

INSTRUCTIONS BOOKLET FOR INSTALLATION- MAINTENANCE OPERATION


"WARNING: Read the instructions before using the appliance"

E40EL

E50EL

E90EL

IMPORTANT

To comply with WRAS  approval conditions the enclosed double check valve MUST be fitted in-line with the incoming mains water supply and before the isolation valve.

Always switch off the appliance at the end of the work cycle, turn off the water and disconnect the power supply.


INTRODUCTION


- 1) Read the instructions in this booklet carefully as they provide important information, use and maintenance. Keep the booklet to hand in a safe place so that it can be consulted by other operators.
- 2) After removing the packing material, check that all the equipment is present and intact. If there is any doubt, do not use it and contact qualified personnel. The packing elements (plastic bags, foam polystyrene, nails, etc.) should be kept away from children, because they are dangerous.
- 3) Before switching the equipment on, make sure that the model plate data conforms to that of the electrical and water distribution network.
- 4) Installation should be carried out by qualified personnel according to the manufacturer's instructions.
- 5) This equipment must be destined to the use which it has been conceived for. Any other application should be considered improper and consequently dangerous.
- 6) The equipment should be used by personnel trained for its use only.
- 7) Do not leave the machine in an environment at temperatures lower than 0°C.
- 8) The protection of the machine is IPX4, therefore it should not be washed with high pressure and directed water jets.
- 9) Qualified personnel only can access the control panel, after having disconnected the machine from the primary current supply.




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1. TECHNICAL DATA

- The specifications tag (Fig.1-1) is placed on the right-hand panel of the machine. It contains all the necessary data to install the appliance.

TYPE  MOD.

VOLT  50 Hz kW

 TANK kW  BOILER kW  kW

 IPX4 MATR

H₂O 1,5–3 Bar 15–30 N/cm² 150–300 KPa

1-1

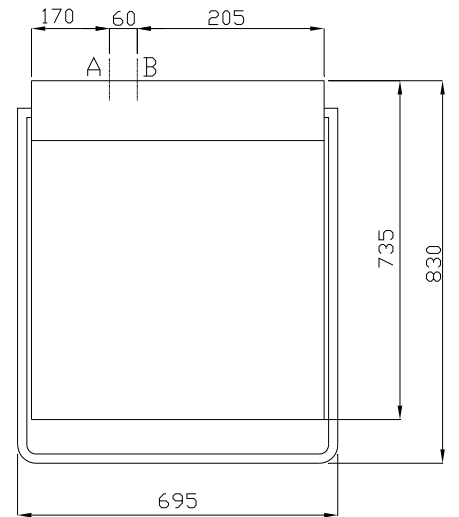
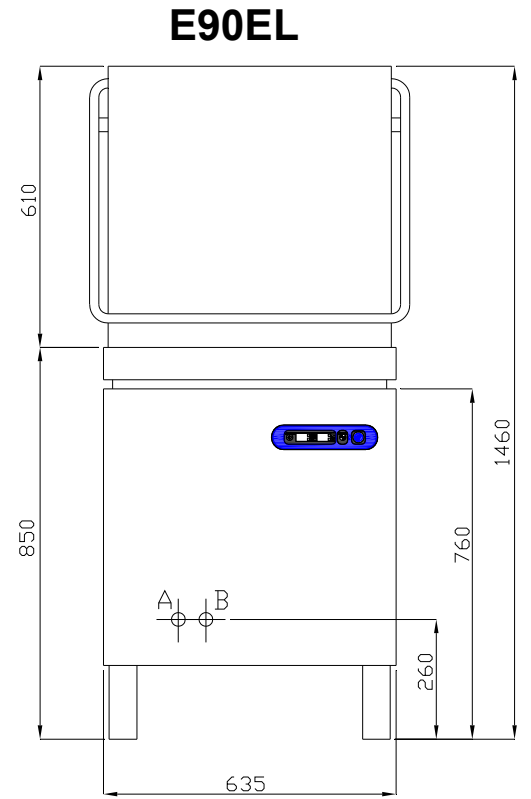
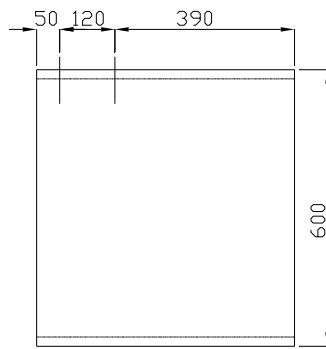
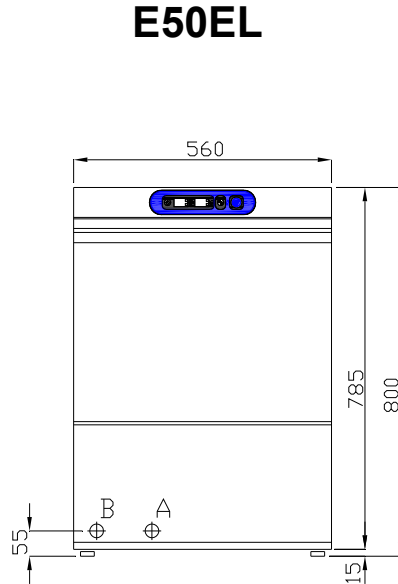
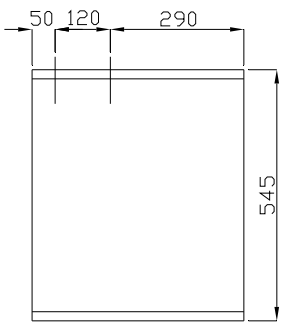
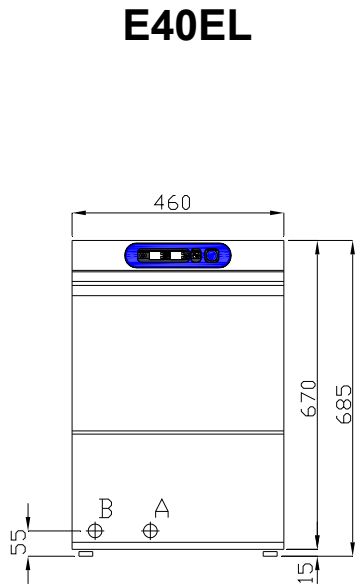
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Overall dimensions	cm
Basket size	cm
Washing power	P/h
Tank capacity	lt
Boiler capacity	lt
Power cable	n° x mm ²

46 x 54 x 69h	56 x 60 x 80h	63,5 x 73,5 x 146h
40 x 40	50 x 50	50 x 50
720 ÷ 2160	360 ÷ 1080	400 ÷ 1200
12,5	17	18
3,7	4,7	8,0
3 x 1,5	3 x 1,5	5 x 2,5

