Service Manual for Supreme models

INDEX

1. General information and warnings 2
2. Supreme Hardware 3
3. Supreme functional 5
   - 3.1 Supreme operation 5
   - 3.2 Supreme hydraulic diagram 6
   - 3.3 General concepts and star-up 7
   - 3.4 Basic Supreme parameters setting 7
     - 3.4.1 Date/Time 7
     - 3.4.2 Thermo-stop 7
   - 3.5 Advance Supreme parameters setting 8
     - 3.5.1 Model 8
     - 3.5.2 Serial nr 8
     - 3.5.3 Checker nr 8
     - 3.5.4 Software version 8
     - 3.5.5 HOOD/UC TYPE 8
     - 3.5.6 Heating type 8
     - 3.5.7 Preheat filling 8
     - 3.5.8 Temperat. scale 9
     - 3.5.9 Temperat. range 9
     - 3.5.10 Program times 9
     - 3.5.11 Water hardness 9
     - 3.5.12 Draining cycle 10
     - 3.5.13 Sound sig. A2-A5 10
     - 3.5.14 Reset 10
     - 3.5.15 Error record 10
     - 3.5.16 Data record 10
     - 3.5.17 Service mode 11
     - 3.5.18 Show mode 11
   - 3.6 SOFT models 11
   - 3.7 Pressure switches levels 12
   - 3.8 Water temperatures 12
     - 3.8.1 Boiler temperature 12
     - 3.8.2 Tank temperature 13
   - 3.9 Draining 13
   - 3.10 Self-cleaning 14
   - 3.11 Energy saving function 15
   - 3.12 RC - heat recovery system 15
4. Faults, alarm and breakdowns 16

1. General information and warnings

This document contains additional instructions intended only for qualified technical support personnel. Before performing any operation described in this document, carefully read and fully understand the user manual.

THIS APPLIANCE IS INTENDED EXCLUSIVELY FOR PROFESSIONAL USE AND MAY ONLY BE USED BY QUALIFIED PERSONNEL. IT MUST BE INSTALLED AND REPAIRED EXCLUSIVELY BY AN AUTHORISED AND QUALIFIED TECHNICAL SUPPORT SERVICE.

THE MANUFACTURER MAY NOT BE HELD LIABLE FOR ANY PROPERTY DAMAGE OR PERSONAL INJURY RESULTING FROM THE INCORRECT INSTALLATION, USE, MAINTENANCE OR REPAIR, OR CAUSED BY FAILURE TO COMPLY WITH THE STANDARDS AND INSTRUCTIONS PROVIDED.

- The placement, installation, repairs and/or modifications must always be carried out by an authorised technician in accordance with the manufacturer's instructions and the applicable regulations.
- Any installations, adjustments or repairs carried out by unauthorised personnel, incorrect maintenance or use, the use of spare parts other than those supplied by the manufacturer and any other type of alteration to the appliance may cause damage or injury and result in loss of cover under the warranty.
- Ensure that the earth connection operates correctly and efficiently.
- If the appliance breaks down, please call the Technical Service Centre. Do NOT try to repair it or allow unauthorised or unqualified personnel to do so.
- Do not change the position of or handle the machine components, as this may affect the operating safety.
- The dishwasher must be correctly levelled and the electrical cables, water and drainage hoses must not be trapped or contain kinks.
- The appliance has been designed to operate at ambient temperatures ranging from 5 ºC to 40 ºC, and must not be used at temperatures below 5 ºC.

DO NOT INSERT HANDS AND/OR TOUCH THE INTERNAL PARTS OF THE TANK WHILE THE MACHINE IS OPERATING AND WAIT 10 MINUTES AFTER THE WASH TANK HAS DRAINED.

2. Supreme Hardware

Hadware advance the platform consits of:

- Main controller card
- (Optional) extra card with 6 auxiliary relays
- (Optional) display card with 4 or 6 digits of 7 segments (°C and °F) to which a membrane keyboard composed of 4 buttons and 6 LEDs that allows interaction with the equipment

The software detects whether display is being used or not and whether the extra 6-relay card is being used. The contrast on the display, for better visualization, can be adjust by turning the screw (1)

1 (Adjust screw)

