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⚠️ Foreword

 The instruction manual (hereinafter Manual) provides the operator with useful information for working correctly and safely, facilitating him in using the machine (hereinafter "machine", "dishwasher" or "equipment").

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.

The manual must be available to operators and carefully kept in the place where the machine is used so that it is always at hand for consultation in case of doubts or whenever required.

If, after reading this manual, there are still doubts regarding machine use, do not hesitate to contact the Manufacturer or the authorised after-sales service centre to receive prompt and precise assistance for better operation and maximum efficiency of the machine.

During all stages of machine use, always respect the current regulations on safety, work hygiene and environmental protection. It is the user's responsibility to make sure the machine is started and operated only in optimum conditions of safety for people, animals and property.

A SAFETY INSTRUCTIONS

- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Do not let children play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.

ATTENTION!

 **Do not wash the appliance with direct or high pressure jets of water.**

ATTENTION!

 **If the power cable is damaged it must be replaced by the After-Sales Service or in any case by qualified personnel, in order prevent any risk.**

B GENERAL INFORMATION

B1 Introduction

This section describes the symbols used (that mark and identify the type of warning), the definitions of terms used in the manual, responsibilities and copyright.

B2 Definitions

Listed below are the definitions of the main terms used in the Manual. Careful reading of the manual is recommended before use.

Operator

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

Manufacturer

Electrolux Professional S.p.A. or any other assistance centre authorised by Electrolux Professional S.p.A.

Operator for normal machine use

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

Technical assistance or specialised technician

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

Danger

source of possible injury or harm to health.

Hazardous situation

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

Risk

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

Protection devices

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

Guard

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

Safety device

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

Customer

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

Emergency stop device

a set of components intended for the emergency stop function; the device is activated with a single action and prevents or reduces damage to persons/machines/property/animals.

Electrocution

an accidental discharge of electric current on a human body.

B3 Typographical conventions

For best use of the manual, and therefore the machine, it is advisable to know all the terms and typographical conventions used in the documentation.

The following symbols are used in the manual to indicate and identify the various types of hazards:



ATTENTION!

DANGER FOR THE HEALTH
AND SAFETY OF OPERATORS.



ATTENTION!

DANGER OF ELECTROCUTION
- DANGEROUS VOLTAGE.

Machine guards and protection devices marked with this symbol must only be opened by qualified personnel, after disconnecting the machine's power supply.



ATTENTION!

RISK OF DAMAGE TO THE MACHINE.

Words further explaining the type of hazard are placed next to the symbols in the text. The warnings are intended to ensure the safety of personnel and prevent damage to the machine or the product being worked.

The drawings and diagrams given in the manual are not in scale. They supplement the written information with an outline, but are not intended to be a detailed representation of the machine supplied.

The numerical values given in the machine installation diagrams refer to measurements expressed in mm (see par. G7 "Installation diagram").

B4 Machine and Manufacturer's identification data

A reproduction of the marking or data plate on the machine is given.

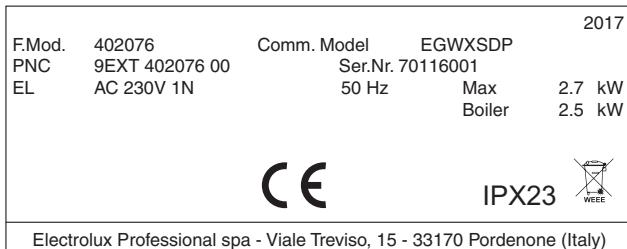


Figure 1 Reproduction of the marking/data plate on the machine.

The data plate gives the product identification and technical data; listed below is the meaning of the various information given on it.

F.Mod factory description of product
 Comm. Model commercial description
 PNC production number code
 Ser. Nr. serial number
 AC 230V 1N power supply voltage
 50 Hz power supply frequency
 Max 2.7 kW max. power input
 Nominal 2.5 kW power input as per factory settings
 2017 year of construction
 CE CE marking
 IPX23 protection rating
 Electrolux Professional S.p.A. - Viale Treviso, 15 -33170 Pordenone (Italy) Manufacturer

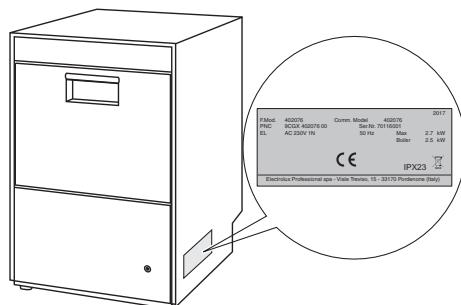


Figure 2 Position of marking

ATTENTION!

Do not remove, tamper with or make the machine marking illegible.

ATTENTION!

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

B5 Equipment identification

B5.1 How to identify the technical data

To identify the technical data (Figure 3), read the factory description of the product (F. Mod.) on the data plate, identify the main machine data and consult Table 2 "Main technical characteristics, performance and consumption".

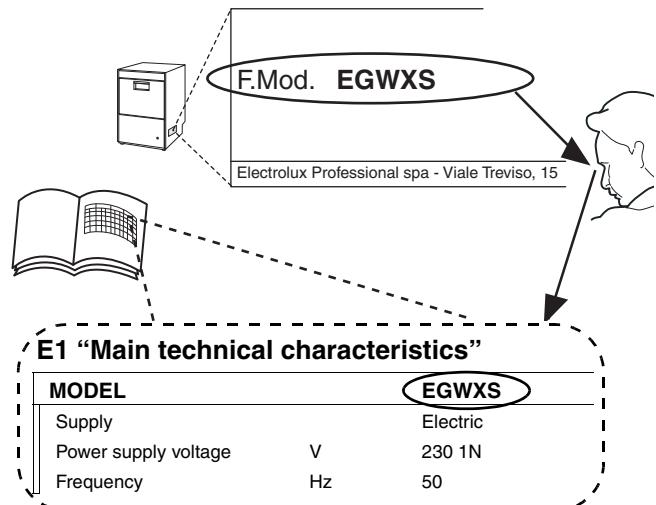


Figure 3 Technical data identification

B5.2 How to interpret the factory description

The factory description on the data plate has the following meaning (some examples are given below):

(1)	(2)	(3)	(4)	(5)	(6)	(7)
E	GW	XS	DP			
Z	GW	XS	G	60		
E	GW	MS	G	R	P	TF
V	GW	XS	DD	UK		
V	GW	S	DP			

Description of variables	
(1) Brand	Z = Zanussi, E = Electrolux, N = To Brand, V = Veetsan.
(2) Machine type	GW = Glass Washer
(3).. (6)	DP = Drain pump, DD = Detergent dispenser, G = Drain pump + Detergent dispenser, UK = Uk plug, 60 = 60Hz, C = Cold rinse, R = Rinse pump, P = Plug, TF = Tank Filter

B6 Copyright

This manual is intended for consultation exclusively by the operator and can be given to third parties only with the written permission of Electrolux Professional S.p.A.

