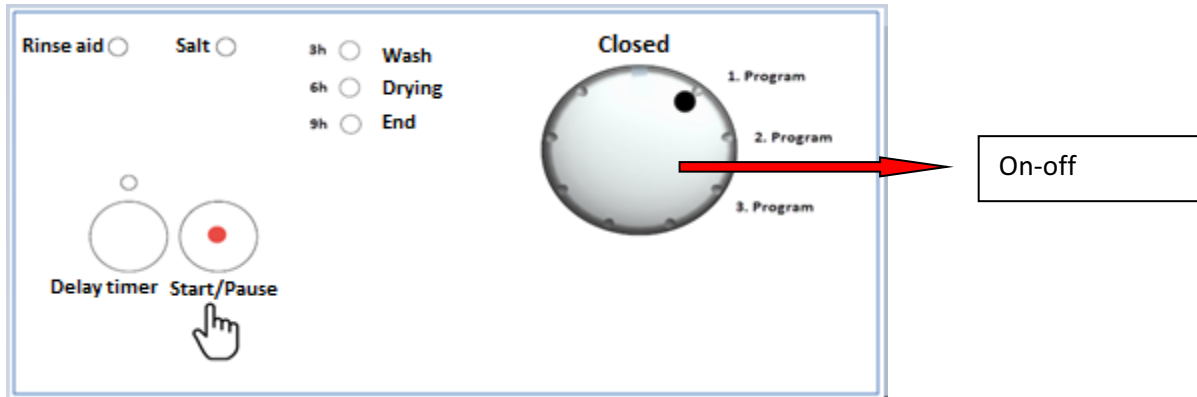
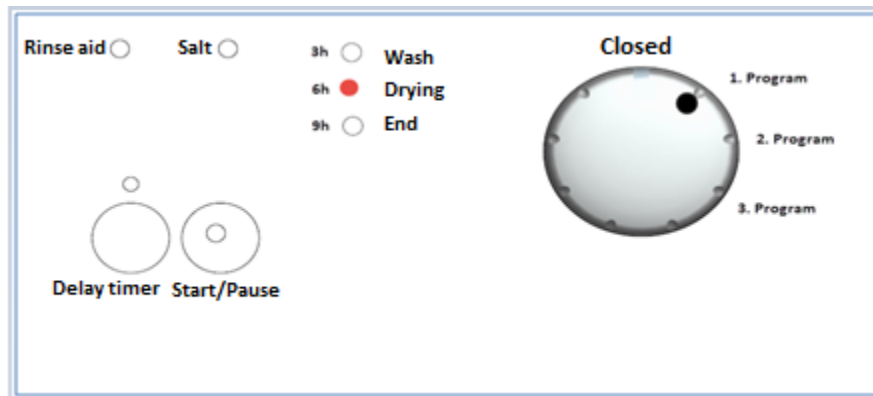


PROGRAM CANCELLATION OF X SERIES

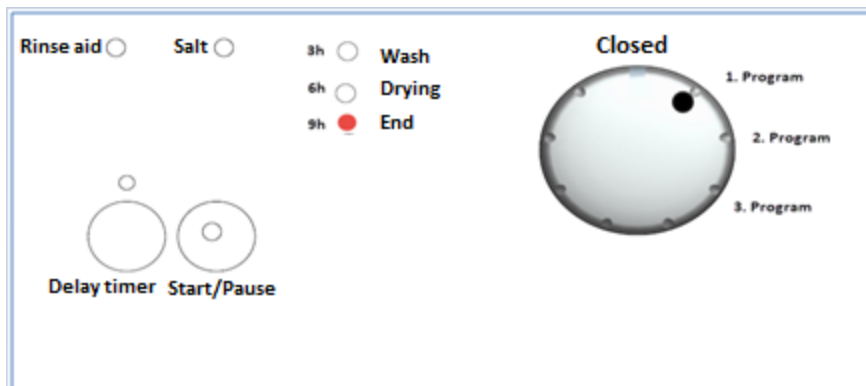
- 1) The machine must be open position to do the cancellation process.
- 2) Push the Start/Pause button for 3 sec. while the machine is operating.



- 3) After 3 sec, the drying light lights up and then it starts draining by the drain pump operates. (Approximately 30 sec)

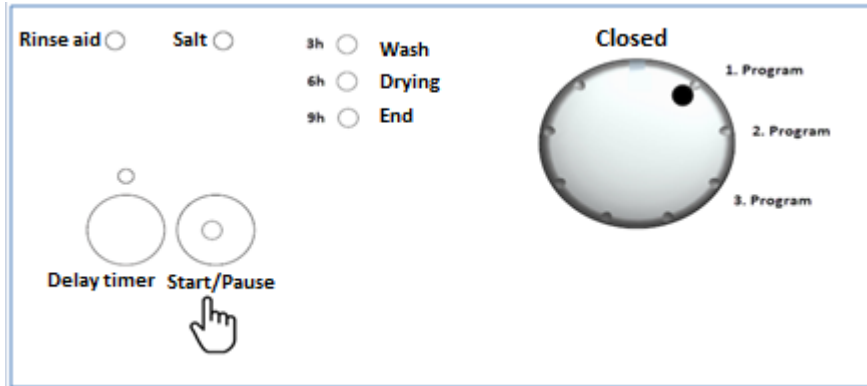


- 4) After the end of draining operation, the draining pump stops and the End light lights up.

