

OCEAN®

DISH WASHER

SERVICE MANUAL

Model

ODH 813 VS

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DISHWASHER SERVICE MANUAL



T32

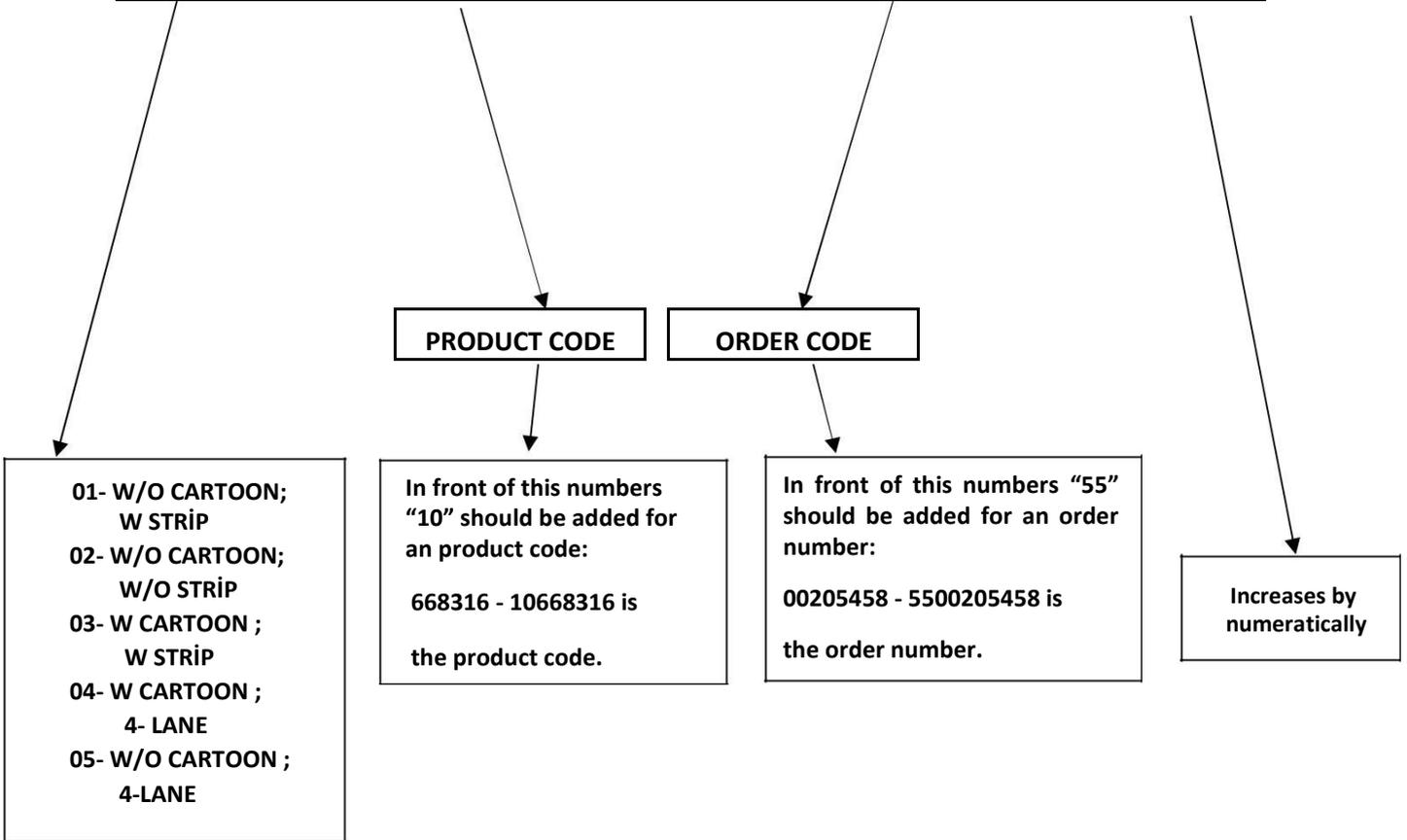
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1.BARCODE STICKER CODE EXPLANATION



| | | | |
|----|--------|----------|------|
| 04 | 668316 | 00205458 | 0001 |
|----|--------|----------|------|



TOOLS FOR DISASSEMBLE



Phillips screwdriver

- *All kinds of star-head screws,
- *in the phillips screws of the internal components,



Plier

- *It is used to bend all kinds of sheet metal ends.



Multimeter

- *Resistance values of all kinds of internal components,
- *Electronic card resistors,
- *It is used to measure the resistance of display cards.



Flat Screwdriver

It is used to remove all kinds of aesthetic parts (side panels, front panels and external aesthetic parts of the machine).



Side Cutter

It is used to cut cables of internal components or any hard part.



Chargeable Drill

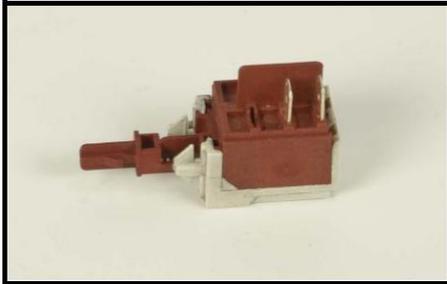
It is the most important tool used to remove and install all kinds of screws in the machine.

2.ELECTRICAL COMPONENTS AND MEASUREMENTS

2.1 ON / OFF SWITCH

It can't be measured from the electrical card.

| | | | |
|-------------|-------------------|--------------------|---------------|
| | C | T | |
| DOOR SWITCH | CN2.9 - CN2.2 0 Ω | KN2.8 - KN2.10 0 Ω | Door is close |

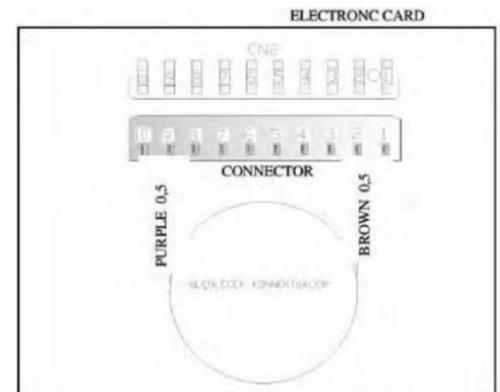
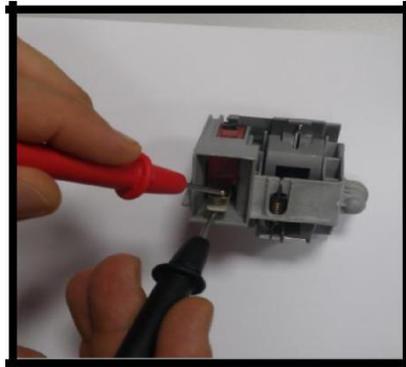
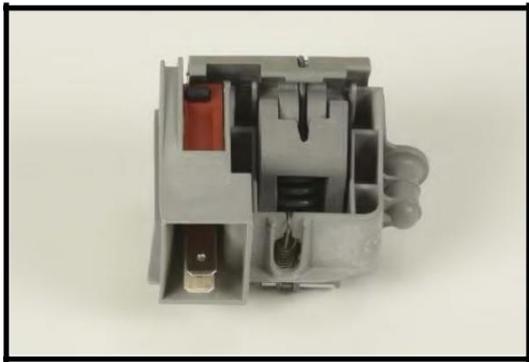


2.2 DOOR LOCK

It is a mechanical lock/release system that is closing the door, supplying the connection of electrical parts in the machine and cutting off the connection.

From the electrical card:

| | | | |
|-------------|-------------------|--------------------|---------------|
| | C | T | |
| DOOR SWITCH | CN2.9 - CN2.2 0 Ω | KN2.8 - KN2.10 0 Ω | Door is close |



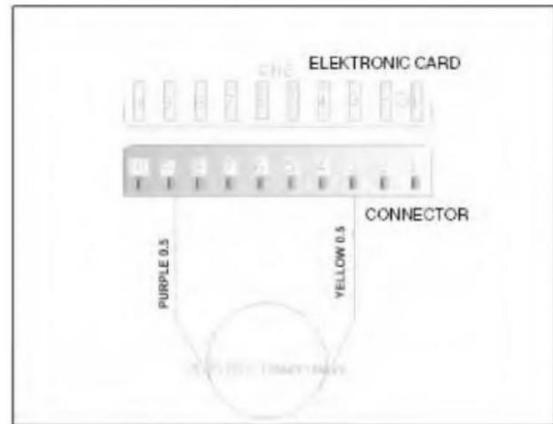
2.3 CIRCULATION PUMP

Single direction, single phase, asynchronous and two pole. It turns opposite clock direction. It is assembled to the basement with rubber hangers.

From the electrical card:

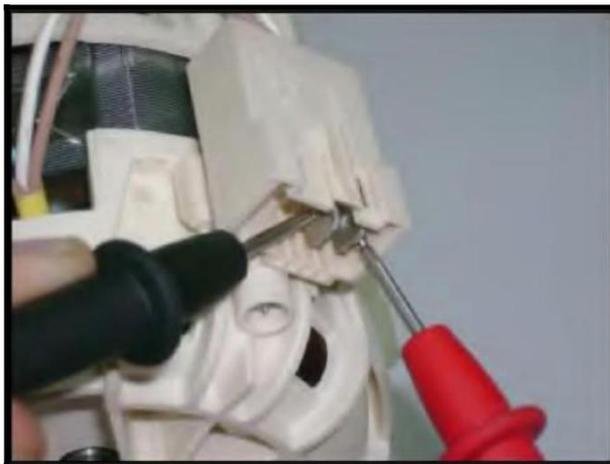
You can only measure the primary winding value from the electrical card. Resistance value of the primary winding must be;

| | C | | T | | |
|------------------|---------------|--|----------------|--|---|
| CIRCULATION PUMP | CN2.3 - CN2.9 | | KN2.3 - KN 2.8 | | Primary winding Secondary winding (from the component) |



Above sketch show the connectors of the washing pump on the electrical card. Probes of the tester should be applied on to the related connectors.

From the component:



A)



B)

A) Measurement of the primary windings of the washing pump. ($127.1 \pm 7\% \Omega$)

B) Measurement of the secondary windings of the washing pump (white cable – blue cable) ($126.8 \pm 7\% \Omega$)

Probes of the tester should be applied on to the related connectors as shown on the pictures.

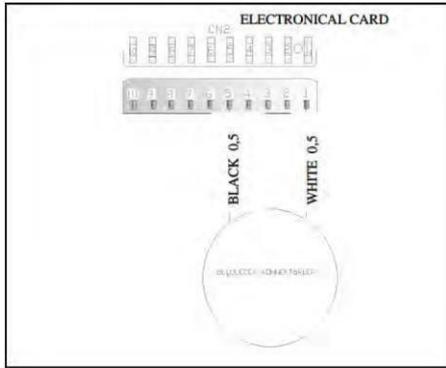
2.4 FLOATER

From the electrical card:

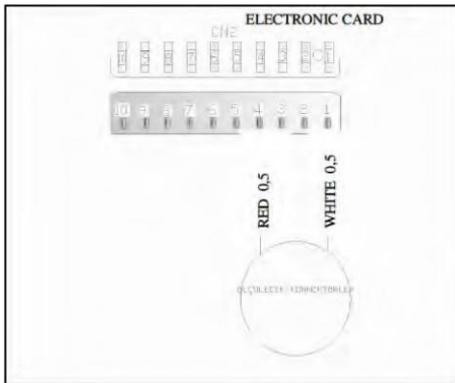
| | C | | T | | |
|--------------------------|----------------|-----------------|-----------------|-----------------|--|
| FLOATER (MICROSWITCH) | CN2.1 - CN 2.5 | 0 Ω | KN2.5 - KN 2.10 | 0 Ω | Microswitch is inactive (no water) microswitch is active |
| | CN2.1 - CN 2.4 | $\infty \Omega$ | KN2.4 - KN 2.5 | $\infty \Omega$ | (there is water) |



Position 1: You can check the floater by controlling the specified value intervals.



Position 2: If failure code is occurred related with the floater within control the above values: You can figure out whether leakage occurs or not.



2.5 CAPACITOR

Capacitor is permanently connected to the circulation pump coils.



2.6 DRAIN PUMP

From the electrical Card:

| | C | | T | |
|------------------|----------------|-----------|-----------------|-----------|
| DRAIN PUMP HANYU | CN2.2 - CN 2.4 | 220± %10Ω | KN2.4 - KN 2.10 | 220± %10Ω |
| DRAIN PUMP LEILI | CN2.2 - CN 2.4 | 141±%10Ω | KN2.4 - KN 2.10 | 141±%10Ω |



Above sketch show the connectors of the drain pump on the electrical card. Probes of the tester should be applied on to the related connectors.

From the component:

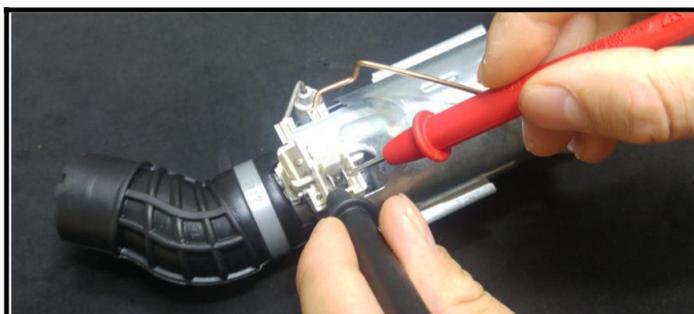


Probes of the tester should be applied on the related connectors as shown on the pictures.

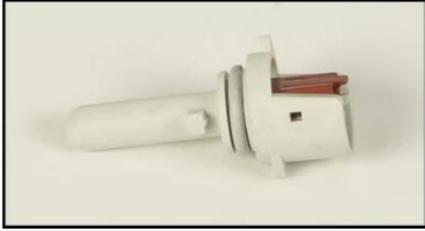
2.7 HEATER

It can' be measured from the electrical card.

