EN CONTENTS

A GENERAL RECOMMENDATIONS

WARNING

CAREFULLY READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS BEFORE INSTALLING THIS APPLIANCE. INCORRECT INSTALLATION, ADAPTATIONS OR ALTERNATIONS COULD CAUSE DAMAGE TO PROPERTY OR INJURY TO PERSONS. MALICIOUS DAMAGE, DAMAGE DUE TO NEGLIGENCE, OR TO FAILURE TO COMPLY WITH INSTRUCTIONS AND REGULATIONS, OR TO INCORRECT CON-NECTIONS OR UNAUTHORISED TAMPERING INVALIDATE ANY WARRANTY AND RELIEVE THE MANUFACTURER OF ALL LIABILITY.

1. Carefully read this instructions booklet, as it contains important advice for safe installation, operation and maintenance. Keep this booklet to hand in a safe place for future reference by other operators.
2. **Installation should be carried out by qualified engineers, in accordance with current regulations and with the manufacturer's instructions.**
3. The appliance should only be used by persons specifically trained in this operation.
4. Switch off the appliance in the event of failure or malfunctioning.

Only have the appliance repaired by a service centre authorised by the manufacturer and ask for original spare parts.

A1 HANDLING

Use suitable means to move the appliance: a lift truck or fork pallet trucks (the forks should reach more than halfway beneath the appliance).

A2 UNPACKING

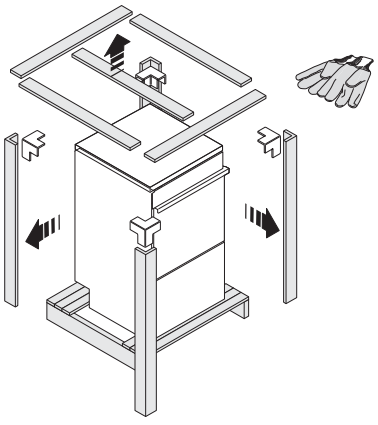


Figure 1

Wear protective gloves to unpack.

Lift the appliance using a lift truck, remove the base and position the appliance

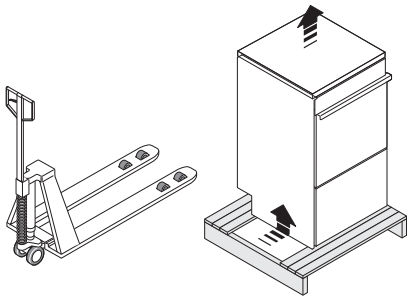


Figure 2

where it is to be installed.

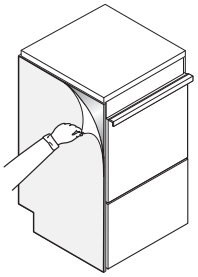


Figure 3

Remove the protective film and ensure that the packaging material is disposed of correctly in compliance with the regulations in force in the country where the product is to be used.

A3 DISPOSAL

All the packaging materials are environment friendly. They may be kept without danger, recycled or burned in a special waste incineration plant. Recyclable plastic components are marked as follows:

PE	**polyethylene:**	**external wrapping film, instruction bag.**
PP	**polypropylene:**	**top packaging panels, straps.**
PS	**polystyrene foam:**	**protective surround elements.**

Wood and cardboard components may be disposed of according to local regulations in force. Appliances that have reached the end of their service life should be suitably disposed of. The appliance should be dismantled according to regulations in force. All metal parts are in stainless steel (AISI 304) and are removable. Plastic parts are marked with the symbol of the material.

A4 TECHNICAL DATA

MODEL		ZUCA1	ZUCA3	NUC1 - EUC1	NUC1G - EUC1G	NUC3 - EUC3
Supply voltage:	V	220...240 1N~	400...415- 3N~	220...240 1N~	220...240- 1N~	400...415- 3N~
- convertible to	V	-	220...240- 3~	-	400...415- 3N~	220...240- 3~
- convertible to	V	-	220...240- 1N~	-	220...240- 3~	220...240- 1N~
Frequency	Hz	50 o 60	50 o 60	50 o 60	50 o 60	50 o 60
Max. power input	kW	3,65/5,65(*)	5,35/7,35(*)	3,65/5,65(*)	2,85/4,35(*)	5,35/7,35(*)
Boiler heating elements	kW	2,8	4,5	2,8	1,5	4,5
Tank heating elements	kW	2,0	2,0	2,0	2,0	2,0
Water supply press.	kPa [bar]	50...700 [0,5...7]	50...700 [0,5...7]	200...300 [2...3]	50...700 [0,5...7]	200...300 [2...3]
Water supply temp.	°C	50	50	50	50	50
Water supply hardness	°fH [°dH]	14 [8] max	14 [8] max	14 [8] max	14 [8] max	14 [8] max
Rinse cycle water consumption	l	3	3	3,3 (**)	3,3	3,3 (**)
Boiler capacity	l	5,8	5,8	5,8	5,8	5,8
Tank capacity	l	33	33	33	33	33
Standard cycle time with water supply at 50°C	sec.	90 - 120 - 240	90 - 120 - 240	120 - 180	120 - 180	120 - 180
Legal noise level Leq	dB(A)	<70	<70	<70	<70	<70
Protection rating		IPX4	IPX4	IPX4	IPX4	IPX4
Net weight	Kg	54	54	54	54	54
Power supply cable		H07RN-F	H07RN-F	H07RN-F	H07RN-F	H07RN-F
(*) = If activated by software, coincidence of tank and boiler heating elements.						