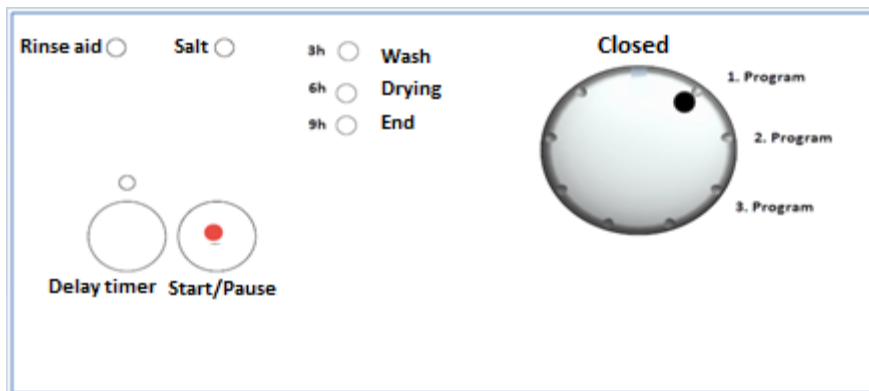


ON-OFF OPERATION FOR X SERIES

1) The machine is closed while the on/off and program choosing knob is on the closed position. All of the buttons don't operate. The lights don't light up. Only the electronic card has energy.



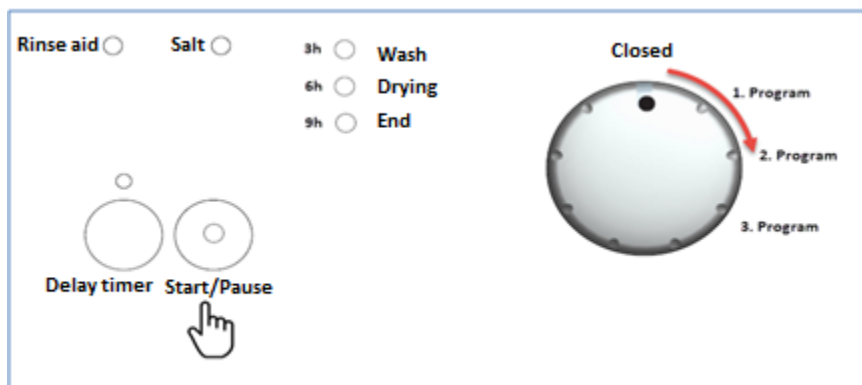
2) The machine will be opened when the on/off and program choosing knob is on any position except "Closed". The Start/Pause light lights up.



THE SERVICE TEST OF X SERIES

1) The machine is came to the Closed position.

2) The program chooser knob is came to the "2.Program" while pushing on the Start/Pause button for 5 sec.



3) The Start/Pause button is released when all of the lights light up for 1 time. (The service program starts)

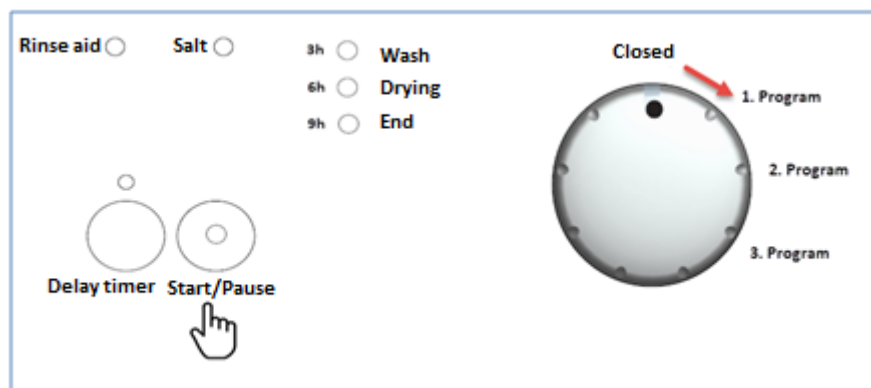
4) The last error (if there is a previous error) is observed at the beginning of service program.

Note: Service program can be cancelled by turning off the Start/Pause button or cancellation operation.