B7 Liability

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

- non-compliance with the "Definitions" instructions contained in this manual;
- repairs not carried out in a workmanlike fashion, and replacements using spare parts different from those specified in the spare parts catalogue (the fitting and use of non-original spare parts and accessories can negatively affect machine operation);
- operations by non-specialised technicians;
- unauthorised modifications or operations;

- inadequate maintenance;
- improper machine use;
- unforeseeable extraordinary events;
- use of the machine by uninformed and untrained personnel;
- non-application of the current provisions in the country of use, concerning safety, hygiene and health in the workplace.

The Manufacturer declines any liability for damage caused by arbitrary modifications and conversions carried out by the user or the Customer.

The employer or workplace manager is responsible for identifying and choosing adequate and suitable personal protection equipment to be worn by operators, in compliance with current regulations in the country of use.

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

Any supplements to the instruction manual the Customer receives from the Manufacturer must be kept together with the manual, of which they will form an integral part.

B8 Personal Protection Equipment

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

Phase	Protection garments	Safety footwear	Gloves	Glasses	Protective head-gear or helmet
Transport	—	●	○	—	○
Handling	●	●	○	—	—
Unpacking	○	●	○	—	—
Installation	○	●	○	—	—
Normal use	●	●	● (1)	○	—
Adjustments	○	●	—	—	—
Routine cleaning	○	●	● (1)	○	—
Extraordinary cleaning	○	●	● (1)	○	—
Maintenance	○	●	○	—	—
Dismantling	○	●	○	—	—
Scraping	○	●	○	—	—

Legend:

●	PPE REQUIRED
○	PPE AVAILABLE OR TO BE USED IF NECESSARY
—	PPE NOT REQUIRED

(1) Use heat resistant gloves suitable for contact with water and the substances used (see the safety data sheet of the substances used to check other possible PPE).

Failure to use the personal protection equipment by operators, specialised technicians or users can involve exposure to chemical risk and possible damage to health.

B9 Keeping the manual

The manual must be kept intact for the entire life of the machine, until scrapping of the machine. The manual must stay with the machine in case of transfer, sale, hire, granting of use or leasing.

B10 Users of the manual

This manual is intended for:

- the carrier and handling personnel;
- installation and commissioning personnel;
- the employer of machine users and the workplace manager;
- operators for normal machine use;
- specialised technicians - technical assistance (see wiring diagram and service manual).

GENERAL SAFETY RULES

C1 Introduction

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

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

C1.1 Protection devices installed on the machine

C1.1.1 Guards

The guards on the machine are:

- fixed guards (e.g. casings, covers, side panels, etc.), fixed to the machine and/or frame with screws or quick-release connectors that can only be removed or opened with tools;
- interlocked movable guards (front panels) for accessing inside the machine;
- machine electrical equipment access doors, made from hinged panels openable with tools. The door must not be opened when moving the machine, if inside the door there is equipment which is dangerous when under tension or pressure.

ATTENTION!

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

C1.2 Safety signs to be placed on the machine or near the work area

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 (placed on electrical parts).
D A N G E R	DANGER OF CRUSHING HANDS
	DANGER OF BURNS
	DANGER OF ELECTROCUTION (placed on electrical parts with indication of voltage).

ATTENTION!

 **Do not remove, tamper with or make the labels on the machine illegible.**

C2 Decommissioning

When the machine is no longer to be used, make it unusable, removing the wiring from the power supply and the water connections.

C3 Instructions regarding use and maintenance

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

Where possible the risks have been neutralised:

- directly, by means of adequate design solutions,
- indirectly by using guards, protection and safety devices.

Any anomalous situations are signalled on the control panel display.

During maintenance several risks remain, as these could not be eliminated, and must be neutralised by adopting specific measures and precautions.

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

Workers must be informed of this prohibition by means of clearly visible signs.

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

ATTENTION!

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

ATTENTION!

 **Never operate the machine, removing, modifying or tampering with the guards or protection and safety devices.**



ATTENTION!

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

C4 Foreseeable improper use

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

Foreseeable improper use includes:

- failure to disconnect the power supply (with main switch in off position "O") before carrying out adjustment, cleaning, resetting and maintenance operations;
- failure to disconnect the power supply (with main switch in off position "O") 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. the use of equipment, ladders unsuitable for carrying out maintenance to equipment 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 section 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 give rise to risks not eliminable by the Manufacturer.



ATTENTION!

The previously described actions are prohibited!

C5 Residual risks

The machine has several risks that were not completely eliminated from a design standpoint or with the installation of adequate protection devices.

Nevertheless, through this manual the Manufacturer has taken steps to inform operators of such risks, carefully indicating the personal protection equipment to be used by them.

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

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

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

For the Customer's complete information, the residual risks remaining on the machine are given below: such actions are deemed improper and therefore strictly forbidden.

APPLICATION PHASE: I=Installation, U=Normal use, M=Maintenance, P=Cleaning.

RESIDUAL RISK	DESCRIPTION OF HAZARDOUS SITUATION
Slipping or falling [U - M]	The operator can slip due to water or dirt on the floor.
Burns [U - M - P]	The operator deliberately or unintentionally touches some parts inside the machine or dishes at the outfeed without using gloves or without allowing them to cool.
Electrocution [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.
Falling from above [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).
Tipping of loads [I - M]	During maintenance on the machine, or moving its packing, using unsuitable accessories or lifting systems or with load unbalanced.
Chemical [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 data sheets and labels on the products used.
Crushing or shearing [I - U - M]	Possible risk of injury to upper limbs during the hood closing operation.

Table 1 Residual risks

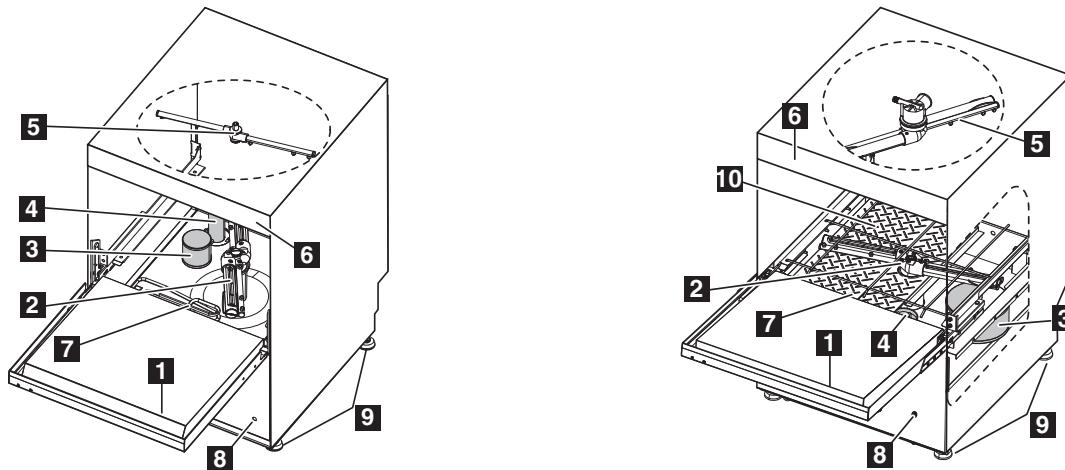
D**GENERAL DESCRIPTION OF MACHINE****D1 General description**

The dishwasher is suitable for washing glasses, cups, cutlery.

