

SG 5EC
SD 5EC BT

Instructions for use and maintenance



Ed. 02/2008

DECLARATION OF CONFORMITY

The fol	lowing

Blue Seal Ltd

Units 6&7 Mount Street - Business Park Mount Street Nechelles,Birmingham B7 5QU

hereby (declares	under full	responsability	that the	following product
•			1 .		01

DISHWASHING MACHINE

(product description)

SG 5 EC - SD 5 EC - SD 5 EC BT

(type model)

to which this declaration refers, is conform with the following standards:

EN 60335-1, EN 60335-2-58, EN 61000-3-2, EN 61000-3-3, EN 55014-1, EN 55014-2

on the basis of what is foreseen by the Directives:

73/23/CEE, 93/68/CEE - 98/37/CE - 89/336, 92/31, 93/68/CEE

 $We decline any \ responsability \ for \ injuries \ or \ damage \ derived \ from \ machine \ misuse, abuse \ by \ others \ or \ improper \ machine \ maintenance \ or \ repairs.$

General Manager

2008

- date of issue -

April

DISHWASHING MACHINE

Mod.

SG 5EC - SD 5EC SD 5EC BT



The illustrations concerning these instructions are on the inside of the back cover

IMPORTANT

Become thoroughly familiar with the contents of thi manual before installing, setting up, adjusting and servicing diswasher machine Mod. SG 5EC - SD 5EC - SD 5EC BT

Only contact an authorized technical center or BLUE SEAL in the event of breakdowns or faulty machine operation.

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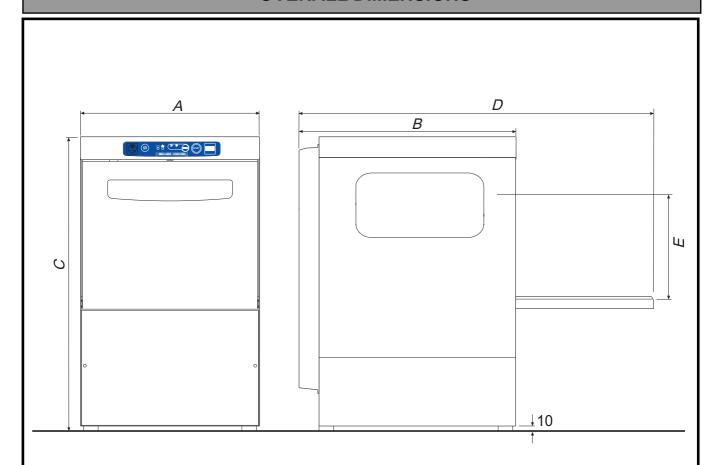
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The manufacturer reserves the right to modify the products whenever necessary, without affecting their main features.

OVERALL DIMENSIONS



Model	Α	В	С	D	E
SG 5EC - SD 5EC	600	600	820	1005	330
SD 5EC BT	600	620	820	1030	330

TECHNICAL DATA								
	Output in baskets/hour	Electrical connection		Total power	Boiler heating elem.	Tank heating elem.	Wash pump	Rinse pump
SG 5EC-SD 5EC SD 5EC BT	60/30/20 60/30/20	230V ~ 230V ~		3550 W 6550 W	3000 W 6000 W	2000 W 2000 W	550 W 550 W	200 W
		l ank capacity	Boiler capacity		Water supply	Water cons. per c.le		Cycle length
SG 5EC-SD 5EC SD 5EC BT	20		7,5 I 7,5 I		0 kPa Ø 3/4"0 0 kPa Ø 3/4"0	•		0/120/180 s 0/120/180 s
		Drain pipe fitting		Operat.and storage te	Relative humidity		Wash temperature	Rinse temperature
SG 5EC-SD 5EC SD 5EC BT		31 mm 31 mm	5° ÷ 4 5° ÷ 4		20 ÷ 90 % 20 ÷ 90 %			80° ÷ 90° C 80° ÷ 90° C
		Water inlet max. temp.		Noise level	Basket dimensions		Net weignt	Weight of packed mac.
SG 5EC-SD 5EC SD 5EC BT		0° С	< 70 dl		500 x 500 m 500 x 500 m		_	66 kg 66 kg

CONTROL PANEL



Fig. 1

LEGEND -Line button ON/OFF IL) TŔ) Regeneration button (only for models with "D") LRCK) CHECK led light (blue) LTV) Tank temperature led light (red) LC1) SHORT cycle led light (blue) LC2) MEDIUM cycle led light (blue) LC1+LC2) LONG cycle led light (blue) CYCLE) CYCLE selection button START CYCLE button ST)