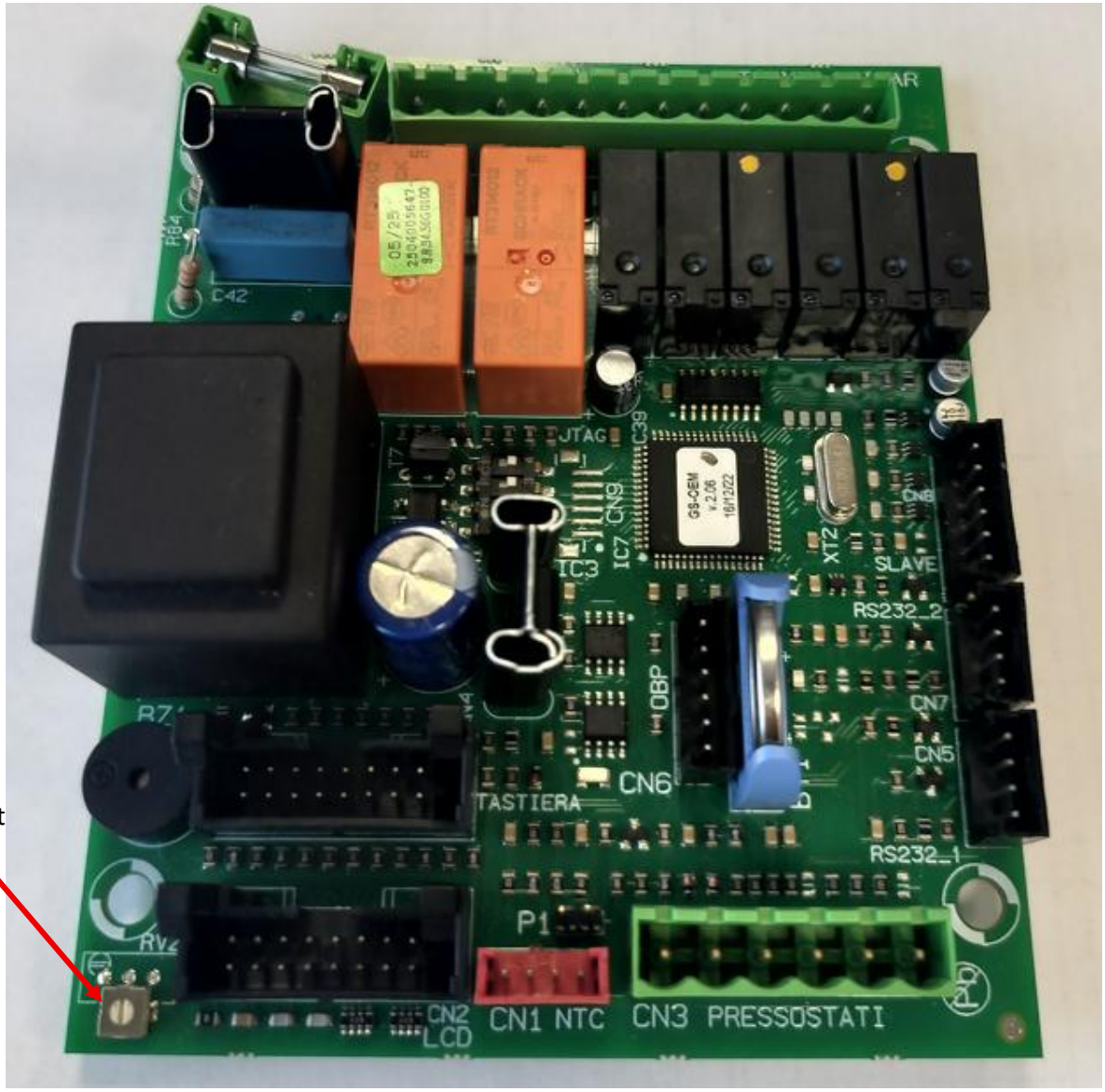


Fig. 1 Main controller

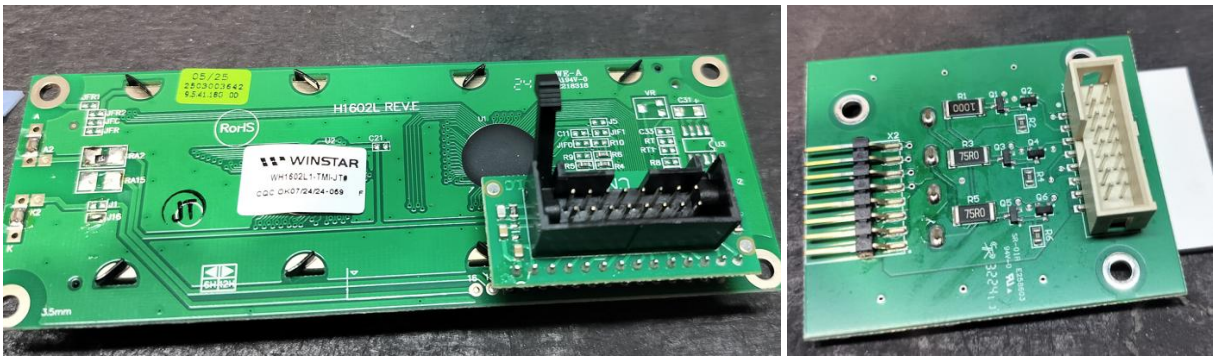


Fig. 2 Display cards

Fig. 3 Extra card (SOFT)

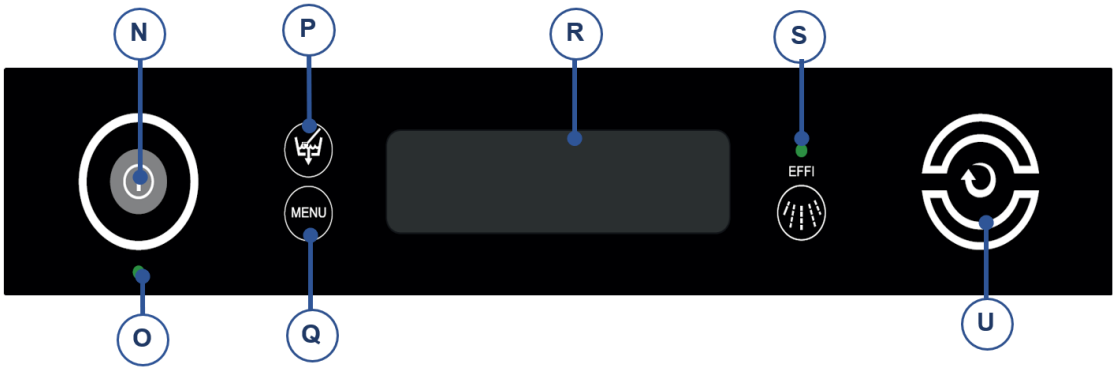


Fig. 4 Supreme sticker

N. Machine on/off button (ON/OFF)	R. Display
O. Machine on, pilot light	S. EFFI- RINSE SYSTEM pilot light
P. Self-Cleaning / Drain button	U. Cycle Start / Stop button
Q. Menu	

3. Supreme functional

Unpowered equipment: equipment not connected to the power supply.

