

DISHWASHER SERVICE MANUAL



SERIES T41-T42-T43



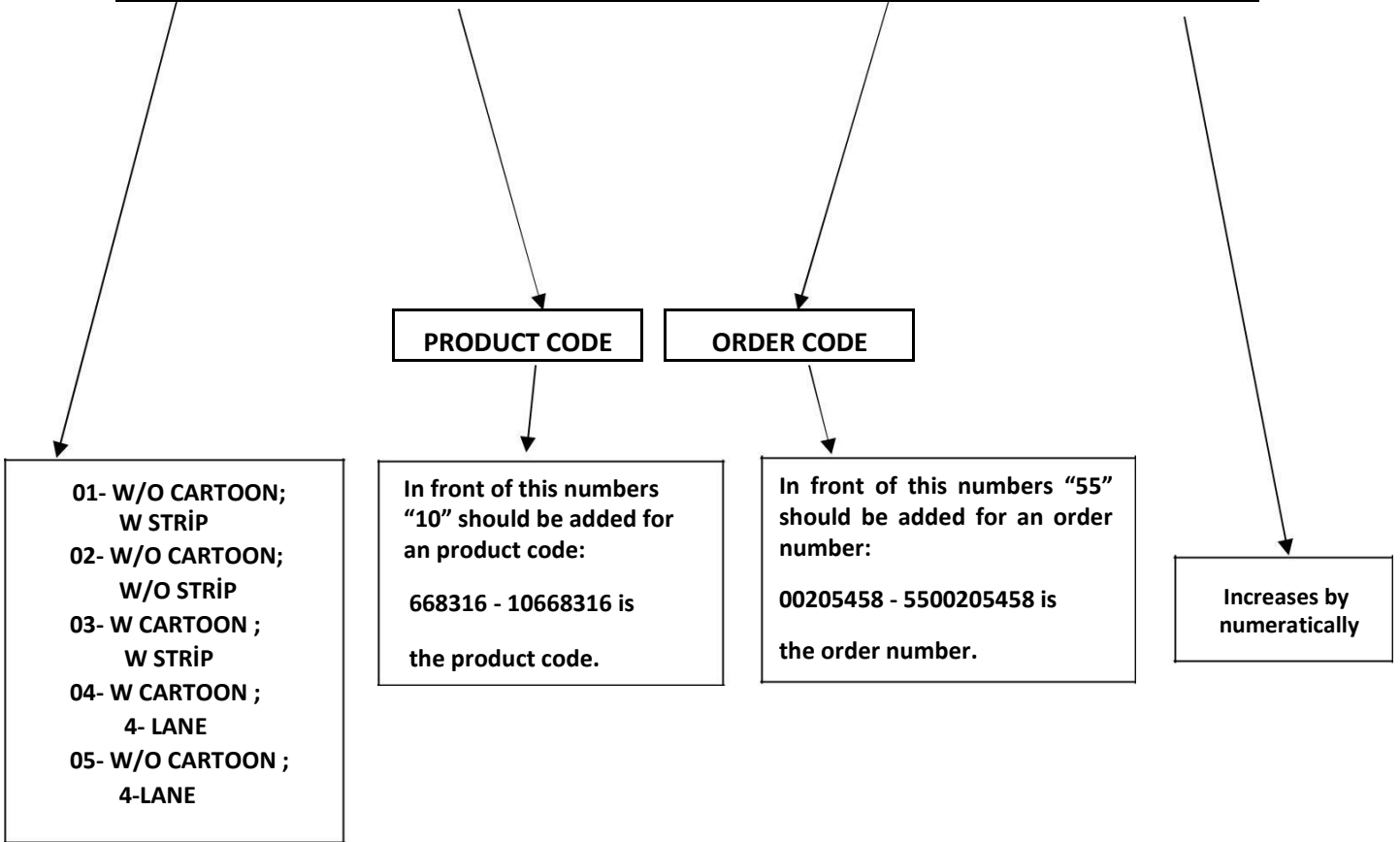
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1.BARCODE STICKER CODE EXPLANATION



04	668316	00205458	0001
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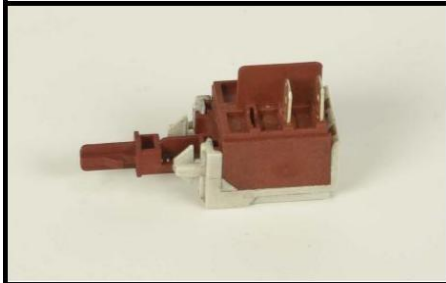


2.ELECTRICAL COMPONENTS AND MEASUREMENTS

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

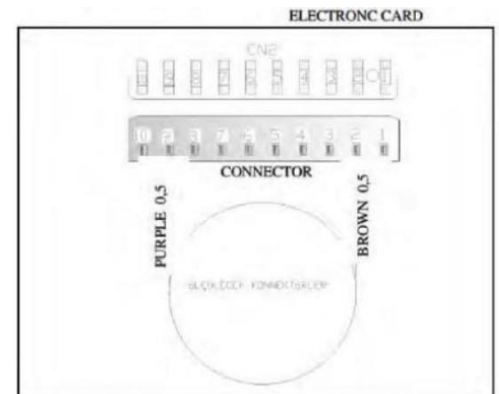
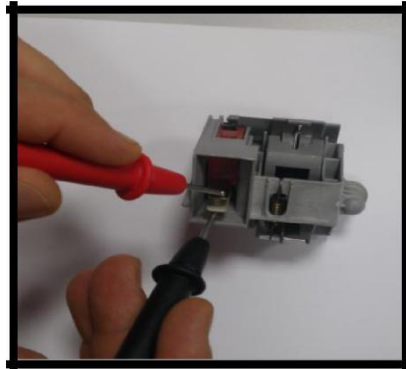
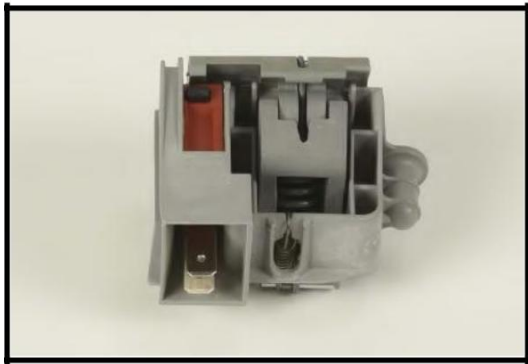


2.2 DOOR LOCK

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



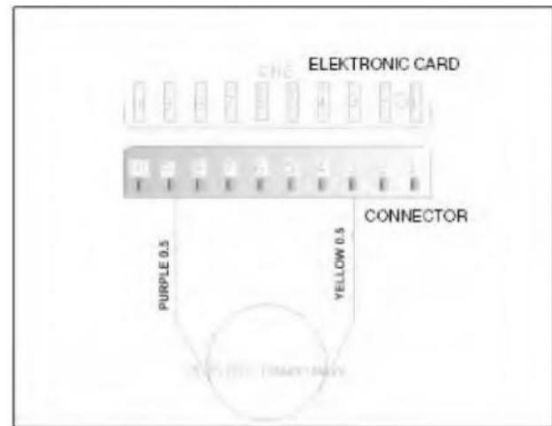
2.3 CIRCULATION PUMP

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:

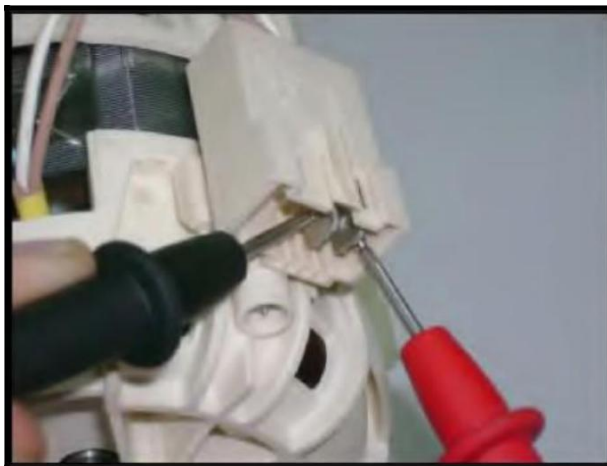
You can only measure the primary winding value from the electrical card. Resistance value of the primary winding must be;

	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.(118.2-135.9 Ω)

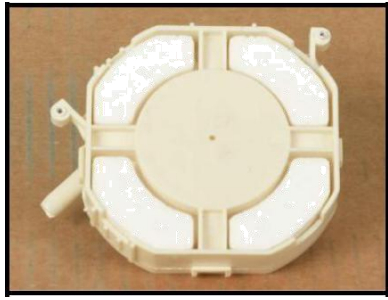
B) Measurement of the secondary windings of the washing pump (white cable – blue cable)(117.9-135.6 Ω)

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

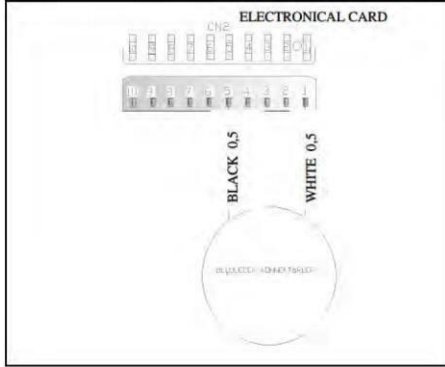
2.4 FLOATER

From the electrical card:

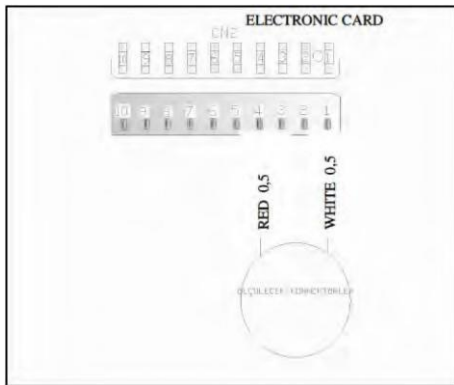
	C		T		
FLOATER (MICROSWITCH)	CN2.1 - CN 2.5	0 Ω	KN2.5 - KN 2.10	0 Ω	Microswitch is inactive (no water) microswitch is active
	CN2.1 - CN 2.4	$\infty\Omega$	KN2.4 - KN 2.5	$\infty\Omega$	(there is water)



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

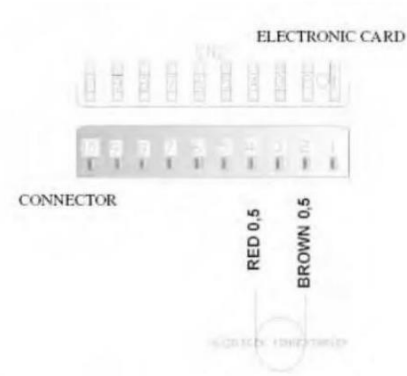
Capacitor is permanently connected to the circulation pump coils.



2.6 DRAIN PUMP

From the electrical Card:

	C		T	
DRAIN PUMP / HANYU	CN2.2 - 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



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

From the component:

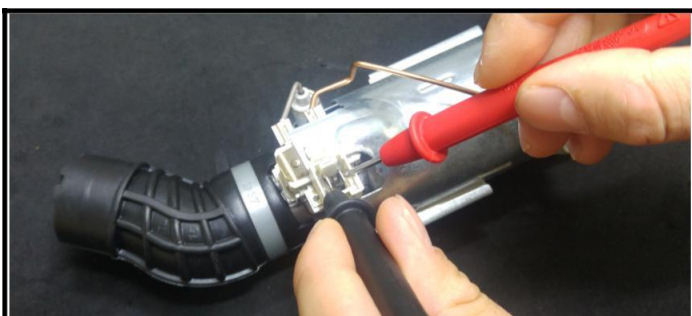


Probes of the tester should be applied on the related connectors as shown on the pictures.

2.7 HEATER

It can' be measured from the electrical card.

From the component:



2.8 NTC

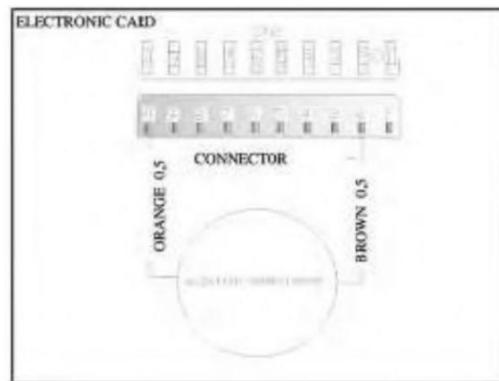
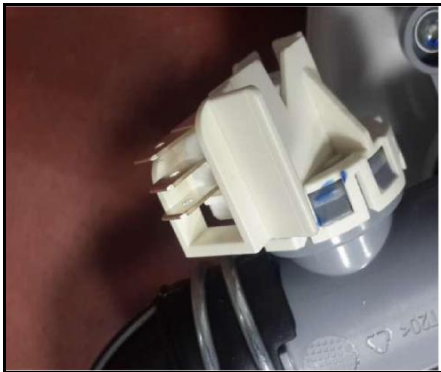


+25 °C	-	47.200	±	850	Ω
+30 °C	-	37.500	±	675	Ω
+40 °C	-	24.900	±	349	Ω
+50 °C	-	17.000	±	170	Ω
+60 °C	-	11.700	±	117	Ω
+70 °C	-	8.280	±	108	Ω
+80 °C	-	5.945	±	101	Ω

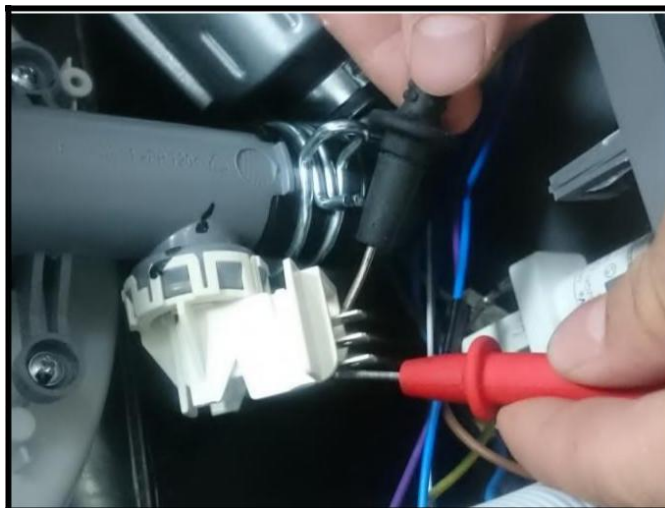
2.9 PRESSURE SWITCH

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



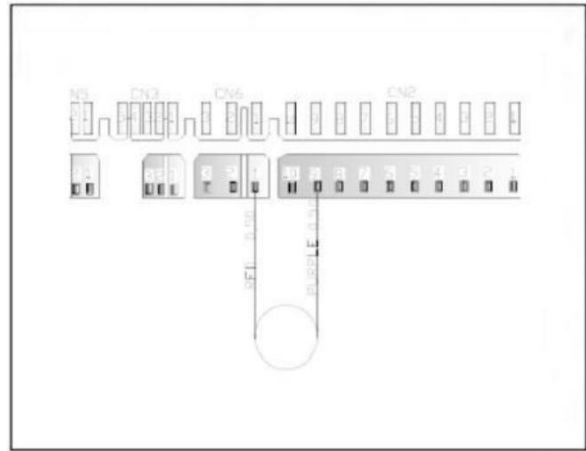
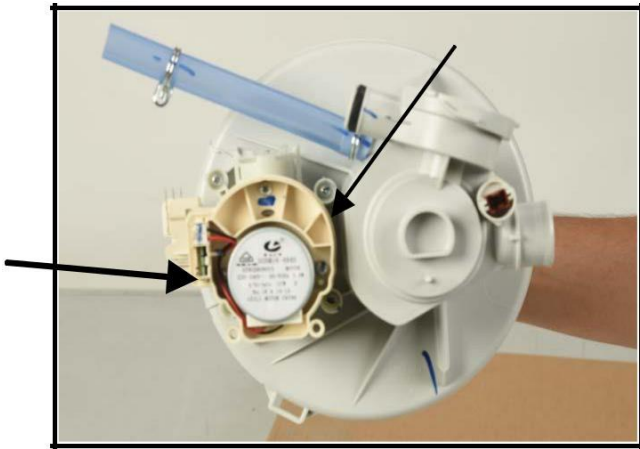
From the component:



2.10 DIVERTER

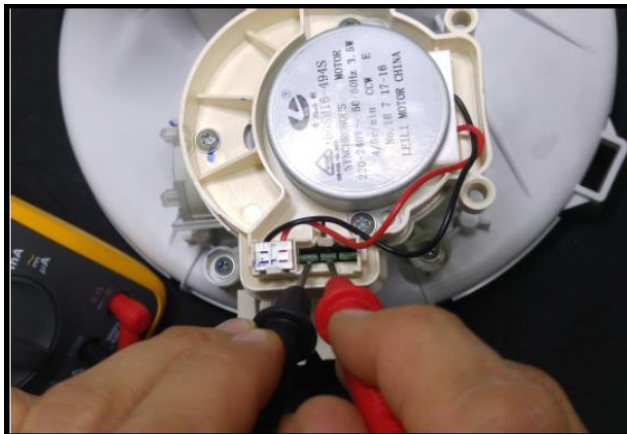
From the electrical Card:

	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:



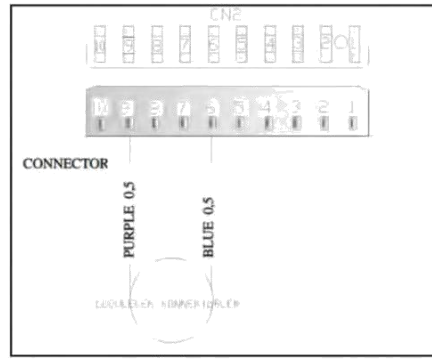
Probes of the tester should be applied on to the related connectors as shown on the pictures.