ENGLISH

Part 1: General description and safety device

Part 2: For the Operator

Part 3: For Authorized and Qualified

Technicians

ENGLISH

PARTICULAR RECOMMENDATIONS FOR THE OPERATOR

- Do not operate the machine without having become fully familiar with the contents of this manual and without having acquired a comprehensive knowledge of the specific techniques and machine controls.
- Check that the area in which the machine is to be installed is compatible with the dimensions of the machine itself before installing this latter.
- Only use lifting and handling means that are suited to the weight of the machine when this must be installed or removed either completely or in part.
- Never allow unauthorized or unqualified personnel to start, adjust, operate or repair the machine. Always refer to this manual for the necessary operations.
- The mechanical parts and electrical/electronic components situated inside the machine are protected by entirely closed panels.
- Always ensure that the main switch has been set to the "OFF" position before cleaning and/or servicing the machine. This will disconnect the power source during the operator's intervention.
- The electrical powering system must be equipped with an automatic release system prior to the main machine switch and with a suitable grounding system that complies with all the requisites established by industrial provisions for the prevention of accidents.
- Always disconnect the power source if work must be carried out on the main switch or in its vicinity.
- All inspections and maintenance operations requiring removal of the safety guards are carried out under the complete responsibility of the users.
 - These operations should therefore only be carried out by specialized and authorized technical personnel.
- Make sure that none of the accident preventing safety devices (barriers, guards, casings, microswitches, etc.) have been tampered with and that they are all perfectly functional before operating. These devices should be repaired if this is not the case.
- Never remove the safety devices.
- To prevent personal risks, only use power tools that are correctly connected to the grounding tap and that conform to the national safety regulations.
- Never ever tamper with the electrical system or with any other mechanism.
- Never ever use the hands or unsuitable instruments to locate leaks from pipes. Air, fluids under pressure or irritants could cause serious damage to both persons and/or property.

- Never use the hands instead of adequate tools when operating the machine.
- Never use the hands or other objects to stop moving parts.
- PAY THE UTMOST ATTENTION TO THE DATA PLATES AFFIXED TO THE MACHINE WHENEVER WORKING ON THIS OR IN THEIR NEAR VICINITY.
- The user is obliged to keep all the data plates and stickers in a legible condition.
- Never climb on to the door or on to the top of the machine.
- It is essential for the user to replace all data plates and stickers that may have deteriorated for any reason or that are not clearly visible, ordering new ones from the Spares Service.
- Contact the person in charge of maintenance in the event of malfunctions or damage to the machine components without proceeding with further repairs.
- It is absolutely forbidden for anyone to use the machine for purposes other than those explicitly established and documented. The machine must always be used in the ways, times and places dictated by common sense and the laws in force in each country, even when there are no specific provisions to govern the sector in the particular country of use.
- The manufacturer declines all responsibility for accidents or damage to either persons or property as may arise following failure to comply with either the relative safety provisions or the instructions herein.
- These instructions, together with the provisions governing machine installation and electrical connections form an integral part of the Accident Preventing Industrial regulations in force in each individual country.
- THESE SAFETY PROVISIONS INTEGRATE AND DO NOT SUBSTITUTE THE SAFETY PROVISIONS LOCALLY IN FORCE.
- NEVER ever make hurried or inaccurate repairs that could jeopardize the correct operation of the machine.
- ALWAYS ASK FOR HELP FROM SPECIALIZED PERSONNEL IN CASE OF DOUBT.
- ANY TAMPERING BY THE USER RELIEVES THE MANUFACTURER FROM ALL LIABILITY, THE USER BEING INTHIS CASE SOLELY RESPONSIBLE TOWARDS THE COMPETENT ACCIDENT PREVENTION AUTHORITIES.

Part 1: General description and Safety devices

1.1 GENERAL DESCRIPTION

Single-walled construction in 18/10 stainless steel with fine satin finish.

All controls and electrical parts can be easily accessed. The rinsing agent dispenser is built into the machine.

The washing rods and filters can be easily removed for maintenance and routine cleaning.

All models are equipped with a safety microswitch on the door. The heating elements are made of rustproof incoloy steel.

All models are supplied with an adequate number of baskets.

1.2 TYPE OF USE AND IMPROPER USE

These machines have been designed and built to wash crockery placed in special baskets and using detergent and rinsing agent.

- Permitted crockery: glasses, teacups, coffee cups, saucers, cutlery made of materials suitable for dishwashers and of a size able to fit into the basket and machine.
- Use of specific detergents and rinsing agents for industrial purposes normally available in the shops is permitted.



Any improper use of the machine relieves the manufacturer from all and every responsibility for accidents or damage to persons and property, also voiding all conditions of guarantee.

