 compliant

Press and hold down (5 sec.) the button "L" (see Table 2 "Control panel") to switch the machine from "High Productivity" mode to "NSF/Ansi 3 compliant" mode and vice versa. The button "L" is off when the machine is set in "NSF/Ansi 3 compliant" mode (factory default setting) and lights up when the button is pressed and the machine is configured in "High Productivity" mode.



- To stop the washing cycle, simply press the selected cycle button or open the cover.
- To continue the washing cycle, simply press the selected cycle button or close the cover. The loop will start again where it stops.
- At the end of the washing, the dishwashing opportunity emits a series of beeps and the words "END" flash on the display.



Lift the cover and remove the shelf with the clean dishes.

#### - Delime cycle (if enabled).

The descaling function must be operated by professional technician.

Press the button (see Table 2 Control Panel).



Run the machine waterway with vinegar to descale the cycle.

It is advisable to run this cycle according to that given in the table:

Water hardness			The Delime cycle should be run approximately every (*):	Using cycle 2 for 30 cycles/day, the Delime cycle should be run approximately every (*):
°f	°d	°e	Cycles	Days
5	2,8	3,5	1500	50
10	5,6	7,0	750	25
15	8,4	10,5	510	17
20	11,2	14	380	13
25	14	17,5	300	10
30	16,8	21,1	250	8

(\*) Considering a rinse time according to the factory settings.

Proceed as follows:

- Insert the Delime tube present in the machine, identified by an appropriate label, in a container with at least 2l of wine vinegar 6% (2l is the minimum amount of vinegar needed for a correct Delime cycle).

#### IMPORTANT

Use only wine vinegar and not other descaling substances. Use other

Instead of using vinegar to descale, it must only be carried out by professional and technical personnel.

- Remove the basket and dishes and remove the overflow tube "2" (see Figure 17). filters and overflow tubes).
- Close the cover.
- Press the button (see Table 2 Control Panel) for at least 5 seconds to activate the descaling cycle.

#### IMPORTANT

The descaling cycle lasts approximately 1 hour and 30 seconds; If the machine shuts down during the descaling cycle, the next time you restart,

It will recover from the break until it is complete.

- At the end of Delime cycle, the dishwasher sounds a series of beeps and "END" will flash on the display.
- Refit the previously removed overflow.

#### IMPORTANT

The device will not remove the charred food attachment from the dishes. Dishes with charred food attachments should be removed mechanically/chemically (e.g. pre-washed under tap water) before placing them in the dishwasher.

#### IMPORTANT

The use of "foam type" / non-specific detergents or the failure to use detergents in the manner prescribed by the manufacturer will cause damage to the dishwasher and affect the washing effect.

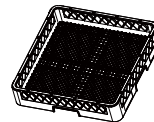
#### IMPORTANT

Failure to remove the residue of detergent used for manual pre-washing may cause the dishwasher fault and affect the washing effect.

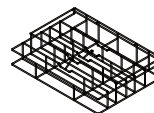
Replace the water in the sink at least once a day.

#### Basket type

Flat basket:



Tray racks



#### M.7 Alarm

In case of a generic dishwasher fault, the display shows the relevant alarm code.

For example



List of possible documented machine alarms with respective cause / cure.

code	description	Cause/solution
A1 (*)	NO WATER	Check that the valve is open. Check that the inlet filter is clean. Check the lowest tube pressure. Check that the overflow tube has been inserted.
B1	INEFFICIENT DRAINAGE	Check that the overflow pipe has been removed.

		Check the waste outlet pipe and overflow pipe holes for obstruction.
B2	TANK WATER LEVEL TOO HIGH (sink water level is too high).	Check the waste outlet pipe and overflow pipe holes for obstruction.
C1... C9	CALL THE SERVICE CENTRE	
E1... E8	CALL THE SERVICE CENTRE	The device continues to operate, but it is recommended that the engineer perform an appropriate inspection.
F21... F22	CALL THE SERVICE CENTRE	

(\*) When the display shows alarm A1, the "Water shortage" indicator also lights up (Table 2 Control Panel).