2.11 WATER INLET VALVE

Single inlet and single outlet standard single coil selenoid valve.

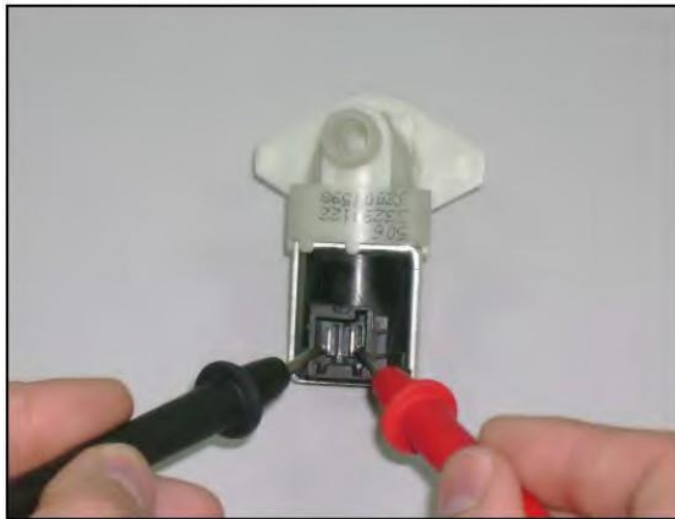
From the electrical card:

	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:

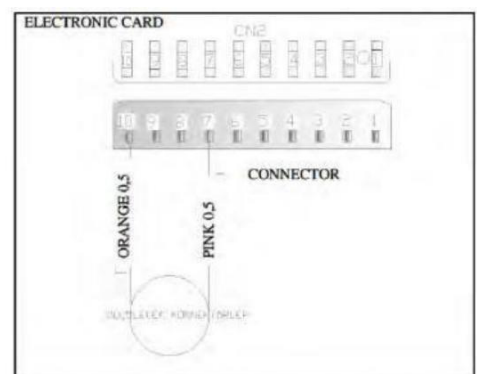
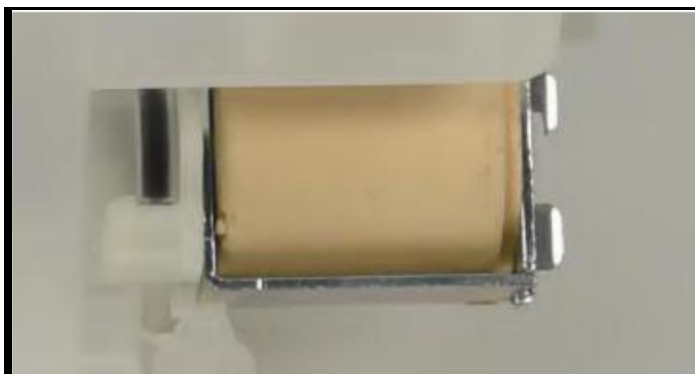


Probes of the tester should be applied on to the related connectors as shown on the pictures.

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 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).

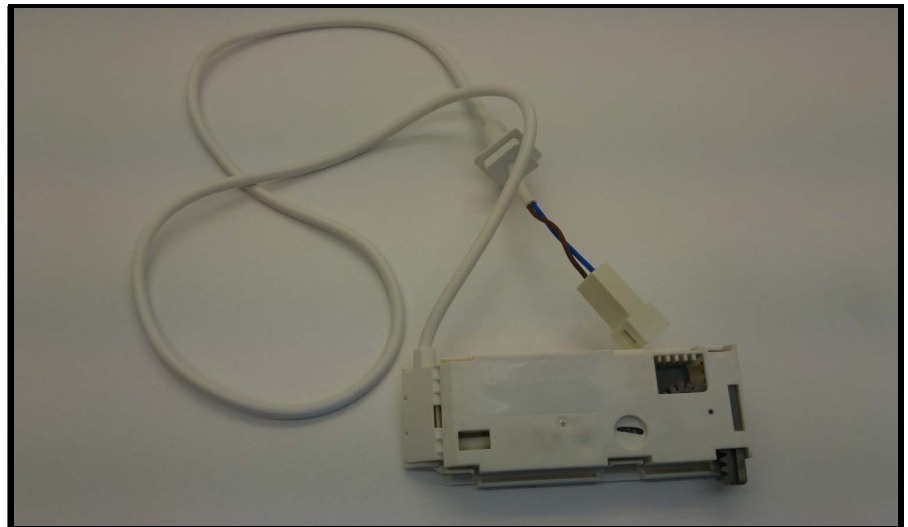
2.15 AUTO DOOR

The automatic door opening mechanism (ADOM) will be activated when the program is complete. Door will open for 10cm when drying and rinsing is complete and the steam in the machine will be released for better drying performance.

Voltage: 110-230V,

Frequency: 50-60 HZ

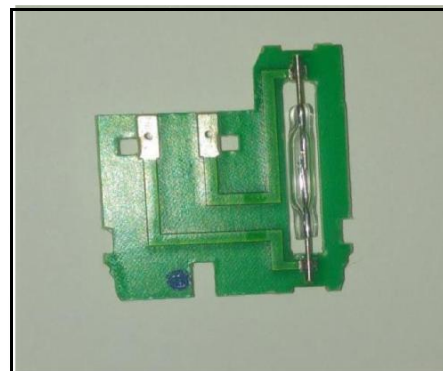
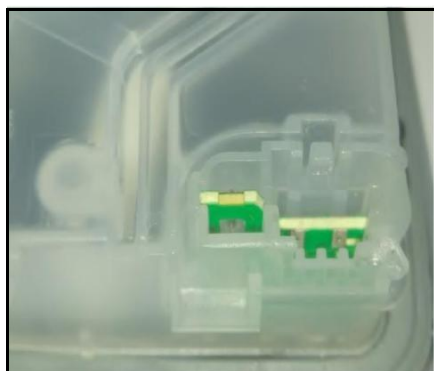
Power : $5,5W \pm 1W$



2.16 RINSE AID SENSOR

From the electrical card:

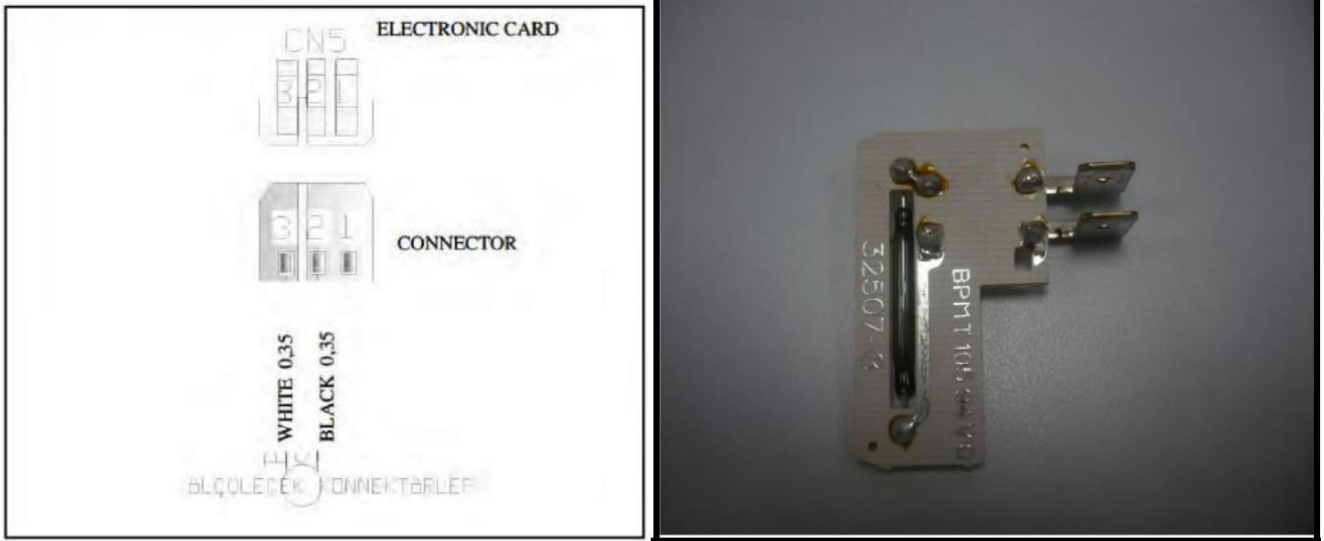
		C	T		
RINSE AID SENSOR	CN 5.3 - CN 5.2	0Ω NO RINSE AID ∞Ω THERE IS RINSE AID	KN 50.8 - KN 50.9	0Ω NO RINSE AID ∞Ω THERE IS RINSE AID	RINSE AID OFF RINSE AID ON



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.

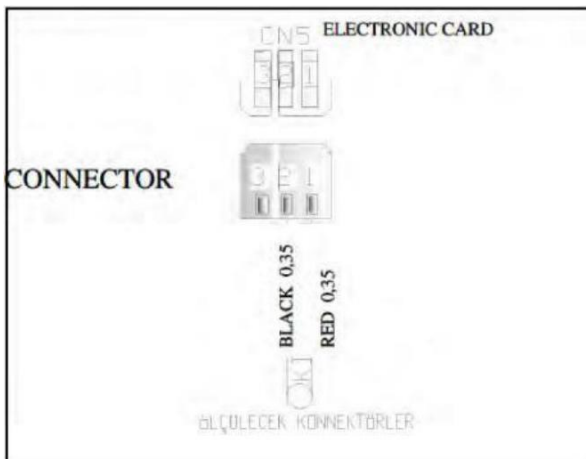


2.17 SALT SENSOR

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

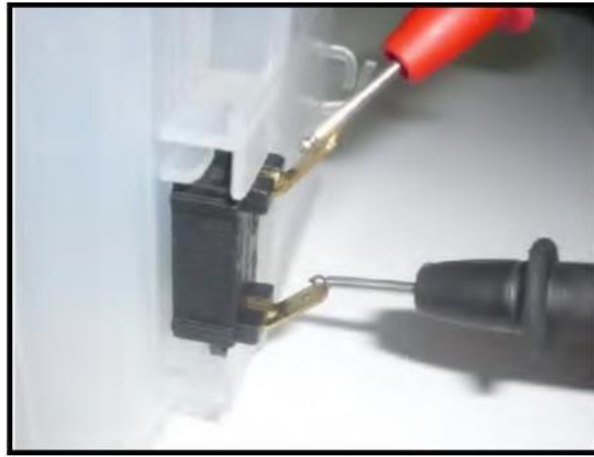
From the electrical card:

		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:



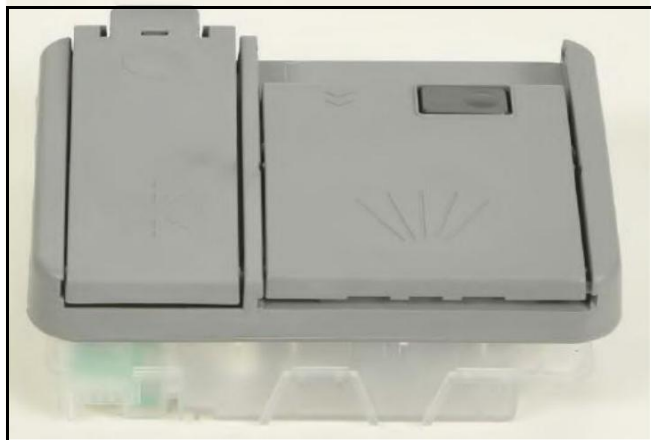
2.18 POWER CORD



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

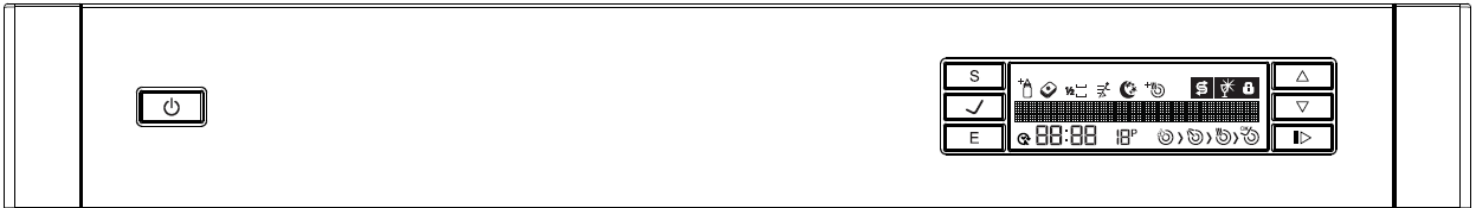
3.1 INTERFACE MOD. T41 - LCD_1 / T42 - LCD_2 / T43 - LCD_3

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

- 3 buttons at left side of LCD;
 1. OPTION button
 2. CONFIRMATION button
 3. DELAY button

- 3 buttons at right side of LCD;
 4. UP button
 5. DOWN button
 6. START/PAUSE button

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



VARIABLE SPEED PUMP USAGE:

Washing pump speed definition will be included in the program algorithm.