From the component:



2.8 NTC

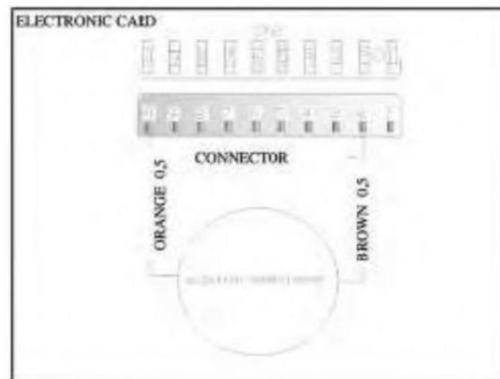


| | | | | | |
|--------|---|--------|---|-----|---|
| +25 °C | - | 47.200 | ± | 850 | Ω |
| +30 °C | - | 37.500 | ± | 675 | Ω |
| +40 °C | - | 24.900 | ± | 349 | Ω |
| +50 °C | - | 17.000 | ± | 170 | Ω |
| +60 °C | - | 11.700 | ± | 117 | Ω |
| +70 °C | - | 8.280 | ± | 108 | Ω |
| +80 °C | - | 5.945 | ± | 101 | Ω |

2.9 PRESSURE SWITCH

From the electrical card:

| | C | | T | | |
|-----------------|----------------|-----------|----------------|-----------|-----------------------------|
| PRESSURE SWITCH | CN2.10 - CN2.2 | 0 Ω ∞Ω | KN2.9 - KN2.10 | 0 Ω ∞Ω | Full fill water No water |



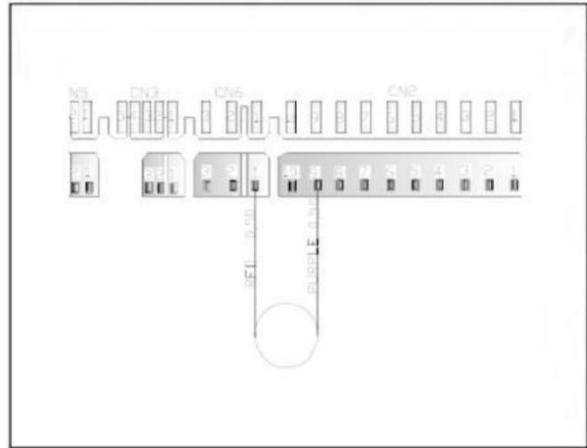
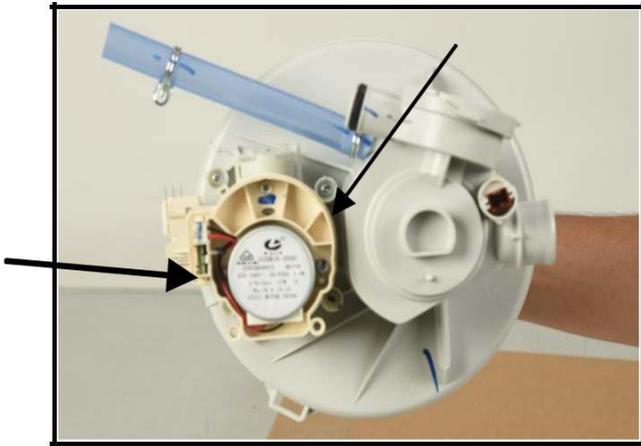
From the component:



2.10 DIVERTER

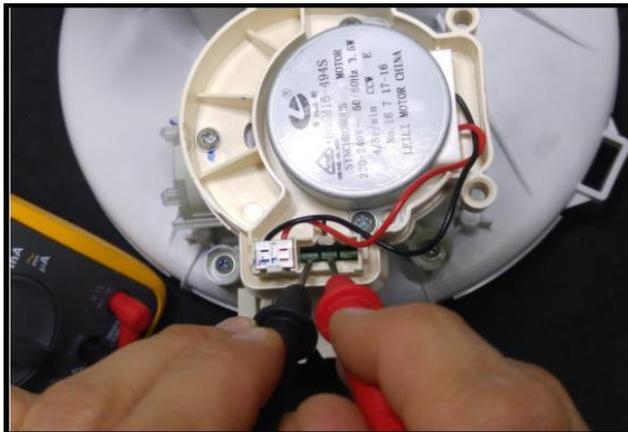
From the electrical Card:

| | C | T |
|----------|--|--|
| DIVERTER | CN 6.1 - CN 2.9 $10500 \pm \%7 \Omega$ | KN 6.1 - KN 2.8 $10500 \pm \%7 \Omega$ |



Sketch above show the connectors of the diverter on the electrical card. Probes of the tester should be applied on to the related connectors.

From the component:



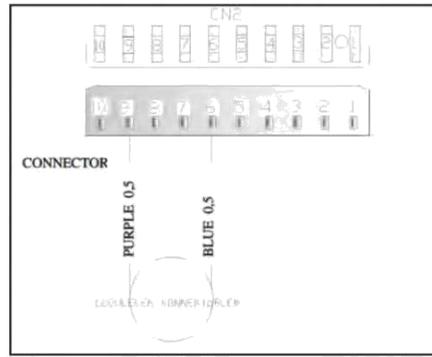
Probes of the tester should be applied on to the related connectors as shown on the pictures.

2.11 WATER INLET VALVE

Single inlet and single outlet standard single coil selenoid valve.

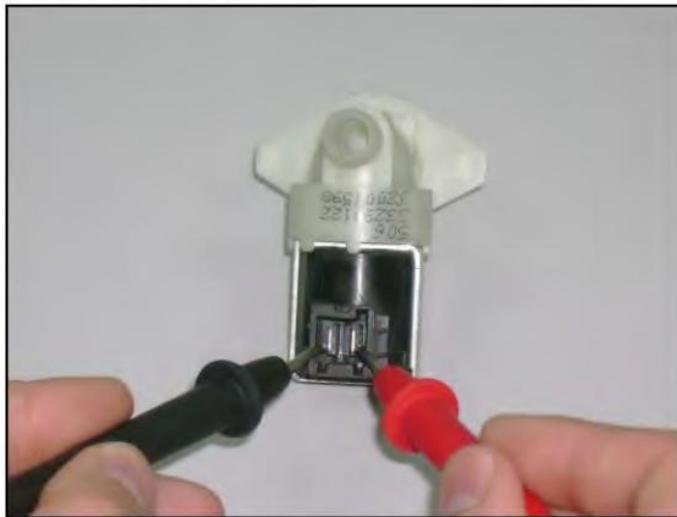
From the electrical card:

| | C | T |
|-------------------|---|---|
| WATER INLET VALVE | CN2.6 - CN2.9 $4200 \Omega \pm \%10 (20^{\circ}\text{C})$ | KN2.6 - KN2.8 $4200 \Omega \pm \%10 (20^{\circ}\text{C})$ |



Above sketch show the connectors of the water inlet valve on the electronic card. Probes of the tester should be applied on to the related connectors.

From the component:

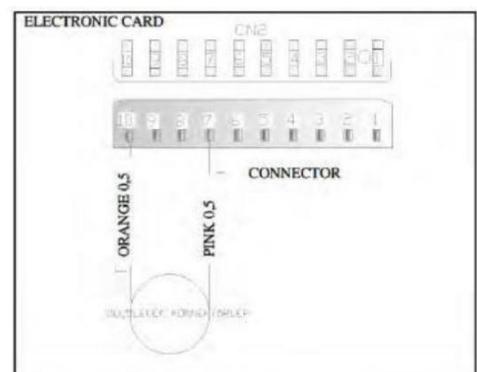
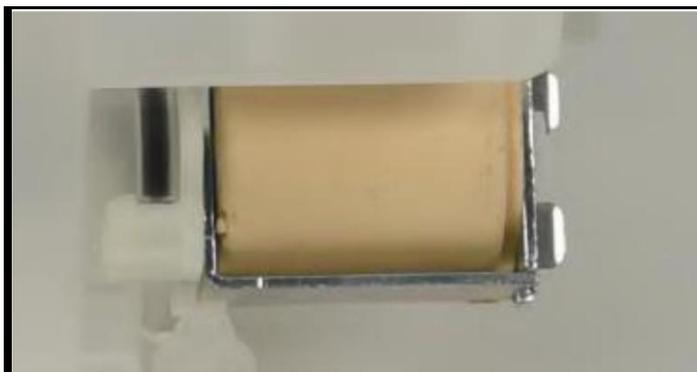


Probes of the tester should be applied on to the related connectors as shown on the pictures.

2.12 REGENERATION VALVE

From the electronic card:

| | C | T |
|--------------------|--|---|
| REGENERATION VALVE | CN2.2 - CN2.7 3560 $\Omega \pm \%10(25^\circ\text{C})$ | KN2.2 - KN2.10 3560 $\Omega \pm \%10(25^\circ\text{C})$ |

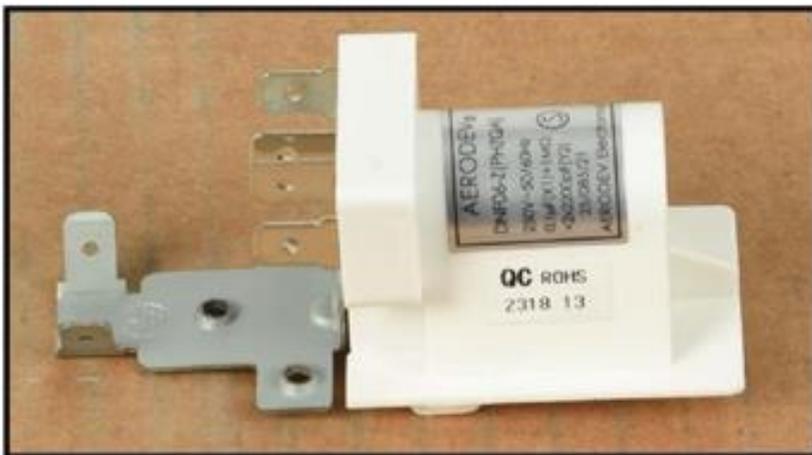


Above sketch show the connectors of the regeneration valve on the electrical card. Probes of the tester should be applied on to the related connectors.

From the component:



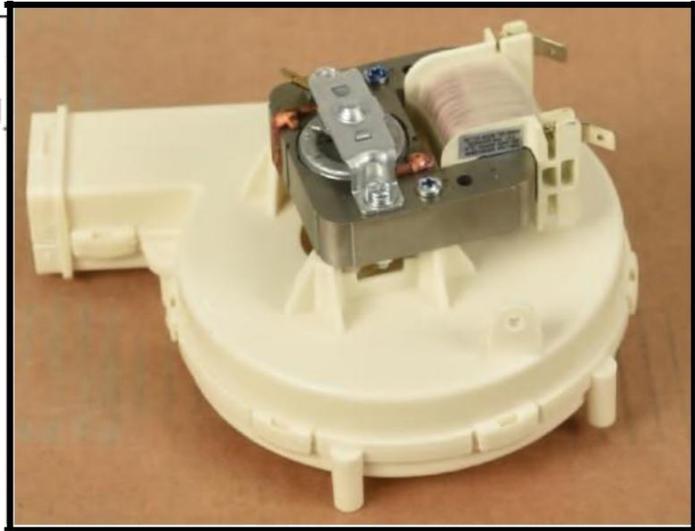
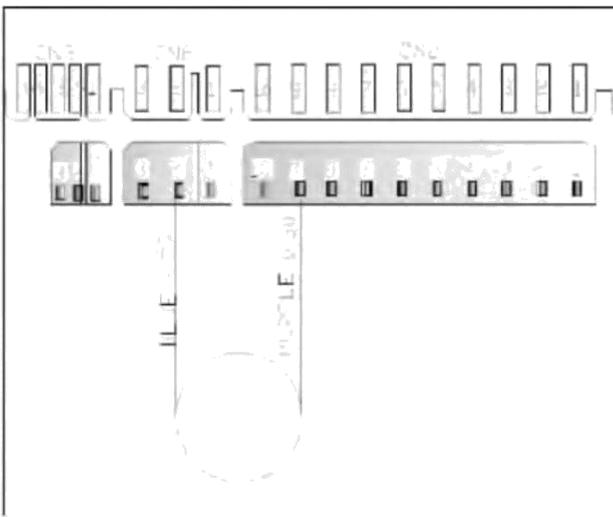
2.13 PARASITE FILTER



2.14 TURBO FAN MOTOR

From the electrical card:

| | C | T |
|-----------|-----------------|-----------------|
| FAN MOTOR | CN 6.2 - CN 2.9 | KN 6.2 - KN 2.8 |



Above sketch shows the connectors of the fan motor on the electrical card.

From the component:



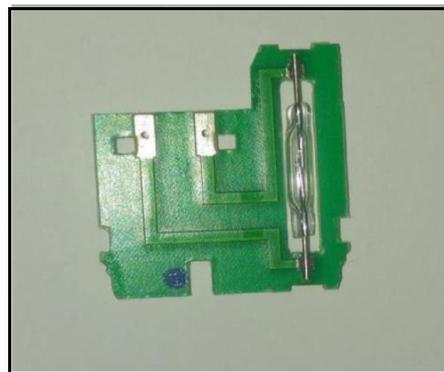
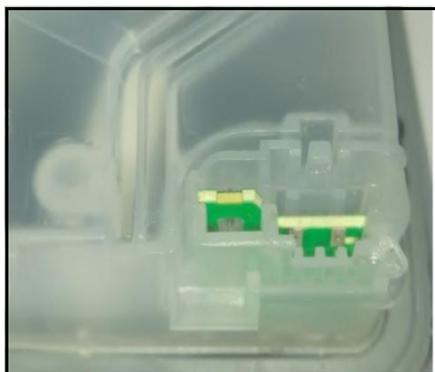
Turbo fan resistance value: $265 \pm \%10 \Omega$ (The resistance of the turbo fan is measured with the resistor switch).

Winding resistance at 20 temperature: $265 \pm \%10 \Omega$

2.15 RINSE AID SENSOR

From the electrical card:

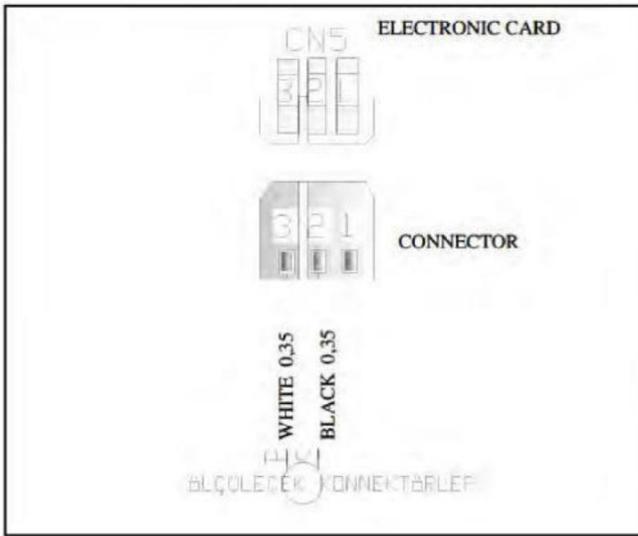
| | | C | | T | |
|------------------|-----------------|--|--|-------------------|--|
| RINSE AID SENSOR | CN 5.3 - CN 5.2 | 0Ω NO RINSE AID ∞Ω THERE IS RINSE AID | | KN 50.8 - KN 50.9 | 0Ω NO RINSE AID ∞Ω THERE IS RINSE AID |
| | | | | | RINSE AID OFF RINSE AID ON |



Below sketch shows the connectors of the rinse aid sensor on the electrical card.

From the component:

Probes of the tester should be applied on to the related connectors as shown on the pictures.

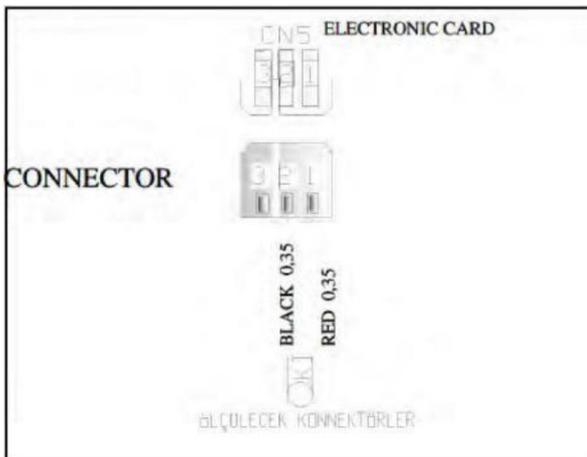


2.16 SALT SENSOR

Salt sensor can also be measured from the water softener when the salt sensor assembled on the water softener.