1.3 TRANSPORT, SHIPMENT AND STORAGE (Fig. 2)

- The machine is normally shipped in a cardboard box closed by straps.
- When transporting the packed machine, use a lift truck or transpallet, positioning the box on the relative forks.



The machine must be sheltered from the weather when shipped and stored.

1.4 INSPECTIONS ON ARRIVAL

When the machine arrives, check that the packaging is in a perfect condition and that there is no visible damage. If everything is in order, remove the packaging (unless other instructions have been received from the manufacturer) and check that the machine is free from damage caused by transport.

Now check whether there has been any damage to the structure, crushing or breakages.

If damage or imperfections are discovered:

- 1 Immediately notify the haulage contractor both by phone and in writing by registered letter with return receipt attached;
- 2 Inform the manufacturer by registered letter (with return receipt attached).

IMPORTANT

Notification of damage or faults must be immediate, in any case **within 3 days** from the date on which the machine is received.

1.5 UNPACKING (Figs 2-3-4)

Proceed in the following way in order to remove the packing:

- 1. Cut the straps (7) that hold the cardboard in place.
- 2. Remove the box (8) by lifting it upwards.
- 3. Remove the protective film from the machine.
- **4.** Remove the machine from the base by lifting it from the lower part of the casing (Fig. 4).
- 5. All packing must be collected and not left within children's reach since it could become a source of danger. The packing can be disposed of in the same way as solid urban waste.



Once the machine has been unpacked, NEVER ever use the box containing the electrical components for lifting purposes.

Lift the machine by raising it from the lower part of the casing. Set it on the forks of a truck when transporting.

1.6 MACHINE IDENTIFICATION (Fig. 5)

- The serial number and machine data are stamped on the data plate (9) affixed to the right part of the machine itself.

IMPORTANT

Always state the model and serial number of the machine when requesting technical assistance or ordering spare parts.

1.7 DESCRIPTION OF THE SAFETY DEVICES

- Models BLUE SEAL are equipped with a safety microswitch that blocks the washing pump if the tub access door is accidentally opened.
- The electrical parts are enclosed by panels locked by screws.
- The machine is fitted with an equipotential ground conductor.
- Safety overflow (21) to prevent water from spilling.

1.8 REFERENCE STANDARD

- The machine and its safety devices has been built in compliance with the following standards:
- Essential safety requisites established by Directive 73/ 23 EEC Annex 1 modified by Directive 93/68 EEC, directive 89/336 EEC.
- Essential requisites established by Directive 2002/95/ EEC (RoHS).

2.1 WASHING PHASES

2.1.a Switching on and Preparing the machine

To switch on the machine, press the power switch (IL) into the **ON** position.

The LED indicating the last cycle selected will become CONSTANTLY LIT (LC1 or LC2 or LC1 and LC2) (blue), as will the CHECK LED (blue) and the tank temperature LED (LTV) (red).





On first switching on, LED LC2 (blue) will light up. The boiler, and then the tank, will start to fill automatically.

Once the water level has been reached, the heating elements will switch in, first in the boiler, then in the tank.

Once the water in the tank reaches the correct temperature, the tank temperature LED (LTV) (red) will go ON.

WASHING OPERATION

If not equipped with an automatic dosing system, pour into the tank a quantity of detergent suitable for the volu me and hardness of the water. For quantities, refer to the specific instructions for the detergent in use.



When items to be washed are encrusted with burnt on matter, or a long time has passed between use and washing, it is essential to carry out a pre-was soak using a suitable softening agent.

The use of hand-washing products is to be avoided as they could produce foam inside the machine.

IPlace the basket of items to be washed inside the machine, having first removed any solid waste.

2.1.b Selecting a Cycle

The duration of the washing cycle can be chosen from three different lengths of time (SHORT, MEDIUM, LONG), to be selected using the "CYCLE" button.

Each time the "CYCLE" button is pressed, the blue LEDs LC1 or LC2 or LC1 and LC2 together, will light up or go out in sequence as shown in the following table:

LC 1: SHORT CYCLE = 60 sec. LC 2: MEDIUM CYCLE = 120 sec. LC 1+LC 2: LONG CYCLE = 180 sec.

2.1.c STARTING THE WASHING CYCLE

To start the washing cycle, press and hold the START (ST) button for a few seconds, then release.

Throughout the washing cycle the LED(s) for the selected cycle (LC1 or LC2 or LC1 and LC2 together) (blue) will FLASH.



We recommend that you top up the detergent used up by washing grease or dispersed during rinsing every 4-5 complete cycles.