SALT SETTING OF X SERIES

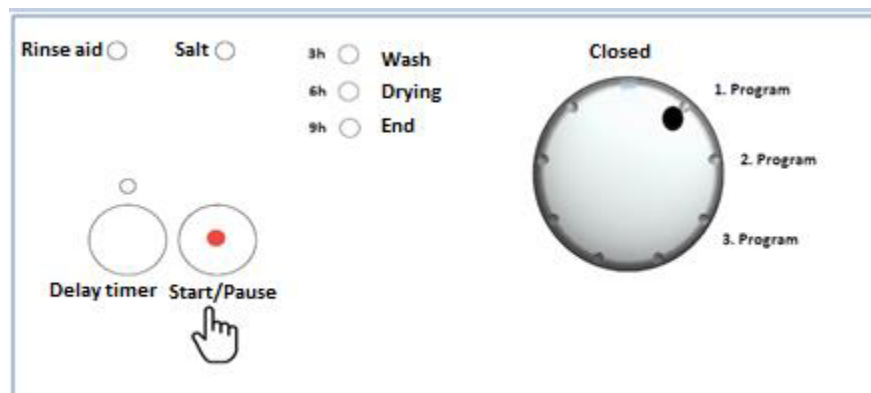
1) The machine is came to the Closed position.

2) The program chooser knob is came to the "1.Program" while pushing on the Start/Pause button for 5 sec.



3) The Start/Pause button is released when all of the lights light up for 1 time. (It is setted on the water hardness section)

4) The water hardness level is selected while pushing the Start/Pause button.



LEVEL	WASH LIGHT	END LIGHT	START/PAUSE LIGHT
1	ON	OFF	OFF
2	OFF	ON	OFF
3	OFF	OFF	ON
4	ON	ON	OFF
5	ON	OFF	ON
6	OFF	ON	ON

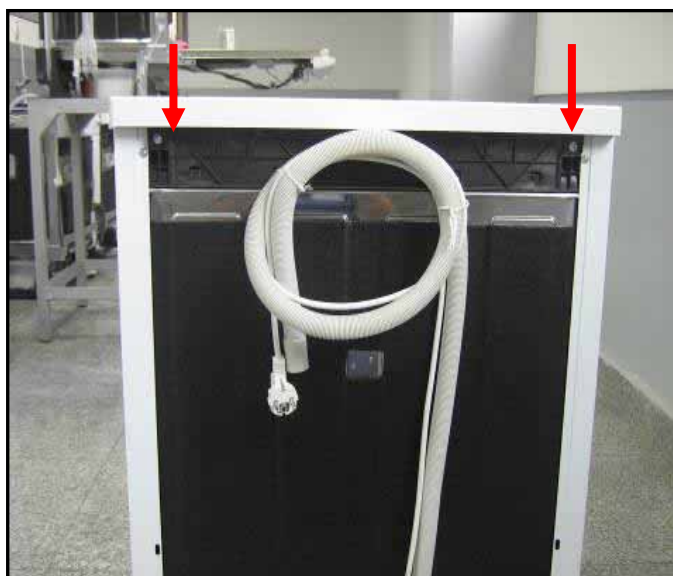
5) The machine is came to the closed position to exit from the water hardness setting and to get in memory the last setting.

DISASSEMBLY

CAUTION!: REMOVE ELECTRIC PLUG FROM THE SOCKET DURING THE DISASSEMBLY

Top Plate

- Remove two screws that fix the top plate at the back.
- Push the top-plate back and pull it up.



Plastic Kick Plate

a) Remove two screws fixing plastic kick plate.



b) Remove the plastic kick plate as it is shown in the picture.



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.



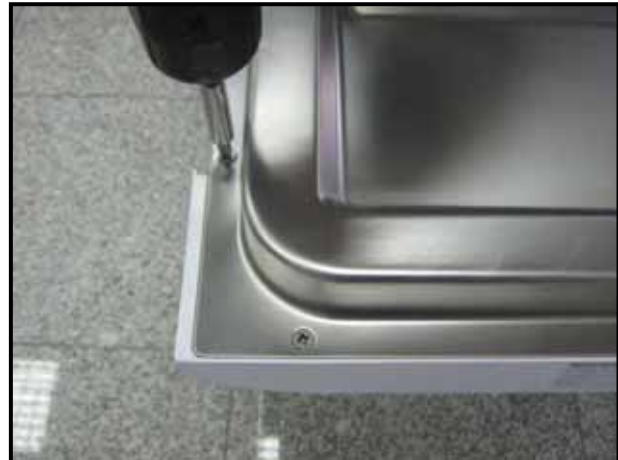
Kick Plate Sheet Iron

- a) Remove top plate, plastic kick plate and side panels.
- b) Remove the screws (4 screws) that fix the kick plate sheet iron.
- c) Pull it down as shown in the picture.