### M.8 Machine cleaning

Cleaning must be carried out after daily use. Use hot water (neutral if necessary). Detergent / detergent) and soft brush or sponge cleaning. If you use another type of detergent should be carefully followed by the manufacturer's instructions and follow the accompanying Attached safety rules as set out in the product or substance information card.

To reduce the environmental impact of pollutants, more than 90% can be biodegradable product cleaning equipment (clean external and internal if necessary).



#### CAUTION!

Do not use steel velvet or similar materials to clean stainless steel surface. Do not use chlorine-containing detergents.



#### WARNING!

Do not spray the machine with water.



#### WARNING!

Contact with chemical substances (e.g. detergent, rinse aid, scale remover, etc.) without taking appropriate safety precautions (e.g. personal protection equipment) can involve exposure to chemical risk and possible damage to health. Therefore always refer to the safety cards and labels on the products used.

### M.8.1 End of service and daily internal cleaning

The appliance is designed to carry out an automatic cleaning cycle to help flush out any residues and to guarantee greater health and hygiene:

- Lift the hood and remove the shelf with the clean dishes.
- Remove the pump suction filter without an additional filter system (FS) model "1", and filter "2" ("A" - Figure 25).

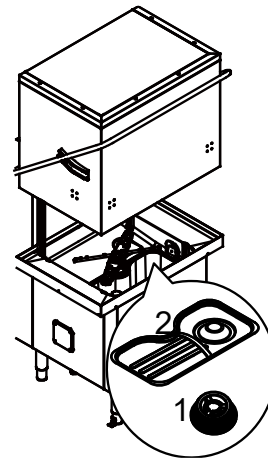


Figure 25 filter

- Close the hood.
- Select the drain cycle (Table 2 "Control Panel") by button.



The message "XAE" ("Clean") is displayed throughout the drain cycle.



- After a few minutes, 3 beeps indicate the end of the cleaning cycle and the words "ENA" flash on the display.



- Turn off the dishwasher (Table 2 "Control Panel") by pressing the "A" button.



- Turn off the mains.
- Turn off the water tap.
- Install back filters and overflow tubes.

### Clean the nozzle

- Remove the upper and lower wash arm "F" and the flushing arm "I" and remove the ringnut "H" (Figure 26).

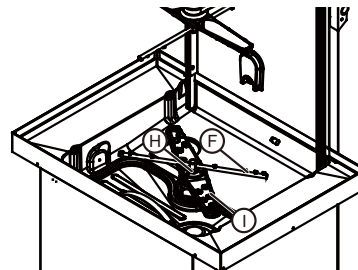


Figure 26 Wash and rinse arms

- Carefully clean the washing and rinse jets and clean everything with hot water and neutral detergent/detergent, if necessary using a soft brush or sponge. Do not use sharp implements to clean the nozzle holes, which could otherwise be damaged.

Upon completion of cleaning operations, replace the parts removed previously.

### M.8.2 External cleaning



Turn off the power to the device before performing any cleaning operations.

**IMPORTANT**

Clean stainless steel surfaces with warm soapy water and never use abrasive washes

Detergent or scraper, plain wire cotton, brush or scraper;

Spread over the water and dry carefully.

Clean the control panel with a soft damp cloth and a neutral cleaner, if necessary.

Do not use high-pressure water directly to clean the equipment.

To reduce the pollution of the environment, use biodegradability of more than 90% products to clean the equipment (external and internal that needs to be cleaned).

Open the cover when the device is not in use.

### M.9 Long-term no use

Whenever the dishwasher is not in use for a long time (e.g. one month), follow the instructions below carefully.