Table 1

	400..415 V 3N		220…240V 3		220…240V 1N	
	C	S	C	S	C	S
2,85 kW	**5X1,5**	**16 A 3P+N**	**4X1,5**	**16 A 3P+N**	**3X2,5**	**16 A 1P+N**
3,65 kW	**-**	**-**	**-**	**-**	**3x2,5**	**20A 1P+N**
4,35 kW	**5X2,5**	**20 A 3P+N**	**4X2,5**	**20 A 3P+N**	**3X2,5**	**25 A 1P+N**
5,35 kW	**5X1,5**	**16A 3P+N**	**4X1,5**	**16A 3P+N**	**3x4**	**32A 1P+N**
5,65 kW	**-**	**-**	**-**	**-**	**3X4**	**32 A 1P+N**
7,35 kW	**5X2,5**	**25 A 3P+N**	**4X4**	**32 A 3P+N**	**3X6**	**40 A 1P+N**
C = Power supply cable S = On/Off switch						

Table 2

Standard cycle time may vary should the inlet water temperature be different from that indicated above.

(**) With dynamic feed pressure of 200 kPa [2 bar].

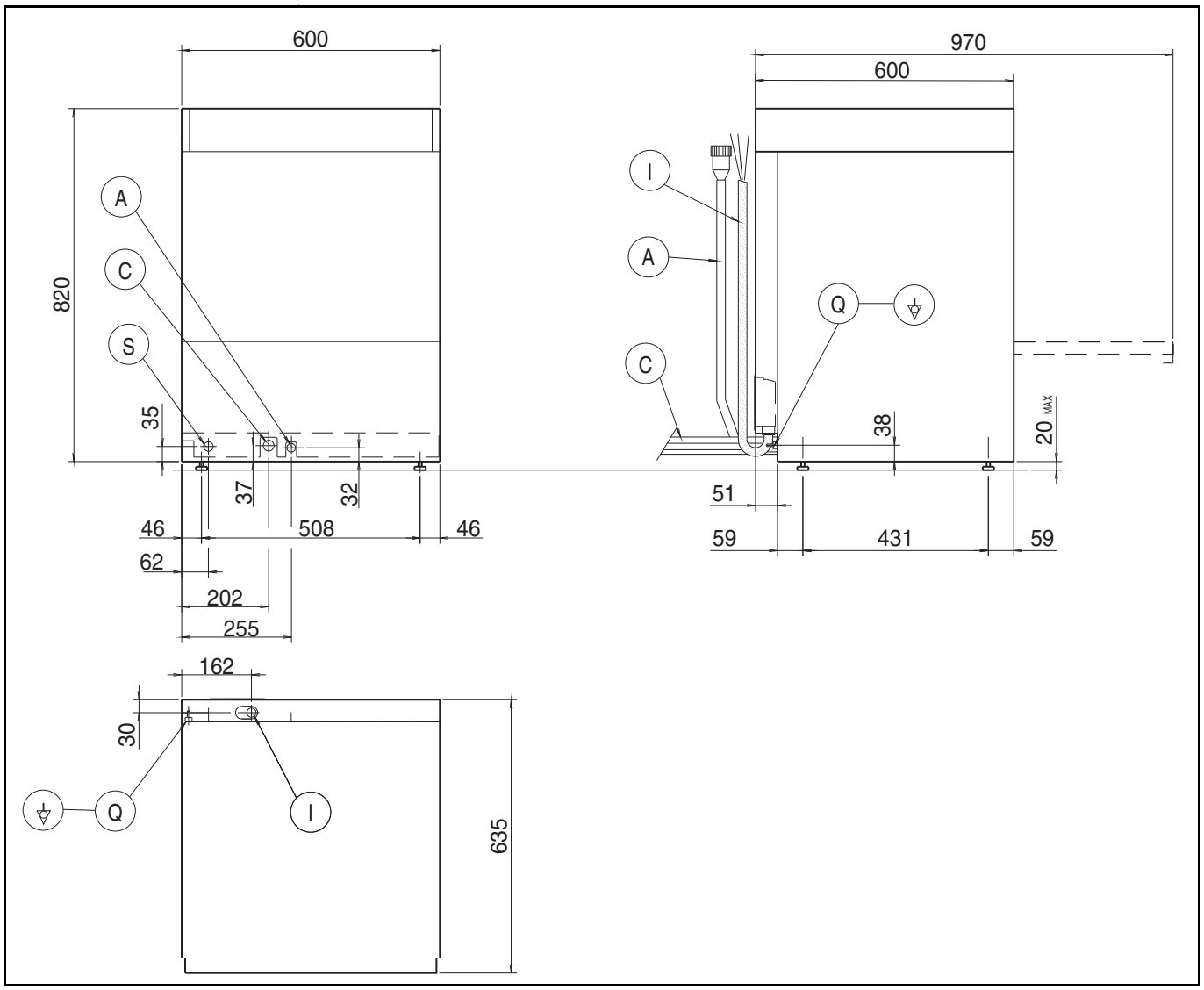


Figure 4

Legend Figure 4

A - Water inlet pipe with ø 3/4" G fittings
C - Outlet pipe øi 40 mm (^) – øi 18mm (*).
I - Power supply
S - Pipe inlet for detergents
Q - Unipotential screw
(^) - Only for model with free-fall drainage
(*) - Only for model with drain pump

B INSTRUCTIONS FOR THE INSTALLER/MAINTENANCE PERSON

Install a disconnecting switch with a capacity at least equal to that given in the technical data table, a 30mA residual current circuit breaker and an overcurrent device (magnetothermal cut-out with manual reset or fuse) between the appliance and the mains power outlet.

RATING PLATE

The rating plate contains identification and technical data and is located on the right-hand side panel of the appliance (Figure 5).

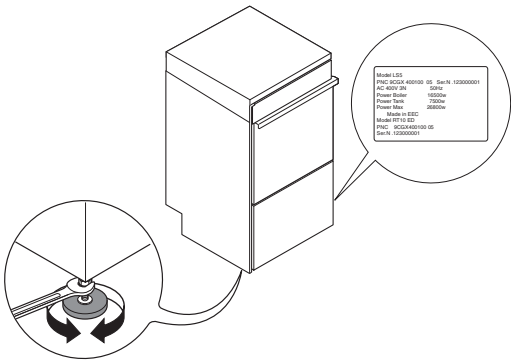


Figure 5

B1 WATER CONNECTION

- Position the dishwasher and level the appliance by turning the relative height-adjustable feet (Figure 5).
- Connect the appliance water supply pipe “A” (Figure 4) to the mains, fitting a cut-off cock, the filter provided and a pressure gauge between the appliance and the mains (Figure 6).