Powered equipment: equipment connected to the power supply.

OFF status: equipment connected to the mains and switched off. All outputs are set to 0.

3.1 Supreme operation

The equipment's wash cycle mainly consists of a wash, a drain, and a final rinse.

The tank thermostat maintains the temperature of the wash water and a motor pump circulates this water with detergent to the wash arms. The water from nozzles reach the dishes from different directions to ensure uniform washing.

There is a pause of several seconds between the cleaning cycle and the rinsing cycle to allow the detergent to drain from the dishes into the wash tank. On models equipped with a drain pump, part of the tank water is drained and replaced with clean water during the rinsing cycle.

In the end of the cycle, the dishes are rinsed with water heated to between 80ºC and 85ºC (176ºF and 185ºF) to remove the detergent from the dishes, which also regenerates the water in the wash tank, by adding clean water. Supreme models are equipment with EFFI-RINSE SYSTEM, the RINSE LED indicator light up when rinsing is performed at temperatures that ensure proper sanitization in accordance with health regulations and at a constant rinse pressure.

The Supreme model always starts with cycle P1 selected by default. To change from wash cycle **P1, P2**, or **P3**, press the MENU button to select cycle and its duration will appear on the DISPLAY. Once the wash cycle has been selected, place the basket with the dishes inside and close the dishwasher. The START button will change from green to blue when the wash cycle begins and will flash during the rinse cycle.

The wash and rinse temperatures appear briefly on the DISPLAY at the start of these cycles. At the bottom of the display, a decreasing bar indicates the percentage of the cycle remaining (if the cycle is extended by the THERMO STOP, the bar stops until the rinse cycle starts).

When the wash cycle ends, the START button turns red and the DISPLAY indicates that the cycle has ended. When the dishwasher is opened, the message disappears and the START button turns green.

The selected cycle will remain selected until the selection is changed or the machine is turned off.

The machine should not be opened while the machine is in operation, but if this happens, the cycle will pause and resume when the door (hood) is closed again.

RED: Equipment preparation in progress (filling and/or heating)

GREEN: Equipment ready

BLUE: Cycle in operation

When the wash cycle is complete, open the hood and remove the basket, allowing the dishes to dry by evaporation for one minute.

- The basket must be removed from the appliance and the dishes/cutlery handled with gloves or clean hands to avoid contamination. Be careful, the dishes will be hot.
- Do not dry the dishes with non-sterile cloths or kitchen towels.
- The operator must strictly comply with all hygiene requirements when handling clean dishes and cutlery.

The technical support may modify the following parameters in any of the cycle at the user's request and under their own responsibility:

- Washing temperature 60°C/140°F → [55-71°C] / [131-159°F]
- Rinse temperature 82°C/180°F → [65-85°C] / [149-185°F]
- Wash time:
  - P1=44 s – [40-81 s]
  - P2=74 s – [70-95 s]
  - P3=104 s – [100-440 s]
  - PG=74 – [70-95 s]
- Rinse time:
  - P1=11 s – [10-18 s]
  - P2=11 s – [10-18 s]
  - P3=11 s – [10-18 s]
  - PG=11 s – [10-18 s]

