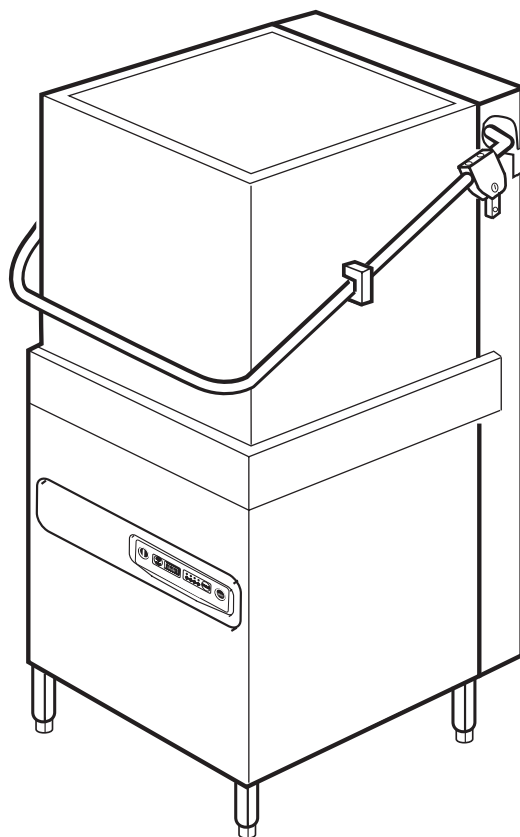




SH 120 E BT

*Instructions for use
and maintenance*



DECLARATION OF CONFORMITY

The following

Blue Seal Ltd

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

hereby declares under full responsibility that the following product

DISHWASHING MACHINE

(product description)

SH 120 E 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:

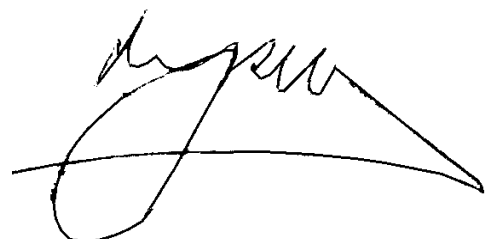
2006/95/CE- 98/37/CE - 89/336, 92/31, 93/68/CEE

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

General Manager

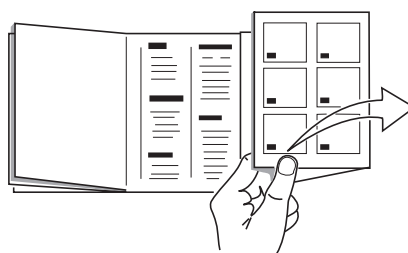
2006

- date of issue -



DISHWASHING MACHINE

SH 120 E BT



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

GBR**IMPORTANT**

Become thoroughly familiar with the contents of thi manual before installing, setting up, adjusting and servicing utensil and pot washer Mod. SH 120 E BT .

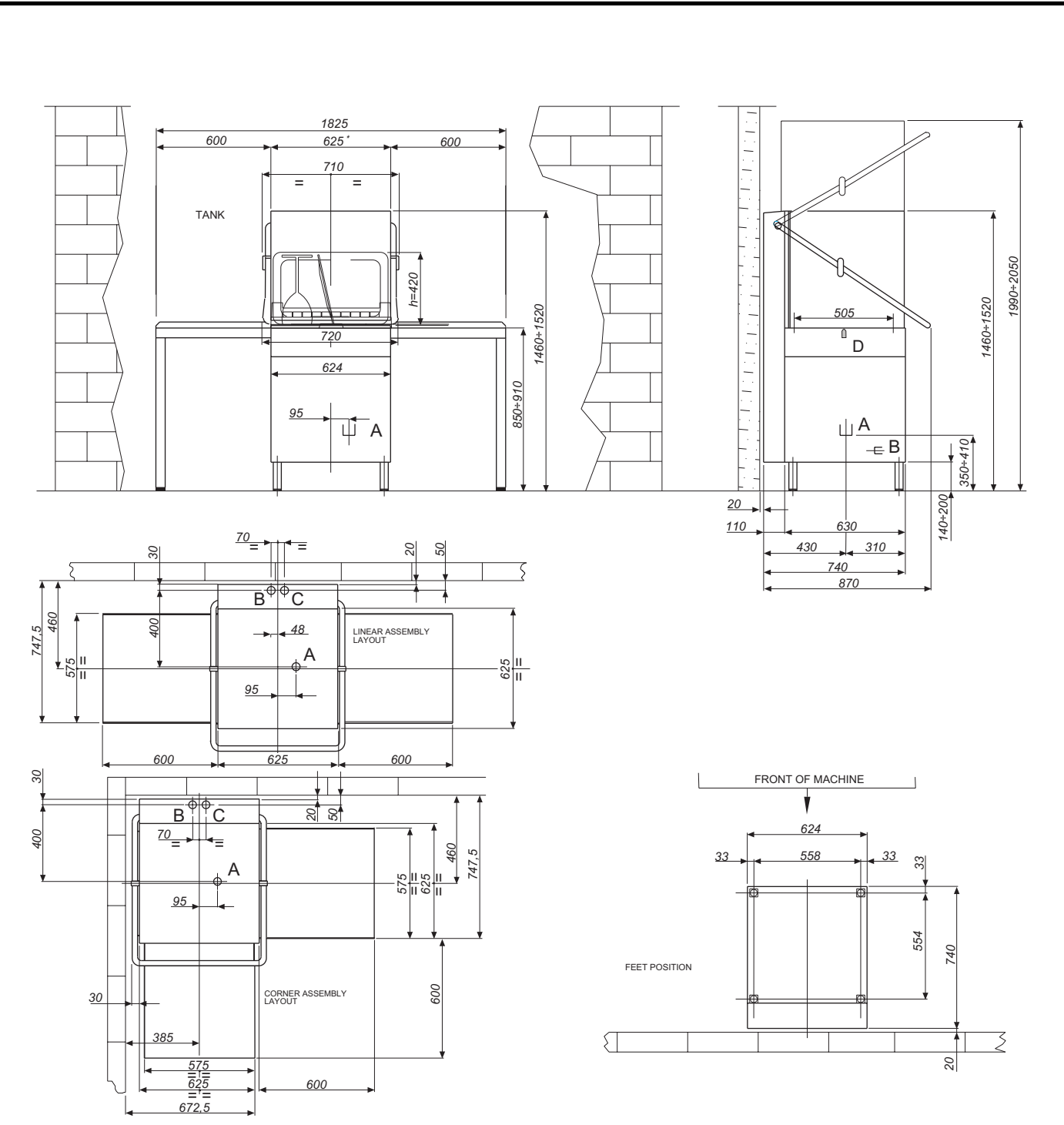
Only contact an authorized technical center or BLUE SEAL in the event of breakdowns or faulty machine operation.