1.1 SCHEMATIC VIEW



1-2

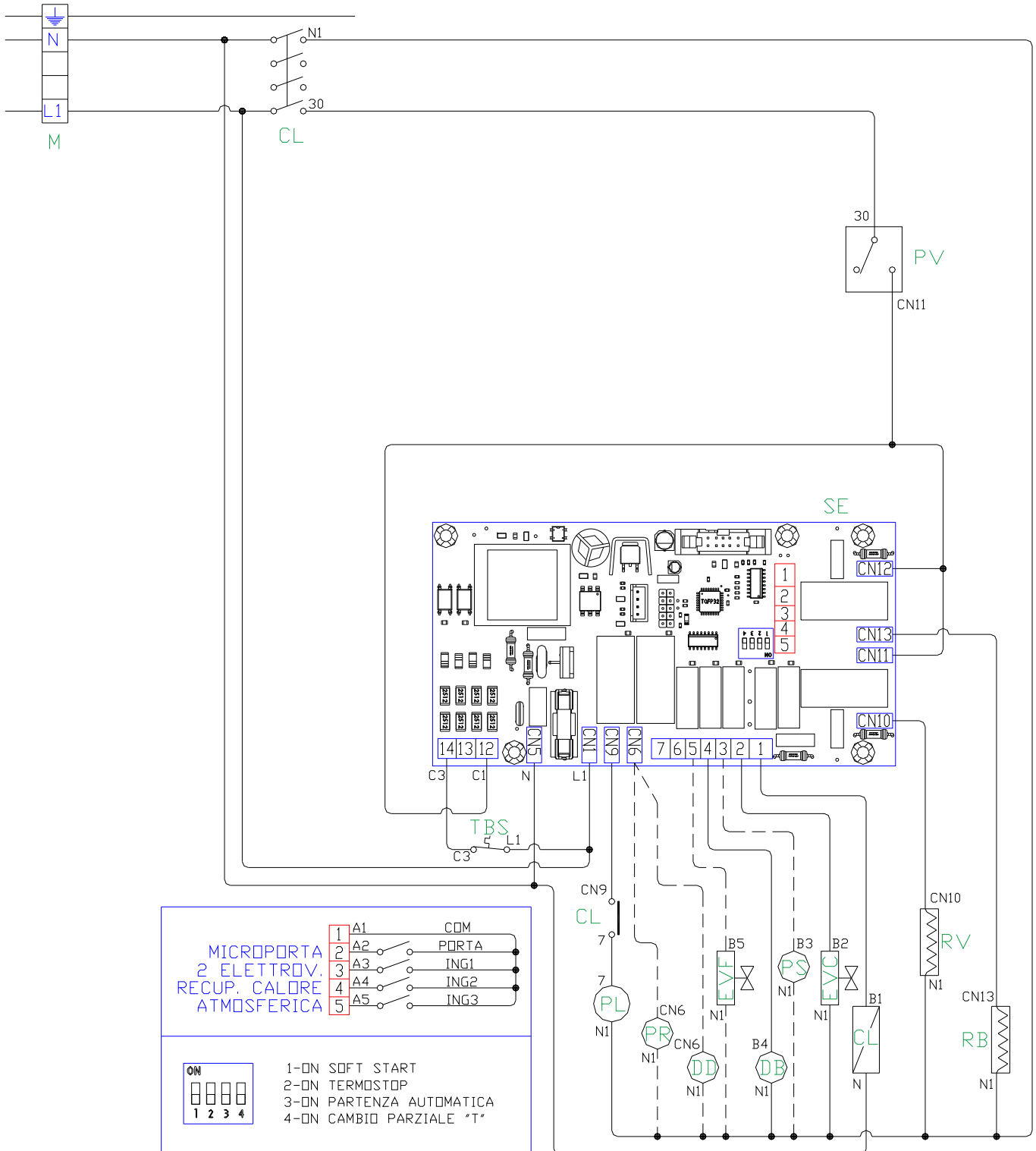
A	Water drain	Ø 30
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B	Connection to water mains	3/4" G
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1.2 ELECTRICAL DIAGRAM

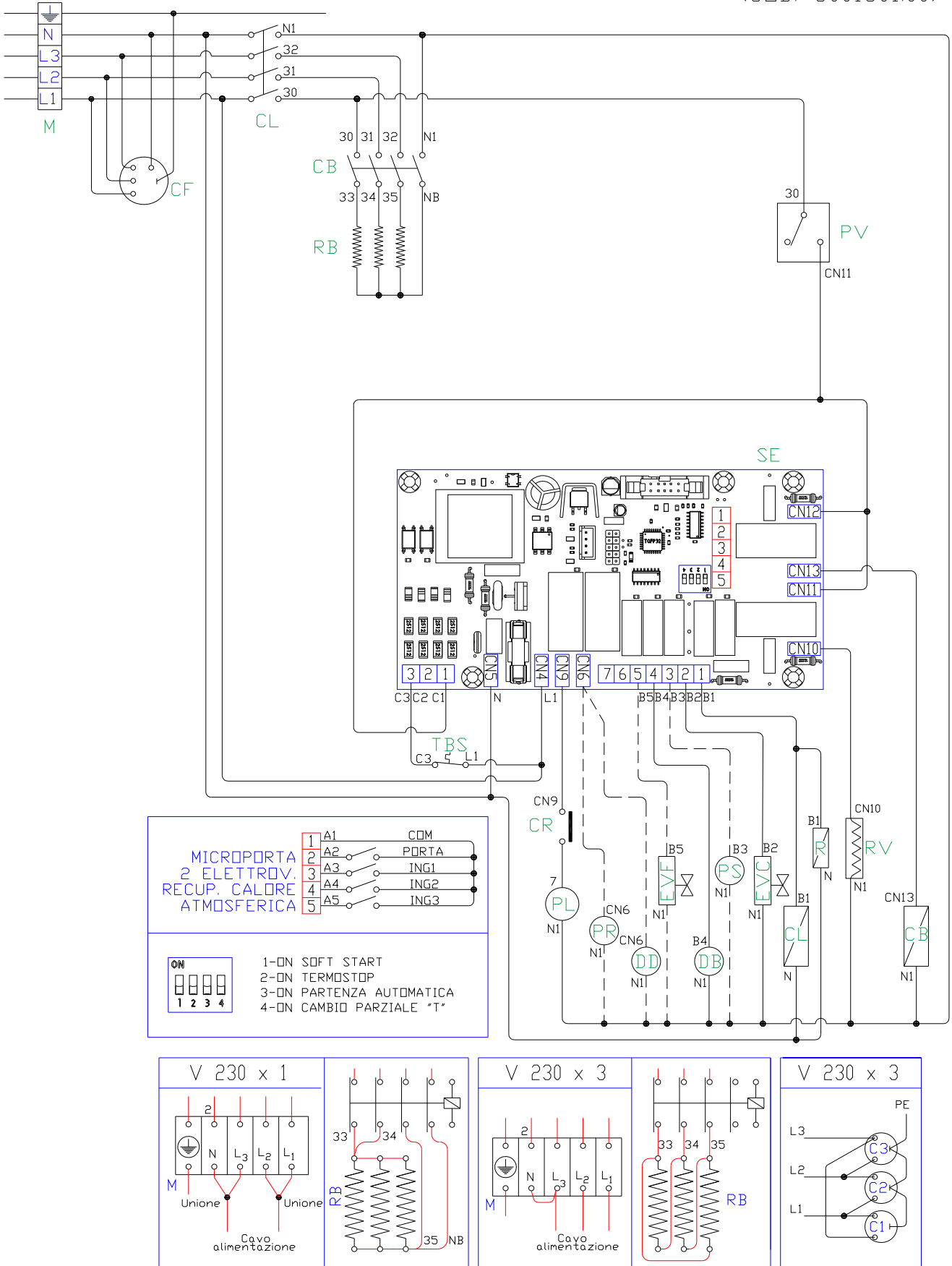
E40EL – E50EL

(COD. 6001026.00)