The use of the machine ensures rinsing at the ideal temperature for hygienic purposes every time;

Indeed, if the temperature is not sufficient the wash will be automatically prolonged so as to ensure the necessary conditions of optimum rinsing at **85°C**.

The waiting time required to attain optimum temperature can extend to a maximum of **8 minutes**.

While this is taking place, the **CHECK** LED (blue) will FLASH RAPIDLY until the end of the cycle. To reset the flashing, switch the machine off and back on using the power switch (**IL**).

2.1.d Interrupting the cycle

1) It is possible to interrupt the washing cycle momentarily by opening the door, this is an EMERGENCY measure: the cycle LEDs (LC1 or LC2 or LC1 and LC2 together) (blue) will start to FLASH, alternating with the CHECK LED (blue).

On closing the door, operations will resume from the point in which they stopped.

- 2) The cycle can also be interrupted by SWITCHING the machine's power switch (IL) to the OFF position.
- 3) On switching the machine back on, the LED indicating the last cycle selected will light up.

At the end of the washing cycle, take out the basket and shake it gently so as to remove the last drops left on the washed items.

Allow items to dry and remove them from the basket with clean hands.

Store all items on hygienic and completely stable surfaces.

2.1.e Manual Draining

It is possible to drain the water from the tank at any time during the day, according to the waste accumulated. To carry out this operation, proceed as follows:

- SWITCH the machine's power switch (IL) to the **OFF** position and release the overflow, allowing all the water to drain from the tank;
- Remove the tank filters (22/23) and clean;

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Manual draining for machines with drainage pump

For machines fitted with a drainage pump it is possible to empty the tank by carrying out the manual draining cycle, during which only the drainage pump remains active.

IMPORTANT

This cycle can only be carried out by leaving the machine SWITCHED ON with the tank full of water and the door OPEN.

Having released the overflow, press and hold the START (ST) button until the LED LC2 and CHECK together) begins to FLASH, and then release the START (ST) button;

The DRAINAGE CYCLE will begin.



By pressing the START (ST) button or switching the power switch (IL) to OFF, you can interrupt the drainage cycle before the preset time is up; to restart the interrupted cycle, press START (ST) again.

When the LC2 LED (blue) lights up CONSTANTLY, the drainage cycle is finished.

At the end of the cycle, restore the filters (22/23) and the overflow (21) to their respective positions.

2.1.f Switching off at the end of the day

At the end of the working day SWITCH OFF the machine by pressing the power switch (IL) into the OFF position.

Switch off the mains switch feeding the machine and close the water supply taps.

For any repairs, contact only assistance centres authorised by the manufacturer.

2.1.g Warnings during the operation

- Ensure that the washing temperature remains at approx. 55-60°C;
- 2) Avoid immersing bare hands in the detergent-filled water; if this should happen, rinse immediately and thoroughly with running water;
- Use only anti-foaming detergents specific for use in industrial machines;
- Deactivate the machine in case of break-down or malfunction.

For any repairs, contact only assistance centres authorised by the manufacturer, and insist on the use of original parts.

Failure to follow the above warnings may compromi se the safety of the washing machine.

2.1.h Useful advice for better washibg results

Any unsatisfactory results from washing can be seen when traces of dirt are left on dishes or other items; any water marks may be caused by insufficient rinsing. In this case, ensure that the rinsing nozzles (27) are clean and that there is pressure in the water system.

If there are traces of waste, ensure that:

- The filters (22) (23) are clean;
- the water temperature is around 60°C;
- items are correctly positioned in the basket;
- the washing/rinsing nozzles are clean;
- the arms (24) rotate freely.

ENGLISH

2.2 CLEANING (Fig. 10)

2.2.a General information

Strict compliance with the maintenance instructions in this section will keep your machine in a good working condition and will notably reduce the need for repairs.



If any machine component becomes faulty, FIRST CHECK that all the instructions given in the previous paragraphs have been complied with during use.

Repairs must be carried out immediately, as soon as the fault occurs. This will prevent the trouble from becoming worse and damaging other parts.



Daily operations to carry out when work has ended, with the machine OFF, the main circuit-breaker disconnected, the water cocks off and the washing tub empty.

- 1. Thoroughly clean the inside parts of the machine.
- 2. Remove the filter (22) from the bottom of the machine by releasing the overflow (21).
- 3. Remove the suction protection (23).
- **4.** Wash the filters under running water and fit them correctly back in their housings.



Frequently check and clean the spraying units, removing them from their housings and eliminating any dirt and fouling. The frequency with which this operation must be carried out depends on the quantity of dirt or on the unsatisfactory washing results. Never use corrosive products like sodium hypochlorite (bleach) or hydrochloric acid, wire wool or steel brushes to clean either the inside or outside parts of the machine.