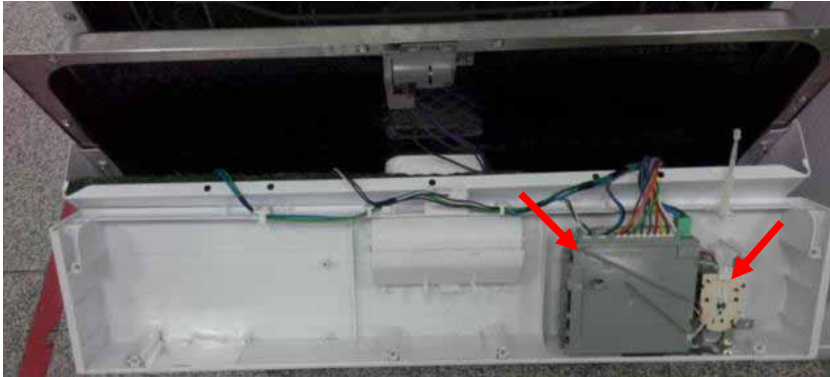
Control Panel

- a) Remove 6 screws that fix control panel to the door inside sheet iron.



Electronic Card

a) Remove the wires that are shown in the picture.



WARNING: WHILE REMOVING WIRES, DO NOT PULL THEM FROM WIRES, PULL FROM THE CONNECTOR

b) Remove pcb box cover with pulling its plastic hinges.

c) Remove the connection cable which is between display and electronic card.

d) Remove the electronic card from pcb box by removing pcb box's plastic hinges.

Door Lock Group



a) Remove control panel group.

b) Remove two screws that fix the door lock group.

Dispenser

a) Remove the front panel and remove the electrical connections of the dispenser.

b) Remove dispenser from inside door's hinges by using slotted screwdriver. Push and remove the dispenser .

WARNING: USE WORK GOVERS OTHERWISE INSIDE DOOR SHEET IRON CAN CUT YOUR HANDS



Door Inside ve Hinge Cord Group

a) Remove side panels.

b) Remove hinge spring from hinge cord group as it is shown in the picture.



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



THE INNER COMPONENTS

To Access The Components From Sides

Remove the side panel to reach component which you need.



a) Right Sight



b) Left Sight

NTC with Thermal Protector

a) Remove right side panel. NTC is assembled on the heater casing.

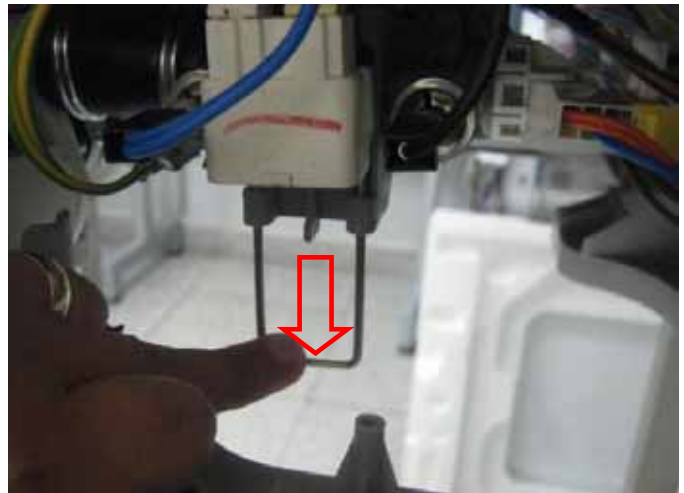


b) Remove the wires as it is shown in the Picture.

(The left one is NTC, the right one is thermal protection wire)



c) Pull the pim down as it is shown in the picture. d) Remove the NTC as it is shown in the picture.



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 from the basement to remove it.



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.



To Access The Components From in Front Of The Machine



a) Remove plastic kick plate and kick plate iron.

Regeneration Valve

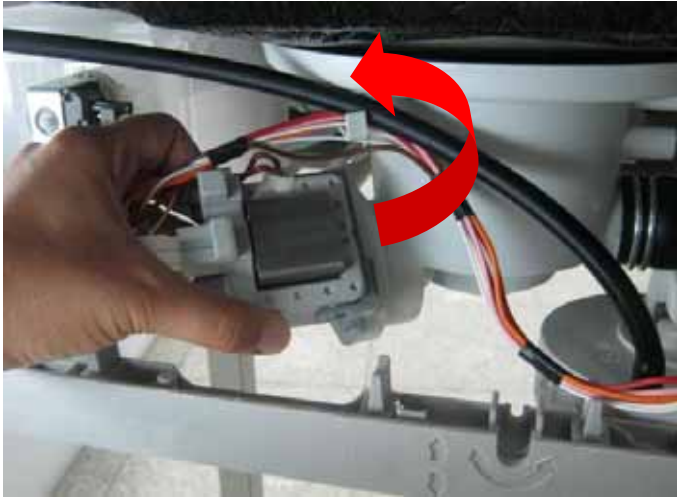
a) Remove plastic kick plate and. Kick plate iron sheet.

b) Remove the wires.

c) To remove regeneration valve, rotate counterclockwise and pull it as it is shown in the picture.