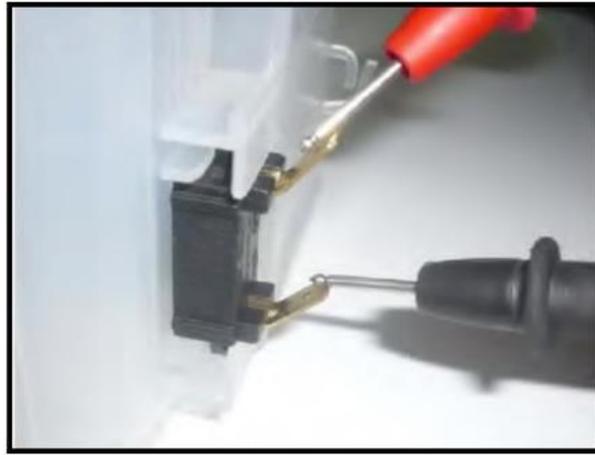
From the electrical card:

| | C | | T | | |
|-------------|---------------|---------------------------------|-----------------------|---------------------------------|--------------------------------|
| SALT SENSOR | CN5.1 - CN5.2 | 0 Ω NO SALT ∞Ω THERE IS SALT | KN50.10 - KN 50.11 | 0 Ω NO SALT ∞Ω THERE IS SALT | Measure just on the electronic |



Sketch above show the connectors of the salt sensor on the electrical card. Probes of the tester should be applied on the related connectors.

From the component:



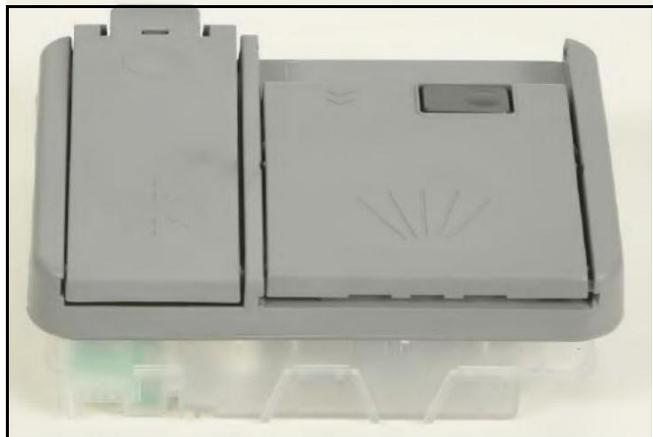
2.17 POWER CORD



2.18 DETERGENT / RINSE AID DISPENSER

It can't be measured from the electrical card:

| | C | T |
|---------------------|---------------------------------|---------------------------------|
| DETERGENT DISPENSER | 2300 Ω \pm %10 (25 C°) | 2300 Ω \pm %10 (25 C°) |



3. INTERFACE AND HARDWARE

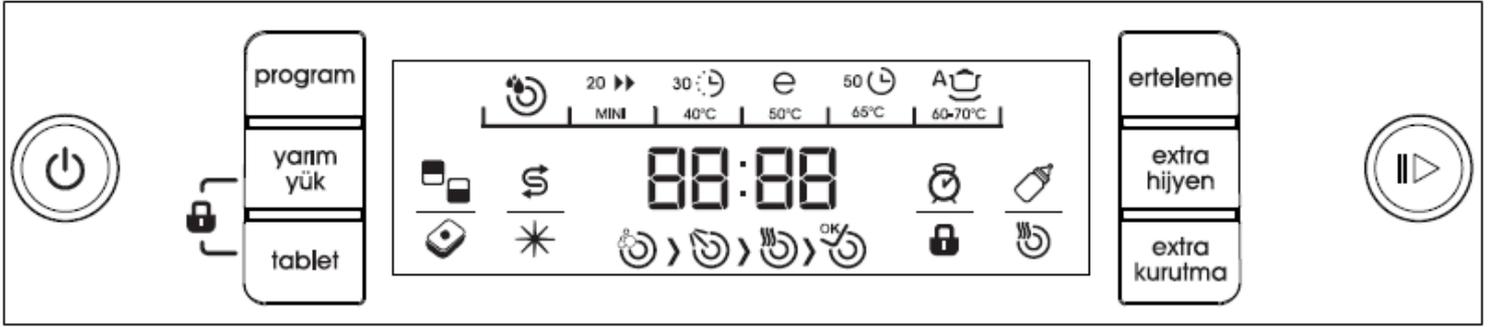
3.1 INTERFACE MOD. LED MODULE_1

Apart ON/OFF switch that it is a separate component interface includes:

- 3 buttons at left side of LED Module;
 - PROGRAM button
 - HALF LOAD button
 - TABLET button
- 4 buttons at right side of LED Module;
 - DELAY button
 - EXTRA HYGIENE button
 - EXTRA DRYING button
 - START/PAUSE button

Note: T21 main card will be used for both LED Module projects.

LED MODULE_1 MODEL:



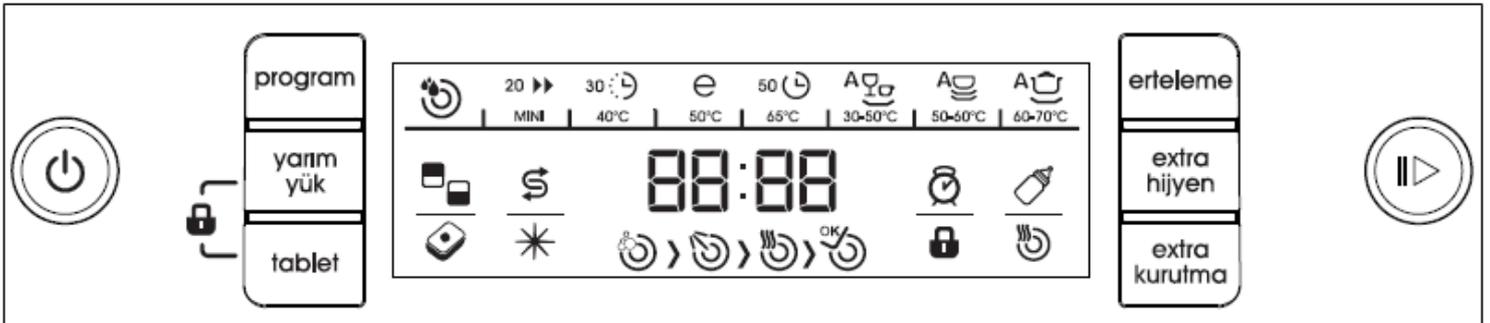
3.2 INTERFACE MOD. LED MODULE_2

Apart ON/OFF switch that it is a separate component interface includes:

- 3 buttons at left side of LED Module;
 - PROGRAM button
 - HALF LOAD button
 - TABLET button
- 4 buttons at right side of LED Module;
 - DELAY button
 - EXTRA HYGIENE button
 - EXTRA DRYING button
 - START/PAUSE button

Note: T21 main card will be used for both LED Module projects.

LED MODULE_2 MODEL:



4. WASHING PROGRAM

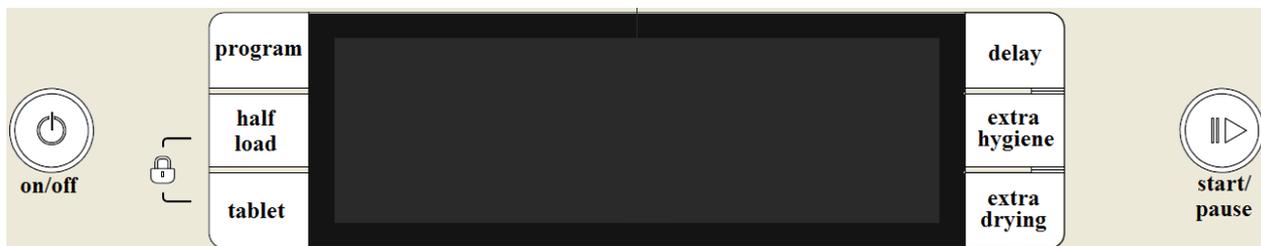
4.1 WASHING PROGRAM CROSS TABLE

| Model | PREWASH | Mini 20' | Quick 30' | Economic 50°C | Super 50' | Auto Delicate 30°/50°C | Auto Normal 50°/60°C | Auto Intensive 60°/70°C |
|--------------|---------|----------|-----------|---------------|-----------|------------------------|----------------------|-------------------------|
| LED MODULE_1 | X | X | X | X | X | - | - | X |
| LED MODULE_2 | X | X | X | X | X | X | X | X |

X = present
- = not present

5. WASHING SPECIFICATIONS AND PROGRAMS

5.1 Selecting and starting at Power On:

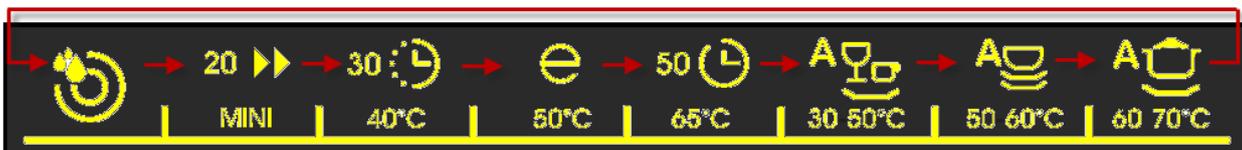


Switch-on: When dishwasher is switched on,

- the last selected program icon blinks (1sec. On, 1sec. Off → **this duration will be fixed after checking the working samples**),
- other program icons and last selected option icons are lights up.
- The duration of the selected program is visualized in the display.
- LED Module gives **Voice_1 sound**.
- Button reaction time must be 200msn maximum.(after pushing P button, program must be changed in 200msn maximum)



Selecting of a program: At any pressure of "Program button" the program icon is changed from left to right, and when it reaches the right side, restarts from left side.





** When selecting a program, if the program matches with non suitable option (but already selected) (ex. Quick 30' – Tablet), non suitable option icon disappears. When user continue to the selecting a program, if the option suitable for selected program, option icon lights up.

Starting of a program: Program starts with pressing Start/Pause button. When the program starts,

- Selected program icon lights up, other program icons disappear from screen,
- The remaining time of such a program is visualized (two dots blinks),
- Wash icon and bar on the right side are lights up,
- Selected option icons lights up,
- LED Module gives **Voice_3 sound**.



During wash, LED module will be shown program indicator icons (wash-rinse-dry-end).

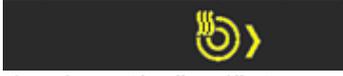
- If cycle on the "wash" step; wash icon and bar on the right side are lights up.



- If cycle on the "rinse" step; rinse icon and bar on the right side lights up.



- If cycle on the "dry" step; dry icon and bar on the right side lights up.



- If cycle on the "end" step; end icon lights up.



Working principle of LED Bar & icons;

- Before the select icon, display do not show anything



- After the select at least one icon, display show selected icon and LED bar



5.2 Pausing and cancelling program at Power On:

Pausing of a program: During a program; press Start/Pause button to pause a program.

- Selected program icon blinks and remaining program icons become ON.
- Two dots and four digits blinks,
- "Related program indicator icon" and bar on the right side blinks,



Cancelling of a program: During a program; press **S/P** button for 3sec. While pressing S/P button (during 3sec.) display shows the countdown from 3 to 1. After 3sec (**Voice_6**), display shows ;

- "00:01" at the time zone and draining will be executed
- "END" icon and two dots blinks,



During wash





At the end of the cycle, the "END" icon will be ON and the buzzer will be activated (**Voice_5**).

- "00:00" at the time zone,
- "END" icon lights up (constantly),



5.3 Modification of a program:



During wash

If user want to change the program;

- Press the **Start/Pause** button,



- Than press the **Program** button for selecting new program. At any pressure of "program button" the program is changed from left to right and when it reaches the right side, restarts from left side.



- For starting the new selected program, press the **Start/Pause** button (if the new program has a corresponding step, display shows the time of the new program without the passed time).



5.4 Opening and closing door during program (not in dry steps):



During wash

- During the program if the door is opened and re-closed without any modifications at the program button and without the pressure of S/P button, the program continues. Washing program re-starts after 8" if the measured temperature is equal or more than 45°C. Washing program re-starts immediately if the measured temperature is equal or less than 45°C.



After the door is opened (Note: without S/P button pressed, remaining program icons do not become ON)



After the door is closed

5.5 Opening and closing door during a dry step:

During dry if the door is opened,

- Selected program icon blinks,
- Two dots and four digits blinks,
- "related program indicator icon" and bar on the right side are blinks,



- and re-closed, the program continues.



5.6 Selecting and starting program at door opened (During wash):



During wash (Door is closed)



Door is open

** It is not possible that selecting programs and options until the machine paused by the S/P button. If user tries to press any button without pressing S/P button, LED Module gives **Voice_3 sound**.

If user press the S/P button, LED Module return to previous position (possible that selecting program and options)

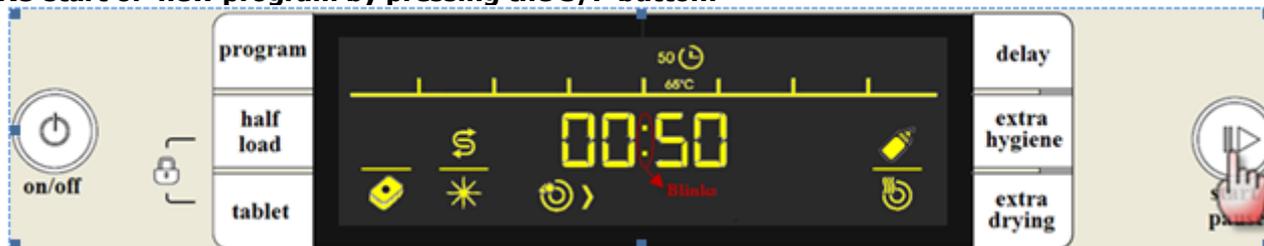


After closing the door:



Note: Since the S/P button is pressed to change program while door is opened, after door is closed the S/P button is again needed to be pressed one more time to re-start the program.

Re-start of new program by pressing the S/P button:



(Program is in progress again)

5.7 Selecting and starting program at door opened (Before wash):



Door is close



Door is open

It is possible that selecting program and options when the door is open position, If pressed the "start pause button" at this time;

- selected program icon blinks (1sec. On, 1sec. Off → **this duration will be fixed after checking the working samples**),
- other program icons disappear from display,
- LED Module gives Voice_3 sound.



** It is not possible that selecting program and options after pressed the S/P button. If user tries to press any button, LED Module gives **Voice_3 sound** at that time.

If user press the S/P button again, LED Module return the previous position (possible that selecting program and options)

- After the door is closed, program starts.



5.8 At the End of program, if the users press the program button or press any button:

At the end of the program;

- selected program and options icons are keep lighting,
- remaining time of the program ("00:00")
- end icon lights up.
- **"Voice_5"** alert is activated to show program is finished.



If users press any button at the end of program, all buttons fulfil the function and LED module turns to the start position.

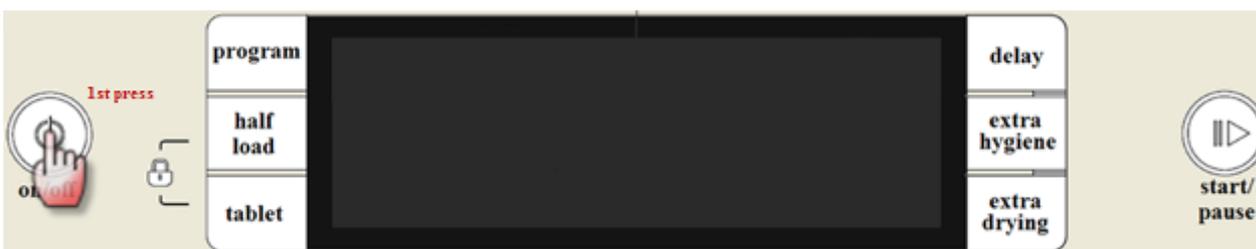
Ex1: After end of the program, if user press the tablet button;



Ex2: After end of the program, if user press the “program button”;



If users switch OFF the dishwasher at the end of program and switch ON the dishwasher again, it will remember the last selected program and options.