- Turn off the tap.
- Drain the tank completely.
- Remove and carefully clean the filter.
- Completely drain the incorporated dispenser hoses, removing them from the containers. Repeat the procedure described in the paragraph “Manual activation” at least 3 times
- Drain the boiler completely.
- Clean the inside and outside of the machine as indicated in par. I8.1 “End of service and daily internal cleaning” and I8.2 “Exterior cleaning”.
- Spread a film of paraffin oil over the steel surfaces

When using the machine again, follow Chapter M. 4 “Daily activation of the machine”

### M.10 Maintenance

The inspection and service intervals depend on the actual machine operating conditions (total washing hours) and environmental conditions (dust, moisture, etc.), so precise intervals cannot be given. In all cases, to minimize service interruptions, careful and regular machine maintenance is recommended. Therefore, it is recommended that:

- Descale boilers, sink surfaces and machine pipes once or twice a year (call the Technical Assistance Service Centre).
- Wash and rinse the spray arm monthly with vinegar or descaling agent.
- The internal hoses of the drying agent and detergent dispenser should be maintained regularly (at least once or twice a year).
- If available, clean the fin coils of the energy-saving device once or twice a year (call the Service Center).

**It is also advisable to stipulate a scheduled preventive maintenance contract with technical assistance.**

#### M.10.1 Preventive maintenance

The preventive maintenance call can be activated (call technical assistance).

On reaching the set number of cycles (e.g. 20000), a technical assistance call message appears on the display.


This message suggests calling a specialized technician, for a general check of the equipment.

### M.11 Machine abandoned

At the end of the product’s life cycle, make sure the equipment is not dispersed in the environment. The equipment must be disposed of in compliance with current regulations in the country of use.

All metal parts are in s/steel (AISI 304) and removable.

Plastic parts are marked with the letters of the

material. The symbol  on the product indicates that the equipment **should not be** treated as household waste, but should be disposed of correctly to prevent negative environmental and human health.

Regarding the recycling of this product, please contact the sales agent or dealer of your product, your aftersales

service or the appropriate waste disposal service.

### M.12 Troubleshooting

DISHWASHER DOES NOT WASH WELL
<ol style="list-style-type: none"> <li>1. Check if the suction filter is dirty and clean it thoroughly.</li> <li>2. Check if the wash jets are clogged by solid food remains.</li> <li>3. Check that the initial amount of detergent or subsequent additions are correct.</li> <li>4. The selected wash cycle is too short. Repeat the cycle.</li> <li>5. Check that the tank temperature is at least 55° C.</li> <li>6. Check that the dishes are stacked correctly in the racks.</li> </ol>
GLASSES AND DISHES ARE NOT DRIED PROPERLY
<ol style="list-style-type: none"> <li>1. Check that there is rinse-aid in the container and if necessary top up.</li> <li>2. Check the set amount of rinse-aid (see “setting the dispensers” paragraph).</li> <li>3. Check that the water temperature is between 80° C and 90° C.</li> </ol>
CONDENSATION ON GLASSES
<ol style="list-style-type: none"> <li>1. Check that there is rinse-aid in the container and if necessary top up.</li> <li>2. Check the set amount of rinse-aid (see “setting the dispensers” paragraph).</li> <li>3. Remove the rack of glasses immediately the cycle has ended.</li> </ol>
STAINS ON THE GLASSES
<ol style="list-style-type: none"> <li>1. Only use “non-foaming” products for professional dishwashers.</li> </ol>
EXCESSIVE FOAM IN THE TANK
<ol style="list-style-type: none"> <li>1. Check that the wash water temperature is not less than 55° C.</li> <li>2. Check if the amount of product dispensed by the detergent dispenser is excessive (see “setting the dispensers” paragraph).</li> <li>3. Ensure that the tank has not been cleaned with unsuitable cleaners. Drain the tank and rinse thoroughly before new wash cycles.</li> <li>4. If a foaming detergent has been used, drain and refill the tank with water until the foam disappears.</li> </ol>
SMEARS OR SPOTS ON THE GLASSES
<ol style="list-style-type: none"> <li>1. Reduce the amount of rinse-aid (see “setting the dispensers” paragraph).</li> </ol>
THE WASH OR RINSE ARMS TURN SLOWLY
<ol style="list-style-type: none"> <li>1. Remove and thoroughly clean the arms.</li> </ol>



2. Clean the wash pump suction filter.