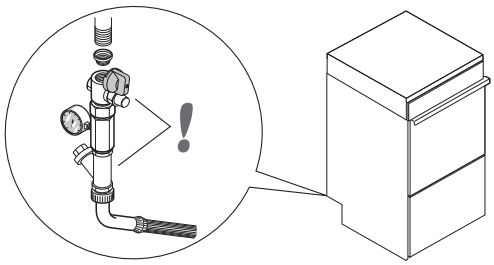


Figure 6

- Check that the **dynamic** water supply **pressure**, measured between the appliance and the main, is **between 200 and 300 kPa** for machines with pressure boiler and **between 50 and 700 kPa** for machines with atmospheric boiler (test while dishwasher tank or boiler is filling with water).
  If the pressure is too high, fit a suitable pressure reducer on the inlet pipe.

- On the model with free-fall drainage:

connect the waste outlet pipe “C” (Figure 4) to the main drain pipe, fitting a trap, or place the outlet pipe over an S trap set into the floor.

- On the model with drain pump:

position the outlet pipe at a height anywhere between 750 and 1000 mm from the floor.

Check that about 4 litres of water flow out of the outlet pipe during the rinse cycle.

B2 ELECTRICAL CONNECTION

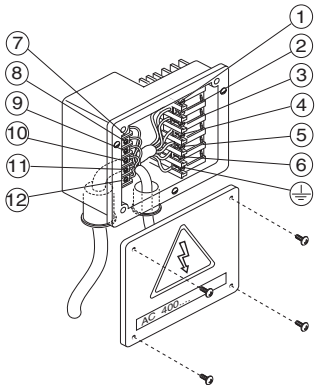


Figure 7

CAUTION:
THE EARTH AND ELECTRICAL CONNECTIONS SHOULD BE IN COMPLIANCE WITH NATIONAL REGULATIONS.

- Before carrying out the electrical connection, check that the voltage and frequency on the appliance rating plate correspond to those of the mains electricity supply.
- The earth wire at the terminal end must be longer (max. 20 mm) than the phase wires.
- Connect the earth wire of the power supply cable to an efficient earth clamp. The appliance must also be included in a unipotential system, the connection being made through the screw “Q” (Figure 4) marked with the symbol “⏚”. The unipotential wire must have a cross section of 10 mm^2.

Power supply 220…230V 1N

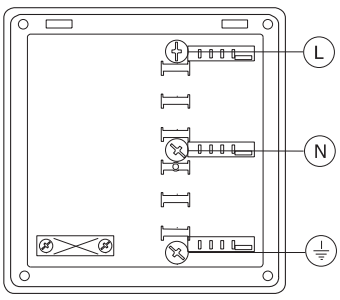


Figure 8

Open the power supply terminal board.

Using a suitable power cable (see technical data table), connect the phase wire to terminal L, the neutral wire to terminal N and the earth wire to the terminal ⏚.