5.9 Power Fail

If a Power fail occurs:

1. During a **Delay Start**. At the power on, program consumes the remaining time.

2. During a **Drain + Fill** step. At the power on the program restarts the step to the beginning (with the drain).
3. During a **Wash** step. At the power on the program consumes the remaining time.
4. During a **Heating** step. At the power on the program continues heating up to the desired temperature. The time out for the heating restart to the beginning (water could be cold again).
5. During a **Dry** step. **At the power on the program ends.**
 It is possible that the power fail occurred when a regeneration cycle is requested. If it occurs:
 - During the first two step of a salt regeneration cycle (60" REGVALVE = ON or 60" REGVALVE+DRAIN ON): at the power on washing program will continue.
 - After the first two step of a salt regeneration cycle: at the power on the washing program will end and the resin wash will be performed at the beginning of the next washing cycle.

After a Power Fail washing program re-starts without any delay if temp. is less than 45 °C
 After a Power Fail washing program **wait 8"** before re-starts program if temp. is equal or more than 45 °C

5.10 Opening and closing door or pressing start/pause

1. During a **Delay Start**. At closing door or pressing S/P, program consumes the remaining time. The time in progress is saved every 1'.
2. During a **Drain + Fill** step. At the closing door or pressing S/P the program continues from the remaining.
3. During a **Wash** step. At the closing door or pressing S/P, the program consumes the remaining time. The time in progress is saved every 1'. Washing program re-starts after 8" if the measured temperature is equal or more than 45°C.
4. During a **Heating** step. At the closing door or pressing S/P, the program continues heating up to the desired temperature. The time out for the heating restart to the beginning (water could be cold again).
5. During dry if the door is opened and re-closed, **the program continues.**

5.11 Modification of a program without pressuring S/P:

During the program if the user press any button (**without** pressuring of S/P), the program in progress continues and buzzer warning sound is activated to show that is not a valid command.
 Buzzer sound "voice_4" will be activated to warn that is not a valid command.

5.12 Modification of a program without Reset:

The program continues with the flow program but with the parameters (temperature, times) of the new program.

In heating step: If temperature is over than the new desired temperature cut off of heating step and go on with the next step with new parameters.

If temperature is lower than the new desired temperature heat up water to the desired temperature level.

In washing step: If the washing duration is over than the new program washing duration cut off washing step and go on with next step of new program.

If the washing duration is lower than the new program washing duration go on with washing step.

6. OPTION

61 Options & Models

| Option | LED Module_1 | LED Module_2 |
|-----------------------|--------------|--------------|
| Delay Start | X | X |
| Half Load (3 modes) | X | X |
| Direct&Triple wash | X | X |
| Tablet | X | X |
| Extra Hygiene | X | X |
| Extra Drying | X | X |

NOTE: If the model has both direct and triple wash, it has not half load option.

6.2 Compatibility between Options

| Options | Delay Start | Half Load (3 modes)or Direct&Triple wash | Tablet | Child Lock | Extra Hygiene | Extra Drying |
|--|-------------|--|--------|------------|---------------|--------------|
| Delay Start | | OK | OK | OK | OK | OK |
| Half Load (3 modes)or Direct&Triple wash | OK | | OK | OK | OK | OK |
| Tablet | OK | OK | | OK | OK | OK |
| Child Lock | OK | OK | OK | | OK | OK |
| Extra Hygiene | OK | OK | OK | OK | | - |
| Extra Drying | OK | OK | OK | OK | - | |

6.3 Compatibility between Options & Programs

| | OPTIONS | Delay Start | Half Load (3 modes)or Direct&Triple wash | Tablet | Child Lock | Extra Hygiene | Extra Drying |
|-------------------------|---------|-------------|--|--------|------------|---------------|--------------|
| PROGRAMS | | | | | | | |
| Prewash | | X | X | - | X | - | - |
| Mini 20' | | X | X | - | X | - | - |
| Quick 30' | | X | X | - | X | - | X |
| Economic 50°C | | X | X | X | X | X | X |
| Super 50' | | X | X | X | X | X | X |
| Auto Intensive 60°/70°C | | X | X | X | X | X | X |
| Auto Normal 50°/60°C | | X | X | X | X | X | X |
| Auto Delicate 30°/50°C | | X | X | X | X | X | X |

6.4 Option Definition

| Option | Short description |
|--------------------|--|
| Delay Start | Program starts with a delay |
| Half Load(3 modes) | The wash is executed with upper spray, lower spray or both in half load mode. |
| Direct&Triple wash | Direct wash is performed with upper and extra upper sprays. Triple wash is performed with lower and extra lower sprays. Both Direct wash + Triple wash is performed with upper, extra upper, lower and extra lower sprays. |
| Tablet | Change of washing temperature and time |
| Child Lock | It can be activated by pressing "UP" and "DOWN" buttons at the same time for 3 seconds, keys are blocked to press. |

| | |
|---------------|---|
| Extra Hygiene | Increase the washing temperature |
| Extra Drying | Executed drying after washing cycle and change of washing temperature |

6.5 Half load (with 3 modes) (Alternating washing)

Half Load option is selectable any time by pressing the regarding option button.

When Half Load button is pressed:

First time: upper spray icon is ON and lower spray icon is OFF. Wash is executed only with upper spray arm.



Second time: upper spray icon is OFF and lower spray icon is ON. Wash is executed only with lower spray arm.



Third time: upper spray icon is ON and lower spray icon is ON.



Fourth time: upper spray icon is OFF and lower spray icon is OFF. Normal wash .



6.6 Direct & Triple wash

Direct & Triple wash can be selected at any time by pressing regarding option button.

When Direct&Triple button is pressed:

First time: Direct wash icon is ON and Triple wash icon is OFF. Wash is executed only with upper and extra upper sprays.

Second time: Direct wash icon is OFF and Triple wash icon is ON. Wash is executed only with lower and extra lower sprays.

Third time: Direct and Triple wash icons are ON. Wash is executed with upper, extra upper, lower and extra lower sprays.

Fourth time: Direct and Triple wash icons are OFF. Normal wash is executed.

6.7 Delay Start option



Delay start option is selected before program start ; firstly dedicated “DELAY button” is being pressed, delay icon is getting activated (blinks) ,display shows ‘ h01’ at time zone. After that needed time to delay can be chosen “DELAY button”.



** If user change the program after select delay time, display separately shows delay time and program time.

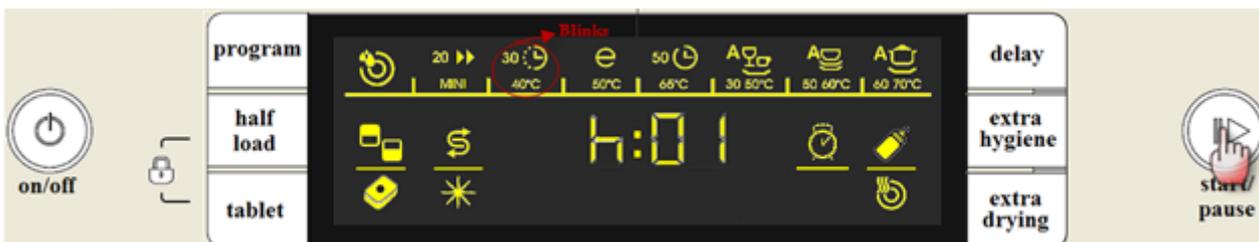
Note: In the display at every 3secs, the Delay value will be shown. (Ex: 3secs “00:30”, 1sec “ h01”).

Note: During the program it is not possible to activate the delay option, in this case buzzer sound “**voice_4**” is activated to show that is not a valid command.



When the delay time and program are chosen, delay time function gets activated by pressing Start/Pause Button, time countdown starts and the value of the chosen shown at time zone side and also delay icon is getting activated with give **Voice_3 alert** (In the display, program duration is shown for 3”, delay duration is shown for 1” respectively.).

Ex: 3secs “02:20”, 1sec “ h01”



*** To change this option during a delay time it necessary to press S/P button and put the machine in “pause” mode(In pause mode, delay icon is always on). Before start program, the delay option selects with pressure of “DELAY button”. The

steps of increment are one hour. Then the display shows the remaining delay time with steps of one hour (h01, h13, h24 etc). The maximum value of the delay is 24 hours.

**** To cancel this option during a delay time it necessary to press S/P button and put the machine in “pause” mode and press the delay button until display shown at the time zone “ h00”.

***** If user hold pressing continuously, delay timer starts counting faster (acceleration is proportional to the hold pressing time). Even a long period of time pressed to delay button, counter stops at “ h00”.

6.8 Extra Hygiene Option



Extra hygiene option is selectable at any time

Extra hygiene option is enable by firstly pressure of Extra hygiene **button** (Extra hygiene icon lights up).

Not: when this option is tried to be selected with a not corresponding program, the buzzer sound “voice_4” is activated to warn that is not a valid command.



Extra hygiene option is disable by secondly pressure of Extra hygiene **button** (Extra hygiene icon lights disappear).



6.9 Extra Drying Option



Extra drying option is selectable at any time.

Extra drying option is enable by firstly pressure of Extra drying **button** (Extra drying icon and LED bar top on the extra drying icon lights up).

Not: when this option is tried to be selected with a not corresponding program, the buzzer sound “voice_4” is activated to warn that is not a valid command.



Extra drying option is disabled by secondly pressure of **Extra drying button** (Extra drying icon lights disappear).



6.10 Tablet



Tablet option is selectable at any time. If it is pressed during a washing program the program will execute the following steps with "tablet" functions instead of the normal.

Tablet option is enabled by firstly pressure of **tablet button** (tablet icon lights up).

Not: when this option is tried to be selected with a not corresponding program, the buzzer sound "voice_4" is activated to warn that is not a valid command.



Tablet option is disabled by secondly pressure of **tablet button** (tablet icon lights disappear).



**** When selecting a option, if the option matches with non suitable program (ex. Quick 30'– Tablet) and user tries to activate the option, related option icon blinks once and gives voice alert (Voice_4)**

6.11 Child lock

Child lock is enable/disabled by contemporary pressure of "half load" and "tablet" buttons in the display card for 3".

At the end of 3 seconds, 'Child Lock icon ON' and "CL" is shown in the display for 2".

When lock is disabled the "CL" is shown in the display for 2" and Child Lock icon OFF.

When lock is enabled and a button is touched "CL" is shown in the display for 2" and Child Lock icon blink 2 times by giving voice alert (**VOICE_4**) than Child Lock icon ON.



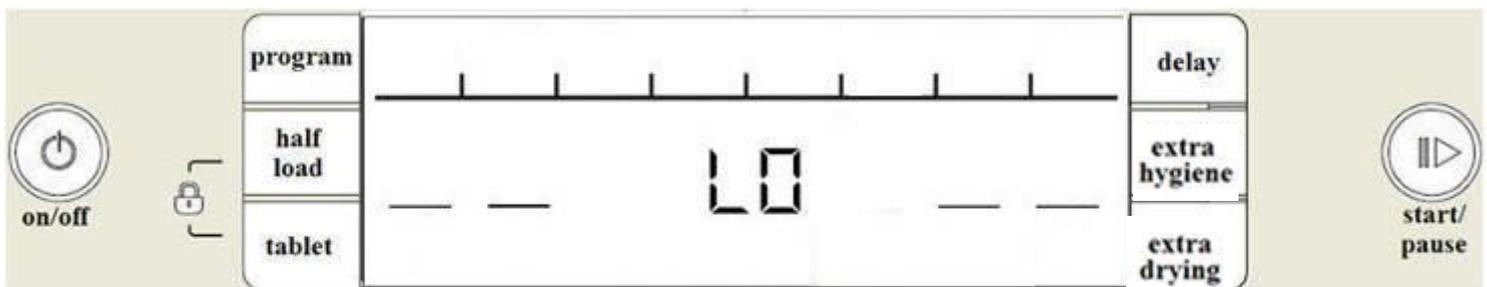
6.12 Buzzer Voice Defination

| Voice | Specification | |
|---------|-------------------|----------------------|
| Voice 1 | MELODY | Switched-On voice |
| Voice 2 | SHORT BEEP | Push buttons voice |
| Voice 3 | LONG BEEP | Approval voice |
| Voice 4 | TWO SHORT BEEPS | Fault voice |
| Voice 5 | MELODY | End of program voice |
| Voice 6 | THREE SHORT BEEPS | Count down voice |

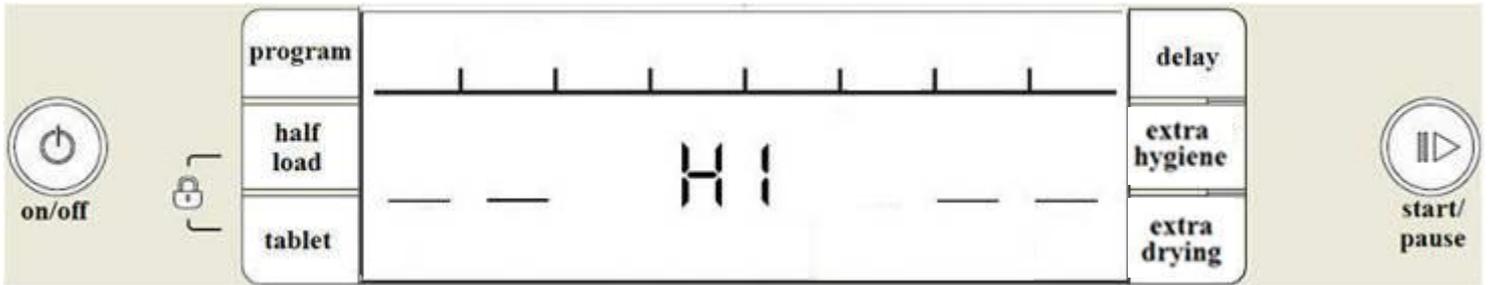
Voice level will be S02 for default. User can enter voice level menu by pressing both Extra Hygiene and Extra Drying buttons, then last setting is shown on display. To increase the level, press Extra Hygiene button; to decrease, press Extra Drying button.