2.3. PREVENTION MAINTENANCE (Fig. 10)

The preventive maintenance operations must be carried out with the machine OFF, the main circuit-breaker disconnected, the water delivery cocks off and the washing tub empty.

2.3.a Checking and cleaning the spray arms and nozzles (Fig. 10)

Periodically check to make sure that the lower washing arm and rinsing arm (24) and their relative nozzles are not clogged (26/27).

Cleaning the lower/upper unit

- 1. Unscrew the ring nut and lift the arm (24).
- 2. Wash the washing and rinsing arm.

 If the nozzles (27) are clogged, unscrew them to demount and clean, taking care to prevent the shape of the nozzle from being deformed. After cleaning, fit the nozzles exactly back in their original positions.
- Remount all parts by complying with the above instructions in reverse.

2.4 DESCALING

Where hard water is present lime scale deposits will for in the machine and on dishes, which must, for reasons of hygiene, be removed by descaling.

Advice on operation procedures and frequency for this treatment are generally given by the detergent supplier, who can provide suitable products.

In order to avoid damaging the machine, do not exceed recommended doses, follow the detergent producer's directions scrupulously and, having finished operations, rinse thoroughly.

2.5 TEMPORARY STOPPAGE

If the machine is to be left inactive for a period of some weeks, it is advisable beforehand to load the tank and run a few empty cycles with clean water then drain, so as to avoid the formation of unpleasant odours.

If necessary, repeat the process several times until the water is still clean after washing.

If the stoppage is to be very long, it is advisable to drain the water from the boiler and from the electric pump.

2.6 DEMOLITION and DISPOSAL



When the machine is to be scrapped, drain the water from the tank and from the boiler, as indicated in the points above, and disconnect the machine from the water and electricity supply networks, then dispose of the components according to current regulations, respecting national and local ecological and environmental legislation, and taking care to separate the parts as follows:

- metallic parts: body work, surfaces, panels, filters;
- electrical parts: motors, remote switches, microswitches, cabling;
- plastic parts: connectors, baskets;
- rubber parts: tubes, couplings

The producer declines all responsibility for any printing errors contained in this booklet.

The instructions, drawings, tables and everything else in this manual are of a confidential technical nature. For this reason, none of the information may be either completely or partially duplicated or disclosed to third parties without prior written authorization from BLUE SEAL which is the sole proprietor and which reserves the right to make any modifications as may be considered necessary without advance warning.

SUMMARY TABLE of CYCLE LED CHECK SIGNALS

MACHINE STATUS	CYCLE LED CHECK
CYCLE: washing, pause, rinsing	ON CONSTANT
ALARM: lack of heating	RAPID flashing
ALARM: door open	RAPID flashing
Manual drain	ON CONSTANT
Regeneration cycle	SLOW flashing
Machine off/standby	OFF
*REGENERATION ALARM	SLOW flashing

^{*} Can only be stopped by starting the regeneration cycle, or if it has not been programmed at all.

	TROUBLESHO	TROUBLESHOOTING				
PROBLEMS	CAUSES	SOLUTIONS				
The machine fails to come on.	Main switch disconnected.	Turn on the switch.				
The machine does not fill with water	Water cock shut. Fill pipe filter dirty. Rinsing nozzles clogged. Overflow pipe incorrectly inserted.	Turn on the cock. Detach the fill pipe (12 Fig. 6) and clean the filter (13). Unscrew and clean the nozzles (27 Fig. 10) under running water. Make sure that the overflow pipe (21 Fig. 10) has been correctly inserted.				
Insufficient washing	Washing filter dirty. Washing nozzles clogged. Washing rod clogged. Insufficient or no detergent. Machine temperature not reached.	Clean the filter (22/23 Fig. 10). Demount and clean the washing nozzles under running water (26). Demount and clean the rod (24 Fig. 10). Top up the detergent in the canister and check its concentration. Wait until the tank water has reached the right temperature (50°C).				
	Washing conditions insufficient.	Make sure that the washing phase takes place correctly.				
Insufficient rinsing.	Rinsing nozzles clogged. Boiler clogged with scaling. Low mains pressure (less than 200 kPa).	Unscrew the nozzles (27 Fig. 10) and clean them under running water. Contact the after-sales service. Wait until the pressure returns or purchase a pressure pump.				
	Temperature insufficient. Incorrectly positioned nozzles or nozzles deformed.	Contact the after-sales service. Make sure that the nozzles are in their correct positions. Replace any damaged ones.				