Under no circumstances it can be used for other applications or ways not provided for in this manual.

This equipment has been created in order to ensure a better work environment and cost efficiency.

These dishwashers are used in restaurants, cafeterias, cooking centers and large institutions. The special dish racks, that can be equipped with various inserts, offer practical and easy use for obtaining excellent washing results. The electronic system enables complete supervision of the washing process. The control panel also has a display that shows the operating parameters and signals any faults.



1. Door
2. Lower washer arm
3. Pump filter
4. Overflow
5. Upper washer arm

6. Control panel
7. Tank heating element
8. Screw for adjusting rinse aid quantity
9. Adjustable feet
10. Tank Filter (depending on the model)

E**TECHNICAL DATA****E1 Main technical characteristics**

MODEL		EGWXS - ZGWS - NGWXS - VGWXS	EGWS - ZGWS - NGWS - VGWS	EGWMS - ZGWS - NGWMS	EGWMSGTF - ZGWMSGTF - EGWMSGRPTF
Power supply voltage:	V	230V 1N	230V 1N	230V 1N	230V 1N
Frequency	Hz	50	50	50	50
Max. power input	kW	2.7	2.7	3.6	3.6
Booster heating element power	kW	2.5	2.5	3.0	3.0
Tank heating element power	kW	2.0	2.0	2.0	2.0
Supply water pressure	kPa [bar]	200-500 [2-5]	200-500 [2-5]	200-500 [2-5]	200-500 [2-5]
Supply water temperature	°C [°F]	10-35 [50-95]	10-35 [50-95]	10-35 [50-95]	10-35 [50-95]
Supply water hardness	°f/°d/°e	15/8.4/10.5 max	15/8.4/10.5 max	15/8.4/10.5 max	15/8.4/10.5 max
Rinse cycle water consumption	l	2	2	2	2
Booster capacity	l	2.5	2.5	5	5
Tank capacity	l	15	16	22	22
Duration of standard cycles with supply water at 50°C	sec.	60	60	60	60
Noise level Leq	dB (A)	<70 (*)			
Protection rating		IPX2	IPX2	IPX2	IPX2
Net weight	kg	33	35	40	54
Power cable type		H07RN-F	H07RN-F	H07RN-F	H07RN-F

(*) = The noise emission values have been obtained according to EN ISO 11204.

Table 2 Main technical characteristics, performance and consumption

E2 Power supply characteristics

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 par. 4.3.2 of Standard EN 60204-1 (IEC 60204-1)..



ATTENTION!

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.



ATTENTION!

For protection against indirect contacts (depending on the type of supply foreseen and the connection of the masses to the equipotential protection circuit) refer to par. 6.3.3 of EN 60204-1 (IEC 60204-1) with the use of protection devices that ensure automatic disconnection of the power supply in the event of an insulation fault in TN or TT systems, or, for IT systems, the use of isolation controllers or differential current protection devices to start automatic disconnection of the power supply (except when a safety device is provided to disconnect the power in case of a first fault to earth, an isolation controller must be provided to indicate the occurrence of a first fault by a live part to the masses or to earth. This device must activate an audible and/or visual signal which must continue for the duration of the fault).

For example, in a TT system it is necessary to install a differential circuit breaker upstream of the supply with intervention current coordinated (e.g. 30 mA) with the earthing system of the building where the machine is to be installed.



ATTENTION!

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

F1 Introduction

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

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

- have specific technical training and experience;
- have knowledge of the safety regulations and applicable laws in the relevant sector;
- have knowledge of the general safety rules;
- be able to recognise and avoid any possible hazard.

F1.1 Transport: Instructions for the carrier

ATTENTION!



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

ATTENTION!



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

The transported load can shift:

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

F2 Handling

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

F2.1 Procedures for handling operations

For correct and safe lifting operations:

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

ATTENTION!



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

F2.2 Shifting

The operator must:

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

F2.3 Placing the load

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

F3 Storage

The machine and/or its parts must be stored and protected against damp, in a non-aggressive place free of vibrations and with ambient temperature between -10°C / 14°F and 50°C / 122°F.

The place where the machine is stored must have a flat support surface in order to avoid any twisting of the machine or damage to the support feet.

ATTENTION!



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



ATTENTION!

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



ATTENTION!

Machine installation operations must only be carried out by specialised Technicians provided with all the appropriate personal protection equipment (safety shoes, gloves, glasses, overalls, etc.), tools, utensils and ancillary means.

G1 Customer responsibilities

The tasks and works required of the Customer are:

- Install a disconnecting switch of capacity not less than that given in the technical data table, a 30 mA differential switch and an over-current protection device (manual reset thermal magnetic or fuse) ahead of the equipment. The device used must be lockable in the open position in case of maintenance.
- Install an adequate electrical power supply ahead of the machine, according to the equipment's technical specifications (Table 2);
- Carry out the equipotential connection of the workplace electrical system to the metal structure of the machine by means of a copper cable of adequate section (see position "Q" in par. G7 "Installation diagram");
- Make the ducting for the electrical connection between the workplace electric panel and the equipment;
- Make the water supply and drain connections and other connections as indicated in Table 2 and par. Figure 4 "Unpacking".

G2 Characteristics of the place of installation

The machine is designed for installation in professional and not domestic-type kitchens. Water collection traps/metal grates must be arranged in the floor at the machine discharges (see par. G7 "Installation diagram"), possibly replaceable with a single water trap sized for a flow rate of at least 3 l/s.

G3 Positioning

The machine must be taken to the place of installation and the packing base removed only when being installed.

Arranging the machine:

- Wear protective gloves and unpack the machine (Figure 4).

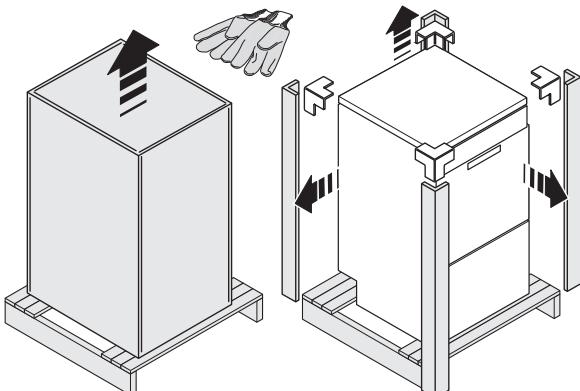


Figure 4 Unpacking

- Lift the equipment with a lift truck, remove the base and position it in the place of use (Figure 5).