Three-phase version:
Power supply 400…415V 3N

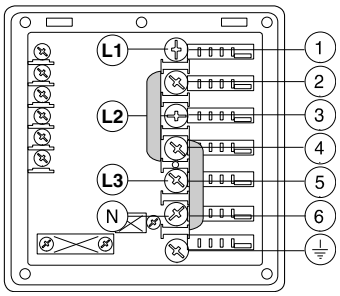


Figure 9

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

Power supply 220...230V 3

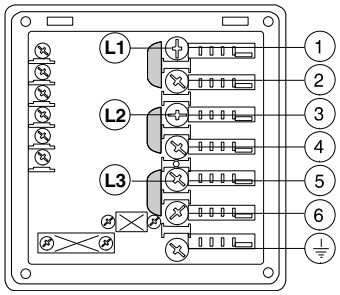


Figure 10

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 ⏚.

Power supply 220…230V 1N

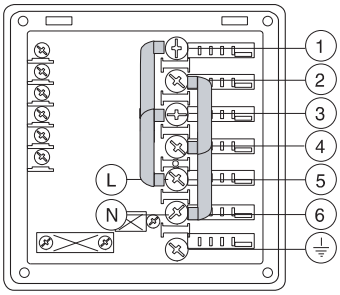


Figure 11

Open the power supply terminal board and insert the jumpers provided as follows: two jumpers between terminals 1, 3, 5 and another two between terminals 2, 4 and 6.

Using a suitable power supply cable (see technical data table), connect the phase and neutral to terminals 5 and 6 respectively and the earth wire to the terminal ⏚.

Connections provided for energy control.

This appliance is designed for an external energy consumption control.

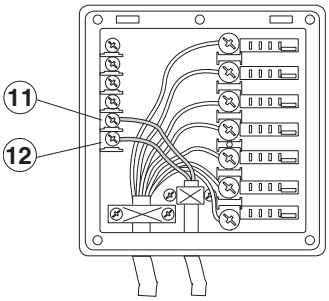


Figure 12

Connect the energy peak controller across terminals 11 and 12.

CAUTION
A normally open (n.o.) contact of the controller must be connected across terminals 11 and 12. When this contact closes the boiler heating elements are disconnected. Using the dishwasher in these conditions may increase the cycle time.

Safety devices

- An automatic reset thermoamperometric protective device incorporated in the windings of the electric pump cuts off the electricity supply in the case of malfunctioning.
- In the event of water mains failure, a device prevents water in the boiler from returning into the mains.
- An overflow pipe, connected to the drainage outlet, maintains the water in the tank at a constant level.
- On models with a drain pump, a supplementary level control device activates if the main level control device is faulty.

Failure to comply with safety rules and regulations relieves the manufacturer of all liability.

B3 DETERGENT/RINSE-AID DISPENSERS AND SETTINGS

If the appliance is connected to a water softener or osmotic device, contact the detergent supplier for a specific product.

Peristaltic dispensers (rinse-aid and detergent) require periodic maintenance. The internal hose of the rinse-aid dispenser should undergo periodic maintenance

(at least once or twice a year).

1. Dishwasher with incorporated detergent dispenser pump (Figure 13).

Pump “R” dispenses about 0.9 g/s of detergent. When the appliance is filled with water for the first time in the day, it dispenses about 44 g of detergent in 45 sec., thereby providing a concentration of 2 g/l. Pump “R” dispenses about 6 g in 6 sec. at each cycle.

Dispenser operating time may be changed, following the instructions given in the next paragraph.

Insert the hose provided in the kit into the detergent container.

2. Dishwashers with incorporated peristaltic rinse-aid dispenser pump (Figure 13).

Pump “S” dispenses about 0.1 g/s of rinse-aid. It dispenses 0.3 g in 3 sec. at each rinse.

Dispenser operating time may be changed, following the instructions given in the next paragraph.

Insert the hose provided in the kit into the rinse-aid container (in the versions without incorporated rinse-aid dispenser only).

3. Dishwashers with incorporated rinse-aid diaphragm dispenser pump (Figure 13).

Pump “T” is installed in appliances with pressure boiler.

Dispensed amounts may be changed according to the instructions given in the paragraph below.

Insert the supplied hose into the rinse-aid container (in the versions without incorporated rinse-aid dispenser only).

Connections for automatic detergent dispenser (Figure 13)

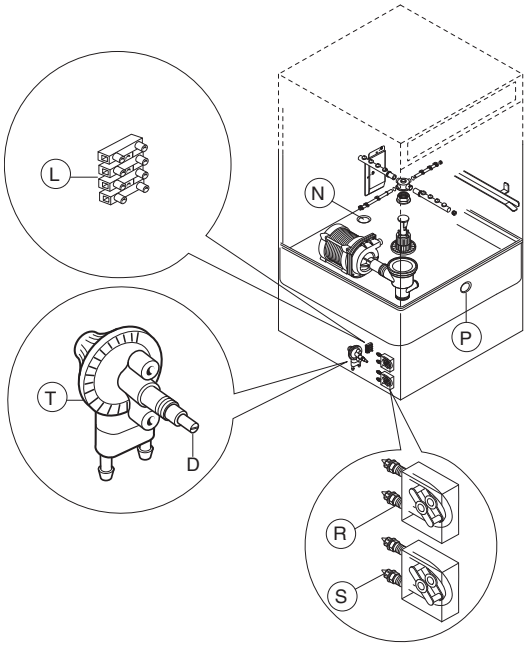


Figure 13

There is a ready-made impression “N” to be perforated (Ø 8 mm) for positioning the detergent concentration measuring sensor.