Drain Pump



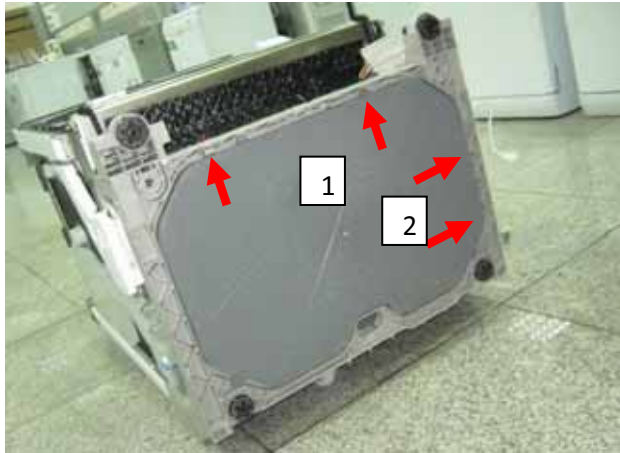
- a) Remove Plastic kick plate and .kick plate iron sheet.
- b) Remove the wires.
- c) To remove the drain pump that fixes to the sump, rotate it in the direction of counterclockwise and pull.

To Access The Components from the Lover Cover

- a) Lay the appliance on the rear panel.

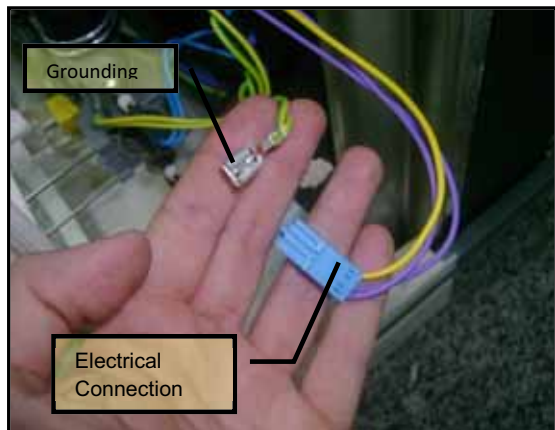


b) Remove lower cover from the places that are shown in the picture.



Circulation Pump

a) Lay the appliance on the rear panel.



b) Remove the electrical connection on the circulation pump.(Check the cable if it has energy while removing the electrical components)



c) Remove 2 clamps that are shown in the picture (Heater casing circulation pump, sump-Circulation pump)

d) Remove the circulation pump by saving it from the suspenders that mount it to the basement.

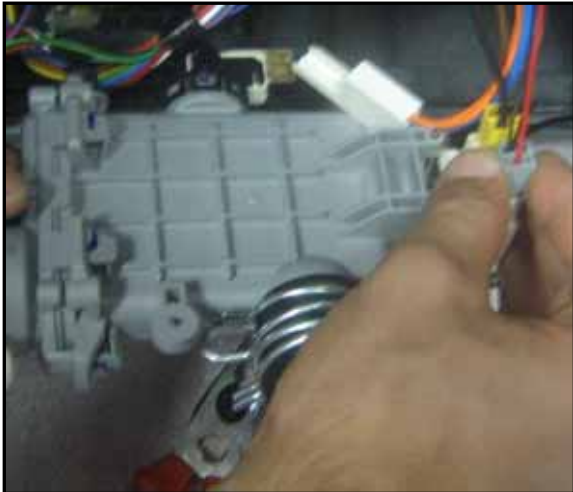
Heater (Heater Casing Group- Without Diverter)



a) Remove the machines lower cover.

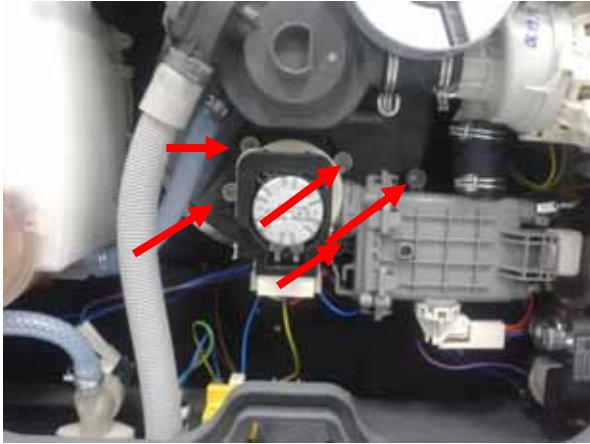


b) Remove four screws that fix heater to the sump.



c) Remove the wires that are shown in the picture.

Heater (Heater Casing Group- With Diverter)



a) Remove the machines lower cover.



b) Remove screws that fix heater to the sump.



c) Remove the wires that are shown in the picture.

Water Softener



a) To remove salt cup cover, rotate it in the direction of counterclockwise.



b) To remove salt cup nut , rotate it in the direction of counterclockwise.