VOLTAGE SENSING(ONLY FOR T32_4)

- When main supply voltage is below 145VAC, voltage sensing circuit detect low voltage and program is stopped by software. After 10 seconds Display shows LO. After main supply voltage is above 155VAC, program is started again and display shows program duration again.
- When main supply voltage is above 285VAC, voltage sensing circuit detect high voltage and program is stopped by software. After 10 seconds Display shows HI. After main supply voltage is below 275VAC, program is started again and display shows program duration again.
- If voltage is low or high during 10 seconds
 - o Display shows LO. Take memory LO for show at the beginning of service test
 - o Display shows HI. Take memory HI for show at the beginning of service test
- If voltage is low or high during 3 hours, program shows failure:
 - o When low voltage (blow 145V, then 145-155VAC) detected during 3 hours
 - Display shows LO, saved failure to memory for service program, Program go to failure routine without draining



- When high voltage (above 285, then 275-285VAC) detected 3 hours
 - Display shows HI, saved failure to memory for service program. Program go to failure routine without draining



VOLTAGE SENSING SPESIFICATIONS:

| CONDITION | WHEN VOLTAGE PROTECTION IS OCCURED |
|----------------------------|---|
| PUSHING S/P BUTTON (PAUSE) | All program icons are ON Selected program icon is ON Selected option icon is ON Program bar is ON Time Duration is ON, Time is frozen ":" is ON Phase icon is ON All buttons are inactive Program does not run, when push S/P button Start to count 3 hour timer again After 10 seconds. Digits shows LO or HI. |
| OPENING DOOR | All program icons are OFF Selected program icon is ON Selected option icon is ON Program bar is ON Time Duration is ON, Time is frozen ":" is ON Phase icon is ON All buttons are inactive Program does not run, when push S/P button Start to count 3 hour timer again After 10 seconds. Digits shows LO or HI. |
| POWER FAIL | If program runs, All program icons are OFF If program does not run , All program icons are ON Selected program icon is ON Selected option icon is ON Program bar is ON Time Duration is ON, Time is frozen ":" is ON Phase icon is ON All buttons are inactive Program does not run, when push S/P button Start to count 3 hour timer again After 10 seconds. Digits shows LO or HI. |
| CANCELLING | All program icons are ON Selected program icon is ON Selected option icon is ON |

| | |
|---|--|
| | <p>Program bar is ON Time Duration is ON, Time is frozen ":" is ON Phase icon is ON All buttons are inactive Program does not run, when push S/P button Start to count 3 hour timer again After 10 seconds. Digits shows LO or HI.</p> |
| WHILE PROGRAM IS RUNNING (0-10 SN) | <p>All program icons are OFF Selected program icon is ON Selected option icon is ON Program bar is ON Time Duration is ON, Time is frozen ":" is ON Phase icon is ON All buttons are inactive Program does not run, when push S/P button Start to count 3 hour timer again</p> |
| WHILE PROGRAM IS RUNNING (10 SN – 3HOURS) | <p>All program icons are OFF Selected program icon is ON Selected option icon is ON Program bar is ON Digits shows LO or HI. Phase icon is ON All buttons are inactive Program does not run, when push S/P button HI or LO failure code saved to mamory</p> |
| WHILE PROGRAM IS RUNNING (>3HOURS) | <p>All program icons are OFF Selected program icon is OFF Selected option icon is OFF Program bar is ON Time Duration is OFF, Time is frozen ":" is OFF Phase icon is OFF All buttons are inactive Program does not run, when push S/P button Digits show HI or LO HI or LO failure code saved to mamory</p> |

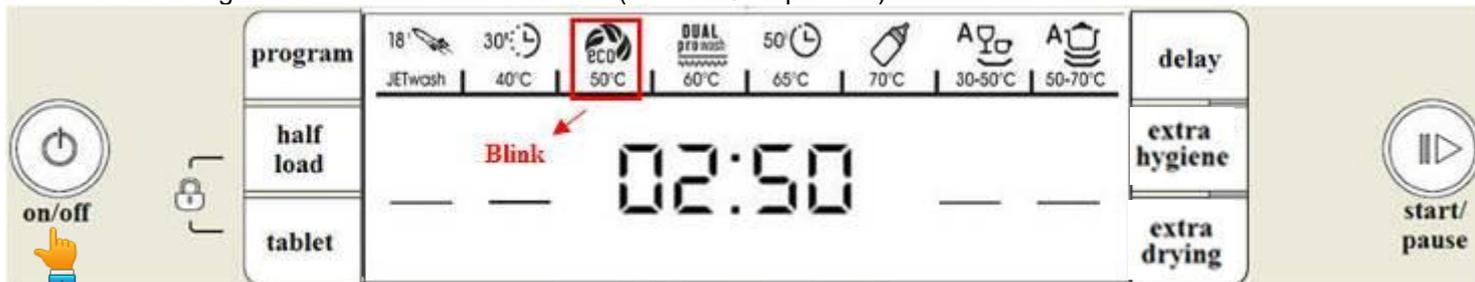
6.13 INNER LIGHT OPTION:

Machine must be ON position during activation and deactivation of inner light modes.

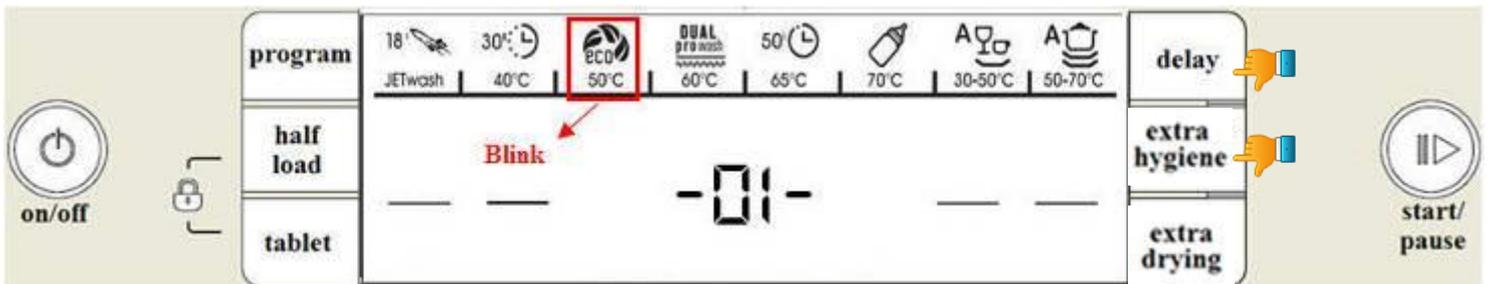
Note: open or close position of the door is not important

How to change from “ECO MODE” to “NORMAL MODE” for Inner Light option in 60cm T3 models :

- First energize the machine via main switch (if it is in OFF position).



- Press “Delay” and “Extra hygiene” buttons simultaneously for 3 seconds.



- "IL00" will be shown in the display for 2 seconds to show the "Normal Mode" is selected for inner light option.



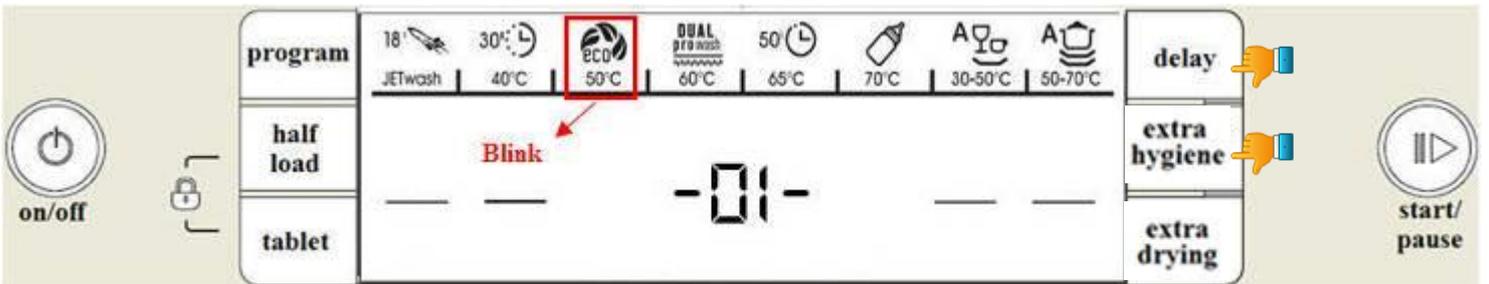
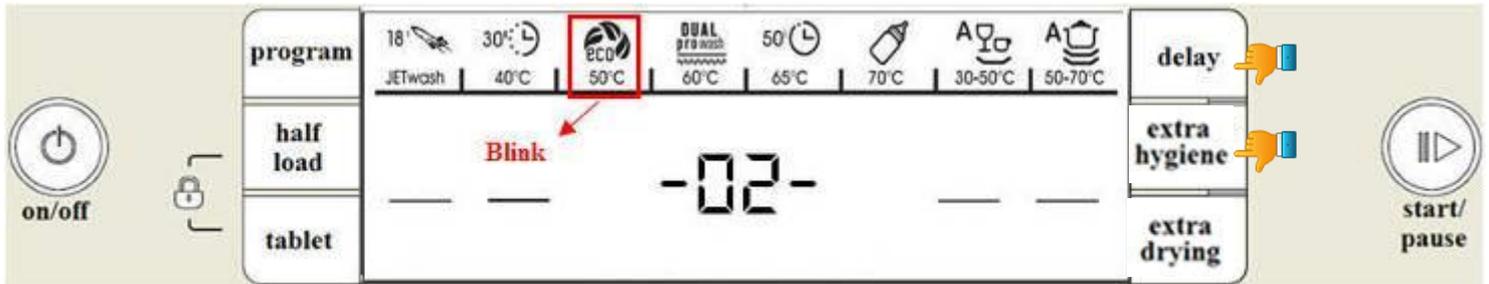
- After "Normal Mode" is selected, the inner light will be ON as long as the machine is energized and machine door is open.
- After 3 seconds, machine is exit from eco mode settings

How to change from "NORMAL MODE" to "ECO MODE" for Inner Light option in 60cm T² models :

- First energize the machine via main switch (if it is in OFF position).



- Press "Delay" and "Extra hygiene" buttons simultaneously for 3 seconds.



- "IL01" will be shown in the digit display for 2 seconds to show the "Eco Mode" is selected for inner light option.



- Also inner light turns OFF and ON again (blinks momentarily) to show this selection is activated.
- After "Eco Mode" is selected, the inner light will be ON for 4min after machine door is opened and then turns OFF.
- After 3 seconds, machine is exit from eco mode settings

If any user intervention occurs such as pressing buttons, Eco Mode cycle starts from beginning (inner light is ON for 4min and then becomes OFF again)

Note: Factory setting for inner light is set to "IL01".

Note: **Light Module (TY9)** is introduced to execute this specialist feature.

Note: Eco mode can be adjusted during working or stand by

7. REGENERATION CYCLE (FOR 60 CM)

When it occurs the regeneration valve works after last rinse and during the drying steps. There are 6 hardness levels.

| Water Hardness level | Litres |
|----------------------|--------|
| Level 1 | Never |
| Level 2 | 116 lt |
| Level 3 | 64 lt |
| Level 4 | 52 lt |
| Level 5 | 46 lt |
| Level 6 | 16 lt |

The consumed litres are counted by flow meter impulses.

In case of flow meter broken, the litres corresponding at the flow meter time out are used

If user cancels a program during regeneration or after regeneration and before resin wash, at the beginning of the next program the dishwasher performs the resin wash to remove the salty water from the resin chamber. The resin wash will be: load 2 lt of water with drain pump on. During the resin wash the circulation Pump must be off.

Regeneration is not performed at prewash program

If l water hardness level is changed from lower to higher, regeneration cycle is performed at the end of the first program

If l water hardness level is changed from higher to lower, regeneration cycle is not performed at the end of the first program.

Regeneration is performed after water level reach to value of level

- If Water hardnes level is 5 or 6
 - First regeneration step is performed 0,2lt water
- If Water hardnes level is 2 or 3 or 4
 - First regeneration step is performed 0,1lt water
- If Water hardnes level is 1
 - Regenartion step is not performed

-The consumed litres are counted by FLM impulses.

-In case of FLM broken, the liters corresponding at the FLM time out are used. (2,1 lt + 2,5 lt).

-In case of "Tablet" option is ON ;

- *If the level set is less than L4: the regeneration cycle is not performed, but the quantity of consumed water is counted. When the target value is reached, at the first cycle without the "Tablet" ,the regeneration cycle is performed.
- *If the level set is equal or more than L5: the regeneration cycle is performed when the quantity target is reached.

-If the washing program is a "prewash program", the regeneration cycle is not performed.

-If user cancels a program during regeneration or after regeneration and before resin wash, at the beginning of the next program the dishwasher performs the resin wash to remove the salty water from the resin chamber. The resin wash will be: load 2 lt of water with drain pump on.

-During the resin wash, the circulation Pump must be OFF.

-If the level of regeneration step is incremented, (for ex:from level3 to level 6) ,at the end of the next washing cycle, it must perform resin wash.

-If the regeneration level is decremented, (for ex: from level4 to level 3); checked how much water used until then and according to new level, how much water will be used more for resin wash is calculated.(level 3=64 lt- used liters until then).

-During waiting step of regeneration process, end user open/close the door or Power OFF /ON condition, program goes to END, but next step of washing cycle starts with resin wash, so that water level resets to zero and re-counts down from corresponding water level.

- When there is no flowmeter connection (by removing flowmeter cable), Electronic card saves the water as 4,58 lt per step.

-If there occurs regeneration step after the programs without drying step or programs having less than 15min drying step, at the end of the program (before reg cycle) the duration must be corrected from 0:01 to 0:15 and recount down during reg step.

8. IONIZER

Ionizer function is activated/deactivated by pressing “Extra” button for 3”. display shows the countdown from 3 to 1. When it is activated, display shows “Ion”. Also, Ionizer can be deactivated by turning machine off and on.

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When the door is closed and the function is selected, ionizer function will start. There is no need to press Start/Pause button.

Ionizer does not work together with any program or not executed in any program. When ionizer active, user cannot select/add any option.

The function will follow below loop and if there is no intervention, it continues until 24 hours is completed.

-During 5 minutes (Between 0-5 minutes): ionizer+mini fan+turbo fan will work.

-During 55 minutes (Between 5-60 minutes): ionizer+mini fan+turbo fan will not work.

After 24 hours, it is automatically deactivated.

When ionizer deactivated, machine is in standby position.

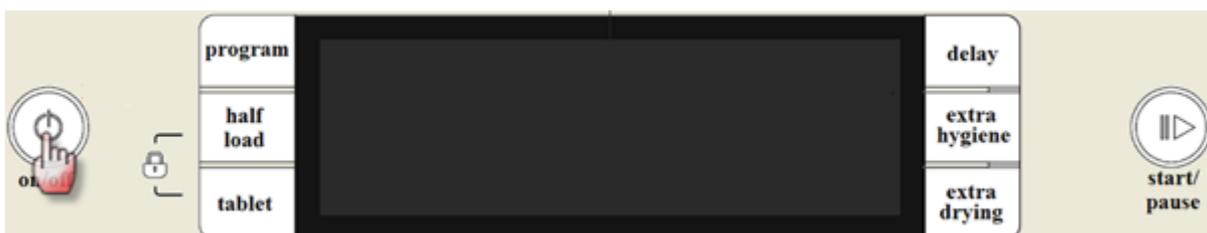
When the door is open and ionizer is activated, ionizer led and inner light become on. Also, “Ion” text blinks. Ionizer function pauses if the door is open. To continue, the door should be closed

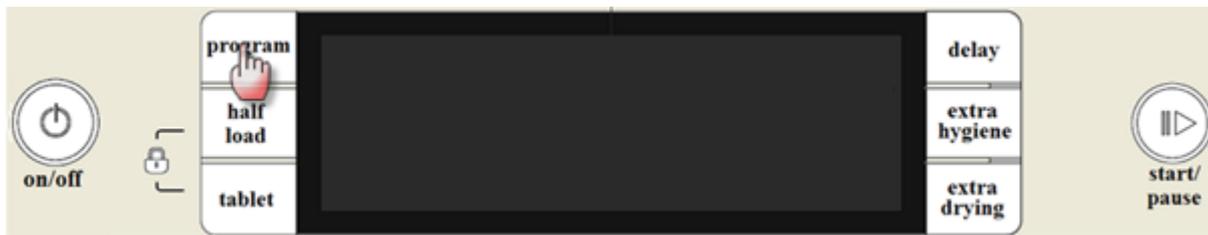
9. Water Hardness Set

Only service can execute this procedure.