E90EL

(COD. 6001601.00)



CB	Boiler contactor
CF	Suppression filter
CL	Power supply contactor
CR	Relays contactor
DB	Electric additive distributor
DD	Electric detergent distributor
EVC	Hot water solenoid valve
EVF	Cold water solenoid valve
M	Terminal board
PB	Boiler pressureswitch
PL	Washing pump
PR	Rinsing pump
PS	Drainage pump
PV	Tank pressureswitch
R	Relay
RB	Boiler heating element
RV	Tank heating element
SE	Pcb board
TBS	Boiler safety Thermostat

2. INSTALLATION

- Installation, initial start-up and maintenance of the appliance must be carried out by qualified personnel only. All hydraulic and electrical connections must be carried out in compliance with current safety norms. The manufacturer accepts no responsibility for malfunctions arising from incorrect connection of the appliance. When installing, ensure that the appliance is perfectly level. Turn the adjustable feet clockwise or anticlockwise to level the appliance.

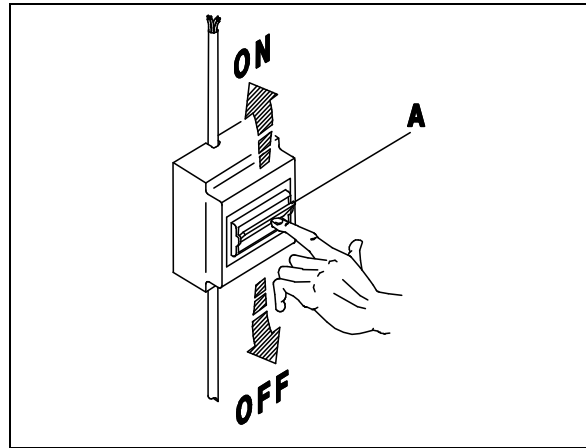
The following norms must be observed when installing the appliance:

1. current accident -prevention regulations
2. CE standards
3. water board regulations

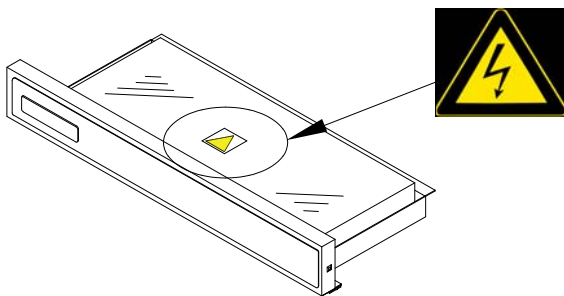
2.1 CONNECTION TO POWER SUPPLY

- The electrical panel is located on the front of the appliance. The connection to power supply is on the back side of the appliance. The power cable must have a rating of at least H07RN-F, and each wire must have a section of 1,5 mm² (230x1) and 2,5 mm² (400x3+N).

N.B.: In accordance with international standards, a cut-out switch (A), provided with amperage-adequate fuses (see technical specification), must be installed between the mains electricity supply and appliance. The contacts must have an aperture of at least 3 mm. The main switch (A) should be positioned in the immediate vicinity of the appliance and should be easily accessible. (fig.2-1)

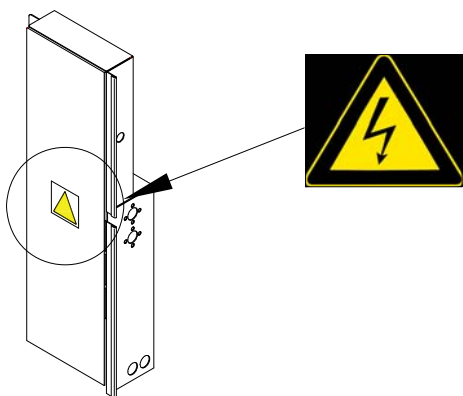


2-1



Hazardous Voltage


IEC 60417-5036 (2002-10)



Hazardous Voltage

IEC 60417-5036 (2002-10)

2.1.1 GROUND

- The appliance must be grounded. The ground terminal screw is located on the rear panel of the appliance, and marked by the symbol .

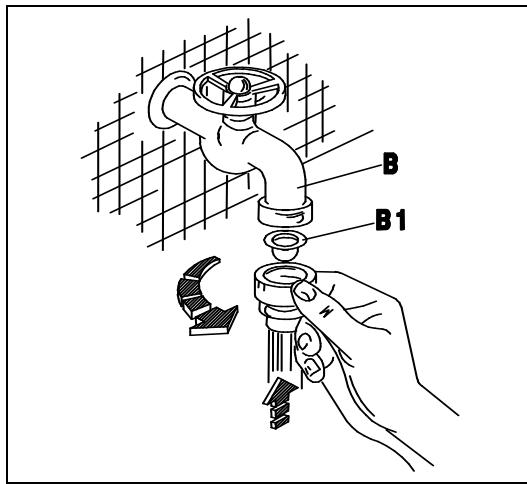
N.B.: The manufacturer accepts no responsibility or warranty obligations in case of damage arising from non-compliance with this requirement or from incorrect installation.

2.2 CONNECTION TO WATER SUPPLY

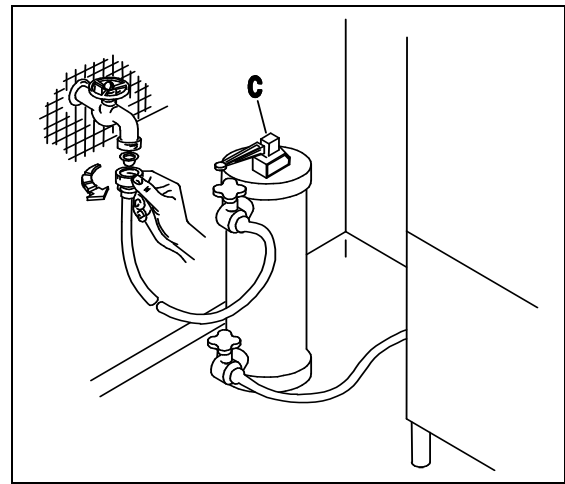
- The appliance is designed for connection to the cold or hot water supply (max. 50÷55°C) at a mains pressure with the valve open as shown in Table 2-1 and a minimum output of 10 litres/min. If pressure exceeds the maximum, fit a pressure reducer. If pressure is lower than the minimum, fit a pressure booster pump of max. 0.5 Hp, with an output of 20 litres/min. and a head of 15÷20 metres. Pressure must be measured at the solenoid valve inlet (see fig.2-4 pag.11). The water pipes must have an internal diameter of at least 16/18 mm (see fig.2-5 pag.11). Connect the appliance water supply pipe to a cut-out tap (B), preferably placed close to the appliance, fitting the special filter (B1) (see fig.2-2). For water with medium hardness above 10/12°F (5,5/7°D), installation of a decalcifier (C) (not provided) is recommended, assembled upstream of the machine's electrovalve (see fig.2-3).