3.2 Supreme hydraulic diagram

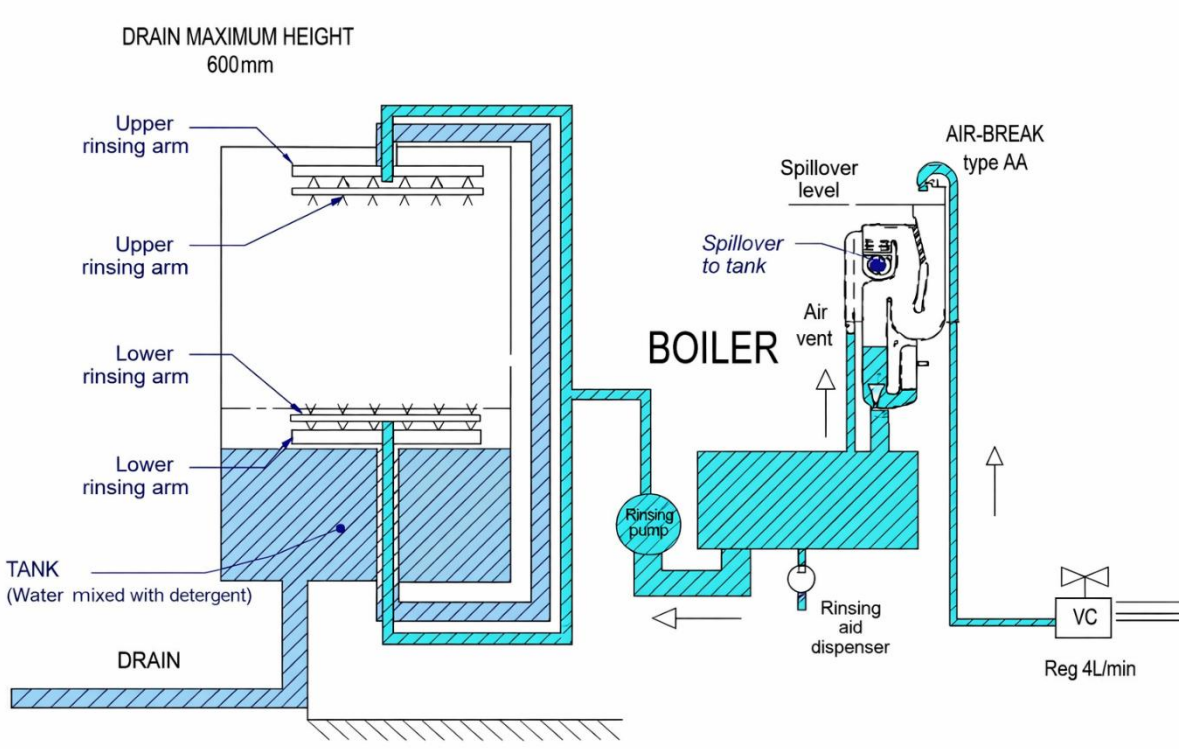


Fig. 5 Supreme hydraulic diagram

3.3 General concepts and star-up

- When the equipment is powered up, the software version is displayed on the screen for 5 seconds.
- When you press ON/OFF button (with the equipment powered), the equipment turns ON. All relays remain disconnected except for RG.
- When ON/OFF button is pressed (with the equipment powered), the equipment switches OFF. All outputs are set to 0 or whenever the equipment loses mains power, it will switch to OFF status when power is restored
- When the device is in operation (in cycle), if the door is opened (IP contact = 0), the timer stops and the outputs CMB and BA are set to "0." When the door is closed again (IP contact=1), all outputs are reset and the timer resumes counting.
- Pressing START/STOP button executes START or stops STOP a program. If a program is stopped by pressing START/STOP, when it is resumed by pressing START/STOP again, the program will start from the beginning. In other words, there will be no pause.
- During tank filling, the tank is filled until it reaches the appropriate level, which varies depending on the model

3.4 Basic Supreme parameters setting

The device is configured by default to English, so you must first access LANGUAGE (LANG) if you wish to change it. Go to the **User Menu**, by pressing **Menu** with the machine switched off for 5 seconds. To browse the **User Menu,** press **Menu** to change the option and **cycle start button** to select an option and enter the different levels. Therefore, go to **LANGUAGE (LANG)** to change the language, press . Select the required language by pressing **MENU** as required, and press **cycle start button** to confirm.

3.4.1 Date/Time

To configure the date and the time, go to **DATE/TIME**. With the format DAY/MONTH/YEAR HOUR/MINUTE ($D_1D_2/M_1M_2/A_1A_2$ H_1H_2/m_1m_2) use the **MENU** and buttons to change the digits one by one (the active digit flashes). It is possible to confirm the setting without reaching the last value, by pressing the button for 3 seconds.

3.4.2 Thermo-stop

When the thermo-stop is activated, it may extends the wash cycle, if necessary until the boiler reaches a rinse temperature that ensures proper sanitization in accordance with health regulations.

	If the water inlet temperature is below 40°C/104°F, the time required to recover working temperatures will increase and productivity will be lower. The thermo-stop can extend the washing cycle times.

This function is activated by default. It can be deactivated via the User Menu; however, it is recommended to keep the function activated to ensure proper sanitization in compliance with health regulations.

3.5 Advance Supreme parameters setting

The configuration and parameter change operation can ONLY be performed by AUTHORIZED AND QUALIFIED PERSONNEL.

To access the advance parameters press together **Menu** and **Start/Stop** button for 5 seconds, with the machine switched off. The require pin code is: **1357**.

3.5.1 Model

All the possible models that can be selected of supreme dishwashers are in table below.

GLASS-WASHER	GS-OEM-400		GS-OEM-400 SOFT	
UNDERCOUNTER	GS-OEM-500		GS-OEM-500	
HOOD TYPE	GS-OEM-H500	GS-OEM-H500 SOFT	GS-OEM-H510 HRS	GS-OEM-H510 S HRS

3.5.2 Serial nr

The serial number of the dishwasher.

3.5.3 Checker nr

The individual number of person responsible of checking the dishwasher on the production line.

3.5.4 Software version

The software version can be checked.

3.5.5 HOOD/UC TYPE

This parameter is automatically set during model selection (see section 3.5.1); however, it can be modified independently. When HOOD TYPE is selected, once the cycle is complete, opening and closing the door/hood automatically starts the next cycle (the same cycle). When **GLASS WASHER** or **UNDERCOUNTER** is selected, the start/stop button must be pressed.

GLASS-WASHER	UNDERCOUNTER	HOOD TYPE	BACK

3.5.6 Heating type

The type of heating can be choose.

ALTERNATE	SIMULTANEOUS	BACK

Alternate – the boiler and tank heater works alternately, the boiler heater has priority. When water in boiler achieve required temperature the tank heater will start working.

Simultaneous - the boiler and tank heater works together, independently.

3.5.7 Preheat filling

YES	NO	BACK

As default preheat filling is selected to “YES”. The fresh water is first preheating to 70℃ in the boiler before filling the tank. This system allows the machine to be filled more quickly as it uses the boiler's increased power to heat the water.

3.5.8 Temperat. scale

The temperature scale can be change between ℃ and ℉.

℃	℉	BACK

3.5.9 Temperat. range

The wash and rinse temperature can be specify for every program:

- Washing temperature, by default: 60℃/140℉ → [55-71℃] / [131-159℉]
- Rinse temperature, by default: 82℃/180℉ → [65-85℃] / [149-185℉]

3.5.10 Program times

The wash and rinse times can be change, in the range show in point 3.1.

3.5.11 Water hardness

In the SOFT version, the dishwasher has a built-in water inlet descaling system.