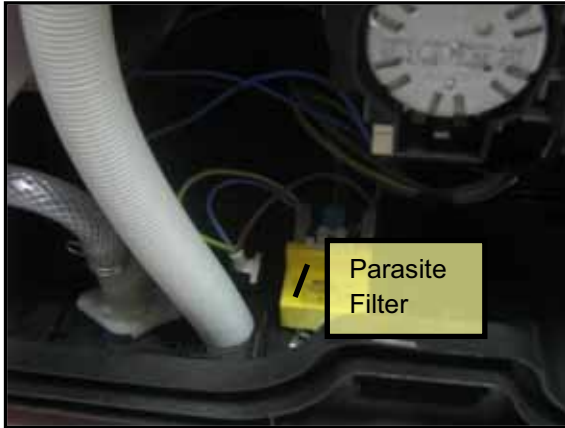
c) Remove left side panel.

d) Detach the connections which are between water softener and air-break.

e) Remove lower cover.

f) Remove the hose that is between sump and salt camp.

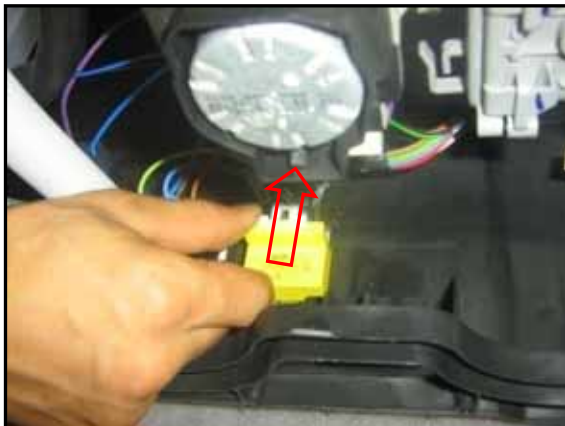
Parasite Filter



a) Remove lower cover.



b) Remove one screw fixing parasite filter.



c) Remove electrical connection.

d) Pull parasite filter as shown in the picture.

Floater

a) Remove lower cover.



b) Remove two screws that fix floater as it is shown in the picture.



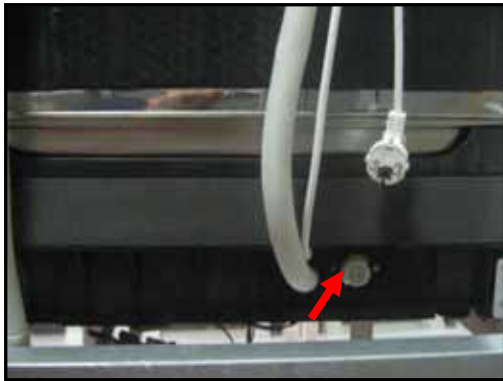
c) Remove the two floater hoses .



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 connected to and rotate it in the direction of counterclockwise.



Draining Hose



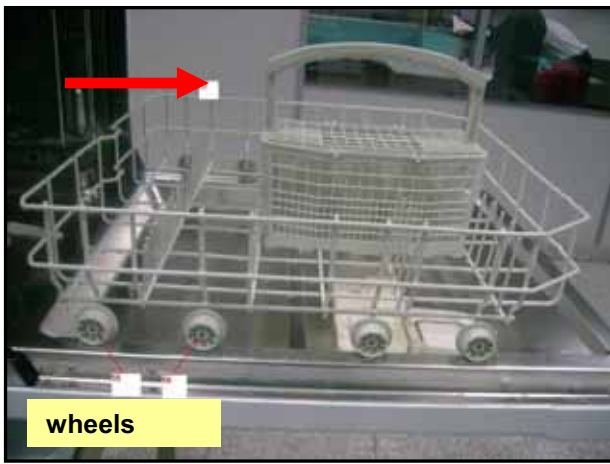
- a) Remove the hose connection plastic.
- b) Remove lower cover.
- c) Remove the clamp that fixes draining hose to the sump.
- d) Remove draining hose.

Basket Group

Lower Basket



- a) Open machine's door.



b) Pull the basket to yourself.

Upper Basket



a) Open machine's door.

b) Pull the basket to yourself by sliding on the rails.



c) Open Upper basket rail lock front.



d) Pull the basket to yourself and remove it.

Basket Rails



1- Upper basket rail stopper rear.

2- Upper basket wheels.

3- Upper basket rail lock front.

The Components That Are inside the Tub

Course , Micro and metal filters

- a) Open the door.
- b) Remove lower basket.
- c) To remove microfilter group rotate them in the direction of counterclockwise 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



a) To remove the basket rails, open the door and take out baskets.



b) To remove basket rails release the rail from upper basket stopper rear.



Spray Arm System

a) After removing the lower basket, pull the spray arm upwards gripping it by the central hub.



b) To remove upper spray arm adjustment link pull it through yourself as it is shown in the picture.



c) To remove upper spray feeding canal turn left it than pull it up as it is shown in the picture.