Tab. 2-1

Temperature max 50-55 °C	Pressure 1.5 - 3 bar
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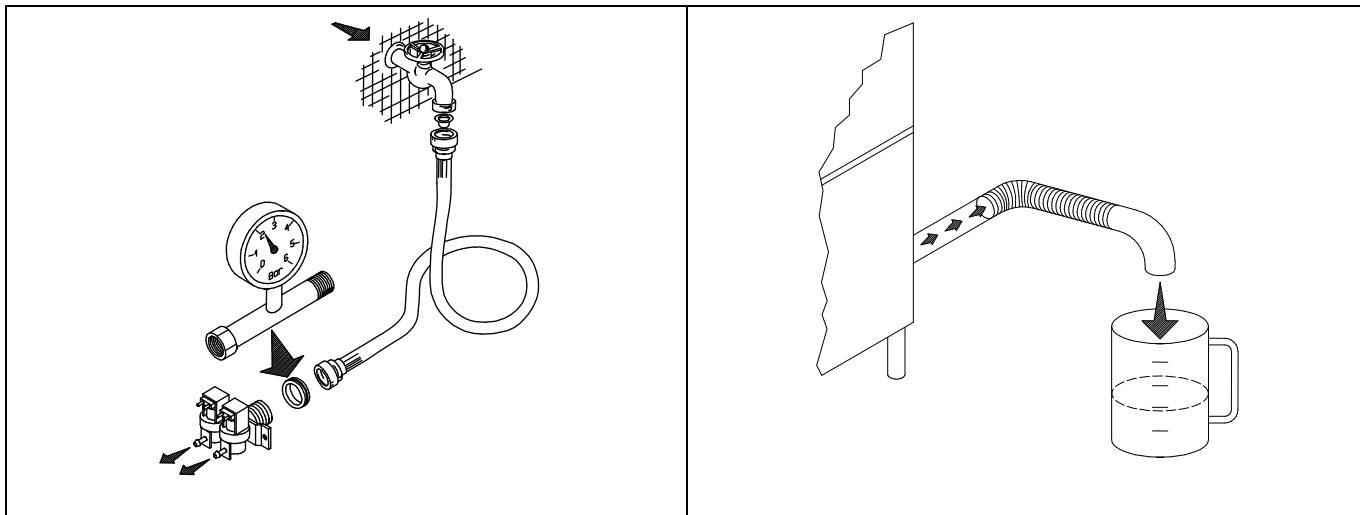


2-2



2-3

INLET WATER PRESSURE		
1.5 - 2 bar	2 - 2.5 bar	2.5 - 3 bar
minimum	good	very good



2-4

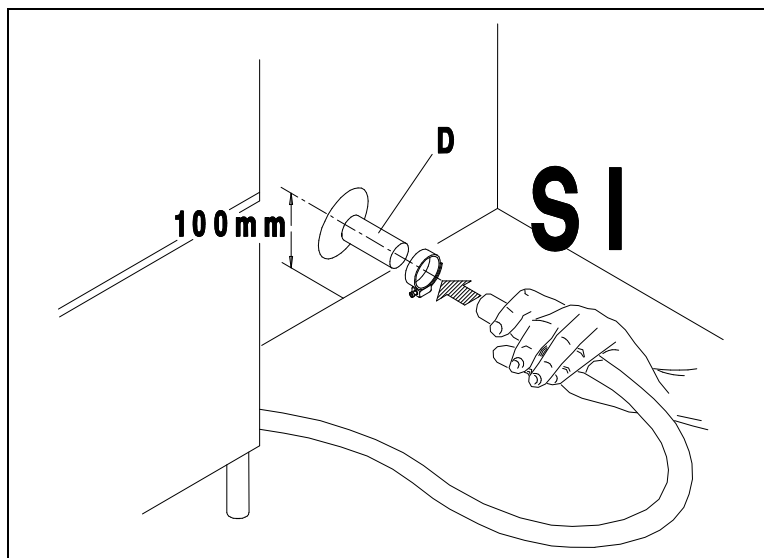
2-5

WATER/CYCLE DRAIN FOR MAINS RINSE

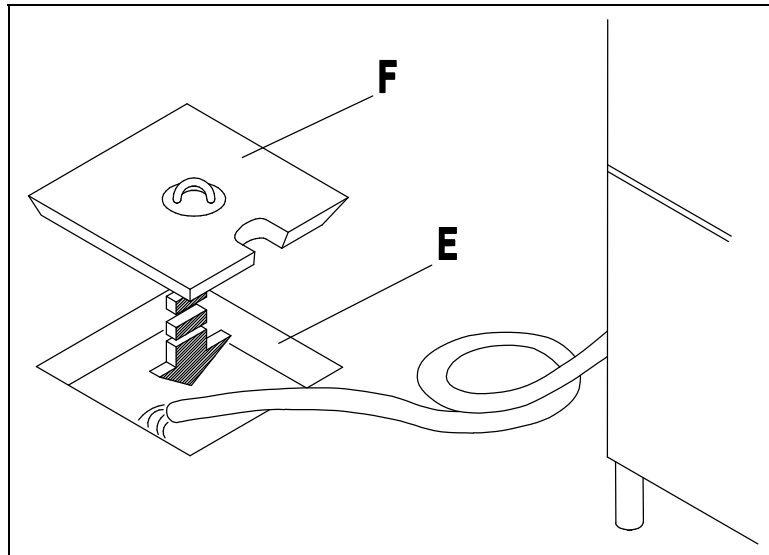
2.5 liters	2.5 - 3 liters	2.5 - 3 liters	3 - 4 liters
Minimum	Very good for glass-washers	Good for dish-washers	Very good for dish-washers

2.3 WATER DRAIN

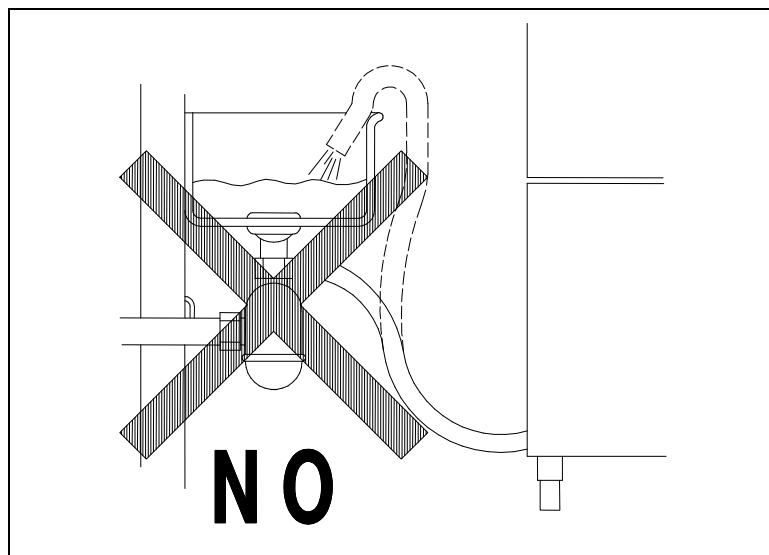
- Connect the drain hose of the appliance to the outlet (D), fitting a siphon between the hose and the outlet. Alternatively, place the appliance over a drainage well (E), which should be fitted with a cover (F) to prevent the build-up of unpleasant odours. (fig.2-6,2-7,2-8 pag.11-12)



2-6



2-7



2-8

2.4 WATER DRAIN WITH DRAIN PUMP

- The waste pump is operating automatically during the cycle.