If the water hardness exceeds 45 ºfH / 31.5 ºeH / 25.2 ºdH, an external descaling unit must be installed.

The task of the integrated softener is to remove the hardness from the water caused by excess calcium and magnesium, which are responsible for causing limescale build-up in the installations.

After analyzing the water hardness, the technician must modify the water hardness value, according to the measurement taken.

WATER HARDNESS				
0-9ºdF (NO-SOFT) / 9-18 ºdF / 18-27 ºdF / 27-36 ºdF / 36-45 ºdF / >45 ºdF				
WATER HARDNESS				
ºfH French degree	ºeH English degree	ºdH German degree	Classification	Cycles for short regeneration
0-9	0-6.3	0-5	Very soft	--
9-18	6.3-12.6	5-10	Soft	35
18-27	12.6-19	10-15.1	Medium hardness	25
27-36	19-25.3	15.1-20.2	Hard	18
36-45	25.3-31.5	20.2-25.2	Very hard	10
>45	>31.5	>25.2	Extremely hard	8

The most commonly used unit in the water treatment sector is French degrees, which are represented as follows: fHº. This unit indicates the amount of calcium and magnesium in the water.

However, there are many other units that are commonly used. Ideally, the conversion to French degrees should be made. Below, we explain how to perform the conversion according to the units provided:

Mg/l of calcium:

Equivalent to 0.25ºfH. In other words, if we have 60 mg/l of calcium, we multiply it by 0.25ºfH and get a result of 15ºfH. In this specific case, we must add the result of mg/l of magnesium in French degrees.

Mg/l of Magnesium:

Equivalent to 0.413ºfH. In other words, if we have 30 mg/l of magnesium, we multiply it by 0.413ºfH and get a result of 12.39ºfH.

In this specific case, we must add the result of mg/l of calcium in French degrees. (To find out the final hardness of the unit, we add the two results in fHº. In this case: 15ºfH + 12.39ºfH = 27.39ºfH).

Mg/l of CaCO3:

Equivalent to 0.1ºfH. That is, if we have 250 mg/l of CaCO3, we multiply it by 0.1ºfH, and we will obtain a result of 25ºfH.

Ppm of CaCO3:

It is very important not to confuse this with the reading provided by a TDS meter. Many of our users call us alarmed because their water is at 400 ppm. A TDS meter only measures conductivity. The ppm of CaCO3 is equivalent to the mg of CaCO3 in one liter.

ºdH (German degrees):

Equivalent to 1.78°fH. That is, if we have 36 ºdH and multiply it by 1.78ºfH, we get a result of 64°fH.

ºdH (English degrees)

Equivalent to 1.43°fH. That is, if we have 28 °eH and multiply it by 1.43 °fH, we get a result of 40 °fH.

mmol/l:

Equivalent to 10 °fH. That is, if we have 2 mmol/l and multiply it by 10 °fH, we get a result of 20 °fH.

Mval/l (eq/l):

Equivalent to 5 °fH. That is, if we have 3 mval/l and multiply it by 5 °fH, we obtain a result of 15 °fH.

In the case of converting French degrees (°fH) to milligrams of calcium carbonate ($CaCO_3$), we must multiply the number of French degrees by 10.

Example: 22 °fH × 10 = 220 mg/l of $CaCO_3$.

3.5.12 Draining cycle

The number of washing cycles after the draining alarm will occur. The default number of cycle is 100 and it can be adjusted from 50 to 400 in increments of 10.

3.5.13 Sound sig. A2-A5

The sound alarm signal can be enabled or disabled.

YES	NO	BACK

3.5.14 Reset

By selecting the Reset function, all settings are restored to the default configuration, except for the selected model, serial number, and checker number, which remain unchanged.

3.5.15 Error record

The error record allows viewing the recent errors, showing the error code and the time at which each error occurred.

VIEW	BACK

3.5.16 Data record

The data record allows viewing the number of cycles performed for each program, as well as the complete error history.

3.5.17 Service mode

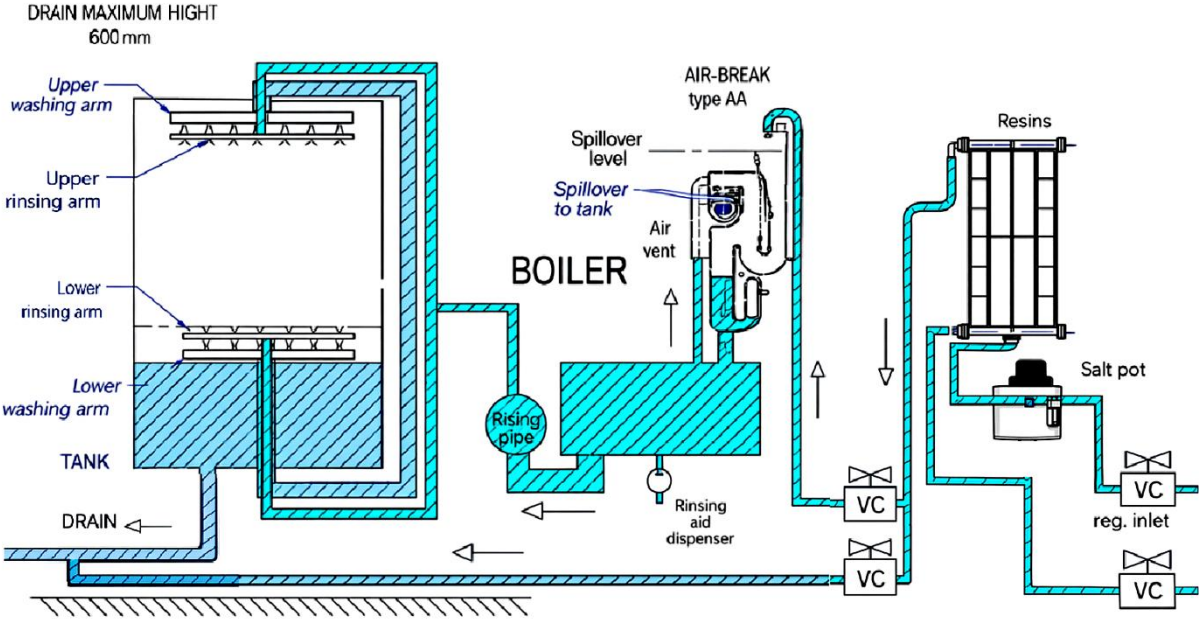
By entering Service Mode, it is possible to activate individual components, such as the wash pump, drain pump, solenoid valves etc. This function is useful for troubleshooting, as it allows checking whether the problem is related to a specific component or to other parts of the system. Also the pressure switches levels, boiler and tank temperatures can be seen.