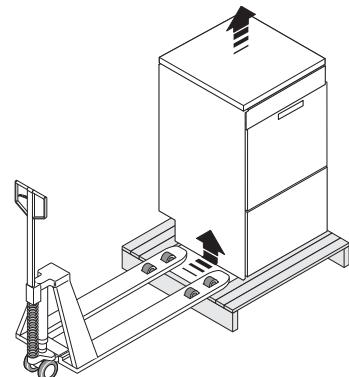


Figure 5 Machine positioning

- Carefully remove the protective film from the outer panels without tearing it, to avoid leaving traces of glue (Figure 6).

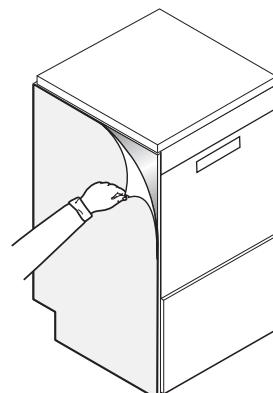


Figure 6 Removing the film

- Adjust the equipment by turning the special adjustable feet and making sure it is perfectly level, both lengthwise and crosswise (Figure 7).

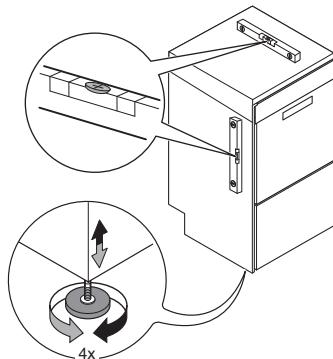


Figure 7 Feet adjustment

G4 Disposal of packaging

All the packing materials are environmentally friendly. They can be safely kept, recycled or burned in an appropriate waste incineration plant. Recyclable plastic components are marked as follows:



polyethylene: outer wrapping, instruction booklet bag.



polypropylene: roof packing panels, straps.



polystyrene foam: corner protection.

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

G5 Plumbing connections

ATTENTION

Machines marked Watermark must be installed in conformity with AS/NZS 3500.1, and the non-return device supplied with the machine must also be installed (B - Figure 8). The drain must comply with 3500.2.

The machine water filling and drain pipes must be installed according to the plumbing circuit and installation diagrams given below.

- Connect the equipment water pipe "WI" (see par. G7 "Installation diagram") to the water supply, interposing a tap, the filter (if provided) and a pressure gauge (Figure 8).

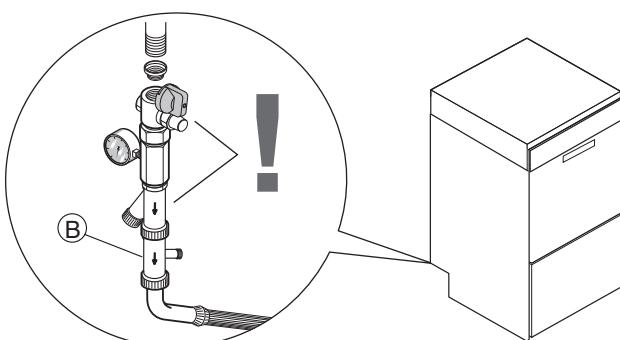


Figure 8 Supply pipe connection

ATTENTION

If the equipment is replaced, always use the new inlet hose provided. Be sure that the non-return valve "B" and the filter supplied are fitted correctly as shown in Figure 8.

- Make sure the **dynamic pressure** of the water supply, measured upstream of the equipment, is **between 200 and 500 kPa** (the tests must be carried out while the dishwasher is filling water in the tank and/or booster).
- **If the pressure is higher, install a suitable pressure reducer ahead of the machine.**

- **For model with gravity discharge:**

connect the discharge pipe "D" (Figure 9) to the drain pipe, interposing a trap, or place the pipe over a waste obtained in the floor.

- **For model with drain pump:**

place the discharge pipe "D" (Figure 9) at a height of between 750 mm and 1000 mm measured from the support surface.

Subsequently check that approx. 3 litres of water come out of the discharge pipe during the rinse phase.

G6 Electrical connections

ATTENTION!



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

- Connection to the power supply must be carried out in compliance with the regulations and provisions in force in the country of use.
- Make sure the system power supply is arranged and able to take the actual current load and that it is executed in a workmanlike manner according to the regulations in force in the country of use.
- The plug must be accessible after positioning the appliance in the place of installation. Make sure the plug is not crushed by the appliance; in fact, a damaged power cable can overheat and catch fire or cause a short circuit.
- Make sure the machine power supply voltage specified on the rating plate (Table 2) matches the mains voltage.
- Make sure that the socket has an efficient earth contact.
- Connect the mains plug to the mains socket only at the end of the installation.
- Always use a correctly installed shockproof socket.
- Do not use multi-plug adapters and extension cables.
- Do not pull the mains cable to disconnect the appliance. Always pull the mains plug.
- Do not touch the mains cable or the mains plug with wet hands.
- The equipment must also be included in an equipotential system, whose connection is made by means of screw "EQ" (see par. G7 "Installation dia-

gram") indicated by the symbol “▽”. The equipotential wire must have a section of at least 10 mm².

G6.1 Safety devices

- An automatic-reset overload protector incorporated in the electric pump windings cuts off the power to the pump in case of faulty operation.

G7 Installation diagram

The following installation diagram gives the machine's overall dimensions and the position of the water and electrical connections.