TANK TOTAL DRAINING:

1. With the machine on (ON/OFF key (1) switched on with led (2) green on), open the door.
2. Take the overflow pipe off.
3. Push the START key (3) (at least for 3 seconds). With the phase starts, close the door. The tank total draining phase is shown on the TANK display (7) (fig.3-2 pag.13) and by the START key (3) which will be yellow.
The time for the tank total draining is 3 minutes.
4. At the end of the tank total draining, to switch the machine by pushing ON/OFF key (1) for about 3 seconds, the led (2) from green will turn red.

3. INSTRUCTIONS FOR USE

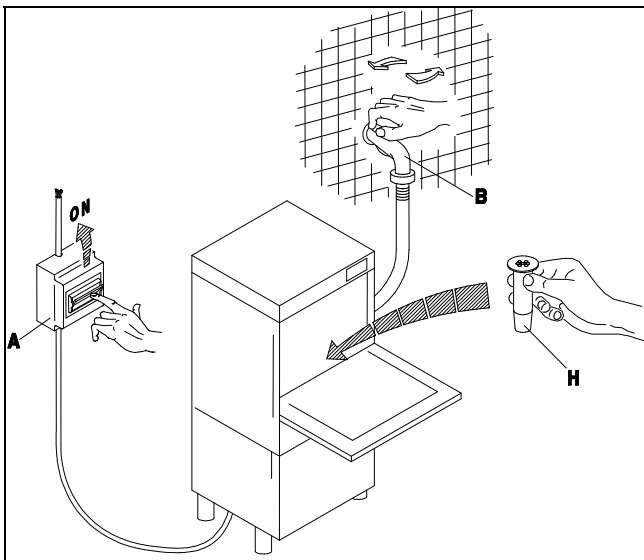
- The appliance is designed to wash crockery. Use a suitable low-foam detergent. Plates and dishes should be scraped clean of residue, which might clog the drain and nozzles. Fill the basket carefully.

N.B.: It is advisable to remove large food remains. The best results are obtained when the items are washed after pre-washing or soaking.

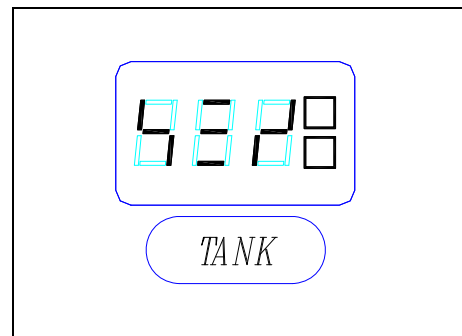
3.1 START UP

- Turn on the water tap (B) and switch on the master switch (A). Turn the appliance ON/OFF key (1), which will cause the warning led (2) green on, indicating that the machine is live. When the door is closed the appliance fills with water (this phase is highlighted on the TANK display (7) fig.3-2). When it is full, the boiler and tank heating elements come on automatically in alternation. When the elements are activated, the led (4) and (5) are illuminated. When the elements are not operating the leds will flash; when the elements are in operation the leds remain on; when both leds turn off go out the water has reached the set temperature and the appliance is ready to begin the washing cycle. During the heating phase the START key (3) will be yellow; when the temperatures are reached, the START key (3) will turn green. (fig.3-1,3-2,3-3)

N.B.: The set temperatures are the ones recommended by the manufacturer (boiler 85°C – tank 55°C)



3-1



3-2



3-3

3.1.1 WASHING PROGRAMMES

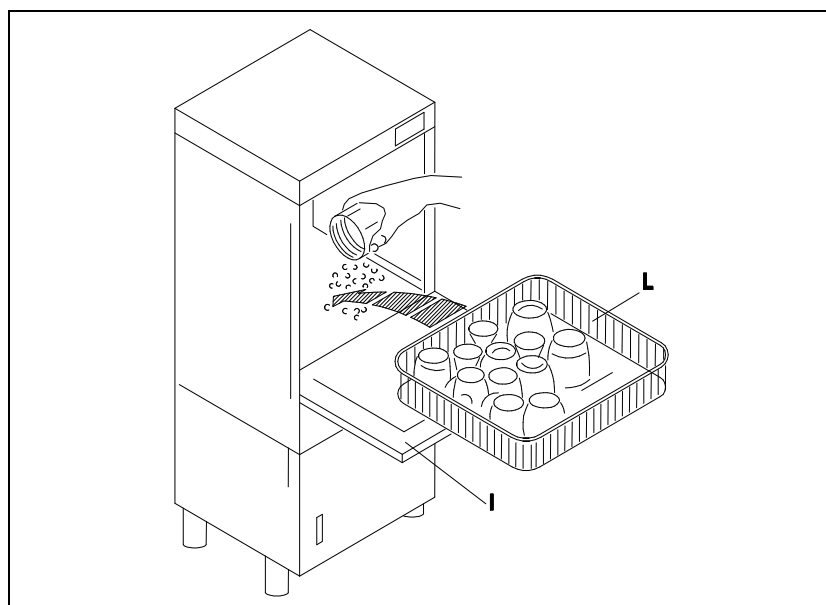
- When the water intake cycle is complete, open the door (I) and add detergent (in quantities to be verified according to the characteristics of the product used). Position the full basket (L) and close the door (I) (fig.3-4). To select the desired cycle (5 cycle times are available), you must act with a short press (about 1 second) the RINSE/TIME key (8); press the key once at a time to scroll through the programmed washing cycles, whose value (wash+rinse) are displayed on the TANK display (7). The washing cycle is saved automatically after 5 seconds since the key was last pressed, and the board quits the cycle time selection menu. To start the cycle, hold START key (3) pressed for 2 second; the START key (3) will blu light up and the countdown of the complete washing cycle appears (seconds) on the TANK display (7). At the end of the cycle, the word "End" flashes on the TANK display (7) and the START key (3) flashes too. (fig.3-3 pag.13)

Add detergent every 5 or 6 wash cycles.

If the door is opened at any point of the washing or rinsing cycle, the cycle stops at once and the countdown stops and blinks. When the door is closed again, the cycle resumes from the point in which it was interrupted, the display stops blinking and the countdown resumes.

To stop the cycle at any time and restart it from the beginning, press the ON/OFF button (1) for about 3 seconds to stop the cycle and on the TANK display (7) the countdown stops; press the START key (3) to restart the set cycle and the cycle countdown starts again from the TANK display (7).

To turn the machine off, press and hold the ON/OFF key (1) for about 5 seconds.