Part 3: For the technician



Every operation of installation, electrical or hydraulic connection, programming, maintanance etc...has to be carried out by QUALIFIED personnel, authorised by the manufacturer;

any interventions carried out by UNQUALIFIED personnell, may compromise the technician's own safety, as well as the safety of other personnel (operators, etc.) or of any other equipment connected to the washing machine.

The manufacturer declines all responsibility for accidents or damage to persons or property caused by failure to comply with the above listed provisions.

3.1 INSTALLATION (Fig. 6-7)

- After having removed the packing, make sure that the machine is in a perfect condition and that all the parts have been included.
- Position the machine in the required setting.

3.1.a Connecting the drain pipe (Fig. 6)

Fix the drain pipe (11) to the relative preset outlet.



It is essential to ensure that the drain pipe that it is not throttled in any part.

3.1.b Connection to the water main (Fig. 6-7)

Screw the end of the fill pipe (12) to a 3/4"G threaded cock, fitting the filter (13 Fig. 7) in between.



It is essential to connect the cold water delivery pipe to a throttle cock in order to separate the water main from the machine itself. Also make sure that there are no sharp bends.

If there is sand in the water main, it will be necessary to install a filter between it and the machine. If the water main is without, it is advisable to install a decalcifier prior to the machine with a setting of min. 4 and max. 8 French degrees.

The manufacturer declines all responsibility for damage to the machines caused by failure to comply with the above listed provisions.

3.1.c Connection to the water main (Fig. 6-7)



- Before connecting to the electricity main, always check that the data pertaining to the power source correspond to those indicated on the identification plate (pos. 9 Fig. 5) and that the main electric power switch installed prior to the machine is disconnected "0" OFF.
- An appropriately sized omnipolar circuit-breaker with a minimum 3 mm gap between its contacts must be installed between the power supply main and the machine.
- The manufacturer declines all responsibility for accidents or damage to persons or property caused

by failure to comply with the above listed provisions.

- Connect the electrical power cable (14) to the main switch installed prior to the machine.
- Connect the equipotential ground conductor to the terminal (15).

3.2 DETERGENT DISPENSER (Optional) (Fig. 8)

The machine is equipped with an automatic detergent dispenser.

Insert the red supply tube (16) into the canister (17).



Always wash the hands under running water if they come into contact with detergent, or comply with the specific indications pertaining to the utilized type of detergent itself.

 Proceed with a few no-load cycles until the intake and delivery tubes have filled.

To adjust the dispenser, refer to the relative enclosed manual and to the utilized type of detergent.

3.3 FILLING THE RINSING AGENT DISPENSER (Fig. 8)

- Insert the transparent tube (18) into the canister (19) containing rinsing agent.
- Start the machine as described in paragraph 2.1. The dispenser will suck about 3 cm of liquid from the canister.
- Fill during the cycle by opening (slightly) and closing the door until the tube has completely filled.

3.3.a Adjusting the dose (Fig. 8)

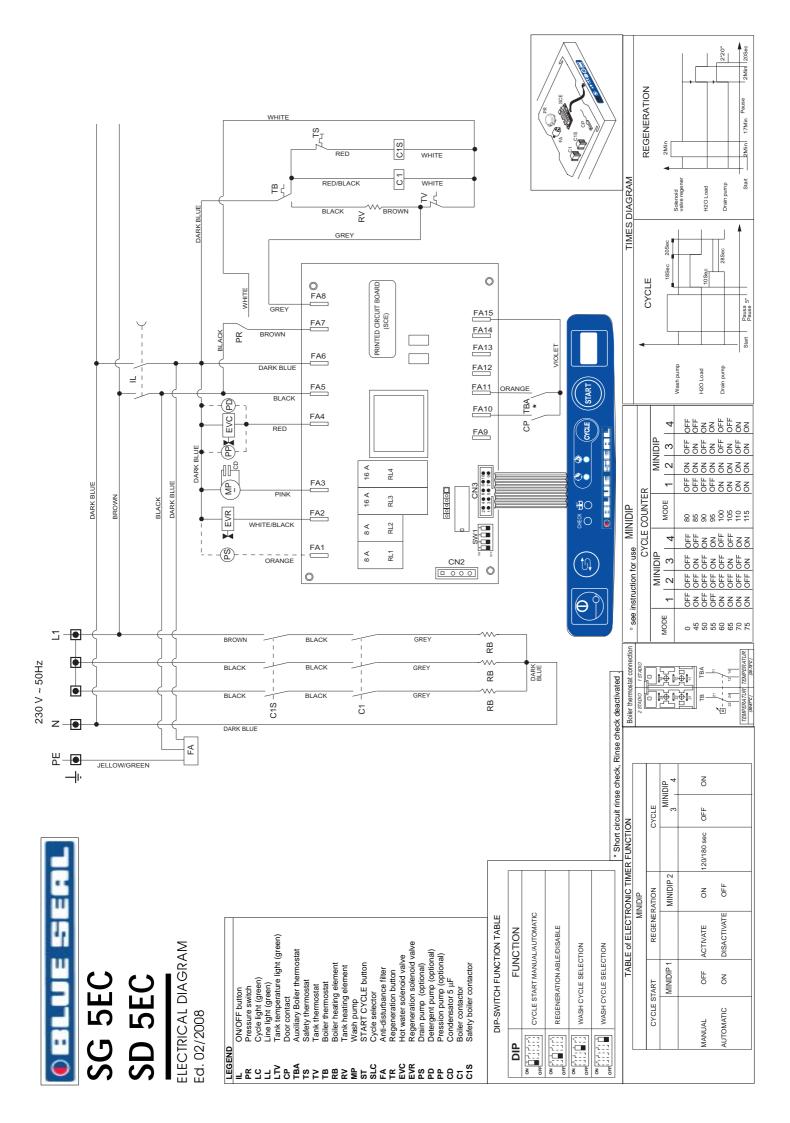
- Start the machine as described in paragraph 2.1 and hold a glass up to the light at the end of the cycle.
- The drops of water on the glass will indicate insufficient dosage while streaks will indicate that dosage is excessive either in relation to density or quantity.
- Regulate by means of the plug (20), turning clockwise to decrease the quantity or anticlockwise to increase it.