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

INDEX

Important.	pag. 4
Overall dimensions.	pag. 6
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Decription of the controls.	pag. 12

OVERALL DIMENSIONS	
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A	Drain pipe fitting
B	Water inlet
C	Electric supply

TECHNICAL DATA

	Baskets output p/h	Electric supply	Total power	Boiler heating element	Tank heating element	Wash pump
SH 120 E BT	55/36/24	230V/1~50Hz 400V/3N ~50Hz	7100 W 10100 W	6000 W 9000 W	4000 W 4000 W	1100 W 1100 W
	Tank capacity	Boiler capacity	Mains supply of water	Water consumption cycle	Cycle lenght	B a s k e t d i m e n s i o n s
SH 120 E BT	42 l	8,2 l	2 ÷ 4 bar. Ø 3/4"G.	3,5 l	65/100/150s - 8min	500 x 500 mm
	Drain pipe fitting	Net weight	Gross weight	Environmetal temperature min/max.	Environmetal humidity min/max	Wash temperature
SH 120 E BT	Ø 1" G	113 kg	139 kg	5° ÷ 40° C	20 ÷ 90 %	50° ÷ 60° C
	Rinse temperature	Noise level	Water inlet max. temper.			
SH 120 E BT	80° ÷ 90° C	< 70 dB (A)	50° C			

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 as are adequate 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 and before removing any guard. 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.
- Check 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 ON THEIR NEAR VICINITY.**
- The user is obliged to keep all the data plates and stickers in a legible condition.
- It is essential for the user to replace all data plates and stickers as may have deteriorated for any reason or as are not clearly visible, ordering new ones from the Spares Service of **BLUE SEAL.**
- 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 established by common sense, the laws in force in each nation, even when there are no specific provisions to govern the sector in the specific country of use.
- **BLUE SEAL 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 as 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 IN THIS CASE SOLELY RESPONSIBLE TOWARDS THE COMPETENT ACCIDENT PREVENTION AUTHORITIES.**

1.1 GENERAL DESCRIPTION

The dishwashers of the **SH 120 E BT** line give an excellent idea of the know-how achieved by Hoonved in the field of machines for catering sector.

They are true professional washing systems that can be integrated by the use of shelves, tables, etc.

The washing degree is unrivalled for plates, cutlery, glasses, cups, trays and crockery. Model **SH 120 E BT** can wash up to as many as 1200 plates in an hour.

The models feature different productive capacities.

The electronic controls, with touch-panel commands and a display giving machine temperature and status readings, make use easy. Compatible with the HACCP hygiene control system, this machine is in line with the most rigorous hygiene standards.

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, trays, 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.



ATTENTION

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.



ATTENTION

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)

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

1. Cut the straps (10) that hold the cardboard in place.
2. Remove the box (11) 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.
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.

Lift the machine by raising the lower part of the casing using a lift truck or transpallet.

1.6 MACHINE IDENTIFICATION (Fig. 4)

- The serial number and machine data are stamped on the data plate (12) affixed to the rear 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

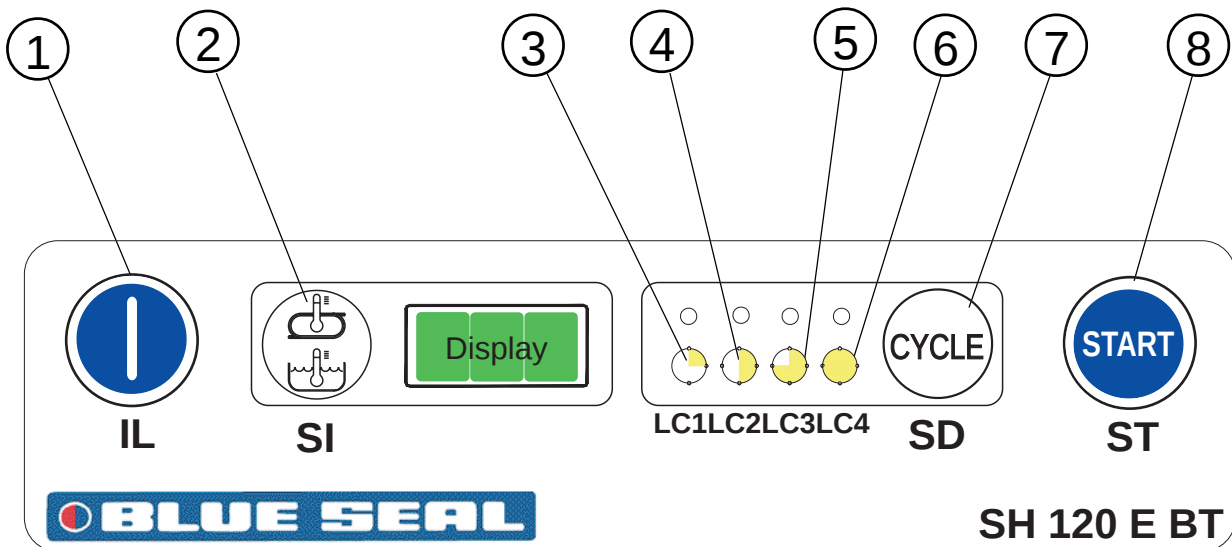
- Models **SH 120 E BT** are equipped with a safety microswitch that blocks the washing pump if the tub access door is accidentally opened, and of other electronic safety devices.
- The electrical parts are enclosed by panels locked by screws.
- The machine is fitted with an equipotential ground conductor.
- Safety overflow 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 pursuant to Directive 73/23 EEC Annex 1 modified by Directive 93/68 EEC, Directive 89/336 CEE.
- Essential requisites established by Directive 2002/95/CEE (RoHS).

PART for the OPERATOR

CONTROL PANEL



① ON/OFF Switch

② BOILER/TANK
Temperature Selection Button

③ SHORT CYCLE Light

④ MEDIUM CYCLE Light

⑤ LONG CYCLE Light

⑥ INTENSIVE CYCLE Light

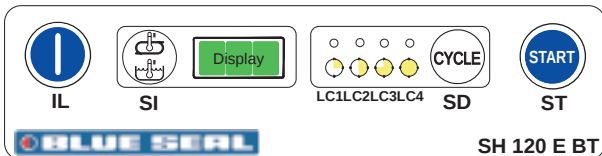
⑦ CYCLE Selection Button

⑧ START CYCLE Button

2.1 SH 120 E BT WASHING PHASES

2.1.a Machine OFF

When the machine is switched OFF the display will read "OFF":



2.1.b Switching on and preparing the machine

To switch the machine on, press the "IL" button. The LED representing the last cycle selected remains CONSTANTLY LIT (LC1 - LC2 - LC3 - LC4).



ATTENTION

When switching on for the first time, the LC2 light remains CONSTANTLY LIT.

First the boiler then the tank will begin to fill automatically.

While the machine is filling up the display will read "F2".



Once filled, the water-heating elements will be activated, first in the boiler then in the tank. The display will give the tank temperature;



IMPORTANT

It is advisable, when first switching on, to wait until the display reads 55°C.

WASHING OPERATION

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



ATTENTION

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-wash soak using a suitable softening agent.

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

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

2.1.c Cycle selection

Press the "SD" or CYCLE button to select the washing cycle required from the 4 different cycles available (SHORT, MEDIUM, LONG, INTENSIVE) and specifically:

- LC 1: SHORT CYCLE = 65 sec.
- LC 2: MEDIUM CYCLE = 100 sec.
- LC 3: LONG CYCLE = 150 sec.
- LC 4: INTENSIVE CYCLE = 8 min.