3-4

3.1.2 COLD RINSING

- At the end of the cycle, the operator can start a cold rinsing cycle (only with the machine filled with water and the door closed), blue led (9) on (where enabled). Press the RINSE/TIME button (8) for 1 second, the symbol (— — —) runs from top to bottom on the TANK display (7). The cold rinsing cycle lasts 20 seconds at the end, the word "End" flashes on the TANK display (7) and the START key (3) flashes too. (fig.3-3 pag.13)

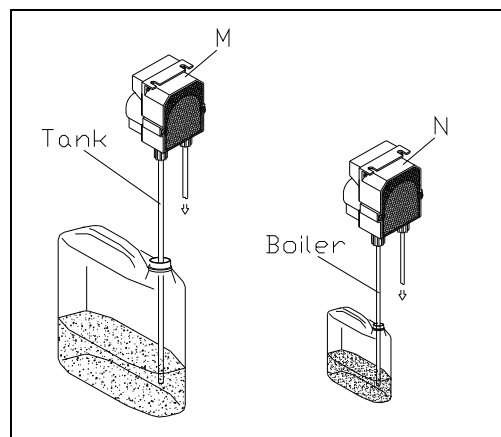
3.1.3 WASHING CYCLE WITH THERMOSTOP

- When the *Thermostop* is set (led (10) on) the washing cycle keeps on working till the temperature of the water in the boiler reaches the temperature set. If the boiler does not reach the operating temperature, the cycle continues for a maximum of 8 minutes; during this time the countdown on the TANK display (7) stops at the end of the washing time and the remaining time for the rinsing phase remains displayed. Reached the maximum time of 8 minutes, after which the pause and rinse follow; the word "Err 2" flashes on the BOILER display (6) and the START key (3) flashes red. (fig.3-3 pag.13)

To disable the alarm, you must turn the machine off by pressing the ON/OFF key (1) for about 5 seconds. Before you turn the machine on again, find out the cause for the tank not filling and solve the problem. (See paragraph 7. CAUSES AND REMEDIES)

3.1.4 DETERGENT AND RINSE AID

- The detergent dispenser (M) and rinse aid dispenser (N) (fig.3-5) are regulated by the manufacturer. If the setting needs to be changed, turn the regulating screw on the dispensers. The detergent and rinse aid containers (if not provided with the appliance) should be placed next to the machine and connected to the transparent pipes fitted to the back of the appliance (Tank for the detergent and Boiler for the rinse aid).



3-5

3.1.5 EXTERNAL SOFTENER REGENERATION (NOT SUPPLIED BY THE MANUFACTURER)

- A pro-memory can be set for the regeneration of any external softener combined with the machine. This setting is displayed with the lighting up of the led (11) (fig. 3-3 on page 13). This type of setting must be made by a qualified installer or technician, who sets the number of cycles at the end of which the operator must regenerate the softener. Once the set number of cycles has been reached, "SFt" or "dEP" will flash on the tank display (7), the START button (3) will turn red and start flashing. These indications alert the operator that the time has come to regenerate the softener (fig. 3-3 on page 13). Once regenerated, press the START button (3) for 10 seconds to reset the alarm and bring the cycle counter back to the set value. This operation must be carried out when "SFt" appears on the tank display (7) and the START button (3) is flashing red (fig. 3-3 on page 13).

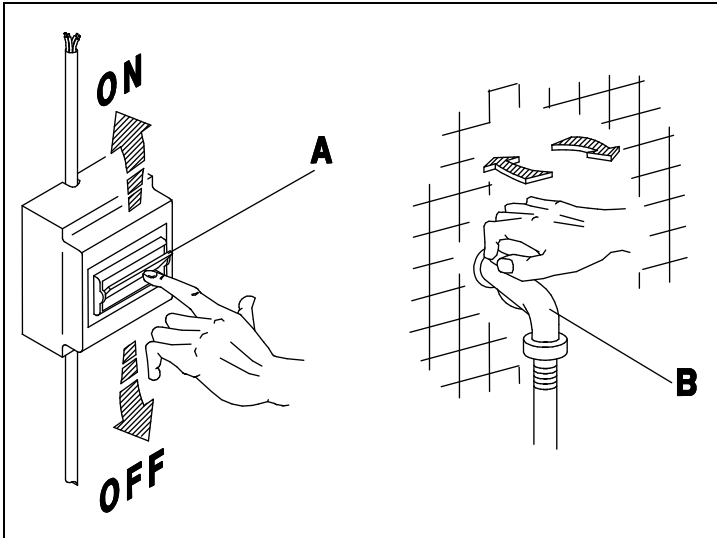
If the regeneration cycle is not performed and/or the alarm is not reset, the machine will operate normally and the alarm will appear at the end of each washing cycle.

3.2 CLEANING AND MAINTENANCE

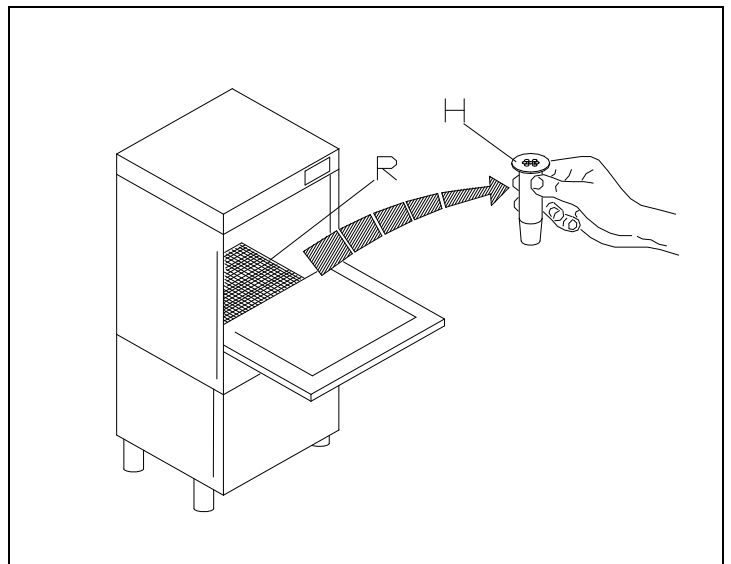
- Cleaning is extremely important for proper operation of the appliance. We recommend cleaning at the end of each work cycle. Turn the machine off by pressing the ON/OFF key (1) and remove the overflow pipe (H) to drain the water in the tank. Once the tank is empty, remove all debris from the tank bottom before taking away the filters (R). Wash all removable parts in running water and reassemble them with care.

WARNING: Before removing the filters clean residual foreign matter from the bottom of the tub.

N.B.: Turn off the master switch (A) before cleaning the outer coating, without using direct or high-pressure water jets. Wash all parts of the appliance with neutral detergents (not corrosive or aggressive).



3-6



3-7

3.3 SELF-CLEANING CYCLE

- Before running the tank's self-cleaning cycle, follow the instructions described in point 3.2 on page 17 (Cleaning and maintenance). The self-cleaning cycle is started by pressing the START (3) button for 5 seconds with the door closed and the machine OFF (red led (2) on) (fig. 3-3 on page 13). There must be no water in the tank, otherwise the tank full symbol will start flashing for 5 seconds (fig. 3-2 on page 13), after which the machine will turn off (red led (2) on). Once the self-cleaning cycle has started, "CLN" appears on the boiler display (6), and the time countdown appears on the tank display. During the cycle, the START button (3) turns a cyan colour. At the end of the cycle, the machine switches off automatically (red led (2) on) (fig. 3-3 on page 13). If the door is opened during the self-cleaning cycle, the cycle is interrupted and the remaining time will start flashing on the tank display (7). When the door is closed again, the cycle will restart from where it was interrupted. (fig.3-3 on page 13) Pressing the OFF key during the self-cleaning cycle will stop the cycle and switch off the machine (red led (2) on) (fig. 3-3 on page 13).