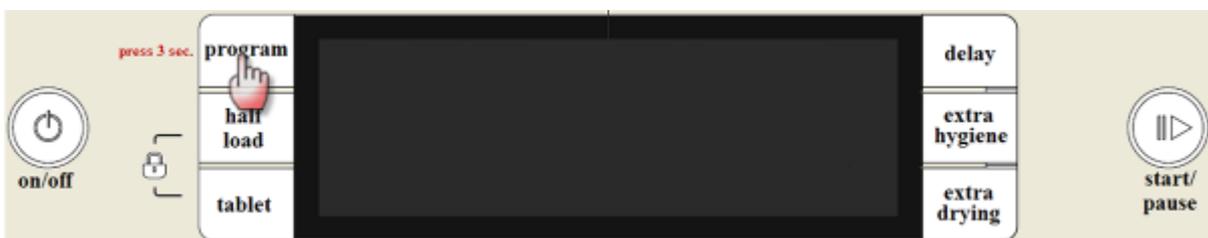
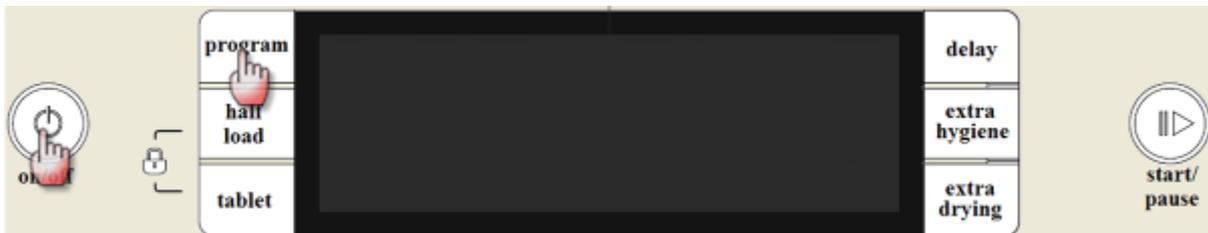
| Level | WATER HARDNESS |
|-------|----------------|
| 1 | L:01 |
| 2 | L:02 |
| 3 | L:03 |
| 4 | L:04 |
| 5 | L:05 |
| 6 | L:06 |

→ Power OFF; pressure program selection button.

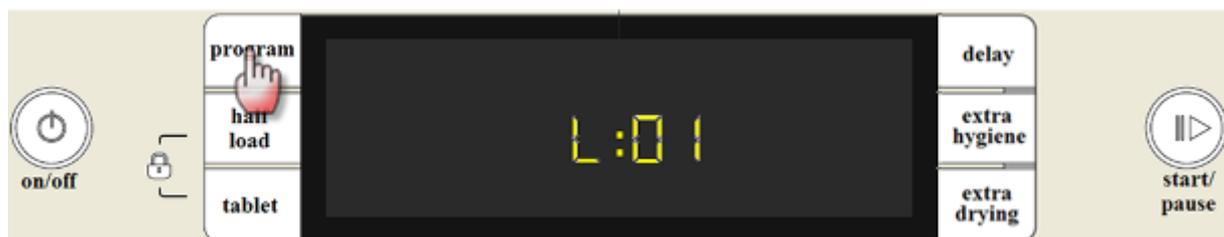




→ Power ON and continue to pressure program selection button at least for 3".



- If "Hardness set" is recognized "SL" is shown for 2".
- Release program selection button. The last setting level is viewed*.
- Pressure "Program button" button to set the desired level. At any pressure of "Program button" hardness level is incremented (max. "L:06").



At any pressure of "Delay" button hardness level is decremented.

* If it is the first hardness set, hardness level is Level 3.
In order to save the hardness setting, press the On/Off button.

10. RINSE AID SET

- Power OFF; pressure program selection button.
- Power ON and continue to pressure program selection button at least for 5".
- If "Rinse aid set" is recognized "rA" is shown for 2".
- Release program selection button. The last setting level is viewed*.
- If it is the first rinse aid set, Default rinse aid level is 4 which corresponds to 4,5 cc.

| Level | Display |
|----------|---------|
| 1(0cc) | r:01 |
| 2(1,5cc) | r:02 |
| 3(3cc) | r:03 |
| 4(4,5cc) | r:04 |
| 5(6cc) | r:05 |

- At any pressure of "Program" button, rinse aid level is increased.
- At any pressure of "Delay" button, rinse aid level is decreased.
- In order to save the rinse aid setting, press the On/Off button.

If the rinse aid tank is empty and user sets rinse aid level as 1(0cc), "lack of rinse aid" warning is not shown.

Sliding dispenser dosages are shown below in detail.

1 rinse aid dosage is performed when dispenser is ON during 8" and OFF during 8". =>1,5cc

2 rinse aid dosages are performed 8" ON-8" OFF-8" ON-8" OFF=>3cc

3 rinse aid dosages are performed 8" ON-8" OFF-8" ON-8" OFF-8" ON-8" OFF=>4,5cc

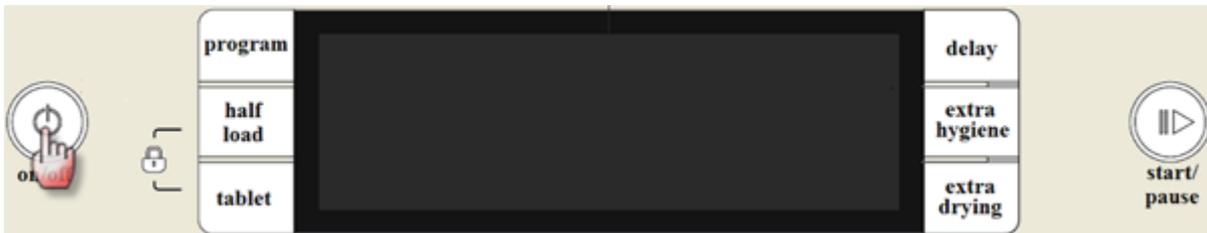
4 rinse aid dosages are performed 8" ON-8" OFF-8" ON-8" OFF-8" ON-8" OFF-8" ON-8" OFF =>6cc

| Action | | Old | | New(Sliding dispenser) | |
|--------------------------|------------------------------------|-------------------------|---|---------------------------|-------------|
| Detergent cover opening: | | 5" | | 0.3" | |
| Rinse aid dose: | Dose setting: | Manual in the dispenser | | Automatic in the software | |
| | Dose quantity and time to delivery | 1 - 1cc | 25"ON; 2"OFF; 25"ON For each setting from 1 to 6 | 1 - 0cc | OFF |
| | | 2 - 2cc | | 2 - 1.5cc | 8"ON; 8"OFF |
| | | 3 - 3cc | | 3 - 3cc | 8"ON; 8"OFF |
| | | 4 - 4cc | | 4 - 4.5cc | 8"ON; 8"OFF |
| | | 5 - 5cc | | 5 - 6cc | 8"ON; OFF |

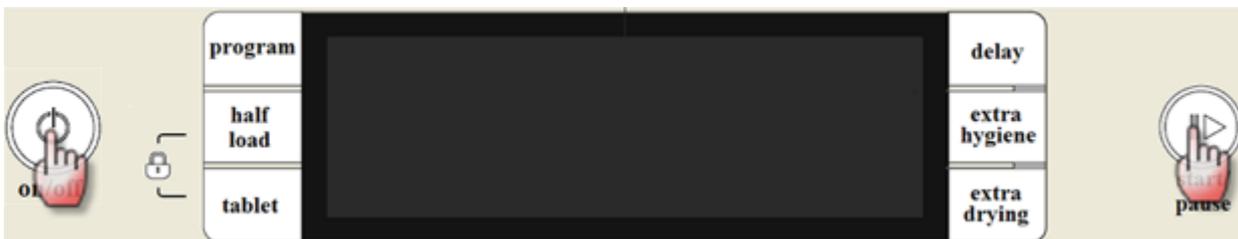
11. SERVICE TEST

Only service man can execute this procedure.

- Power OFF; hold press S/P button.



- Power ON while pressing S/P button. Hold pressing at least for 6".



- When "Service test" routine is recognized "SP" is visualized on the LED Module and Service test starts.

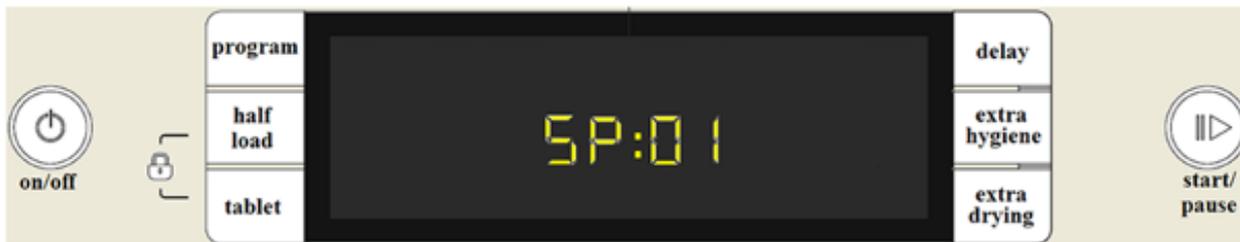


During the first 6" of test, if a failure code is stored in memory, its codification is shown. Also at the end of the test if an error occurs, its error code and name are visualized on LED Module.

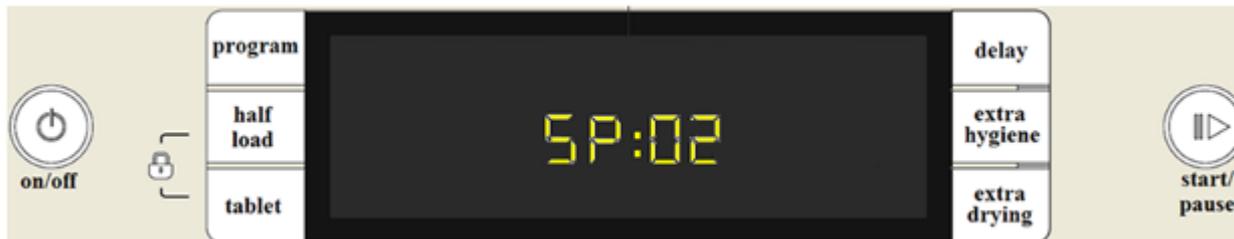
| Step | TEXT | Time | Tested Load |
|------|----------------------|-------|--|
| 0 | | 6" | Before start, the code of last error is visualized (see below) |
| 1 | Drain Pump 6s. | 6" | Drain pump. |
| 2 | Water Fill 1m. | ~ 1' | Flow meter; Inlet Valve; |
| 3 | Water Fill+Wash 25" | | Flow meter; Inlet Valve; Pressure Switch; |
| 4/□ | Turbidity sense 30s. | 30" | Measure of turbidity sensor |
| 5 | Wash+Dispenser 1m. | 1' | Circulation pump; Regeneration Valve; detergent dispenser. |
| 6 | Wash+Heat 5m | 5' | Heater (PSW); NTC; diverter (position). |
| 7/8 | Reg.Valve+T.Fan 1m. | 1' | Regeneration Valve + Turbo Fan |
| 9 | Water V+ Drain 1m20s | 1'20" | Water Valve ; Drain pump ; pressure switch. |
| 10 | Drain Pump 20s. | 20" | Drain pump |
| 11 | Service Test End | | Error code or End led visualized on LED Module |

In service test the unsuccessful heating failure routine works with reduced time of recognize (first measure at 2'20", second measure t 4'20")

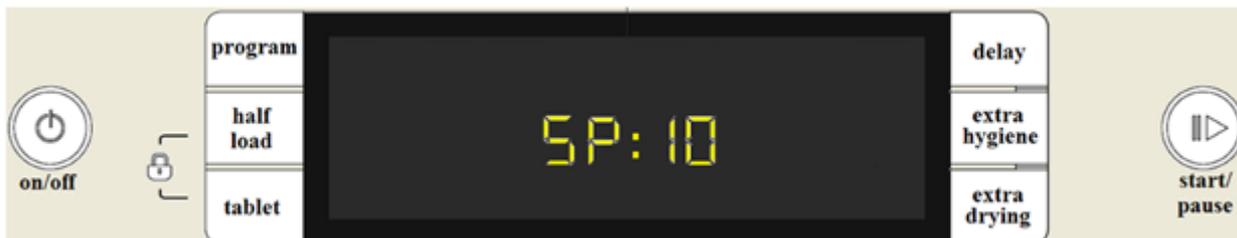
LED Module displays the step numbers of service test;



Step 1

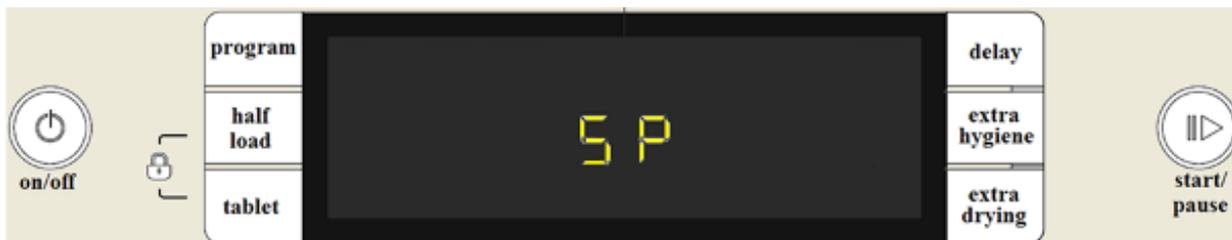


Step 2

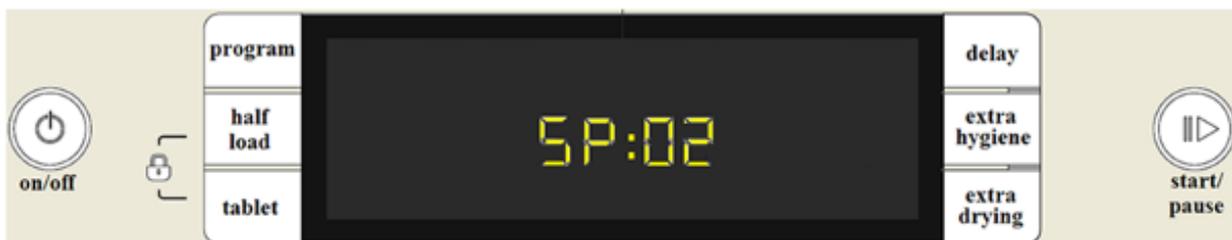


Step 10

If during the service test, the door is opened, "SP" and "SP:nn" (nn stands for step number) are shown alternately on LED Module.



11.1 Cancelling Service Test



During service test

Cancelling: During a Service Test; press **S/P** button for 3sec. While pressing S/P button (during 3sec.) display shows the countdown from 3 to 1. After 3sec , display shows ;

- Display shows "00:01" at the time zone and draining will be executed
- "END" icon and bar on the right side are blinks,
- At the end of the cycle, the "END" icon will be activated
- Display shows "00:00" at the time zone

OR

It is also possible to cancel the service program by **switching OFF** the machine. When machine is switched ON again, it is ready to select and start a new program.