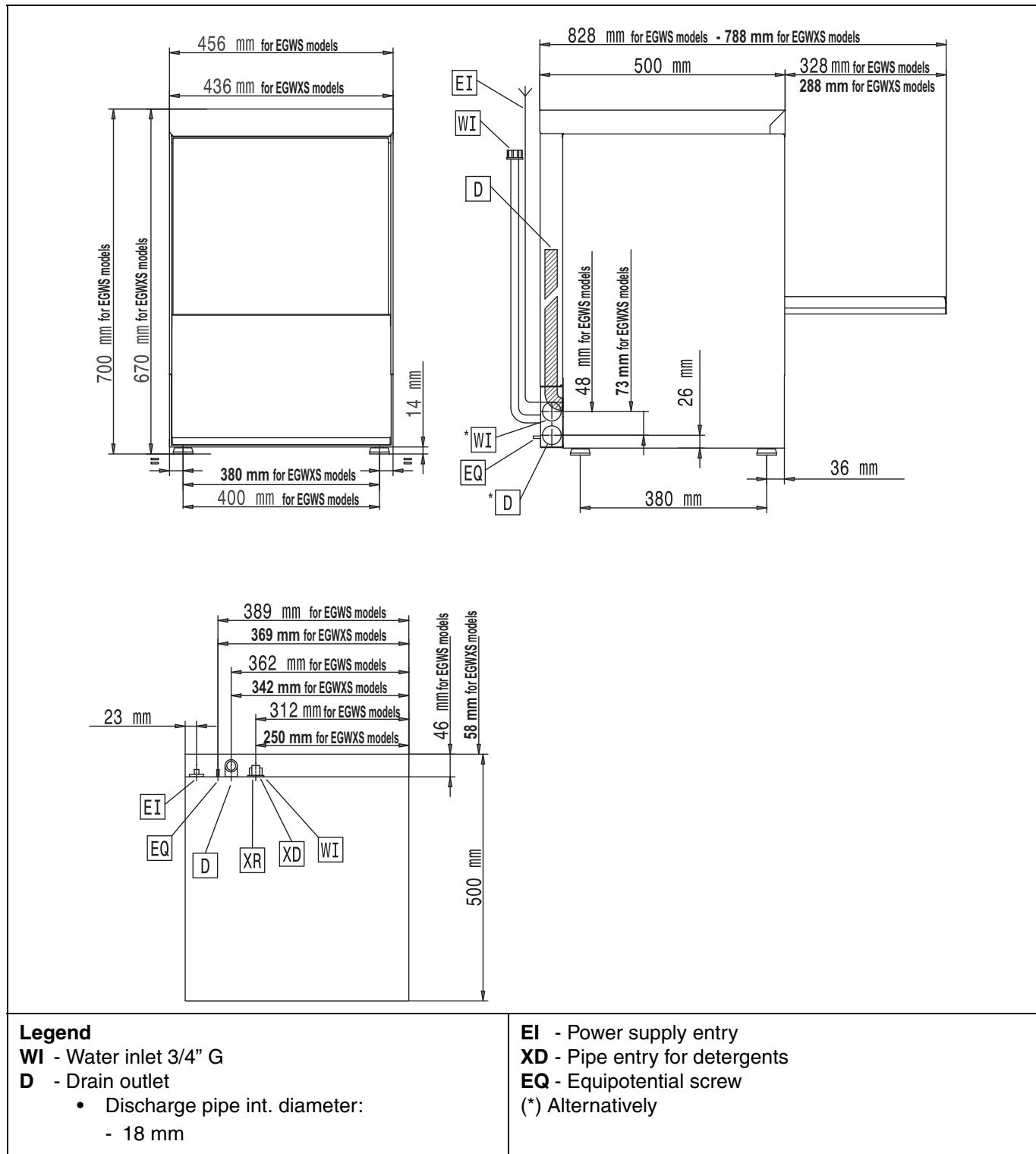


Figure 9 Installation diagram

H DESCRIPTION OF CONTROL PANEL

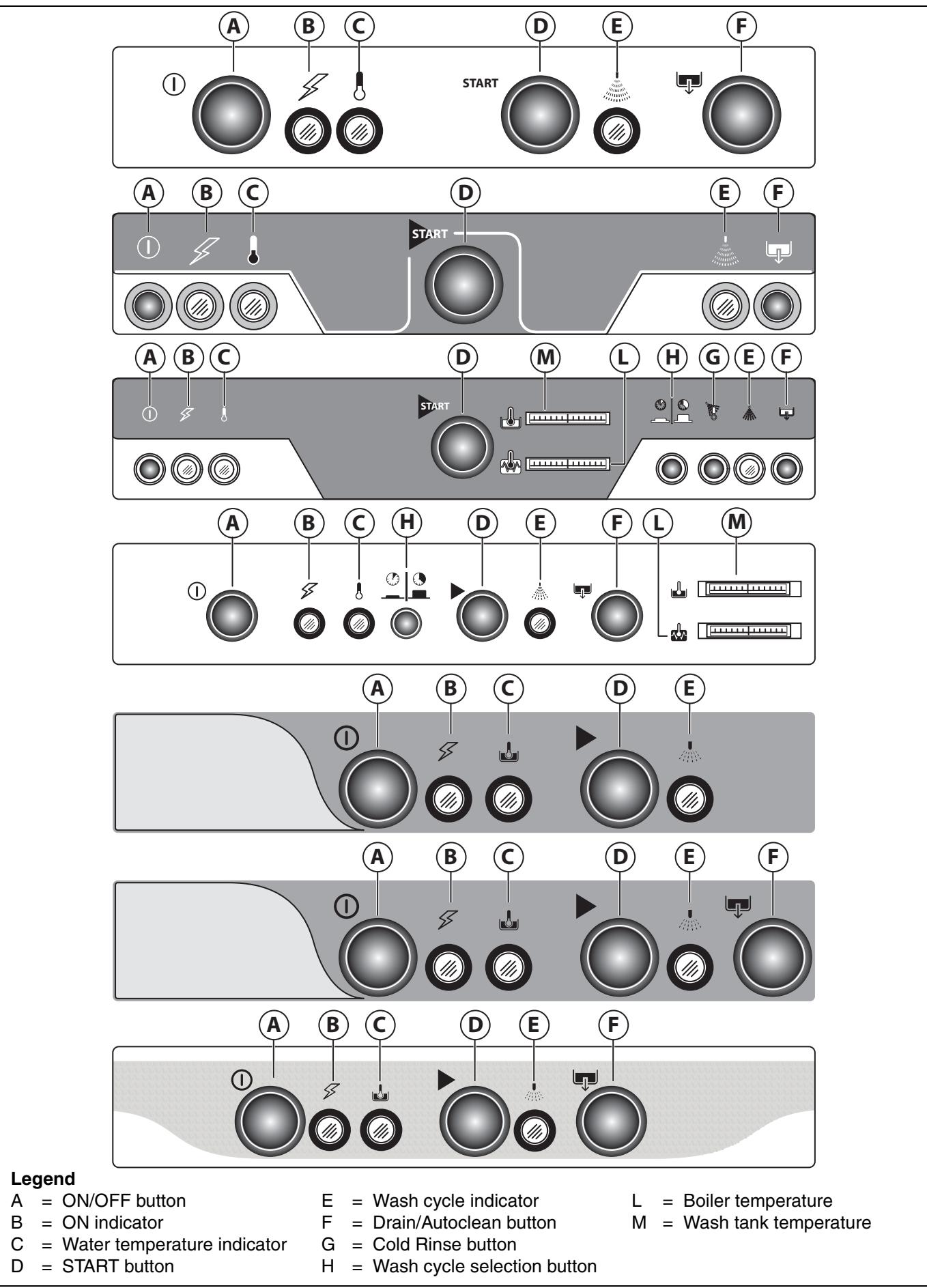


Table 3 Control panel

Described below are all the single buttons and functions available in the various control panel models listed above. Some functions are common to all models of the range, whereas others are available only on some versions.

H1 Basic controls

ON/OFF button (A)

Press this button to activate the appliance. Press it again to deactivate.