During the INTENSIVE cycle it is in any case possible to stop the cycle before the end of the programmed time for LC4 by pressing the START "ST" button again.

The minimum time for the INTENSIVE cycle will always and in all cases be 120 sec.

2.1.d STARTING UP THE WASHING CYCLE

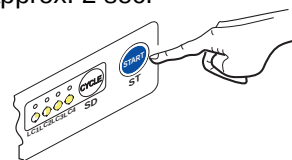


IMPORTANT

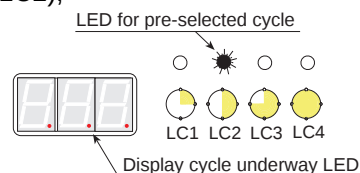
The selection of MANUAL or AUTOMATIC start to be made with machine in stand-by mode

2.1.d.1 STARTING UP THE WASHING CYCLE MANUALLY

To start up the cycle MANUALLY, press and hold the START "ST" button for approx. 2 sec.



The LEDs of the display will light on in sequence and the message shown on the display will blink (indicating that the cycle is underway) at the LED for the selected cycle will FLASH (e.g., LC2);



2.1.d.2 STARTING UP THE WASHING CYCLE AUTOMATICALLY

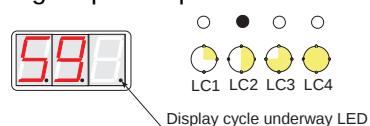
To start up the cycle AUTOMATICALLY (by opening and closing the door), you will need to change the cycle start-up mode. Press and hold the START "ST" button until the pre-selected cycle LED remains CONSTANTLY LIT (approx. 5 sec.) and the washing cycle will then start up AUTOMATICALLY when the door is closed.

The functioning of the led (CONTINUOUS or BLINKING) depends on the chosen type of functioning (MAN. or AUT)

2.1.e Instructions during the washing cycle

2.1.e.1 Display information

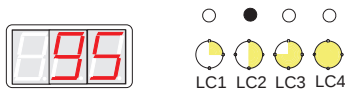
1) During washing, the tank temperature is indicated and the display LEDs light up in sequence.



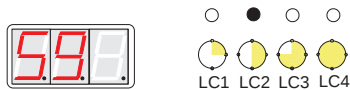
2) During drip-drying, only the display LEDs light up.



3) During rinsing, the boiler temperature is indicated and the display LEDs light up in sequence;



4) For the last 20 sec. of the cycle, when the drainage pump is in operation, the tank temperature is displayed once again.



By pressing the START "ST" button again, a new washing cycle will begin.



ATTENTION

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

This machine guarantees rinsing at temperatures ideal for hygienic purposes; indeed, if this is not sufficient, the washing cycle is automatically extended so as to provide the necessary conditions for optimum rinsing at **85°C**. The waiting time required to attain optimum temperature can extend to a maximum of **8 minutes**.

2.1.e.2 Interrupting the cycle

1) It is possible to pause the washing cycle in case of EMERGENCY, by opening the door; the message "F1" will appear on the display;



normal operations will resume on closing the door.

2) The cycle will also be interrupted by SWITCHING OFF the machine using the "IL" button.

3) On switching the machine back on, the LED indicating the last cycle selected will light up, and the alarm message "A1" will appear on the display;



this will disappear when a new cycle is begun.

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.

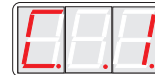
Store all items on hygienic and completely stable surfaces.

2.1.f Self-washing and Draining

When you have finished washing, SWITCH OFF the machine by pressing the "IL" button.

Having drained the machine and released the overflow, close the tank-access door and keep press the START "ST" button pressed for approx. 3 seconds and then release it.

The self-washing and draining cycle will begin, and the drainage pump will be activated (where fitted); the message "C1" will appear on the display for **2 min., 20 sec.**



2.1.g 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 OFF the machine and release the overflow allowing all the water to drain from the tank;
- Remove the tank filters(26) and clean;

Manual draining for machines with drainage pump (PS)

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.



ATTENTION

This cycle can only be carried out by leaving the machine SWITCHED ON and the tank full of water, independently from the hood, which can be open or closed.

Having released the overflow, press the "SD" or CYCLE button for 5 sec.; the drainage cycle will begin.

The message "C2" will appear on the display for **4 min., 20 sec.**



ATTENTION

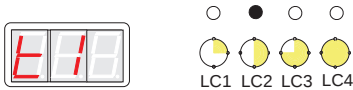
By pressing the "SD" or CYCLE button you can interrupt the drainage cycle before the preset time is up.

At the end of the cycle, restore the filters (26) (30) and the overflow (27) to their respective positions.

2.1.h Reading the TEMPERATURES

At any time, with the machine switched ON or OFF, by pressing the “SI” button you can read, in sequence, the REAL and PROGRAMMED temperatures for the water in the tank (t1) and in the boiler (t2).

- Pressing the “SI” button once, the message “t1” will be displayed



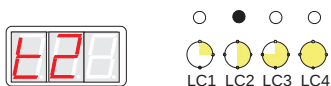
- Pressing the “SI” button a second time, the REAL temperature of the water in the tank will be displayed;



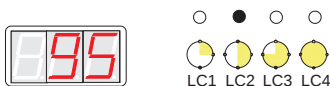
- Pressing the “SI” button a third time, the PROGRAMMED temperature of the water in the tank (for the selected cycle) will be displayed;



- Pressing the “SI” button a fourth time, the message “t2” will be displayed, indicating the boiler;



- Pressing the “SI” button a fifth time, the REAL temperature of the water in the boiler will be displayed;



- Pressing the “SI” button a sixth time, the PROGRAMMED temperature of the water in the boiler (for the selected cycle) will be displayed;



- Pressing the “SI” button a seventh time, the machine will return to its initial status.



ATTENZIONE

The operations listed above CANNOT BE CARRIED OUT DURING A CYCLE.

2.1.i Switching off the SH 120 E BT washer at the end of the day

At the end of the working day SWITCH OFF the CAPI/ SO washer by pressing the “IL” button.

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.

WARNINGS DURING OPERATION

- 1) 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;
- 3) Use only anti-foaming detergents with chlorine-active agents, specific for use in industrial machines;
- 4) 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.

- 5) In no case should you change the programmed temperatures (t1 and t2) without first consulting an authorised assistance centre;

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

Useful advice for better washing 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 (24) are clean and that there is pressure in the water system.

If there are traces of waste, ensure that:

- The filters (26) (30) are clean;
- the water temperature is around 60°C;
- items are correctly positioned in the basket;
- the washing nozzles are clean;
- the wash arms (23) (25) rotate freely.

2.2. CLEANING (Fig.8)

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.



ATTENTION

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.

2.2.b Daily cleaning (Fig. 8)



ATTENTION

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

1. Lift the overflow pipe (27) to completely drain the water from the tank.
2. Remove the filters (26) on top of the tank.
3. Thoroughly clean the inside parts of the machine.
4. Remove the pump safety filter (30).
5. Wash the filters under running water and fit them correctly back in their housings.