Water quantity and condition should be detected with this function. (Will be implement)

4. WASHING PROGRAM

4.1 WASHING PROGRAM CROSS TABLE

Model	PREWASH	JetWASH 20'	Quick 30'	Economic 50°C	Dual Wash	Super 50'	Daily 60°C	Auto Delicate 30°/50°C	Auto Normal 50°/60°C	Auto Intensive 60°/70°C
T41 / LCD_1	X	-	X	X	X	X	-	-	-	X
T42 / LCD_2	X	X	X	X	X	X	-	-	-	X
T43 / LCD_3	X	X	X	X	X	X	X	X	X	X

X = present

- = not present

Note: T41 / LCD_1, T42 / LCD_2 and T43 / LCD_3 with fan

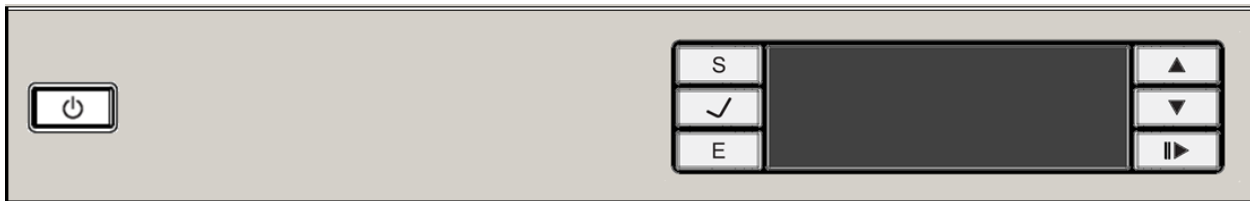
T43 / LCD_3		T42 / LCD_2		T41 / LCD_1	
1P	Prewash	1P	Prewash	1P	Prewash
2P	Mini 14'	2P	Mini 14'	2P	Quick 30'
3P	Quick 30'	3P	Quick 30'	3P	Eco 50C
4P	Eco 50C	4P	Eco 50C	4P	Super 50'
5P	Super 50'	5P	Super 50'	5P	DuoWash
6P	Daily 60C	6P	DuoWash	6P	Auto Int

7P	DuoWash		7P	Auto Int			
8P	Auto Delicate						
9P	Auto Normal						
10P	Auto Int						

Model	Multispray model ismi	PROGRAMME NUMBER	COUNTRY	CIRCULATION PUMP	DRYING SYSTEM	DIFFERENCE FROM ANOTHER MODEL	OPENING LANGUAGE
T41_1	T41_13	6	EUROPE	BLDC	Optional Turbo	LCD	English
T42_1	T42_13	7	EUROPE	BLDC	Turbo	LCD	English
T43_1	T43_13	10	EUROPE	BLDC	Turbo	LCD	English
T43_1T	T43_13T	10	EUROPE	BLDC	Turbo	LCD+Touch	English
T43_2	T43_23	10	AUSTRALIA	BLDC	Turbo	LCD	English
T43_3	T43_33	10	TURKEY	BLDC	Turbo	LCD	Turkish

5. WASHING SPECIFICATIONS AND PROGRAMS

5.1. Selecting and starting at Power On:



Switch-on: When dishwasher is switched on,

- Display shows **"Hello"** text, last selected program number and all icons are visualized 5".



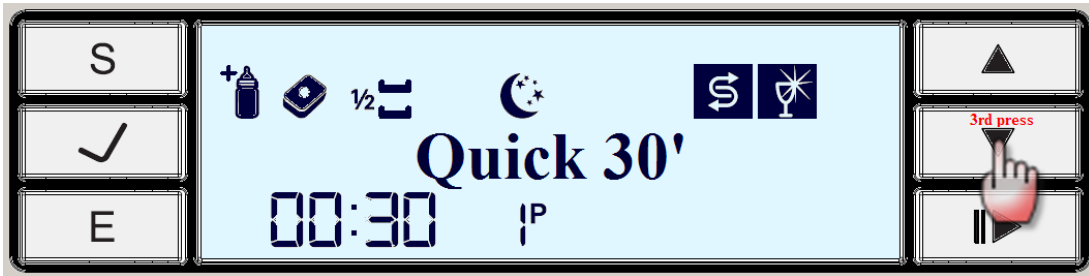
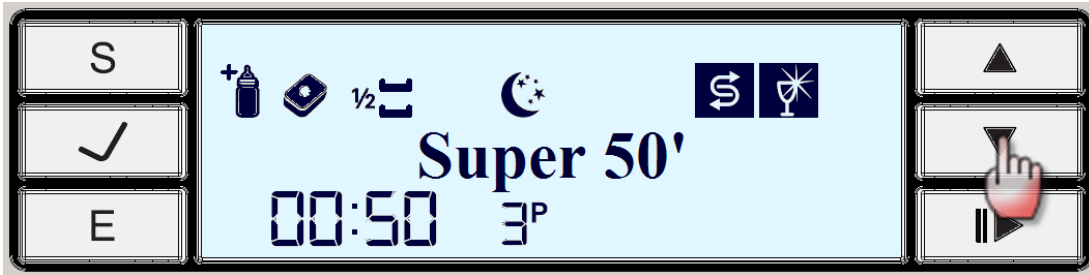
- Then display show last selected program name, program number, remaining time of the program and selected option icons. The duration of the selected program is visualized in the display.



- LCD gives **Voice_1 sound**.

Selecting of a program: When the program is selecting by “UP” and “DOWN” buttons, display show and simultaneously change selected program name, program number, remaining time of the program and last selected icons are visualized.

When selecting a program, if the program matches with non-suitable option (but already selected) (ex. Super 50' – Extra Fast), non suitable option icon disappears. When user continue to the selecting a program, if the option suitable for selected program, option icon lights up.



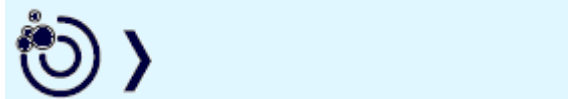
Starting of a program: Program starts with pressing Start/Pause button. When the program starts display shows;

- “Program Activated” text (2”) than selected program name,
- program number,
- remaining time of the program (two dots blinks),
- selected option icons,
- “Related program indicator icon” and bar on the right side,
- LCD gives **Voice_3 sound**

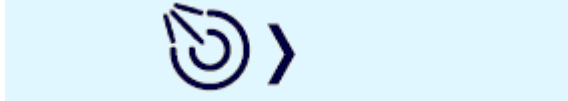


During wash, LCD will be shown program indicator icons (wash-rinse-dry-end).

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



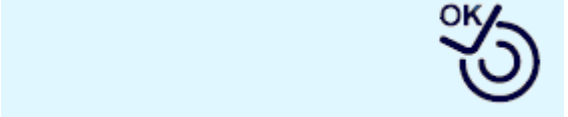
- If cycle on the "rinse" step; rinse icon and bar on the right side lights up.



- 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.



5.2 Pausing and cancelling program at Power On:

Pausing of a program: During a program; press Start/Pause button to pause a program, display shows;

- Program name (1sec.)/Program paused text (1sec.), program number, remaining time of the program and last selected icons are visualized.
- remaining time of the program (two dots blinks)
- program number,





Cancelling of a program: During a program; press **S/P** button for 3sec. While pressing S/P button (during 3sec.) display shows 'PROG. CANCELLING..X' (X mean is remaining time to start cancelling procedure; X will be ; 3,2,1) text and **VOICE_6** will be sound every second. After 3sec , display shows ;

- 'PROG. CANCELLING ' text until the drain procedure finish (~1min),
- "00:01" at the time zone and draining will be executed
- "END" icon and two dots blinks,
- program number ,



During wash





at the end of the cancelling procedure buzzer will be activated (**Voice_5**) and display shows,

- "Program Cancelled" text
- "00:00" at the time zone,
- "END" icon lights up (constantly),
- program number

Note: If pressing S/P button shorter than 3", display shows selected program name, program number, remaining time of the program and selected option icons are visualized (cycle is resumption).



Note: After program is finished,

5.3 Modification of a program:



During wash

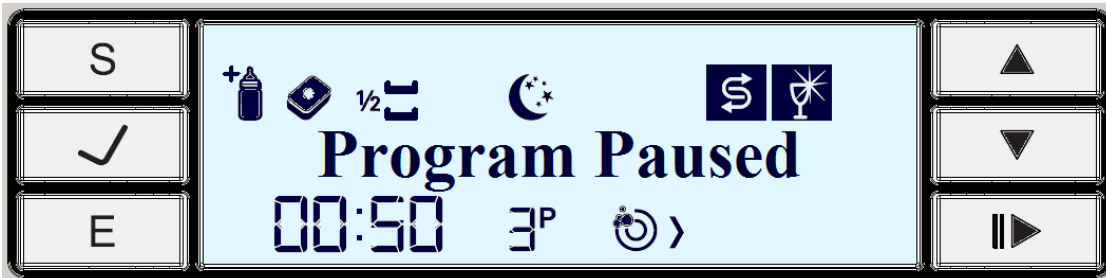
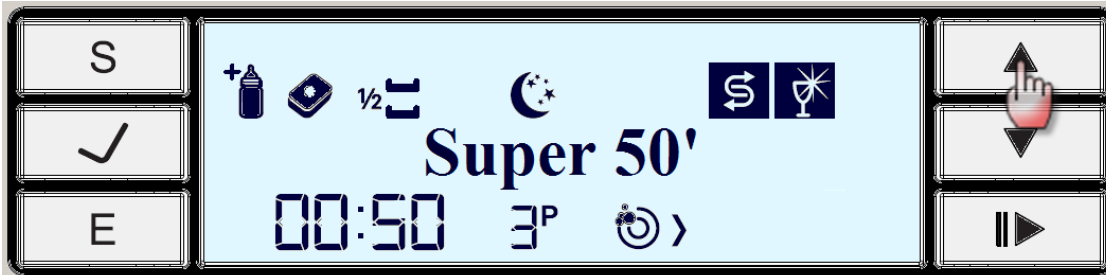
If user want to change the program; Press the **Start/Pause** button, display shows;

- will be alternate showings of "Program Paused" text and program name,
- program number,
- remaining time of the program,
- "Related program indicator icon" and bar on the right side,

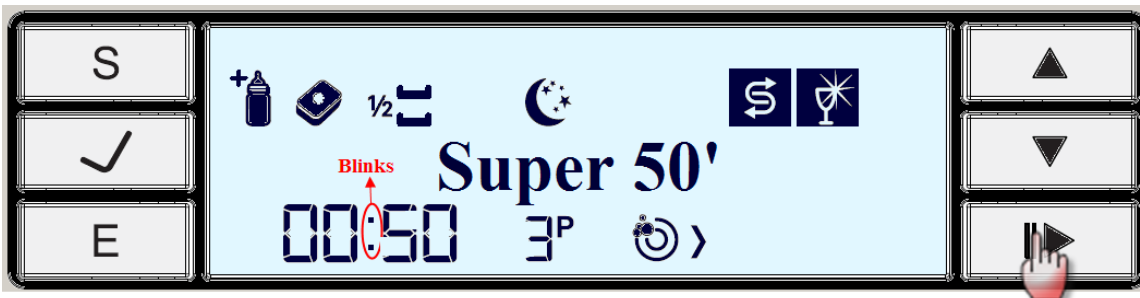




Then press “UP” or “DOWN” buttons for selecting new program. At any pressure of “UP” or “DOWN” buttons display show and simultaneously change selected program name(1sec.)/Program paused text (1sec.), program number, remaining time of the program and last selected icons are visualized.



- 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).
- After press to the S/P button program starts and display shows “Program Activated” text during 1”.



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



During wash

During the program if the door is opened, display shows **'Door is open'** text. 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.

Note: 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



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

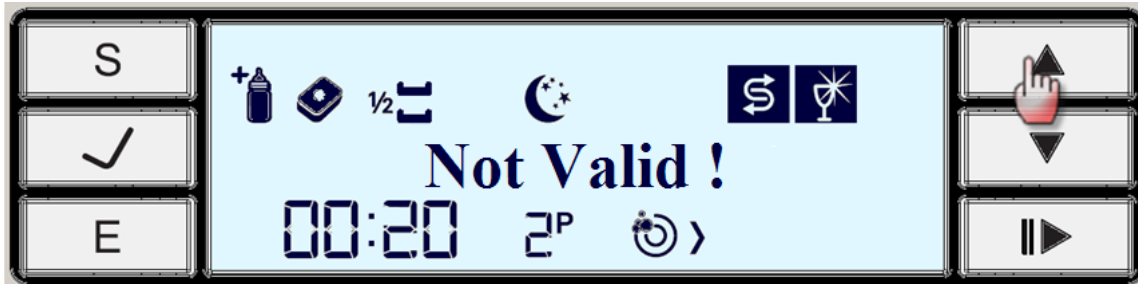


During wash (Door is closed)



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, LCD gives **Voice_4 sound** and display shows "Not Valid!" text (1").



If user press the S/P button; display shows,

- will be alternate showings of "Program Paused" text and program name (Door is open text will not be shown)

LCD allows to change programs and options (possible that selecting program and options). Than press "UP" or "DOWN" buttons for selecting new program. At any pressure of "UP" or "DOWN" buttons display show and simultaneously change selected program name, program number, remaining time of the program and last selected icons are visualized.



Before closing the door:

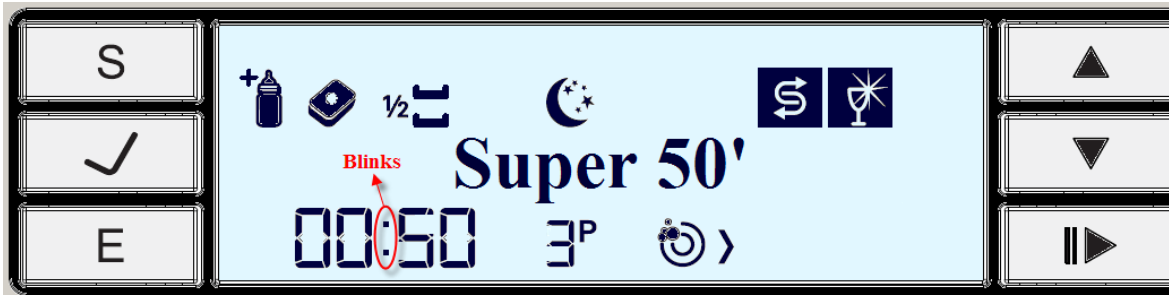
Note1: Since the S/P button is pressed to change program while door is opened, S/P button is again needed to be pressed one more time to re-start the program after the door is closed. (Will be alternate showings of "Program Paused" text and program name)

Note2: Selected program can be activate with pressing S/P button before door is closed. Display shows,
• Will be alternate showings of "Door is open" text and program name until the door is closed.

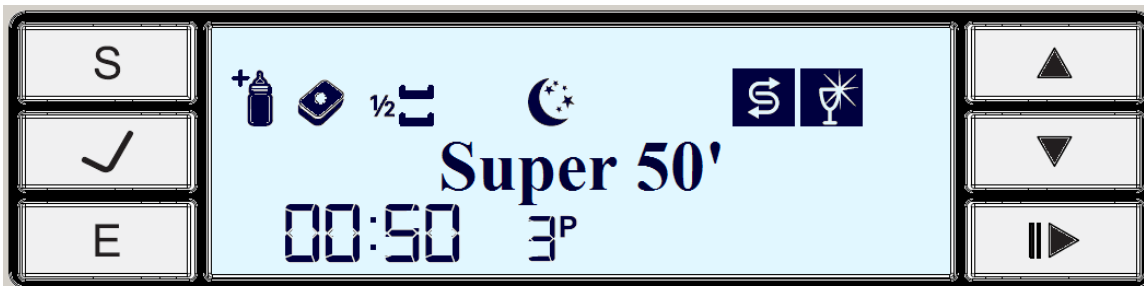


After closing the door:

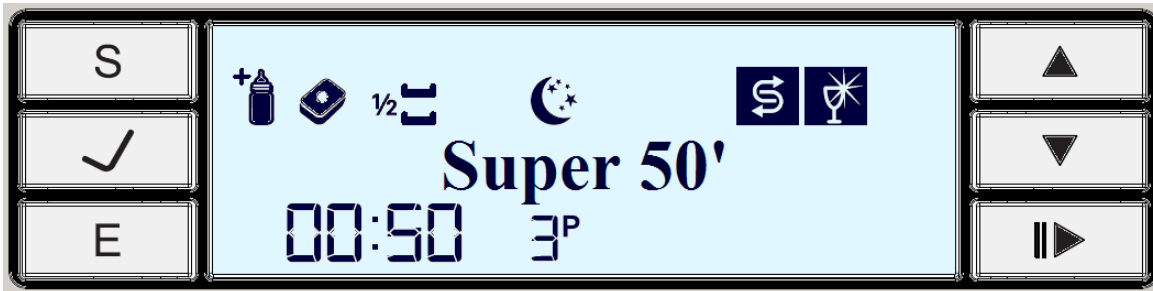
Program starts,



5.6. Selecting and starting program while the door open (Before wash):



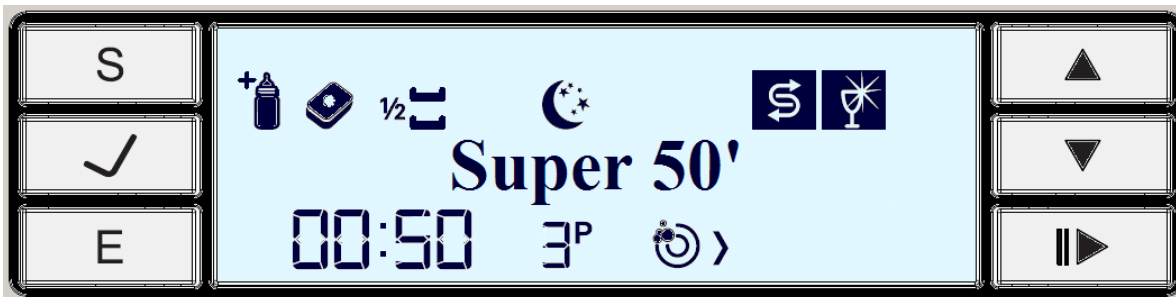
Door is close



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; display,

- will be alternate showings of "Door is open" text and program name until the door is closed.