ON indicator (B)

when the appliance is on, the B indicator is lit up.

Water temperature indicator (C)

When the water in the tank and boiler reach the operating temperature, the C indicator is lit up.

START button (D)

This button starts washing cycle.

This cycle is recommended for washing normally dirty dishes.

Wash cycle indicator (E)

This indicator is on, when you start the washing cycle.

It is off, when the washing cycle is finished.

Drain/Autoclean button (F)

Press this button to start the drain/autoclean cycle. When the cycle is selected, the button indicator is lit up.

This option is available only in the models with drain pump.

Cold rinse button (G)

At the end of the wash cycle, press this button to start the cold rinse cycle.

Particularly suitable for rinsing glasses.

The duration of the cold rinse cycle is related to how much time the same button is pressed.

Wash cycle selection button (H)

Press this button to select the proper wash cycle.

Button	Wash cycle	Glass
	Short wash cycle	Light soil
	Long wash cycle	Heavy soil

Boiler temperature (L)

This thermometer shows the water temperature inside the boiler.

Wash tank temperature (M)

This thermometer shows the water temperature inside the wash tank.

COMMISSIONING

I1 Preliminary checks, adjustments and operational tests

I1.1 Electrical and plumbing checks

Before starting the machine, it is necessary to:

- check the correct connection of the electrical wires powering the machine;
- make sure the power supply voltage and frequency match the data given in Table 2;
- check the correct connection of the water supply and discharge pipes;
- make sure all the guard and safety devices are in place and efficient.

I1.2 Fitting of filters, overflow and wash arms check

Make sure the pump filter "1", overflow "2" and the upper and lower wash and rinse arms "3, 4" are correctly fitted (Figure 10).

Depending on the model, make sure also the tank filter (5) is correctly fitted (Figure 10).

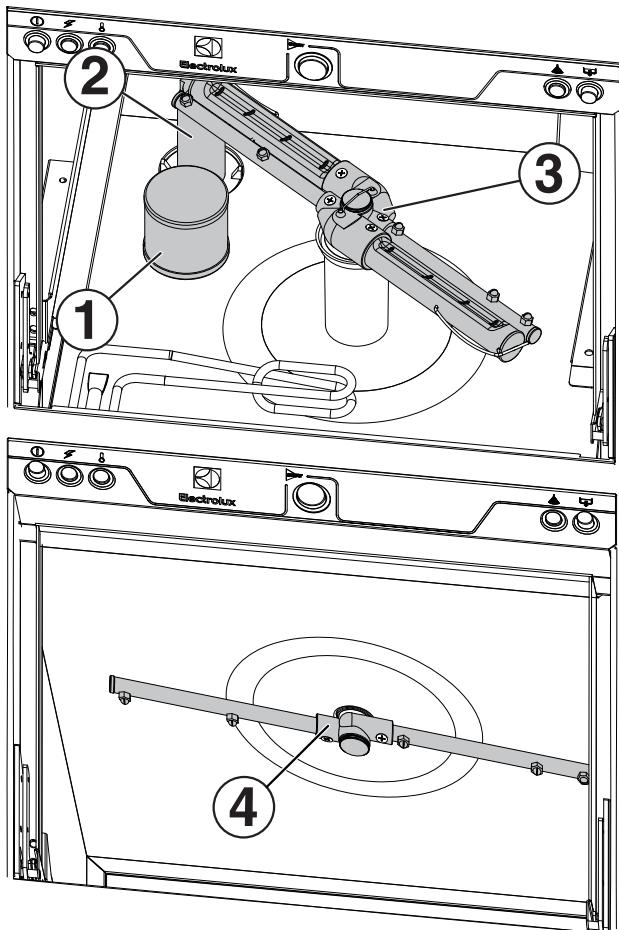


Figure 10 Pump filter, overflow and wash arms

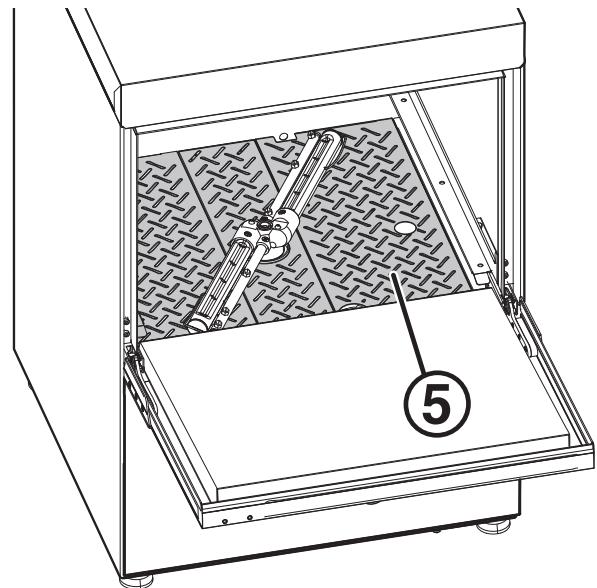


Figure 11 Tank filter

I2 Commissioning

- Turn on the water supply tap.
- Activate the main switch ahead of the machine by turning it to "I".
- Press the ON/OFF button ("A" - Table 3 "Control panel").

I3 Detergent/rinse aid dispensers and prearrangements

If the machine is connected to a water softener and/or a reverse osmosis system, contact the detergent supplier for a specific product.

If the peristaltic dispensers are installed in the machine, the dosage of detergent/rinse aid is done automatically according to the desired concentration. The concentration of detergent/rinse aid depends on the type of product used and the hardness of the supply water (check the characteristics on the product label).

ATTENTION

The peristaltic dispensers (detergent and rinse aid) and the tube inside the rinse aid dispenser require periodical maintenance (at least once or twice a year) or after prolonged machine idle periods.

I3.1 Dishwasher with incorporated rinse aid dispenser (Figure 12)

To vary the dose, adjust the screw "D" as required (Figure 12).

To check the efficiency of the rinse aid look at a freshly washed glass. Drops of water on the glass indicate an insufficient dosage while streaks indicate an excessive dosage which can either be caused by the density or the quantity.

Info

Upon first installation, it may be necessary to activate the dispenser in the following way:

- Loosen the adjustment screw until it stops;
- press the screw in until the rinse-aid has filled the tube.

13.2 Dishwasher with incorporated detergent dispenser (Figure 12).

1. Non-adjustable detergent dispenser.
 - The amount of detergent delivered by the non-adjustable dispenser is 1.5 l/h. It corresponds to 3 gr./l for a common use of detergent with an average density 1200 gr./l.
2. Adjustable detergent dispenser (**depending on the model**).
 - Adjust the screw "R" to set the required dose (Figure 12). The adjustment of the amount of detergent delivered by the dispenser must carefully comply with that indicated by the detergent producer. This quantity is usually expressed in g./l and varies depending on the water hardness.