ATTENTION

Never use corrosive or acid cleaning products, wire wool or steel brushes since these could damage the machine.

2.3 PREVENTION MAINTENANCE (Fig. 8)



ATTENTION

The preventive maintenance operations must be carried out with the machine off, the main circuit-breaker disconnected, the water supply cocks off and the wash tank empty.

2.3.a Checking and cleaning the spray arms and nozzles (Fig. 8)

Periodically check to make sure that the wash arms (25), the rinse arms (23) and the relative nozzles are not clogged.

Cleaning the unit:

1. Unscrew the ring nut (28/29) and lift the spray arms (23) and (25).
Clean the nozzles (24) if they are clogged and then fit the parts exactly back in their original positions.
2. Wash the washing and rinsing arms.
3. Remount all parts by complying with the above instructions in reverse.

2.4 DESCALING

Where hard water is present lime scale deposits will form 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, micro-switches, 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 ALARM MESSAGES DISPLAYED

MESSAGE	DESCRIPTION
A 1	Failure to COMPLETE CYCLE
A 2	BOILER WATER overheating
A 3	BOILER and/or TANK TEMPERATURE PROBE broken or disconnected
A 4	Lack of WATER in TANK
A 5	BOILER failing to heat
H 1	RINSING WATER insufficient temperature
H 3	WASHING WATER insufficient temperature

SUMMARY TABLE of OTHER MESSAGES DISPLAYED

MESSAGE	DESCRIPTION
F 1	DOOR OPEN
F 2	WATER FILLING in TANK
C 1	SELF WASHING and DRAINING cycle
C 2	MANUAL DRAINING cycle
OFF	Machine SWITCHED OFF
Pro	PROGRAMMING
PSt	RESET and RETURN to STANDARD PARAMET.

TROUBLESHOOTING

PROBLEMS	CAUSES	SOLUTIONS
The machine fails to turn on. The machine does not fill with water.	Main switch disconnected. Water cock shut. Dirty fill pipe filter. Rinsing nozzle clogged. Overflow pipe not well connected. ALARM A4: Lack of water in tank MESSAGE F1: Door Open	Turn on the switch. Turn on the clock. Detach the fill pipe (14 Fig. 6) and clean the filter. Unscrew and clean the nozzles (24 Fig. 8) under running water. Check the right con. of the overflow pipe (27 Fig. 8) Check presence of water in system; Switch machine off and back on Check that the door is perfectly closed and/or the machine is properly levelled
Insufficient washing.	Wrong pump rotation direction. Clogged washing nozzles. Dirty washing filter. Clogged washing blade. No detergent. ALARM H3: Insufficient wash temperature ALARM A3: Probe disconnected or interrupted Insufficient washing conditions.	Call the technician to reverse 2 of the 3 wires on the main switch. Clean the washing blade (25 Fig. 8). Clean the filters (26 e 30 Fig. 8). Remove and clean the balde (25 Fig. 8) Add detergent and fill the dispenser. Wait for tank to reach correct temperature Contact Assistance Centre Check the correct washing phase.
Insufficient rinse.	Clogged rinsing nozzles. Clogged boiler by limestone. Low main pressure (less than 2 bar. - 200 Kpa). Insufficient temperature. Bad location of the nozzles or damaged nozzles. ALARM H1: Insufficient rinse temperature ALARM A3: Probe disconnected or interrupted ALARM A5: Boiler heating failure	Unscrew and clean the nozzles (24 Fig. 8) under running water. Call after-sales service. Wait pressure recovery or purchase a new pressure pump. Call after-sales service. Check the right location of the nozzles and replace damaged ones. Wait for boiler to reach correct temperature Contact Assistance Centre. Contact Assistance Centre.

PART for the TECHNICIAN

3.1 INSTALLATION (Fig. 5)

- After having removed the packing, check that the machine is in a perfect condition and that all the parts have been included.
- Position the machine in the required setting and level it by means of the feet (13).

3.1.a Drain pipe connection

- Connect one end of the drain pipe to the overflow (27) and the other to an already prepared drain trap.



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

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

- Connect one end of the supplied inlet pipe (14) to the solenoid valve and the other end (14) to a 3/4" G threaded cock, installing the filter 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 check that there are no sharp bends.

If there is sand in the water main, it will be necessary to install a filter between the water main 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 Electrical connection (Fig. 4)



- **Before connecting to the electricity main, always check that the data pertaining to the power source correspond to those indicated on the identification plate (12 Fig. 4) 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 (16) to the main switch installed prior to the machine.
- Connect the equipotential ground conductor to the terminal .
- The electrical power cable(not supplied) must have the following characteristics: **Tipe H07RN-F 5G2,5.**

3.2 Viewing and Setting PARAMETERS (MACHINE PRESET)

There are three types of parameters that can be set:

- P** function settings
(valid for all cycles)
- T** temperature settings
(for each single cycle)
- L** wash-cycle length settings
(for each single cycle)

To access the SETTINGS function with the machine SWITCHED OFF:

Press and hold the START "ST" button for 10 sec., until the message "Pro" appears on the display, and the selected LED begins to flash.



Using the "SD" or CYCLE button, select the cycle to be programmed (as indicated by FLASHING LED).



From this position it is possible to access SETTINGS for PARAMETERS in SEQUENCE.



If you do not press any pushbutton within 10 sec., automatically you get out of the programming and the writing "OFF" appears on the display.

3.2.a Altering PARAMETERS "P"

From within "Pro" settings, press the START "ST" button; the message "P1" will be displayed



To confirm parameters in sequence "P" (P1 - P2 - P3 - P4) press the "ST" button.

Now press the "SD" or CYCLE button to decrease and/or the "SI" button to increase the parameter status (0-1). (See table STANDARD SETTINGS PARAMETERS "P")

To exit settings, simply refrain from pressing any buttons for at least 10 sec.

STANDARD SETTING PARAMETERS "P"

PARAMETER	FUNCTION 0	FUNCTION 1	PRESET STATUS
P1	Filling hot water (40÷50°C)	Filling cold water	0
P2	Normal washing	with Pre-rinse	0
* P3	Alternating heating (first boiler than tank)	Simultaneous heating (tank & boiler)	0
P4	1 wash pump	Not used	0
P5	Wait for boiler to heat NOT ACTIVE	Wait for boiler to heat ACTIVE	1
P6	Cycle START tank temp. reached (preset) NOT ACTIVE	Cycle START tank temp. reached (preset) ACTIVE	0
P7	Not used		0



IMPORTANT

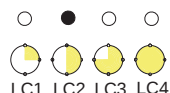
With P1=1: filling and heating of water in the tank is carried out alternately, with pre-heated water from the boiler, until the water level in the tank is reached.

*With P3=1: check fuse value of the safety upstream of the machine (A).

3.2.b Altering PARAMETERS "T" and "L"

Press START "ST" to view programmed temperature.

The message "t1" will appear on the display, indicating the temperature set for the water in the tank (for the selected cycle).