3.5.18 Show mode

Additional feature, which allows to show how the dishwasher looks during washing without water. The feature is helpful in trade fair or in showrooms.

3.6 SOFT models

Hydraulic scheme of SOFT models below.



Before starting up the equipment, the corresponding tank must be filled with regeneration salt for water softeners (coarse salt, max. grain size 5–7 mm, do not use tablets) and clean water (do not use common salt or any other type of liquid).

To fill the regeneration salt tank, follow the steps below:

- Open the equipment cover,
- Remove the basket from the equipment,
- Unscrew the cap of the salt tank located at the top of the tank,
- Using a funnel, pour regeneration salt into the tank. The first time, pour in 1 kg of regeneration salt and fill the remaining space with drinking water. On subsequent occasions, pour in only 0.5 kg of regeneration salt; the tank will have the necessary water,
- Carefully clean the seal and edges of the tank before closing it with the cap to prevent rusting - Close the tank with the cap and tighten it securely.

The appliance alerts the user with a flashing message on the DISPLAY that the salt container needs to be refilled: “A5LACK OF SALT”. This message usually takes a few cycles to disappear after refilling the salt container.

The regeneration process is performed automatically depending on the hardness of the water, but it is not noticeable to the user as it is performed in the background, although in some cases it may extend the washing cycle by a few minutes (short regeneration takes around 3 min).

Occasionally, when the equipment is turned on, the message "REGENERATION" may appear, which means that regeneration will take place in a few minutes before the equipment is filled.

Occasionally, the unit performs a more thorough regeneration, 15 minutes after being turned off, displaying the message "REGENERATION" on the display and lasting around 15 minutes.

The "REGENERATION" can be selected by the user, if necessary.

3.7 Pressure switches levels

The values are approximate, as at these values the electrovalve or drain pump stops; therefore, the actual values may be slightly different due to the inertia of water flow.

Tank pressure switch values				
Level abbreviation	Description	GS-OEM-400	GS-OEM-500/510	GSX-OEM-H500/510
PT1	Minimum safety level of the tank	10 mm	10 mm	10 mm
PT2	Minimum operating level of the tank	40 mm	50 mm	80 mm
PT3	Maximum operating level of the tank	50 mm	60 mm	100 mm
PT4	Maximum safety level of the tank	85 mm	110 mm	135 mm

PT1 - If this level is reached during the wash cycle, the equipment is disabled and error 12 is displayed.

PT2- At the end of the washing process, the water will be drained until this level is reached.

PT3 - Starting operating level. When water is filled for the first time, it reaches this level.

PT4 - If this level is detected, the equipment is disabled, displaying error 11 and draining until it reaches operating level.

Tank pressure switch values		
Level abbreviation	Description	Level [mm]
PC-HIGH	Maximum operating level of the boiler	35
PC-LOW	Minimum operating level of the boiler	15

3.8 Water temperatures

The heating and temperature regulation of the is carried out with a hysteresis of 2°C

3.8.1 Boiler temperature

The effective temperature setpoint depends on the operating status of the equipment and is adjusted as follows:

- Standby mode: 5 °C below the normal setpoint temperature
- Energy-saving mode: 10 °C below the normal setpoint temperature
- Running a wash program: configurable range (65-85℃), default 82℃

The boiler heating element will activate if the programmed boiler temperature falls below the configured level and if the water level in the boiler is adequate (PC>PC-LOW).

The boiler heating element will not activate in the following situations:

- Equipment turned off
- Boiler empty or minimum boiler level (PC<PC-LOW) not reached
- During the tank rinsing or filling process (CC=O if BA=1)
- During the automatic emptying process and self-cleaning drain program
- In the event of a probe error (see error table)

3.8.2 Tank temperature

The tank heating element will operate if the tank level condition is met (PT>PT1) and if the temperature in the tank is lower than the programmed temperature (TT<Tª programmed wash)

The effective temperature setpoint depends on the operating status of the equipment and is adjusted as follows:

- Standby mode: Same value as the normal setpoint temeprature
- Energy saving mode: 5°C below the no
- Running a wash program: configurable range (55°C – 71°C). Default: 60°C

The tank heating element does not operate in the following cases:

- Equipment OFF
- If the tank temperature condition is met (TT≥Setpoint)
- If the tank level condition is not met (PT<PT1)
- During automatic emptying or execution of the self-cleaning drain program
- If a tank probe error occurs (see error table)
- If alternate heating type: Tank and boiler heating will be alternate, the tank heating element will not operate if boiler heating element is operating.