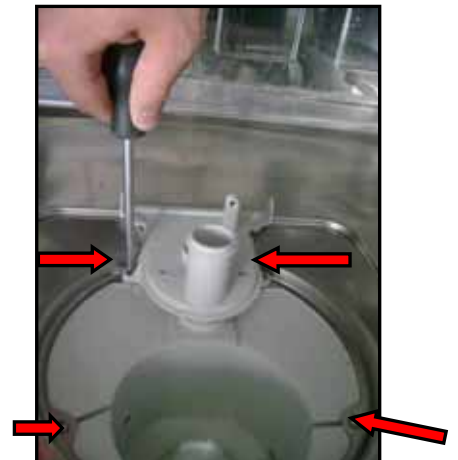
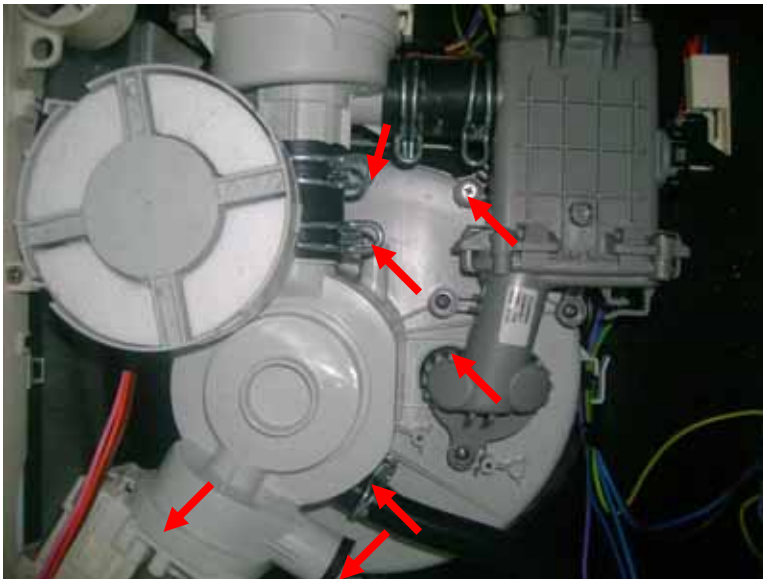
Sump

a) Remove any residual water from the sump by suction so that it does not flow into the tub and the pressure switch tubes , then lay the appliance on the rear panel.

b) Remove lower cover.

c) From inside tub, remove the basket and lower spray arm.

d) Detach all the hoses (sump – draining hose , circulation pump – sump, sump – water softener)



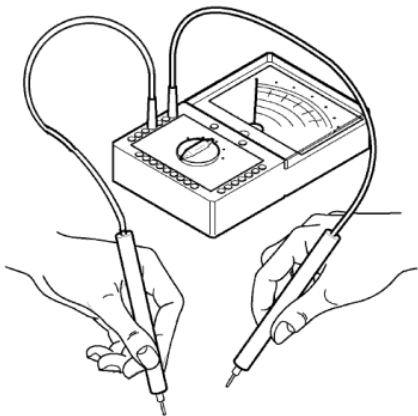
- e) From inside tub ,remove the basket and lower spray arm.
- f) Remove the microfilter group and metal filter.
- g) Remove the four screws that secure the tumb to the tub.
- h) Remove the two screws which secure the spray arm support to the sump.
- i) Detach the drain pump and pull the sump out ,taking care not to damage the tub seal.

REPAIR TECHNIQUES

A simpler and special control ***procedure*** is obtained to test the components efficiency.

In this control procedure, you can measure the resistance of the components and compare with the normal resistance values. Then you can understand that if the components are faulty or not.

You can measure the components directly or you can measure from the connectors with the probes of the measurement gauge.

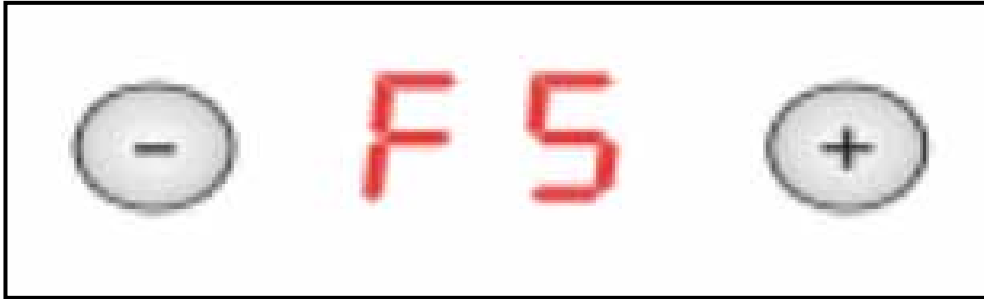


COMPONENTS	REAL VALUES	NOTES
ON / OFF BUTTON	0 Ω on component	ON/OFF button is pressed
DOOR SWITCH	CN2.9 – CN2.2 0 Ω	Door is closed
PRESSURE SWITCH	CN2.10 – CN2.2 0 Ω ∞ Ω	FULL FILL WATER NO WATER
DRAIN PUMP	CN2.2 – CN2.4 143 Ω % ± 7	
WATER INLET VALVE	CN2.6 – CN 2.9 3750 Ω ± %10(20C°)	
REGENERATION VALVE	CN2.10 – CN2.7 4130 Ω ± %10(25 C°)	
HEATER	23.95±15 Ω	MEASURE JUST ON THE COMPONENT
DETERGENT DISPENSER	1660 Ω ± %10 (25 C °)	MEASURE JUST ON THE COMPONENT
CIRCULATION PUMP	CN2.3 – CN2.9 95 ±%7 Ω 126 ±% 7 Ω	Primary winding Secondary winding (FROM THE COMPONENT)