Now press the "SD" or CYCLE button to decrease and/or the "SI" button to increase the temperature/time settings.

(See table STANDARD SETTINGS PARAMETERS "T" and "L")

To confirm parameters and move on to the following settings (in sequence L1 - L2 - L3 - L4 - L5) press the "ST" button again.

To exit settings, simply refrain from pressing any buttons for at least 10 sec.

STANDARD SETTING PARAMETERS "T" and "L"

PARAMETER	FUNCTION	SHORT CYCLE LC1	MEDIUM CYCLE LC2	LONG CYCLE LC3	INTENSIVE CYCLE LC4
T1	Tank temperature	55°C	55°C	55°C	55°C
T2	Boiler entry temperatur.	85°C	85°C	85°C	85°C
L1	Wash time	42 sec.	77 sec.	127 sec.	457 sec.
L2	Pause time	5 sec.	5 sec.	5 sec.	5 sec.
L3	Rinse time	18 sec.	18 sec.	18 sec.	18 sec.
L4	-	-	-	-	-
L5	-	-	-	-	-

3.2.c STANDARD Parameter Settings

With the machine switched off, press the "SI" button for 10 sec.; all parameters (P-T-L) are automatically set as in the tables.

The message "Pst" will appear on the display, confirming that the settings have been programmed.



DYSPLAY ALARMS and SIGNALS : SELF-DIAGNOSIS

when more than one alarm is detected simultaneously, the relative codes will appear on the display in the following order of priority:

1. H1-H3
2. A1-A2-A3-A4-A5
3. F1-F2

The alarm and active function codes shown on the display when the machine is in operation are:

- A1: FAILURE TO COMPLETE CYCLE

This alarm message appears when the machine is switched back on after being switched off using "IL".



- A2 : BOILER OVERHEATING

This alarm message appears when the temperature in the boiler exceeds 105°C; (the cycle underway will be completed).



- A 3: TEMPERATURE PROBE DISCONNECTED

This alarm message appears if either or both of the probe contacts are disconnected (or if the probe is interrupted);
(the cycle underway will be completed).



- A 4: LACK OF WATER IN TANK

This alarm message appears if a lack of water is detected in the tank or if tank level is not reached within 30 min.;

In this case, switch the machine OFF and ON again.



- A 5: BOILER FAILING TO HEAT

This alarm message appears if the boiler fails to heat within 30 minutes.



- H 1: RINSING WATER TEMPERATURE

This alarm message appears if, during the wash cycle, the rinsing phase takes place with a boiler temperature at least 15°C below the level set.



- H3 : WASHING WATER TEMPERATURE (TANK)

This alarm message appears if, during the wash cycle, the washing phase takes place with a tank temperature at least 10°C below the level set;
(the cycle underway will be completed).



- F1 : DOOR OPEN

This alarm message appears if the door is open.



- F2 : INITIAL FILL-UP

This alarm message appears when the machine is filling up with water.



- C1 : SELF WASHING and DRAINING CYCLE



- C2 : MANUAL DRAINING CYCLE

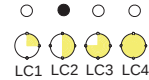


(only for machines with a draining pump)

- OFF: MACHINE SWITCHED OFF



- Pro : PROGRAMMING PARAMETERS



- PSt : "PRESET" PARAMETERS



3.3 DETERGENT DISPENSER (Optional)

The machine is equipped with an automatic detergent dispenser.

- Insert the supply tube into the cannister.



ATTENTION

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.

- The detergent inlet is automatic at every water fill-in in the tank.

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

To connect the detergent pump, use the specific terminals inserted in the electrical system, marked "DD".

3.4 FILLING THE RINSING AGENT DISPENSER

- Insert the tube into the cannister containing rinsing agent. (Refer to the specific instructions given with the rinsing agent itself).
- Start the machine as described in paragraph 2.1. The dispenser will suck about 3 cm of liquid from the cannister.
- Fill during the cycle by opening (slightly) and closing the door until the tube has completely filled.

3.4.a Adjusting the dose

- 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, the streaking or spotting will indicate, instead, an excessive dosage.
- Regulate by means of the plug, turning clockwise to decrease the quantity or anticlockwise to increase it.



IMPORTANT

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.



ATTENTION

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.