** It is not possible that selecting program and options after pressed the S/P button. If user tries to press any button, LCD gives **Voice_4 sound** at that time and "Not Valid" text will be shown.

Note: If user press the S/P button again, LCD returns the previous position (possible that selecting program and options)

- After the door is closed, program starts.

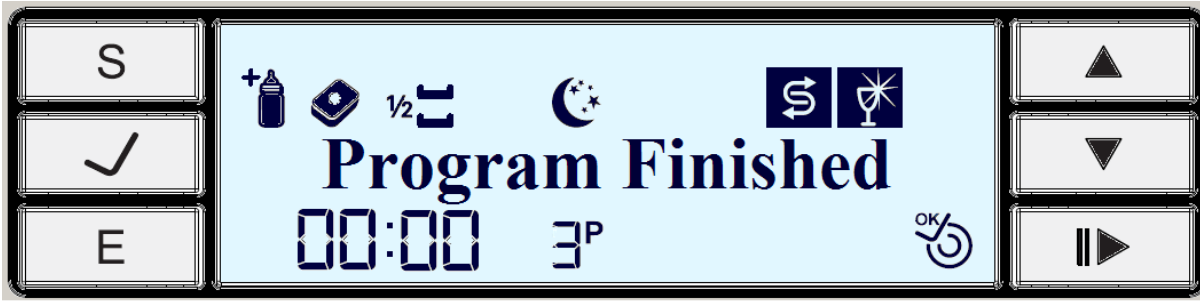


5.7. At the End of program, if the users press the program button or press any button:

At the end of the program;

- "Program Finished" text shown,
- remaining time of the program ("00:00"),
- selected options icons shown,
- end icon lights up,

- "Voice_5" alert is activated to show program is finished.



** 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.



switch OFF



switch ON



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

**** If users press S/P button at the end of program, LCD turns to the start position.

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



Ex2: After end of the program, if user press the "S/P button";



**** If users switch OFF the dishwasher at the end of program and switch ON the dishwasher again, Eco program will shown as default.



switch OFF



Switch ON

5.8 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

5.9. 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.**

5.10. 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.

5.11. 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. OPTIONS

6.1 Options & Model Options & Models

Option	T41 / LCD_1	T42 / LCD_2	T42 / LCD_3
Delay Start	X	X	X
Half Load (3 modes)	X	X	X
Direct&Triple wash	X	X	X
Tablet	X	X	X
Prewash	X	X	X
Extra Fast	X	X	X
Extra Hygiene	X	X	X
Extra Silent	-	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 Triple&Direct wash	Tablet	Child Lock	Extra Fast	Extra Hygiene	Extra Silent	Extra Drying
Delay Start		OK	OK	OK	OK	OK	OK	OK
Half Load (3 modes) or Triple&Direct wash	OK		OK	OK	OK	OK	OK	OK

Tablet	OK	OK		OK	OK	OK	OK	OK
Child Lock	OK	OK	OK		OK	OK	OK	OK
Extra Fast	OK	OK	OK	OK		-	-	OK
Extra Hygiene	OK	OK	OK	OK	-		-	-
Extra Silent	OK	OK	OK	OK	-	-		OK
Extra Drying	OK	OK	OK	OK	OK	-	OK	

6.3 Compatibility between Options & Programs

	OPTIONS	Delay Start	Half Load (3 modes) or Triple&Direct wash	Tablet	Child Lock	Extra Fast	Extra Hygiene	Extra Silent	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	X	X
DUO WASH		X	X	X	X	X	X	X	X
Super 50'		X	X	X	X	-	X	-	X
Daily 60		X	X	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

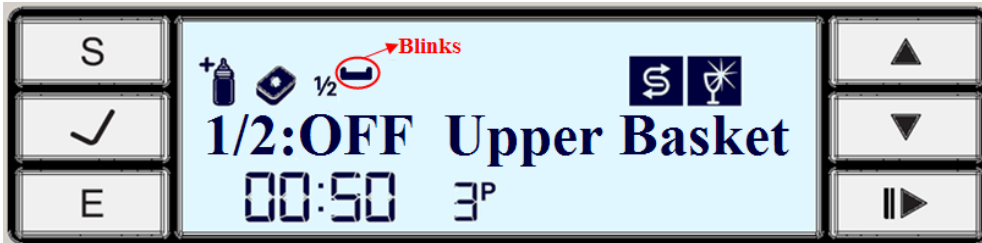
6.4 Option Definition

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 Fast	Reduces the duration of the washing
Extra Hygiene	Increase the washing temperature
Extra Silent	Reduces the sound pressure level of the washing
Extra Drying	Executed drying after washing cycle and change of washing temperature

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

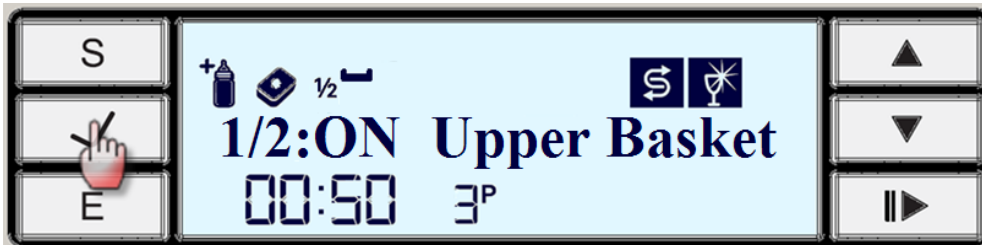
Upper basket is enabling by;

- firstly pressure of “option” button (than firstly extra hygiene option text shown)
- than the Upper basket selects by “UP” and “DOWN” buttons (press “UP” button 2 times or press “DOWN” button 5 times),
- If Upper basket not selected before (Upper basket icon off position), display show;
- "1/2: OFF Upper Basket" text
- upper basket icon blinks,
- ½ icon lights up (constantly)



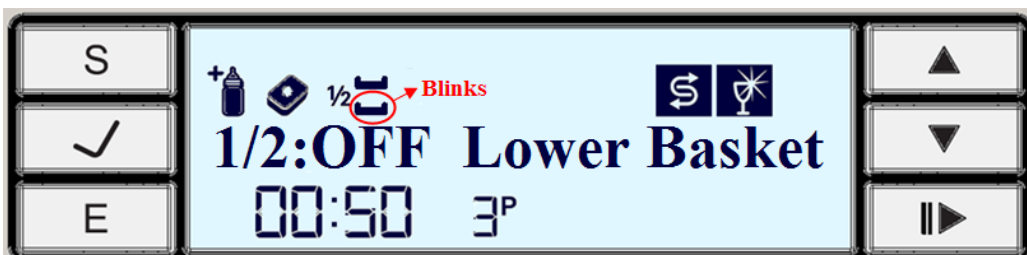
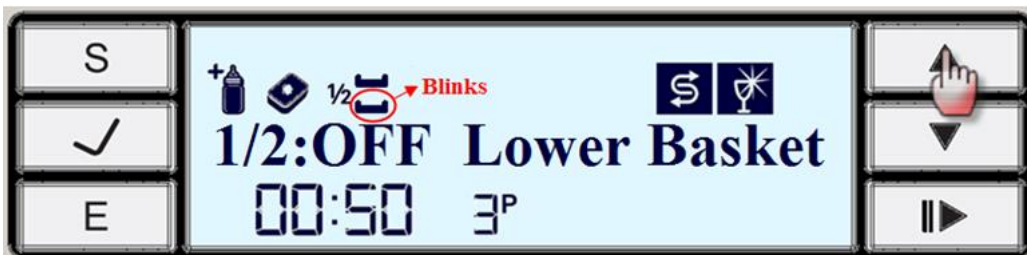
When Upper basket approved by the “active “button;

- Upper spray icon and ½ icon are ON. Wash is executed only with upper spray arm and display shows,
- “1/2:ON Upper Basket” text,



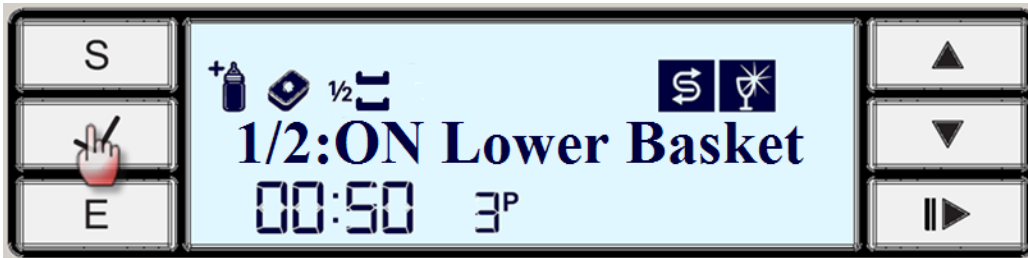
Lower basket is enabling by;

- firstly pressure of “option” button (than firstly extra hygiene option text shown)
- than the Lower basket selects by “UP” and “DOWN” buttons (press “UP” button 2 times or press “DOWN” button 5 times),
- If Lower basket not selected before (Lower basket icon off position), display show;
- "1/2: OFF Upper Basket" text
- Lower basket icon blinks,
- If upper basket already selected, ½ icon lights up (constantly)

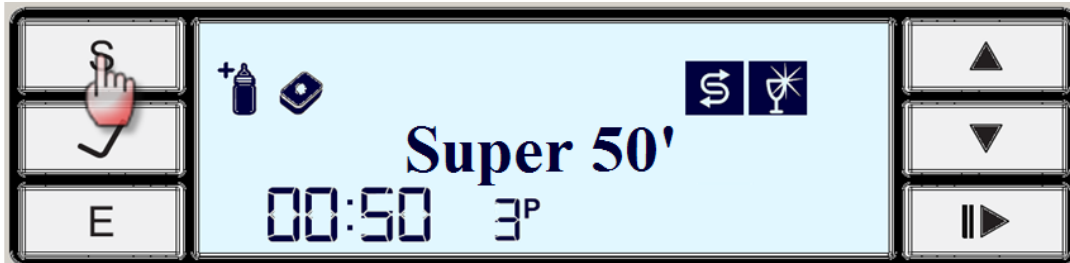


When Lower Upper basket approved by the “active “button;

- Lower spray icon and ½ icon are ON. Wash is executed only with lower spray arm and display shows,
- “1/2:ON Lower Basket” text,



**Return to the main menu by pressing the “Option” button



6.4.2 Direct & Triple wash

Direct wash is enabled by;

- Firstly pressure of “option” button (than firstly extra hygiene option text shown)
- than the Direct wash is selected by “UP” and “DOWN” buttons (press “UP” button 2 times or press “DOWN” button 5 times),
- If Direct wash is not selected before (Direct wash icon is off position), display show;
- "1/2: OFF Direct wash" text
- Direct wash icon blinks,
- 1/2 icon lights up (constantly)

When Direct wash is approved by the “activation “button;

- Direct wash icon and 1/2 icon are ON. Wash is executed with upper and extra upper spray arms and display shows,
- “1/2:ON Direct wash” text,

Triple wash is enabled by;

- firstly pressure of “option” button (than firstly extra hygiene option text shown)
- than the Triple wash is selected by “UP” and “DOWN” buttons (press “UP” button 2 times or press “DOWN” button 5 times),
- If Triple wash is not selected before (Triple wash icon off position), display show;
- "1/2: OFF Triple wash" text
- Triple wash icon blinks,
- If Triple wash is already selected, 1/2 icon lights up (constantly)

When Triple wash is approved by the “activation “button;

- Triple wash icon and 1/2 icon are ON. Wash is executed only with lower and extra lower spray arms and display shows,
- “1/2:ON Triple wash” text,

Return to the main menu by pressing the “Option” button

6.4.3 Delay Start option



Delay start option can be select before the program start; firstly dedicated "DELAY button" is being pressed, delay icon is blinks, display shows 'Delay Timer' text and shows '00:00' at time zone.

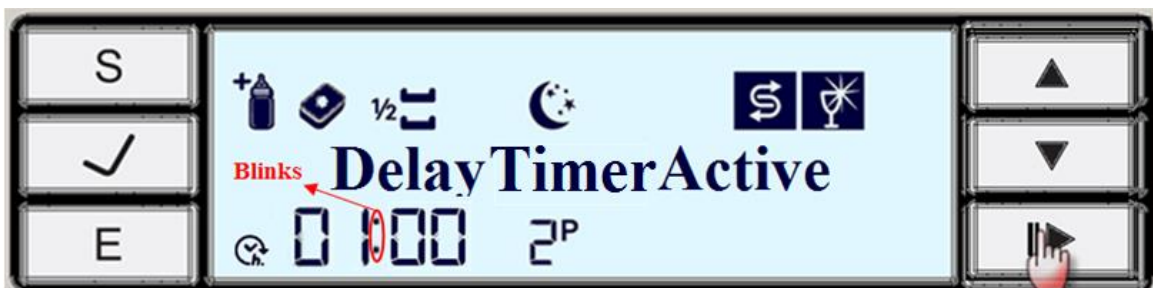


After that needed time to delay can be chosen by "UP" and "DOWN" buttons. When the time is chosen by pressing "S/P" button this function gets activated, display shows;

- will be alternate showings of 'Delay Timer Active' text and program name until the program is start.
- remaining time (" h:nn", two dots blinks)
- Remaining time countdown by 1 hour.

** Count down will be continues when the door is open position.

*** If count down ends while the door is open position, display shows; "Door is open" text and selected program name



Cancelling of delay start: During a program; press **S/P** button for 3sec. While pressing S/P button (during 3sec.) display shows 'PROG. CANCELLING..X' (X mean is remaining time to start cancelling procedure; X will be ; 3,2,1) text and **VOICE_6** will be sound every second. After 3sec , display shows ;

- 'PROG. CANCELLING ' text until the drain procedure finish (~1min),
- "00:01" at the time zone and draining will be executed
- "END" icon and two dots blinks,
- program number ,



At the end of 3 seconds; display shows ;

- "delay start" and "end" icons lights disappear,
- display shows 'Program Cancelledtext 5sec. than last selected program name and shows '00:00' at time zone.



**Return to the main menu also by pressing the “Delay” button.



To change this option during a delay time it necessary to press S/P button and put the machine in “pause” mode. Before start program, the delay is selected with pressure of “UP” and “DOWN” buttons. The steps of increment/decrement are 1 hour. By pressing S/P, program starts and the value of the chosen show in the LCD screen time zone side and also delay icon is getting activated. Then the display shows the remaining delay time with steps of 1 hour (01:00, 06:00, 13:00 etc). The maximum value of the delay is 24 hours.