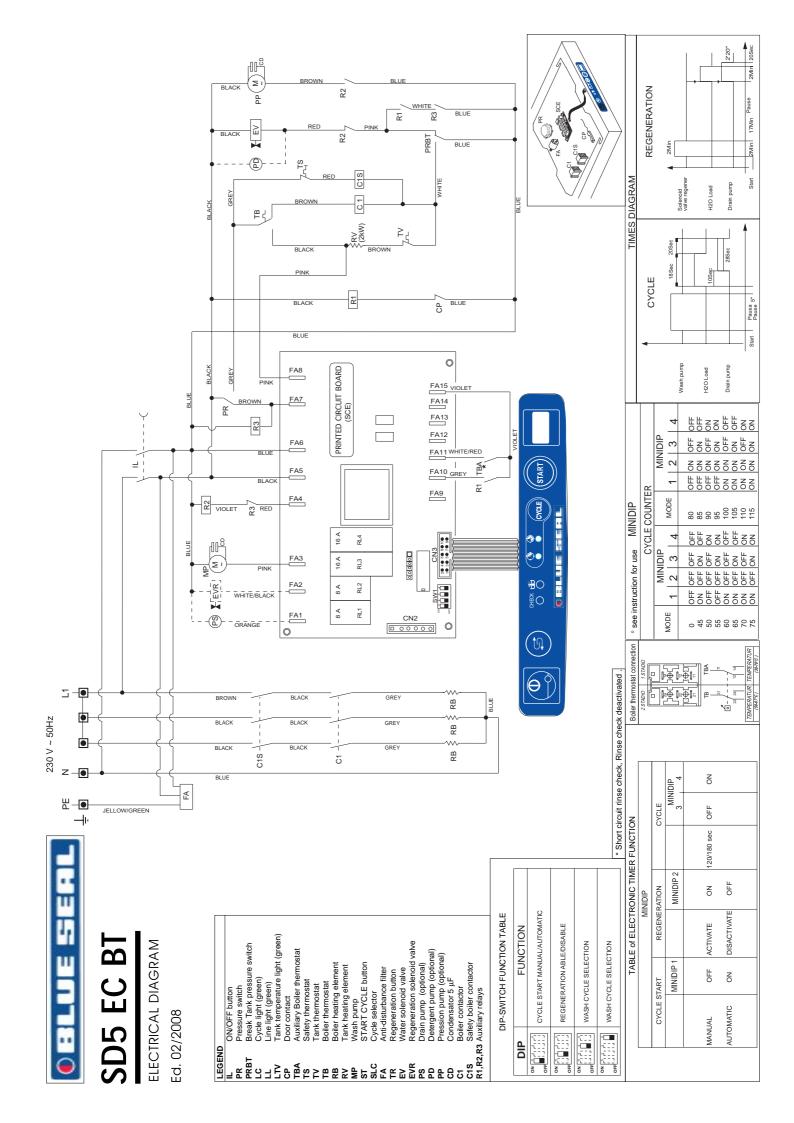
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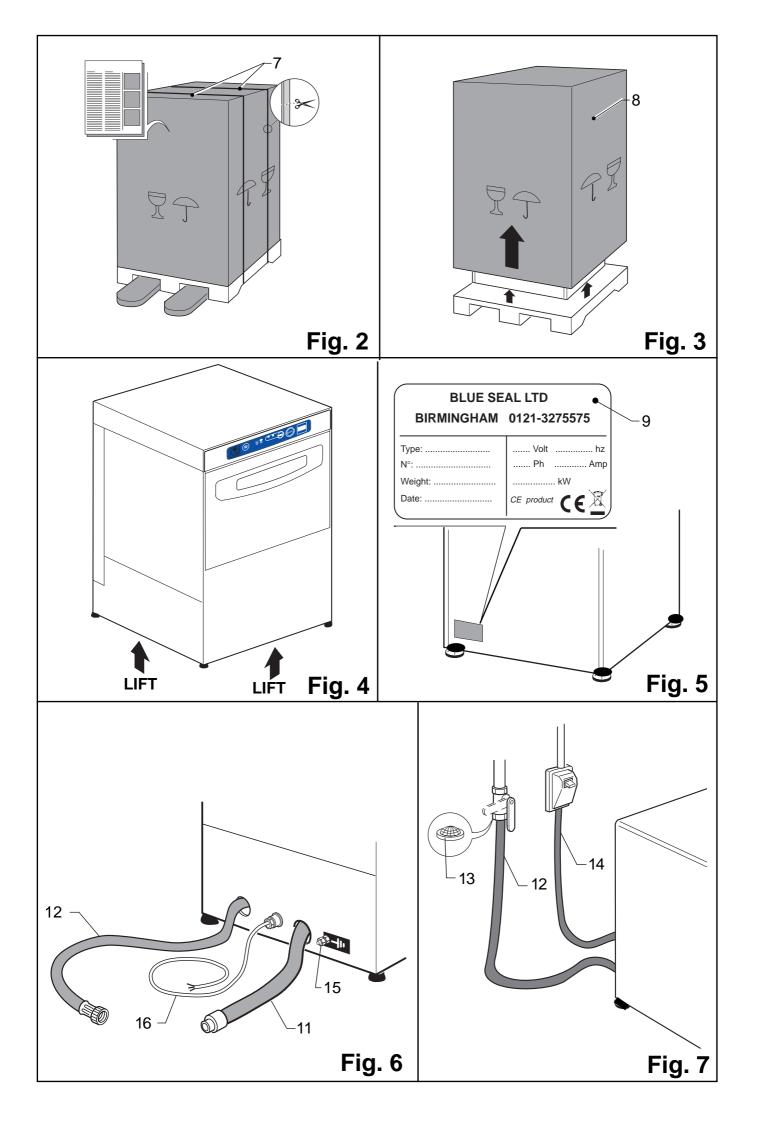
These data are indicative and not binding since they may vary according to the hardness of the water or the utilized type of detergent and rinsing agent.