230 V~50 Hz

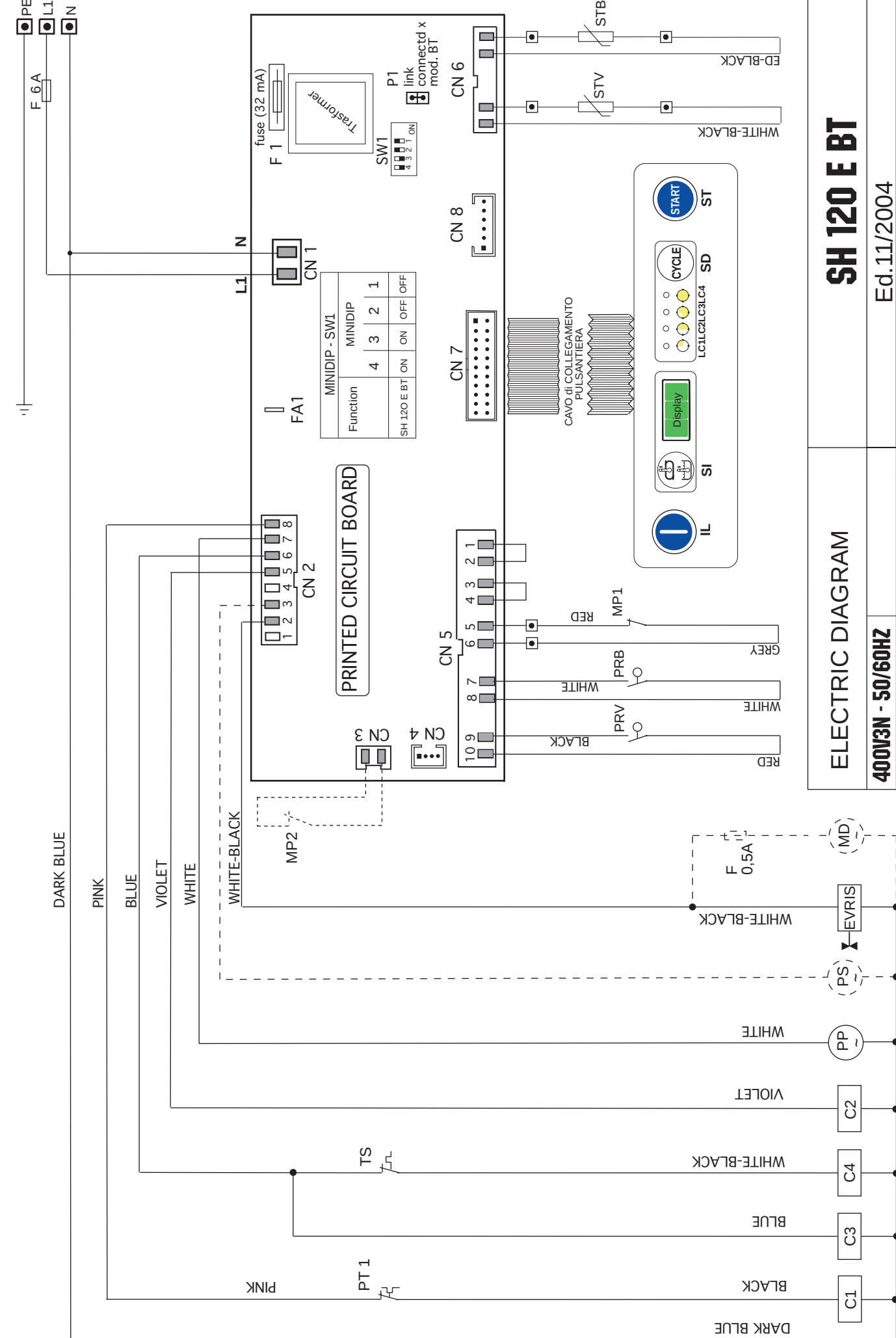


DIAGRAM POWER SH 120 E BT

400V3N ~ 50/60HZ

Ed.11/2004

LEGEND

FA = Electromagnetic Field Filter
C1 = Remote Switch for wash pump
C2 = Remote Control Switch for tank heating element
C3 = Remote Control Switch for boiler heating element
C3S = Safety Remote Control Switch for boiler heating element
C4 = Safety Remote Switch
PT1 = Electropumpe thermal protection
PLAV1 = Wash Pump
RB = Boiler heating element
RV = Tank heating element
PP = Pump Pression
PS = Drain Pump (optional)
DD = Detergent Pump
MD = Detergent pump motor (optional)
MP1 = Microinterruttore porta - Door microswitch
MP2 = Predisposition double door microswitch
TS = Boiler Safety thermostat
F,F1,FA1 = Fuse
IL = Line selector
ST = START button
SD = Boiler/Tank temperature selection button (decrease)
SI = Cycle/Automatic or Manual Start (increase)
LC1 = Short cycle light
LC2 = Medium cycle light
LC3 = Long cycle light
LC4 = Intensive cycle light
EVRIS = Rinse and water inlet electrovalve
STB = Boiler temperature probe
STV = Tank temperature probe
PRV = Tank pressostat
PRB = Boiler pressostat