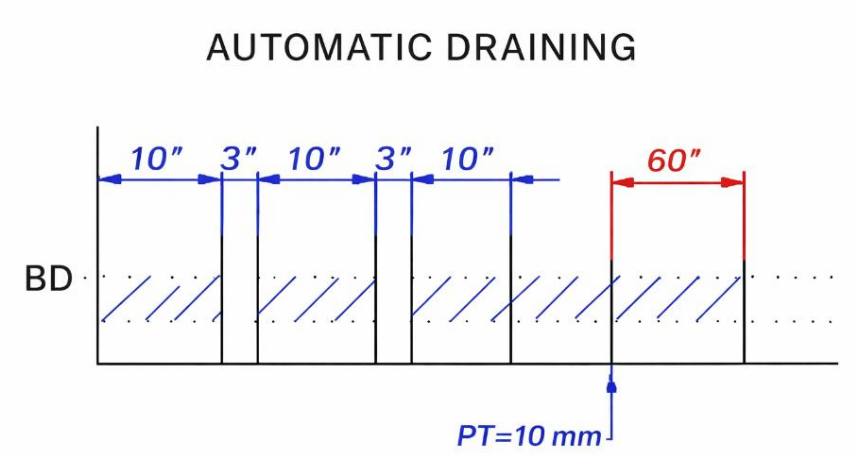
3.9 Draining

The machine is fitted with a drainage pump as standard and there are three ways of draining the tub:

- **Automatic drainage:** 5 minutes after switching off the machine, the wash tub is automatically drained, unless a Manual Drainage or Self-cleaning cycle is run first.
- **Manual drainage:** To drain the machine immediately without waiting 5 minutes, when the machine is switched off go to the User Menu and select YES in the **DRAIN** option. Keep the door closed.
- **Self-cleaning cycle**: It is also possible to use the self-cleaning option, which in addition to draining the tub, runs an internal cleaning cycle. Without removing the filters and with the door closed, press self-cleaning **button** **,** and SELF-CLEANING is displayed. Next, press **cycle start button** to begin the cycle. After several minutes, the cycle ends, and a message is displayed together with a buzzer alarm and the machine automatically switches off.

	To drain the machine with the drainage pump, the hose must be at a height (max. 680 mm).

Automatic draining will be an intermittent drain, keeping the BD drain pump active for 10 seconds and stopping for 3 seconds. This loop will be repeated as many times as necessary to completely empty the tank. Once PT = 10 mm is reached, a final 60-second drain pulse will be carried out, during which the tank is completely emptied.



3.10 Self-cleaning

There is also the option to use the Self-Cleaning function, which, in addition to emptying the tank, performs an internal cleaning cycle.

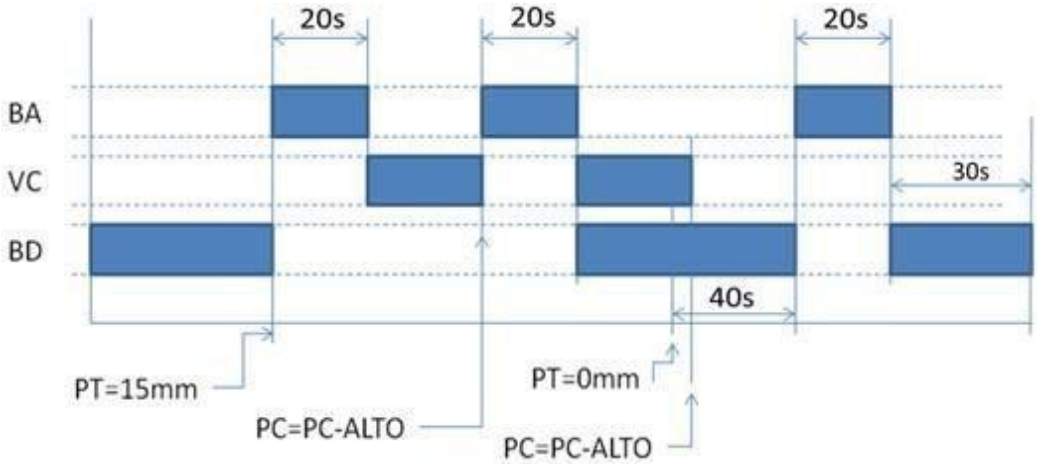
Without removing the filters and with the door closed, press the P button (fig. 4) the message SELF-CLEANING will appear on the display.

Then press START to begin the cycle. After several minutes, the cycle will finish and the message END SELF-CLEANING will appear on the display for 5 seconds, accompanied by an audible beep lasting 1 second, after which the machine will switch off automatically.

	The self-cleaning cycle does not replace the need for a more thorough manual cleaning when required.

If the door is opened, the cycle is paused (a door-open warning message is shown on the display for 5 seconds).

After closing the door again, the cycle will resume from the point at which it was interrupted and continue until the end of the program.



3.11 Energy saving function

Standby mode: Whenever the equipment is idle, the boiler maintenance temperature will be 5℃ lower than the set temperature.

Energy-saving mode: If the appliance does not run a program within a 30-minute interval, the dishwasher will switch to ENERGY-SAVING MODE, where the boiler maintenance temperature will be 10℃ lower and the tank temperature will be 5℃ lower than the set temperatures.

3.12 RC - heat recovery system

Only **hood-type dishwashers** can be equipped with a heat recovery system (RC). This system improves energy efficiency and significantly reduces the amount of steam released when the hood is opened.