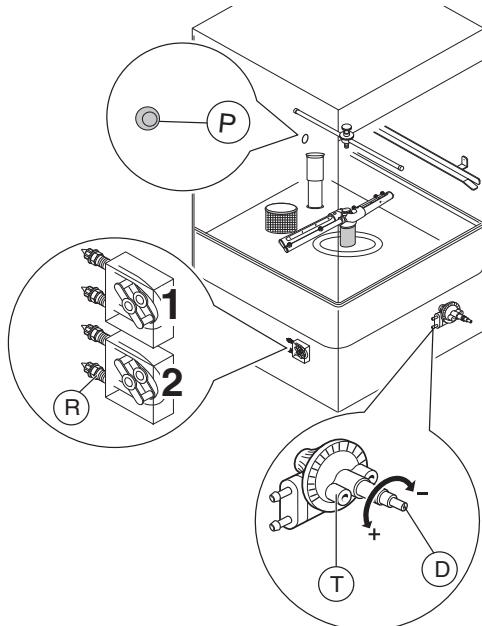


Figure 12 Dispenser prearrangement

13.3 Installation of external automatic detergent dispenser (Figure 12)

The machine is prearranged with an internal detergent dispenser. Use the injector "P" for connection to the external dispenser.

To disable the internal dispenser, remove the relevant supply connector.

Info

If changing to a different type of detergent/rinse aid (even the same brand), it is necessary to rinse the inlet and outlet pipes with clean water before connecting the new detergent/rinse aid container. Otherwise, the mixing of different types of detergent/rinse causes a crystallization, with possible breakage of the dosing pump. Failure to observe this instruction will void the warranty and relieve the manufacturer of any liability.

13.4 Automatic detergent dispensers connection.

• Electrical connection:

- Connect the power wires of the detergent dispenser in parallel with the power wires of the machine control solenoid valve.

• Hoses connection:

- Cut the supplied tube in two parts. Fit the filter and the weight in one end of the suction tube and connect the other end to the inlet connection of the detergent pump. Fit the detergent injector in the hole in the tank. Connect the second tube between the outlet connection of the detergent pump and the injector.

Put the tube with the filter and the weight into the detergent bin.

NORMAL MACHINE USE

J1 Foreseen use

Our appliances are designed and optimised to ensure high performance and efficiency. This equipment must only be used for its expressly designed purpose, i.e. washing dishes with water and specific detergents. Any other use is deemed improper.

J2 Characteristics of personnel enabled to operate on the machine

The operator for normal machine use must at least have:

- knowledge of the technology and specific experience in operating the machine;
- adequate general basic education and technical knowledge for reading and understanding the contents of the manual;
- including correct interpretation of the drawings, signs and pictograms;
- sufficient technical knowledge for safely performing his duties as specified in the manual;
- knowledge of the regulations on work hygiene and safety.

In case of a significant anomaly (e.g. short circuits, wires coming out of the terminal board, motor failures, worn electrical cable sheathing, etc.) the operator for normal machine use must:

- immediately deactivate the machine by turning the main switch to "O";
- turn off the machine's water supply.

J3 Suggestions

- Carry out a couple of wash cycles without dishes to clean the basin and piping of any protective or industrial grease which has remained.
- Avoid washing decorated crockery.
- Do not allow silverware to come into contact with other metals.
- Do not allow food residue to dry on the dishes.
- Remove large food scraps from the dishes in order to prevent the filters from clogging.
- Prewash the dishes by spraying them with cold or lukewarm water.
- Use the quantity and type of detergent specified by the detergent manufacturers.

J4 Daily activation of the machine

- Make sure the filters, arms and overflow are correctly fitted according to that indicated in par. I COMMISSIONING.
- Turn on the water supply tap.
- Activate the main switch ahead of the machine by turning it to "I".
- Press the ON/OFF button "A". The light of indicator "B" comes on indicating that the dishwasher is powered and is filling and heating water (Table 3 "Control panel").

- When the indicator lamp "C" lights up, the water in the tank and boiler has reached the operating temperature.
- For models with the "wash cycle selection button" choose the proper wash cycle:
 - pressed button = short cycle
 - not pressed button = long cycle
- For models without incorporated detergent dispenser, open the door and pour a non foam making detergent into the tank when the water has reached the operating washing temperature.
- Activate the washing cycle.

J5 Wash cycles

Duration of standard cycle with supply water at 65°C.

Model	Cycle duration	
...GWXS...	120 sec	
...GWS...	120 sec	
...GWMS...	120 sec	
...GWMS...TF	60 sec	120 sec

A device lengthens the cycle duration if the water in the booster has not reached the minimum temperature for doing the rinse properly.

- Short cycle, 60 seconds:** it corresponds to a 40 second wash cycle with hot water and detergent, a pause of 4 seconds and a 16 second rinse cycle with hot water and shining product.
- Long cycle, 120 seconds:** it corresponds to a 100 second wash cycle with hot water and detergent, a pause of 4 seconds and a 16 second rinse cycle with hot water and shining product.

J6 Operation

The filling and heating phase stops when the indicator "C" lights up:



The equipment is then ready for use:

- Open the door.
- Insert the rack with the dirty dishes.
- Close the door and activate the required washing cycle; the indicator "E" lights up and the wash cycle starts.
- To stop the wash cycle, just open the door.
- To continue the wash close the door. The cycle will resume from where it was stopped.
- Open the door and remove the rack with the clean dishes.
- Press the ON/OFF button to turn off the equipment.

Info

Change the water in the tank some times a day, as soon as necessary.

J6.1 Basket loading

- Place cups and glasses of different dimensions up side down in the supplied basket, using also the special cutlery container.
- Some cup washer models have a wire basket for glasses with inclined bottom. The glasses must be placed upside down.

Info

Baskets for washing dishes which have non standard shapes and dimensions are available on request.

- Rack for glasses and/or cups: glasses and cups should be placed upside down.

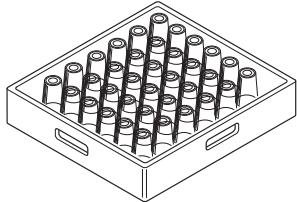


Figure 13 Rack

- Container for cutlery: put cutlery in each container with the grip downwards.



Figure 14 Cutlery container

J7 Machine cleaning

ATTENTION!



Before carrying out any maintenance operations, turn off the power at the mains (except in versions with drain pump).

ATTENTION

The following operations must be carried out by operators provided with suitable personal protection equipment (e.g. protective gloves, etc.) and with the machine switched off and cold.

Cleaning must be carried out after every day of use. Use hot water, a neutral detergent/cleaner if necessary, and a soft brush or sponge. If another type of detergent is used, carefully follow the producer's instructions and observe the safety rules given in the information sheets provided with the product or substance.

In order to reduce the environmental impact of pollutants it is advisable to clean the appliance (externally and, where necessary, internally) with products that are more than 90% biodegradable.