In the front area of the tank there is a hole “P” (Ø 10 mm) closed with a plug that is designed for fitting a liquid detergent injector.

The sensor and liquid detergent injector should be installed without prejudicing the watertightness of the appliance.

Electrical connections for automatic detergent and rinse-aid dispensers.

Single-phase version:

The appliance has a terminal board for the power supply of dispensers operating at 230 V, max. power 30VA.

Connect to the terminal board “L” (Figure 13) to terminals 1 and 2 for dispensing during the rinse cycle or to terminals 3 and 4 for dispensing during the wash cycle.

Three-phase versions:

Terminals are available on the power supply terminal board for the electrical connection of external dispensers working at 220…240 V. Max. power 30 VA.

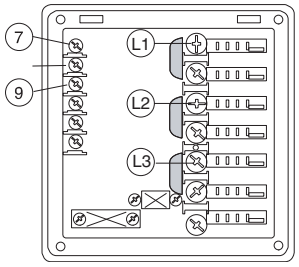


Figure 14

- Connect the **detergent dispenser** between terminals 7 and 9. These connection points are live during filling of the tank for 165” (average filling time at 200 kp) and during the rinse cycle.

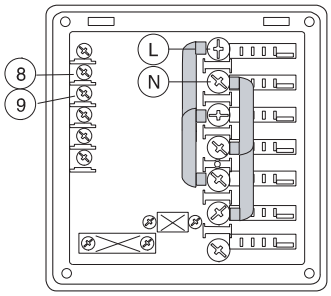


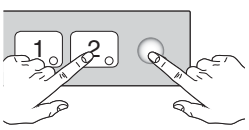
Figure 15

- Connect the **rinse-aid dispenser** between terminals 8 and 9. These connection points are live during the rinse cycle.

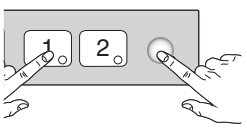
MANUAL ACTIVATION

Whenever the detergent containers are replaced, it may be necessary to activate the dispensers manually in order to fill the hoses and eliminate any air.

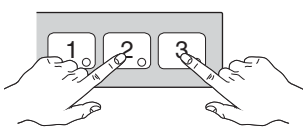
Simultaneously press the buttons, as shown in the figures below. If necessary, repeat this operation several times.



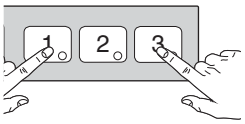
DETERGENT DISPENSER



DISPENSER RINSE-AID



DETERGENT DISPENSER



DISPENSER RINSE-AID

In the appliances with pressure boiler, the diaphragm dispenser pump may be manually activated by pressing screw “D” (Figure 13).

B4 SETTING THE DISPENSERS

1) Peristaltic dispensers

All operations should be carried out with the appliance switched on, the door open and no cycle selected.

LEGEND

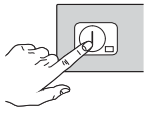
Increase

Decrease

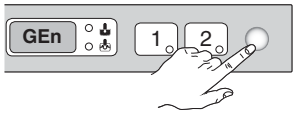
Confirm or select next parameter

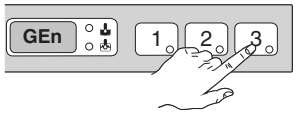
SEQUENTIAL START

Press the indicated buttons simultaneously for 5 seconds:

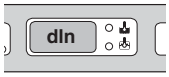


Display of programming mode:

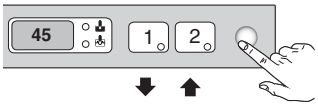


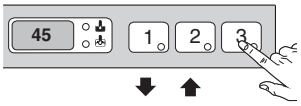


Initial amount of detergent:



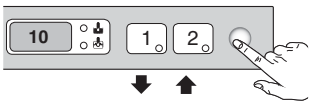
Setting the activation time:

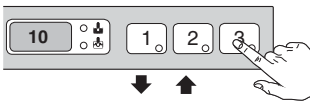




Initial amount of rinse-aid:

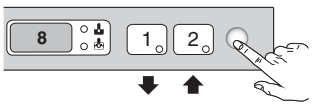
Setting the activation time:

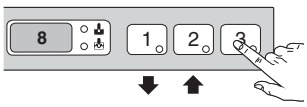




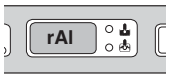
Amount of detergent during the cycle:

Setting the activation time:

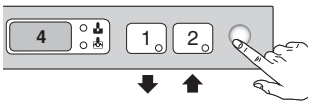


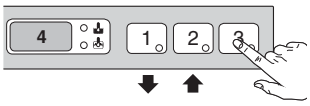


Amount of rinse-aid during the cycle:

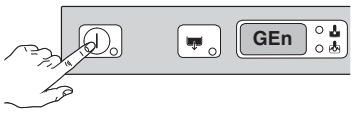


Setting the activation time:





Exit from programming mode:



Notes for external dispensers:

- if dEt: 101 the **detergent dispenser** only operates during **wash pump** operation; terminals **7-9** of the main terminal board are powered at the same time.
- if dEt: 102 the **detergent dispenser** only operates during **filling electrovalve** operation for restoring the boiler level; terminals **7-9** of the main terminal board are powered at the same time.
- if rA: 61 the **rinse-aid dispenser** only operates during **filling electrovalve** operation for restoring the boiler level; terminals **8-9** of the main terminal board are powered at the same time.
- if rA: 62 the **rinse-aid dispenser** only operates during **wash pump** operation; terminals **8-9** of the main terminal board are powered at the same time.

For connections, see the wiring diagram.

Example:

Supposing that an external detergent dispenser has been connected with a tank concentration measuring sensor, a standard setting could be as follows:

dIn: 0 the dispenser is not activated during filling of the tank.

dEt: 101 the dispenser is activated during wash pump operation and, thanks to the concentration measured by the conduction sensor, the correct amount of detergent is dispensed.

2) Rinse-aid diaphragm dispenser

To change the dispensed amount, turn + - on screw "D" accordingly (Figure 13).

Suggestion: to check the effectiveness of the rinse-aid, look at freshly washed glasses against the light. Drops of water remaining on the glass indicate an insufficient amount while streaks indicate an excess.

Changing the detergent/rinse-aid type.

If changing to a **different detergent/rinse-aid type** (even one by the same manufacturer), you must rinse the suction and pressure hoses with fresh water before connecting the new detergent/rinse-aid container. Otherwise, the mixing of different types of detergent/ rinse-aid will cause crystallisation, which may result in a breakdown of the dosing pump. Failure to observe this condition will invalidate the guarantee and product liability.

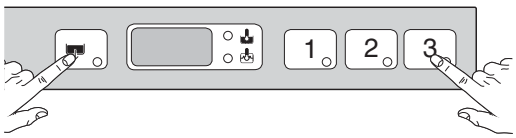
B5 MAINTENANCE

- Descale the boiler, the internal surfaces of the tank and the appliance water piping once or twice a year.
- Descale the rinse and wash jets every month using vinegar or a descaling agent.
- The internal hose of the rinse-aid and detergent peristaltic dispenser should undergo periodic maintenance (once or twice a year).

Prolonged period of inactivity

If the dishwasher is not to be used for a long time, proceed as follows:

- Close the water supply cock.
- Completely drain the tank.
- Remove and carefully clean the filters.
- Completely drain the incorporated dispenser hoses, removing them from the containers. Repeat the procedure described in the paragraph "Manual activation" at least 3 times.
- Completely drain the boiler.
- For atmospheric versions only: completely drain the boiler by simultaneously pressing the buttons as shown in the figure.



A buzzer indicates completion of drainage.

- Spread a thin film of Vaseline oil over all the stainless steel surfaces.

C INSTRUCTIONS FOR THE USER

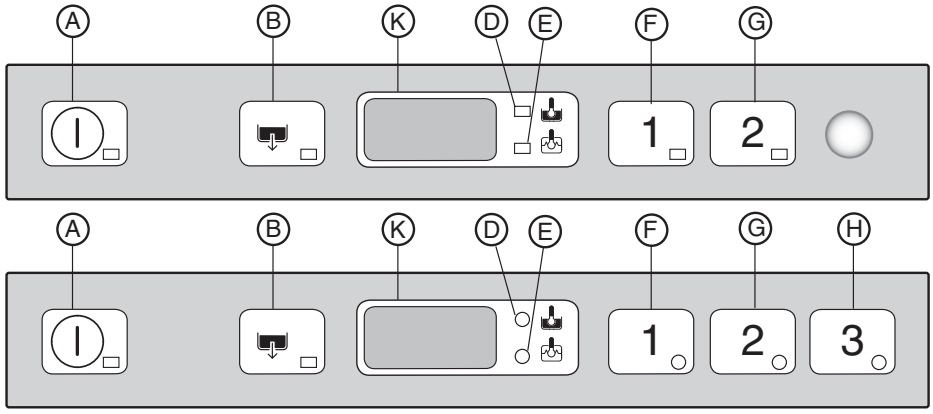
Our appliances have been studied and optimised to give high performance. This appliance must be used exclusively for the purpose for which it has been designed, i.e. for washing dishes with water and specific detergents. Any other use is to be considered improper.

This appliance does not carry out the rinse cycle should there be no supply water; it stops all functions with an error message “A1” (also see “Warning messages”).