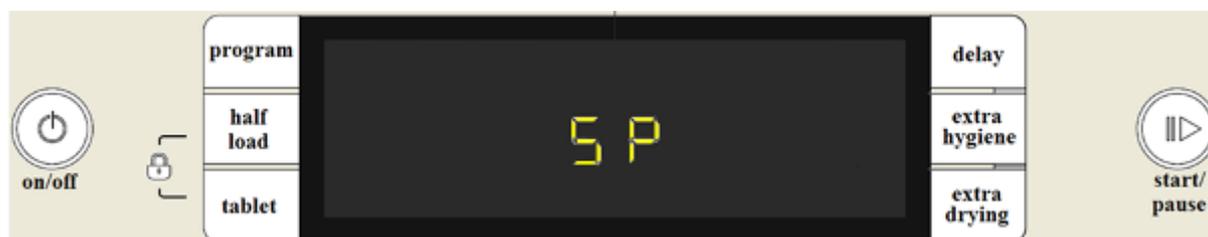
11.2 Service Failure Codes Memory

It is only possible to enter this mode start of the SERVICE PROGRAM (first 6" of test). It's codification is shown by pressing "Delay" button. It will be possible to see last 6 faults. Last 6 failure codes are stored in memory.

**** 6" will be refreshing every press of "delay" button.**

During the first 6" of test, if a failure code is stored in memory, its codification is shown(i.e 1F1, 2F5,...). If any failure does not occur at the end of service test, previous failure codes stored in the memory should be cleaned. Namely, user does not see any failure code.

- When "Service test" routine is recognized, "SP" is shown on the LED Module and Service test starts.



It will be possible to see last 6 faults by pressing "Delay" button.



To cancel this mode and return back the normal usage condition, machine must be **switched OFF**. When machine switched ON again it is now in ready condition to select and start a new program.

12. Failure Codes

Coding failure for LED Module:

| | |
|----|----------------------|
| F0 | Water Overflow |
| F1 | Water Leakage |
| F2 | Drain failure |
| F3 | Water input |
| F4 | No Water Impulse |
| F5 | Inadequate water |
| F6 | Heater sensor |
| F7 | Over Heating |
| F8 | No Heating |
| F9 | Diverter Failure |
| FE | E-Card Failure |
| SE | Salt Set Failure |
| FA | Turbidity Sensing |
| HI | High Voltage Failure |
| LO | Low Voltage Failure |

* Unsuccessful Heating is shown at the end of the program

(You can read more details about the error codes on the page 44. In this page, the difference of error codes is explained in detail).

13. END TEST PROGRAM

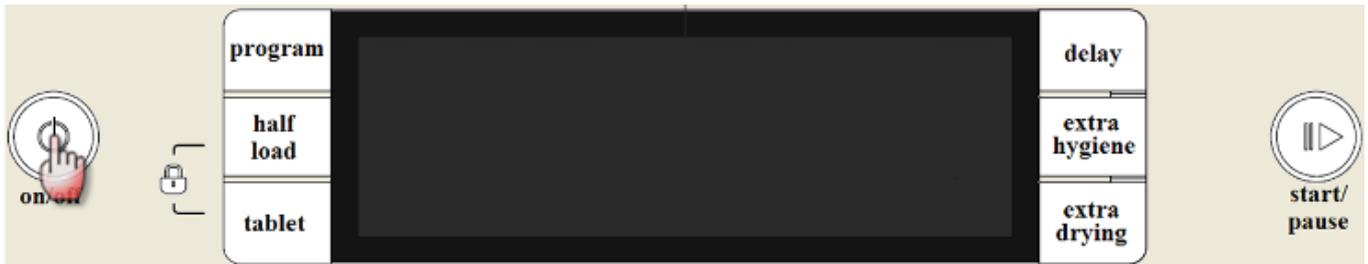
End test is divided in two parts: end test 1 (functionally test) and end test 2 (heating and leakage test).

13.1 End test 1

OCEAN receives the electronic cards ready to start "end test 1". In any case, it's possible, re-start the end test 1 with a manual manoeuvre.



- Power OFF;



-Pressure "Delay button" and "Extra drying button".



- Power ON while pressing to "Delay" and "Extra drying" buttons at least for "3".



- When "End test 1" is recognized "1.EP" is visualized on the LED Module and End test starts.



- At the end of "end test 1" switch OFF the dishwasher.

Note: While cancelling and also at the end of End test1, Eco program icon is on.

Note: during diverter failure: Stop circulation pump just after detergent dispenser activation (at step 41) until the end of program if electronic card

Note: ** Start circulation pump just after turbidity sensor check (at step 92) for 6 sec, if electronic card realize Turbidity sensor failure during turbidity test.

The machine passes to the end test program when it is energized for the first time. The reason for switching to the end test program is to understand if there is any component failure before the machine starts the first wash.

(You can read more details about the error codes on this page. In this page, the difference of error codes is explained in detail).

F6 AND F7 ERRORS

If the machine is subjected to overheating due to an unknown cause, the temperature value dial indicating the temperature values rises and the NTC detects it. The NTC warns after it detects this, and after cutting off the energy, the S_P and WASH led lights will light up at the beginning of the program and fail. Since the F6 and F7 errors are indirectly linked, they fail under the same conditions. The feature that distinguishes these two error codes from the F8 error code is that they fail at the beginning of the program. Another cause of the NTC error may be the socket defect in the NTC part. If S_P and WASH leds fail at the beginning of the program under these conditions, the NTC part must be changed.

F8 ERROR

F8 error is the failure to heat. In the first 5 seconds, the machine measures the temperature, and if the temperature is less than 2 degrees, machine gives warning, but as we just mentioned, the most important feature of the F8 error is that it gives the error at the end of the program.

SE ERROR

The reason for the SE error is that the salt regeneration is not adjusted and it appears only at the beginning of the service program mode. For any other reason, it is impossible to see the SE error in any way.

FE ERROR

The FE error is the electronic card error. According to my interview with the electronic card officials, no error code complaint has been encountered in any way as FE. Unfortunately, they can not find any definitions related to this, since electronic card problems are very diverse.

HIGH VOLTAGE ERROR

At high voltage, the machine will put itself on standby for 3 hours and give the error code. During this 3 hours, the WASH LED on the machine lights up but does not wash. The feature that distinguishes this error from SE and FE errors is that the led combinations are different. In the HI error, the led lights are in sequence: S_P alone, then the WASH and END leds light up together, giving this error and this combination continues continuously.

LOW VOLTAGE ERROR

In this error code, the led lights are respectively: END led light alone, S_P and WASH led lights together.

13.2 End test 2

When the electronic card is switched on after the end test 1, end test 2 starts.



- 4" of pause
- Heating to reach 65°C with 15' of time out
- Drain + Regeneration valve on 30"
- Memorize end test is finished.

During this phase, failure routine of unsuccessful heating and failure routine of ntc works. If the water temperature doesn't increase, at the end of 15', the drain pump will be on.

When the electronic card is switched on after end test 2, it will be in washing mode.

13.3 End test 3

After the "End test 2"



When dishwasher energized, all characters will be activated for production line control.



Screen will stay in this condition until energy becomes off.

End Test Cancellation

Cancelling: During End Test; press **S/P** button for 3sec. After 3sec , display shows ;

- Display shows "00:01" at the time zone and draining will be executed
- "END" icon and bar on the right side are blinks,

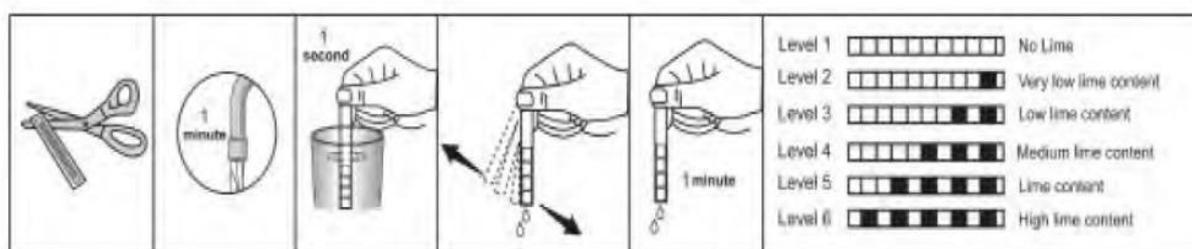


- At the end of the cycle, the "END" icon will be activated

14. MEASUREMENT THE WATER HARDNESS

TEST STRIP;

| | | | | | |
|-------------------------|---------------------------------------|--|---|-----------------|--|
| Open the testing strip. | Run water through your tap for 1 min. | Keep the testing strip in water for 1 sec. | Shake the testing strip after taking it out of water. | Wait for 1 min. | Make your machine's water hardness setting according to the result obtained through the testing strip. |
|-------------------------|---------------------------------------|--|---|-----------------|--|



The washing effectiveness of your machine depends on the softness of the tap water. For this reason, your machine is equipped with a system that reduces the hardness in mains water supply. The washing effectiveness will increase when the system is correctly set. To make the system setting, use the testing strip, if it is available, and find the hardness of the mains water supply.

15. FAILURE CODES (Possible Problems)

F1 (ALARM IS ACTIVE FOR OVERFLOW)

FLOATER

- Floater switch can be out of order or have a problem with the cable connection.

TUB

- There can be a water leakage from the tub

ELECTRONIC CARD

- Electronic card can be out of order.

F2 (THE WASTE WATER IN THE MACHINE CANNOT BE DISCHARGED)

DRAIN HOSE

- Water outlet hose is clogged
- Check of the water outlet hose position.

DRAIN PUMP

- Check the drain pump resistance and power values
- There can be a problem with cable connection of the drain

PRESSURE SWITCH

- Pressure switch of the heater casing group can have a mechanical or cable connection problem.

F3 (ERROR OF CONTINUOUS WATER INPUT)

WATER INLET VALVE

- Water inlet valve can be out of order or can not be closed.

ELECTRONIC CARD

- Electronic card can be out of order.

F4 (FLOWMETER FAULTY)

FLOWMETER

- Flowmeter can be out of order.
- Cable connection of flowmeter can be faulty.

ELECTRONIC CARD

- Electronic card can be out of order.

F5 (INADEQUATE WATER SUPPLY)

WATER TAP

- Make sure the water input tap is totally open and that there is no water cut.

WATER INLET HOSE

- Close the water input tap, separate the water input hose from the tap and clean the filter at the connection end of the hose.

- Water inlet valve filter can be clogged.

- Water inlet valve can be out of order. There can be a problem with the cable connection of water inlet valve.

FLOATER

- Floater switch can be out of order or have a problem with the cable connection.

PRESSURE SWITCH

- Pressure switch of the heater can have a mechanical or cable connection problem.

CIRCULATION PUMP

- Circulation pump can be out of order or have a problem with the cable connection. External part can be blocked to the circulation pump.

F6 (NTC FAULTY)

Ntc

- Ntc can be out of order.
- Ntc cable connection can be faulty. Ntc can be short or open circuit.

Electronic card

- Check the power and resistance value of heater.
- Check the cable connection of the heater.
- There may be an explosion in the NTC triac region on the electronic card.
- The electronic card may be deformed.

CABLE HARNESS

- There may be a problem caused by the disconnection between the cable tree, NTC and electronic board.

NOTE: If the NTC part is faulty, it will not resist in any way.

F7 (EXTREME HEATING UP FAULTY)

NTC

- If the water temperature inside machine higher than 77°C, ntc can be out of order.

ELECTRONIC CARD

- Electronic card can be out of order.

F8 (INADEQUATE HEAT)

HEATER

- Check the power and resistance values.
- Check the cable connection of the heater.

ELECTRONIC CARD

- Check the electronic card

F9 (DIVERTER POSITION PROBLEM)

DIVERTER

- Check the values of the diverter.
- Check the cable connection of the diverter.

ELECTRONIC CARD

- Check the electronic card

FA (TURBIDITY SENSOR FAULTY)

TURBIDITY SENSOR

- There can be some soil around the turbidity sensor.
- Check the cable connection of the turbidity sensor.

ELECTRONIC CARD

- Check the electronic card.

10.1 POOR DRYING

- a) The programme which hasn't got a drying phase; could be selected the customers should be informed about the programmes.
- b) There might be lack of rinse aid compartment.
- c) There can be mechanical or electrical problem with the detergent dispenser.
- d) There can be a problem on the PCB card.

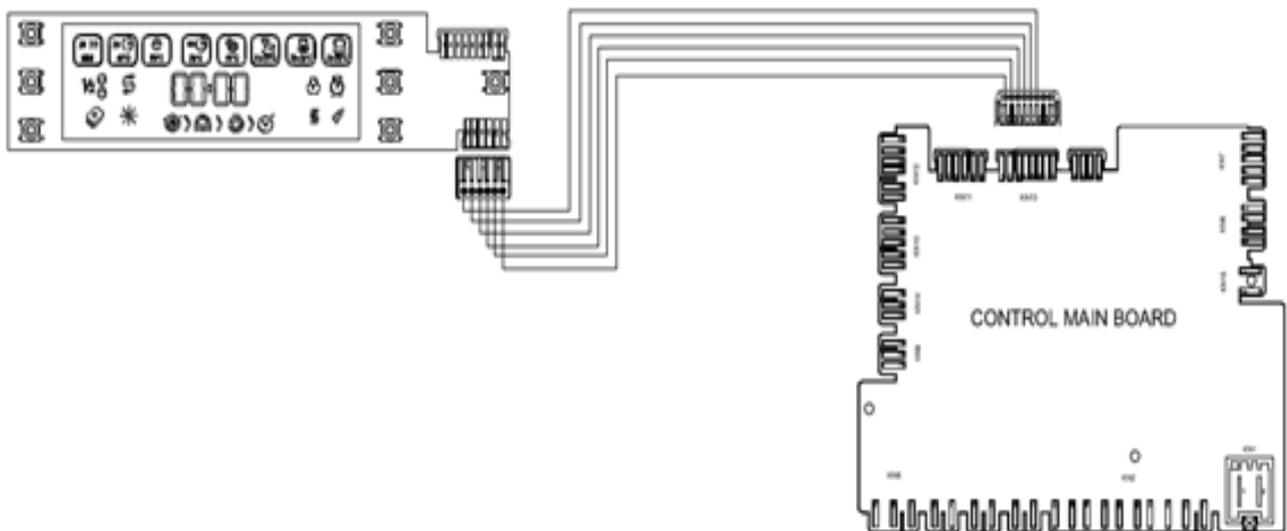
16. REPAIR TECHNIQUES COMPONENTS AND RESISTANCE VALUES

| COMPONENTS | C | | T | | NOTES |
|-----------------------|--|---------------------------------------|---|---|---|
| ON / OFF SWITCH | 0 Ω on component | | 0 Ω on component | | ON/OFF button is pressed |
| DOOR SWITCH | CN2.9 - CN2.2 0 Ω | | KN2.8 - KN2.10 0 Ω | | Door is close |
| PRESSURE SWITCH | CN2.10 - CN2.2 | 0 Ω ∞Ω | KN2.9 - KN2.10 | 0 Ω ∞Ω | Full fill water no water |
| DRAIN PUMP / HANYU | CN2.2 - CN2.4 220 Ω % ±10 | | KN2.4 - KN2.10 220 Ω % ±10 | | |
| DRAIN PUMP / LEILI | CN2.2 - CN2.4 141 Ω % ±10 | | KN2.4 - KN2.10 141 Ω % ±10 | | |
| WATER INLET VALVE | CN2.6 - CN2.9 4200 Ω ± %10 (20°C) | | KN2.6 - KN2.8 4200 Ω ± %10 (20°C) | | |
| REGENERATION VALVE | CN2.2 - CN2.7 3560 Ω ± %10 (25°C) | | KN2.2 - KN2.10 3560 Ω ± %10 (25°C) | | |
| SALT SENSOR | CN5.1 - CN5.2 | 0 Ω NO SALT ∞Ω THERE IS | KN50.10 - KN 50.11 | 0 Ω NO SALT ∞Ω THERE IS SALT | Measure just on the electronic component |
| HEATER | 29.1 ± 1,5 Ω | | 29.1 ± 1,5 Ω | | Measure just on the component |
| DETERGENT DISPENSER | 2300 Ω ± %10 (25°C) | | 2300 Ω ± %10 (25°C) | | Measure just on the component |
| CIRCULATION PUMP | CN2.3 - CN2.9 P=127.1±7%Ω S=126.8±7%Ω | | KN2.3 - KN 2.8 P=127.1±7%Ω S=126.8±7%Ω | | Primary winding Secondary winding (from the component) |
| SET NTC SENSOR | CN 3.2 CN 3.1 | | KN 50.1 KN 50.2 | | |
| FAN MOTOR | CN 6.2 - CN 2.9 | | KN 6.2 - KN 2.8 | | |
| DIVERTER | CN 6.1 - CN 2.9 10500 ± %7 Ω | | KN 6.1 - KN 2.8 10500 ± %7 Ω | | |
| RINSE AID SENSOR | CN 5.3 - CN 5.2 | 0 Ω NO RINSE AID ∞Ω THERE IS RINSE | KN 50.8 - KN 50.9 | 0 Ω NO RINSE AID ∞Ω THERE IS RINSE AID | Rinse aid off Rinse aid on |
| FLOATER (MICROSWITCH) | CN2.1 - CN 2.5 CN2.1 - CN 2.4 | 0 Ω ∞Ω | KN2.5 - KN 2.10 KN2.4 - KN 2.5 | 0 Ω ∞Ω | Microswitch is inactive (no water) microswitch is active (there is water) |

MEASURING THE COMPONENTS FROM THE ELECTRICAL CARD

You might measure the components either connectors of electronic card or directly on the component.