- Periodically have the appliance totally checked (at least once a year). For this purpose it is recommended to draw up a maintenance contract.
- 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.

ATTENTION!



Do not use steel wool or similar material to clean stainless steel surfaces. Do not use detergents containing chlorine.

ATTENTION!



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 data sheets and labels on the products used.

J7.1 End of service and daily internal cleaning

- Turn off the electrical switch ahead of the equipment.
- Turn off the water supply tap.
- Drain the water and cleaning the washing tank.

J7.1.1 Water drain and cleaning of the washing tank

The water must be changed and the tank cleaned regularly.

- Removal of dirty water from the tank.
 - For the models without drain pump, remove the overflow pipe from its housing.
 - For the models with drain pump, remove the overflow pipe from its housing and press the button "Drain/Autoclean button (F)" for at least 5 seconds.
- Cleaning the tank.
 - Remove any residues on the bottom of the tank with a sponge and wash with clean water. For cleaning, use washing-up detergent or water and vinegar solution. Do not use abrasive detergents or powers that might damage the internal parts. To eliminate any incrustation, use a sponge or brush with soft plastic bristles.
 - Door seal cleaning.
 - Use a soft cloth to remove any residues on the door by washing with clean water.
 - Fill the washing water level.
 - Fit the overflow pipe back on and fill the water level in the tank.

J7.1.2 Cleaning the tank filter:

If the machine fails to wash correctly, make sure the filter is not dirty or clogged. It is a good idea to check this, **at least every 20 cycles**, when the tub is empty, whenever the washing water is changed.

- Removing and cleaning the filter.
 - Loosen and remove the filter retention screw (when fitted). Take out the filter and wash it under a strong jet of water. In case of difficult deposits or residues, use a common detergent for dishes and a brush with soft plastic bristles.
- Fitting the filter.
 - Fit the filter back into position and secure with the screw (when fitted).

ATTENTION!



Make sure the filter is properly fitted back in its housing otherwise the machine may not work properly.

Never use the machine without the filter.

J7.1.3 Cleaning the washing arms and rinsing rotator nozzles

In the event of the machining failing to wash properly, make sure the spray nozzles are not blocked.

Generally speaking, it is a good idea to perform a weekly check to ensure correct operation of the washing and rinsing nozzles.

- Removal of the washing arms and rinsing rotator.
 - Loosen and remove the retention screw of each arms and rotator unit positioned on the upper and lower parts of the tub and remove the two units.
- Cleaning the washing arms.
 - Release the end plug-locking spring, remove the plug and remove any impurities that prevent a perfect flow of water.
- Checking and cleaning the rinsing nozzles.
 - Make sure the nozzles are free of any impurities preventing the correct flow of water. If necessary, use a pin to free the blocked holes. In the event of scale, treat the unit with a specific scale prevention product according to the specific product use instructions.
- Fitting the washing arms and rinsing rotator units.
 - Fit the two lower and upper wash arms and fasten in position by means of the relevant retention screws.

J8 Long idle periods

Whenever the dishwasher is not going to be used for a long period of time (e.g. one month), carefully carry out the following instructions.

- Turn off the water tap.
- Empty the tank completely.
- Remove and carefully clean filters.
- Empty the pipes of the incorporated dispensers by removing the pipes from the tanks.
- Clean the inside and outside of the machine.
- Spread a film of paraffin oil on the steel surfaces.

When using the machine again, follow the instructions in par. J4 "Daily activation of the machine".

J8.1 Cleaning exterior surfaces

Disconnect the equipment from the power supply before doing any cleaning.

ATTENTION

Wash the stainless steel surfaces with lukewarm soapy water, absolutely avoiding the use of detergent products containing abrasive substances, steel wool, steel scrapers or brushes, then rinse with a wet cloth and dry thoroughly.

Clean the control panel with a soft cloth moistened with water and, if necessary, neutral detergent.

J9 Maintenance

ATTENTION

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

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

Therefore, it is advisable to:

- Descale the booster, inner surfaces of the tank and the machine's pipes once or twice a year (call the After-Sales Service).
- Every month descale the wash and rinse jets with vinegar or scale remover.
- The internal tube of the peristaltic rinse aid and detergent dispenser must undergo periodical maintenance (once or twice a year).

Info

We advise asking your Dealer for a "Periodical Maintenance" contract covering all correct operation checkups and any replacement of parts subject to wear that become necessary over the years and which are considered extraordinary maintenance jobs.

J10 Alarms

An irregular blinking of the control panel indicator put in evidence any possible errors.

J11 Troubleshooting

THE DISHWASHER DOES NOT SWITCH ON
<ol style="list-style-type: none">1. Make sure the socket is powered.2. Make sure the plug is properly inserted in the power socket.3. Check the fuse. If necessary replace it.
THE DISHWASHER DOES NOT WASH PROPERLY
<ol style="list-style-type: none">1. Check the suction filter and carefully clean it if dirty.2. Make sure the wash jets are not clogged by solid residuals.3. Make sure the initial quantity of detergent and/or subsequent additions are correct.4. The wash cycle used is too short. Repeat the cycle.5. Make sure the tank temperature is at least 55°C.6. Make sure the dishes are correctly placed in the racks.
GLASSES AND DISHES ARE NOT PROPERLY DRIED
<ol style="list-style-type: none">1. Make sure there is rinse aid in the container and top-up if necessary.2. Check the amount of rinse aid used.3. Make sure the rinse water temperature is between 80°C and 90°C.
CONDENSATE ON GLASSES
<ol style="list-style-type: none">1. Make sure there is rinse aid in the container and top-up if necessary.2. Check the amount of rinse aid used (see paragraph I3.1).3. Remove the rack of the glasses immediately after the end of the cycle.
STAINS ON GLASSES
<ol style="list-style-type: none">1. Only use "non-foaming" products for professional dishwashers.
EXCESSIVE FOAM IN THE TANK
<ol style="list-style-type: none">1. Make sure the wash water temperature is not below 55°C.2. Check if the detergent dispenser delivers an excessive dose of product (see paragraph I3.2).3. Make sure the tank has been cleaned with suitable detergents. Empty the tank and rinse thoroughly before doing other wash cycles.4. If a foaming detergent was used, empty and refill the tank with water until the foam has disappeared.
GLASSES WITH STREAKS OR SPOTS
<ol style="list-style-type: none">1. Reduce the amount of rinse aid (see paragraph I3.1).
THE WASH AND/OR RINSE ARMS TURN SLOWLY
<ol style="list-style-type: none">1. Remove the arms and clean them thoroughly.2. Clean the wash pump suction filter.

J12 Machine disposal

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

All metal parts are in stainless steel (AISI 304) and removable. Plastic parts are marked with the letters of the material.



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

ATTENTION!



When scrapping the machine, the marking must be destroyed.