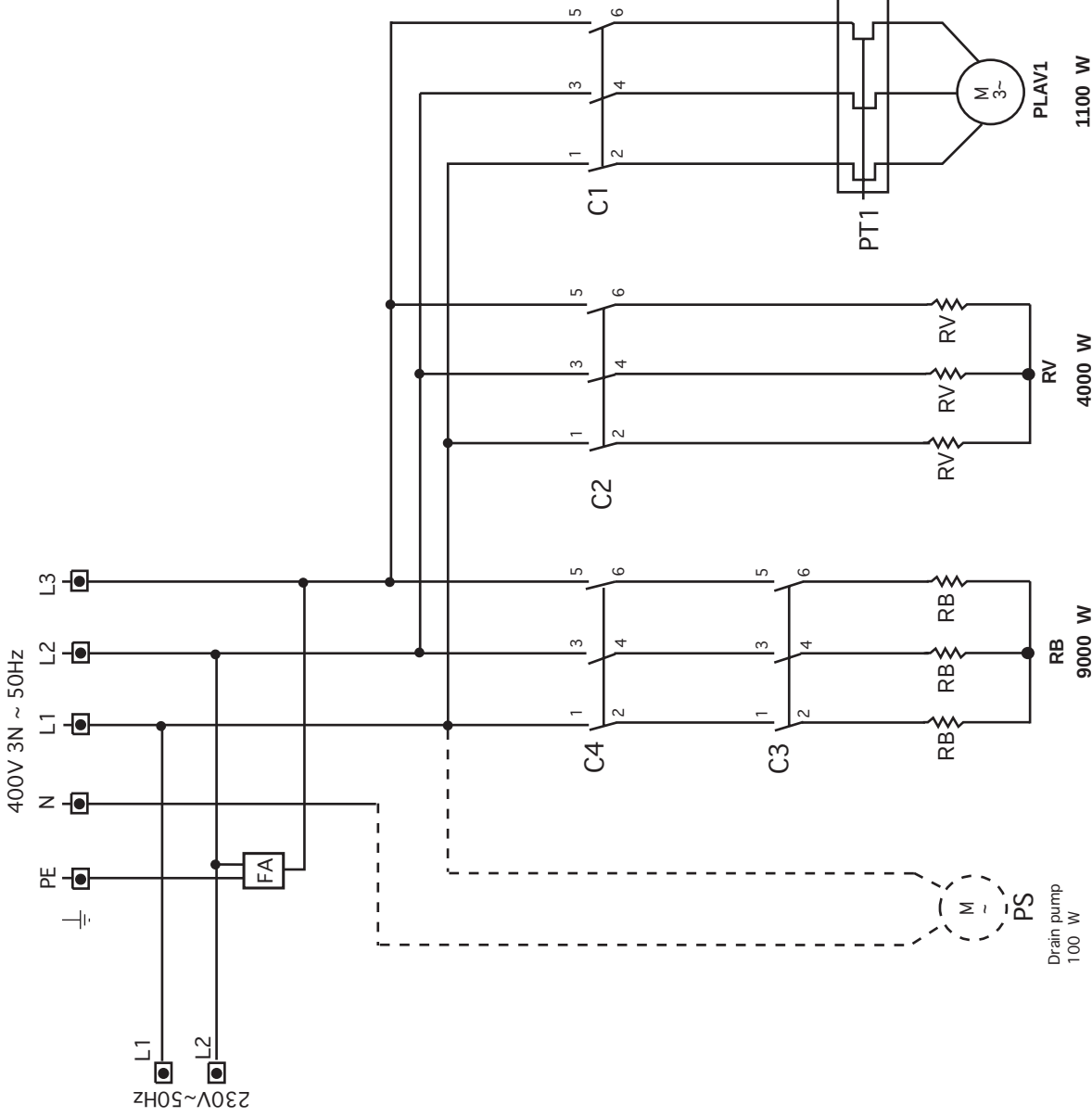


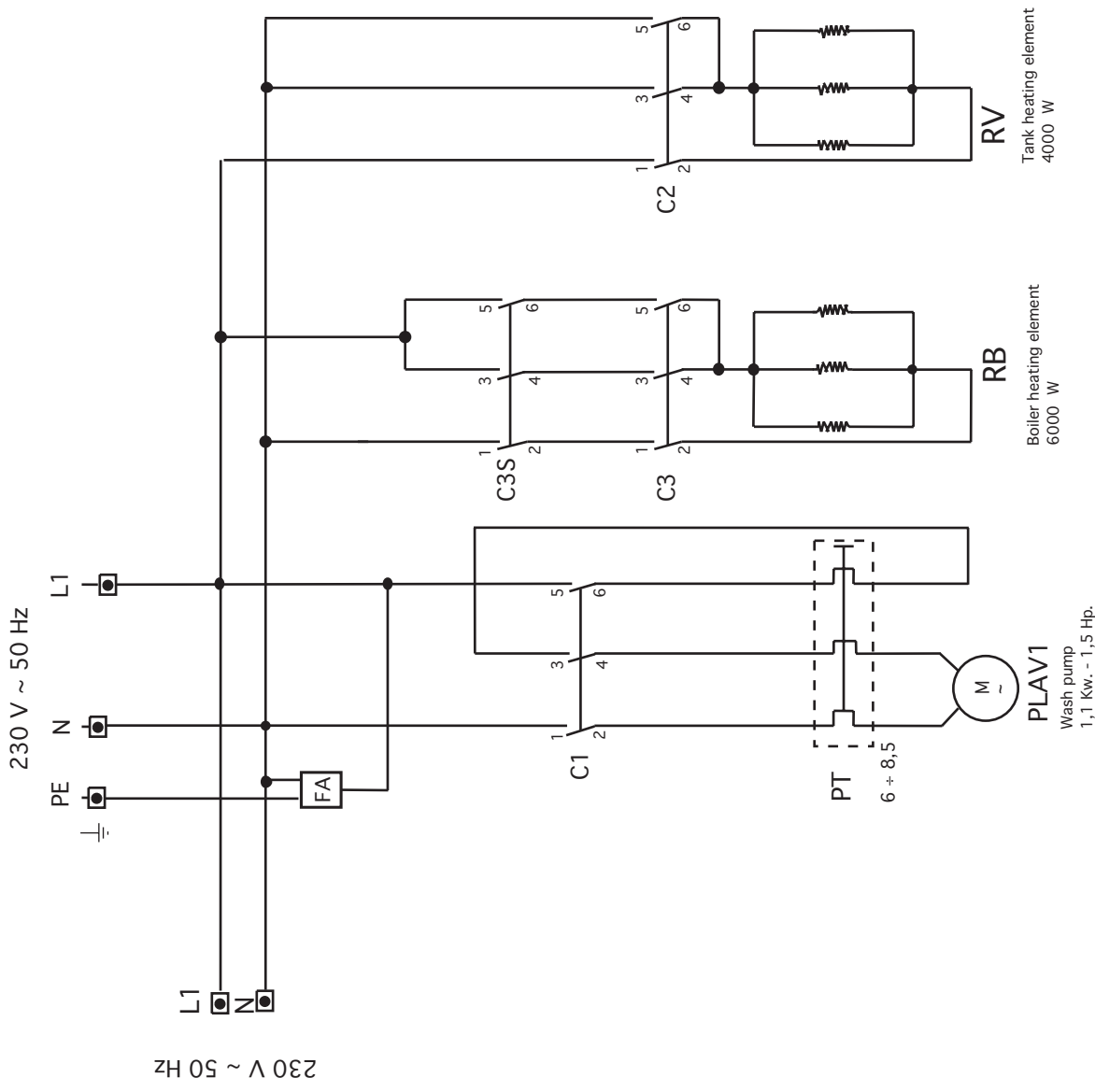
DIAGRAM POWER SH 120 E BT

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STB = Boiler temperature probe
STV = Tank temperature probe
PRV = Tank pressostat
PRB = Boiler pressostat

230V ~ 50/60HZ

Ed.02/2004



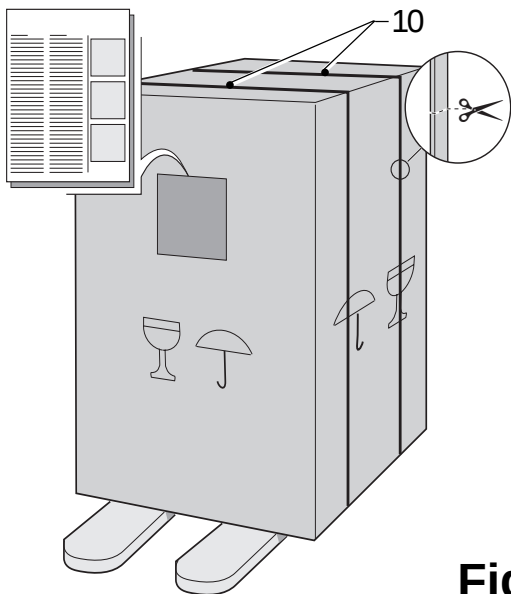


Fig. 2

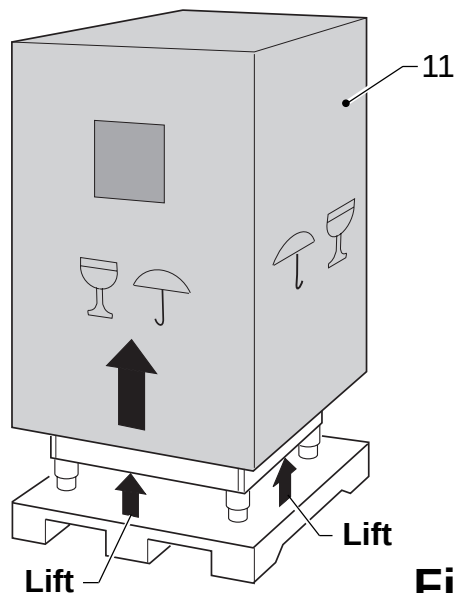
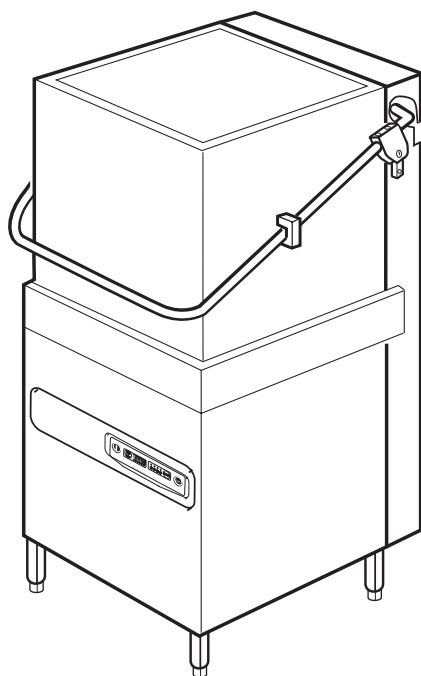


Fig. 3



BLUE SEAL LTD	
BIRMINGHAM 0121-3275575	
Type:	 Volt hz
Nº:	 Ph Amp
Weight:	 kW
Date:	CE product  