** If user change the program after select delay time, display separately shows “delay start” 1sec. and “program name”. 3secs In the display at the time zone side, the Delay value will be shown (“01:00”) and display shows delay icon.

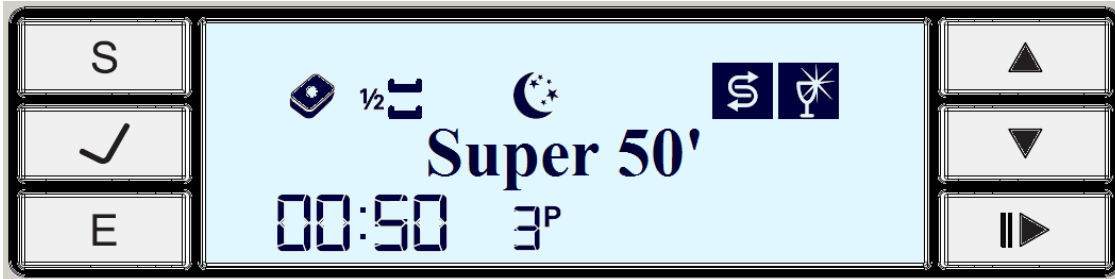
Note: During the program it is not possible to activate the delay option, in this case buzzer sound “**Voice_4**” is activated to show that is not a valid command.

*** To change this option during a delay time it necessary to press S/P button and put the machine in “pause” mode. 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 (01:00, 13:00, 24:00 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 “ **00:00**”.

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 "00:00".

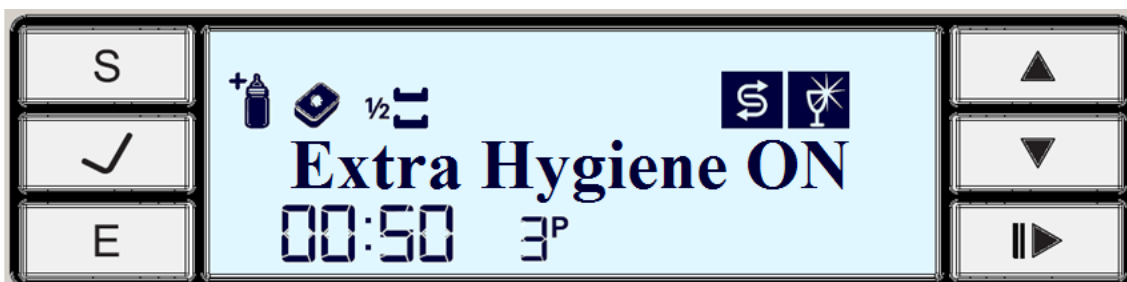
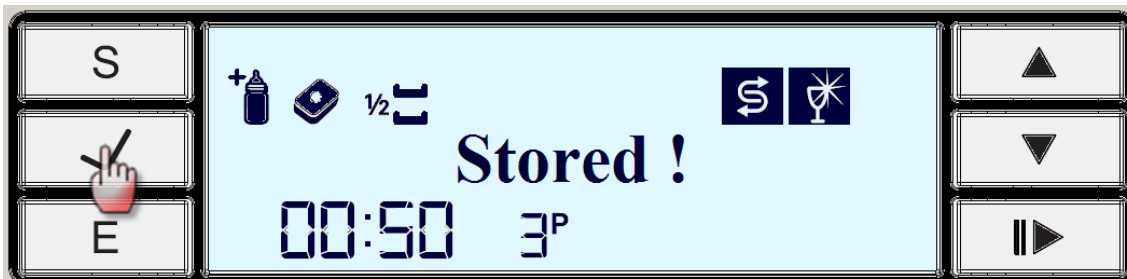
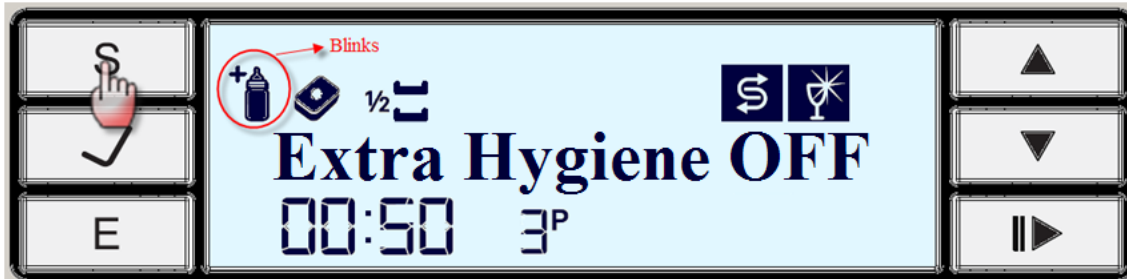
6.4.4 Extra Hygiene Option



When selecting a option, if the option matches with non suitable program (ex. Super 50' – Extra Fast) and tries to activate the option, display shows "Not Valid".

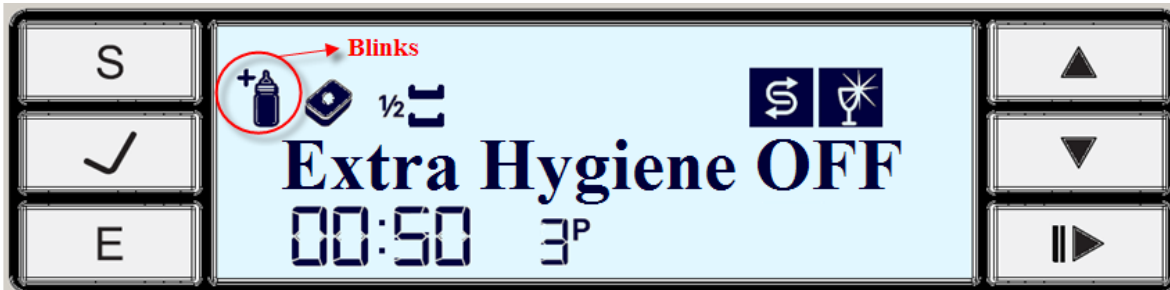
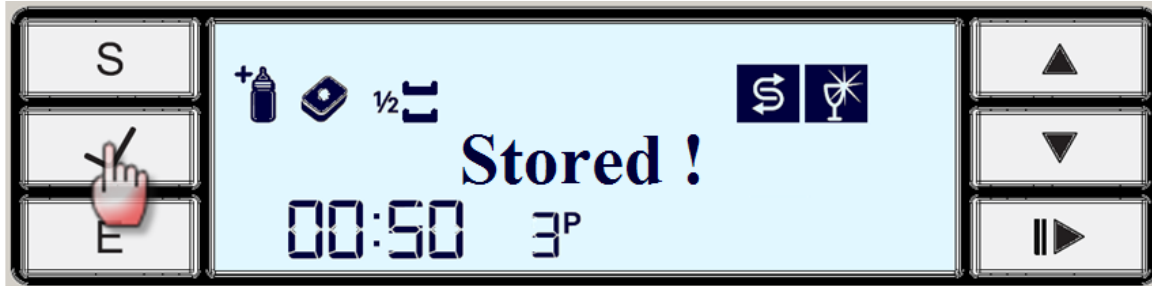
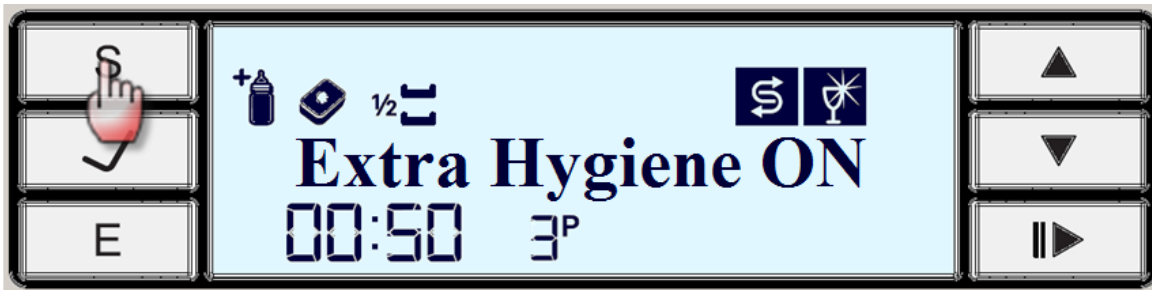
Extra hygiene option is enable by;

- firstly pressure of option button;
- than the extra hygiene option icons blink (if not selected before),
- during the select process display show "Extra Hygiene" text ,
- When extra hygiene option is selects by "active" button, display shows "Stored" text 1sec.
- extra hygiene icon lights up .
- and display show "Extra Hygiene" text,



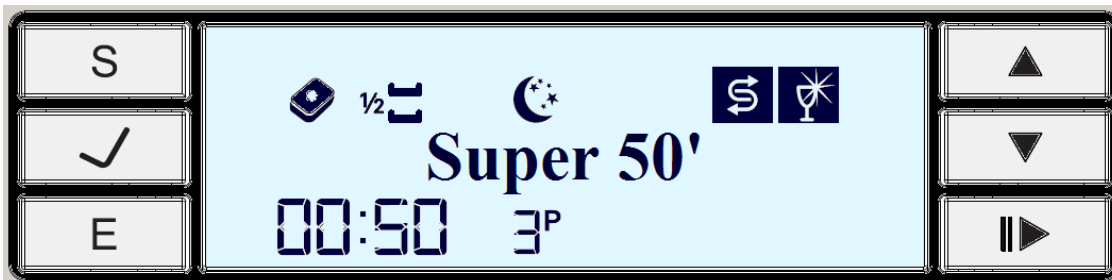
Extra hygiene option is disable by;

- firstly pressure of option button;
- than the extra hygiene option icon light up (if selected before),
- during the select process display show "Extra Hygiene" text ,
- after that approved by the "active " button display shows "Stored !" text 1sec.
- extra hygiene icon blinks,
- display show "Extra Hygiene" text ,



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 and display shows ‘Not Valid’ text 1”.

6.4.5 Extra Drying Option



Extra drying option is enable by;

- firstly pressure of option button (than extra hygiene option text shown)
- than the extra drying option selects by “UP” and “DOWN” buttons (press “UP” button 6 times or press “DOWN” button once),
- If extra hygiene option not selected before (extra hygiene icon off position), display show “Extra Hygiene OFF” text and extra hygiene icon blinks.
- after that approved by the “active “ button. When extra hygiene option is chosen,display shows “Stored !” text 1sec.
- extra hygiene icon lights up .
- display show “Extra Hygiene ON” text ,

	$\frac{1}{2}$ <p>Extra Hygiene OFF</p> <p>00:50 3^P</p>	
E		

S	$\frac{1}{2}$ <p>Tablet ON</p> <p>00:50 3^P</p>	1st press
E		

S	$\frac{1}{2}$ <p>1/2 ON Upper Basket</p> <p>00:50 3^P</p>	2nd press
E		

S	$\frac{1}{2}$ <p>1/2 ON Lower Basket</p> <p>00:50 3^P</p>	3rd press
E		

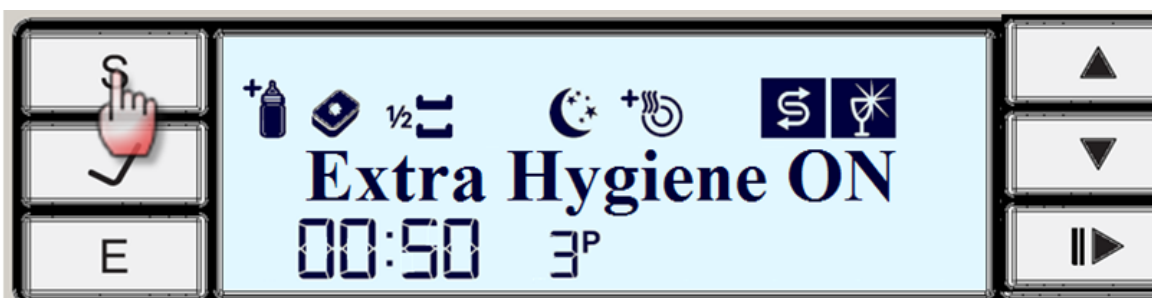
S	$\frac{1}{2}$ <p>Extra Fast OFF</p> <p>00:50 3^P</p>	4th press
E		

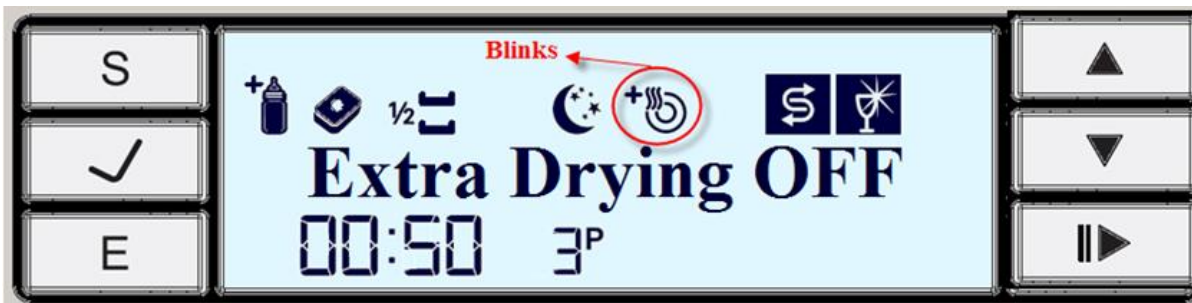
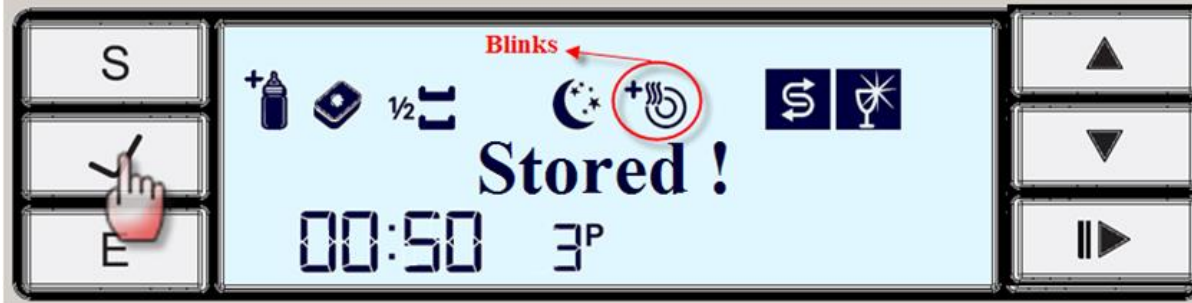


Not: when this option is tried to be selected with a not corresponding program, the buzzer sound “voice_4” is activated to warn that is not a valid command and display shows ‘Not Valid’ text 1”.