Measuring from the connectors of electronic card gives definite result to define the repair. If you know the specialities and values of tester, you can easily determine the repair.



Example;

Probes of the tester should be applied on to the related connectors of the electrical card; control the values according to the resistance value table.

17. DISASSEMBLY

CAUTION! REMOVE ELECTRIC PLUG FROM THE SOCKET DURING THE DISASSEMBLY

Side Panels

Remove the screws fixing side panels



Front Panel

- a) Remove the screws as it shown in the picture.



- b) Pull down the front panel after removing the screws.

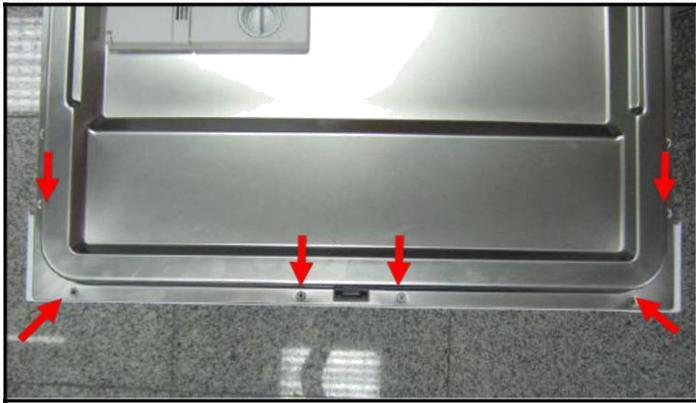


- To remove the side panel, remove the upper plastic hinge and then the above one and pull it up.



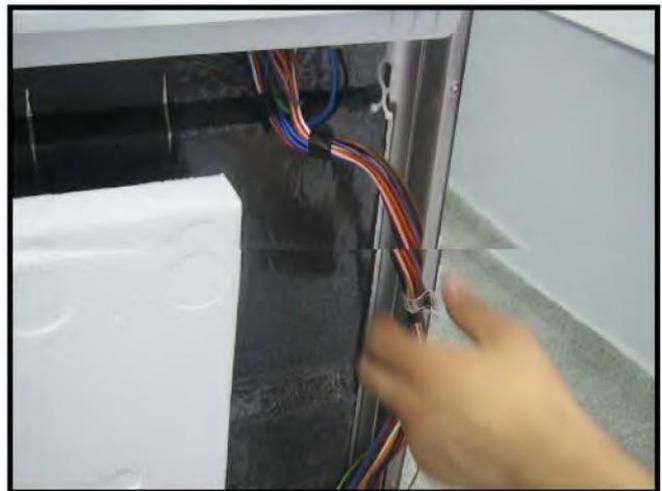
Control Panel

- a) Remove 6 screws that fix control panel to the door inside sheet iron.
- b) Remove the control panel group carefully as shown in the picture



c) Remove the cable connection plastic which fix cable harness to the control panel as shown in the picture.

d) Remove the wires that are connected to control panel group



Door Lock Group

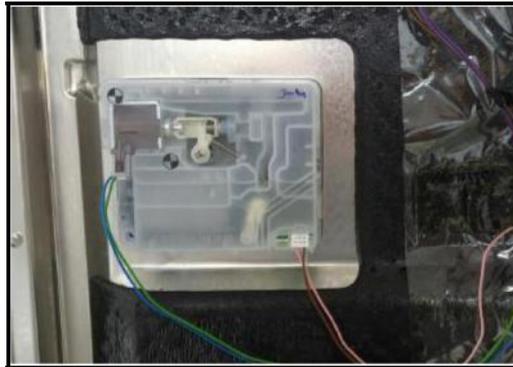
a) Remove control panel group

b) Remove two screws that fix the door lock group



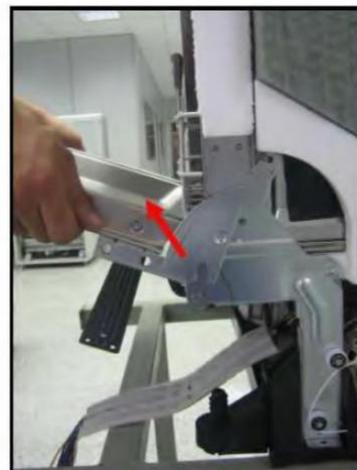
Dispenser

- a) Remove the front panel
- b) Remove the wire.
- c) Remove dispenser from inside door's hinges by using slotted screwdriver. Push and remove the dispenser.



Door Inside

- a) Remove side panels.
- b) Remove Built-in Hinge Spring.



- c) Pull the door inside up as It is shown in the picture.

- d) Remove two screws that fix hinge movement sheet iron to the door inside.



Air - break

- a) Remove the left side panel of the machine.
- b) Open machine's door
- c) Rotate counterclockwise air-break nut and remove it.
- d) Remove air-break's connections with salt cap as it is shown in the picture. (be careful about plastic hinges)





Hose connection plastic

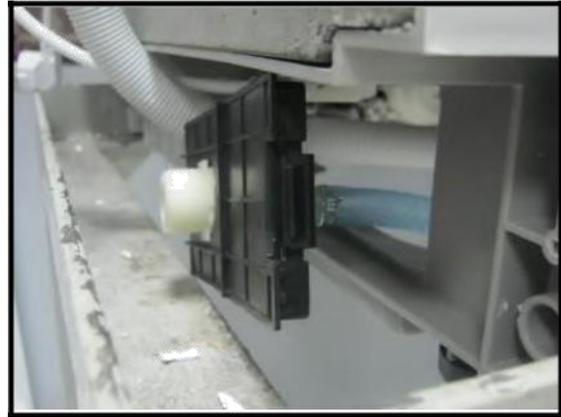
- a) Remove left side panel.



- b) By using flat tip screwdriver remove hose connection plastic's hinge from the basement as it shown in the picture



c) Push the hose connection plastic.



Warning: If you do not obey instructions while disassembly of the hose connection plastic it can be broken.

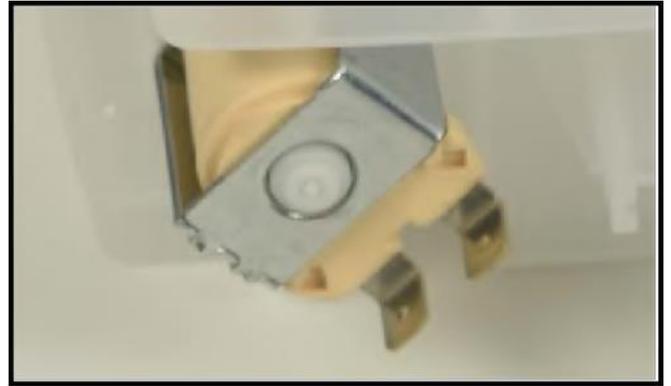
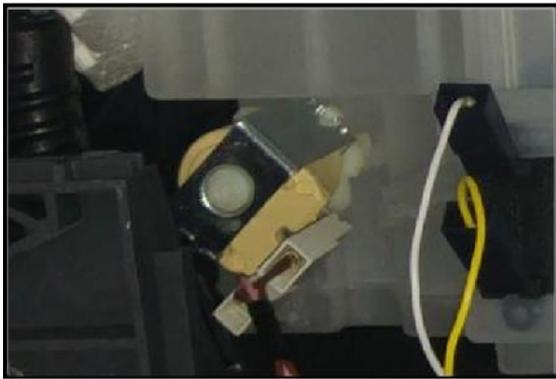
Power cord

- a) Remove hose connection plastic.
- b) Remove the lower cover.
- c) Remove the wires that is between power cord and parasite filter.
- d) Remove the power cord.



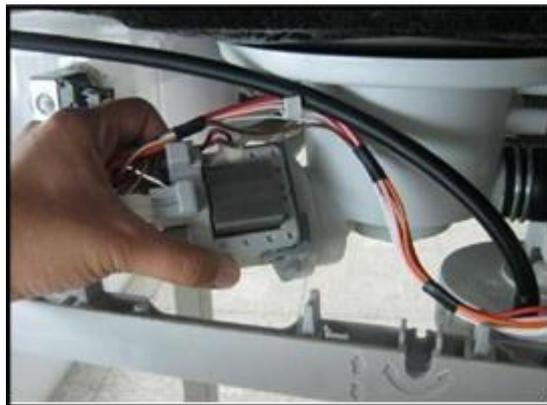
Regeneration valve

- a) Remove plastic kick plate and kick plate iron sheet.
- b) Remove the wires
- c) To remove regeneration Value rotate counterclockwise and pull it as it is shown in the picture.



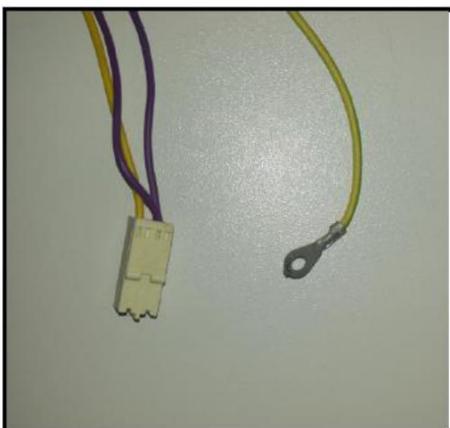
Drain pump

- a) Remove plastic kick plate and kick plate iron sheet
- b) Remove the wires.
- c) To remove the drain pump that fixes to the sump, rotate it in the direction of counter clockwise and pull.



Circulation pump

- a) Remove lower cover from the places and measure the component.



Water softener

- a) To remove salt cup cover, rotate it in the direction of counter clockwise
- b) Remove left side panel.
- c) Derach the connections which are between water softener and air-break.
- d) Remove lower cover.
- e) Remove the hose that is between sump and salt camp.



Parasite filter

- a) Remove lower cover.
- b) Remove one screw fixing parasite filter.
- c) Remove wires.
- d) Push parasite filter and remove it.



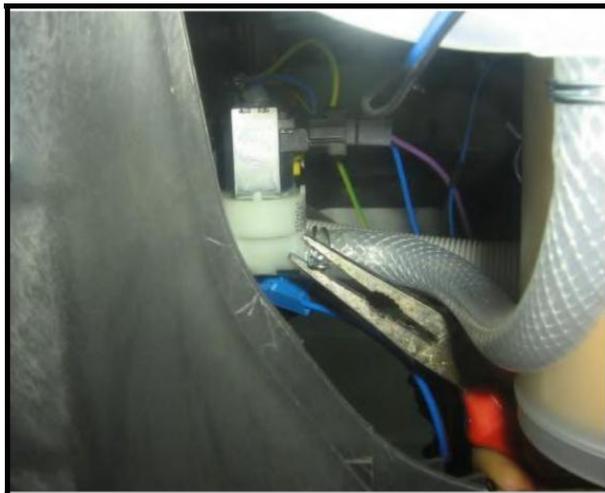
Floater

- a) Remove lower cover.
- b) Remove two screws that fix floater as it is shown in the picture.
- c) Remove the two floater hoses.
- d) Remove the wire that is connected to the floater.

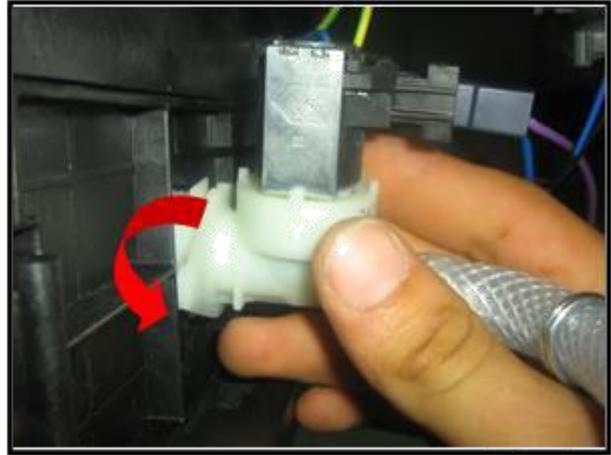


Water Inlet valve

- a) Remove lower cover.
- b) Remove the wire that is connected to the water inlet valve.
- c) Remove the clamp that connects water inlet valve and air-break as it is shown in the picture



To remove water inlet valve pull it back as it is shown in the direction of picture then release water inlet valve from the pins that is connecte to and rotate it in the direction of counter clockwise.



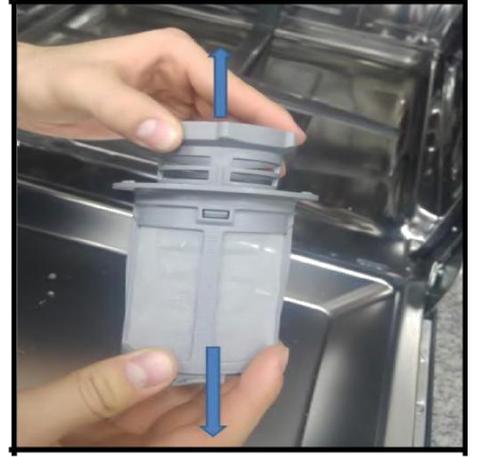
Draining Hose

- a) Remove the hose connection plastic.
- b) Remove lower cover.
- c) Remove the clamp that fixes draining hose to the sump
- d) Remove draining hose



Micro and Metal Filters

- a) Open the door.
- b) Remove lower basket
- c) To remove microfilter group rotate them in the direction of counter clockwise and pull them up as it is shown in the picture
- d) To remove microfilter group (course filter and micro filter) pull them as it is shown in the picture.
- e) To remove the metal filter pull it up as it shown in the picture.



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