The heat recovery system is activated during the rinse phase and continues to operate for 30 seconds after the end of the cycle. If the cycle is restarted or the hood is opened, the heat recovery system is switched off. The working time can be modify by technical in range from 6 s to 60 s. To change it the middle knob in RC relay (see the picture on the left) needs to be set, the selected number is the multiplication of 6 seconds (e.g. the arrow set to number 8, the time will be 42 seconds after rinse cycle). Longer time means less steam and more heat recovery, however the cycle takes more time. The default 30 seconds is good balance between time and efficiency.

The defaults settings of RC time relay are, from the top:

- First knob – **6-60s**
- Second knob – **5**
- Third knob - **C**

4. Faults, alarm and breakdowns

The steps to be followed in the event of a fault or operating error are described below. The possible causes and possible solutions are listed in the following table. In the event of doubt, or if you are unable to resolve the problem, please contact the technical service.

	Do not handle electrical components, as there is a risk of death as the components are live.

FAULT	POSSIBLE CAUSE	SOLUTION
The machine does not come on.	There is no power supply.	Check whether the magneto-thermal circuit breaker has been triggered.
	The fuses have blown.	Call the technical service to analyze the reason why.
	Main switch open.	Close switch.
The machine does not fill with water.	Water entrance valve closed.	Open the water valve.
	Rinse nozzles blocked.	Clean nozzles and check branches for build-up of lime.
	Solenoid valve filter blocked.	Call the technical service to clean the filter.
	Rinse pump faulty	Call the technical service to replace the pressure switch.
	Pressure switch is broken.	Call the technical service to replace the pressure switch.
	Hood is not closed properly	Close hood properly.
Unsatisfactory wash.	Wash distributors obstructed.	Clean distributors thoroughly.
	Shortage of detergent.	Call the technical service to reset the dispenser.
	Dirty filters.	Clean the filters thoroughly.
	Presence of foam.	Unsuitable detergent. Call the technical service to supply correct detergent.
		Too much rinse aid. Call the technical service to reset the dispenser.
	Temperature of lower tub at 50 ^{o}C / 122 ^{o}F.	Thermostat faulty or incorrectly set. Call the technical service to repair it.
	Length of cycle too short for level of dirt on dishes.	Select a longer cycle.
	Water too dirty.	Drain the wash tub and fill with clean water.

Dishes and kitchenware are not dry.	There is no rinse aid	Fill the rinse aid container.
	Rinse aid low.	Call technical service to adjust dispenser.
	Dishes left inside dishwasher for too long.	When the dishwasher finishes, remove the basket from the machine and allow to dry naturally.
	Rinse temperature lower than 80 ºC / 176 ºF.	Call technical service to analyse problem.
Scratches or stains on dishes.	Too much rinse aid.	Call technical service to adjust rinse aid dispenser.
	Water too chalky.	Check water hardness and if possible run regeneration cycle immediately.
	Not enough salt in salt deposit.	Fill salt deposit where applicable.
	Traces of salt in tub.	When filling the salt deposit, take care not to spill salt in the tub.
Machine stops during operation.	Electrical installation overloaded.	Call technical service to modify electrical installation.
	Machine protection has tripped.	Reset safety device and if it trips again, call technical service.
Machine stops and fills with water when it is washing.	Pressure switch pipe blocked.	Empty the tub and clean thoroughly.
	Pressure switch faulty.	Call the technical service to replace it.
	Overflow incorrectly mounted.	Mount overflow correctly.
The machine does not start with the wash cycle.	Hood is not closed properly.	Close the hood correctly and if it is seen to re-open alone, call the technical services to adjust the spring hinges.
	Hood micro switch faulty.	Call the technical service to replace it.
Machine does not drain completely.	Machine not levelled correctly.	Level the machine In the event of doubt, please contact your technical service.
	Pressure switch faulty.	Call the technical service to replace the pressure switch.

Errors:

The errors are shown on the DISPLAY with a flashing error warning and a buzzer alarm. The buzzer alarm has a cycle of 30 s active and 150 s off until it is switched off after 15 minutes. The warning message continues to be displayed until the error is resolved or the machine is switched off.

ERROR DISPLAY	DESCRIPTION	CONSEQUENCE
E1-TC-BOILER TEMP.	Faulty boiler temperature probe.	Machine disabled.
E2-TT-TANK TEMP.	Faulty tank temperature probe.	Machine disabled.

E3-TEMP. TANK	Tank overheating TT > 90 ºC	Machine disabled.
E4-BOILER TEMP.	Boiler overheating TC > 105 ºC	Machine disabled.
E5-BOILER DOES NOT HEAT	Boiler heating faulty. TC does not increase 3 ºC in 5 minutes.	Alarm.
E6-TANK DOES NOT HEAT	Tank heating failure. 60 min without reaching temperature.	Alarm.
E7-NO WATER	The boiler does not fill. After 10 minutes, the boiler does not fill.	Machine disabled.
E8-TANK DOES NOT FILL	The tank does not fill. After 30 minutes, the tank does not fill.	Machine disabled.
E9-DOES NOT DRAIN	Does not drain. After 1 minute with the drainage pump running, the level of the tank has not dropped 5 mm.	Machine disabled.
E10-INCORRECT RINSE	Rinse error. The boiler level does not decrease during the rinse cycle.	Alarm.
E11- TANK MAX. LEVEL	Max. tank level error. The tank contains too much water.	The drainage pump runs until the water level is lowered.
E12- TANK MIN. LEVEL	Min. tank level error The tank is running dry while in standby mode.	Machine disabled.