CANCEL PROCESS;

- If extra drying option already selected (extra drying icon on position), display show "Extra Drying ON" text
- after that approved by the "active " button. When extra hygiene option is chosen,display shows "Stored !" text 1sec.
- extra drying icon blinks,.
- display show "Extra Drying OFF" text ,





6.4.6 Extra Fast



Extra fast option is enable by;

- firstly pressure of option button (than extra hygiene option text shown)
- than the extra fast option selects by "UP" and "DOWN" buttons (press "UP" button 4 times or press "DOWN" button 3 times),
- If extra fast option not selected before (extra fast icon off position), display show "Extra Fast OFF" text and extra fast icon blinks.
- after that approved by the "active " button. When extra fast option is chosen, display shows "Stored !" text 1sec.
- extra fast icon lights up .
- display show "Extra Fast ON" text ,

	$\frac{1}{2}$ Extra Hygiene OFF 00:50 3 ^P	
E		

S	$\frac{1}{2}$ Tablet ON 00:50 3 ^P	1st press
E		

S	$\frac{1}{2}$ 1/2 ON Upper Basket 00:50 3 ^P	2nd press
E		

S	$\frac{1}{2}$ 1/2 ON Lower Basket 00:50 3 ^P	3rd press
E		

S	$\frac{1}{2}$ Extra Fast OFF 00:50 3 ^P	4th press
E		

S	$\frac{1}{2}$ Stored ! 00:50 3 ^P	
E		

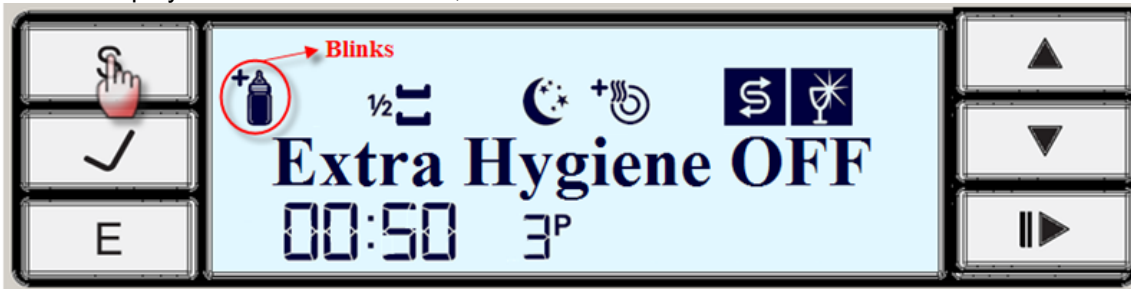


6.4.7 Tablet



Tablet option is enable by;

- firstly pressure of option button (than extra hygiene option text shown)
- than tablet option selects by "UP" and "DOWN" buttons (press "UP" button once or press "DOWN" button 5 times),
- If tablet option not selected before (tablet icon off position), display show "Tablet OFF" text and tablet icon blinks.
- after that approved by the "active " button, tablet option is chosen,display shows "Stored !" text 1sec.
- tablet icon lights up .
- display show "Tablet ON" text ,





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 and display shows 'Not Valid' text 1”.

6.4.8 Child lock

Child lock is enable/disabled by contemporary pressure of “UP” and “DOWN” buttons in the display card for 3”. At the end of 3 seconds, 'Child Lock ON' text is shown in the display for 2” and child lock icon on.



When lock is disabled the 'Child Lock OFF' text is shown in the display for 2” and child lock icon off. When lock is enabled and a button is touched 'Child Lock ON' 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.

6.4.9 Salt End:

When Salt is finished, display show '**Lack Of Salt**' text and lights up 'Salt' on the screen. While Salt is finished and program is started; give warning at the beginning of program and display show '**Lack Of Salt**' text and lights up 'Salt' icon. '**Lack Of Salt**' text disappears;

- * After with pressing any buttons or,
- * After 10secs. Automatically

6.4.10 Rinse-aid End:

When Salt is finished, display show '**Lack Of Rinse-aid**' text and lights up 'Salt' on the screen. While Salt is finished and program is started; give warning at the beginning of program and display show '**Lack of Rinse-aid**' text and lights up 'Rinse-aid' icon. '**Lack Of Rinse-aid**' text disappears;

- * After with pressing any buttons or,
- * After 10secs. Automatically

6.4.11 Door is open:

When door is opened display shows 'Door Is Open' text. While this situation if any button switched, machine will not allow any action to be done and display show 'Door Is Open' text twice (flash) .

6.4.12 Menu Settings

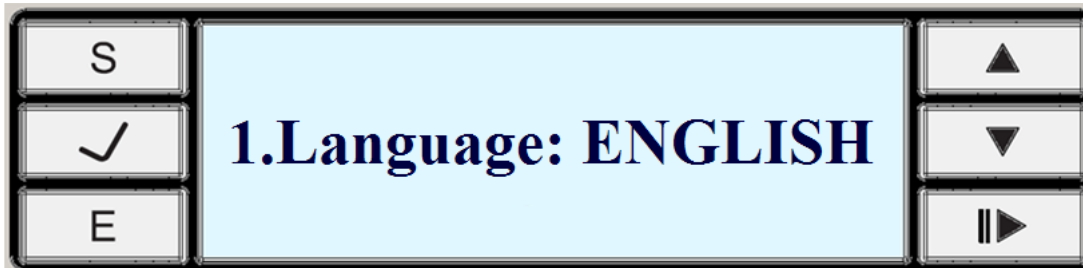
To enter the settings menu, option and delay buttons shall be press together for 3". While pressing S/P button (during 3sec.) display shows ;

- countdown from 3 to 1 ("Keep pressing..X", text is shown)
- display shows 'Keep Pressing..X' (X mean is remaining time to end; X will be ; 3,2,1) text and **VOICE_6** will be sound every second.

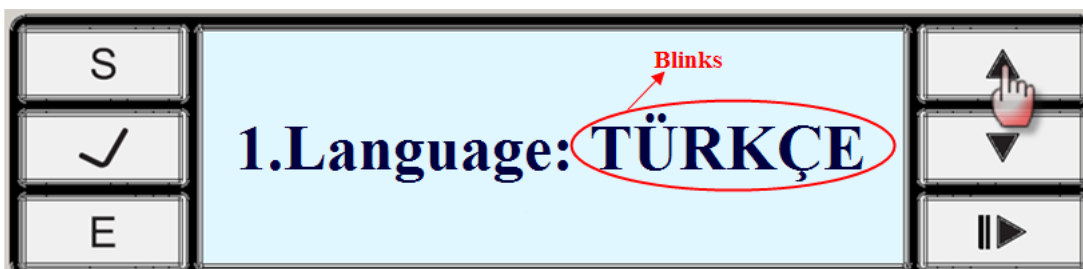
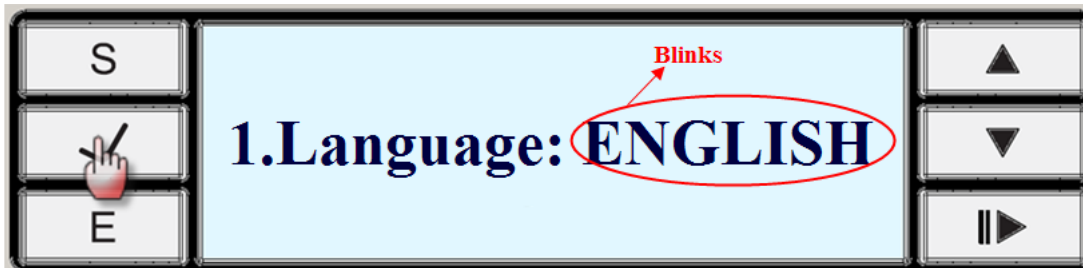
After 3", display show '**Settings Menu**' text on the screen. At the end of the 2", enter to settings menu and the '1.Language:X' will be displayed.(X ; being used language)



6.4.12.1. Language Settings:



For scrolling on the settings menu "UP" and "DOWN" buttons is used. To change the language, "active" button shall be press and display shows; "1.Language:X" (X blinks) , For scrolling on the Language menu "UP" and "DOWN" buttons is used.





To save the settings, “active” button shall be press and stored text is shown in last selected language 1sec.



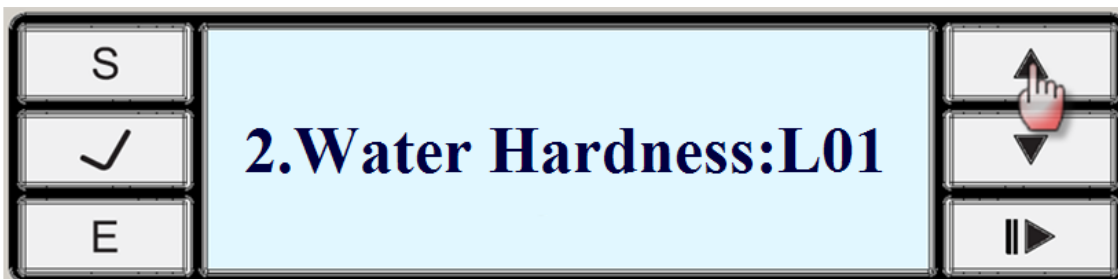
The selected setting is saved with the active button and automatically return to the previous settings menu.



6.4.12.2. Water Hardness Settings:

For scrolling on the settings menu “UP” and “DOWN” buttons is used.

Level	TEXT
1	Water Hardness:L01
2	Water Hardness:L02
3	Water Hardness:L03
4	Water Hardness:L04
5	Water Hardness:L05
6	Water Hardness:L06



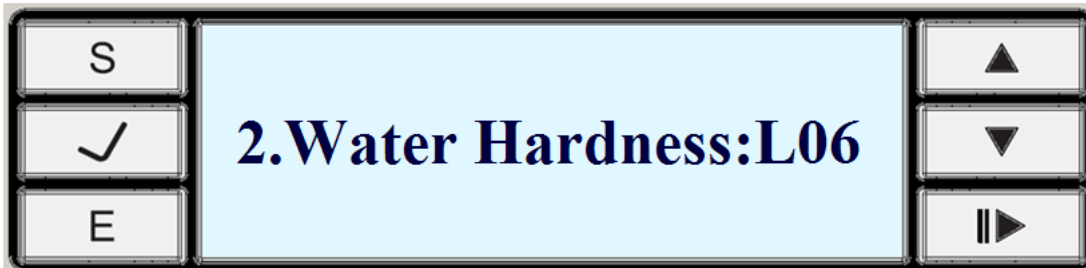
To change the Water Hardness settings, “active” button shall be press and display shows; “2.Water Hardness:X” (X blinks, will be :L01,L02,L03,L04,L05,L06), For scrolling on the Water Hardness menu “UP” and “DOWN” buttons is used.



To save the settings, “active” button shall be press and stored text is shown 1sec.



The selected setting is saved with the active button and automatically return to the previous settings menu



6.4.12.3. Rinse Aid Settings

For scrolling on the settings menu “UP” and “DOWN” buttons is used.

Level	TEXT
1	Rinse-aid: L01
2	Rinse-aid: L02
3	Rinse-aid: L03
4	Rinse-aid: L04
5	Rinse-aid: L05

To change the Rinse aid settings, “active” button shall be press and display shows; “3. 3. Rinse-aid: X” (X blinks, will be :L01,L02,L03,L04,L05), For scrolling on the Rinse aid menu “UP” and “DOWN” buttons is used.

To save the settings, “active” button shall be press and stored text is shown 1sec.

The selected setting is saved with the active button and automatically return to the previous settings menu.

If it is the first rinse aid set, Default rinse aid level is 4 which corresponds to 4,5 cc.

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

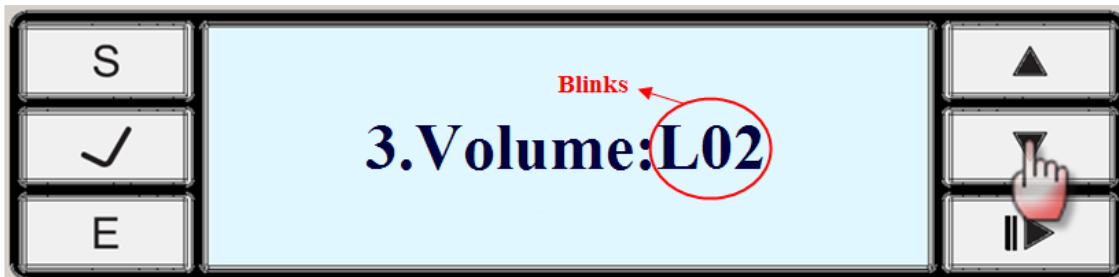
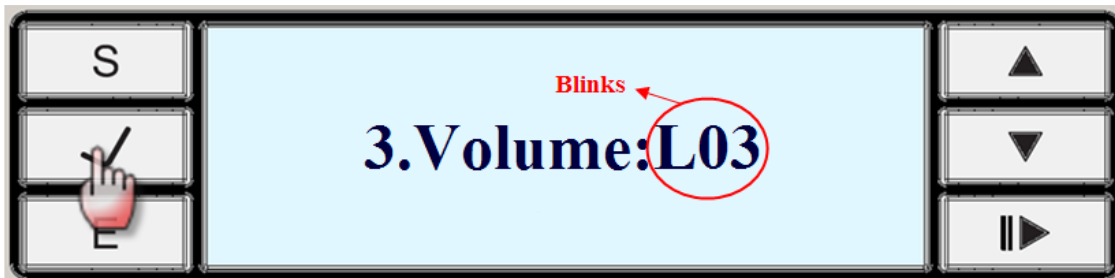
<i>Action</i>		<i>Old</i>		<i>New(Sliding dispenser)</i>	
Detergent cover opening:		5"		0.3"	
Rinse aid dose:	Dose setting:	Manual in the dispenser		Automatic in the software	
	Dose quantity and time to delivery	1 - 1cc	25"ON; 2"OFF; 25"ON For each setting from 1 to 6	1 - 0cc	OFF
		2 - 2cc		2 - 1.5cc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

6.4.12.4. Volume Settings:

For scrolling on the settings menu "UP" and "DOWN" buttons is used.



To change the Volume settings, "active" button shall be press and display shows; "3.Volume:X" (X blinks, will be :L01,L02,L03) . For scrolling on the Volume menu "UP" and "DOWN" buttons is used.



To save the settings, "active" button shall be press and stored text is shown 1sec.



The selected setting is saved with the active button and automatically return to the previous settings menu



6.4.12.5. Brightness Settings:

For scrolling on the settings menu “UP” and “DOWN” buttons is used.



To change the Brightness settings, “active” button shall be press and display shows; “4. Brightness:X” (X blinks, will be :L01,L02,L03) . For scrolling on the Brightness menu “UP” and “DOWN” buttons is used.



**If the user wants to exit from previous settings menu during selection (after activeted any settings / before activeted any settings) , press the “option” button shall be press .

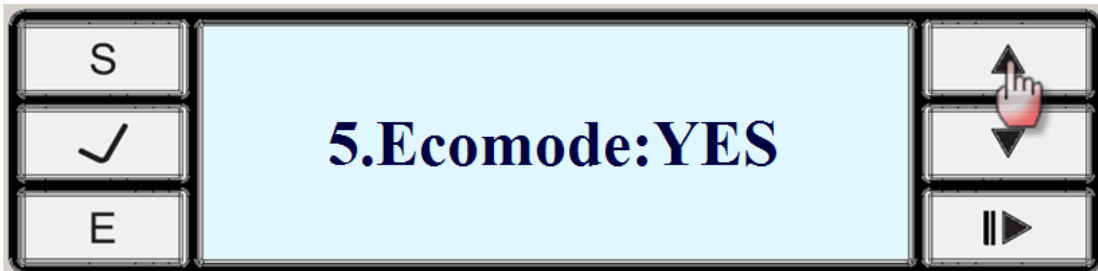


6.4.12.6. Eco mode Settings:

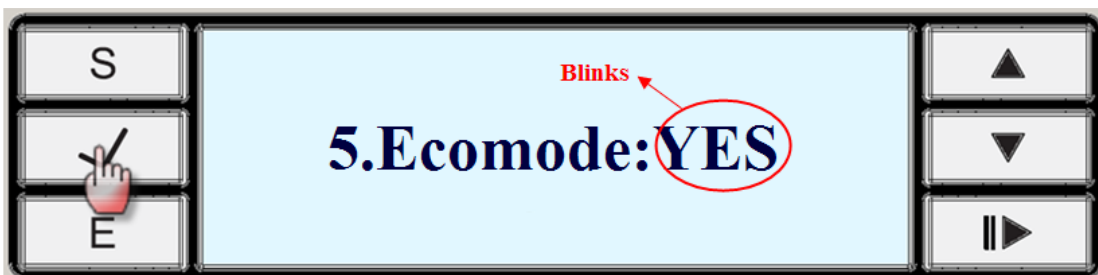
Eco mode: In order to save energy, LCD backlight deactivated (closed) with selecting this mode. After activate Ecomode;

- LCD backlight activated (light up) with pressing any button.
- LCD backlight decreases if no button is being pressed for 30secs.
- If there is no user intervention 4 minutes after the door is open, inner light is off. If any intervention occurs, inner light is on and it is off again after 4 minutes.