The self-cleaning cycle lasts for 65 seconds (15 sec washing, 10 sec water discharge, 15 sec washing, 25 sec water discharge). The time can be changed via the settings, however this must only be carried out by a qualified installer or technician.

3.4 IF THE DISHWASHER IS NOT USED FOR LONG PERIODS

- If the machine is not used for a long period, clean it carefully. Wash and dry the tub and the filters. Leave the door open while the machine is not in use. Turn off the water and disconnect the power supply.

4. IN CASE OF MALFUNCTIONS

- In case of malfunctions, immediately switch off the appliance, turn off the water and disconnect the power supply. Call a service technician.

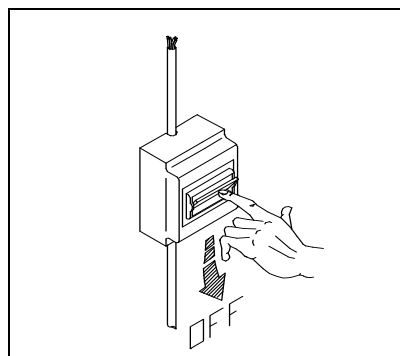
5. SERVICEABILITY

IMPORTANT
QUALIFIED PERSONNEL ONLY

- The electrical control panel features all the appliance's components except: pump, heating elements and solenoid valves. These components can be accessed by removing the lower front panel.

N.B.: Before any technical service, disconnect the machine from the mains. (fig.5-1)

N.B.: Antes de qualquer intervento tecnico, desligar a máquina da rede eléctrica. (fig.5-1)



5-1

6. ALARMS

<p>Er0</p> <p>THERMAL BOILER</p>	<p>If the Boiler Safety Thermostat trips, the machine is switched off and disconnects completely. The Er0 error message flashes on the TANK display (7), and the ON/OFF (2) LED and START key (3) both flash red.</p> <p>N.B.: <i>Check and fix the cause of the Safety Thermostat error before resetting it.</i></p>
<p>Er1</p> <p>TANK FILLING TIME-OUT</p>	<p>If the water in the tank does not reach the specified level after 10 minutes, the filling valve is switched off. The Er1 error message flashes on the TANK display (7) and the START (3) key flashes red.</p> <p>To reset the alarm, press the START key (3) for 3 seconds to resume the filling, or switch off the machine by pressing the ON/OFF key (1).</p> <p>N.B.: <i>Check and fix the cause of the failure before restarting the machine. To restart the machine, press the ON/OFF key (1) for about 2 seconds</i></p>
<p>Er2</p> <p>THERMOSTOP: BOILER NOT AT TEMPERATURE AFTER EXTENDED WASHING</p>	<p>With the Thermostop enabled (LED 10 on), if the boiler is not at the set temperature, the washing time is extended by a maximum of 8 minutes. If the boiler does not reach the set temperature within the extended time, the cycle nevertheless passes to the pause and rinse phase. At the end of the washing cycle, the Er2 error message flashes on the BOILER display (6) and the START key (3) flashes red.</p> <p>The error is reset when the boiler temperature is reached, or when the machine is switched off by pressing the ON/OFF key (1) for 3 seconds.</p> <p>N.B.: <i>Check and fix the cause of the boiler's failure to heat up, before switching it on again.</i></p>
<p>Er3</p> <p>TANK FULL AFTER MANUAL DISCHARGE</p>	<p>The discharge lasts for 3 minutes, at the end of which the tank level is checked: if the level is high, the Er3 error message flashes on the TANK display (7) and the START key (3) flashes red.</p> <p>The error is reset by pressing the ON/OFF key (1) for 3 seconds to switch off the machine, or by pressing the START key (3) for 3 seconds to allow the discharge to resume from the beginning.</p> <p>N.B.: <i>Check the correct functioning of the discharge pump before restarting.</i></p>
<p>Er4</p> <p>BOILER PROBE BROKEN/NOT CONNECTED</p>	<p>If the boiler probe short circuits or is interrupted, the Er4 error message flashes on the BOILER display (6) and the START key (3) flashes red.</p> <p>To reset the alarm, switch off the machine by pressing the ON/OFF key (1) for three seconds.</p> <p>N.B.: <i>Check the status of the probe before switching the machine back on again.</i></p>
<p>Er5</p> <p>TANK PROBE BROKEN/NOT CONNECTED</p>	<p>If the tank probe short circuits or is interrupted, the Er5 error message flashes on the TANK display (7) and the START key (3) flashes red.</p> <p>To reset the alarm, switch off the machine by pressing the ON/OFF key (1) for 3 seconds.</p> <p>N.B.: <i>Check the status of the probe before switching the machine back on again.</i></p>
<p>Er6</p> <p>BOILER HEATING</p>	<p>If the boiler does not reach the set temperature after 30 minutes, the Er6 error message flashes on the BOILER display (6) and the START key (3) flashes red. All the functions remain active. To reset the alarm, switch off the machine by pressing the ON/OFF key (1) for 3 seconds.</p> <p>N.B.: <i>Check the correct functioning of the boiler resistance before switching it back on again.</i></p>

<p>Er7</p> <p>TANK HEATING</p>	<p>If the boiler does not reach the set temperature after 40 minutes, the Er7 error message flashes on the TANK display (7) and the START key (3) flashes red. All the functions remain active. To reset the alarm, switch off the machine by pressing the ON/OFF key (1) for 3 seconds.</p> <p>N.B.: Check the correct functioning of the tank resistance before switching it back on again.</p>
<p>Er8</p> <p>BOILER FILLING TIME-OUT (ATMOSPHERIC MACHINE)</p>	<p>If the boiler has not been filled after 5 minutes, the filling valve switches itself off. The Er8 error message flashes on the TANK display (7) and the START key (3) flashes red.</p> <p>To reset the alarm, press the START key (3) for 3 seconds to restart the filling, or switch off the machine by pressing the ON/OFF key (1).</p> <p>N.B.: Check and fix the cause of the filling failure before restarting the machine. To restart the machine, press the ON/OFF key (1) for about 2 seconds</p>
<p>Er9</p> <p>BOILER TEMPERATURE ABOVE 100° C</p>	<p>If the boiler probe exceeds 98°C, the machine switches itself off and all the loads are deactivated. The Er9 error message flashes on the TANK display (7) and the ON/OFF key (2) and START key (3) flash red.</p> <p>To reset the alarm, switch off the machine by pressing the ON/OFF key (1).</p> <p>N.B.: Check and fix the cause of the problem before switching the machine back on. To restart, press the ON/OFF key (1) for about 2 seconds</p>