If the utilized product (detergent or rinsing agent) is changed, it is advisable to flush out the dosing system with water and to then proceed by filling the dispensers.







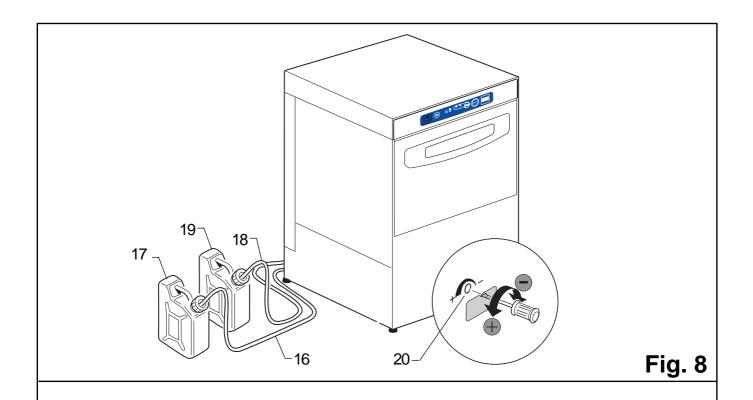




Fig. 9

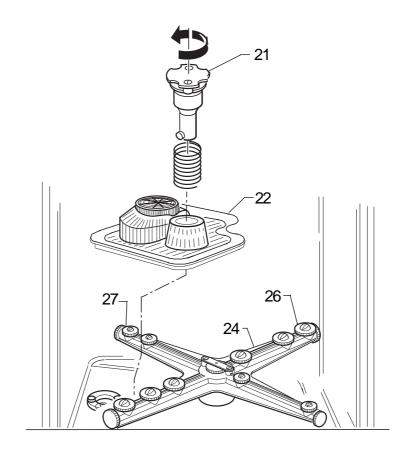


Fig. 10