For scrolling on the settings menu “UP” and “DOWN” buttons is used.



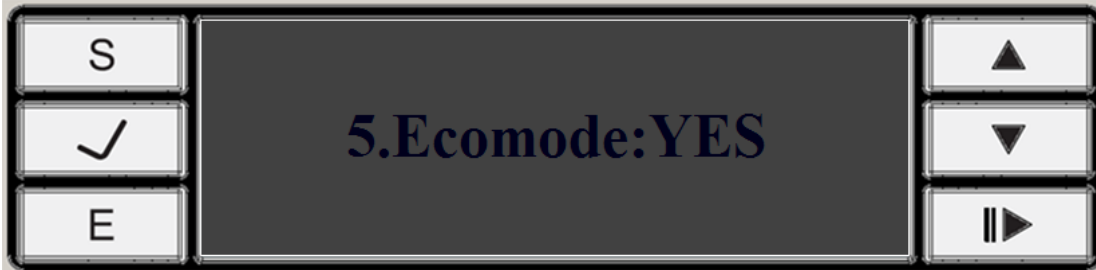
To change the Ecomode settings, “active” button shall be press and display shows; “5.Ecomode:X” (X blinks, will be :YES,NO) . For scrolling on the Ecomode menu “UP” and “DOWN” buttons is used.



To save the settings, “active” button shall be press and stored text is shown 1sec.

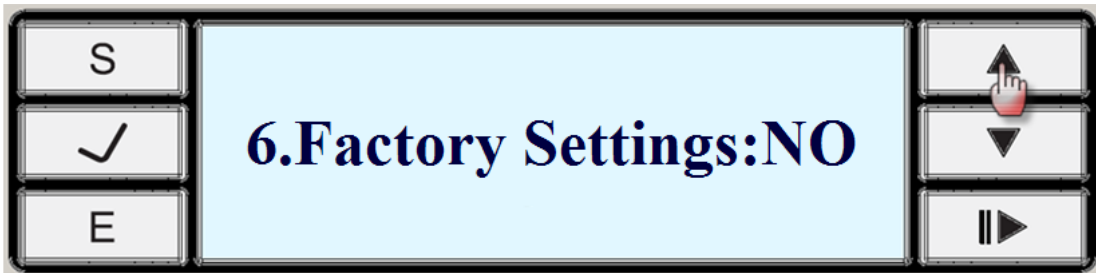


The selected setting is saved with the active button and automatically return to the previous settings menu.



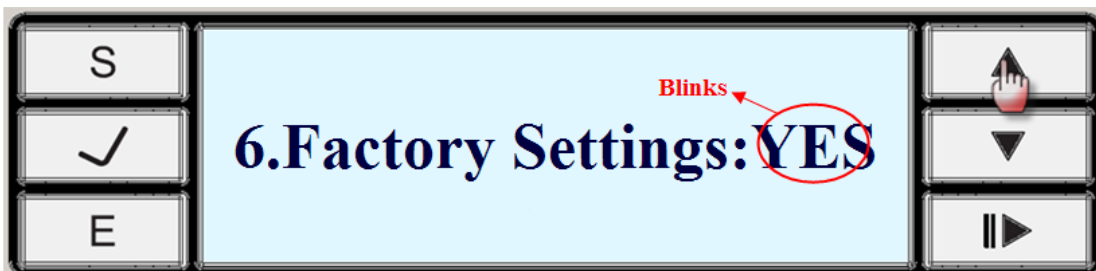
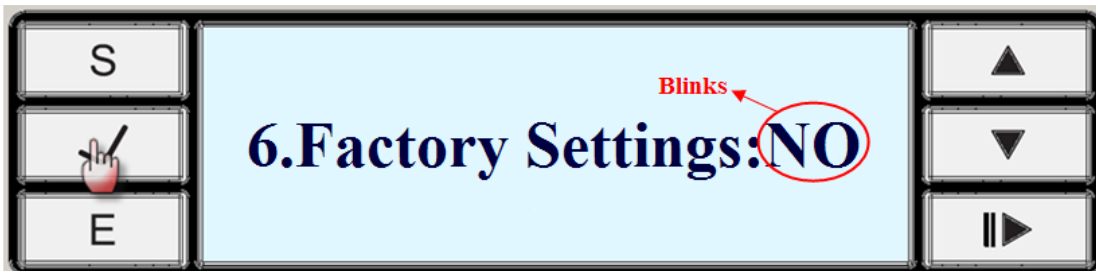
6.4.12.7. Factory Settings:

For scrolling on the settings menu "UP" and "DOWN" buttons is used.

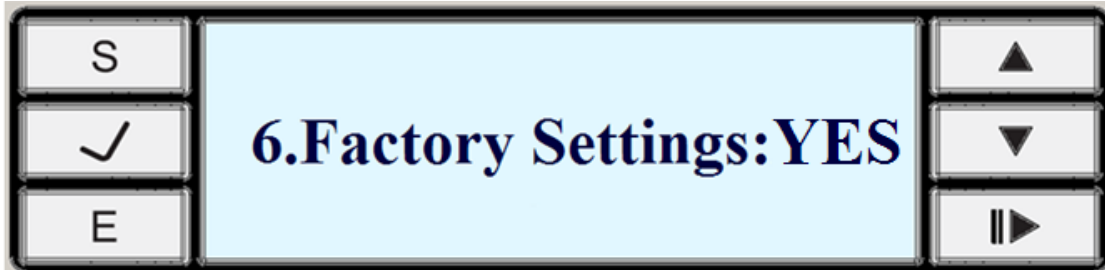


For return to the factory settings ;

- press to "active" button when display shows on the screen "6.Factory Settings:NO" text.
- After pressing to the "active" button, display shows "6.Factory Settings:NO" text (NO will be blinks).
- Than press "Up" OR "Down" button and display shows "6.Factory Settings:YES" text (YES will be blinks).
- When pressed to the "active" button display shows "Stored !" then shows "6.Factory Settings:YES" text.



To save the settings, “active” button shall be press and stored text is shown 1sec. Then, display backlight brightness decreases. When user press any button, display backlight turns on.



* When user exit from “Settings Menu” and enters again ;

- Factory settings shows always firstly “6.Factory Settings:No” although if selected before “YES”.

6.4.12.8. Exit Menu:

For scrolling on the settings menu “UP” and “DOWN” buttons is used.

This feature is used to exit from Menu Settings by pressing “active” button when display show “7.Exit Menu:YES” text at the end of the settings menu statement.

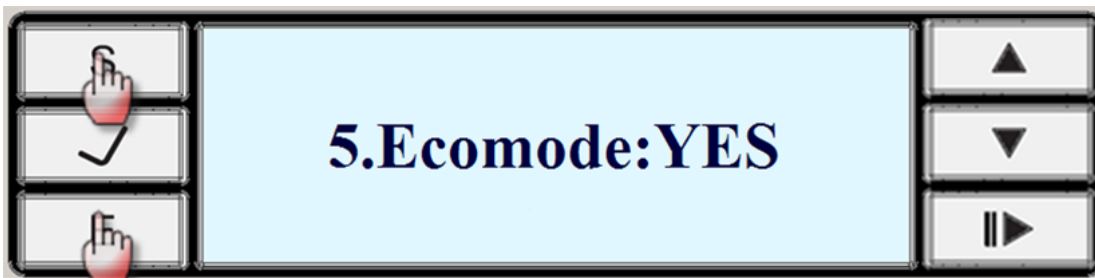
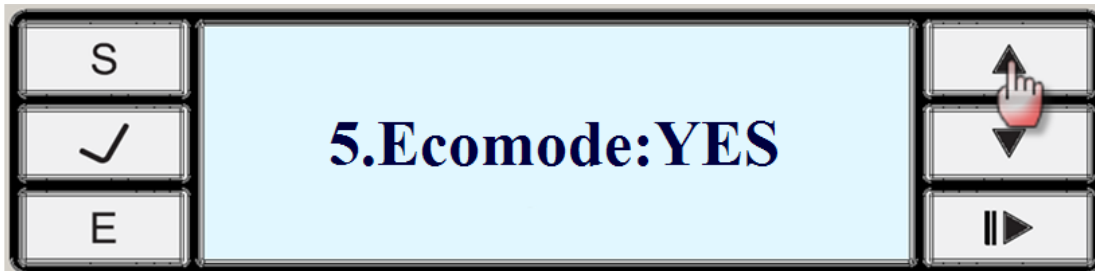


When user press the “active” button, **display shows** last selected program name, program number, program duration, last selected options.



OR

**If the user wants to exit from settings menu (after activated any settings / before activated any settings/during activating any settings) , option and delay buttons shall be press together for 3" or by pressing active button when display show 'Exit Menu' text at the end of the settings menu statement.



6.4.12.8 Buzzer Voice Definition

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

7. SOFTWARE REQUIREMENTS

7.1 Heater

Heating relay must be switched with un-supplied Heater.

- It means:
- Stop Circulation Pump;
 - Wait (pressure switch certainly open);
 - Open/Close Heater Relay;
 - Wait (Heater relay certainly close);
 - Start Circulation Pump.

If Tablet is selected, heating steps must be < 55°C for steps before last rinse.

7.2 Water Fill

Action: Water Load is obtained by flow meter signals. When a fixed quantity of water is loaded, the reaching water level is checked by the activation of circulation pump. When the pressure is high enough, the pressure switch is activated.

Precaution: At the start program a drain 30" + empty is executed before fill.

When Inlet valve is ON, if there aren't flow meter impulses, failure routine of "absence of flow meter impulses routine" works (see on failure chapter).

If pressure sensing switch turn OFF during the wash, after a drain +20", another water load is executed (also see "return empty level" failure in failure chapter).

Water fill must work:

Pressure > 0,8l: all OK

0,3 < pressure < 0,8l: OK with time out

Pressure < 0,3l: stop cycle.

Note: lower spray arm starts.

7.3 REGENERATION CYCLE

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.

32	Bitron	Specification's	Salt level	Please correct in specification §6.3 "< L5" instead of "< L4"	Optimizing
----	--------	-----------------	------------	---	------------

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.

7.4 Water Hardness set

Only service can execute this procedure.

Level	TEXT
1	WATER HARDNESS: L01
2	WATER HARDNESS: L02
3	WATER HARDNESS: L03
4	WATER HARDNESS: L04
5	WATER HARDNESS: L05
6	WATER HARDNESS: L06

Hardness level is incremented (max. "WATER HARDNESS: L06").

Hardness level is decremented (min. "WATER HARDNESS: L01").

33	Bitron	Specification's	Hardness	Water Hardness is set from a menu item; please correct in specification §6,4, where you say that use keyProgram x 3" to edit water Hardness	Uncritical
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8. TEST PROGRAMS

Only service man can execute this procedures. (This selection is common for TACT and TOUCH display types.)

8.1. SELECTING TEST PROGRAM

- Press Power ON button



- After the machine is on (HELLO sign is disappears), press APPROVAL key 5 times in a row in ten seconds after machine is ON.



- Press UP or DOWN keys to select the testing program mode



- Press START key to start selected TEST program



8.2. SERVICE TEST

- When "Service test" routine is recognized, "Service test" is shown on the LCD 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 LCD.

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 20s.	20"	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 +drain pump
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

**NOTE: Washing pump works with 3400rpm when diverter at lower position.
Washing pump works with 2700rpm when diverter at upper position.**

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

LCD displays the step numbers of service test;



Step 1



Step 2



Step 10

If during the service test, the door is opened, "Service test" is shown on LCD.

When the door is open



8.2.1.CANCELLING 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.

8.2.2. 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.

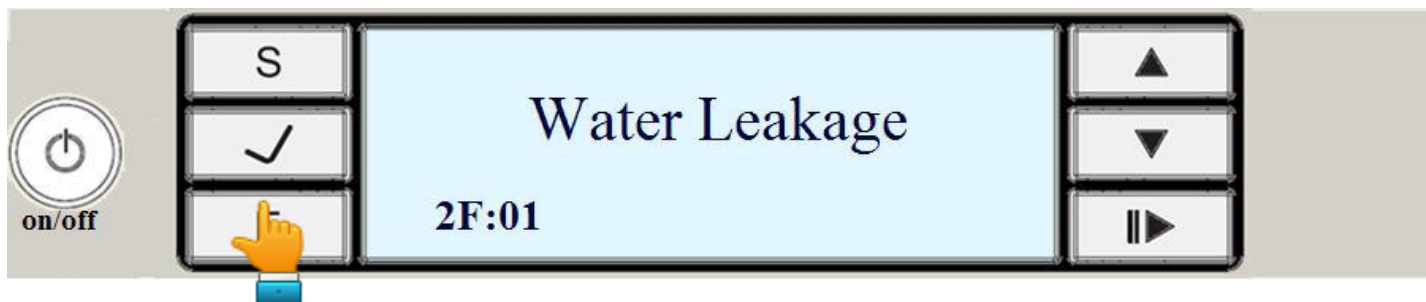
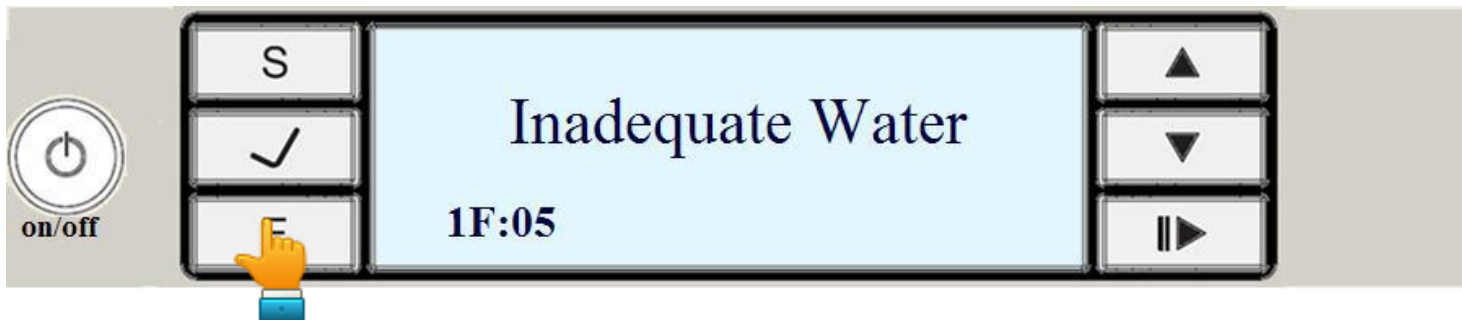
** 6” will be refreshing every press of “delay” button.

During the first 6” of test, if a failure code is stored in memory, its codification is shown.

- When “Service test” routine is recognized, “Service test” is shown on the LCD 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.

8.2.3. SERVICE FAILURE CODES TABLE

Name	TEXT	Notes
Overflow	Water Overflow	In the normal work this failure is not visualized.
Leakage	Water Leakage	
Draining time out	Drain failure	
Presence of Flow meter impulses	Water input	
Absence of Flow meter	No Water Impulse	In the normal work this failure is not visualized.
Empty Level	Inadequate water	
Re-Fill time out	Inadequate water	
NTC ca/cc	Heater sensor	
Overheating	Over Heating	
Unsuccessful heating	No Heating	
Diverter opened	Diverter Failure	
Turbidity Sensor	Turbidity Sensing	In the normal work this failure is not visualized.
Parameter set salt incorrect	Salt Set Failure	In the normal work this failure is not

CK Parameter	E-Card Failure	visualized.
Auto door	Auto door Failure	In the normal work this failure is not visualized.
High Voltage	High Voltage Failure	In the normal work this failure is not visualized.
Low Voltage	Low Voltage Failure	In the normal work this failure is not visualized.