Fig. 4

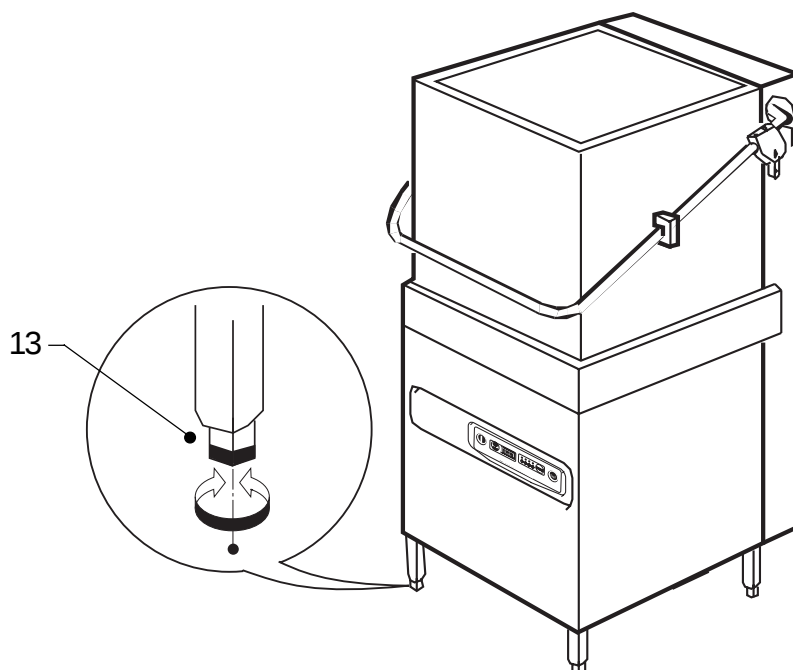


Fig. 5

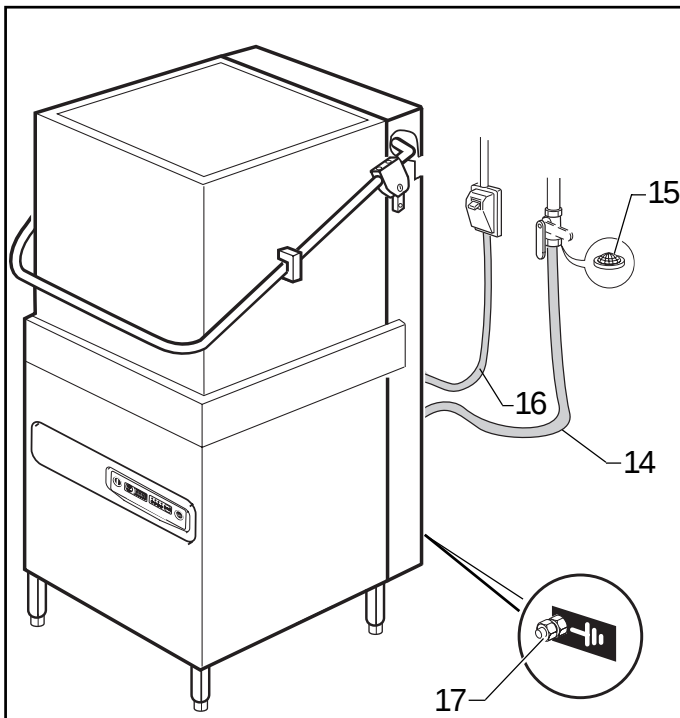


Fig. 6

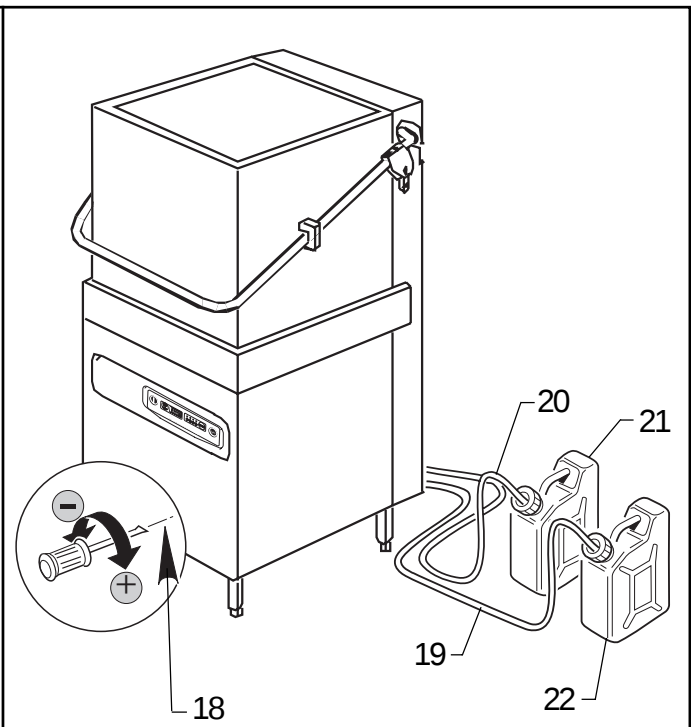


Fig. 7

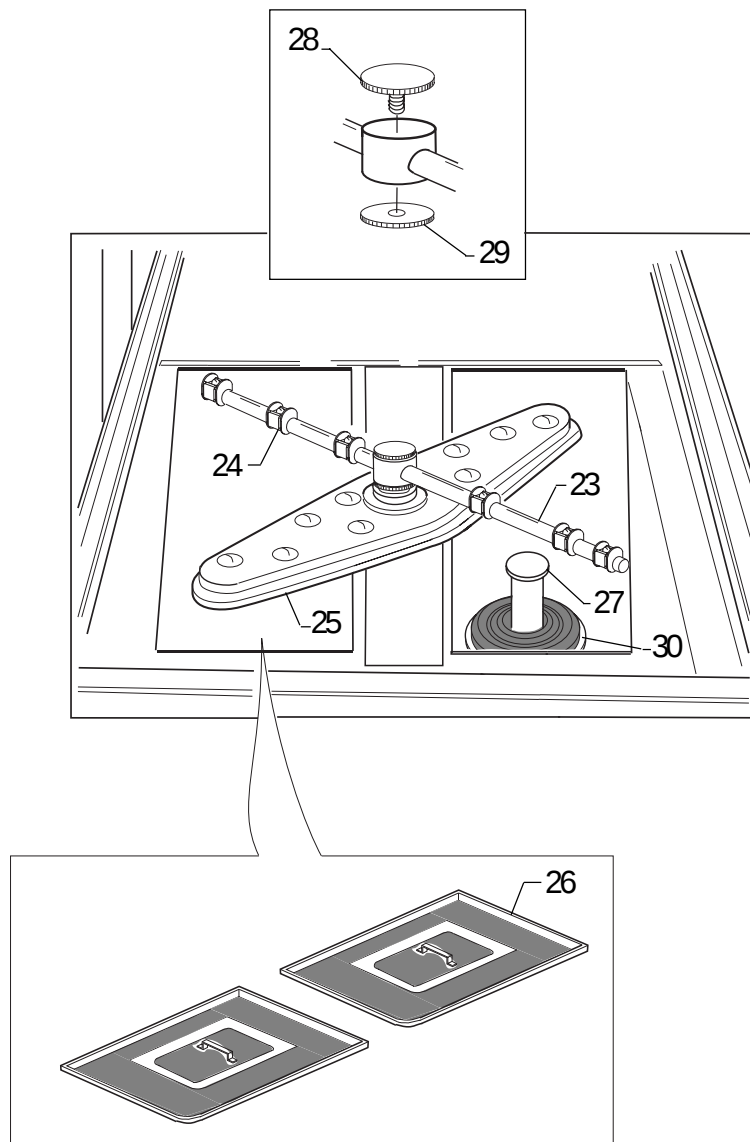


Fig. 8