TIPS

- Carry out a couple of cycles without dishes to flush out any industrial grease which has remained in the tank and piping.
- Avoid washing decorated dishes.
- Do not allow silverware to come into contact with other metals.
- Do not allow food to dry on the dishes.
- Remove large food scraps from the dishes to prevent clogging the filters.
- Pre-wash the dishes by spraying them with cold or lukewarm water, without using any detergent.
- Use automatic dispensers for the detergent.
- If there is no automatic dispenser, pour a non-foaming detergent into the tank when the water has reached the washing temperature.

CONTROL PANEL



LEGEND:

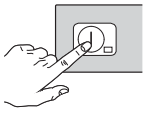
A = on/off
B = drain/self-cleaning cycle
D = “tank temperature” indicator light
E = “boiler temperature” indicator light
F = wash cycle 1
G = wash cycle 2
H = wash cycle 3
K = display

Figure 16

The temperature shown on the display is that of the boiler if the indicator light “E” is on or of the tank if the light “D” is on. The tank temperature is displayed during the wash cycle and the boiler temperature during the rinse cycle.

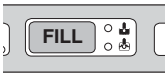
C1 STARTING

- Open the water supply cock.
- Switch on at the mains.
- Open the door and check that all the components are in their correct position.
- Close the door and press button “A”.



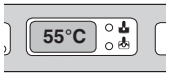
The indicator light of button “A” (Figure 16) comes on, indicating that the dishwasher is powered and that water is being introduced and heated.

The word “FILL” is shown on the display during the entire filling and heating stage:

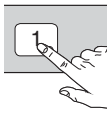


If the door is opened during this stage the message "CLOSE" will appear on the display:

The filling and heating stage has finished when the display shows the tank temperature:



To display the boiler temperature during heating of the tank, open the door and press the button “F” (Figure 16).



C2 WASH CYCLES

The wash cycle includes one wash with hot water and detergent (min 55 °C) and one rinse with hot water and rinse-aid (min 82 °C).

Table of times

Standard cycle time with supply water at 50 °C.

	1	2	3
NUC / EUC	120”	180”	-
ZUCA	90”	120”	240”

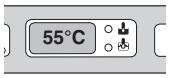
A device lengthens the cycle time if the water in the boiler has not reached the minimum temperature for correct rinsing.

The cycle times and the temperature may be personalised (e.g. increase of the rinse time and temperature).

The cycle times should only be set by a specialised technician.

C3 OPERATION

The wash cycle includes one wash with hot water and detergent and one rinse with hot water and rinse-aid:



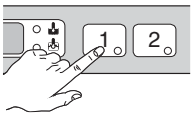
The appliance is then ready for use:

- Open the door.
- Pour the required amount of detergent into the tank.
- Insert the rack containing the dirty dishes.
- Close the door and select the suitable wash cycle; the corresponding indicator light comes on and the wash cycle starts.

Wash cycles:

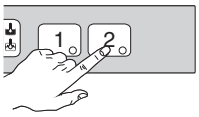
- Cycle I

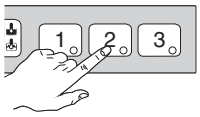
For not very dirty dishes or glasses: press button “F” (Figure 16), (see table of times).



- Cycle II (recommended)

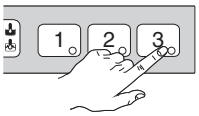
For very dirty dishes: press button “G” (Figure 16), (see table of times).



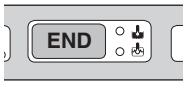


- Cycle III

For very dirty dishes: press button “H” (Figure 16) (see table of times).



- To stop the wash cycle, just press the cycle button or open the door.
- To continue the wash cycle, press the cycle button again or close the door. The cycle starts from where it was interrupted.
- At the end of the wash, the dishwasher emits a series of beeps and “END” blinks on the display:



Open the door and remove the rack containing the clean dishes.

CAUTION

The appliance will not remove burnt food deposits from dishes. Dishes with burnt-on food deposits should be cleaned mechanically/chemically (for example, pre-wash under running water) before putting them in the dishwasher.

CAUTION

The use of “foaming”/non-specific detergents or in any case detergents used in different ways from that prescribed by the manufacturer, can cause damage to the dishwasher and compromise washing results.

CAUTION

Failure to remove the residuals of detergent possibly used for manual prewash can cause malfunctioning of the dishwasher and compromise washing results.

Change the water in the tank three times a day.

Type of racks and loading

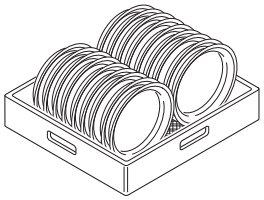


Figure 17

- YELLOW rack: for 18 plates with maximum diameter of 240 mm.

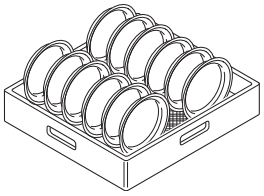


Figure 18

- GREEN rack: for 12 bowls with maximum diameter of 240 mm.