8 VESTEL END TEST PROGRAM

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

8.1 End test 1

Vestel 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 “Option button”.

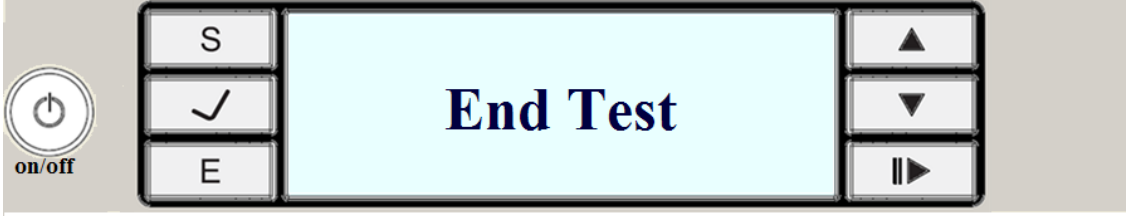


- Power ON while pressing to “Delay” and “Extra drying” buttons at least for **3**”.





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

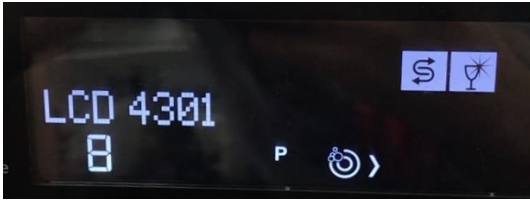


- At the end of "end test 1" switch OFF the dishwasher.

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.

NOTE:When ET1 starts, all LEDs are lit and after the 1st and 2nd Model encodings, model LCD 4x_x model model information is written in the text line. (Images are quoted from model T43_1, the text line for each model can come in this format).



- When coding is passed, kadar I EP "should be written in the" END TEST "digit in the text line until ET1 is finished (Salt Polishing behaves according to the float position as in all models).



- During ET2, "END OF TEST" should be written on the text line and EP 2 EP "should be written on the digit line.



- 'end test -1 'de iptal / reset işlemine izin verilsin.
- ET2 sırasında tekrar ET1'e alınabilir olsun.

8.2 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.

8.3 End test 3

After the "End test 2"



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



Screen will stay in this condition until energy becomes off.

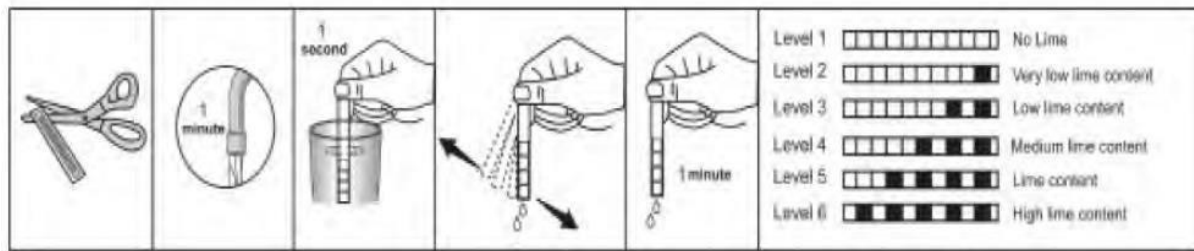
When Power OFF and ON again the machine, machine will be in ready position to start to program (in washing mode) (as a default first program 1P will be ON in the screen).

During END test3, in addition to above condition; if user press any button, the machine will be in ready position to start to program (like point 3.1 selecting and starting at power on and as a default program 1P will be ON in screen).

9. 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.
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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.

10. 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.

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.

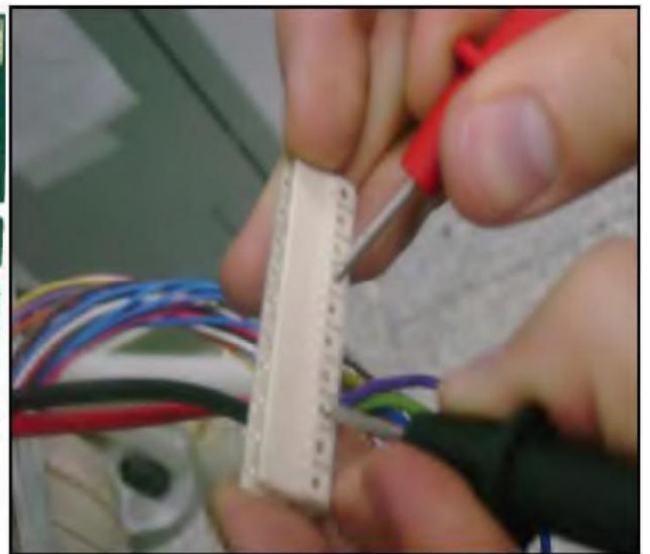
11.REPAIR TECHNIQUES COMPONENTS AND RESISTANCE VALUES

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		KN2.3 - KN 2.8		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 ELECTRONICAL 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;

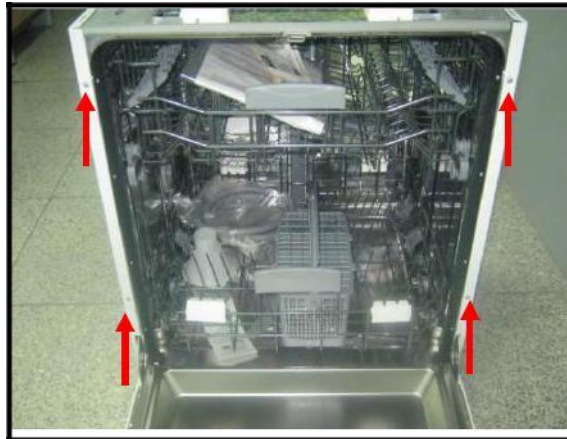
Probes of the tester should be applied on to the related connectors of the electronic card; control the values according to the resistance value table.

12.DISASSEMBLY

CAUTION! REMOVE ELECTRIC PLUG FROM THE SOCKET DURING THE DISASSEMBLY

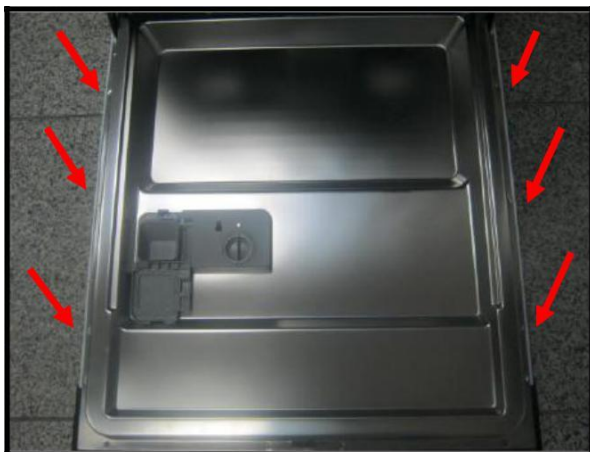
Side Panels

Remove the screws fixing side panels

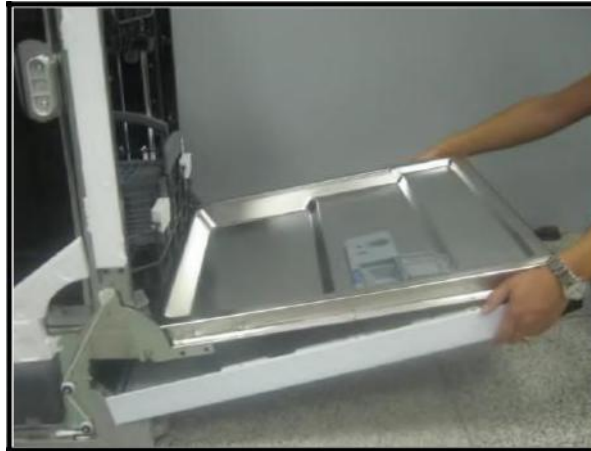


Front Panel

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



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

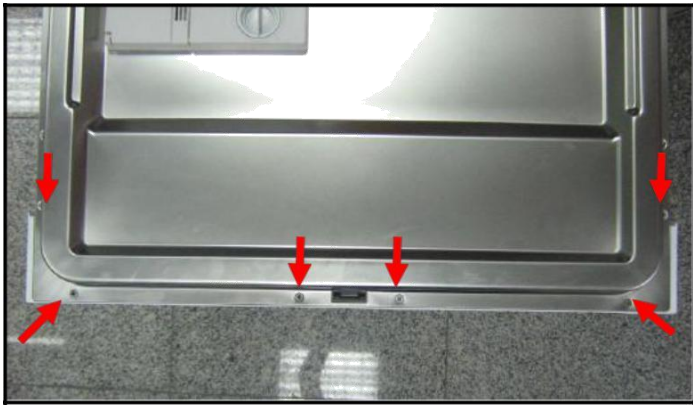


- To remove the side panel, remove the upper plastic hinge and then the above one and pull it up.



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

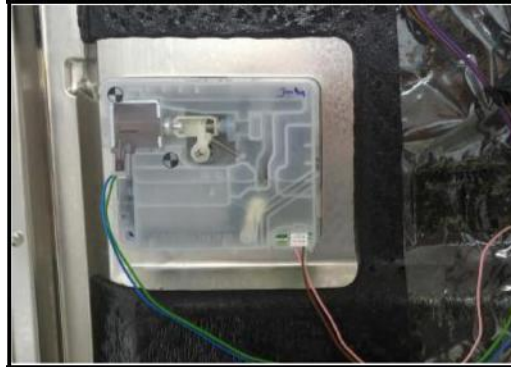
a) Remove control panel group

b) Remove two screws that fix the door lock group



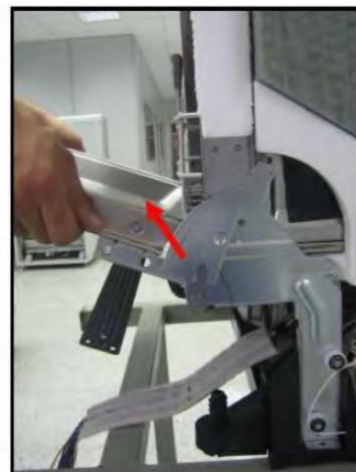
Dispenser

- a) Remove the front panel
- b) Remove the wire.
- c) Remove dispenser from inside door's hingers 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

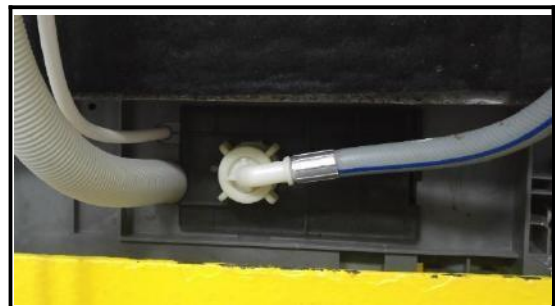
- a) Remove the left side panel of the machine.
- b) Open machine's door
- c) Rotate counterclockwise air-break nut and remove it.
- d) Remove air-break's connections with salt cap as it is shown in the picture. (be careful about plastic hinges)





Hose connection plastic

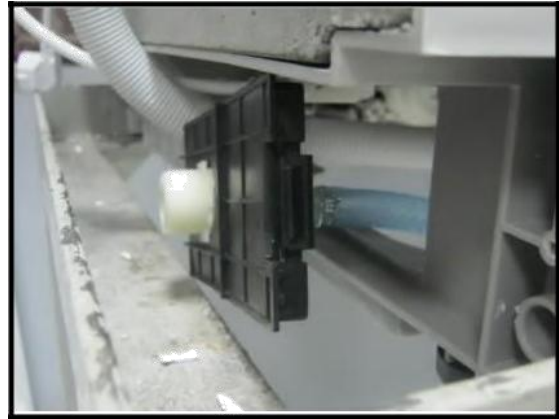
- a) Remove left side panel.



- 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.

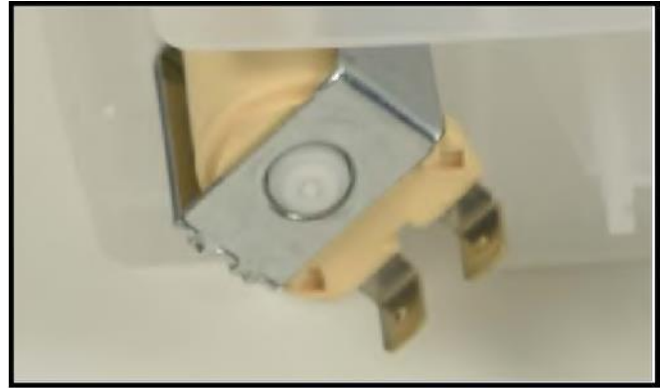
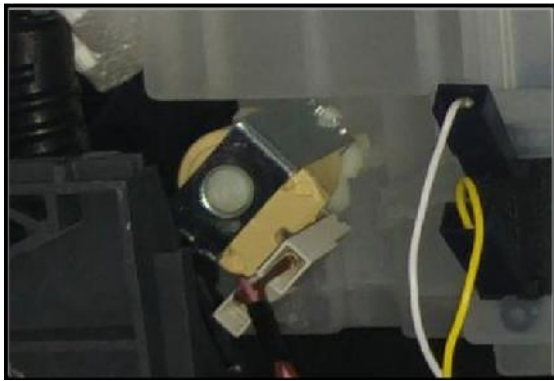
Power cord

- 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.



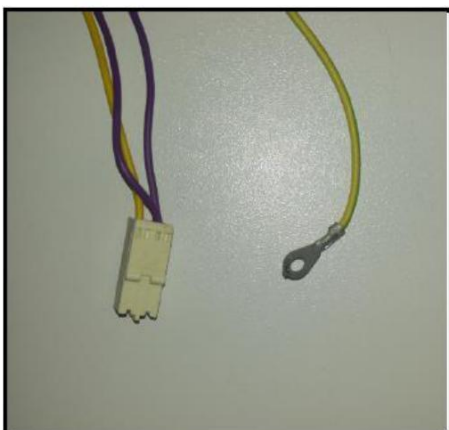
Drain pump

- 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.



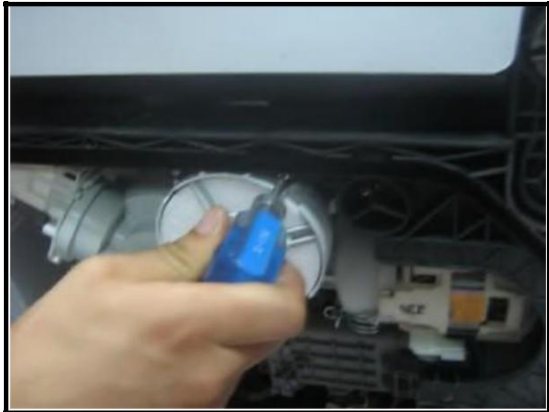
Parasite filter

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



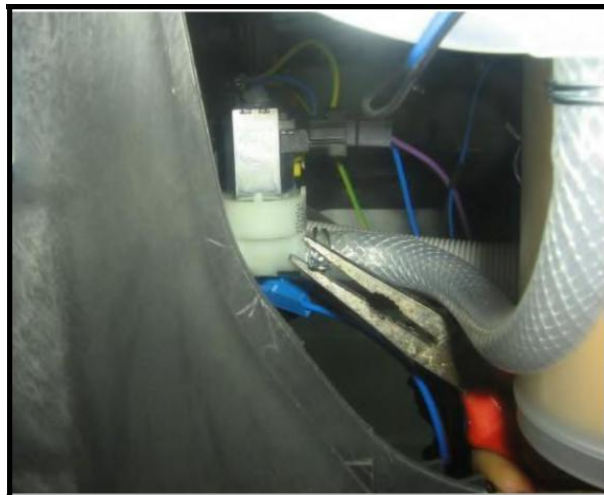
Floater

- 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.