SET NTC SENSOR	CN 3.2	25° - 5000Ω	
	%±5.0		
	CN 3.1	35° - 3300Ω	
	%±5.5		
		55° - 1520Ω	
	%±6.5		
		63° - 1174Ω	
	%±7.5		
		80° - 670Ω	
	%±8.0		
		90° - 488Ω	
	%±8.5		
FLOATER (MICROSWITCH)	CN2.1 – CN 2.5	0 Ω	MICROSWITICH IS INACT VE (NO WATER)
	CN2.1 – CN 2.4	∞ Ω	MICROSWITCH IS ACTIVE (THERE IS WATER)

PRODUCTS WITH DISPLAY

1- Inadequate water supply



Possible problem:

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

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

3-Water inlet hose can be out of order.

4-Water inlet valve filter can be clogged.

5-Water inlet valve can be out of order.

6-There can be a problem with the cable connection of water inlet valve.

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

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

9-Circulation pump can be out of order or have a problem with the cable connection.

2- Error of continuous water input



Possible problem:

- 1-Water inlet valve can be out of order or can not be closed.
- 2-Electronic card can be out of order.

3- The waste water in the machine cannot be discharged



Possible problem:

- 1-Water outlet hose is clogged.
- 2-Water outlet hose position can be too high.
- 3-The drain pump can be out of order.
- 4-There can be a problem with cable connection of the drain pump.
- 5-Pressure switch of the heater casing group can have a mechanical or cable connection problem.

4- Heater Error: Inadequate heat



Possible problem:

- 1-Heater can be out of order.
- 2-There can be a problem with cable connection of the heater.
- 3-Thermal protection can be out of order.
- 4-Electronic card can be out of order.

5- Alarm is active against water overflow



Possible problem:

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

6- Alarm is active against water leakage



Possible problem:

- 1-There can be a water leakage from the tub.
- 2-Floater switch can be out of order or have a problem with the cable connection.
- 3-Drain pump and pressure switch can be out of order at the same time.
- 4-Electronic card can be out of order.

7- Exceed heating problem (water inside the machine is too high)



Possible problems:

- 1-Water inside the machine is $>77^{\circ}\text{C}$, NTC can be out of order.
- 2-Electronic card can be out of order.

8- Diverter position problem



Possible problem:

- 1- There can be a water leakage to diverter contacts and diverter electric contacts can have open circuit
- 2- There can be a problem with cable connection of the diverter.
- 3- Electronic card can be out of order.

9- NTC failure



Possible problem:

- 1- NTC can be out of order.
- 2- NTC cable connection can be faulty. NTC can be short or open circuit.
- 3- Electronic card can be out of order.

10-Electronic card parameter failure



Possible problem:

1-By the immediate and continuous voltage decreases software variants can not be kept in the memory of electronic card.

2-The program continues, when you restart it. You should warn the user about controlling the network voltage.

11-Electronic card water hardness failure

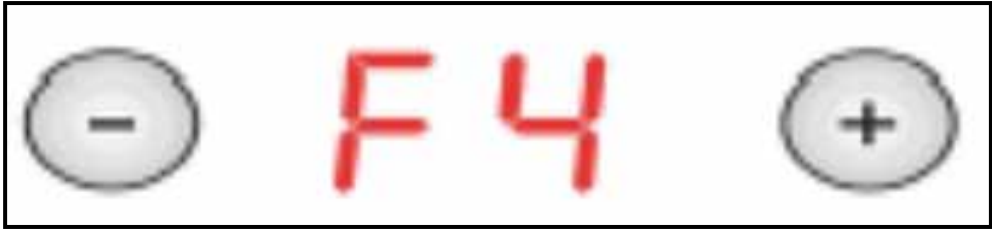


Possible problem:

1-Water hardness is not adjusted or water hardness adjustment can be kept in the electronic card memory.

2-Water hardness should be adjusted by controlling the supply water.

12- Flowmeter failure



Possible problem:

- 1-Flowmeter can be out of order.
- 2-Cable connection of flowmeter can be faulty.
- 3-Electronic card can be out of order.

13- Turbidity sensor failure



Possible problem:

- 1- Turbidity sensor can be out of order.
- 2-There can be some soil around the turbidity sensor.
- 3-Electronic card can be out of order.