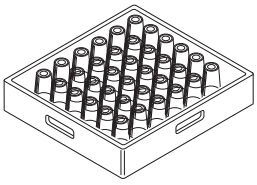


Figure 19

- BLUE rack for glasses: the glasses should be placed upside down.

Figure 20

- YELLOW container for cutlery: insert items, with the handles pointing downwards, in each container.
- Available as accessories: dividers for glasses and rack for dishes with maximum diameter of 320 mm.

Note: if only one type of dish rack is to be used, it is advisable to choose the GREEN rack.

C4 END OF WORK AND DAILY 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:

- Open the door and take out the rack containing the clean dishes.
- Remove the tank filters and the overflow “W”.

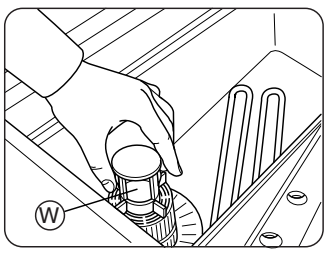
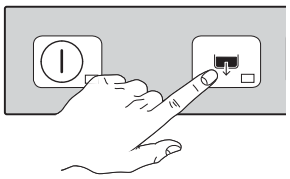
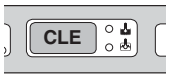


Figure 21

- Close the door.
- Select the drain cycle by pressing button “B” (Figure 16).



- The message "CLE" ("CLEAN") will be displayed throughout the drain cycle:



- After a few minutes, 3 beeps indicate the end of the cleaning cycle and “END” blinks on the display:

- Switch off the dishwasher by pressing button “A” (Figure 16).

- Switch off at the mains.
- Close the water supply cock.
- Replace the filters and the overflow.
- Unscrew the ring nuts “H” and remove the header units “C”.

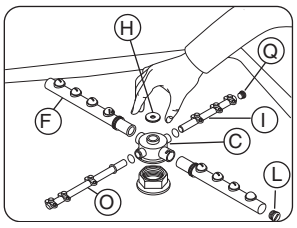


Figure 22

- Release the arms “F”, “I” and “O” from the hub, remove the threaded plugs “L” and “Q” and clean all the parts with a water jet. Do not use tools or sharp implements to clean the nozzles, which could otherwise be damaged.
- Remove the filter “Z” and clean away any remained food in order to avoid blocking the draining system.

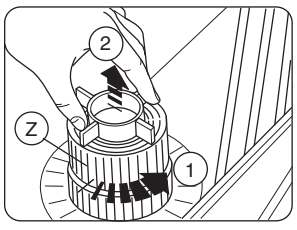


Figure 23

CAUTION

THE RINSE ARMS “I” and “O” ARE NOT SYMMETRICAL; the rinse arm with raised ring (O) should be fitted onto hub socket.

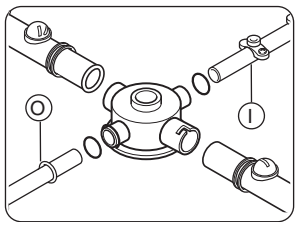


Figure 24

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

Cleaning the exterior surfaces

Before carrying out any cleaning operations, turn off the power at the mains.

CAUTION

Clean the stainless steel surfaces using warm soapy water; never use detergents containing abrasive substances nor steel scrapers, common wire wool, brushes or scrapers; rinse thoroughly using a wet cloth and carefully wipe dry.

Clean the control panel using a soft damp cloth and a neutral detergent if necessary.

Do not wash the appliance using direct or high-pressure water jets.

To reduce the emission of pollutants into the environment, clean the appliance (externally and where necessary internally) with products having a biodegradability of over 90%.

D TROUBLESHOOTING

DISHWASHER DOES NOT WASH WELL	1. Check if the suction filter is dirty and clean it thoroughly. 2. Check if the wash jets are clogged by solid food remains. 3. Check that the initial amount of detergent or subsequent additions are correct. 4. The selected wash cycle is too short. Repeat the cycle. 5. Check that the dishes are stacked correctly in the racks.

GLASSES AND DISHES ARE NOT DRIED PROPERLY	1. Check the instructions for the amount of rinse-aid. 2. Check that there is rinse-aid in the container and if necessary top up. 3. Check the set amount of rinse-aid.

CONDENSATION ON GLASSES	1. Check that there is rinse-aid in the container and if necessary top up. 2. Check the set amount of rinse-aid. 3. Remove the rack of glasses immediately the cycle has ended.

STAINS ON THE GLASSES	1. Only use “non-foaming” products for professional dishwashers.

EXCESSIVE FOAM IN THE TANK	1. Check if the amount of product dispensed by the detergent dispenser is excessive. 2. Ensure that the tank has not been cleaned with unsuitable cleaners. Drain the tank and rinse thoroughly before new wash cycles. 3. If a foaming detergent has been used, drain and refill the tank with water until the foam disappears.

SMEARS OR SPOTS ON THE GLASSES	1. Reduce the amount of rinse-aid.

THE WASH OR RINSE ARMS TURN SLOWLY	1. Remove and thoroughly clean the arms. 2. Clean the wash pump suction filter.