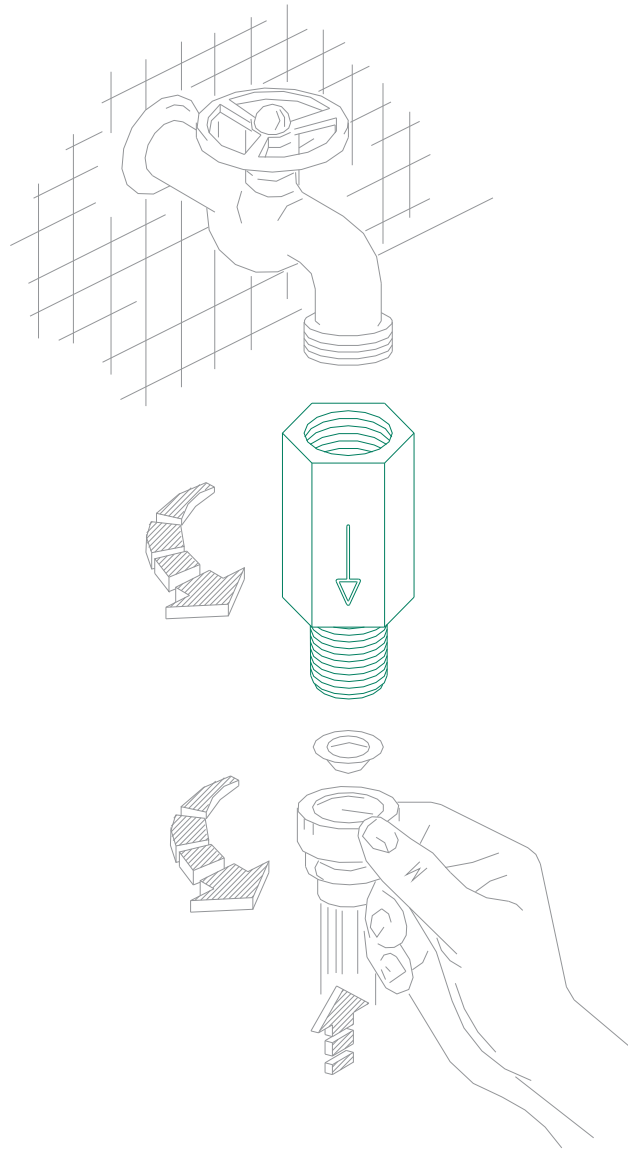
7. NOISE

- Workplace-related emission value.

E40EL	dB(A)	63 max
E50EL	dB(A)	66 max
E90EL	dB(A)	68 max

8. NON-RETURN VALVE

- Scheme to apply a Non-Return Valve as per DVGW standards.



9. DISPENSERS

MAINTENANCE

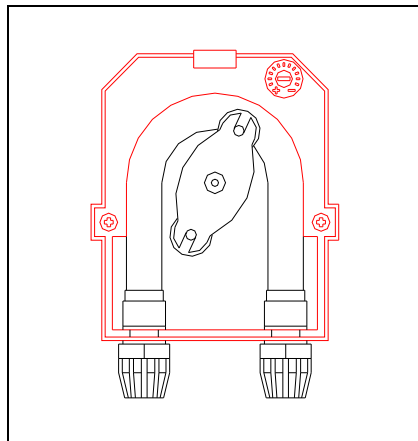
General maintenance comments

Regular maintenance is essential if the pump must give good service over a long period. The following advice should be strictly followed.

- Periodically check the chemical tank level to avoid the pump operates without liquid.
- Check the suction and delivery hoses in which the presence of some impurity could cause a damage of the pump head hose and a low flow in the same time.
- Check regularly the functioning of the pump especially when it doses aggressive chemicals and the state of the filter whose clogging can decrease the flow.

Pump storage

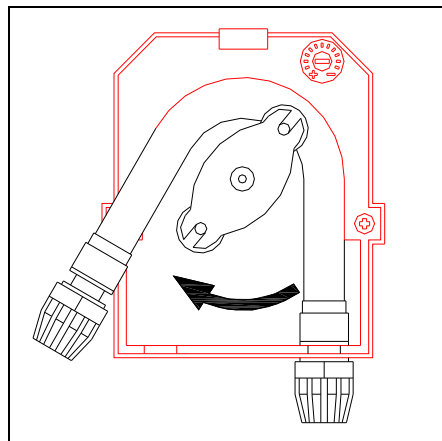
When you want to store the pump (in winter for example) you must protect the peristaltic hose. It is recommended to dose clean water to avoid the chemical attack of the hose when the pump is stored. Rotate the roller holder in clockwise sense to move the pump to the position of the figure 9- 1 in fact it is recommended to not leave pressed the hose near the suction part.



9-1

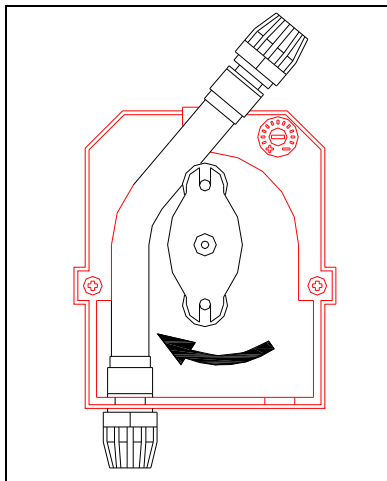
HOSE REPLACEMENT

Remove the transparent cover unscrewing the two screws of the frontal cover. Take off the old hose completely releasing the left connector, turning the roller holder in the direction of the circular arrow so that the hose is freed up to the right connector.

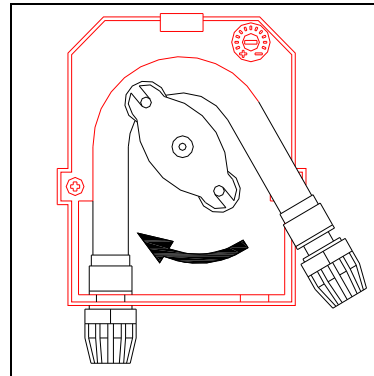


9-2

Insert the left connector into the relative housing and verify that the round part of it will take his position towards the back of the pump. Turn clockwise the roller holder so that the hose will take is natural position in the pump head.

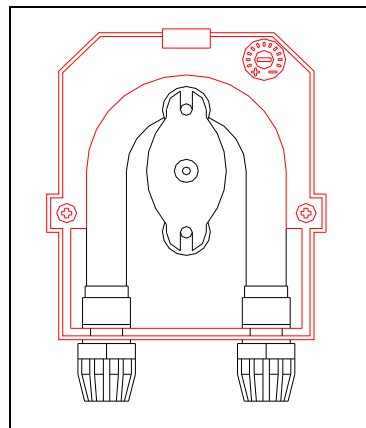


9-3



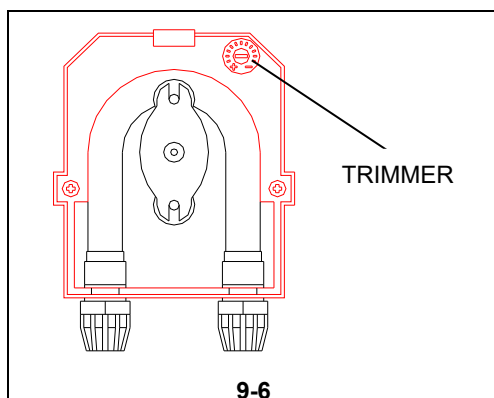
9-4

Insert the right connector into the relative housing and fix the cover screwing the two screws.



9-5

FUNCTIONING PROGRAMMING



9-6

The flow adjustment is done by rotating the trimmer to select ranges of ON-OFF from 0 to 7 seconds.

A.E.E.
IT0802000000642



Disposal of your old appliance

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.